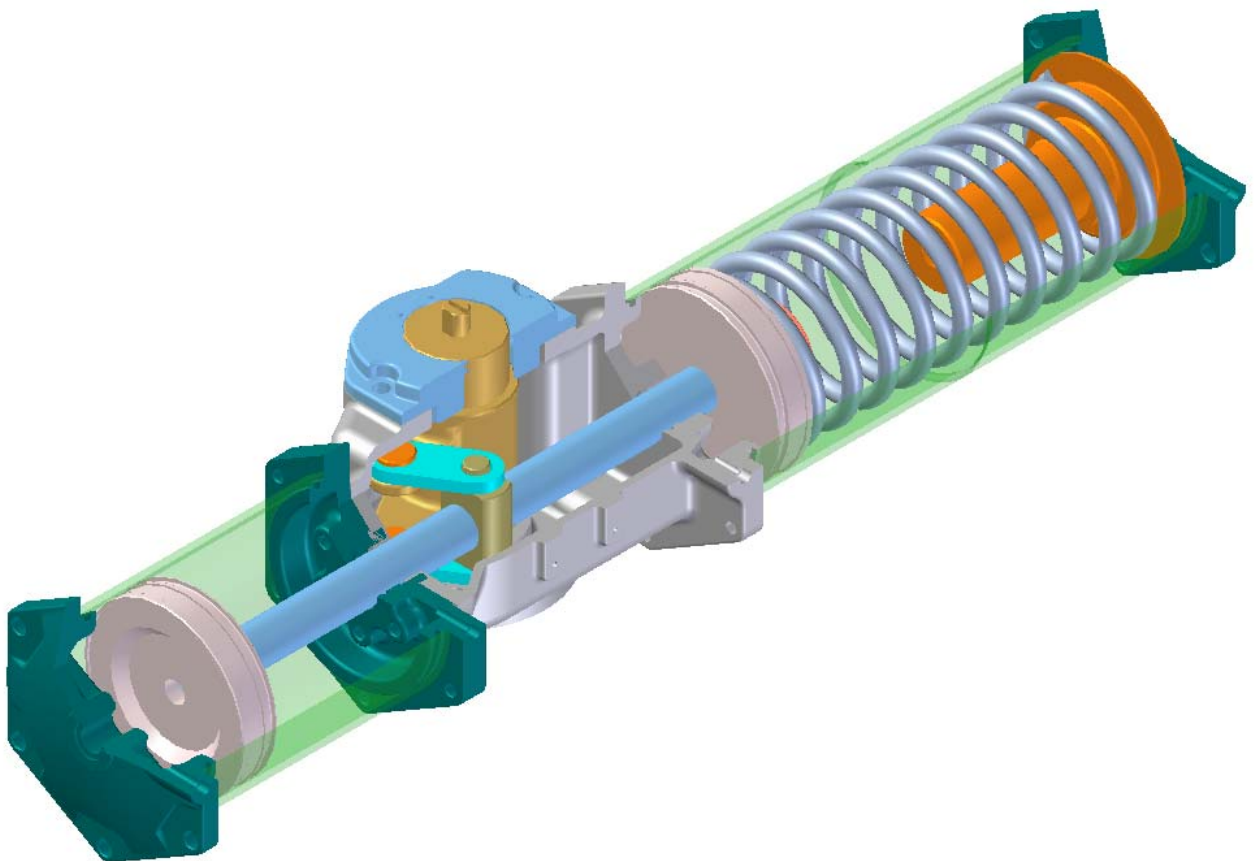


Series 6200

Cylinder Actuator

70-17-41-06-EN



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1. General

1.1 Introduction to Actuator

- A) The Honeywell pneumatic cylinder actuator has been designed to meet the requirements of valve operation.
- B) The Honeywell pneumatic cylinder actuator has been designed for easy maintenance.
- C) The Honeywell pneumatic cylinder actuator boasts a long life span and has few faults. To use the product to its full life span, you should install it correctly according to the manual and maintain it according to the prescribed procedures while using it.

♣ RECOMMENDATIONS

Engineers who have professional assembly capabilities are required to maintain Cylinder Actuator. Therefore, it is more economical to request repairs of the valves to Honeywell. As the valves repaired by Honeywell are thoroughly tested and warranted, you are recommended to entrust Honeywell with repairs.

To avoid possible injury to personnel or damage to valve parts, WARNING and CAUTION notes must be strictly followed. Modifying this product, substituting non-factory parts or using maintenance procedures other than outlined could drastically affect performance, be hazardous to personnel and equipment and may void existing warranties.

1.2 Actuator Structure

- A) The Honeywell pneumatic cylinder actuator is Canted Scotch Yoke type. (See Fig 1)

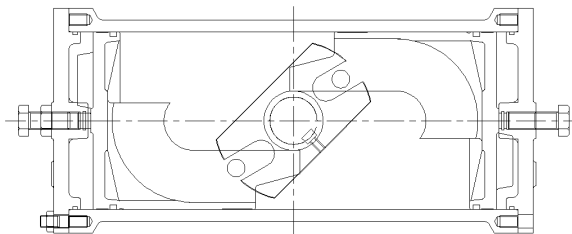


Fig 1 Scotch Yoke Type

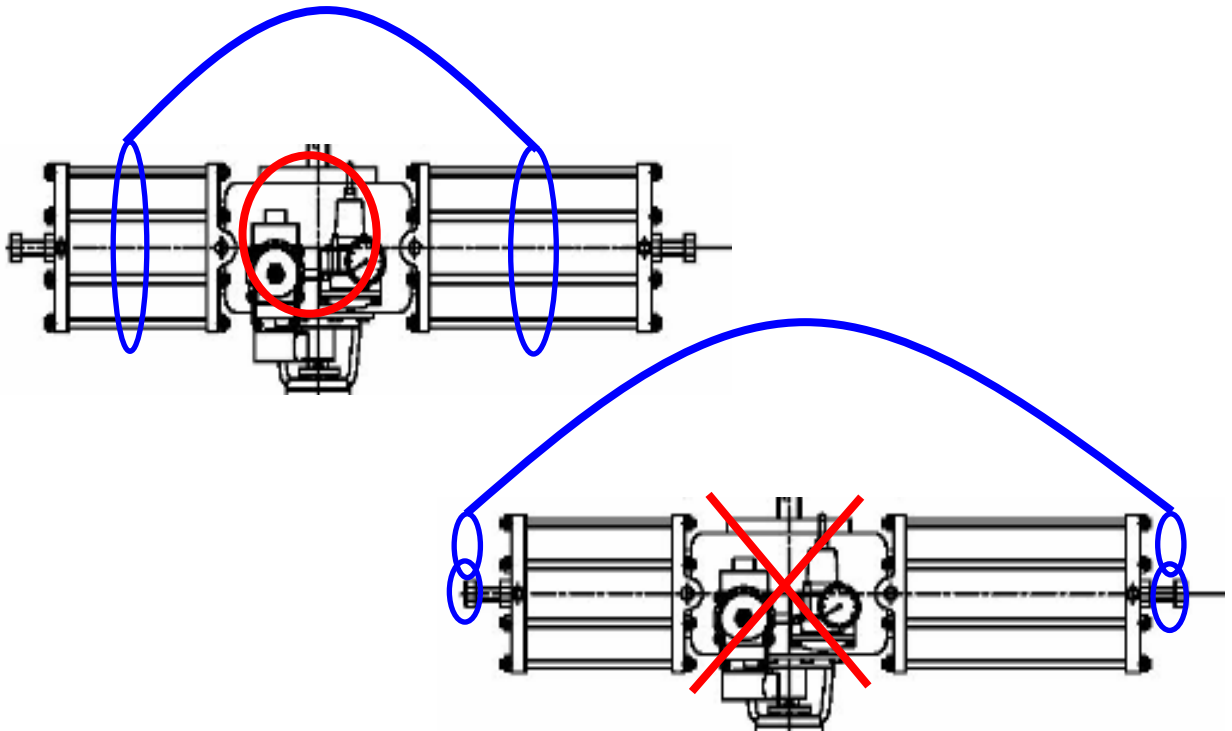
2. Storage

- A) Do not throw, drop or drag the actuator when transporting it.
- B) Keep all parts of the actuator in a well-ventilated place protected from fire, rain and wind.
Store the valve at a temperature between -29°C (-20°F) and 48°C (120°F).
The storage area must be protected from flooding.
- C) Operate the elastomer (O-ring type) of air pressure-type actuator at least once every six months to prevent their functional degeneration. Operate it to the full stroke even under general operation conditions at least three times a month.

- WARNING -

**Do not hold it up or drag it using the stopper part when moving it.
(The stopper part may leak by air pressure.)**

♣ Valve Handling Method (During Transportation)



3. Operation

3.1 Inspections before Operation

- A) Check whether there is any leak from all connections including the air pipe connections.
- B) Check whether the attached manual hand wheel is at the Neutral position.
- C) Check whether the air pressure required for valve operation is accurately set.
(Cylinder Actuator: 5.0 kgf/cm², Special specification: 6.0 kgf/cm²)

- WARNING -

- ① **Remove air pressure from the actuator before using the manual hand wheel. If you use the hand wheel without removing air pressure, it may not work normally and its weak part may get damaged by overstrain.**
- ② **If the manual hand wheel is not at the neutral position during control operation, it may not work normally and its weak part may get damaged.**
- ③ **If you use a pressure higher than the specified pressure on the name plate, the rubber and O-rings of the actuator may be damaged and cause operation problems.**

4. Maintenance and Repair

REGULAR INSPECTION

Repair and inspect as described below. If any malfunction occurs, take appropriate measures according to the preventive maintenance procedures and troubleshooting in Chapter 6. Also, disassemble and inspect the system during the regular overhaul period, and replace parts if necessary.

♣ RECOMMENDATIONS

The life span of the valve can increase if you replace parts according to their replacement cycles. Refer to the Part Replacement Cycle sheet shown below.

Part Replacement Cycle Sheet		
Item Name	Replacement Cycle	Others
Piston O-ring	3 years	
Piston Wearing	5 years	

IRREGULAR INSPECTIONS

- A) Are there abnormal noise, vibration or hunting?
- B) Does air pressure escape from actuator?
- C) Are there any loose bolts and nuts?

4.1 Valve Disassembly

- WARNING -

To prevent human injuries and damages to control system, remove instrument air and signals from the valve, close the block valve and open the bypass valve to switch over the pressure from the line to the bypass. Then slowly unfasten the bolts from the pipe until the internal pressure of the body is completely released and remove the valve before disassembling the actuator.

4.2 Disassembly and Assembly of Actuator

GENERAL INFORMATION

The Honeywell pneumatic cylinder actuator moves the piston in the cylinder pipe, which is transformed into rotation and moves the valve. This procedure is to adjust the valve position to the required position by responding to control signals using air pressure.

- WARNING -

The components of a spring return type actuator are pressed down by a spring. Take general safety measures and disassemble correctly. Otherwise, injuries and damages may result.

4.2.1 Disassembly (See Fig 4.1)

- ① Remove actuator from the valve.
- ② Release the air pressure from inside the actuator and disconnect the air piping.
- ③ Replace 2 tension bolts and remove the others.
- ④ Slowly remove the remaining 2 bolts while keeping the actuator spring without load.
- ⑤ Remove the cylinder cover.
- ⑥ Remove the pipe, and then remove the piston from the spindle.
- ⑦ Remove the spindle from the arm while taking care not to damage the surface of the spindle, and then pull out the arm from the housing.
- ⑧ Check the O-ring and wearing, and replace them if necessary.

4.2.2 Assembly (See Fig 4.1)

Assemble in the reverse sequence of the disassembly.

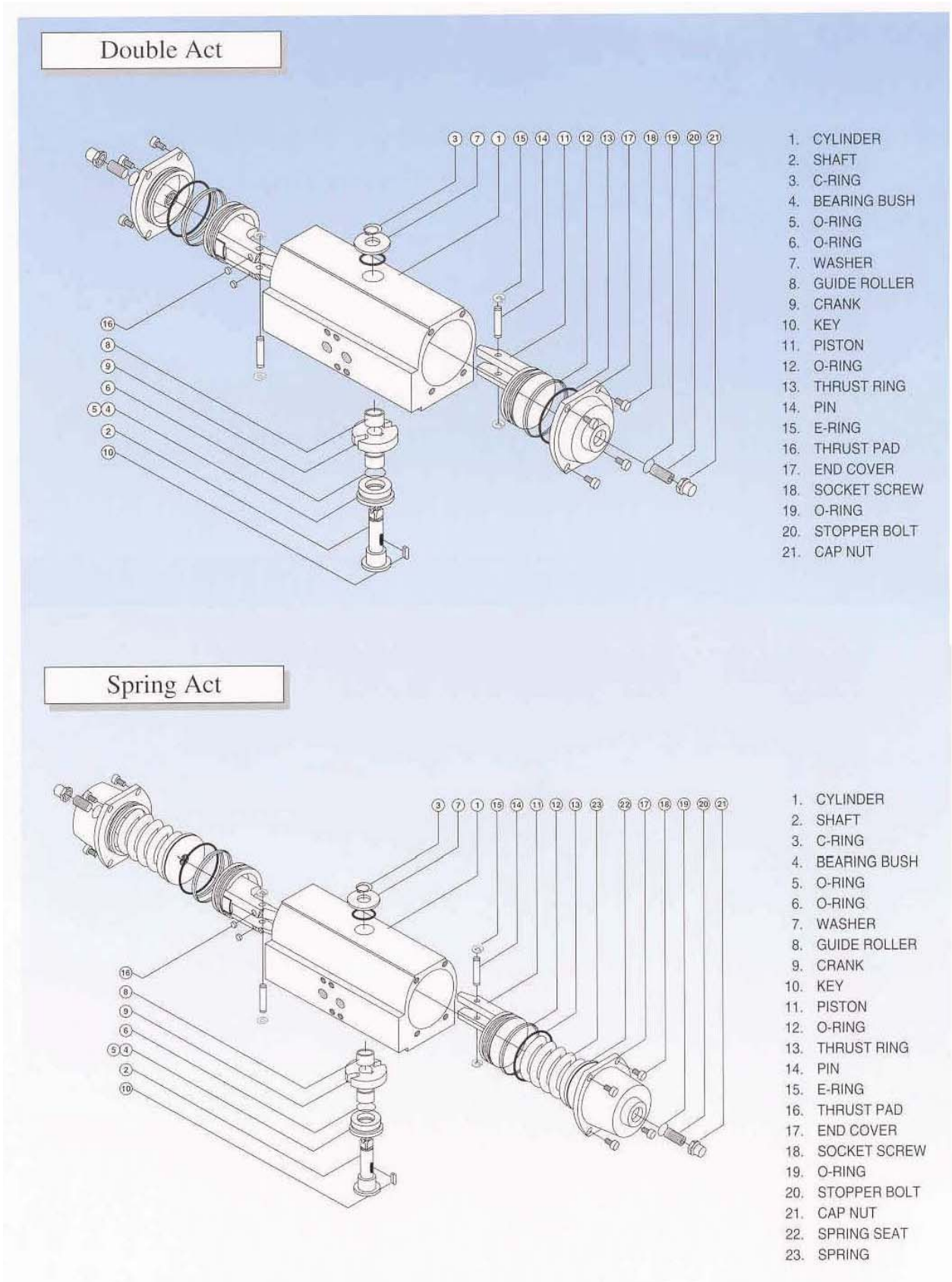


Fig 4.1 Actuator Assembly Diagram (Scotch yoke type)

5. Preventive Maintenance and Troubleshooting

♣ NOTE

Check and replace actuator wearing and O-ring once every 3 years depending on the frequency of use. For other parts, replace them to prevent damages to other devices when they show a wearing sign.

5.1 Troubleshooting

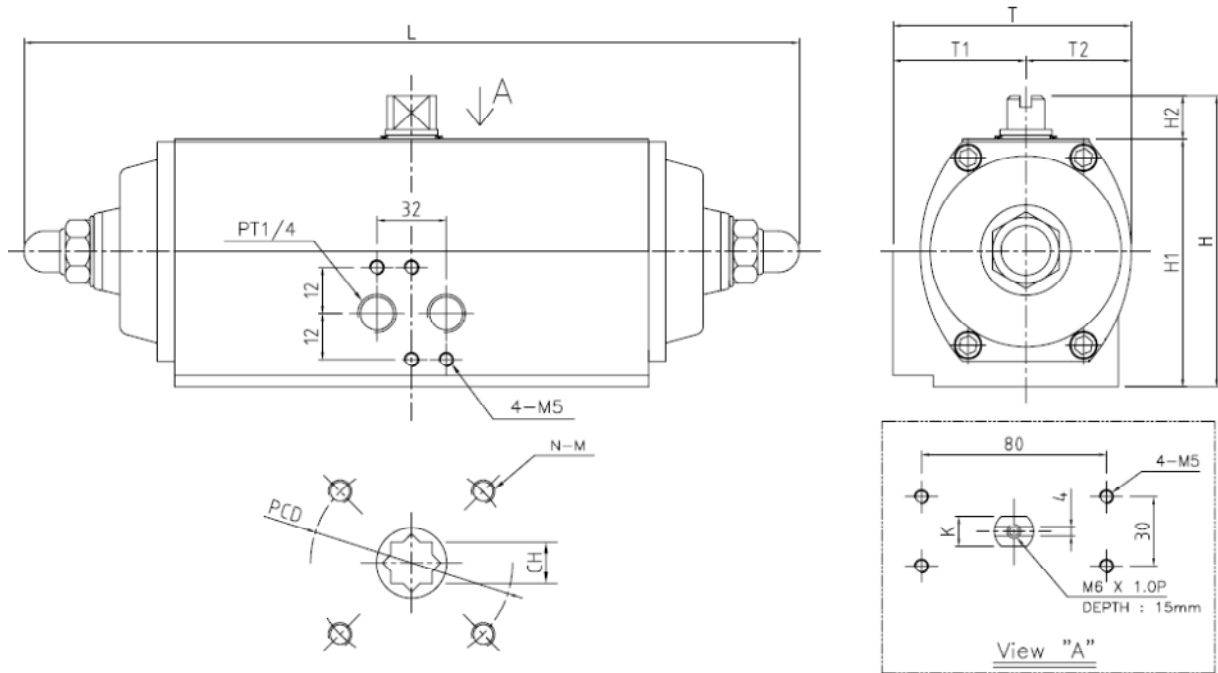
Table 5-1 shows some remedies to general problems that may occur at the site while using cylinder actuator. For more serious problems, transport the system to the factory.

Table 5-1

Problem	Solution
When actuator does not operate	<ol style="list-style-type: none">1. Check the air pressure supplied to the actuator.2. Remove the actuator and check spring and piston.
Leak from actuator components	<ol style="list-style-type: none">1. Fasten the bolts on the cylinder frame.2. Disassemble the actuator. Check the O-ring and wearing, and replace them with new ones if they are damaged.
The stroke time is delayed.	<ol style="list-style-type: none">1. Check the air pressure supplied to the actuator.2. Check the air pressure of the filter regulator.3. Check the adjustment of accessories such as solenoid.

6. Dimension Table

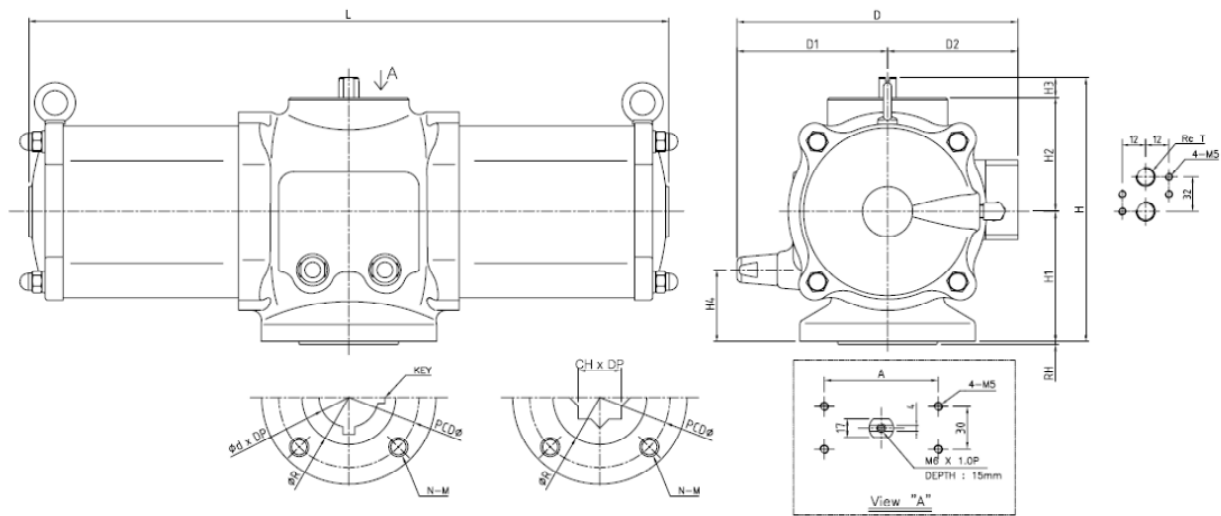
6.1 Double Acting Type



Unit: mm

SIZE	ISO. BASE	L	T	T1	T2	H	H1	H2	K
AC06D	F05/F07	234	83	46	37	108	86	22	13
AC08D	F07	286	98	56	42	123	103	20	17
AC10D	F07/F10	344	114	62	52	143	123	20	22
AC12D	F07/F10	443	136	68	68	164	144	20	22
AC14D	F10/F12	486	158	79	79	180	160	20	22
AC16D	F10/F12	560	178	86	92	210	190	20	26
	F14								

SIZE	ISO. BASE	PCDØ	CH	Dp	N-M
AC06D	F05/F07	Ø50 / Ø70	□14x14	17	4-M6, M8
AC08D	F07	Ø70	□17x17	19	4-M8
AC10D	F07/F10	Ø70 / Ø102	□22x22	26	4-M8, M10
AC12D	F07/F10	Ø70 / Ø102	□22x22	26	4-M8, M10
AC14D	F10/F12	Ø102/ Ø125	□27x27	30	4-M10/M12
AC16D	F10/F12	Ø102/ Ø125	□27x27	30	4-M10/M12
	F14	Ø140	□36x36		4-M16

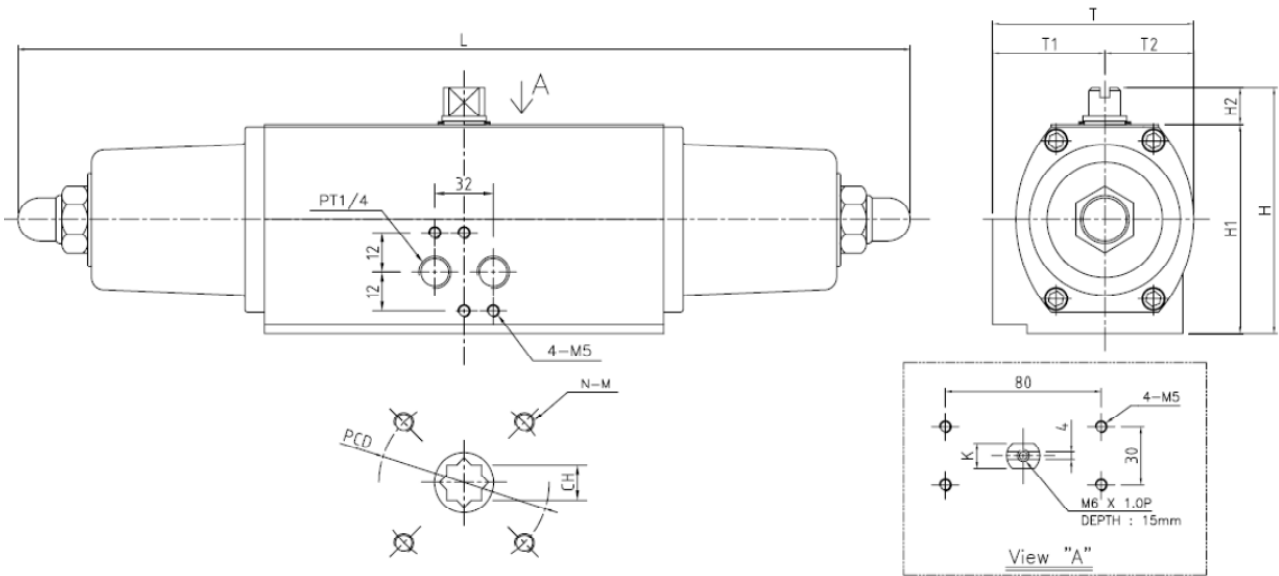


Unit: mm

SIZE	ISO. BASE	L	D	D1	D2	H	H1	H2	H3	H4	ØR
AC20D	F16	793	334	180	154	308	150	138	20	81	Ø130
AC25D	F25	928	411	225	186	373	188	165	20	100	Ø200
AC30D	F25	1098	472	260	212	422	212	190	20	110	Ø200

SIZE	ISO. BASE	RH	PCDØ	N-M	Ød x Dp	Key	CH x Dp	A	RCT
AC20D	F16	3	Ø165	4-M20	-	-	□46x65	80	1/4
AC25D	F25	4	Ø254	8-M16	Ø75x85	20x12	-	130	3/8
AC30D	F25	4	Ø254	8-M16	Ø90x85	25x14	-	130	3/8

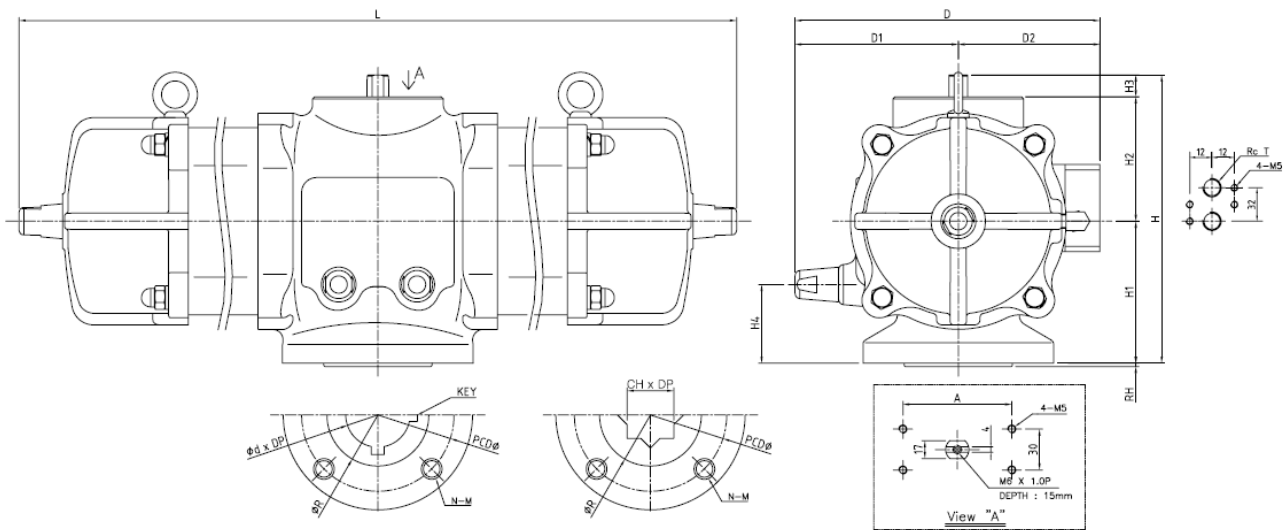
6.2 Spring Return Acting Type



Unit: mm

SIZE	ISO. BASE	L	T	T1	T2	H	H1	H2	K
AC06S	F05/F07	320	83	46	37	108	86	22	13
AC08S	F07	418	98	56	42	123	103	20	17
AC10S	F07/F10	506	114	62	52	143	123	20	22
AC12S	F07/F10	640	136	68	68	164	144	20	22
AC14S	F10/F12	716	158	79	79	180	160	20	22
AC16S	F10/F12	850	178	86	92	210	190	20	26
	F14								

SIZE	ISO. BASE	PCDØ	CH	Dp	N-M
AC06S	F05/F07	Ø50 / Ø70	□14x14	17	4-M6, M8
AC08S	F07	Ø70	□17x17	19	4-M8
AC10S	F07/F10	Ø70 / Ø102	□22x22	26	4-M8, M10
AC12S	F07/F10	Ø70 / Ø102	□22x22	26	4-M8, M10
AC14S	F10/F12	Ø102/ Ø125	□27x27	30	4-M10, M12
AC16S	F10/F12	Ø102/ Ø125	□27x27	30	4-M10, M12
	F14		□36x36		4-M16



Unit: mm

SIZE	ISO. BASE	L	D	D1	D2	H	H1	H2	H3	H4	ØR	RH
AC20S	F16	1172	334	180	154	308	150	138	20	81	Ø130	3
AC25S	F25	1424	411	225	186	373	188	165	20	100	Ø200	4
AC30S	F25	1664	472	260	212	422	212	190	20	110	Ø200	4

SIZE	ISO. BASE	PCDØ	N-M	Ød x Dp	Key	CH x Dp	A	Rc T
AC20S	F16	Ø165	4-M20	-	-	□46x65	80	1/4
AC25S	F25	Ø254	8-M16	Ø75x85	20x12	-	130	3/8
AC30S	F25	Ø254	8-M16	Ø90x85	25x14	-	130	3/8

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

ASIA PACIFIC

Honeywell Process Solutions,
(TAC) [hfs-tac-
support@honeywell.com](mailto:hfs-tac-support@honeywell.com)

Australia

Honeywell Limited
Phone: +(61) 7-3846 1255
FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36
Toll Free Fax:
1300-36-04-70

China – PRC - Shanghai

Honeywell China Inc.
Phone: (86-21) 5257-4568
Fax: (86-21) 6237-2826

Singapore

Honeywell Pte Ltd.
Phone: +(65) 6580 3278
Fax: +(65) 6445-3033

South Korea

Honeywell Korea Co., Ltd.
Phone: +(822) 799 6114
Fax: +(822) 792 9015

For more information

To learn more about Honeywell Control valves,
Visit www.honeywellprocess.com
Or contact your Honeywell Account Manager

Process Solutions

Honeywell
1250 W Sam Houston Pkwy S
Houston, TX 77042

Honeywell Control Systems Ltd
Honeywell House, Skimped Hill Lane
Bracknell, England, RG12 1EB

Shanghai City Center, 100 Jungi Road
Shanghai, China 20061

www.honeywellprocess.com

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