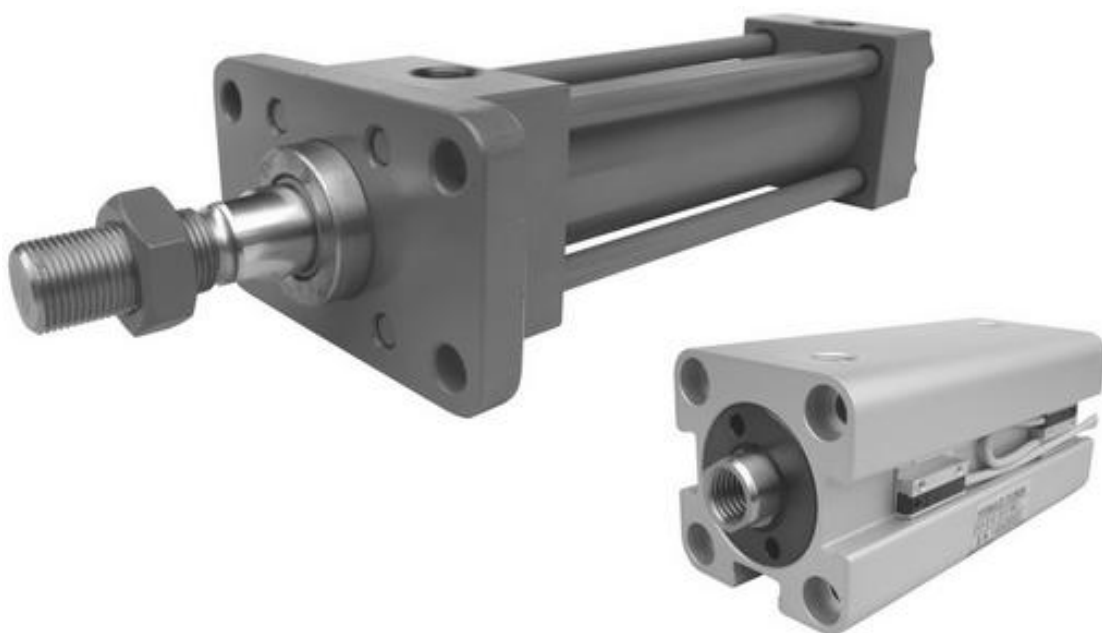




# MANUAL

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## HYDRAULIC CYLINDER



***HIROTAKA MFG. CO., LTD.***



## The notes for Using

Be sure to read this before handling



### WARNING

#### 1. Design

- ① When installing the cylinder, be sure to tighten it securely so that it does not come loose.
- ② If the piston collides with the rod cover and stops, it may cause the rod to come off and damage the rod cover. Use the piston speed below 50mm/sec or stop it with an external stopper. Especially when blanking, be sure to use an external stopper to prevent it from operating to the end of the stroke.



### CAUTION

#### 2. Mounting

Be sure to alignment the cylinder when mounting. If the cylinder is not aligned, the sliding parts of the rod and piston may become stiff, causing abnormal wear of the packing and bearings, causing problems such as broken parts, damaged packing, oil leakage, and increased sliding resistance.

#### 3. Fluid

This cylinder can be used either hydraulic or pneumatic. When using in combination with air-hydro conversion equipment, please use hydraulic fluid recommended by the air-hydro conversion equipment. (The recommended viscosity grade for our air-hydro conversion equipment is VG22.)

#### 4. Piping

Before installing the piping, blow compressed air to prevent dirt from entering the piping. A small amount of oil used during testing before shipping remains inside the cylinder, so be careful not to drip oil when piping. Also, when pneumatic piping is installed, residual oil will come out on the pneumatic piping side. It's not an abnormal condition.

#### 5. Air supply

When using pneumatics, use the compression air with dry via filter.

#### 6. Air release・Cushion adjustment (only THC models)

If the air release bolt is loosened too much, the air release bolt and the steel balls inside may pop out of the cylinder or oil may spout out. If the cushion is adjusted strongly, pneumatic thrust may not return it to the end of the stroke. Loosen and adjust again.

#### 7. Test run

Check that the equipment is installed correctly and that there are no oil or air leaks from any parts. Also, operate the cylinder and check that it operates smoothly.

#### 8. Maintenance

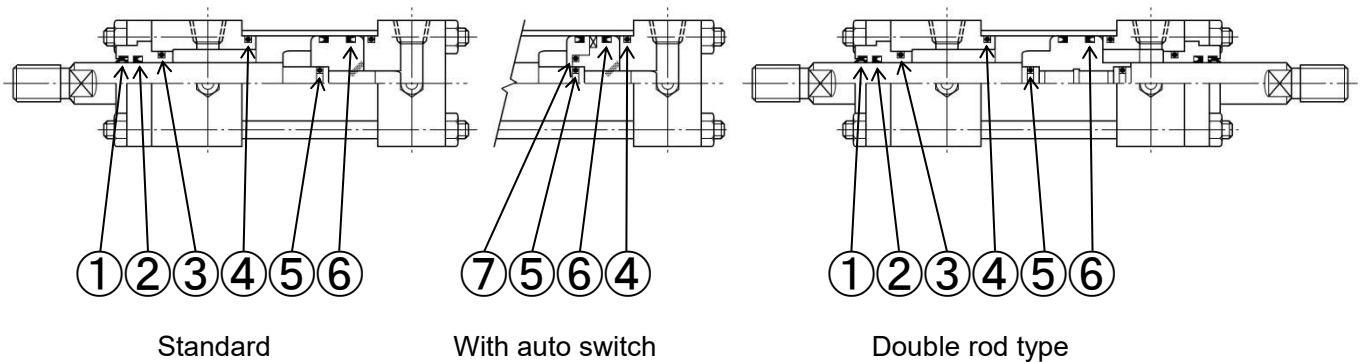
In order to use the product safely for a long period of time, please check that there are no oil or air leaks from each part and that the cylinder is operating normally. Also, when removing or disassembling the cylinder, shut off the hydraulic and air pressure sources and confirm that there is no residual pressure in the system. Residual pressure may cause oil to splatter, injury due to unexpected cylinder operation, accidents, equipment damage, etc.

#### 9. Wiring

When wiring, be sure to turn off the device power to the electrical circuit on the connected side. Doing so may cause electric shock to the worker or damage to the switch or load. Also, do not connect power directly to the switch. Connect via a specified load such as a small relay or PLC.

## Packing for THC series

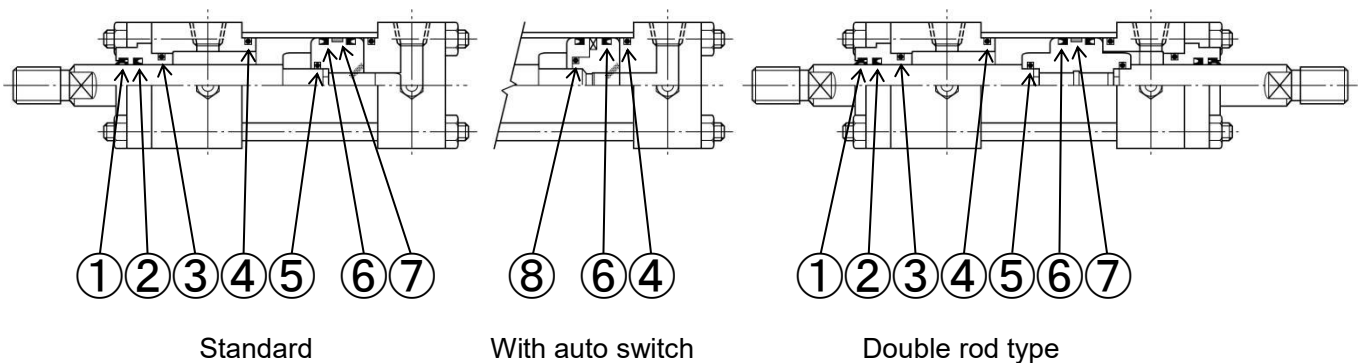
THC series (Nominal pressure : 14 MPa)



No.	1		2		3		4	5		6	7
Description	Dust seal		Rod packing		Metal gasket		Tube gasket	Piston gasket		Piston packing	Piston gasket
Rod type	B rod	C rod	B rod	C rod	B rod	C rod	Common	B rod	C rod	Common	Common
φ32	LBH18	LBH14	USH18	USH14	G25		S29	S10		OUHR32	S15
φ40	DHS22.4	DHS18	UHR22.4	UHR18	G30		G35	S14		UHP 40	S20
φ50	DHS28	DHS22.4	UHR28	UHR22.4	G30		G45	P15		UHP 50	S26
φ63	DHS35.5	DHS28	UHR35.5	UHR28	G40		G58	P20		UHP 63	S32
φ80	DHS45	DHS35.5	UHR45	UHR35.5	G50		G75	G25		UHP 80	S46
φ100	DHS56	DHS45	UHR56	UHR45	G60		G95	P32		UHP100	G55
φ125	DHS71	DHS56	UHR71	UHR56	G75		G120	P42		UHP125	G75
φ160	DHS90	DHS71	UHR90	UHR71	G95	G75	G150	G55		UHP160	—
φ180	DHS100	DHS80	UHR100	UHR80	G110	G85	G170	G60		UHP180	—
φ200	DHS112	DHS90	UHR112	UHR90	G125	G95	G190	G100	G80	UHP200	—
φ250	DHS140	DHS112	UHR140	UHR112	G155	G125	G240	G130	G100	UHP250	—
Q'ty	1 (2)		1 (2)		1 (2)		2	1 (2)		2	1

※ The quantity in parentheses is a double rod type.

THC series (Nominal pressure : 21 MPa)

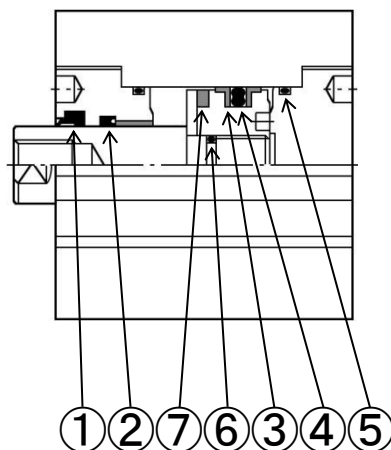


No.	1	2	3	4	5	6	7	8
Description	Dust seal	Rod packing	Metal gasket + BR	Tube gasket + BR	Piston gasket	Piston packing + BR	Wear ring	Piston gasket
φ40	DHS22.4	UHR22.4	G40 + BR	G35 + BR	P18	UHP40 + BR	40x36x10	S18
φ50	DHS28	UHR28	G45 + BR	G45 + BR	P22	UHP50 + BR	50x46x12	P22
φ63	DHS35.5	UHR35.5	G55 + BR	G58 + BR	P28	UHP63 + BR	63x57x16	P28
φ80	DHS45	UHR45	G55 + BR	G75 + BR	G35	UHP80 + BR	80x74x20	G35
φ100	DHS56	UHR56	G65 + BR	G95 + BR	G45	UHP100 + BR	100x94x25	—
φ125	DHS71	UHR71	G80 + BR	G120 + BR	G65	UHP125 + BR	125x119x30	—
φ160	DHS90	UHR90	G100 + BR	G150 + BR	G80	UHP160 + BR	160x154x40	—
φ180	DHS100	UHR100 + BR	G115 + BR	G170 + BR	G85	UHP180 + BR	180x174x50	—
φ200	DHS112	UHR112 + BR	G130 + BR	G190 + BR	G95	UHP200 + BR	200x194x50	—
φ250	Contact us.							
Q'ty	1 (2)	1 (2)	1 (2)	2	1 (2)	2	1	1

※ The quantity in parentheses is a double rod type.

## Description of packing for SHC series

### SHC series



With auto switch

No.	1	2	3	4	5	6	7
Description	Dust seal	Rod packing	Backup ring	Piston packing	Tube gasket	Piston gasket	Magnet
Q'ty	1	1	2 (1)	1	2 (1)	1	1

※ The type without switch does not come with a ⑦magnet.

The bore size 20 and 25 mm types do not have the ⑤tube gasket on the head side.

②The rod packing comes with a backup ring.

### Seal kit

When disassembling and reassembling the cylinder, be sure to replace it with a new packing.

We provide a "Seal kit" for each cylinder.

If you require a seal kit, order "Seal kit for (product number)".

One set of seal kit for THC has No. ①②③④⑥.

One set of seal kit for SHC has No. ①②③④⑤.



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