

Productivity improvements from the perspective of components.



Carbon neutrality comes from reducing CO₂

What "HIGH PRODUCTIVITY" means to CKD

Lower productivity will result in loss. In addition, parts requiring maintenance will be wasted.

We believe that achieving high productivity without maintenance leads to carbon neutrality.

Our HP Series emphasizes that type of manufacturing, one that originates from the perspective of components.

Improving productivity in high-frequency, stressed-environment processes, these unprecedented long service life products contribute to "production facilities that never stop" and "stable operation".



Industry-specific series available

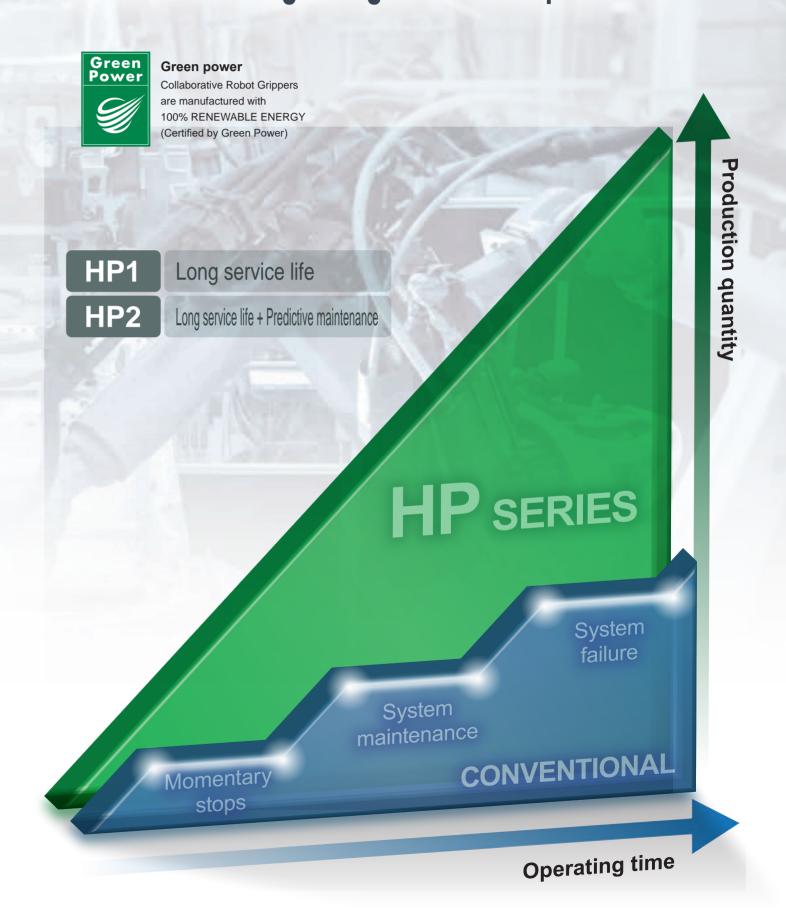
Maintenance cost/time



Stopping the facility momentarily or for a long time

Labor shortage

emissions through long service life products





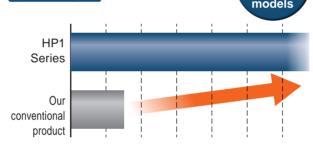
Long service life

By optimizing packing design/seal functions and adopting grease supporting high frequency use, a long service life has been achieved with the same dimensions as conventional products.

Abrasion-resistant packing due to special compounding

Adopted grease supporting high-frequency usage

Optimized sealing function



"The durability of the HP Series is the service life under our specified conditions. As it differs under working conditions or ambient environment, it is not guaranteed to be more than 4 times under all conditions.

Stable operation

The optimum structure of the sliding parts prevents the starting pressure from rising even in repeated operational cycles. As the starting pressure is constant, the operating time is also constant. Provides stable operation without unexplained stoppages.



Switch with bending resistant lead wire can be selected

or more

We offer switches that use bending-resistant lead wires that do not easily break even when used in moving parts. (Switch model No. T2HR3, T2VR3, F switches)



Same dimensions as conventional products

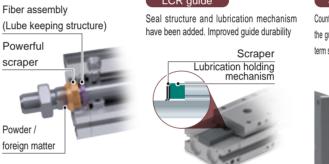
As it has the same dimensions as conventional products, it can be used as a replacement without changing the design or modifying the equipment





Long service life even in harsh environments

Equipped with a heavy duty scraper and lube keeper to prevent intrusion of dust and to maintain lubrication. Durability in dusty environment has been greatly improved.



STG, STS/L guide Countermeasures for dust also be applied to the quide rod section to contribute to long-

term stable operation.

Rubber scraper

Lube keeping structure

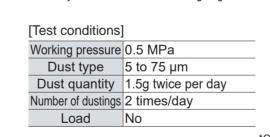
Operational cycle

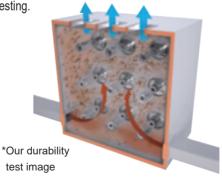
G-HP1
Series
Our
conventional
product

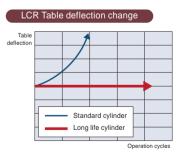
*The durability of the HP Series is the service life under our specified conditions. As it differs under working conditions or ambient environment, it is not guaranteed to be more than 4 times under all conditions.

Stable operation even in harsh environments

Tests are carried out in recreated dust environments. Durability has been confirmed through rigorous testing.

















Linear slide cylinder
LCR









Increased linear guide rigidity Achieves high rigidity, precision and durability

Linear Slide Hand

Greatly reduces unexplained stops **Greatly reduces** replacements

Significantly reduces replacement time

Service life over 20 million cycles

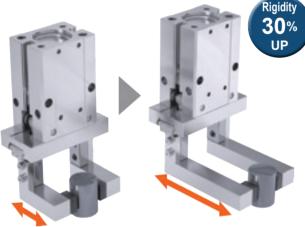
Subject to CKD prescribed conditions



High rigidity

Increased amount of overhang

The guide rigidity has been improved compared to the conventional products, significantly increasing the allowable moment. The high rigidity suppresses the occurrence of backlash and maintains high accuracy for a long period of time.



Significant reduction in replacement time

Long service life

High precision

Repeatability ±0.01 mm

Integral construction of

the guide rail and fingers

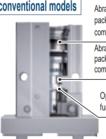
ensures high rigidity and

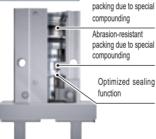
precision.

Durability 4x or more compared with conventional models

Long-life cylinder sliding technology is used in the cylinder part. Achieves long service life and stable operation without unexplained stoppages.

*The durability of the HP Series is the service life under our specified conditions ambient environment, it is not guaranteed to be more than 4 times under all





Rail plate system adopted

The rail plate allows switch replacement while the hand is attached to the robot or equipment.





Grips and measures simultaneously Can be replaced before breakdowns.

Measuring hand

stops greatly reduced

replacements greatly reduced

Predictive maintenance

Service life ove 20 million cycles

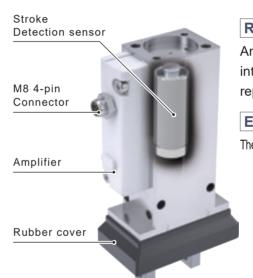
Subject to CKD prescribed conditions





Integrated structure

Finger positioning with high precision analog output. The hand body has a built-in stroke detection sensor and amplifier. The integrated structure achieves high-precision.



Repeatability ±0.02 mm

An LVDT sensor with excellent vibration and shock resistance and integrated structure has been adopted to achieve unprecedented high repeatability.

Environmental resistance

The IP65 equivalent amplifier and rubber cover prevent the ingress of cutting chips and water drops.



Linearity correction adapter

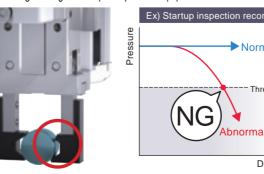
Linearity F.S.±0.5%

With correction adapter: F.S.±0.5% Without correction adapter: F.S.±3%

A correction adapter is adopted to improve the linear accuracy.

Predictive maintenance

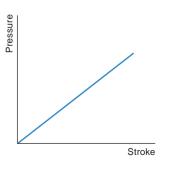
Monitors attachments for abnormal wear and deformation of fingers and jigs through changes in output to prevent equipment and robot damage.



Elimination of human error

All strokes are output in detail, eliminating manual adjustment error as caused by conventional switches.







The addition of "positioning holes" with the grip center as reference allows the centering precision to be easily reproduced.



High precision positioning hole ±0.025 mm

Measuring hand
LSHM-HP2 Series

Switch output adapter

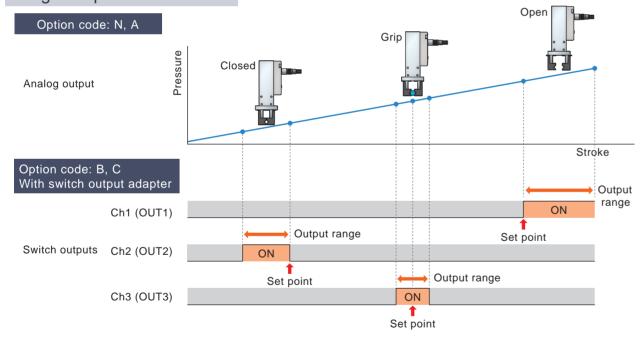


Easy setting

The operating range and output pattern can be easily selected with the rotary switch. Troublesome cylinder switches for adjustment work are not required.

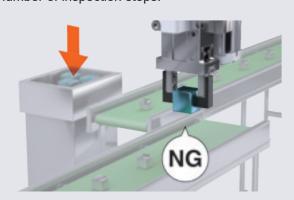
A fine operation range can also be selected with the high precision sensor.

Image of operation detection



Workpiece foreign object judgment

Grips and measures simultaneously, reducing the number of inspection steps.



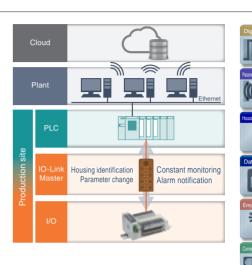
Workpiece model judgment

Capable of instantaneously judging minute differences in workpiece models.



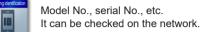
IO-Link adapter





Constant monitoring via digital data is possible.

Parameters can be set and changed via the network, enabling remote equipment operation.



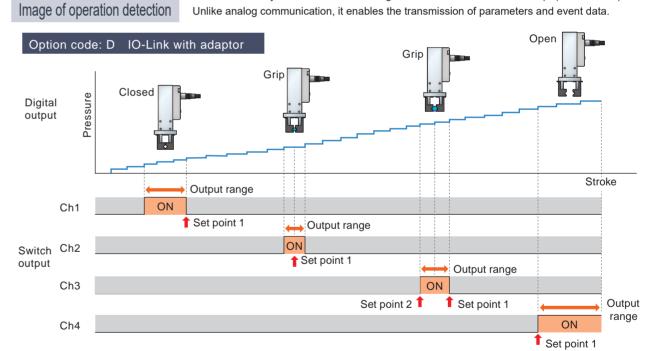
The settings can be copied from the master, making parameter reconfiguration after maintenance obsolete.

Device failure and disconnection can be confirmed.

It can also be converted to Ethernet networks and connected, enabling

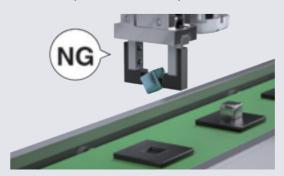
devices to be IoT-ready.

IO-Link are factory sensors and actuatorsdigital communication standard for p. (IEC 61131-9)



Gripping orientation judgment

By detecting misaligned orientations when gripped, contact accidents can be prevented at the transported destination.



Minute workpiece gripped / missed judgment

Accurately judges whether even tiny workpieces were gripped or missed.



Increased rigidity of linear guides even in thin types Achieves high rigidity, precision and durability

Low-profile long stroke hand

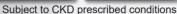
LST-HP1 Series

Momentary stops greatly

Number of replacements greatly reduced

Significantly reduces replacement time

Service life over 20 million cycles





Thin design from double piston system

Space saving Reduced moment of inertia

Reduces the height and space, contributing to reduced moment of inertia.



*For LST-08

High gripping force

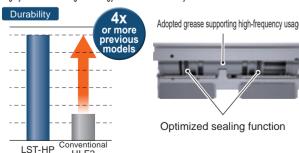
Adopting the double piston system realizes a compact body with high gripping force.



Long service life

Durability compared with conventional models 4x

Highly advanced sliding technology has enabled durability 4 times that of conventional models



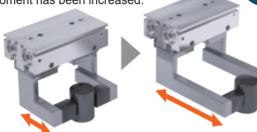
*The durability of the HP Series is the service life under our specified conditions, which will differ depending on the working conditions and ambient environment. This is not a quarantee of 4 times or more under conditions.

Increased linear guide performance

Increased amount of overhang Repeatability ±0.03 mm

By improving the guide rigidity beyond that of conventional products, the allowable moment has been increased.

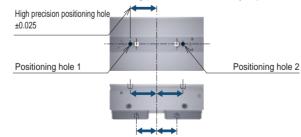
High rigidity High precision



Reduced processes on site

High precision positioning hole ±0.025mm

The addition of "positioning holes" with the grip center as reference allows the centering precision to be easily reproduced.



Switch with bending resistant lead wire can be selected

A switch can be selected that uses a bendingresistant lead wire that does not easily break even when used in moving parts.

Although thin, it can make measurements at the time of gripping. Can be replaced before breakdowns.



High precision

Repeatability ±0.04 mm Linearity F.S.±0.5%

A new sensor system has been integrated, achieving higher repeatability and linearity than ever before.

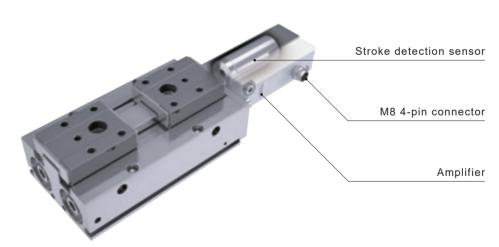
Integrated structure



Excellent vibration and shock resistance LVDT Uses a sensor of the method.

A displacement sensor is built into the body, achieving a high-precision integrated structure.

* LVDT is short for Linear Variable Differential Transformer, a sensor that converts mechanical displacement into electric signal for output.



Increased guide rigidity even for wide types Achieves high rigidity, precision and durability



Wide parallel hand

HMG-HP1 Series

Momentary stops greatly

Number of replacements greatly reduced

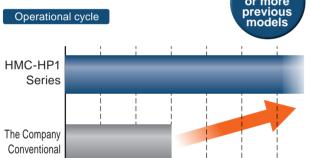
Significant reduction in replacement time Durability 10 million cycles or more

Subject to CKD prescribed conditions



Long service life

Highly advanced sliding technology has enabled durability twice that of conventional models



High rigidity

Improved guide rigidity has been achieved by redesigning the guide.







High gripping force

Adopting a double piston structure realizes a compact body and high gripping force.



Abundant stroke

Extensive stroke is available.

Stroke	Stroke (mm)								
Туре	ø10	ø16	ø20	ø25	ø32	ø40			
Short	20	30	40	50	70	100			
Middle	40	60	80	100	120	160			
Long	60	80	100	120	160	200			

Guide rigidity improved even with 3-way finger Achieves high rigidity, precision and durability





- Series

stops greatly

Number of replacements greatly reduced

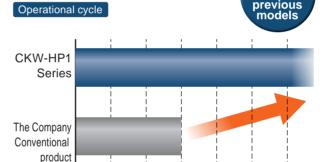
Significant reduction in eplacement time Durability 10 million cycles or more

Subject to CKD prescribed conditions



Long service life

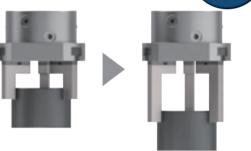
Highly advanced sliding technology has enabled durability twice that of conventional models



High rigidity

Improved guide rigidity has been achieved by redesigning the guide.

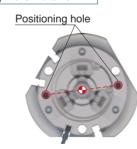




Significant reduction in replacement time

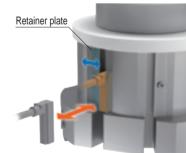
High precision positioning hole ±0.025mm

Added "positioning hole" based on the gripping center. This contributes to the reduction of installation and maintenance work.



High maintainability

Just slide the retainer plate, and the switch can be easily replaced while it is attached to the equipment.



Rubber cover option

A highly reliable rubber cover for installation environments has also been available.



CKW-G-HP1 Chloroprene rubber

CKW-F-HP1 Fluoro rubber

Increased component service life and

productivity from compressed air

Air booster

ABP2-HP1 Series

Momentary stops greatly

Number of replacements greatly reduced

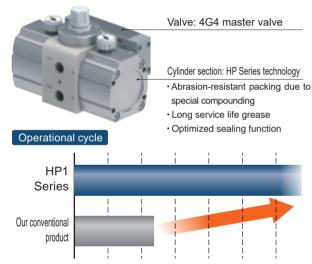
Durability 10 million cycles or more

ections for pipe

Subject to CKD prescribed conditions

Long service life

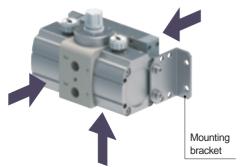
The design of the packing part of the cylinder has been optimized, and the long-life 4G Series valve has been adopted, achieving more than twice the durability of conventional products.



Flexible mounting in any direction

Installation according to the layout is possible using brackets.

Select from 3 directions for pipe leadout.



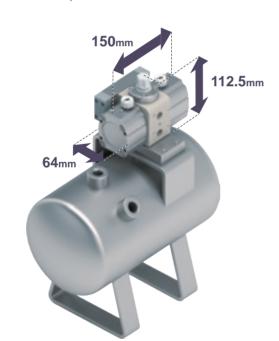
Piping available from 3 surfaces

Air tank

Can be compactly mounted with air tank. The air tank can be selected from 2 sizes, 5 L and 10 L.

2Sizes

10dB



High reliability

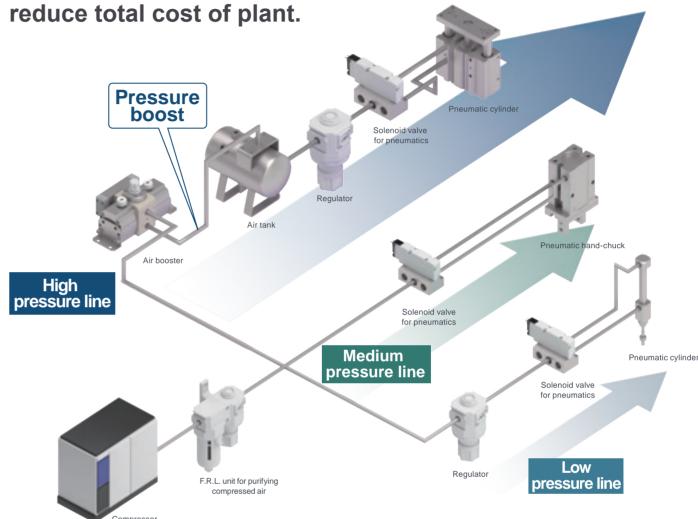
Stable operation has been achieved by adopting the proprietary technology of our conventional ABP-12 product.

Low noise

By eliminating metal collisions, we have realized a 10dB reduction compared to conventional products.

*Subject to CKD measurement conditions.

Contributes to energy savings of the plant by utilizing existing compressed air equipment to boost pressure in areas where it is needed. Long service life components

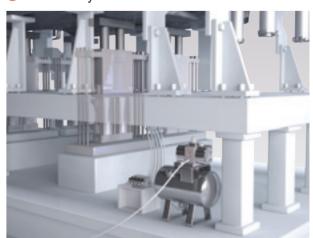


Case Study

Increased gripping force of robot hand



Increased cylinder thrust in narrow areas



Comprehensive pneumatic system only achievable by CKD

Manage compressed air properly and use the ideal system components to achieve longer service life

Drain countermeasures

Draining the compressed air can cause the grease of the component to flow and reduce the service life or cause rust, which may lead to component failure. It is necessary to take measures to prevent drainage from occurring and to remove the generated drainage.

Super dryer (High polymer membrane air dryer)

SD/SU/SDM Series

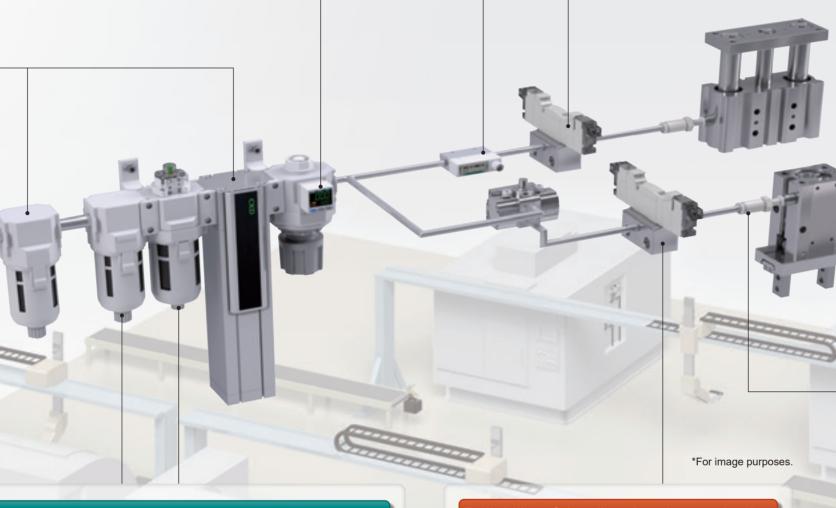
A high-performance air dryer that does not require a power supply and can be installed in the same manner as a filter. Reduces drainage on the secondary side of the dryer.



FX Series

Water drop separation efficiency of 99% is achieved by CKD's original fluid analysis method. Easy installation and reliable drain elimination.





Purifying compressed air

Foreign matter and oil in the compressed air may lead to component failure, so be sure to remove them with a filter or oil mist filter. Since they will certainly be used, CKD puts emphasis on elements with long service life.

F Series

Two-layer structure is used for the filter element. Increases filtration area, improves filtration capacity and achieves a long service life.



Oil mist filte

M Series

A special coating is applied to the mantle to ensure long service life while removing oil. A differential pressure switch that outputs the service life of the mantle can also he mounted



Reliability of the directional control valve

In order to extend the service life of equipment, the directional control valve that drives the actuator must also be reliable. CKD has also optimized the sliding part of the directional control valve to achieve stable operation.

Pilot operated 3. 5-port solenoid valve

4G Series

By optimizing the sliding part of the spool, it has achieved a long service life of over 100 million cycles* and stable operation, supporting high-frequency stable operation of the actuator.



Status monitoring

Since the operation status of the facility such as air flow rate and air pressure, number of operational cycles of each component and energization time are constantly output as digital signals, the status can be monitored for preventive maintenance.

Pilot operated 3, 5-port valve

4G Series

The solenoids being turned ON and device unit energization times can be monitored. Threshold values can be set, enabling preventive maintenance



FSM3 Series

Monitors air flow rate. In addition to monitoring drops and fluctuations of the air flow rate, it helps manage the air consumption. Detects flow from bi-directions.



Digital pressure sensor

PPX Series

Monitors air pressure. Detects pressure drops and fluctuations. An error is output in two stages; "Caution" and "Abnormal".



Digital gap switch

GPS3 Series

Monitors the seating condition of the workpiece. Also outputs nozzle clogging signals.



Compact flow rate controller

FCM Series

Fluid control components for various gases. It can detect peripheral system abnormalities. Selfdetection functions for detecting the deterioration of sensors and proportional solenoid valves.



EVD Series

Compressed air pressure control component Component operations and status monitoring. 2 switch output types (IO-Link data) can be set and output simultaneously.



Condensation countermeasures

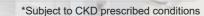
When driving a compact actuator, air is not completely discharged from the valve, and drain is generated by using the same air repeatedly. A quick exhaust valve that can be easily installed is effective as a countermeasure.

Quick exhaust valve

QEL Series

The guick exhaust valve with push-in fitting can be easily retrofitted to an actuator with condensation.







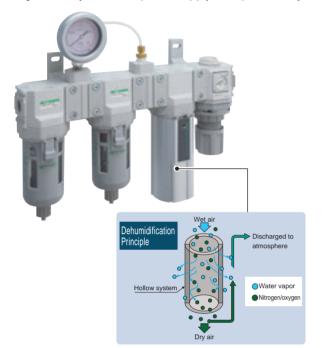
Super dryer (High polymer membrane air dryer)

Drain countermeasures

SD/SU/SDM Series

Catalog No. CB-024SA

The SD/SU/SDM Series is a dryer that can be used like a filter, dehumidifying with a high polymer membrane without using electricity. Since no power supply is required, easy installation, long service life and stable operation are realized.



No power supply needed

Since a power supply is not required, it can be easily retrofitted to a device that has a malfunction due to drain.

Stable operation

Since there are no mechanical movable parts or electrical parts, sudden breakdown does not occur and dry air can be stably supplied for long periods of time.

Modular design

Because of its unique modular concept, it can be directly connected to CKD's refining component, which helps reduce design, piping and installation steps.

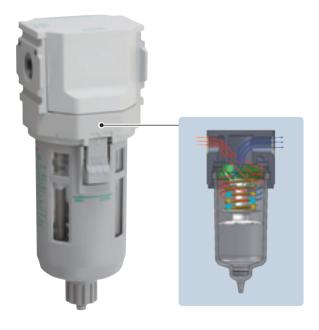
Drain separator

Drain countermeasures

FX Series

Catalog No. CB-024SA

The FX Series achieves 99% water drop separation efficiency with a high-performance louver while being lightweight and compact. Maintains long-term moisture removal capacity to remove drainage without using elements.



Optimal centrifugal mechanism

An ideal louver shape has been achieved using CKD's proprietary fluid analysis method. Water is reliably removed by the ideal centrifugal structure.



Unchanging water removal capacity

Since it does not rely on the filter element, it does not clog and the water removal performance does not change.

Modular design

Because of its unique modular concept, it can be directly connected to CKD's refining component, which helps reduce design, piping and installation steps.

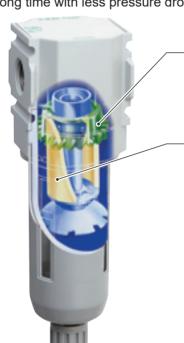
Air filter

Purifying compressed air

F Series

Catalog No. CB-024SA

The F Series has a unique two-layer structure element, so it has a wide filtration area and can be used stably for a long time with less pressure drops compared to normal elements.

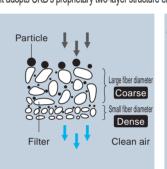


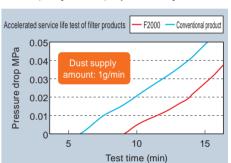
Louver has been optimized to reduce the size and space

Cyclone effect is improved by the ideal design of the louver. It has become smaller while maintaining the same water separation capacity.

Long service life with 2-layer structure element

It adopts CKD's proprietary two-layer structure element, improving filtration capacity and extending the service life.





Oil mist filter

Purifying compressed air

M Series

Catalog No. CC-1383A

The M Series reliably removes oil from the compressed air, contributing to the protection of precise components and extending the service life of components. CKD has applied a special coating to the surface of the mantle to achieve a long service life.



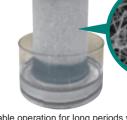
The differential pressure switch enables predictive maintenance

Detects pressure drops due to clogging of the mantle. In addition to the visual check indicator, it is capable of outputting the recommended replacement time and required replacement time.

Long-life mantle

A special coating is applied to the mantle surface to suppress pressure drops, enabling stable use for a long time.





With coating

Stable operation for long periods with

CKD

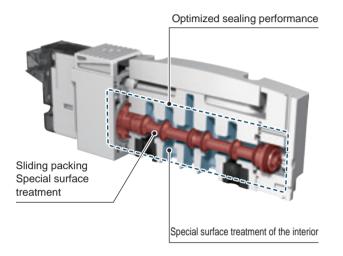
Pilot operated 3, 5-port solenoid valve

Reliability of the directional control valve

4G Series

Catalog No. CB-023SA

The 4G Series has optimized the sliding parts to achieve endurance of 100 million cycles or more*. Stable operation with low sliding supports the reliable operation of the actuator and stable operation of the equipment.



Low friction/long service life

The superb sliding mechanism of the main valve realizes low friction and long service life. Response time 12 ±2 ms (4G1 single solenoid type) Durability count of 100 million operations or more * Under our specified conditions.

Improved responsivity after startup

Smooth start even after time off. Effective for Monday morning troubles and unexplained stoppages as well.

Prevents problems with foreign matter

- Internal pilot filter equipped as standard. Air supply filter equipped as
- standard (ports A/B equipped as option)



Quick exhaust valve

QEL Series

Condensation countermeasures

Catalog No. CC-1461A

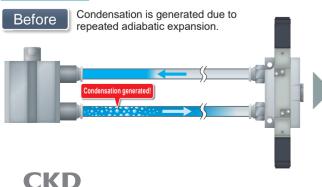
Installation of a quick exhaust valve is effective as a countermeasure against condensation in compact actuators. The QEL Series is compact, space saving and has push-in fitting, which allows it to be easily installed near the actuator.

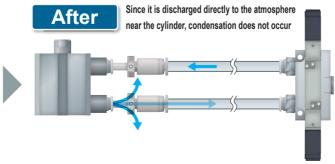


Easy retrofitting

The plug type and in-line type are available, and can be installed directly or in the middle of the piping to suit the installation location.

Case Study





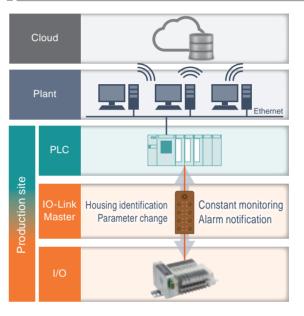
Status monitoring

10-Link Compatible components Series Catalog No. CC-1466A

It is important to acquire necessary data efficiently in order to monitor the condition of pneumatic components and perform preventive maintenance. IO-Link compatible Components can easily acquire data and utilize it.

What IO-Link can do





Features of IO-Link



Constant monitoring via digital data is possible.



Parameters can be set and changed via the network, enabling remote equipment



Models, serial numbers, etc., can be confirmed on the network.



The settings can be copied from the master, making parameter reconfiguration after maintenance obsolete.



Device failure and disconnection can be



It can also be converted to Ethernet networks and connected, enabling devices to be IoT-

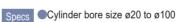
IO-Link Compatible components Series

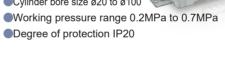
Pilot operated 3, 5-port valve

Digital pressure sensor

4G







Compact flow rate sensor RAPIFLOW

FSM3

Specs Flow rate range 0.5L/min to 1000L/min Applicable fluid

Clean air, compressed air, nitrogen gas, argon, oxygen, carbon dioxide, gas mixture (argon + carbon dioxide)

IO-Link communication specifications transmission speed: COM2 (38.4 kbps) Min cycle time: 5 ms

Digital gap switch

GPS3

●Working pressure: 50 to 200kPa Detection range Short range 0.02 to 0.15mm Wide range 0.03 to 0.4mm

■IO-Link communication specifications transmission speed: COM2 (38.4 kbps) Minimum cycle time: 5 ms

Digital electro-pneumatic regulator

EVD

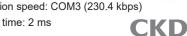
Specified pressure range 50kPa to 1000kPa Pressure control range 0kPa to 900kPa IO-Link communication specifications

Transmission speed: COM3 (230.4 kbps) Min. cycle time: 2 ms









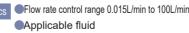


IO-Link communication specifications Transmission speed: COM3 (230.4 kbps) Minimum cycle time: 1.0ms

For high pressure :-0.101 to +1.010 MPa

Compact flow rate controller

PPX



Compressed air, nitrogen, argon, oxygen, city gas, methane, propane, hydrogen, helium

IO-Link communication specifications Transmission speed COM3 (230.4 kbps)

Min. cycle time: 2 ms

HP1 Series Long service life cylinder



CONT $\mathsf{E} \mathsf{N} \mathsf{T}$ Pencil shaped cylinder (SCPD3-HP1) 2 Small bore size cylinder (CMK2-HP1) 4 Round shaped cylinder (SCM-HP1) 6 Compact cylinder (SSD2-HP1) 10 Compact direct mounting cylinder (MDC2-HP1) 14 Small compact cylinder (MSD-HP1) 16 Small guided compact cylinder (MSDG-L-HP1) 20 Compact cylinder (SMG-HP1) 24 Linear slide cylinder (LCR-HP1) 26 Linear slide cylinder (LCG-HP1) 34 Guided cylinder (STM-HP1) 40 Guided cylinder (STG-HP1) 42 ■Twin rod cylinder (STR2-HP1) 44 ♠Safety precautions 232

Long service life cylinder series variation

9	•						
Model No.	Bore size (mm)	Stroke (mm)					
SCPD3-HP1	ø6/ø10/ø16	5 to 150					
CMK2-HP1	ø20/ø25/ø32/ø40	5 to 150					
SCM-HP1	ø20/ø25/ø32/ø40	10 to 150					
SSD2-HP1	ø12/ø16/ø20/ø25/ø32/ø40	1 to 100					
MDC2-HP1	ø4/ø6/ø8/ø10	3/4/6/8/10					
MSD-HP1	ø6/ø8	5/10/15/20/25/30					
MSDG-L-HP1	ø6/ø8/ø12/ø16	5/10/15/20/25/30					
SMG-HP1	ø6/ø10/ø16/ø20/ø25/ø32	5 to 100					
LCR-HP1	ø6/ø8/ø12/ø16/ø20/ø25	10/20/30/40/50/75/100/125/150					
LCG-HP1	ø6/ø8/ø12/ø16/ø20/ø25	10/20/30/40/50/75/100/125/150					
STM-HP1	ø6/ø10	5/10/15/20					
STG-HP1	ø12/ø16/ø20/ø25/ø32/ø40	5 to 150					
STR2-HP1	ø6/ø10/ø16/ø20/ø25/ø32	5 to 150					
01112 111 1	20/210/210/220/220/202	0 10 100					

A Read the safety precautions in "Pneumatic Cylinders" (Catalog No.CB-029SA and CB-030SA) before use. **A** CAUTION

SCPD3 CMK2 SCM

SSD2 MDC2

LCR

service life MSD MSDG-L SMG

Some models use oil-impregnated bearings, and oil may be discharged outside of the cylinder. Do not use in places susceptible to oil.

STM STG

LSHL

LSHM

CKW

Pencil shaped cylinder Double acting/Single rod

Long service life cylinder

SCPD3-HP1 Series

■Bore size: ø6/ø10/ø16







Specifications

Item	SCPD3-HP1 SCPD3-L-HP1 (with switch)								
Bore size mm	ø6	ø10	ø16						
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure MPa		1.0							
Min. working pressure MPa	0.15								
Proof pressure MPa	1.6								
Ambient temperature °C		-10 to 60 (no freezing)							
Port size		M5							
Stroke tolerance mm		+1.0 0							
Working piston speed mm/s		50 to 750							
Cushion		With rubber cushion							
Lubrication		Not required							
Allowable absorbed energy J	0.012	0.041	0.162						

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø6		100	
ø10	15/30/45/60	150	5
ø16		150	

^{*1:} The custom stroke is available in 1 mm increments.

Min. stroke with switch

	1 pc. at	ttached	2 pcs. attached				
Sketch							
	Rod side mount	Head side mount	Different surface mounting	Same surface mounting			
Min. stroke	5 n	nm	10 mm	28 mm			
	3 pcs. a	ttached					
Sketch							
	Different surface mounting	Same surface mounting					
Min. stroke	38 mm	54 mm					

For dimensions, refer to the SCPD3 Series in "Pneumatic Cylinders I (CB-029SA)".

SCPD3-HP1 Series

service

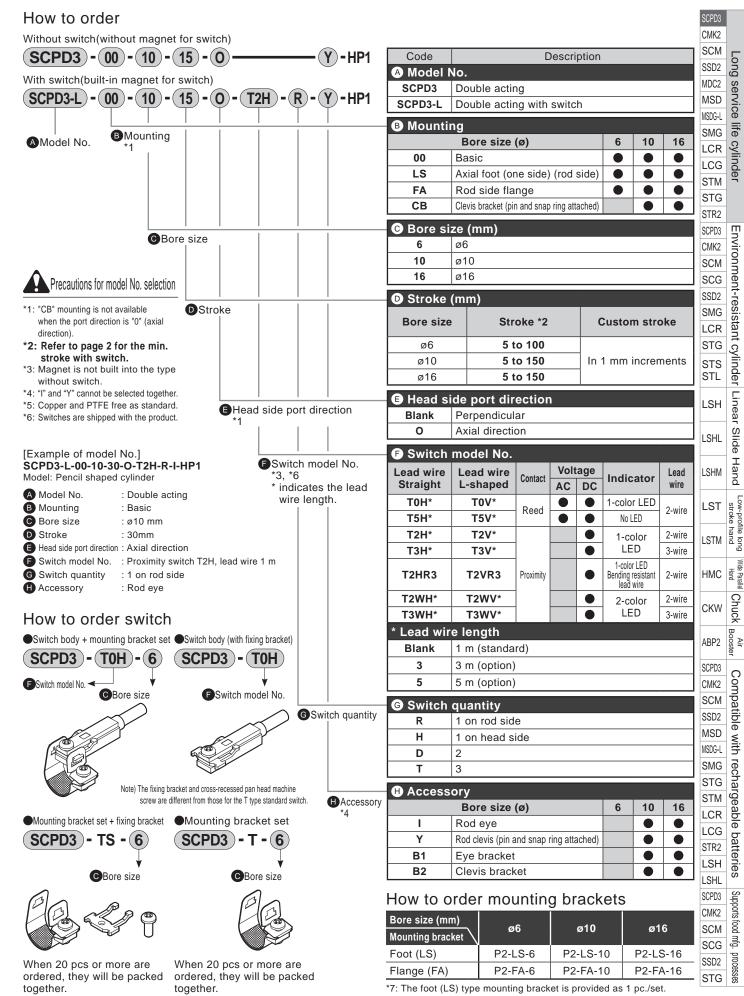
cylinder

₽

batteries

Supports food

mfg.



Small bore size cylinder Double acting/Single rod

CMK2-HP1 Series

Bore size:ø20/ø25/ø32/ø40







Specifications

STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long
Hand stroke hand
OM H

Chuck CKW

Air Booster ABP2 SCPD3

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar Sugar

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

Item	CMK2-HP1								
Bore size mm	ø20	ø25	ø32	ø40					
Actuation		Double	acting						
Working fluid	Compressed air								
Max. working pressure MPa	1.0								
Min. working pressure MPa	0.1								
Proof pressure MPa		1.	6						
Ambient temperature °C		-10 to 60 (r	no freezing)						
Port size		Rc	1/8						
Stroke tolerance mm		+2.0 (u	p to 150)						
Working piston speed mm/s		50 to	500						
Cushion		With rubbe	er cushion						
Lubrication		Not re	quired						
Allowable absorbed energy J	0.166	0.308	0.424	0.639					

Stroke

Bore size(mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)		
ø20					
ø25	25/50/75/100/150	150			
ø32	25/50/75/100/150	150	5		
ø40	1				

^{*1:} The custom stroke is available in 1 mm increments.

Min. stroke with switch

(Unit: mm)

	Switch quantity	1					2				3						
$\frac{1}{2}$		Proximity				Reed		P	Proximity		Reed		Proximity			Reed	
	Bore size (mm)	T2,T3	T2W, T3W	T1	T0,T5	T8	T2,T3	T2W, T3W	T1	T0,T5	T8	T2,T3	T2W, T3W	T1	T0,T5	T8	
-	ø20			10			25	30	35	25	35	50	55	55	50	55	
	ø25			10			25	30	35	25	35	50	55	55	50	55	
	ø32			10			25	30	35	25	35	50	55	55	50	55	
	ø40			10			25	30	35	25	35	50	55	55	50	55	

^{*1:} Up to 3 switches can be mounted.

For dimensions, refer to the CMK2 Series in "Pneumatic Cylinders I (CB-029SA)".

^{*2:} One side foot (LS) has max. stroke of 50 mm.

CMK2-HP1 Series

How to order

Long

service

life

Environment-resistant cylinder Linear

Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

Air Booster

Compatible with rechargeable batteries

Supports food

mtg. SCG

STM

LCR LCG

STR2

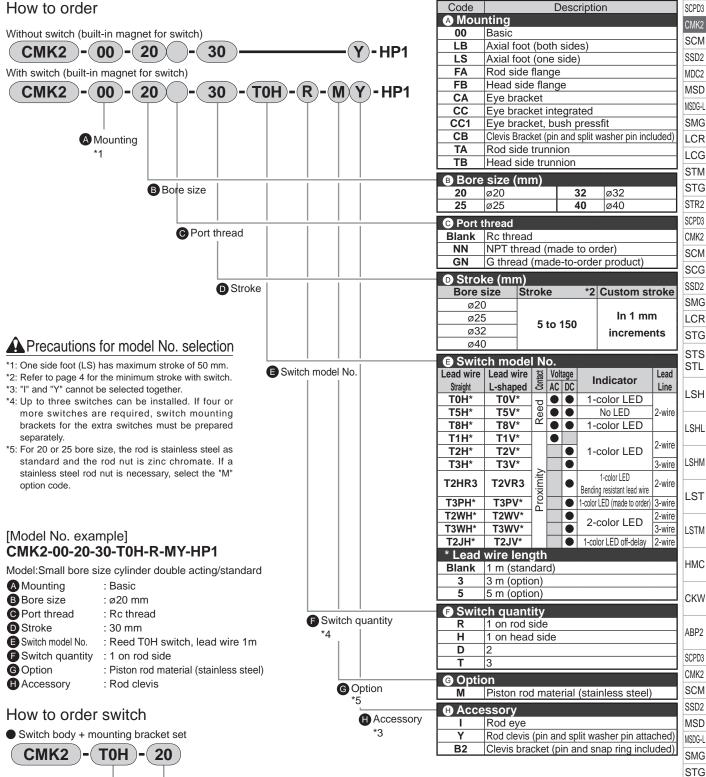
LSH LSHL

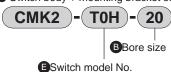
SCPD3 CMK2

SCM

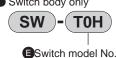
SSD2

STG

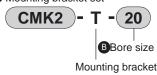




Switch body only



Mounting bracket set



How to order mounting brackets

		9			
Bore size (mm)		ø20	ø25	ø32	ø40
Mounting bracket		Ø20	<u>0</u> 25	932	Ø40
Basic (00)	*8	M1- 00 -20	M1- 00 -30	M1- 00 -30	M1- 00 -30
Axial foot (LB/LS)	*7	M1-LB-20	M1-LB-30	M1-LB-30	M1-LB-30
Flange (FA/FB)		M1-FA-20	M1-FA-30	M1-FA-30	M1-FA-30
Trunnion (TA/TB)		M1-TA-20	M1-TA-30	M1-TA-30	M1-TA-40
Eye bracket (CA)		M1-CA-20	M1-CA-30	M1-CA-30	M1-CA-30
Clevis bracket (CB)		M1-CB-20	M1-CB-30	M1-CB-30	M1-CB-30

- *6: Regarding mounting brackets, mounting nuts and toothed washers are included with the axial foot type and flange type. The trunnion type includes mounting nuts.
- *7: For axial foot types (two-sided), 2 sets of the "M1-LB-*1" in the table above are required.
- *8: Mounting nut, toothed washer only. Although 1 set is included with the basic product (00), use this when needed.

SMG

LCR LCG STM STG

LSHL

CKW

SCM-HP1 Series

Bore size: ø20/ø25/ø32/ø40





Long service life cylinder



Specifications

*

Specifications										
Item		SCM-HP1								
Bore size	mm	ø20	ø25	ø32	ø40					
Actuation			Double	acting						
Working fluid			Compressed air							
Max. working pressure	MPa		1.0							
Min. working pressure	MPa		0.1							
Proof pressure	MPa		1.	6						
Ambient temperature	°C		-10 to 60 (r	no freezing)						
Port size	With rubber cushion	Rc1/8								
POIT SIZE	With air cushion	N	15	Ro	1/8					
Stroke tolerance	mm		+1.4 0 (u	p to 150)						
Working piston speed	mm/s	30 to	1000 (Operate within the	e allowable absorbed en	ergy.)					
Cushion		Ei	ther rubber cushion or ai	r cushion can be selecte	ed.					
Effective air cushion len	gth mm	8.1	8.1	8.6	8.6					
Lubrication			Not re	quired						
Allowable absorbed	With rubber cushion	0.1	0.2	0.5	0.9					
energy J	With air cushion	0.8	1.2	2.5	3.7					
			-							

 $^{^*}$ 1: No cushion in the allowable absorption energy indicates the allowable absorption energy of the side that is not indicated ("R" ightarrow head side, "H" → rod side) when the one-side air cushion is selected.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20			
ø25	25, 50, 75,	150	10
ø32	100, 125, 150	150	10
ø40			

^{*1:}The custom stroke is available in 1 mm increments.

Number of installed switches and min. stroke (mm)

Switch mounting: Rail

	Switch quantity	nntity 1 Proximity		2	2 3			4			5				
	Pero cize (mm)			Reed	Proximity	Reed	Proximity		Reed	Proximity		Reed	Proximity		Reed
	Bore size (mm)	T2,T3	T2W,T3W	Reed	T2,T3	Reeu	T2,T3	T2W,T3W	Reed	T2,T3	T2W,T3W	Reed	T2,T3	T2W,T3W	Reeu
	ø20		10		2	25		70	55	55	70	55	75	110	90
1	ø25		10		2	25		70	55	55	70	55	75	110	90
1	ø32		10		2	25		70	55	55	70	55	75	110	90
1	ø40		10		2	5	50	70	55	55	70	55	75	110	90

^{*1.} For types with one switch, when the stroke is between 10 and 24 mm, trunnion mounting is not available since the switch rail mounting position is different. Regarding the mounting position, "Pneumatic Cylinders I (No. CB-029SA)".

Switch mounting: Band

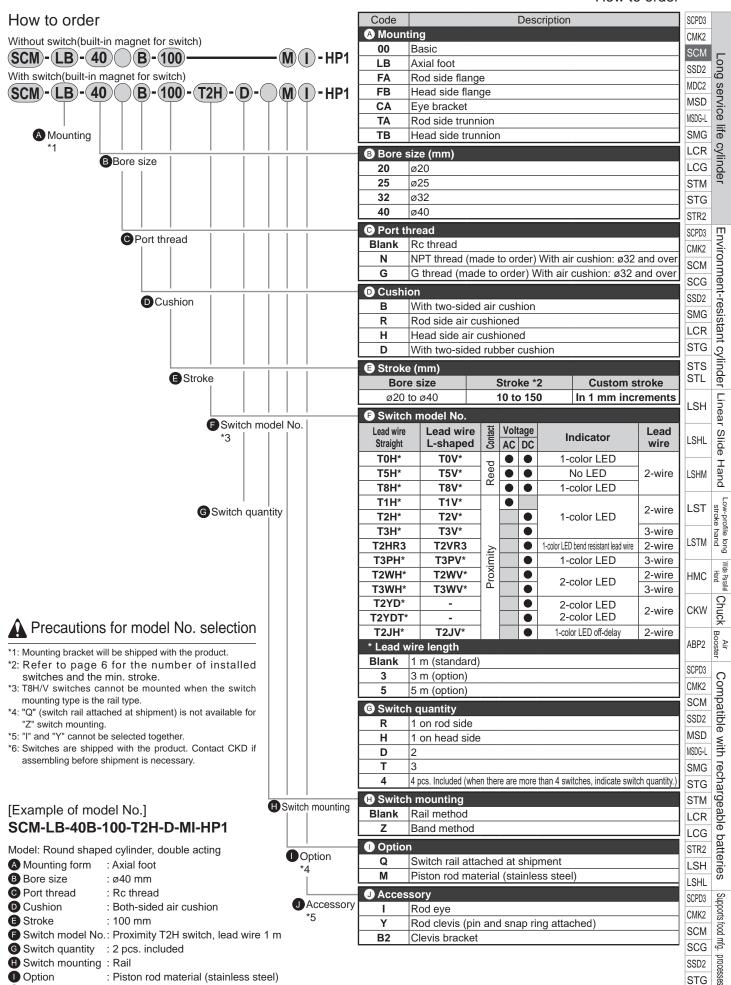
١.	- Owitch mountin	g. Dana														
	Switch quantity		1			2			3			4			5	
$\ $	\	Prox	imity		Prox	imity		Prox	imity		Prox	imity		Prox	imity	
	Bore size (mm)	T2,T3	T2W,T3W	Reed	T0,T5 T2,T3	T2W,T3W	Reed									
-	ø20		10		25	30	25	50	55	50	70	75	70	95	100	95
	ø25		10		25	30	25	50	55	50	70	75	70	95	100	95
	ø32		10		25	30	25	50	55	50	70	75	70	95	100	95
	ø40		10		25	30	25	50	55	50	70	75	70	95	100	95

For dimensions, refer to the SCM Series in "Pneumatic Cylinders I (CB-029SA)".

^{*2:} Without a cushion, large energy generated by the external load cannot be absorbed. Please provide an external shock absorber.

SCM-HP1 Series

How to order



Accessory

: Rod eye

SCM-HP1 Series

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Ckm

Air Booster

rechargeable batteries

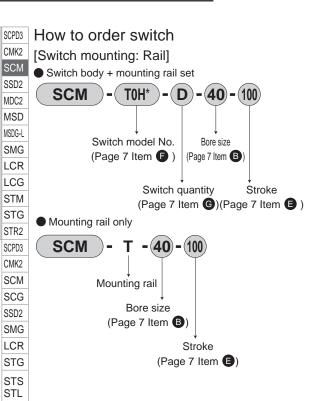
ABP2 SCPD3

SCM SSD2 MSD MSDG-L

STG

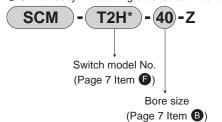
LSHL SCPD3 CMK2

SCM SCG SSD2 STG

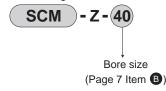


[Switch mounting: Band]

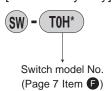
Switch body + mounting bracket set + band



Mounting bracket set + band



[Switch body only]



How to order mounting brackets

1	Bore size (mm)	ø20	ø25	ø32	ø40	
	Mounting bracket \	Ø20	Ø 23	Ø3Z	940	
1	Foot (LB)	SCM-LB-20	SCM-LB-25	SCM-LB-32	SCM-LB-40	
	Flange (FA/FB)	SCM-FA-20	SCM-FA-25	SCM-FA-32	SCM-FA-40	
1	Eye bracket (CA)	SCM-CA-20	SCM-CA-25	SCM-CA-32	SCM-CA-40	
	Trunnion (TA/TB)	SCM-TA-20	SCM-TA-25	SCM-TA-32	SCM-TA-40	

^{*1:} All mounting brackets have mounting bolts attached.

Material of mounting bracket

Mounting	Material
LB	Steel
FA/FB	Aluminum
TA/TB	Steel
CA	Steel

^{*1:} Mounting bracket will be shipped with the product.

Consumable parts list

With rubber cushion

With air cushion

	Bore size (mm)	Kit No.	Part name	Bore size (mm)	Kit No.	Part name
	ø20	SCM-20DK-HP1	Dad pasking	ø20	SCM-20BK-HP1	Rod packing Cylinder gasket
	ø25	SCM-25DK-HP1	Rod packing Cylinder gasket Cushion rubber	ø25	SCM-25BK-HP1	Cushion rubber Piston packing
,	ø32	SCM-32DK-HP1	Piston packing -Wear ring	ø32	SCM-32BK-HP1	Wear ring Needle gasket
-	ø40	ø40 SCM-40DK-HP1		ø40	SCM-40BK-HP1	Holder gasket Cushion packing

^{*1:} Specify the kit No. when placing an order.

^{*2:} The foot mounting bracket is provided as 2 pcs./set.

SMG

LCR LCG STM STG STR2

ABP2

LSHL

LSHM



Compact cylinder Double acting/Single rod

SSD2-HP1 Series

Bore size:ø12/ø16/ø20/ø25/ø32/ø40







Specifications

ltem		SSD2-HP1 SSD2-L-HP1 (with switch)					
Bore size mr	n ø12	ø12 ø16 ø20 ø25 ø32 ø40					
Actuation			Double	e acting			
Working fluid		Compressed air					
Max. working pressureMP	а	1.0					
Min. working pressureMP	а	0.1					
Proof pressure MP	а	1.6					
Ambient temperature °C		-10 to 60 (no freezing)					
Port size		M5 Rc1/8 *1					
Stroke tolerance mr	n	+1.0 0					
Working piston speedmm/	s	50 to 500					
Cushion		No					
Lubrication		Not required					
Allowable absorbed energy	J 0.004						

^{*1:} The ø32 bore size with a 5 mm stroke and without a switch has a port size of M5.

Stroke

Bore size (mm)	Standard stroke (mm)	e (mm) Max. stroke (mm)	
ø12	5/10/15/20	30	
ø16	25/30	30	4
ø20	5/10/15/20/25	50	
ø25	30/35/40/45/50	50	'
ø32	5/10/15/20/25	100	
ø40	30/35/40/45/50/75/100	100	

^{*1:} When using the type with switch, refer to the table of the min. stroke with switch.

Min. stroke with switch (With 2 switches)

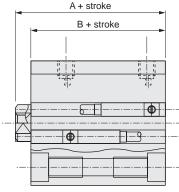
Bore size (mm)	T0/T5	T2/T3	
ø12	10 (5)		
ø16	10 (3)	5	
ø20			
ø25	5	5	
ø32	3		
ø40			

^{*1:} Less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1* or T8* switch is not available.

Custom stroke

SSD2 Series

Item	Standard stroke body with spacer					
Model No.	Refer to How to order.					
Product Item	A spacer is added to the standard stre	oke body to adjust the stroke in 1 mm				
Product item	increments.					
	Bore size	Stroke range				
Ctroke renge	12/16	1 to 29				
Stroke range	20/25	1 to 49				
	32/40	1 to 99				
Example of model No. SSD2-25-38-HP1 To create a 38mm stroke, +2 mm spacer is added to the SSD2-25-40-HP1. B + stroke is 62.5 mm.						



For dimensions, refer to the SSD2 Series in "Pneumatic Cylinders I (CB-029SA)".

^{*2:} Values in () are for the type with 1 on rod side.

SSD2-HP1 Series

How to order

Long

service

life

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

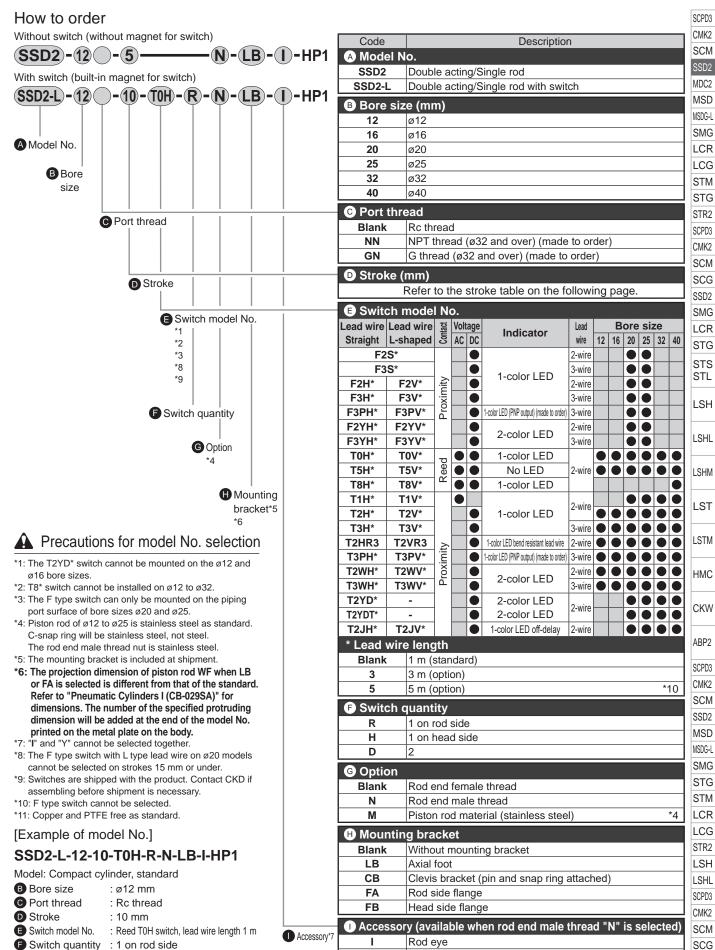
Chuck

Air Booster

Compatible with rechargeable batteries

Supports food

mfg.



Υ

G Option

Accessory

H Mounting bracket : Axial foot

: Rod end male thread

: Rod eye

Rod clevis (pin and snap ring attached)

SSD2

STG

SSD2-HP1 Series

[Stroke table

SCPD3 CMK2 SCM

SCM SSD2 MDC2 MSD0-1 SMG LCR LCG STM

STM STG STR2 SCPD3

SCM SCG SSD2 SMG LCR

STG

STS STL

LSH

LSHL

LSHM

K Wide Parallel Low-profile long
Hand stroke hand
OM H

CKM CKM

ABP2 SCPD3

Compatible with rechargeable batteries COMSC SUBSC SUB

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

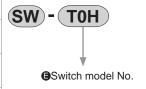
Environment-resistant cylinder

Linear Slide Hand

Stroke (mm)			Applicable bore size							
		12	16	20	25	32	40			
	5		•	•	•	•	•			
	10	•			•	•				
	15	•			•	•				
(0	20	•			•	•				
Standard stroke	25	•			•	•				
ıdar	30	•			•	•				
d st	35				•	•				
rok	40				•	•				
W	45				•	•				
	50				•	•				
	75					•				
	100					•				
Min. stroke (mm) *1				•	1					
Max. st	roke (mm)	3	0	50		100				
Custom	stroke *2			In 1 mm ir	ncrements					

^{*1:} Less than 5 mm for 1-color LED switch, less than 10mm for the 2-color LED, off-delay, AC magnetic field proof, T1*, and T8* switches are not available. Refer to page 10 for the min. stroke with switch.

How to order switch



How to order mounting brackets

Bore size (mm) Mounting bracket	ø12	ø16	ø20	ø25	ø32	ø40
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40

^{*1:}The foot mounting bracket is provided as 2 pcs./set.

SSD2 consumable parts list

4	Bore size (mm)	Kit No.	Part name
+	ø12	SSD2-12K-HP1	
+	ø16	SSD2-16K-HP1	De des etal se alcat
1	ø20	SSD2-20K-HP1	Rod metal gasket
1	ø25	SSD2-25K-HP1	Rod packing Piston packing
1	ø32	SSD2-32K-HP1	Fision packing
1	ø40	SSD2-40K-HP1	

^{*2:} The total length when using a custom stroke is the same as that when using the next longer standard stroke.

^{*3:} Refer to the dimensions in "Pneumatic Cylinders I (CB-029SA)" for the min. stroke with mounting bracket LB.

STG STS STL

LSH

MDC2-HP1 Series

Bore size: ø4, ø6, ø8, ø10







Specifications

Item	MDC2-HP1 MDC2-L-HP1 (with switch)					
Bore size mm	ø4 ø6 ø8					
Actuation	·	Doub	ole acting			
Working fluid		Comp	ressed air			
Max. working pressure MPa			0.7			
Min. working pressure MPa	0.2		0.15	0.1		
Proof pressure MPa	·	1.05				
Ambient temperature °C		-10 to 60 (no freezing) *1				
Port size		M5				
Stroke tolerance mm		+0.5				
Stroke tolerance min	0					
Norking piston speed mm/s		50	to 500			
Cushion			No			
Lubrication		Not	required			
Allowable absorbed	This product cannot ab	sorb the energy gener	ated by an external load mount	ed on the cylinder.		
energy J	When using the prod	luct with no load, sepa	rately provide a shock absorbe	r on the outside.		

^{*1:} When using the proximity switch, use at 40°C or less.

Stroke

	Bore size	Standard stroke	Max. stroke	Min. stroke with t	wo switches (mm)	Min. stroke with one switch (mm)	
1	(mm)	(mm)	(mm)	Reed switch	Proximity switch	Reed switch	Proximity switch
	ø4	3/6	6	-	-	-	-
'	ø6	4/6/8	8	6	4 (8)	4	4
,	ø8	4/6/8	8	8	4 (8)	4	4
'	ø10	4/6/10	10	6	4 (10)	4	4

^{*1:} Products with stroke other than standard stroke are not available.

For dimensions, refer to the MDC2 Series in "Pneumatic Cylinders I (CB-029SA)".

^{*2:} For F2Y, F3Y or F3P, the min. stroke will be the dimensions in ().

MDC2-HP1 Series

SCPD3

CMK2 SCM

SSD2 MDC2

MSD

MSDG-L life SMG LCR

LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

LSH

LSHL

LSHM

LST LSTM

HMC Hand

CKW

ABP2

SCPD3

CMK2

SCM SSD2 MSD

MSDG-L

SMG

STG

STM

LCR

LCG

STR2

LSH

LSHL SCPD3

CMK2 SCM mfg. SCG

SSD2

STG

Chuck

₽

Compatible with rechargeable batteries

Supports food

service

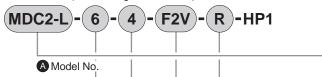
Environment-resistant cylinder Linear Slide Hand



Without switch(without magnet for switch)



With switch(built-in magnet for switch)



odel No.			
B Bore	e size		
	6 Stroke		

D Switch model No. *3

Switch quantity

A Precautions for model No. selection

- *1: ø4 with switch cannot be selected
- *2: For MDC2 with reed switch, the cylinder cannot be mounted on a magnetic substance (iron plate, etc.). Otherwise, this could lead to switch detection malfunction.
- *3: When using MDC2-L-6 with reed switch, use a non-magnetic bolt (stainless steel hexagon socket head cap screw, etc.) for the cylinder mounting bolt. Otherwise, this could lead to switch detection malfunction.
- *4: Refer to page 14 for the min. stroke with switch.

[Example of model No.]

MDC2-L-6-4-F2V-R-HP1

Model: Compact direct mounting cylinder

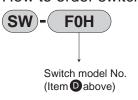
A Model No. : Double acting/Single rod/with switch

B Bore size : ø6 mm Stroke : 4 mm

Switch model No.: Proximity F2V switch, lead wire 1 m

Switch quantity : 1 on rod side

How to order switch



Code	Description			
A Model No.				
MDC2	Double acting/Single rod	Without switch		
MDC2-L	Double acting/Single rod	With switch		

Dole Size				
4	ø4			
6	ø6			
8	ø8			
10	ø10			
Constant (man)				

© Stroke (mm)			
3	3 (ø4)		
4	4 (ø6 to ø10)		
6	6 (ø4 to ø10)		
8	8 (ø6, ø8)		
10	10(ø10)		

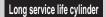
Lead wire	Lead wire	Contact	Voltage		In diameter.	Lead
Straight	L-shaped	Contact	AC	DC	Indicator	wire
F0H*	F0V*	Reed		•		
-	F2S*			•	1-color LED	2-wire
F2H*	F2V*			•		
-	F3S*			•		
F3H*	F3V*			•		
F3PH*	F3PV*	Proximity 1-color LED (PNP output) (Made to order)	3-wire			
F2YH*	F2YV*		2 color I ED	2-wire		
F3YH*	F3YV*			•	2-color LED	3-wire

_oaa mio iongiii					
Blank	1 m (standard)				
3	3 m (option)				
A Switch quantity					

Switch quantity				
R	1 on rod side			
н	1 on head side			
D	2			

STM

LSH



MSD-HP1 Series

Bore size: ø6/ø8







Specifications

Item	MSD-HP1 MSD-L-HP1 (with switch)				
Bore size mm	ø6, ø8				
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0				
Min. working pressureMPa	0.15				
Proof pressure MPa	1.6				
Ambient temperature °C	-10 to 60 (where,no freezing)				
Port size	M3				
Stroke tolerance mm	+0.5				
Stroke tolerance mm	0				
Working piston speedmm/s	50 to 500				
Cushion	No				
Lubrication	Not required				
Allowable absorbed energy J	This product cannot absorb the energy generated by an external load mounted on the cylinder. When using the product with no load, separately provide a shock absorber on the outside.				

Stroke

Bore size	Standard stroke	Max. stroke	Min. stroke with two switches (mm)		Min. stroke with	one switch (mm)
(mm)	(mm)	(mm)	Reed switch	Proximity switch	Reed switch	Proximity switch
ø6	5/10/15	30	10	5 (10)	5	5
	20/25/30	30	10	5 (10)	5	3

^{*1:} Products with stroke other than standard stroke are not available.

For dimensions, refer to the MSD Series in "Pneumatic Cylinders I (CB-029SA)".

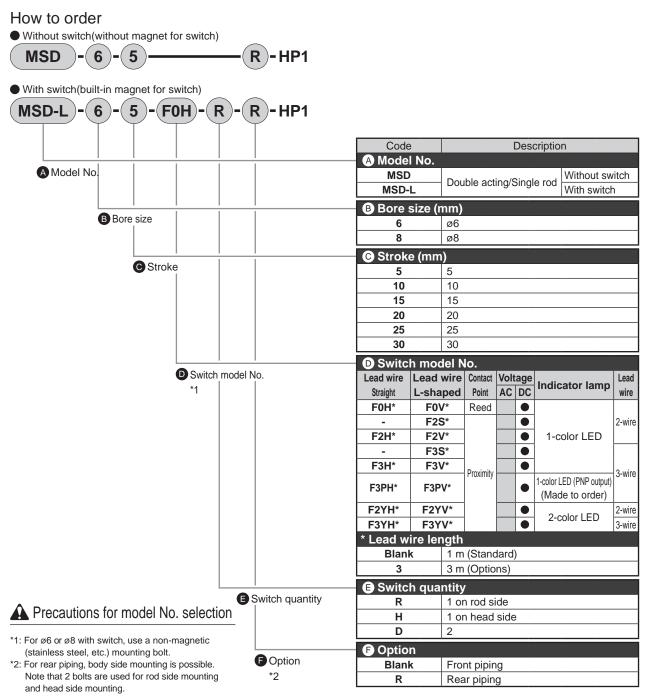
 $^{^{\}star}2$: For F2Y, F3Y or F3P, the min. stroke will be the dimensions in ().

MSD-HP1 Series

SCPD3

CMK2 SCM

Long SSD2 MDC2



[Example of model No.]

MSD-L-6-5-F0H-R-R-HP1

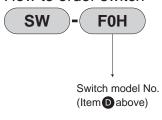
A Model No. : Double acting/Single rod/with switch

B Bore size : ø6 mm **C** Stroke : 5 mm

O Switch model No.: Reed F0H switch, lead wire 1 m

 Switch quantity : 1 on rod side Option : Rear piping

How to order switch



MSD-HP1 Series

Switch selection table

SCPD3

CMK2 SCM

SSD2 MDC2

MSD

MSDG-L

SMG

LCR

LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG

STS STL

LSH

LSHL

LSHM

LST

LSTM

₹ HMC

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 processes CMK2

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Chuck CKW

Air Booster ABP2

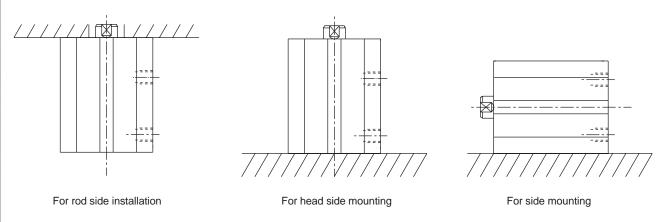
Compatible with rechargeable batteries

Switches may not be installable depending on relations between cylinder installation and stroke.

Refer to the table below to select a switch.

Switches cannot be used for side mounting in the following combinations.

- Combinations in which F2YH/V, F3YH/V or F3PH/V is mounted at the switch mounting position H with stroke 5 mm
- · Combinations in which F2YH, F3YH or F3PH is mounted at the switch mounting position H with stroke 10mm (For the min. stroke with switch, Page 16.)



For rod side installation

Tube	Reed switch				Proximity switch										
	Stroke	F	OH	FC	ΟV	F2S	/F3S	F2H	/F3H	F2V	/F3V	F2YH/F3	YH/F3PH	F2YV/F3	YV/F3PV
Bore size	(mm)	Switch mour	nting position	Switch moun	ting position	Switch mour	ting position	Switch mour	nting position	Switch moun	ting position	Switch mour	ting position	Switch mour	nting position
(mm)		R	Н	R	Н	R	Н	R	Н	R	Н	R	Н	R	Н
	5	0	0	0	0	0	0	0	х	0	0	0	х	0	х
ø6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15 to	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0	х	0	0	0	х	0	х
ø8	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15 to	0	0	0	0	0	0	0	0	0	0	0	0	0	0

For head side mounting

Tube			Reed	switch		Proximity switch									
Bore size	Stroke	FC	DΗ	FC	V	F2S	/F3S	F2H	/F3H	F2V	/F3V	F2YH/F3	YH/F3PH	F2YV/F3	YV/F3PV
	(mm)	Switch mour	nting position	Switch moun	ting position	Switch mour	ting position	Switch mour	nting position	Switch moun	ting position	Switch moun	ting position	Switch mour	ting position
(mm)		R	Н	R	Н	R	Н	R	Н	R	Н	R	Н	R	Н
	5	х	x	0	0	0	0	х	0	0	0	х	х	0	х
ø6	10	0	х	0	0	0	0	х	0	0	0	х	0	0	0
Ø6	15	0	х	0	0	0	0	0	0	0	0	х	0	0	0
	20 to	0	х	0	0	0	0	0	0	0	0	0	0	0	0
	5	х	х	0	0	0	0	х	0	0	0	х	х	0	х
ø8	10	0	х	0	0	0	0	х	0	0	0	х	0	0	0
Ø6	15	0	х	0	0	0	0	0	0	0	0	х	0	0	0
	20 to	0	х	0	0	0	0	0	0	0	0	0	0	0	0

SCM SCG SSD2 STG

SCPD3 CMK2	
SCM	_
SSD2	2
MDC2	S Di
MSD	šen.
MSDG-L	<u>;</u>
	≡
SMG	e c
LCR	Υİ'n
LCG	de
STM	,
STG	
STR2	ш
SCPD3	Ν̈́
CMK2	ō
SCM	Ħ
SCG	ent
SSD2	-reg
SMG	sist
LCR	ant
STG	Ş
STS	linc
STL	der Li
LSH	near S
LSHL	Slide F
LSHM	land
LST	Low-profi stroke
LST	Low-profile long stroke hand
	Stroke hand Wide Parallel
LSTM	Pare
LSTM	Parallel Ch
LSTM HMC CKW ABP2	Parallel Chuck Booster
LSTM HMC CKW	Parallel Chuck B.
LSTM HMC CKW ABP2 SCPD3 CMK2	Parallel Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM	Parallel Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	Parallel Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	Parallel Chuck Air Booster Compatible
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L	Parallel Chuck Air Booster Compatible
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG	Parallel Chuck Air Booster Compatible
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L SMG STG	Parallel Chuck Booster Compatible with recharg
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM	Parallel Chuck Booster Compatible with rechar
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR	Parallel Chuck Air Compatible with rechargea
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM	Parallel Chuck Air Compatible with rechargeable batt
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG	Parallel Chuck Booster Compatible with rechargeable batteri
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH	Parallel Chuck Air Compatible with rechargeable batt
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCG STR2 LSH LSHL	Parallel Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3	Parallel Chuck Booster Compatible with rechargeable batteri
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	Parallel Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3	Parallel Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCG	Parallel Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCPD3	Parallel Chuck Booster Compatible with rechargeable batteries S

STM STG STR2

LSHL

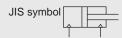
SCPD3

Small guided compact cylinder Double acting/Guided/With switch

Long service life cylinder

MSDG-L-HP1 Series

Bore size: ø6/ø8/ø12/ø16







Specifications

Item		MSDG-L-HP1(With switch)									
Bore s	size mm	ø6	ø8	ø12	ø16						
Actuat	tion	Double acting									
Workir	ng fluid	Compressed air									
Max. w	orking pressure MPa		1	.0							
Min. wo	orking pressure MPa	0.2	0.15	0	.1						
Proof	pressure MPa	1.6									
Ambie	ent temperature °C	5 to 60									
Port	Front piping	M	3	N	15						
size	Rear piping	M	3	N	M3						
Chales	t-l		+2.0								
Slioke	tolerance mm	0									
Working	piston speed mm/s	50 to 500									
Cushic	on	With rubber cushion									
Lubric	ation	Not required									
Allowak	ole absorbed energyJ	0.004	0.014	0.044	0.110						

Stroke

-	Bore size	Standard	Max. stroke	Min. stroke with t	wo switches (mm)	Min. stroke with one switch (mm)		
	(mm) stroke (mm)		(mm)	Reed switch	Proximity switch	Reed switch	Proximity switch	
,	ø6	5/10/15				E	E	
"	ø8		30	10				
	ø12	20/25/30	30	10	5	5	5	
; _	ø16							

Note: Products with stroke other than standard stroke are not available.

For dimensions, refer to the MSDG-L Series in "Pneumatic Cylinders I (CB-029SA)".

MSDG-L-HP1 Series

SCPD3

CMK2 SCM

MSD

SMG

LCR

LCG

STM

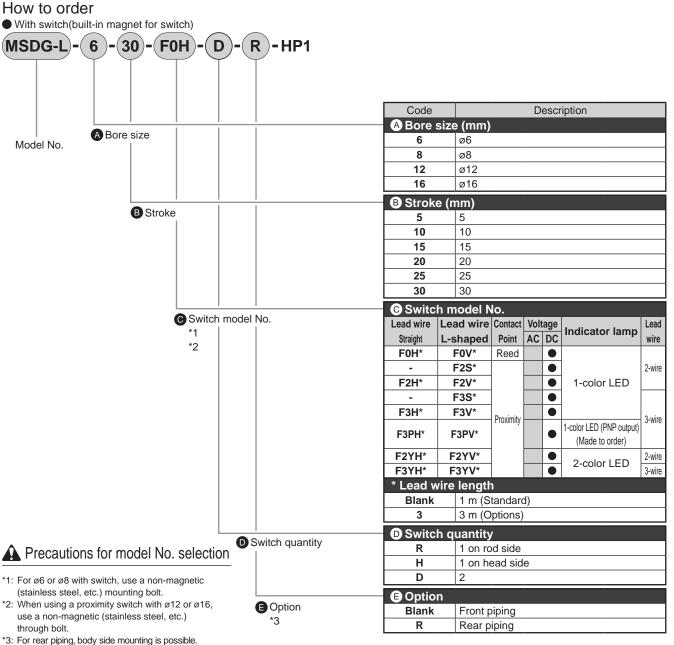
STG

STR2

SCPD3

Long SSD2 MDC2

service life cylinder



[Example of model No.]

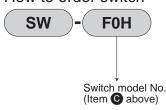
MSDG-L-6-30-F0H-D-R-HP1

Model No.: Double acting/guided/with switch

A Bore size : ø6 mm B Stroke : 30 mm

© Switch model No.: Reed F0H switch Switch quantity : 2 pcs. included Option : Rear piping

How to order switch



SCPD3 CMK2 SCM SSD2

MDC2 MSD

Long service life cylinder SMG LCR LCG STM STG STR2

SCPD3

CMK2 SCM

Environment-resistant cylinder SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH

LSHM Wide Parallel Low-profile long stroke hand LSTM ≣ HMC

CKW

LSHL

Chuck Air Booster ABP2 rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR

Compatible with LCG STR2 LSH LSHL SCPD3 processes CMK2 SCM SCG SSD2 STG

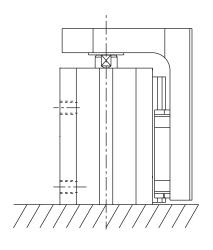
Switch selection table

Switches may not be installable depending on relations between cylinder installation and stroke.

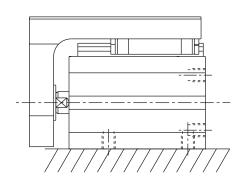
Refer to the table below to select a switch.

Switches cannot be used for side mounting in the following combinations.

- · Combinations in which F2YH/V, F3YH/V or F3PH/V is mounted at the switch mounting position H with stroke 5 mm
- · Combinations in which F2YH, F3YH or F3PH is mounted at the switch mounting position H with stroke 10mm (For the min. stroke with switch, Page 20.)



For head side mounting



For side mounting

For head side mounting

Tube			Reed	switch		Proximity switch									
Bore	Stroke	FC	Н	F(V	F2S	F3S	F2H	/F3H	F2V	/F3V	F2YH/F3	YH/F3PH	F2YV/F3	YV/F3PV
size	(mm)	Switch mour	ting position	Switch mour	ting position	Switch moun	ting position	Switch mour	nting position	Switch mour	ting position	Switch mour	nting position	Switch moun	ting position
(mm)		R	Н	R	Н	R	Н	R	Н	R	Н	R	Н	R	Н
	5	х	0	0	0	0	0	х	0	0	0	х	x	0	0
ø6	10	0	0	0	0	0	0	х	0	0	0	х	0	0	0
	15 to	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	х	0	0	0	0	0	х	0	0	0	х	х	0	0
ø8	10	0	0	0	0	0	0	х	0	0	0	х	0	0	0
	15 to	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	х	0	0	0	0	0	х	0	0	0	х	0	0	0
ø12	10	0	0	0	0	0	0	х	0	0	0	х	х	0	0
	15 to	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	х	0	0	0	0	0	х	0	0	0	х	0	0	0
ø16	10	0	0	0	0	0	0	х	0	0	0	х	0	0	0
	15 to	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STG STR2

SCPD3 CMK2

LSHM



SMG-HP1 Series

Bore size: ø6/ø10/ø16/ø20/ø25/ø32







Specifications

Item				SMG SMG-L-HP1 (
Bore size	mm	ø6	ø10	ø16	ø20	ø25	ø32			
Actuation				Double	acting					
Working fluid				Compre	ssed air					
Max. working pressure	MPa		0.7							
Min. working pressure	MPa	0.12	0.	06						
Proof pressure	MPa	1.05								
Ambient temperature	°C		-10 to 60 (no freezing)							
Port size				M5			Rc1/8			
Stroke tolerance	mm		+1.5 0							
Working piston speed	mm/s			50 to	500					
Cushion				With rubbe	er cushion					
Lubrication			Not required							
Allowable absorbed e	nergyJ	0.012								

Stroke

Bore size (mm)	Standard stroke (mm)	Min. stroke (mm)
ø6		
ø10	5, 10, 15, 20, 25, 30, 40, 50, 60	
ø16		5
ø20	5 10 15 20 25 20 40 50 60 70 80	
ø25	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90. 100	
ø32	30, 100	

^{*1:} The custom stroke is available in 5 mm increments.

However, the total length is the same as that of the next longer standard stroke.

Min. stroke with switch

	Bore size	1-colo	r LED	2-color LED				
1	Dole Size	K□H	K□V	K □ YH K □ YV				
	ø6							
1	ø10			5				
┨.	ø16	5	=					
┦ ๋	ø20)					
4	ø25							
╡.	ø32							

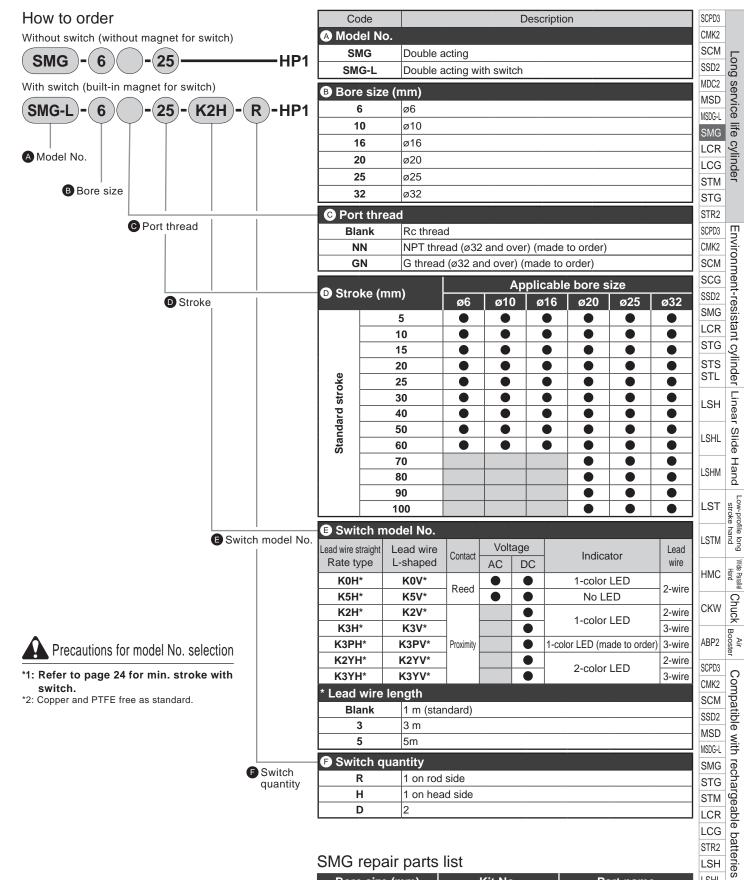
For dimensions, refer to the SMG Series in "Pneumatic Cylinders I (CB-029SA)".

How to order

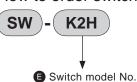
service life cylinder

Slide Hand

Chuck



How to order switch



Bore size (mm)	Kit No.	Part name
ø6	SMG-6K-HP1	CD turns anon ring
ø10	SMG-10K-HP1	CR type snap ring (ø6, ø10, ø16)
ø16	SMG-16K-HP1	Rod packing
ø20	SMG-20K-HP1	Cushion rubber R/H
ø25	SMG-25K-HP1	Piston packing Cover gasket
ø32	SMG-32K-HP1	Cover gasket

LSHL

SCPD3

CMK2

SCM

Supports food

mfg. SCG SSD2 STG

SMG

LCR LCG STM STG STR2 SCPD3

LSHM

Linear slide cylinder Double acting/Single rod

LCR-HP1 Series

Bore size: ø6/ø8/ø12/ø16/ø20/ø25





Long service life cylinder



Specifications

Specificat	10118									
Item				LCR-	HP1					
Bore size	mm	ø6	ø8	ø12	ø16	ø20	ø25			
Actuation				Double	acting					
Working fluid				Compres	ssed air					
Max. working p	oressureMPa			0.	7					
Min. working p	ressure MPa			0.15	(*1)					
Proof pressure	e MPa		1.05							
Ambient tempe	erature °C		-10 to 60 (no freezing)							
Port size	Main body side	M3	M5			Ro	1/8			
	Main body back	-		M5	Rc1/8					
Stroke tolerand	ce mm			+2.0 0	(*2)					
Working pistor	n speedmm/s			50 to 50	00 (*3)					
Cushion With rubber cushion										
Lubrication				Not required						
Allowable abso	rbed energy J		Refer to the following table.							

- *1: 0.2MPa when using the ø6 shock absorber stopper.
- *2: Note that there will be a slight gap between the end plate and floating bush if no stopper is attached.
- *3: Use the stroke adjusting stopper at 50 to 200mm/s.
- *4: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

Stroke

Bore size (mm)	Standard stroke (mm)
ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

^{*1:} Products with strokes other than the above are not available.

LCR allowable absorbed energy (Eo)

	Bore size	Standard (J)	With stroke adjusting stopper (J)	With shock absorber stopper (J)
)	ø6	0.025	0.0032	0.14
-	ø8	0.058	0.0032	0.25
i	ø12	0.112	0.014	0.25
i	ø16	0.176	0.043	0.65
	ø20	0.314	0.055	1.3
2	ø25	0.314	0.14	1.3

For dimensions, refer to the LCR Series in "Pneumatic Cylinders II (CB-030SA)".

LCR-HP1 Series

How to order

SCPD3

CMK2 SCM

MDC2

MSDG-L

Long SSD2

service MSD

life SMG LCR

Environment-resistant cylinder Linear

Slide Hand

Low-profile long stroke hand

Chuck CKW

₽

Compatible with rechargeable batteries

STS

STL

LSH

LSHL

LSHM

LST

LSTM

ABP2

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG

STM LCR

LCG

STR2

LSH

LSHL

SCPD3

CMK2

SCM

SCG

SSD2

STG

Supports food

mfg.

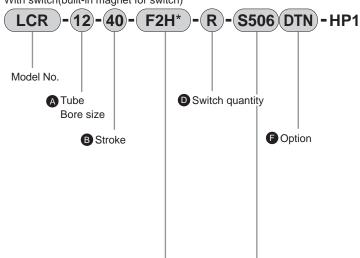
HMC Hand



Without switch(built-in magnet for switch)



With switch(built-in magnet for switch)



C Switch model No.

A Precautions for model No. selection

- *1: For the adjustable stroke range with a shock absorber stopper, refer to the stopper dimensions table in "Pneumatic Cylinders II (No. CB-030SA)".
- *2: For the port position, refer to the stopper dimensions in "Pneumatic Cylinders II (No. CB-030SA)".
- *3: The port positions of the standard without stopper are ① and ③ in the figure below.
 4: Refer to stoppers "C" and "W*" for combination of the
- stroke adjusting stopper and shock absorber type stopper.
- *5: Can be selected for the type with stopper only.
- *6: Refer to the selection table on page 30 for combinations of options.
- *7: A1**, A2**, A5** and A6** of ø6 to ø8 with 10 mm stroke or less and ø12 to ø25 with 20 mm stroke or less are made to order since they are not adjustable using the standard stopper.
- *8: When two switches are necessary for the type with S*** or A*** of ø6 to ø8 with 30 mm stroke or less, select the F \square H type switch.
- *9: Select when using rear piping.
- *10: Can be selected only when using stroke adjusting stopper (S) and one side mixed type (C).
- *11: When two switches are necessary or a switch is installed on the head side of W3 to 6 (both-sided combined stopper) of ø6 (all strokes), ø8 with 20 or 30 mm stroke, ø12 with 30 to 50 mm stroke or ø16 with 30 to 50 mm stroke, select the lead wire straight type.
- *12: Cannot be selected when choosing two-sided combined type (W).
- *13: The adjustable stroke range when choosing both-sided combined use (W) is ø6: 9 mm, ø8: 13.5 mm, ø12: 14.5 mm, ø16: 15 mm, ø20: 13 mm, ø25: 10 mm.
- *14: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type

[Example of model No.]

LCR-12-40-F2H-R-A1DT-HP1

Model: Linear slide cylinder Double acting/Single rod LCR

A Bore size : ø12 B Stroke : 40 mm

© Switch model No.: Proximity/2-wire, Reed

lead wire straight Switch quantity : 1 (on rod side)

: Shock absorber stopper Stopper Stopper position ①

Option : With side and bottom surface ports

Material, steel (nitriding)

Code	Description
A Bore	size
6	ø6
8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

B Stro	ke (mm)							LCR
			Вс	re s	ize	(ø)		LCG
		6	8	12	16	20	25	STM
10	10	•	•	•	•	•	•	STG
20	20	•	•	•	•	•	•	STR2
30	30	•	•	•	•	•	•	SCPD3
40	40	•	•	•	•	•	•	CMK2
50	50	•	•	•	•	•	•	SCM
75	75		•	•	•	•	•	SCG
100	100			•	•	•	•	SSD2
125	125				•	•	•	SMG
150	150					•	•	LCR
00.								STG

© Swit	tch mod	del	No) .								
Straight lead wire	L-shaped	Contact	Volt	age	Indicator	Lead		E	Bore	siz	е	
Stratytik lead wife	lead wire	ပ္ပ	AC	DC	lamp	wire	ø6	ø8	ø12	ø16	ø20	ø25
-	F2S*			•		2-wire						
-	F3S*			•	1-color	3-wire						
F2H*	F2V*	≥		•	LED	2-wire						
F3H*	F3V*	i E		•		3-wire						
F3PH*	F3PV*	Proximity		•	1-color LED (PNP output)(Made to order)	3-wire						
F2YH*	F2YV*			•	2-color	2-wire						
F3YH*	F3YV*			•	LED	3-wire						
T0H*	T0V*	Reed	•	•	1-color LED	2-wire						
T5H*	T5V*	Re	•	•	No LED	Z-WIIE						
T2H*	T2V*			•	1-color	2-wire						
T3H*	T3V*			•	LED	3-wire						
T2HR3	T2VR3	Proximity		•	1-color LED Bending resistant lead wire	2-wire				•	•	•
T3PH*	T3PV*	Prox		•	1-color LED (PNP output) (Made to order)	3-wire						
T2WH*	T2WV*			•	2-color	2-wire						
T3WH*	T3WV*			•	LED	3-wire						
* Lead	wire ler	nat	h									

" Lead \	wire length		
Blank	1 m (standard)		
3	3 m (option)		
5	5 m (option)		•

D Swit	Switch quantity								
R	1 on rod side								
Н	1 on head side								
D	2								

Stopper

Stopper

Stopper position

3

Page 28 for details on the [Stopper].

Opti	on	
Blank	Port on stopper: without port	
D	Port on stopper: side and bottom ports	*2, *5, *12
Blank	Stopper block material: Steel	
Т	Stopper block material: steel (nitriding)	*5
Plug in	cluded	
Blank	No	
N	With side piping port plug (not available for ø6, ø25)	*9

LCR-HP1 Series

[**G**Stopper]

SCPD3

CMK2 SCM

SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 SCPD3

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Air Booster

Compatible with rechargeable batteries

CMK2 SCM SCG SSD2

SMG

LCR

STG STS

STL

LSH

LSHL

LSHM

stroke hand LSTM

₹ HMC

CKW

ABP2

SCPD3

CMK2 SCM SSD2

MSD MSDG-L

SMG STG STM

LCR

LCG

STR2 LSH

LSHL SCPD3 processes

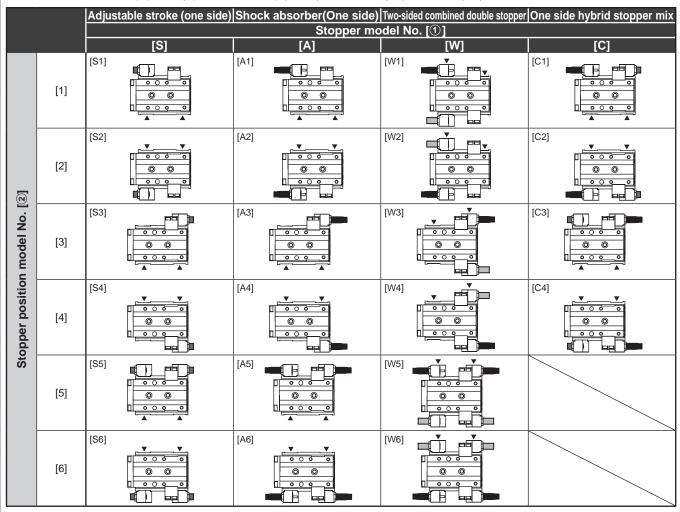
CMK2

SCM SCG SSD2 STG

, I												
4	Code	Description			Ι	Code		Des	scription			
	Stopp	er										
!	Blank	No option				C One side I	hybrid stopper mi	x (shock absorbe	er stopper,	stroke ac	ljusting s	topper)
,	S Stroke a	djusting stopper		*4	I	C1**	A1+S3					ition
	S1**	Stopper position ① (can be changed to ④)		o U	I	C2**	A2+S4					Stopper lation pos
4	S2**	Stopper position ② (can be changed to ③)		er position	Γ	C3**	A3+S1					Stopper Installation position
-	S3**	Stopper position 3 (can be changed to 2) *1	5	n pc	Γ	C4**	A4+S2					Insta
;	S4**	Stopper position 4 (can be changed to 1) *1	5	Stopper Installation po	*	* part Adjust	table stroke range	Compatible	with all.	Compatil	le with so	me. *10
	S5**	Stopper position ①, ③		tall (Γ		Protruding end	Return end		topper r		
	S6**	Stopper position 2, 4	7	lus	L				S	Α	W	C
1	A Shock al	bsorber stopper		*1, *4	L	Blank	5 mm or none	5 mm or none				
	A1	Stopper position ① (can be changed to ④)	Т		1	02	15 mm or none	15 mm or none				
i	A2	Stopper position ② (can be changed to ③)	٦	ber position	L	03	25 mm or none	25 mm or none			1	
,	A3	Stopper position 3 (can be changed to 2) *1	5	Stopper ation po	L	04	15 mm	5 mm		- '	-	-
4	A4	Stopper position 4 (can be changed to 1) *1	5	Stopp Installation	L	05	25 mm	5 mm	A		1	-
4	A5	Stopper position ①, ③	٦	ig 8	L	06	5 mm	15 mm			1	-
	A6	Stopper position 2, 4		Insi	L	07	5 mm	25 mm				-
	W Two-sided	combined double stopper(Shock absorber stopper, metal stoppe	r)	*11, *13	3							
1	W1	A1 + metal stopper	Τ		1	*15: Wh	en changing t	he stopper po	sition fr	om the	head si	ide to
+	W2	A2 + metal stopper	┪	sitic	l		rod side, the					
4	W3	A3 + metal stopper	┪	per n	İ		ording to the					
	W4	A4 + metal stopper	┪	Stopper Installation position	١		ecautions whe A2 and adjus					
	W5	A5 + metal stopper	\neg	3 g	ı		available dep				10 mm	iliay ilo
	W6	A6 + metal stopper		Inst	١	50			2 2 0	-		

Stopper model No. selection method

 Stopper combination table Model No.-[1)Stopper type] [2Stopper position][3] Example)LCR-8-40-[S] [5]06-HP1



▲shows the piping direction. When choosing two-sided combined type (W), the stopper bracket comes with piping on both sides. AThe stopper bracket on the reverse side of (piping direction) is provided with a plug.

Shock absorber stopper

Stroke adjusting stopper (adjusting range 5 mm)

[:] Metal adjusting stopper (adjusting range 15 mm)

SCPD3 CMK2

SCM Long

SSD2

MDC2

MSD

MSDG-L SMG

LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

LSH

LSHL

LSHM

LST

LSTM

HMC

ABP2

SCPD3

CMK2

SCM

SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3

Chuck CKW

Compatible with rechargeable batteries

Supports food CMK2 SCM SCG SSD2

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Stopper model No. selection method

Stopper model No. selection method

For stroke adjusting stopper -S

2 Stopper combination table

(Example) LCR-8-40-S5[06]-HP1

: Stroke adjusting stopper (adjusting range 5 mm) : Stroke adjusting stopper (adjusting range 15 mm) ZZZ: Stroke adjusting stopper (adjusting range 25 mm)

		Stopper adju	usting range			Stopper mod	del No. [①②]		
		Protruding end	Return end	[S1]	[S2]	[S3]	[S4]	[S5]	[S6]
	Blank	5 mm or None	5 mm or None	© © [S1]	© © (S2)	[S3]	▼ ▼	[S5]	[S6]
3]	[02]	15 mm or None	15 mm or None	© © (S102)	[S202]	[S302]	▼ ▼	[S502]	▼ ▼
nodel No. [[03]	25 mm or None	25 mm or None	© © (S103)	[S203]	(S303)	[S403]	[S503]	[S603]
oke range n	[04]	15 mm	5 mm						[S604]
Adjustable stroke range model No. [[05]	25 mm	5 mm					[S505]	[S605]
Ă	[06]	5 mm	15 mm					[S506]	[S606]
	[07]	5 mm	25 mm					[S507]	(S607)

▲shows the piping direction. Shock absorber [A], Cannot be selected for two-sided combined type [W]N.

3 For one side hybrid stopper mix -C

: Shock absorber stopper : Stroke adjusting stopper (adjusting range 15 mm)

		Stopper adj	usting range		Stopper mod	del No. [①②]	
		Protruding end	Return end	[C1]	[C2]	[C3]	[C4]
Model No. [3]	Blank	5 mm or shock Absorber	5 mm or shock Absorber	© © © © © © © © © © © © © © © © © © ©	[C2]	© © (C3)	© 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
stroke range Mo	[02]	15 mm or shock Absorber	15 mm or shock Absorber	© © © © © © © © © © © © © © © © © © ©	[C202]	© © © © © © © © © © © © © © © © © © ©	▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼
Adjustable s	[03]	25 mm or shock Absorber	25 mm or shock Absorber	[C103]	[C203]	[C303]	v v v v v v v v v v v v v v v v v v v

▲shows the piping direction.

shock absorber adjustable stroke range is, Refer to "Pneumatic Cylinders II (No.CB-030SA) "Refer to the stopper dimensions table.

STG

LCR-HP1 Series

CMK2

SCM

MDC2
MSDG-L
MSDG-L
SMG
LCR
LCG
STM
STG
STR2
SCPD3

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

CKW

Booster ABP2

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

LCR Double acting/Single rod selection table

(Combination with stroke adjusting stopper, shock absorber stopper)

: Available - : Not available

- [Stopper type												Α	dju	stab	le s	trok	е										
	Model No.	Stopper code			S1			S2			S3			S4					S 5							S 6			
					Adjustment length code																								
		Bore size	Stroke	Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	04	05	06	07	Blank	02	03	04	05	06	07
		~C ~O	10	•	-	-	•	-	-	•		-	•	•	-	•	-	-	-	-		-	•	-	-	-	-	•	-
Ш		ø6,ø8	20 or more	•	•	-	•	•	-	•		-	•	•	-	•	•	-	•	-	•	-	•	•	-	•	-	•	-
$\ $	LCR		10		-	-	•	-	-		•	-	•	•	-	•	-	-	-	-	•	-	•	-	-	-	-	•	-
		ø12 to ø25	20		•	-	•	•	-		•	•	•	•	•	•	•	-	•	-	•		•	•	-	•	-	•	
			30 or more		•	•		•	•	•	•	•	•	•	•	•		•		•		•	•	•		•		•	

Madal	Stoppe	Shock absorber				Two-sided combined double stopper					One side hybrid stopper mix															
Model No.	Stopper code															C1			C2			C 3			C4	
110.			A1	A2	А3	Α4	A5 A	A6	W1	W2	W3	W4	W5	W6				Adjı	ıstm	ent	lenç	jth c	ode	;		
	Bore size	Stroke													Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03
	ø6,ø8	10	-	-	•	•	-	-	-	-	•	•	-	-	-	-	-	-	-	-	•	-	-	•	-	-
		20 or more	•	•	•	•	•	•	•	•	•	•	•	•		•	-	•	•	-	•	•	-	•	•	-
LCR		10	-	-	•	•	-	-	-	-	•	•	-	-	-	-	-	-	-	-	•	-	-	•	-	-
	ø12 to ø25	20	-	-	•	•	-	-	-	-	•	•	-	-	-	-	-	-	-	-	•	•	-	•	•	-
		30 or more	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

The table above also applies to a combination with option code D (with port on the stopper) or T (steel stopper block (nitriding)).

SSD2

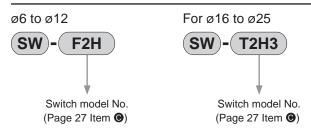
-: Not applicable

Chuck

₽

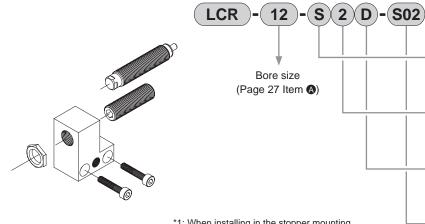
SSD2 STG Supports food mfg.

How to order switch



How to order a stopper set

- Set of a stopper and stroke adjusting stopper or shock absorber stopper
- Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



- *1: When installing in the stopper mounting position ① or ② (refer to page 27), the stroke causes changes in the adjustable stroke; see the following table.
- *2: S03 is not available for ø6, ø8.
- *3: Cannot be selected for the shock absorber stopper "A".

-	A Stopper type						
	S	Stroke adjusting stopper					
	Α	Shock absorber stopper					
	B Stopper	installation position					

2	For Stopper position ② or ③					
© Port on the stopper						
Blank	Without port					

For Stopper position ① or ④

With side and bottom ports

Blank	Adjustable stroke range s	5 mm			
S02	Adjustable stroke range	15 mm			
S03	Adjustable stroke range 2	25 mm			

Note)Bottom port is plug-sealed. ø 20, When using the bottom port with 25, buy a plug kit (LCR-20-N 2 pieces/set) and seal the side surface ports before

Precautions when purchasing the stopper set

When the stopper set is installed in the mounting position ① or ②(refer to page 27), note that the adjustable stroke will be as shown on the right according to the stroke.

Model No.	Option	s codo	Discrete stroke adjusting stopper Adjustable stroke (mm)							
	Орио	i code								
code	Bore size	Stroke	-5	-15	-25					
	ae ao	10	S02	-	-					
	ø6, ø8	20 or more	Blank	S02	-					
LCR Series		10	S03	-	-					
	ø12 to ø25	20	S02	S03	-					
		30 or more	Blank	S02	S03					

Stopper set weight

(Unit:g)

Stopper type		S1,S2		A1,A2			
Port on the stopper		Blank, D					
Adjustable stroke	Blank	S02	S 03	Blank			
ø6	15	18	-	18			
ø8	21	25	-	27			
ø12	28	31	34	33			
ø16	42	47	52	49			
ø20	77	85	92	86			
ø25	87	94	101	95			

SCPD3

CMK2

STM STG

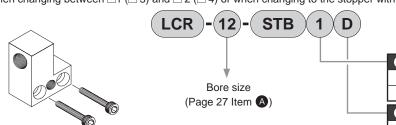
STR2

SCPD3

LSHL

How to order discrete stopper bracket

lacktriangle Used when changing between \Box 1 (\Box 3) and \Box 2 (\Box 4) or when changing to the stopper with port.



A Stopper installation position					
1	For stopper position ①or ④				
2	For stopper position ②or ③				

B Port on the stopper						
Blank Without port						
D	With side and bottom ports					

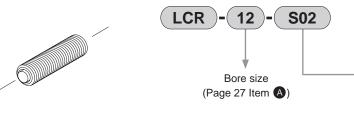
Note) Bottom port is plug-sealed. When using the bottom port with ø20 and ø25, purchase a plug kit (LCR-20-N 2 pieces/set) and seal the side surface ports before use.

Stopper bracket we	eigin (Oinc. g)
Stopper installation position	1, 2
Port on the stopper	Blank, D
ø6	8
ø8	14
ø12	20
ø16	29
ø20	53
g25	62

How to order discrete stroke adjusting stopper

(Linit: a)

- Hexagon socket set screw with urethane
- Use when changing the adjustable stroke range or when using a custom stroke.



A Adjustable stroke range					
S01	Single side 5 mm (standard)				
S02	Single side 15 mm				
S03	Single side 25 mm				

A Select S01, S02 or S03 in

Note: S03 is not available for Ø6, Ø8. Some models may not be available and adjustable stroke range may differ from the above depending on the Model No.

Precautions when purchasing discrete stopper

- : Not available

When a discrete stroke adjusting stopper or a discrete shock absorber stopper is installed in the 1 or 2 position (refer to page 27), the combination will be as shown on the right according to the stroke and adjustable stroke.

Model No.	Ontion	n code	Discrete st	Discrete shock		
code	Ориоі	i coue	Adjust	absorber		
code	Bore size	Stroke	-5	-15	-25	stopper
	ø6, ø8	10	S02	-	-	-
LCR Series	00,00	20 or more	S01	S02	-	A01
-S1, S2, S5, S6	ø12 and up	10	S03	-	-	-
-A1, A2, A5, A6	ø25	20	S02	S03	-	-
	W25	30 or more	S01	S02	S03	A01

Discrete stroke adjusting stopper weight

(Unit:g)

Adjustable stroke range	S01	S02	S 03		
ø6	6	9	-		
ø8	7	10	-		
ø12	7	11	14		
ø16	11	16	22		
ø20	22	30	37		
ø25	23	30	37		

How to order

SCPD3 CMK2

SCM

MSD

MSDG-L SMG

LCG

STM

STG

STR2

SCPD3

CMK2

SCM

SCG SSD2

SSD2 MDC2

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Chuck

₽

Compatible with rechargeable batteries

SCPD3 Supports food mfg.

LST

LSTM

HMC

ABP2 SCPD3

CMK2 SCM

SSD2 MSD MSDG-L SMG

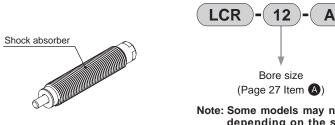
STG

STM LCR LCG

STR2 LSH LSHL SCPD3

How to order discrete shock absorber stopper

- Shock absorber set
- Use when changing from the stroke adjusting stopper to the shock absorber stopper



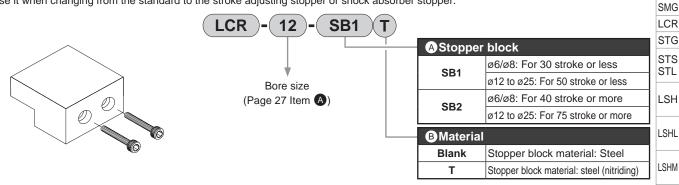
Note: Some models may not be available depending on the specifications. Refer to page 27. For the adjustable stroke range for a shock absorber stopper, refer to the stopper dimensions table in "Pneumatic Cylinders II (No. CB-030SA)".

Applicable shock absorber model No.

Model	Shock absorber model No.	Weight (g)
LCR-6-HP1	SKL-0804	9
LCR-8-HP1	SKL-0805	12
LCR-12-HP1	SKL-0805	12
LCR-16-HP1	SKL-1006	19
LCR-20-HP1	SKL-1208	31
LCR-25-HP1	SKL-1208	31

How to order discrete stopper block

• Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.

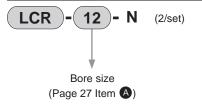


Discrete stopper block weight

- 1	ш	Init	•	α
١.	·	יווווי		чı

51.1	004(=)	000(=)
Block	SB1(T)	SB2(T)
ø6	11	21
ø8	14	24
ø12	23	37
ø16	38	72
ø20	60	99
ø25	112	206

Model No. of plug kit for side piping port



Weight of plug kit for side piping port

Bore size	Weight (g)
ø8	1
ø12	1
ø16	1
ø20	5

LCR repair parts list

Bore size (mm)	Kit No.	Part name
ø6	LCR-6K-HP1	Rod packing
ø8	LCR-8K-HP1	Metal gasket
ø12	LCR-12K-HP1	Cushion rubber R/H
ø16	LCR-16K-HP1	Piston packing
ø20	LCR-20K-HP1	Cover gasket
ø25	LCR-25K-HP1	Lube keeping structure

MSD MSDG-L SMG

LCR LCG

LCG-HP1 Series

Bore size: ø6/ø8/ø12/ø16/ø20/ø25





Long service life cylinder



Specifications

Specific	specifications								
Item				LCG	-HP1				
Bore size m	nm	ø6	ø8	ø12	ø16	ø20	ø25		
Actuation				Double	acting				
Working flu	id			Compre	ssed air				
Max. working	pressure MPa			0.	.7				
Min. working	pressure MPa			0.15	(*1)				
Proof press	sure MPa	1.05							
Ambient ter	mperature °C	-10 to 60 (no freezing)							
Port size	Main body side	M3	M5			Rc1/8			
FUIT SIZE	Main body back		M3				Rc1/8		
Stroke tole	rance mm	+2.0 0 (*2)							
Working piston speed mm/s		50 to 500 (*3)							
Cushion		With rubber cushion							
Lubrication		Not required							
Allowable abs	sorbed energy J	Table below.							

^{*1: 0.2}MPa when using the ø6 shock absorber stopper.

Stroke

Bore size (mm)	Standard stroke (mm)
ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

Note: Products with strokes other than the above are not available.

Allowable absorbed energy (E₀)

		0, (-,		
_	Bore size	Standard (J)	With stroke adjusting stopper(J)	With shock absorber stopper(J)
;	ø6	0.025	0.0032	0.14
i	ø8	0.058	0.0032	0.25
I	ø12	0.112	0.014	0.25
:	ø16	0.176	0.043	0.65
i	ø20	0.314	0.055	1.3
	ø25	0.314	0.14	1.3

For dimensions, refer to the LCG Series in "Pneumatic Cylinders II (CB-030SA)".

^{*2:} Note that there will be a slight gap between the end plate and floating bush if no stopper is attached.

^{*3:} Use the stroke adjusting stopper at 50 to 200mm/s.

^{*4:} The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

LCG-HP1 Series

How to order

Long

service

≡fe

cylinder

Environment-resistant cylinder Linear

Slide Hand

Low-profile long stroke hand

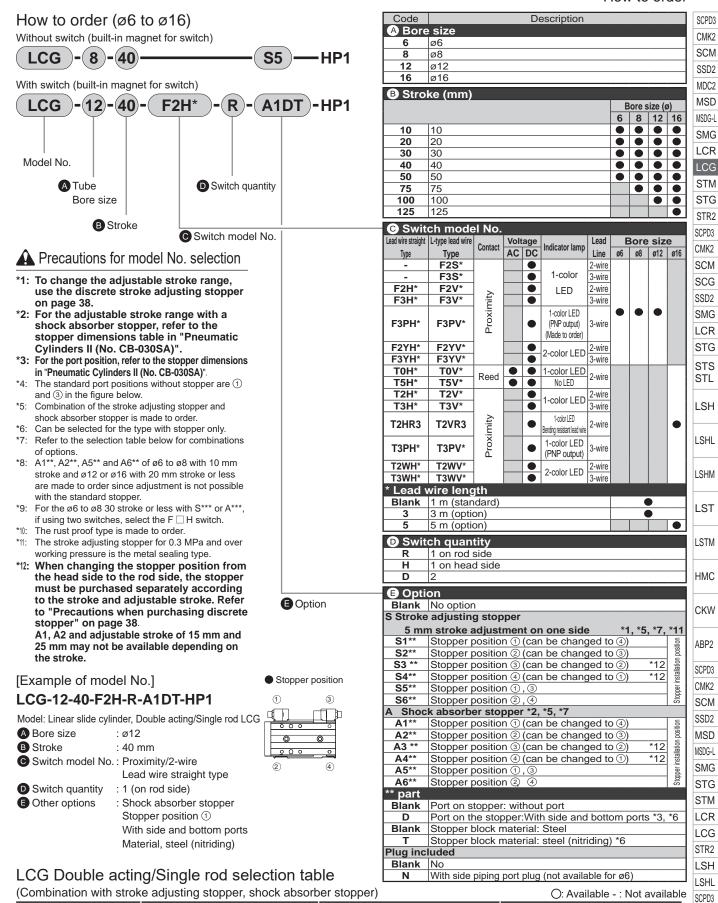
Wide Parallel Hand

Chuck

₽

Compatible with rechargeable batteries

SCPD3 Supports food mfg. processes
SCG SSD2 STG



Option code		Stroke adjusting stopper				Shock absorber stopper							
Bore size	Stroke	S1	S2	S3	S4	S5	S6	A1	A2	A3	A4	A5	A6
ø6, ø8	10	0	0	0	0	0	0	-	-	0	0	-	-
	20 or more	0	0	0	0	0	0	0	0	0	0	0	0
ø12 to ø25	10 to 20	0	0	0	0	0	0	-	-	0	0	-	-
	30 or more	0	0	0	0	0	0	0	0	0	0	0	0
	Bore size Ø6, Ø8	Bore size Stroke ø6, ø8 10 20 or more ø12 to ø25 10 to 20	Bore size Stroke S1 ø6, ø8 10 0 20 or more 0 ø12 to ø25 10 to 20 0	Bore size Stroke S1 S2 ø6, ø8 10 0 0 20 or more 0 0 ø12 to ø25 10 to 20 0 0	Bore size Stroke S1 S2 S3 ø6, ø8 10 0 0 0 20 or more 0 0 0 ø12 to ø25 10 to 20 0 0 0	Bore size Stroke S1 S2 S3 S4 96, Ø8 10 0 0 0 0 20 or more 0 0 0 0 Ø12 to Ø25 10 to 20 0 0 0	Bore size Stroke S1 S2 S3 S4 S5 96, Ø8 10 O O O O O 20 or more O O O O O O Ø12 to Ø25 10 to 20 O O O O O	Bore size Stroke S1 S2 S3 S4 S5 S6 ø6, ø8 10 0 0 0 0 0 0 0 20 or more 0 0 0 0 0 0 0 ø12 to ø25 10 to 20 0 0 0 0 0 0	Bore size Stroke S1 S2 S3 S4 S5 S6 A1 g6, g8 10 0<	Bore size Stroke S1 S2 S3 S4 S5 S6 A1 A2 Ø6, Ø8 10 O	Bore size Stroke S1 S2 S3 S4 S5 S6 A1 A2 A3 ø6, ø8 10 0 0 0 0 0 0 - - 0 20 or more 0 0 0 0 0 0 0 0 ø12 to ø25 10 to 20 0 0 0 0 0 - - 0	Bore size Stroke S1 S2 S3 S4 S5 S6 A1 A2 A3 A4 Ø6, Ø8 10 O <td< th=""><th>Bore size Stroke S1 S2 S3 S4 S5 S6 A1 A2 A3 A4 A5 g6, g8 10 0 0 0 0 0 0 - - 0 0 - g12 to g25 10 to 20 0 0 0 0 0 - - 0 0 -</th></td<>	Bore size Stroke S1 S2 S3 S4 S5 S6 A1 A2 A3 A4 A5 g6, g8 10 0 0 0 0 0 0 - - 0 0 - g12 to g25 10 to 20 0 0 0 0 0 - - 0 0 -

LCG-HP1 Series

service life cylinder

Long

Environment-resistant cylinder

Linear Slide Hand

Low-profile long

Wide Parallel

Chuck

Air Booster

rechargeable batteries

with

Compatible

SCM

SCG

SSD2

SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

stroke hand LST LSTM

₹ HMC

CKW

ABP2

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG

STM

LCR

LCG

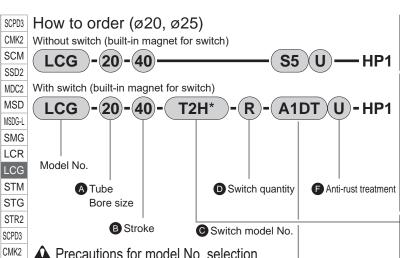
STR2

LSH

LSHL SCPD3 processes CMK2

SCM mfg.

SCG SSD2 STG



A Precautions for model No. selection

- To change the adjustable stroke range, use the discrete stroke adjusting stopper on page 38.
- For the adjustable stroke range with a shock absorber stopper, refer to the stopper dimensions table in "Pneumatic Cylinders II (No. CB-030SA)".
- For the port position, refer to the stopper dimensions in "Pneumatic Cylinders II (No. CB-030SA)
- The standard port positions without stopper are 1 and 3 in the figure below.
- Combination of the stroke adjusting stopper and shock absorber stopper is made to order.
- Can be selected for the type with stopper only.
 - Refer to the selection table on page 35 for combinations of options.
 A1**, A2**, A5** and A6** with 20 mm stroke or less
- *8: are made to order, since adjustment is not possible with the standard stopper.
- The table is steel. To prevent rust, select "U" for an environment where the temperature and humidity is high or condensation may occur on the product surface

Option

Stopper position

0

(3)

0

- The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.
- *11: When changing the stopper position from the head side to the rod side, the stopper must be purchased separately according to the stroke and adjustable stroke. Refer to "Precautions when purchasing discrete stopper" on page 38.

A1. A2 and adjustable stroke of 15 mm and 25 mm may not be available depending on the stroke.

[Example of model No.]

LCG-20-40-T2H-R-A1DT-HP1

Model:Linear slide cylinder Double acting/Single rod LCG

- A Bore size : ø20 B Stroke : 40mm
- © Switch model No. : Proximity/2-wire
- Axial lead wire
- : 1 on rod side D Switch quantity Other options : Shock absorber stopper

Stopper position ① With side and bottom ports Material, steel (nitriding)

Consumable parts list

+	Bore size (mm)	Kit No.	Part name
+	ø6	LCG-6K-HP1	Rod packing
+	ø8	LCG-8K-HP1	Metal gasket
$\frac{1}{2}$	ø12	LCG-12K-HP1	Cushion rubber R/H Piston packing
-	ø16	LCG-16K-HP1	Cover gasket
-	ø20	LCG-20K-HP1	Lube keeping
	ø25	LCG-25K-HP1	structure

Code	Description
A Bore	e size
20	ø20
25	ø25
B Stro	ke (mm)
10	10
20	20
30	30
40	40
50	50
75	75
100	100
125	125
150	150

© Switch model No.								
Straight lead wire	Lead	Contact	Volt	age	Indicator lamp	Lead wire		
olialylli leau wile	wireLType	Contact	AC	DC	mulcator lamp	Leau Wile		
T0H*	T0V*	Reed	• •		1-color LED	0		
T5H*	T5V*	Reed		•	No LED	2-wire		
T2H*	T2V*		4		1-color LED	2-wire		
T3H*	T3V*				1-COIOI LED	3-wire		
T3PH*	T3PV*] <u></u>		•	1-color LED (PNP output)	3-wire		
T2HR3	T2VR3	Proximity	Proxir	Proxir		•	1-color LED Bending resistant lead wire	2-wire
T2WH*	T2WV*				2-color LED	2-wire		
T3WH*	T3WV*		•		2-00101 LED	3-wire		
* Lead wire length								
Blank	1 m (star	dard)						
3	3 m (option)							
5	5 m (option)							

Swit	Switch quantity				
R	1 on rod side				
Н	on head side				
D	2				

Option						
Blank	No option					
S Stroke	adjusting stopper					
	5 mm stroke adjustment on one side *1, *5, *7, *10					
S1**	Stopper position ① (can be changed to ④)	.i.				
S2**	Stopper position ② (can be changed to ③)	Stopper mounting position				
S3 **	Stopper position ③ (can be changed to ②) *11	nting				
S 4**	Stopper position ④ (can be changed to ①) *11	nou.				
S 5**	Stopper position ①, ③	pper				
S 6**	Stopper position ②, ④	Sto				
A Shoc	k absorber stopper *2, *5, *7					
A1**	Stopper position ① (can be changed to ④)	tio				
A2**	Stopper position ② (can be changed to ③)	posi				
A3 **	Stopper position ③ (can be changed to ②) *11	Stopper mounting position				
A 4**	Stopper position ④ (can be changed to ①) *11	DQ III				
A 5**	Stopper position ①, ③	pper				
A 6**	Stopper position ②, ④	SS				
** part						
Blank	Port on stopper: without port					
D	Port on the stopper:With side and bottom ports *3, *6					
Blank	Stopper block material: Steel					
Т	T Stopper block material: Steel (Nitriding) *6					
Plug inc	luded					
Blank	No					
N	With side piping port plug (not available for ø25)					

U: Anti-rust treated product (ø20, 25)

Anti-rust treated product (table/guide)



■ Anti-rust treatment

Blank No

Anti-corrosion treatment is applied to the table surface and rail surface to reduce the occurrence of rust in humid environments such as near ionizers. The table and rail are black

SCPD3 CMK2

STG

STG

Supports food

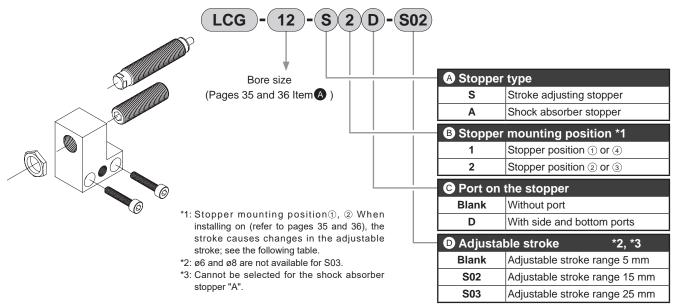
mfg.

How to order switch



How to order a stopper set

- Set of a stopper and stroke adjusting stopper or shock absorber stopper
- Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



Precautions when purchasing the stopper set

-: Not applicable

Installation position 1,2 (Pages 35 and 36), add the part shown on the right according to the stroke and adjustable stroke.

Model No.	Ontion	a codo	Discrete stroke adjusting stopper		
code	Option code		Adjustable stroke (mm)		
code	Bore size	Stroke	-5	-15	-25
	ø6, ø8 ø12 to ø25	10	S02	-	-
		20 or more	Blank	S02	-
LCG Series		10	S03	-	-
		20	S02	S03	-
		30 or more	Blank	S02	S03

Stopper set weight (Unit:						
Stopper port	S1, S2			A1, A2		
Port on stopper		Blank, D				
Adjustable stroke	Blank	S02	S03	Blank		
ø6	15	18	-	18		
ø8	21	25	-	27		
ø12	28	31	34	33		
ø16	42	47	52	49		
ø20	77	85	92	86		
ø25	87	94	101	95		

SCPD3

STM

STG

STR2

SCPD3

LSH

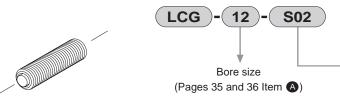
LSHL

SCM

LSH LSHL

How to order discrete stroke adjusting stopper

- Hexagon socket set screw with urethane
- Use when changing the adjustable stroke range or when using a custom stroke.



A Adjustable stroke range				
Single side 5 mm (standard)				
S02	Single side 15 mm			
S03	Single side 25 mm			

A Select S01, S02 or S03 in

Note: S03 is not available for ø6, ø8. Some models may not be available and adjustable stroke range may differ from the above depending on the Model No.

Precautions when purchasing discrete stopper

- : Not available

Attach the discrete stroke adjusting stopper and the discrete shock absorber stopper. ①, ② (Pages 35 and 36) When the stopper set is installed in the, note that the combination will be as shown on the right according to the stroke and adjustable stroke.

Model No.	Option code		Discrete stroke adjusting stopper			Discrete shock
code			Adjustable stroke (mm)			absorber
code	Bore size	Stroke	-5	-15	-25	stopper
LCG Series	ø6, ø8	10	S02	-	-	-
	00, 00	20 or more	S01	S02	-	A01
-S1, S2, S5, S6	ø12 and up	10	S03	-	-	-
-A1, A2, A5, A6	ø25	20	S02	S03	-	-
	923	30 or more	S01	S02	S03	A01

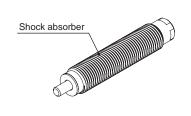
Discrete stroke adjusting stopper weight

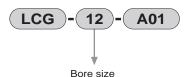
(Unit: g)

	Adjustable stroke range	S01	S02	S03
	ø 6	6	9	-
_	ø 8	7	10	-
	ø 12	7	11	14
	ø 16	11	16	22
	ø 20	22	30	37
	ø 25	23	30	37

How to order discrete shock absorber stopper

- Shock absorber set
- Use when changing from the stroke adjusting stopper to the shock absorber stopper





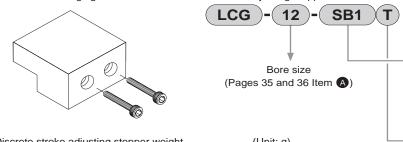
(Pages 35 and 36 Item A) Note:Some models may not be available depending on the specifications. Pages 35 and 36. The adjustable stroke range of the shock absorber stopper is"Pneumatic Cylinders II (No.CB-030SA)".

Applicable shock absorber model No.

Model	Shock absorber model No.	Weight (g)
LCG-6	SKL-0804	9
LCG-8	SKL-0805	12
LCG-12	SKL-0805	12
LCG-16	SKL-1006	19
LCG-20	SKL-1208	31
LCG-25	SKL-1208	31

How to order discrete stopper block

Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



 Discrete stroke adjust 	(Unit: g)	
Adjustable stroke range	SB1(T)	SB2(T)
ø6	11	21
ø8	14	24
ø12	23	37
ø16	38	72
ø20	60	99
ø25	112	206

1	A Stopper block				
ı	SB1	ø6/ø8:For 30 stroke or less			
ı	361	ø12 to ø25:For 50 stroke or less			
ı	SB2	ø6/ø8:For 40 stroke or more			
	302	ø12 to ø25:For 75 stroke or more			

-	B Material	
	Blank	Stopper block material:Steel
	Т	Stopper block material : Steel (nitriding)

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long
Hand stroke hand
OM H

Chuck

Air Booster ABP2 SCPD3

Compatible with rechargeable batteries COMPS COM

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

CKW

MSDG-L SMG

LCR LCG

STG STR2

SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL

SCPD3 CMK2 SCM SSD2 MDC2 MSD



STM-M-HP1 Series

Bore size:ø6, ø10







Specifications

- престоиного								
ltem	STM-M/B-HP1							
Bore size mm	ø6	ø10						
Actuation	Double	e acting						
Working fluid	Compre	Compressed air						
Max. working pressure MPa	0.7							
Min. working pressure MPa	0.	0.15						
Proof pressure MPa	1.05							
Ambient temperature °C	-10 to 60 (no freezing)							
Port size	M3							
Otralia talamana	+1.5							
Stroke tolerance mm	0							
Working piston speedmm/s	50 to	50 to 500						
Cushion	With rubb	er cushion						
Lubrication	Not re	quired						
Allowable absorbed energy J	oed energy J 0.008 0.054							

Stroke

Bore size	Standard stroke (mm)	Max. stroke (mm)	Min. stroke	Min. stroke with switch	
ø6	5/10/15	15	E	F	
ø10	5/10/15/20	20	5	5	

Note: Products other than standard stroke are made to order products.

For dimensions, refer to the STM Series in "Pneumatic Cylinders II (CB-030SA)".

STM-HP1 Series

Long

service

life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

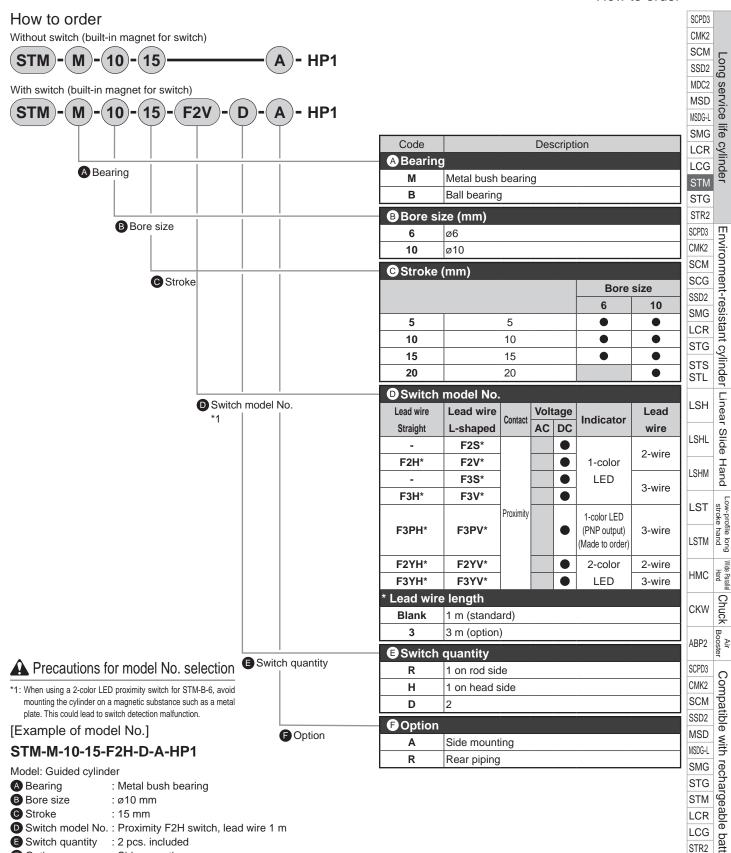
Chuck

Air Booster

Compatible with rechargeable batteries

Supports food

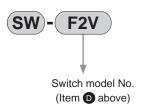
processes SSD2



How to order switch

: Side mounting

Option



LSH LSHL

SCPD3 CMK2

SCM mfg. SCG

STG

LCG STM STG STR2 SCPD3

CMK2

SCPD3

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG



STG-M-HP1 Series

Bore size: ø12/ø16/ø20/ø25/ø32/ø40







Specifications

Item	STG-M/B-HP1								
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40			
Actuation			Double	acting					
Working fluid			Compre	ssed air					
Max. working pressureMPa			1.	.0					
Min. working pressure MPa		0.	15		0	.1			
Proof pressure MPa		1.6							
Ambient temperature °C			-10 to 60 (n	no freezing)					
Port size	N	15		Ro	1/8				
Stroke tolerance mm		+2.0							
Stroke tolerance min		0							
Working piston speedmm/s			50 to	500					
Cushion		With rubber cushion							
Lubrication			Not re	quired					
Allowable absorbed energyJ	0.056	0.088	0.157	0.157	0.401	0.627			

Stroke

Bore size	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch (mm)
ø12	10/20/30/40/50			
ø16	75/100/125/150			
ø20	20/30/40/50/75	150	5	5 (10) *2
ø25	100/125/150	150	5	
ø32	25/50/75/100			
ø40	125/150			

^{1:} The custom stroke is available in 5 mm increments. However, the total dimensions are the same as the longer standard stroke. A dedicated body with dimensions matched to the stroke is available. Contact CKD for details.

For dimensions, refer to the STG Series in "Pneumatic Cylinders II (CB-030SA)".

^{*2:} For types with one or two switches. The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

STG-HP1 Series

SCPD3 CMK2

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

CMK2

SCM

SCG

SSD2

SMG

LCR STG

STS STL

LSH

LSHL

LSHM

LST

LSTM

HMC

CKW

ABP2

SCPD3

CMK2

SCM

SSD2

MSD MSDG-L

SMG

STG STM LCR

LCG

STR2 LSH LSHL SCPD3

Low-profile long stroke hand

Chuck

₽

Compatible with rechargeable batteries

Supports food CMK2 SCM mtg. SCG SSD2 STG



Without switch (built-in magnet for switch) STG)-(M)-(25)()-(30)

B Bore size

HP1 With switch (built-in magnet for switch) STG -M-(25))-(30)-(T2H)-(R)-HP1

Model No. **A** Bearing

> Port thread Stroke





A Precautions for model No. selection

- *1: Switches other than (a) Switch model No. are also available. (Made to order) Refer to "Pneumatic Cylinders II (No. CB-030SA)" for details.
- *2: Copper and PTFE free as standard for STG-B-12 to 32.
- *3: T8H/V switch cannot be installed on STG-12 or 16.
- *4: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *5: The total dimensions are the same as the longer standard stroke.
- *6: A dedicated body with dimensions matched to the stroke is available. Contact CKD for details.
- *7: The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

[Example of model No.]

STG-B-25-30-T0H-D-HP1

Model: Guided cylinder, Double acting/Single rod

A Bearing method : Ball bearing B Bore size : ø25 mm Port thread : Rc thread Stroke : 30 mm

B Switch model No. : Reed T0H switch

Lead wire length 1 m

 Switch quantity : 2 pcs. included

How to order switch



Switch model No.

STG repair parts list

Bore size (mm)	Kit No.	Part name		
ø12	STG-12K-HP1			
ø16	STG-16K-HP1	Rod packing		
ø20	STG-20K-HP1	Metal gasket Cushion rubber		
ø25	STG-25K-HP1	Piston packing		
ø32	STG-32K-HP1	O-ring		
ø40	STG-40K-HP1			

Code	Description	scм				
A Bea	aring	SSD2				
M	Metal bush bearing	MDC2				
В	Ball bearing	MSD				
В Во	re size (mm)					
12	ø12	MSDG-L				
16	ø16	SMG				
20	ø20	LCR				
25	ø25	LCG				
32	ø32	STM				
40	ø40	STG				
© Port thread						
Rlank	M5 (ø12 to ø16)	SCPD3				

G thread (ø20 or more) (made to order) D Stroke (mm)

Blank

GN

Refer to the stroke table below

Rc thread (ø20 to ø40)

NPT thread (ø20 or more) (made to order)

Troid to the droke table below										
Switch model No.										
Lead w		Lead wire	Contact		age	Indicator	Lead wire			
Straigl	nt	L-shaped	Contact	AC	DC	maioatoi	2000 11110			
T0H	*	T0V*]			1-color LED				
T5H	*	T5V*	Reed			No LED	2-wire			
T8H	*	T8V*				1-color LED				
T1H	*	T1V*					2-wire			
T2H	*	T2V*				1-color LED	Z-WITE			
T3H	*	T3V*					3-wire			
T2HR3		T2VR3				1-color LED	2-wire			
		121110	j <u>e</u>			Bending resistant lead wire				
T3PF	l *	T3PV*	Proximity	×	××	ix			1-color LED (made to order)	3-wire
T2WI	- 1*	T2WV*	Pro			2-color LED	2-wire			
T3WF	Ⅎ *	T3WV*				2-COIOI LLD	3-wire			
T2JH	*	T2JV*				1-color LED off-delay	2-wire			
T2YD* T2YDT*		-				2-color LED	2-wire			
		-				2-color LED	∠-wire			
* Lead wire length										
Blank	1 m	(standard)								
3	3 m	(option)								
5 5 m (option)										

Switch quantity Switch 1 on rod side quantity

- 11	1 office side
Н	1 on head side
D	2
Т	3

Stroke

Stroke (m	Applicable bore size						
Stroke (m	ø12	ø16	ø20	ø25	ø32	ø40	
	10	•					
	20	•		•	•		
	25					•	
	30	•	•	•	•		
Standard	40	•	•	•	•		
Stroke	50	•	•	•	•	•	•
	75	•	•	•	•	•	•
	100	•	•	•	•	•	•
	125	•	•	•	•	•	•
	150	•	•	•	•	•	•
Min. stroke *7		5 (10)					
Custom stroke	*5,*6	In 5 mm increments					

MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM Twin rod cylinder Double acting/Standard

STR2-M-HP1 Series

Bore size: ø6/ø10/ø16/ø20/ø25/ø32





Long service life cylinder



Specifications

	200110								
Item			STR2-M-HP1 (ı	metal bush beari	pearing) STR2-B-HP1 (ball bearing)				
Bore size m	m	ø6	ø10	ø16	ø20	ø25	ø32		
Actuation				Double	acting				
Working flui	d			Compre	ssed air				
Max. working	pressure MPa			0.	.7				
Min. working	pressure MPa	0.2	0.15		0.	1			
Proof pressi	ıre MPa		1.05						
Ambient ten	nperature °C			-10 to 60 (r	no freezing)				
Port size				M5			Rc1/8		
Stroke tolera	nco mm	+2.0							
Stroke tolera		0							
Adjustable stro	oke range mm	0 to -5							
Working pistor	n speed mm/s	50 to 500							
Non-rotating	STR2-M	±0.4°	±0.4° ±0.3° ±0.						
accuracy (reference value)	STR2-B	±0.2°		±0.1°	±0.3°				
Piston rod	STR2-M			Metal bus	h bearing				
Bearing	STR2-B		Ball bearing						
Cushion		With rubber cushion							
Lubrication				Not re	quired				
Allowable absorbed	PUSH	0.008	0.061	0.181	0.303	0.68	1.3		
	PULL	0.059	0.083	0.083	0.127	0.237	0.311		

Stroke

	Bore size	Stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Available stroke (mm)	Min. stroke with switch (mm)
١.	ø6	10, 20, 30, 40, 50	50		100	
	ø10	10, 20, 30, 40, 30	50		100	
	ø16			5		10
	ø20	10, 20, 30, 40, 50	100	5	150	10
	ø25	60, 70, 80, 90, 100				
1	ø32		*1			

^{*1:} In the case of rear piping:

For dimensions, refer to the STR2 Series in "Pneumatic Cylinders II (CB-030SA)".

[·]ø16:70

[•]ø20, ø25:60

[·]ø32:50

^{*2:} The custom stroke is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke.

STR2-M-HP1 Series

How to order

Long

service

≡fe

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

₽

Compatible with rechargeable batteries

STR2

LSH

LSHL

SCPD3

CMK2

SCM

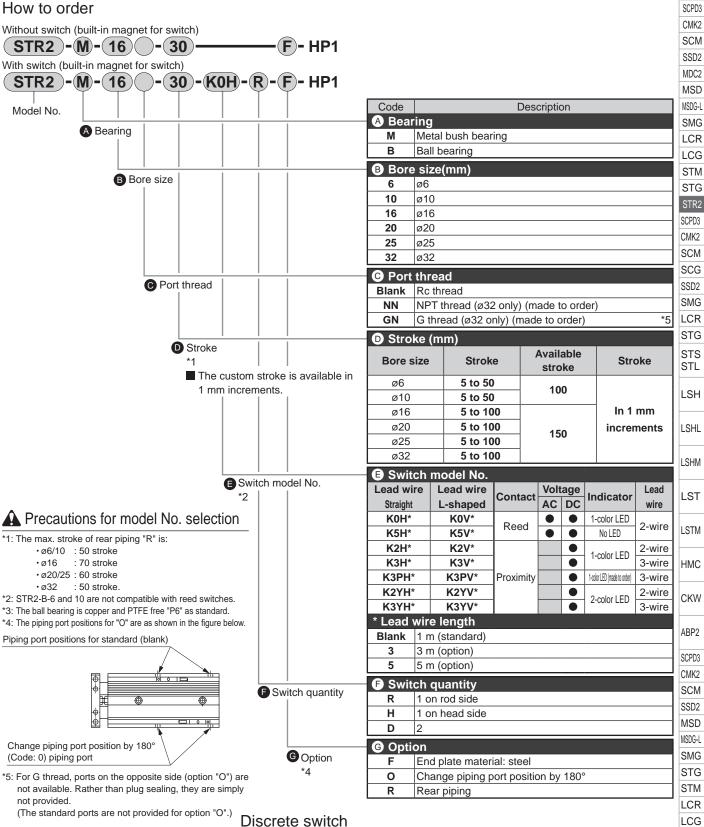
SCG

SSD2

STG

Supports food

mfg.



[Example of model No.]

STR2-M-16-30-K0H-R-F-HP1

Model: Twin rod cylinder, standard

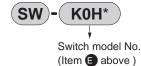
A Bearing : Metal bush bearing
B Bore size : ø16 mm

Bore size : Ø16 mm
Port thread : Rc thread
Stroke : 30 mm

Switch model No. : Reed K0H switch Switch quantity : 1 on rod side

© Option : End plate material: Steel

Discrete switch model No. Indicator method



Consumable parts list

Bore size(mm)	Kit No.	Part name
ø6	STR2-6K-HP1	
ø10	STR2-10K-HP1	Cushion rubber R/H
ø16	STR2-16K-HP1	O-ring Rod packing
ø20	STR2-20K-HP1	Piston packing
ø25	STR2-25K-HP1	Wear ring
ø32	STR2-32K-HP1	

Note: Specify the kit No. when placing an order.

HP1 Series Environment-resistant cylinder



CONTENTS	
Pencil shaped cylinder (SCPD3-G-HP1)	48
●Small bore size cylinder (CMK2-G-HP1)	52
●Round shaped cylinder (SCM-G-HP1)	56
●Tie rod cylinder (SCG-G-HP1)	62
●Compact cylinder (SSD2-G-HP1)	66
●Compact cylinder (SMG-G-HP1)	70
●Linear Slide Hand (LCR-G-HP1)	74
●Guided cylinder (STG-G-HP1)	96
●Guided cylinder (STS/STL-G-HP1)	102
▲Safety precautions	232

Environment-resistant cylinder series variation

Model No.	Bore size (mm)	Stroke (mm)
SCPD3-G-HP1	ø6/ø10/ø16	5 to 270
CMK2-G-HP1	ø20/ø25/ø32/ø40	5 to 750
SCM-G-HP1	ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100	10 to 1500
SCG-G-HP1	ø32/ø40/ø50/ø63/ø80/ø100	1 to 1500
SSD2-G-HP1	ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100	1 to 100
SMG-G-HP1	ø6/ø10/ø16/ø20/ø25/ø32	5 to 100
LCR-G-HP1	ø6/ø8/ø12/ø16/ø20/ø25	10 to 150
STG-G-HP1	ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100	5 to 400
STS-G-HP1	ø8/ø12/ø16/ø20/ø25/ø32/	5 to 100
STL-G-HP1	ø40/ø50/ø63/ø80/ø100	30 to 400

A Read the safety precautions in "Pneumatic Cylinders" (Catalog No.CB-029SA and CB-030SA) before use. **A** CAUTION

SCPD3 CMK2 SCM

SSD2 MDC2

MSD MSDG-L SMG LCR LCG STM STG STR2

SCPD3 CMK2

SCG SSD2 SMG LCR

STL

LSH

LSHL

LSHM

stroke hand

LST

LSTM

HMC

CKW

ABP2 SCPD3

CMK2 SCM SSD2 MSD

MSDG-L SMG STG

LCR

STR2 LSH Compatible with rechargeable batteries

Supports food

service life cylinder

Environment-resistant cylinder

Linear Slide Hand

[■] Some models use oil-impregnated bearings, and oil may be discharged outside of the cylinder. Do not use in places susceptible to oil.



Pencil shaped cylinder Double acting/Single rod/Rubber scraper

SCPD3-G-HP1 Series

Bore size:ø6/ø10/ø16







Specifications

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

Booster ABP2

Compatible with rechargeable batteries COMSC SUBSC SUB

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Item	SCPD3-G-HP1 SCPD3-GL-HP1 (with switch)										
Bore size mm	ø6	ø10	ø16								
Actuation		Double acting									
Working fluid		Compressed air									
Max. working pressure MPa		1.0									
Min. working pressure MPa	0.15	0.15 0.1									
Proof pressure MPa	1.6										
Ambient temperature °C		-10 to 60 (no freezing)									
Port size		M5									
Stroke tolerance mm		+1.0 0									
Working piston speed mm/s		50 to 750									
Cushion		With rubber cushion									
Lubrication		Not required									
Allowable absorbed energy J	0.012	0.041	0.162								

Stroke

-	Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Min. stroke (mm)
-	ø6		100	105	
-	ø10	15/30/45/60	200	210	5
1	ø16		260	270	

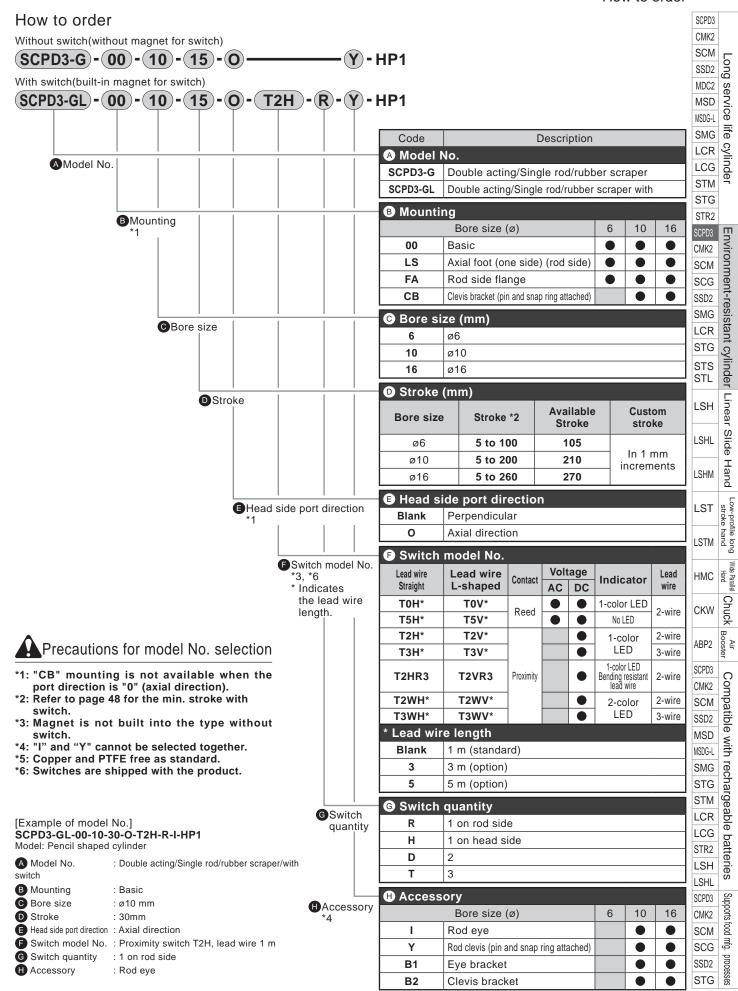
^{*1:} The custom stroke is available in 1 mm increments.

Min. stroke with switch

		With Ownton					
1		with	1 pc.	with 2	? pcs.		
	Sketch						
		Rod side mount	Head side mount	Different surface mounting	Same surface mounting		
i	Min. stroke	5 r	nm	10 mm	28 mm		
		with 3	3 pcs.				
	Sketch						
		Different surface mounting	Same surface mounting				
i	Min. stroke	38 mm	54 mm				

SCPD3-G-HP1 Series

How to order



SCPD3-G-HP1 Series

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LCR STG

STS STL

LSH

LSHL

LSHM

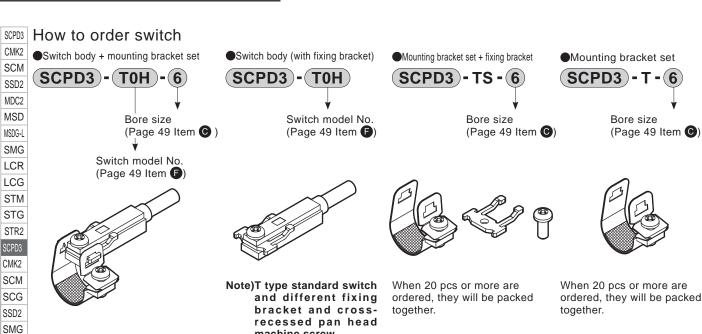
Chuck CKW

Air Booster ABP2

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG



How to order mounting brackets

Bore size (mm) Mounting bracket	ø6	ø10	ø16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

machine screw.

Note: The foot (LS) type mounting bracket is provided as 1 pc./set.

SCPD3-G-HP1 Series

Long

service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Hand

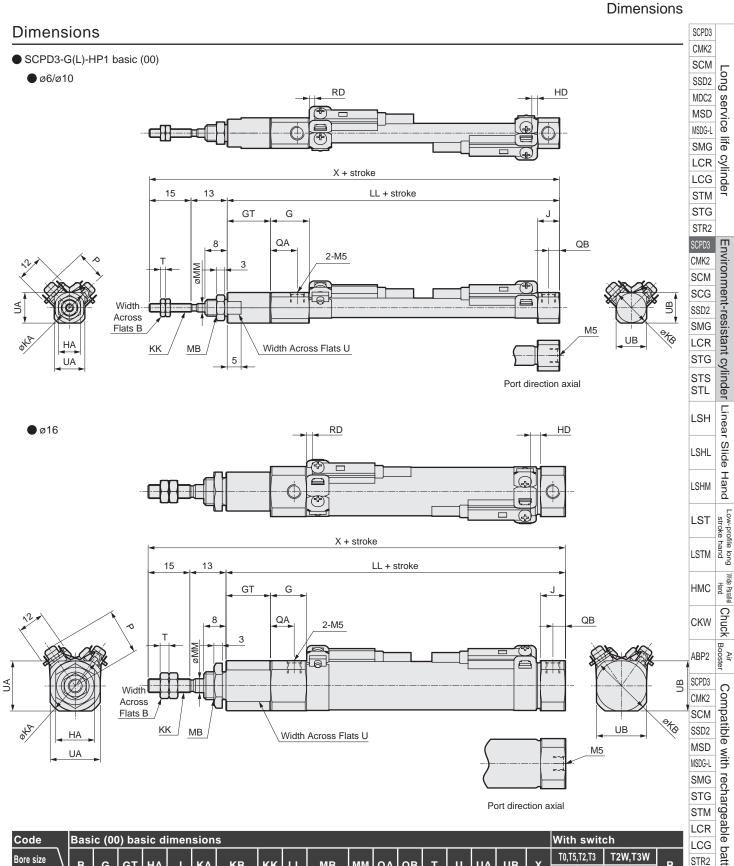
Chuck

₽

Compatible with rechargeable batteries

Supports food mfg.

processes



Code	Basi	Basic (00) basic dimensions													With switch									
Bore size	В	G	GT	шл		KA	КВ	KK		МВ	BABA	QA	ΛP	_	U	114	LIB	JA UB	, ,	T0,T5,T2,T3		T2W,T3W		В
(mm)	▮▫▮	G	GI	ПА	J	NA	VP	NN.	LL	IVID	IVIIVI	QA	QD	'	U	UA	UB	^	RD	HD	RD	HD		
ø6	5.5	13.5	15.5	8	8	13.5	13.5 (10)	МЗ	59.5	M6	3	9.5	4	1.8	10	11	11 (9)	87.5	2	2	4	3.5	11.5	
ø10	7	12.5	16	11	9	14.5	14.5	M4	62	M 8 x 1.0	4	8	4.5	2.4	10	12	12	90	3.5	2.5	5.5	4	13.5	
ø16	8	13	16	14	9	21.5	21.5	M5	62	M 10 x 1.0	5	8.5	4.5	3.2	14	18	18	90	2	3.5	3.5	5	17.0	

*1: The dimensions are the same in the type without switch. (Magnet is not built in.)

*2: As the thread depth of ø6/ø10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*3: For the dimensions of the accessories, refer to "Pneumatic Cylinders I (No. CB-029SA).

*4: Values shown in () are for the type with axial port direction.

LSH LSHL

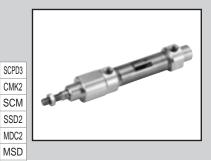
SCPD3 CMK2 SCM

SCG

SSD2

STG

^{*} Refer to Double acting/Single rod in "Pneumatic Cylinders I" (No. CB-029SA) for dimensions of each mounting type.



Small bore size cylinder
Double acting/Single rod/Rubber scraper

CMK2-G-HP1 Series

Bore size:ø20/ø25/ø32/ø40







Specifications

Long service life cylinder

Linear Slide Hand Environment-resistant cylinder

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

Chuck

Booster ABP2

Compatible with rechargeable batteries COMPS COM

SCPD3 CMK2

SCM SCG SSD2 STG

CKW

MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

SCM SCG SSD2 SMG LCR STG STS STL

Item			CMK2-G-HP1										
Bore size	mm	ø20	ø20 ø25 ø32 ø40										
Actuation			Double acting										
Working fluid			Compressed air										
Max. working pressure	MPa		1.0										
Min. working pressure	MPa		0.15										
Proof pressure	MPa	1.6											
Ambient temperature	°C		-10 to 60 (r	no freezing)									
Port size			Rc	1/8									
Stroke tolerance	mm		^{+2.0} (up to 200), ⁺²	More than 200									
Working piston speed	mm/s		50 to	500									
Cushion			With rubb	er cushion									
Lubrication			Not re	quired									
Allowable absorbed energy	y J	0.166	0.308	0.424	0.639								

Stroke

Bore size(mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20			
ø25	25/50/75/100/150/200/	750	E
ø32	250/300	750	5
ø40			

^{*1:} The custom stroke is available in 1 mm increments.

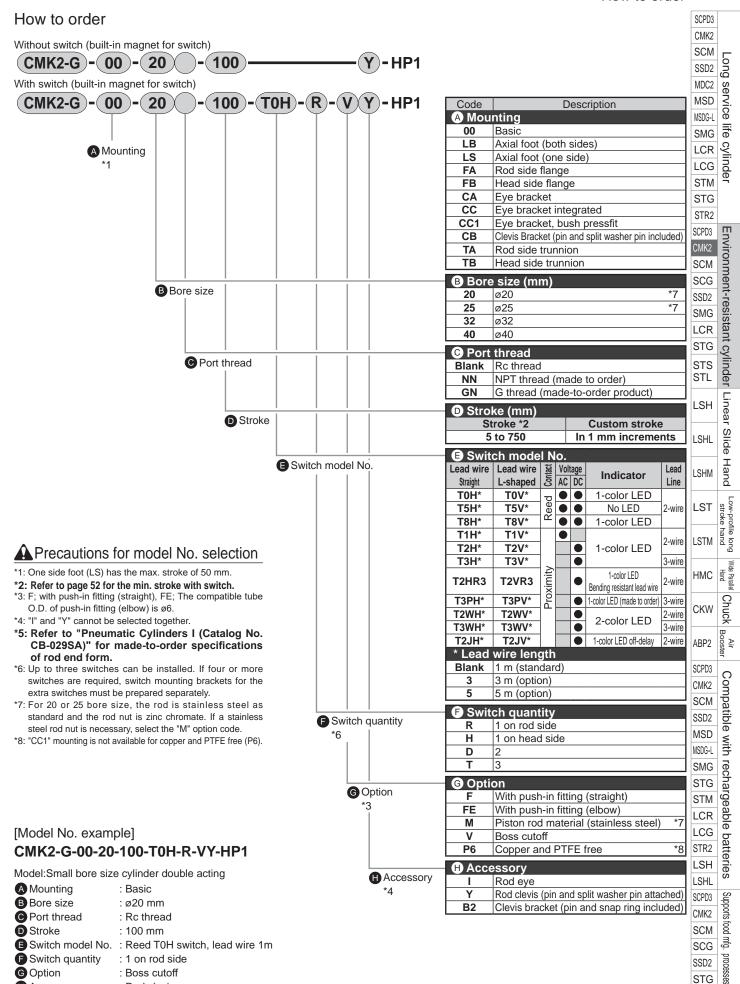
Min. stroke with switch

(Unit: mm)

	Switch quantity			1					2			3				
		Proximity			Reed		P	Proximity		Reed		Proximity			Reed	
	Bore size (mm)	T2,T3	T2W, T3W	T1	T0,T5	T8	T2,T3	T2W, T3W	T1	T0,T5	T8	T2,T3	T2W, T3W	T1	T0,T5	T8
	ø20			10			25	30	35	25	35	50	55	55	50	55
$\frac{1}{2}$	ø25			10			25	30	35	25	35	50	55	55	50	55
$\frac{1}{2}$	ø32			10			25	30	35	25	35	50	55	55	50	55
	ø40			10			25	30	35	25	35	50	55	55	50	55

^{*1:} Up to 3 switches can be mounted.

^{*2:} One side foot (LS) has max. stroke of 50mm.



G Option

Accessory

: Boss cutoff

: Rod clevis

STG

SCPD3

CMK2

SCM

SSD2 MDC2

MSD

MSDG-L SMG LCR LCG STM

STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Chuck CKW

Air Booster ABP2

rechargeable batteries

Compatible with

LSH

LSHL

LSHM

stroke hand LSTM

₹ HMC

CMK2 SCM SSD2 MSD MSDG-L SMG STG

STM LCR LCG STR2 LSH LSHL SCPD3 processes CMK2 How to order switch Switch body + mounting bracket set Switch body only Mounting bracket set SW)-(T0H CMK2)-(T0H) CMK2 20 Bore size (page 53 Item B) Bore size (page 53 Item B) Mounting bracket Switch model No. (page 53 Item (E)) Switch model No. (page 53 Item (E))

How to order mounting brackets

40 *1
(for head side)
For head side) -G2-40-LS 3 rod side)
2-40-FA(FA) A-30(FB)
2-40-TA(TA) A-40(TB)
-CA-30
-CB-30

- *1: Nut, LS bracket for rod cover with ø40 bore sizeBracket (LB rod side), FA bracket and TA bracket are different from the standard.
- *2: Mounting nuts and toothed washers are included with the axial foot type and flange type. The trunnion type includes mounting nuts. However, toothed washers are not included with ø40,00, LB (rod side), LS and FA.
- *3: For axial foot types (two-sided), 2 sets of the "M1-LB-*1" in the table above are required. For ø40, the brackets used on the rod side and head side are different. Refer to the table above for details.
- *4: Mounting nut, toothed washer only. Although 1 set is included with the basic product (00) (only mounting nuts are included with the ø40), use them when

SCM SCG SSD2 STG

Dimensions

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

Air Booster

Compatible with rechargeable batteries

Supports food mfg.

 processes SSD2 STG

SCPD3 CMK2 SCM

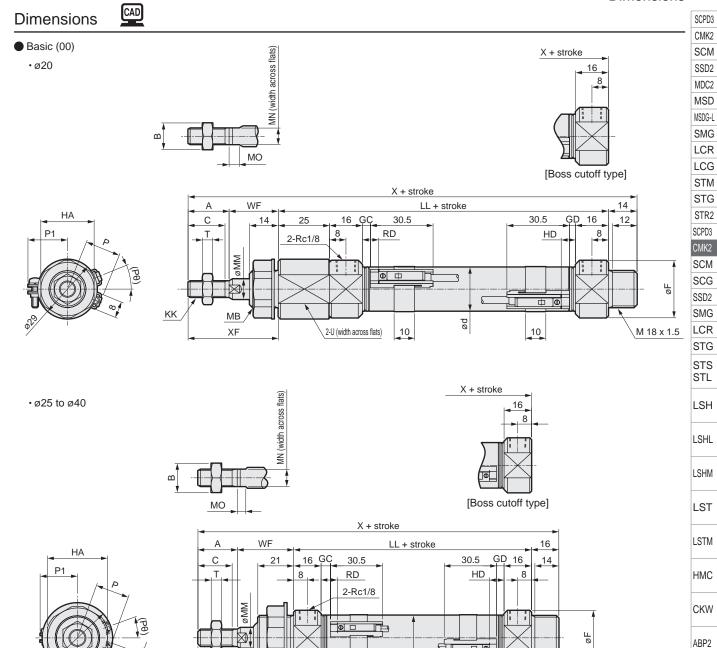
SCG

SCPD3

CMK2

SCM

SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL



Code	Basic	(00) b	asic c	limens	ions												
Bore size (mm)	Α	В	С	D	F	HA	KK	LL	MB	MM	MN	МО	Т	U	WF	Х	XF
ø20	20	13	18	21.4	28	26	M8 x 1.0	91	M18 x 1.5	10	8	5	5	24	24	149	44
ø25	23	17	20	26.4	32	35	M10 x 1.25	69	M26 x 1.5	12	10	5	6	30	33	141	56
ø32	23	17	20	33.6	36	35	M10 x 1.25	69	M26 x 1.5	12	10	5	6	34	33	141	56
ø40	25	19	22	41.6	45	38	M12 x 1.5	73	M30 x 1.5	14	12	6	7	43	33	147	58
	VAL:41								ln		4						

10

ø

2-U (width across flats)

10

Code	With s	switch										Boss cutoff type
Code		T0,T5	T2,T3,			T2W	T3W		Р	P1	(P ₀)°	х
Bore size (mm)	GC	GD	RD	HD	GC	GD	RD	HD	F	FI	(F0)	^
ø20	4	3	8	7	6	5	10	9	17.3	19.5	22	135
ø25	5.5	4.5	9.5	8.5	7.5	6.5	11.5	10.5	19.8	22.0	18	125
ø32	5.5	4.5	9.5	8.5	7.5	6.5	11.5	10.5	24.3	25.5	15	125
ø40	7.5	6.5	11.5	10.5	9.5	8.5	13.5	12.5	28.3	29.5	12	131

MB

XF

1: Refer to "Pneumatic Cylinders I (No. CB-029SA)" for HD, RD and protruding dimensions of T1, T8* switches and 2-color LED switches.

ΚK

RD: Rod side max. sensitivity position

HD: Head side max. sensitivity position

M 26x 1.5

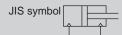
^{*2:} For the dimensions of accessories, "Pneumatic Cylinders I (No. CB-029SA)". *3: Ø40 is not supplied with toothed washer.

^{*} Refer to Double acting/Single rod in "Pneumatic Cylinders I" (No. CB-029SA) for dimensions of each mounting type.

Round shaped cylinder Double acting/Single rod/rubber scraper

SCM-G-HP1 Series

Bore size:ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100







Specifications

CMK2

SCM

SSD2

MDC2

MSD MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG

STS

STL

LSH

LSHL

LSHM

Chuck CKW

Air Booster ABP2 SCPD3

> CMK2 SCM SSD2 MSD MSDG-L SMG STG STM

LCR

LCG STR2 LSH LSHL SCPD3 processes CMK2

Compatible with rechargeable batteries

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Specification	ons										
Item					SCM-	G-HP1					
Bore size	mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100		
Actuation					Double	acting	,	,			
Working fluid					Compre	ssed air					
Max. working pr	essure MPa				1.	.0					
Min. working pre	essure MPa		0.1		0.15		0	.1			
Proof pressure	MPa				1.	.6					
Ambient temper	ature °C				-10 to 60 (r	10 to 60 (no freezing)					
Port size	With rubber cushion		Rc	1/8		Rc	Rc1/2				
FUIT SIZE	With air cushion	N	15	Ro	1/8	Rc	Rc3/8 Rc1/2				
-	With rubber	+1	4 (up to 1	000)	+1.4 0 (up to 1500)	+2.3	(up to 1000),	+2.7	to 1500)		
Stroke tolerance mm	cushion	0	(up to 1		(up to 1000)	0	(up to 1000),	0 0	10 1000)		
Stroke tolerance min	With air cushion	+1 0	4 (up to 1	000)	+1.40 (up to 1500)	+1.4	(up to 1000),	+1.8 0 (1001)	to 1500)		
Working piston s	speed mm/s	30	to 1000	(Operate	within the	e allowab	le absort	ped energ	gy.)		
Cushion			Either ru	bber cus	hion or ai	ir cushior	can be	selected.			
Effective air cushi	on length mm	8.1 8.1 8.6 8.6 13.4 13.4 15.4									
Lubrication		Not required									
Allowable absorbed	With rubber cushion	0.1	0.2	0.5	0.9	1.6 1.6		3.3	5.8		
-	With air cushion	0.8	1.2	2.5	3.7	8.0	14.4	25.4	45.6		
energy J	Without cushion	-	-	-	-	0.057	0.057	0.112	0.153		

- *1 : No cushion in the allowable absorption energy indicates the allowable absorption energy of the side that is not indicated ("R" \rightarrow head side, "H" \rightarrow rod side) when the one-side air cushion is selected.
- *2: Without a cushion, large energy generated by the external load cannot be absorbed. Please provide an external shock absorber.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø 20			
ø 25		1000	
ø 32			
ø 40	25, 50, 75, 100, 125,		10
ø 50	150, 200, 250, 300		10
ø 63		1500	
ø 80			
ø100			

*1:The custom stroke is available in 1 mm increments.

Number of installed switches and min. stroke (mm)

Switch mounting: Rail

Switch quantity	1		2	:		3			4				
Bore size (mm)	Proximity Re	Pro	ximity	Reed	Prox	imity	Reed	Prox	imity	Reed	Prox	imity	Reed
Bore Size (IIIII)	T2,T3 T2W,T3W	Tí	2,T3	Neeu	T2,T3	T2W,T3W	Reeu	T2,T3	T2W,T3W	Reeu	T2,T3	T2W,T3W	Neeu
ø20	10		25		50	70	55	55	70	55	75	110	90
ø25	10		25		50	70	55	55	70	55	75	110	90
ø32	10		25		50	70	55	55	70	55	75	110	90
ø40	10		25		50	70	55	55	70	55	75	110	90
ø50	10		25	5	50	65	55	55	65	55	75	110	90
ø63	10		25		50	65	55	55	65	55	75	110	90
ø80	10		25		50	65	55	55	65	55	75	110	90
ø100	10		25	5	50	65	55	55	65	55	75	110	90

*1: For types with one switch, when the stroke is between 10 and 24 mm, trunnion mounting is not available since the switch rail mounting position is different. For the mounting position, refer to "Pneumatic Cylinders I (No. CB-029SA).

Switch mounting: Band

Switch quantity	1	2				3			4		5		
Bore size (mm)	Proximity Reed		imity	Reed		imity	Reed	Prox	imity	Reed		imity	Reed
Bore Size (IIIIII)	T2,T3 T2W,T3W	T0,T5 T2,T3	T2W,T3W	Reeu	T0,T5 T2,T3	T2W,T3W	Reeu	T0,T5 T2,T3	T2W,T3W	Reeu	T0,T5 T2,T3	T2W,T3W	Neeu
ø20	10	25	30	25	50	55	50	70	75	70	95	100	95
ø25	10	25	30	25	50	55	50	70	75	70	95	100	95
ø32	10	25	30	25	50	55	50	70	75	70	95	100	95
ø40	10	25	30	25	50	55	50	70	75	70	95	100	95
ø50	10	25	30	25	50	55	50	70	75	70	95	100	95
ø63	10	25	30	25	50	55	50	70	75	70	95	100	95
ø83	10	25	30	25	50	55	50	70	75	70	95	100	95
ø100	10	25	30	25	50	55	50	70	75	70	95	100	95

SCM SCG SSD2 STG

How to order

Long

service life

cylinder

Environment-resistant cylinder

Linear

Slide Hand

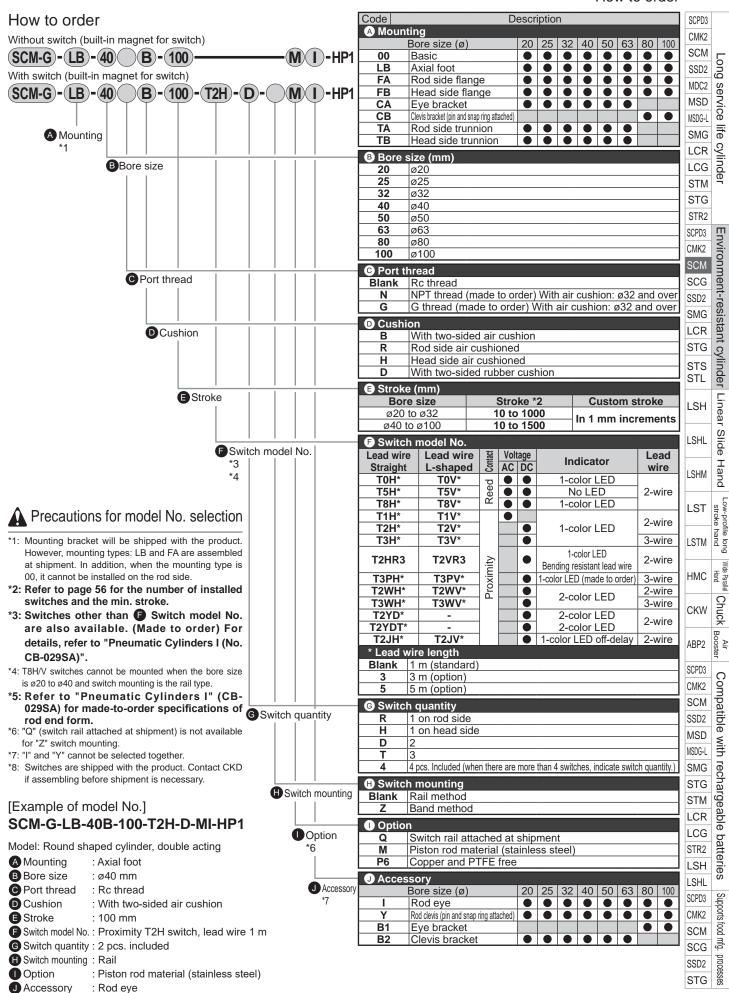
Chuck

₽

batteries

Supports food

mfg.



Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Chuck

Air Booster ABP2

rechargeable batteries

Compatible with

STL

LSH

LSHL

LSHM

stroke hand LST MT21

₹ HMC

CKW

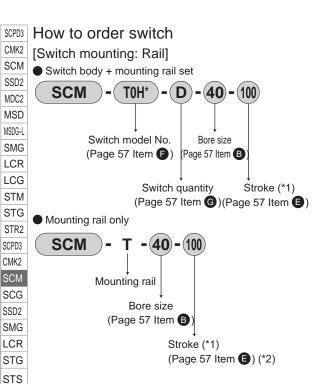
SCPD3

CMK2 SCM SSD2 MSD MSDG-L

SMG

STG

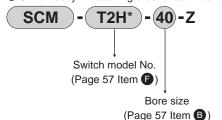
STM



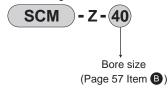
- *1: Indicate X if the stroke exceeds 300mm. If exceeding 300 mm, a short rail (with 100 mm switch adjustment travel distance) will be included per switch.
- *2: If indicating X when ordering mounting rails only, order the same number of rails as that of applicable switches.

[Switch mounting: Band]

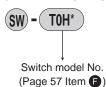
Switch body + mounting bracket set + band



Mounting bracket set + band



[Switch body only]



How to order mounting brackets

Bore size (mm) Mounting bracket	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SCM-LB-20-HP1	SCM-LB-25-HP1	SCM-LB-32-HP1	SCM-LB-40-HP1	SCM-LB-50-HP1	SCM-LB-63-HP1	SCM-LB-80-HP1	SCM-LB-100-HP1
Flange (FA/FB)	SCM-FA-20-HP1	SCM-FA-25-HP1	SCM-FA-32-HP1	SCM-FA-40-HP1	SCM-FA-50-HP1	SCM-FA-63-HP1	SCM-FA-80-HP1	SCM-FA-100-HP1
Eye bracket (CA)	SCM-CA-20	SCM-CA-25	SCM-CA-32	SCM-CA-40	SCM-CA-50	SCM-CA-63	-	-
Clevis bracket (CB)	-	-	-	-	-	-	SCM-CB-80	SCM-CB-100
Trunnion (TA/TB)	SCM-TA-20	SCM-TA-25	SCM-TA-32	SCM-TA-40	SCM-TA-50	SCM-TA-63	-	-

^{*1:}All mounting brackets are supplied with mounting bolts.

Material of mounting bracket

Mounting	Material
LB	Steel
FA/FB	Aluminum
TA/TB	Steel
CA	Steel
СВ	Cast iron

Note: Mounting bracket will be shipped with the product. (Other than LB, FA)

Consumable parts list

With air cushion

€	1.00		161. 31	
	LCR	Bore size (mm)	Kit No.	Part name
Compatible	LCG	ø 20	SCM-G-20BK-HP1	Rod packing
ра	STR2	ø 25	SCM-G-25BK-HP1	Cylinder gasket Cushion rubber
Son	LSH	ø 32	SCM-G-32BK-HP1	Piston packing
	LSHL	ø 40	SCM-G-40BK-HP1	Wear ring
processes	SCPD3	ø 50	SCM-G-50BK-HP1	Needle gasket
	CMK2	ø 63	SCM-G-63BK-HP1	Holder gasket
mfg.	SCM	ø 80	SCM-G-80BK-HP1	Cushion packing Scraper
Supports food	SCG	ø100	SCM-G-100BK-HP1	Lube keeping structure
ort	SSD2	*1: Specify the kit N	o. when placing an order.	
Supp	STG		s not included in ø50 to ø100	

^{*1:} Specify the kit No. when placing an order.

With rubber cushion

Bore size (mm)	Kit No.	Part name
ø 20	SCM-G-20DK-HP1	
ø 25	SCM-G-25DK-HP1	Rod packing
ø 32	SCM-G-32DK-HP1	Cylinder gasket Cushion rubber
ø 40	SCM-G-40DK-HP1	Piston packing
ø 50	SCM-G-50DK-HP1	Wear ring
ø 63	SCM-G-63DK-HP1	Scraper Lube keeping
ø 80	SCM-G-80DK-HP1	structure
ø100	SCM-G-100DK-HP1	

^{*1:} Specify the kit No. when placing an order

^{*2:}The foot mounting bracket is provided as 2 pcs./set.

^{*2:} Cushion rubber is not included in ø50 to ø100.

MB

Dimensions

Long

service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LCR

STG

STS STL

LSH

LSHL

LSHM

LST LSTM

Wide Parallel Hand HMC

Chuck CKW

₽

Compatible with rechargeable batteries

Supports food mfg.

 processes SSD2

SCPD3 CMK2

SCM

SCG

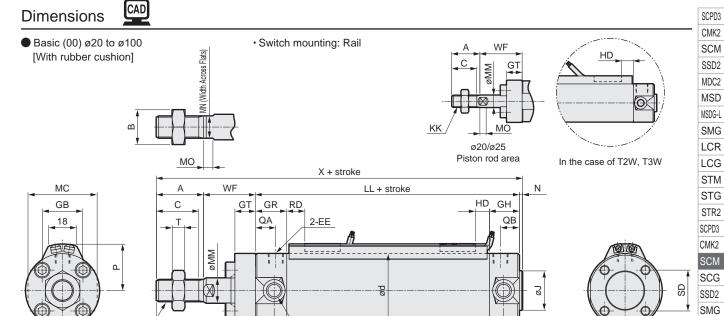
STG

ABP2 SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL

4-DA

SD



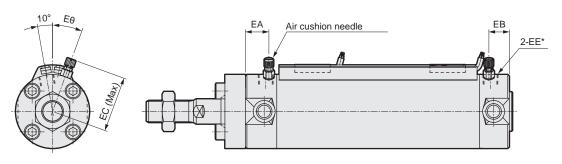
[With air cushion]

ΚK

Switch mounting: Rail

4-MD

MA



Code	Basi	c (00) bas	ic di	mensions																	
Bore size (mm)	Α	В	С	D	DA	EE*1	GH	GR	GT	J	KK	LL	MA	MB	MC	MD	MM	MN	МО	N	QA	QB
ø 20	18	13	16	26	M4 depth 6.5	Rc1/8	17	19	10	12	M8	69	21	11	24	M5	8	6	4	2	12	10
ø 25	22	17	20	31	M5 depth 6.5	Rc1/8	17	19	10	14	M 10 x 1.25	69	21	11	29	M6	10	8	5	2	12	10
ø 32	22	17	20	38	M5 depth 7.5	Rc1/8	17	19	11	18	M 10 x 1.25	71	22	10	36	M8	12	10	5.5	2	12	10
ø 40	30	22	27	47	M6 depth 12	Rc1/8	19	20	13	25	M 14 x 1.5	78	25	10	44	M10	16	14	6	2	13	12
ø 50	35	27	32	58	M8 depth 16	Rc1/4	22	25	14	30	M 18 x 1.5	90	27	12	55	M12	20	17	8	2	15	12
ø 63	35	27	32	72	M10 depth 16	Rc1/4	22	25	14	32	M 18 x 1.5	90	27	12	69	M14	20	17	8	2	15	12
ø 80	40	32	37	89	M10 depth 22	Rc3/8	28	28	15	40	M 22 x 1.5	108	-	-	80	-	25	22	11	3	15	15
ø100	40	41	37	110	M12 depth 22	Rc1/2	28	28	15	50	M 26 x 1.5	108	-	-	100	-	30	27	13	3	15	15

Code						With	air c	ushic	on		Switch mounting: Rail									
Para sina (mm)	SD	_	WF	х	XF	EA	ЕВ	EC	EE**1	Eθ	Р	CB.		HD			RD			
Bore size (mm)	שט	'	***	^	\ \r	EA	EB		CC	E0	-	GB	T0/T5	T2/T2R T3/T3P	T2W T3W	T0/T5	T2/T2R T3/T3P	T2W T3W		
ø 20	14	5	27	116	35	14	12	27	M5	30°	19.5	23	3.0	6.5	8.5	7.5	7.5	9.5		
ø 25	16.5	6	28	121	40	14	12	29.5	M5	30°	22	24.4	2.0	5.5	7.5	8.5	8.5	10.5		
ø 32	20	6	29	124	40	14	12	32.8	Rc1/8	25°	25.5	25	3.0	6.5	8.5	9.5	9.5	11.5		
ø 40	26	8	33	143	50	15	12	36.6	Rc1/8	20°	30	25.7	5.0	8.5	10.5	11.5	11.5	13.5		
ø 50	32	11	36	163	57	18.5	15.5	43	Rc1/4	20°	35.5	26.2	7.5	11.0	13.0	13.0	13.0	15.0		
ø 63	38	11	36	163	57	18.5	15.5	50	Rc1/4	20°	42.5	26.5	7.5	11.0	13.0	13.0	13.0	15.0		
ø 80	50	13	44	195	69	20	20	58.5	Rc3/8	20°	51	26.7	9.5	13.0	15.0	20.0	20.0	22.0		
ø100	60	16	47	198	72	20	20	69	Rc1/2	20°	61.5	26.7	10.0	13.5	15.5	19.5	19.5	21.5		

1: Piping port (EE) of ø20, ø25 is different. Refer to the dimensions (EE) of the type with air cushion.

^{*2:} Refer to "Pneumatic Cylinders I (No. CB-029SA)" for RD, HD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

^{*3:} Refer to "Pneumatic Cylinders I (No. CB-029SA)" for the dimensions of accessories.

^{*} Refer to Double acting/Single rod in "Pneumatic Cylinders I" (No. CB-029SA) for dimensions of each mounting type.

Dimensions

CAD

SCM

SSD2 MDC2 MSD MSDG-L SMG LCR

SCPD3

CMK2

Long service life cylinder LCG STM STG STR2

SCPD3

Linear Slide Hand Environment-resistant cylinder CMK2 SCG SSD2 SMG LCR STG STS

STL LSH LSHL

LSHM

Vide Parallel Low-profile long Hand stroke hand C

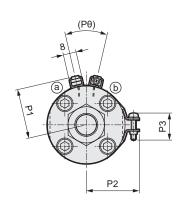
Chuck CKW Air Booster ABP2

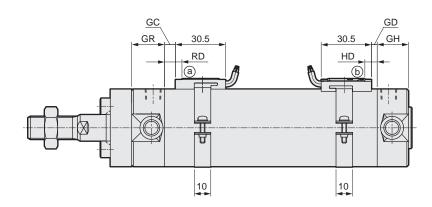
SCPD3

Compatible with rechargeable batteries COMSC SUBSC SUB

LSHL SCPD3 processes CMK2 SCM SCG SSD2 STG Basic (00) ø20 to ø100 [With rubber cushion]

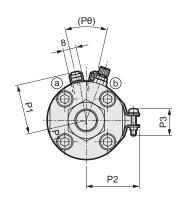
· Switch mounting: Band

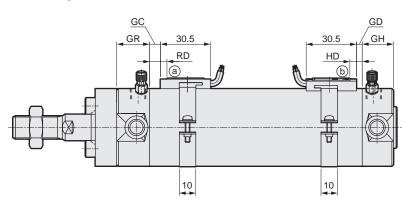




[With air cushion]

· Switch mounting: Band





Code ChuBore size (mm)		Switch mounting: Band																	
		GD		GC			GH	GR	HD			RD			P1	P2	P3	Рθ	
Gilui	IDOIE SIZE (IIIIII)	T0/T5	T2,T3	T2W T3W	T0/T5	T2,T3	T2W T3W	Вп	GK	T0/T5	T2,T3	T2W T3W	T0/T5	T2,T3	T2W T3W	FI	F2	FS	FU
	ø 20	2.5	2.5	4.5	3.5	3.5	5.5	17	19	6.5	6.5	8.5	7.5	7.5	9.5	19.6	21.5	14	(38)
-	ø 25	1.5	1.5	3.5	4.5	4.5	6.5	17	19	5.5	5.5	7.5	8.5	8.5	10.5	22.1	23.9	14	(34)
	ø 32	2.5	2.5	4.5	5.5	5.5	7.5	17	19	6.5	6.5	8.5	9.5	9.5	11.5	25.6	27.6	16	(30)
-	ø 40	4.5	4.5	6.5	7.5	7.5	9.5	19	20	8.5	8.5	10.5	11.5	11.5	13.5	30.2	32.1	16	(26)
	ø 50	7.0	7.0	9.0	9.0	9.0	11.0	22	25	11.0	11.0	13.0	13.0	13.0	15.0	35.7	37.4	16	(22)
	ø 63	7.0	7.0	9.0	9.0	9.0	11.0	22	25	11.0	11.0	13.0	13.0	13.0	15.0	42.7	44.4	16	(20)
	ø 80	9.0	9.0	11.0	16.0	16.0	18.0	28	28	13.0	13.0	15.0	20.0	20.0	22.0	51.2	53.0	16	(16)
_	ø100	9.5	9.5	11.5	15.5	15.5	17.5	28	28	13.5	13.5	15.5	19.5	19.5	21.5	61.7	63.5	16	(16)

^{*1:} Refer to "Pneumatic Cylinders I (No. CB-029SA)" for RD, HD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

^{*2:} Refer to "Pneumatic Cylinders I (No. CB-029SA)" for the dimensions of accessories.

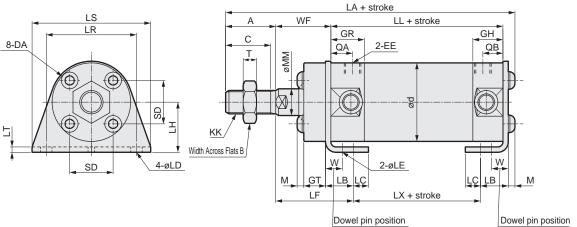
SCM-G-HP1 Series

Dimensions

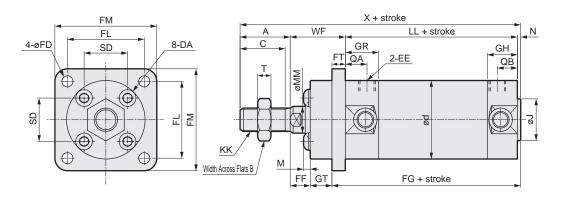
Dimensions

CAD

Axial foot (LB)



Rod side flange (FA)



Code	Avia	I foot	: (I R)	hae	ic din	nensions																			ŀ
$\overline{}$	AAIa		``																						ŀ
Bore size (mm)	(A	В	С	D	DA	EE (*1)	GH	GR	GT	KK	LA	LB	LC	LD	LE	LF	LH	LL	LR	LS	LT	LX	M	MM	ı,
ø 20	18	13	16	26	M4	Rc1/8	17	19	10	M8	119.8	15.1	7.1	5.7	4	38.9	20	69	32	44	3.2	45.2	2.6	8	ľ
ø 25	22	17	20	31	M5	Rc1/8	17	19	10	M 10 x 1.25	125.6	15.1	7.1	5.7	4	39.9	22	69	36	49	3.2	45.2	3.4	10	ŀ
ø 32	22	17	20	38	M5	Rc1/8	17	19	11	M 10 x 1.25	128.6	16.1	8.1	6.8	4	41.9	25	71	44	58	3.2	45.2	3.4	12	(
ø 40	30	22	27	47	M6	Rc1/8	19	20	13	M 14 x 1.5	148.2	16.6	9.1	6.8	4	46.4	30	78	54	71	3.2	51.2	4	16	ŀ
ø 50	35	27	32	58	M8	Rc1/4	22	25	14	M 18 x 1.5	170.5	22	11	9	5	53.5	40	90	66	86	4.5	55	5	20	
ø 63	35	27	32	72	M10	Rc1/4	22	25	14	M 18 x 1.5	170.5	22	13	11	5	53.5	45	90	82	106	4.5	55	5	20	
ø 80	40	32	37	89	M10	Rc3/8	28	28	15	M 22 x 1.5	202.5	28.5	14	11	6	68	55	108	100	125	4.5	60	6	25	-
ø100	40	41	37	110	M12	Rc1/2	28	28	15	M 26 x 1.5	208	30	16	14	6	71	65	108	120	150	6	60	7	30	Ľ

Code						
Bore size (mm)	QA	QB	SD	Т	W	WF
ø 20	12	10	14	5	10	27
ø 25	12	10	16.5	6	10	28
ø 32	12	10	20	6	10	29
ø 40	13	12	26	8	10	33
ø 50	15	12	32	11	17.5	36
ø 63	15	12	38	11	17.5	36
ø 80	15	15	50	13	20	44
ø100	15	15	60	16	20	47

- *1:Needle relational dimensions and port sizes of the type with air cushion are the same as those of
- the basic type. Refer to pages 59 and 60. (Those of ø20/ø25 are different from the basic type.) *2:Refer to "Pneumatic Cylinders I (No. CB-029SA)" for RD, HD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1H/V and T8H/V switches.
- *3:Refer to "Pneumatic Cylinders I (No. CB-029SA)" for the dimensions of accessories.

Code	Rod	side	flan	ge (I	FA) b	asic di	men	sion	s																	
Bore size (mm)	Α	В	С	D	DA	EE (*1)	FD	FF	FG	FL	FM	FT	GH	GR	GT	J	KK	LL	MM	N	QA	QB	SD	Т	WF	Х
ø 20	18	13	16	26	M4	Rc1/8	5.5	11	77	28	40	6	17	19	10	12	M8	69	8	2	12	10	14	5	27	116
ø 25	22	17	20	31	M5	Rc1/8	5.5	11	78	32	44	7	17	19	10	14	M 10 x 1.25	69	10	2	12	10	16.5	6	28	121
ø 32	22	17	20	38	M5	Rc1/8	6.6	11	80	38	53	7	17	19	11	18	M 10 x 1.25	71	12	2	12	10	20	6	29	124
ø 40	30	22	27	47	M6	Rc1/8	6.6	12	88	46	61	8	19	20	13	25	M 14 x 1.5	78	16	2	13	12	26	8	33	143
ø 50	35	27	32	58	M8	Rc1/4	9	13	101	58	76	9	22	25	14	30	M 18 x 1.5	90	20	2	15	12	32	11	36	163
ø 63	35	27	32	72	M10	Rc1/4	11	13	101	70	92	9	22	25	14	32	M 18 x 1.5	90	20	2	15	12	38	11	36	163
ø 80	40	32	37	89	M10	Rc3/8	11	18	122	82	104	11	28	28	15	40	M 22 x 1.5	108	25	3	15	15	50	13	44	195
ø100	40	41	37	110	M12	Rc1/2	13	18	125	100	128	14	28	28	15	50	M 26 x 1.5	108	30	3	15	15	60	16	47	198

CMK2 SCM ong service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 SCPD3 CMK2 SCG SSD2 SMG

SCPD3

Environment-resistant cylinder Linear Slide Hand LCR STG STS STL LSH LSHL LSHM LST LSTM

 processes SSD2 STG

LCR LCG STM

LSH

LSHL

CKW



SCG-G-HP1 Series

Bore size: ø32/ø40/ø50/ø63/ø80/ø100







Specifications

· •							
Item				SCG-0	G-HP1		
Bore size mm		ø32	ø40	ø50	ø63	ø80	ø100
Actuation				Double	acting		
Working fluid				Compre	ssed air		
Max. working p	ressure MPa			1	.0		
Min. working pr	essure MPa			0.	15		
Proof pressure	MPa			1	.6		
Ambient tempe	rature °C			-10 to 60 (r	no freezing)		
Port size		Rc1/8	Ro	1/4	Ro	3/8	Rc1/2
Stroke tolerance mm	With rubber cushion		+1. 0	⁴ (up to 1000), +1.0	8 (1001 to 1500)		
Stroke tolerance min	With air cushion		^{+1.0} (up to	360), +1.4 (361 to 1	000), $^{+1.8}_{0}$ (1001 to	1500)	
Working piston	speed mm/s		50 to 1000(Us	e the product withi	n the allowable abs	sorbed energy.)	
Cushion			Either a	air cushion or rubbe	er cushion can be s	selected	
Effective air cusl	hion length mm	8.6	8.6	13.4	13.4	15.4	15.4
Lubrication				Not re	quired		
Allowable absorbed	With rubber cushion	0.5	0.9	1.6	1.6	3.3	5.8
energy J	With air cushion	2.5	3.7	8.0	14.4	25.4	45.6

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Min. stroke (mm)
ø32			700	
ø40	25/50/75/100	600	800	
ø50	150/200/250	600	1200	
ø63	300/350/400		1200	I
ø80	450/500	700	1400	
ø100		800	1500	

^{*1:} The custom stroke is available in 1 mm increments.

Min. stroke with T0/T5 switches

Switch quantity	Differe	ent surf	ace mo	unting	Same	surfac	ce mou	unting	Cent	er trunn	ion mou	nting	Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting Position cannot be detected at the head side stroke end.
Bore size (mm)	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø32	9	17	34	51	9	48 (33)	78 (64)	109 (94)	94 (94)	94 (94)	169 (155)	169 (155)	42	42
ø40	9	18	36	54	9	48 (33)	78 (64)	109 (94)	81 (81)	81 (81)	164 (142)	164 (142)	38	38
ø50	9	18	36	54	9	18	36	54	112 (112)	112 (112)	121 (121)	121 (121)	51	53
ø63	10	19	38	57	10	19	38	57	85 (73)	85 (73)	91 (91)	91 (91)	41	42
ø80	10	20	39	59	10	20	39	59	96 (79)	96 (79)	99 (99)	99 (99)	41	47
ø100	10	20	40	60	10	20	40	60	101 (84)	101 (84)	105 (105)	105 (105)	47	53

^{*1:} Values in () are for T*V (radial lead wire).

Min. stroke with T8 switch

	Switch quantity	Differe	nt surf	ace mo	unting	Same	surfac	ce mou	unting	Cent	er trunni	ion mou	nting	Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting Position cannot be detected at the head side stroke end.
+	Bore size (mm)	1	2	3	4	1	2	3	4	1	2	3	4	1	1
1	ø32	9	17	34	51	9	54 (31)	84 (62)	115 (92)	100 (100)	100 (100)	191 (161)	191 (161)	45	45
4	ø40	9	18	36	54	9	54 (31)	84 (62)	115 (92)	87 (87)	87 (87)	178 (148)	178 (148)	41	41
_	ø50	9	18	36	54	9	18	36	54	116 (116)	116 (116)	121 (121)	121 (121)	54	55
1	ø63	10	19	38	57	10	19	38	57	89 (77)	89 (77)	99 (99)	99 (99)	44	44
;	ø80	10	20	39	59	10	20	39	59	100 (75)	100 (75)	111 (111)	111 (111)	43	49
	ø100	10	20	40	60	10	20	40	60	105 (80)	105 (80)	117 (117)	117 (117)	49	55

^{*1:} The values in () are of T*V (L-type lead wire).

^{*2:} If the max. stroke is exceeded, product specifications may not be met, depending on operating conditions. Contact CKD in this case.

^{*2:} When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

^{*2:} When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Specifications/How to order mounting brackets/Material

Min. stroke with T2/T3 switches

Switch quantity	Differe	nt surf	ace mo	unting	Same	surfac	ce mou	unting	Cent	er trunn	ion mou	nting	Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	
Bore size (mm)	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø32	5	10	20	30	5	40 (33)	70 (64)	101 (94)	64 (55)	64 (55)	131 (116)	131 (116)	27	27
ø40	5	10	20	30	5	40 (33)	70 (64)	101 (94)	69 (60)	69 (60)	152 (121)	152 (121)	32	32
ø50	5	10	20	30	5	10	20	30	71 (62)	71 (62)	71 (61)	71 (61)	31	32
ø63	6	11	21	32	6	11	21	32	77 (68)	77 (68)	77 (68)	77 (68)	37	38
ø80	6	11	22	33	6	11	22	33	88 (79)	88 (79)	88 (80)	88 (80)	37	43
ø100	6	11	22	33	6	11	22	33	93 (84)	93 (84)	93 (85)	93 (85)	43	49

^{*1:} The values in () are of T*V (L-type lead wire).

Min. stroke with T1/T2YD/T2W/T3W switches

Switch quantity	Differe	ent surf	ace mo	unting	Same	surfa	ce mo	unting	Cent	er trunn	ion mou	nting		Head side trunnion mounting Position cannot be detected at the head side stroke end.
Bore size (mm)	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø32	6	11	22	33	6	62 (49)	92 (80)	123 (110)	86 (61)	86 (61)	177 (122)	177 (122)	38	38
ø40	6	11	22	33	6	62 (49)	92 (80)	123 (110)	91 (66)	91 (66)	182 (127)	182 (127)	43	43
ø50	6	12	24	36	6	12	24	36	93 (68)	93 (68)	93 (68)	93 (68)	42	43
ø63	6	12	24	36	6	12	24	36	99 (74)	99 (74)	99 (74)	99 (74)	48	49
ø80	7	13	25	38	7	13	25	38	110 (85)	110 (85)	110 (86)	110 (86)	48	54
ø100	7	13	26	39	7	13	26	39	115 (90)	115 (90)	115 (92)	115 (92)	54	60

^{*1:} The values in () are of T*V (L-type lead wire). T2YD does not have a L-type lead wire (V).

How to order mounting brackets

Bore size (mm) Mounting bracket	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
Flange (FA) (FB)	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
Eye bracket (CA)	SCG-CA-32	SCG-CA-40	SCG-CA-50	SCG-CA-63	SCG-CA-80	SCG-CA-100
Clevis bracket (CB)	SCG-CB-32	SCG-CB-40	SCG-CB-50	SCG-CB-63	SCG-CB-80	SCG-CB-100

^{*1:} The foot mounting bracket (LB) is provided as 2 pcs./set.

Material of mounting bracket

Mounting	Material	Remarks
LB	Steel	Nickel plating
FA/FB	Steel	Painted
CA/CB	Cast iron	Painted
TA/TB/TC	Cast iron	Painted

Note: Mounting bracket will be shipped with the product.

Trunnion types (TA, TB, TC) are assembled at shipment.

SCPD3 CMK2 SCM Long SSD2 MDC2 service life cylinder MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH LSHL LSHM LST LSTM HMC CKW ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L

Supports food CMK2 SCM mtg. SCG SSD2 STG

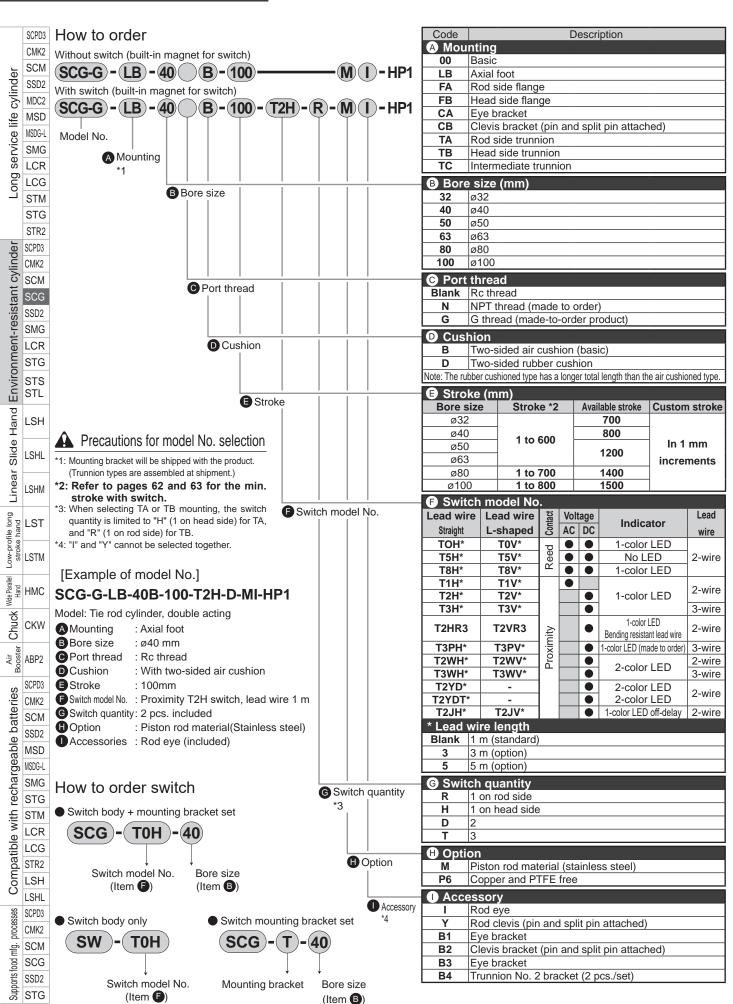
SMG STG STM LCR LCG STR2 LSH LSHL SCPD3

^{*2:} When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

^{*2:} When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

^{*2:} All mounting brackets have mounting bolts attached.

SCG-G-HP1 Series



Dimensions

SCPD3 CMK2

SCM

SSD2 MDC2 MSD MSDG-L SMG

LCR LCG

STM STG

STR2

SCPD3

CMK2

SCM SCG SSD2

SMG LCR

STG

STS

STL

LSH

LSHL

LSHM

LST

LSTM

SCPD3

CMK2

SCM

SSD2

MSD MSDG-L

SMG STG STM

LCR

LCG STR2 LSH LSHL

SCPD3 CMK2 SCM SCG SSD2 STG

8(13)

8.5 (13.5)

Low-profile long stroke hand

Wide Parallel Hand HMC

Chuck CKW

Air Booster ABP2

Compatible with rechargeable batteries

Supports food mfg.

DC

DB

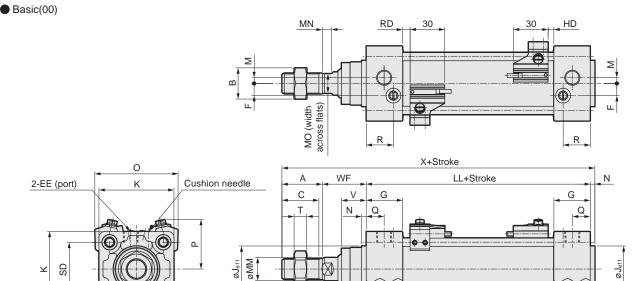
4-DA

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Dimensions

CAD



ΚK

Code	Basic	c (00) l	oasic o	dimen	sions							,	1 **				
Bore size (mm)	Α	В	С	DA	DB	DC	EE	F	G	J	K	кк	*1 LL	М	ММ	MN	МО
ø32	22	17	19.5	M6	16	5	Rc1/	8 6.5	27	30	46	M10X1.	25 84(9	0) 4	12	5.5	10
ø40	30	22	27	M6	16	5	Rc1/	4 9	27	35	52	M14X1	.5 84(9	0) 4	16	6	14
ø50	35	27	32	M8	16	5	Rc1/	4 10.5	31.5	40	65	M18X1	.5 94(10	2) 5	20	8	17
ø63	35	27	32	M8	16	5	Rc3/	8 12	31.5	45	75	M18X1	.5 94(10	2) 9	20	8	17
ø80	40	32	37	M10	16	5	Rc3/	8 14	38	45	95	M22X1	.5 114(1	24) 11.5	25	11	22
ø100	40	41	37	M10	16	5	Rc1/	2 15	38	55	114	M26X1	.5 114(1	24) 17	30	13	27
Code	Mou	nting d	limens	ions					With	switc	h						
Bore size	N	Q	R	SD	т	v	WF	*1	0	Р		T0,T5	,T2,T3		T2W,	T3W	
(mm)	_ 'N	"	K	30	'	\ \ \	WF	Х	\parallel	'		RD	HD	R	D	HI	D
ø32	4	13	19	32.5	6	19.5	30	140(146)	59	38		5(8)	5(8)	7.5 (1	0.5)	7.5 (1	10.5)
ø40	4	14	19	38	8	19	31	149(155)	66	41		5(8)	5(8)	7.5 (1	0.5)	7.5 (1	10.5)
ø50	4	15.5	23.5	46.5	11	21.5	38	171(179)	72	43	6.	.5 (10.5)	5(9)	9(1	3)	7(1	1)
ø63	4	16.5	21.5	56.5	11	21.5	38	171(179)	83	48	6.	.5 (10.5)	5(9)	9(1	3)	7(1	1)

4 *1: Dimensions in () are for the rubber cushion.

19

19

28

28

4

SD

13

16

27.5

27.5

47

47

72

89

104

121

57

63

12.5 (17.5)

12(17)

205(215)

205(215)

Consumable parts list

With air cushion

ø80

ø100

Bore size (mm)	Kit No.	Part name
ø32	SCG-G-32BK-HP1	Rod packing
ø40	SCG-G-40BK-HP1	Cylinder gasket Cushion packing
ø50	SCG-G-50BK-HP1	Piston packing
ø63	SCG-G-63BK-HP1	Wear ring
ø80	SCG-G-80BK-HP1	Needle gasket Scraper
ø100	SCG-G-100BK-HP1	Lube keeping structure

Note: Specify the kit No. when placing an order.

With rubber cushion

4-DA

DB

Bore size (mm)	Kit No.	Part name
ø32	SCG-G-32DK-HP1	Rod packing
ø40	SCG-G-40DK-HP1	Cylinder gasket Piston packing
ø50	SCG-G-50DK-HP1	Wear ring
ø63	SCG-G-63DK-HP1	Needle gasket
ø80	SCG-G-80DK-HP1	Cushion rubber Scraper
ø100	SCG-G-100DK-HP1	Lube keeping structure

6(11)

6.5 (11.5)

15(20)

14.5 (19.5)

Note: Specify the kit No. when placing an order.

^{*2:} For HD, RD and protruding dimensions of other switches," Pneumatic Cylinders I (No. CB-029SA)".

^{*3:} Refer to "Pneumatic Cylinders I (No. CB-029SA)" for the dimensions of accessories.

^{*} Refer to Double acting/Single rod in "Pneumatic Cylinders I" (No. CB-029SA) for dimensions of each mounting type.

Compact cylinder Double acting/Single rod/rubber scraper

SSD2-G-HP1 Series

Bore size:ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100







Specifications

CMK2

SCM

SSD2 MDC2 MSD MSDG-L SMG

LCR LCG STM **STG** STR2 SCPD3

CMK2 SCM SCG

SMG LCR STG STS STL

LSH

LSHL

LSHM

stroke hand LSTM

₹ HMC

CKW

CMK2

SCM SSD2

MSD

MSDG-L

SMG STG STM LCR LCG STR2

LSH LSHL

SCPD3 CMK2

SCM SCG SSD2 STG

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Air Booster ABP2 SCPD3

Compatible with rechargeable batteries

Item		SSD2-G-HP1 SSD2-GL-HP1 (with switch)								
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation					Double	acting				
Working fluid					Compre	ssed air				
Max. working pressure MPa		1.0								
Min. working pressure MPa	0.1	0.1 0.2 0.15								
Proof pressure MPa		1.6								
Ambient temperature °C					-10 to 60 (r	no freezing)				
Port size		N	15		Rc1	/8 *1	Rc	1/4	Rc3/8	
Stroke tolerance mm						1.0 0				
Working piston speed mm/s				50 to 500					50 to 300	
Cushion					N	lo				
Lubrication					Not re	quired				
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

^{*1:} The ø32 bore size with a 5 mm stroke and without a switch has a port size of M5.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	
ø12	5/10/15/20	30		
ø16	25/30	30		
ø20	5/10/15/20/25	50		
ø25	30/35/40/45/50	50		
ø32	5/10/15/20/25/30/		4	
ø40	35/40/45/50/75/100		1	
ø50	10/15/20/25	100		
ø63	30/35/40/45/50	100		
ø80	75/100			
ø100	75/100			

Min. stroke with switch (2 switches)

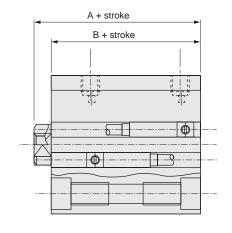
Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V			
ø12	10 (5)	10 (5)			
ø16	10 (3)	10 (5)			
ø20					
ø25					
ø32					
ø40	5	F			
ø50	5	5			
ø63					
ø80					
ø100					

^{*1:} When using the-type with switch, refer to the table of the min. stroke with switch.

Custom stroke

SSD2 Series

Standard stroke body with spacer					
Refer to How to order.					
A spacer is added to the standard stroke body to adjust the s					
in 1 mm increments.					
Bore size	Stroke range				
12 to 16	1 to 29				
20 to 25	1 to 49				
32 to 100	1 to 99				
Model No.: SSD2-G-32-38-HP1					
Add a +2 mm spacer to standard cylinder SSD2-G-32-40-HP1 to					
make it 38 mm.B + stroke is 73 mm.					
	Refer to How to order. A spacer is added to the standard in 1 mm increments. Bore size 12 to 16 20 to 25 32 to 100 Model No.: SSD2-G-32-38-HP1 Add a +2 mm spacer to standard				



^{*1:} Less than 10mm with 2-color LED, off-delay, AC magnetic field proof, T1*, T8* switches is not available.

^{*2:} Values in () are for the type with 1 on rod side.

SSD2-G-HP1 Series

How to order

Long

service life

cylinder

Environment-resistant cylinder

Linear

Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

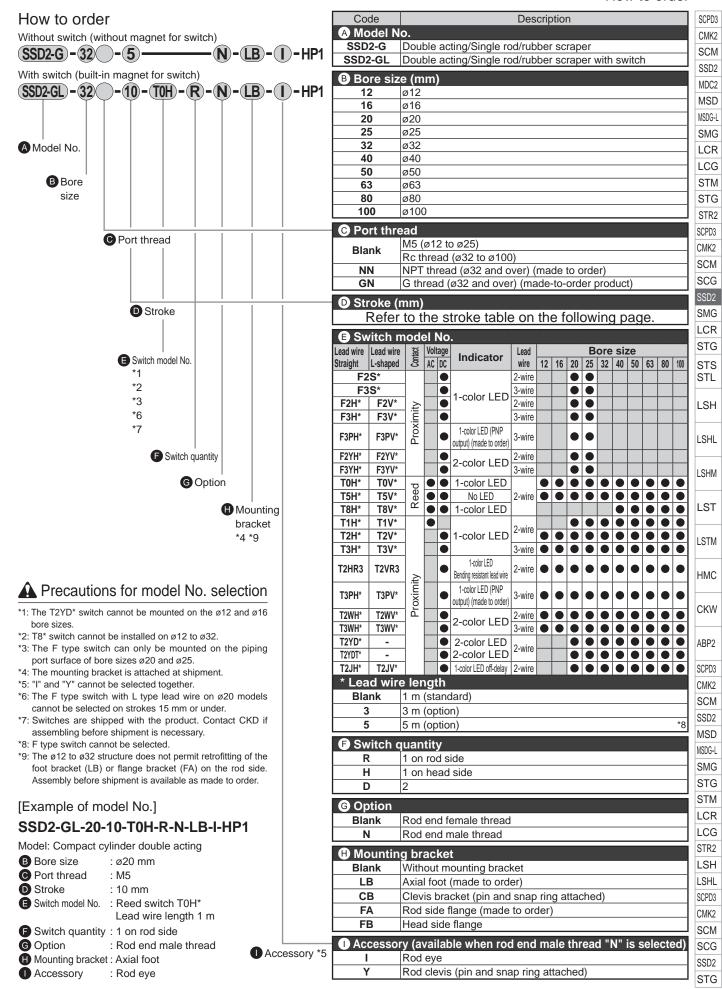
Chuck

₽

Compatible with rechargeable batteries

Supports food

mfg.



SSD2-G-HP1 Series

[S	tr	0	ke	ta	b	le

SCPD3 CMK2 SCM

MDC2
MSDG-L
SMG
LCR
LCG
STM
STG
STR2
SCPD3

CMK2 SCM SCG SSD2 SMG LCR

STG

STS

STL

LSH

LSHL

LSHM

Booster ABP2

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

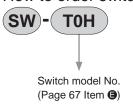
Long service life cylinder

Linear Slide Hand Environment-resistant cylinder

	Strake (mm)	Applicable bore size									
Stroke (mm)		12	16	20	25	32	40	50	63	80	100
	5	•	•	•	•	•	•				
	10	•	•	•	•	•	•	•	•	•	•
	15	•	•	•	•	•	•	•	•	•	•
40	20	•	•	•	•	•	•	•	•	•	•
Standard stroke	25	•	•	•	•	•	•	•	•	•	•
d st	30	•	•	•	•	•	•	•	•	•	•
dar	35			•	•	•	•	•	•	•	•
itan	40			•	•	•	•	•	•	•	•
U)	45			•	•	•	•	•	•	•	•
	50			•	•	•	•	•	•	•	•
	75					•	•	•	•	•	•
	100					•	•	•	•	•	•
Min. str	oke (mm) *1	1									
Max. st	roke (mm)	30 50 100									
Custom	stroke *2				In	1 mm ir	ncreme	nts			

^{*1:} Less than 5 mm for 1-color LED switch, 2-color LED, off-delay, AC magnetic field proof, T1*, T8* switchesless than 10mm stroke is not available. Refer to page 66 for the min. stroke with switch.

How to order switch



How to order mounting brackets

Bore size (mm) Mounting bracket	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Foot (LB)						SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)						SSD2-FA-40	SSD2-FA-50
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)							

Bore size (mm)	ø63	ø80	ø100	
Mounting bracket \	203	900		
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100	
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100	
Clevis bracket (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100	

^{*1:}The foot mounting bracket is provided as 2 pcs./set.

Consumable parts list

Part name Bore size (mm)	Kit No.	Part name
ø12	SSD2-G-12K-HP1	
ø16	SSD2-G-16K-HP1	
ø20	SSD2-G-20K-HP1	Caranar
ø25	SSD2-G-25K-HP1	Scraper Rod packing
ø32	SSD2-G-32K-HP1	Rod packing Rod metal gasket
ø40	SSD2-G-40K-HP1	Piston packing
ø50	SSD2-G-50K-HP1	' "
ø63	SSD2-G-63K-HP1	Lube keeping structure
ø80	SSD2-G-80K-HP1	
ø100	SSD2-G-100K-HP1	

^{*2:} The total length when using a custom stroke is the same as that when using the next longer standard stroke.

^{*2:}The ø12 to ø32 structure does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Contact CKD for details.

SSD2-G-HP1 Series

Dimensions

SCPD3

Long

service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

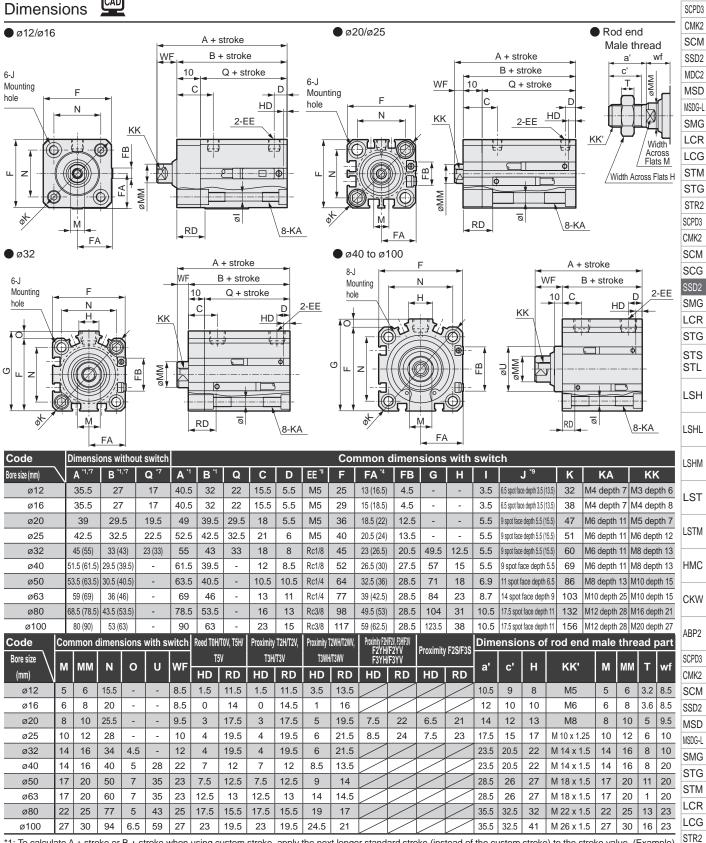
₽

Compatible with rechargeable batteries

Supports food

mtg. SCG

processes SSD2



^{*1:} To calculate A + stroke or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.

LSH

LSHL

SCPD3

CMK2

SCM

STG

^{*2:} HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.

^{*3:} Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for HD, RD, and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1*, T8: switches.

^{*4:} Dimensions in () of FA are for the radial lead wire type.

^{*5:} Refer to "Pneumatic Cylinders I (No. CB-029SA)" for dimensions of individual accessories.

^{*6:} Only F switch is available for the piping port surface of bore size ø20, 25.

^{*7:} Dimensions in () of codes A, B and Q are for strokes of more than 50 mm.

^{*8:} The 5 mm stroke of the ø32 without switch has a port size of M5

^{*9:} Dimensions in () of code J are for the rod side mounting hole.

^{*10:} The ø12, ø16 has no switch groove on the rod end surface. Switches can be mounted only on the head side.

^{*} Refer to Double acting/Single rod in "Pneumatic Cylinders I" (No. CB-029SA) for dimensions of each mounting type.



Compact cylinder
Double acting/Single rod/rubber scraper

SMG-G-HP1 Series

■ Bore size:ø6/ø10/ø16/ø20/ø25/ø32

JIS symbol







Specifications

Long service life cylinder

Linear Slide Hand Environment-resistant cylinder

LSH

LSHL

LSHM

ABP2 SCPD3

Compatible with rechargeable batteries COMPS COM

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

MSDG-L SMG

LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Item		SMG-G-HP1 SMG-GL-HP1 (with switch)					
Bore size	mm	ø6	ø10	ø16	ø20	ø25	ø32
Actuation				Double	acting		
Working fluid				Compre	ssed air		
Max. working pressure	MPa		0.7				
Min. working pressure	MPa	0.12 0.06 0.15					
Proof pressure	MPa		1.05				
Ambient temperature	°C			-10 to 60 (n	no freezing)		
Port size				M5			Rc1/8
Stroke tolerance	mm			+1 (
Working piston speed	mm/s			50 to	500		
Cushion				With rubbe	er cushion		
Lubrication				Not re	quired		
Allowable absorbed energy J		0.012	0.036	0.1	0.1	0.19	0.5

Stroke

l	Bore size (mm)	Standard stroke (mm)	Min. stroke (mm)
	ø 6		
	ø10	5, 10, 15, 20, 25, 30, 40, 50, 60	
	ø16		5
١	ø20		3
_	ø25	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	
	ø32		

^{*1:} The custom stroke is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke.

Min. stroke with switch

	Bore size (mm)	1-colo	r LED	2-color LED				
+	Bore Size (IIIII)	K□H	K□V	K □ YH	K □ YV			
	ø 6							
4	ø10							
	ø16	_	=		=			
i	ø20	`)	,	0			
	ø25							
	ø32							

SMG-G-HP1 Series

service life

cylinder

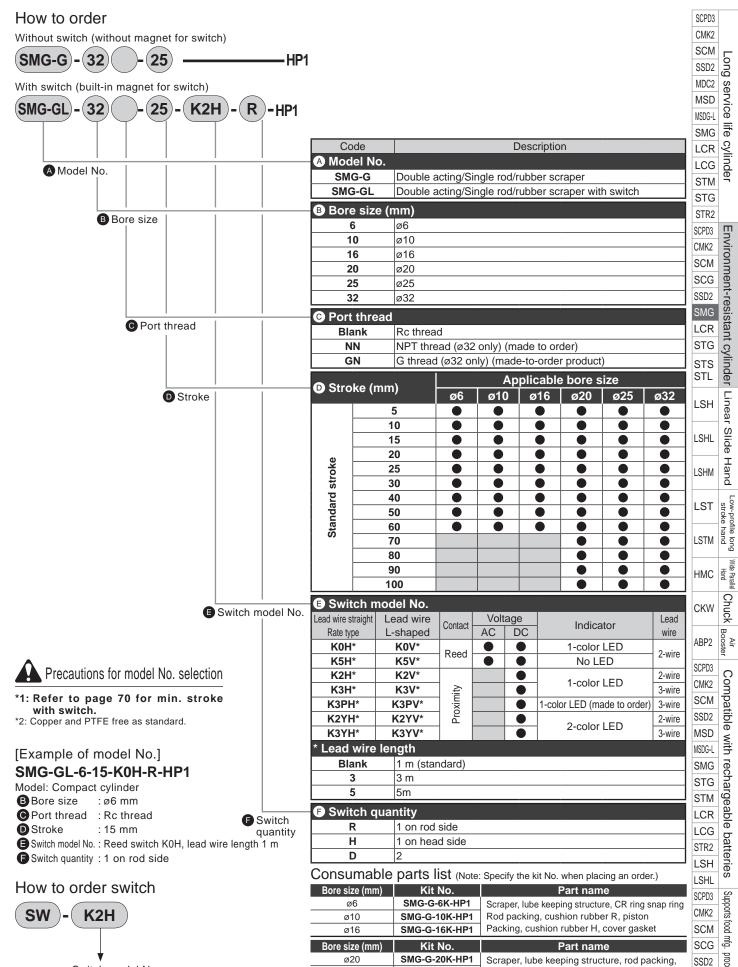
Environment-resistant cylinder

Linear

Slide Hand

Chuck

₽



SMG-G-25K-HP1

SMG-G-32K-HP1

ø25

ø32

Switch model No.

(Item (above)

Cushion rubber R, piston packing,

Cushion rubber H, cover gasket

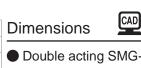
STG

Supports food

mfg.

processes

SMG-G-HP1 Series



SCPD3

CMK2

SCM

SSD2 MDC2

MSD

MSDG-L

SMG

LCR

LCG

STM STG STR2 SCPD3

CMK2

SCM

SCG

SSD2

SMG LCR

STG

STS STL

LSH

LSHL

LSHM

LST

LSTM

₹ HMC

SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 processes CMK2

Wide Parallel Low-profile long

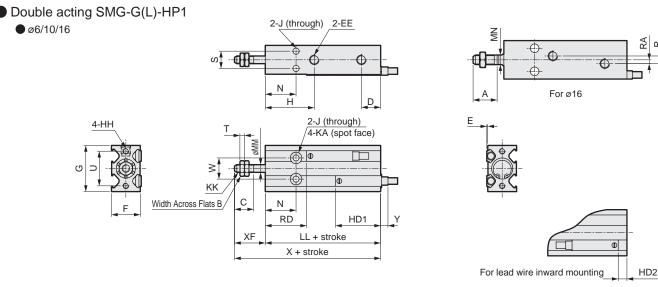
Chuck CKW

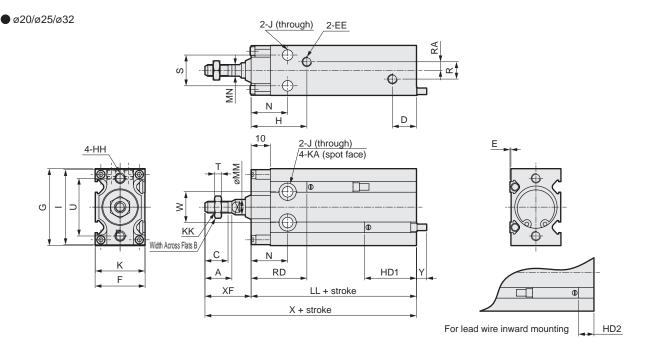
Air Booster ABP2

Compatible with rechargeable batteries

Long service life cylinder

Linear Slide Hand Environment-resistant cylinder





	Code Bore size	А	В	С	D	EE	F	G	н	нн	1	J	ĸ	KA	KK	мм	MN	N	R	RA	s
	ø6	-	5.5	7	10	M5	13	22	24.5	M3 depth 5	-	3.2	-	6 depth 4.8	М3	3	-	16.5	-	-	7
1	ø10	-	7	10	10	M5	15	24	26	M3 depth 5	-	3.2	-	6 depth 5	M4	4	-	16.5	-	-	9
1	ø16	12.5	8	11	11.5	M5	20	32	26 (*1)	M4 depth 6	-	4.5	-	7.5 depth 6.5	M5	6	5	16.5	4	2	12
+	ø20	14	10	12	12.5	M5	26	40	29	M5 depth 8	39	5.5	25.8	9 depth 8	M6	8	6	19	9	4.5	16
+	ø25	18	13	15.5	13	M5	32	50	31.5	M5 depth 8	49	5.5	22	9 depth 9	M8	10	8	20	9	4.5	20
	ø32	22	17	19.5	12.5	Rc1/8	40	62	33	M6 depth 9	61	6.6	29	11 depth 11.5	M 10 x 1.25	12	10	21	13.5	4.5	24

Code					L	.L	:	X					v
Bore size	Т	U	W	XF	Without switch	With switch	Without switch	With switch	E	HD1	HD2	RD	(*2)
ø6	1.8	17	10	13	42.5	42.5	55.5	55.5	1	20	1	22.5	7
ø10	2.4	18	11	16	45.5	45.5	61.5	61.5	1	23.5	4.5	22	3.5
ø16	3.2	25	14	16	39.5	49.5	55.5	65.5	0.5	24.5	5.5	25	2.5
ø20	3.6	30	16	24	46	56	70	80	0.5	27	8	29	0
ø25	5	38	20	28	50	60	78	88	0.5	29	10	31	-2
ø32	6	48	24	32	52	62	84	94	0.5	30.5	11.5	31.5	-3.5

SCM SCG SSD2 STG

^{*2:} Y dimensions indicate the protruding dimensions from the end surface of the switch body. (Negative dimensions indicate the pull dimensions from the end surface of the body) 3: To calculate LL+ stroke or X+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example:

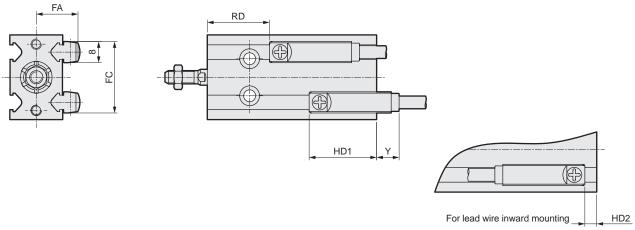
If the custom stroke is 35 mm, apply the standard stroke of 40 mm) *4: Refer to page 73 for HD, RD, and protruding dimensions of 2-color LED switches.

Dimensions

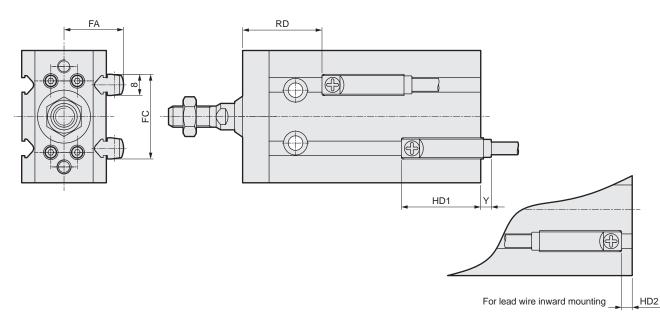
SMG-G-HP1 Series with switch common dimensions (2-color LED)

●SMG-GL-HP1 (With switch: K2YH/_V, K3YH/_V)

● ø6/10/16



ø20/25/32



Code						`	Y
Bore size	FA	FC	HD1	HD1 HD2 RD		Lead wire Straight Type	Lead wire L-type
ø6	13.5	18	21	0	21.5	13	10
ø10	14.5	21	24.5	3.5	21	9.5	6.5
ø16	16.5	27	25.5	4.5	24	8.5	5.5
ø20	19.5	29	28	7	28	6	3
ø25	22.5	32	30	9	30	4	1
ø32	26.5	34	31.5	10.5	30.5	2.5	-0.5

^{*1:} Y dimensions indicate the protruding dimensions from the end surface of the switch body. (Negative dimensions indicate the pull dimensions from the end surface of the body)

SCPD3 CMK2 SCM SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STM STG STR2 SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LOW-profile long stroke hand HMC Hand CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2

Environment-resistant cylinder Linear Slide Hand

Compatible with rechargeable batteries

Chuck

Air Booster

LSH LSHL Supports food mfg. SCPD3 CMK2 SCM SCG

SSD2 STG



Linear slide cylinder Double acting/Single rod/Rubber scraper

CR-G-HP1 Series

Bore size: ø6/ø8/ø12/ø16/ø20/ø25







Specifications

Specific	alions									
Item				LCR-0	3-HP1					
Bore size r	nm	ø6	ø8	ø12	ø16	ø20	ø25			
Actuation				Double	acting					
Working flu	ıid			Compre	ssed air					
Max. working	g pressure MPa			0.	.7					
Min. working	pressure MPa			0.15	(*1)					
Proof press	sure MPa	1.05								
Ambient te	mperature °C		-10 to 60 (no freezing)							
Port size	Main body side	M3		M5		Ro	1/8			
FUIT SIZE	Main body back	-	- M3 M5 Rc1/8							
Stroke tole	rance mm	+2.0 0 (*2)								
Working pist	ton speedmm/s	50 to 500 (*3)								
Cushion		With rubber cushion								
Lubrication		Not required								

^{*1: 0.2}MPa when using the ø6 shock absorber stopper.

Stroke

Bore size (mm)	Standard stroke (mm)
ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

Note: Products with strokes other than the above are not available.

Allowable absorbed energy (Eo)

	Bore size	Standard (J)	With stroke adjusting stopper (J)	With shock absorber stopper (J)
-	ø6	0.025	0.0032	0.14
-	ø8	0.058	0.0032	0.25
4	ø12	0.112	0.014	0.25
	ø16	0.176	0.043	0.65
	ø20	0.314	0.055	1.3
	ø25	0.314	0.14	1.3

Long service life cylinder MSD MSDG-L SMG LCR LCG STM

STG STR2 SCPD3 Environment-resistant cylinder CMK2 SCM SCG SSD2 SMG LCR STG STS

Linear Slide Hand LSH LSHL LSHM

STL

K Wide Parallel Low-profile long Hand stroke hand OMLST

Chuck CKW Air Booster ABP2

SCPD3

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar LSHL

SCPD3 CMK2 SCM SCG SSD2 STG

^{*2:} Note that there will be a slight gap between the end plate and floating bush if no stopper is attached.

^{*3:} Use the stroke adjusting stopper at 50 to 200mm/s.

^{*4:} The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

Description

How to order

SCPD3

CMK2

SCM

MDC2

MSDG-L

SMG

LCG STM

STG STR2

SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG

STS STL

LSHL

LSHM

stroke hand

LST

LSTM

LSTM

HMC Hand

CKW

ABP2

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG STM LCR

LCG

STR2

LSH

LSHL

SCPD3

CMK2

SCM

SSD2

STG

Supports food

mfg. SCG

Chuck

₽

Compatible with rechargeable batteries

Long SSD2

service life MSD

cylinder LCR

Environment-resistant cylinder

Linear LSH

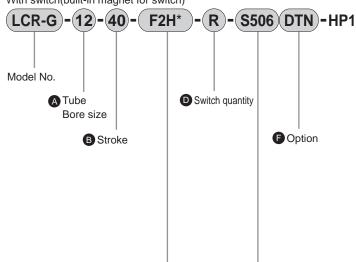
Slide Hand



Without switch(built-in magnet for switch)



With switch(built-in magnet for switch)



C Switch model No.

A Bore size (mm) ø6 8 ø8 12 ø12 16 ø16 20 ø20 25 ø25

Code

B Stro	ke (mm)							
			Во	re s	ize	(ø)		
		6	8	12	16	20	25	
10	10	•						
20	20	•	•	•	•	•		
30	30	•	•	•	•	•		
40	40	•	•	•	•	•		
50	50	•	•	•	•	•		
75	75		•	•	•	•		
100	100			•	•	•		
125	125				•	•		
150	150					•		
@ Swit	© Switch model No							

A Precautions for model No. selection

- *1: For the adjustable stroke range with a shock absorber stopper, refer to the stopper dimensions table on page 94.
- *2: For the port position, refer to the stopper dimensions on page 94.
 *3: The port position of the standard without stopper is
- 1 and 3 position.
- *4: Refer to stoppers "C*" and "W*" for combination of the stroke adjusting stopper and shock absorber type stopper.
- *5: Can be selected for the type with stopper only.
- *6: Refer to the selection table on page 78 for **combinations of options.** A1**, A2**, A5** and A6** of ø6 to ø8-10st, ø12 to
- ø25-20st or less cannot be adjusted with the standard stopper, so they are made to order.
- *8: Select the F/H type switch when using the type with two switches with S *** or A *** for Ø6 to Ø8-30st or less.
- *9: Select when using rear piping.
- *10: Can be selected only when using stroke adjusting stopper (S) and one side mixed type (C).
- *11: When using the W3 to 6 (two-sided combined stopper) with ø6 (full st) ø 8-20st to 30st, ø12-30st to 50st and ø16-30st to 50st, use a lead wire straight type when using the type with two switches or the head side.
- *12: Cannot be selected when choosing two-sided combined type (W).
- *13: The adjustable stroke range when choosing twosided combined type (W) is ø6:9 mm, ø8:13.5 mm, ø12:14.5 mm, ø16:15 mm, ø20:13 mm, ø25:10 mm
- *14: The stroke adjusting stopper for 0.3MPa and over working pressure is the metal sealing type.
- *15: The shock absorber specs. is not dust-proof.

[Example of model No.] LCR-G-12-40-F2H-R-A1DT-HP1 Stopper

Model:Linear slide cylinder Double acting/Single rod LCR

A Bore size : ø12 B Stroke : 40mm

Switch model No. : Proximity/2-wire

Axial lead wire

D Switch quantity: 1 on rod side

Stopper : Shock absorber stopper

Stopper position ①

Option : With side and bottom ports

Material, steel (nitriding)

G SWI	tcn mod	aeı	N	ο.								
Straight lead wire	L-shaped	Contact	Vol	tage	Indicator	Lead		E	Bore	siz	е	
Stratytik ledu wire	lead wire	ပ္ပ	AC	DC	lamp	wire	ø6	ø8	ø12	ø16	ø20	ø25
-	F2S*			•		2-wire						
-	F3S*			•	1-color	3-wire						
F2H*	F2V*	_ ≤		•	LED	2-wire						
F3H*	F3V*	Ē		•		3-wire						
F3PH*	F3PV*	Proximity		•	1-color LED (PNP output) (Made to order)	3-wire						
F2YH*	F2YV*			•	2-color	2-wire						
F3YH*	F3YV*			•	LED	3-wire						
T0H*	T0V*	Reed		•	1-color LED	2-wire						
T5H*	T5V*	Re	•	•	No LED	Z-WIIE						
T2H*	T2V*			•	1-color	2-wire						
T3H*	T3V*			•	LED	3-wire						
T2HR3	T2VR3	Proximity		•	1-color LED Bending resistant lead wire	2-wire				•	•	•
ТЗРН*	T3PV*	Prox		•	1-color LED (PNP output) (Made to order)	3-wire						
T2WH*	T2WV*			•	2-color	2-wire						
T3WH*	T3WV*			•	LED	3-wire						

* Lead \	* Lead wire length							
Blank	1 m (standard)	•						
3	3 m (option)	•						
5	5 m (option)	•						

Swit	ch quantity
R	1 on rod side
Н	1 on head side
D	2

Stopper

Stopper position

1

0

Page 76 for details on the [Stopper].

Opti	on	
Blank	Port on stopper: without port	
D	Port on stopper: side and bottom ports	*2, *5, *12
Blank	Stopper block material: Steel	
Т	Stopper block material: steel (nitriding)	*5
Plug in	cluded	
Blank	No	
N	With side piping port plug (not available for ø6, ø25)	*9

[Stopper]

SCPD3

CMK2 SCM

SSD2

MDC2 MSD MSDG-L

SMG LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2

SMG

STG STS

STL

LSH

LSHL

LSHM

W6

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand LSTM

Wide Parallel

Air Booster ABP2

Compatible with rechargeable batteries

₹ HMC

CKW

SCPD3

CMK2 SCM SSD2

MSD MSDG-L

SMG STG STM

LCR

LCG

STR2 LSH

LSHL SCPD3 processes

CMK2

SCM SCG SSD2 STG

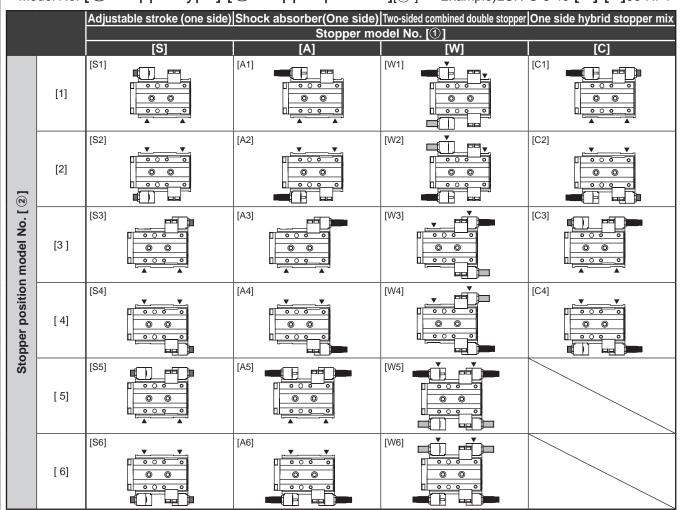
	Code Description							Description							
	■ Stoppe	er													
	Blank	No option			C	One side	hybrid stopper mi	x (shock absorbe	r stopper	, stroke a	djusting s	topper)			
1	S Stroke a	djusting stopper		*4, *7	Т	C1**	A1+S3					tion			
1	S1**	Stopper position (Can be changed to 4)		on	L	C2**	A2+S4					Stopper Installation position			
-	S2**	Stopper position② (Can be changed to ③)		Sitti	Г	C3**	A3+S1			-		Stor			
	S3**	Stopper position③(Can be changed to②)	*16	Stopper Installation position	Г	C4**	A4+S2					Inst			
	S4**	Stopper position (Can be changed to 1)	*16	Stop	**	part Adjus	table stroke range	 Compatible 	with all.	▲ Compat	ible with	some. *11			
	S5**	Stopper position①,③		tall (Г		Protruding end	Return end		topper r	opper model No				
+	S6**	Stopper position2, 4			L		,		S	Α	W	С			
4	A Shock at	osorber stopper	**	1, *4, *7	L	Blank	_	5 mm or none							
	A1	Stopper position (Can be changed to 4)			L	02		15 mm or none							
	A2	Stopper position② (Can be changed to ③)		sitic	L	03		25 mm or none							
1	A3	Stopper position③ (Can be changed to②)	*16	per C	L	04	+	5 mm		-	-	-			
+	A4	Stopper position (Can be changed to 1)	*16	Stopper Installation position	L	05	25 mm	5 mm	A]		-			
-	A5	Stopper position①,③		S E	L	06	5 mm	15 mm	A			-			
	A6	Stopper position2, 4		Insi	L	07	5 mm	25 mm				-			
	W Two-sided of	combined double stopper(Shock absorber stopper, metal stopp	er)	*12, *14											
1	W1	A1 + metal stopper			1		n changing th								
+	W2	A2 + metal stopper		Sitio	ı		od side, the rding to the								
-	W3	W3 A3 + metal stopper			İ										
	W4 A4 + metal stopper			Stopper Installation position		80. A	cautions whe	liustable stro	y uisti ske of '	ete sto 15mm a	nd 25n	nm mav			
	W5 A5 + metal stopper			ta a			e available de				201				
1	W6				ĺ			. 5							

[&]quot;Precautions when purchasing discrete stopper" on page 80. A1, A2 and adjustable stroke of 15mm and 25mm may not be available depending on the stroke.

Stopper model No. selection method

A6 + metal stopper

1 Stopper combination table Model No.-[1] Stopper type] [2] Stopper position][3] Example)LCR-G-8-40-[S] [5]06-HP1



▲shows the piping direction. When choosing two-sided combined type (W), the stopper bracket comes with piping on both sides. AThe stopper bracket on the reverse side of (piping direction) is provided with a plug.

Shock absorber stopper

Stroke adjusting stopper (adjusting range 5 mm)

[:] Metal adjusting stopper (adjusting range 15 mm)

SCPD3 CMK2

SCM Long

SSD2

MDC2

MSD

MSDG-L SMG LCR LCG STM STG STR2

SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

LST

LSTM

HMC

CKW

ABP2

SCPD3

CMK2

SCM

SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3

Compatible with rechargeable batteries

Supports food mfg. CMK2 SCM SCG SSD2

Stopper model No. selection method

Stopper model No. selection method

2 Stopper combination table

(Example) LCR-G-8-40-S5[06]-HP1 For stroke adjusting stopper -S

: Stroke adjusting stopper (adjusting range 5 mm) : Stroke adjusting stopper (adjusting range 15 mm)

Stroke adjusting stopper (adjusting range 25 mm)

		Stopper adj	usting range			Stopper mod	lel No. [①②]		
		Protruding end	Return end	[S1]	[S2]	[S3]	[S4]	[S5]	[S6]
	Blank	5 mm or None	5 mm or None	(S1)	© © (S2)	[S3]	\$\frac{\frac}\fint}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}{\firac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}{\frac}}}}}}}{\firac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}{\frac{\frac{\frac{\f	[S5]	▼ ▼
91	[02]	15 mm or None	15 mm or None	© © (S102)	(S202)	[S302]	[S402]		[S602]
nodel No. [[03]	25 mm or None	25 mm or None	(S103)	[S203]	[S303]	[S403]	[S503]	V V
oke range n	[04]	15 mm	5 mm					(S504)	[S604]
Adjustable stroke range model No. [③]	[05]	25 mm	5 mm					[S505]	[S605]
Ą	[06]	5 mm	15 mm					[S506]	[S606]
	[07]	5 mm	25 mm					(S507)	[S607]

▲shows the piping direction. Shock absorber [A], Cannot be selected for two-sided combined type [W]N.

3 For one side hybrid stopper mix -C

: Shock absorber stopper : Stroke adjusting stopper (adjusting range 15 mm)

		Stopper adju	usting range		Stopper mod	del No. [①②]	
		Protruding end	Return end	[C1]	[C2]	[C3]	[C4]
model No. [3]	Blank	5 mm or shock Absorber	5 mm or shock Absorber	© © © © © © © © © © © © © © © © © © ©	© © © © [C2]	© © © © © © © © © © © © © © © © © © ©	V V V V V V V V V V V V V V V V V V V
stroke range mo	[02]	15 mm or shock Absorber	15 mm or shock Absorber	© © © © © © © © © © © © © © © © © © ©	© © © © © © © © © © © © © © © © © © ©	©302]	v v
Adjustable st	[03]	25 mm or shock Absorber	25 mm or shock Absorber	[C103]	[C203]	[C303]	v v v v v v v v v v v v v v v v v v v

▲shows the piping direction. For the adjustable stroke range with a shock absorber-type, refer to the stopper dimensions table on page 94.

STG

SCPD3 CMK2

SCM

MDC2 MSDG-L SMG LCR LCG STM STG STR2 SCPD3

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

CKW

Booster ABP2

Compatible with rechargeable batteries
COMPATIBLE WITH COMPATI

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

LCR Double acting/Single rod selection table

(Combination with stroke adjusting stopper, shock absorber stopper)

: Available - : Not available

N	/lodel	Stoppe	per type Adjustable st								le stroke																		
1	/lodel	Ctonno	v 00d0		S1			S2			S3 S4 S5								S6										
	No.	Stoppe	Code										A	۱dju	stm	ent	len	gth	cod	е									
		Bore size	Stroke	Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	04	05	06	07	Blank	02	03	04	05	06	07
			10		-	-		-	-	•	•	-	•	•	-	•	-	-	-	-	•	-	•	-	-	-	-		-
		ø6,ø8	20 or more	•	•	-	•	•	-	•	•	-	•	•	-	•	•	-	•	-	•	-	•	•	-	•	-	•	-
. I	LCR		10	•	-	-	•	-	-	•	•	-	•	•	-	•	-	-	-	-	•	-	•	-	-	-	-	•	-
-		ø12 to ø25	20	•	•	-	•	•	-	•	•		•	•	•	•	•	-	•	-	•	•	•	•	-	•	-	•	
		5 12 10 920	30 or more	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

	Model Stopper type Shock absorber				Two-sided combined double stopper					One side hybrid stopper mix																	
	Model	Stoppo	r oodo														C 1			C2			СЗ			C4	
	No.	Stoppe	coue	A1	A2	А3	A4	A5	A6	W1	W2	W3	W4	W5	W6				Adjı	ıstm	ent	lenç	jth c	ode	;		
		Bore size	Stroke													Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03
Г			10	-	-	•	•	-	-	-	-	•		-	-	-	-	-	-	-	-	•	-	-	•	-	-
		ø6,ø8	20 or															_			_	•		_	•	•	_
			more																								
	LCR		10	-	-	•	•	-	-	-	-	•	•	-	-	-	-	-	-	-	-		-	-		-	
		ø12 to ø25	20	-	-	•	•	-	-	-	-	•		-	-	-	-	-	-	-	-	•		-	•		-
		51210920	30 or																								
L			more																				_			_	

The table above also applies to a combination with option code D (with port on the stopper) or T (steel stopper block (nitriding)).

SCPD3

Long

service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck CKW

₽

Compatible with rechargeable batteries

Supports food CMK2 SCM

mfg. SCG SSD2 STG

LSTM

HMC

ABP2

SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG

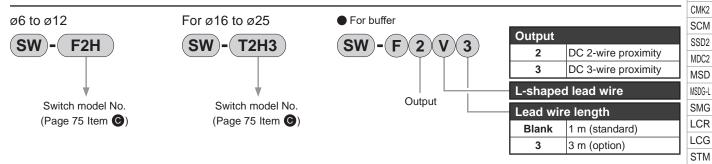
STM LCR LCG STR2 LSH LSHL SCPD3

STG

STR2

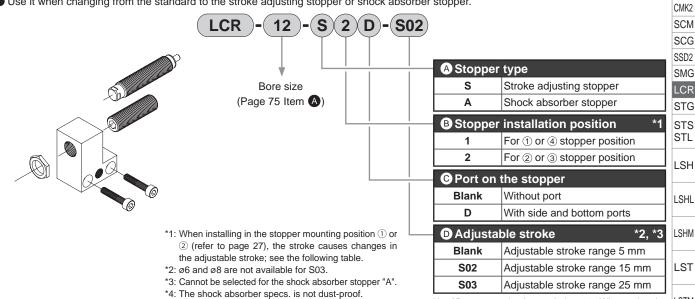
SCPD3

How to order switch



How to order a stopper set

- Set of a stopper and stroke adjusting stopper or shock absorber stopper
- Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



Note)Bottom port is plug-sealed. ø 20, When using the bottom port with 25, buy a plug kit (LCR-20-N 2 pieces/set) and seal the side surface ports before

Precautions when purchasing the stopper set

-: Not applicable

When the stopper set is installed in the mounting position ① or ② (refer to page 75), note that the adjustable stroke will be as shown on the right according to the stroke.

Model No.	Ontion	n code	Discrete stroke adjusting stopper								
code	Орио	i code	Adjustable stroke (mm)								
code	Bore size	Stroke	-5	-15	-25						
	ae ao	10	S02	-	-						
	ø6, ø8	20 or more	Blank	S02	-						
LCR Series		10	S03	-	-						
	ø12 to ø25	20	S02	S03	-						
		30 or more	Blank	S02	S03						

Stopper set weight

(Unit:g)

Stopper type	\$1,\$2										
Port on the stopper	Blank, D										
Adjustable stroke	Blank	S02	S 03								
ø6	15	18	-								
ø8	21	25	-								
ø12	28	31	34								
ø16	42	47	52								
ø20	77	85	92								
ø25	87	94	101								

79

SCPD3

CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR

LCG STM STG

STR2

SCPD3

CMK2

SCM SCG SSD2 SMG LCR STG STS STL

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Mide Parallel Low-profile long
Hand stroke hand
OM H

Chuck CKW

Air Booster ABP2

rechargeable batteries

Compatible with

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG

STM LCR LCG STR2 LSH

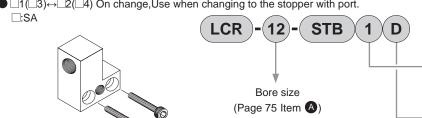
LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

Long service life cylinder

How to order discrete stopper bracket

□1(□3)↔□2(□4) On change,Use when changing to the stopper with port.



A Stopper installation position								
1	For stopper position¹o or 4₀							
2	For stopper position2 or 30							

B Port on	B Port on the stopper									
Blank Without port										
D	With side and bottom ports									

Note) Bottom port is plug-sealed. When using the bottom port with ø20 and ø25, purchase a plug kit (LCR-20-N 2 pieces/set) and seal the side surface ports before use.

Stopper bracket w	eigni (Onic. g)
Stopper installation position	1, 2
Port on the stopper	Blank, D
ø6	8
ø8	14
ø12	20
ø16	29
ø20	53

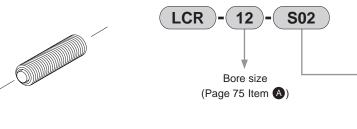
ø25

How to order discrete stroke adjusting stopper

62

(Linit : a)

- Hexagon socket set screw with urethane
- Use when changing the adjustable stroke range or when using a custom stroke.



A Adjustable stroke range										
S01	Single side 5 mm (standard)									
S02	Single side 15 mm									
S03	Single side 25 mm									

Specify S01, S02 or S03 in (A)

Note: S03 is not available for ø6, ø8. Some models may not be available and adjustable stroke range may differ from the above depending on the Model No.

Precautions when purchasing discrete stopper

- : Not available

When a discrete stroke adjusting stopper or a discrete shock absorber stopper is installed in the 1 or 2 position (refer to page 75), the combination will be as shown on the right according to the stroke and adjustable stroke.

	Madal Na	Ontion code		Discrete stroke adjusting stopper			Discrete shock
Model No. Option code Adjustable			able strok	e (mm)	absorber		
	code	Bore size	Stroke	-5	-15	-25	stopper
		ø6, ø8	10	S02	-	-	-
	LCR Series	Ø0, Ø0	20 or more	S01	S02	-	A01
	-S1, S2, S5, S6	ø12 and up	10	S03	-	-	-
	-A1, A2, A5, A6	ø25	20	S02	S03	-	-
		Ø25	30 or more	S01	S02	S03	A01

Discrete stroke adjusting stopper weight

(Unit:g)

Adjustable stroke range	S01	S02	S03
ø6	6	9	-
ø8	7	10	-
ø12	7	11	14
ø16	11	16	22
ø20	22	30	37
ø25	23	30	37

SCPD3 CMK2

SCM

SSD2 MDC2 MSD

MSDG-L

SMG

LCR

LCG

STM

STG

STR2

SCPD3

CMK2

SCM SCG

SSD2 SMG

LCR

STG

STS STL

LSH

LSHL

LSHM

LST

LSTM

HMC

ABP2 SCPD3

CMK2

SCM SSD2

MSD MSDG-L SMG

STG

STM LCR LCG STR2

LSH LSHL SCPD3

ong service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand

Chuck CKW

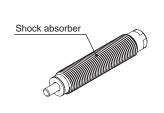
Compatible with rechargeable batteries

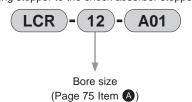
Supports food CMK2 SCM mfg. SCG SSD2 STG

How to order discrete shock absorber stopper

How to order discrete shock absorber stopper

- Shock absorber set
- Use when changing from the stroke adjusting stopper to the shock absorber stopper





Note:Some models may not be available depending on the specifications. Refer to page 75. For the shock absorber type stopper adjustable stroke range, refer to page 94.

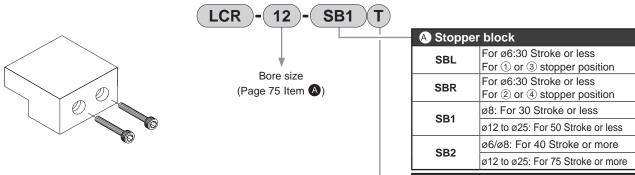
Note: The shock absorber specs. is not dust-proof.

Applicable shock absorber model No.

Model	Shock absorber model No.	Weight (g)
LCR-6	SKL-0804	9
LCR-8	SKL-0805	12
LCR-12	SKL-0805	12
LCR-16	SKL-1006	19
LCR-20	SKL-1208	31
LCR-25	SKL-1208	31

How to order discrete stopper block

Use it when changing from the standard to the stroke adjusting stopper or shock absorber stopper.



Discrete stopper block weight

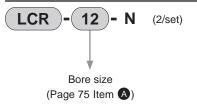
/1	In	i+	a,

Block	SBL/SBR/SB1(T)	SB2(T)
ø6	14	21
ø8	14	24
ø12	23	37
ø16	38	72
ø20	60	99
ø25	112	206

	For ø6:30 Stroke or less		
SBL	For ① or ③ stopper position		
SBR	For ø6:30 Stroke or less		
SDK	For ② or ④ stopper position		
SB1	ø8: For 30 Stroke or less		
281	ø12 to ø25: For 50 Stroke or less		
SB2	ø6/ø8: For 40 Stroke or more		
362	ø12 to ø25: For 75 Stroke or more		
	A		

B Material				
Blank	Stopper block material: Steel			
Т	Stopper block material: steel (nitriding)			

Model No. of plug kit for side piping port



Weight of plug kit for side piping port

Bore size	Weight (g)
ø8	1
ø12	1
ø16	1
ø20	5
·	

LCR repair parts list

Bore size (mm)	Kit No.	Part name
ø6	LCR-G-6K-HP1	Scraper
ø8	LCR-G-8K-HP1	Lube keeping structure Metal gasket
ø12	LCR-G-12K-HP1	Rod packing
ø16	LCR-G-16K-HP1	Cushion rubber (R)
ø20	LCR-G-20K-HP1	Piston packing Cover gasket
ø25	LCR-G-25K-HP1	Cushion rubber (H)

Dimensions (bore size: Ø6)



LCR-G-6-HP1

SCPD3

CMK2

SCM

SSD2

MSDG-L

SMG

LCR LCG STM STG

STR2

SCPD3

CMK2 SCM SCG

SSD2 SMG LCR

STG

STS

STL

LSH

LSHL

LSHM

CKW

ABP2

SCPD3

CMK2

SCM

SSD2

MSDG-L SMG STG

STM

LCR

LCG

STR2

LSH

LSHL

SCPD3 CMK2

SCM SCG SSD2 STG

Υ

RD

HD

45.5

33

43

23

Air Booster

Compatible with rechargeable batteries

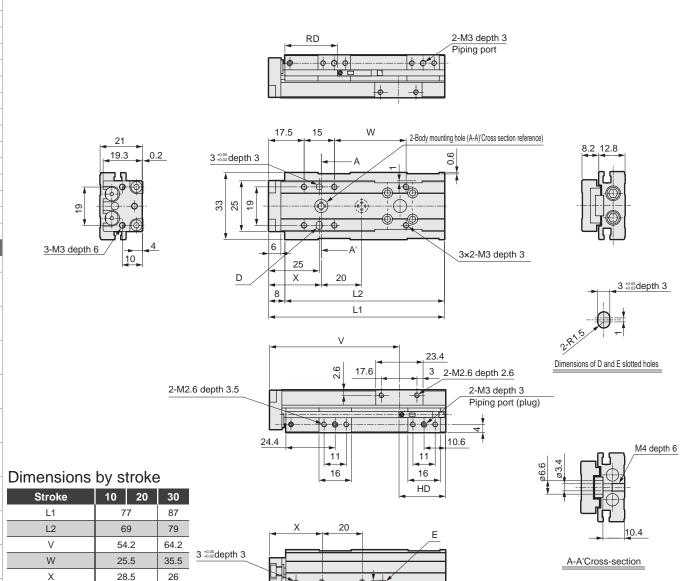
Environment-resistant cylinder

Linear Slide Hand

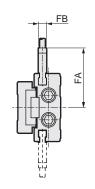
Long service life cylinder

Stroke: 10, 20, 30

(Body mounting hole in the figure shows 30 mm stroke)



Dimensions of protruding section when the F2S or F3S cylinder switch is mounted

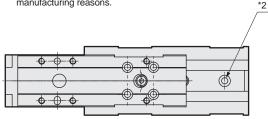


Stroke	10	20	30
FA	29.1		
FB	4		
RD	25		
HD	34 24		4
			4

*1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of the pin is JIS tolerance m6 or less.

 $3^{+0.05}_{+0.02}$ depth 3

*2: For 30 mm stroke, one hole is available which is not used for linear guide due to manufacturing reasons.



Dimensions

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L

SMG

LCR

STM STG

STR2

SCPD3 CMK2

SCM

SCG

SSD2 SMG

STG STS

STL

LSH

LSHL

LSHM

LST LSTM

HMC Hand

Chuck

ABP2 Booster
SCPD3

CMK2 SCM SSD2

MSD

MSDG-L

SMG

STG

STM

LCR

LCG STR2 LSH

LSHL

SCPD3 CMK2 SCM SCG Compatible with rechargeable batteries

Supports food mfg.

SSD2 STG

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

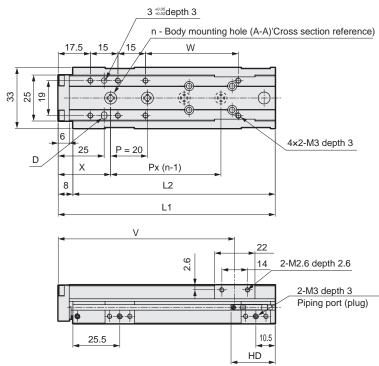
Dimensions (bore size: Ø6)



● LCR-G-6-HP1

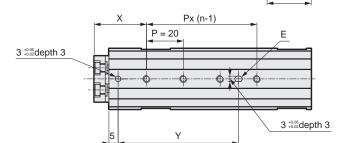
Stroke: 40, 50

(Body mounting hole in the figure shows 50 mm stroke)

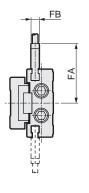


Dimensions by stroke

	•		
Stroke	40	50	
L1	108	118	
L2	100	110	
n	3	4	
V	86	96	
W	40.5	50.5	
X	27	28.5	
Υ	44	65.5	
RD	2	6	
HD	2	4	

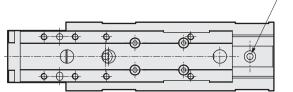


Dimensions of protruding section when the F2S or F3S cylinder switch is mounted



Stroke	40	50	
FA	29.1		
FB	4		
RD	25		
HD	25		

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of the pin is JIS tolerance m6 or less.
- *2: For 40 mm stroke, one hole is available which is not used for linear guide due to manufacturing reasons.



Dimensions (bore size: Ø8)



LCR-G-8-HP1

SCPD3

CMK2

SCM

SSD2

MDC2

MSD

MSDG-L

SMG LCR LCG STM

STG

STR2

SCPD3

CMK2

SCM

SCG

SSD2 SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

LST Stroke hand Stroke hand MTST MTST

Wide Parallel Hand

Ckm Synck

ABP2

CMK2

SCM SSD2 MSD MSDG-L SMG STG

STM

LCR

LCG

STR2

LSH

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

rechargeable batteries

Compatible with

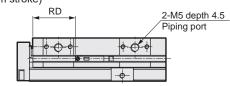
Environment-resistant cylinder

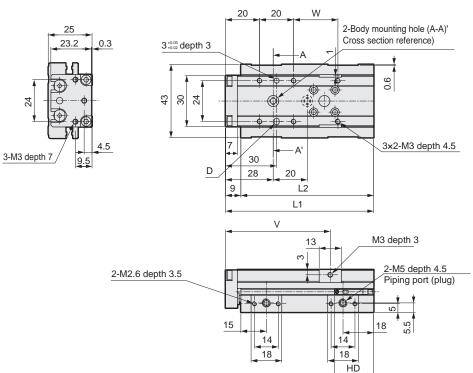
Linear Slide Hand

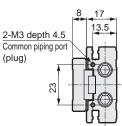
Long service life cylinder

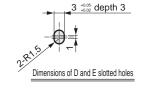
Stroke: 10, 20, 30

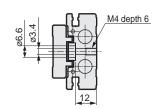
(Body mounting hole in the figure shows 30 mm stroke)







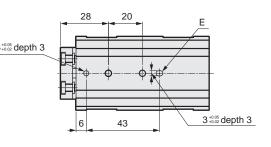




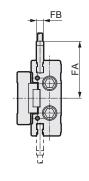
A-A' Cross-section

Dimensions by stroke

Stroke	10	20	30					
L1	77		77		77		87	3
L2	68		78	_				
V	51.5		61.5					
W	16		26					
RD	25							
HD	33 23							



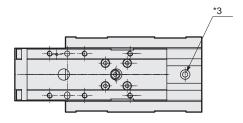
Dimensions of protruding section when the F2S or F3S cylinder switch is mounted



Stroke	10	20	30	
FA		32.6		
FB	4			
RD	24			
HD	34 24			

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or less.
- *2: When using rear piping, refer to the cautions of

 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).
- *3: For 30 mm stroke, one hole is available which is not used for linear guide due to manufacturing reasons.



Dimensions

SCPD3 CMK2

SCM

SSD2

MDC2 MSD

MSDG-L

SMG LCR LCG STM

STG STR2

SCPD3

CMK2

SCM

SCG

SSD2

SMG

STG STS

STL

LSH

LSHL

LSHM

LST

LSTM

ABP2

SCPD3

CMK2 SCM SSD2 MSD

MSDG-L SMG

STG

STM

LCR

LCG

STR2

LSH LSHL

SCPD3 CMK2 SCM

SCG

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand

HMC Hand

Chuck

₽

Compatible with rechargeable batteries

Supports food mfg.

SSD2 STG

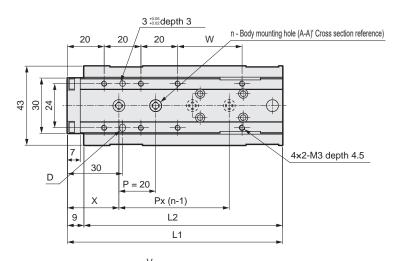
Dimensions (bore size: Ø8)

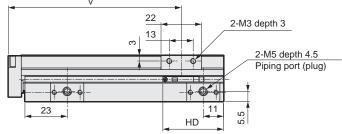


● LCR-G-8-HP1

Stroke: 40, 50, 75

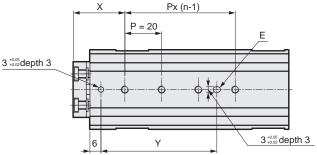
(Body mounting hole in the figure shows 50 mm stroke)



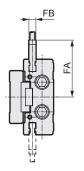


Dimensions by stroke

Stroke	40	50	75		
L1	107	117	142		
L2	98	98 108 1			
n	3	4	5		
V	84	94	119	3	
W	25	35	60		
X	26.5	28	25		
Υ	41.5	63	80		
RD	25				
HD	33				



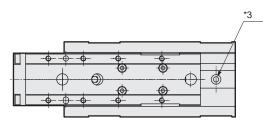
Dimensions of protruding section when the F2S or F3S cylinder switch is mounted



Stroke	40	50	75		
FA	32.6				
FB	4				
RD	24				
HD	34				

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or less.
- *2: When using rear piping, refer to the cautions of

 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).
- *3: 40 and 75 mm stroke have one hole opened for manufacturing reasons not to use for linear guide.



Dimensions (bore size:ø12)



LCR-G-12-HP1

SCPD3

CMK2

SCM

SSD2

MDC2

MSD

MSDG-L

SMG LCR LCG

STM STG

STR2

SCPD3

CMK2 SCM

SCG SSD2 SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

LST Stroke hand Stroke hand MTST MTST

Myde Parallel L

Air Booster ABP2 SCPD3

rechargeable batteries

Compatible with

CKW

CMK2

SCM SSD2 MSD MSDG-L SMG STG

STM LCR LCG

STR2 LSH LSHL

SCPD3 processes

CMK2

SCM SCG SSD2 STG

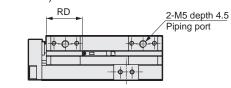
Environment-resistant cylinder

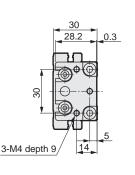
Linear Slide Hand

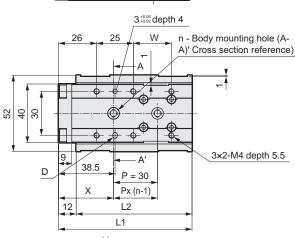
Long service life cylinder

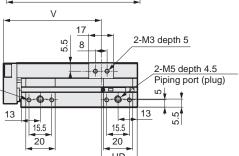
Stroke: 10, 20, 30, 40, 50

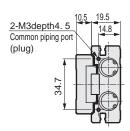
(Body mounting hole in the figure shows 30 mm stroke)

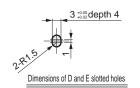


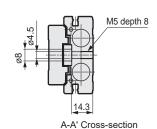






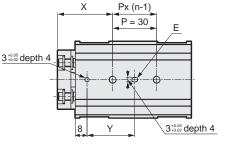






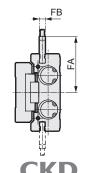
Dimensions by stroke

Difficition by difficition							
10	20	30	40	50			
	91		101	111			
	79			99			
	2			3			
	66.5			86.5			
	26			46			
	37.5			32			
32.5			31	57			
24.5							
44.5	34.5		24.5				
	10	10 20 91 79 2 66.5 26 37.5 32.5	10 20 30 91 79 2 66.5 26 37.5 32.5	10 20 30 40 91 101 79 89 2 66.5 76.5 26 36 37.5 36 32.5 31			



Dimensions of protruding section when the F2S or F3S cylinder switch is mounted

2-M3 depth 4



Stroke	10	20	30	40	50
FA	37.8				
FB	4				
RD	23.5				
HD	45.5	35.5		25.5	

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or
- *2: When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

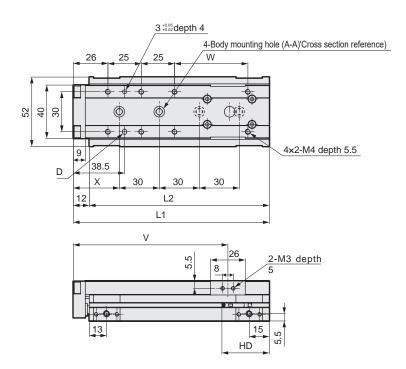
SCPD3 CMK2

Dimensions (bore size: Ø12)

CAD

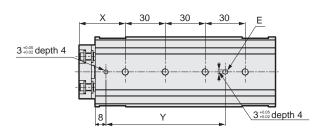
● LCR-G-12-HP1 Stroke: 75, 100

(Body mounting hole in the figure shows 75 mm stroke)

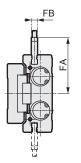


Dimensions by stroke

,					
Stroke	75	100			
L1	147	172			
L2	135	160			
V	116	141			
W	55	80			
X	34.5	47			
Υ	89.5	102			
RD	24	1.5			
HD	35	5.5			



Dimensions of protruding section when the F2S or F3S cylinder switch is mounted



Stroke	75	100	
FA	37.8		
FB	4		
RD	23.5		
HD	36.5		

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or less.
- *2: When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

SCM SCG

 processes SSD2 STG

Dimensions (bore size:ø16)



● LCR-G-16-HP1

SCPD3

CMK2

SCM

SSD2

MDC2 MSD

MSDG-L

SMG

LCR LCG STM STG STR2

SCPD3

CMK2

SCM

SCG

SSD2 SMG

LCR STG STS

STL

LSH

LSHL

LSHM

Chuck CKW

Air Booster ABP2

CMK2

SCM SSD2 MSD

MSDG-L SMG STG

STM LCR LCG STR2 LSH LSHL

SCPD3 processes

CMK2

SCM SCG SSD2 STG

Compatible with rechargeable batteries

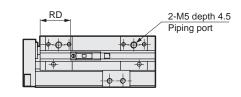
Environment-resistant cylinder

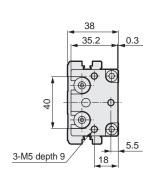
Linear Slide Hand

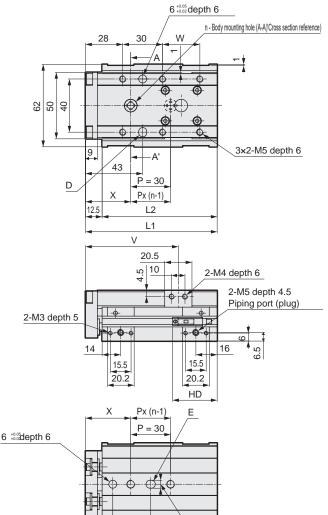
Long service life cylinder

Stroke: 10, 20, 30, 40, 50

(Body mounting hole in the figure shows 30 mm stroke)

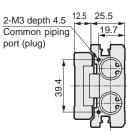


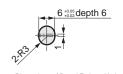




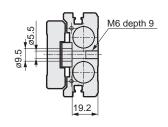
6 +0.05 depth 6

8





Dimensions of D and E slotted holes



A-A'Cross-section

Dimensions by stroke

Difficitions by stroke						
Stroke	10 20 30			40	50	
L1			99		109	119
L2			86.5		96.5	106.5
n			2	2		3
V	V			69.8		
W	W		28			48
X	Χ		34		45.5	35.5
Υ			28.5		40	60
T0/5*	RD	23				
T2/3*	HD	53.5 43.5 33.5				
T2/3W*	RD	25.5				
12/3//	HD	51	41		31	

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or
- *2: When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

Dimensions

SCPD3

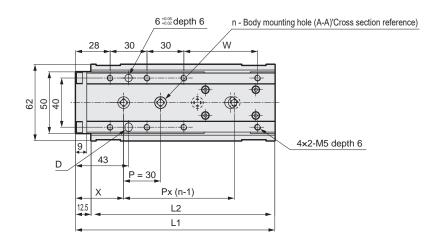
CAD

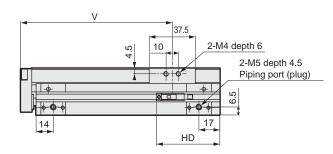
Dimensions (bore size:ø16)

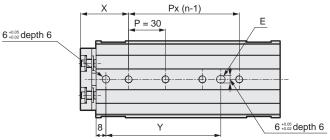
● LCR-G-16-HP1

Stroke: 75, 100, 125

(Body mounting hole in the figure shows 75 mm stroke)







Dimensions by stroke

,					
Stroke		75	100	125	
L1		162 187		212	
L2		149.5	174.5	199.5	
n	n		5	5	
V	V			173.3	
W		60	85	110	
X		39	37	49	
Υ		93.5	121.5	133.5	
T0/5*	RD	23			
T2/3*	HD	51.5			
T2/3W*	RD		25.5		
12/300	HD		49		

*1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or less.

*2: When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

LSHL

SCPD3

CMK2

SCM

SCG

Supports food mfg.

 processes SSD2 STG

Dimensions (bore size:ø20)



■ LCR-G-20-HP1

SCPD3

CMK2

SCM

SSD2

MDC2

MSD

MSDG-L

SMG LCR

LCG STM STG STR2 SCPD3

CMK2

SCM

SCG

SSD2

SMG LCR

STG

STS

STL

LSH

LSHL

LSHM

CKW

SCPD3

CMK2

SCM SSD2

MSD MSDG-L SMG STG

STM

LCR LCG STR2 LSH LSHL

SCPD3 processes

CMK2

SCM SCG SSD2 STG

Air Booster ABP2

rechargeable batteries

Compatible with

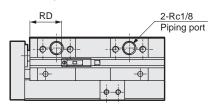
Long service life cylinder

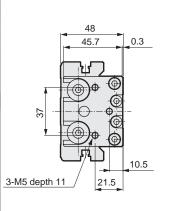
Environment-resistant cylinder

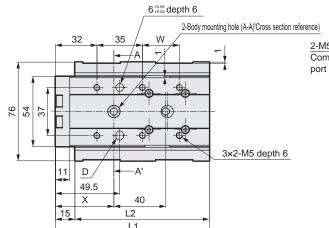
Linear Slide Hand

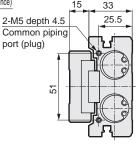
Stroke: 10, 20, 30, 40, 50

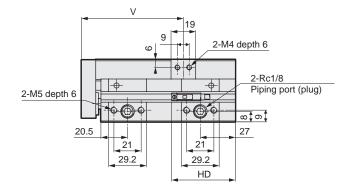
(Body mounting hole in the figure shows 30 mm stroke)







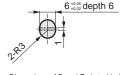




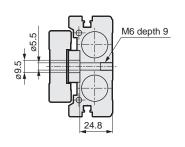
40

16

6 +0.05 depth 6



Dimensions of D and E slotted holes





Dimensions by stroke

50
138.5
123.5
98.5
48.5
49
38

 $6^{+0.05}_{+0.02}$ depth 6

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or
- *2: When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

Dimensions

SCPD3 CMK2

SCM Long

SSD2

MDC2

MSD MSDG-L

SMG

LCR LCG

STM STG STR2

SCPD3 CMK2

SCM

SCG

SSD2

SMG

STG

STS STL

LSH

LSHL

LSHM

LST LSTM

HMC Hand

Chuck CKW

Air Booster ABP2 SCPD3

CMK2 SCM SSD2

MSD

MSDG-L SMG STG STM LCR LCG STR2

LSH

LSHL

SCPD3

CMK2

SCM

SCG

Compatible with rechargeable batteries

Supports food mfg.

 processes SSD2 STG

service life cylinder

Environment-resistant cylinder

Linear Slide Hand

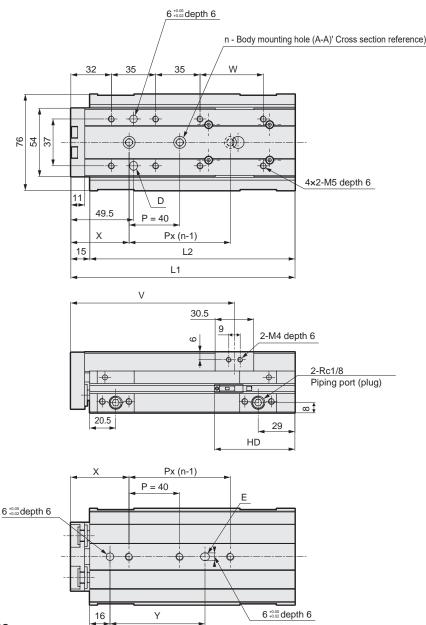
CAD

Dimensions (bore size:ø20)

● LCR-G-20-HP1

Stroke: 75, 100, 125, 150

(Body mounting hole in the figure shows 75 mm stroke)



Dimensions by stroke

Stroke		75	100	125	150		
L1		177	202	227	252		
L2		162	187	212	237		
n	n		4	1	5		
V		129.3	154.3	179.3	204.3		
W	W		75	100	125		
Х		4	6	53	51		
Υ	Υ		115	122	160		
T0/5*	RD	24.5					
T2/3*	HD	63.5					
T2/3W*	RD	26					
12/300"	HD		61	.5			

^{*1:} When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or less.

^{*2:} When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

Dimensions (bore size:ø25)



CMK2 SCM SSD2

SCPD3

Long service life cylinder MDC2 MSD MSDG-L SMG LCR LCG

STM STG

STR2 SCPD3 Environment-resistant cylinder CMK2 SCM SCG SSD2 SMG

LCR STG

STS STL Linear Slide Hand LSH LSHL

LSHM LST Stroke hand Stroke hand MTST MTST

Wide Parallel ₹ HMC

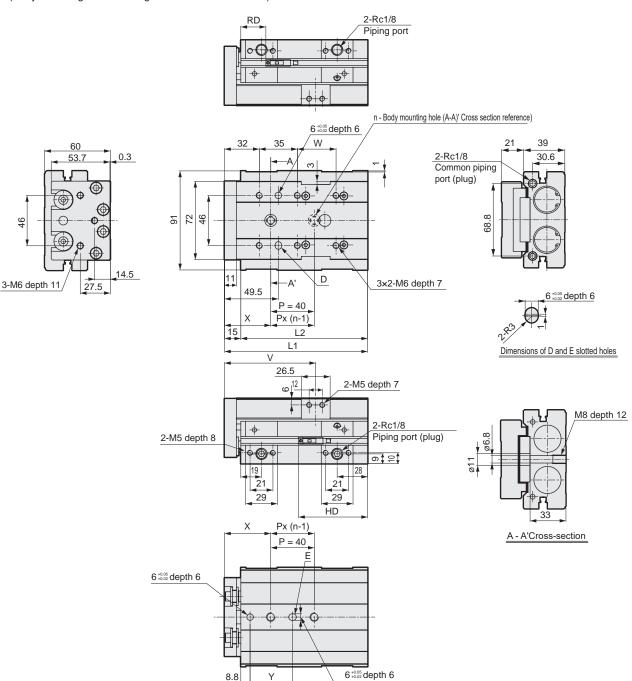
Chuck CKW Air Booster ABP2

> CMK2 SCM SSD2 MSD MSDG-L SMG STG

STM LCR LCG STR2

Compatible with rechargeable batteries LSH LSHL SCPD3 processes CMK2 SCM SCG SSD2 STG ● LCR-G-25-HP1 Stroke: 10, 20, 30, 40, 50

(Body mounting hole in the figure shows 30 mm stroke)



Dimensions by stroke

Difficultions by stroke										
Stroke	Stroke			30	40	50				
L1		131.5	141.5	151.5						
L2	L2				126.5	136.5				
n	n			2						
V		83.8	93.8	103.8						
W	W			35.5						
X			42.5	45.5	60.5					
Υ	Y			39						
T0/5*	RD									
T2/3*	83.5	73.5	63.5							
T2/3W*	RD									
12/300	HD	81.5	71.5		61.5					

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or
- *2: When using rear piping, refer to the cautions of 1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

Dimensions

SCPD3

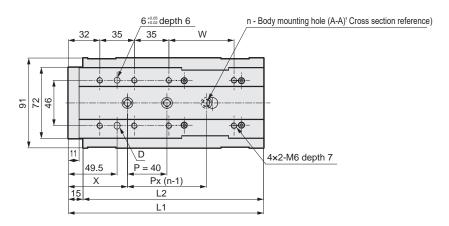
Dimensions (bore size: ø25)

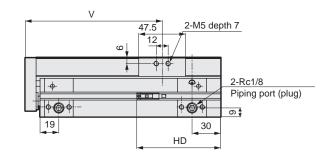
CAD

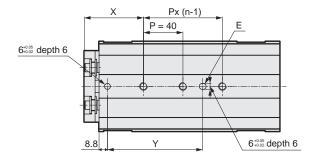
● LCR-G-25-HP1

Stroke: 75, 100, 125, 150

(Body mounting hole in the figure shows 75 mm stroke)







Dimensions by stroke

Stroke		75	100	125	150						
L1		199	224	249	274						
L2		184	209	234	259						
n		3	4	į	5						
V		138.8	163.8	188.8	213.8						
W		66	91	116	141						
Х		60	55	45	60						
Y		96.5	131.5	161.5	176.5						
T0/5*	RD		2	3							
T2/3*	HD	86									
T2/3W*	RD	25									
12/3VV"	HD	84									

- *1: When using the positioning hole, use a pin of dimensions that do not require press fitting. The recommended tolerance of a pin is JIS tolerance m6 or less.
- *2: When using rear piping, refer to the cautions of (1. Common; Piping in Pneumatic Cylinders II (No. CB-030SA).

LSHL

SCPD3

CMK2 SCM SCG Supports food mfg.

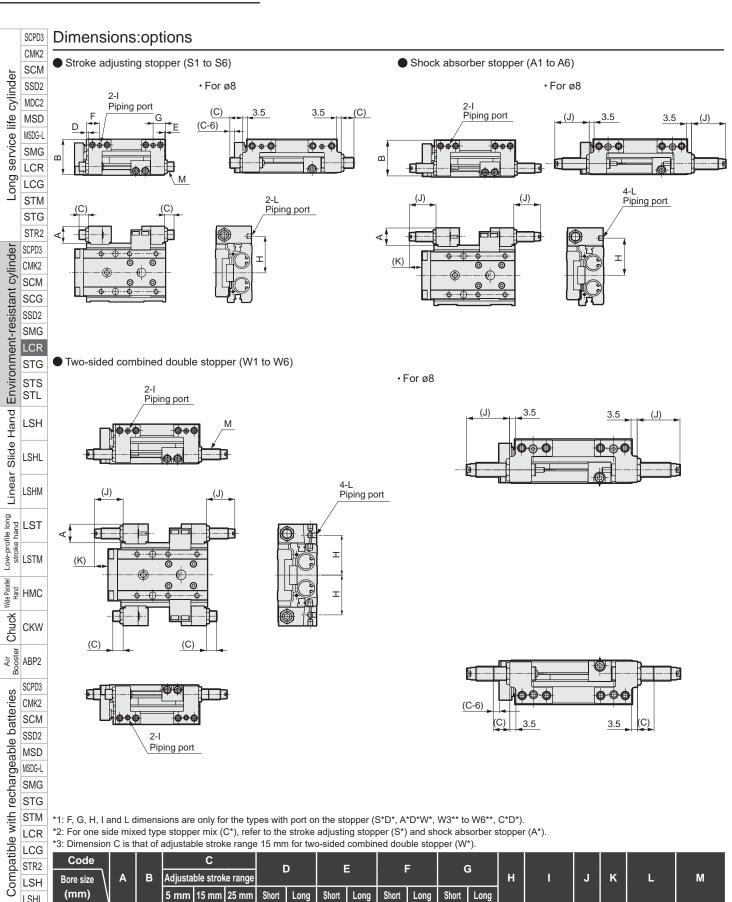
 processes SSD2 STG

Long service life cylinder

Linear Slide Hand Environment-resistant cylinder

Chuck

Air Booster



- $^{\star}1: F, G, H, I \ and \ L \ dimensions \ are \ only \ for \ the \ types \ with \ port \ on \ the \ stopper \ (S^*D^*, A^*D^*W^*, W3^{**} \ to \ W6^{**}, C^*D^*).$
- *2: For one side mixed type stopper mix (C*), refer to the stroke adjusting stopper (S*) and shock absorber stopper (A*).
- *3: Dimension C is that of adjustable stroke range 15 mm for two-sided combined double stopper (W*)

2	Code				С			,		.			G							
1	Bore size	Α	В	Adjusta	ble strok	e range		,	<u>'</u>		<u>'</u>				н	- 1	J	K	L	M
L	(mm)			5 mm	15 mm	25 mm	Short	Long	Short	Long	Short	Long	Short	Long						
3	ø6	14	19.9	11	21	-	14.9	16	1.1	1	24.4	25.5	10.6	10.5	24	M3 depth 3	20.5	9	M3 depth 3	M 8 x 0.75
2	ø8	15.6	24.5	9.5	19.5	-	4.5	12.5	7.5	0.5	15	23	18	11	27.3	M5 depth 4	24.5	15.5	M5 depth 4	M 8 x 0.75
Л	ø12	15.5	29	12	22	32	1	1	1	3	13	13	13	15	31	M5 depth 4	24.5	12	M5 depth 4	M 8 x 0.75
3	ø16	18	37	10	20	30	2	2	4	5	14	14	16	17	38.5	M5 depth 4	27.5	14	M5 depth 4	M 10 x 1
2	ø20	20.5	45.5	14.5	24.5	34.5	4	4	10.5	12.5	20.5	20.5	27	29	47	Rc1/8	27.5	9.5	M5 depth 4	M 12 x 1
3	ø25	20.5	57	11.5	21.5	31.5	2.5	2.5	11.5	12.5	19	19	28	30	54.5	Rc1/8	24.5	8	M5 depth 4	M 12 x 1

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

•	SCPD3	
	CMK2	
	SCM	6
	SSD2	οnc
	MDC2	SE (
	MSD	₹.
	MSDG-L	Се
	SMG	₹
	LCR	S
	LCG	i
		dei
	STM	,
	STG	
	STR2	_
	SCPD3	En
	CMK2	iro
	SCM	ĎΥ
	SCG	len
	SSD2	-
	SMG	Sis
	LCR	star
	STG	∺ C
	STS	¥
	STL	nder
	LSH	Linea
	LSHL	r Slide
	LSHM	Hand
		_
	LST	_ow-pro
	LSTM	_ow-profile long stroke hand
		_ow-profile long Wide Parallel stroke hand Hand
	LSTM	long Wid
	LSTM	long Wid
	LSTM HMC CKW ABP2	nd Wide Parallel Chuck Boo
	LSTM HMC CKW ABP2 SCPD3	nd Wide Parallel Chuck Boo
	LSTM HMC CKW ABP2 SCPD3 CMK2	long Wide Parallel Chuck Booster Comp
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM	long Wide Parallel Chuck Air Booster Compati
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	long Wide Parallel Chuck Booster Comp
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	long Wide Parallel Chuck Air Booster Compati
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L	long Wide Parallel Chuck Air Booster Compati
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG	long Wide Parallel Chuck Air Booster Compati
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L SMG STG	long Wite Parallel Chuck Air Compatible with recharg
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM	long Wide Parallel Chuck Air Compatible with rechar
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR	long Wite Parallel Chuck Air Compatible with recharg
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG	nd With Paralle Chuck Air Compatible with rechargeable ba
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2	nd Wide Parallel Chuck Booster Compatible with rechargeable
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCR STR2 LSH	nd With Paralle Chuck Air Compatible with rechargeable ba
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL	nd Wise Paralle Chuck Air Compatible with rechargeable batteri
	LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSHL LSHL SCPD3	tong With Parallel Chuck Air Compatible with rechargeable batteries Supp
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	nd Wide Parallel Chuck Air Compatible with rechargeable batteries Si
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCPD3	tong With Parallel Chuck Air Compatible with rechargeable batteries Supp
	LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSD0 MSDG-L SMG STG STM LCR LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM STC STC STC STC	tong With Parallel Chuck Air Compatible with rechargeable batteries Supp
	LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCPD3	tong With Parallel Chuck Air Compatible with rechargeable batteries Supp
	LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSD0 MSDG-L SMG STG STM LCR LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM STC STC STC STC	tong With Parallel Chuck Air Compatible with rechargeable batteries Supp

SMG

LCR LCG STM STG STR2 SCPD3

LSHL

LSHM

ABP2

Guided cylinder Double acting/Rubber scraper Environment-resistant cylinder

STG-MG-HP1 Series

Bore size:ø12/ø16/ø20/ø25/ø32/ø40/ø50/ ø63/ø80/ø100







Specifications

•											
Item	STG- ∰ G-HP1										
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Actuation	Double acting Compressed air										
Working fluid											
Max. working pressure MPa					1.	.0					
Min. working pressure MPa		0.	25				0.	2			
Proof pressure MPa	1.6										
Ambient temperature °C	-10 to 60 (no freezing)										
Port size	M5 Rc1/8 Rc1/4 Rc3/8									3/8	
Stroke tolerance mm	+2.0										
Stroke tolerance min					()					
Working piston speedmm/s	50 to 500 50 to 300										
Cushion	With rubber cushion										
Lubrication	Not required										
Allowable absorbed energy J	0.056	0.088	0.157	0.157	0.401	0.627	0.980	1.560	2.510	3.920	

Stroke

.	Bore size	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch(mm)
	ø12	10/20/30/40/50/75/100	250		
	ø16	125/ 150/175/200/250	250		
	ø20	20/30/40/50/75/100/125			
	ø25	150/175/200/250/300/350/400	400	5	5 (10) *2
	ø32				
	ø40	25/50/75/100			
	ø50	125/150/175	400		
1	ø63	200/250/300			
,	ø80	350/400			
	ø100				

^{*1:} The custom stroke is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke.

^{*2:} For types with one or two switches. The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

How to order

SCPD3

Long

service life

cylinder

Environment-resistant cylinder

Linear Slide Hand

STM

STG

STR2

SCPD3

CMK2 SCM SCG

SSD2

SMG

LCR

STG |

STS STL

LSH

LSHL

LSHM

stroke hand

LST

LSTM

HMC Hand

CKW

ABP2

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3

₽

Compatible with rechargeable batteries

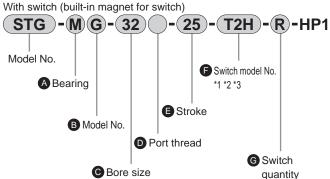
Supports food CMK2 SCM mfg. SCG SSD2 STG



Without switch (built-in magnet for switch)



With switch (built-in magnet for switch)



A Precautions for model No. selection

- *1: Switches other than f switch model No. are also available. (Made to order) For details, refer to "Pneumatic Cylinders II" (No. CB-030SA).
- *2: T8H/V switch cannot be installed on STG-12 or 16.
- *3: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

STG-MG-40-50-T0H-H-HP1

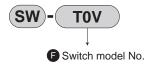
Model: Guided cylinder, double acting/Rubber scraper

A Bearing : Metal bush bearing B Model No. : Rubber scraper © Bore size : ø40 mm Port thread : Rc thread Stroke : 50mm

Switch model No.: Reed T0H switch, lead wire length 1 m

G Switch quantity: 1 on head side

How to order switch



CMK2 Metal bush bearing SCM В Ball bearing SSD2 **B** Model No. MDC2 Rubber scraper MSD © Bore size (mm) MSDG-L 12 ø12 16 ø16 SMG 20 ø20 LCR 25 ø25 LCG 32 ø32

Description

100	£100
Por	t thread
Blank	M5 (ø12 to ø16)
Dialik	Rc thread (ø20 to ø100)
NN	NPT thread (ø20 and over) (made to order)
GN	G thread (ø20 and over) (made-to-order product)

Stroke (mm)

ø40

|ø50

ø63

ø80

ø100

Code

40

50

63

80

100

A Bearing

Refer to the stroke table below

Switch	model No.					
Lead wire Straight					Indicator	Lead wire
T0H*	T0V*		•		1-color LED	
T5H*	T5V*	Reed			No LED	2-wire
T8H*	T8V*		•		1-color LED	
T1H*	T1V*		•			2-wire
T2H*	T2V*				1-color LED	Z-WIIG
T3H*	T3V*]				3-wire
T2HR3	T2VR3				1-color LED bend resistant lead wire	2-wire
T3PH*	T3PV*	<u> </u>			1-color LED (made to order)	3-wire
T2WH*	T2WV*	Proximity			2-color LED	2-wire
T3WH*	T3WV*				2-COIOI LLD	3-wire
T2YD*	-]			2-color LED for AC	2-wire
T2YDT*	-				magnetic field	Z-WIIC
T2JH*	T2JV*				1-color LED off-delay	2-wire
* Lead wir	e length					
Blank 1 m	(standard)					
	(option)					
5 5 m	(option)					

	`````
G Sw	vitch quantity
R	1 on rod side
Н	1 on head side
D	2
T	3

Stroke

Stro	ke				Appli	icable	bore	e size				
(mn	n)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
	10	•	•									
	20	•		•								
	25							•	•			
	30	•		•								
	40			•								
	50	•		•	•							
	75			•				•	•			
Standard	100	•		•				•				
Stroke	125			•				•	•			
	150	•			•							
	175	•	•	•	•	•			•	•		
	200	•					•					
	250			•					•			
	300							•				
	350			•					•			
	400											
Min. stroke *	2	5 (10)										
Custom strol	ke *1				In 5	mm ir	ncrem	ents				

^{*1:} The total dimensions are the same as the longer standard stroke.

*2: The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

Consumable parts list

(Note: Specify the kit No. when placing an order.)

STG-MG-HP1 (rubber scraper)

-01011101	in i (iabboi colapoi	/
Bore size (mm)	Kit No.	Part name
ø12	STG-MG-12K-HP1	Rod packing
ø16	STG-MG-16K-HP1	Metal gasket
ø20	STG-MG-20K-HP1	Cushion rubber
ø25	STG-MG-25K-HP1	Piston packing
ø32	STG-MG-32K-HP1	Cushion rubber
ø40	STG-MG-40K-HP1	Scraper (for piston rod)
ø50	STG-MG-50K-HP1	Scraper (for guide)
ø63	STG-MG-63K-HP1	Lube keeping structure (for guide)
ø80	STG-MG-80K-HP1	Lube keeping structure (for piston rod)
ø100	STG-MG-100K-HP1	pistori rod)
OTC DC I	JD1 (rubbor coronor)	\

STG-BG-F	HP1 (rubber scraper)
Bore size (mm)	Kit No.

310-00-1	ir i (iubbei sciapei))
Bore size (mm)	Kit No.	Part name
ø12	STG-BG-12K-HP1	Rod packing
ø16	STG-BG-16K-HP1	Metal gasket
ø20	STG-BG-20K-HP1	Cushion rubber
ø25	STG-BG-25K-HP1	Piston packing
ø32	STG-BG-32K-HP1	Cushion rubber
ø40	STG-BG-40K-HP1	Scraper (for piston rod)
ø50	STG-BG-50K-HP1	Scraper (for guide)
ø63	STG-BG-63K-HP1	Lube keeping structure (for guide
ø80	STG-BG-80K-HP1	Lube keeping structure (for piston rod)
ø100	STG-BG-100K-HP1	pistori rou)

service life cylinder

Long (

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel

Chuck

Air Booster

rechargeable batteries

with

Compatible

LSHL SCPD3 processes

CMK2

SCM mfg.

SCG SSD2 STG

ABP2

SSD2

SCPD3

CMK2

SSD2

STS

STL

LSHL

CAD SCPD3 Dimensions (Ø12, Ø16, Ø20, Ø25) CMK2 STG- MG-12, 16, 20, 25-HP1 SCM SSD2 4-JJ (EB/EC section (EA section) MDC2 $ØXA^{+0.07}_{+0.02}depth 6$ MSD MSDG-L 0.07 SMG øXA; LCR GD **20** ≥ LCG W± 0.05 XA + 0.018 (EA section) STM XA: 0.07 (EB /EC section) STG 3 STR2 PΑ EB section EA/EB/EC section slot dimensions 4 PP SCM AA+Stroke SCG A+Stroke 0 4-KA 4-KC B+Stroke 4-NN SMG Н 4-HH HD EA section LCR N RD EC section STG (1) (6) W ±0.05 $W \pm 0.05$ MMø $\stackrel{>}{\sim}$ \prec 20 G ø12, 16:(3) LSH ഗ (1) **(6** (1) ◍ 4-EE Piping port LSHM R С øXA^{+ 0.018} depth 6 DD øXA +0.07 depth 6 Ď LST Stroke hand St STG-M/B common Code Standard stroke (mm) С G JJ Α В D DD EE GD Н ΗН Bore size (mm) 10, 20, 30,40, 50,75,100 57 29 12 16 M5 26 58 56 22 M4 depth 10 56 125,150,175, 200,250 63 25 M5 depth 12 62 M5 depth 10 61 33 12 18 7.5 M5 30 64 ø16 20,30,40, 50,75,100,125,150 10.5 24.5 8.5 Rc1/8 36 83 80 30 M5 depth 13 81 M6 depth 12 ₹ HMC 68 ø20 38 M6 depth 15 91 M6 depth 12 ø25 Code Р Over 30 st to Over 200 st to 300 st Over 100 st to CKW Bore size (mm) 30 or less Over 300 100 st 200 st 4.3 through 6 14 M4 through 7.5 spot face depth 4.5 20 200 ø16 4.3 through 8 16 M5 through 8 spot face depth 4.5 24 44 110 200 5.2 through 10 18 M5 through 9.5 spot face depth 5.5 300 ø20 24 44 120 200 5.2 through 12 ø25 26 M6 through 9.5 spot face depth 5.5 44 120 200 300 SCPD3 PA Code T0/T5/T2/T3 T2W/T3W CMK2 Over 30 st Over 100 st Over 200 st R W Bore size (mm) 30 or less Over 300 st RD HD RD HD SCM ø12 15 60 105 8 17 48 18 23 50 28.1.5 5 17 27 60 18 54 22 24 56 28% ø16 167 70 24 28 72 ø20 31 9.5 MSD ø25 29 39 77 117 167 17 | 14 | 29 | 78 | 30 | 34 | 82 | 31 | 9.5 | 10 | 8.5 | 12 | 10.5 | MSDG-L ● STG-M Code SMG Q Over 50 st to 100 st Over 50 st 50 or less Over 100 st 50 or less Over 100 st STG to 100 st *1: When using a custom stroke, the total 100 8 43 ø12 STM 0 13 dimensions are the same as the longer 61 110 10 49 ø16 LCR Code AA 0 standard stroke. Q *2: Refer to "Pneumatic Cylinders II (No. Over 50 st to 200 st LCG Bore size (mm) Over 50 st 50 or less Over 200 st 50 or less Over 200 st to 200 st CB-030SA)" for R D, HD and STR2 137 12 68 93 0 69 ø20 25 protruding dimensions of the LSH ø25 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and STG-B Q 30 or less Over 100 st 30 or less Over 100 st T8H/V switches. to 100 st to 100 st

6

8

Over 200 st

137

137

43

49

to 100 st

30.5

Over 100 st

49.5

Over 200 st

69

68.5

13

19

30 or less

11.5

Q

10

13

100

110

Over 100 st

to 200 st

115

70

Over 30 st to 100 st

93

ø12

ø16

ø20

58

64

30 or less

80

Dimensions

SCPD3 CMK2

SCM

SSD2

MDC2 MSD

MSDG-L SMG

LCR LCG STM

STG

STR2

SCPD3 CMK2

SCM

SCG

SSD2

SMG

LCR

STG STS

STL

LSH

LSHL

LSHM

Compatible with rechargeable batteries

Supports food mfg.

 processes SSD2 STG

STG

STM

STR2

LSH

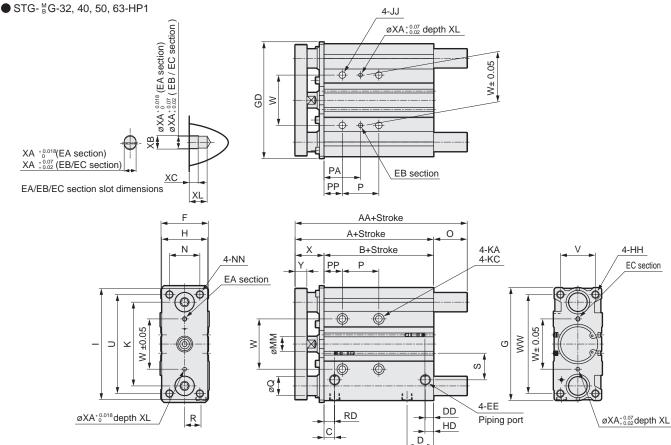
LSHL

SCPD3 CMK2 SCM SCG Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Dimensions (ø32, ø40, ø50, ø63)





Common for STG-M/B

Common for ST	G-M/B											→	-										+-
Code Bore size (mm)	Standar	d stroke	e(mm) A	В	С	D	DD	E	ΞE	F	G	н	ı	НН			IJ		K	KA	LST	Se pro
																						LSTM	file long hand
ø32	25. 50	,75,100,1	25.	74.	_	_	30.5	9		c1/8	48	112	44		epth 2	_	_	3 depth	_	\rightarrow	6.3 through	_	- ng
ø40	· '	75, 200,2	,	81		14	31	10	_	c1/8	54	120	44		epth 2	_	-	3 depth	_	-	6.3 through	- 1	Wid
ø50		0,350,400		87	44	14	35	11	Ro	c1/4	64	148	60		depth 2		16 M1	0 depth	20 1	110 8	B.6 through	_ HMC	Wide Parallel Hand
ø63	300	0,550,400		92	49	16.5	35	15	Ro	c1/4	78	162	70	M10 d	depth 2	22 15	8 M1	0 depth	20 1	24 8	8.6 through		
Code												Р							Р	Α		OLOM	Chuc
Bore size (mm)	K	C	MM	N	NN		25 or	less		25 st 00 st		r 100 : 200 st		er 200 o 300 s		ver 3	00	25 or l	ess		er 25 st 100 st	CKW	
ø32	11 spot face	e depth 7.5	16	30	M8 thro	ough	24			48		124		200	`	300		33			45	ABP2	Air Booste
ø40	11 spot face	e depth 7.5	16	30	M8 thro	ough	24		4	48		124		200		300		34			46	11.5.2	ster
ø50	14 spot fac	e depth 9	20	40	M10 thre	ough	24		4	48		124		200		300		36			48	SCPD3	
ø63	14 spot fac	ce depth 9	20	50	M10 thre	ough	28	3	į	52		128		200		300		38			50	CMK2	င္ပ
Code		PA												T0/T5	/T2/T3	T2W	/T3W					-	om
Bore size (mm)	Over 100 st	Over 200 s	t Ov	ver	PP	R	S	U	٧	W	ww	Х	Υ	RD	ПΡ	RD	HD	XA	ХВ	X	C XL	SCM	
	to 200 st	to 300 st	300	0 st										ואט	HD	אן	טח					SSD2	tibl
ø32	83	121	1	71	21	15	34	96	34	42	98	37 -20	11.5	10	8.5	12	10.5	4	4.5	3	3 6	MSD	е /
ø40	84	122	1	72	22	18	38	104	40	50	106	37 -20	11.5	13	12	15	14	4	4.5	3	3 6	MSDG-L	with
ø50	86	124	1	74	24	21.5	47	130	46	66	130	43 -20	15.5	13.5	11.5	15.5	13.5	5	6	4	1 8	-	_
ø63	88	124	1	74	24	28	55	130	58	80	142	43 -20	15.5	14	16	16	18	5	6	4	1 8	SMG	rech

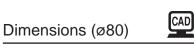
STG-M

• 010 III								
Code		AA					0	
Bore size (mm)	50 or less	Over 50 st to 200 st	Over 200 st	Q	GD	50 or less	Over 50 st to 200 st	Over 200 st
ø32	94	115	155	20	113	19.5	40.5	80.5
ø40	94	115	155	20	121	13	34	74
ø50	106	131	176	25	153	19	44	89
ø63	106	131	176	25	166	14	39	84

- *1: When using a custom stroke, the total dimensions are the same as the longer standard stroke.
- *2: Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

STG-B

Code		Α	λA				0					
Bore size (mm)	50 or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st	Q	GD	50 or less	Over 50 st to 100 st	Over 100 st to 200 st	Over 200 st		
ø32	94	113	133	155	16	113	19.5	38.5	58.5	80.5		
ø40	94	113	133	155	16	118	13	32	52	74		
ø50	106	129	149	176	20	146	19	42	62	89		
ø63	106	129	149	176	20	160	14	37	57	84		



SCPD3

CMK2

SCM

SSD2

MDC2

MSDG-L SMG

LCR LCG

STM STG

STR2

SCPD3

CMK2

SCM

SCG SSD2

SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

Ckm Ckm

ABP2 SCPD3

CMK2 SCM

MSDG-L SMG STG STM LCR

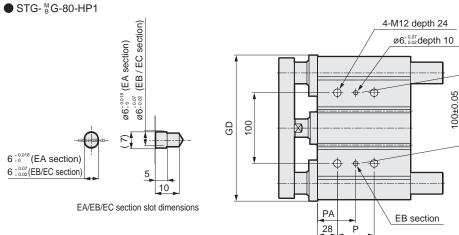
Compatible Compatible

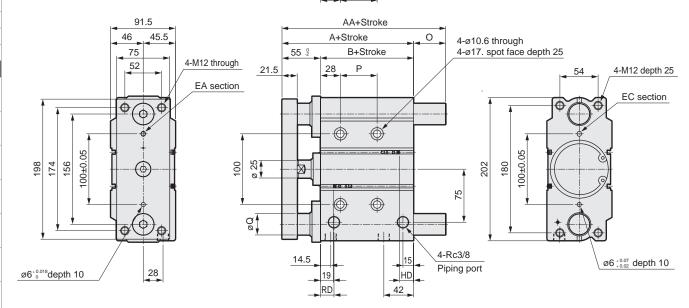
Compatible with rechargeable batteries

Environment-resistant cylinder

Linear Slide Hand

Long service life cylinder





STG-M/B common

						Р					PA			T0/T5/	T2/T3	T2W	T3W
Standard stroke	Α	В	GD	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100st	Over 100 st to 200 st	Over 200 st to 300st	Over 300 st	RD	HD	RD	HD
25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	111.5	56.5	206	28	52	128	200	300	42	54	92	128	178	18	19.5	20	21.5

STG-M

	AA				0	
50 st or less	Over 50 st to 200 st	Over 200 st	Q	50 st or less	Over 50 st to 200 st	Over 200 st
130	157	208	30	18.5	45.5	96.5

STG-B

	Α	Α				()	
25 st or less	Over 25 st to 50 st	st Over 50 st Over 2 st to 200 st st		Q	25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st
124.5	145	175	208	25	13	33.5	63.5	96.5

^{*1:} When using a custom stroke, the total dimensions are the same as the longer standard stroke.

SCM SCG SSD2 STG

^{*2:} Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color display (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

Dimensions

SCPD3 CMK2

SCM

SSD2 MDC2 MSD MSDG-L SMG

LCR

LCG

STM

STG

STR2

SCPD3 CMK2 SCM

SCG

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Chuck

Air Booster ABP2 SCPD3

CMK2 SCM SSD2 MSD

MSDG-L SMG STG STM LCR LCG STR2

LSH LSHL

SCPD3 CMK2 SCM SCG Compatible with rechargeable batteries

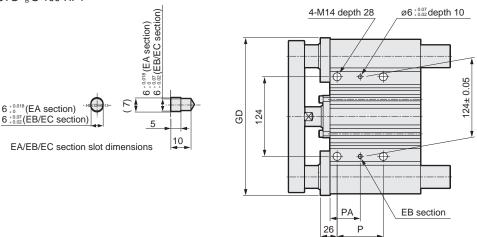
Supports food mfg.

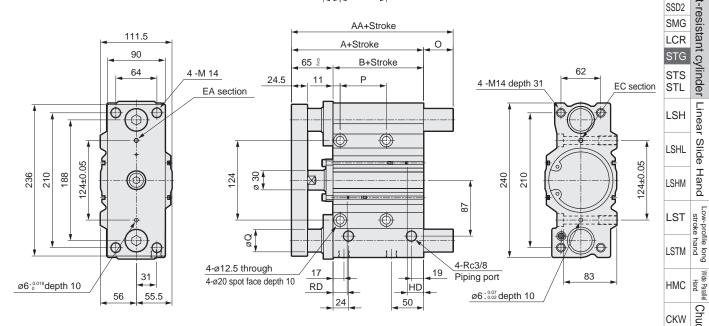
processes SSD2 STG

Dimensions (ø100)









Common for STG-M/B

					Р					PA			T0/T5	T2/T3	T2W	/T3W
Standard stroke	Α	В	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	25 st or less	Over 25 st to 100 st	Over 100 st to 200 st	Over 200 st to 300 st	Over 300 st	RD	HD	RD	HD
25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	131	66	48	72	148	220	320	35	47	85	121	171	22	25.5	24	27.5

STG-M

	AA					0	
50 st or less	Over 50 st to 200 st	Over 200 st	Q	GD	50 st or less	Over 50 st to 200 st	Over 200 st
152	177	218	35	245	21	46	87

STG-B

	А	A					<u> </u>						
25 st or less	Over 25 st to 50 st	Over 50 st to 200 st	Over 200 st	Q	GD	25 st or less	Over 25 st to 50st	Over 50 st to 200 st	Over 200 st				
136	162	195	218	30	240	5	31	64	87				

^{*1:} When using a custom stroke, the total dimensions are the same as the longer standard stroke.

LCR LCG STM STG

Guided cylinder Double acting/Rubber scraper

Environment-resistant cylinder STS/STL-MG-HP1 Series

Bore size:ø8/ø12/ø16/ø20/ø25/ø32/ø40/ ø50/ø63/ø80/ø100







Specifications

Opecinications											
Item				5	STS- ∄ G-I	HP1 STL	[™] G-HP	1			
Bore size mm	ø8	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation					D	ouble actir	ng				
Working fluid					Co	mpressed	air				
Max. working pressure MPa						1.0					
Min. working pressureMPa			0.25					0	.2		
Proof pressure MPa 1.6											
Ambient temperature °C					-10 to	60 (no fre	ezing)				
Port size			M5			Rc	1/8	Ro	1/4	Rc	3/8
Stroke tolerance mm						+2.0					
						0					
UsagePistonSpeed mm/s				50 to	500					50 to 300	
Cushion					With	rubber cus	shion				
Lubrication					١	lot require	d				
Allowable absorbed energy J	0.029	0.056	0.088	0.157	0.157	0.401	0.627	0.980	1.560	2.510	3.920

Stroke

· Short stroke STS

-	Bore size	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	With switch, min. stroke(mm)
	ø8	10, 20, 30			
-	ø12	40, 50			
	ø16	40, 30			
$\frac{1}{2}$	ø20				
	ø25		50		5
-	ø32	25, 50		5	With one switch or two
	ø40	25, 50			switches.
-	ø50				
	ø63				
-	ø80	25, 50, 75, 100	100		
	ø100	25, 50, 75, 100	100		

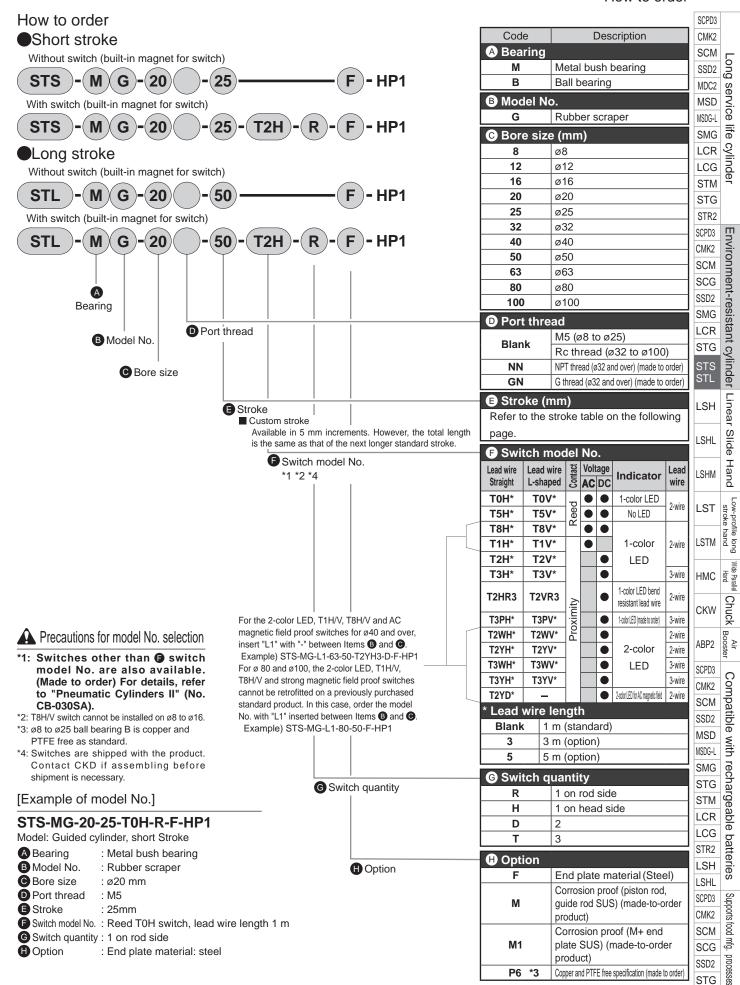
· Long stroke STL

3	_ong on one o				
2	Bore size	Standard stroke(mm)	Max. stroke(mm)	Min. stroke(mm)	With switch, min. stroke(mm)
Л	ø8	50, 75, 100			50
2	ø12	125, 150	200	50	With one switch or two
)	ø16	175, 200			switches.
-L	ø20				
3	ø25	50, 75, 100			
3	ø32	125, 150,175 200,225, 250		30	30
Л	ø40	275, 300, 325		30	With one switch or two switches.
7	ø50	350, 375, 400	400		
3	ø63]			
2		75, 100,125, 150,175			
1	ø80	200, 225, 250, 275, 300			55
L		325, 350, 375, 400		55	With one switch or two switches.
3	ø100	75, 100, 125, 150, 175, 200	200		

Note: The custom stroke is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke.

STS/STL-MG-HP1 Series

How to order



STS/STL-MG-HP1 Series

SCPD3 CMK2 SCM

SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2

Long service life cylinder

Linear Slide Hand

SCG

SMG LCR STG

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

Chuck

Air Booster ABP2

Compatible with rechargeable batteries COMPS COM

LSHL SCPD3 CMK2

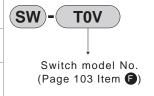
SCM SCG SSD2 STG

CKW

3	■ Stroke)												
2	Carias	Stroke /	~~ m^\					Applic	able bo	re size				
1	Series	Stroke (ı	''''' <i>)</i>	ø8	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
2			10	•										
2			20											
-			25											
-		Standard	30											
L	STS	Stroke	40											
3	313		50											
?			75											
}			100											
		Min. stroke	*1						5					
1		Custom stroke	*1,*2					In 5 r	nm increr	ments				
_			50											
2			75	•										
3			100											
,			125	•										
1			150											
٠.			175	•		•		•				•		
;		Standard	200	•		•		•			•	•		
2			225											
;	STL	Choke	250					•				•		
2		Stroke	275				•	•			•	•		
_			300					•				•		
ì			325				•	•		•	•	•		
3			350				•	•		•		•		
			375				•	•	•	•		•		
		.	400				•							
ı		Min. stroke	*1		50					30			5	5
		Custom stroke	*1,*2					In 5 r	mm increr	nents				

^{*1:} The total dimensions are the same as the longer standard stroke.

How to order switch



Consumable parts list (Note: Specify the kit No. when placing an order.)

● STS-MG-HP1/STL-MG-HP1 (rubber scraper)

Bore size (mm)	Kit No.	Part name
ø8	STS-MG-8K-HP1	Metal gasket
ø12	STS-MG-12K-HP1	Rod packing
ø16	STS-MG-16K-HP1	Cushion rubber
ø20	STS-MG-20K-HP1	Piston packing
ø25	STS-MG-25K-HP1	O-ring
ø32	STS-MG-32K-HP1	Wear ring Scraper (for piston rod)
ø40	STS-MG-40K-HP1	Scraper (for guide)
ø50	STS-MG-50K-HP1	Lube keeping structure (for
ø63	STS-MG-63K-HP1	piston rod)
ø80	STS-MG-80K-HP1	Lube keeping structure (for
ø100	STS-MG-100K-HP1	guide)

● STS-BG-HP1/STL-BG-HP1 (rubber scraper)

Bore size (mm)	Kit No.	Part name
ø8	STS-BG-8K-HP1	Metal gasket
ø12	STS-BG-12K-HP1	Rod packing
ø16	STS-BG-16K-HP1	Cushion rubber
ø20	STS-BG-20K-HP1	Piston packing
ø25	STS-BG-25K-HP1	O-ring
ø32	STS-BG-32K-HP1	Wear ring
ø40	STS-BG-40K-HP1	Scraper (for piston rod) Scraper (for guide)
ø50	STS-BG-50K-HP1	Lube keeping structure (for
ø63	STS-BG-63K-HP1	piston rod)
ø80	STS-BG-80K-HP1	Lube keeping structure (for
ø100	STS-BG-100K-HP1	guide)

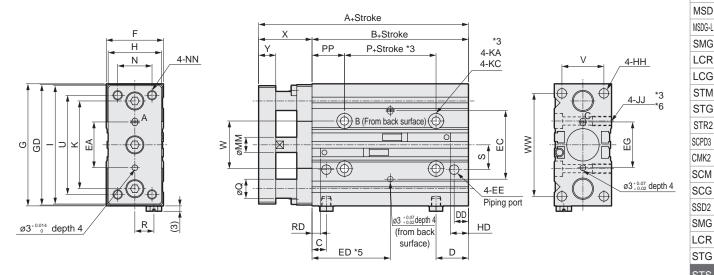
^{*2:} Special total length for custom stroke can be provided when a custom stroke is used. (Made to order)

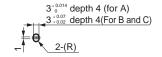
Dimensions

Dimensions: Ø8, Ø12, Ø16



- Standard single rod STS-MG-HP1
- Corrosion proof STS-MG-M/M1-HP1





Slot dimensions for A, B and C

																					L
Code Bore size(mm)		lard stroke (mm)	Α	В	С	D	DD	EE	E.	A	EC	ED	,	EG	F	G	GD	н	Н	н	
ø8			55	28	11	14.5	6.5	M5	2	0	25	15+ Str	roke 2	20	24	53	51	22	M4 de	pth 8	ľ
ø12	10, 20	, 30, 40, 50	59	32	7.5	14.5	7.5	M5	2	3	34	16+ Str	roke2	20	26	58	56	24	M4 de	pth 8	
ø16			60	32	7.5	17	7.5	M5	2	4	36	16+-Str	roke2	24	30	64	63	28	M5 de	pth 10	
Code		JJ		к	KA			кс		мм	N	N	VI.	Р	PP		Q	!		R	
Bore size(mm)	'	33		,	IVA			NC		IVIIVI		, ivi	`			STS	-М	STS	-B	, n	C
ø8	51	M4 depth	10	40	3.3 through	gh 6.5	5 spot	face dep	oth 3.3	4	15	M4 thr	ough	-10	20	6		5		7.5	r
ø12	56	M4 depth	10	41	3.3 through	gh 6.5	5 spot	face dep	oth 3.3	6	16	M4 thr	ough	-2	17	8		6		8	Α
ø16	62	M5 depth	10	46	4.3 throug	gh 8	spot f	ace dep	th 4.4	8	18	M5 thr	ough	-2	17	10)	8		10	0
Code	s	U	V	N	v I wv	, ,	x	Υ	T0/1	[5/T2/T	3	T2W	/T3W								0
Bore size (mm)	3		٧	' '	v vvv	' '	^	T	RD	H	HD	RD	HE)							0
ø8	13.5	43	16	25	5 45	27	7 .1.5	8	6.5	1	2.5	8.5	4.5	5							S
ø12	12.5	48	17	23	3 50	27	7 0	8	5	8	3.5	7	10.	5							S
																					l A

^{*1:} HD and RD dimensions for 10 mm stroke differ from these dimensions according to the setting.

25

54

28 -1.5

22

4.5

9.5

11.5

13

52

ø16

SCPD3 CMK2 SCM ong service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG

STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG

STS STL Linear Slide Hand LSH LSHL

Low-profile long stroke hand LST LSTM HMC Hand Chuck CKW

LSHM

ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2

MSD MSDG-L SMG STG STM

LCR LCG STR2 LSH

LSHL Supports food mfg. SCPD3 CMK2 SCM SCG processes SSD2

STG

^{*2:} When using a custom stroke, the dimensions are the same as the longer standard stroke.

^{*3:} STS-M-8-10 (10mm stroke) is 2-KA, 2-KC, 2-JJ (two mounting holes)

^{*4:} Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, and 1H/V switches.

^{*5:} ED is 5 for STS-M -8-10 (10mm stroke).

^{*6:} STS-B -16-10 (10mm stroke) has four JJM5 screws, as shown in the figure, but the mounting will be two

Dimensions (ø20, ø25)



■ Standard single rod STS-^M G-HP1

SCPD3

CMK2

SCM

SSD2 MDC2 MSD

MSDG-L

SMG

LCR

LCG

STM STG

STR2

SCPD3

CMK2

SCM SCG SSD2

SMG

LCR

STG STS STL

LSH

LSHL

LSHM

stroke hand LSTM

≣ HMC

CMK2

SCM

SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 processes CMK2

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

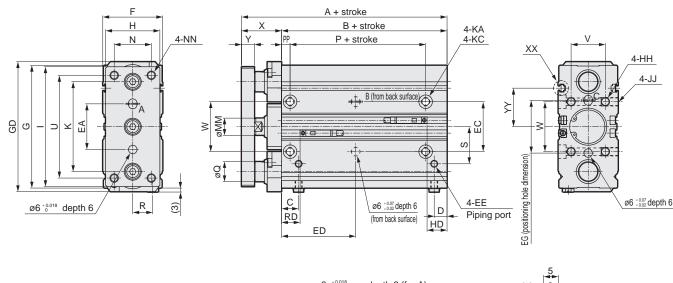
Chuck CKW

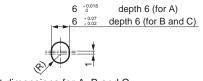
Air Booster ABP2 SCPD3

Compatible with rechargeable batteries

Long service life cylinder

Corrosion proof STS-MG-M/M1-HP1







Slot dimensions for A, B and C

XX part details

	Code Bore size(mm)	Star	ndard stroke	(mm)	A	В	С	D	EE	EA	EC	EG		ED			F	G	GD	н	Hŀ	1
1	ø20		25, 50		68	40	12	8	M5	30	31	33		14+ Stroke 2	-		38	83	87	36	M6 dep	th 12
	ø25		25, 50		69	41	12	9	M5	32	35	37		14.5 ₊ Str	oke		42	86	91	38	M6 dep	th 12
	Code Bore size(mm)	1	IJ	к	KA			١	KC		М	M N	1	NN	Р	PF	-	STS-I	М		S-B	R
-	ø20	81	M6 depth 12	59	5.2 thro	ugh	9.5	spot fa	ace dep	oth 5.4	1	0 2	4	M6 through	20	6		14			12	13
	ø25	84	M6 depth 12	63	5.2 thro	ugh	9.5	spot fa	ace dep	oth 5.4	1	2 2	6	M6 through	20	6		14			12	14
	Code	s	_U	w	, _Y	,,	, T0/	T5/T2/T3	T2V	V/T3W				•							·	

Code		-	V	w	х	v	vv	T0/T5	/T2/T3	T2W	/T3W
Bore size(mm)	ာ	U	v	VV		ľ	11	RD	HD	RD	HD
ø20	24	69	20	31	28 .2	9	25	12	9.5	12.5	12.5
ø25	26	72	24	35	28 .2	9	27	13	9	14.5	11

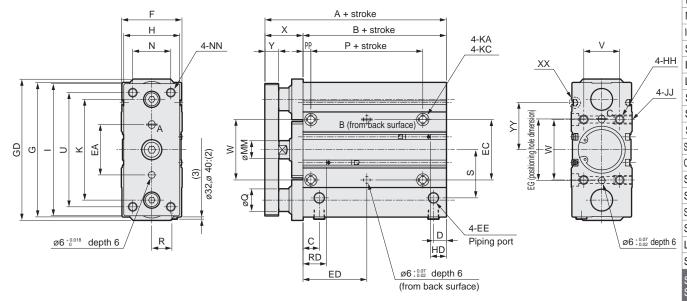
- *1: When using a custom stroke, the dimensions are the same as the longer standard stroke.
- *2: Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

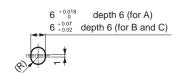
Dimensions

Dimensions (ø32, ø40, ø50, ø63)

CAD

- Standard single rod STS-MG-HP1
- STS-MG-M/M1-HP1 Corrosion proof







Slot dimensions for A, B and C

XX	part	de	tails	,
----	------	----	-------	---

Code Bore size (mm)	Stan	dard	strok	æ(mr	n)	Α	В	C	;	D	EE	E	Α	EC	EG	ED		F	G	GD	н	НН	
ø32						83	49	14	10).5	Rc1/8	3 4:	2	45	46	17.5+ St	roke	47	111	117	45	M8 depti	h 16
ø40		0	F F0		Ī	87	53	14.	5 12	2	Rc1/8	3 4	5	54	55	19.5+ -St	oke	54	120	126	50	M8 dept	h 16
ø50		2	5, 50			92	55	16	12	2.5	Rc1/4	5	5	66	69		oke	66	147	152	64	M10 dept	th 20
ø63						98	61	17.	5 17	7.5	Rc1/4	6	2	79	82	22.5+ St	oke	79	162	166	75	M10 dept	th 20
Code	<u> </u>		K		KA				кс			мм	N	NN	Р	PP			Q		R		
Bore size(mm)	size(mm) I JJ ø32 109 M8 depth 16		ĺ	n.		NΑ	Ī			KC			IVIIVI	N			PP	STS-M		STS-B		K	
ø32	109	M8	depth	16	81	6.3	.3 through 11 spot face depth 6.5				,	16	29	M8 through 22		7	20		16		16		
ø40	118 M8 depth 16 90 6.3 through 11 spot fac				face de	pth 6.5	,	16	34	M8 through	25	7	:	20		16	18						
ø50	145	M10	depth	20	110	8.6	throu	gh	14	spot	face de	pth 8.6	;	20	44	M10 through	26	8	:	25		20	22
ø63	160	M10	depth	20	124	8.6	throu	gh	14	spot	face de	pth 8.6	;	20	55	M10 through	26	8	:	25		20	26
Code	s	U	v	w	x	Ι,	, ,	Υ	TO/T5	/T2/T3	T2W	/T3W											
Bore size(mm)	3	U	•			'	'	<u>' [</u>	RD	HD	RD	HD											
ø32	39	93	25	45	34	.0 1	2 3	9 1	17.5	13.5	19	15											
ø40	43	102	32	54	34	.0 -2 1	2 4	2 2	21	1 14 22.5 16		16											
ø50	49 125 38 66 37 .0 16 45			5 2	22	16	23.5	16.5															
ø63			37	. ₂ 1	6 5	2 2	20	23	21.5	24.5													

^{*1:} When using a custom stroke, the dimensions are the same as the longer standard stroke.

SCPD3 CMK2 SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH LSHL LSHM Low-profile long stroke hand LST LSTM HMC Hand Chuck CKW ABP2 ₽ SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL Supports food mfg. SCPD3 CMK2 SCM

SCG

 processes SSD2 STG

^{*2:} Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

Dimensions (ø80)

SCPD3 CMK2

SCM

SSD2

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSHL

LSHM

Chuck CKW

Air Booster ABP2

rechargeable batteries

Compatible with

SCPD3

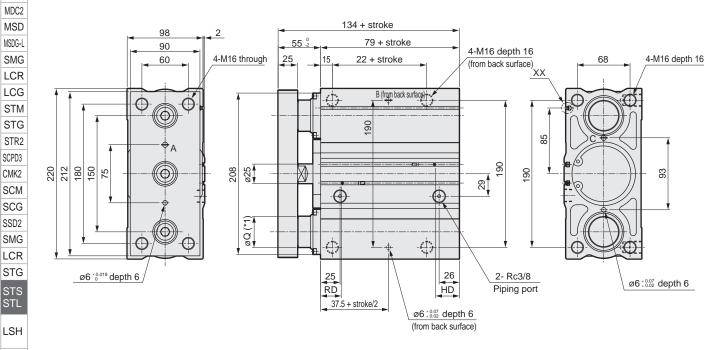
CMK2

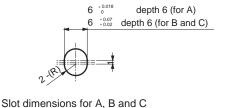
SCM SSD2 MSD MSDG-L SMG STG

STM LCR LCG STR2 LSH LSHL SCPD3 processes CMK2



- Standard single rod STS-^M G-HP1
- STS-MG-M/M1-HP1 Corrosion proof







Code	T0/T5	/T2/T3	T2W	/T3W
Bore size(mm)	RD	HD	RD	HD
ø80	26.5	30.5	28	35.5

- *1: Dimension of Q is ø40 for M (metal bush bearing) and ø35 for B (ball bearing).
- *2: When using a custom stroke, the dimensions are the same as the longer standard stroke. The Ø 80 standard stroke is available in four types of 25, 50, 75,
- *3: Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

SCM SCG SSD2 STG

Dimensions

SCPD3 CMK2

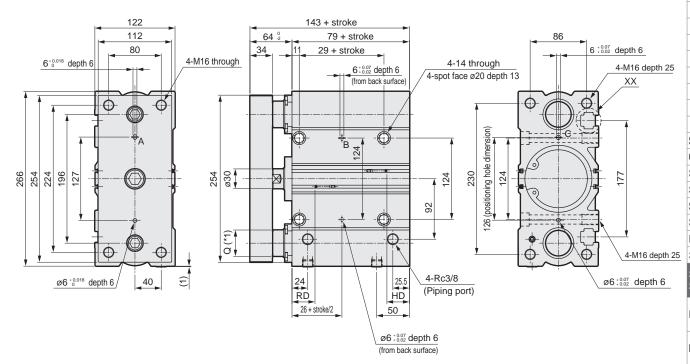
SCM

SSD2

Dimensions (ø100)

CAD

 Standard single rod STS-MG-HP1 Corrosion proof STS-MG-M/M1-HP1 ■ Copper and PTFE free STS-MG-P6-HP1







Slot dimensions	for A	A, B	and C
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XX part details

Code	T0/T5	/T2/T3	T2W	T3W
Bore size(mm)	RD	HD	RD	HD
ø100	24	34.5	27	37

^{*1:} Dimension of Q is ø40 for M (metal bush bearing) and ø35 for B (ball bearing).

ong service life cylinder MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH LSHL LSHM Low-profile long stroke hand LST LSTM Wide Parallel Hand HMC Chuck CKW Air Booster ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL

Supports food mfg.

 processes SSD2 STG

SCPD3 CMK2 SCM SCG

^{*2:} Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

Dimensions: Ø8, Ø12, Ø16

SCPD3

CMK2

SCM

SSD2

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

CMK2 SCM SSD2 MSD

MSDG-L

SMG

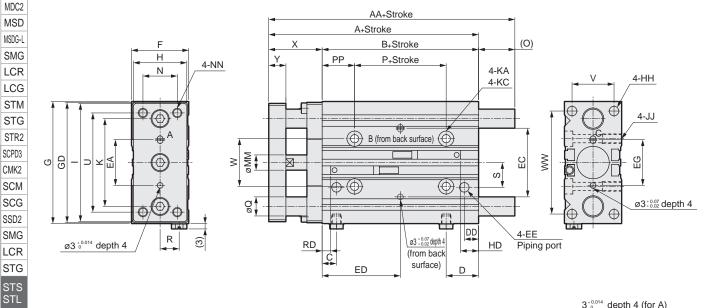
STG STM LCR LCG STR2 LSH LSHL SCPD3 processes CMK2

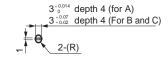
Air Booster ABP2

Compatible with rechargeable batteries



- Standard single rod STL-MG-HP1
- Corrosion proof STL-MG-M/M1-HP1





Slot dimensions for A, B and C

٦	Code Bore size(mm)	Stan	dard s (mm)	stroke	Α	AA	В	С	D	DD	EE	EA	EC	; E	D	EG	F	G	GD	н	н	Н
	ø8	5	0,75,10	00	55	61	28	11	14.5	6.5	M5	20	25	15+-	Stroke 2	20	24	53	51	22	M4 de	epth 8
	ø12		125,15		59	68.5	32	7.5	14.5	7.5	M5	23	34	16+-	Stroke 2	20	26	58	56	24	M4 de	epth 8
	ø16	1	175, 20	0	60	79	32	7.5	5 17	7.5	M5	24	36	16+-	Stroke 2	24	30	64	63	28	M5 de	pth 10
	Code Bore size(mm)	1		IJ		ĸ	KA			кс		мм	N	NN		0	Р	PP	STL-M	Q ST	L-B	R
1	ø8	51	M4	depth 1	10	40	3.3 thro	ugh	6.5 spot	face de	oth 3.3	4	15	M4 thro	ugh	6	-10	20	6		5	7.5
	ø12	56	M4	depth 1	10	41	3.3 thro	ugh	6.5 spot	face de	oth 3.3	6	16	M4 thro	ugh	9.5	-2	17	8		6	8
1	ø16	62	M5	depth 1	10	46	4.3 thro	ugh	8 spot	face dep	th 4.4	8	18	M5 thro	ugh	19	-2	17	10		8	10
1	Code	s		u	V	l v	, l	_{/w}	Х	v	T0/	T5/T2/T	3	T2W	T3W							
1	Bore size (mm)	_ °		<u>ا</u> ا	v	_ '	<u>' '</u>	′**	^	'	RD	Н	ID	RD	HD							
-	ø8	13.5	5 4	43	16	2	5 4	15	27 -1.5	8	6.5	2	.5	8.5	4.5	_						
	α12	12 1	5 7	18	17	2	3	50	27 0	Ω	5	Q	5	7	10.5							

²⁵ *1: When using a custom stroke, the dimensions are the same as the longer standard stroke.

54

28 -1.5

9.5

6

11.5

13

52

22

SCM SCG SSD2 STG

^{*2:} Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof and T1H/V switches.

Dimensions

Dimensions (ø20, ø25)



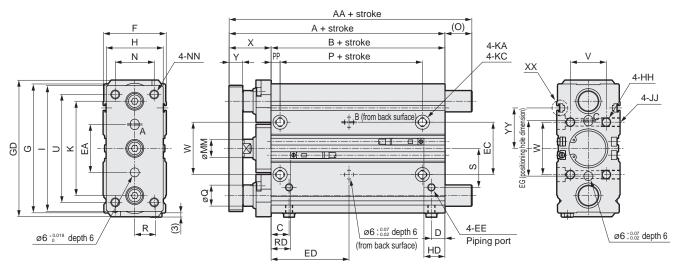
ø20

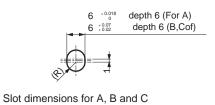
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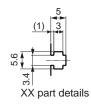
28

35

Corrosion proof STL-MG-M/M1-HP1







Code Bore size(mm)		Stan	dar	d st	trok	e (mn	n)		Α .	AA	В	С	D	EE	EA	EC	EG		E	D		F	G	GD	н	1
ø20		50, 75,	100,	125, 1	50, 175	5, 200, 22	25,		68	87	40	12	8	M5	30	31	33	1	14.0+	Stroke 2		38	83	87	36	ŀ
ø25		250, 2	75, 3	00, 32	5, 350,	, 375, 40	0		69	87	41	12	9	M5	32	35	37	1	14.5+	Stroke 2	-	42	86	91	38	ı
Code Bore size(mm)	,	нн		1		JJ		K	ŀ	(A		١	KC		мм	N	NI	1	0	Р	PP	STL	Q -M :	STL-B	R	
ø20	M6 d	epth 1	2	81	M6	depth	12	59	5.2 th	nroug	h 9.	.5 spot fa	ace dept	th 5.4	10	24	M6 thr	ough	19	20	6	14		12	13	L
ø25	M6 d	epth 1	2	84	M6	depth	12	63	5.2 th	nroug	h 9.	.5 spot fa	ace dept	th 5.4	12	26	M6 thr	ough	18	20	6	14		12	14	
Code	s	U	V	,	w	х	Υ	YY	, TO	/T5/T2/T3	3	T2W/T	3W													1
Bore size(mm)	ာ	U	ľ		W	^	I	' '	RE	Н	D	RD I	HD													9

*1	· \//han	using s	custom stroka	the dimensions	are the same :	as the longe	r standard stroke.
- 1.	. vvnen	usina a	i Custom Stroke.	the difficultions	are the same a	as the joilde	i Stanuaru Struke.

12

9 25

9

14.5 11

SCPD3 CMK2 SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH LSHL LSHM Low-profile long stroke hand LST LSTM Wide Parallel Hand HMC Chuck CKW ABP2 ₽ SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM

LCR LCG STR2 LSH LSHL

SCPD3 CMK2 SCM SCG Supports food mfg.

 processes SSD2 STG

^{*2 :} Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

Dimensions (ø32, ø40, ø50, ø63)



■ Standard single rod STL-MG-HP1

SCPD3

CMK2

SCM

SSD2 MDC2 MSD

MSDG-L

SMG

LCR

LCG

STM STG STR2

SCPD3

CMK2

SCM

SCG

SSD2

SMG LCR STG STS

STL

LSH

LSHL

LSHM

CKW

ABP2 SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2

LSH

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

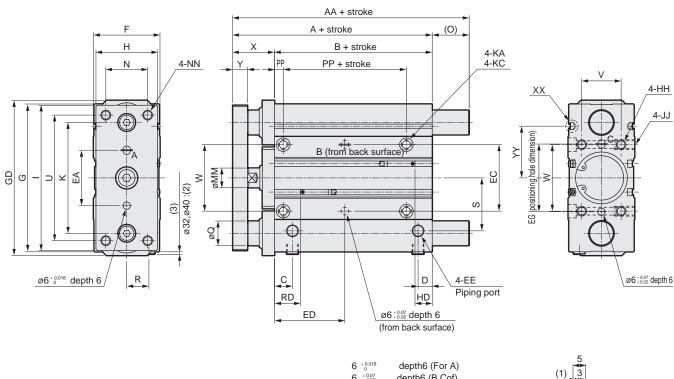
Compatible with rechargeable batteries

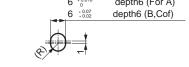
Environment-resistant cylinder

Linear Slide Hand

Long service life cylinder

■ Corrosion proof STL-MG-M/M1-HP1







XX	part	details
----	------	---------

	Code Bore size(mm)	Star	ndard stroke(mm)	A	AA	В	С	D	EE	EA	EC	EG		ED	F	G	GD	н	н	4
	ø32		EO 7E 400 40E 4E	^	83	117	49	14	10.5	Rc1/8	3 42	45	46	17.5+	Stroke 2	47	111	117	45	M8 dep	oth 16
	ø40		50, 75, 100, 125, 15 75, 200, 225, 250, 2	,	87	117	53	14.5	12	Rc1/8	3 45	54	55	19.5+	Stroke 2	54	120	126	50	M8 dep	oth 16
1	ø50			,	92	140	55	16	12.5	Rc1/4	4 55	66	69	19.5+	Stroke 2	66	147	152	64	M10 de	pth 20
	ø63	300, 325, 350, 375, 40		FUU	98	140	61	17.5	17.5	Rc1/4	4 62	79	82	22.5+	Stroke 2	79	162	166	75	M10 de	pth 20
	Code		JJ	К	KA		K		мм	N	NN	0	P	PP	C)	_ F			ı v	w
	Bore size(mm)		33	, K	1.7				IVIIVI		ININ	Ľ		_ ' '	STL-M	STL-	в "	,			, ** <u> </u>
	ø32	109	M8 depth 16	81	6.3 throu	ugh 11	spot face	depth 6.5	16	29	M8 through	34	22	7	20	16	10	6 39	9 9	93 25	45
	ø40	118	M8 depth 16	90	6.3 throu	ugh 11	spot face	depth 6.5	16	34	M8 through	30	25	7	20	16	18	8 4	3 10)2 32	54
	ø50	145	M10 depth 20	110	8.6 throu	ıgh 14	spot face	depth 8.6	20	44	M10 through	48	26	8	25	20	2	2 49	12	25 38	66
	ø63	160	M10 depth 20	124	8.6 throu	ugh 14	spot face	depth 8.6	20	55	M10 through	42	26	8	25	20	20	6 50	3 14	40 50	79
1																					

Code	х	Υ	YY	T0/T5	/T2/T3	T2W	/T3W
Bore size(mm)	^	I	11	RD	HD	RD	HD
ø32	34 .2	12	39	17.5	13.5	19	15
ø40	34 .2	12	42	21	14	22.5	16
ø50	37 .2	16	45	22	16	23.5	16.5
ø63	37 .2	16	52	20	23	21.5	24.5

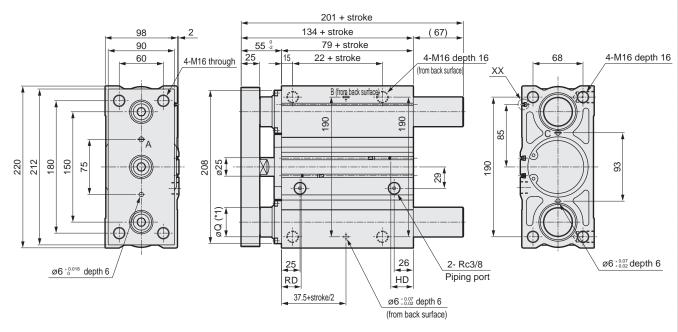
- *1: All dimensions not shown are the same as those of the standard. When using a custom stroke, the dimensions are the same as the longer standard stroke.
- *2: Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

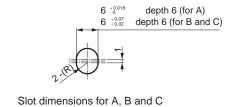
Dimensions

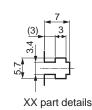
Dimensions (ø80)



- Standard single rod STL-MG-HP1
- STL-MG-M/M1-HP1 Corrosion proof







Code	T0/T5/	/T2/T3	T2W	/T3W
Bore size(mm)	RD	HD	RD	HD
ø80	26.5	30.5	28	35.5

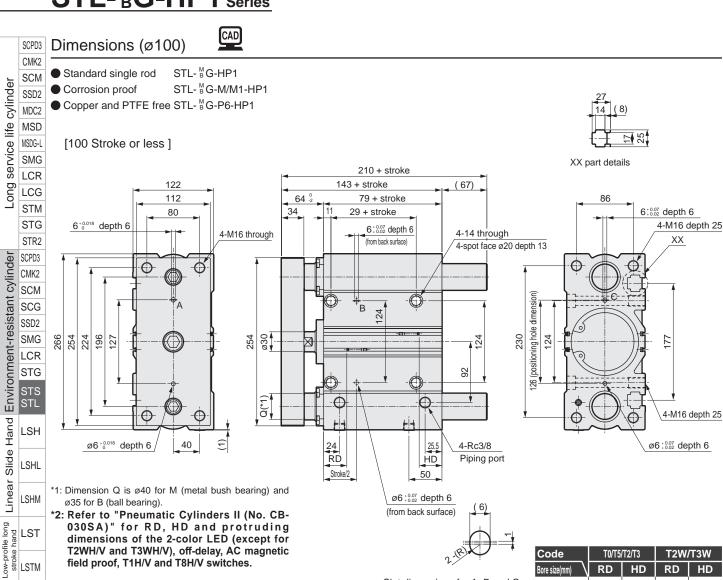
- *1: Dimension Q is ø40 for M (metal bush bearing) and ø35 for B (ball bearing).
- *2: When using a custom stroke, the dimensions are the same as the longer standard stroke. The standard stroke of ø80 can be selected from 75 to 400 mm in 25 mm increments.
- *3: Refer to "Pneumatic Cylinders II (No. CB-030SA)" for RD, HD and protruding dimensions of the 2-color LED (except for T2WH/V and T3WH/V), off-delay, AC magnetic field proof, T1H/V and T8H/V switches.

SCPD3 CMK2 SCM Long SSD2 MDC2 service life cylinder MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH LSHL LSHM Low-profile long stroke hand LST LSTM Wide Parallel Hand HMC Chuck CKW Air Booster ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR

LCG STR2 LSH LSHL

SCPD3 CMK2 SCM SCG Supports food mfg.

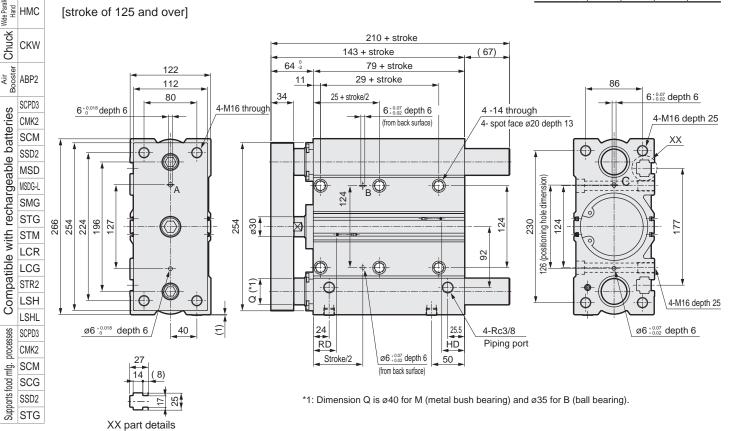
processes SSD2 STG



[stroke of 125 and over]

T2WH/V and T3WH/V), off-delay, AC magnetic

field proof, T1H/V and T8H/V switches.



Code

ø100

Slot dimensions for A, B and C

T0/T5/T2/T3

HD

35

RD

25

T2W/T3W

RD

27

HD

37

Wide Parallel

Chuck

Air Booster

rechargeable batteries

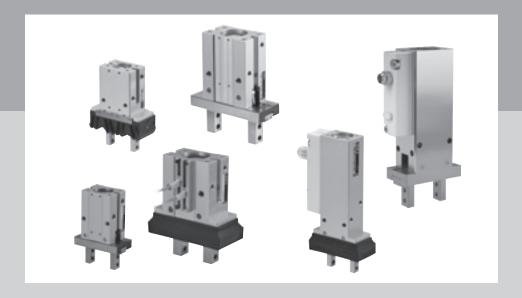
Compatible with

processes

SCPD3	
CMK2	
SCM	匸
SSD2	onc
MDC2	Se
MSD	₹.
MSDG-L	Э
SMG	life
LCR	₹
LCG	ind
STM	<u>e</u>
STG	
STR2	
SCPD3	Щ
CMK2	≧.
SCM	on
SCG	nei
SSD2	<u>-</u> r
SMG	esi
LCR	sta
STG	라
	S H
STS STL	nder
LSH	Linear
LSHL	Slide
LSHM	Hand
LST	Low
	roke
LSTM	-profile long roke hand
LSTM	r-profile long Wide Parallel
	roke hand Wide Parallel Chuck
НМС	roke hand Wide Parallel Chuck Booster
HMC	chuck Bc
HMC CKW ABP2	chuck Bc
HMC CKW ABP2 SCPD3	chuck Bc
HMC CKW ABP2 SCPD3 CMK2	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM	chuck Bc
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L SMG	arallel Chuck Air Booster Compatible with rech
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG STG	arallel Chuck Air Compatible with recharge
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG STM LCR LCG	arallel Chuck Air Compatible with recharge
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCG STR2	arallel Chuck Air Compatible with recharge
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG STM LCR LCG	and Chuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCG STR2	and Chuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSHL LSHL SCPD3	and Chuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	and Chuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCPD3	and Chuck Air Compatible with rechargeable batteries Support
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM SCM SCM SCM SCM SCM SCM	and Chuck Air Compatible with rechargeable batteries Support
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDCI MSDGL STRG STRG LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM SCM SCM SCM SC	and Chuck Air Compatible with rechargeable batteries Support
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM SCM SCM SCM SCM SCM SCM	and Chuck Air Compatible with rechargeable batteries Support

HP1 **HP2 Series**

Linear Slide Hand



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▲Safety precautions 232

Linear slide hand system table

Мо	del No.	Bore size (mm)	Stroke (mm)
SO	LSH-A-HP1	ø6/ø10/ø16/ø20/ø25/ø32	4/4/6/10/14/22
Series	LSH-G/LSH-F-HP1	ø6/ø10/ø16/ø20/ø25/ø32	4/4/6/10/14/22
P1.0	LSHL-A-HP1	ø10/ø16/ø20/ø25	8/12/18/22
Ī	LSHL-G/LSH-F-HP1	ø10/ø16/ø20	8/12/18
Series	LSHM-A-HP2	ø10/ø16/ø20/ø25	4/6/10/14
HP2 8	LSHM-G/LSHM-F-HP2	ø10/ø16/ø20/ø25	4/6/10/14

CMK2 SCM Long service life cylinder SSD2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder Linear Slide Hand SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LOW-profile long stroke hand HMC Hand CKW ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG LCR LCG STR2 LSH LSHL Supports food mfg. processes SCPD3 CMK2 SCM SCG

SCPD3

SSD2 STG SMG

LCR LCG STM

LSHL

Linear Slide Hand Double acting/Single acting

LSH-A-HP1 Series

Operational stroke: 4, 6, 10, 14, 22 mm



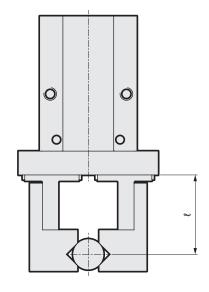




Specifications

opeomediche								
Item			LSH-A					
Bore size	mm	ø6	ø10	ø16	ø20	ø25	ø32	
Actuation		Double acting/single acting (Normally Open/Normally Closed)						
Working fluid		Compressed air						
Max. working pressure	MPa	0.7						
Min. working MPa	Double acting	0.15	0.2	0.1				
pressure	Single acting	0.3	0.35	0.25				
Port size		N	13		N	15		
Ambient temperature	°C			-10 to 60 (r	no freezing)			
Operating stroke	mm	4	1	6	10	14	22	
Repeatability	mm			±C	0.01			
Weight Double acting Finger O	P: 1, 2, 3	0.032	0.06	0.135	0.275 (0.28)	0.49 (0.495)	0.73 (0.78)	
(Single acting) kg Finger O	P: 4	0.032	0.06	0.14	0.28 (0.285)	0.495 (0.5)	0.76 (0.81)	
Lubrication				Not re	quired			

Gripping force



Unit: N

Bore size (mm)	Double acting			
Bore Size (IIIIII)	Open side	Closed side		
ø6	6.1	3.3		
ø10	17	11		
ø16	45	34		
ø20	66	42		
ø25	104	65		
ø32	193	158		
Bore size (mm)	Single acting (Normally Open)		
Dore Size (IIIII)		Closed side		
ø6		1.9		
ø10		7.1		
ø16		27		
ø20	_	33		
ø25]	45		
ø32		131		
Bore size (mm)	Single acting (Normally Closed)			
Bore Size (IIIII)	Open side			
ø6	3.7			
ø10	13			
ø16	38			
ø20	57	_		
ø25	83			
ø32	161			

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center

^{*1:} Avoid gripping the workpiece with single acting spring force as much as possible. The gripping force may become unstable, leading to operation failure.

Switch specifications

SCPD3

SCM Long SMDC2

MSD MSDG-L SMG LCR LCG STM STG STR2

SCPD3 CMK2

SCM SCG SSD2 SMG LCR STG STS STL

LSH

LSHL

LSHM

stroke hand

LST

LST

LSTM

HMC Hand

CKW Chuck

ABP2 SCPD3 Air

CMK2
SCM
SSD2
MSD
MSDG-L
SMG
STG
STM
LCR
LCG
STR2
LSHL

Compatible with rechargeable batteries

Supports food mfg.

SCPD3 CMK2 SCM SCG service life cylinder

Environment-resistant cylinder Linear Slide Hand

Switch specifications

Item	2-wire proximity	3-wire proximity	2-wire proximity	3-wire proximity		
item	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV	
Applications	Programmable Controller dedicated	Programmable For controller, relay	Programmable Controller dedicated	Programmable For controller, relay		
Output method	-	NPN output	-	NPN output	PNP output	
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC	
Load voltage/ current	10 to 30 VDC 5 to 20 mA	30 VDC 50 mA or less	10 to 30 VDC 5 to 20 mA	30 VDC, 50 mA or less		
Indicator lamp	LED (Lit v	vhen ON)	Y	ellow LED (Lit when ON)	
Leakage current	1 mA or less	10 μA or less	1 mA or less	10 μA or less		
Shock resistance	980m/s²					
Weight g	1m:10 3m:29					

^{*1:} The F type switch uses a bend-resistant lead wire as standard.

	2-wire p	roximity	3-wire proximity			
Item	T2H/T2V	T2HR3/T2VR3 (Lead wire bending type)	T3H/T3V	T3PH/T3PV		
Applications	Programmable Controller dedicated		Programmable For controller, relay			
Output method	-	-	NPN output	PNP output		
Power supply voltage	-	-	10 to 28 VDC			
Load voltage/ current	10 to 30 VDC 5 to 20 mA	10 to 30 VDC 5 to 20 mA	30 VDC or less 100 mA or less			
Indicator lamp	Red LED (Lit when ON)	Red LED (Lit when ON)	Red LED (Lit when ON)	Yellow LED (Lit when ON)		
Leakage current	1 mA or less	1 mA or less	10 μA or less			
Shock resistance		980n	980m/s ²			
Weight g	1m:18g 3m:49g					

Consumable parts list

Bore size	Kit No.	Consumable parts No.			
Bole Size	KIL NO.	Consumable parts No.	For F-switch	For T-switch	Description
ø6	Cannot be disassembled	-	LSH-RPF-06-HP	-	
ø10	LSH-10K-HP	CR ring/rod packing/	LSH-RPF-10-HP	-	Dall alar
ø16	LSH-16K-HP	Piston packing/O-ring	LSH-RPF-16-HP	-	Rail plate Small machine screw
ø20	LSH-20K-HP	Rod packing	LSH-RPF-20-HP	-	Small machine screw
ø25	LSH-25K-HP	Piston packing	LSH-RPF-25-HP	-	
ø32	LSH-32K-HP	O-ring	LSH-RPF-32-HP	LSH-RPT-32-HP	

Refer to the LSH-A Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimensions.

SSD2 STG

LSH-A-HP1 Series

service life cylinder

Long (

Environment-resistant cylinder

Slide Hand

Linear

Low-profile long

Wide Parallel

Chuck

Air Booster

rechargeable batteries

Compatible with

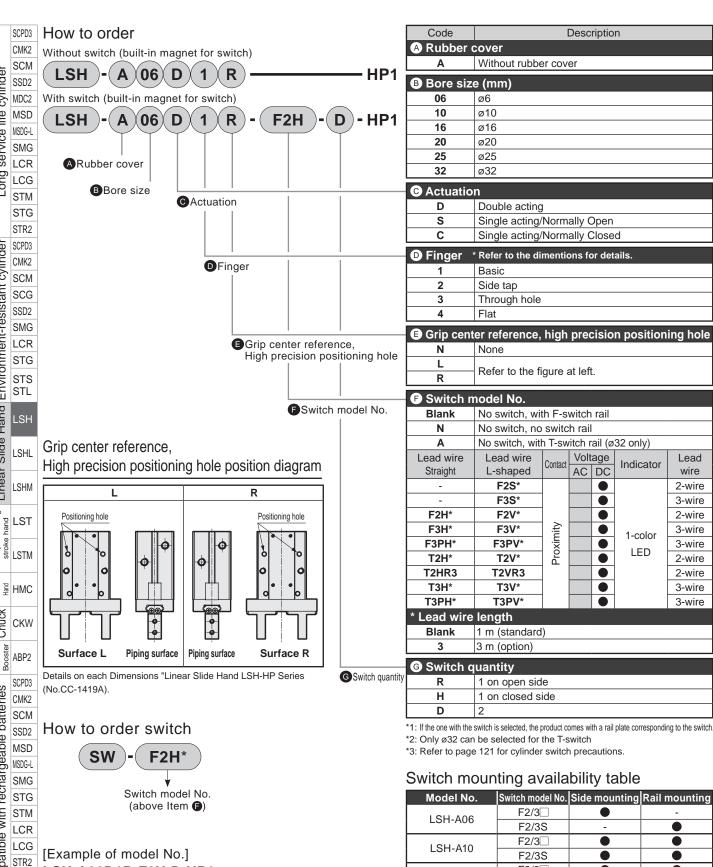
LSH

LSHL

SCPD3 processes

CMK2

SCM SCG SSD2 STG



LSH-A06D1R-F2H-D-HP1

Model: Linear Slide Hand

ARubber cover : Without rubber cover

BBore size :ø6

C Actuation : Double acting

Finger : Basic Grip center reference, : R High precision positioning hole

Switch model No. : Proximity F2H, lead wire 1 m

GSwitch quantity : 2

Ownor mounting availability table							
Model No.	Switch model No.	Side mounting	Rail mounting				
LSH-A06	F2/3	•	-				
LSH-AU0	F2/3S	-					
LSH-A10	F2/3	•					
LSIT-ATO	F2/3S	•					
LSH-A16	F2/3	•					
LSH-AI0	F2/3S	•	•				
LSH-A20	F2/3□	•	•				
LSH-AZU	F2/3S	•	•				
	F2/3H/PH	-	•				
LSH-A25	F2/3V/PV	•	•				
	F2/3S	•	•				
	F2/3	•					
LSH-A32	F2/3S						
	T2/3	-					

SCPD3 CMK2

SCM

SSD2

MDC2

MSD

MSDG-L

SMG LCR LCG STM

STG

STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

LSH

LSHL

LSHM

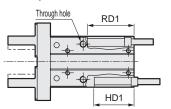
Long service life cylinder

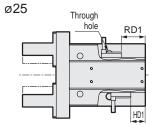
Environment-resistant cylinder Linear Slide Hand

Cylinder switch precautions

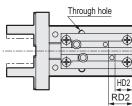
Switch mounting position list

[Side mounting] ø6 to 20, 32





[Rail mount] ø6 to 32



					-
Model No.	Switch	Side n	nounting	Rail m	ounting
woder No.	Model No.	RD1	HD1	RD2	HD2
LSH-A06*	F2/3□	20.5	18	-	-
LSH-AU0	F2/3S	-	-	9.5 (-)	7 (-)
LSH-A10*	F2/3	21	18	11 (21)	8 (18)
LSH-ATU	F2/3S	22	19	10 (22)	7 (19)
LSH-A16*	F2/3	21	17	11 (21)	7 (17)
L3H-A10	F2/3S	22	18	10 (22)	6 (18)
I CII A 20*	F2/3	26	20	16 (26)	10 (20)
LSH-A20*	F2/3S	27	21	15 (27)	9 (21)
	F2/3H/PH	-	-	20 (30)	12 (22)
LSH-A25*	F2/3V/PV	20	12	20 (30)	12 (22)
	F2/3S	19	11	19 (31)	11 (23)
	F2/3	32.5	20.5	22.5 (32.5)	10.5 (20.5)
LSH-A32D	F2/3S	33.5	21.5	21.5 (33.5)	9.5 (21.5)
	T2/3	-	-	18.5 (36.5)	6.5 (24.5)
	F2/3□	41	29	31 (41)	19 (29)
LSH-A32S/C	F2/3S	42	30	30 (42)	18 (30)
	T2/3	-	-	27 (45)	15 (33)

^{*} When the lead wire is directed toward the head side, the dimension in parentheses apply.

Caution

D Ca	dicates ution efer to	1				e foll	owing table for the bore size to be used.	LSTM	
Category	ø6	ø10	Bore ø16		ø25	ø32	Caution	НМС	Wide Parallel Hand
	•	•	•	•	•	•	• RD dimension is the max. sensitivity position at open side end position and HD dimension at closed side end position. The actual mounting position should be adjusted after confirming the operational status of the switch.	CKW	Chuck
ns		•		•	•	•	• One switch can be mounted for one switch rail groove. • Since the opening and closing stroke is short, only one of the open or closed states is detected for each switch.	ABP2	Air
Common items	•	•	•	•	•	•	Ex: A single switch alone cannot detect what is shown in the following illustration. Open (workpiece not gripped): switch OFF (2) Workpiece gripped: switch ON Closed (workpiece not gripped): switch OFF Switch OFF Switch OFF	SCPD3 CMK2 SCM SSD2 MSD MSDG-L	Compatible with
Side mounting	•	•	•	•	•	•	*Be careful not to be caught in the lead wires when opening/closing the finger. *When using the L-switch for side mounting on the side of the port, the fittings may interfere with the switch. Use fittings whose outer diameters are below those indicated in the following table. *Mount position: port side Switch-type: L-shaped-type *Bore size (mount position)	SMG STG STM LCR LCG STR2 LSH	rechargeable batteries
Sio	•	•	•	•		•	• When using a lead wire straight F3PV switch, the switch and lead wire protrude from the end face of the head side. If this protrusion is a problem, use F2/3V or F2/3S, or mount a rail. • For switch side mounting, the through hole cannot be used.	SCPD3 CMK2 SCM SCG	Supports food mfg. pi
Rail mounting		•					For switch rail mounting, the through hole cannot be used.	SSD2 STG	processes

^{* &}quot;-" indicates it cannot be mounted.

SMG

LCR LCG STM

LSH



Linear Slide Hand Double acting/Single acting with rubber cover

LSH-G/LSH-F-HP1 Series

Operational stroke: 4, 6, 10, 14, 22 mm

Double acting Single acting (Normally Open) Single acting (Normally Closed)





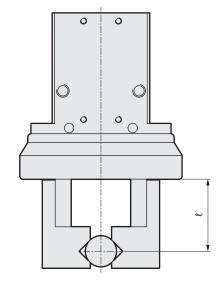




Specifications

opodinoationo									
Item		LSH-G, F							
Bore size	mm	ø6	ø10	ø16	ø20	ø25	ø32		
Actuation		Double acting/single acting (Normally Open/Normally Closed)							
Working fluid				Compre	essed air				
Max. working pressure	MPa			C).7				
Min. working pressure	Double acting	0.15	0.2	C	0.1				
MPa	Single acting	0.3	0.35	0.25			-		
Port size		M3 M5							
Ambient temperature	°C	-10 to 60°C (no freezing)							
Operating stroke	mm		4	6	10	14	22		
Repeatability mm				±(0.01				
Weight Double acting (single acting) kg	0.033	0.07	0.15	0.3 (0.35)	0.53 (0.535)	0.81		
Lubrication				Not re	equired				

Gripping force



Unit: N

Boro sizo (mm)	Double acting				
Bore size (mm)	Open side	Closed side			
ø6	6.1	3.3			
ø10	17	9.8			
ø16	40	30			
ø20	66	42			
ø25	104	65			
ø32	193	158			
Para siza (mm)	Single acting (I	Normally Open)			
Bore size (mm)		Closed side			
ø6		1.9			
ø10		6.3			
ø16] - [24			
ø20		28			
ø25		45			
Para siza (mm)	Single acting (Normally Closed)				
Bore size (mm)	Open side				
ø6	3.7				
ø10	12				
ø16	31	-			
ø20	56				
ø25	83				

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center

^{*1:} Avoid gripping the workpiece with single acting spring force as much as possible. The gripping force may become unstable, leading to operation failure.

LSH-G/LSH-F-HP1 Series

Switch specifications

SCPD3

SCM Long SMDC2

MSD MSDG-L SMG LCR LCG STM STG STR2

SCPD3 CMK2

SCM SCG SSD2 SMG LCR STG STS STL

LSH

LSHL

LSHM

stroke hand

LST

LST

LSTM

HMC Hand

CKW

ABP2 SCPD3

CMK2
SCM
SSD2
MSD
MSDG-L
SMG
STG
STM
LCR
LCG
STR2
LSH
LSHL

Compatible with rechargeable batteries

Supports food mfg.

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Switch specifications

Item	2-wire proximity	3-wire proximity	2-wire proximity	3-wire p	3-wire proximity		
item	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV		
Applications	Programmable Controller dedicated	Programmable For controller, relay	Programmable Controller dedicated	Program For contro			
Output method	-	NPN output	-	NPN output	PNP output		
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC		
Load voltage/ current	10 to 30 VDC 5 to 20 mA	30 VDC, 50 mA or less	10 to 30 VDC 5 to 20 mA	30 VDC, 50	mA or less		
Indicator lamp	LED (Lit v	vhen ON)	Yellow LED (Lit when ON)				
Leakage current	1 mA or less 10 µA or less		1 mA or less	10 μΑ	or less		
Shock resistance			980m/s ²				
Weight g			1 m: 10 3 m: 29				

^{*1:} The F-switch uses a bend-resistant lead wire as standard.

	2-wire p	roximity	3-wire proximity			
Item	T2H/T2V	T2HR3/T2VR3 (Lead wire bending type)	T3H/T3V	T3PH/T3PV		
Applications	•	mmable dedicated	Programmable For controller, relay			
Output method	-	-	NPN output	PNP output		
Power supply voltage	-	-	10 to 28 VDC			
Load voltage/ current	10 to 30 VDC 5 to 20 mA	10 to 30 VDC 5 to 20 mA	** '	C or less A or less		
Indicator lamp	Red LED (Lit when ON)	Red LED (Lit when ON)	Red LED (Lit when ON)	Yellow LED (Lit when ON)		
Leakage current	1 mA or less	1 mA or less 1 mA or less 10 µA or les				
Shock resistance		m/s ²				
Weight g		1 m: 18 g	3 m: 49 g			

Consumable parts list

Tube		Consumable	Consumable Rubber cover (part No. 3)		F		
Bore size	Kit No.	parts No.	LSH-G Chloroprene	LSH-F Fluorine	For F-switch	For T-switch	Description
ø6	Cannot be disassembled	-	LSH-G06K	LSH-F06K	LSH-RPF-06-HP	-	
ø10	LSH-10K-HP	CR-ring Rod packing	LSH-G10K	LSH-F10K	LSH-RPF-10-HP	-	Rail plate
ø16	LSH-16K-HP	Piston packing O-ring	LSH-G16K	LSH-F16K	LSH-RPF-16-HP	-	Small machine screw
ø20	LSH-20K-HP	Rod packing	LSH-G20K	LSH-F20K	LSH-RPF-20-HP	-	
ø25	LSH-25K-HP	Piston packing	LSH-G25K	LSH-F25K	LSH-RPF-25-HP	-	
ø32	LSH-32K-HP	O-ring	LSH-G32K	LSH-F32K	LSH-RPF-32-HP	LSH-RPT-32-HP]

Refer to the LSH-G/LSH-F Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

SCPD3 CMK2 SCM SCG

SSD2

STG

LSH-G/LSH-F-HP1 Series

SCPD3

CMK2

SCM

SSD2

MDC2

MSD

MSDG-L

SMG

LCR

LCG

STM

STG

STR2

SCPD3

CMK2

SCM

SCG

SSD2 SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

LST

LSTM

₹ HMC

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG

STM LCR LCG

STR2

LSH

LSHL

SCPD3 processes

CMK2

SCM SCG SSD2 STG

service life cylinder

Long (

Environment-resistant cylinder

Slide Hand

Linear

Low-profile long

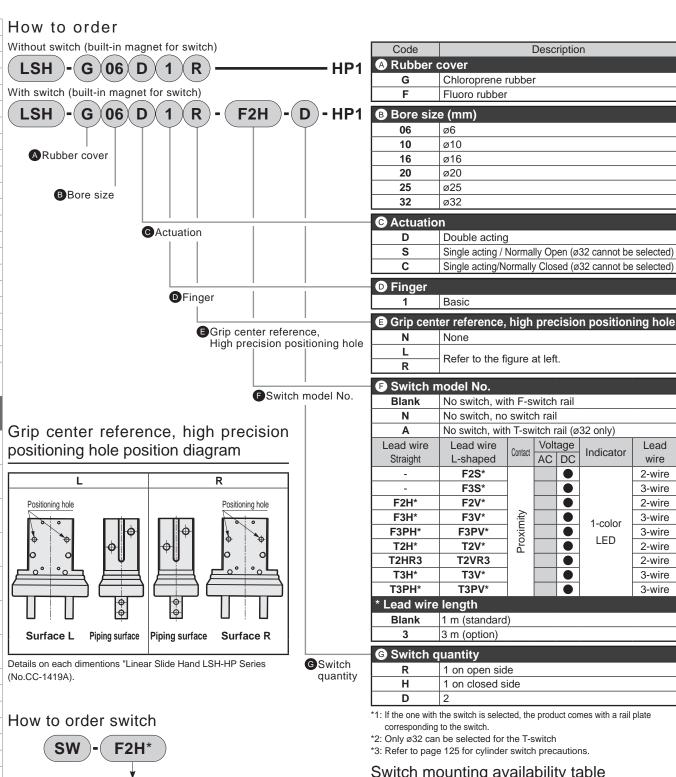
Wide Parallel

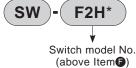
Chuck CKW

Air Booster ABP2

rechargeable batteries

Compatible with





[Example of model No.]

LSH-G06D1R-F2H-D-HP1

Model: Linear Slide Hand

ARubber cover : Chloroprene rubber

BBore size :ø6

C Actuation : Double acting : Basic

DFinger Grip center reference, : R high precision positioning hole

Switch model No. : Proximity F2H, lead wire 1 m

GSwitch quantity

Ownor mounting availability table								
Model No.	Switch model No.	Side mounting	Rail mounting					
LSH-G/F06	F2/3	•	-					
L311-G/1-00	F2/3S	-						
LSH-G/F10	F2/3	•						
L311-G/F10	F2/3S	•	•					
LSH-G/F16	F2/3	•	•					
L311-G/F10	F2/3S	•	•					
LSH-G/F20	F2/3	•	•					
L311-G/F20	F2/3S	•	•					
	F2/3H/PH/PV	-	•					
LSH-G/F25	F2/3V	•	•					
	F2/3S	•	•					
	F2/3	•	•					
LSH-G/F32	F2/3S	•	•					
	T2/3	-						

LSH-G/LSH-F-HP1 Series

Cylinder switch precautions

SCPD3

CMK2

SCM

SSD2

MDC2

MSD

MSDG-L

SMG

LCR LCG STM

STG

STR2

SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

LSH

LSHL

LSHM

stroke hand

LST

LSTM

HMC Hand

ABP2

SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL

Chuck CKW

₽

Compatible with rechargeable batteries

Supports food mfg.

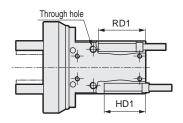
processes SSD2 STG

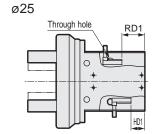
SCPD3 CMK2 SCM SCG

Cylinder switch precautions

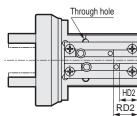
Switch mounting position list

[Side mounting] ø6 to 20, 32









Madal Na	Switch	Side m	ounting	Rail mo	ounting
Model No.	Model No.	RD1	HD1	RD2	HD2
LSH-G/F06	F2/3□	20.5	18	-	-
LSH-G/F00	F2/3S	=	-	9.5 (-)	7 (-)
LSH-G/F10	F2/3□	21	18	11 (21)	8 (18)
LSH-G/F10	F2/3S	22	19	10 (22)	7 (19)
LSH-G/F16	F2/3□	21	17	11 (21)	7(17)
LSH-G/F16	F2/3S	22	18	10 (22)	6 (18)
LSH-G/F20	F2/3□	26	20	16 (26)	10 (20)
LSH-G/F20	F2/3S	27	21	15 (27)	9 (21)
	F2/3□	-	-	20 (30)	12 (22)
LSH-G/F25	F2/3V	20	12	20 (30)	12 (22)
	F2/3S	19	11	19 (31)	11 (23)
	F2/3□	26	14	16 (26)	4 (14)
LSH-G/F32	F2/3S	27	15	15 (27)	3 (15)
	T2/3□	-	-	12 (30)	0 (18)

^{*} When the lead wire is directed toward the head side, the dimension in parentheses apply.

Precautions

Re	Refer to precautions in the following table for the bore size to be used.									
Catagany			Bore	size			Caution			
Category	ø6	ø10	ø16	ø20	ø25	ø32				
		•					• RD dimension is the max. sensitivity position at open side end position and HD dimension at closed side end			
							position. The actual mounting position should be adjusted after confirming the operational status of the switch.			
							 One switch can be mounted for one switch rail groove. Since the opening and closing stroke is short, only one of the open or closed states is detected for each switch. 			
St.										
n iter							Ex: A single switch alone cannot detect what is shown in the following illustration. Open (workpiece not gripped): switch OFF (2) Workpiece gripped: switch ON Closed (workpiece not gripped): switch OFF			
Common items	•	•	•	•	•	•	Switch OFF Switch ON Switch OFF Switch ON Switch OFF			
	•						• Be careful not to be caught in the lead wires when opening/closing the finger.			
							When using the L-switch for side mounting on the side of the port, the fittings may interfere with			
							the switch. Use fittings whose outer diameters are below those indicated in the following table.			
							Mount position: port sideCylinder switchød			
							Switch-type: L-shaped-type			
							Bore size (mount position) Fitting O.D. øD ø6 (RD) ø5 or less			
l ifi							ø6 (RD) ø5 or less ø6 (HD) ø6.9 or less			
Side mounting							ø10 ø7.4 or less			
E							ø16 ø7.9 or less			
Side							ø20 ø11 or less			
							When using a lead wire straight F3PV switch, the switch and lead wire protrude from the end face of			
							the head side. If this protrusion is a problem, use F2/3V or F2/3S, or mount a rail.			
							The F2/3V switch projects from the end face of the head side.			
							If this protrusion is a problem, use F2/3S or mount a rail. For switch side mounting, the through hole cannot be used.			
₽.							To inswitch side mounting, the through note cannot be used.			
Rail		•					• For switch rail mounting, the through hole cannot be used.			

^{* &}quot;-" indicates it cannot be mounted.

SMG

LCR LCG STM

STL

LSH

CKW



Linear Slide Hand Long stroke Double acting/single acting

LSHL-A-HP1 Series

Operating stroke: 8, 12, 18, 22 mm

Double acting Single acting (Normally Open) Single acting (Normally Closed)



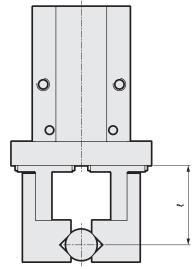




Specifications

op com camerio								
Item			LSHL-A					
Bore size	mm	ø10	ø16	ø20	ø25			
Actuation		Douk	ole acting/single acting (No	rmally Open/Normally Cl	osed)			
Working fluid			Compre	ssed air				
Max. working pressure	MP	a	0.	7				
Min. working	Double acting	0.2		0.1				
pressure	Single acting	0.35 0.25		0.25				
Port size		M3 M5						
Ambient temperature	°C	-10 to 60 (no freezing)						
Operating stroke	mn	n 8	12	18	22			
Repeatability	mn	1	±0	.01				
Weight Double acting Fing	er OP: 1, 2, 3	0.005 (0.075)	0.155 (0.165)	0.315 (0.335)	0.54 (0.585)			
(Single acting) kg Fing	er OP: 4	0.065 (0.075)	0.16 (0.17)	0.32 (0.34)	0.545 (0.59)			
Lubrication			Not re	quired				

Gripping force



		Unit: N			
Bore size (mm)	Double acting				
Bore Size (IIIII)	Open side	Closed side			
ø10	17	11			
ø16	45	34			
ø20	66	42			
ø25	104	65			
Bore size (mm)	Single acting (I	Normally Open)			
Bore Size (IIIII)		Closed side			
ø10		7.1			
ø16		27			
ø20	_	33			
ø25		50			
Poro cizo (mm)	Single acting (Normally Closed)				
Bore size (mm)	Open side				

Poro cizo (mm)	Single acting (Normally Closed)			
Bore size (mm)	Open side			
ø10	13			
ø16	38			
ø20	57	_		
ø25	85			
* 41 1 50 5 1	4D 1 00			

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center *1: Avoid gripping the workpiece with single acting spring force as much as possible. The gripping force may become unstable, leading to operation failure.

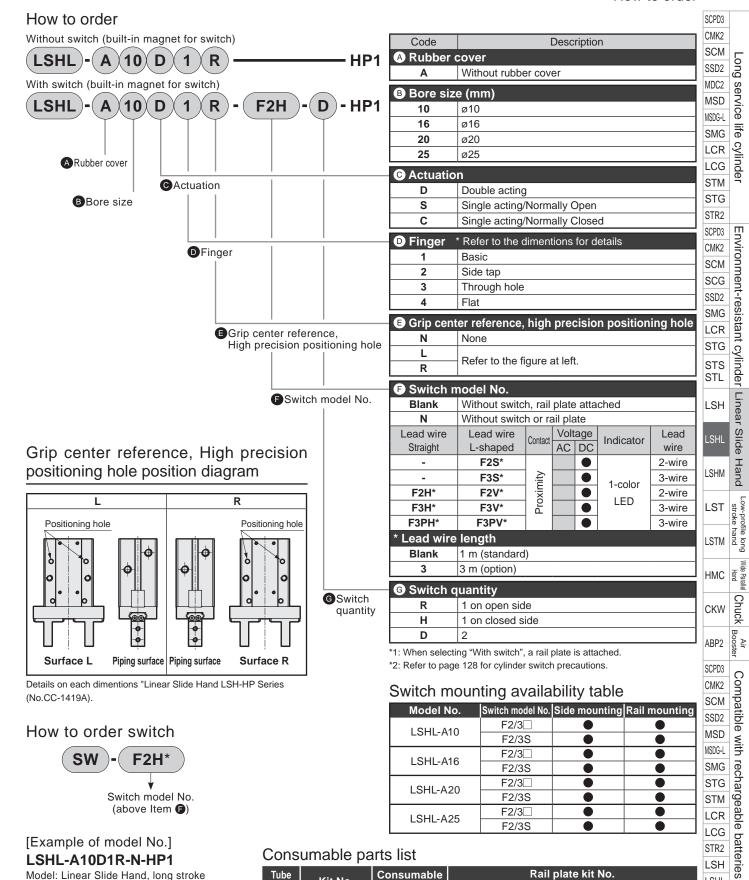
Switch specifications

Item	2-wire proximity	3-wire proximity	2-wire proximity	3-wire proximity			
item	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV		
Applications	Programmable	Programmable	Programmable	Prograi	mmable		
Applications	Controller dedicated	For controller, relay	Controller dedicated	For controller, relay			
Output method	-	NPN output	-	NPN output	PNP output		
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC		
Load voltage/	10 to 30 VDC	30 VDC,	10 to 30 VDC	20 VDC 50) m ∧ or loop		
current	5 to 20 mA	50 mA or less	5 to 20 mA	30 VDC, 50 mA or less			
Indicator lamp	LED (Lit v	vhen ON)	Yellow LED (Lit when ON)				
Leakage current	1 mA or less	10 μA or less	1 mA or less	10 µA	or less		
Shock resistance			980m/s ²				
Weight g			1 m: 10 3 m: 29				

^{*1:} The F type switch uses a bend-resistant lead wire as standard.

Refer to the LSHL-A Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

LSHL-A-HP1 Series



[Example of model No.]

LSHL-A10D1R-N-HP1

Model: Linear Slide Hand, long stroke

ARubber cover : Without rubber cover

BBore size :ø10

CActuation : Double acting

DFinger : Basic Grip center reference, : R high precision positioning hole

Switch model No. : No switch,

Without rail plate

Consumable parts list

Consumable parts list							
Tube	Kit No.	Consumable	Rail plate kit No.				
Bore size		parts No.	For double acting	For single acting	Description		
ø10	LSHL-10K-HP	CR-ring Rod packing	LSHL-RPF-10-HP	LSHL-RPF2-10-HP			
ø16	LSHL-16K-HP	Piston packing O-ring	I SHI-RPE-16-HP		Rail plate Small machine		
ø20	LSH-20K-HP	Rod packing Piston packing	LSHL-RF	LSHL-RPF-20-HP			
ø25	LSH-25K-HP	O-ring	LSHL-RF	PF-25-HP			

F2/3S

LSHL-A25

LCG

STR2

LSH

LSHL

SCPD3

CMK2

SCM

SCG

SSD2

STG

Supports food

mfg.

LSHL-A-HP1 Series

Cylinder switch precautions

SCPD3

CMK2 SCM

SSD2

MDC2

MSD

MSDG-L

SMG LCR

LCG

STM

STG STR2 SCPD3

SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Ckm Ckm

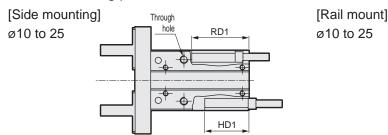
Booster ABP2

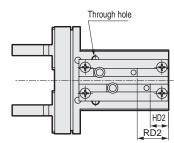
Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Switch mounting position list





Madel Na	Switch	Side n	nounting	Rail mo	ounting
Model No.	Model No.	RD1	HD1	RD2	HD2
LCUL MADD	F2/3□	22	17	12 (22)	7 (17)
LSHL-A10D	F2/3S	23	18	11 (23)	6 (18)
LCUL MACD	F2/3□	24.5	16.5	14.5(24.5)	6.5 (16.5)
LSHL-A16D	F2/3S	25.5	17.5	13.5 (25.5)	5.5 (17.5)
LCIII AOOD	F2/3	30	20	20 (30)	10 (20))
LSHL-A20D	F2/3S	31	21	19 (31)	9 (21)
LCUI AOED	F2/3□	33	21.5	23 (33)	11.5 (21.5)
LSHL-A25D	F2/3S	34	22.5	22(34)	10.5 (22.5)
1.0111 .4400/0	F2/3□	28	23	18 (28)	13 (23)
LSHL-A10S/C	F2/3S	29	24	17 (29)	12 (24)
LSHL-A16S/C	F2/3□	27.5	20	17.5 (27.5)	10 (20)
L30L-A103/C	F2/3S	28.5	21	16.5 (28.5)	9 (21)
1 CHI A20C/C	F2/3□	33.5	23	23.5 (33.5)	13 (23)
LSHL-A20S/C	F2/3S	34.5	24	22.5 (34.5)	12 (24)
LCLII AGEC/C	F2/3□	38.5	27	28.5 (38.5)	17 (27)
LSHL-A25S/C	F2/3S	39.5	28	27.5 (39.5)	16 (28)

^{*} When the lead wire is directed toward the head side, the dimension in parentheses apply.

Caution

Refer to precautions in the following table for the bore size to be used.

Catamani		Bore	size		Condian
Category	ø10	ø16	ø20	ø25	Caution
	•	•	•	•	RD dimension is the max. sensitivity position at open side end position and HD dimension at closed side end position. The actual mounting position should be adjusted after confirming the operational status of the switch.
			•	•	One switch can be mounted for one switch rail groove.
l o					• Since the opening and closing stroke is short, only one of the open or closed states is detected for each switch.
n item					Ex: A single switch alone cannot detect what is shown in the following illustration. Open (workpiece not gripped): switch OFF (2) Workpiece gripped: switch ON Closed (workpiece not gripped): switch OFF
Common items	•	•	•	•	Switch OFF Switch ON Switch OFF
.		•			• Be careful not to be caught in the lead wires when opening/closing the finger.
.					• When using the L-switch for side mounting on the side of the port, the fittings may interfere with the
					switch. Use fittings whose outer diameters are below those indicated in the following table.
Side mounting	•	•	•		Mount position: port side Switch-type: L-shaped-type Bore size Fitting O.D. øD ø10 ø7.4 or less ø16 ø7.9 or less ø20 ø11 or less
	•	•	•	•	• For the lead wire straight switch, the switch and lead wire protrude from the end face on the head side. If this protrusion is a problem, use F2/3V or F2/3S, or mount a rail.
	•	•	•		• The F3PV switch projects from the end face of the head side. If this protrusion is a problem, use F2/3V or F2/3S, or mount a rail.
<u> </u>	•	•		•	For switch side mounting, the through hole cannot be used.
Rail	•				• For switch rail mounting, the through hole cannot be used.

SCPD3 CMK2 SCM	
SSD2	ong s
MDC2 MSD	serv
MSDG-L	ice
SMG	life (
LCR	cylir
LCG	de
STM STG	•
STR2	
SCPD3	Щ
CMK2	٦٧ir
SCM	onm
SCG	ent
SSD2	-reg
SMG LCR	sista
STG	ant
STS	S
STL	nder I
LSH	Linear
LSHL	Slide H
LSHM	land
LST	stroke ha
LSTM	and Wid
HMC	Hand C
CKW	Chuck B
ABP2	Alr
SCPD3 CMK2	င္ပ
SCM	mp
SSD2	atib
MSD	le v
MSDG-L	È
SMG	rect
STG	narc
STM	yeat
LCG	ble
STR2	batt
LSH	erie
LSHL	Š
SCPD3	Supp
CMK2	orts fo
SCM SCG	od mf
SCG SSD2	g. pro
	SS
STG	93

MSDG-L SMG

LCR LCG STM

LSH

LSHL



Linear Slide Hand Long stroke Double acting With rubber cover

LSHL-G/LSHL-F-HP1 Series

Operational stroke: 8, 12, 18 mm



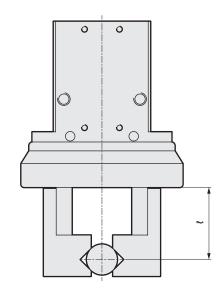




Specifications

П	•					
-	Item			LSHL-G, F		
-	Bore size	mm	ø10	ø16	ø20	
$\frac{1}{2}$	Actuation			Double acting		
1	Working fluid		Compressed air			
1	Max. working pressure	MPa		0.7		
1	Min. working pressure	MPa	0.2	0.	1	
	Port size		M3	N	5	
	Ambient temperature	°C		-10 to 60°C (no freezing)		
	Operating stroke	mm	8	12	18	
4	Repeatability	mm		±0.01		
-	Weight	kg	0.09 0.18 0.39			
1	Lubrication			Not required		
П				·	·	

Gripping force



Unit: N **Double acting** Bore size (mm) Open side Closed side ø10 17 11 45 34 ø16

66

ø20

Switch specifications

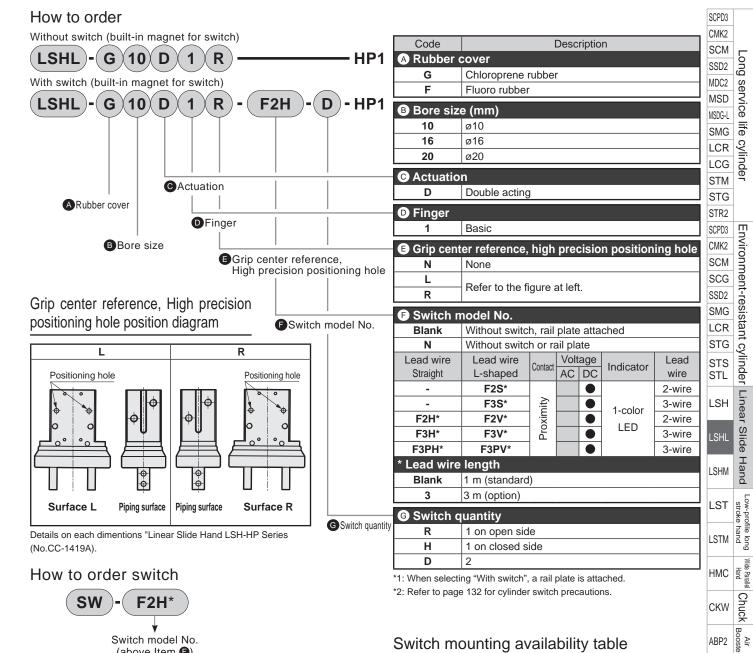
Item	2-wire proximity	3-wire proximity	2-wire proximity	3-wire proximity			
iteiii	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV		
Applications	Programmable	Programmable	Programmable	Programmable			
Applications	Controller dedicated	For controller, relay	Controller dedicated	For contro	oller, relay		
Output method	-	NPN output	-	NPN output	PNP output		
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC		
Load voltage/	10 to 30 VDC	30 VDC	10 to 30 VDC	30 VDC 50) mA or less		
current	5 to 20 mA	50 mA or less	5 to 20 mA	30 VDC, 30	TITA OF 1655		
Indicator lamp	LED (Lit v	vhen ON)	\	Yellow LED (Lit when ON)			
Leakage current	1 mA or less 10 μA or less 1 mA or less 10 μA or les		or less				
Shock resistance	980m/s²						
Weight g			1 m: 10 3 m: 29				

^{*1:} The F type switch uses a bend-resistant lead wire as standard.

Refer to the LSHL-G/LSHL-F Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke

LSHL-G/LSHL-F-HP1 Series



[Example of model No.]

LSHL-G10D1R-F2H-D-HP1

Model: Linear Slide Hand, long stroke

ARubber cover : Chloroprene rubber

(above Item (above

BBore size :ø10

C Actuation : Double acting

DFinger : Basic Grip center reference, : R high precision positioning hole

Switch model No. : Proximity F2H, lead wire 1 m

GSwitch quantity

Consumable parts list

Bore size	Kit No.	Consumable parts	Rubber cove	r (part No. 3)	Rail plate	Description
(mm)		No.	LSHL-G Chloroprene	LSHL-F Fluorine	Kit No.	Description
ø10	LSHL-10K-HP	CR-ring Rod packing	LSHL-G10K	LSHL-F10K	LSHL-RPF-10-HP	
ø16	LSHL-16K-HP	Piston packing O-ring	LSHL-G16K	LSHL-F16K	LSHL-RPF-16-HP	Rail plate Small machine
ø20	LSH-20K-HP	Rod packing Piston packing O-ring	LSHL-G20K	LSHL-F20K	LSHL-RPF-20-HP	screw

Switch mounting availability table

	•	•	
Model No.	Switch model No.	Side mounting	Rail mounting
LSHL-G/F10	F2/3□	•	•
LSHL-G/F10	F2/3S	•	•
LCUL C/E16	F2/3□	•	•
LSHL-G/F16	F2/3S	•	•
1 CUIL C/F20	F2/3□	•	•
LSHL-G/F20	F2/3S	•	

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG

STM

LCR

LCG STR2

LSH LSHL

SCPD3 CMK2 SCM Compatible with rechargeable batteries

Supports food

mfg. SCG SSD2 STG

LSHL-G/LSHL-F-HP1 Series

Cylinder switch precautions

Switch mounting position list

[Side mounting] ø10 to 20

SCPD3

CMK2 SCM

SSD2

MDC2

MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

LST Stroke hand Stroke hand MTST MTST

Wide Parallel Hand

Shock CKM

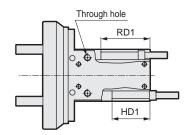
Booster ABP2

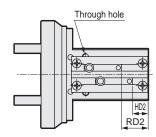
Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

[Rail mount] ø10 to 20





Model No.	Switch Side mounting		ounting	Rail mounting		
Wodel No.	Model No.	RD1	HD1	RD2	HD2	
LSHL-G/F10	F2/3□	22	17	12 (22)	7 (17)	
LSHL-G/F 10	F2/3S	23	18	11 (23)	6 (18)	
LSHL-G/F16	F2/3□	25	17	15 (25)	7 (17)	
LSHL-G/F I6	F2/3S	26	18	14 (26)	6 (18)	
LSHL-G/F20	F2/3□	35.5	25.5	25.5 (35.5)	15.5 (25.5)	
LSI IL-G/F20	F2/3S	36.5	26.5	24.5 (36.5)	14.4 (26.5)	

When the lead wire is directed toward the head side, the dimension in parentheses apply.

Caution

Refer to precautions in the following table for the bore size to be used.

0-1		Bore size		Ozvilina
Category	ø10	ø16	ø20	- Caution
				•RD dimension is the max. sensitivity position at open side end position and HD dimension at closed side end
				position. The actual mounting position should be adjusted after confirming the operational status of the switch.
		•	•	One switch can be mounted for one switch rail groove.
ျှ				• Since the opening and closing stroke is short, only one of the open or closed states is detected for each switch.
ter				Ex: A single switch alone cannot detect what is shown in the following illustration.
l E				Open (workpiece not gripped): switch OFF (2) Workpiece gripped: switch ON Closed (workpiece not gripped): switch OFF
Common items	•	•		Switch OFF Switch ON Switch OFF
l ö				
				• Be careful not to be caught in the lead wires when opening/closing the finger.
		 		When using the L-switch for side mounting on the side of the port, the fittings may interfere
				with the switch. Use fittings whose outer diameters are below those indicated in the following
				table. Cylinder switch ød
				Mount position: port side
				Switch-type: L-shaped-type
ing				Bore size Fitting O.D. øD
l ţ				ø10 ø7.4 or less
				Ø16 Ø7.9 or less Ø20 Ø11 or less Ø20 Ø11 or less Ø20 Ø31 or less Ø31
Side mounting				VI VI I I I I I I I I I I I I I I I I I
l o		-		
	•	•	•	• For the lead wire straight switch, the switch and lead wire protrude from the end face on the head
				side. If this protrusion is a problem, use F2/3V or F2/3S, or mount a rail. • The F3PV switch projects from the end face of the head side. If this protrusion is a problem,
	•			use F2/3V or F2/3S, or mount a rail.
	•	•	•	• For switch side mounting, the through hole cannot be used.
ii iii				
Rail mounting	•			• For switch rail mounting, the through hole cannot be used.

SCPD3	
	_
SSD2	ng
MDC2	se
MSD	₹.
MSDG-L	<u>8</u>
SMG	ife
LCR	₹
LCG	ind
STM	еŗ
STG	
	Ш
	₹.
	9
SCC	me
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STS	ind
STL	ब्
I QH	드
LON	ıea
	r S
LSHL	lide
	I
LSHM	anc
	_
LST	Stro
LST	stroke h
LSTM	stroke hand
	stroke hand
LSTM	stroke hand Han
	stroke hand Hand
LSTM	stroke hand Hand Chu
LSTM	C
LSTM HMC CKW	Chuck Bo
LSTM	C
LSTM HMC CKW ABP2	Chuck Booster
LSTM HMC CKW ABP2 SCPD3	Chuck Bo
LSTM HMC CKW ABP2 SCPD3 CMK2	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD2 MSDG-L SMG STG	Chuck Booster Compatible with rechar
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDD MSDG-L SMG STG STM	Chuck Booster
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-I SMG STG STM LCR	Chuck Booster Compatible with rechargeable
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG	Chuck Booster Compatible with recharge
LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSD0 MSDG-L SMG STG STM LCR LCG STR2	Chuck Booster Compatible with rechargeable batt
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCR LCG STR2 LSH	Chuck Booster Compatible with rechargeable
LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSD0 MSDG-L SMG STG STM LCR LCG STR2	Chuck Booster Compatible with rechargeable batteri
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCR LCG STR2 LSH	Chuck Booster Compatible with rechargeable batteri
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL	Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3	Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSDC MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCPD3	Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STR LCR LCG STR2 LSH LSHL SCPD3 CMK2	Chuck Booster Compatible with rechargeable batteries S
LSTM HMC CKW ABP2 SCPD3 CMK2 SSD2 MSD0 MSD6-L SMG STG STM LCR LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM STR2 SCM SCM SCM SCM SCM SCM SCM SC	Chuck Booster Compatible with rechargeable batteries S
	CMK2 SCM SSD2 MDC2 MSD0-L SMG LCR LCG STM STG SCPD3 CMK2 SCPD3 SCMC SSD2 SMG LCR STG

MSDG-L SMG

LCR LCG STM STG

STR2 SCPD3 Environment-resistant cylinder CMK2 SCM SCG SSD2 SMG LCR STG STS

STL



Length measurement function Linear Slide Hand Double acting

LSHM-A-HP2 Series

Operating stroke: 4, 6, 10, 14 mm







Specifications

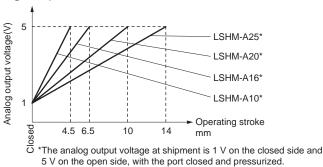
Specifications									
Item		LSHM-A							
Bore size	mm	ø1	0	ø1	16	ø2	20	ø2	25
Actuation					Double	acting			
Working fluid		Compressed air							
Max. working pressure	MPa	0.7							
Min. working pressure	MPa	0.2							
Port size		M	3			M	5		
Operating stroke	mm	4		6	6	10	0	1	4
Power supply voltage		24 VDC ±10%							
Current consumption		25 mA or less							
Indicator lamp		Green LED ON when power applied							
Analog output		1 V when finger closed - 5 V when open $^{^{\star}}$, Connecting load 100k Ω and over							
Analog output Without corr	rection adapter	±3% F.S. or less (ambient temperature 25°C)							
	ction adapter	±0.5% F.S. or less (ambient temperature 25°C)							
Repeatability of analog outpu	ıt				±0.02 mr	0000			
				on or wear of	1				
Valid measured range length	mm	4.5 6.5 10 14			4				
Shock resistance (sensor/amplifie					294r				
Vibration resistance (sensor / amplifi	/		10 to 55Hz	Compound a			s each in Y, 2	Z directions	
Degree of protection (sensor/amplific	er section)				IEC Stand				
Ambient temperature, humidity		10 to 60 °C, 85% RH or less							
			(no freezing)						
Amplifier mounting position		Side	Front	Side	Front	Side	Front	Side	Front
Weight kg Finger OP: 1		0.108	0.120	0.221	0.238	0.437	0.457	0.752	0.773
Finger OP: 4				0.226	0.243	0.442	0.462	0.782	0.803
Lubrication Not required									

Note: Refer to page 138 for the correction adapter.

Unit: N

Gripping force	Bore size (mm
	ø10
9	ø16
	ø20
	ø25
	*Supply pressure: 0
0 0	LVDT displac
	When exciting the in the two seconda When the Hand i difference in induc

Analog output characteristics



Poro cizo (mm)	Double acting				
Bore size (mm)	Open side	Closed side			
ø10	17	11			
ø16	45	34			
ø20	66	42			
ø25	104	65			

^{0.5} MPa, L = 20 mm, value at stroke center

cement sensor operation principle

e primary coil (P), induced voltage is generated dary coils (S1/S2) by electromagnetic induction. is driven, the core position changes and a duced voltage occurs between S1 and S2. This difference is used to output the position of the core as electric signals.

> Ρ S_2 S Secondary coil 2

Primary coil

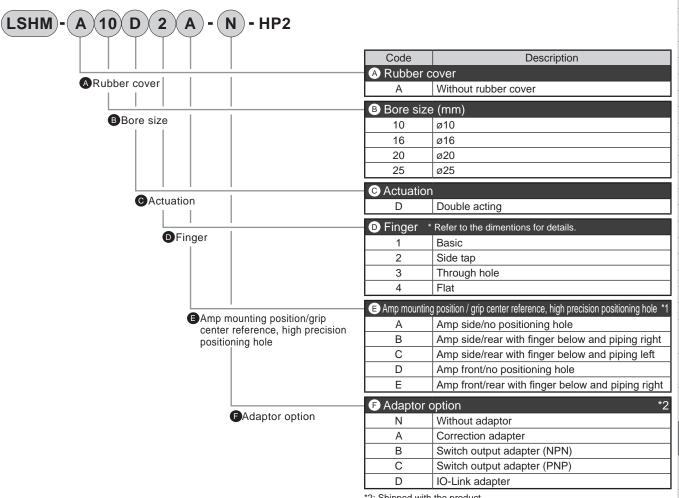
Refer to the LSHM-A Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

^{*1:} There is output fluctuation of 1 mV / °C.

LSHM-A-HP2 Series

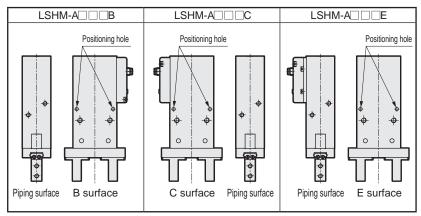
How to order

How to order



^{*2:} Shipped with the product.

Amp mounting position/grip center reference, high precision positioning hole position diagram



Refer to "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for details.

[Example of model No.]

LSHM-A10D2A-N-HP2

Model: Linear Slide Hand

ARubber cover : Without rubber cover

BBore size : ø10

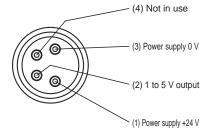
Actuation : Double actingFinger : Side tap

Amp mounting position / grip center reference, high precision positioning hole
hole

Adaptor option : Without adaptor

Plug contact array diagram

Without adaptor



STG

MSDG-L SMG

LCR LCG STM STG

STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCG SSD2 STG



Length measurement function Linear Slide Hand Double acting with rubber cover

SHM-G/LSHM-F-HP2 Series

Operating stroke: 4, 6, 10, 14 mm







Specifications

Opecinications								
Item		LSHM-G/LSHM-F						
Bore size mm	Ø	10	ø′	16	ø2	20	Ø	25
Actuation				Double	acting			
Working fluid		Compressed air						
Max. working pressure MPa		0.7						
Min. working pressure MPa	0	0.2						
Port size	N	13			IV	15		
Operating stroke mm	4 6 10				1	4		
Power supply voltage				24 VDC	C ±10%			
Current consumption	25 mA or less							
Indicator lamp	Green LED ON when power applied							
Analog output	1 V when finger closed - 5 V when open 1, Connecting load 100kΩ and over							
Analog output Without correction adapter	±3% F.S. or less (ambient temperature 25°C)							
linearity With correction adapter	±0.5% F.S. or less (ambient temperature 25°C)							
Repeatability of analog output				±0.02 mr				
			on or wear of					
Valid measured range length mm	4	.5	6.	_		0	1	4
Shock resistance (sensor/amplifier section)					m/s ²			
Vibration resistance (sensor / amplifier section)								
Degree of protection (sensor/amplifier section)								
Ambient temperature, humidity	10 to 60 °C, 85% RH or less							
l					ezing)			
Amplifier mounting position	Side	Front	Side	Front	Side	Front	Side	Front
Weight kg	0.113	0.125	0.236	0.253	0.462	0.482	0.792	0.813
Lubrication				Not re	quired			

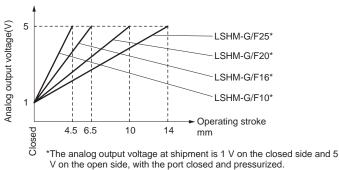
Note: Refer to page 138 for the correction adapter.

Gripping force

Unit: N

Analog output characteristics

Analog output characteristics



Dava siza (mm)	Double acting				
Bore size (mm)	Open side	Closed side			
ø10	17	11			
ø16	45	34			
ø20	66	42			
ø25	104	65			

^{*}Supply pressure: 0.5 MPa, L = 20 mm, value at stroke center

LVDT displacement sensor operation principle

When exciting the primary coil (P), induced voltage is generated in the two secondary coils (S1/S2) by electromagnetic induction. When the Hand is driven, the core position changes and a difference in induced voltage occurs between S1 and S2. This difference is used to output the position of the core as electric signals.

Secondary coil 1 Secondary coil 2

Refer to the LSHM-G/LSHM-F Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

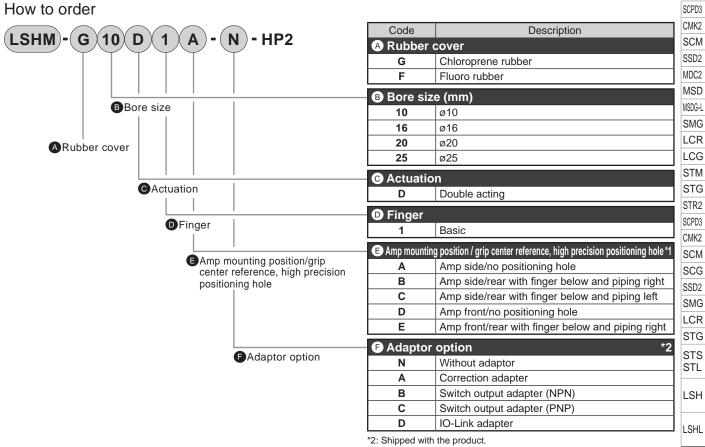
^{*1:} There is output fluctuation of 1 mV/°C.

LSHM-G/LSHM-F-HP2 Series

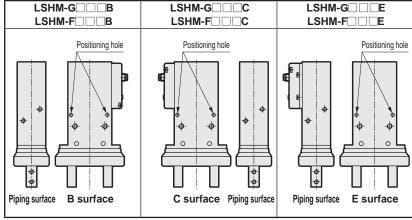
How to order

Long

service life cylinder



Amp mounting position/grip center reference, high precision positioning hole position diagram



Refer to "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for details.

[Example of model No.]

LSHM-G10D1A-N-HP2

Model: Linear Slide Hand

ARubber cover : Chloroprene rubber

BBore size : ø10

©Actuation : Double acting

DFinger : Basic

Amp mounting position / grip center : Amp side/no positioning

reference, high precision positioning hole hole

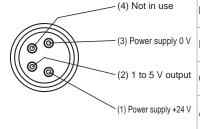
Adaptor option : Without adaptor

Consumable parts list

Contoannable	parto not						
Bore size (mm)	Material	Kit No.	Consumable parts No.	Bore size (mm)	Material	Kit No.	Consumable parts No.
ø10	Chloroprene rubber	LSH-G10K		ø20	Chloroprene rubber	LSH-G20K	
Ø10	Fluoro rubber	LSH-F10K	Rubber	Ø20	Fluoro rubber	LSH-F20K	Rubber
~16	Chloroprene rubber	LSH-G16K	cover	~ OF	Chloroprene rubber	LSH-G25K	cover
ø16	Fluoro rubber	LSH-F16K		ø25	Fluoro rubber	LSH-F25K	

Plug contact array diagram

· Without adaptor



Environment-resistant cylinder Linear Slide STG STS STL LSH LSHL LSHM Low-profile long stroke hand LST LSTM Wide Parallel Hand HMC Chuck CKW Air Booste ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL Supports food SCPD3 CMK2 SCM mfg. SCG processes SSD2 STG

LSHM-HP2 Series

SCPD3 CMK2

SCM SSD2

MDC2 MSD MSDG-L

Long service life cylinder SMG LCR LCG STM

> STG STR2

SCPD3 Environment-resistant cylinder CMK2 SCM SCG SSD2 SMG LCR

STG STS STL LSH

Linear Slide Hand LSHL LSHM

Chuck CKW Air Booster ABP2

Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG

STG STM LCR LCG STR2 LSH LSHL

SCPD3 processes CMK2 SCM SCG SSD2 STG

Correction adapter

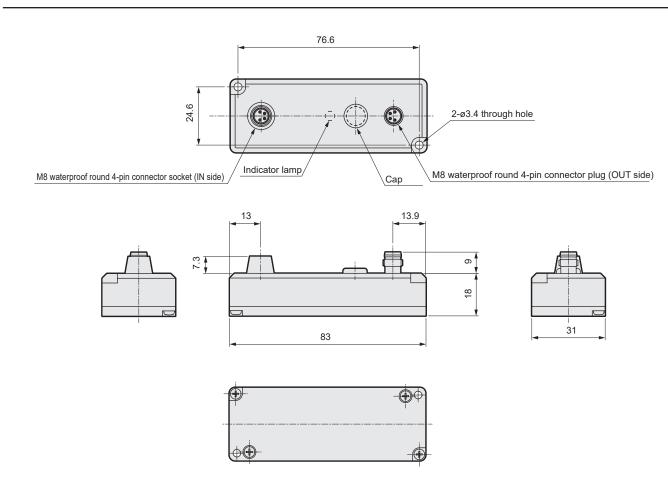
The analog output linearity will be corrected. Please use for applications where high-accuracy linearity is required.

Specifications

opodinoationo	
Item	Description
Power supply voltage	24 VDC ±10%
Current consumption	35 mA or less
Indicator lamp	Red LED lit when power applied
Analog input	1 to 5 V (LSHM Series output voltage)
Analog output	1 to 5 V, connection load 50 k Ω or more
Analog output linearity	±0.5% F.S. or less (ambient temperature 25°C, LSHM Series connection, CKD provided measuring method)
Repeatability of analog output	± 0.02 mm or less (No deformation or wear of the actuator / jig when ambient temperature is 25 $^{\circ}$ C)
Input connector	M8 waterproof round 4-pin connector socket
Output connector	M8 waterproof round 4-pin connector plug
Shock resistance	294m/s ²
Degree of protection	IEC Standard IP65
Ambient temperature, humidity	10 to 60 °C, 85% RH or less
Mounting method	Direct mounting
Weight	40g

^{*}Use the default combination of LSHM and correction adapter.

Dimentions



Switch output adapter

SCPD3 CMK2 SCM

SSD2

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

LSHM

LST

LSTM

CKW

SCPD3

CMK2 SCM SSD2

MSDG-L SMG

STG STM LCR

LCG

STR2 LSH LSHL

SCPD3
CMK2
SCM
SCG
SSD2
STG

Low-profile long stroke hand

HMC Hand

Chuck

ABP2 Booster

Compatible with rechargeable batteries

Supports food mfg. processes

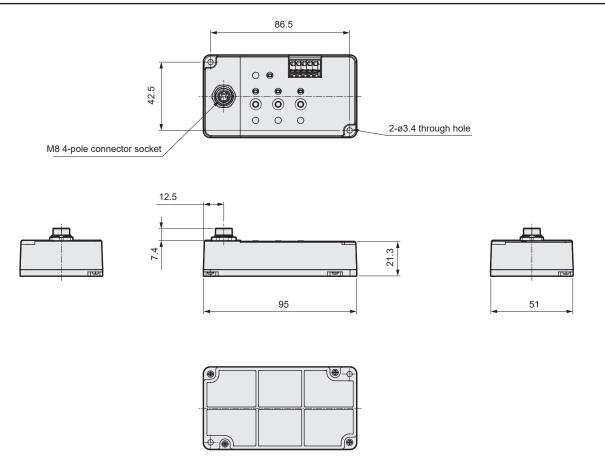
Switch output adapter

Specifications

Switch output adapter (NPN)	Switch output adapter (PNP)	MDC2		
Option code: B	Option code: C	MSD		
24 VD	OC ±10%	MSDG-L		
35 mA	A or less	SMG LCR		
Green LED ON when power applied				
Red Lit wh	nen LED ON	LCG		
	3	STM		
NPN: Open collector Max. power supply voltage: 24 VDC Max. load current: 50 mA Internal voltage drop: 1.2V or less	PNP: Open collector Max. power supply voltage: 24 VDC Max. load current: 50mA (*1) Internal voltage drop: 1.5V or less	STG STR2 SCPD3 CMK2		
0.2/0.5/1	.0 mm (*2)	SCM		
1 to 5 V (LSHM Se	eries output voltage)	SCG		
M8 connecto	r 4-pin (socket)	SSD2		
294	4m/s ²	SMG LCR		
IEC Standards IP40				
10 to 60°C, 85% RH or less				
Direct mounting				
20 MΩ and over w	rith 500 VDC megger	LSH		
No failure after 1 minute of 1,000 VAC application				
10 Hz-55Hz compound amplitude 1.5mm, X, Y, Z, 2 hours each in each direction				
65g				
	35 m/s Green LED ON v Red Lit wl NPN: Open collector Max. power supply voltage: 24 VDC Max. load current: 50 mA Internal voltage drop: 1.2V or less 0.2/0.5/1 1 to 5 V (LSHM Si M8 connector 29 IEC Stan 10 to 60°C, 8 Direct 20 MΩ and over w No failure after 1 minute 10 Hz-55Hz compound amplitude 1.5m	24 VDC ±10% 35 mA or less Green LED ON when power applied Red Lit when LED ON 3 NPN: Open collector Max. power supply voltage: 24 VDC Max. load current: 50 mA Internal voltage drop: 1.2V or less 0.2/0.5/1.0 mm (*2) 1 to 5 V (LSHM Series output voltage) M8 connector 4-pin (socket) 294m/s² IEC Standards IP40 10 to 60°C, 85% RH or less Direct mounting 20 MΩ and over with 500 VDC megger No failure after 1 minute of 1,000 VAC application 10 Hz-55Hz compound amplitude 1.5mm, X, Y, Z, 2 hours each in each direction		

^{*1:} The total of all channels must be 100 mA or less.

Dimentions



^{*2:} There is a hysteresis of 0.04mm on one side.

LSHM-HP2 Series

SCPD3 CMK2 SCM

SSD2

Long service life cylinder MDC2 MSD MSDG-L SMG LCR LCG

STM STG STR2 SCPD3 CMK2 SCM SCG

Environment-resistant cylinder SSD2 SMG LCR STG STS STL

Chuck Wide Page | Linear Slide Hand stroke hand | Linear Slide Hand | Chuck Hand | Chuck hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand | Chuck Hand |

Air Booster ABP2

Compatible with rechargeable batteries
COMPATIBLE WITH COMPATI

LSHL

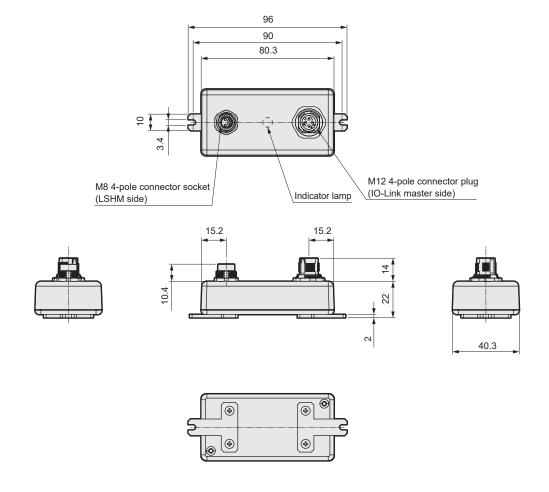
processes SCPD3 CMK2 SCM SCG SSD2 STG

IO-Link adapter

Specifications

<u>'</u>	
Item	Description
Power supply voltage	24 VDC ±10%
Current consumption	35 mA or less
Indicator lamp	Green LED ON when power applied
Analog input	1 to 5 V (LSHM Series output voltage)
Input connector	M8 connector 4-pin (socket)
Output connector	M12 connector 4-pin (plug)
nonlinearity	±0.5% F.S. or less (ambient temperature 25°C, LSHM Series connection, CKD provided measuring method)
Insulation resistance	$20~\text{M}\Omega$ and over with 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application
Shock resistance	294m/s ²
Degree of protection	IEC Standards IP40
Ambient temperature, humidity	10 to 60°C, 85% RH or less
Mounting method	Direct mounting
Vibration resistance	10 Hz-55Hz compound amplitude 1.5mm, X, Y, Z, 2 hours each in each direction
Weight	70g

Dimensions



SCPD3	
CMK2	
SCM	2
SSD2	Ω
MDC2	SE
MSD	₹.
MSDG-L	မ
SMG	₩
LCR	S
LCG	linc
STM	ब्
STG	
STR2	
SCPD3	Ш
	7
CMK2	<u>S</u>
SCM	Ĭ
SCG	ent-
SSD2	ġ
SMG	Sist
LCR	ani
STG	0
STS	Ì
STL	der
LSH	Line
LSHL	ar Slic
LSHM	le Hai
	nd Lo
LST	stroke ha
LSTM	and v
НМС	Hand
CKW	Chuck
ABP2	Air Booster
SCPD3	0
CMK2	Om
SCM	npa
SSD2	atib
MSD	le \
MSDG-L	¥.
SMG	ı re
STG	cha
STM	arg
LCR	eak
LCG	ble
STR2	bat
LSH	er.
LSHL	ies
	လ
SCPD3 CMK2	uppor
SCM	orts foc
	od mf
SCG	g. pr
SSD2	oces
	čć
STG	ses

Low-profile long stroke hand



CONTENTS

HP1 Series

Low-profile long stroke hand (LST-HP1)

144

HP2 Series

Length measurement function/Low-profile long stroke hand (LSTM-HP2) 146

▲Safety precautions

232

Low-profile long stroke hand series variation

Model No.	Bore size (mm)	Stroke (mm)
LST-HP1	ø8×2/ø12×2/ø16×2/ø20×2	8/16/32, 12/24/48, 16/32/64, 20/40/80
LSTM-HP2	ø12×2/ø16×2/ø20×2	12/16/20

CMK2 SCM SSD2 MDC2 service life cylinder MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder Linear Slide Hand SCPD3 CMK2 SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LST hand LSTM HMC CKW ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG LSH LSHL SCPD3 CMK2 SCM SCG

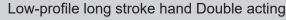
SCPD3

SSD2 STG SMG

LCR LCG STM

LSH

ABP2



LST-HP1 Series

Operational stroke: Short stroke: 8, 12, 16, 20mm

Middle stroke: 16, 24, 32, 40mm Long stroke: 32, 48, 64, 80mm







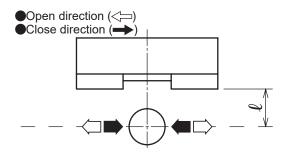
Unit: N

Specifications

Сросиновино		LCTAG			LCT 40			LCT 4C			LCT 20		
Item		LST-08			LST-12			LST-16			LST-20		
itom	Α	В	С	Α	В	С	Α	В	С	Α	В	С	
Bore size mm		ø8 x 2			ø12 x 2			ø16 x 2		ø20 x 2			
Actuation		Double acting											
Working fluid		Compressed air											
Max. working pressure MPa		0.7											
Min. working pressure MPa		0.15			0.1								
Ambient temperature°C						10 to 60 (r	o freezing)					
Port size		М3						M5					
Operating stroke mm	8	16	32	12	24	48	16	32	64	20	40	80	
Repeatability mm					±0.03								
Weight kg	0.09	0.12	0.16	0.19	0.24	0.34	0.42	0.54	0.79	0.78	1.03	1.49	
Lubrication						Not re	quired						

Gripping force

· Gripping force is the thrust (one finger) in the direction of the arrow shown in the figure.



Bore size (mm)	Double acting
ø8	19
ø12	48
ø16	90
ø20	141

^{*} Supply pressure 0.5MPa, *l*=15mm, value at the stroke center

Switch specifications

Item	2-wire proximity	3-wire proximity	2-wire proximity	3-wire p	roximity		
item	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV		
Applications	Programmable Controller dedicated	Programmable For controller, relay	Programmable Controller dedicated	Programmable For controller, relay			
Output method	-	NPN output	- NPN output PNP ou				
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC		
Load voltage/ current	10 to 30 VDC 5 to 20 mA	30 VDC or less 50 mA or less	10 to 30 VDC 5 to 20 mA	30 VDC or less 50 mA or less			
Indicator lamp	Red LED (L	it when ON)	Y	ellow LED (Lit when ON)		
Leakage current	1 mA or less	10 μA or less	1 mA or less	10 μΑ	or less		
Shock resistance			980m/s²				
Weight g			1m:10 3m:29				

^{*1:} The F-switch uses a bend-resistant lead wire as standard.

Refer to the LST-HP1 Series of "Low-profile long Stroke Hand LST-HP Series (No.CC-1529A)" for dimensions.

LST-HP1 Series

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Chuck

Air Booster

Compatible with rechargeable batteries

Supports food

ABP2 SCPD3

CMK2

SCM SSD2 MSD

MSDG-L

SMG

STG

STM

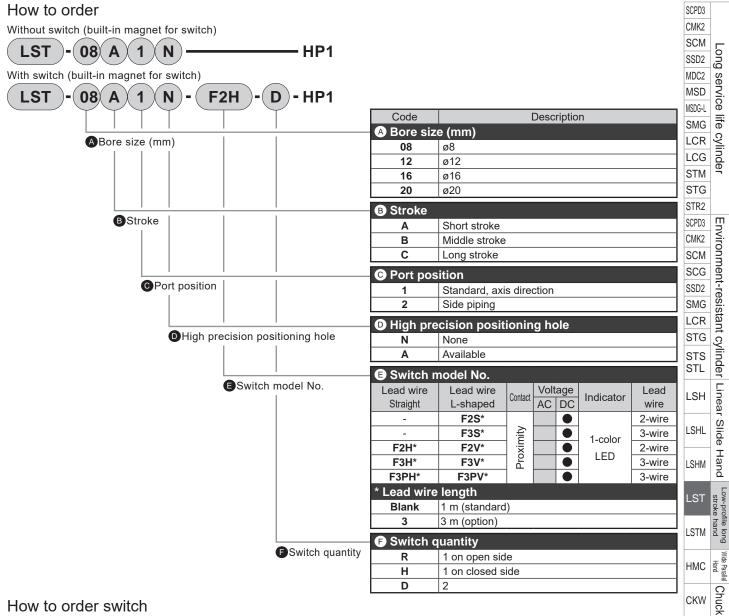
LCR

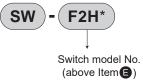
LCG

STR2

LSH LSHL

SCPD3 CMK2 SCM mfg. SCG SSD2 STG





[Example of model No.]

LST-16B2A-F2H3-D-HP1

Model: Low-profile long stroke hand ABore size (mm) : ø16

BStroke : Middle stroke ©Port position : Side piping DHigh precision positioning hole: Available

 Switch model No. : Proximity F2H, lead wire 3 m

BSwitch quantity

LCR LCG STM STG STR2

LSHL



Low-profile long stroke hand with length measuring function Double acting

LSTM-HP2 Series

Operating stroke: 12, 16, 20 mm

Double acting







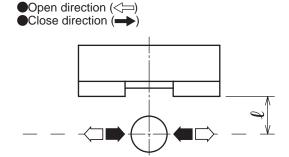
Specifications

ltem			LSTM			
Bore size	mm	ø12 x 2	ø16 x 2	ø20 x 2		
Actuation			Double acting			
Working fluid			Compressed air			
Max. working pressure	MPa		0.7			
Min. working pressure	MPa	0.1				
Port size		M5				
Operating stroke	mm	12	12 16 20			
Power supply voltage		24 VDC ±10%				
Current consumption		25 mA or less				
Indicator lamp		Green LED ON when power applied				
Analog output		1 V when finger is closed - $5V*1$ when open, connection load $100k\Omega$ or more				
Analog output linearity		±0.5%	F.S. or less (ambient temperature	25°C)		
Repeatability of analog output		(No deformation or wea	±0.04 mm or less r of the actuator / jig when ambier	it temperature is 25 ° C)		
Valid measured range length	mm	12	16	20		
Shock resistance (sensor/amplifier s	ection)		294m/s ²			
Vibration resistance (sensor / amplifier s	section)	10 to 55Hz double	e amplitude 1.5mm, 2 hours in eac	h X, Y, Z direction		
Degree of protection (sensor/amplifier s	section)		IEC Standard IP65			
Ambient temperature, humidity			10 to 60°C, 85% RH or less (no freezing)			
Weight	kg	0.26	0.50	0.90		
Lubrication			Not required			

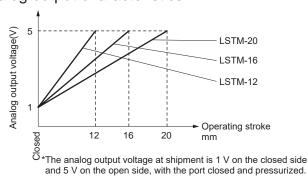
^{*1:} There is output fluctuation of 1 mV / °C.

Gripping force

· Gripping force is the thrust (one finger) in the direction of the arrow shown in the figure.



Analog output characteristics



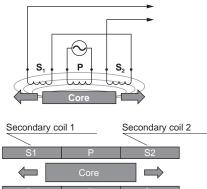
Unit: N

Bore size (mm)	Double acting
ø12	48
ø16	90
ø20	141

^{*}Supply pressure: 0.5 MPa, *l*=15mm value at stroke center

LVDT displacement sensor operation principle

When exciting the primary coil (P), induced voltage is generated in the two secondary coils (S1/S2) by electromagnetic induction. When the Hand is driven, the core position changes and a difference in induced voltage occurs between S1 and S2. This difference is used to output the position of the core as electric signals.



Primary coil

LSTM-HP2 Series

How to order

SCPD3

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

SMG

LCR STG STS

STL

LSH

LSHL

LSHM

LST

LSTM

CKW

ABP2 SCPD3

CMK2
SCM
SSD2
MSD
MSDG-L
SMG
STG
STM
LCR
LCG
STR2
LSH
LSHL
SCPD3

HMC Hand

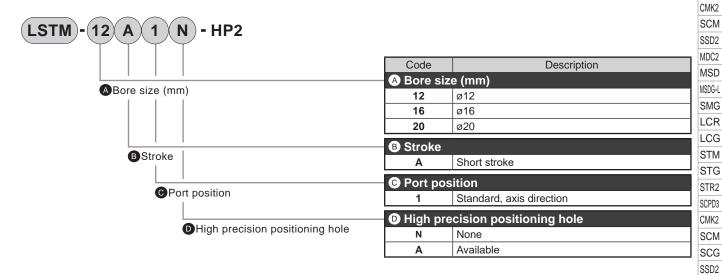
Chuck

Air Booster

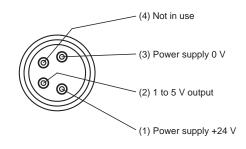
Compatible with rechargeable batteries

SCPD3 Supports food mfg.





Plug contact array diagram



[Example of model No.]

LSTM-16A1A-HP2

Model: Low-profile long stroke hand with length

measuring function

ABore size (mm) : ø16

BStroke : Short stroke

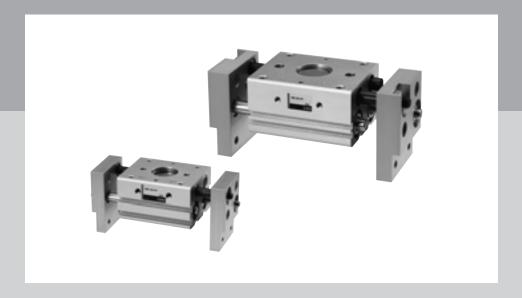
OPort position : Standard, axis direction

DHigh precision positioning hole: Available

Refer to the LSTM-HP2 Series of "Low-profile long stroke hand LST-HP Series (No.CC-1529A)" for dimensions.

SSD2 STG

HP1 Series Wide parallel hand



CONTENTS

Wide parallel hand (HMC-HP1)

150

▲Safety precautions

232

Wide parallel hand series variation

Model No.	Bore size (mm)	Stroke (mm)
HMC-HP1	ø10×2/ø16×2/ø20×2 ø25×2/ø32×2/ø40×2	20/40/60, 30/60/80, 40/80/100, 50/100/120, 70/120/160, 100/160/200

CMK2 SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder Linear Slide Hand SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LST LSTM HMC CKW ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG LCR LCG STR2 LSH LSHL Supports food mfg. SCPD3 CMK2 SCM SCG

SCPD3

SSD2 STG LCR LCG STM STG STR2

LSHM



Wide parallel hand (standard/long stroke)

HMC-HP1 Series

Operating stroke: Short stroke: 20, 30, 40, 50, 70, 100mm Middle stroke: 40, 60, 80, 100, 120, 160mm Long stroke: 60, 80, 100, 120, 160, 200mm

Double acting







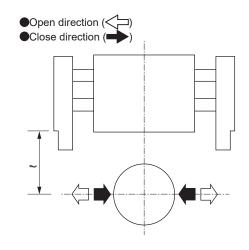
Unit: N

Specifications

	pcomean	0110																		
	ltom		ŀ	HMC-1	0	F	IMC-1	6	ŀ	IMC-2	0	F	IMC-2	5	F	IMC-3	2	ŀ	IMC-4	0
	Item		Α	В	С	А	В	С	Α	В	С	А	В	С	А	В	С	Α	В	С
В	ore size	mm	ø10×2 ø16 x				ø16 x 2					ø32 x 2 ø40x2								
A	ctuation										Double	acting	l							
W	orking fluid									C	compre	ssed a	ir							
Ma	ax. working pressur	e MPa									0.	.6								
Mi	n. working pressure	e MPa		0.15									0.1							
Aı	mbient temperat	ture°C								-10 1	to 60 (r	no freez	zing)							
Р	ort size							N	15								Ro	1/8		
0	perating strok	e mm	20	40	60	30	60	80	40	80	100	50	100	120	70	120	160	100	160	200
R	od diameter	mm		ø6			ø8			ø10			ø12			ø16			ø20	
	olumetric capacit eciprocating)	y cm³	2.0	4.0	6.0	9.0	18.1	24.1	18.8	37.7	47.1	37.8	75.6	90.7	84.4	145	193	188	302	377
R	epeatability	mm									±C).1								
W	/eight	kg	0.28	0.39	0.45	0.53	0.74	0.85	0.98	1.3	1.5	1.6	2.2	3.5	2.9	3.8	4.5	5.3	6.9	8.2
L	ubrication										Not re	quired								

Gripping force

· Gripping force is the thrust (one finger) in the direction of the arrow shown in the figure.



Bore size (mm)	Double acting
ø10	14
ø16	45
ø20	74
ø25	131
ø32	228
ø40	396

^{*}Supply pressure 0.5MPa, \(\extstyle = 40mm \) (\(\pi 10, 16, 20, 25 \)), 80 mm (\(\pi 32, 40 \)), value in stroke center

Refer to the HMC-HP1 Series of "Wide parallel hand HMC-HP1 Series (No.CC-1580A)" for dimentions.

HMC-HP1 Series

Switch specifications

SCPD3 CMK2

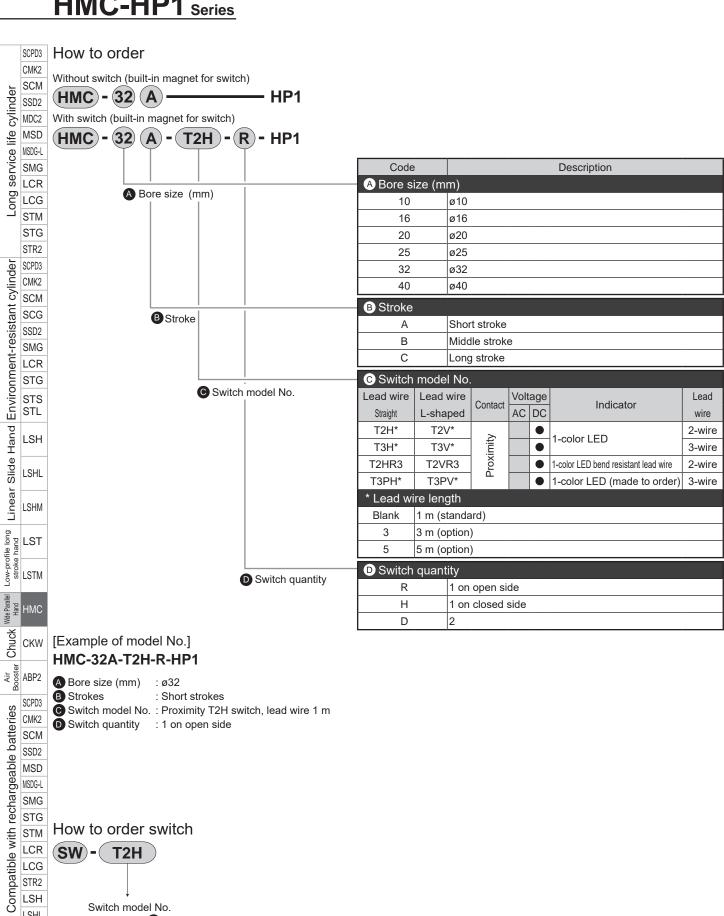
Switch specifications

	2-wire p	roximity	3-wire p	roximity	
Item	T2H/T2V	T2HR3/T2VR3 (Lead wire bending type)	e) T3H/T3V T3PH/T3		
Applications	Prograr Controller	nmable dedicated	Programmable For controller, relay		
Output method	-	-	NPN output PNP output		
Power supply voltage	-	-	10 to 28 VDC		
Load voltage/ current	10 to 30 VDC 5 to 20mA (*1)	10 to 30 VDC 5 to 20 mA		or less	
Indicator lamp	Red LED (Lit when ON)	Red LED (Lit when ON)	Red LED (Lit when ON)	Yellow LED (Lit when ON)	
Leakage current	1 mA or less	1 mA or less	10 μΑ	or less	
Shock resistance		980r	m/s²		
Weight g		1m:18g 3m:	49g 5m:80g		

^{*1:} The above max. load current is 20 mA at 25°C. If the operating ambient temperature around the switch is higher than 25°C, the current is lower than 20 mA. (5 to 10 mA at 60°C)

SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 SCPD3 Environment-resistant cylinder Linear Slide Hand CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LST LSTM Chuck CKW ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL Supports food mfg. SCPD3 CMK2 SCM SCG SSD2 STG

HMC-HP1 Series



LSHL

SCPD3 processes CMK2

SCM SCG SSD2 STG

SCPD3	
CMK2	
SCM	2
SSD2	onc
MDC2	SE (
MSD	≚.
MSDG-L	6
SMG	≡fe
LCR	S
LCG	linc
STM	ĕ
STG	
STR2	
SCPD3	ш
CMK2	₹.
SCM	g
SCG	Ħ
	ř
SSD2	res
SMG	ist
LCR	ant
STG	ह
STS	ling
STL	ĕ
LSH	ļ Ę
LON	lea
	S
LSHL	lide
	I
LSHM	anc
LST	st o
	그
	roke h
LSTM	roke hand
LSTM	roke hand
LSTM	roke hand Han
	roke hand Hand
НМС	roke hand Wide Parallel Chu
	roke hand Hand Chuck
HMC CKW	Chuck Boo
НМС	Chuck B
HMC CKW	Chuck Boo
HMC CKW ABP2	Chuck Boo
HMC CKW ABP2 SCPD3 CMK2	Chuck Boo
HMC CKW ABP2 SCPD3 CMK2 SCM	Chuck Boo
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	Chuck Boo
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L SMG	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG STG	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L SMG STG STM LCR	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L SMG STM LCR LCG	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCG STR2	Chuck Air Compatible Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STTG LCR LCG STR2 LSH	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC- MSDG-L STM LCR LCG STR2 LSH LSHL	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM STR2 SCM SCM SCM SCM SCM SCM SCM	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCM STR2 SCM SCM SCM SCM SCM SCM SCM	Thuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM STR2 SCM SCM SCM SCM SCM SCM SCM SC	Thuck Booster Compatible with rechargeable batt

HP1 Series

3-way chuck



CONTENTS

Double acting without rubber cover (CKW-A-HP1)
Double acting with rubber cover (CKW-G-HP1, CKW-F-HP1)
158

▲Safety precautions 232

3-way finger chuck series variation

Model No.	Bore size (mm)	Stroke (mm)
CKW-A-HP1		
CKW-G-HP1	ø16/ø20/ø25/ø32/ø40	4/4/6/8/8
CKW-F-HP1		

CMK2 SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder Linear Slide Hand SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LST LSTM HMC Hand CKW ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL Supports food mfg. SCPD3 CMK2 SCM SCG

SCPD3

SSD2 STG SMG

LCR LCG STM STG

LSHL

3-way chuck

CKW-A-HP1 Series

Operational stroke: 4, 6, 8 mm

Double acting







Unit: N

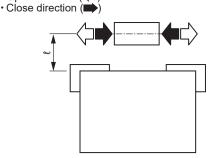
Specifications

opeomeatione							
ltem		CKW-A-HP1					
Bore size r	nm ø16	ø16 ø20 ø25 ø32 ø40					
Actuation		Double acting					
Working fluid				Compressed air			
Max. working pressureN	1Pa			0.7			
Min. working pressureM	1Pa	0.2 0.1					
Ambient temperature	°C	-10 to 60 (no freezing)					
Port size	M3	M3 M5					
Operating stroke r	mm	4 6 8			3		
Rod diameter r	mm	ø6		ø8	ø10	ø12	
Repeatability r	mm	±0.01					
Weight	kg 0.08		0.13	0.17	0.31	0.46	
Lubrication		Not required					

Gripping force

 \bullet Gripping force is the thrust (one finger) in the direction of the arrow shown in the figure

Open direction (



Bore size (mm)	Double acting		
Bore Size (IIIII)	Open side	Closed side	
ø16	16	14	
ø20	28	25	
ø25	47	42	
ø32	82	74	
<u>~40</u>	120	110	

^{*}Supply pressure 0.5MPa, \(\ext{!} = 20mm \) (\(\pi 16 \) to 25), 30 mm (\(\pi 32 \) to 40), value at stroke center

Switch specifications

lt a m	2-wire proximity	3-wire proximity	2-wire proximity	3-wire p	roximity	
Item	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV	
Applications	Programmable Programmable Controller dedicated For controller, relay		Programmable Controller dedicated	Programmable For controller, relay		
Output method	-	NPN output	-	NPN output	PNP output	
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC	
Load voltage/ current	10 to 30 VDC 30 VDC or less 10 to 30 VDC 30 VDC or le 5 to 20 mA 50 mA or less 5 to 20 mA 50 mA or les					
Indicator lamp	Red LED (Lit when ON) Yellow LED (Lit when ON)					
Leakage current	1 mA or less 10 μA or less 1 mA or less 10 μA or less				or less	
Shock resistance	980m/s²					
Weight g	1m:10 3m:29					

^{*1:} The F-switch uses a bend-resistant lead wire as standard.

Refer to the CKW-A Series of "3-way jaw chuck CKW-HP1 Series (No.CC-1581A)" for dimensions.

CKW-A-HP1 Series

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

ABP2

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

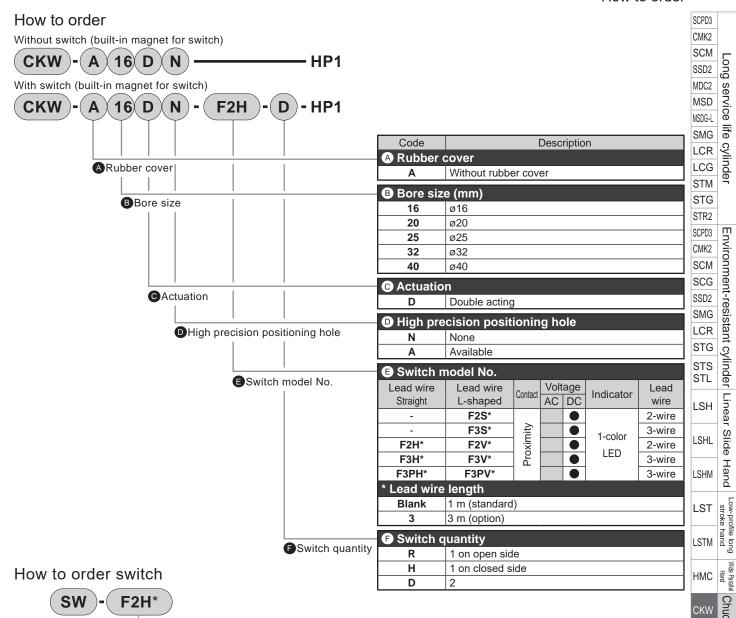
STG

STM

LCR

LCG STR2 LSH LSHL SCPD3 Compatible with rechargeable batteries

Supports food CMK2 SCM mfg. SCG SSD2 STG



[Example of model No.]

CKW-A16DN-F2H-D-HP1

Model: 3-way jaw chuck

ARubber cover : Without rubber cover

Switch model No.

(above Item (above Item)

BBore size :ø16

C Actuation : Double acting

DHigh precision positioning hole: None

Switch model No. : Proximity F2H, lead wire 1 m

Switch quantity : 2 LCG STM STG

LSHM

SCPD3



3-way jaw chuck with rubber cover

CKW-G-HP1/CKW-F-HP1 Series

Operating stroke: 4, 6, 8 mm

Double acting







Specifications

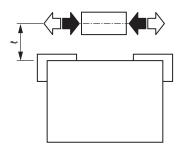
Item		CKW-G-HP1/CKW-F-HP1						
Bore size	mm	ø16	ø16 ø20 ø25 ø32 ø40					
Actuation		Double acting						
Working fluid				Compressed air				
Max. working press	sureMPa			0.7				
Min. working press	sureMPa	0.2 0.1						
Ambient temperat	ture °C	-10 to 60 (no freezing)						
Port size		M3 M5						
Operating stroke	mm	4		6	8	}		
Rod diameter	mm	ø6		ø8	ø10	ø12		
Repeatability	mm	±0.01						
Weight	kg	0.12	0.19	0.26	0.50	0.65		
Lubrication		Not required						

Gripping force

• Gripping force represents the thrust (per one finger) in the arrow direction shown in the figure.

• Open direction (<

Close direction (



		Unit:	Ν

Bore size (mm)	Double	acting
Bore Size (IIIII)	Open side	Closed side
ø16	16	9
ø20	28	21
ø25	47	36
ø32	82	62
ø40	130	97

^{*} Supply pressure 0.5MPa, ℓ = 20mm (ø16 to 25), 30 mm (ø32 to 40), value at stroke center

Switch specifications

Item	2-wire proximity 3-wire proximity 2-wire proximity 3-wire proximity		roximity		
item	F2S	F3S	F2H/F2V	F3H/F3V	F3PH/F3PV
Applications	Programmable Programmable Programmable Controller dedicated For controller, relay Controller dedicated		Programmable Controller dedicated	ı	mmable oller, relay
Output method	-	NPN output	-	NPN output	PNP output
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC
Load voltage/ current	10 to 30 VDC 30 VDC or less 10 to 30 VDC 30 VDC or less 5 to 20 mA 50 mA or less 5 to 20 mA 50 mA or less				
Indicator lamp	Red LED (L	Red LED (Lit when ON) Yellow LED (Lit when ON)			
Leakage current	1 mA or less	10 μA or less	1 mA or less	10 μΑ	or less
Shock resistance	980m/s²				
Weight g	1m:10 3m:29				

^{*1:} The F-switch uses a bend-resistant lead wire as standard.

Refer to the CKW-G/CKW-F Series of "3-way jaw chuck CKW-HP1 Series (No.CC-1581A)" for dimensions.

CKW-G-HP1/CKW-F-HP1 Series

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

₽

Compatible with rechargeable batteries

Supports food CMK2 SCM

mfg. SCG

processes SSD2 STG

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

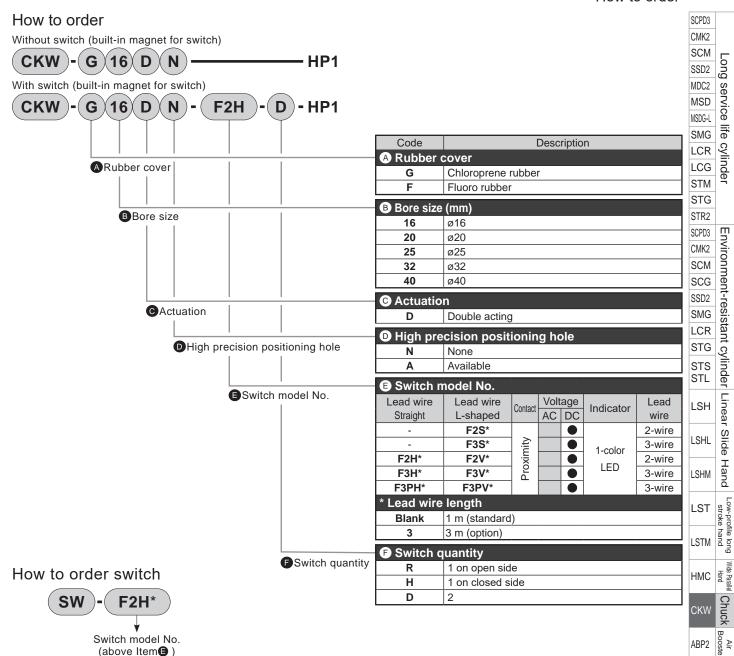
SMG

STG

STM

LCR

LCG STR2 LSH LSHL SCPD3



[Example of model No.]

CKW-G20DA-F2H3-R-HP1

Model: 3-way jaw chuck with rubber cover

ARubber cover : Chloroprene rubber

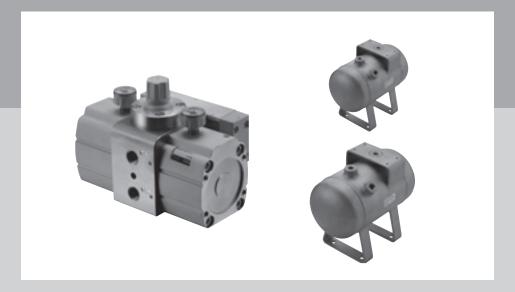
BBore size :ø20

CActuation : Double acting DHigh precision positioning hole: Available

Switch model No. : Proximity F2H, lead wire 3 m

BSwitch quantity : 1 on open side **HP1 Series**

Air booster



CONTENTS

Air booster (ABP2-HP1)

Air tank (AT2)

▲Safety precautions

162

164

232

LST LSTM HMC

CKW

SCPD3 CMK2 SCM

SSD2 MDC2

MSD MSDG-L SMG LCR LCG STM STG STR2

SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

LSH

LSHL

LSHM

ABP2 SCPD3

CMK2 SCM

SSD2 MSD

Compatible with rechargeable batteries MSDG-L SMG

STG STM

LCR LCG STR2

LSH LSHL

SCG SSD2 STG STG

SMG

LCR

STG STS

LST

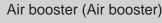
CKW

CMK2

SCM

STR2

LSH



[Example of model No.]

A Body piping thread: Rc thread

DBracket option: None

B Pressure gauge option: Pressure gauge (2 included)

Silencer option: Silencer (2 pcs. included)

ABP2-02R-GSN-HP1 Model: Air booster

ABP2-HP1 Series

JIS symbol





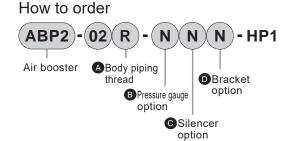


Specifications

· ·	
Item	ABP2-HP1
Working fluid	Compressed air
Max. working pressure MP	0.99
Min. working pressure MP	0.2
Set pressure MP	a From a primary pressure of + 0.1MPa to twice the primary pressure (max.0.99 MPa)
Proof pressure MP	1.5
Flow rate m³/min(ANR	Refer to the flow characteristics in the graph on the right
Boosting ratio	Max. twice (or equivalent)
Ambient temperature°0	0 to 50 (no freezing)
Lubrication	Not available
Port size	Rc1/4 (bottom, back Rc1/8)
Weight k	2.0
Durability	10 million cycles (nominal) (Refer to page 163)

Functions

- Primary pressure from IN passes through the check valve on IN side, and flows into booster chambers A and B. The primary pressure passes through the pressure adjustment section and switching valve, and flows into the driving chamber A. The piston moves to the left due to the pressure of the driving chamber A. Air in booster chamber A is compressed, passes through the check valve on the OUT side, and goes to the
- When the piston reaches the stroke end, the changeover switch will be pushed, causing compressed air to be supplied to the switching valve pilot chamber and causing the switching valve to change over. Then the air in drive chamber A is exhausted, and the air is delivered to drive chamber B.
- Therefore, the piston moves to the right and air in booster chamber B is compressed, passes through the check valve at the OUT side and moves OUT.
- Boosting on the OUT side is compressed if the operations above are repeated. Feedback pressure is transmitted to the pressure adjustment section due to the OUT side pressure, and boosting is continued until the pressure adjustment spring pressure is balanced.



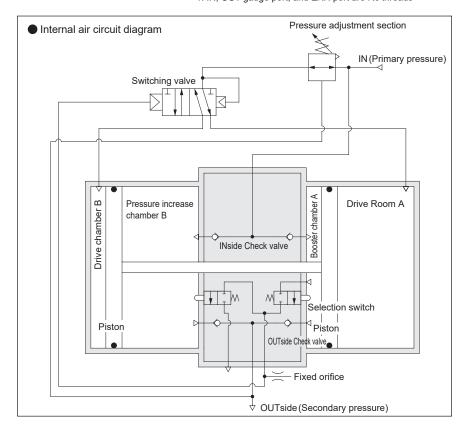
Code	Description		
A Body port thread			
R	Rc thread		
N	NPT thread (made to order) *1		
G	G thread (made to order) *1		

Pressure gauge option				
N	No			
G	Pressure gauge (2 included)			

© Silencer option				
N	No			
S	Silencer (2 pcs. included)			
Н	High performance silencer (2 pcs. included)			

Bracket option		
N	No	
В	Foot bracket (2 included)	
Т	Tank mounting base (included)	

^{*1:} IN, OUT gauge port, and EXH port are Rc threads



Refer to "Air booster ABP2-HP1 Series (No.CC-1533A)" for dimentions.

ABP2-HP1 Series

Specifications

SCPD3 CMK2 SCM

SSD2 MDC2 MSD MSDG-L

SMG

LCR LCG STM

STG STR2

SCPD3 CMK2

SCM

SCG SSD2 SMG LCR

STG

STS STL

LSH

LSHL

LSHM

LST

LSTM

HMC

CKW

ABP2

SCPD3

CMK2

SCM

SSD2

MSD MSDG-L

SMG

STG

STM

LCR LCG

STR2

LSH

LSHL

SCPD3

CMK2

SCM

SCG

SSD2 STG

Low-profile long stroke hand

Wide Parallel Hand

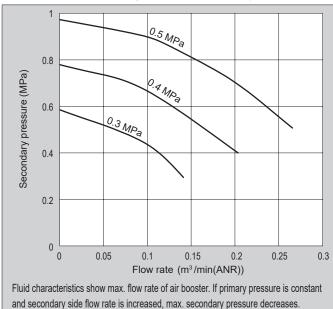
Compatible with rechargeable batteries

Supports food mfg.

Long service life cylinder

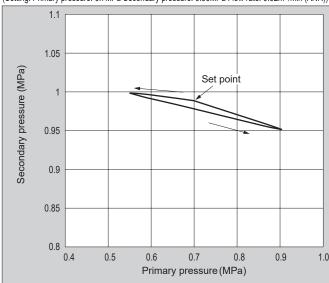
Environment-resistant cylinder Linear Slide Hand

Flow characteristics (Air tank 5L, at twice the pressure



Pressure characteristics

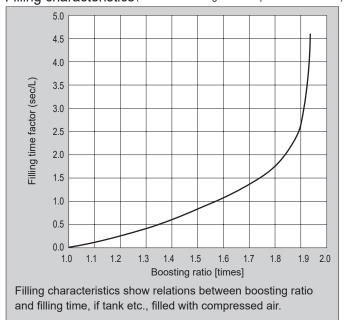
(Setting: Primary pressure: 0.7MPa Secondary pressure: 0.99MPa Flow rate: 0.02m3/min (ANR))



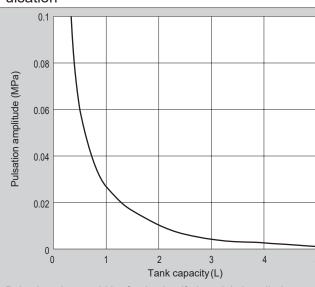
Pressure characteristics show variation of set secondary pressure according to primary pressure variation.

Note) Air booster needs approx, twice secondary side flow rate (max.) for primary side due to structure. Confirm that the instantaneous flow rate is within the curve

Filling characteristics (when the boosting ratio is equivalent to 2 times) Pulsation



The time required to fill the tank with air can be calculated as follows. With the primary side pressure Po, inner tank pressure before filling P1, inner tank pressure after filling P2, pre-filling ratio between primary side pressure and inner tank pressure k1, and post-filling ratio between primary side pressure and inner tank pressure k2, the formula will be $k_1 = \frac{P_1}{P_0}$, $k_2 = \frac{P_2}{P_0}$. Calculate k_1 and k_2 , find the filling time factors t_1 and t2 at the boosting ratio points k1 and k2 in the graph and substitute the values into t = (t2 - t1) A to obtain the filling time t of the tank capacity A (L).



Pulsation shows width of pulsation if air tank is installed onto secondary side of air booster.

$$N = \frac{Q \times 10^3}{0.95P + 0.096}$$

N: Operational cycle

Q: Required flow rate (m3/min(ANR))

P: Primary pressure (MPa)

Formula for air booster service life

Since the nominal life of the operation cycle is 10 million cycles

$$T = \frac{10,000,000}{N \times 60}$$

T: Service life (Time)

The characteristics above are typical examples, not guaranteed values.

STG STR2

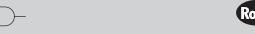
SCPD3 CMK2 SCM SCG SSD2 SMG



Air tank (Related products)

AT2 Series

JIS symbol







CAD

Specifications

Item	AT2-05S	AT2-10S
Working fluid	Compressed air	
Max. working pressure MPa	0.99	
Water test pressure MPa		5
Ambient temperature °C	0 to 50 (no freezing)	
Internal capacity L	5	10
Port size	Rc	3/8
Material	Stainless steel	
Weight kg	7.3	10.5

How to order



Code	Description	
A Internal capacity		
05	5L	
10	10L	

SCPD3	
CMK2	
SCM	_
SSD2	g
MDC2	se
MSD	<u>≤</u> .
MSDG-L	<u>8</u>
SMG	fe
LCR	₹
LCG	ind
STM	<u>e</u>
STG	
STR2	
SCPD3	ш
CMK2	≧.
SCM	g
SCG	픮
SSD2	Ť
	res
SMG	ist
LCR	ä
STG	र्
STS	ind
STL	ब्
LSH	듥
LOIT	lea
	<u>S</u>
LSHL	lide
	I
LSHM	anc
LST	str.
	0 +
	oke h
LSTM	oke hand
LSTM	oke hand
	oke hand Han
LSTM	oke hand Hand
НМС	oke hand Wide Parallel Chu
	_ _ _
HMC	_ _ _
НМС	_ _ _
HMC CKW ABP2	Chuck Booster
HMC CKW ABP2 SCPD3	_ _ _
HMC CKW ABP2 SCPD3 CMK2	Chuck Booster
HMC CKW ABP2 SCPD3 CMK2 SCM	Chuck Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	Chuck Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	Chuck Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L	Chuck Booster Compatible with r
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG	Chuck Booster
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L SMG STG	Chuck Booster Compatible with rechar
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM	Chuck Booster Compatible with r
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR	Chuck Booster Compatible with rechargeable
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG	Chuck Booster Compatible with rechargeable b
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L SMG STTG STM LCR LCR STR2	Chuck Booster Compatible with rechargeable
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG	Chuck Booster Compatible with rechargeable batter
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L SMG STTG STM LCR LCR STR2	Chuck Booster Compatible with rechargeable batt
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STTG STM LCR LCG STR2 LSH	Chuck Booster Compatible with rechargeable batteries Sup
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STTG STM LCR LCG STR2 LSH LSHL	Chuck Booster Compatible with rechargeable batteries St
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3	Chuck Booster Compatible with rechargeable batteries Sup
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM	Chuck Booster Compatible with rechargeable batteries Sup
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	Chuck Booster Compatible with rechargeable batteries Sup
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STRG LCR LCG STR2 LSHL SCPD3 CMK2 SCM SCM SCM SCM SCM SCM SCM SC	Chuck Booster Compatible with rechargeable batteries Sup

Series Components for rechargeable batteries



CONTENTS

	CONTENTS	
■Long service life cylinder	Pencil shaped cylinder (SCPD3-P4/P40-HP1)	170
	Small bore size cylinder (CMK2-P4/P40-HP1)	172
	Round shaped cylinder (SCM-P4/P40-HP1)	174
	Compact cylinder (SSD2-P4/P40-HP1)	176
	Small compact cylinder (MSD-P4/P40-HP1)	178
	Small guided compact cylinder (MSDG-L-P4/P40-HP1)	180
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	Linear slide cylinder (LCG-P4/P40-HP1)	192
	Twin rod cylinder (STR2-P4/P40-HP1)	196
Linear Slide Hand	Double acting/single acting without rubber cover (LSH-A-P4/P40-HP1)	198
	Double acting/single acting with rubber cover (LSH-G/LSH-F-P4/P40-HP1)	200
	Double acting/single acting long stroke without rubber cover (LSHL-A-P4/P40-HP1)	202
	Double acting long stroke with rubber cover (LSHL-G/LSHL-F-P4/P40-HP1)	204
Cylinder switch		
Refer to the "Switch co	ompatibility table" and order using the listed order model No.	210
▲Safety precaution	ns	232

Long service life cylinder series variation

Model No.	Bore size (mm)	Stroke (mm)
SCPD3-P4/P40-HP1	ø6/ø10/ø16	5 to 150
CMK2-P4/P40-HP1	ø20/ø25/ø32/ø40	5 to 150
SCM-P4/P40-HP1	ø20/ø25/ø32/ø40	10 to 150
SSD2-P4/P40-HP1	ø12/ø16/ø20/ø25/ø32/ø40	1 to 100
MSD-P4/P40-HP1	ø6/ø8	5/10/15/20/25/30
MSDG-L-P4/P40-HP1	ø6/ø8/ø12/ø16	5/10/15/20/25/30
SMG-P4/P40-HP1	ø6/ø10/ø16/ø20/ø25/ø32	5 to 100
LCR-P4/P40-HP1	ø6/ø8/ø12/ø16/ø20/ø25	10/20/30/40/50/75/100/125/150
LCG-P4/P40-HP1	ø6/ø8/ø12/ø16/ø20/ø25	10/20/30/40/50/75/100/125/150
STM-P4/P40-HP1	ø6/ø10	5/10/15/20
STG-P4/P40-HP1	ø12/ø16/ø20/ø25/ø32/ø40	5 to 150
STR2-P4/P40-HP1	ø6/ø10/ø16/ø20/ø25/ø32	5 to 150

Linear slide hand system table

Model No.	Bore size (mm)	Stroke (mm)
LSH-A-P4/P40-HP1	ø6/ø10/ø16/ø20/ø25/ø32	4/4/6/10/14/22
LSH-G/LSH-F-P4/P40-HP1	ø6/ø10/ø16/ø20/ø25/ø32	4/4/6/10/14/22
LSHL-A-P4/P40-HP1	ø10/ø16/ø20/ø25	8/12/18/22
LSHL-G/LSH-F-P4/P40-HP1	ø10/ø16/ø20	8/12/18

Read the safety precautions in "Pneumatic Cylinders" (Catalog No.CB-029SA and CB-030SA) before use.

A CAUTION

Compatible

rechargeable

batteries

SCPD3 CMK2 SCM

SSD2 MDC2

MSD

SMG LCR LCG STM STG STR2

SCPD3 CMK2 SCM SCG service life cylinder

Environment-resistant cylinder Linear Slide Hand

CKD

STG

[■] Some models use oil-impregnated bearings, and oil may be discharged outside of the cylinder. Do not use in places susceptible to oil.

For the rechargeable battery manufacturing processes, reduction

Make Progress!! P4 Series

With the progress of rechargeable and next-generation battery development, we have responded to the demand for components with improved dry environmental performance. Our products are compatible with the production stability of the manufacturing process and consistently meet the needs of rechargeable battery manufacturing, from electrode production to packaging.



Restrict materials for component parts.

Restricts the use of materials and surface treatments inappropriate for the rechargeable battery manufacturing process.











nited zinc

Dry environment

DEW POINT

-70°C

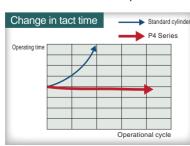
Long service life even in -70°C dew point environments

Adopted grease compatible with ultra-dry environments. Retains the smooth operation of the sliding part for long periods, even in dry environments.



Contributing to a system that never stops

Uses a special grease that supports low dew points and high frequency use. Contributes to stable operation of equipment.





of CO₂ emissions has been achieved with long service life products

Longer service life in environments with -70°C dew point. Contributes to reduced CO2 emissions

By optimizing packing design and seal functions, and adopting high-frequency compliant grease suitable for ultra-low dew point environments, we have achieved a long service life with the same dimensions as those of the P4 Series.

Propose stable operation for long periods with CKD's proprietary sliding technology



Gol

Realizes long-term stable operation in the rechargeable battery manufacturing process





CKD

Pencil shaped cylinder Double acting/Single rod

SCPD3-P4/P40-HP1 Series

■Bore size:ø6/ø10/ø16

JIS symbol





Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Chuck

Booster ABP2

rechargeable batteries

LSH

LSHL

LSHM

stroke hand LSTM

₹ HMC

CKW

CMK2

SCM SSD2 MSD MSDG-L SMG

STG

Compatible with recompatible w

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Item	SCPD3-P4/P40-HP1 SCPD3-L-P4/P40-HP1 (with switch)						
Bore size	mm	ø6	ø10	ø16			
Actuation			Double acting				
Working fluid			Compressed air				
Max. working pressure	MPa		1.0				
Min. working pressure	MPa	0.15	0.15				
Proof pressure	MPa		1.6				
Ambient temperature	°C		-10 to 60 (no freezing)				
Port size			M5				
Stroke tolerance	mm		+1.0 0				
Working piston speed	mm/s		50 to 750				
Cushion			Rubber cushion				
Lubrication			Not available				
Allowable absorbed energy	J	0.012	0.041	0.162			

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø6		100	
ø10	15/30/45/60	150	5
ø16		150	

Note: The custom stroke is available in 1 mm increments.

How to order switch mounting bracket

P4	SCPD3-T-[Bore size]
P40	SCPD3-T-[Bore size]-P40

How to order mounting bracket P4

Bore size (mm) Mounting bracket	ø6	ø10	ø16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

Note: The foot (LS) type mounting bracket is provided as 1 pc./set.

How to order mounting bracket P40

Bore size (mm) Mounting bracket	ø6	ø10	ø16
Foot (LS)	P2-LS-6-P40	P2-LS-10-P40	P2-LS-16-P40
Flange (FA)	P2-FA-6-P40	P2-FA-10-P40	P2-FA-16-P40

Note: The foot (LS) type mounting bracket is provided as 1 pc./set.

SCPD3-P4/P40-HP1 Series

How to order

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

Compatible

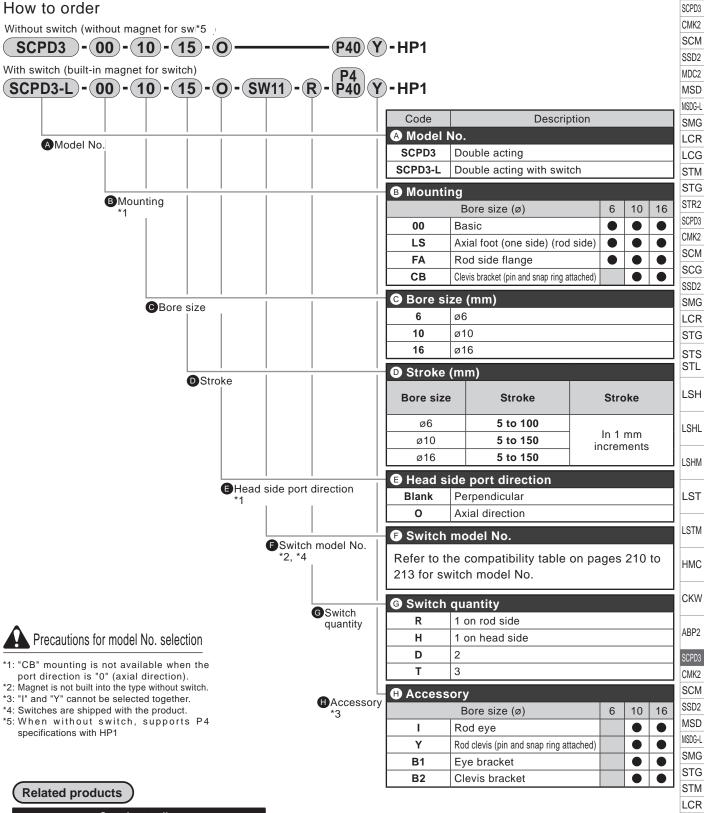
₩ith

rechargeable

STR2 LSH LSHL SCPD3

SCPD3 Supports food mfg. programs SCG SSD2

LCG



Speed controller								
Model No.	Appearance	Port size (Rc or R)	Compatible tube O.I					
		M5	4 (ø4)	6(ø6)				
SC3W-M5- *-P4		•	•	•				

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

STG

Small bore size cylinder Double acting/Single rod

CMK2-P4/P40-HP1 Series

Bore size:ø20/ø25/ø32/ø40

JIS symbol







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2

SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Chuck

Air Booster ABP2

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

LSH

LSHL

LSHM

LST

LSTM

₹ HMC

Item	CMK2-P4/P40-HP1				
Bore size mm	ø20	ø25	ø32	ø40	
Actuation		Double	acting		
Working fluid		Compre	ssed air		
Max. working pressure MPa		1.	.0		
Min. working pressure MPa	0.1				
Proof pressure MPa	1.6				
Ambient temperature °C	-10 to 60 (no freezing)				
Port size	Rc1/8				
Stroke tolerance mm		^{+2.0} (up	to 150)		
Working piston speed mm/s	50 to 500				
Cushion	Rubber cushion				
Lubrication	Not available				
Allowable absorbed energy J	0.166	0.308	0.424	0.639	

Stroke

Bore size(mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20			
ø25	25/50/75/	150	_
ø32	100/150	150	5
ø40			

^{*1:} The custom stroke is available in 1mm increments.

How to order switch mounting bracket

	<u> </u>
P4	CMK2-T-[Bore size]
P40	CMK2-T-[Bore size]-P40

How to order mounting bracket P4

Bore size (mm) Mounting bracket	ø20	ø25	ø32	ø40
Axial foot (LB/LS)	M1-LB-20	M1-LB-30	M1-LB-30	M1-LB-30
Flange (FA/FB)	M1-FA-20	M1-FA-30	M1-FA-30	M1-FA-30
Trunnion (TA/TB)	M1-TA-20	M1-TA-30	M1-TA-30	M1-TA-40
Eye bracket (CA)	M1-CA-20	M1-CA-30	M1-CA-30	M1-CA-30
Clevis bracket (CB)	M1-CB-20	M1-CB-30	M1-CB-30	M1-CB-30

^{*1:} Regarding mounting brackets, mounting nuts and toothed washers are attached with the axial foot type and flange type. Trunnions are supplied with mounting nuts.

How to order mounting bracket P40

The first of the control of the cont						
Bore size (mm) Mounting bracket	ø20	ø25	ø32	ø40		
Axial foot (LB/LS)	M1-LB-20-P40	M1-LB-25-P40	M1-LB-30-P40	M1-LB-30-P40		
Flange (FA/FB)	M1-FA-20-P40	M1-FA-25-P40	M1-FA-30-P40	M1-FA-30-P40		
Trunnion (TA/TB)	M1-TA-20-P40	M1-TA-25-P40	M1-TA-30-P40	M1-TA-30-P40		
Eye bracket (CA)	M1-CA-20-P40	M1-CA-25-P40	M1-CA-30-P40	M1-CA-30-P40		
Clevis bracket (CB)	M1-CB-20-P40	M1-CB-25-P40	M1-CB-30-P40	M1-CB-30-P40		

^{*1:} For axial foot types (two-sided), 2 sets of "M1-LB-** or [Bore size]-P40" in the table above are required.

Refer to the CMK2 Series in "Pneumatic Cylinders I (No. CB-029SA)" for dimentions.

^{*2:} One side foot (LS) is the max. stroke of 50mm.

^{*2:} For axial foot types (two-sided), 2 sets of "M1-LB0** or [Bore size]" in the table above are required.

^{*2:} Regarding mounting brackets, mounting nuts are attached with the axial foot type, flange type and trunnion type.

CMK2-P4/P40-HP1 Series

Environment-resistant cylinder Linear Slide Hand

Chuck

₽

Compatible with rechargeable

batteries STR2 LSH LSHL SCPD3

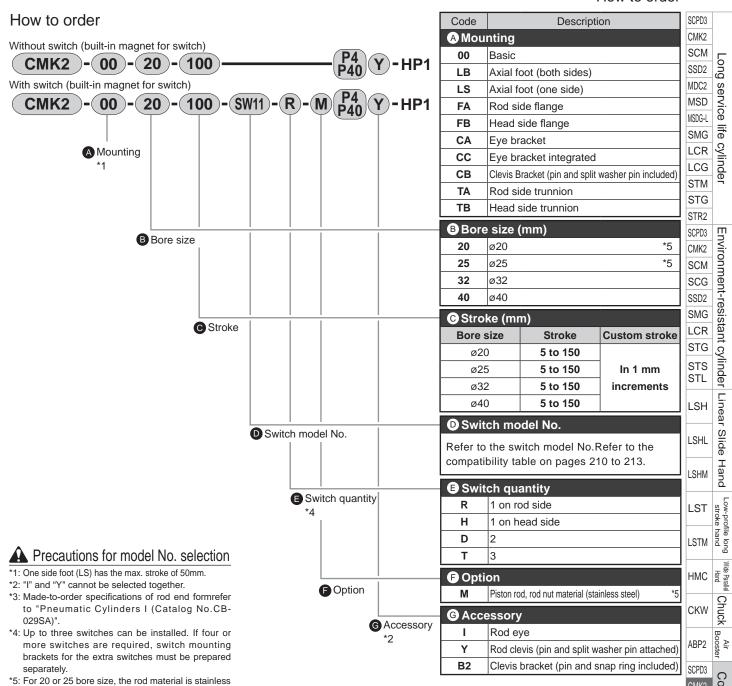
Supports food CMK2 SCM

mfg. SCG

SCM

SSD2 MSD MSDG-L SMG

STG STM LCR LCG



Related products

"M" option code.

Speed controller							
Model No.	Appearance	Port size (Rc or R)	Compatible tube O.I		e O.D.		
		1/8	4(ø4)	6(ø6)	8(ø8)		
SC3W-6- *-P4		•	•	•	•		

steel as standard and the rod nut is zinc chromate.

If a stainless steel rod nut is necessary, select the

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

SSD2 STG

11 SCPD3 SCM MSD

Round shaped cylinder Double acting/Single rod

SCM-P4/P40-HP1 Series

Bore size:ø20/ø25/ø32/ø40

JIS symbol







Specifications

CMK2

SSD2

MDC2

MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Chuck CKW

Air Booster ABP2

> CMK2 SCM SSD2 MSD

> MSDG-L SMG STG

LSHL SCPD3 processes CMK2

SCM SCG SSD2 STG

rechargeable batteries

Openioa ii on a contraction is								
Item			SCM-P4/P40-HP1					
Bore size	mm	ø20	ø25	ø32	ø40			
Actuation			Double	acting				
Working fluid			Compre	ssed air				
Max. working pr	essure MPa		1.	.0				
Min. working pre	essure MPa		0.	.1				
Proof pressure	MPa		1.	.6				
Ambient temper	ature °C		-10 to 60 (no freezing)					
Port size	With rubber cushion	Rc1/8						
Port size	With air cushion	N.	15	Rc1/8				
Ctralia talananaa mm	With rubber cushion		+1.4	+- 450)	to 150)			
Stroke tolerance mm	With air cushion	1	o (up	o to 150)				
Working piston s	speed mm/s	30 to 1000 (0	Operate within the	e allowable abso	rbed energy.)			
Cushion		Either rub	ber cushion or ai	r cushion can be	selected.			
Effective air cus	hion length mm	8.1	8.1	8.6	8.6			
Lubrication			Not av	ailable				
Allowable absorbed	With rubber cushion	0.1	0.2	0.5	0.9			
energy J	With air cushion	0.8	1.2	2.5	3.7			

Stroke

Bore size (mm)	Standard stroke (mm)	Min. stroke (mm)
ø 20		
ø 25	25, 50, 75,	10
ø 32	100, 125, 150	10
ø 40		

How to order switch mounting bracket

		[Rail]	[Band]
		Mounting rail	Mounting bracket set + band
P4		SCM-T-[Bore size]	SCM-Z-[Bore size]
P40		- [Stroke length]	SCM-Z-[Bore size]-P40

How to order mounting bracket P4

Bore size (mm) Mounting bracket	920		ø32	ø40
Foot (LB)	SCM-LB-20	SCM-LB-25	SCM-LB-32	SCM-LB-40
Flange (FA/FB)	SCM-FA-20	SCM-FA-25	SCM-FA-32	SCM-FA-40
Eye bracket (CA)	SCM-CA-20	SCM-CA-25	SCM-CA-32	SCM-CA-40
Trunnion (TA/TB)	SCM-TA-20	SCM-TA-25	SCM-TA-32	SCM-TA-40

How to order mounting bracket P40

Bore size (mm) Mounting bracket	ø20	ø25	ø32	ø40
Foot (LB)	SCM-LB-20-P40	SCM-LB-25-P40	SCM-LB-32-P40	SCM-LB-40-P40
Flange (FA/FB)	SCM-FA-20-P40	SCM-FA-25-P40	SCM-FA-32-P40	SCM-FA-40-P40
Eye bracket (CA)	SCM-CA-20-P40	SCM-CA-25-P40	SCM-CA-32-P40	SCM-CA-40-P40
Trunnion (TA/TB)	SCM-TA-20-P40	SCM-TA-25-P40	SCM-TA-32-P40	SCM-TA-40-P40

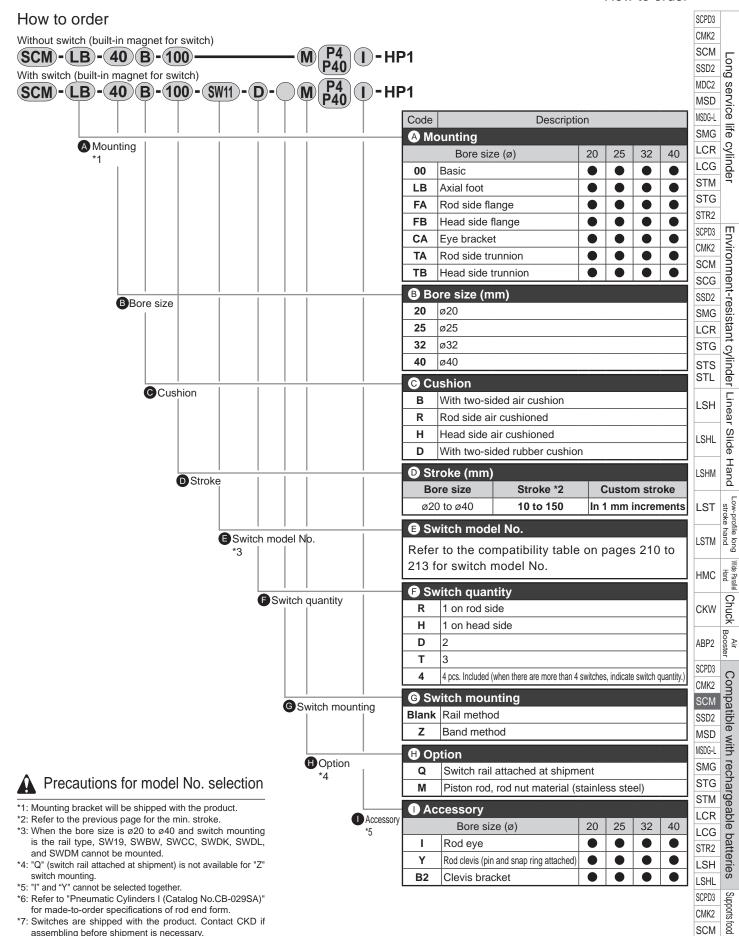
^{*1:} All mounting brackets have mounting bolts attached.

Refer to the SCM Series in "Pneumatic Cylinders I (No. CB-029SA)" for dimentions.

^{*1:}The custom stroke is available in 1 mm increments.

^{*2:} The foot mounting bracket is provided as 2 pcs./set.

SCM-P4/P40-HP1 Series



*7: Switches are shipped with the product. Contact CKD if

*8: Speed controllers are available as a related product.

assembling before shipment is necessary.

Contact CKD for details.

SCM

SCG

mfg.

processes SSD2 STG

₽

SCPD3 CMK2 SCM SSD2 MDC2 MSD

Compact cylinder Double acting/Single rod

SSD2-P4/P40-HP1 Series

Bore size:ø12/ø16/ø20/ø25/ø32/ø40

JIS symbol







Specifications

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long

Chuck CKW

rechargeable batteries

LSH

LSHL

LSHM

stroke hand LSTM

₹ HMC

Booster ABP2

SCPD3

CMK2 SCM

MSD MSDG-L SMG STG

Compatible with recompatible w

LSHL

SCPD3 processes CMK2

SCM SCG SSD2 STG

MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Specificati	0110						
Item			;	/SSD2-P4 ۱-SSD2-L-P4/P40	/P40-HP1 HP1 (with switch))	
Bore size mm		ø12	ø16	ø20	ø25	ø32	ø40
Actuation				Double	acting		
Working fluid				Compre	ssed air		
Max. working pre	ssure MPa			1.	.0		
Min. working pres	ssure MPa			0	.1		
Proof pressure	MPa			1.	.6		
Ambient tempe	rature °C			-10 to 60 (r	no freezing)		
Port size			M	15		Rc1	/8 *1
Stroke toleranc	e mm				1.0		
Working piston sp	peed mm/s			50 to	500		
Cushion				N	lo		
Lubrication				Not av	ailable		
Allowable absorbed Wit	hout	0.004	0.01	0.046	0.024	0.025	0.000
	shion	0.004	0.01	0.016	0.021	0.025	0.092

^{*1:} The ø32 bore size with a 5 mm stroke and without a switch has a port size of M5.

Stroke

	Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
	ø12	5/10/15/20	30	
	ø16	25/30	30	
	ø20	5/10/15/20/25	50	1
	ø25	30/35/40/45/50	50	1
,	ø32	5/10/15/20/25/30/	100	
'	ø40	35/40/45/50/75/100	100	

[Stroke table]

•										
Stroke (mm)			Applicable bore size							
		12	16	20	25	32	40			
	5									
	10			•						
	15									
<u>&</u>	20									
Standard stroke	25									
р	30									
ar	35									
anc	40									
Š	45									
	50									
	75									
	100									
Min. stroke (mm) *1					1					
/lax. st	roke (mm)	3	30	5	0	10	00			
Custon	Stroke *2			In 1 mm i	ncrements	3				

^{*1:} Less than 5 mm with 1-color LED switch and less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, $T1^{\star}$ or T8* switch are not available. Refer to "Pneumatic Cylinders I (Catalog No. CB-029SA)" for the min. stroke with switch.

Refer to the SSD2 Series in "Pneumatic Cylinders I (No. CB-029SA)" for dimentions.

^{*2:} The dimensions of the total length with the custom stroke are handled the same as the next longer standard stroke.

SSD2-P4/P40-HP1 Series

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Chuck

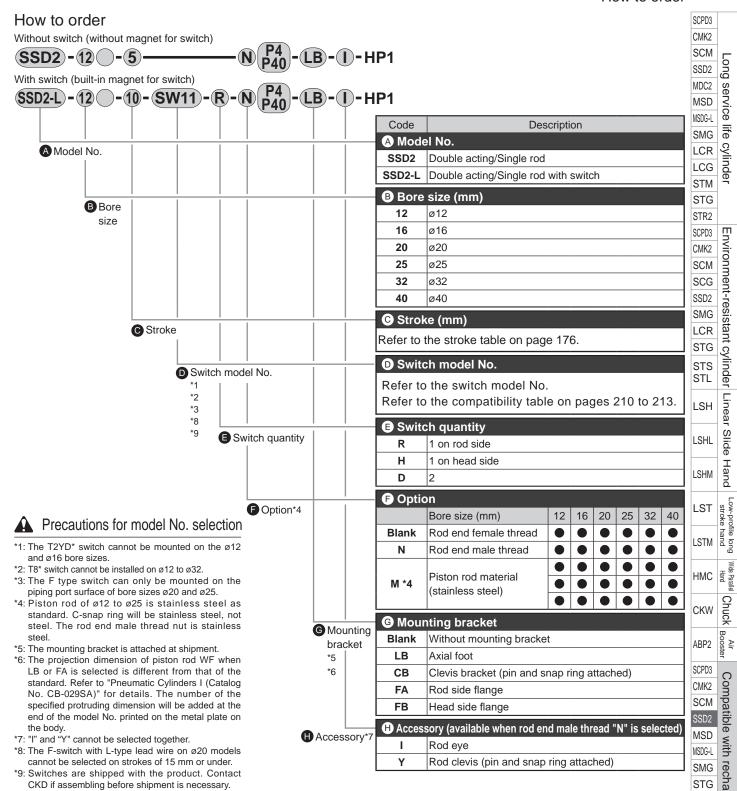
₽

Compatible with rechargeable

batteries STR2 LSH LSHL SCPD3

Supports food CMK2 SCM mfg. SCG SSD2

STM LCR LCG



Related products

*10: 5 m lead wire for the F switch is made to order.

Speed controller											
Model No.	Annogranos	Port	size (Ro	or R)	App	olicable	tube l	bore			
Wodel No.	Appearance	M5	1/8	1/4	4 (ø4)	6(ø6)	8(ø8)	10(ø10)			
SC3W-M5- *-P4		•			•	•					
SC3W-6- *-P4			•		•	•	•				
SC3W-8- *-P4				•		•	•	•			

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

STG

Small compact cylinder Double acting/Single rod

MSD-P4/P40-HP1 Series

■Bore size:ø6/ø8

JIS symbol







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Ckm Ckm

Booster ABP2

SCM SSD2 MSD MSDG-L SMG STG

rechargeable batteries

Compatible with recompatible w

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

<u> </u>								
Item	MSD-P4/P40-HP1 MSD-L-P4/P40-HP1 (with switch)							
Bore size mm	ø6, ø8							
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.15							
Proof pressure MPa	1.6							
Ambient temperature °C	-10 to 60 (where,no freezing)							
Port size	M3							
Stroke tolerance mm	+0.5							
Stroke tolerance min	0							
Working piston speedmm/s	50 to 500							
Cushion	No							
Lubrication	Not available							
Allowable absorbed	This product cannot absorb the energy generated by an external load mounted on the cylinder.							
energy J	When using the product with no load, separately provide a shock absorber on the outside.							

Stroke

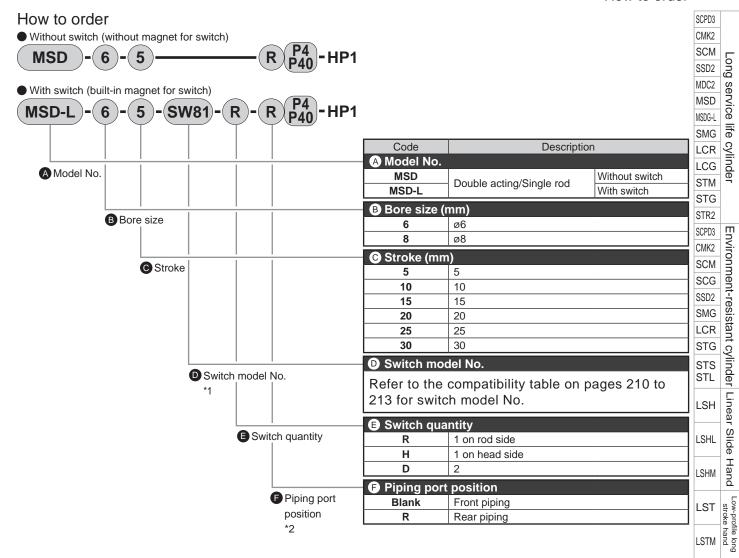
Bore siz	Bore size Standard stroke Max. stroke		Min. stroke with t	wo switches(mm)	Min. stroke with one switch (mm)			
(mm)		(mm)	(mm)	Reed switch	Proximity switch	Reed switch	Proximity switch	
ø6		5/10/15/20	30	10	5 (10)	E	E	
ø8		25/30	30	10	5 (10)	5	5	

^{*1:} Products with stroke other than standard stroke are not available.

Refer to the MSD Series in "Pneumatic Cylinders I (No. CB-029SA)" for dimentions.

 $^{^{\}star}2$: For F2Y, F3Y or F3P, the min. stroke length is the dimensions in ().

MSD-P4/P40-HP1 Series



Precautions for model No. selection

- *1: When using the type with switch, use a non-magnetic (stainless steel, etc.) mounting bolt for ø6, ø8.
- *2: For rear piping, body side installation is possible. Note that 2 bolts are used for rod side mounting and head side mounting.

Related products

	Speed controller									
Model No.	Appearance		ort siz		Compa	atible tub	oe O.D.			
		МЗ	M5	1/8	4 (ø4)	6(ø6)	8(ø8)			
SC3W-M3- *-P4		•			•					

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

Wide Parallel Hand HMC

Chuck

Air Booste ABP2

Compatible with rechargeable batteries

Supports food CMK2 SCM mfg. SCG SSD2 STG

CKW

SCPD3

CMK2 SCM SSD2

MSD

MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3

MSDG-L SMG

LCR LCG

LSH

LSHL

CMK2



Small guided compact cylinder Double acting/guided with switch

MSDG-L-P4/P40-HP1 Series

■Bore size:ø6/ø8/ø12/ø16



Long service life cylinder



Specifications

Opcomo								
Item			MSDG-L-P4/P40-	HP1(With switch)				
Bore size m	nm	ø6	ø8	ø12	ø16			
Actuation			Double	acting				
Working flu	id		Compre	ssed air				
Max. working	g pressure MPa		1.	.0				
Min. working pressure MPa 0.2			0.15	0	0.1			
Proof press	sure MPa		1.	.6				
Ambient ter	mperature °C		5 to 60					
F	Front piping	N	M3 M5					
Port size	Rear piping	N	13	M3				
011 (-1			+2.0					
Stroke tolera	ance mm		0					
Working piston	speed mm/s		50 to 500					
Cushion		With rubber cushion						
Lubrication			Not av	ailable				
Allowable ab	sorbed energyJ	0.004	0.014	0.044	0.110			

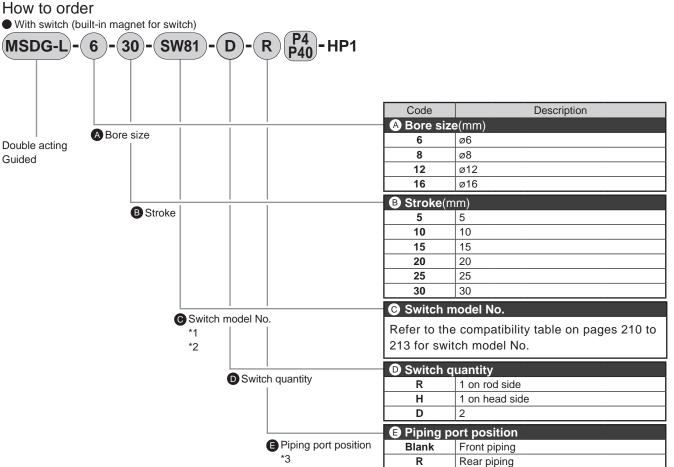
Stroke

Л	Bore size	Standard	Max. stroke	Min. stroke with t	wo switches (mm)	Min. stroke with one switch (mm)		
\exists	(mm)	stroke (mm)	(mm)	Reed switch	Proximity switch	Reed switch	Proximity switch	
	ø6							
\exists	ø8	5/10/15/20 25/30	30	10		E	E	
Λ	ø12		30	5	5	5	5	
-	ø16							

Note: Products with stroke other than standard stroke are not available.

MSDG-L-P4/P40-HP1 Series

SCPD3



Precautions for model No. selection

- *1: When using the ø6/ø8 with switch, use a non-magnetic (stainless steel, etc.) mounting bolt.
- *2: When using a proximity switch with ø12/ø16, use a non-magnetic (stainless steel, etc.) through bolt.
- *3: For rear piping, body side installation is possible.

Related products

1									
	Speed controller								
	Model No.	Appearance	Port size (Rc or R)		Compatible tube O.D.				
			М3	M5	1/8	4 (ø4)	6(ø6)	8(ø8)	
	SC3W-M3- *-P4		•			•			
	SC3W-M5- *-P4			•		•	•		

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

CMK2 SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 Environment-resistant cylinder Linear Slide Hand SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LST LSTM HMC Hand Chuck CKW Air Booster ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD SMG STG STM LCR LCG STR2 LSH LSHL

SCPD3

Supports food CMK2 SCM mfg. SCG SSD2 STG

SCPD3 SCM MSD

Compact cylinder Double acting/Single rod

SMG-P4/P40-HP1 Series

Bore size:ø6/ø10/ø16/ø20/ø25/ø32

JIS symbol







Specifications

CMK2

SSD2

MDC2

MSDG-L SMG

LCR LCG STM STG STR2

SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

CKW

CMK2 SCM SSD2 MSD MSDG-L SMG STG

Air Booster ABP2

rechargeable batteries

Compatible with results of the compatible with results of the

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Item	SMG-P4/P40-HP1 SMG-L-P4/P40-HP1 (with switch)									
Bore size mm	ø6	ø10	ø16	ø20	ø25	ø32				
Actuation		Double acting								
Working fluid		Compressed air								
Max. working pressureMPa		0.7								
Min. working pressureMPa	0.12	0.12 0.06 0.05								
Proof pressure MPa		1.05								
Ambient temperature °C			-10 to 60 (r	no freezing)						
Port size			M5			Rc1/8				
Stroke tolerance mm			+′	1.5 D						
Working piston speed mm/s			50 to	500						
Cushion			With rubb	er cushion						
Lubrication			Not av	ailable						
Allowable absorbed energyJ	0.012	0.036	0.1	0.1	0.19	0.5				

Stroke

Bore size (mm)	Standard stroke (mm)	Min. stroke (mm)
ø 6		
ø10	5, 10, 15, 20, 25, 30, 40, 50, 60	
ø16		5
ø20	F 40 4F 30 3F 30 40 F0 60	5
ø25	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	
ø32	70, 80, 90, 100	

^{*1:} The custom stroke is available in 5 mm increments.

However, the total length is the same as that of the next longer standard stroke.

For dimensions, refer to the SMG Series in "Pneumatic Cylinders I (No. CB-029SA)".

SMG-P4/P40-HP1 Series

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Chuck

Air Booster

Compatible with rechargeable

batteries STR2 LSH LSHL

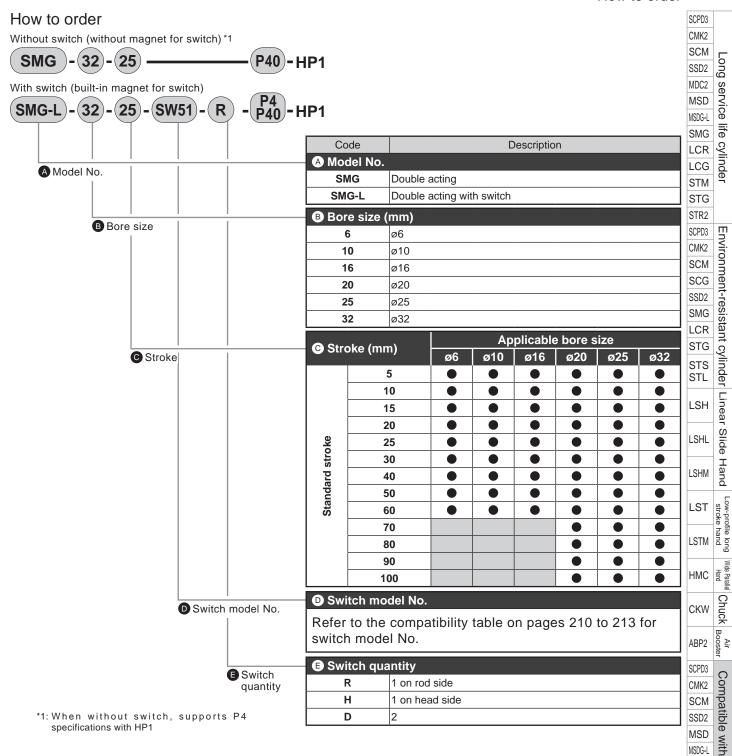
Supports food

processes SSD2 STG

STG STM LCR LCG

SCPD3

CMK2 SCM mfg. SCG



Related products

Speed controller								
Model No.	Appearance	Port size	Port size (Rc or R) Applic			cable tube bore		
Wiodel No.	Appearance	M5	1/8	4 (ø4)	6(ø6)	8(ø8)		
SC3W-M5- *-P4		•		•	•			
SC3W-6- *-P4	-P4		•	•	•	•		

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

Guided cylinder Double acting/Single rod

STG-M-P4/P40-HP1 Series

■Bore size: ø12/ø16/ø20/ø25/ø32/ø40

JIS symbol







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

Chuck

Booster ABP2

CKW

SCPD3

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Item			STG-M/B-I	P4/P40-HP1					
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40			
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure MPa		1.0							
Min. working pressure MPa		0.15 0.1							
Proof pressure MPa	1.6								
Ambient temperature °C			-10 to 60 (no freezing)					
Port size	IV	5		Ro	:1/8				
Stroke tolerance mm			+:	2.0					
Stroke tolerance min				0					
Working piston speedmm/s			50 t	o 500					
Cushion			With rubb	er cushion					
Lubrication			Not a	vailable					
Allowable absorbed energy J	0.056	0.088 0.157 0.157 0.401 0.627							

Stroke

Bore size	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch(mm)	
ø12	10/20/30/40/50/75/100				
ø16	125/150	150	5	5 (10)	
ø20	20/30/40/50/75/100				
ø25	125/150	150		*2	
ø32	25/50/75/100/125/150				
ø40	23/30/13/100/123/130				

^{*1:} The custom stroke is available in 5 mm increments. However, the total dimensions are the same as the longer standard stroke. A dedicated body with dimensions matched to the stroke is available. Contact CKD for details.

Related products

	Speed controller									
Model No.	Appearance		Port (Rc	size or R)		Co	mpati	ible tu	ube C).D.
		M5	1/8	1/4	3/8	4(ø4)	6(ø6)	8(ø8)	10(ø10)	12(ø12)
SC3W-M5- *-P4		•				•	•			
SC3W-6- *-P4			•			•	•	•		
SC3W-8- *-P4				•			•	•	•	
SC3W-10- *-P4					•			•	•	•

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible component P4* Series" (No.CC-1226A) for details.

Dimensions is $STG-^{M}_{B}$ for details on the series.

^{*2:} For types with one or two switches. The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

STG-M-P4/P40-HP1 Series

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Wide Parallel Hand

Chuck

₽

Compatible with rechargeable

batteries STR2 LSH LSHL SCPD3

Supports food CMK2 SCM

mfg. SCG SSD2 STG

SSD2

MSD

MSDG-L

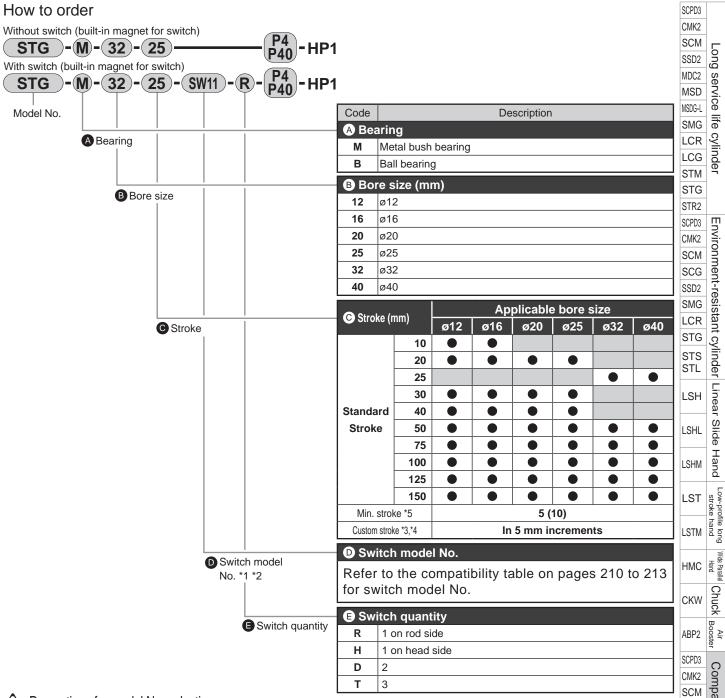
SMG

STG

STM

LCR

LCG



Precautions for model No. selection

- *1: T8H/V switch cannot be installed on STG-12 or 16.
- *2: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *3: The total dimensions are the same as the longer standard stroke
- *4: A dedicated body with dimensions matched to the stroke is available. Contact CKD for details.
- *5: The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

Guided cylinder Double acting/Single rod

STM-M-P4/P40-HP1 Series

Bore size: ø6, ø10

JIS symbol





Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

K Wide Parallel Low-profile long Hand stroke hand OMLST

CKW

Booster ABP2

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Item	STM-M/B-F	P4/P40-HP1				
Bore size mm	ø6	ø10				
Actuation	Double	e acting				
Working fluid	Compressed air					
Max. working pressure MPa	0	.7				
Min. working pressureMPa	0.	15				
Proof pressure MPa	1.05					
Ambient temperature °C	-10 to 60 (r	no freezing)				
Port size	N	13				
Stroke tolerance mm	+	1.5				
Stroke tolerance mm	(0				
Working piston speedmm/s	50 to	500				
Cushion	With rubb	er cushion				
Lubrication	Not av	railable				
Allowable absorbed energy J	0.008	0.054				

Stroke

Bore size	Standard stroke (mm)	tandard stroke (mm) Max. stroke (mm)		Min. stroke with switch	
ø6	5/10/15	15	E	5	
ø10	5/10/15/20	20	5	5	

Note: Products other than standard stroke are made to order products.

Refer to the STM-^M_B Series in "Pneumatic Cylinders II (No. CB-030SA)" for dimensions.

STM-B-P4/P40-HP1 Series

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck CKW

₽

Compatible with rechargeable

batteries STR2 LSH LSHL SCPD3

Supports food CMK2

SCM mfg. SCG SSD2 STG

ABP2

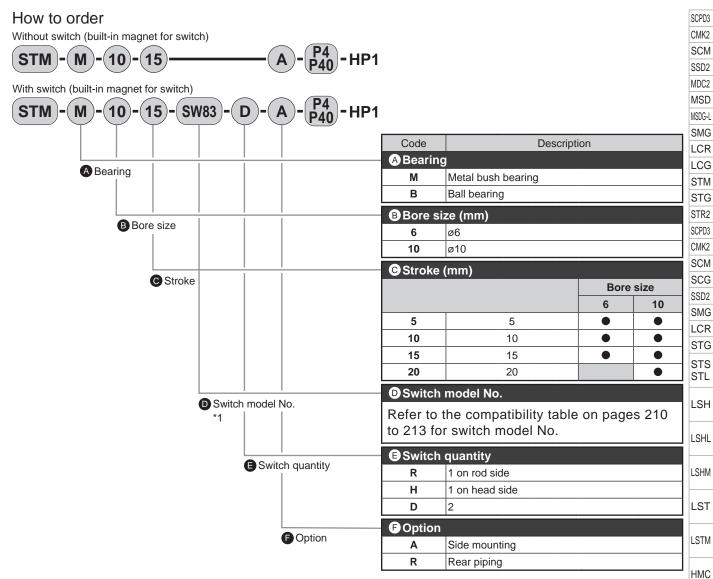
SCPD3

CMK2

SCM

SSD2 MSD

MSDG-L SMG STG STM LCR LCG



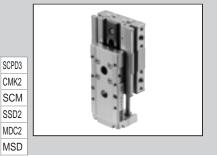
Precautions for model No. selection

*1: When using a 2-color LED proximity switch for STM-B-6, avoid mounting the cylinder on a magnetic substance such as a metal plate. This could lead to switch detection malfunction.

Related products

Speed controller								
Model No.	Appearance	Port size (Rc or R)			Compatible tube O.D.			
		М3	M5	1/8	4(ø4)	6(ø6)	8(ø8)	
SC3W-M3- *-P4		•			•			
SC3*-P4			•		•	•		

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible component P4* Series" (No.CC-1226A) for details.



Linear slide cylinder Double acting/Single rod

LCR-P4/P40-HP1 Series

Bore size:ø6/ø8/ø12/ø16/ø20/ø25







Specifications

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Chuck

ABP2

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

CKW

MSDG-L SMG

LCR LCG STM STG STR2

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Specific	alions												
Item				LCR-P4/	P40-HP1								
Bore size m	nm	ø6	ø8	ø12	ø16	ø20	ø25						
Actuation			Double acting										
Working flu	id	Compressed air											
Max. working	g pressure MPa		0.7										
Min. working	pressure MPa			0.15	(*1)								
Proof press	ure MPa	1.05											
Ambient ter	mperature °C		-10 to 60 (no freezing)										
Port size	Main body side	M3	M3 M5 Rc1/8										
FUIT SIZE	Main body back	-		М3		M5	Rc1/8						
Stroke toler	rance mm			+2.0 0	(*2)								
Working pist	on speedmm/s			50 to 5	00 (*3)								
Cushion			With rubber cushion										
Lubrication		Not available											
Allowable abs	sorbed energy J			Refer to the fo	ollowing table.								

- *1: 0.2MPa when using the ø6 shock absorber stopper.
- *2: Note that there will be a slight gap between the end plate and floating bush if no stopper is attached.
- *3: Use the stroke adjusting stopper at 50 to 200mm/s.
- *4: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

Stroke

Bore size (mm)	Standard stroke (mm)
ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

Note: Products with strokes other than the above are not available.

LCR allowable absorbed energy (Eo)

	Bore size	Standard (J)	With stroke adjusting stopper (J)	With shock absorber stopper (J)
	ø6	0.025	0.0032	0.14
1	ø8	0.058	0.0032	0.25
1	ø12	0.112	0.014	0.25
	ø16	0.176	0.043	0.65
1	ø20	0.314	0.055	1.3
1	ø25	0.314	0.14	1.3

Related products

	Speed controller														
Model No.	Appearance	Р	ort si	ze (R	c or l	Applicable tube bore									
IVIOUEI IVO.		МЗ	M5	1/8	1/4	3/8	4(ø4)	6(ø6)	8(ø8)	10(ø10)	12(ø12)				
SC3W-M3- *-P4		•	•				•								
SC3W-M5- *-P4			•				•	•							
SC3W-6- *-P4				•			•	•	•						

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

Refer to the LCR Series in "Pneumatic Cylinders II (No. CB-030SA)" for dimentions.

LCR-P4/P40-HP1 Series

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

₽

Compatible with rechargeable

batteries

Supports food

mfg.

LCG

STR2

LSH

LSHL

SCPD3

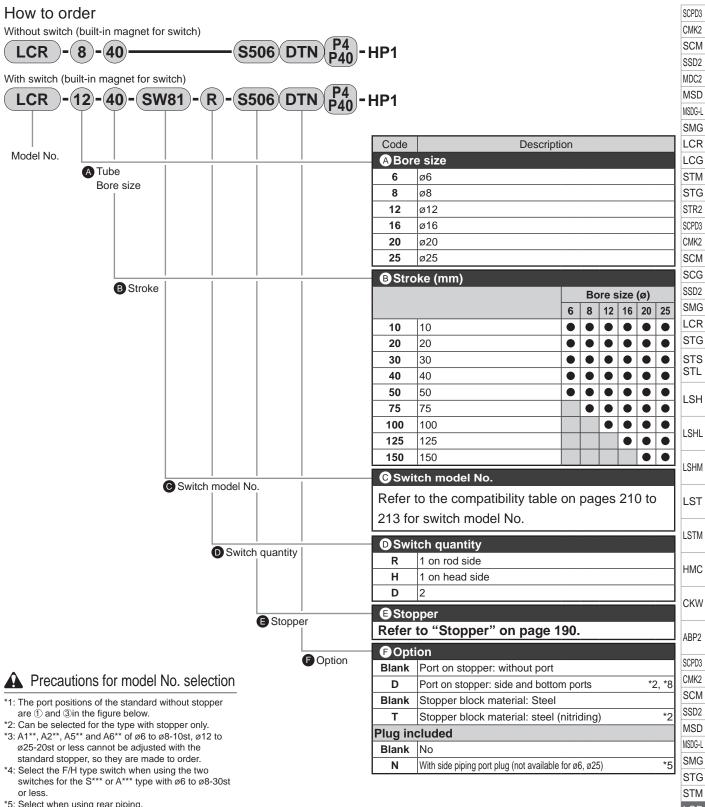
CMK2

SCM

SCG

SSD2

STG



- *5: Select when using rear piping.
- *6: Can be selected only when using stroke adjusting stopper (S) and one side mixed type (C).
- *7: When using the W3 to 6 (two-sided combined stopper) with ø6 (all st), ø8-20st, 30st, ø12-30st to 50st and ø16-30st to 50st, use the axial lead wire when using the cylinder with two switches or the head side.
- *8: Cannot be selected when choosing two-sided combined type (W).
- *9: The adjustable stroke range when choosing twosided combined type (W) is ø6:9 mm, ø8:13.5 mm, ø12:14.5 mm, ø16:15 mm, ø20:13 mm, ø25:10 mm.
- *10: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

Stopper position



LCR-P4/P40-HP1 Series

[E Stopper]

SCPD3 CMK2 SCM

SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 SCPD3

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Low-profile long stroke hand LSTM

Wide Parallel

Air Booster

rechargeable batteries

Compatible with

₹ HMC

CKW

ABP2

SCPD3

CMK2 SCM SSD2

MSD

MSDG-L

SMG STG

STM

LCR

LCG

STR2 LSH

LSHL SCPD3 processes

CMK2

SCM SCG SSD2 STG

CMK2 SCM SCG SSD2

SMG

LCR

STG STS

STL

LSH

LSHL

LSHM

W5*3

W6**

						1					
	Code	Description			Code		Des	cription			
	Stopp	er									
П	Blank	No option		C	One side	hybrid stopper mi	x (shock absorbe	er stopper	, stroke a	djusting s	topper)
	S Stroke a	djusting stopper			C1**	A1+S3					ition
H	S1**	Stopper position (Can be changed to 4)	uo		C2**	A2+S4					Stopper ation pos
	S2**	Stopper position ② (Can be changed to ③)	sitic		C3**	A3+S1					Stopper nstallation position
	S3**	Stopper position ③(Can be changed to ②)	Stopper Installation position	Г	C4**	A4+S2					Insta
П	S4**	Stopper position 4(Can be changed to 1)	atio Sto	**	part Adjus	table stroke range	Compatible	with all.	▲ Compati	ble with s	ome. *6
	S5**	Stopper position ①, ③	stall	Г		Protruding end	Return end		topper r		
П	S6**	Stopper position ②, ④	_ ≅	L				S	A	W	C
	A Shock a	bsorber stopper		L	Blank	5 mm or none	5 mm or none		_		
	A1**	Stopper position ① (Can be changed to ④)	L	1_	02	15 mm or none	15 mm or none]		
П	A2**	Stopper position ② (Can be changed to ③)	sitic	L	03	_	25 mm or none		_		
ı	A3**	Stopper position ③ (Can be changed to ②)	Stopper Installation position	L	04	15 mm	5 mm	A		_	
П	A4**	Stopper position 4 (Can be changed to 1)	of in the last of	L	05	25 mm	5 mm	A	_		
	A5**	Stopper position ①, ③	tall (06	5 mm	15 mm				
	A6**	Stopper position ②, ④	<u> </u>	L	07	5 mm	25 mm				
П	W Two-sided	combined double stopper(Shock absorber stopper, metal stopper	*7, *9	N	ote:When	changing the sto	pper position fro	om the he	ead side t	to the roc	side, the
ı	W1**	A1 + metal stopper	Ť	1	stopp	er must be pur	chased separa	itely acc	ording t	o the st	roke and
	W2**	A2 + metal stopper	er position			able stroke. Refe			_	•	•
	W3**	A3 + metal stopper	Stopper lation po	ı). A1, A2 and a	•	of 15 m	m and 2	5 mm m	ay not be
	W4**	A4 + metal stopper	Stopp llation		availal	ole depending or	the stroke.				
ı	1015++	A.F. and all along an	1 ~ #	1							

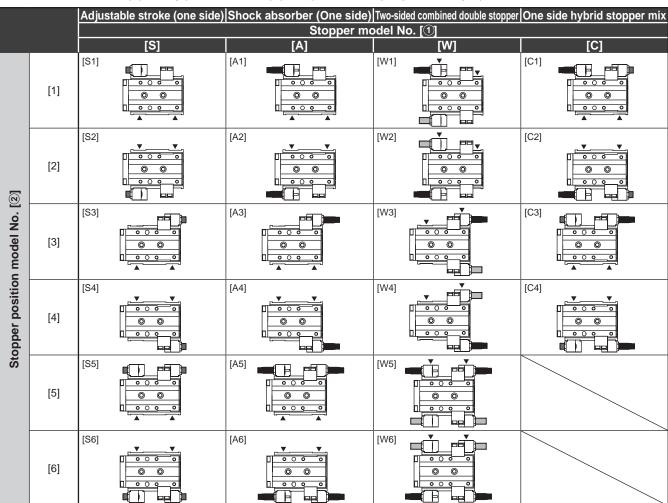
Stopper model No. selection method

A5 + metal stopper

A6 + metal stopper

1 Stopper combination table Model No.-[1)Stopper type] [2)Stopper position][3] Example) LCR-8-40-[S] [5] 06

nstallation



▲shows the piping direction. When choosing two-sided combined type (W), the stopper bracket comes with piping on both sides. The stopper bracket on the reverse side of (piping direction) is provided with a plug.

- Shock absorber stopper
- : Stroke adjusting stopper (adjusting range 5 mm)
- : Metal adjusting stopper (adjusting range 15 mm)

LCR-P4/P40-HP1 Series

Stopper model No. selection method

LCR Double acting/Single rod selection table

(Combination with stroke adjusting stopper, shock absorber stopper)

SCPD3

CMK2

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

STS STL

LSH

LSHL

LSHM

stroke hand

LST

LST

LSTM

HMC Hand

CKW

ABP2 SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM

LCG STR2 LSH LSHL Compatible with rechargeable batteries

Model	Stoppe	or typo											Λ	diu	stab	lo c	trol	' 0											SCM
	Stoppe	: type							_	-			_	uju	sıan T	ile 5	uor					_			00				SSD2
Model	Stoppe	r code		<u>S1</u>	S1 S2				S3 S4 S5						30						-								
No.	0.0000					,							Adju	stm	ent	len	gth	cod	<u>e</u>										MDC2
	Bore size	Stroke	Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	04	05	06	07	Blank	02	03	04	05	06	07	MSD
	~C ~O	10		-	-		-	-		•	-			-		-	-	-	-		-		-	-	-	-		-	MSDG-L
	ø6,ø8	20 or more			-			-			-			-			-		-		-			-		-		-	SMG
LCR		10		-	-		-	-			-			-		-	-	-	-		-		-	-	-	-		-	LCR
	ø12 to ø25	20			-			-									-		-					-		-			LCG
		30 or more			•			•	•			•										•				•	•		STM

																											STG
Model	Stoppe	er type		Sho	ck a	bso	rber		Two-s	ided c	ombin	ed do	uble st	opper			Or	ne si	de r	ıybr	id st	орр	er n	nix			STR2
Model No.	Stoppe	r code														C1			C2			C3			C4		SCPD3
Model No.	A1 A2 A3 A4 A5 A6 W1 W2 W3 W4 W5 W6 Adjustment length code										CMK2																
	Bore size	Stroke													Blank	02	03	Blank	02	03	Blank	02	03	Blank	02	03	SCM
	-0 -0	10	-	-			-	-	-	-			-	-	- 1	-	-	-	-	-		-	-		-	-	
	ø6,ø8	20 or more		•	•											•	-		•	-			-			-	SCG
LCR		10	-	-	•		-	-	-	-			-	-	- 1	-	-	-	-	-	•	-	-	•	-	-	SSD2
	ø12 to ø25	20	-	-	•		-	-	-	-			-	-	- 1	-	-	-	-	-	•		-	•		-	SMG
		30 or more		•	•		•		•			•	•											•			LCR
The table	above also	applies to	a cor	nbina	tion w	ith or	tion c	ode [) (witl	n port	on th	e sto	pper)	or T (steel s	stopp	er blo	ck (ni	triding	n)).							STG

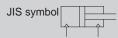
The table above also applies to a combination with option code D (with port on the stopper) or T (steel stopper block (nitriding)).



Linear slide cylinder Double acting/Single rod

LCG-P4/P40-HP1 Series

Bore size:ø6/ø8/ø12/ø16/ø20/ø25







Specifications

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Chuck

ABP2

rechargeable batteries

CKW

CMK2 SCM SSD2 MSD MSDG-L SMG STG

MSDG-L SMG

LCR LCG STM STG STR2

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Specifications												
		LCG-P4/	P40-HP1									
ø6	ø8	ø12	ø16	ø20	ø25							
Double acting												
Compressed air												
	0.7											
		0.15	(*1)									
1.05												
		-10 to 60 (r	no freezing)									
M3 M5 Rc1/8												
M3 M5 Rc1/s												
		+2.0 0	(*2)									
50 to 500 (*3)												
With rubber cushion												
		Not av	ailable									
		Refer to the fo	ollowing table.									
		M3	Ø6 Ø8 Ø12 Double Compre 0. 0.15 1.0 -10 to 60 (r M3 M5 M3 +2.0 0 50 to 5 With rubbe Not av	Double acting Compressed air 0.7 0.15 (*1) 1.05 -10 to 60 (no freezing) M3 M5 M3 +2.0 0 (*2) 50 to 500 (*3)	Ø6 Ø8 Ø12 Ø16 Ø20 Double acting Compressed air 0.7 0.15 (*1) 1.05 -10 to 60 (no freezing) M3 M5 R0 M3 M5 M5 +2.0 (*2) 50 to 500 (*3) With rubber cushion Not available							

- *1: 0.2MPa when using the ø6 shock absorber stopper.
- *2: Note that there will be a slight gap between the end plate and floating bush if no stopper is attached.
- *3: Use the stroke adjusting stopper at 50 to 200mm/s.
- *4: The stroke adjusting stopper for 0.3 MPa and over working pressure is the metal sealing type.

Stroke

Bore size (mm)	Standard stroke (mm)
ø6	10, 20, 30, 40, 50
ø8	10, 20, 30, 40, 50, 75
ø12	10, 20, 30, 40, 50, 75, 100
ø16	10, 20, 30, 40, 50, 75, 100, 125
ø20	10, 20, 30, 40, 50, 75, 100, 125, 150
ø25	10, 20, 30, 40, 50, 75, 100, 125, 150

Note: Products with strokes other than the above are not available.

LCG allowable absorbed energy (Eo)

Bore size	Standard	With stroke adjusting stopper	With shock absorber stopper
DOI'E SIZE	(J)	(J)	(J)
ø6	0.025	0.0032	0.14
ø8	0.058	0.0032	0.25
ø12	0.112	0.014	0.25
ø16	0.176	0.043	0.65
ø20	0.314	0.055	1.3
ø25	0.314	0.14	1.3

Related products

	Speed	conti	roller						
Model No.	Annogrange	Port s	size (Rc	or R)	Applicable tube bore				
Model No.	Appearance	МЗ	M5	1/8	4 (ø4)	6(ø6)	8(ø8)		
SC3W-M3-*-P4		•			•				
SC3W-M5-*-P4	H.		•		•	•			
SC3W-6-*-P4				•	•	•	•		

Specify the compatible tube O.D. code for * . Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

For dimensions, refer to the LCG Series in "Pneumatic Cylinders II (No. CB-030SA)".

Compatible with results of the compatible with results of the

LSHL SCPD3 CMK2

How to order

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

₽

Compatible with

rechargeable

batteries STR2 LSH

Supports food CMK2 SCM mfg. SCG SSD2 STG

SSD2

MSD

MSDG-L

SMG

STG

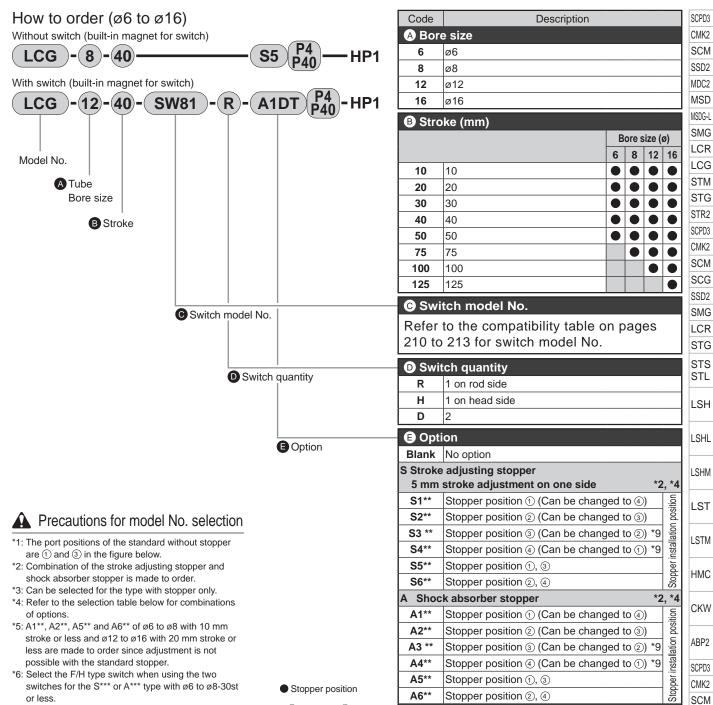
STM

LCR

LCG

LSHL

SCPD3



LCG Double acting/Single rod selection table

*7: The anti-rust type is made to order.

depending on the stroke.

*8: The stroke adjusting stopper for 0.3 MPa and over

*9: When changing the stopper position from the head

side to the rod side, the stopper must be purchased

discrete stopper" in Pneumatic Cylinders II (Catalog

No.CB-030SA) LCG Series. A1, A2 and adjustable

stroke of 15mm and 25mm may not be available

separately according to the stroke and adjustable

stroke. Refer to "Precautions when purchasing

working pressure is the metal sealing type.

(Combination with stroke adjusting stopper, shock absorber stopper)

(Combination with stroke adjusting stopper, shock absorber stopper)									O: Available - : Not available					
Model No. code	Option code			Stroke adjusting stopper				Shock absorber stopper						
Model No. Code	Bore size Stroke		S1	S2	S3	S4	S5	S6	A1	A2	A3	A4	A5	A6
	ø6, ø8 ø12 to ø25	10	0	0	0	0	0	0	-	-	0	0	-	
LCG		20 or more	0	0	0	0	0	0	0	0	0	0	0	0
LCG		10 to 20	0	0	0	0	0	0	-	-	0	0	-	- [
		30 or more	0	0	0	0	0	0	0	0	0	0	0	$\overline{}$

(3)

part

Blank

Blank

т

Blank

Plug included

Port on stopper: without port

Stopper block material: Steel

Port on stopper: side and bottom ports

Stopper block material: steel (nitriding)

With side piping port plug (not available for ø6)

The table above also applies to a combination with option code D (with port on the stopper) or T (steel stopper block (nitriding)).

LCG-P4/P40-HP1 Series

service life cylinder

Long 8

Environment-resistant cylinder

Linear Slide Hand

Low-profile long

Wide Parallel

Air Booster

rechargeable batteries

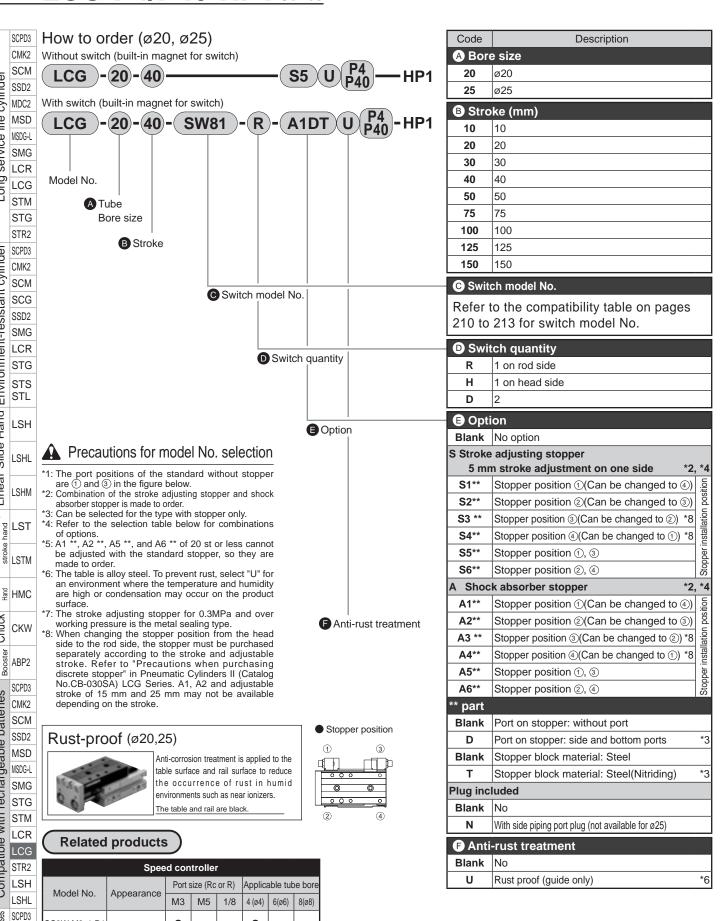
with

Compatible

processes CMK2 SCM mfg.

Supports food I SCG

SSD2 STG



Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details.

SC3W-M5- *-P4

SC3W-6- *-P4

SCPD3	
CMK2	
SCM	_
SSD2	onc
MDC2	SE (
MSD	Ĭ.
MSDG-L	Се
SMG	≣fe
LCR	Ş
LCG	linc
STM	er
STG	
STR2	
SCPD3	ш
CMK2	٧
	<u>S</u>
SCM	Ĭ,
SCG	enț.
SSD2	ė
SMG	Sis
LCR	an
STG	S
STS	Υİ'n
STL	der
LSH	Linea
LSHL	r Slide
LSHM	Hand
LST	Low-pro stroke
LSTM	file long hand
LSTM	file long Wide Parallel hand Hand
	file long Wide Parallel Chuck
НМС	file long Wide Parallel Chuck Booster
HMC	chuck Bc
HMC CKW ABP2	chuck Bc
HMC CKW ABP2 SCPD3	chuck Bc
HMC CKW ABP2 SCPD3 CMK2 SCM	chuck Bc
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2	chuck Bc
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0 MSDG-L	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC-L SMG	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD MSDG-L SMG STG	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCG	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCG STR2	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD6-L SMG STG STM LCR LCG	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSD0-L SMG STG STM LCR LCG STR2	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STTG STM LCR LCG STR2 LSH	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCPD3	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STTG STRU LCR LCR LCR LSH LSHL SCPD3 CMK2 SCM SCM STR2 LSH SCM SCM SCM SCM SCM SCM SCM S	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDC MSDG-L STG STRG STRG LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCM SCM SCG SSD2	arallel Chuck Air Compatible
HMC CKW ABP2 SCPD3 CMK2 SCM SSD2 MSDG-L SMG STTG STRU LCR LCR LCR LSH LSHL SCPD3 CMK2 SCM SCM STR2 LSH SCM SCM SCM SCM SCM SCM SCM S	arallel Chuck Air Compatible

Twin rod cylinder Double acting/standard

STR2-M-P4/P40-HP1 Series

Bore size:ø6/ø10/ø16/ø20/ø25/ø32

JIS symbol







Specifications

SCPD3 CMK2

SCM

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

CMK2

SCM

SSD2

MSD

MSDG-L SMG STG

STM LCR LCG STR2 LSH LSHL SCPD3 CMK2

Booster ABP2

rechargeable batteries

Compatible with

Оробінос	41.01.0								
Item		STR2-	-M-P4/P40-HP1 (metal bush beari	ing) STR2-B-P4/I	P40-HP1 (ball be	earing)		
Bore size mi	m	ø6	ø10	ø16	ø20	ø25	ø32		
Actuation			Double acting						
Working fluid	b		Compressed air						
Max. working	pressure MPa		0.7						
Min. working	pressure MPa	0.2	0.2 0.15 0.1						
Proof pressu	ıre MPa			1.0	05				
Ambient tem	perature °C			-10 to 60 (r	no freezing)				
Port size				M5			Rc1/8		
Stroke tolera	nco mm			+2	2.0				
Stroke tolera	ance min			0	1				
Adjustable str	oke rangemm			0 to	o -5				
Working pisto	n speedmm/s			50 to	500				
Non-rotating	STR2-M	±0.4°		±0.3°		±().2°		
accuracy	STR2-B	±0.2°		±0.1°		±().3°		
Piston rod	STR2-M			Metal bus	h bearing				
Bearing	STR2-B			Ball be	earing				
Cushion			Rubber cushion						
Lubrication				Not av	ailable				
Allowable absorbed	PUSH	0.008	0.061	0.181	0.303	0.68	1.3		
energy J	PULL	0.059	0.083	0.083	0.127	0.237	0.311		

Stroke

П					
	Bore size	Stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch
	ø6	10, 20, 30, 40, 50	50		
	ø10	10, 20, 30, 40, 30	50		
	ø16			5	10
	ø20	10, 20, 30, 40, 50	100	5	10
	ø25	60, 70, 80, 90, 100	100		
	ø32		*1		

*1: In the case of rear piping:

- •ø16:70
- •ø20/ø25:60
- •ø32:50

*2: Custom stroke

Available in 1 mm increments.

However, the total length is the same as that of the next longer standard stroke.

Refer to the STR2- MSeries in "Pneumatic Cylinders II (No.CB-030SA)" for dimensions.

SCM SCG SSD2 STG

STR2-M-P4/P40-HP1 Series

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

SCPD3

CMK2 SCM SSD2

MSD

MSDG-L

SMG

STG

STM

LCR

LCG

LSH LSHL SCPD3

SSD2

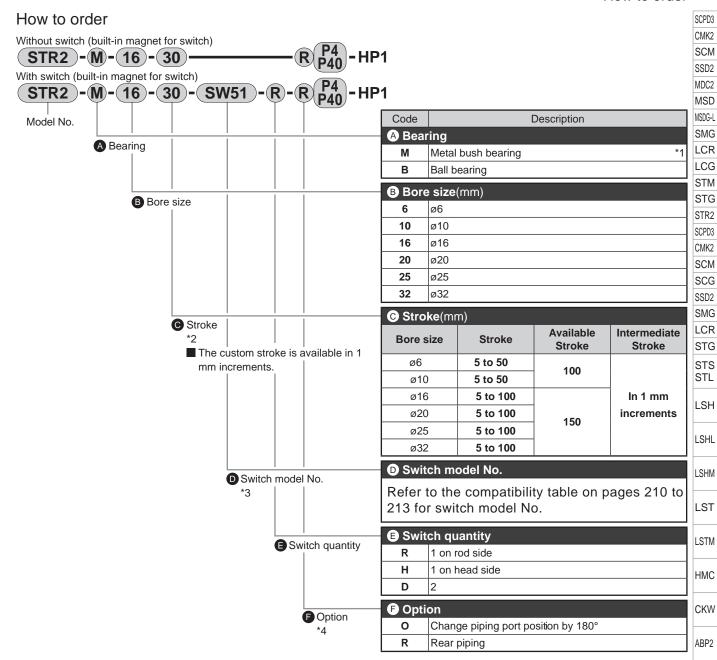
STG

Compatible with

rechargeable

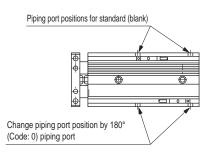
batteries STR2

Supports food CMK2 SCM mfg. SCG



Precautions for model No. selection

- *1: Bearing method M supports P4 specifications with HP1.
- *2: The max stroke of rear piping "R" is:
 - ø6, 10: 50 Stroke
 - ø16: 70 Stroke
 - ø20/25: 60 stroke
 - ø32: 50 stroke
- *3: STR2-B-6,10 is not compatible with reed switch.
- *4: The piping port positions for "O" are as shown in the figure below.



Related products

		Speed	d conti	roller			
Model No.	Appearance	Port size (Rc or R)			Compatible tube O.E		
		M3 M5 1/8		4 (ø4)	6(ø6)	8(ø8)	
SC3W-M5- *-P4			•		•	•	
SC3W-6- *-P4	4			•	•	•	•

Specify the compatible tube O.D. code for *. Refer to "rechargeable battery compatible Component P4* Series" (No.CC-1226A) for details

Linear Slide Hand Double acting/Single acting

LSH-A-P4/P40-HP1 Series

Operational stroke: 4, 6, 10, 14, 22 mm

Double acting Single acting (Normally Open) Single acting (Normally Closed)







Specifications

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

CMK2 SCM SSD2 MSD MSDG-L SMG STG

Booster ABP2

rechargeable batteries

Compatible with results of the compatible with results of the

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

MSDG-L SMG

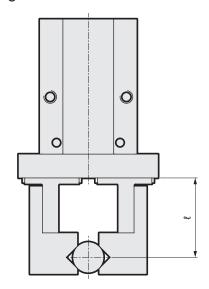
LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Item				I SH-A-PA	I/P40-HP1				
Bore size	mm	ø6	ø10	ø16 ø20 ø25 ø					
Actuation		Double acting/single acting (Normally Open/Normally Closed)							
Working fluid				Compre	essed air				
Max. working pressure	MPa			0	.7				
Min. working MPa	Double acting	0.15	0.2		0	.1			
pressure	Single acting	0.3	0.35	0.25					
Port size		M3 M5							
Ambient temperature	°C	-10 to 60 (no freezing)							
Operating stroke	mm	4	1	6	10	14	22		
Repeatability	mm		±0.01						
Weight Double acting Finger C	P: 1, 2, 3	0.032	0.06	0.135	0.275 (0.28)	0.49 (0.495)	0.73 (0.78)		
(Single acting) kg Finger OP: 4		0.032	0.00	0.14	0.28 (0.285)	0.495 (0.5)	0.76 (0.81)		
Lubrication				Not av	ailable				

Gripping force

Refer to pages 206 to 209 for details.



Unit: N

Bara siza (mm)	Double	acting
Bore size (mm)	Open side	Closed side
ø6	6.1	3.3
ø10	17	11
ø16	45	34
ø20	66	42
ø25	104	65
ø32	193	158
Bara siza (mm)	Single acting (Normally Open)
Bore size (mm)		Closed side
ø6		1.9
ø10	1	7.1
ø16]	27
ø20] -	33
ø25	1	45
ø32	1	131
Dava siza (mm)	Single acting (N	lormally Closed)
Bore size (mm)	Open side	
ø6	3.7	
ø10	13	
ø16	38	
ø20	57	-
ø25	83	
ø32	161	

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center

Refer to the LSH-A Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

LSH-A-P4/P40-HP1 Series

How to order

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

₽

Compatible with rechargeable batteries

SCPD3 Supports food SCM

mfg.

SCG SSD2 STG

SCM

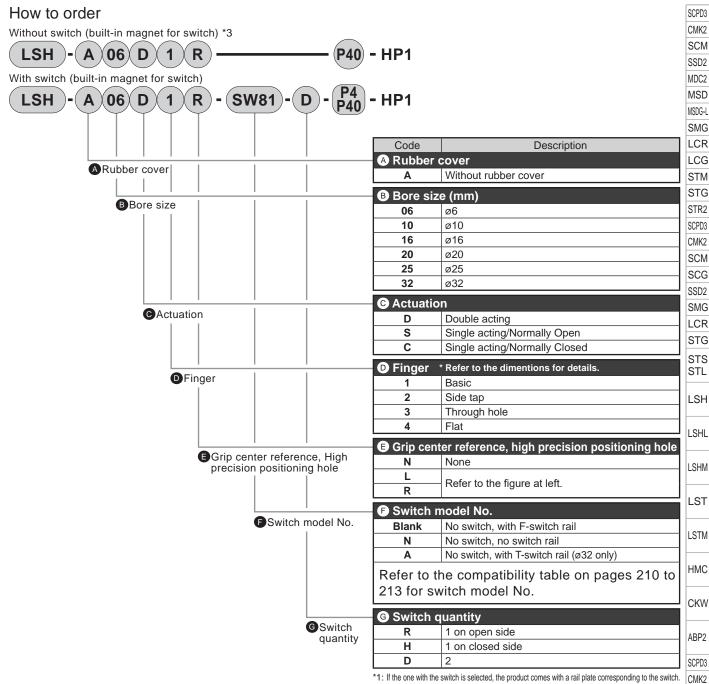
SSD2

MSD

MSDG-L

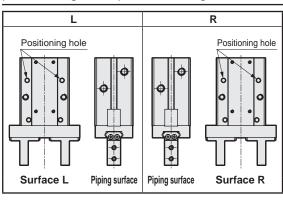
SMG STG STM

LCR LCG STR2 LSH LSHL SCPD3



*2: Only ø32 can be selected for the T-switch

Grip center reference, High precision positioning hole position diagram



Switch mounting availability table

Model No.	Switch model No.	Side mounting	Rail mounting
LSH-A06	F2/3□	•	-
LSH-A00	F2/3S	-	•
LSH-A10	F2/3 🗌	•	•
LSH-AIU	F2/3S	•	•
LSH-A16	F2/3 🗌	•	•
LSH-AI0	F2/3S	•	•
LSH-A20	F2/3 🗌	•	•
LSH-AZU	F2/3S	•	•
	F2/3H/PH	-	•
LSH-A25	F2/3V/PV	•	•
	F2/3S	•	•
	F2/3 🗌	•	•
LSH-A32	F2/3S	•	•
	T2/3 🗌	-	•

^{*3:} When without switch, HP1 supports P4 specifications

SMG

LCR LCG STM

CKW

ABP2

LSHL

LSHM



Linear Slide Hand Double acting/Single acting with rubber cover

LSH-G/LSH-F-P4/P40-HP1 Series

Operational stroke: 4, 6, 10, 14, 22 mm

Double acting Single acting (Normally Open) Single acting (Normally Closed)

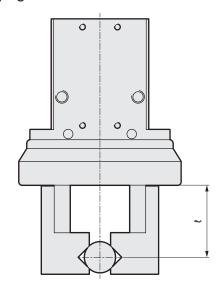


Specifications

Item			LSH-G, F-P4/P40-HP1						
Bore size	mm	ø6	ø10	ø16	ø20	ø25	ø32		
Actuation		Double acting/single acting (Normally Open/Normally Closed)							
Working fluid				Compre	ssed air				
Max. working pressu	ure MPa			0	.7				
Min. working	Double acting	0.15	0.2						
pressure MPa	Single acting	0.3	0.35		0.25		-		
Port size		M3 M5							
Ambient temperatur	e °C			-10 to 60 (r	no freezing)				
Operating stroke	mm	4	1	6	10	14	22		
Repeatability	mm	·		±0	.01				
Weight Double acting	(single acting) kg	0.033	0.07	0.15	0.3 (0.35)	0.53 (0.535)	0.81		
Lubrication				Not av	ailable				

Gripping force

Refer to pages 206 to 209 for details.



			Unit: IN
	_		

Bore size (mm)	Double acting					
Bore Size (IIIIII)	Open side	Closed side				
ø6	6.1	3.3				
ø10	17	9.8				
ø16	40	30				
ø20	66	42				
ø25	104	65				
ø32	193	158				
Dara siza (mm)	Single acting (I	Normally Open)				
Bore size (mm)		Closed side				
ø6		1.9				
ø10	-	6.3				
ø16		24				
ø20]	28				
ø25		45				
Para siza (mm)	Single acting (N	lormally Closed)				
Bore size (mm)	Open side					
ø6	3.7					
ø10	12					
ø16	31	-				
ø20	56					
ø25	83					

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center

LSH-G/LSH-F-P4/P40-HP1 Series

low to order

Long

service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

₽

Compatible with rechargeable batteries

SCPD3 Supports food SCM

SCM SCG SSD2 STG

SCM

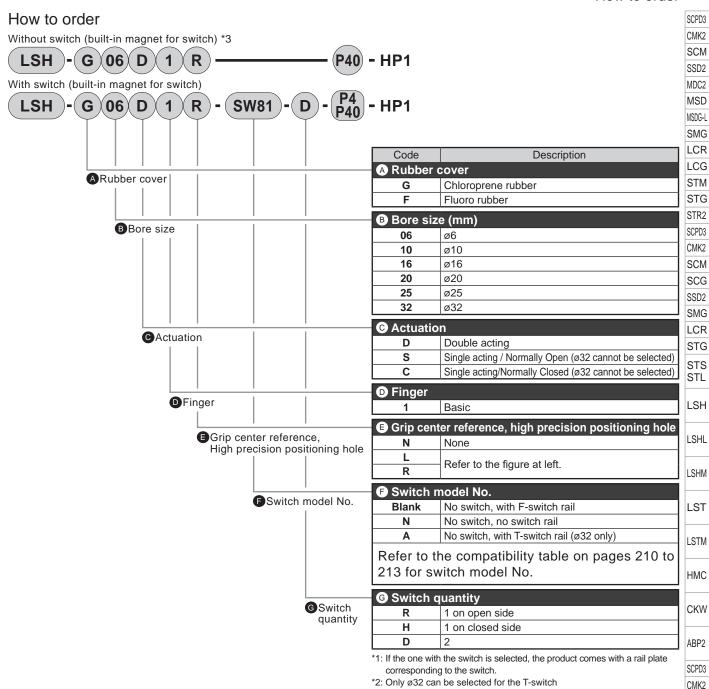
SSD2

MSD

MSDG-L SMG

STG

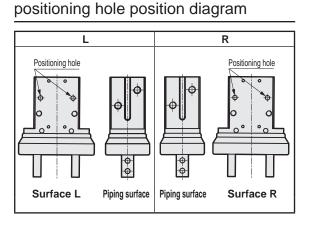
STM LCR LCG STR2 LSH LSHL SCPD3



^{*3:} When without switch, HP1 supports P4 specifications

Grip center reference, High precision

Switch mounting availability table



Switch mounting availability table

ownon mounting availability table						
Model No.	Switch model No.	Side mounting	Rail mounting			
LSH-G/F06	F2/3 🗌		-			
2311-0/1 00	F2/3S	-	•			
LSH-G/F10	F2/3 🗌		•			
L311-G/F10	F2/3S	•	•			
LSH-G/F16	F2/3 🗌	•	•			
LSH-G/F10	F2/3S	•	•			
LSH-G/F20	F2/3 🗌	•	•			
LSH-G/F20	F2/3S					
	F2/3H/PH/PV	-	•			
LSH-G/F25	F2/3V		•			
	F2/3S		•			
	F2/3 🗌					
LSH-G/F32	F2/3S					
	T2/3 🗌	-	•			

SCPD3 CMK2 SCM Long service life cylinder SSD2 MDC2 MSD MSDG-L

SMG

LCR LCG

STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Linear Slide Hand LSHL LSHM

LSH

CKW Air Booster ABP2 CMK2

SCM

rechargeable batteries SSD2 MSD MSDG-L SMG STG Compatible with response to the compatible with response to th

LSHL SCPD3 CMK2 SCM SCG SSD2 STG



Linear Slide Hand Long stroke Double acting/Single acting

LSHL-A-P4/P40-HP1 Series

Operating stroke: 8, 12, 18, 22 mm

Double acting Single acting (Normally Open) Single acting (Normally Closed)



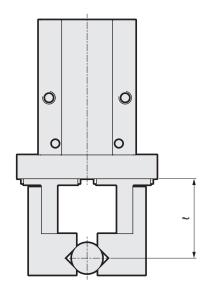


Specifications

Item		LSHL-A-P4/P40-HP1				
Bore size	mm	ø10	ø16	ø20	ø25	
Actuation		Double acting/single acting (Normally Open/Normally Closed)				
Working fluid			Compressed air			
Max. working pressure MPa		0.7				
Min. working pressure	Double acting	0.2	0.1			
MPa Single acting		0.35	0.25			
Port size		M3	M5			
Ambient temperature °C		-10 to 60 (no freezing)				
Operating stroke	mm	8	12	18	22	
Repeatability	mm	±0.01				
Wolgh Boablo doung	jer OP: 1, 2, 3	0.065 (0.075)	0.155 (0.165)	0.315 (0.335)	0.54 (0.585)	
	ger OP: 4		0.16 (0.17)	0.32 (0.34)	0.545 (0.59)	
Lubrication			Not available			

Gripping force

Refer to pages 206 to 209 for details.



Unit: N

		0	
Bore size (mm)	Double acting		
Bore Size (IIIII)	Open side	Closed side	
ø10	17	11	
ø16	45	34	
ø20	66	42	
ø25	104	65	
Dava siza (mana)	Single acting (Normally Open)		
Bore size (mm)		Closed side	
ø10		7.1	
ø16	-	27	
ø20		33	
ø25]	50	
Dava siza (mm)	Single acting (Normally Closed)		
Bore size (mm)	Open side		
ø10	13		
ø16	38		
ø20	57	_	
ø25	85		

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center

LSHL-A-P4/P40-HP1 Series

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

Air Booste

Compatible with rechargeable batteries

Supports food mfg. CMK2

SCPD3

CMK2 SCM SSD2

MSD

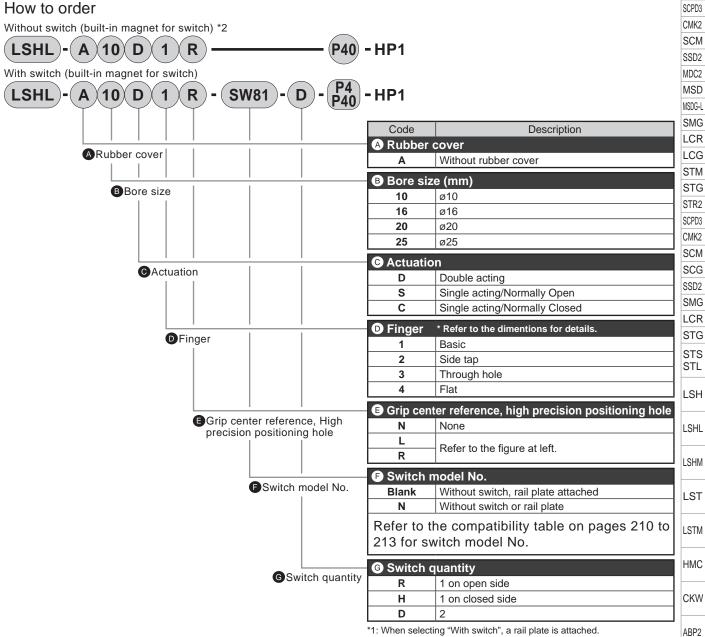
MSDG-L SMG STG

STM

LCR LCG STR2 LSH LSHL SCPD3

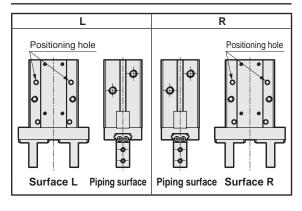
SCM

SCG SSD2 STG



*1: When selecting "With switch", a rail plate is attached

Grip center reference, High precision positioning hole position diagram



Switch mounting availability table

Model No.	Switch model No.	Side mounting	Rail mounting
LSHL-A10	F2/3 🗌	•	•
LSHL-AIU	F2/3S	•	•
LSHL-A16	F2/3 🗌	•	•
LSHL-AI0	F2/3S	•	•
LSHL-A20	F2/3 🗌	•	•
LSHL-AZU	F2/3S	•	•
LSHL-A25	F2/3 🗌	•	•
LOHL-AZO	F2/3S	•	•

^{*2:} When without switch, supports P4 specifications with HP1

SCPD3 CMK2 SCM Long service life cylinder SSD2 MDC2 MSD

MSDG-L SMG

LCR

LCG STM STG STR2 Environment-resistant cylinder SCPD3 CMK2 SCM SCG SSD2 SMG LCR STG

STS STL

LSH

LSHL

Linear Slide Hand LSHM Wide Parallel Low-profile long stroke hand LSTM ₹ HMC

CKW Air Booster ABP2

CMK2

rechargeable batteries SCM SSD2 MSD MSDG-L SMG STG Compatible with respect to the compatible with respect to the

LSHL SCPD3 processes CMK2 SCM SCG SSD2 STG



Linear Slide Hand, long stroke, double acting with rubber cover

LSHL-G/LSHL-F-P4/P40-HP1 Series

Operational stroke: 8, 12, 18 mm

Double acting

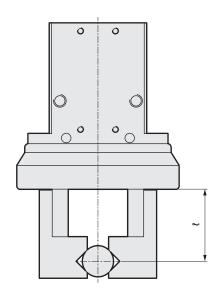


Specifications

opeomeaneme					
Item		LSHL-G, F-P4/P40-HP1			
Bore size	mm	ø10	ø16	ø20	
Actuation		Double acting			
Working fluid		Compressed air			
Max. working pressure	MPa	0.7			
Min. working pressure	MPa	0.2	0.1		
Port size		M3 M5			
Ambient temperature	°C	-10 to 60 (no freezing)			
Operating stroke	mm	8	12	18	
Repeatability	mm	±0.01			
Weight	kg	0.09	0.18	0.39	
Lubrication		Not available			

Gripping force

Refer to pages 206 to 209 for details.



Unit: N

Para ciza (mm)	Double acting		
Bore size (mm)	Open side	Closed side	
ø10	17	11	
ø16	45	34	
ø20	66	42	

^{*} At supply pressure of 0.5 MPa, ℓ = 20 mm, value at stroke center

Refer to the LSHL-G/LSHL-F Series of "Linear Slide Hand LSH-HP Series (No.CC-1419A)" for dimentions.

LSHL-G/LSHL-F-P4/P40-HP1 Series

How to order

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

ABP2 Boosie ≥:

Compatible with rechargeable batteries

SCPD3 Supports food mfg. processes
SCG SSD2 STG

HMC

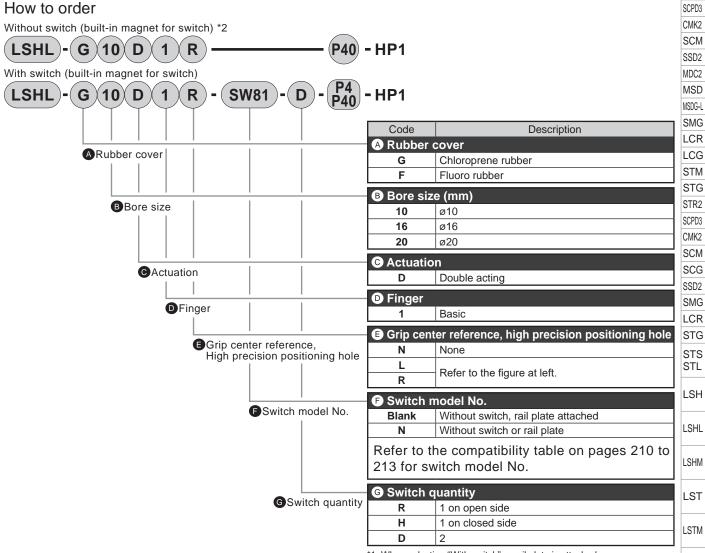
SCPD3

CMK2 SCM

SSD2 MSD

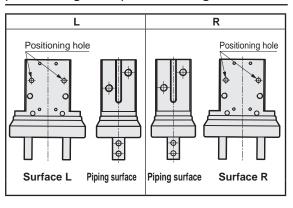
MSDG-L SMG STG STM LCR LCG

STR2 LSH LSHL SCPD3



^{*1:} When selecting "With switch", a rail plate is attached.

Grip center reference, High precision positioning hole position diagram



Switch mounting availability table

	0	•	
Model No.	Switch model No.	Side mounting	Rail mounting
LSHL-G/F10	F2/3 🗌	•	•
LSHL-G/FI0	F2/3S	•	•
LSHL-G/F16	F2/3 🗌	•	•
LSHL-G/F10	F2/3S	•	•
LCUL C/F20	F2/3 🗌	•	•
LSHL-G/F20	F2/3S	•	•

^{*2:} When without switch, supports P4 specifications with HP1

LSH-A/LSHL-A-P4/P40-HP1 Series

Gripping force performance data LSH-A**D/LSHL-A**D (double acting)

- · Gripping force represents the thrust (per one finger) in the arrow direction shown in the figure.
- The gripping force operating in the opening/closing directions against the length () of the attachment when the supply pressure is 0.7 MPa or less is shown.
- ■Open direction(<□)</p>

SCPD3 CMK2

SCM

SSD2 MDC2

MSD

MSDG-L

SMG

LCR

LCG

STM

STG

STR2

SCPD3

CMK2

SCM SCG

SSD2

SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

LST

LSTM

₹ HMC

CKW

ABP2

SCPD3

CMK2

SCM SSD2

MSD

MSDG-L

SMG

STG

STM

LCR

LCG

STR2 LSH

LSHL

SCPD3

CMK2

SCM SCG SSD2 STG

service life cylinder

Long (

Environment-resistant cylinder

Linear Slide Hand

Low-profile long

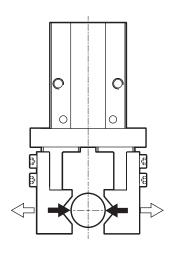
Wide Parallel

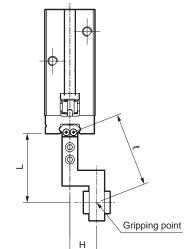
Air Booster

rechargeable batteries

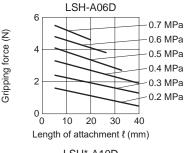
Compatible

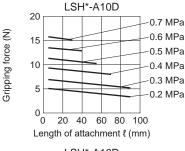
Close direction()

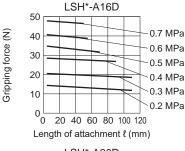


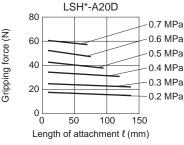


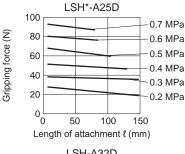
Close direction

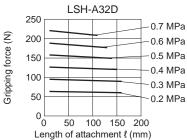




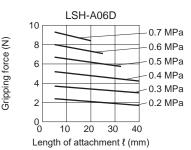


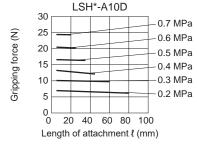


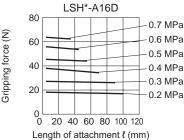


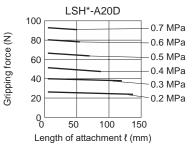


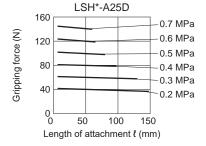
Open direction

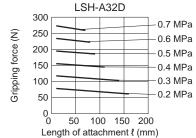












LSH-A/LSHL-A-P4/P40-HP1 Series

Gripping force performance data

SCPD3 CMK2

SCM

SSD2 MDC2 MSD

MSDG-L

SMG LCR

LCG

STM

STG

STR2

SCPD3

CMK2

SCM

SCG

SSD2

SMG

ong service life cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Wide Parallel Hand

Chuck

₽

Compatible with rechargeable batteries

Supports food

SCG 를

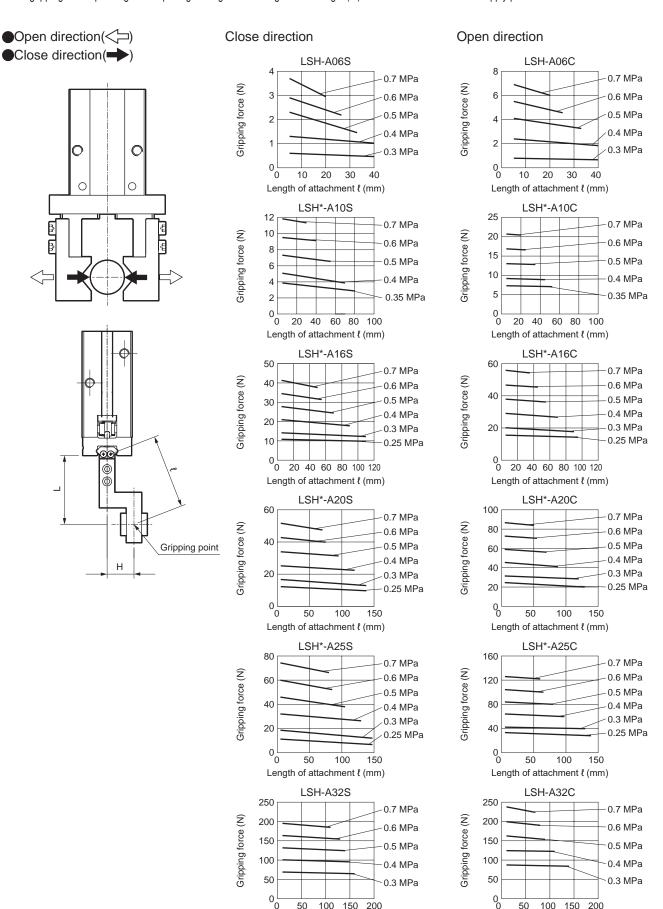
SCM

SSD2

STG

Gripping force performance data LSH-A**S/C/LSHL-A**S/C (single acting)

- Gripping force represents the thrust (per one finger) in the arrow direction shown in the figure.
- The gripping force operating in the opening/closing directions against the length () of the attachment when the supply pressure is 0.7 MPa or less is shown.



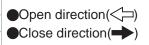
Length of attachment ℓ (mm)

Length of attachment & (mm)

LSH-G/LSHL-G-P4/P40-HP1 Series

Gripping force performance data LSH-G/F**D/LSHL-G/F**D (double acting)

- · Gripping force represents the thrust (per one finger) in the arrow direction shown in the figure.
- The gripping force operating in the opening/closing directions against the length () of the attachment when the supply pressure is 0.7 MPa or less is shown.



SCPD3 CMK2

SCM

SSD2 MDC2

MSD

MSDG-L

SMG

LCR

LCG

STM

STG

STR2

SCPD3

CMK2

SCM

SSD2

SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

LST

LSTM

₹ HMC

CKW

ABP2

SCPD3

CMK2

SCM SSD2

MSD

MSDG-L

SMG

STG

STM

LCR LCG

STR2

LSHL

SCPD3

CMK2

SCM SCG SSD2 STG

rechargeable batteries

cylinder

service life

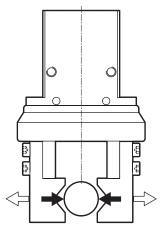
Long (

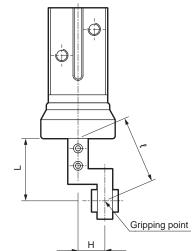
Environment-resistant cylinder

Linear Slide Hand

Low-profile long

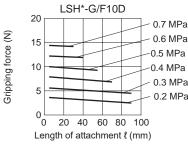
Wide Parallel



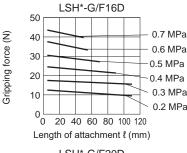


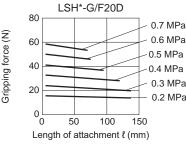
Close direction LSH-G/F06D 0.7 MPa 0.6 MPa 0.5 MPa 0.4 MPa 0.3 MPa 0.2 MPa

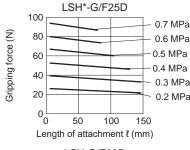
10 20

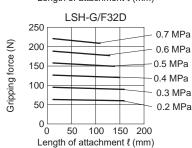


Length of attachment ℓ (mm)

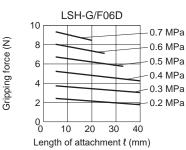


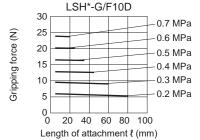


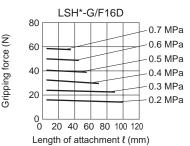


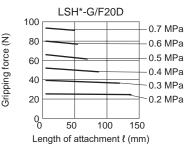


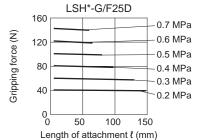
Open direction

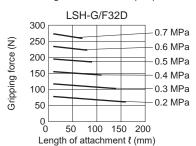












LSH-G/LSH-F-P4/P40-HP1 Series

Gripping force performance data

SCPD3 CMK2

SCM

SSD2 MDC2 MSD

MSDG-L

SMG LCR

LCG

STM STG

STR2

SCPD3

CMK2

SCM

SCG

SSD2

SMG

LCR

STG

STS

STL

LSH

LSHL

LSHM

LST

LSTM

HMC

ABP2

SCPD3

CMK2

SCM

SSD2

MSD

MSDG-L

SMG

STG

STM

LCR LCG

STR2

LSH

LSHL

SCPD3

CMK2

SCM

SSD2

STG

Supports food

mfg. SCG

Low-profile long stroke hand

Wide Parallel Hand

Chuck CKW

₽

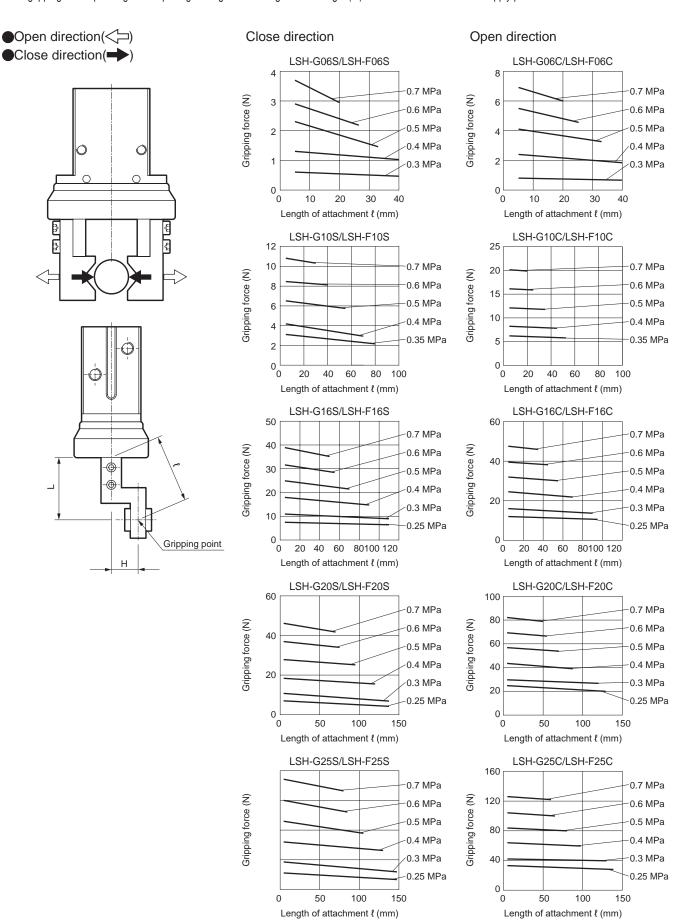
Compatible with rechargeable batteries

Long service life cylinder

Environment-resistant cylinder Linear Slide Hand

Gripping force performance data LSH-G/F**S/C (single acting)

- · Gripping force represents the thrust (per one finger) in the arrow direction shown in the figure.
- The gripping force operating in the opening/closing directions against the length () of the attachment when the supply pressure is 0.7 MPa or less is shown.



Length of attachment ℓ (mm)

Switch Compatibility Table (Lead wire - straight outlet type)

- *1: The cylinder equipped model No. is the order model No. in the table below.
- *2: For discrete switch model numbers, add -P4 to the end of the basic switch model number in the table below.
- *3: * products are with resin connectors.

SCPD3

CMK2

SCM

Cond service life cylinder MSDC3 MSDC4 SMG LCR LCG STM

STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

ABP2

CMK2 SCM SSD2 MSD MSDG-L SMG STG

rechargeable batteries

Compatible with recompatible with recompatible with recompatible with recompanion of the compatible with recompanion of the companion of the c

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

																							_				_	_	_	_				
Shape Compatibility	_																typ	e 						_		_	_	_	_	_				
Order model No.	8W69	SW28	SWAK	SW17	SW29	SW27	SW11	SW18	SW12	SW13	SW49	SW21	SW22	SW23	SW40	SW39	SW47	SWAG	SWAJ	SWBK	SWBL	SW19	SWBW	SWCC	SWAN	SWCU	SWCV	SWCZ	SWAQ	SWBE	SWDU	SWDV	SWDW	
Basic model No.	TOH	T0H3	T0H5	T5H	T5H3	T5H5	T2H	T2H*	T2H3	T2H5	T2HR3	T3H	T3H3	T3H5	Т2МН	T2WH*	T2WH3	T2WH5	ТЗМН	ТЗЖНЗ	T3WH5	T8H	Т8Н3	T8H5	T1H	T1H3	T1H5	ТЗРН	ТЗРНЗ	T3PH5	T2JH	T2JH3	T2JH5	
Cylinder model No.																								_		_	_	_	_	_	_			
SCPD3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•													
CMK2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
SCM	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
SSD2 (ø12/ø16)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							•	•	•				
SSD2 (ø20/ø25)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	
SSD2 (ø32)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	
SSD2 (ø40)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
MSD																																		
MSDG-L																																		
SMG																																		
STG	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
STM																																		
LCR (ø12 or less)																																		
LCR (ø16 or more)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							•	•	•				
LCG (ø12 or less)																																		
LCG (ø16 or more)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							•	•	•				
STR2																																		
LSH-HP1							•	•	•	•		•	•	•														•	•	•				

Switch compatibility table

Axial lead wire

					F	typ	е																K ty	/pe	;									
SWAL	SWEA	SW81	SW89	SW82	SW85	SW86	SWEE	SWEF	SWBV	SW79	SWBD	SWEN	SWCA	SW59	SWCD	SWCG	SWCH	SW58	SW51	SW52	SW53	SW61	SW62	SW63	SWFG	SWFM	SWFN	SW67	SW57	SWAR	SWFP	SWBA	SWFT	SWFU
FOH	F0H3	F2H	F2H*	F2H3	F3H	F3H3	F3PH	F3PH3	F2YH	F2YH3	F3YH	F3YH3	КОН	K0H3	КОН5	К5Н	К5Н3	K5H5	К2Н	K2H3	K2H5	КЗН	КЗНЗ	КЗН5	КЗРН	КЗРНЗ	КЗРН5	К2ҮН	К2ҮН*	К2ҮН3	К2ҮН5	КЗҮН	КЗҮНЗ	КЗҮН5
		•	•	•	•	•	•	•	•	•	•	•																						
•	•	•	•	•	•	•	•	•	•	•	•	•																						
•	•	•	•	•	•	•	•	•	•	•	•	•																						
													•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		•	•	•	•	•	•	•	•	•	•	•																						
		•	•	•	•	•	•	•	•	•	•	•																						
		•	•	•	•	•	•	•	•	•	•	•																						
													•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		•	•	•	•	•	•	•																										

SCPD3 CMK2 SCM SSD2 MDC2 MSD MSDG-L SMG LCR LCG STM STM STG STR2 SCPD3 Environment-resistant cylinder Linear Slide Hand CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM LST LSTM HMC CKW Air Booster ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM

LCR LCG STR2 LSH LSHL

SCPD3 Supports food mig. SCG SSD2 SSD2 STG SSD2 SSSSS

Switch compatibility table (Lead-out L-type wire)

- *1: The cylinder equipped model No. is the order model No. in the table below.
- *2: For discrete switch model numbers, add -P4 to the end of the basic switch model number in the table below.
- *3: * products are with resin connectors.

SCPD3

CMK2

SCM

Cond service life cylinder MSDC3 MSDC4 SMG LCR LCG STM

STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

ABP2

CMK2 SCM SSD2 MSD MSDG-L SMG STG

rechargeable batteries

Compatible with re LCB LCB LSHL LSHL

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Compatibility T type Order model No. 02 MS SW SW SW SW SW SW SW SW SW SW SW SW SW	
Basic model No. 120/5 120/5	
Cylinder model No.	
SCPD3	
- CMK2	
SCM	
SSD2 (Ø12/Ø16)	
SSD2 (Ø20/Ø25)	
SSD2 (Ø32)	
SSD2 (ø40)	
MSD	
MSDG-L	
SMG	
STG	
STM	
LCR (Ø12 or less)	
LCR (Ø16 or more)	
LCG (ø12 or less)	
LCG (Ø16 or more)	
STR2	
LSH-HP1	

Switch compatibility table

Lead-out L-type wire

SCPD3 CMK2 SCM

Long service life cylinder

																																					SSD2
							Fty	ype																	K	typ	е										MDC2
Σ	В	٩	B	က္က	4	Z	۵	2		ပ	Ξ	×	پ	۵.	g	_m	щ	ļĻ,	×	77	×	4	ī5	و				G.	g	ĸ	D.	œ	œ	>	>	<u></u>	MSD
SWAM	SWEB	SWAP	SWBB	SW83	SW84	SWBZ	SWED	SW87	SW88	SWEG	SWEH	SWEK	SWEL	SWEP	SWEQ	SWCB	SWCE	SWCF	SWAX	SWCJ	SWCK	SW54	SW55	SW56	SW64	SW65	SW66	SWGP	SWGQ	SWGR	SWBU	SW68	SWFR	SWFV	SWFW	SWFY	MSDG-L SMG
					_		_		_		8		8		8		_			_			_			_			က	2		3	2		3	2	LCR
F0V	F0V3	F2S	F2S3	F2V	F2V3	F3S	F3S3	F3V	F3V3	F3PV	F3PV3	F2YV	F2YV3	F3YV	F3YV3	K0V	K0V3	K0V5	K5V	K5V3	K5V5	K2V	K2V3	K2V5	K3V	K3V3	K3V5	КЗРV	КЗРVЗ	K3PV5	K2YV	K2YV3	K2YV5	КЗҮV	КЗҮУЗ	K3YV5	LCG STM
																																					STG
																																					STR2
																																					SCPD3
																																					CMK2 SCM
																																					SCG
																																			\blacksquare		SSD2
			•	•	•	•	•	•	•	•	•	•	•	•	•																						SMG
																																					LCR
																																					STG
																																					STG STS STL
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																						LSH
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•																						
																•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	LSHL
																																					LSHM
		•	•	•	•	•	•	•	•	•	•	•	•	•	•																						
		•	•	•	•	•	•	•	•	•	•	•	•	•	•																						LSTM stroke hand
																																					LSTM a
		•	•	•	•	•	•	•	•	•	•	•	•	•	•																						пмо з
																																					HMC 를
																•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	CKW
		•	•	•	•	•	•	•	•	•	•					Ĺ									Ĺ												ABP2

Environment-resistant cylinder Linear Slide Hand TS TL SH SHL НМ ST STM MC KW 3P2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG

STR2 LSH LSHL

SCM SCG SSD2 STG SSSSS

Food manufacturing process HP1 Series compatible components



	CONTENTS	
●Environment- resistant cylinder	Pencil shaped cylinder (SCPD3-G-FP1-HP1)	218
resistant cyllinder	Small bore size cylinder (CMK2-G-FP1-HP1)	220
	Round shaped cylinder (SCM-G-FP1-HP1)	222
	Tie rod cylinder (SCG-G-FP1-HP1)	224
	Compact cylinder (SSD2-G-FP1-HP1)	226
	Guided cylinder (STG-G-FP1-HP1)	230
▲Safety precautions	S	232

Environment-resistant cylinder series variation

Model No.	Bore size (mm)	Stroke (mm)
SCPD3-G-FP1-HP1	ø6/ø10/ø16	5 to 270
CMK2-G-FP1-HP1	ø20/ø25/ø32/ø40	5 to 750
SCM-G-FP1-HP1	ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100	10 to 1500
SCG-G-FP1-HP1	ø32/ø40/ø50/ø63/ø80/ø100	1 to 1500
SSD2-G-FP1-HP1	ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100	1 to 100
STG-G-FP1-HP1	ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100	5 to 400

A Read the safety precautions in "Pneumatic Cylinders" (Catalog No.CB-029SA and CB-030SA) and "Equipment for Food Manufacturing Processes FP Series" (Catalog No.CC-1271A) before use.

■ Some models use oil-impregnated bearings, and oil may be discharged outside of the cylinder. Do not use in places susceptible to oil.

SCPD3

SSD2

STG

LCR LCG STR2 LSH LSHL SCPD3 CMK2 SCM SCG

For food manufacturing processes. Reduced

Satisfies a variety of needs for food processing

A broad standard lineup ranging from air filters to actuators that can be used safely and securely in food manufacturing processes. We offer total support for food manufacturing with total engineering capacity in packaging machines as well as pneumatic, fluid control, and electric-driven products.





Lubricant

Eliminates concerns over lubricant contamination!

Lubricant used in flow paths and sliding parts is changed to food-grade (NSF-H1), eliminating concerns over contamination caused by lubricant. The materials and dimensions are the same as those of the standard products







This logo represents CKD's stance to provide you with safe components for supporting your food manufacturing processes.



Uses safe materials!



In addition to FP1, the flow path uses Food Sanitation Act compliant materials (resin, rubber)

CO₂ emissions with long service life products

Contributes to carbon neutrality by reducing maintenance and improving productivity.



Contributes to food safety and security in food manufacturing processes.





Pencil shaped cylinder
Double acting/Single rod/Rubber scraper

NSF-H1

SCPD3-G-FP1-HP1 Series

■ Bore size:ø6/ø10/ø16







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Ckm Ckm

Booster ABP2

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

4-4-1

Item		s	SCPD3-G-FP1-HP1 CPD3-GL-FP1-HP1 (with switch	n)
Bore size r	mm	ø6	ø10	ø16
Actuation			Double acting	
Working fluid			Compressed air	
Max. working pressure M	1Pa		1.0	
Min. working pressure M	1Pa	0.15	0.	1
Proof pressure M	1Pa		1.6	
Ambient temperature	°C		-10 to 60 (no freezing)	
Port size			M5	
Stroke tolerance r	mm		+1.0 0	
Working piston speed m	nm/s		50 to 750	
Cushion			With rubber cushion	
Lubrication			Not required	
Allowable absorbed energy	J	0.012	0.041	0.162

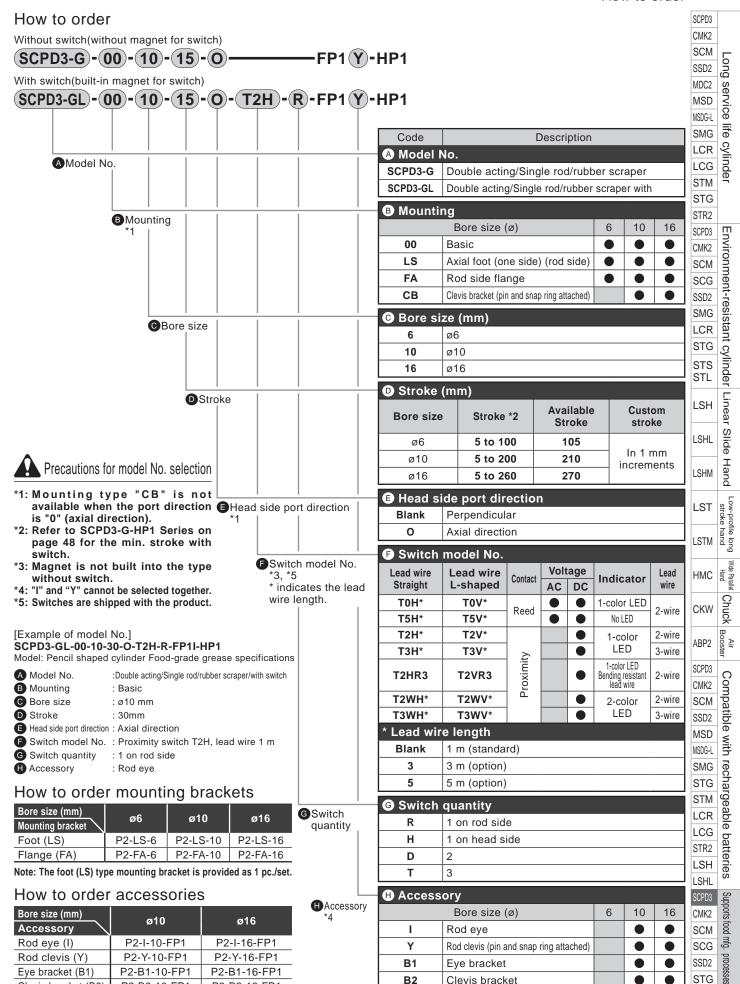
Stroke

-	Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Min. stroke (mm)
-	ø6		100	105	
-	ø10	15/30/45/60	200	210	5
1	ø16		260	270	

^{*1:} The custom stroke is available in 1 mm increments.

Refer to the SCPD3-G-HP1 Series on page 51 for dimensions.

SCPD3-G-FP1-HP1 Series



B2

Clevis bracket (B2)

P2-B2-10-FP1

P2-B2-16-FP1

Clevis bracket

Small bore size cylinder Double acting/Single rod/Rubber scraper

NSF-H1

W. Carl

CMK2-G-FP1-HP1 Series

Bore size:ø20/ø25/ø32/ø40







Specifications

SCPD3 CMK2

SCM

SSD2 MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Wide Parallel Low-profile long stroke hand LST

Chuck CKW

Air Booster ABP2

Compatible with rechargeable batteries

LSH

LSHL

LSHM

LSTM

₹ HMC

CMK2 SCM SSD2 MSD MSDG-L SMG STG

STM

LCR

LCG STR2

LSH LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Item			CMK2-G-	-FP1-HP1	
Bore size	mm	ø20	ø25	ø32	ø40
Actuation			Double	acting	
Working fluid			Compre	essed air	
Max. working pressure	MPa		1	.0	
Min. working pressure	MPa		0.	15	
Proof pressure	MPa		1	.6	
Ambient temperature	°C		-10 to 60 (r	no freezing)	
Port size			Rc	1/8	
Stroke tolerance	mm		+2.0 (up to 200), +2	^{2.4} (More than 200	
Working piston speed	mm/s		50 to	500	
Cushion			With rubb	er cushion	
Lubrication			Not re	quired	
Allowable absorbed energy	y J	0.166	0.308	0.424	0.639

Stroke

Bore size(mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20			
ø25	25/50/75/100/150/200/	750	E
ø32	250/300	750	5
ø40			

^{*1:} The custom stroke is available in 1 mm increments.

How to order mounting brackets

Bore size (mm) Mounting bracket *2	ø20	ø25	ø32	ø40 *1
Basic (00) *4	M1- 00 -20	M1- 00 -30	M1- 00 -30	M1- 00-30 (for head side)
Axial foot (LB/LS)	M1-LB-20	M1-LB-30	M1-LB-30	M1-LB-30(For head side) CMK2-G2-40-LS (LS, LB rod side)
Flange (FA/FB)	M1-FA-20	M1-FA-30	M1-FA-30	CMK2-G2-40-FA(FA) M1-FA-30(FB)
Trunnion (TA/TB)	M1-TA-20	M1-TA-30	M1-TA-30	CMK2-G2-40-TA(TA) M1-TA-40(TB)
Eye bracket (CA)	M1-CA-20-FP1	M1-CA-30-FP1	M1-CA-30-FP1	M1-CA-30-FP1
Clevis bracket (CB)	M1-CB-20-FP1	M1-CB-30-FP1	M1-CB-30-FP1	M1-CB-30-FP1

^{*1:} The rod cover nut, LS bracket (LB rod side), FA bracket and TA bracket for ø40 bore size are not the standard.

Refer to the CMK2-G-HP1 Series on page 55 for dimensions.

^{*2:} One side foot (LS) has max. stroke of 50mm.

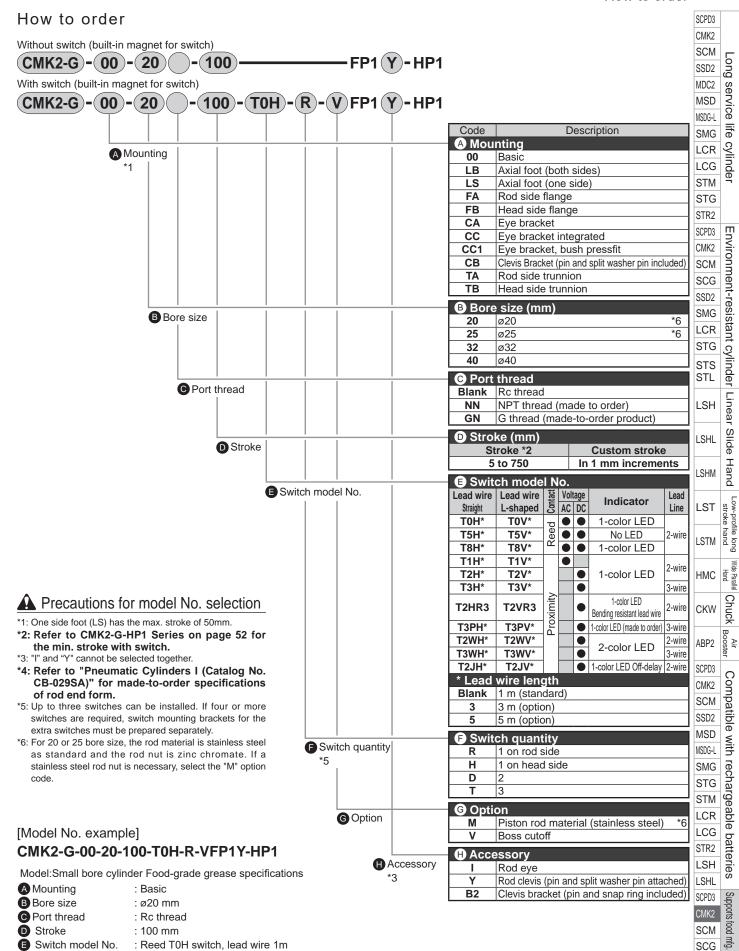
^{*2:} Mounting nuts and toothed washers are included with the axial foot type and flange type. The trunnion type includes mounting nuts. However, toothed washers are not included with ø40,00, LB (rod side), LS and FA.

^{*3:} For axial foot types (two-sided), 2 sets of the "M1-LB-*1" in the table above are required. For ø40, the brackets used on the rod side and head side are different.

^{*4:} Mounting nut, toothed washer only. Although 1 set is included with the basic product (00) (only mounting nuts are included with the ø40), use them when

CMK2-G-FP1-HP1 Series

How to order



Switch quantity

G Option

Accessory

: 1 on rod side

: Boss cutoff

: Rod clevis

SSD2

STG

Round shaped cylinder
Double acting/Single rod/rubber scraper

NSF-H1

SCM-G-FP1-HP1 Series

Bore size:ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2 SCPD3

CMK2 SCM SCG SSD2 SMG LCR STG

STS

STL

LSH

LSHL

LSHM

CKW

SCM SSD2 MSD MSDG-L

SMG STG

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Booster ABP2

rechargeable batteries

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

Opcomo	1110110								
Item					SCM-G-I	FP1-HP	1		
Bore size	mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation					Double	acting			
Working fluid	t				Compre	ssed air			
Max. working	g pressure MPa				1.	.0			
Min. working	pressure MPa		0.1		0.15		0	.1	
Proof pressu	ire MPa				1.	.6			
Ambient tem	perature °C				-10 to 60 (r	no freezing)		
Port size	With rubber cushion		Rc	1/8		Rc	1/4	Rc3/8	Rc1/2
Puit Size	With air cushion	N	15	Ro	1/8	Rc	1/4	Rc3/8	Rc1/2
Stroke tolerance	With rubber cushion	+1.4 0	4 (up to 1	000)	+1.4 0 (up to 1500)	+2.3 0	(up to 1000),	+2.7 0 (1001 t	to 1500)
mm	With air cushion	+1.4 0	4 (up to 1	000)	+1.40 (up to 1500)	+1.4 0	up to 1000),	+1.8 0 (1001 t	to 1500)
Working pist	on speed mm/s	30	to 1000	(Operate	within the	e allowab	le absorb	oed energ	jy.)
Cushion			Either ru	bber cus	hion or ai	r cushion	can be	selected.	
Effective air co	ushion length mm	8.1	8.1	8.6	8.6	13.4	13.4	15.4	15.4
Lubrication					Not re	quired			
Allowable	With rubber cushion	0.1	0.2	0.5	0.9	1.6	1.6	3.3	5.8
absorbed energy	With air cushion	0.8	1.2	2.5	3.7	8.0	14.4	25.4	45.6
J	Without cushion	-	-	-	-	0.057	0.057	0.112	0.153

- *1:The values of allowable absorbed energy for "No cushion" are the non-specified side when an air cushion is selected for the other side ("R"

 Head side, "H"

 Rod side) is the allowable absorbed energy.
- *2: Without a cushion, large energy generated by the external load cannot be absorbed. Please provide an external shock absorber.

Stroke

	Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
┨.	ø 20			
	ø 25		1000	
	ø 32			
	ø 40	25, 50, 75, 100, 125,		10
	ø 50	150, 200, 250, 300		10
1	ø 63		1500	
	ø 80			
	ø100			

^{*1:}The custom stroke is available in 1 mm increments.

How to order mounting brackets

Bore size (mm) Mounting bracket	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SCM-LB-20-HP1	SCM-LB-25-HP1	SCM-LB-32-HP1	SCM-LB-40-HP1	SCM-LB-50-HP1	SCM-LB-63-HP1	SCM-LB-80-HP1	SCM-LB-100-HP1
Flange (FA/FB)	SCM-FA-20-HP1	SCM-FA-25-HP1	SCM-FA-32-HP1	SCM-FA-40-HP1	SCM-FA-50-HP1	SCM-FA-63-HP1	SCM-FA-80-HP1	SCM-FA-100-HP1
Eye bracket (CA)	SCM-CA-20	SCM-CA-25	SCM-CA-32	SCM-CA-40	SCM-CA-50	SCM-CA-63	-	-
Clevis bracket (CB)	-	-	-	-	-	-	SCM-CB-80-FP1	SCM-CB-100-FP1
Trunnion (TA/TB)	SCM-TA-20-FP1	SCM-TA-25-FP1	SCM-TA-32-FP1	SCM-TA-40-FP1	SCM-TA-50-FP1	SCM-TA-63-FP1	-	-

^{*1:} All mounting brackets are supplied with mounting bolts.

Refer to the SCM-G-HP1 Series on pages 59 to 61 for dimensions.

^{*2:} The foot mounting bracket is provided as 2 pcs./set.

SCM-G-FP1-HP1 Series

Long

service life

cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile stroke ha

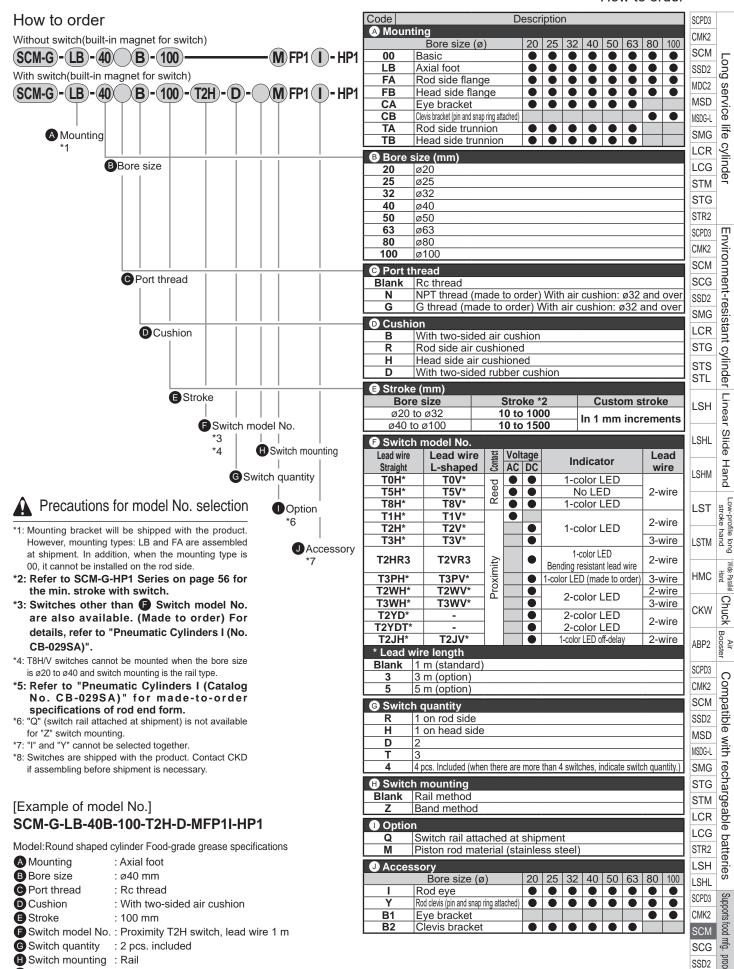
Chuck

Air Booster

Compatible with rechargeable batteries

Supports

mfg.



Option

J Accessory

: Piston rod material (stainless steel)

: Rod eye

STG

NSF-H1

SCG-G-FP1-HP1 Series

● Bore size: ø32/ø40/ø50/ø63/ø80/ø100







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2 MSD MSDG-L SMG

LCR LCG STM STG STR2

CMK2 SCM SCG SSD2 SMG LCR STG STS STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

CKW

ABP2 SCPD3

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Air Booster

•											
Item				SCG-G-I	P1-HP1						
Bore size mm		ø32	ø40	ø50	ø63	ø80	ø100				
Actuation		Double acting									
Working fluid		Compressed air									
Max. working p	ressure MPa			1.	0						
Min. working pr	essure MPa			0.	15						
Proof pressure	MPa		1.6								
Ambient tempe	rature °C		-10 to 60 (no freezing)								
Port size		Rc1/8	Ro	1/4	Ro	Rc1/2					
Stroke tolerance mm	With rubber cushion		+1.4 (up to 1000), +1.8 (1001 to 1500)								
Stroke tolerance min	With air cushion		^{+1.0} (up to	360), +1.4 (361 to 1	1000), +1.8 (1001 to	1500)					
Working piston	speed mm/s		50 to 1000 (Us	e the product withi	n the allowable ab	sorbed energy.)					
Cushion			Either a	air cushion or rubbe	er cushion can be s	selected					
Effective air cus	hion length mm	8.6	8.6	13.4	13.4	15.4	15.4				
Lubrication			Not required								
Allowable absorbed	With rubber cushion	0.5	0.9	1.6	1.6	3.3	5.8				
energy J	With air cushion	2.5	3.7	8.0	14.4	25.4	45.6				

Stroke

	Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Min. stroke(mm)
-	ø32			700	
	ø40	25/50/75/100	600	800	
1	ø50	150/200/250	600	1200	1
Bore	ø63	300/350/400		1200	'
	ø80	450/500	700	1400	
	ø100		800	1500	

^{*1:} The custom stroke is available in 1 mm increments.

How to order mounting brackets

	Bore size (mm) Mounting bracket	ø32	ø40	ø50	ø63	ø80	ø100
	Foot (LB)	SCG-LB-32	SCG-LB-40	SCG-LB-50	SCG-LB-63	SCG-LB-80	SCG-LB-100
	Flange (FA) (FB)	SCG-FA-32	SCG-FA-40	SCG-FA-50	SCG-FA-63	SCG-FA-80	SCG-FA-100
1	Eye bracket (CA)	SCG-CA-32-FP1	SCG-CA-40-FP1	SCG-CA-50-FP1	SCG-CA-63-FP1	SCG-CA-80-FP1	SCG-CA-100-FP1
1	Clevis bracket (CB)	SCG-CB-32-FP1	SCG-CB-40-FP1	SCG-CB-50-FP1	SCG-CB-63-FP1	SCG-CB-80-FP1	SCG-CB-100-FP1

^{*1:} The foot mounting bracket (LB) is provided as 2 pcs./set.

Refer to the SCG-G-HP1 Series on page 65 for dimentions.

^{*2:} If the max. stroke is exceeded, product specifications may not be met, depending on operating conditions. Contact CKD in this case.

^{*2:} All mounting brackets have mounting bolts attached.

SCG-G-FP1-HP1 Series

How to order

Long

service life

cylinder

Environment-resistant cylinder Linear Slide Hand

Low-profile stroke har

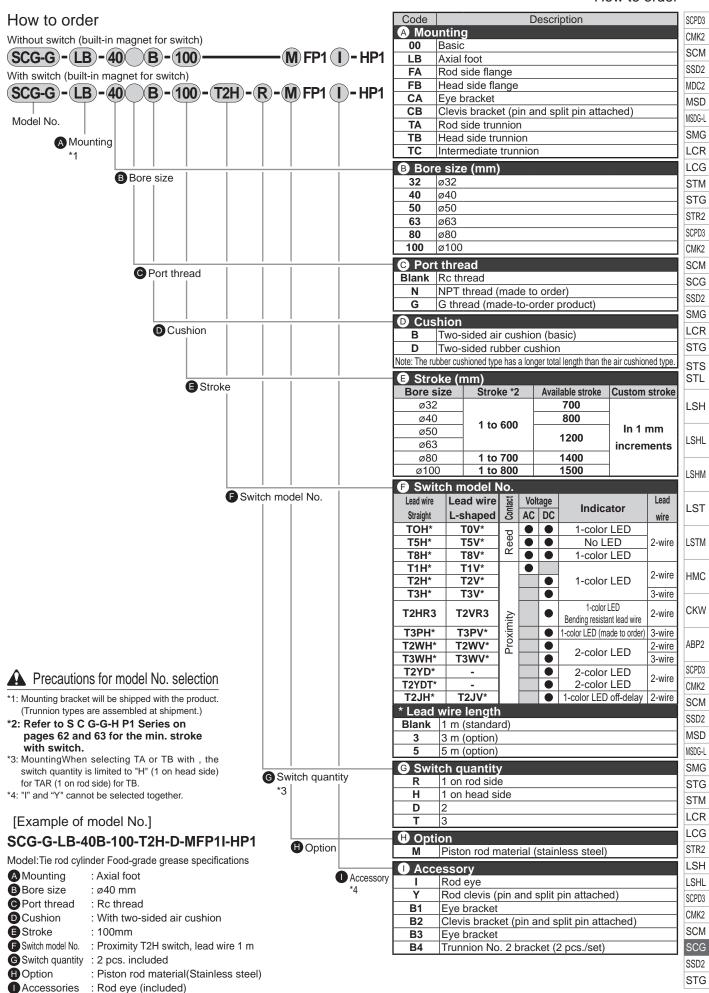
Wide Parallel Hand

Chuck

Air Booster

Compatible with rechargeable batteries

Supports food



Compact cylinder Double acting/Single rod/Rubber scraper

NSF-H1

SSD2-G-FP1-HP1 Series

Bore size:ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63/ø80/ø100

JIS symbol







Specifications

SCPD3 CMK2

SCM

SSD2

MDC2

MSDG-L SMG

LCR LCG STM STG STR2

SCPD3
CMK2
SCM
SCG
SSD2
SMG
LCR
STG
STS
STL

Long service life cylinder

Environment-resistant cylinder

Linear Slide Hand

LSH

LSHL

LSHM

Shock CKM

ABP2 SCPD3

SCM SSD2 MSD MSDG-L SMG

rechargeable batteries

Compatible with re MTS

COMPATIBLE

MTS

MTS

MTS

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LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Opcomodions											
Item		SSD2-G-FP1-HP1 SSD2-GL-FP1-HP1 (with switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Actuation					Double	acting					
Working fluid		Compressed air									
Max. working pressure MPa		1.0									
Min. working pressure MPa	0.1	0.1 0.2 0.15									
Proof pressure MPa		1.6									
Ambient temperature °C					-10 to 60 (r	no freezing)					
Port size		N	15		Rc1	/8 *1	Rc	c1/4 Rc3/8		3/8	
Stroke tolerance mm						1.0					
Working piston speed mm/s				50 to 500					50 to 300		
Cushion					N	lo					
Lubrication					Not re	quired					
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	
							·				

^{*1:} The ø32 bore size with a 5 mm stroke and without a switch has a port size of M5.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)			
ø12	5/10/15/20/25/30	30				
ø16	5/10/15/20/25/50	30				
ø20	5/10/15/20/25/30/35/40/45/50	50				
ø25	5/10/15/20/25/50/55/40/45/50	50				
ø32	5/10/15/20/25/30/35/40/45/50/75/100		1			
ø40	5/10/15/20/25/50/35/40/45/50/75/100		'			
ø50		100				
ø63	10/15/20/25/30/35/40/45/50/75/100	100				
ø80	10/13/20/23/30/33/40/43/30/73/100					
ø100			_			

^{*1:} When using the-type with switch, refer to the table of the min. stroke with switch.

Refer to the SSD2-G-HP1 Series on page 69 for dimentions.

SSD2-G-FP1-HP1 Series

Long

service life

cylinder

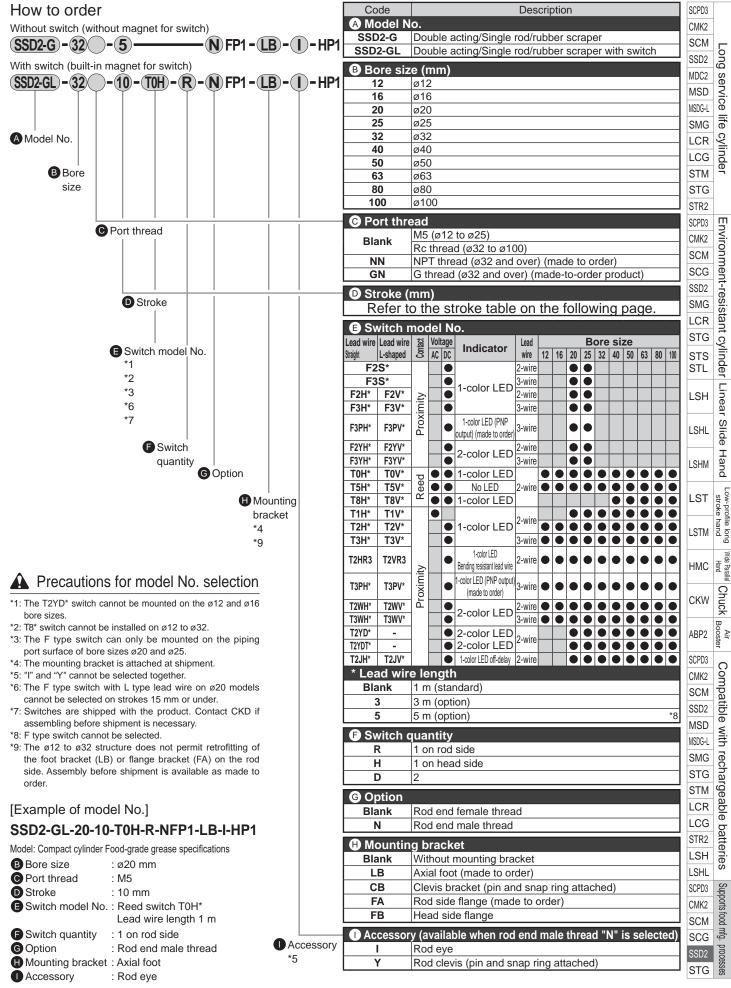
Environment-resistant cylinder Linear Slide Hand

Low-profile long stroke hand

Chuck

₽

Compatible with rechargeable batteries



SSD2-G-FP1-HP1 Series

[Stroke table]

SCPD3

CMK2 SCM

MDC2
MSD
MSDG-L
SMG
LCR
LCG
STM
STG
STR2

SCPD3 CMK2 SCM SCG SSD2 SMG

LCR STG

STS

STL

LSH

LSHL

LSHM

Chuck Wee Parallel Low-profile long stroke hand Stroke hand STORM CAMPACT CAMP

Booster ABP2

Compatible with rechargeable batteries COMSC SUB

LSHL SCPD3 CMK2

SCM SCG SSD2 STG

Long service life cylinder

Linear Slide Hand Environment-resistant cylinder

	Stroke (mm)				App	licable	bore	size			
	otroke (IIIII)	12	16	20	25	32	40	50	63	80	100
	5		•		•						
	10	•	•	•	•	•	•	•	•	•	•
	15	•	•	•	•	•	•	•	•	•	•
(1)	20	•	•	•	•	•	•	•	•	•	•
ok 8	25	•	•	•	•	•	•	•	•	•	•
d st	30	•	•	•	•	•	•	•	•	•	•
Standard stroke	35			•	•	•	•	•	•	•	•
ìtan	40			•	•	•	•	•	•	•	•
U)	45			•	•	•	•	•	•	•	•
	50			•	•	•	•	•	•	•	•
	75					•	•	•	•	•	•
	100					•	•	•	•	•	•
Min. stro	oke (mm) *1						1				
Max. st	roke (mm)	3	0	5	50 100						
Custom	stroke *2				In	1 mm ir	ncreme	nts			

^{*1:} Less than 5 mm for 1-color LED switch, 2-color LED, off-delay, AC magnetic field proof, T1*, T8* switchesless than 10mm stroke is not available. Refer to SSD2-G-HP1 Series on page 66 for the min. stroke length with switch.

How to order mounting brackets

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	
Mounting bracket \	212	210	920	923	932	9-10	250	
Foot (LB)						SSD2-LB-40	SSD2-LB-50	
Flange (FA/FB)						SSD2-FA-40	SSD2-FA-50	
Clevis bracket (CB)	SSD2-CB-12-FP1	SSD2-CB-16-FP1	SSD2-CB-20-FP1	SSD2-CB-25-FP1	SSD2-CB-32-FP1	SSD2-CB-40-FP1	SSD2-CB-50-FP1	
Bore size (mm)	ø63	ø80	ø100				-	
Massatina bassina	903	2000	טוש					

a63	α 9 0	ø100	
203	900		
SSD2-LB-63	SSD2-LB-80	SSD2-LB-100	
SSD2-FA-63	SSD2-FA-80	SSD2-FA-100	
SSD2-CB-63-FP1	SSD2-CB-80-FP1	SSD2-CB-100-FP1	
	SSD2-FA-63	SSD2-LB-63 SSD2-LB-80 SSD2-FA-63 SSD2-FA-80	

^{*1:} The foot mounting bracket is provided as 2 pcs./set.

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^{*2:} The total length when using a custom stroke is the same as that when using the next longer standard stroke.

^{*2:} The ø12 to ø32 structure does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Contact CKD for details.

_		
	SCPD3	
	CMK2	
	SCM	_
	SSD2	S.
	MDC2	ğ
		Ser.
	MSD	<u>≤</u> .
	MSDG-L	⊕
	SMG	e C
	LCR	¥
	LCG	nde
	STM	4
	STG	
	STR2	
	SCPD3	Щ
	CMK2	≦.
	SCM	on.
	SCG	me
	SSD2	랖
	SMG	es
	LCR	ista
		ant
	STG	₹
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	STL	ē
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	LOIT	lear
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	LSHL	lide
		I
	LSHM	and
		<u></u>
	LST	strc
		orofil oke h
	LSTM	e lor
		ig
	НМС	Vide Par Hand
	Tilvio	arallel nd
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	CKW	псk
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	ABP2	Air oste
	SCPD3	_
	CMK2	င္ပ
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		ati
	SSD2	ble
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	MSDG-L	5
	SMG	Э 9 .
	STG	har
	STM	Эē.
	LCR	abl
	LCG	еЬ
	STR2	att
	LSH	eric
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	SCPD3	ည
	CMK2	ppor
		ts foc
	SCM SCG	mf mf
	SCG	9

Guided cylinder Double acting/Rubber scraper

NSF-H1

STG-MG-FP1-HP1 Series

Bore size:ø12/ø16/ø20/ø25/ø32/ø40/ø50/ ø63/ø80/ø100







Specifications

-												
Item					STG-∦	G-HP1						
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100		
Actuation					Double	acting						
Working fluid					Compre	ssed air						
Max. working pressure MPa					1.	.0						
Min. working pressure MPa		0.	25				0	0.2				
Proof pressure MPa	1.6											
Ambient temperature °C					-10 to 60 (r	no freezing)						
Port size	N	15		Rc	1/8	/8 Rc1/4			Rc3/8			
Stroke tolerance mm	+2.0											
Stroke tolerance min		0										
Working piston speedmm/s				50 to 500					50 to 300			
Cushion					With rubbe	er cushion						
Lubrication					Not re	quired						
Allowable absorbed energy J	0.056	0.088	0.157	0.157	0.401	0.627	0.980	1.560	2.510	3.920		

Stroke

.	Bore size	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch(mm)
	ø12	10/20/30/40/50/75/100	250		
	ø16	125/150/175/200/250	250		
	ø20	20/30/40/50/75/100/125			
	ø25	150/175/200/250/300/350/400			
	ø32			5	5 (10)
	ø40	25/50/75/100	400	5	*2
	ø50	125/150/175	400		
	ø63	200/250/300			
,	ø80	350/400			
	ø100				

^{*1:} The custom stroke is available in 5 mm increments. However, the total length is the same as that of the next longer standard stroke.

Refer to STG-MG-HP1 Series on pages 98 to 101 for dimensions.

Long service life cylinder MDC2 MSD MSDG-L SMG LCR LCG STM STG STR2 SCPD3

CMK2

Environment-resistant cylinder SCM SCG SSD2 SMG LCR STG STS STL Linear Slide Hand LSH LSHL

LSHM

Air Booster ABP2

Compatible with rechargeable batteries Compatible with rechargeable batteries Sugar LSHL

SCPD3 CMK2 SCM SCG SCG SSD2 STG

^{*2:} For types with one or two switches. The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

STG-MG-FP1-HP1 Series

SCPD3 CMK2

SCM

MDC2

MSD MSDG-L

SMG

LCR

LCG

STM

STG

STR2

SCPD3

CMK2 SCM SCG SSD2 SMG LCR

STG

STS STL

LSH

LSHL

LSHM

LST

LSTM

HMC

CKW

ABP2 SCPD3

CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL SCPD3 Compatible with rechargeable batteries

Supports food CMK2 SCM SCG

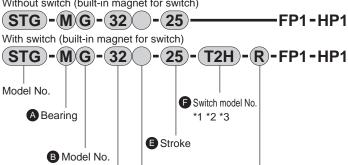
Long SSD2

service life cylinder

Environment-resistant cylinder Linear Slide Hand



Without switch (built-in magnet for switch)



G Switch quantity

Precautions for model No. selection

Port thread

- Switches other than Switch model No. are also available. (Made-to-order product) For details, "Pneumatic Cylinders II" (No.CB-030SA).
- *2: T8H/V switch cannot be installed on STG-12 or 16

© Bore size

*3: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

STG-MG-40-50-T0H-H-FP1-HP1

Model: Guided cylinder Food-grade grease specifications

A Bearing : Metal bush bearing B Model No. : Rubber scraper ©Bore size : ø40 mm Port thread : Rc thread Stroke : 50mm

Switch model No.: Reed T0H switch, lead wire length 1 m

G Switch quantity : 1 on head side

Code		Description							
A Bearing									
M	Metal bush bearing								
В	Ball bearing								
A Mardal Na									

Rubber scraper

(Bo	re size (mm)
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

	5.00
Por	t thread
	M5 (ø12 to ø16)
Dialik	Rc thread (ø20 to ø100)
NN	NPT thread (ø20 and over) (made to order)
GN	G thread (ø20 and over) (made-to-order product)

Refer to the stroke table below

F Switch model No.								
Lead wire Straight		Lead wire L-shaped	Contact	Voltage AC DC		Indicator	Lead wire	
T0H*		T0V*		AC		1-color LED	2-wire	
		T5V*	Reed			No LED		
T8H*		T8V*	11000		Ŏ	1-color LED	2 WIIC	
T1H*		T1V*		Ŏ		. 00.0. 222	2-wire	
T2H*		T2V*	ĺ			1-color LED		
T3H* T2HR3 T3PH* T2WH* T3WH* T2YD* T2YDT* T2JH*		T3V*]				3-wire	
		T2VR3	₹			1-color LED bend resistant lead wire	2-wire	
		T3PV*	i.E			1ColorDisplay (made to order)	3-wire	
		T2WV*	Proximity			2-color LED	2-wire	
		T3WV*	_ □				3-wire	
		-				2-color LED for	2-wire	
		-				AC magnetic field		
		T2JV*				1-color LED off-delay	2-wire	
* Lead wire ler								
Blank 1 m (standard)								
		(option)						
5	5 m	(option)						
© Swit	tch	quantity						

G Switch quantity								
R	1 on rod side							
Н	1 on head side							
D	2							
Т	3							

Stroke

Stro			Α	pplic	cable	bor	e siz	ze		.				
(mn	n)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100			
	10													
	20													
	25					•				•				
	30	•												
	40	•			•									
	50	•			•					•				
	75													
Standard Stroke	100	•								•				
	125													
	150													
	175													
	200													
	250													
	300													
	350									•				
	400													
Min. stroke					5 (
Custom stroke				In 5	mm ir	ncrem	ents							

^{*1:} The total dimensions are the same as the longer standard stroke.

SSD2

STG

^{*2:} The value in () is the min. stroke for switches of the 2-color LED and AC magnetic field proof.

STM

STG STR2

SCPD3

LSHL



Safety Precautions

Be sure to read this section before use.

When designing and manufacturing equipment using CKD wet fine system products, the manufacturer is obligated to ensure that the safety of the mechanism, pneumatic control circuit and/or water control circuit and the system that runs the electrical controls are secured. It is important to select, use, handle and maintain CKD products appropriately to ensure their safe usage.

Observe warnings and precautions to ensure device safety. Check that device safety is ensured, and manufacture a safe device.

🕰 WARNING

- This product is designed and manufactured as a general industrial machine part. It must be handled by an operator having sufficient knowledge and experience.
- Use this product in accordance with specifications.

This product must be used within its stated specifications. In addition, never modify or additionally machine this product.

This product is intended for use in general industrial machinery equipment or parts. It is not intended for use outdoors (except for products with outdoor specifications) or for use under the following conditions or environments. (Note that this product can be used when CKD is consulted prior to its usage and the customer consents to CKD product specifications. The customer should provide safety measures to avoid danger in the event of problems.)

- Use for applications requiring safety, including nuclear energy, railways, aircraft, marine vessels, vehicles, medical devices, devices or applications in contact with beverages or foodstuffs, amusement devices, emergency cutoff circuits, press machines, brake circuits, or safety devices or applications.
- Use for applications where life or assets could be significantly affected, and special safety measures are
- Observe organization standards and regulations, etc., related to the safety of the device design and control, etc.

ISO4414, JIS B 8370(Pneumatic fluid power - General rules and safety requirements for systems and their components)

JFPS2008 (Principles for pneumatic cylinder selection and use)

Including the High Pressure Gas Safety Act, Industrial Safety and Health Act, other safety rules, organization standards and regulations, etc.

- Do not handle, pipe, or remove devices before confirming safety.
 - Inspect and service the machine and devices after confirming safety of all systems related to this product.
 - 2 Note that there may be hot or charged sections even after operation is stopped.
 - 3 When inspecting or servicing the device, turn OFF the energy source (air supply or water supply), and turn OFF power to the facility. Discharge any compressed air from the system, and pay attention to possible water leakage and leakage of electricity.
 - When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures, is secured.
- Observe the warnings and cautions on the following pages to prevent accidents.
- Precautions are ranked as "DANGER", "WARNING", and "CAUTION" in this section.

DANGER. In the case where the product operation is mishandled and/or when the urgency of a dangerous situation is high, it may lead to fatalities or serious injuries.

WARNING: A dangerous situation may occur if handling is mistaken, leading to fatal or serious injuries.

ACAUTION: A dangerous situation may occur if handling is mistaken, leading to minor injuries or property damage.

Note that some items indicated with "CAUTION" may lead to serious results depending on the conditions. All items contain important information and must be observed.

Warranty

Warranty period

The product specified herein is warranted for one and a half (1.5) years from the date of delivery to the location specified by the customer.

2 Warranty coverage

If the product specified herein fails for reasons attributable to CKD within the warranty period specified above, CKD will promptly provide a replacement for the faulty product or a part thereof or repair the faulty product at one of CKD's facilities free of charge. However, following failures are excluded from this warranty:

- 1) Failure caused by handling or use of the product under conditions and in environments not conforming to those stated in the catalog, the Specifications, or the Instruction Manual.
- 2) Failure caused by use of the product exceeding its durability (cycles, distance, time, etc.) or caused by consumable parts.
- 3) Failure not caused by the product.
- 4) Failure caused by use not intended for the product.
- 5) Failure caused by modifications/alterations or repairs not carried out by CKD.
- 6) Failure caused by reasons unforeseen at the level of technology available at the time of delivery.
- 7) Failure caused by acts of nature and disasters beyond control of CKD.

The warranty stated herein covers only the delivered product itself. Any loss or damage induced by failure of the delivered product is excluded from this warranty.

Note: For details on the durability and consumable parts, contact your nearest CKD sales office.

Compatibility check

The customer is responsible for confirming the compatibility of CKD products with the customer's systems, machines and equipment.

Precautions for export

Security Trade Control

The products in this catalog and their related technologies may require approval before export or provision. For the sake of maintaining world peace and safety, there may be cases in which approval under the Foreign Exchange and Foreign Trade Control Law is required in advance, depending on the country to where the product or related technology is being exported or provided.

The scope of products and related technologies requiring approval is listed in the Export Trade Control Order Appendix Table 1 or Foreign Exchange Order Appendix Table.

The Export Trade Control Order Appendix Table 1 and Foreign Exchange Order Appendix Table contain the following two types of information:

- · List controls, which are specified for items 1 to 15
- · "Catch-all controls" that do not indicate specifications by item, but restrict by application (Section 16)

Scope of products or related technologies requiring approval

List controls, which are specified for items 1 to 15

Listed in the "Export Trade Control Order Appendix Table 1" or "Foreign Exchange Order Appendix Table"

Catch-all controls restricted by application (item 16)

Listed in the "Export Trade Control Order Appendix Table 1" or "Foreign Exchange Order Appendix Table"

An application for approval is received by the Security Export Licensing Division of the Ministry of Economy, Trade and Industry or local bureaus of the Ministry of Economy, Trade and Industry.

Products and related technologies in this catalog

The products and related technologies in this catalog are subject to the list controls of the Foreign Exchange and Foreign Trade Control Law.

For information on the products or related technologies subject to the list controls of the Foreign Exchange and Foreign Trade Control Law, refer to the applicable product page.

If exporting or providing products or related technologies that fall under the list controls, be sure to obtain export permission under the Foreign Exchange and Foreign Trade Control Law.

In addition, when exporting or providing the products or related technologies in this catalog, ensure that they are not used for arms or weapons.

Contact

Contact your local CKD Sales Office for information on the Security Trade Control of products and related technologies in this catalog.

SCPD3 CMK2 SCM Long SSD2 MDC2 service life cylinder MSD MSDG-L SMG LCR LCG STM STG STR2 SCPD3 Environment-resistant cylinder Linear Slide Hand CMK2 SCM SCG SSD2 SMG LCR STG STS STL LSH LSHL LSHM Low-profile long stroke hand LST LSTM Wide Parallel Hand HMC Chuck CKW Air Boostei ABP2 SCPD3 Compatible with rechargeable batteries CMK2 SCM SSD2 MSD MSDG-L SMG STG STM LCR LCG STR2 LSH LSHL Supports food SCPD3 CMK2 SCM mfg. SCG

processes SSD2

STG





Compatible with more than 100 models

A line-up that can contribute to the evolving rechargeable battery manufacturing processes

Speed controller with adjusting dial

Metering valve with silencer

Nitrogen Gas Extraction Unit

DSC

Series

SMW/

SMW2 Series

NSU

Series

Speed controller line type with push-in fitting

SCL2

Block valve

AF Series

Series

Series

Prevents food contamination by lubricants. Food-grade (NSF H1) lubricants are used.























Pencil shaped cylinder



Small bore size cylinder



Small bore size cylinder, stainless steel variation



Round shaped cylinder











FH100

























GW Series

DVL-S

Quick valve

Series

2QV/3QV

Series

Needle valve with adjusting dial





Pilot operated 3, 5-port valve

R1*00 to

R8*00

Series



FX

Series



P1100 to

P8100

Series









Pilot kick 2-port solenoid valve Air operated 2-port valve Air operated 3-port valve APK SAB NAP Series Series Series Materials compatible with the Food Sanitation Act are used Nitrogen Gas Extraction Unit Oxygen monitor SFC/SFS Series VSP Series NS PNA Series Series Pilot operated 2-port solenoid valve for compressed air Compact pilot operated solenoid valve for water Compact direct acting 2, 3-port solenoid valve Direct acting 2-port solenoid general purpose valve **FWD** USB/G AB31/41 Series Series Series Diaphragm cylinder valve Diaphragm cylinder valve Diaphragm cylinder valve, manifold ADK11-Z LAD NAD GNAD CHB/ Series Series Series Series CHG Series Pilot 2-port solenoid general purpose valve for dry air ■ Metal-free solenoid valves Pilot 2-port solenoid general purpose valve for dry air High corrosion resistant direct acting 2-port solenoid valve Check valve (nozzle) SPK MYB3 HB MXB/ CCN Series MXG Series Series

Speed controller Elbow with push-in fitting

SC3W

Speed controller

Super dryer (High polymer membrane air dryer) SU/SD

Series

SC1

Series

Series

Fitting (stainless steel Series)

ZW Series

Speed controller

SC-M5

Single ejectors

Series

VSH/VSC

Series

WORLD-NETWORK



CKD Corporation

Website https://www.ckd.co.jp/en/

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