

Features

- Corrosion resistant 316 stainless steel body, pistons & rack
- Electro-polished externals
- Rack and pinion quarter turn (90°) rotation
- Double acting and spring return models
- Pre-lubricated and tested to minimum 1 million operations
- Direct valve mounting per ISO5211
- Visual valve position indicator
- NEMA 4/4X (IP66) enclosure for washdown applications
- Externally adjustable stroke
- Female double square output drive
- Namur mounting pad for direct mount solenoid valves
- Standard VDI/VDE 3845 mounting for top mount accessories
- Coated springs for additional corrosion resistance (for spring return models)

Applications

Valworx stainless steel air 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 176° F.

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 of actuator.

Construction

Body	316 Stainless steel
End Covers	316 Stainless steel
Pinion	316 Stainless steel
Position Indicator	Plastic
Seals	NBR
Springs (spring return model)	Spring steel, coated
Pistons	316 Stainless steel
Pilot Air Connection	1/4" NPT plus standard Namur solenoid mounting pad
Fasteners	ASTM 304 Stainless Steel



Description

Valworx stainless steel actuators are suitable for applications in corrosive environments and/or applications requiring a high degree of sanitation. Heavy duty quarter turn air actuators are pre-lubricated and tested to a minimum one million operations. 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 and valve positioners can be easily mounted to the actuator with the standard VDI/VDE-3845 top mounting pad. Rotation adjustment $\pm 5\%$ in both open and closed position. Visual position indicator shows the open and closed position.

Approvals

- CE Declaration of conformity
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting

Options Accessories

DMS: Direct Mount Solenoid
- pilot to electrically operate the ball valve
VPS: Valve Position Switches
- limit switches to confirm valve position
PVP: Pneumatic Valve Positioner
- position the ball with 4-20mA
HTB: High Temperature Bracket

Construction Features

316 stainless internal components

Heavy duty rugged rack and pinion design

316 stainless end caps and body

Spring return models use multiple pre-compressed spring steel coated cartridges

Stainless steel fasteners

Visual valve position indicator

Standard Namur top mounting for optional switches and positioners

Electro-polished external surfaces

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 (8.3 Bar)

Operating Pressure: 80-120 PSI (5.5-8.3 Bar)

Minimum Operating Pressure: 30 PSI (2 Bar)

Pilot Media: Filtered, dry or lubricated compressed air

Temperature Rating: -4 to 176° F (-20 to 80° C)

Stroke Adjustment: Pinion stops allow $\pm 5^\circ$ adjustment at 0° and 90°

Life cycle: > 1 Million cycles

Specifications (English Units)

Stock Number	Size	Nominal Torque @ 80 PSI * (inch lbs)	Rotation	Maximum Pressure (PSI)	Cycle Time /90° (seconds) Open Close		Ports (NPT)	Air Volume /90° (cubic inches)	Valve Mounting ISO5211	Output Drive (mm)
PNEUMATIC ACTUATORS: SPRING RETURN										
576152	SR52	85.9	90°	120	2.6	0.4	1/4	12.2	F04/F05	11
576163	SR63	177.0	90°	120	2.7	0.4	1/4	12.2	F05/F07	14
576183	SR83	357.6	90°	120	2.8	0.6	1/4	24.4	F05/F07	17
576190	SR105	791.3	90°	120	3.3	0.8	1/4	54.9	F07/F10	22
576196	SR125	1106.3	90°	120	4.4	1.1	1/4	97.6	F07/F10	22
PNEUMATIC ACTUATORS: DOUBLE ACTING										
576052	DA52	177.0	90°	120	0.6	0.5	1/4	12.2	F04/F05	11
576063	DA63	323.1	90°	120	0.7	0.6	1/4	12.2	F05/F07	14
576083	DA83	693.9	90°	120	0.8	0.7	1/4	24.4	F05/F07	17
576090	DA105	1463.0	90°	120	1.4	1.3	1/4	54.9	F07/F10	22
576096	DA125	2219.8	90°	120	2.4	1.8	1/4	97.6	F07/F10	22

* Reference torque charts for detailed specifications

Specifications (Metric Units)

Stock Number	Size	Nominal Torque @ 5 Bar*	Rotation	Maximum Pressure	Cycle Time /90° (seconds)		Ports (NPT)	Air Volume /90°	Valve Mounting ISO5211	Output Drive
PNEUMATIC ACTUATORS: SPRING RETURN										
576152	SR52	9.7	90°	8	2.6	0.4	1/4	0.2	F04/F05	11
576163	SR63	20.0	90°	8	2.7	0.4	1/4	0.2	F05/F07	14
576183	SR83	40.4	90°	8	2.8	0.6	1/4	0.4	F05/F07	17
576190	SR105	89.4	90°	8	3.3	0.8	1/4	0.9	F07/F10	22
576196	SR125	125.0	90°	8	4.4	1.1	1/4	1.6	F07/F10	22
PNEUMATIC ACTUATORS: DOUBLE ACTING										
576052	DA52	20.0	90°	8	0.6	0.5	1/4	0.2	F04/F05	11
576063	DA63	36.5	90°	8	0.7	0.6	1/4	0.2	F05/F07	14
576083	DA83	78.4	90°	8	0.8	0.7	1/4	0.4	F05/F07	17
576090	DA105	165.3	90°	8	1.4	1.3	1/4	0.9	F07/F10	22
576096	DA125	250.8	90°	8	2.4	1.8	1/4	1.6	F07/F10	22

* 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)						
		30	45	60	75	90	105	120
576052	DA52	73.2	109.9	146.5	183.1	218.8	255.4	292.1
576063	DA63	133.7	200.5	267.3	334.2	401.0	467.8	534.7
576083	DA83	287.5	430.3	574.0	717.8	861.5	1004.3	1148.1
576090	DA105	605.2	908.2	1210.3	1513.4	1816.4	2118.5	2421.5
576096	DA125	918.3	1377.9	1836.5	2296.1	2755.7	3214.4	3674.0

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

STOCK NUMBER	SIZE	AIR SUPPLY (BAR)						
		2	3	4	5	6	7	8
576052	DA52	8.0	12.0	16.0	20.0	23.9	27.9	31.9
576063	DA63	14.6	21.9	29.2	36.5	43.8	51.1	58.4
576083	DA83	31.4	47.0	62.7	78.4	94.1	109.7	125.4
576090	DA105	66.1	99.2	132.2	165.3	198.4	231.4	264.5
576096	DA125	100.3	150.5	200.6	250.8	301.0	351.1	401.3

Double Acting Actuator Weights

	DA Actuator Weights				
Size	52	63	83	105	125
Lbs.	5.3	8.4	14.3	22.0	29.8
Kg.	2.4	3.8	6.5	10.0	13.5

Spring Return Torque Charts

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

STOCK NUMBER	SIZE	AIR SUPPLY (PSI)								SPRINGS	
		75		90		105		120		TORQUE	
		0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
576152	SR52	89.0	38.0	126.0	83.0	163.0	112.0	200.0	157.0	131.0	90.0
576163	SR63	183.0	104.0	250.0	170.0	317.0	237.0	384.0	305.0	221.0	145.0
576183	SR83	370.0	212.0	514.0	356.0	656.0	499.0	800.0	643.0	489.0	643.0
576190	SR105	818.0	435.0	1122.0	738.0	1424.0	1040.0	1727.0	1343.0	1045.0	672.0
576196	SR125	1144.0	577.0	1611.0	1035.0	2069.0	1492.0	2527.0	1950.0	1664.0	1106.0
0° = closed position, extended springs						90° = open position, compressed springs					

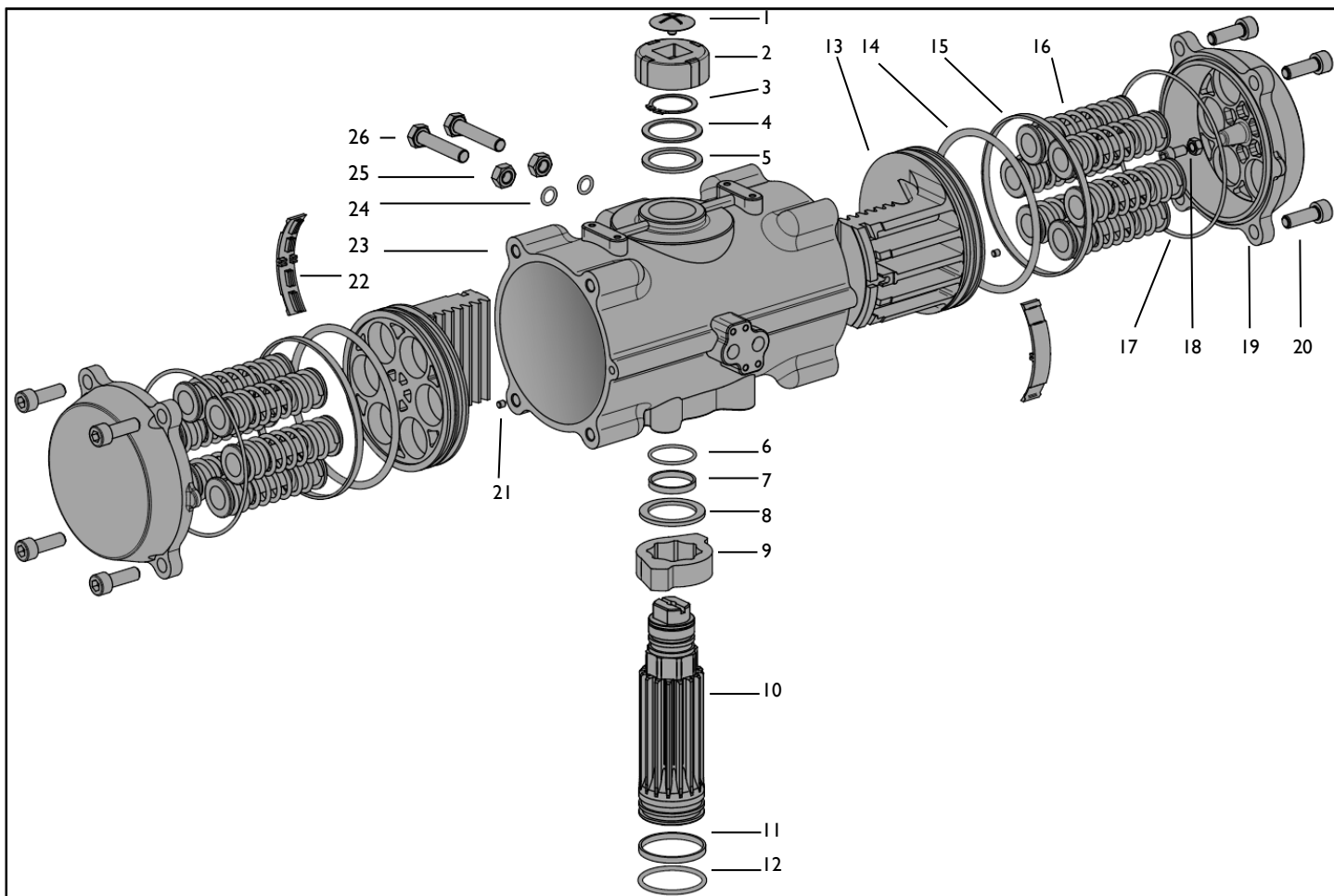
Spring Return (SR) Torque Ratings (Nm) Metric Units

STOCK NUMBER	SIZE	AIR SUPPLY (BAR)								SPRINGS TORQUE	
		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
576152	SR52	9.7	4.2	13.8	9.1	17.8	12.2	21.8	17.1	14.8	10.2
576163	SR63	20.0	11.4	27.3	18.6	34.6	25.9	41.9	33.3	25.0	16.4
576183	SR83	40.4	23.2	56.1	38.9	71.7	54.5	87.4	70.2	55.2	38.0
576190	SR105	89.4	47.5	122.5	80.6	155.5	113.6	188.6	146.7	118.1	75.9
576196	SR125	125.0	63.0	176.0	113.0	226.0	163.0	276.0	213.2	188.0	125.0
0° = closed position, extended springs						90° = open position, compressed springs					

Spring Return Actuator Weights

	SR Actuator Weights				
Size	52	63	83	105	125
Lbs.	5.5	8.8	14.9	23.8	30.9
Kg.	2.5	4.0	6.8	10.8	14.0

Exploded View

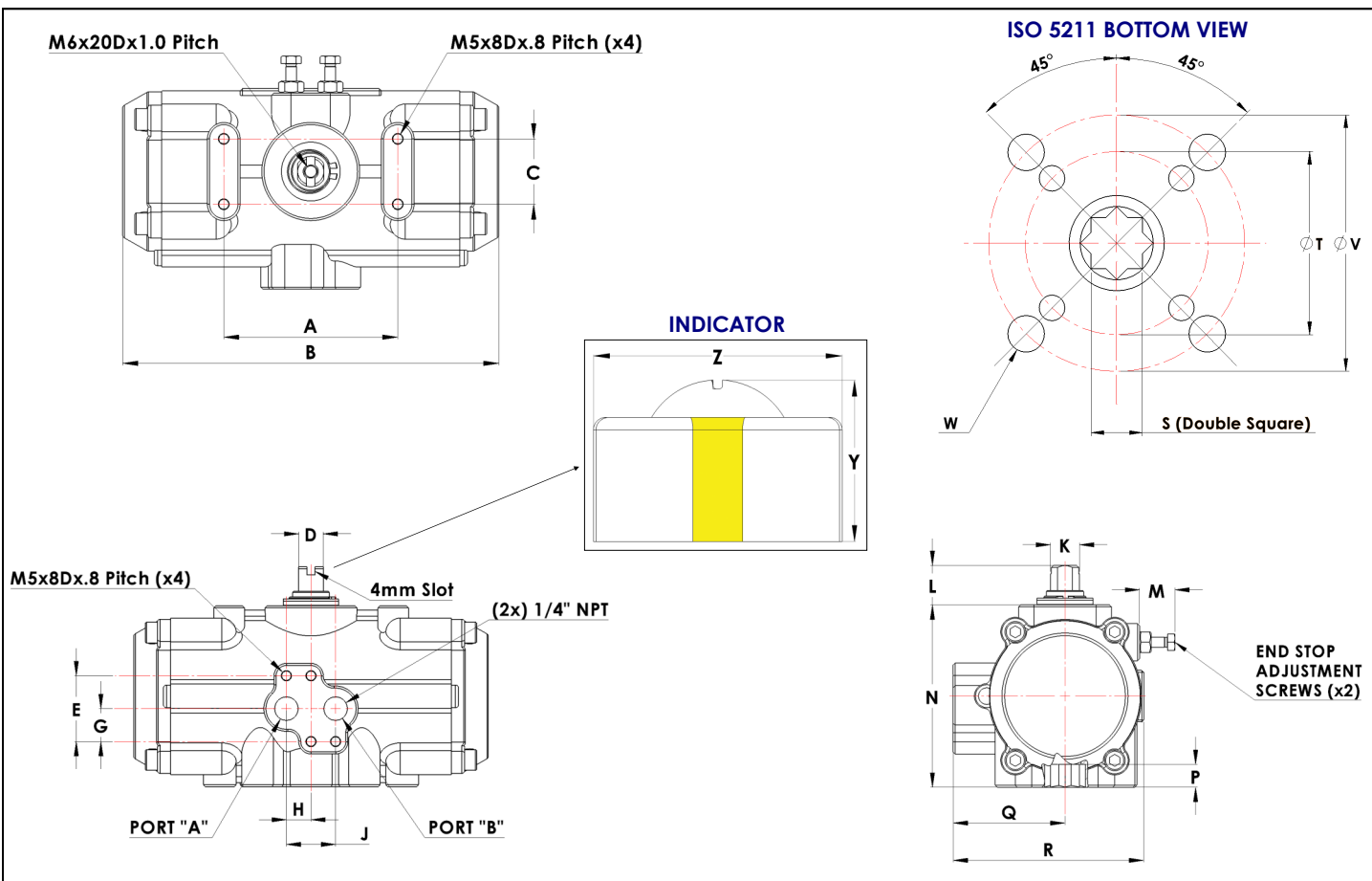


No.	Part Description	Qty	Material
1	Indicator Screw	1	Plastic
2	Indicator	1	Plastic
3	Snap Ring	1	Spring Steel
4	Washer	1	Stainless Steel
5	Outside Washer	1	*POM
6	O-Ring (Pinion Top)	1	NBR
7	Bearing (Pinion Top)	1	*POM
8	Inside Washer	1	*POM
9	Cam	1	316 SS

No.	Part Description	Qty	Material
10	Pinion	1	316 SS
11	Bearing (Pinion Bottom)	1	*POM
12	O-Ring (Pinion Bottom)	1	NBR
13	Piston	2	316 SS
14	O-Ring (Piston)	2	NBR
15	Bearing (Piston)	2	*POM
16	Cartridge Spring	12	Spring Steel
17	O-Ring (End Cap)	2	NBR
18	Stop Screw	8	Stainless Steel

No.	Part Description	Qty	Material
19	End Cap	2	316 SS
20	Screw (End Cap)	8	Stainless Steel
21	Plug	2	NBR
22	Guide Piston	2	Nylon 66
23	Body	1	316 SS
24	O-Ring (Adjust Screw)	2	NBR
25	Nut (Adjust Screw)	2	Stainless Steel
26	Adjust Screw	2	Stainless Steel
*POM Polyoxymethylene			

Dimensions Sizes 52-125 (inches)



Size	A	B	C	D	E	G	H	J	K	L	M	N	P	Q	R	T	V	Y	Z	Ports (NPT)	F ISO 5211	S	W
52	3.1	5.7	1.2	0.5	1.3	0.6	0.5	0.9	0.6	0.7	0.6	3.6	0.6	1.9	3.0	2.0	2.8	1.0	1.6	1/4	F04 F05	11	M6x10
63	3.1	6.8	1.2	0.5	1.3	0.6	0.5	0.9	0.6	0.7	0.7	4.3	0.7	2.1	3.5	2.0	2.8	1.0	1.6	1/4	F05 F07	14	M8x13
83	3.1	8.0	1.2	0.5	1.3	0.6	0.5	0.9	0.6	0.8	0.7	5.0	0.8	2.6	4.5	2.0	2.8	1.0	1.6	1/4	F05 F07	17	M8x13
90	3.1	10.6	1.2	0.5	1.3	0.6	0.5	0.9	0.6	0.7	0.8	6.0	1.0	3.0	5.0	2.8	4.0	0.9	1.6	1/4	F07 F10	22	M10x16
96	5.1	11.9	1.2	0.8	1.3	0.6	0.5	0.9	1.1	0.7	1.1	6.9	1.1	3.4	5.7	2.8	4.0	1.0	2.2	1/4	F07 F10	22	M10x16

Dimensions Sizes 52-125 (mm)

