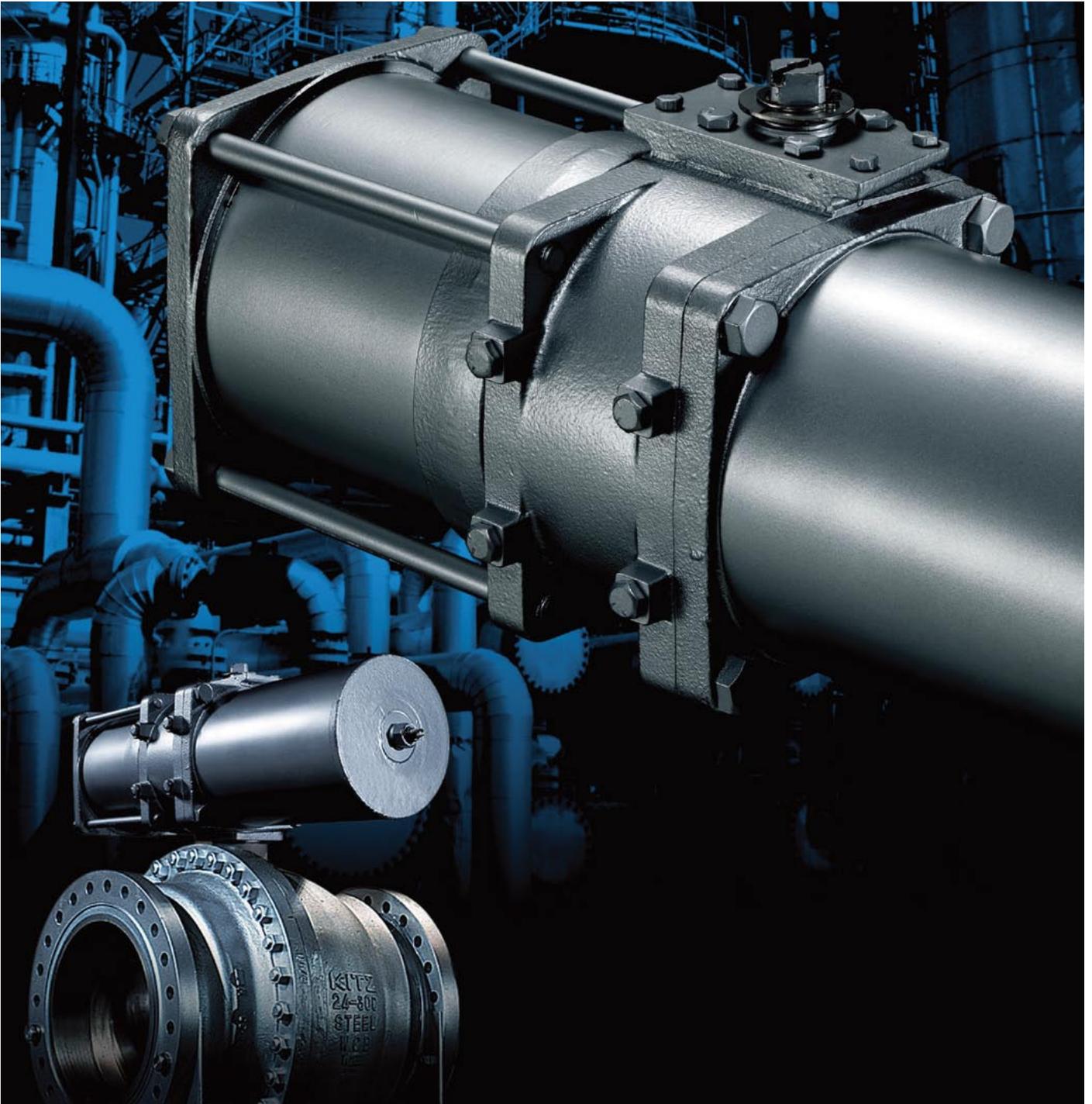


# **HAS Series Pneumatic Spring Return Actuators**

*For Heavy Industries*



# HAS Series Pneumatic Spring Return Actuators

## For Heavy Industries

High durability and Heavy duty design pneumatic spring return actuators.

KITZ successfully launches the newly designed pneumatic actuators, HAS Series to meet the international standards and customers' specific requirements in heavy Industries.

HAS Series has been developed with KITZ's experience and technical skill.

Durable, Safe and Useful is key concept for HAS Series.

## Features

- Inside surface of cylinder is coated by PTFE for smooth and trouble free operation.
- Double-sealing design for drive shaft (Water proof).
- Cartridge-type spring unit realize easy maintenance.
- ISO5211 for bottom mount and NAMUR for top mount.
- Scotch Yoke part is not pressurized by supplied air to minimize corrosion and eliminate leakage from drive shaft.

## Durable

### PTFE coated bearings

The ensure higher durability and more stable operations.

### Ductile iron housing

For greater strength and higher durability.

## Safe

### Cartridge-type spring unit design

Spring is shut in a cartridge with two tie rods, and when disassembled for maintenance, it prevents spring from jumping out.

### Double-sealing & Lubricant space

The upper shaft is sealed bi-directionally with double-sealing for lubricant leakage as well as water proof.

## Useful

### Bi-directional travel stops

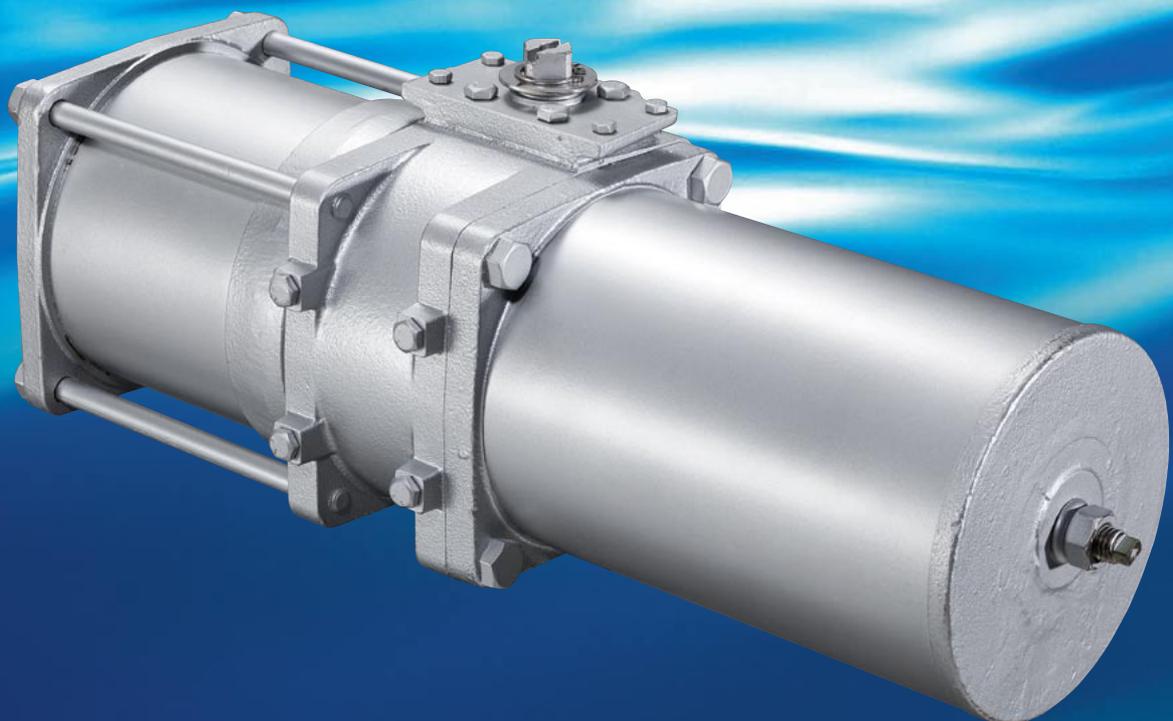
Dual stops allow 76° to 100° total travel adjustment. The stopper bolt and piston center are coaxial for stable open/close positions.

### NAMUR mounting design

For easy installation of industrial standard switch box and accessories.

### ISO 5211 Actuator/Valve interface

The valve interface conforms to ISO 5211.





## Design Features

### O-ring seals for all connection areas

Realize superior air-tightness and easier maintenance.

### Seal washer

### PTFE coated bearings

The ensure higher durability and more stable operations.

### PTFE coated carbon steel cylinder

The inside surface of cylinder is specially coated to reduce friction and make operation smooth.

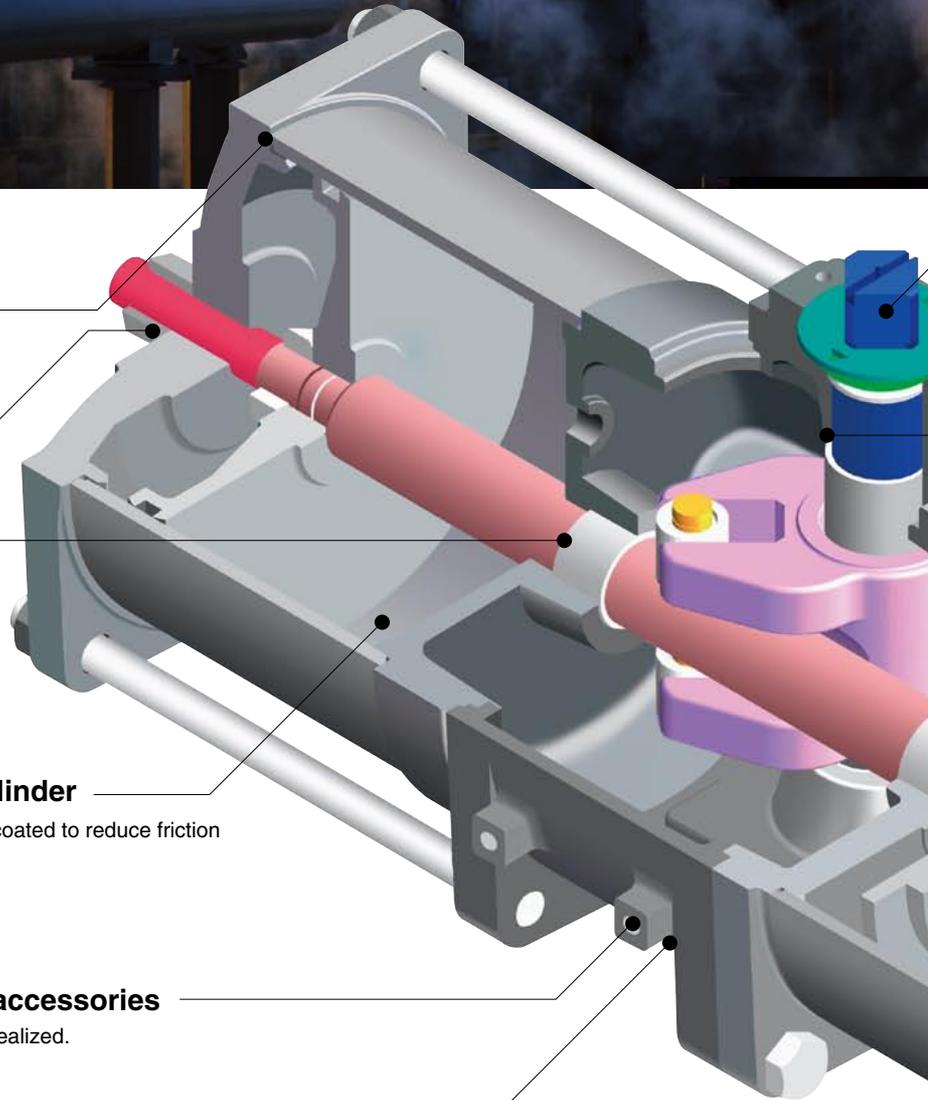
### 8 tapped mounting pad for accessories

Stable attachment of accessories can be realized.

### ISO5211 Actuator/Valve interface

### Cartridge-type spring unit design

Spring is shut in a cartridge with two tie rods, and when disassembled for maintenance, it prevents spring form jumping out.



# HAS Series Pneumatic Spring Return Actuators *For Heavy Industries*

SIL Certificate by BUREAU VERITAS

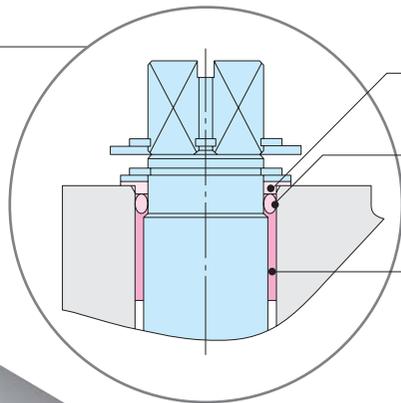
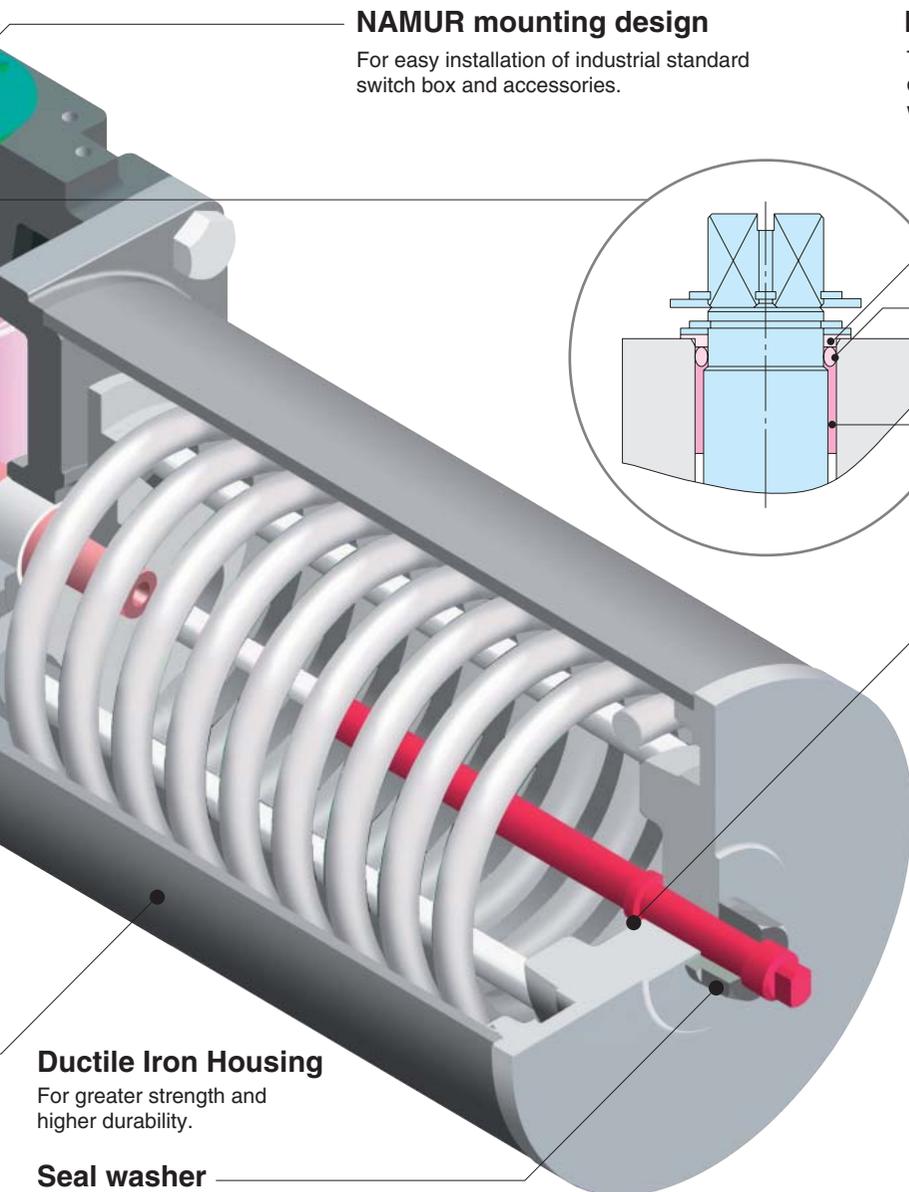


## NAMUR mounting design

For easy installation of industrial standard switch box and accessories.

## Double-sealing & Lubricant space

The upper shaft is sealed bi-directionally with double-sealing for lubricant leakage as well as water proof.

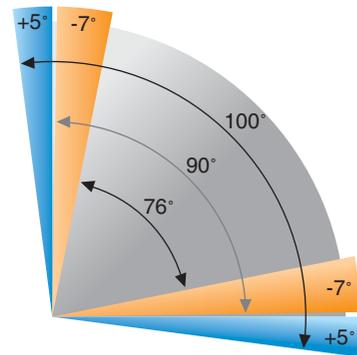


Seal washer

Second Seal O-ring

Lubricant Space

## Bi-directional Travel Stops



Dual stops allow 76° to 100° total travel adjustment.

The stopper bolt and piston center are coaxial for stable open/close positions.

## Ductile Iron Housing

For greater strength and higher durability.

## Seal washer

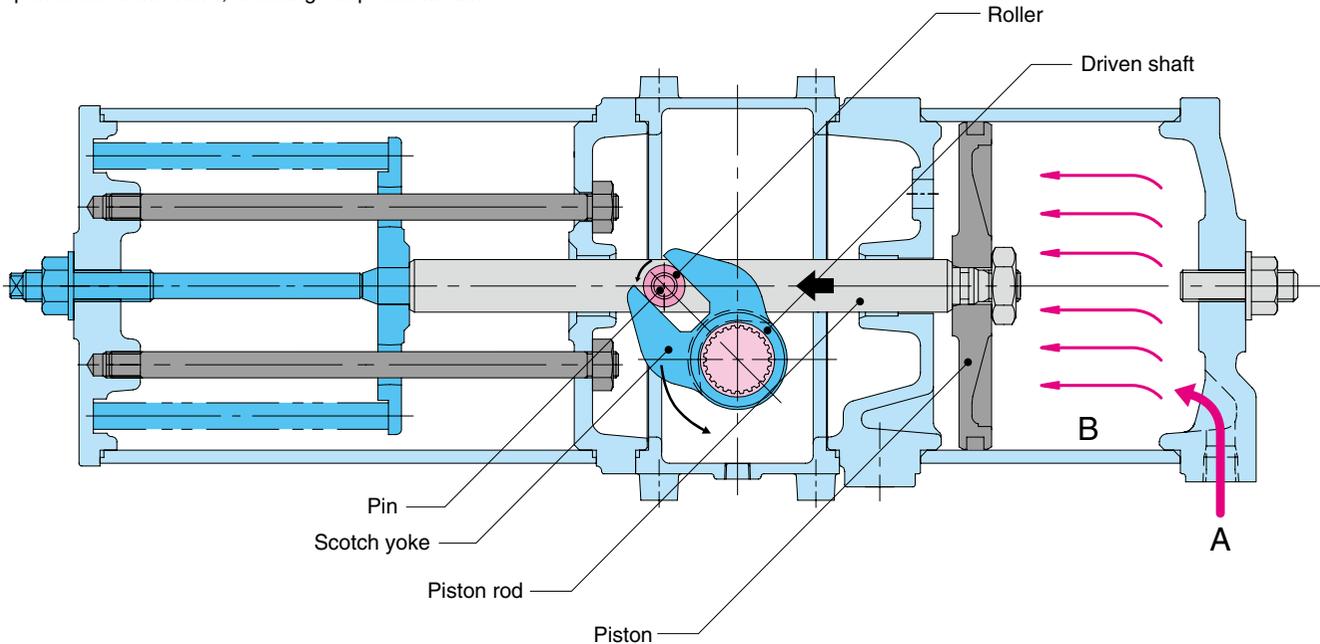
To keep water-proof at open/close stopper parts.

# Driving Mechanism

The air pressure supplied into the cylinder pushes the piston outward and energizes its movement to rotate the scotch-yoke counterclockwise, compressing the spring.

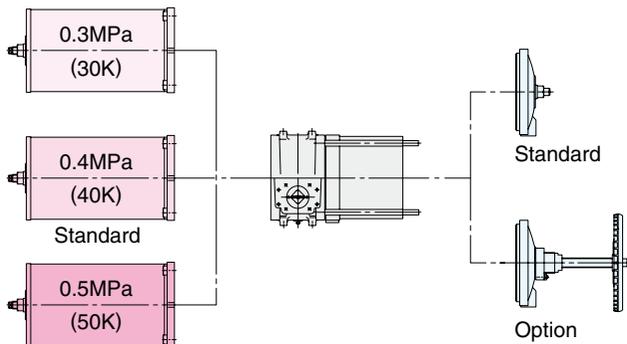
The scotch-yoke converts linear movement of the piston rod to counterclockwise rotational movement of the drive shaft by 90°, to open or close the valve, following the preset mode.

At the moment the air is discharged to the atmosphere through the solenoid valve, the spring force pushes the piston to the reverse direction, and the scotch-yoke activates clockwise rotation of the shaft to reversely operate the valve. Air failure will cause the valve return to the original open or closed position automatically, following the preset mode.

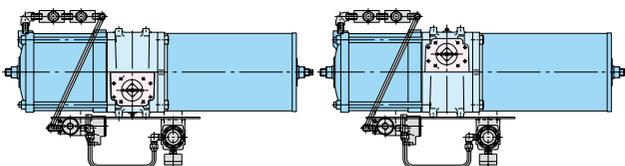


## Option

HAS has three different types of spring rating.  
Completed unit design for manual override (Manual override can be easily added.)



Easy change of fail mode  
Symmetrical design for center module (Scotch Yoke mechanism)



## Specifications

Operating media	Compressed instrumentation air
Operating pressure	Standard operating pressure 0.4MPa
Pressure supply range	0.3MPa to 0.8MPa
Standard durability	500,000 cycles under moderate service conditions and size
Housing test pressure	0.97MPa
Rotation adjustment range	-7 to +5° (Open/Closed)
Operating temperature range	Standard : -20 to +80°C (-4 to +176°F) High(op) : -20 to +120°C (-4 to +250°F) Low(op) : -40 to +60°C (-40 to +140°F)

## Code:

HAS ① - ② - ③ - ④ - ⑤

ex) HAS-3-40K-CW-N

① Type	HAS :Spring Return HASW :Manual Override
② Size	3, 4, 5, 6, 7, 8, 9
③ Spring Rating	30K :for 0.3MPa 40K :for 0.4MPa* 50K :for 0.5MPa 56K :for 0.56MPa
④ Fail position	CW :Fail Close* CCW :Fail Open
⑤ O-ring material	N :NBR -20 to+80°C* L :LT NBR -40 to+60°C Optional H :FKM -20 to+120°C Optional

\*as STANDARD

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