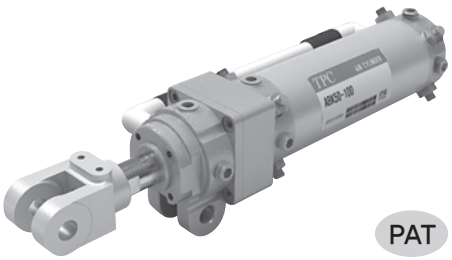
Series ABK

Taper (Forward Motion or Backward Motion) Clamp Cylinder

Bore Size(mm) : Ø50, Ø63



- LOW MAGNETIC RESISTANT AUTO SWITCH ATTACHING AVAILABLE
- AIR CUSHION BASICALLY BUILT-IN (ROD- SIDE, HEAD-SIDE)
- MAKING SERIES FOR CLEVIS WIDTH
- NO NEED OF BELLOWS IN APPLICATION STRONG COIL SCRAPPER
- POSSIBLE TO SELECT PIPING LOCATION

How to Order

ABK G A 50 — 100 Y ○ — B — ○ — □ □ □

1 2 3 4 5 6 7 8 9 10 11

1 Actuator Brake Clamp Cylinder

2 Magnet
- Blank : None
- G : Standard magnetic resistant type
- P : Intense magnetic resistant type

3 Clevis Width
- A : 16.5mm
- B : 19.5mm

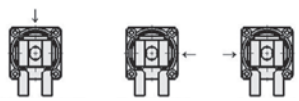
4 Bore Size(Ø)-Stroke(mm)
- Ø50 – 50,75,100,125,150
- Ø63 – 50,75,100,125,150
- ※ Possible to produce middle stroke beside standard stroke

5 End Bracket
- Blank : None
- Y : Double Knuckle Joint

6 Mount
- B : Limit switch mount
- D : Cam mount
- 19 : Foot

7 Locking Position
- B : Backward locking
- F : Forward locking

8 Port Position
- Blank : Upper
- R : Right
- L : Left
- ※ "R" & "L" type are only available when locking is performed forwardly(F)



9 Auto Switch
- Blank : None
- W3 : Standard magnetic resistant reed switch
- W2P : Standard magnetic resistant solid state switch
- P70R, P74R : Intense magnetic resistant reed switch

10 Number of Auto Switches
- Blank : 2 pcs
- S : 1 pc
- N : N pcs

11 Lengh of Lead Wire
- L : 3m
- Z : 5m

Notices for products

Please fully understand the notices prior to utilization, and refer to safety notice and common notice.

Specifications

	Bore Size	Ø50	Ø63
Cylinder	Operation Method	Double Motion Extension Rod	
	Applied Fluid	Air	
	Guaranteed Operating Pressure	1.5MPa	
	Maximum Operating Pressure	1.0MPa	
	Minimum Pressure Applied	0.2MPa	
	Ambient and Applied Fluid Temperature	5℃ ~ 60℃	
	Applied Piston Speed	50~500mm/s	
	Cushion	Both Side Air Cushion	
	Lubrication	Non-Lube	
	Stroke Length Tolerance	0/+1.0	
	Speed Controller	Built-in	
	Mounting	Double Clevis	
Lock	Lock Operating Method	Spring Lock	
	Note 1) Lock Releasing Pressure (for No Loading)	0.2Mpa More Than	
	Note 2) Lock Direction	Single Direction (Forward or Backward)	
	Note 3) Lock Keeping Strength N (Maximum Static Load)	1,519(155Kg) ± 3%	1,974(200Kg) ± 3%
	Lock Applied Purpose	Drop Prevention, Location Maintaining	

Note 1) For smooth lock release in case of load applied, recommended to use over 0.5MPa pressure.
Note 2) Regardless of lock direction (forward or backward), specification is the same.
Note 3) Lock keeping strength is maximum static load, and recommended to use less than 40% of maximum static load for safety.

Weight

(Unit : kg)

Bore Size		50	63
Cylinder	Basic Weight (0 st')	F:1.46, B:1.42	F:1.95, B:1.89
	Increased Weight Per 25 Stroke	0.11	0.13
2-Spin Knuckle Joint (Pin Inclusive)		0.36	
Limit Switch Attaching Board		0.22	
Cam Mount		0.15	
Foot		0.22	

※ Auto switch Attachment is exempted.

Foward Lock : F
Backward Lock : B

Calculation Method

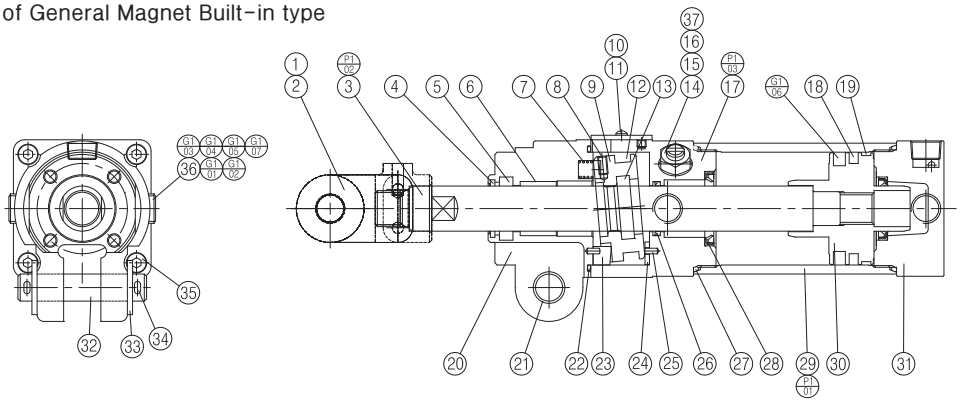
ex) ABKGA50-100Y-B

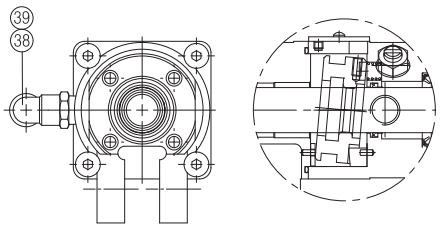
- Basic Weight(Ø50 Backward lock) : 1.42 Kg
- Additional Weight (per 25 st') : 0.11 * 4 = 0.44 Kg
- 2-Spin Knuckle Joint : 0.36 Kg

Total : 2.22 kg

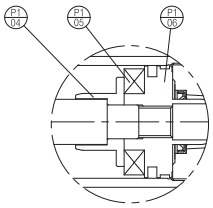
Structure Map

Backward Direction Lock Type(ABKG＊＊-＊＊＊＊-B)
In Case of General Magnet Built-in type





Backward Direction Lock Type TYPE
(ABK＊＊＊-＊＊＊＊-F)



In Case of Strong Magnet Built-in Type
(ABKP＊＊-＊＊＊＊-＊)

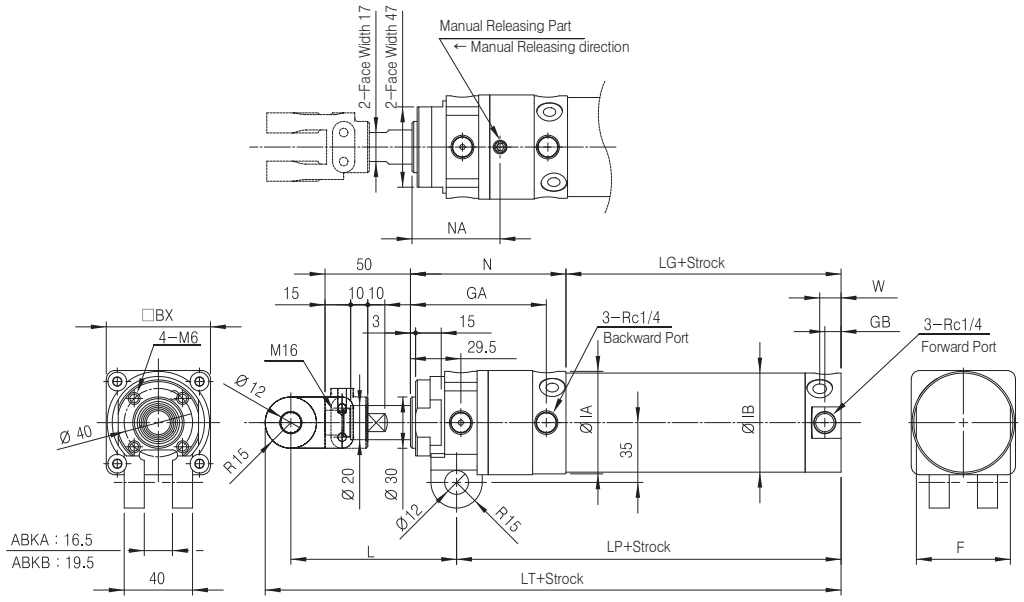
Major Component List

No	Component	Material Property	Quantity	Remark
❶	Y-Knuckle	Carbon Steel	1	
❷	Pin	Spring Steel	1	
❸	Piston Rod	Carbon Steel	1	Hard Chromite
❹	Coil Swrapper	Phosphor Bronze	1	
❺	Rod Packing	NBR	1	
❻	Bush	Copper Apply	1	
❼	Spring	Spring Steel	2	Zinc Chromite
❽	Bolt	Carbon Steel	1	
❾	Shoe	Carbon Steel	1	Silver Nitrate Coloring
❿	Manual Releasing Cover	Aluminum Alloy	1	
⓫	Bolt	SUS	2	
⓬	Shoe Piston Packing	NBR	1	
⓭	Shoe Rod Packing	NBR	1	
⓮	Nut	Carbon Steel	4	Zinc Chromite
⓯	Gasket	NBR	4	
⓰	Cushion Valve	Carbon Steel	2	Zinc Chromite
⓱	Middle Cover	Aluminum Alloy	1	White Alumite
⓲	Piston Packing	NBR	1	
⓳	Wearing	Resin	1	
⓴	Rod Cover	Alluminum Alloy	1	White Alumite
㉑	Bush	Copper Apply	2	
㉒	O Ring	NBR	1	Zinc Chromite
㉓	Hinge Pin	Carbon Steel	1	
㉔	Propping Plate	SUS	1	
㉕	Pin	Spring Steel	4	
㉖	Rod Packing	NBR	1	

번호	Component	Material Property	Quantity	Remark
㉗	Tube Gasket	NBR	2	
㉘	Cushion Packing	NBR	2	
㉙	Tube	Aluminum Alloy	1	
㉚	Piston	Aluminum Alloy	1	White Alumite
㉛	Head Cover	Aluminum Alloy	1	White Alumite
㉜	Pin	Carbon Steel	2	Zinc Chromite
㉝	Washer	Carbon Steel	4	Zine Chromite
㉞	Separate Pin	Steel Wire	4	
㉟	Bolt	Carbon Steel	4	
㊱	Plug	Carbon Steel	7(5)	Forward Direction 5EA
㊲	Speed Cone Valve	Carbon Steel	2	Zine Chromite
㊳	One Touch Fitting		2	Forward Direction Only
㊴	Tube		1	Forward Direction Only
G1-01	Plug	Copper Apply	2	
G1-02	Switch Rail	Carbon Steel	1	Zine Chromite
G1-03	Spring Washer	Spring Steel	2	Zine Chromite
G1-04	Bolt	Carbon Steel	2	Silver Nitrate Coloring
G1-05	Plug	Carbon Steel	2	
G1-06	Magnet	Magnetic Substance	1	
G1-07	Washer	Carbon Steel	2	Zine Chromite
P1-01	Tube	Aluminum Alloy	1	Hard Alumite
P1-02	Piston Rod	Carbon Steel	1	Hard Chrome Plating
P1-03	Middle Cover	Aluminum Alloy	1	White Alumite
P1-04	Piston A	Aluminum Alloy	1	White Alumite
P1-05	Magnet	Magnetic Substance	1	
P1-06	Piston B	Aluminum Alloy	1	White Alumite

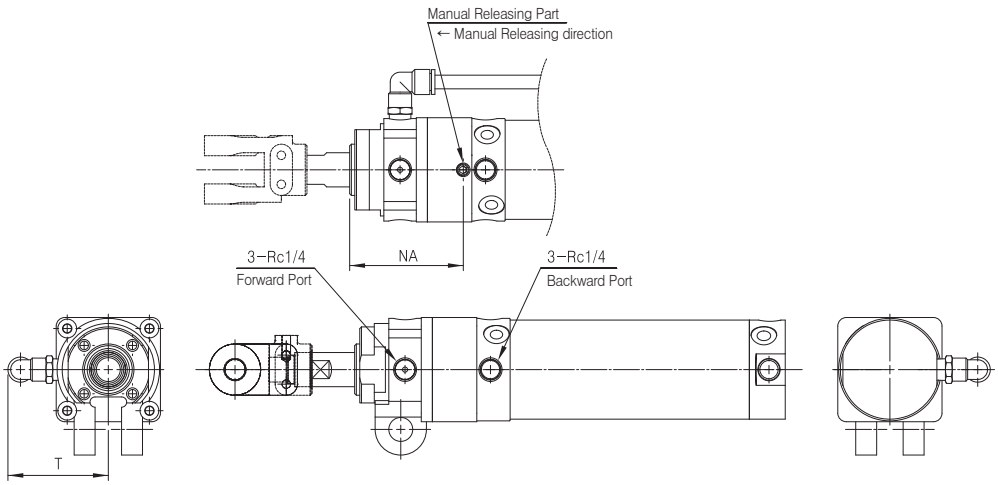
Fitting Dimension Drawing

Backward Lock Type (ABK＊＊＊-＊＊＊-B)



Bore Size	F	GA	GB	ØIA	ØIB	□BX	L	N	NA	W	LG	LP	LT	LG	LP	LT
														In Case of Strong Magnetic Resistant System		
Ø50	55	79.5	9.5	60	58	61	97	91	51.5	12.5	61	125	237	63	127	239
Ø63	69	79.5	9.5	74	72	75	97	91	50.8	12.5	61	125	237	63	127	239

Forward Lock Type (ABK＊＊＊-＊＊＊-F)



Bore Size	T	NA
Ø50	60	66.5
Ø63	66	67

※ Dimensions not indicated ard identical to forward lock type.

※ Limit switch attaching board, foot and cam mount are identical to TCK Ø50 and Ø63 specification.

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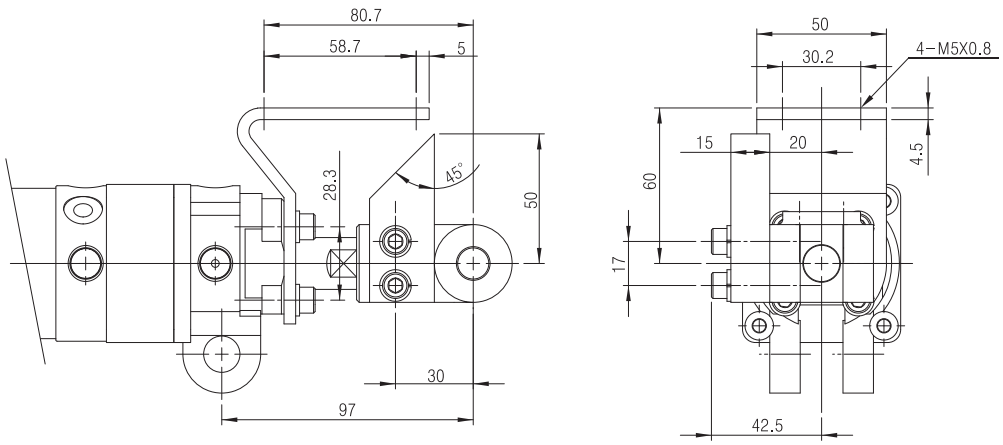
Fitting Dimension Drawing

Limit Switch Attaching Board/Cam Mount

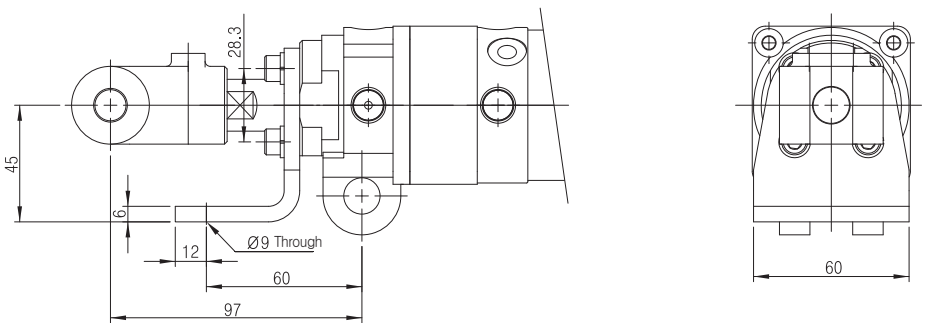


Name of Componet	ABKA	ABKB	Remark
Limit Switch Attaching Board	TCKM040-48-16070A		Both Available for Ø50 and Ø63
Cam Mount	TCKM040-42-16070		

※ Possible to attach limit switch attaching board and dog fittings at arbitrary location with removing hexagonal hole attaching bolt.

※ Application of cam mount is available for 97mm attaching hold size.

Foot



Name of Componet	ABKA	ABKB	Remark
Foot	TCKA-19		Both Available for Ø50 and Ø63

Notices for products

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Warning

Features

❶ Since lock keeping strength indicates the capability maintaining maximum static load, it is recommended to use under 40% of keeping strength for safety and active operation in application of this product (for suing lock unit).

❷ This cylinder does not aim for interim stop but aims for locking in unexpected situation during stop situation, so that long term utilization of this cylinder in interim stop within running may cause damage or functional loss of lock unit.

❸ Do not refill fuel in lock releasing port. It may cause functional loss of lock unit.

❹ It is possible to cause maximum 1mm strlke shift to lock direction in case of long term application (with loading), which is caused by lock unit features.

❺ Do not disassemble / assemble lock unit. It may cause severe fault to lock operation.

Warning

Selection

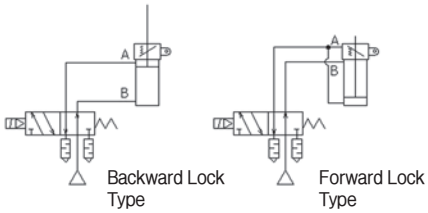
❶ During backward motion, lock type does not have binding force for forward motion of piston, and vice versa for backward motion. Therefore, be cautious to select a product for each direction.

Warning

Circuit

❶ Do not use close center valve for interim stop.

❷ Connect A port of solenoid valve to lock releasing port, B port to piston operating port. Lock releasing valve is not additionally needed, and common exhaust manifold may cause operation error by backpressure. Therefore, do not use common exhaust manifold.



Backward Lock Type　　Forward Lock Type

Warning

Installation

❶ For easy installation of cylinder, carry out installation with mounting manual releasing bolt. It may prevent damage of safety and lock unit during installation.

Warning

Operation

❶ Since lock is released by manual releasing bolt for delivery, please use after removing a bolt. If supplying over 0.1MPa air to lock releasing port in unloaded condition, manual releasing bolt is easily removed. (Piston ord is possibly moving forward for forward lock type).

※ Plase carry out removal of manual releasing bolt as it is indicated in manual rreleasing cover.

❷ Please restore B port air before restart from lock condition in unexpected situation. If lock is released in advance, it may cause unexpected accident.

❸ Please adjust air cushion and speed controller along user's configuration.