

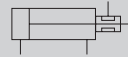
Brake cylinder double acting/single rod

ULKP Series

● Bore size : $\varnothing 16$

JIS symbol ● Double acting cylinder with brake

Made-to-order product



Specifications

Item	ULKP/ULKP-L
Actuation	Double acting
Working fluid	Compressed air
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)
Min. working pressure MPa	Cylinder section: 0.15 (≈ 22 psi, 1.5 bar) Brake section: 0.3 (≈ 44 psi, 3 bar)
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)
Bore size mm	$\varnothing 16$
Port size	M5
Stroke tolerance mm	$+1.0$ 0
Working piston speed mm/s	50 to 500
Cushion	Rubber cushion
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)
Holding force N	160

Stroke

Model No.	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ULKP/ULKP-L	15/30/45/60	260	5

* For types with switch, minimum stroke varies depending on mounting method. Refer to the table below for details.
The custom stroke is available in 1 mm increments.

Min. stroke with switch

Sketch	1		2	
	Rod side mounting	Head side mounting	Different surface mounting	Same surface mounting
Min. stroke	5 mm		10 mm	28 mm

Switch specifications

Item	Proximity 2-wire		Proximity 3-wire		
	M2V	M2WV (2-color LED)	M3V	M3PV (Made to order)	M3WV
Applications	Programmable controller		For programmable controller, relay, IC circuit, compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 30 mA		100 mA or less	100 mA or less	100 mA or less
Indicator lamp	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μ A or less	0.05 mA or less	10 μ A or less
Weight	g 1 m:22 3 m:57 5 m:93				

Item	Reed 2-wire	
	M0V	M5V
Applications	Programmable controller, relay	For programmable controller, relay IC circuit (without indicator), serial connection
Power supply voltage	-	-
Load voltage/ current	5 to 50 mA with 12/24 VDC, 7 to 20 mA with 110 VAC	50 mA or less with 12/24 VDC, 20 mA or less with 110 VAC
Indicator lamp	LED (Lit when ON)	Without LED
Leakage current	0 mA	
Weight	g 1 m:22 3 m:57 5 m:93	

*1 : Refer to Ending Page 1 for other switch specifications.

*2 : Dimensions depend on switch model No. Refer to Ending Page 13 for details.

Product weight

(Unit: g)

Item	Stroke (mm)	ULKP-16
Without switch	15	138
	30	143
	45	148
	60	153
With switch (with 2 switches)	15	186
	30	191
	45	196
	60	201
Switch mounting bracket		2
Switch weight (per switch)		Refer to the weight in the switch specifications.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø16	Push	30.2	40.2	60.3	80.4	101	121	141	161	181	201
	Pull	27.2	36.3	54.4	72.6	90.7	109	127	145	163	181

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

ULKP Series

How to order

Without switch (without magnet for switch)

ULKP — 00 — 16 — 60 — 0 — Y

With switch (built-in magnet for switch)

ULKP-L — 00 — 16 — 60 — 0 — M2V — R — Y

H Accessory

A Model

B Mounting

C Bore size

D Stroke

E Head side port direction

F Switch model No.

G Switch quantity
*3

⚠ Precautions for model No. selection

*1 : Refer to page 674 for the min. stroke with switch.

*2 : The CB mounting is not available for port direction/axial direction.

*3 : "I" and "Y" cannot be selected together.

[Example of model No.]

ULKP-L-00-16-60-0-M2V-R-Y

A Model : Brake cylinder with switch double acting

B Mounting : Basic

C Bore size : $\phi 16$

D Stroke : 60 mm

E Head side port direction : Axial direction

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

G Switch quantity : 1 on rod side

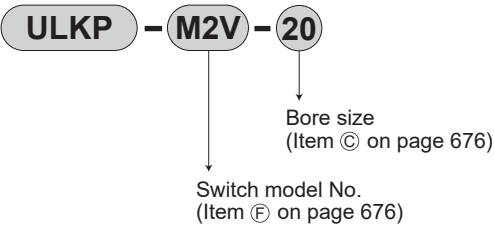
H Accessory : Rod clevis

My end of production ended May 2022.

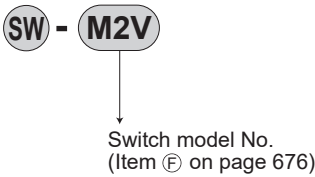
Code		Description		
A Model				
ULKP		Double acting		
ULKP-L		Double acting with switch		
B Mounting				
00		Basic		
LS		Axial foot (single) (rod side)		
FA		Rod side flange		
CB		Clevis bracket		
C Bore size				
16		ø16		
D Stroke				
Bore size		Stroke *1	Custom stroke	
ø16		5 to 260	In 1 mm increments	
E Head side port direction				
Blank		Vertical		
0		Axial direction (*2)		
F Switch model No.				
Radial lead wire	Contact	Voltage AC DC	Indicator	Lead wire
M0V*	Reed	● ●	1-color LED	2-wire
M5V*		● ●	Without LED	
M2V*	Proximity	●	1-color LED	3-wire
M2WV*		●	2-color LED	
M3V*		●	1-color LED	
M3WV*		●	2-color LED	
M3PV*		●	1-color LED (made to order)	
* Lead wire length				
Blank		1 m (standard)		
3		3 m (option)		
5		5 m (option)		
G Switch quantity				
R		1 on rod side		
H		1 on head side		
D		2		
T		3		
H Accessory				
I		Rod eye		
Y		Rod clevis (pin, washer, split pin attached)		
B1		Eye bracket		
B2		Clevis bracket (pin, snap ring attached)		

How to order switch

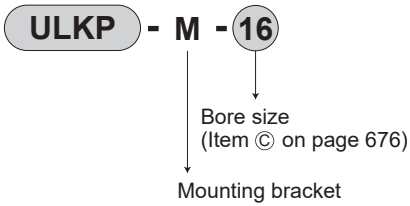
● Switch body + mounting bracket set



● Switch body only



● Mounting bracket set



How to order mounting bracket

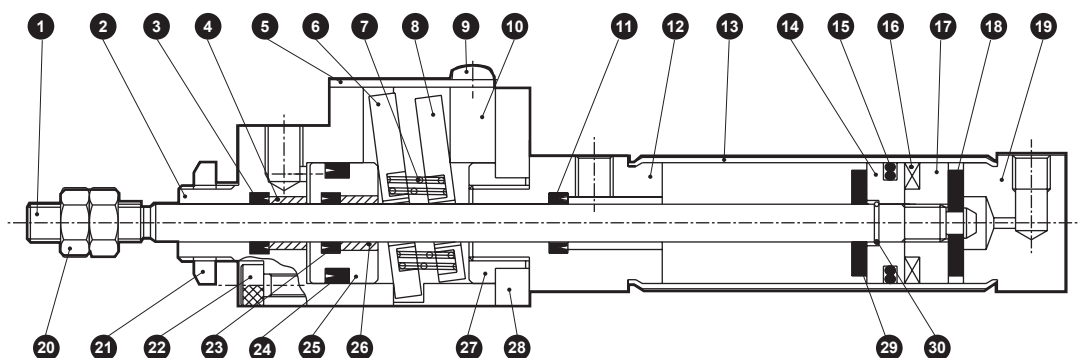
Bore size (mm)	ø16
Mounting bracket	
Foot (LS)	P2-LS-16
Flange (FA)	P2-FA-16

*1 : The foot mounting bracket is provided as 1 pc./set.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Internal structure and parts list



Cannot be disassembled

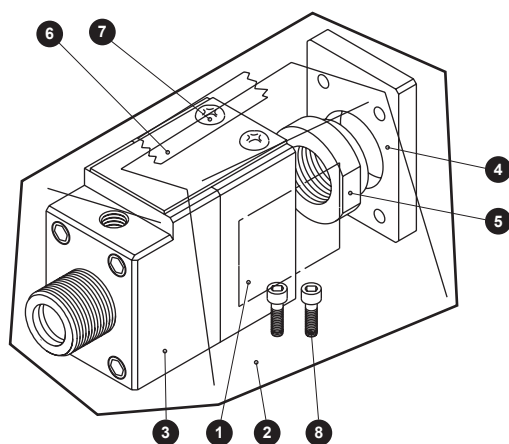
* This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		16	Magnet	Plastic (With switch only)	
2	Body A	Aluminum alloy	Alumite	17	Spacer	Aluminum alloy	
3	Brake rod packing	Nitrile rubber		18	Cushion rubber H	Urethane rubber	
4	Bearing	Acetal resin		19	Head cover	Aluminum alloy	Hard alumite
5	Cover	Aluminum alloy	Alumite	20	Rod nut	Steel	Nickeling
6	Brake plate A	Copper alloy		21	Hexagon nut	Steel	Nickeling
7	Brake spring	Piano wire		22	Hexagon socket head cap screw	Steel	
8	Brake plate B	Copper alloy		23	Release rod packing	Nitrile rubber	
9	Cross-recessed pan head machine screw	Steel	Zinc chromate	24	Release piston packing	Nitrile rubber	
10	Body B	Aluminum alloy	Alumite	25	Release piston	Aluminum alloy	Alumite
11	Rod packing	Nitrile rubber		26	Release piston bearing	Acetal resin	
12	Rod cover	Aluminum alloy	Hard alumite	27	Fixing nut	Steel	Zinc chromate
13	Cylinder tube	Stainless steel		28	Brake flange	Steel	Zinc chromate
14	Piston	Aluminum alloy		29	Cushion rubber R	Urethane rubber	
15	Piston packing	Nitrile rubber		30	Retaining ring	Stainless steel	

Configurations table

● Brake unit

ULKP - 16 - BRAKE-UNIT

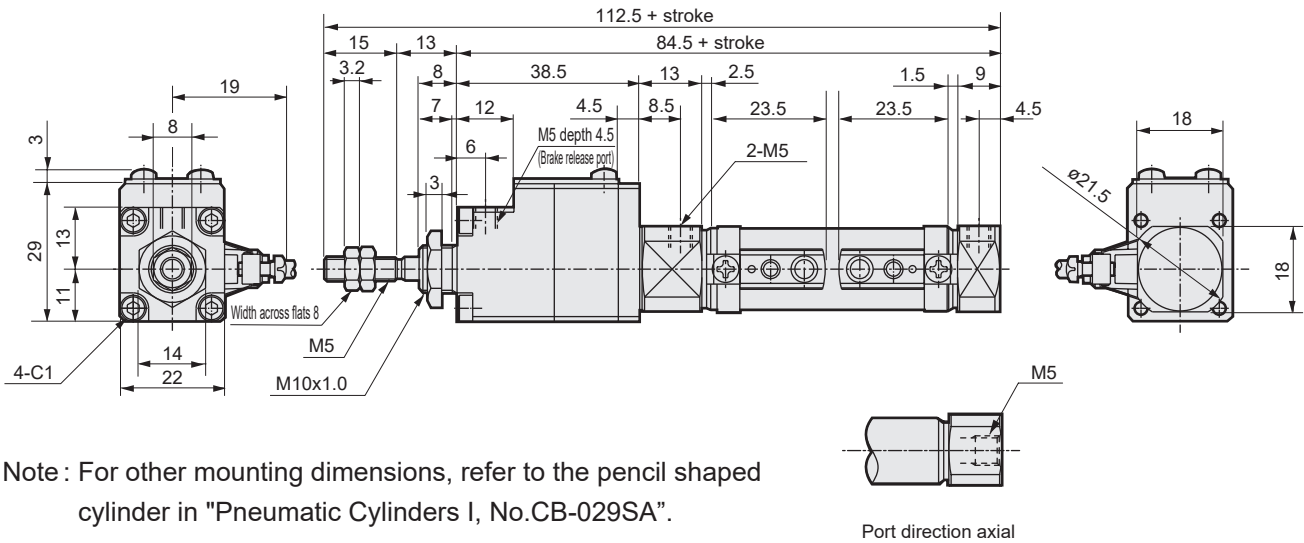


No.	Part name	Quantity
1	Label	1
2	Plastic sheets or plastic bag	1
3	Brake assembly	1
4	Brake flange	1
5	Fixing nut	1
6	Cover	1
7	Cross-recessed pan head machine screw	2
8	Hexagon socket head cap screw	2

Dimensions



● ULKP-*-00-16



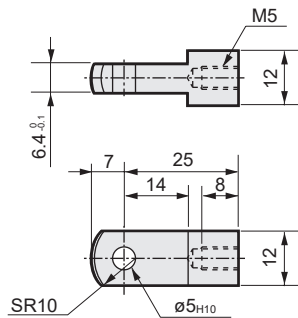
Note : For other mounting dimensions, refer to the pencil shaped cylinder in "Pneumatic Cylinders I, No.CB-029SA".

Accessory dimensions



- Rod eye (I)

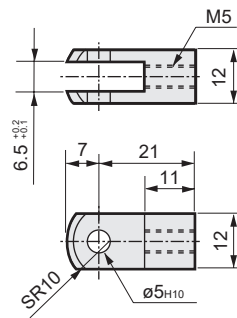
Model No. : P2-I-16



Material : Steel
Zinc chromate
treatment
Weight : 21 g

- Rod clevis (Y)

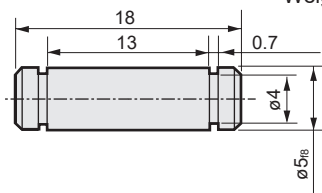
Model No. : P2-Y-16



Material : Steel
Zinc chromate
treatment
Weight : 20 g

● Rod eye pin

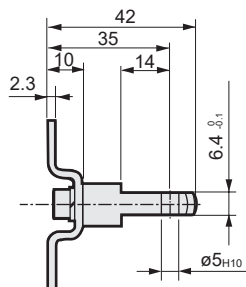
Model No.: P2-P-16



Material : Stainless steel
Weight : 3 g

- Eye bracket (B1)

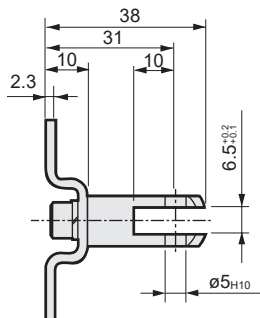
Model No.: P2-B1-16



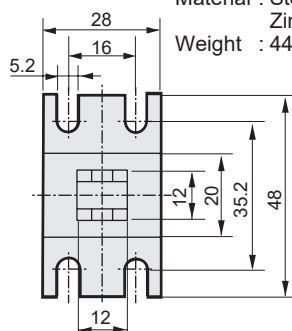
Material : Steel
Zinc chromate
treatment
Weight : 48 g

- Clevis bracket (B2)

Model No.: P2-B2-16



Material : Steel
Zinc chromate treatment
Weight : 44 g



LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
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Ending