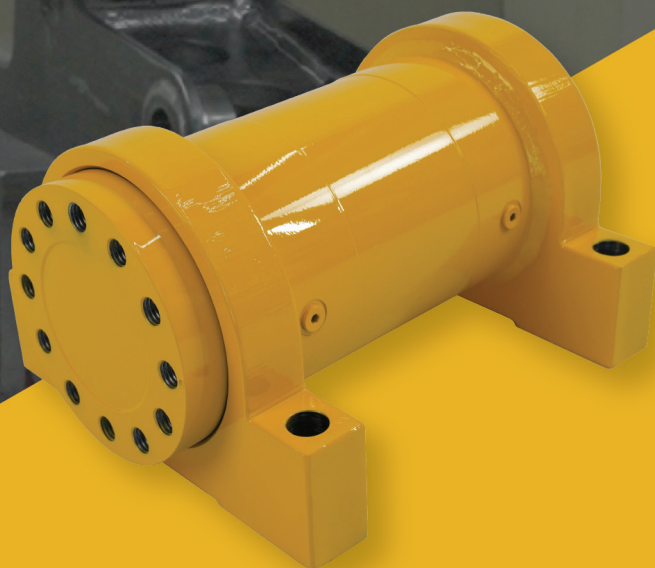




HYDRAULIC ROTARY ACTUATOR

Helical Gear Type

WEB CATALOG



SUNGJI HYDRAULICS CO., LTD.



SUNGJI HYDRAULICS

WE SUPPLY THE BEST SOLUTIONS FOR YOU



High Moment

Works smoothly even in high momentum due to the strong support for its load and sidewall.



Free over-Run (with Counterbalance Valve)

The counterbalance valve makes it stop rotating when the maneuvering bar stops. No need for external breaks for rotation.



Free Grease Filling

Its oil-immersed bearings have excellent lubrication action without grease filling.



Free Over-Load (with Counterbalance Valve)

To protect non-operating equipment, the counterbalance valve makes it instantly rotate in reaction to external shocks.



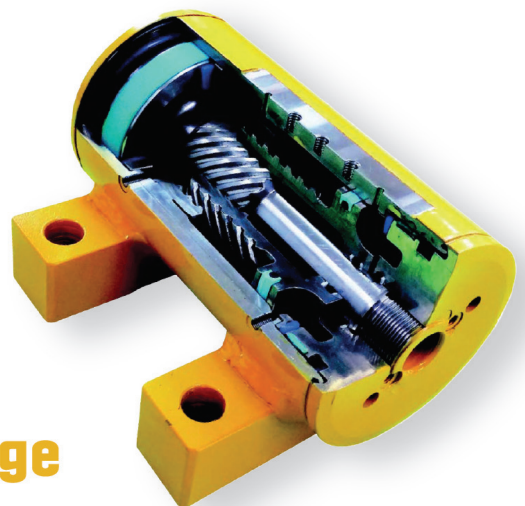
Long Lifetime

Its oil-immersed bearing support for load and sidewall has long lifetime with great lubrication action.



Light & Compact

Light & compact due to its space efficient design and minimal number of component.



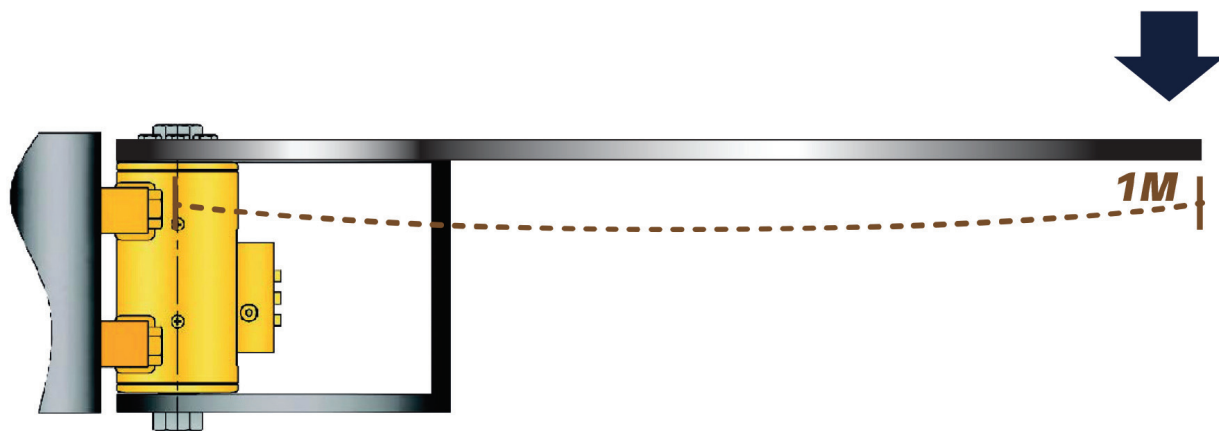
Mighty Hinge

Comparison of Specifications

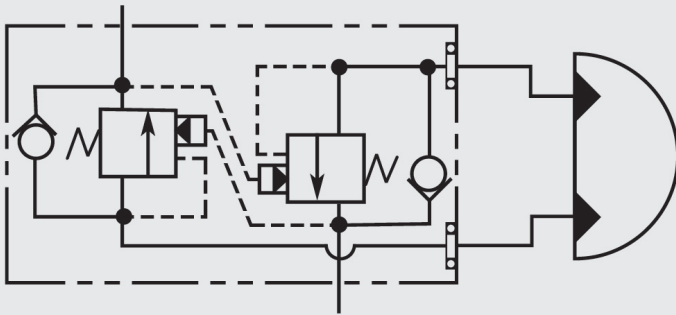
Rotary Actuator		SJH	A Brand	SJH	A Brand	SJH	A Brand
		SRB-080 (Ø80)	L20-4.5 (Ø80)	SRB-090 (Ø90)	L20-8.2 (Ø90)	SRB-1150 (Ø115)	L20-15 (Ø115)
Torque	Drive Torque in - lbs(kg-m) at 210bar	4,900 (57)	4,500 (52)	9,100 (105)	8,200 (95)	16,500 (190)	15,000 (173)
	Holding Torque in - lbs(kg-m) at 210bar	12,700 (146)	11,800 (136)	23,400 (270)	21,000 (242)	42,900 (494)	38,720 (447)
Maximum Moment Capacity	Straddle Moment in - lbs(kg-m)	28,600 (330)	22,500 (260)	52,000 (600)	40,000 (462)	112,700 (1,300)	90,000 (1,039)
	Cantilever Moment in - lbs(kg-m)	15,430 (178)	12,000 (139)	28,100 (324)	22,000 (254)	60,700 (700)	48,000 (554)
	Displacement cc(cm ³)	168	132	239	234	564	436
Approximate Weight (Wet)	with Counterbalance Valve (kg)	12.1	12.7	16.0	17.2	27.3	30.4
	without Counterbalance Valve (kg)	11.4	12.2	15.3	16.8	26.5	29.9

Comparison of Straddle Moment

SJH	SRB-080 (Ø80) 28,600 in-lbs (330kg-m)	SRB-090 (Ø90) 52,000 in-lbs (600kg-m)	SRB-115 (Ø115) 112,770 in-lbs (1,300kg-m)
	L20-4.5 (Ø80) 22,500 in-lbs (260kg-m)	L20-8.2 (Ø90) 40,000 in-lbs (462kg-m)	L20-15 (Ø115) 90,000 in-lbs (1,039kg-m)



Valve Configurations



Mounted Counterbalance valves prevent rotation in the event of a hydraulic line failure, control rotation when loads go over center, and protect the rotary actuator against excessive torque loads.

Raw material is aliminum, the valve blocks are bolted to a flat mounting pad on the rotary actuator housing. Three bolts secure the valve block to the rotary actuator. Please look at dimension page for valve location.

Hydraulic Schematic of Optional Counterbalance Valve

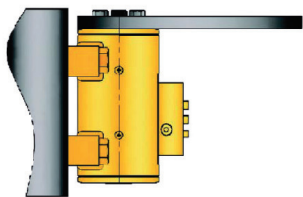
The pilot ratio is 3:1 and the valves are set to relieve at 3300 psi $\pm$ 300 psi (228 bar $\pm$ 21 bar).

*others Discussable

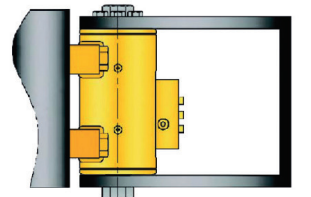
Mounting Options

Standard Foot Mounting

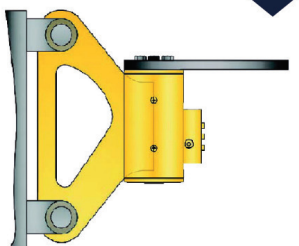
Cantilever Moment



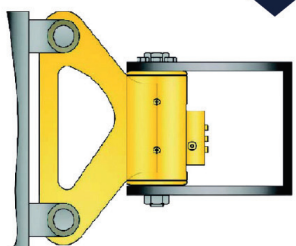
Straddle Moment



Cantilever Moment



Straddle Moment

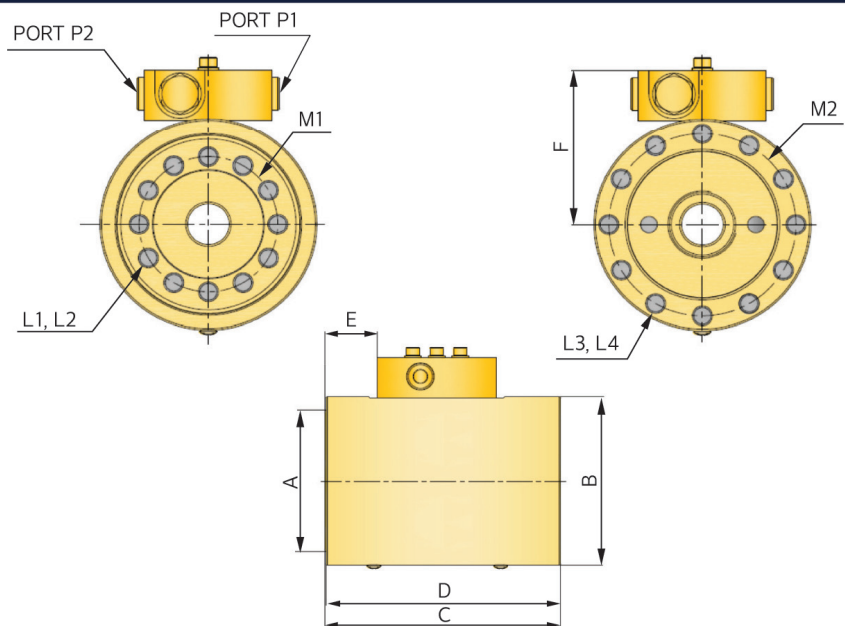


Option Clevis Mounting

SRA Series Specification & Dimension

SRA Series Specification		SRA-080	SRA-090	SRA-110	SRA-140	SRA-160
Torque						
Drive Torque	in - lbs @ 3,000 psi	1,700	3,000	6,500	9,500	15,000
	kg - m @ 210 bar	20	35	75	109	173
Holding Torque	in - lbs @ 3,000 psi	5,600	11,000	17,000	34,000	50,000
	kg - m @ 210 bar	65	127	196	392	576
Maximum Moment Capacity						
Cantilever Mount	in - lbs	5,000	9,000	20,000	50,000	80,000
	kg - m	58	104	230	576	922
Radial Capacity						
Radial	lb	2,000	3,000	4,000	8,000	11,000
	kg	907	1,361	1,814	3,629	4,990
Axial Capacity						
Axial	lb	2,000	3,000	4,000	8,000	11,000
	kg	907	1,361	1,814	3,629	4,990
Displacement						
180 degree	in ³	4.7	7.2	14.5	22.9	35.6
	cm ³	77	117	238	376	584
Approximate Weight (Wet)						
with Valve (CBV)	lb	14.1	22.0	32.6	58.9	97
	kg	7.1	11.7	14.8	26.7	44

SRA



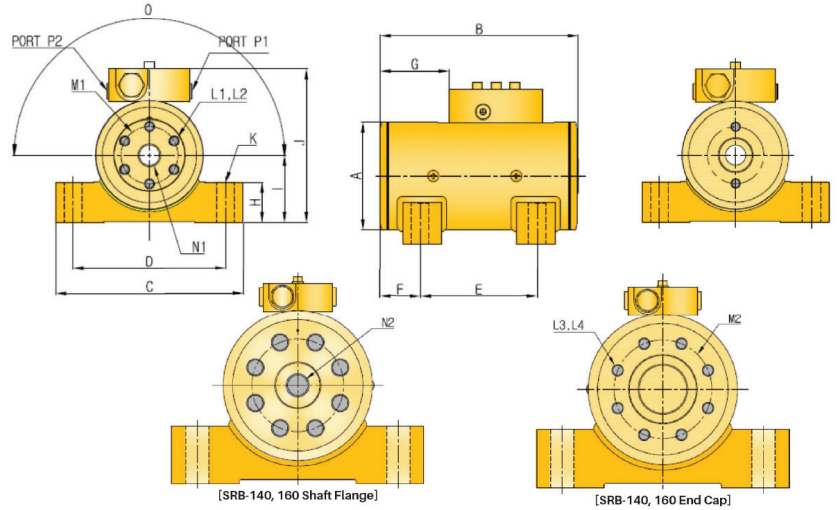
ITEMS		SRA-080	SRA-090	SRA-110	SRA-140	SRA-160
ØA	mm	80	93	113	140	160
ØB	mm	102	117	136	170	197
C	mm	140	143	156	184	224
D	mm	139	142	155	183	223
E	mm	27.5	31.5	32.5	39	66.5
F	mm	81	88.5	98.5	115	128.5
L1	Inch Metric	5/16-18 UNC M8 × 1.25	5/16-18 UNC M8 × 1.25	3/8-16 UNC M10 × 1.5	1/2-13 UNC M12 × 1.75	1/2-13 UNC M12 × 1.75
L2 Number of mounting holes	EA	8	8	12	12	12
L3	Inch Metric	5/16-18 UNC M8 × 1.25	5/16-18 UNC M8 × 1.25	3/8-16 UNC M10 × 1.5	1/2-13 UNC M12 × 1.75	1/2-13 UNC M12 × 1.75
L4 Number of mounting holes	EA	8	8	12	12	12
ØM1	mm	54	73	80	102	127
ØM2	mm	86	103	117	151	175
Rotation	degree	180 (Standard)	180 (Standard)	180 (Standard)	180 (Standard)	180 (Standard)
P1 Port	Inch	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF
P2 Port	Inch	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF

*Note) The above specifications are standard. Mounting, rotating angle and port size can be discussable.

SRB Series Specification & Dimension

SRB Series Specification		SRB-080	SRB-090	SRB-115	SRB-140	SRB-160
Torque						
Drive Torque	in - lbs @ 3,000 psi	4,900	9,100	16,500	27,200	39,000
	kg - m @ 210 bar	57	105	190	313	449
Holding Torque	in - lbs @ 3,000 psi	12,700	23,400	42,900	62,900	93,200
	kg - m @ 210 bar	146	270	494	725	1,074
Maximum Moment Capacity						
Straddle Mount	in - lbs	28,600	50,300	112,700	158,000	280,000
	kg - m	330	580	1,3000	1,820	3,226
Cantilever Mount	in - lbs	15,430	28,100	60,700	100,000	140,000
	kg - m	178	324	700	1,153	1,613
Radial Capacity						
Radial	lb	3,050	4,700	9,230	12,300	21,000
	kg	1,383	2,132	4,187	5,579	9,526
Axial Capacity						
Axial	lb	1,100	1,500	2,200	3,100	3,900
	kg	499	680	998	1,406	1,769
Displacement						
180 degree	in ³	10.3	14.6	34.4	56	75.5
	cm ³	168	239	564	917	1,237
Approximate Weight (Wet)						
with Valve (CBV)	lb	26.5	35.3	61.7	108.0	167.0
	kg	12	16.0	28	49.0	75.7

SRB



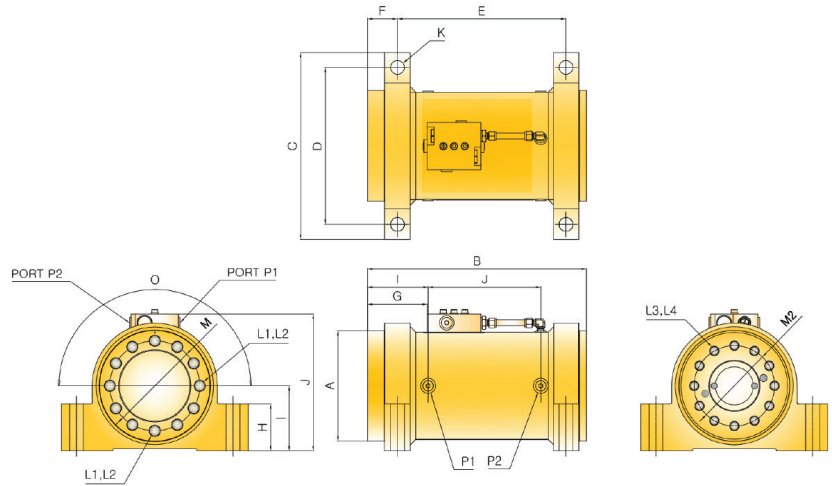
ITEMS		SRB-080	SRB-090	SRB-115	SRB-140	SRB-160
ØA	mm	102	114	140	165	197
B	mm	188	216	248	298	337
C	mm	178	190	248	279	330
D	mm	145	150	197	222	267
E	mm	111	140	152	184	216
F	mm	38	38	47	57	60
G	mm	63.5	82	105	143	168
H	mm	38	38	44.5	63.5	70
I	mm	63.5	76.2	86	108	121
J	mm	145	163	186	221	250
ØK	mm	M16	M21	M24	M24	1M30
L1	Inch Metric	3/8-16 UNC M10 × 1.5	3/8-16 UNC M10 × 1.5	1/2-13 UNC M12 × 1.75	3/4-10 UNC M20 × 2.5	3/4-10 UNC M20 × 2.5
L2 Number of mounting holes	EA	6	8	8	8	10
L3	Inch Metric	-	-	-	1/2-13 UNC M12 × 1.75	5/8-11 UNC M16 × 2
L4 Number of mounting holes	EA	-	-	-	8	10
ØM1	mm	54	65	85	102	121
ØM2	mm	-	-	-	108	121
ØN1	mm	19.0(M18)	25.0(M24)	25.0(M24)	-	-
ØN2	mm	-	-	-	1-8 UNC	1 1/4-7
Rotation	degree	180(Standard)	180(Standard)	180(Standard)	180(Standard)	180(Standard)
P1 Port	Inch	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF
P2 Port	Inch	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF	7/16-20 UNF

*Note) The above specifications are standard. Mounting, rotating angle and port size can be discussable.

SRC Series Specification & Dimension

SRC Series Specification		SRC-115	SRC-125	SRC-150	SRC-180
Torque					
Drive Torque	in - lbs @ 3,000 psi	17,000	25,000	42,000	65,000
	kg - m @ 210 bar	195	288	484	748
Holding Torque	in - lbs @ 3,000 psi	43,600	60,400	103,000	162,000
	kg - m @ 210 bar	494	695	1,186	1,866
Maximum Moment Capacity					
Straddle Mount	in - lbs	119,000	150,000	273,000	423,000
	kg - m	1,300	1,728	3,145	4,873
Cantilever Mount	in - lbs	45,900	62,500	105,000	162,500
	kg - m	700	720	1,210	1,872
Radial Capacity					
Radial	lb	4,000	5,000	8,000	11,000
	kg	1,814	2,268	3,629	4,990
Axial Capacity					
Axial	lb	3,000	4,000	6,000	8,000
	kg	1,361	1,814	2,722	3,629
Displacement					
180 degree	in ³	30.8	42.3	71.7	114
	cm ³	505	693	1,175	1,868
Approximate Weight (Wet)					
with Valve (CBV)	lb	76	104	157	238
	kg	34.5	47	71	108

SRC



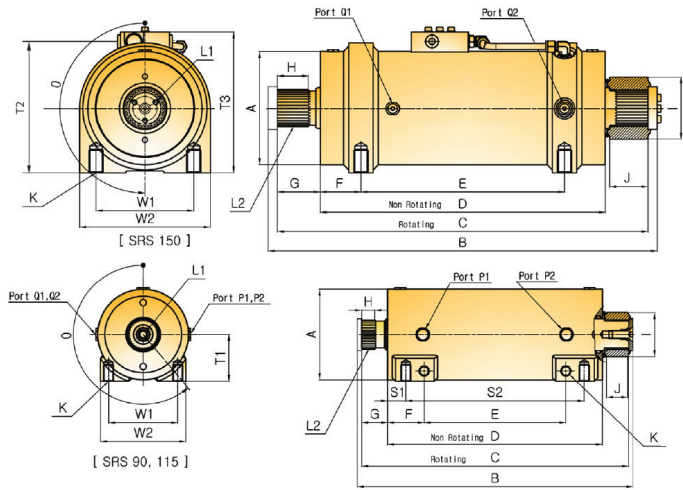
ITEMS		SRC-115	SRC-125	SRC-150	SRC-180
ØA	mm	139	155	183	209
B	mm	298	323	356	413
C	mm	222	268	310	350
D	mm	190	230	260	300
E	mm	229	248	281	314
F	mm	38.1	44	50	57
G	mm	143	81	99.5	108
H	mm	48	70	78	88
I	mm	80	95	101	122
J	mm	179	201	187	259
ØK	mm	M16	M20	M22	M24
L1	Inch Metric	1/2-13 UNC M12 × 1.75	5/8-11 UNC M16 × 2.0	3/4-10 UNC M20 × 2.5	7/8-9 UNC-2B M22 × 2.5
L2 Number of mounting holes	EA	12	12	12	12
L3	Inch Metric	3/8-16 UNC M10 × 1.5	1/2-13 UNC M12 × 1.75	5/8-11 UNC M16 × 2.0	3/4-10 UNC-2B M20 × 2.5
L4 Number of mounting holes	EA	12	12	12	12
ØM1	mm	115	125	150	170
ØM2	mm	108	120	133	150
Rotation	degree	180(Standard)	180(Standard)	180(Standard)	180(Standard)
P1 Port	Inch	7/16-20 UNF	7/16-20 UNF	9/16-18 UNF	9/16-18 UNF
P2 Port	Inch	7/16-20 UNF	7/16-20 UNF	9/16-18 UNF	9/16-18 UNF
Q1 Port	Inch	7/16-20 UNF	7/16-20 UNF	9/16-18 UNF	9/16-18 UNF
Q2 Port	Inch	7/16-20 UNF	7/16-20 UNF	9/16-18 UNF	9/16-18 UNF

*Note) The above specifications are standard. Mounting, rotating angle and port size can be discussable.

SRS Series Specification & Dimension

SRS Series Specification		SRS-090	SRS-115	SRS-150
Torque				
Drive Torque	in - lbs @ 3,000 psi	15,000	27,000	60,000
	kg - m @ 210 bar	173	311	691
Holding Torque	in - lbs @ 3,000 psi	30,100	54,200	127,000
	kg - m @ 210 bar	347	622	1,463
Maximum Moment Capacity				
Straddle Mount	in - lbs	22,500	40,500	90,000
	kg - m	259	467	1,037
Standard Rotation (degree)		220°	220°	220°
Radial Capacity				
Radial	lb	2,520	4,500	8,600
	kg	1,143	2,041	3,901
Axial Capacity				
Axial	lb	2,520	4,500	8,600
	kg	1,143	2,041	3,901
Displacement				
180 degree	in ³	25.2	40	93.6
	cm ³	413	656	1,534
Approximate Weight (Wet)				
with Valve (CBV)	lb	66	80.5	179
	kg	30	36.5	81

SRS



ITEMS		SRS-090	SRS-115	SRS-150
ØA	mm	116	142	178
B	mm	431	431	608
C	mm	417	417	579.5
D	mm	329	335	444.5
E	mm	215	221	371.5
F	mm	57	57	63.5
G	mm	44.5	41	67.5
H	mm	30	21	49
I	mm	69.3	69.3	98.3
J	mm	36	33	60.5
ØK	mm	5/8-11 UNC	5/8-11 UNC	7/8-9 UNC
L1	Inch Metric	1/2-13 UNC M12 × 1.75	3/4-10 UNC M20 × 2.5	5/16-18 UNC M8 × 1.25
L2 Shaft Splines both ends	EA	ANSI B92.1 24T	ANSI B92.1 28T	ANSI B92.1 36T
S1	mm	28.5	28.5	-
S2	mm	272	278	-
T1	mm	58	73.2	101.5
T2	mm	-	-	208
T3	mm	-	-	224.5
W1	mm	85	108	152.4
W2	mm	110	133	204
Rotation	degree	220(Standard)	220(Standard)	220(Standard)
P1 Port	Inch	7/16-20 UNF	9/16-18 UNF	9/16-18 UNF
P2 Port	Inch	7/16-20 UNF	9/16-18 UNF	9/16-18 UNF
Q1 Port	Inch	7/16-20 UNF	9/16-18 UNF	7/16-20 UNF
Q2 Port	Inch	7/16-20 UNF	9/16-18 UNF	7/16-20 UNF

*Note) The above specifications are standard. Mounting, rotating angle and port size can be discussable.

Model Code Reference Guide for SRA, SRB, SRC, SRS

SRA - 115 - 180 - CN - FT - SH - S - I

A

B

C

D

E

F

G

H

Meaning of Symbol		Details of Description			
A	Rotator Series	SRA	SRB	SRC	SRS
B	Cylinder Size	80 90 110 140 160 <i>others Discussable</i>	80 90 115 140 160 <i>others Discussable</i>	115 125 150 180 <i>others Discussable</i>	90 115 150 <i>others Discussable</i>
C	Rotating Angle	180 : 180 degree 360 : 360 degree <i>others Discussable</i>	180 : 180 degree <i>others Discussable</i>	180 : 180 degree 360 : 360 degree <i>others Discussable</i>	180 : 180 degree 220 : 220 degree <i>others Discussable</i>
D	Counter Balance Valve	CN : 7/16-20-UNF-2B ISO 11926-1/SAEJ1926-1/UNF CG : G ¼ ISO 1179-1/BSPP CO : Without			
E	Mounting Type	RF : Rear Flange Mounting	FT : Foot Mounting CL : Clevis Mounting <i>others Discussable</i> RF : Rear Flange Mounting FF : Front Flange Mounting	FT : Foot Mounting FF : Front Flange Mounting	FT : Foot Mounting
F	Shaft & End cap Configuration	SH : Mounting Holes in Shaft Flange only	SH : Mounting Holes in Shaft Flange with through-hole for tie rod SE : Mounting Holes in Shaft Flange and End Cap Flange	SH : Mounting Holes in Shaft Flange only SE : Mounting Holes in Shaft Flange and End Cap Flange	DS : Dual Splines DA : Dual Adapters SA : Single Adapters <i>others Discussable</i>
G	Seals	N : Normal Seals & Bearings S : Special Seals & Bearings			
H	Measurement System	I : Inch System M : Metric System			



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Helical Gear Type

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provides stability
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