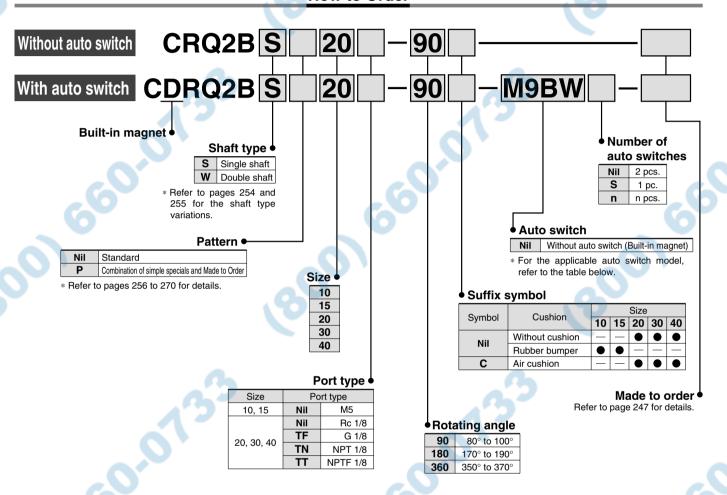
Compact Rotary Actuator Rack & Pinion Style Series CRQ2

How to Order



Applicable Auto Switches/Refer to pages 761 to 809 for further information o

	Applicable Auto Switches/heler to pages 761 to 609 for future illimitation on auto switches.																	
4				ator	Wiring	Load voltage		Auto switch model		Lead wire length (m)			n (m)	Due wined				
j	Type	Special function	entry		Indicate (Out	(Output)		DC	AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)	Pre-wired connector	Applicable load	
					3-wire (NPN)	2	5V,12V	7	M9NV	M9N	•	•	•	0	0	IC		
					3-wire (PNP)		5V,12V	50,120	M9PV	M9P	•	•	•	0	0	circuit		
	switch				2-wire		12V	<u> </u>	M9BV	M9B	•	•	•	0	0	<i></i>		
	SW		Grommet Yes		3-wire (NPN)		5V,12V 12V		M9NWV	M9NW	•	•	•	0	0	IC	Б. 1	
	state	Diagnostic indication		Yes	3-wire (PNP)				M9PWV	M9PW	•	•	•	0	0	Circuit .	Relay, PLC	
	Ste	(2-color)			2-wire			M9BWV	M9BW	•	•	•	0	0	_	PLC		
	Solid	Water resistant (2-color)			3-wire (NPN)	_	5V,12V	,	M9NAV**	M9NA**	0	0	•	0	0	IC		
Reed switch So					3-wire (PNP)				M9PAV**	M9PA**	0	0	•	0	0	circuit		
					2-wire		12V		M9BAV**	M9BA**	0	0	•	0	0	_		
	witch	_	Grommet Yes No	Yes	3-wire (NPN equiv.)	_	5V	_	A96V	A96		Э	•		_	IC circuit	_	
	S D				2-wire 24	241/	24V 12V	100V	A93V	A93		_	•	_	_	_	Relay,	
	æ					24V		100 V or less	A90V	A90		_		_		IC circuit	PLC	

^{**} Although it is possible to mount water resistant type auto switches, note that the rotary actuator itself is not of water resistant construction. * Auto switches marked with "O" are made to order specification.

1 m ····· M (Example) M9NWM

3 m ····· L (Example) M9NWL

5 m ····· Z (Example) M9NWZ



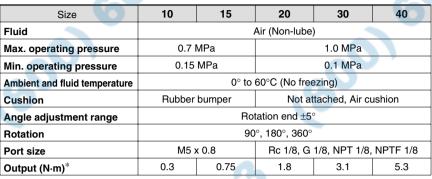
Refer to pages 796 and 797 for the details of solid state auto switch with pre-wired connector.

^{*} Lead wire length symbols: 0.5 m Nil (Example) M9NW

^{*} Auto switches are shipped together, (but not assembled).

Compact Rotary Actuator Rack & Pinion Style Series CRQ2





^{*} Output under the operating pressure at 0.5 MPa. Refer to page 30 for further information.

Allowable Kinetic Energy and **Rotation Time Adjustment Range**

		Stable operational rotation time				
Size	Allow	able kinetic ener	Cushion angle	adjustment range		
	Without cushion	Rubber bumper	With air cushion*	Cushion angle	Rotation time (s/90°)	
10		0.00025	_	_	0.2 to 0.7	
15	_	0.00039	_	_	0.2 to 0.7	
20	0.025	_	0.12	40°	0.2 to 1	
30	0.048	_	0.25	40°	0.2 to 1	
40	0.081	_	0.4	40°	0.2 to 1	

Allowable kinetic energy for the bumper equipped type Maximum absorbed energy under proper adjustment of the cushion needles.

If operated where the kinetic energy exceeds the allowable value, this may cause damage to the internal parts and result in product failure. Please pay special attention to the kinetic energy levels when designing, adjusting and during operation to avoid exceeding the allowable limit.

Mass

			(g)					
Size	Standard mass*							
Size	90°	180°	360°					
10	120	150	200					
15	220	270	380					
20	600	700	1000					
30	900	1100	1510					
40	1400	1600	2280					

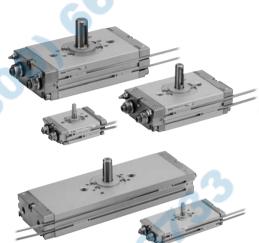
^{*} Excluding the mass of auto switch.

Precautions

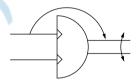
Be sure to read before handling.

Refer to front matters 38 and 39 for Safety Instructions and I pages 4 to 13 for Rotary Actuator and Auto Switch Precautions.

(1) The angle adjusting screw (angle adjustment bolt) is set at random within the adjustable rotating range. Therefore, it must be readjusted to obtain the angle that suits your application.



JIS Symbol





Symbol	Specifications/Content	Applicable shaft type				
_	Shaft type variation	X, Y, Z, T, J, K				
XA1 to XA24	Shaft pattern sequencing I	S, W				
XA31 to XA59	Shaft pattern sequencing II	X, Y, Z, T, J, K				
XC7	Reversed shaft	S, W, X, T, J				
XC8 to XC11	Change of rotating range					
XC12 to XC15	Change of angle adjustable range (0° to 100°)					
XC16, XC17	Change of angle adjustable range (90° to 190°)	S, W, Y X*, Z*, T*, J*, K*				
XC18, XC19	Change of rotating range					
XC20, XC21	Change of angle adjustable range (90° to 190°)					
XC22	Without inner rubber bumper					
XC30	Fluorine grease					
XC69	Fluororubber seal	S, W, X, Y, Z, T, J, K				
Х6	Shaft and parallel key made of stainless steel					
* Among the symbols VC0 to VC01 and VC10 and						

Among the symbols XC8 to XC21, only XC12 and XC16 are compatible with shaft types X, Z, T, J and



CRB2

CRBU2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MSZ

CRQ2X MSQX

MRQ