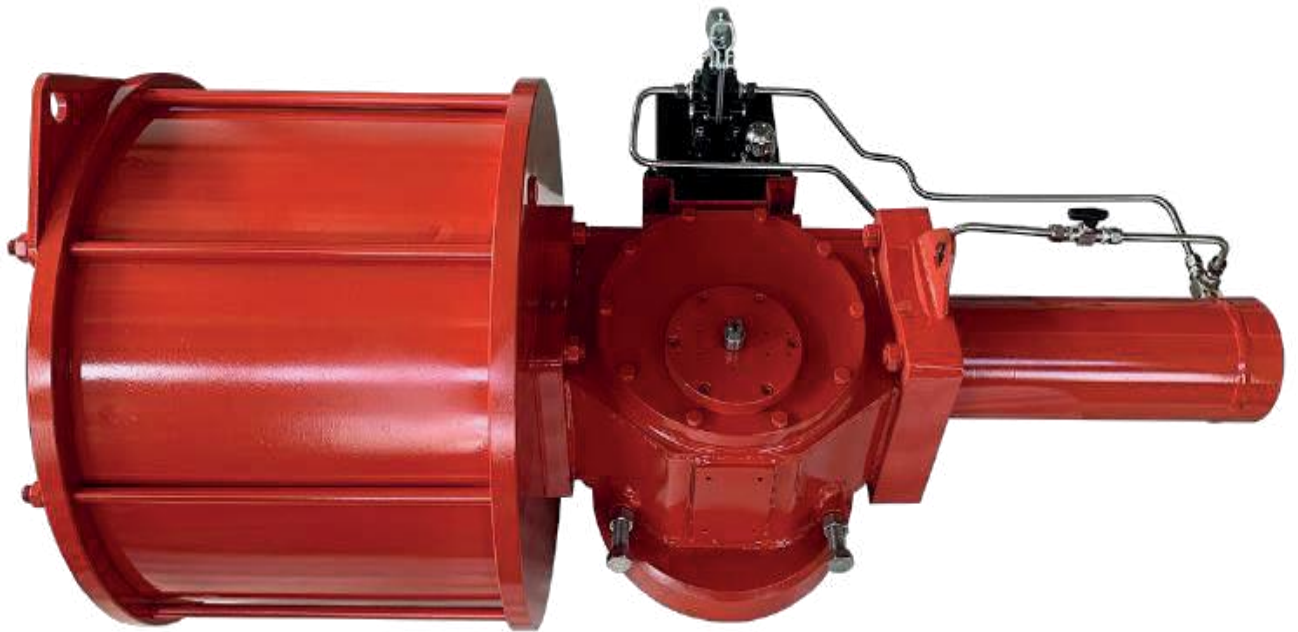


# **ZEETORK**

— the Automation & Controls Expert —



## **ZRF Series Scotch Yoke**

PNEUMATIC ACTUATORS

## Features

Zeetork ZRF Series scotch yoke pneumatic actuators are specifically designed for use with quarter-turn valves. The large output torque range offered by Zeetork ensures that our actuators match the operational characteristics of plug, ball or butterfly valves or any device requiring precise and reliable 90° rotary motion.

The Series ZRF Scotch yoke actuators offer large output torque range. For the double acting version, the output torque ranges from 100Nm to 250,000Nm. For the spring return version, the output torque ranges from 200Nm to 45,000Nm.



### **Minimum maintenance:**

Every Zeetork ZRF actuator is built to provide long and efficient service with minimum maintenance. The design, engineering and materials used in their construction ensure optimum performance even in the harsh environment.

### **Robust and Light weight Designing:**

Totally enclosed weather proof centre body fabricated in carbon steel or ductile iron provide an excellent strength to weight ratio. The mechanism of piston and yoke has an advantage torque output.

### **Extensive Product Range**

Zeetork offers the most extensive line of fluid power valve actuators. Products includes low and high pressure pneumatic actuators with both double acting and single acting operation.

### **Manual Override Options**

A dependable manual override facility is an important part to many valve/actuator applications. Zeetork has a variety of over ride options available to meet virtually any requirement.

Available options include open or closed screw manual override and hydraulic override.

### **Complete Control Solutions**

Air Control component packages are a part of any actuator/valve installation.

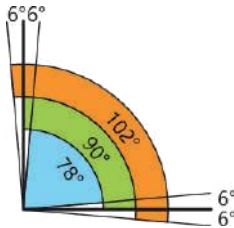
Zeetork has extensive experience in the design and assembly of all types of air control systems to satisfy any customer requirement for on/off, control or ESD service.

Packages can be mounted on a panel or in a cabinet and mounted either on the actuator or at a remote location.

## Performance Characteristics & Conditions

### IS05211 and Namur Mounting

The ZRF series actuator's connections are with IS05211 interface to valve and Namur interface to limit switch box or valve positioners.



### Stroke

ZRF yoke mechanism fitted with mechanical end stops(open or closed positions)to ensure adjustable range of  $\pm 6^\circ$ .

### Water Ingress Protection

O-ring and seals(NBR for standard and PTFE for extreme cold) are fitted on bodys, caps, cylinders and each connection to ensure water ingress protected.

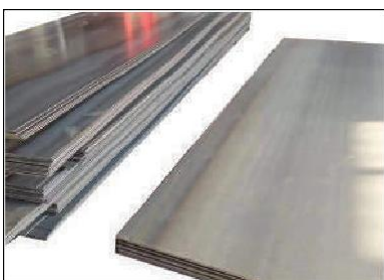


### Operating Conditions

Working media is 3-6 bar pressure air which is less than 40um filtered, dried and lubricated. ZRF actuator are available to be used in high temperature and extreme cold environments.

### Corrosion Resistant

ZRF actuators are laid on three coats of paint to resist severe weather, chemical and petroleum environments. The inner surface of cylinder is coated by PTFE, enhance corrosion resistant and self lubricating.



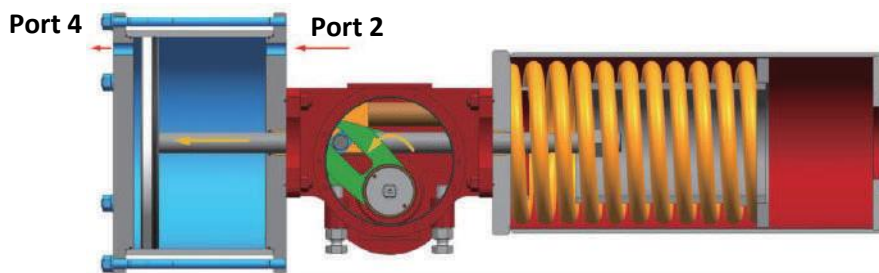
### Suitable for Extreme Environment

In extreme cold environment application, the PTFE is used for seal and low temperature pressure vessel steel(09MnNiDR)is used for each module. The body will be welded by(09MnNiDR).

## Actuator operating Principle

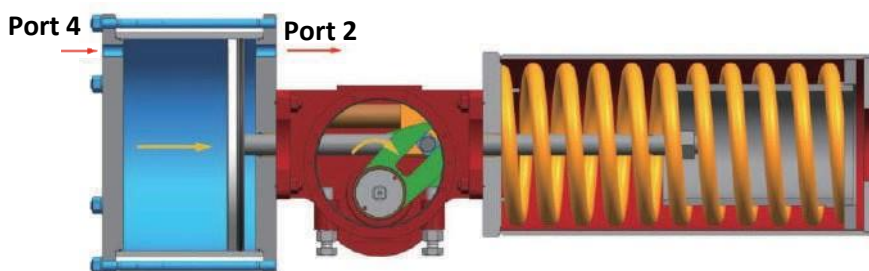
As for ZRF series scotch yoke pneumatic actuators, the double acting and spring return types are available on request. In the double acting actuator, one or two pneumatic cylinders are fitted to one or each sides and the actuator is operated by pressure air totally. In the spring return actuator, one side is fitted with pneumatic cylinder and another side is fitted with a spring cartridge for emergency shutdown(ESD) applications. The actuator is operated by pressure air in one position(open or closed) and by spring energy in another position(closed or open).Following is the operating principle.

### Air to Open Position



Air to port2 forces the piston towards the left, causing the spring to be compressed and the yoke turns counterclockwise(to open the valve)while air is exhausted from port4(refer to the above picture).

### Spring Return to Closed Position

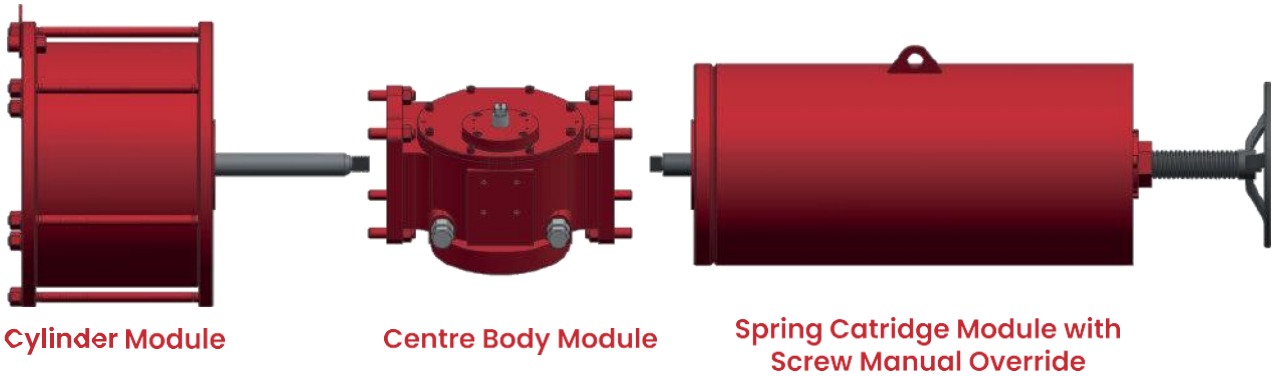


Loss of air pressure on port2,the stored energy in the spring forces the piston towards the right and the yoke turns clockwise(to closed the valve)while air is exhausted from port2 and port4 keeping breathed status with atmospheric environment(refer to the above picture).

## Modular Structure and Application

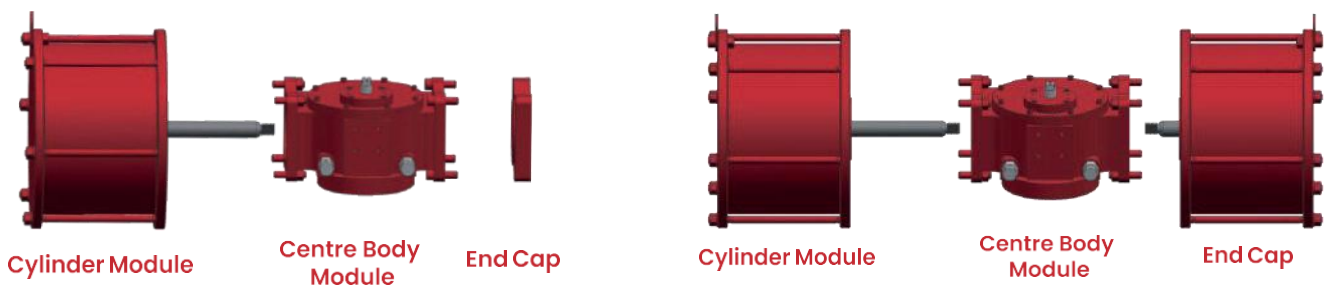
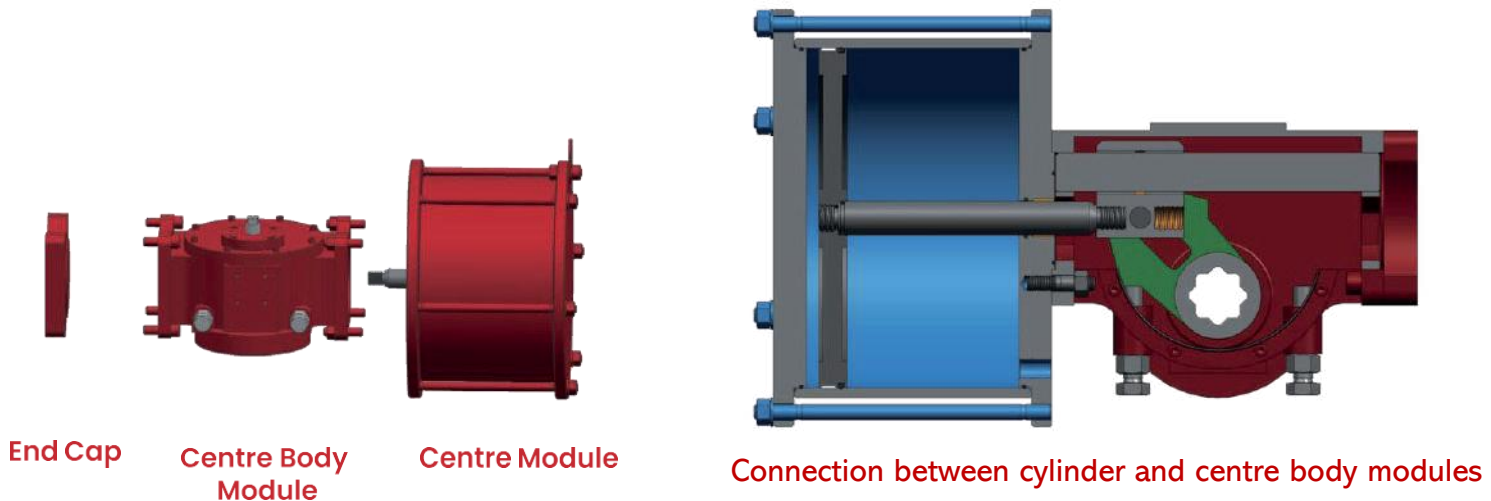
### Flexible Modular Design

Zeetork ZRF series actuator share modular construction design. The centre body is available in ten sizes. A pneumatic or hydraulic cylinder can be attached to either or both sides. A spring cartridge can also be fitted to either side for ESD(emergency shut down)applications.



### Interchangeable by the User

The modules are removable and interchangeable while mounted to operate the valve used in certain specific applications. Note that only same size of modular unit can be interchanged.

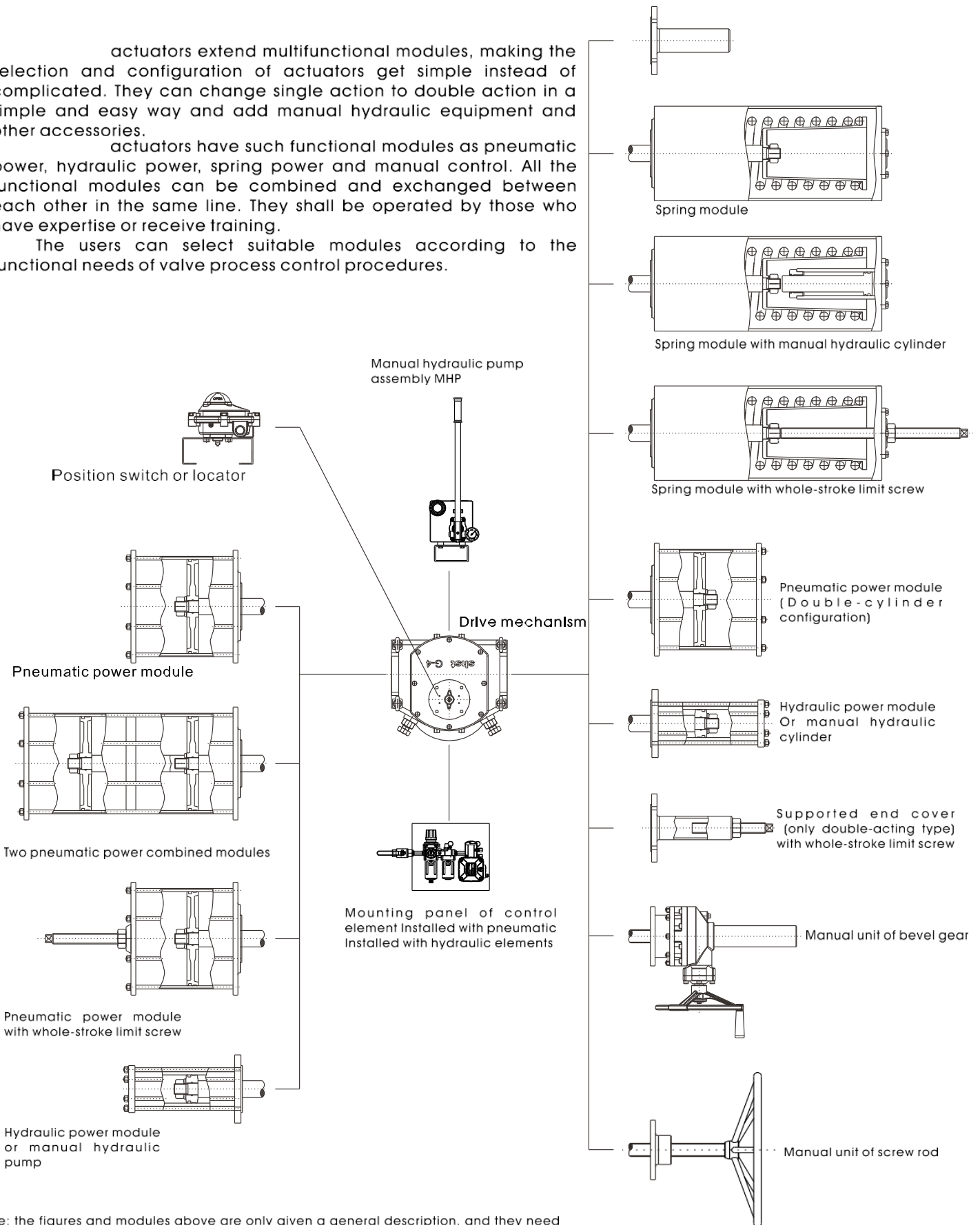


# Modular Multifunction

actuators extend multifunctional modules, making the selection and configuration of actuators get simple instead of complicated. They can change single action to double action in a simple and easy way and add manual hydraulic equipment and other accessories.

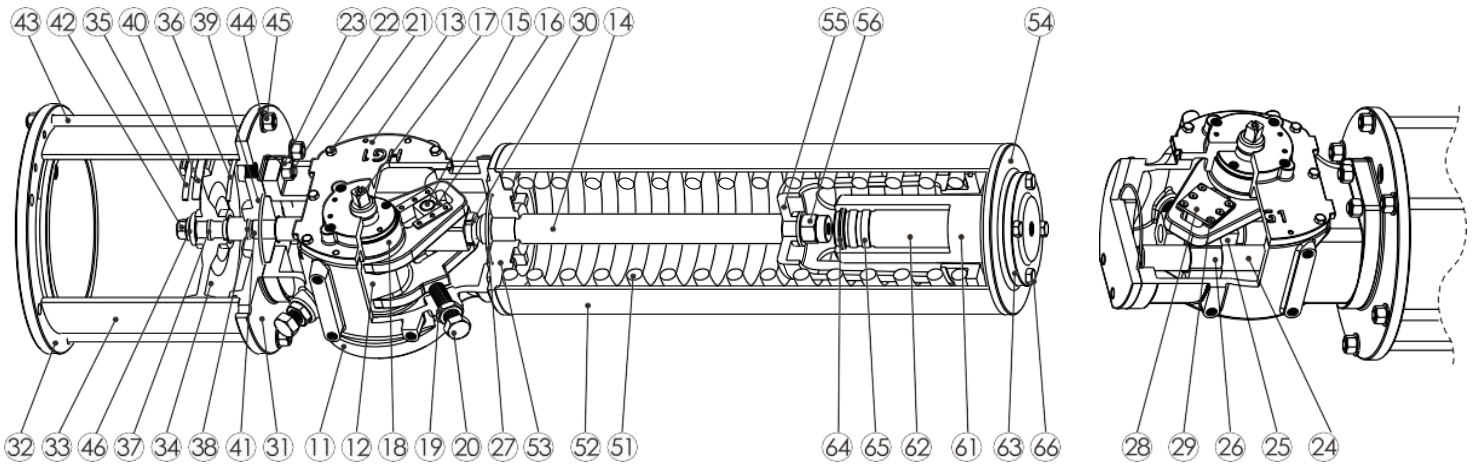
actuators have such functional modules as pneumatic power, hydraulic power, spring power and manual control. All the functional modules can be combined and exchanged between each other in the same line. They shall be operated by those who have expertise or receive training.

The users can select suitable modules according to the functional needs of valve process control procedures.



Note: the figures and modules above are only given a general description, and they need to be subject to the confirmed drawings provided by the supplier's technology department.

## Structure and Application



Note: The picture above shows the single-action type. Please contact the technical department of the company if you have any questions.

No.	Part	material	No.	Part	material
11	Case	Ductile iron	37	O ring	Rubber
12	Fork	Cast carbon steel	38	O ring	Rubber
13	Cover	Ductile iron	39	O ring	Rubber
14	Piston rod	Carbon steel	40	Guide ring	Composite material
15	Pin roll	Bearing steel	41	Lubricating bearing	Composite material
16	Rolling sleeve	Bearing steel	42	Locknut	Carbon steel
17	Output shaft	Carbon steel (chrome plated)	43	Stud bolt	Carbon steel
18	Lubricating bearing	Composite material	44	Gasket	Carbon steel
19	Nut	Carbon steel	45	Nut	Carbon steel
20	Adjusting bolt	Carbon steel	51	Compression spring	Spring steel
21	Hexagonal bolt	Carbon steel	52	Spring steel tube	Carbon steel
22	Stud bolt	Carbon steel	53	Spring seat	Carbon steel
23	Nut	Carbon steel	54	Welded flange	Carbon steel
24	Guide rod	Carbon steel (internally chrome plated)	55	Spring sleeve	Carbon steel
25	Support slipper	Carbon steel	56	Anti-escaping nut	Carbon steel
26	Lubricating bearing	Composite material	61	Hydraulic cylinder	Carbon steel (chrome plated)
31	Cylinder internal end cover	Ductile iron	62	Plunger	Carbon steel (internally chrome plated)
32	Cylinder external end cover	Ductile iron	63	Hydraulic flange	Carbon steel
33	Cylinder bock	Carbon steel (chrome plated)	64	Seal ring	Rubber
34	Piston	Ductile iron	65	Guide ring	Composite material
35	Piston O ring	Rubber	66	Hexagonal bolt	Carbon steel
36	Cover O ring	Rubber			

## Output Torque

### Double Acting Output Torque of ZRF Series Actuator (DA)

Model	Air pressure(Bar)									
	Stoke Position	3	3.5	4	4.5	5.0	5.5	6	7.0	8
ZRF 0 - 180DA	Start/End	667	778	889	1000	1111	1222	1334	1556	1778
	Medium Min.Value	361	421	481	541	601	661	721	841	961
ZRF 0 - 220DA	Start/End	996	1162	1328	1494	1660	1826	1992	2324	2656
	Medium Min.Value	539	628	718	808	898	987	1077	1257	1436
ZRF 1 - 250DA	Start/End	1543	1801	2063	2321	2579	2837	3094	3610	4126
	Medium Min.Value	835	974	1113	1252	1391	1530	1669	1947	2225
ZRF 1 - 300DA	Start/End	2223	2593	2963	3334	3704	4075	4445	5186	5927
	Medium Min.Value	1202	1402	1602	1803	2003	2203	2404	2804	3205
ZRF 2 - 300DA	Start/End	2712	3163	3642	4077	4530	4983	5436	6342	7248
	Medium Min.Value	1466	1711	1955	2199	2444	2688	2932	3421	3910
ZRF 2 - 350DA	Start/End	3691	4306	4921	5536	6151	6766	7381	8612	9842
	Medium Min.Value	1996	2328	2661	2993	3326	3659	3991	4656	5322
ZRF 3 - 350DA	Start/End	4482	5229	5991	6740	7489	8237	8986	10484	11982
	Medium Min.Value	2424	2828	3231	3635	4039	4443	4847	5655	6463
ZRF 3 - 400DA	Start/End	5854	6830	7806	8782	9757	10733	11709	13660	15612
	Medium Min.Value	3166	3693	4221	4748	5276	5803	6331	7386	8441
ZRF 4 - 400DA	Start/End	7112	8298	9506	10694	11882	13071	14259	16635	19012
	Medium Min.Value	3846	4487	5127	5768	6409	7050	7691	8973	10255
ZRF 4 - 500DA	Start/End	11113	12965	14817	16669	18521	20373	22226	25930	29634
	Medium Min.Value	6009	7010	8012	9013	10015	11016	12018	14020	16023
ZRF 5 - 500DA	Start/End	14405	16806	19254	21661	24067	26474	28881	33694	38508
	Medium Min.Value	7789	9087	10386	11684	12982	14280	15578	18175	20771
ZRF 5 - 600DA	Start/End	20744	24201	27658	31116	34573	38030	41488	48402	55317
	Medium Min.Value	11216	13086	14955	16825	18694	20563	22433	26172	29910
ZRF 7 - 600 DA	Start/End	25484	29733	34063	38321	42579	46836	51094	59610	68126
	Medium Min.Value	13780	16077	18374	20670	22967	25264	27560	32154	36747
ZRF 7 - 720DA	Start/End	36699	42815	48932	55048	61165	67281	73398	85631	97864
	Medium Min.Value	19843	23151	26458	29765	33072	36380	39687	46301	52916
ZRF 8 - 720DA	Start/End	43356	50582	57808	65034	72260	79486	86712	101164	115616
	Medium Min.Value	23443	27350	31257	35164	39072	42979	46886	54700	62514
ZRF 8 - 780DA	Start/End	50883	59363	67844	76324	84805	93285	101766	118727	135688
	Medium Min.Value	27513	32098	36684	41269	45855	50440	55026	64197	73368
ZRF 8 - 880DA	Start/End	64766	75560	86355	97149	107944	118738	129532	151121	172710
	Medium Min.Value	35020	40856	46693	52529	58366	64203	70039	81713	93386
ZRF 8 - 980DA	Start/End	80322	93709	107096	120483	133870	147257	160644	187418	214192
	Medium Min.Value	43431	50669	57908	65146	72385	79623	86862	101339	115816

## Output Torque

### Output Torque of ZRF Series Actuator with Single Acting (SR)

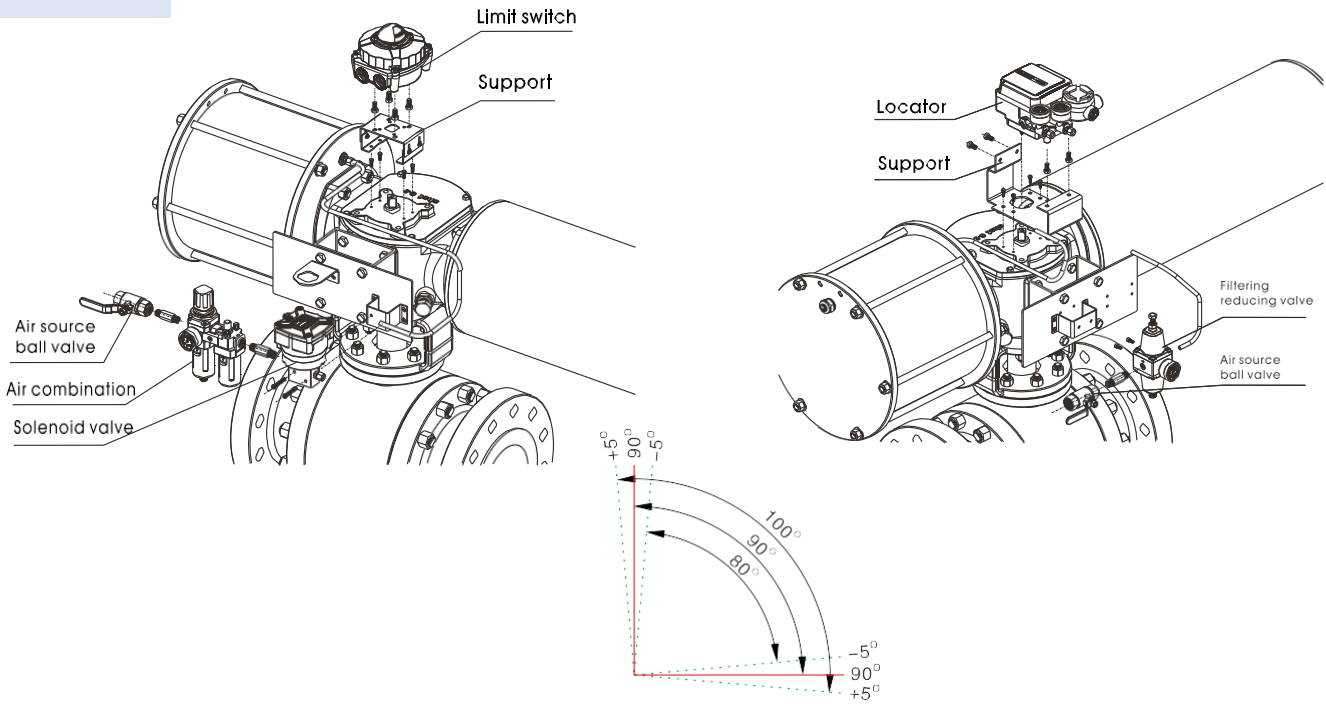
Sr.No	Model	OUTPUT TORQUE OF SCOTCH YOKE F SERIES PNEUMATIC ACTUATOR WITH SINGLE ACTING(Unit:Nm)									
		Stoke Position	Spring Torque Output	Air pressure(Bar)							
				3	3.5	4	4.5	5	5.5	6	7
1	ZRF 0 - 180 SR2	Start	520	327	438	549	660	771	882	994	1216
		Middle	230	131	191	251	311	371	431	491	611
		End	340	147	258	369	480	591	702	814	1036
2	ZRF 0 - 180 SR3	Start	766	-	-	-	471	582	693	805	1027
		Middle	358	-	-	-	183	243	303	363	483
		End	529	-	-	-	234	345	456	568	790
3	ZRF 0 - 220 SR3	Start	766	467	633	799	965	1131	1297	1463	1795
		Middle	358	181	270	360	450	540	629	719	899
		End	529	230	396	562	728	894	1060	1226	1558
4	ZRF 1 - 250 SR2	Start	1210	703	961	1223	1481	1739	1997	2254	2770
		Middle	550	285	424	563	702	841	980	1119	1397
		End	840	333	591	853	1111	1369	1627	1884	2400
5	ZRF 1 - 250 SR3	Start	1750	-	-	-	1091	1349	1607	1864	2380
		Middle	800	-	-	-	452	591	730	869	1147
		End	1230	-	-	-	571	829	1087	1344	1860
6	ZRF 1 - 300 SR3	Start	1750	993	1363	1733	2104	2474	2845	3215	3956
		Middle	800	402	602	802	1003	1203	1403	1604	2004
		End	1230	473	843	1213	1584	1954	2325	2695	3436
7	ZRF 1 - 300 SR4	Start	2186	-	-	1523	1894	2264	2635	3005	3746
		Middle	1000	-	-	602	803	1003	1203	1404	1804
		End	1440	-	-	777	1148	1518	1889	2259	3000
8	ZRF 2 - 300 SR2	Start	2130	1272	1723	2184	2637	3090	3543	3996	4902
		Middle	960	506	751	995	1239	1484	1728	1972	2461
		End	1440	582	1033	1494	1947	2400	2853	3306	4212
9	ZRF 2 - 300 SR3	Start	2900	-	-	1724	2177	2630	3083	3536	4442
		Middle	1300	-	-	655	899	1144	1388	1632	2121
		End	1900	-	-	724	1177	1630	2083	2536	3442
10	ZRF 2 - 350 SR3	Start	2900	1791	2406	3021	3636	4251	4866	5481	6712
		Middle	1300	696	1028	1361	1693	2026	2359	2691	3356
		End	1900	791	1406	2021	2636	3251	3866	4481	5712
11	ZRF 2 - 350 SR4	Start	3600	-	-	2451	3066	3681	4296	4911	6142
		Middle	1690	-	-	971	1303	1636	1969	2301	2966
		End	2470	-	-	1321	1936	2551	3166	3781	5012
12	ZRF 3 - 350 SR2	Start	3660	2182	2929	3691	4440	5189	5937	6686	8184
		Middle	1610	814	1218	1621	2025	2429	2833	3237	4045
		End	2300	822	1569	2331	3080	3829	4577	5326	6824
13	ZRF 3 - 350 SR3	Start	4800	-	-	2991	3740	4489	5237	5986	7484
		Middle	2100	-	-	1131	1535	1939	2343	2747	3555
		End	3000	-	-	1191	1940	2689	3437	4186	5684
14	ZRF 3 - 400 SR3	Start	4800	2854	3830	4806	5782	6757	7733	8709	10660
		Middle	2100	1054	1593	2121	2648	3176	3703	4231	5286
		End	3000	1066	2030	3006	3982	4957	5933	6909	8860
15	ZRF 3 - 400 SR4	Start	6000	-	3250	4226	5202	6177	7153	8129	10080
		Middle	2650	-	1043	1571	2098	2626	3153	3681	4736
		End	3580	-	830	1806	2782	3757	4733	5709	7660
16	ZRF 4 - 400 SR2	Start	6048	3738	4924	6132	7320	8508	9697	10885	13261
		Middle	2547	1064	1940	2580	3221	3862	4503	5144	6426
		End	3374	1299	2250	3458	4646	5834	7023	8211	10587
17	ZRF 4 - 400 SR3	Start	9468	-	-	4228	5416	6604	7793	8981	11357
		Middle	3987	-	-	1140	1781	2422	3063	3704	4986
		End	5278	-	-	38	1226	2414	3603	4791	7167

## Output Torque

### Output Torque of ZRF Series Actuator with Single Acting (SR)

Sr.No	Model	OUTPUT TORQUE OF SCOTCH YOKE F SERIES PNEUMATIC ACTUATOR WITH SINGLE ACTING(Unit:Nm)									
		Stoke Position	Spring Torque Output	Air pressure(Bar)							
				3	3.5	4	4.5	5	5.5	6	7
18	ZRF 4 - 500 SR3	Start	9468	5835	7687	9539	11391	13243	15095	16948	20652
		Middle	3987	1645	3023	4025	5026	6028	7029	8031	10033
		End	5278	2022	3497	5349	7201	9053	10905	12758	16462
19	ZRF 4 - 500 SR4	Start	11400	-	6065	7917	9769	11621	13473	15326	19030
		Middle	5080	-	1930	2932	3933	4935	5936	6938	8940
		End	6900	-	1565	3417	5269	7121	8973	10826	14530
20	ZRF 5 - 500 SR2	Start	12139	7226	9627	12075	14482	16888	19295	21702	26515
		Middle	5226	2266	3861	5160	6458	7756	9054	10352	12949
		End	7179	2563	4667	7115	9522	11928	14335	16742	21555
21	ZRF 5 - 500 SR3	Start	17171	-	-	9098	11505	13911	16318	18725	23538
		Middle	7388	-	-	2998	4296	5594	6892	8190	10787
		End	10156	-	-	2083	4490	6896	9303	11710	16523
22	ZRF 5 - 600 SR3	Start	17171	10588	14045	17502	20960	24417	27874	31332	38246
		Middle	7388	3573	5698	7567	9437	11306	13175	15045	18784
		End	10156	3828	7030	10487	13945	17402	20859	24317	31231
23	ZRF 5 - 600 SR4	Start	21000	-	11401	14858	18316	21773	25230	28688	35602
		Middle	9400	-	3686	5555	7425	9294	11163	13033	16772
		End	12800	-	3201	6658	10116	13573	17030	20488	27402
24	ZRF 7 - 600 SR2	Start	21848	13362	17610	21940	26198	30456	34713	38971	47487
		Middle	9131	3637	6946	9243	11539	13836	16133	18429	23023
		End	12123	4649	7885	12215	16473	20731	24988	29246	37762
25	ZRF 7 - 600 SR3	Start	31551	-	-	16556	20814	25072	29329	33587	42103
		Middle	13263	-	-	5111	7407	9704	12001	14297	18891
		End	17507	-	-	2512	6770	11028	15285	19543	28059
26	ZRF 7 - 720 SR3	Start	31551	19192	25308	31425	37541	43658	49774	55891	68124
		Middle	13263	5148	9888	13195	16502	19809	23117	26424	33038
		End	17507	6580	11264	17381	23497	29614	35730	41847	54080
27	ZRF 7 - 720 SR4	Start	38600	-	21115	27232	33348	39465	45581	51698	63931
		Middle	16700	-	6451	9758	13065	16372	19680	22987	29601
		End	21700	-	4215	10332	16448	22565	28681	34798	47031
28	ZRF 8 - 720 SR2	Start	34816	21842	29068	36294	43520	50746	57972	65198	79650
		Middle	15606	7837	11744	15651	19558	23465	27372	31279	39094
		End	21514	8539	15765	22991	30217	37443	44669	51895	66347
29	ZRF 8 - 720 SR3	Start	42794	-	-	29424	36650	43876	51101	58327	72779
		Middle	18492	-	-	12765	16672	20580	24487	28394	36208
		End	28384	-	-	15014	22240	29466	36692	43918	58370
30	ZRF 8 - 780 SR3	Start	42794	22499	30979	39460	47940	56421	64901	73382	90343
		Middle	18492	8089	13606	18192	22777	27363	31948	36534	45705
		End	28384	9021	16570	25050	33531	42011	50492	58972	75933
31	ZRF 8 - 780 SR4	Start	53738	-	28417	36898	45378	53859	62339	70820	87781
		Middle	22895	-	9203	13789	18374	22960	27545	32131	41302
		End	30946	-	5625	14106	22586	31067	39547	48028	64989
32	ZRF 8 - 880 SR4	Start	53738	33820	44614	55409	66203	76998	87792	98586	120175
		Middle	22895	11028	17961	23798	29643	35471	41308	47144	58818
		End	30946	12125	21822	32617	43411	54206	65000	75794	97383
33	ZRF 8 - 880 SR5	Start	67000	-	37560	48355	59149	69944	80738	91532	113121
		Middle	28600	-	12256	18093	23929	29766	35603	41439	53113
		End	38000	-	8560	19355	30149	40944	51738	62532	84121
34	ZRF 8 - 980 SR5	Start	67000	42322	55709	69096	82483	95870	109257	122644	149418
		Middle	28600	13322	22069	29308	36546	43785	51023	58262	72739
		End	38000	14831	26709	40096	53483	66870	80257	93644	120418

## Dimension



Type	Cylinder volume (L)		Switching time (S)		MAX. Pressure (bar)	Weight (KG)
	Inside	Outside	Open(inside)	close(outside)		
ZRF 0 - 180DA	3.2	3.3	2.0	2.0	8	42.0
ZRF 0 - 220DA	4.9	5.8	2.2	2.3	8	55.0
ZRF 1 - 250DA	8.0	8.5	2.5	2.5	8	93.0
ZRF 1 - 300DA	10.5	12.5	3.0	3.0	8	118.0
ZRF 2 - 300DA	13.5	15.0	3.0	3.0	8	134.0
ZRF 2 - 350DA	16.5	21.0	3.5	4.0	8	159.0
ZRF 3 - 350DA	21.5	24.0	4.0	4.0	8	198.0
ZRF 3 - 400DA	25.0	30.0	4.5	4.5	8	240.0
ZRF 4 - 400DA	34.0	38.5	5.0	5.0	8	322.0
ZRF 4 - 500DA	49.0	58.0	6.0	6.0	8	477.0
ZRF 5 - 500DA	69.5	77.0	7.0	7.0	8	585.0
ZRF 5 - 600DA	92.0	108.0	7.5	7.5	8	710.0
ZRF 7 - 600 DA	123.5	129.0	8.0	8.0	8	915.0
ZRF 7 - 720DA	150.0	187.0	9.0	10.0	8	1175.0
ZRF 8 - 720DA	207.0	214.5	10.6	11.6	8	1372.0
ZRF 8 - 780DA	239.0	254.0	12.4	13.5	8	1778.0
ZRF 8 - 880DA	303.0	324.0	15.8	16.8	8	2033.0
ZRF 8 - 980DA	340.0	370.0	20.0	21.0	8	2315.0

**Note:** 1. The cylinder module and spring module in the model table are standard configuration. The data will vary with the change of the configuration, so you can consult the technology department of the company, so you can consult the technology department of the company.

2. The action time can be measures at the conditions below: (1) room temperature; (2) rotary motion 90°; (3) neutral clean gas; (4) 2-3m tube; (5) 5.0bar air source pressure and (6) no load on actuator.

3. The weight in the table excludes any accessory.

## Dimension

Type	Cylinder volume (L)		Switching time (S)		MAX. Pressure (bar)	Weight (KG)
	Inside	Outside	Open(inside)	Close (spring return)		
ZRF 0 - 180 SR2	3.2	—	2.5	3.0	8	68.0
ZRF 0 - 180 SR3	3.2	—	2.5	3.0	8	72.0
ZRF 0 - 220 SR3	4.9	—	2.7	3.3	8	88.0
ZRF 1 - 250 SR2	8.0	—	3.0	3.5	8	164.0
ZRF 1 - 250 SR3	8.0	—	3.0	3.5	8	172.0
ZRF 1 - 300 SR3	10.5	—	3.5	4.0	8	189.0
ZRF 1 - 300 SR4	10.5	—	3.5	4.0	8	195.0
ZRF 2 - 300 SR2	13.5	—	4.0	5.0	8	239.5
ZRF 2 - 300 SR3	13.5	—	4.0	5.0	8	248.0
ZRF 2 - 350 SR3	16.5	—	4.5	5.5	8	265.0
ZRF 2 - 350 SR4	16.5	—	4.5	5.5	8	278.0
ZRF 3 - 350 SR2	21.5	—	5.0	6.0	8	362.0
ZRF 3 - 350 SR3	21.5	—	5.0	6.0	8	379.0
ZRF 3 - 400 SR3	25.0	—	5.0	6.0	8	404.0
ZRF 3 - 400 SR4	25.0	—	5.0	6.0	8	419.0
ZRF 4 - 400 SR2	34.0	—	6.0	7.0	8	575.0
ZRF 4 - 400 SR3	34.0	—	6.0	7.0	8	597.0
ZRF 4 - 500 SR3	49.0	—	7.0	8.0	8	730.0
ZRF 4 - 500 SR4	49.0	—	7.0	8.0	8	755.0
ZRF 5 - 500 SR2	69.5	—	9.0	10.0	8	1012.0
ZRF 5 - 500 SR3	69.5	—	9.0	10.0	8	1049.0
ZRF 5 - 600 SR3	92.0	—	9.0	10.0	8	1137.0
ZRF 5 - 600 SR4	92.0	—	9.0	10.0	8	1172.0
ZRF 7 - 600 SR2	123.5	—	10.0	12.0	8	1548.0
ZRF 7 - 600 SR3	123.5	—	10.0	12.0	8	1595.0
ZRF 7 - 720 SR3	150.0	—	10.0	12.0	8	1808.0
ZRF 7 - 720 SR4	150.0	—	10.0	12.0	8	1858.0
ZRF 8 - 720 SR2	207.0	—	12.0	14.0	8	2396.0
ZRF 8 - 720 SR3	207.0	—	12.0	14.0	8	2448.0
ZRF 8 - 780 SR3	239.0	—	14.0	16.0	8	2802.0
ZRF 8 - 780 SR4	239.0	—	14.0	16.0	8	2862.0
ZRF 8 - 880 SR4	303.0	—	17.0	18.0	8	3057.0
ZRF 8 - 880 SR5	303.0	—	17.0	18.0	8	3120.0
ZRF 8 - 980 SR5	340.0	—	21.5	23.0	8	3398.0

**Note:** 1. The cylinder module and spring module in the model table are standard configuration. The data will vary with the change of the configuration, so you can consultate the technology department of the company, so you can consultate the technology department of the company.

2. The action time can be measures at the conditions below: (1) room temperature; (2) rotary motion 90°; (3) neutral clean gas; (4) 2-3m tube; (5) 5.0bar air source pressure and (6) no load on actuator.

3. The weight in the table excludes any accessory.

# **ZEETORK**

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