

Features

- Scotch Yoke quarter turn (90°) rotation
- Double acting and spring return models
- Easily adjustable with external adjustment mechanism
- Direct valve mounting per ISO5211
- Visual valve position indicator
- Extruded aluminum body with 35 micron hard anodizing
- IP66 & IP68 weatherproof actuator
- Spring return models use pre-compressed spring cartridges
- Female double square output drive
- Namur mounting pad for direct mount solenoid valves
- Standard VDI/VDE 3845 mounting for top mount accessories

Applications

Valworx scotch yoke actuators are typically used to operate quarter turn ball valves, butterfly valves and plug valves. They can also be applied virtually anywhere a 90 degree rotation is required such as dampers. Quick and easy to install with standard ISO5211/DIN 3337 mounting dimensions and a double square female output drive. The operating temperature range of the actuator is -4 to 167°F (-20 to 75°C).

Operation

Double acting actuators require air pressure to open and air pressure to close. Spring return actuators require air pressure to open and utilize springs to close for failsafe operation. Typically 4-way pilot valves are used to control a double acting actuator and 3-way pilot valves for spring return models. Pilot air should be filtered, dry or lubricated. Output drive rotates counter-clockwise to open when viewed from top

Construction

Body	ASTM 6063 extruded aluminium, 35 micron anodizing
End Covers	ASTM B179 die-cast aluminium, 5 micron anodized,
Drive Shaft	Nickel plated steel alloy
Crank	Steel alloy
Seals	NBR
Springs (spring return model)	Pre-compressed cartridges, 60-80 micron polyester coating
Pistons	Anodized aluminium alloy
Pilot Air Connection	1/4" NPT plus standard Namur solenoid mounting pad
Fasteners	304 stainless steel



Description

Valworx heavy duty scotch yoke actuator features hard anodized aluminum enclosure, type IP66 & IP68. Actuators are available in double acting and spring return models. They meet international ISO 5211 standards for easy valve mounting and replacement. Position confirmation switches can be easily mounted to the actuator with the standard VDI/VDE-3845 top mounting pad. Rotation adjustment +5°-10° in the 90° position.

Options

- Direct mount solenoid valves
- Monitor/Position confirmation limit switches

Approvals

- CE Declaration of conformity
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting

Construction Features

Heavy duty rugged scotch yoke design

Anodized aluminum alloy covers with 40 micron polyester powder coating

Spring return models use multiple pre-compressed spring cartridges with polyester coating

Stainless steel fasteners

Visual valve position indicator

Standard Namur top mounting for optional switches and positioners

Extruded aluminum body with 35 micron hard anodizing

NPT pilot air ports and additional Namur VDI/VDE-3845 solenoid mounting pad

International standard ISO5211 valve mounting pad



Pressure-Temperature

Pilot Pressure: 120 PSI maximum (8 Bar)

Pilot Media: Filtered, dry or lubricated compressed air

Pressure Range: 3-8 Bar

Recommended Pressure: 4-6 Bar

Temperature Rating: -4 to 167°F



Typical Applications



Specifications (English Units)

Stock Number	Size	Nominal Torque @ 72 PSI * (inch lbs)	Rotation	Maximum Pressure (PSI)	Cycle Time /90° (seconds)		Ports (NPT)	Air Volume per cycle (standard cubic inches)	Valve Mounting ISO5211	Output Drive (mm)
					Open	Close				
PNEUMATIC ACTUATORS: SPRING RETURN										
532150	SR50	141	90°	120	0.3	0.5	1/4	85.4	F03/F05/07	11
532165	SR65	389	90°	120	0.4	0.6	1/4	128.2	F05/F07	14
532180	SR80	673	90°	120	0.6	0.9	1/4	256.3	F07	17
532190	SR100	1009	90°	120	0.7	1.2	1/4	512.6	F07/F10	22
530196	SR125	3053	90°	120	1.0	2.3	1/4	1067.9	F07/F10	22
530197	SR140	4460	90°	120	1.3	3.1	1/4	1665.9	F10/F12	27
PNEUMATIC ACTUATORS: DOUBLE ACTING										
532050	DA50	354	90°	120	0.3	0.3	1/4	170.9	F03/F05/F07	11
532065	DA65	752	90°	120	0.4	0.4	1/4	256.3	F05/F07	14
532080	DA80	1469	90°	120	0.6	0.6	1/4	469.9	F07	17
532090	DA100	2690	90°	120	0.8	0.8	1/4	982.5	F07/F10	22
532096	DA125	5593	90°	120	1.2	1.3	1/4	2007.7	F07/F10	22
532097	DA140	8576	90°	120	1.6	1.6	1/4	3161.0	F10/F12	27

* Reference torque charts for detailed specifications

Specifications (Metric Units)

Stock Number	Size	Nominal Torque @ 5 Bar * (NM)	Rotation	Maximum Pressure (PSI)	Cycle Time /90° (seconds)		Ports (NPT)	Air Volume per cycle (standard liters)	Valve Mounting ISO5211	Output Drive (mm)
					Open	Close				
PNEUMATIC ACTUATORS: SPRING RETURN										
532150	SR50	16	90°	8	0.3	0.5	1/4	1.4	F03/F05/07	11
532165	SR65	44	90°	8	0.4	0.6	1/4	2.1	F05/F07	14
532180	SR80	76	90°	8	0.6	0.9	1/4	4.2	F07	17
532190	SR100	114	90°	8	0.7	1.2	1/4	8.4	F07/F10	22
530196	SR125	345	90°	8	1.0	2.3	1/4	17.5	F07/F10	22
530197	SR140	504	90°	8	1.3	3.1	1/4	27.3	F10/F12	27
PNEUMATIC ACTUATORS: DOUBLE ACTING										
532050	DA50	40	90°	8	0.3	0.3	1/4	2.8	F03/F05/F07	11
532065	DA65	85	90°	8	0.4	0.4	1/4	4.2	F05/F07	14
532080	DA80	166	90°	8	0.6	0.6	1/4	7.7	F07	17
532090	DA100	304	90°	8	0.8	0.8	1/4	16.1	F07/F10	22
532096	DA125	632	90°	8	1.2	1.3	1/4	32.9	F07/F10	22
532097	DA140	969	90°	8	1.6	1.6	1/4	51.8	F10/F12	27

* Reference torque charts for detailed specifications

Double Acting Torque Charts

Double Acting (DA) Torque Ratings (inch lbs) English Units

STOCK NUMBER	SIZE	AIR SUPPLY (PSI)							
		72		87		100		116	
		0°	90°	0°	90°	0°	90°	0°	90°
532050	DA50	354	345	424	415	477	469	539	539
532065	DA65	752	761	885	911	1017	1062	1150	1212
532080	DA80	1469	1469	1770	1770	2017	2062	2310	2354
532090	DA100	2690	2814	3239	3407	3699	3956	4159	4496
532096	DA125	4708	5717	6602	6850	7567	7903	8496	8868
532097	DA140	8576	7779	10258	9240	11859	10682	13205	12107

Double Acting (DA) Torque Ratings (Nm) Metric Units

STOCK NUMBER	SIZE	AIR SUPPLY (BAR)							
		5		6		7		8	
		0°	90°	0°	90°	0°	90°	0°	90°
532050	DA50	40	39	48	47	54	53	61	61
532065	DA65	85	86	100	103	115	120	130	137
532080	DA80	166	166	200	200	228	233	261	266
532090	DA100	304	318	366	385	418	447	470	508
532096	DA125	532	646	746	774	855	893	960	1002
532097	DA140	969	879	1159	1040	1340	1207	1492	1368

Double Acting Actuator Weights

	DA Actuator Weights					
Size	50	65	80	90	125	140
Lbs.	3.1	5.1	8.6	14.7	24.9	36.6
Kg.	1.4	2.3	3.9	6.7	11.3	16.4

Spring Return Torque Charts

Spring Return (SR) Torque Ratings (inch lbs) English Units

STOCK NUMBER	SIZE	AIR SUPPLY (PSI)								SPRINGS TORQUE	
		72		87		100		116			
		0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
532150	SR50	386	235	483	400	593	566	689	689	351	235
532165	SR65	841	598	1062	937	1267	1267	1475	1595	685	634
532180	SR80	1653	1240	2136	1861	2618	2480	3031	3169	1240	1102
532190	SR100	2894	1929	3858	3031	1031	4685	1277	5649	2205	1653
530196	SR125	5030	3101	6821	5581	2258	8543	10334	10334	6476	5925
530197	SR140	7303	3652	10058	6752	12814	9783	15570	12814	8956	8337
0° = closed position, extended springs						90° = open position, compressed springs					

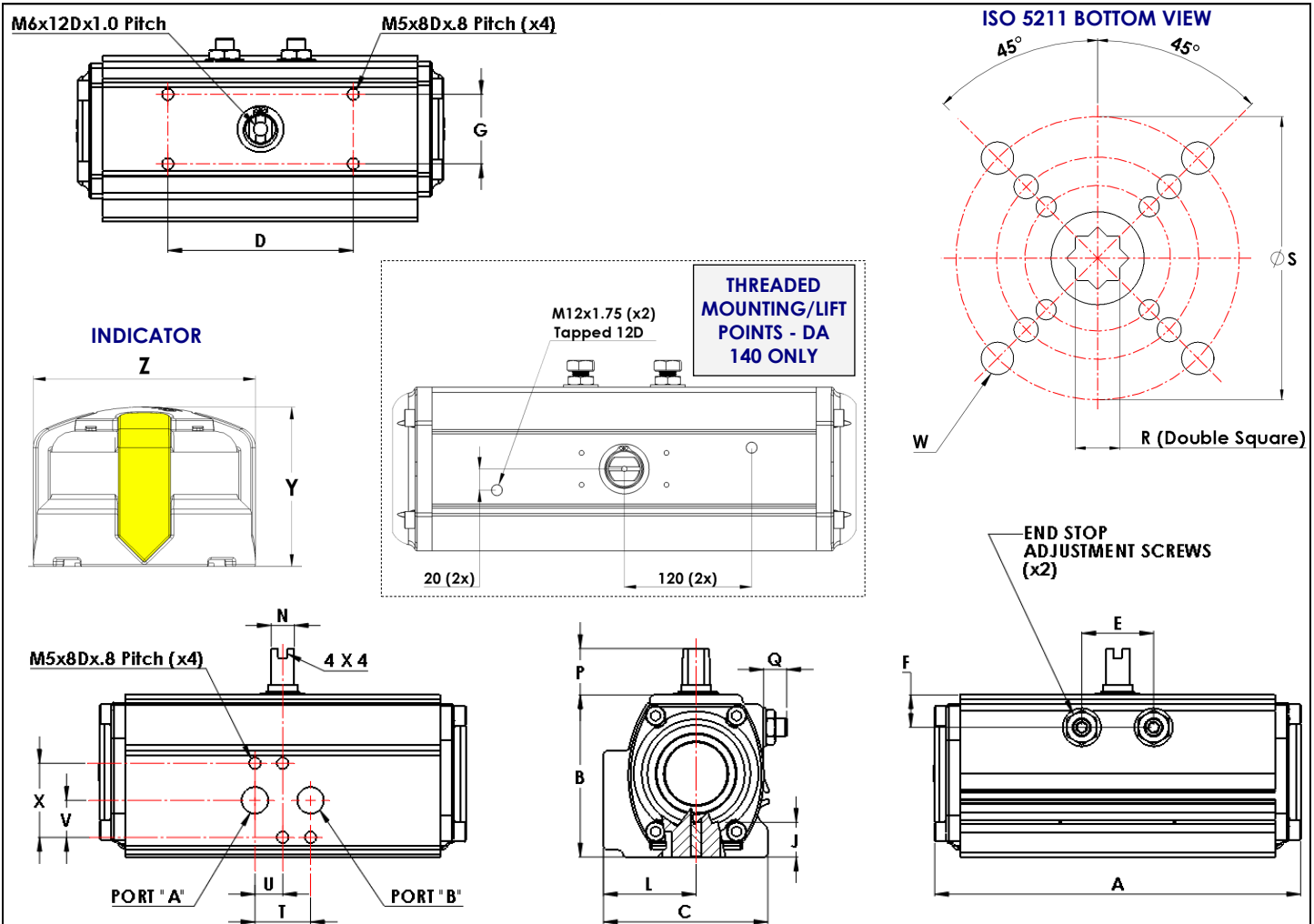
Spring Return (SR) Torque Ratings (Nm) Metric Units

STOCK NUMBER	SIZE	AIR SUPPLY (BAR)								SPRINGS TORQUE	
		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
532150	SR50	27	16	33	28	41	39	48	48	24	16
532165	SR65	58	41	73	65	87	87	102	110	47	44
532180	SR80	114	86	147	128	181	171	209	219	86	76
532190	SR100	200	133	266	209	323	285	390	361	152	114
530196	SR125	347	214	470	385	589	561	713	713	447	409
530197	SR140	504	252	694	466	884	675	1074	884	618	575
0° = closed position, extended springs						90° = open position, compressed springs					

Spring Return Actuator Weights

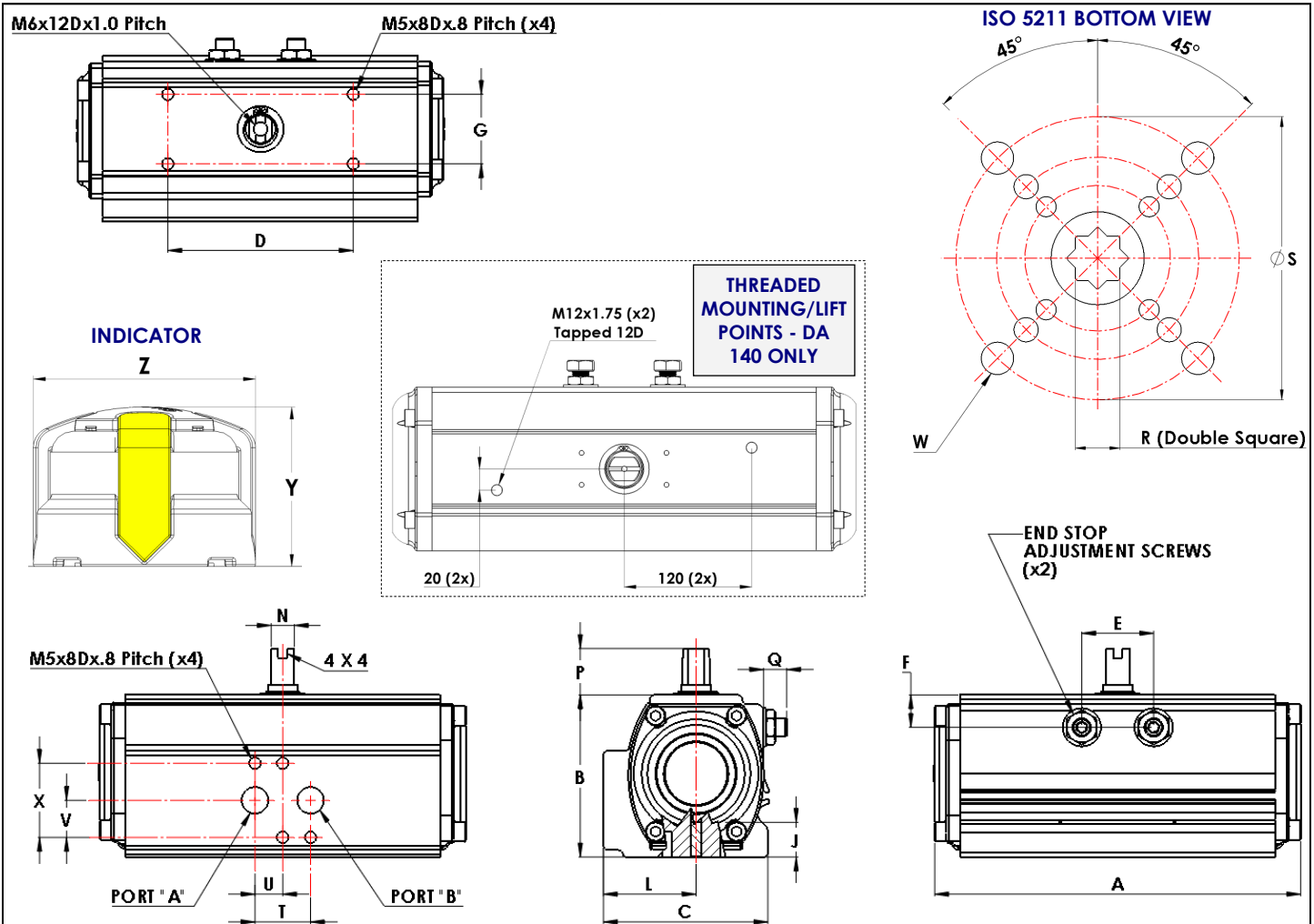
	SR Actuator Weights					
Size	50	65	80	90	125	140
Lbs.	3.5	6.6	11.7	20.9	38.8	52.7
Kg.	1.6	3.0	5.3	9.5	17.6	23.9

Double Acting (DA) Dimensions Sizes 50-140 (inches)



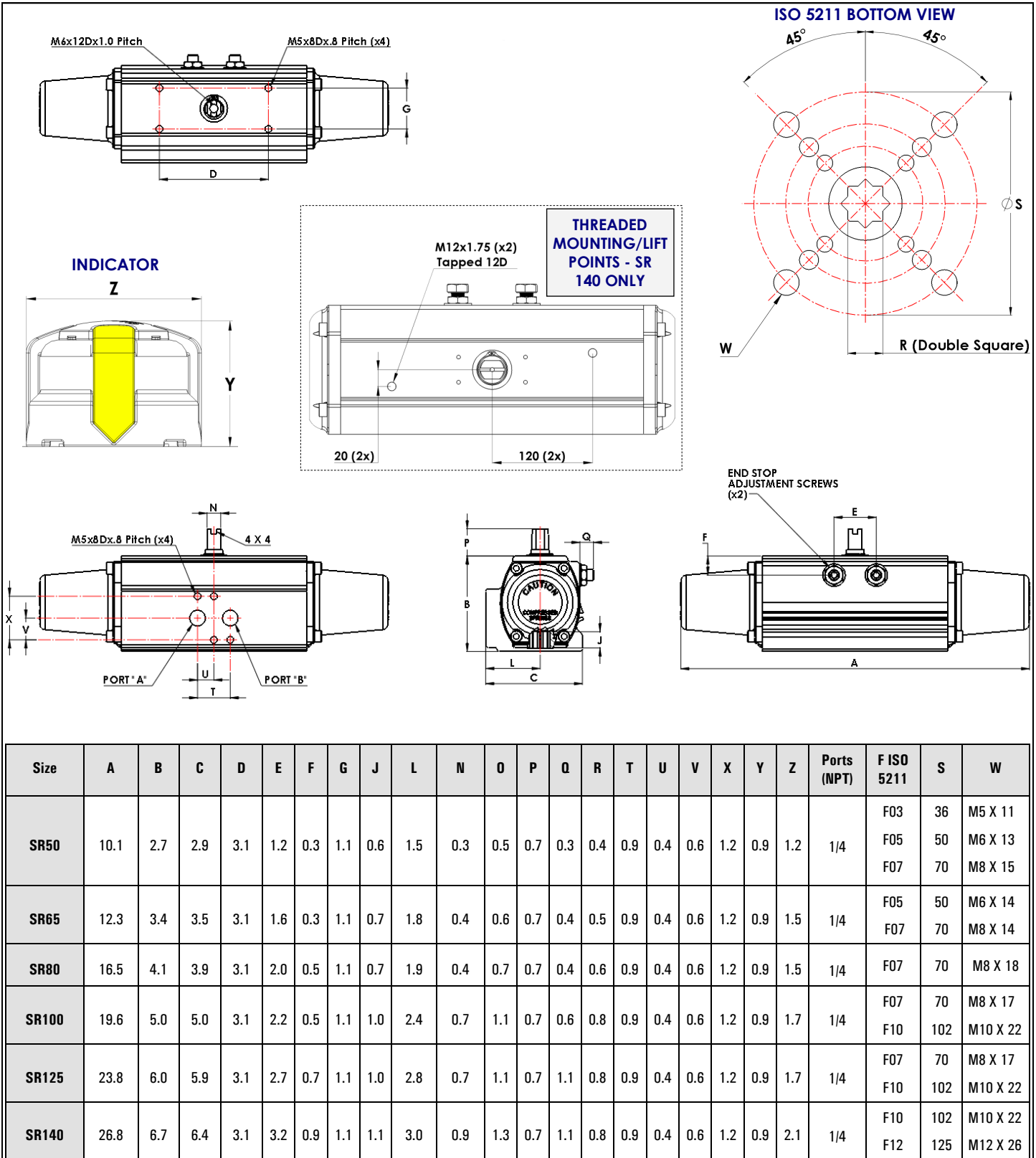
Size	A	B	C	D	E	F	G	J	L	N	O	P	Q	R	T	U	V	X	Y	Z	Ports (NPT)	F ISO 5211	S	W
DA50	6.3	2.7	2.9	3.1	1.2	0.3	1.1	0.6	1.5	0.3	0.5	0.7	0.3	0.4	0.9	0.4	0.6	1.2	0.9	1.2	1/4	F03	36	M5 X 11
																					F05	50	M6 X 13	
																					F07	70	M8 X 15	
DA65	7.9	3.4	3.5	3.1	1.6	0.3	1.1	0.7	1.8	0.4	0.6	0.7	0.4	0.5	0.9	0.4	0.6	1.2	0.9	1.5	1/4	F05	50	M6 X 14
																					F07	70	M8 X 14	
DA80	9.9	4.1	3.9	3.1	2.0	0.5	1.1	0.7	1.9	0.4	0.7	0.7	0.4	0.6	0.9	0.4	0.6	1.2	0.9	1.5	1/4	F07	70	M8 X 18
DA100	12.2	5.0	5.0	3.1	2.2	0.5	1.1	1.0	2.4	0.7	1.1	0.7	0.6	0.8	0.9	0.4	0.6	1.2	0.9	1.7	1/4	F07	70	M8 X 17
DA125	15.3	6.0	5.9	3.1	2.7	0.7	1.1	1.0	2.8	0.7	1.1	0.7	1.1	0.8	0.9	0.4	0.6	1.2	0.9	1.7	1/4	F10	102	M10 X 22
																					F07	70	M8 X 17	
DA140	16.9	6.7	6.4	3.1	3.2	0.9	1.1	1.1	3.0	0.9	1.3	0.7	1.1	0.8	0.9	0.4	0.6	1.2	0.9	2.1	1/4	F10	102	M10 X 22
																					F12	125	M12 X 26	

Double Acting (DA) Dimensions Sizes 50-140 (mm)

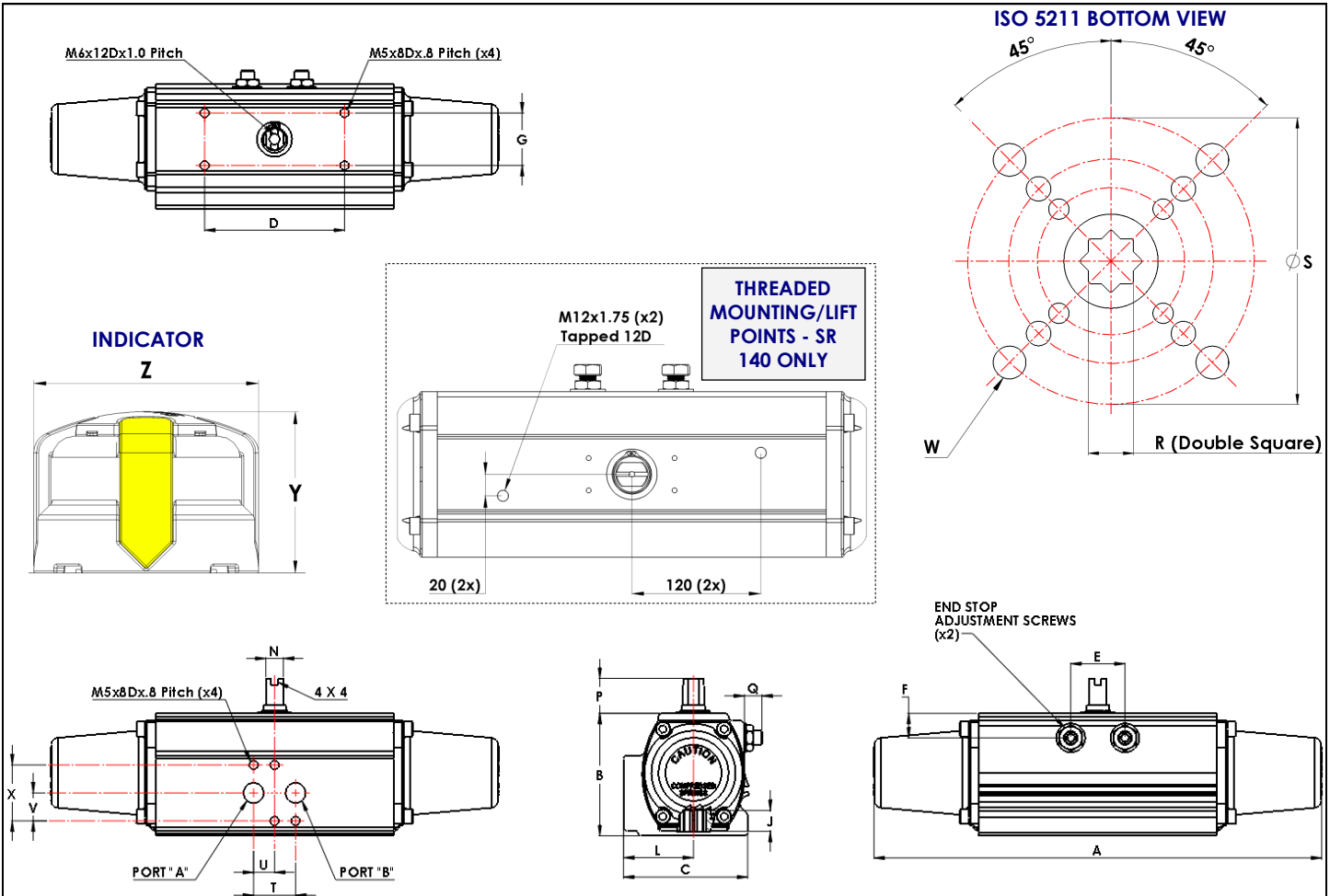


Size	A	B	C	D	E	F	G	J	L	N	O	P	Q	R	T	U	V	X	Y	Z	Ports (NPT)	F ISO 5211	S	W
DA50	162	70	75	80	32	10	30	17	40	9	13	20	9	11	24	12	16	32	24	32	1/4	F03	36	M5 X 11
																					F05	50	M6 X 13	
																					F07	70	M8 X 15	
DA65	202	87	89	80	42	10	30	19	46	12	16	20	11	14	24	12	16	32	24	40	1/4	F05	50	M6 X 14
																					F07	70	M8 X 14	
DA80	253	106	101	80	51	13	30	20	50	12	20	20	12	17	24	12	16	32	24	40	1/4	F07	70	M8 X 18
DA100	311	128	129	80	56	14	30	26	62	18	28	20	17	22	24	12	16	32	24	45	1/4	F07	70	M8 X 17
DA125	390	154	151	80	70	20	30	26	72	19	28	20	28	22	24	12	16	32	24	45	1/4	F10	102	M10 X 22
																					F07	70	M8 X 17	
DA140	431	172	164	80	82	24	30	30	77	24	35	20	30	22	24	12	16	32	24	55	1/4	F10	102	M10 X 22
																						F12	125	M12 X 26

Spring Return (SR) Dimensions Sizes 50-140 (inches)



Spring Return (SR) Dimensions Sizes 50-140 (mm)



Size	A	B	C	D	E	F	G	J	L	N	O	P	Q	R	T	U	V	X	Y	Z	Ports (NPT)	F ISO 5211	S	W
SR50	257	70	75	80	32	10	30	17	40	9	13	20	9	11	24	12	16	32	24	32	1/4	F03	36	M5 X 11
																					F05	50	M6 X 13	
																					F07	70	M8 X 15	
SR65	314	87	89	80	42	10	30	19	46	12	16	20	11	14	24	12	16	32	24	40	1/4	F05	50	M6 X 14
																					F07	70	M8 X 14	
SR80	421	106	101	80	51	13	30	20	50	12	20	20	12	17	24	12	16	32	24	40	1/4	F07	70	M8 X 18
SR100	500	128	129	80	56	14	30	26	62	18	28	20	17	22	24	12	16	32	24	45	1/4	F07	70	M8 X 17
																					F10	102	M10 X 22	
SR125	606	154	151	80	70	20	30	26	72	19	28	20	28	22	24	12	16	32	24	45	1/4	F07	70	M8 X 17
																					F10	102	M10 X 22	
SR140	682	172	164	80	82	24	30	30	77	24	35	20	30	22	24	12	16	32	24	55	1/4	F10	102	M10 X 22
																					F12	125	M12 X 26	