Clamp Cylinder

RCC2

Rotary clamp cylinder

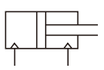
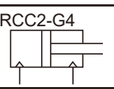
ø16, ø20, ø25, ø32, ø40, ø50, ø63

CONTENTS

Product Introduction	808
Series variation	845
● Double Acting / Single Rod Type (RCC2)	846
● Double Acting/anti-spatter adherence (RCC2-G4)	860
External Dimensions Diagram with Switch	869
⚠Precautions for Use	872

Variation Table

○: Custom Products

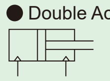
Variation	Model No. Circuit Diagram Code	Bore Size (mm)	Stroke (mm)								Rotating part stroke	Clamping part stroke	Mounting Style				Option	Switch	Page
			19	21	25	29	31	35	40	70	(mm)	(mm)	Basic type 00	Rod side flange type FA	Head Side Flange Type FB	Head side with spigot joint HI	Rod End width across 4 flats N4		
Double Acting, Single Rod Type	RCC2 	ø16	○			○					9		○	○	○	○	○	○	846
		ø20, ø25		○			○				11	10, 20	○	○	○	○			
		ø32, ø40			○			○			15		○	○	○	○			
		ø50, ø63							○	○	20	20, 50	○	○	○	○			
Double Acting Sputter adhesion prevention type	RCC2-G4 	ø20, ø25		○			○				11	10, 20	○	○	○			○	860
		ø32, ø40			○			○			15		○	○	○				
		ø50, ø63							○	○	20	20, 50	○	○	○				

Rotary Clamp Cylinder, Double Acting, Single Rod Type

RCC2 Series

● Bore Size: ø16, ø20, ø25, ø32, ø40, ø50, ø63

Circuit Diagram Code ● Double Acting type



Custom-made RoHS

Model No. Notation

Without Switch (Built-in magnet for switch)

RCC2 - 00 - 20 - 21 - R ———— (7)

Model No. (1) (2) (3) (4) (7)

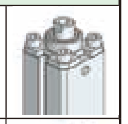
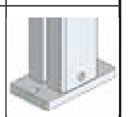
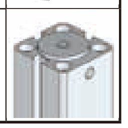
With Switch (Built-in magnet for switch)

RCC2 - 00 - 20 - 21 - R - T0H - R - (7)

Model No. / (1) Mounting type / (2) Bore Size / (3) Stroke / (4) Direction of rotation / (5) Switch Model No. / (6) Number of Switches / (7) Option

(1) Mounting type

Mounting bracket is attached to the product for shipment.

Code	Content	
00	Basic type	
FA	Rod side flange type	
FB *1	Head Side Flange Type	
HI	Head side with spigot joint	

*1: For models with switch, depending on the switch mounting surface and switch type, there is a possibility of interference with the fixing screws.

(2) Bore Size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

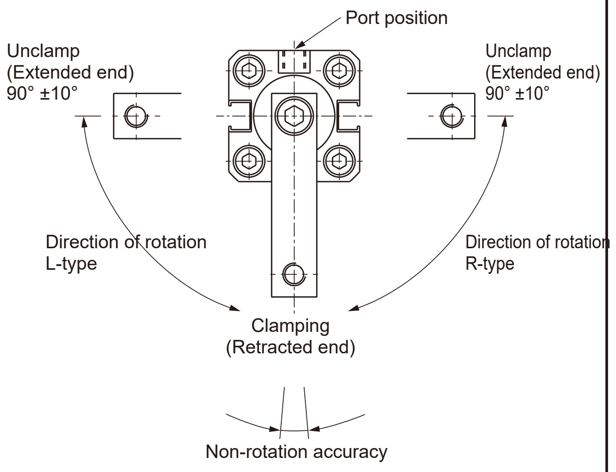
(3) Stroke (mm)

Stroke	Bore Size (ø) 16	20	25	32	40	50	63	Rotation stroke	Clamp stroke
19	●							9	10
21		●	●					11	
25				●	●			15	
29	●							9	20
31		●	●					11	
35				●	●			15	
40						●	●	20	
70						●	●		50

(4) Direction of rotation

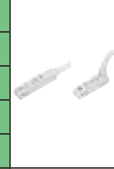
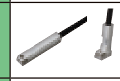
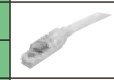
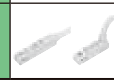
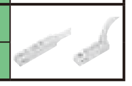
Code	Content
R	Clamp (Pull) looking from rod side: rotated 90° in CW direction
L	Clamp (Pull) looking from rod side: rotated 90 degrees counterclockwise

Direction of rotation



(5) Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V) AC	Load Voltage (V) DC	Load Current (mA) AC	Load Current (mA) DC	Lead wire *1 Straight	Lead wire *1 L-shape	
Solid State	1-Color	2-wire	—	10 to 30	—	5 to 20 *2	T2H□	T2V□	 *6
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—		—		T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color Water Resistance Improved	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	 *3
	2-Color AC For Magnetic Field		—	24 ± 10%	—		T2YD□	–	
			—		—		T2YDT□	–	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	No Indicator LED		110	5/12/24	20 or less	50 or less	T5H□	T5V□	

*1: For "□" in the switch Model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating Ambient Temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: This does not guarantee the water resistance of the cylinder.
*4: For ø16, T2YD□, T2YDT□ switches cannot be used.
*5: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P. 1457.

***Lead wire length, connector specification**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (−) Lead Wire 0.3 m

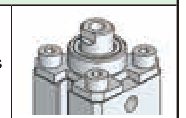
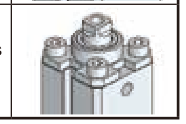
*6: Only T2WLH and T2WLV can be selected.

Example) Lead wire length
1m T0H
3m T0H3
5m T0H5

(6) Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

(7) Option

Code	Content	
Blank	Rod End width across 2 flats	
N4	Rod End width across 4 flats (ø16 only)	

Switch Single Unit Model No. Notation

SW - T0H

(5) Switch Model No.

Switch Single Unit Model No.

SW - T0H3

(5) Switch Model No.

Specifications

*This is a custom order product.

Item		RCC2						
Bore Size mm		ø16	ø20	ø25	ø32	ø40	ø50	ø63
Actuation method		Double Acting Type						
Operating Fluid		Compressed Air						
Max Operating Pressure MPa		1.0						
Min Operating Pressure MPa		0.2						
Proof Pressure MPa		1.6						
Ambient Temperature °C		-10 to 60 (however, no freezing)						
Port Size		M5			Rc1/8		Rc1/4	
Operating Piston Speed mm/s		50 to 200						
Cushion		With Rubber Cushion						
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)						
Rotation Angle		90° ±10°						
Direction of rotation		Right/Left						
Non-rotating accuracy (clamping): Initial value		±1°			±0.9°		±0.7°	
Pressure receiving area mm^2	Retraction side	123	201	377	603	1055	1649	2626
	Push side	201	314	490	804	1256	1963	3117
Durability		1 million cycles						

Stroke

Bore Size (mm)	Stroke (mm)	Rotating part stroke (mm)	Clamping part stroke (mm)
ø16	19, 29	9	10, 20
ø20	21, 31	11	10, 20
ø25			
ø32	25, 35	15	10, 20
ø40			
ø50	40, 70	20	20, 50
ø63			

Cylinder Weight

(Unit: kg)

Item / Mounting Style / Bore Size (mm)	Stroke (mm)								Rod side Flange (FA)	Head side Flange (FB)	Switch Weight
	19	29	21	31	25	35	40	70			
ø16	0.22	0.28	-	-	-	-	-	-	0.07	0.07	Refer to the switch weight listed in the switch specifications on P. 1457.
ø20	-	-	0.35	0.43	-	-	-	-	0.13	0.13	
ø25	-	-	0.38	0.45	-	-	-	-	0.16	0.16	
ø32	-	-	-	-	0.8	0.9	-	-	0.16	0.16	
ø40	-	-	-	-	1.0	1.1	-	-	0.25	0.25	
ø50	-	-	-	-	-	-	1.6	2.2	0.5	0.5	
ø63	-	-	-	-	-	-	2.8	3.6	0.65	0.65	

Theoretical Thrust Table

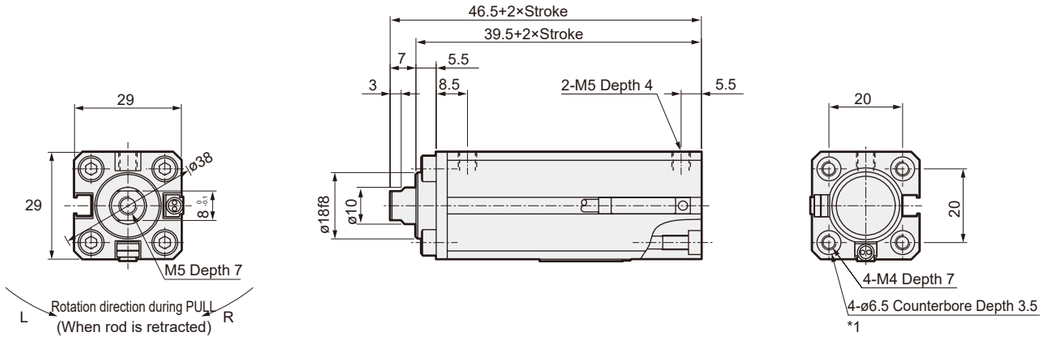
(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa								
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø16	Push	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	24.5	36.8	49.0	61.3	73.5	85.8	98.0	1.10×10^2	1.23×10^2
ø20	Push	62.8	94.2	1.26×10^2	1.57×10^2	1.89×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
ø25	Push	98.2	1.47×10^2	1.96×10^2	2.45×10^2	2.95×10^2	3.44×10^2	3.93×10^2	4.42×10^2	4.91×10^2
	Pull	75.6	1.13×10^2	1.51×10^2	1.89×10^2	2.27×10^2	2.64×10^2	3.02×10^2	3.40×10^2	3.78×10^2
ø32	Push	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	1.21×10^2	1.81×10^2	2.41×10^2	3.02×10^2	3.62×10^2	4.22×10^2	4.83×10^2	5.43×10^2	6.03×10^2
ø40	Push	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.45×10^2	9.50×10^2	1.06×10^3
ø50	Push	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
ø63	Push	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	5.25×10^2	7.88×10^2	1.05×10^3	1.31×10^3	1.58×10^3	1.84×10^3	2.10×10^3	2.36×10^3	2.63×10^3

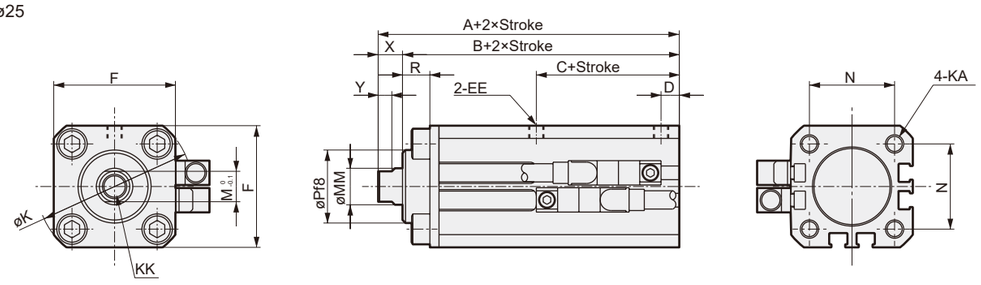
External dimensions diagram (Bore Size: ø16, ø20, ø25)

● Basic Type (00)

ø16



ø20, ø25



Code	Basic Type (00) Basic Dimensions															
Bore Size (mm)	A	B	C	D	EE	F	K	KA	KK	M	MM	N	P	R	X	Y
ø20	56	48	24	5.5	M5x0.8	36	47	M6 Depth 11	M8 Depth 15	10	12	25.5	24	9	8	4.5
ø25	57	49	26	6	M5x0.8	40	51	M6 Depth 11	M8 Depth 15	10	12	28	24	9	8	4.5

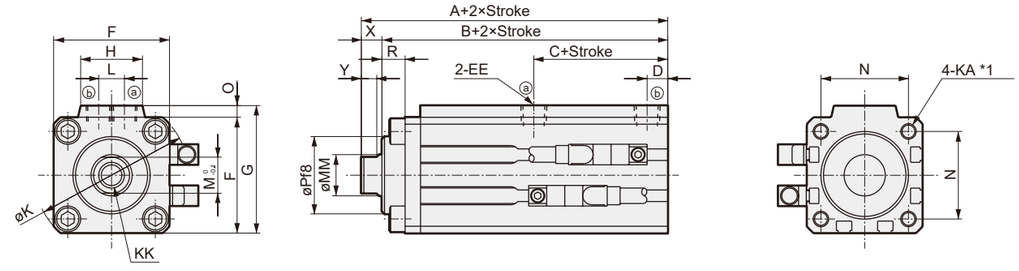
*1: Mounting with through bolts is not possible.

***2: For dimensions of models with switches, see P. 869.**

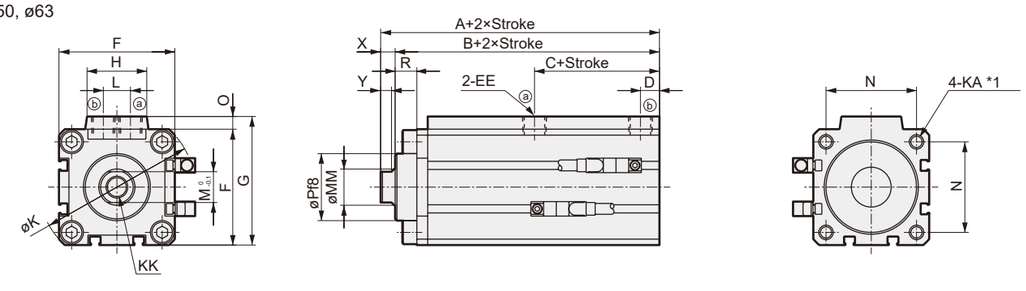
External dimensions diagram (Bore Size: ø32, ø40, ø50, ø63)

● Basic Type (00)

ø32, ø40



ø50, ø63



Code	Basic Type (00) Mounting Dimensions																			
Bore Size (mm)	A	B	C	D	EE	F	G	H	K	KA	KK	L	M	MM	N	O	P	R	X	Y
ø32	69	61	27	8	Rc1/8	45	49.5	24	60	M6 Depth 11	M10 Depth 15	10	14	16	34	4.5	30	9	8	6
ø40	70	62	29	8.5	Rc1/8	52	57	24	69	M6 Depth 11	M10 Depth 15	10	14	16	40	5	35	9	8	6
ø50	74	66	29	10.5	Rc1/4	64	71	33	86	M8 Depth 13	M12 Depth 15	15	17	20	50	7	37	12	8	6
ø63	85	75	38	11	Rc1/4	77	84	33	103	M10 Depth 25	M16 Depth 21	15	22	25	60	7	48	12	10	8

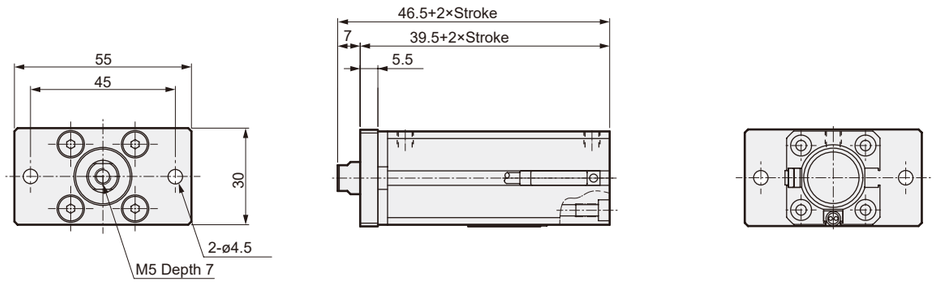
*1: Mounting with through bolts is not possible.

***2: For dimensions of models with switches, see P. 869.**

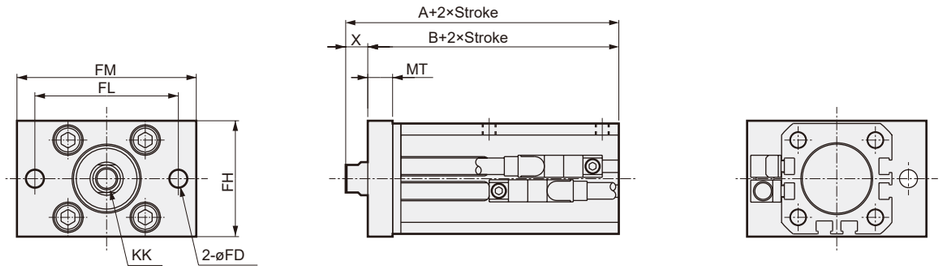
External dimensions diagram (Bore Size: ø16, ø20, ø25)

● Rod Side Flange Type (FA)

ø16



ø20, ø25



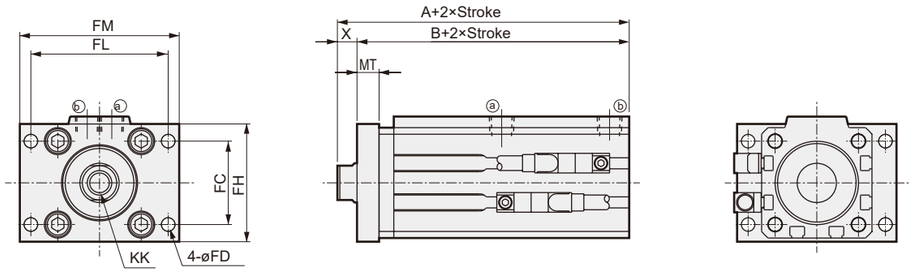
Code	Rod Side Flange Type (FA) Mounting Dimensions								
Bore Size (mm)	A	B	KK	X	FD	FH	FL	FM	MT
ø20	56	48	M8 Depth 15	8	6.5	38	48	60	9
ø25	57	49	M8 Depth 15	8	6.5	42	52	65	9

Note: For dimensions with each switch, please refer to P. 869.

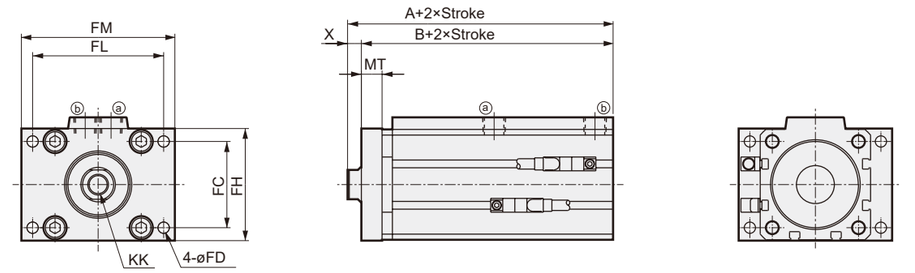
External dimensions diagram (Bore Size: ø32, ø40, ø50, ø63)

● Rod Side Flange Type (FA)

ø32, ø40



ø50, ø63



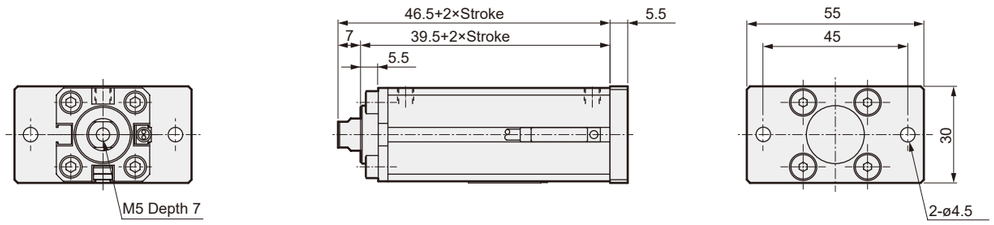
Code	Rod Side Flange Type (FA) Mounting Dimensions									
Bore Size (mm)	A	B	KK	X	FD	FC	FH	FL	FM	MT
ø32	69	61	M10 Depth 15	8	5.5	34	48	56	65	9
ø40	70	62	M10 Depth 15	8	5.5	40	55	62	75	9
ø50	74	66	M12 Depth 15	8	6.5	50	66	76	89	12
ø63	85	75	M16 Depth 21	10	9	60	82	92	108	12

Note: For dimensions with each switch, please refer to P. 869.

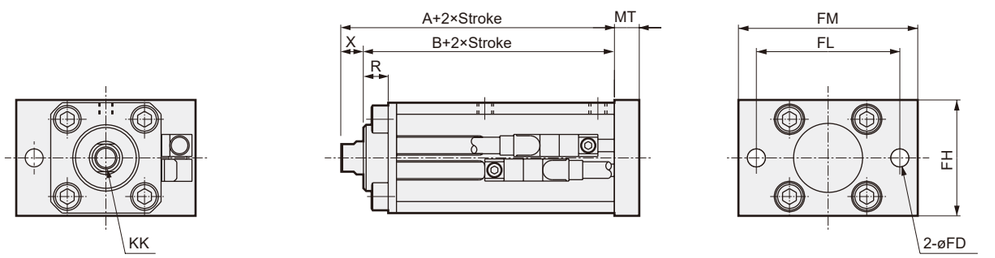
External dimensions diagram (Bore Size: ø16, ø20, ø25)

● Head Side Flange Type (FB)

ø16



ø20, ø25



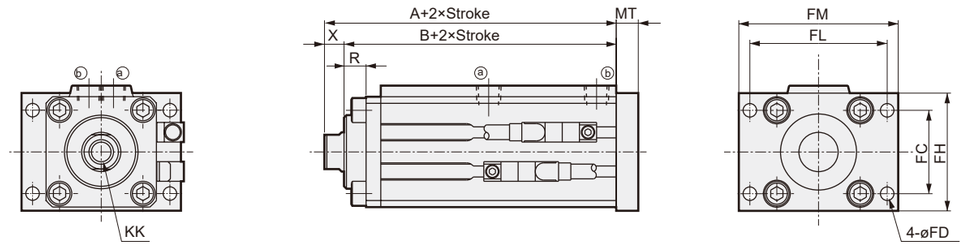
Code	Head Side Flange Type (FB) Mounting Dimensions									
Bore Size (mm)	A	B	KK	R	X	FD	FH	FL	FM	MT
ø20	56	48	M8 Depth 15	9	8	6.5	38	48	60	9
ø25	57	49	M8 Depth 15	9	8	6.5	42	52	65	9

Note: For dimensions with each switch, please refer to P. 869.

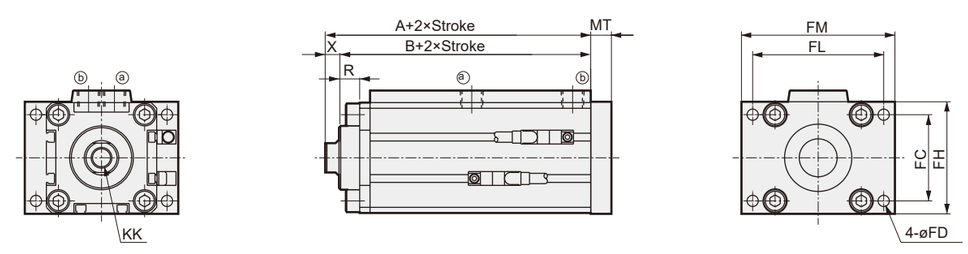
External dimensions diagram (Bore Size: ø32, ø40, ø50, ø63)

● Head Side Flange Type (FB)

ø32, ø40



ø50, ø63



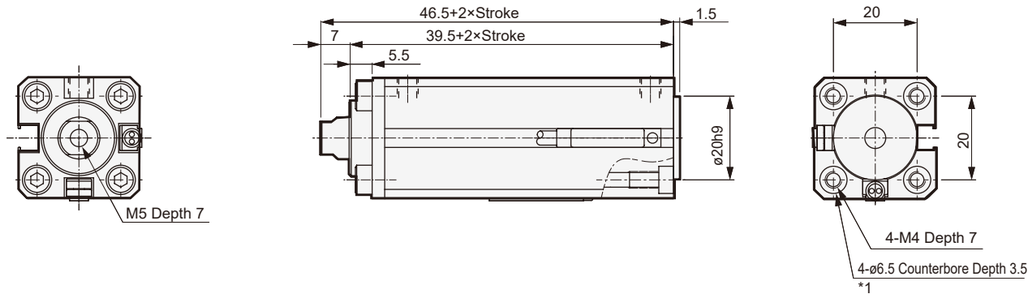
Code	Head Side Flange Type (FB) Mounting Dimensions										
Bore Size (mm)	A	B	KK	R	X	FD	FC	FH	FL	FM	MT
ø32	69	61	M10 Depth 15	9	8	5.5	34	48	56	65	9
ø40	70	62	M10 Depth 15	9	8	5.5	40	55	62	75	9
ø50	74	66	M12 Depth 15	12	8	6.5	50	66	76	89	12
ø63	85	75	M16 Depth 21	12	10	9	60	82	92	108	12

Note: For dimensions with each switch, please refer to P. 869.

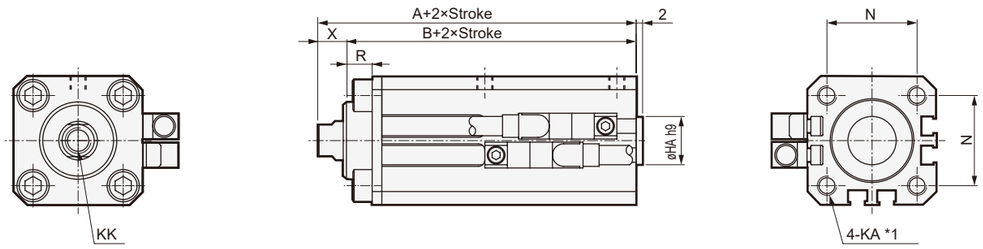
External dimensions diagram (Bore Size: ø16, ø20, ø25)

● With Head Side Spigot Joint (HI)

ø16



ø20, ø25



Code	With Head Side Spigot Joint (HI) Mounting Dimensions							
Bore Size (mm)	A	B	HA	KA	KK	N	R	X
ø20	56	48	13	M6 Depth 11	M8 Depth 15	25.5	9	8
ø25	57	49	15	M6 Depth 11	M8 Depth 15	28	9	8

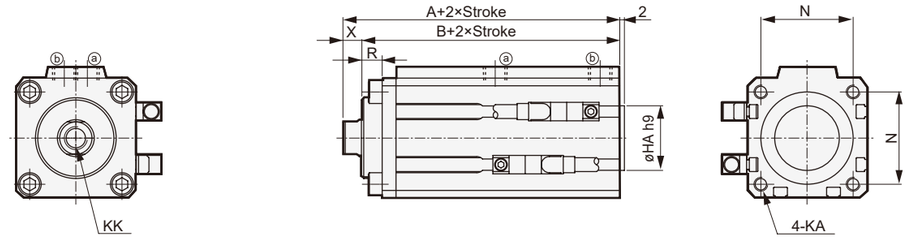
*1: Mounting with through bolts is not possible.

***2: For dimensions of models with switches, see P. 869.**

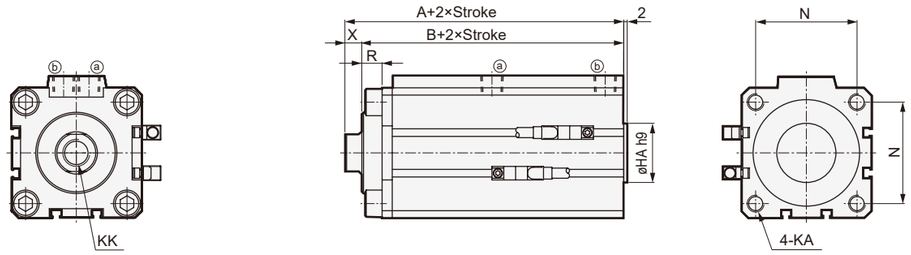
External dimensions diagram (Bore Size: ø32, ø40, ø50, ø63)

● With Head Side Spigot Joint (HI)

ø32, ø40



ø50, ø63



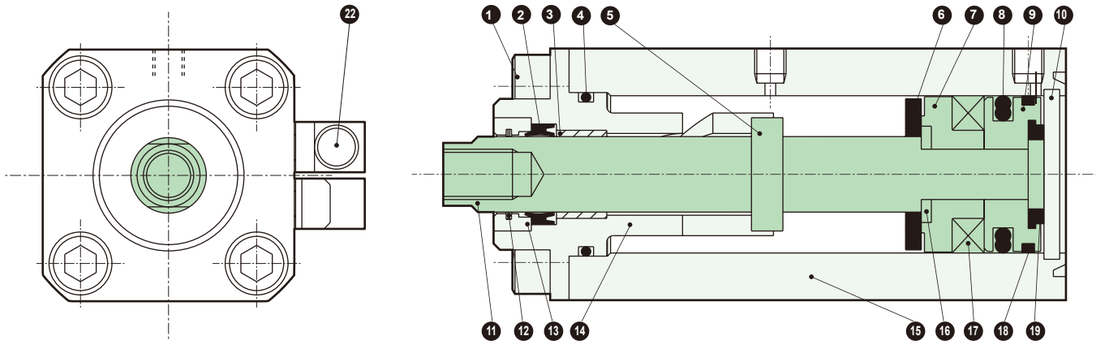
Code	With Head Side Spigot Joint (HI) Mounting Dimensions							
Bore Size (mm)	A	B	HA	KA	KK	N	R	X
ø32	69	61	21	M6 Depth 11	M10 Depth 15	34	9	8
ø40	70	62	28	M6 Depth 11	M10 Depth 15	40	9	8
ø50	74	66	35	M8 Depth 13	M12 Depth 15	50	12	8
ø63	85	75	35	M10 Depth 25	M16 Depth 21	60	12	10

*1: Mounting with through bolts is not possible.

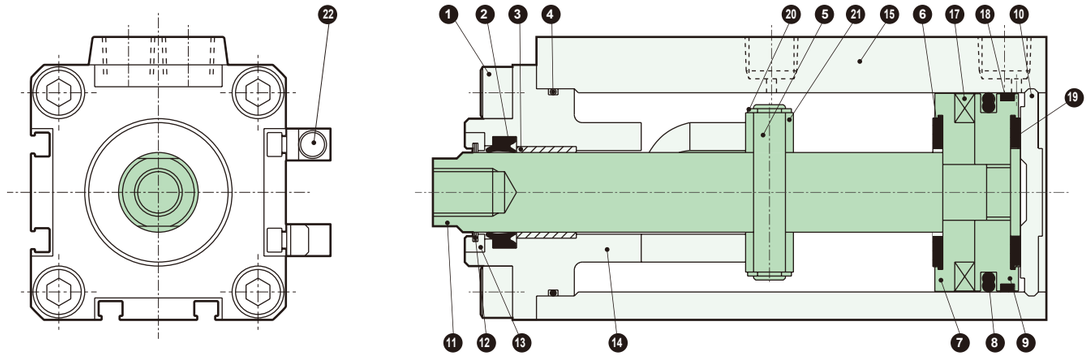
***2: For dimensions of models with switches, see P. 869.**

Internal Structure / Materials

● ø16 to ø25



● ø32 to ø63



Part No.	Part Name	Material	Remarks
1	Hexagon Socket Head Cap Screw	Stainless Steel	
2	Rod Packing	Nitrile Rubber	
3	Bushing	Oil-Impregnated Bearing Alloy	
4	Cylinder Gasket	Nitrile Rubber	
5	Pin	Steel	
6	Cushion rubber (R)	Urethane Rubber	
7	Spacer	ø20, ø25: Special resin ø16, ø32 to ø63: Aluminum Alloy	
8	Piston Packing	Nitrile Rubber	
9	Piston	Aluminum Alloy	
10	Cover	ø16, ø20, ø25: Stainless Steel ø32 to ø63: Aluminum Alloy	
11	Piston Rod	ø16: Stainless Steel ø20 to ø63: Steel	

Part No.	Part Name	Material	Remarks
12	Coil Scraper	Copper Alloy	ø20 to ø63 only
13	Holder	Aluminum Alloy	
14	Rod Cover	Steel	
15	Cylinder Body	Aluminum Alloy	
16	Spacer washer	Stainless Steel	ø20, ø25 only
17	Magnet	Plastic	
18	Wear ring	Polyacetal	
19	Cushion rubber (H)	Urethane Rubber	
20	E-type Retaining Ring	Steel	
21	Roller	Steel	
With Switch			
22	Switch		

For maintenance parts, refer to the CKD component product site (https://www.ckd.co.jp/kiki/en/) -> "Model No." -> See "Maintenance Parts".

MEMO

Clamping
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
Cylinder Switch
Ending

Rotary Clamp Cylinder, Double Acting, Sputter Adhesion Prevention Type

RCC2-G4 Series

● Bore Size: ø20, ø25, ø32, ø40, ø50, ø63

Circuit Diagram Code 

Custom-made RoHS

Model No. Notation

Without Switch
(Built-in magnet for switch)

RCC2-G4 - 00 - 20 - 21 - R

Model No. ❶ ❷ ❸ ❹

With Switch
(Built-in magnet for switch)

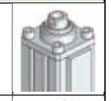
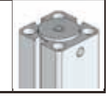
RCC2-G4 - 00 - 20 - 21 - R - T0H - R

Model No. ❷Bore Size ❹Direction of rotation ❻Number of Switches

❶Mounting type ❸Stroke ❺Switch Model No.

❶Mounting type

Mounting bracket is attached to the product for shipment.

Code	Content	
00	Basic type	
FA	Rod side flange type	
FB	Head Side Flange Type	
HI	Head side with spigot joint	

*1 : For models with switch, depending on the switch mounting surface and switch type, there is a possibility of interference with the fixing screws.

❷Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

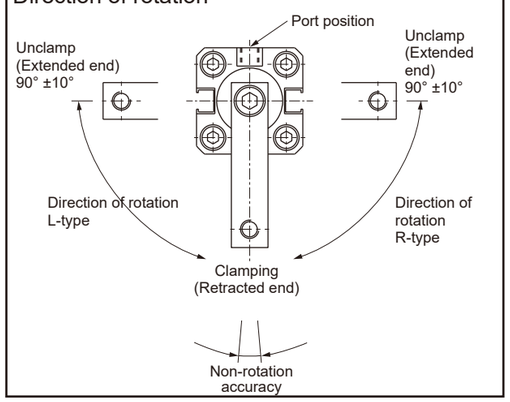
❸Stroke (mm)

Stroke	20	25	32	40	50	63	Rotation	Clamping Stroke
21	●	●					11	10
25			●	●			15	
31	●	●					11	20
35			●	●			15	
40					●	●	20	
70					●	●		50

❹Direction of rotation

Code	Content
R	Clamp (Pull) looking from rod side: rotated 90° in CW direction
L	Clamp (Pull) looking from rod side: rotated 90 degrees counterclockwise

Direction of rotation



❺Switch Model No.

For switch details, refer to P. 1457. Switches are shipped with the product.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	2-Color AC For Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	–	
			—		—		T2YDT□	–	

*1: For "□" in the switch Model No., enter the code selected from the "*Lead wire length" table.
*2: Switches other than the Model No.s listed above are also available. (Custom Product) For details, refer to P.1457.

*** Lead Wire Length**

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m T2YD
3 m T2YD3
5 m T2YD5

❻Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

Switch Single Unit Model No. Notation

SW - T0H

❺Switch Model No.

Switch Single Unit Model No.

SW - T0H3

❺Switch Model No.

Specifications

*This is a custom order product.

Item		RCC2-G4					
Bore Size	mm	ø20	ø25	ø32	ø40	ø50	ø63
Actuation method		Double Acting Type					
Max Operating Pressure	MPa	1					
Min Operating Pressure	MPa	0.2					
Proof Pressure	MPa	1.6					
Ambient Temperature	°C	-10 to 60 (However, no freezing)					
Port Size		M5		Rc1/8		Rc1/4	
Operating Piston Speed	mm/s	50 to 200					
Cushion		With Rubber Cushion					
Lubrication		Not required (Use Turbine Oil Class 1 ISO VG32 if lubricated)					
Rotation Angle		90° ±10°					
Direction of rotation		Right/Left					
Non-rotating accuracy (clamping): Initial value		±1°		±0.9°		±0.7°	
Pressure Receiving Area mm^2	Retraction side	201	377	603	1055	1649	2626
	Push side	314	490	804	1256	1963	3117

Stroke

Bore Size (mm)	Stroke mm	Rotating part stroke (mm)	Clamping part stroke (mm)
ø20	21, 31	11	10, 20
ø25			
ø32	25, 35	15	10, 20
ø40			
ø50	40, 70	20	20, 50
ø63			

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa								
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	62.8	94.2	1.26×10^2	1.57×10^2	1.89×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
ø25	Push	98.2	1.47×10^2	1.96×10^2	2.45×10^2	2.95×10^2	3.44×10^2	3.93×10^2	4.42×10^2	4.91×10^2
	Pull	75.6	1.13×10^2	1.51×10^2	1.89×10^2	2.27×10^2	2.64×10^2	3.02×10^2	3.40×10^2	3.78×10^2
ø32	Push	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	1.21×10^2	1.81×10^2	2.41×10^2	3.02×10^2	3.62×10^2	4.22×10^2	4.83×10^2	5.43×10^2	6.03×10^2
ø40	Push	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.45×10^2	9.50×10^2	1.06×10^3
ø50	Push	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
ø63	Push	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	5.25×10^2	7.88×10^2	1.05×10^3	1.31×10^3	1.58×10^3	1.84×10^3	2.10×10^3	2.36×10^3	2.63×10^3

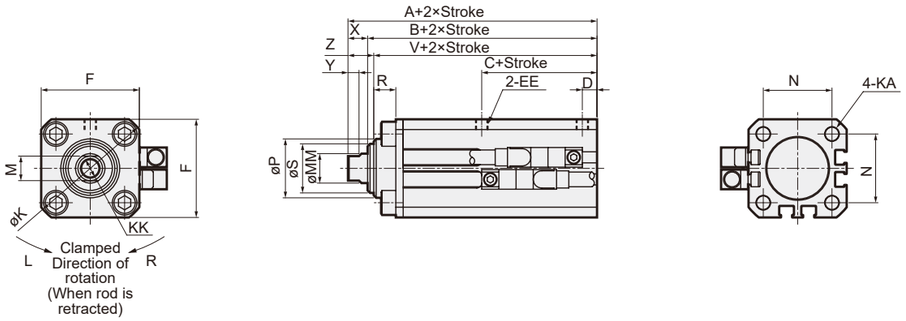
MEMO

Clamping
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
Cylinder Switch
Ending

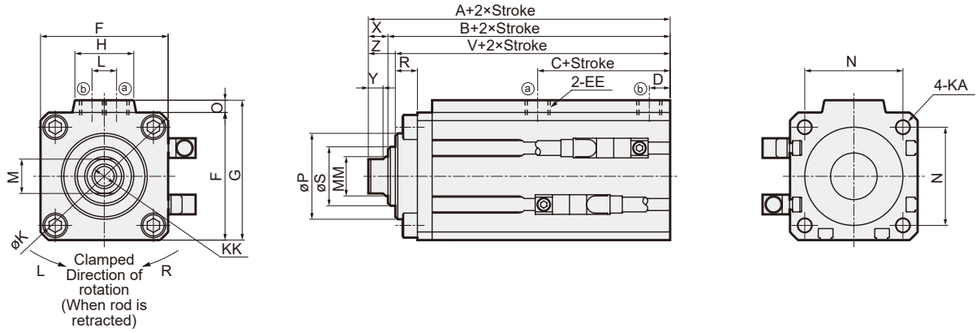
Dimensional Drawings

● Basic Type (00)

ø20, ø25



ø32 to ø63



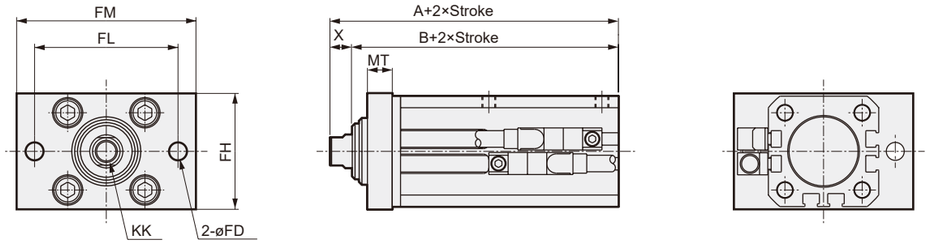
Code / Bore Size (mm)	A	B	C	D	EE	F	G	H	K	KA	KK	L	M	MM
ø20	58.5	50.5	24	5.5	M5x0.8	36	-	-	47	M6 Depth 11	M8 Depth 15	-	10	12
ø25	59.5	51.5	26	6	M5x0.8	40	-	-	51	M6 Depth 11	M8 Depth 15	-	10	12
ø32	72	64	27	8	Rc1/8	45	49.5	24	60	M6 Depth 11	M10 Depth 15	10	14	16
ø40	73	65	29	8.5	Rc1/8	52	57	24	69	M6 Depth 11	M10 Depth 15	10	14	16
ø50	77	69	29	10.5	Rc1/4	64	71	33	86	M8 Depth 13	M12 Depth 15	15	17	20
ø63	88	78	38	11	Rc1/4	77	84	33	103	M10 Depth 25	M16 Depth 21	15	22	25

Code / Bore Size (mm)	N	O	P	R	X	Y	V	Z	S
ø20	25.5	-	24	9	8	4.5	48	10.5	20
ø25	28	-	24	9	8	4.5	49	10.5	20
ø32	34	4.5	30	9	8	6	61	11	24
ø40	40	5	35	9	8	6	62	11	24
ø50	50	7	37	12	8	6	66	11	30
ø63	60	7	48	12	10	8	75	13	36

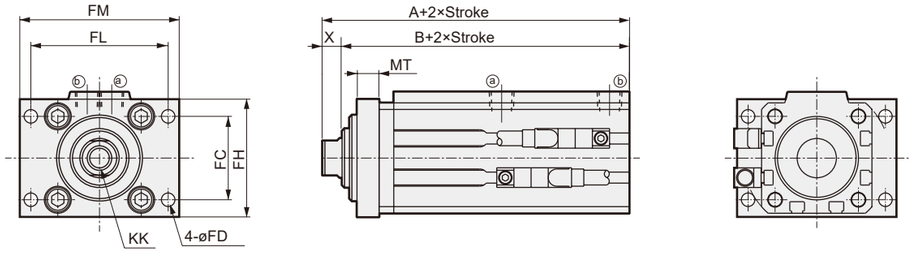
Dimensional Drawings

● Rod Side Flange Type (FA)

ø20, ø25



ø32 to ø63



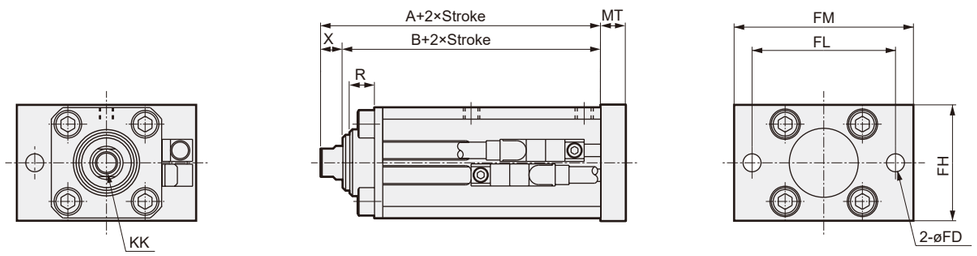
Code / Bore Size (mm)	Rod Side Flange Type (FA) Mounting Dimensions									
	A	B	KK	X	FD	FC	FH	FL	FM	MT
ø20	58.5	50.5	M8 Depth 15	8	6.5	–	38	48	60	9
ø25	59.5	51.5	M8 Depth 15	8	6.5	–	42	52	65	9
ø32	72	64	M10 Depth 15	8	5.5	34	48	56	65	9
ø40	73	65	M10 Depth 15	8	5.5	40	55	62	75	9
ø50	77	69	M12 Depth 15	8	6.5	50	66	76	89	12
ø63	88	78	M16 Depth 21	10	9	60	82	92	108	12

Note: For dimensions with each switch, please refer to P. 869.

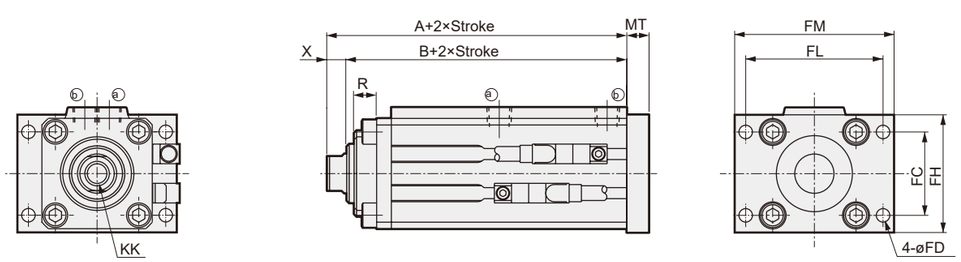
Dimensional Drawings

● Head Side Flange Type (FB)

ø20, ø25



ø32 to ø63



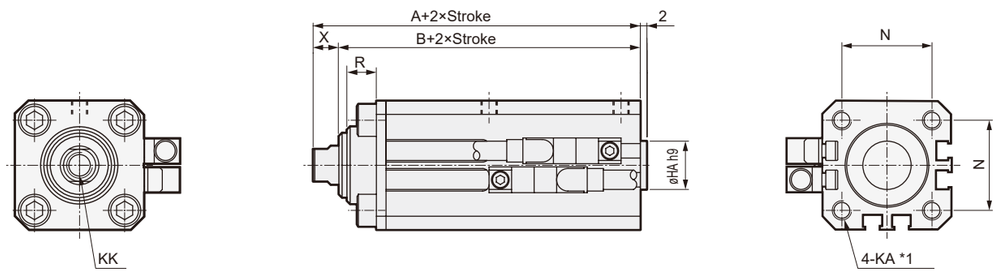
Code	Head Side Flange Type (FB) Mounting Dimensions										
Bore Size (mm)	A	B	KK	R	X	FD	FC	FH	FL	FM	MT
ø20	58.5	50.5	M8 Depth 15	9	8	6.5	–	38	48	60	9
ø25	59.5	51.5	M8 Depth 15	9	8	6.5	–	42	52	65	9
ø32	72	64	M10 Depth 15	9	8	5.5	34	48	56	65	9
ø40	73	65	M10 Depth 15	9	8	5.5	40	55	62	75	9
ø50	77	69	M12 Depth 15	12	8	6.5	50	66	76	89	12
ø63	88	78	M16 Depth 21	12	10	9	60	82	92	108	12

Note: For dimensions with each switch, please refer to P. 869.

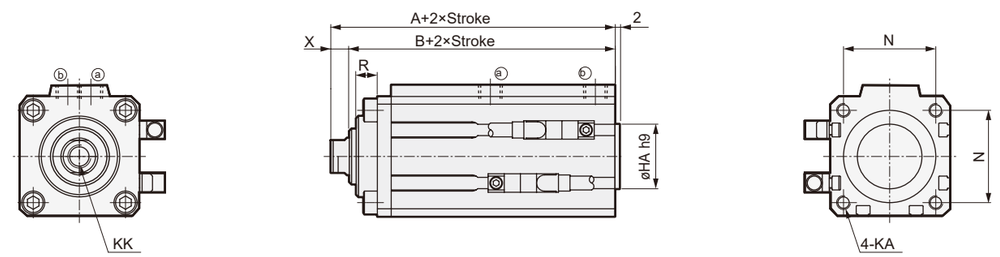
Dimensional Drawings

● With Head Side Spigot Joint (HI)

ø20, ø25



ø32 to ø63



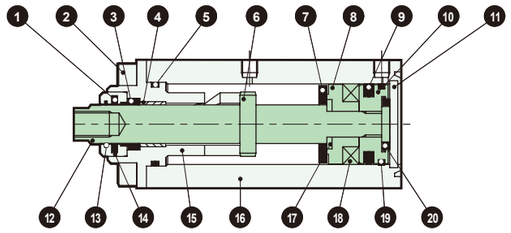
Code	With Head Side Spigot Joint (HI) Mounting Dimensions							
Bore Size (mm)	A	B	HA	KA	KK	N	R	X
ø20	58.5	50.5	13	M6 Depth 11	M8 Depth 15	25.5	9	8
ø25	59.5	51.5	15	M6 Depth 11	M8 Depth 15	28	9	8
ø32	72	64	21	M6 Depth 11	M10 Depth 15	34	9	8
ø40	73	65	28	M6 Depth 11	M10 Depth 15	40	9	8
ø50	77	69	35	M8 Depth 13	M12 Depth 15	50	12	8
ø63	88	78	35	M10 Depth 25	M16 Depth 21	60	12	10

*1: Mounting with through bolts is not possible.

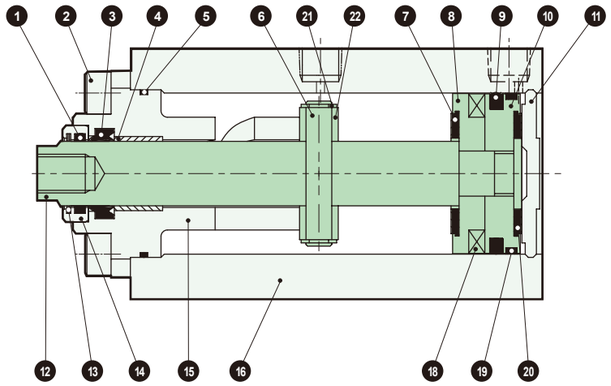
***2: For dimensions of models with switches, see P. 869.**

Internal Structure / Materials

● ø20, ø25



● ø32 to ø63



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Lube keeper	Special rubber		12	Piston Rod	Steel	
2	Hexagon Socket Head Cap Screw	Stainless Steel		13	Coil Scraper	Copper Alloy	
3	Rod Packing	Nitrile Rubber		14	Holder	Aluminum Alloy	
4	Bushing	Oil-Impregnated Bearing Alloy		15	Rod Cover	Steel	
5	Cylinder Gasket	Nitrile Rubber		16	Cylinder Body	Aluminum Alloy	
6	Pin	Steel		17	Spacer washer	Stainless Steel	
7	Cushion rubber (R)	Urethane Rubber		18	Magnet	Plastic	
8	Spacer	ø20, ø25: Special resin ø32 to ø63: Aluminum Alloy		19	Wear ring	Polyacetal	
				20	Cushion rubber (H)	Urethane Rubber	
9	Piston Packing	Nitrile Rubber		21	E-type Retaining Ring	Steel	
10	Piston	Aluminum Alloy		22	Roller	Steel	
11	Cover	ø20, ø25: Stainless Steel ø32 to ø63: Aluminum Alloy					

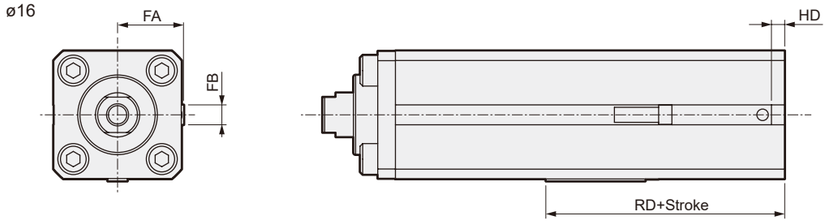
For maintenance parts, refer to the CKD component product site (https://www.ckd.co.jp/kiki/en/) -> "Model No." -> See "Maintenance Parts".

RCC2 Series External Dimensions Diagram with Switch

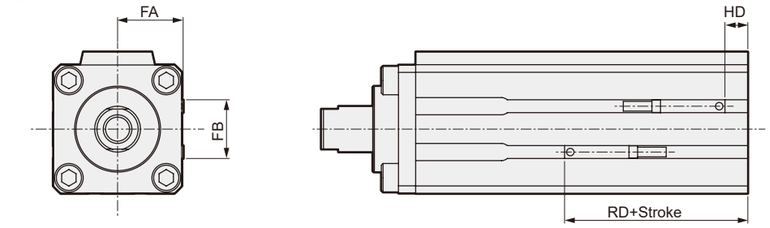
● T0H/V, T5H/V, T2H/V, T3H/V, T3PH/V, T2H/VR3, T2WH/V, T3WH/V, T2WLH/V

• RCC2

ø16



ø20 to ø63



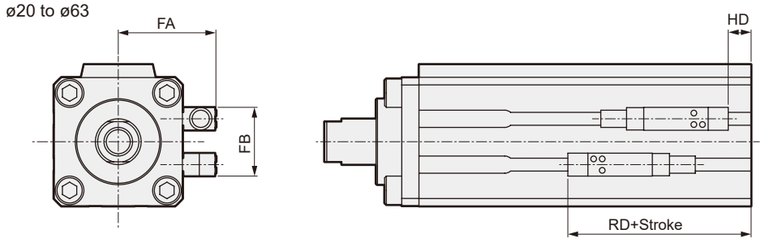
Code / Bore Size (mm)	FA	FB	T2, T3, T3P, T2□R3		T0, T5		T2W, T3W, T2WL	
			RD	HD	RD	HD	RD	HD
ø16	15.0	4.5	25	3	25	3	23	5
ø20	18.5	12.5	26	7	27	6	25	8
ø25	20.5	13.5	25	6	26	5	24	7
ø32	23.0	20.5	28	9	29	8	27	10
ø40	26.5	27.5	29	10	30	9	28	11
ø50	32.5	28.5	30	11	31	10	29	12
ø63	39.0	28.5	37	19	38	18	36	20

*1: FA dimension is the dimension for straight type lead wire.
*2: For switch mountability, refer to the Model No. notation of each variation.

● T2YD, T2YDT

• RCC2, RCC2-G4

ø20 to ø63



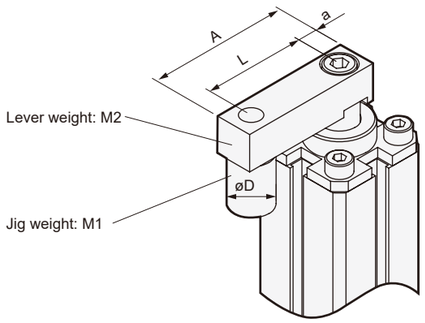
Code / Bore Size (mm)	T2YD,T2YDT			
	FA	FB	RD	HD
ø20	29.3	16	27	6
ø25	31.3	17	26	5
ø32	33.8	24	29	8
ø40	37.3	31	30	9
ø50	43.3	32	31	10
ø63	49.8	32	38	18

*1: FA dimension is the dimension for straight type lead wire.
*2: For switch mountability, refer to the Model No. notation of each variation.

Technical Data (Selection Example)

[Specifications]

- Required clamping force: 400 N
- Operating Pressure: 0.5 MPa
- Maximum piston speed: 100 mm/s
- Lever shape
  M2:0.31 kg L: 0.080 m
  A: 0.1 m a: 0.010 m
- Jig shape
  M1:0.04 kg D: 0.020 m



1. Calculate the required pressure receiving area.

$$\text{Required pressure receiving area (mm}^2\text{)} = \frac{\text{Required clamping force (N)}}{\text{Operating Pressure (MPa)} \times \text{Efficiency}} = \frac{400}{0.5 \times 80\%} = 1000\ (\text{mm}^2)$$

Note: Efficiency varies depending on lever length or cylinder resistance.

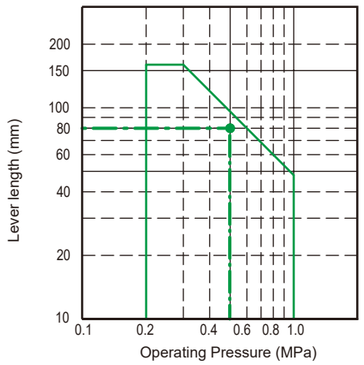
2. Select the cylinder size from the pressure receiving area (retraction side) in the specification list.

ø40 pressurized area: 1055 (mm^2) > required pressurized area: 1000 (mm^2)

3. Confirm the allowable lever length.

Operating Pressure 0.5 MPa, Lever length 80 mm
Confirm with the graph on P. 872
→ Within operating range

[Allowable lever length]



4. Confirm the allowable lever moment of inertia.

Calculation of moment of inertia
(Use the formula for concentrated load on P. 871)

$$\text{Moment of inertia } I = M_1 (R_1^2 + K_1^2) + \frac{M_2 R_2^2}{3}$$

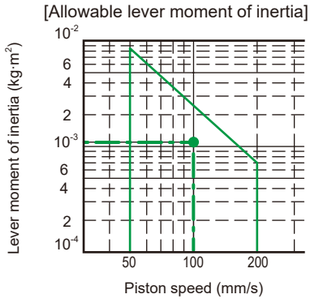
Because $R_1 = L$, $R_2 = A\text{-}a$, $K_1^2 = \frac{D^2}{8}$

$$I = 0.04 \times \left(0.08^2 + \frac{0.02^2}{8}\right) + \frac{0.31 \times (0.1 \text{ to } 0.01)^2}{3}$$

$$= 1.10 \times 10^{-3}\ \text{kg·m}^2$$

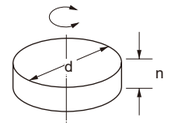
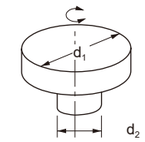
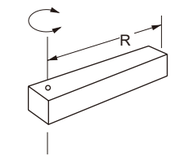
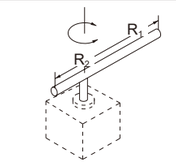
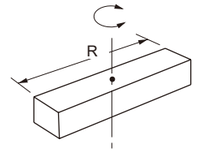
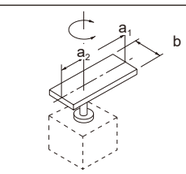
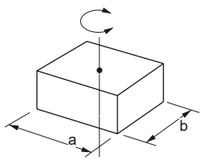
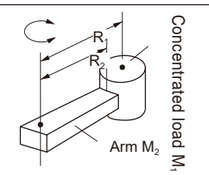
Moment of inertia 1.10×10^{-3} kg·m²
Maximum piston speed 100 mm/s
Confirm with the graph on P. 872
→ Within operating range

[Allowable lever moment of inertia]



From the above, select size ø40.

Diagram for calculating moment of inertia

Shape	Diagram	Required Items	Moment of Inertia I kg·m²	Radius of gyration K_1^2	Remarks
Disk		● Diameter d(m) ● Weight M(kg)	$I = \frac{Md^2}{8}$	$\frac{d^2}{8}$	● No specific mounting direction
Stepped disk		● Diameter d_1(m), d_2(m) ● Weight d_1 part M_1(kg), d_2 part M_2(kg)	$I = \frac{1}{8}(M_1 d_1^2 + M_2 d_2^2)$	$\frac{d_1^2+d_2^2}{8}$	● d_2 compared to d_1 section Very small part Ignore when Good
Rod (center of rotation is at the end)		● Rod length R(m) ● Weight M(kg)	$I = \frac{MR^2}{3}$	$\frac{R^2}{3}$	● Mounting direction is horizontal
Thin rod		● Rod length R_1, R_2 ● Weight M_1, M_2	$I = \frac{M_1 R_1^2}{3} + \frac{M_2 R_2^2}{3}$	$\frac{R_1^2+R_2^2}{3}$	● Mounting direction is horizontal
Rod (center of rotation is at the center of gravity)		● Rod length R(m) ● Weight M(kg)	$I = \frac{MR^2}{12}$	$\frac{R^2}{12}$	● No specific mounting direction
Thin rectangular plate (cuboid)		● Plate length a_1, a_2 ● Side length b ● Weight M_1, M_2	$I = \frac{M_1}{12}(4a_1^2+b^2) + \frac{M_2}{12}(4a_2^2+b^2)$	$\frac{(4a_1^2 b^2)+(4a_2^2+b^2)}{12}$	● Mounting direction is horizontal
Cuboid		● Side length a(m) ● Weight b(m), M (kg)	$I = \frac{M}{12}(a^2+b^2)$	$\frac{a^2+b^2}{12}$	● No specific mounting direction
Concentrated load		● Shape of concentrated load ● To the center of gravity of the concentrated load Length R_1 ● Arm length R_2(m) ● Weight of concentrated load M_1(kg) ● Weight of arm M_2(kg)	$I = M_1(R_1^2+k_1^2) + \frac{M_2 R_2^2}{3}$	k_1^2 is calculated based on the shape of the concentrated load	● Mounting direction is horizontal ● If M_2 is very small compared to M_1, it can be calculated with $M_2 = 0$

To Use This Product Safely

Be sure to read this before use. For general cylinder information, see Intro 41, and for cylinder switches, see P. 1512.

Individual Precautions: Rotary clamp cylinder RCC2 Series

Design / Selection

1. Common

Warning

■This cylinder strokes while the Piston Rod rotates (90°) during operation.

Ensure that the lever included with the Piston Rod tip does not interfere with external parts when rotating. Since the lever included with the Piston Rod tip rotates, if there is a risk of danger to humans, take safety measures such as installing a protective cover.

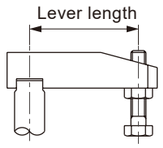
CAUTION

■About Clamp Position

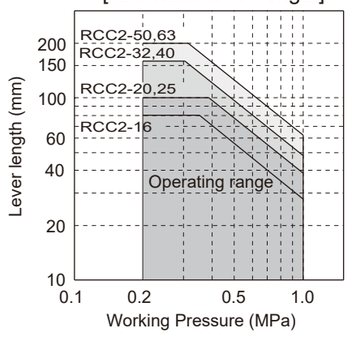
· Do not clamp while swiveling. Clamp at a position 3 mm or more before the stroke end within the clamp stroke range.
· Do not perform clamping that applies rotational force to the Piston Rod.
(a) Do not clamp in the rotational direction.
(b) Do not clamp inclined parts.
(c) Cannot be used if the workpiece moves during clamping.

■About Lever Length and Operating Pressure

Please set the lever length and Operating Pressure within the range shown in the diagram below.



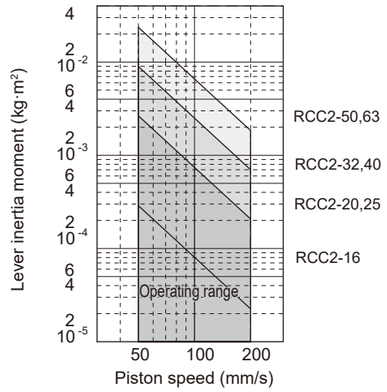
[Allowable lever length]



■About Lever Moment of Inertia and Piston Speed

Please set the lever moment of inertia and piston speed within the range shown in the diagram below.

[Allowable moment of inertia for lever]



Note) The lever allowable moment of inertia graph is applicable only for vertical top/bottom mounting.

■About Operating Environment

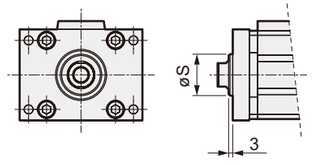
ø16 does not have a built-in coil scraper for welding environments.

2. Anti-spatter adherence RCC2-G4

■This cylinder has improved durability in a sputter scattering atmosphere compared to general type cylinders. If used in an atmosphere other than sputter scattering, durability may be inferior to general type cylinders. Do not use in atmospheres other than sputter scattering.

■Sputter adhesion inhibitor is volatile, so if the adhesion inhibitor on the rod surface begins to dry, apply it to the rod surface to replenish it.

■For mounting type FA (rod side flange), the holder will protrude from the flange end face, so please be careful.



Code Bore Size	S
ø20	20
ø25	20
ø32	24
ø40	24
ø50	30
ø63	36

For notes on mounting, installation, adjustment, use, and maintenance,
CKD Components Product Site (https://www.ckd.co.jp/kiki/en/) → "Model No." → Instruction Manual.

MEMO