




TECHNICAL CATALOG
PNEUMATIC ACTUATORS
Scotch Yoke

A woman wearing a white hard hat and a high-visibility safety vest is working in a factory. She is holding a clipboard and pointing towards a piece of machinery. The background is filled with industrial equipment and pipes, creating a complex and technical environment. The lighting is a mix of warm red and cool blue tones, highlighting the industrial setting.

**We are specialized
in the manufacture
of high quality
actuators**



ACTREG, established in 1992, is a multinational company specializing in the manufacture and sales of high quality actuators for industrial valves for either On/Off or modulating duty.

The expertise and know how has made **ACTREG** leader in actuation technology.

ACTREG provides world coverage thanks to the strategic locations of its factories and offices.

The international distribution network ensures quick availability and more important, personalized service for valve manufacturers, valve stocking distributors and contractors.



Power in automation

ESTABLISHED IN
1992

INTERNATIONAL
Distribution

DESIGN &
Quality

LEADERS IN
Technology

PERSONALIZED
Service

We are a manufacturer of rack and pinion aluminium housing actuators with torque figures up to 6,500 Nm and scotch yoke actuators for heavy duty service up to 700,000 Nm. Our products offer reliable and dependable automation for industrial valves.



The precision in design and quality provides a long and safe operational performance in valve control.



ACTREG has invested in quality assurance, state-of-the-art machining and testing facilities in order to assist customers in safely controlling their processes.



ACTREG engineers are happy to help you with your automation requirements.

OUR MISSION

Is to be the world's most reliable company in actuators management through our industry expertise, innovative solutions and community commitment.



SCOTCH YOKE Heavy duty service

TORQUES UP TO
700.000 Nm

ACTUATORS IN
29 different sizes

CERTIFICATES

ACTREG S.A.U. has a Quality Management System certified in accordance with the requirements of ISO 9001:2015 for the design, development, manufacturing and distribution of pneumatic actuators and accessories for valves.

ADA/ASR 10 up to size 300 are classified as category SEP in accordance with Pressure Equipment Directive 2014/68/EU. ADA/ASR 500 up to size 4000 are classified as Category I, Procedure module A.

All **ACTREG** actuators are classified for use in potentially explosive atmospheres as Group II Category 2, suitable for zones 1, 2, 21 and 22 in accordance with directive 2014/34/EU "ATEX".

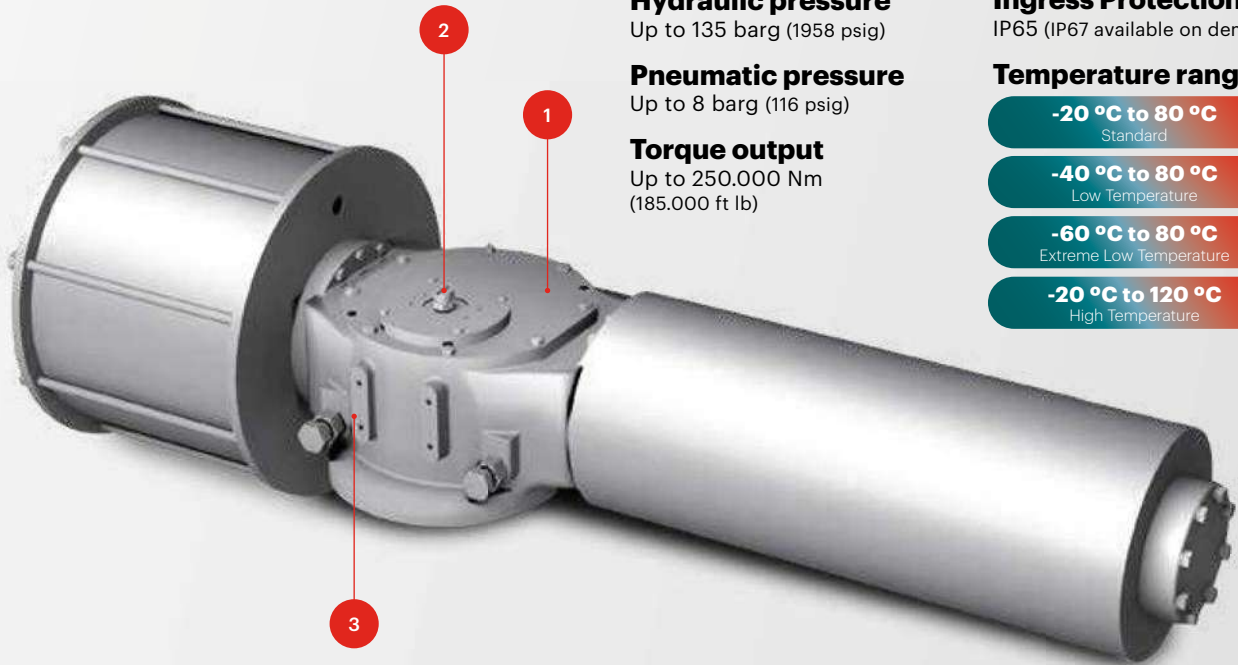
All **ACTREG** actuators are tested and certified according to IEC61508:2010 and have a SIL3 capability. In addition, we can supply the final elements loops for SIF, with a full SIL calculations including valves and ancillaries, so we can provide a SIL certificate for the complete final element units.

TR-CU (Technical Regulations of Customs Union) certificates for Eurasian countries (EAC).

TYPE approval for Pipping systems offshore standard, marine and machinery systems and equipment.



MAIN FEATURES & CHARACTERISTICS



Hydraulic pressure

Up to 135 barg (1958 psig)

Pneumatic pressure

Up to 8 barg (116 psig)

Torque output

Up to 250.000 Nm
(185.000 ft lb)

Ingress Protection Rating

IP65 (IP67 available on demand)

Temperature ranges

-20 °C to 80 °C

Standard

-40 °C to 80 °C

Low Temperature

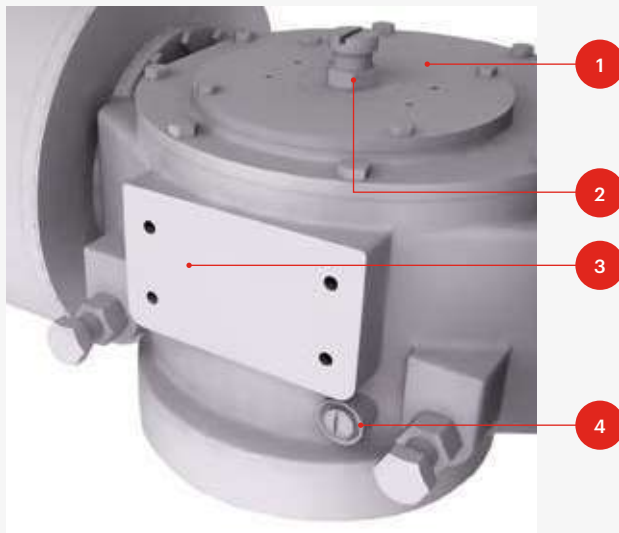
-60 °C to 80 °C

Extreme Low Temperature

-20 °C to 120 °C

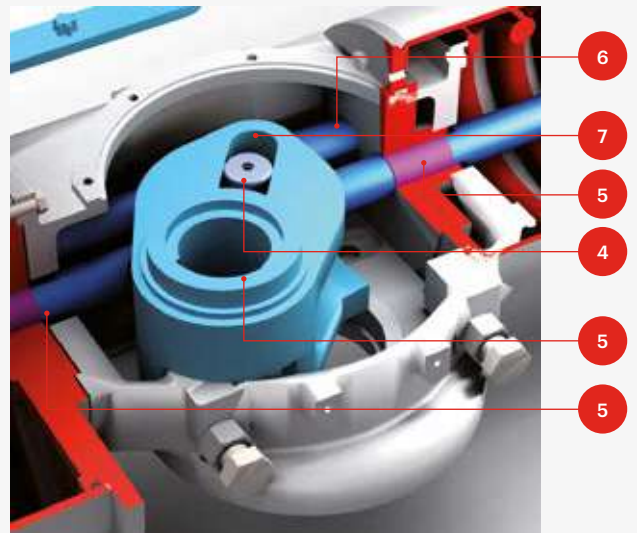
High Temperature

BODY

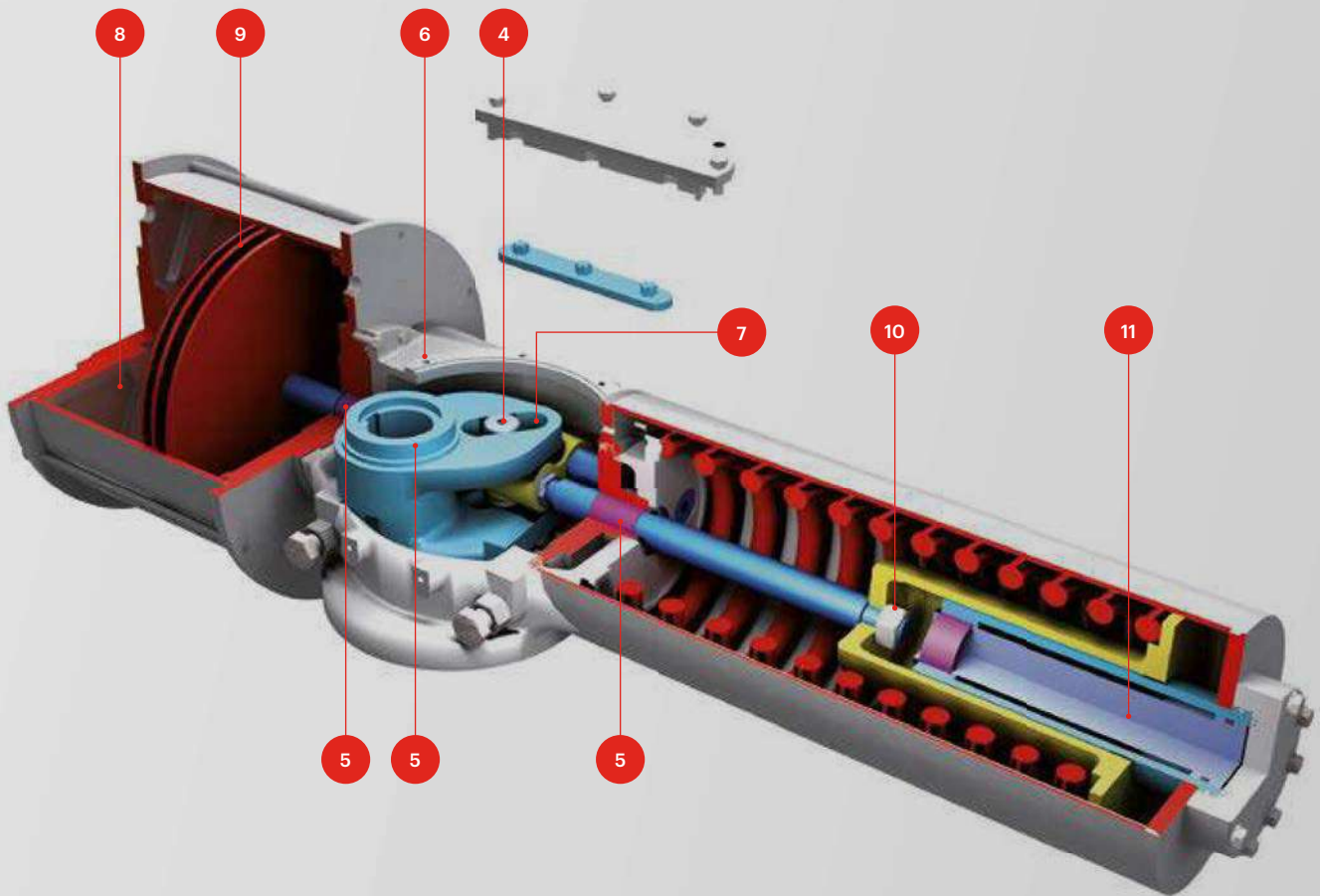


- +** 10 different sizes from F10 (500 Nm) up to F60 (250.000 Nm).
- 1** Internal O-rings to ensure water ingress protection.
- 2** NAMUR standard for all sizes for assembly of switch boxes and positioners.
- 3** Threaded parts in front and the back side of the body for easy assembly of a pneumatic control panel.
- 4** Vent check valve releases overpressure at the center body while preventing the ingress of gas, corrosive elements and water.

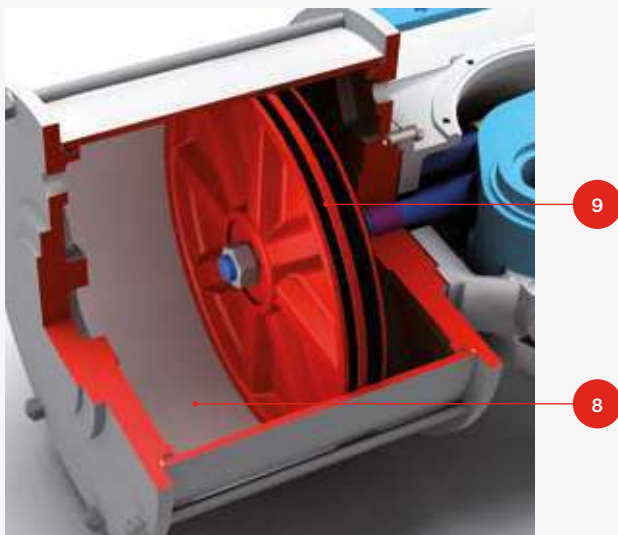
INTERNAL BODY PARTS



- 4** Roller is used, reducing the friction between the yoke arm and pin, minimizing the wear.
- 5** Replaceable bearings protect the sliding and rotating components, suitable for either dry or lubricated working conditions.
- 6** PTFE thrust bar prevents yoke pin axial movement, transferring axial loads directly to the drive module case.
- 7** Yoke connects the piston rod with the guide block, compensating for side load deflection and reducing wear on rod, bearings and seals.



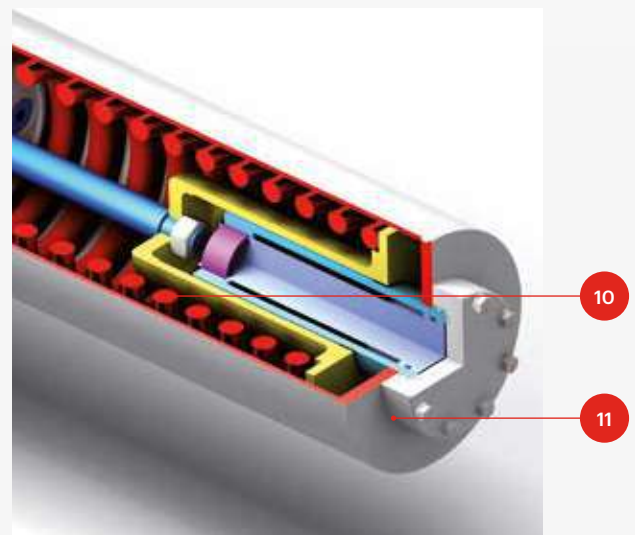
PNEUMATIC CYLINDER



8 PNEUMATIC CYLINDER
The inner surface of cylinder is coated with PTFE, to prevent resistance and self-lubricating.

9 PISTONS SEALS
Double sealing, with O-ring and dynamic ring to prevent metal to metal contact between the piston and the cylinder.

SPRING MODULE



10 Safe spring Lock, prevents spring module detachment from the drive module.

11 Internal Hydraulic cylinder for manual pump override.

VERSATILITY

Every ACTREG SY series actuator is built to provide long end efficient service with minimum maintenance. The design, engineering and materials used in their construction ensure optimum performance even in the hardest environments.

Totally enclosed weatherproof centre-body and caps provided with o`rings to ensure the water ingress protection.

The centre-body has a guide that supports transverse forces of the scotch and yoke mechanism and ensures proper alignment of the piston rod.

External travel stop screws allow a precise valve angular stroke adjustment between 80° to 100°.

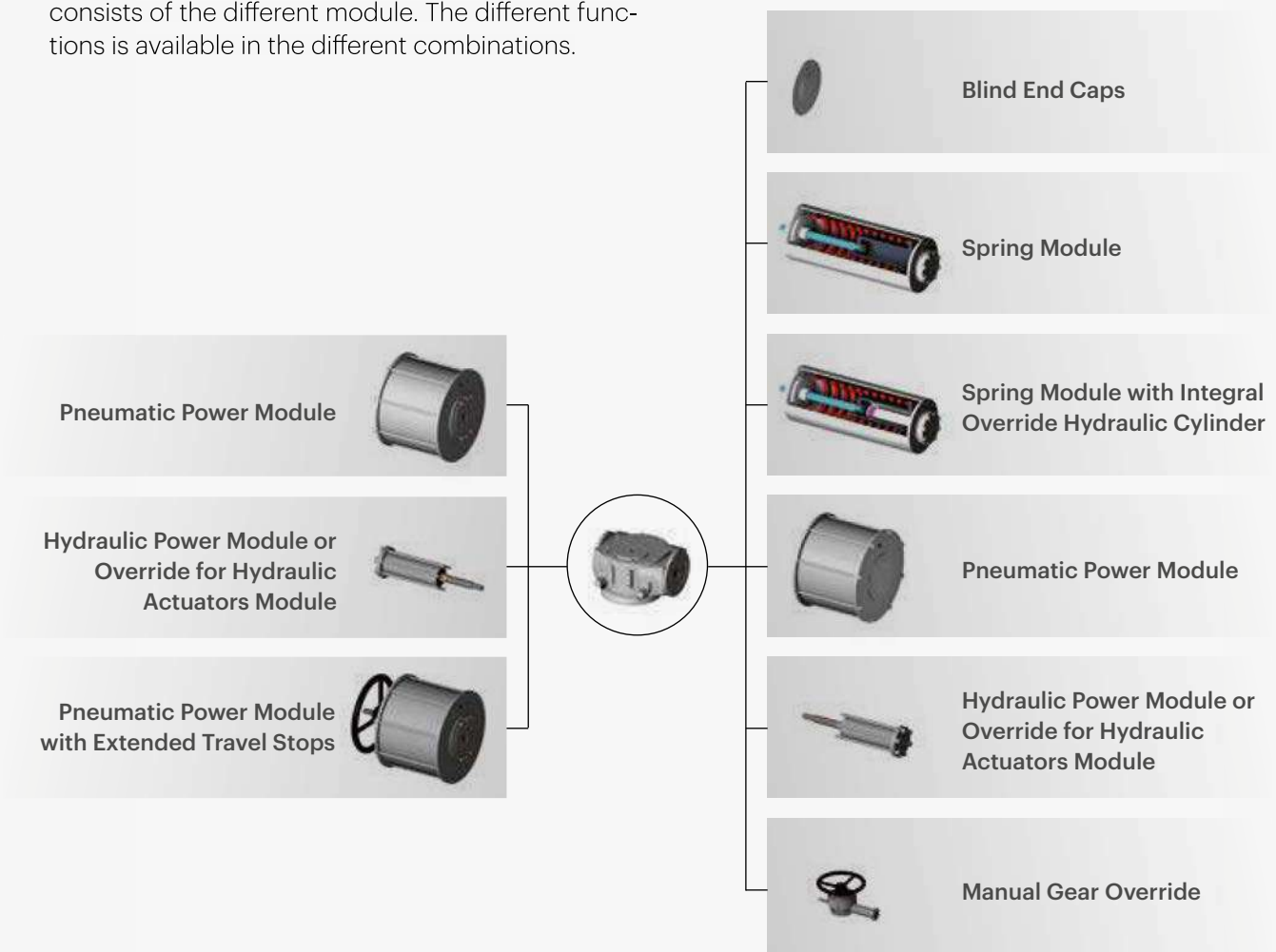
The SY actuators are manufactured in many different combinations of actuator sizes, cylinder diameters, and double or spring return action is available for installation on ¼ turn valves. SY actuators are designed for use over a wide range of pressures or temperatures.

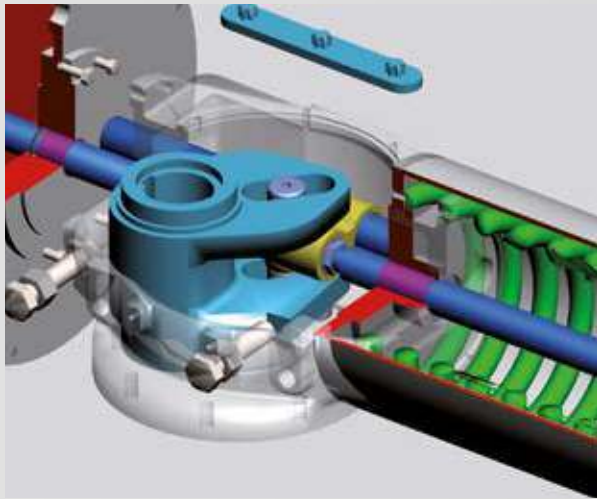
The scotch and yoke mechanism is available in symmetric design offering a more constant torque with minimum cost and weight.

The SY actuator is a modular design. A pneumatic or hydraulic cylinder can be attached, to either side or both sides. With a large stock of finished and semi-finished components always available, actuators can be assembled and supplied with very fast and reliable deliveries.

MODULAR VERSATILITY

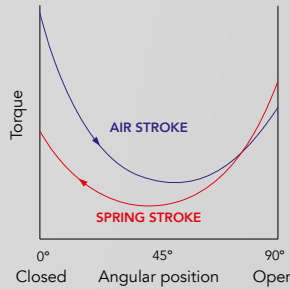
SY series actuators are the module-in design which consists of the different module. The different functions is available in the different combinations.





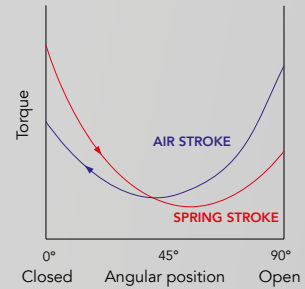
Symmetric yoke mechanism

Spring to close



Symmetric yoke mechanism

Spring to open



MANUAL OVERRIDE OPTIONS



Hydraulic Manual Override (HY)



Jackscrew Manual Override (HW)



Declutchable Gears Sandwich type

CONTROL PANELS AND SPECIFIC SOLUTIONS

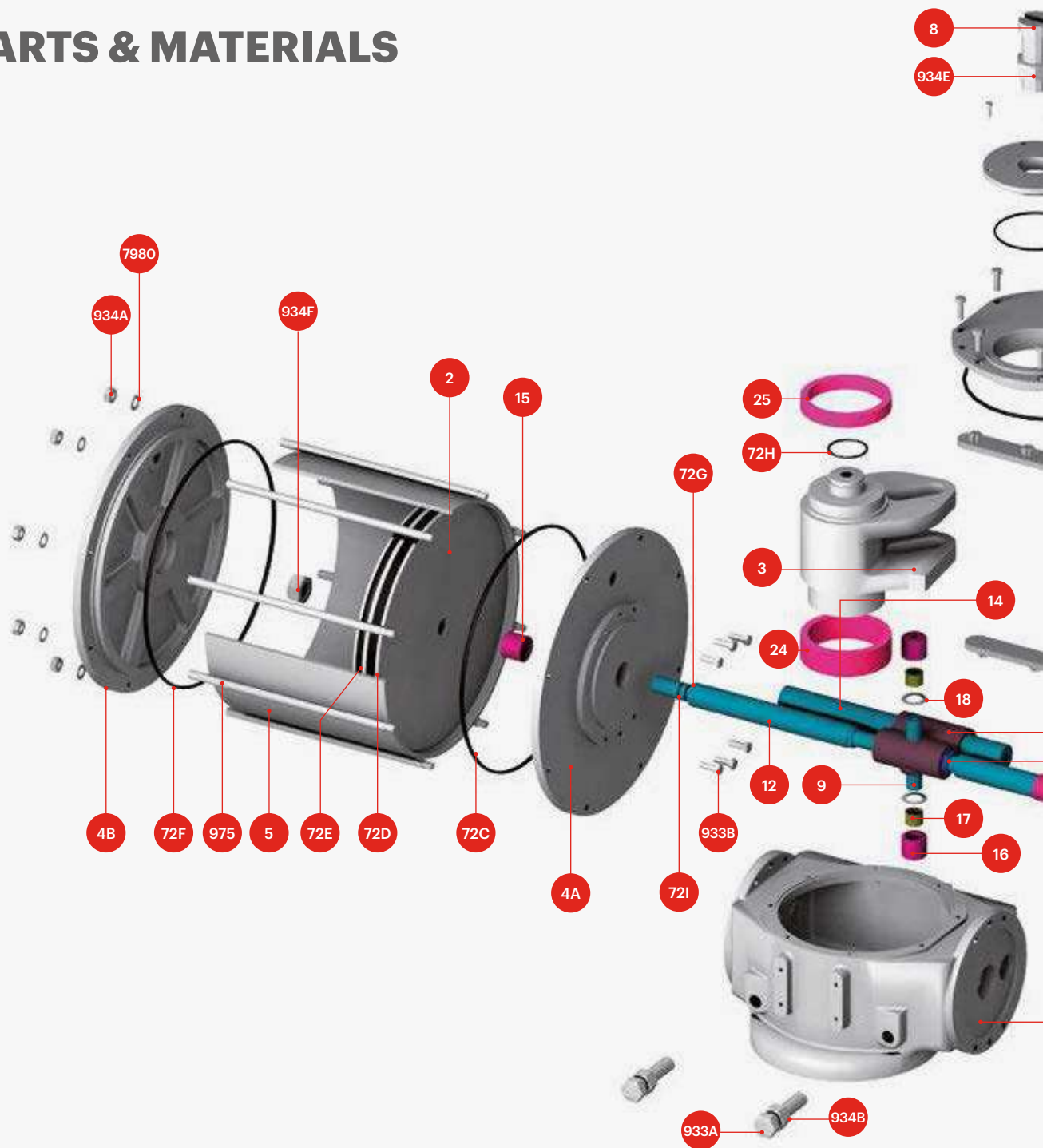
ACTREG has the capability to integrate our actuators in a complete pneumatic and hydraulic control system to cover all the needs that valve automation requirements. Our engineers have a deep knowledge of controls and pneumatic and hydraulic systems.



PASSIVE FIRE PROTECTIONS

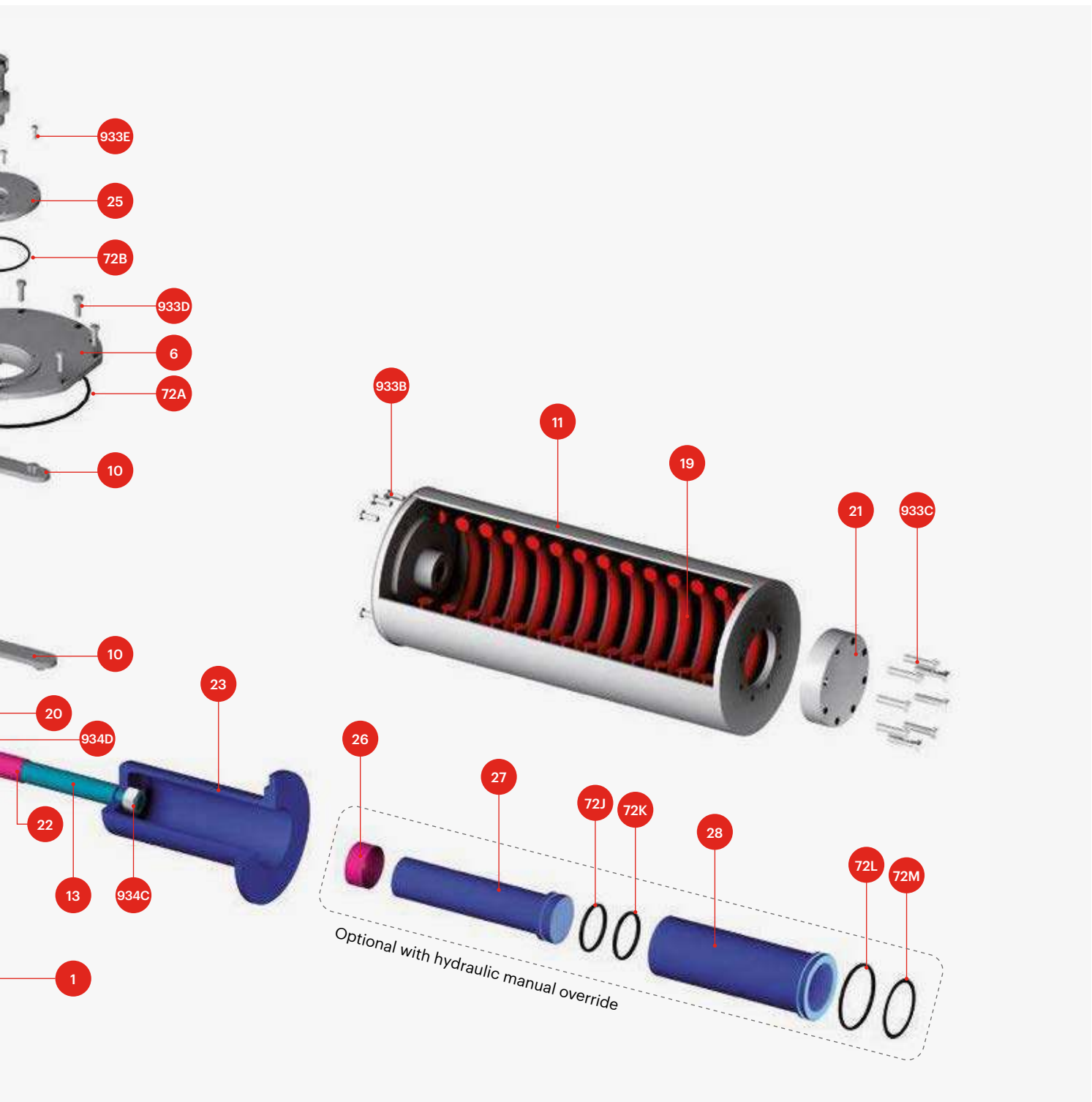
Passive fire protection is a key issue in the safety of hydrocarbon process plants. It is considered a reliable method to reduce plant fire risks. For this matter, ACTREG actuators can be customized to withstand exposure to fire and very high temperatures. A full range of fire proof systems is available, including protective jackets, intumescent coatings and stainless steel enclosure systems.

PARTS & MATERIALS



Materials for the extreme low temperature execution are displayed in brackets.

- | | | |
|---|--|---|
| 1 Body
Ductil iron (LF6) | 7 Shaft cover
Ductil iron (LF6) | 14 Center guide bar
Alloy steel chromium plated (17-4 PH) |
| 2 Piston
Ductil iron (LF6) | 8 Drive shaft
Stainless steel (Stainless steel) | 15 Sliding bearing
Metal + PTFE (Metal + PTFE) |
| 3 Yoke
Carbon steel (LF6) | 9 Pin
Alloy steel (17-4 PH) | 16 Roller sliding bearing
Metal + PTFE (Metal + PTFE) |
| 4A End cap
Carbon steel (LF6) | 10 Guide strips
PTFE (PTFE) | 17 Roller
Metal + PTFE (Metal + PTFE) |
| 4B End cap
Carbon steel (LF6) | 11 Spring cylinder
Carbon steel (LF6) | 18 Block washer
Stainless steel (Stainless steel) |
| 5 Pneumatic cylinder
Carbon steel (LF6) | 12 Center bar
Alloy steel chromium plated (17-4 PH) | 19 Spring
Alloy steel (50CrV) |
| 6 Body cover
Ductil iron (LF6) | 13 Tension rod
Alloy steel chromium plated (17-4 PH) | 20 Guide block
Metal + PTFE (LF6) |



- 21 Cover plate**
Carbon steel (LF6)
- 22 Sliding bearing**
Metal + PTFE (Metal + PTFE)
- 23 Spring seat**
Carbon steel (LF6)
- 24 Sliding bearing**
Metal + PTFE (Metal + PTFE)
- 25 Sliding bearing**
Metal + PTFE (Metal + PTFE)
- 26 Sliding bearing**
Metal + PTFE (Metal + PTFE)
- 27 Piston**
Carbon steel (LF6)
- 28 Hydraulic cylinder**
Carbon steel (LF6)
- 72 A-M O-ring ⁽¹⁾**
- 933A Adjustment screw**
Carbon steel (Stainless Steel)
- 933 B-E Screw**
Carbon steel (Stainless Steel)
- 934 A-D Nut**
Carbon steel (Stainless Steel)
- 934E Nut drive shaft**
Stainless steel (Stainless Steel)
- 934F Center bar nut**
Carbon steel (Stainless Steel)
- 975 Screw**
Carbon steel (Stainless Steel)
- 7980 Gland nut**
Carbon steel (Stainless Steel)

(1) O-rings in NBR: standard execution.
 O-rings in Viton: high temperature execution.
 O-rings in Silicone: low temperature and extreme low temperature executions.

ACTREG SY SERIES

AIR VOLUME OPENING		AIR VOLUME CLOSING		AIR INLET SIZE	
Series	Volume (L)	Series	Volume (L)	Air inlet size	
				Cylinder	Air inlet size
SY01F10-150	1,80	SY01F10-150	1,85	150	3/8" NPT
SY01F10-170	2,20	SY01F10-170	2,27	170	3/8" NPT
SY01F12-170	2,67	SY01F12-170	2,75	200	3/8" NPT
SY01F12-200	3,70	SY01F12-200	3,78	250	1/2" NPT
SY01F14-200	4,00	SY01F14-200	4,10	300	1/2" NPT
SY01F14-250	6,40	SY01F14-250	6,50	350	1/2" NPT
SY01F14-300	9,20	SY01F14-300	9,50	400	3/4" NPT
SY01F16-250	8,00	SY01F16-250	8,13	450	3/4" NPT
SY01F16-300	11,50	SY01F16-300	11,63	500	3/4" NPT
SY01F16-350	15,50	SY01F16-350	15,63	550	3/4" NPT
SY01F25-350	19,00	SY01F25-350	19,20	600	1" NPT
SY01F25-400	25,00	SY01F25-400	25,20	700	1" NPT
SY01F25-450	32,00	SY01F25-450	32,20	800	1 1/2" NPT
SY01F30-450	38,00	SY01F30-450	38,40	900	2" NPT
SY01F30-500	47,00	SY01F30-500	47,40	1000	2" NPT
SY01F30-550	57,00	SY01F30-550	57,40	1100	2" NPT
SY01F35-550	72,00	SY01F35-550	72,70		
SY01F35-600	86,00	SY01F35-600	86,70		
SY01F35-700	118,00	SY01F35-700	118,70		
SY01F40-600	104,00	SY01F40-600	105,40		
SY01F40-700	143,00	SY01F40-700	144,40		
SY01F40-800	186,00	SY01F40-800	187,40		
SY01F48-800	216,00	SY01F48-800	218,00		
SY01F48-900	274,00	SY01F48-900	276,00		
SY01F48-1000	338,00	SY01F48-1000	340,00		
SY01F60-800	291,00	SY01F60-800	295,00		
SY01F60-900	369,00	SY01F60-900	373,00		
SY01F60-1000	455,00	SY01F60-1000	459,00		
SY01F60-1100	551,00	SY01F60-1100	555,00		

PNEUMATIC CYLINDER AIR CONNECTION

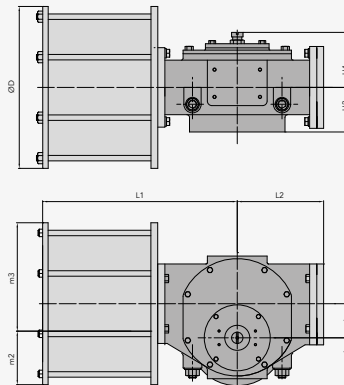
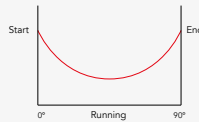


TORQUE & DIMENSIONS

DOUBLE ACTING

TORQUE SHEET (Nm)

Series	Flange	3 barg		4 barg		5 barg		6 barg		7 barg	
		START - END	RUNNING	START - END	RUNNING	START - END	RUNNING	START - END	RUNNING	START - END	RUNNING
SYO1F10-150 DA	F10	293	176	391	235	489	293	586	352	-	-
SYO1F10-170 DA		379	227	506	304	632	378	760	455	-	-
SYO1F12-170 DA	F12	474	283	632	378	791	472	949	567	-	-
SYO1F12-200 DA		661	396	881	529	1101	661	1321	792	-	-
SYO1F14-200 DA	F14	822	499	1096	665	1370	831	1643	997	1918	1163
SYO1F14-250 DA		1285	779	1713	1039	2141	1299	-	-	-	-
SYO1F14-300 DA		1842	1118	-	-	-	-	-	-	-	-
SYO1F16-250 DA	F16	1590	964	2120	1286	2650	1607	3180	1929	3710	2250
SYO1F16-300 DA		2289	1389	3053	1851	3816	2315	-	-	-	-
SYO1F16-350 DA		3116	1890	4155	2521	-	-	-	-	-	-
SYO1F25-350 DA	F25	3847	2333	5130	3112	6412	3890	7695	4668	-	-
SYO1F25-400 DA		4884	2963	6513	3950	8141	4938	-	-	-	-
SYO1F25-450 DA		6183	3750	8244	5001	-	-	-	-	-	-
SYO1F30-450 DA	F30	7556	4583	10074	6111	12328	7478	15112	9167	-	-
SYO1F30-500 DA		9329	5659	12439	7546	15549	9433	-	-	-	-
SYO1F30-550 DA		11289	6848	15052	9131	-	-	-	-	-	-
SYO1F35-550 DA	F35	14367	8715	19156	11621	23944	14526	28734	17431	33523	20337
SYO1F35-600 DA		17098	10372	22798	13830	28496	17287	34196	20746	-	-
SYO1F35-700 DA		23273	14119	31031	18825	-	-	-	-	-	-
SYO1F40-600 DA	F40	20762	12595	27683	16793	34604	20993	41526	25192	48446	29390
SYO1F40-700 DA		28259	17143	37680	22859	47101	28574	56521	34288	65940	40004
SYO1F40-800 DA		36911	22392	49215	39559	61519	37320	-	-	-	-
SYO1F48-800 DA	F48	43425	26343	57899	35125	72375	43907	86851	52689	101325	61471
SYO1F48-900 DA		54959	33342	73280	44456	91599	55569	109919	66683	128239	77797
SYO1F48-1000 DA		67852	41163	90470	54885	113087	68606	-	-	-	-
SYO1F60-800 DA	F60	58624	35174	78166	46899	97707	58625	117248	71130	136789	82985
SYO1F60-900 DA		74196	45011	98928	60016	123659	75020	148392	90024	173124	105028
SYO1F60-1000 DA		91600	55570	122133	74094	152666	92617	183200	111141	213733	129664
SYO1F60-1100 DA		110835	67240	147781	89653	184726	112067	221671	134480	258616	156893



DIMENSIONS AND WEIGHTS (mm, kg)

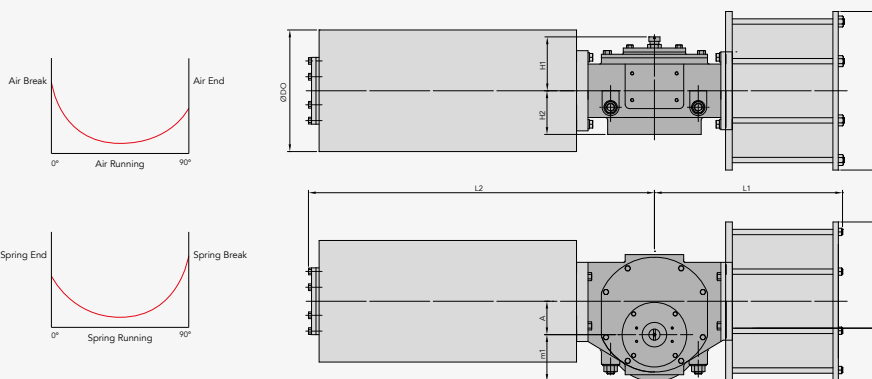
Series	L1	L2	H1	H2	Ø D	A	m1	m2	m3	Weight
SYO1F10-150 DA	350	124	95	82	208	40	55	85	123	45
SYO1F10-170 DA	350	124	95	82	231	40	55	108	123	50
SYO1F12-170 DA	405	130	100	80	231	50	73	65	166	55
SYO1F12-200 DA	405	130	100	80	256	50	73	79	178	60
SYO1F14-200 DA	423	165	114	87	256	60	89	68	188	75
SYO1F14-250 DA	423	165	114	87	310	60	89	95	215	82
SYO1F14-300 DA	423	165	114	87	365	60	89	122,5	242,5	96
SYO1F16-250 DA	499	190	119	98	310	75	105	80	230	105
SYO1F16-300 DA	499	190	119	98	365	75	105	107,5	257,5	130
SYO1F16-350 DA	499	190	119	98	415	75	105	132,5	282,5	145
SYO1F25-350 DA	582	222	130	104	415	90	150	117,5	297,5	195
SYO1F25-400 DA	582	222	130	104	465	90	150	172,5	322,5	210
SYO1F25-450 DA	582	222	130	104	516	90	150	168	348	245
SYO1F30-450 DA	705	287	153	129	516	110	175	148	368	330
SYO1F30-500 DA	705	287	153	129	570	110	175	175	395	360
SYO1F30-550 DA	705	287	153	129	620	110	175	200	420	490
SYO1F35-550 DA	832	326	165	149	620	140	207,5	170	450	520
SYO1F35-600 DA	832	326	165	149	670	140	207,5	195	475	560
SYO1F35-700 DA	832	326	165	149	772	140	207,5	246	526	650
SYO1F40-600 DA	970	388	182	176	670	170	237,5	165	505	700
SYO1F40-700 DA	970	388	182	176	772	170	237,5	216	556	740
SYO1F40-800 DA	970	388	182	176	878	170	237,5	269	609	980
SYO1F48-800 DA	1130	440	230	222	878	200	280	239	639	1210
SYO1F48-900 DA	1130	440	230	222	980	200	280	290	690	1650
SYO1F48-1000 DA	1130	440	230	222	1080	200	208	340	740	1980
SYO1F60-800 DA	1420	3150	240	225	878	270	343	169	709	1490
SYO1F60-900 DA	1420	3150	240	225	980	270	343	220	760	1930
SYO1F60-1000 DA	1420	3150	240	225	1080	270	343	270	810	2150
SYO1F60-1100 DA	1420	3150	240	225	1180	270	343	320	860	2370

TORQUE & DIMENSIONS

SPRING RETURN SR3

TORQUE SHEET (Nm)

Series	Flange	Output torque air pressure 3 barg			Output torque Springs		
		Air break	Air running	Air end	Spring break	Spring running	Spring end
SY01F10-150 SR3	F10	172	84	108	176	86	111
SY01F10-170 SR3		223	112	151	216	108	144
SY01F12-170 SR3	F12	281	141	189	268	133	176
SY01F12-200 SR3		406	209	290	347	173	231
SY01F14-200 SR3	F14	518	258	315	506	251	304
SY01F14-250 SR3		783	399	503	781	398	501
SY01F14-300 SR3		1182	609	782	1068	538	667
SY01F16-250 SR3	F16	1056	508	524	1081	503	601
SY01F16-300 SR3		1430	720	893	1420	714	883
SY01F16-350 SR3		2024	1028	1270	1877	958	1215
SY01F25-350 SR3	F25	2323	1242	1551	2227	1141	1455
SY01F25-400 SR3		3058	1558	1884	2966	1501	1876
SY01F25-450 SR3		3736	1879	2325	3920	1993	2509
SY01F30-450 SR3	F30	4773	2377	2895	4738	2355	2860
SY01F30-500 SR3		5924	2903	3440	5984	2939	3500
SY01F30-550 SR3		7097	3627	4604	6798	3442	4306
SY01F35-550 SR3	F35	9167	4523	5425	9088	4475	5346
SY01F35-600 SR3		10958	5371	6366	10906	5338	6314
SY01F35-700 SR3		14692	7408	9205	14305	7168	8818
SY01F40-600 SR3	F40	12940	6484	7973	13000	6520	8033
SY01F40-700 SR3		18378	9527	12352	16195	8173	10169
SY01F40-800 SR3		23758	12335	16076	21212	10770	13529
SY01F48-800 SR3	F48	27651	14001	17514	26353	13197	16217
SY01F48-900 SR3		34901	17644	22015	33506	16779	20619
SY01F48-1000 SR3		39739	19515	23213	45331	22983	28806
SY01F60-800 SR3	F60	35441	18195	21587	36432	18293	22577
SY01F60-900 SR3		47388	23465	28306	46647	23006	27564
SY01F60-1000 SR3		54655	26172	29770	62764	31199	37878
SY01F60-1100 SR3		63242	34913	33877	78089	34505	48725



DIMENSIONS AND WEIGHTS (mm, kg)

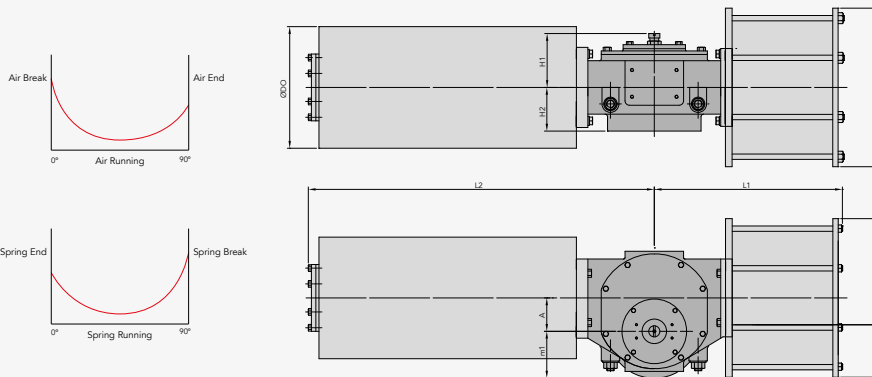
Series	L1	L2	H1	H2	Ø D	Ø DO	A	m1	m2	m3	Weight
SY01F10-150 SR3	335	465	102	82	207	168	40	55	75	143,5	69
SY01F10-170 SR3	335	465	102	82	231	168	40	55	75	155,5	79
SY01F12-170 SR3	390	515	105	85	231	194	50	73	79	166	97
SY01F12-200 SR3	390	515	105	85	256	194	50	73	79	178	109
SY01F14-200 SR3	442	619	114	87	256	219	60	89	68	188	115
SY01F14-250 SR3	439	619	114	87	310	273	60	89	95	215	142
SY01F14-300 SR3	439	619	114	87	365	273	60	89	122,5	242,5	166
SY01F16-250 SR3	507	775	119	98	310	219	75	105	80	230	158
SY01F16-300 SR3	507	775	119	98	365	273	75	105	107,5	257,5	198
SY01F16-350 SR3	507	775	119	98	415	325	75	105	132,5	282,5	238
SY01F25-350 SR3	587	940	138	112	415	273	90	150	117,5	297,5	280
SY01F25-400 SR3	590	940	138	112	456	325	90	150	172,5	322,5	321
SY01F25-450 SR3	603	940	138	112	516	325	90	150	168	348	362
SY01F30-450 SR3	715	1165	163	139	516	377	110	175	148	368	539
SY01F30-500 SR3	707	1165	163	139	570	377	110	175	175	395	594
SY01F30-550 SR3	707	1165	163	139	620	426	110	175	200	420	614
SY01F35-550 SR3	842	1511	180	177	620	426	140	207,5	170	450	838
SY01F35-600 SR3	844	1511	180	177	670	508	140	207,5	195	475	987
SY01F35-700 SR3	847	1511	180	177	772	508	140	207,5	246	526	1130
SY01F40-600 SR3	976	1760	202	190	670	508	170	237,5	165	505	1438
SY01F40-700 SR3	980	1760	202	190	772	630	170	237,5	216	556	1535
SY01F40-800 SR3	993	1760	202	190	878	630	170	237,5	269	609	1625
SY01F48-800 SR3	1140	2305	238	227	878	630	200	280	239	639	2180
SY01F48-900 SR3	1153	2305	238	227	980	730	200	280	290	690	2800
SY01F48-1000 SR3	1158	2305	238	227	1080	730	200	280	340	740	3210
SY01F60-800 SR3	1405	3100	240	225	878	630	270	343	169	709	2910
SY01F60-900 SR3	1416	3100	240	225	980	730	270	343	220	760	3700
SY01F60-1000 SR3	1422	3100	240	225	1080	730	270	343	270	810	4430
SY01F60-1100 SR3	1422	3100	240	225	1180	730	270	343	320	860	4780

TORQUE & DIMENSIONS

SPRING RETURN SR4

TORQUE SHEET (Nm)

Series	Flange	Output torque air pressure 4 barg			Output torque Springs		
		Air break	Air running	Air end	Spring break	Spring running	Spring end
SY01F10-150 SR4	F10	235	119	163	216	108	144
SY01F10-170 SR4		301	154	215	276	139	189
SY01F12-170 SR4		F12	378	192	262	347	173
SY01F12-200 SR4	508		259	356	495	251	342
SY01F14-200 SR4	F14	664	338	424	672	343	432
SY01F14-250 SR4		1045	525	644	1068	538	667
SY01F14-300 SR4		1529	785	1005	1462	744	939
SY01F16-250 SR4	F16	1332	684	873	1268	644	810
SY01F16-300 SR4		1869	953	1207	1877	958	1215
SY01F16-350 SR4		2585	1314	1629	2569	1297	1613
SY01F25-350 SR4	F25	3161	1689	2071	2966	1502	1876
SY01F25-400 SR4		4071	2086	2659	3920	1993	2509
SY01F25-450 SR4		5358	2722	3421	4905	2441	2969
SY01F30-450 SR4	F30	6396	3196	3912	6266	3115	3782
SY01F30-500 SR4		7746	3863	4715	7850	3927	4820
SY01F30-550 SR4		9439	4661	5923	9281	4766	5766
SY01F35-550 SR4	F35	11945	5928	7178	12174	6070	7406
SY01F35-600 SR4		14212	7111	8725	14305	7169	8818
SY01F35-700 SR4		19913	10039	12468	18878	9396	11434
SY01F40-600 SR4	F40	17796	8173	11769	16195	8837	10169
SY01F40-700 SR4		24534	12830	16853	21212	10770	13529
SY01F40-800 SR4		31146	15856	20001	29715	14969	18569
SY01F48-800 SR4	F48	37871	19223	24985	33506	16779	20619
SY01F48-900 SR4		45220	22915	28696	45331	23111	28806
SY01F48-1000 SR4		56544	28261	34618	56775	28403	34848
SY01F60-800 SR4	F60	51399	25952	32316	46647	23006	27564
SY01F60-900 SR4		62058	30761	37173	62764	31199	37878
SY01F60-1000 SR4		74655	37838	45290	78089	38658	48725
SY01F60-1100 SR4		91694	45276	54357	94932	47283	57595



DIMENSIONS AND WEIGHTS (mm, kg)

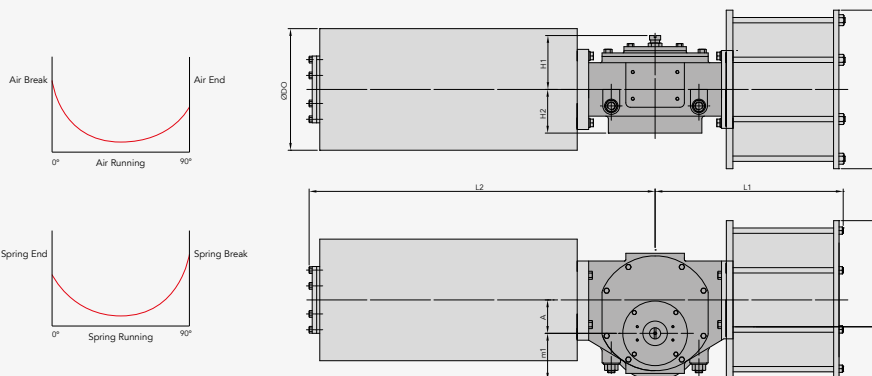
Series	L1	L2	H1	H2	Ø D	Ø DO	A	m1	m2	m3	Weight
SY01F10-150 SR4	335	465	102	82	207	168	40	55	75	143,5	70
SY01F10-170 SR4	335	465	102	82	231	168	40	55	75	155,5	80
SY01F12-170 SR4	390	515	105	85	231	194	50	73	79	166	98
SY01F12-200 SR4	390	515	105	85	256	219	50	73	79	178	110
SY01F14-200 SR4	442	619	114	87	256	219	60	89	68	188	120
SY01F14-250 SR4	439	619	114	87	310	273	60	89	95	215	150
SY01F14-300 SR4	439	619	114	87	365	273	60	89	122,5	242,5	166
SY01F16-250 SR4	507	775	119	98	310	273	75	105	80	230	185
SY01F16-300 SR4	507	775	119	98	365	325	75	105	107,5	257,5	210
SY01F16-350 SR4	507	775	119	98	415	325	75	105	132,5	282,5	260
SY01F25-350 SR4	587	940	138	112	415	325	90	150	117,5	297,5	310
SY01F25-400 SR4	590	940	138	112	456	325	90	150	172,5	322,5	345
SY01F25-450 SR4	603	940	138	112	516	325	90	150	168	348	376
SY01F30-450 SR4	715	1165	163	139	516	426	110	175	148	368	590
SY01F30-500 SR4	707	1165	163	139	570	377	110	175	175	395	620
SY01F30-550 SR4	707	1165	163	139	620	426	110	175	200	420	660
SY01F35-550 SR4	842	1511	180	177	620	508	140	207,5	170	450	930
SY01F35-600 SR4	844	1511	180	177	670	508	140	207,5	195	475	1050
SY01F35-700 SR4	847	1511	180	177	772	508	140	207,5	246	526	1180
SY01F40-600 SR4	976	1760	202	190	670	630	170	237,5	165	505	1480
SY01F40-700 SR4	980	1760	202	190	772	630	170	237,5	216	556	1640
SY01F40-800 SR4	993	1760	202	190	878	630	170	237,5	269	609	1850
SY01F48-800 SR4	1140	2305	238	227	878	630	200	280	239	639	2360
SY01F48-900 SR4	1153	2305	238	227	900	730	200	280	290	690	3100
SY01F48-1000 SR4	1158	2305	238	227	1080	730	200	280	340	740	3350
SY01F60-800 SR4	1405	3100	240	225	878	630	270	343	169	709	3270
SY01F60-900 SR4	1416	3100	240	225	980	730	270	343	220	760	4206
SY01F60-1000 SR4	1422	3100	240	225	1080	730	270	343	270	810	4920
SY01F60-1100 SR4	1244	3100	240	225	1180	730	270	343	220	860	5180

TORQUE & DIMENSIONS

SPRING RETURN SR5

TORQUE SHEET (Nm)

Series	Flange	Output torque air pressure 5 barg			Output torque Springs		
		Air break	Air running	Air end	Spring break	Spring running	Spring end
SY01F10-150 SR5	F10	285	145	199	276	139	189
SY01F10-170 SR5		368	186	253	360	182	245
SY01F12-170 SR5	F12	454	228	304	458	230	308
SY01F12-200 SR5		637	312	406	658	326	427
SY01F14-200 SR5	F14	868	451	588	781	398	501
SY01F14-250 SR5		1334	664	810	1332	663	807
SY01F14-300 SR5		1889	965	1223	1861	947	1194
SY01F16-250 SR5	F16	1675	872	1139	1537	787	1001
SY01F16-300 SR5		2414	1201	1457	2397	1190	1440
SY01F16-350 SR5		3183	1727	2085	3162	1621	2064
SY01F25-350 SR5	F25	3788	2024	2376	3920	1993	2509
SY01F25-400 SR5		5256	2658	3318	4905	2441	2969
SY01F25-450 SR5		6720	3368	4146	6263	3086	3689
SY01F30-450 SR5	F30	7813	3961	4873	7850	3928	4820
SY01F30-500 SR5		9942	5074	6425	9281	4665	5766
SY01F30-550 SR5		11985	6100	7694	11312	5684	7021
SY01F35-550 SR5	F35	15372	7830	9884	14305	7169	8818
SY01F35-600 SR5		18144	8967	10785	18003	8881	10644
SY01F35-700 SR5		25215	12639	15558	23625	11654	13968
SY01F40-600 SR5	F40	21428	10904	13745	21212	10770	13529
SY01F40-700 SR5		29011	14529	17866	29715	14969	18569
SY01F40-800 SR5		40684	21006	27076	35071	17525	21462
SY01F48-800 SR5	F48	44307	22348	27782	45331	22982	28806
SY01F48-900 SR5		57686	28968	35760	56775	28403	34848
SY01F48-1000 SR5		72048	36388	45334	68906	34441	42192
SY01F60-800 SR5	F60	60825	29997	35939	62764	31200	37878
SY01F60-900 SR5		76197	38139	46832	78089	39313	48725
SY01F60-1000 SR5		96629	48336	59292	94932	47283	57595
SY01F60-1100 SR5		115566	59189	75366	111245	56510	71046



DIMENSIONS AND WEIGHTS (mm, kg)

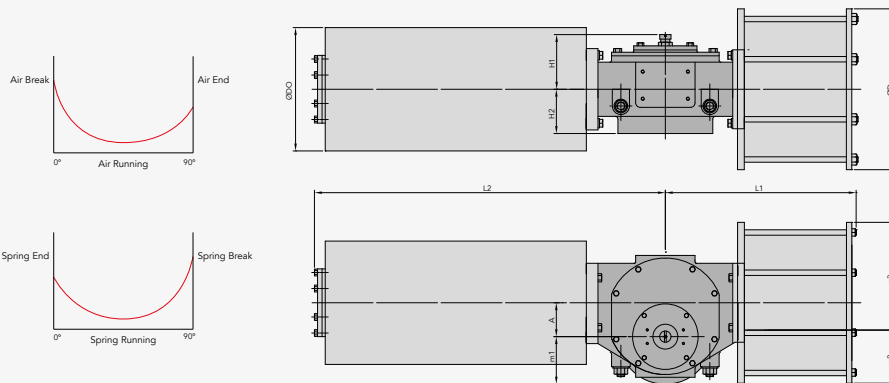
Series	L1	L2	H1	H2	Ø D	Ø DO	A	m1	m2	m3	Weight
SY01F10-150 SR5	335	465	102	82	207	168	40	55	75	143,5	71
SY01F10-170 SR5	335	465	102	82	231	194	40	55	75	155,5	81,5
SY01F12-170 SR5	390	515	105	85	231	219	50	73	79	166	100
SY01F12-200 SR5	390	515	105	85	256	219	50	73	79	178	112
SY01F14-200 SR5	442	619	114	87	256	273	60	89	68	188	140
SY01F14-250 SR5	439	619	114	87	310	273	60	89	95	215	159
SY01F14-300 SR5	439	619	114	87	365	325	60	89	122,5	242,5	195
SY01F16-250 SR5	507	775	119	98	310	273	75	105	80	230	194
SY01F16-300 SR5	507	775	119	98	365	325	75	105	107,5	257,5	232
SY01F16-350 SR5	507	775	119	98	415	325	75	105	132,5	282,5	278
SY01F25-350 SR5	587	940	138	112	415	325	90	150	117,5	297,5	332
SY01F25-400 SR5	590	940	138	112	456	325	90	150	172,5	322,5	358
SY01F25-450 SR5	603	940	138	112	516	377	90	150	168	348	408
SY01F30-450 SR5	715	1165	163	139	516	377	110	175	148	368	606
SY01F30-500 SR5	707	1165	163	139	570	426	110	175	175	395	676
SY01F30-550 SR5	707	1165	163	139	620	508	110	175	200	420	750
SY01F35-550 SR5	842	1511	180	177	620	508	140	207,5	170	450	995
SY01F35-600 SR5	844	1511	180	177	670	508	140	207,5	195	475	1110
SY01F35-700 SR5	847	1511	180	177	772	630	140	207,5	246	526	1405
SY01F40-600 SR5	976	1760	202	190	670	630	170	237,5	165	505	1590
SY01F40-700 SR5	980	1760	202	190	772	630	170	237,5	216	556	1905
SY01F40-800 SR5	993	1760	202	190	878	630	170	237,5	269	609	2050
SY01F48-800 SR5	1140	2305	238	227	878	730	200	280	239	639	2680
SY01F48-900 SR5	1153	2305	238	227	980	730	200	280	290	690	3310
SY01F48-1000 SR5	1158	2305	238	227	1080	730	200	280	340	740	3650
SY01F60-800 SR5	1405	3100	240	225	878	730	270	343	169	709	3770
SY01F60-900 SR5	1416	3100	240	225	980	730	270	343	220	760	4340
SY01F60-1000 SR5	1422	3100	240	225	1080	730	270	343	270	810	5120
SY01F60-1100 SR5	1422	3100	240	225	1180	730	270	343	320	860	5530

TORQUE & DIMENSIONS

SPRING RETURN SR6

TORQUE SHEET (Nm)

Series	Flange	Output torque air pressure 6 barg			Output torque Springs		
		Air break	Air running	Air end	Spring break	Spring running	Spring end
SY01F10-150 SR6	F10	325	160	209	360	182	245
SY01F10-170 SR6		436	214	276	460	228	300
SY01F12-170 SR6		F12	547	268	343	560	274
SY01F12-200 SR6	768		382	506	770	383	509
SY01F14-200 SR6	F14	1027	513	627	1018	507	617
SY01F14-250 SR6		1632	848	1107	1462	744	939
SY01F14-300 SR6		2257	1144	1433	2268	1150	1443
SY01F16-250 SR6	F16	1998	1033	1335	1877	958	1215
SY01F16-300 SR6		3014	1572	2056	2569	1297	1613
SY01F16-350 SR6		3875	2081	2477	3819	1934	2422
SY01F25-350 SR6	F25	4587	2379	2650	4905	2441	2969
SY01F25-400 SR6		6181	3034	3607	6263	3086	3689
SY01F25-450 SR6		7818	3761	4313	8178	3984	4673
SY01F30-450 SR6	F30	9502	4802	5986	9281	4665	5766
SY01F30-500 SR6		11842	6003	7537	11312	5684	7021
SY01F30-550 SR6		14547	7259	8867	13939	6882	8261
SY01F35-550 SR6	F35	18383	9117	11025	18003	8880	10644
SY01F35-600 SR6		21957	10620	12300	22246	10799	12589
SY01F35-700 SR6		29905	14961	18358	28663	14192	17115
SY01F40-600 SR6	F40	25289	12671	15316	26364	13337	16660
SY01F40-700 SR6		35635	17875	22026	35071	17525	21462
SY01F40-800 SR6		45569	22593	28306	47265	23644	29007
SY01F48-800 SR6	F48	52886	25994	30962	56775	28403	34848
SY01F48-900 SR6		68850	34405	42135	68906	34440	42192
SY01F48-1000 SR6		85632	41828	55235	81853	41326	51456
SY01F60-800 SR6	F60	70017	34123	40354	78089	39313	48725
SY01F60-900 SR6		92311	45658	54974	94932	47283	57595
SY01F60-1000 SR6		114023	58233	73824	111245	56510	71046
SY01F60-1100 SR6		-	-	-	-	-	-



DIMENSIONS AND WEIGHTS (mm, kg)

Series	L1	L2	H1	H2	Ø D	Ø DO	A	m1	m2	m3	Weight
SY01F10-150 SR6	335	465	102	82	207	194	40	55	75	143,5	72
SY01F10-170 SR6	335	465	102	82	231	219	40	55	75	155,5	83
SY01F12-170 SR6	390	515	105	85	231	219	50	73	79	166	102
SY01F12-200 SR6	390	515	105	85	256	273	50	73	79	178	114
SY01F14-200 SR6	442	619	114	87	256	273	60	89	68	188	149
SY01F14-250 SR6	439	619	114	87	310	273	60	89	95	215	168
SY01F14-300 SR6	439	619	114	87	365	325	60	89	122,5	242,5	206
SY01F16-250 SR6	507	775	119	98	310	325	75	105	80	230	205
SY01F16-300 SR6	507	775	119	98	365	325	75	105	107,5	257,5	245
SY01F16-350 SR6	507	775	119	98	415	325	75	105	132,5	282,5	293
SY01F25-350 SR6	587	940	138	112	415	325	90	150	117,5	297,5	345
SY01F25-400 SR6	590	940	138	112	456	377	90	150	172,5	322,5	395
SY01F25-450 SR6	603	940	138	112	516	426	90	150	168	348	450
SY01F30-450 SR6	715	1165	163	139	516	426	110	175	148	368	658
SY01F30-500 SR6	707	1165	163	139	570	508	110	175	175	395	766
SY01F30-550 SR6	707	1165	163	139	620	508	110	175	200	420	810
SY01F35-550 SR6	842	1511	180	177	620	508	140	207,5	170	450	1065
SY01F35-600 SR6	844	1511	180	177	670	630	140	207,5	195	475	1330
SY01F35-700 SR6	847	1511	180	177	772	630	140	207,5	246	526	1550
SY01F40-600 SR6	976	1760	202	190	670	630	170	237,5	165	505	1825
SY01F40-700 SR6	980	1760	202	190	772	630	170	237,5	216	556	2055
SY01F40-800 SR6	993	1760	202	190	878	730	170	237,5	269	609	2305
SY01F48-800 SR6	1140	2305	238	227	878	730	200	280	239	639	2850
SY01F48-900 SR6	1153	2305	238	227	980	730	200	280	290	690	3580
SY01F48-1000 SR6	1158	2305	238	227	1080	730	200	280	340	740	3900
SY01F60-800 SR6	1405	3100	240	225	878	730	270	343	169	709	3890
SY01F60-900 SR6	1416	3100	240	225	980	730	270	343	220	760	4710
SY01F60-1000 SR6	1422	3100	240	225	1080	730	270	343	270	810	5320
SY01F60-1100 SR6	1422	3100	240	225	1180	730	270	343	320	860	5530

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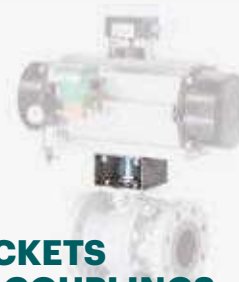
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