Rotary Actuator

Characteristics

- The Rotary Actuator features an ultra-thin size and high power on account of the use of an elliptic cylinder.
- Backlash is eliminated. Angle fine adjustment, air cushion adjustment and rack pinion adjustment functions are equipped.
- System control is possible by attachment of a magnetic sensor (option).
- The flat bottom is very convenient for your own layout.
- Coming in the rotary disk type, this actuator displays the great advantage of ultra-thinness.

Specifications

Series	HR200-90(D)	HR400-90(D)	HR400-180(D)	HR600-90(D)	HR600-180(D)
Actuating method	Double acting type (rack & pinion method)				
Fluid medium	Compressed air (oilless)				
Operating pressure range	43 ~ 116psi (0.3 ~ 0.8MPa)				
Operating temp. range	41 ~ 140°F (5 ~ 60°C)				
Effective torque	2N·m	6N·m		9.5N·m	
Rotational angle	90°	90°	180°	90°	180°
Angle adjustment range	0 ~ +5°				
Cushion	Air cushion				
Port size	M5×0.8mm				
Cylinder sectional area	6.9cm²	12.9cm²		19.6cm²	
Cylinder stroke	1.4cm	2.2cm	4.2cm	2.3cm	4.3cm
Shaft dia. (pinion shaft type)	10mm	15mm		17mm	
Maximum radial load	26.46N	45.08N		64.68N	
Maximum thrust load	26.46N	26.46N		56.84N	
Maximum kinetic energy	0.01N·m	0.015N·m		0.02N·m	
Option	Magnetic sensor	○ *	○	○	○	○
	Mounting holder	○ *	○	○	○	○
	Speed controller	○	○	○	○	○

* The magnetic sensor and the mounting holder cannot be attached to HR200-90(D) simultaneously.

Sensor Specification

Wiring method	3 wire type
Power requirement	4.5 ~ 28VDC
Load voltage	4.5 ~ 28VDC
Load current	100mA max.
Current consumption	10mA max. (24VDC)
Internal descending voltage (*1)	0.5V max. (with load current at 50mA)
Leakage current	50µA max. (24VDC)
Response	1m·s max.
Insulation resistance	100MΩ min. (between case and lead wire terminal at 500VDC)
Withstand voltage	for 1minuite (between case and lead wire terminal at 500VDC (50/60Hz))
Impact resistance (*2)	294.2m/s² (30G) (No repeat)
Vibration resistance (*2)	88.3m/s² (9G) (Condensing amplitude: 1.5mm • 10 ~ 55Hz)
Protective structure	IP67 (IEC standard), JIS C0920 (Water tight type)
Operational indication	Red LED lighting up when pressure is ON
Lead wire	PVC 0.2SQ × 3cores × 3,000mm
Operating temp. range	32 ~ 140°F (0 ~ 60°C)
Storage temp. range	14 ~ 158°F (-10 ~ 70°C)
Weight	50 g

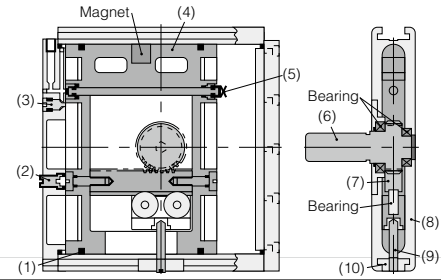*1. Internal descending voltage differs by the valve of load current.
*2. PISCO test standard

RoHS The products listed in this page are ECO-friendly products.
* Please refer to page 4 for the details of ECO-friendly products.

Construction

No	Parts	Material
(1)	Piston packing	NBR
(2)	Angle adjustment screw	carbon steel SK
(3)	Cushion adjustment screw	nickel-plated brass
(4)	Piston	POM
(5)	Cushion pad	NBR
(6)	Pinion shaft	carbon steel S45C
(7)	Rack	carbon steel S45C
(8)	Cylinder	aluminum
(9)	Backlash adjustment screw	carbon steel S45C
(10)	Adjustment nut	aluminum

Model Designation (Example)

HR 400 - 90 D ABC
(1) (2) (3) (4)

(1) Cylinder area

Code	200	400	600
Cylinder area	6.9cm²	12.9cm²	19.6cm²

(2) Rotation angle

Code	90	180
Rotation angle	90°	180°

(3) Rotary part

Code	No code	D
Rotary part	Pinion shaft type	Rotary disk type

(4) Option (Combination)

Code / Rotary Actuator Code	A * (Magnetic sensor)	B * (Mounting holder)	C (Speed controller)	No code (without option)
HR200	○	○	○	
HR400	○	○	○	
HR600	○	○	○	

* A, B and C above can be combined. (The magnetic sensor and mounting holder can not be combined for the HR200, however.)

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HR
Pinion Shaft Type

Model code
HR200-90
HR400-90
HR400-180
HR600-90
HR600-180

HR
Rotary Disk Type

Model code
HR200-90D
HR400-90D
HR400-180D
HR600-90D
HR600-180D

Package specification
1 pc. in a bag

Option Parts

A Magnetic Sensor	Model code
	A (*1, *3)

B Mounting Holder	Model code
	B (HR200) (*2, *3)
	B (HR400) (*2, *3)
	B (HR600) (*2, *3)

C Speed Controller	Model code
	C (*3)

Tube size: ø4
Thread size: M5
Meter-out control

Model code of Magnetic Sensor Set only

Model code	Rotary actuator type	Note
F0007	All types	The set includes two sensors, two brackets and screw.

Model code of Fixing Holder Set only

Model code	Rotary actuator type	Note
F0008	HR200	One set consists of four holders.
F0108	HR400	
F0208	HR600	

⚠ Caution
*1. Magnetic sensor A consists of sensor (2 pcs.), mount bracket (2 pcs.) and screw.
*2. Mounting holder B is 4 pcs./set.
*3. Be careful that these model codes A, B and C are used only ordered with Rotary actuator.

Package specification
1 set / bag