

THDA-ET SERIES

Heavy Duty Pneumatic Actuator

Features

- Robust and compact design
- Quarter turn application and wide torque output
- Superior water penetration and resistance to corrosion
- Symmetrical cam shaft design (on request; asymmetric)
- Multidirectional modular design
- Scotch Yoke design
- Applicable for ISO 5211
- Fast and easy mounting accessories

TORK's new product "Heavy Duty", developed by its AR-GE team, used in the industrial sector's demanding facilities such as oil, natural gas, efficient performance is applied for fluid control at desired locations. In other actuators Rack & pinion mechanism is used, while the Heavy Duty actuator uses the more robust and higher performance Scotch Yoke mechanism. Thanks to this product, high torque is obtained at high torque. Where electricity and air are not available, the product can be mechanically opened and closed with the aid of the pressurized fluid in the line. It can also be switched on and off with a gas-hydraulic control unit specially designed for application using the gas over-oil unit to be added on top of the pipeline gas pressure.

Application Areas

- On Shore & Off Shore applications
- Oil and gas pipe lines
- Oil and gas transport
- Power generation plants
- Paper industry
- Petrochemical industry
- Oil and gas storage
- Water pipe lines
- Refinery industry
- Thermal power plants



HYDRAULIC HEAVY DUTY ACTUATOR



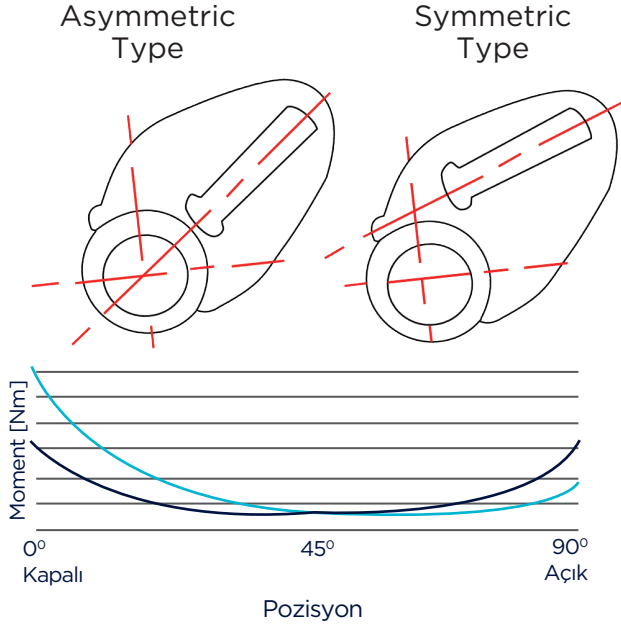
PNEUMATIC HEAVY DUTY ACTUATOR

Supply Fluid	Air (dry or conditioned) or nonaggressive gas, mineral oil or equivalent fluids
Supply Pressure Air	Pneumatic: 4-10 bar Hydraulic: 10-90 bar
Mode of Operation	Double Acting, Single Acting
Turning Angle	90° (±5°)
Torque Value	Up to 400.000 Nm (Double Acting) Up to 230.000 Nm (Single Acting)
Body	Cast Steel
Working Temperature	-20°C...80°C (On request -50°C...80°C or -20°C...160°C)
Body Cover	Elecktrostatic Powder Coat
Valve Connection	ISO 5211
Manuel Control	Can be Arranged on Request
Application	Pneumatic, Gas over Oil

DESIGN STRUCTURE

TORK Standardı

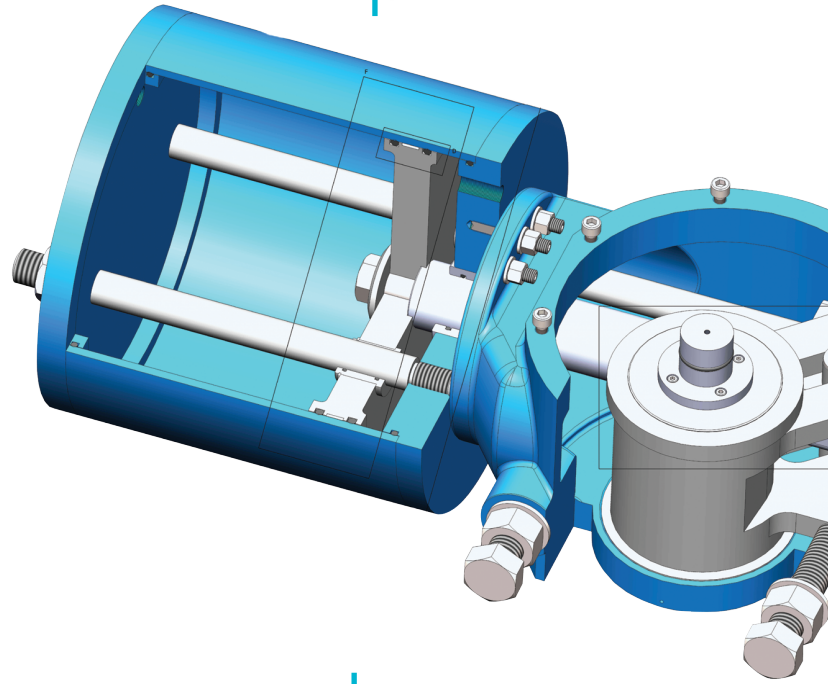
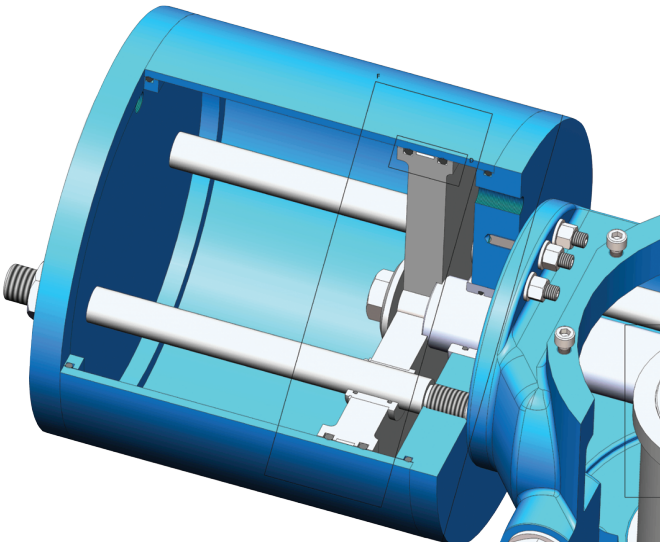
TORK Standard
THDA series actuators have standard structure for fast and easy mounting of positioners and switch box accessories.



Note: On request; asymmetrical
— Symetric
— Asymmetric

Reliable Position Guide Stick

THDA series' guide stick makes stable low air pressure in the cylinder and reduces friction for providing stable progress of acuator. Besides, at THDA series actuators; while using bearing, it is prevented to slip of spring holders and piston.



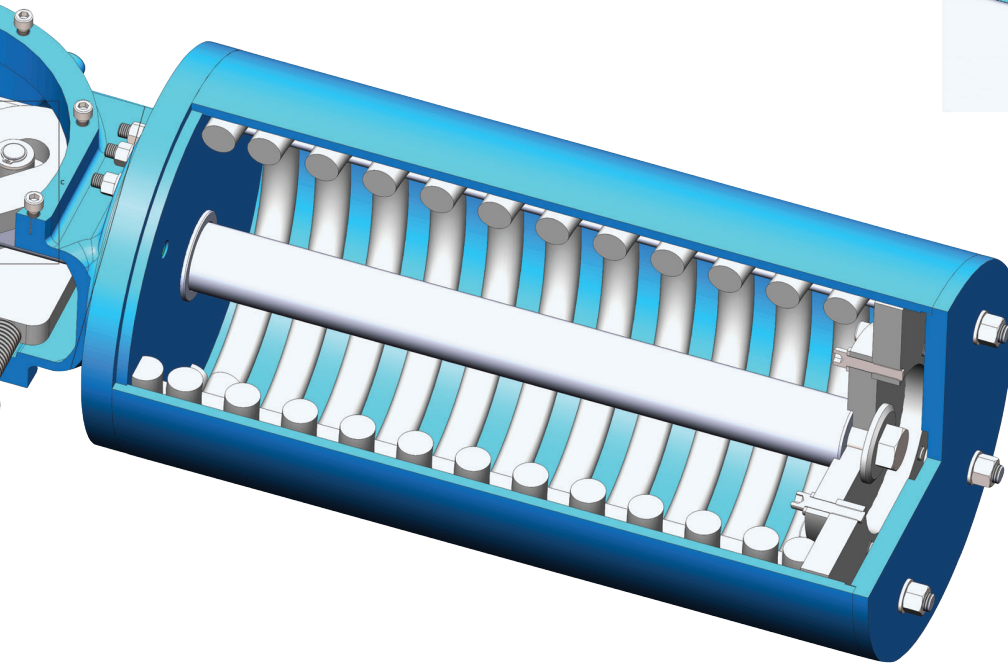
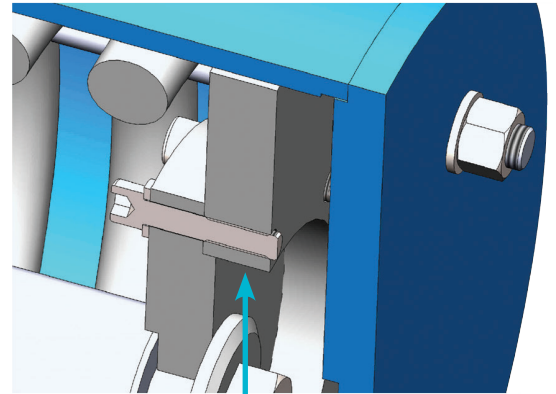
Piston O-Ring

High quality piston o-ring while preventing leak, it increases the performance of piston and at the same time makes longer of piston's life time.



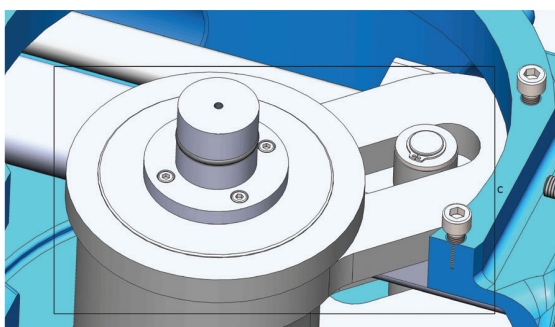
Spring Locking

Spring locking mechanism provides the balance of spring's movement and bedding.



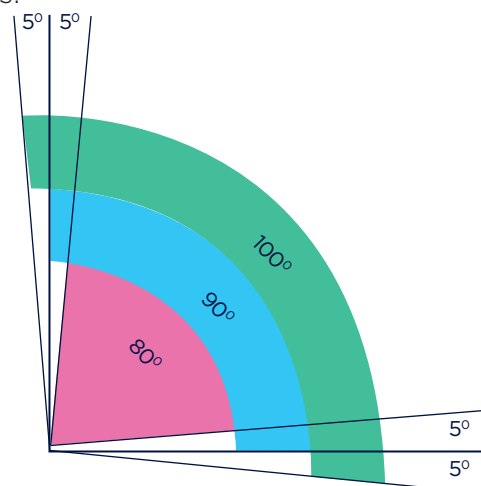
Pin Resistance

The surface heat-processed cam shaft, bearings and pin has low-friction factor and thus extend the working life of parts.



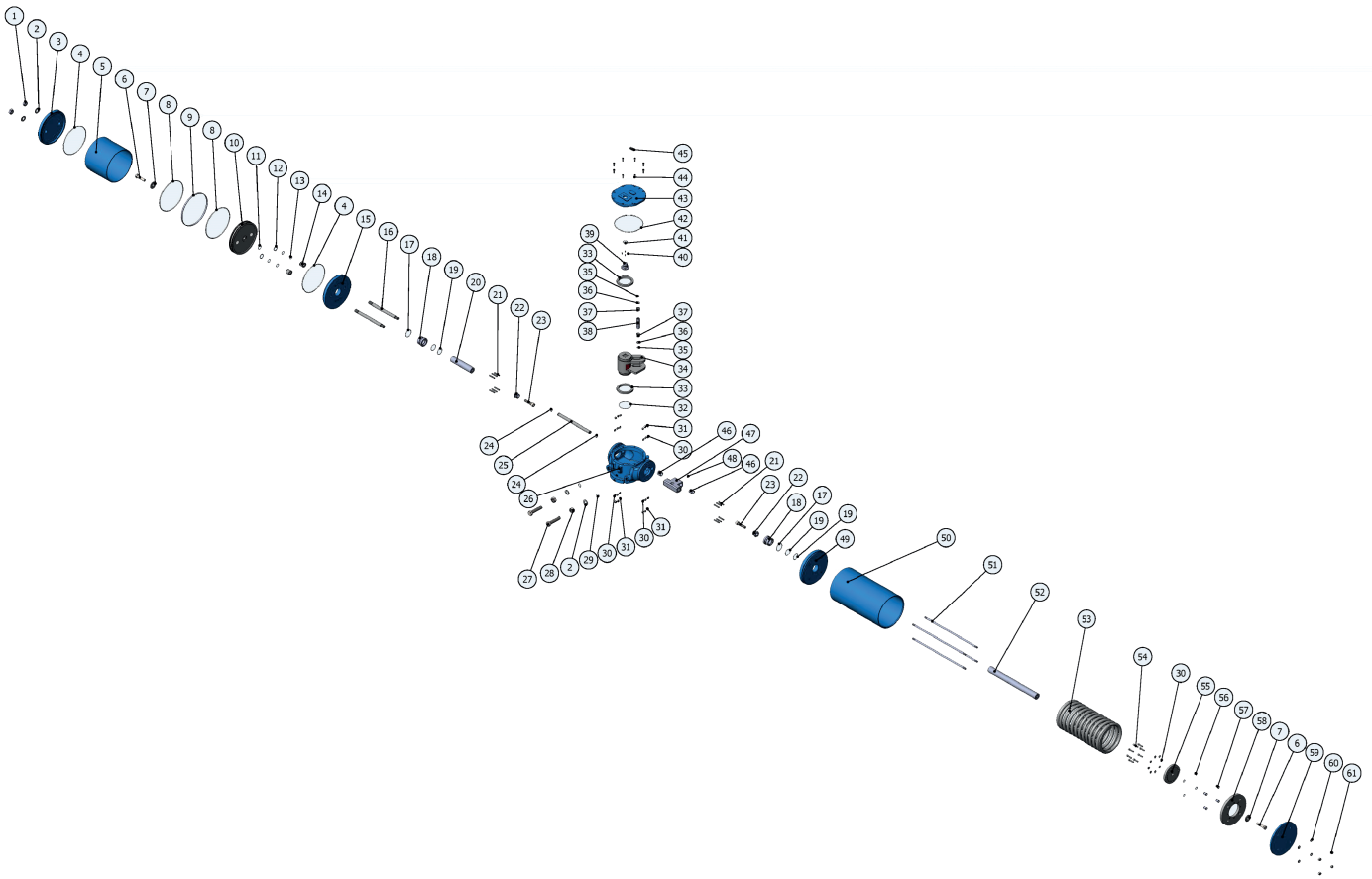
Easy Adjustment

Easy adjustment mechanism according to valves.



STRUCTURE AND PIECES

Single Acting

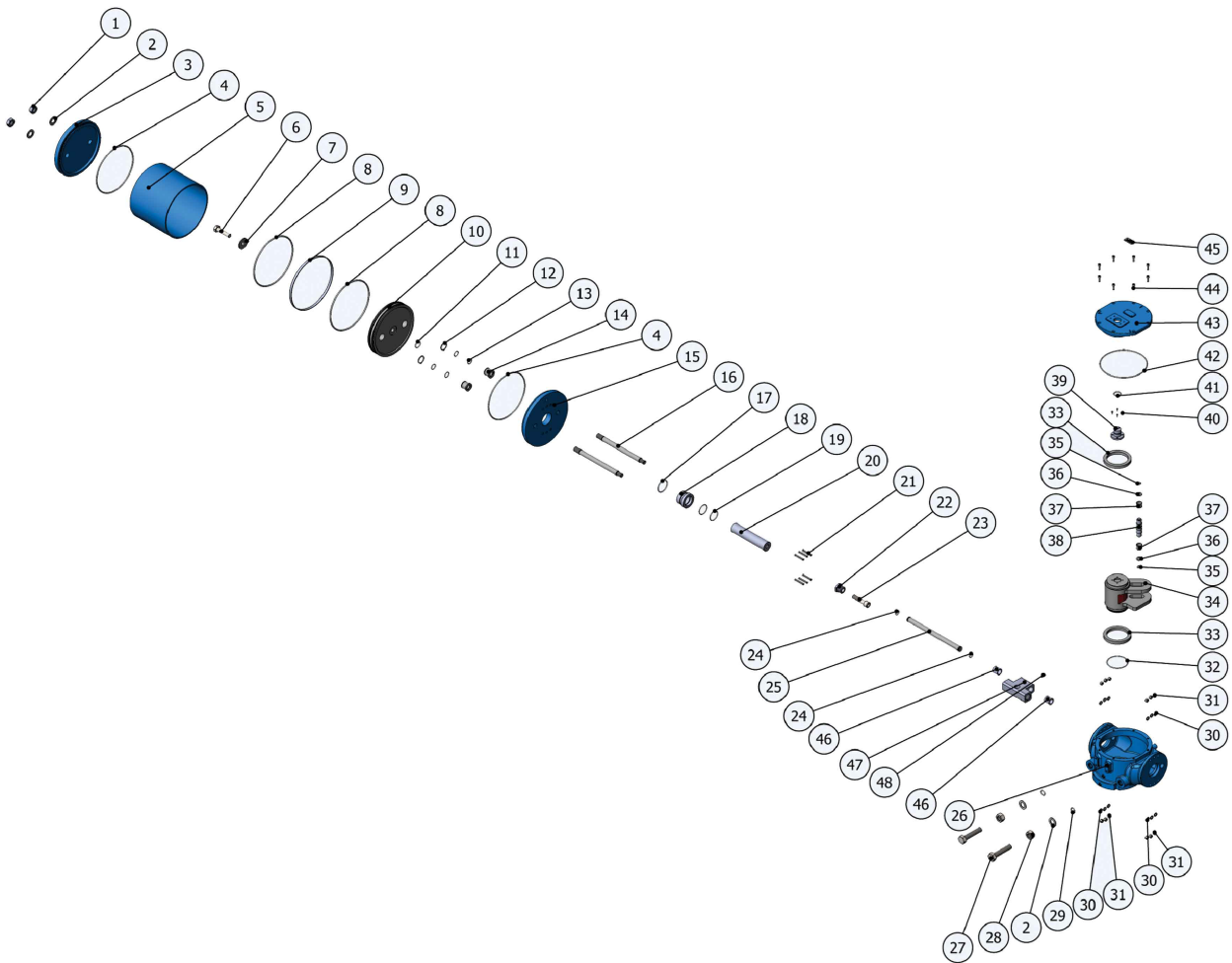


No	Part Description	Quantity
1	Cover Screw	8
2	Cover Left	1
3	Cover Seal	2
4	Spring	1
5	Spring Stopper	2
6	Spring Screw	2
7	Piston Oring	2
8	Piston Ring Delrin	2
9	Piston	2
10	Piston Back Right Delrin	2
11	Piston Back Left Delrin	2
12	Pin	2
13	Piston Segman	4
14	Stamp	2
15	Stopper	1
16	Delrin Top Cam	1
17	Spindle	1

No	Part Description	Quantity
18	Delrin Bottom Cam	1
19	Mile Upper Oring	1
20	Shaft Top Delrin	1
21	Mile	1
22	Shaft Bottom Delrin	1
23	Mile Bottom Oring	1
24	Stopper Oring	2
25	Stamp	2
26	Nut	2
27	Set Screw	2
28	Body	1
29	Indicator Delrin	1
30	Indicator Gap	1
31	Indicator	1
32	Spring	1
33	Cover Right	1

STRUCTURE AND PIECES

Double Acting



No	Part Description	Material	Unit	Quantity
1	NUT	AISI 304	AD	2
2	PINION	AISI 304	AD	4
3	FLANGE	STEEL PLATE	AD	1
4	ORING	NBR	AD	2
5	PISTON BODYÍ	St44	AD	1
6	BOLT	AISI 304	AD	2
7	PINION	AISI 304	AD	2
8	ORING	NBR	AD	2
9	DELTRIN	POM-C	AD	1
10	PISTON	STEEL PLATE	AD	1
11	ORING	NBR	AD	1
12	SEGMAN	8,8	AD	2
13	O-RING	NBR	AD	4
14	BUSH	BRONZE	AD	2
15	FLANGE	STEEL PLATE	AD	1
16	SHAFT	STEEL	AD	2
17	ORING	NBR	AD	2
18	BUSH	BRONZE	AD	2
19	ORING	NBR	AD	4
20	SHAFT	STEEL	AD	1
21	SET SCREW	AISI 304	AD	12
22	BUSH	AISI 4140	AD	2
23	BOLT	AISI 304	AD	2
24	ORING	NBR	AD	2
25	SHAFT	STEEL	AD	1
26	BODY	AISI 4140	AD	1
27	BOLT	AISI 304	AD	2
28	NUT	AISI 304	AD	2
29	ORING	NBR	AD	2
30	PINION	AISI 304	AD	20
31	NUT	AISI 304	AD	12

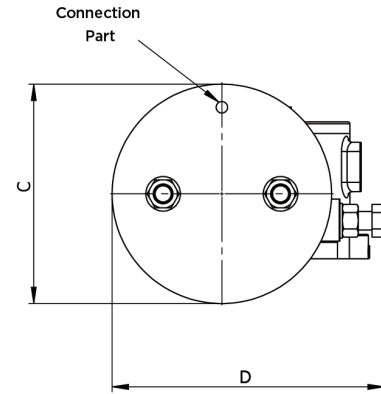
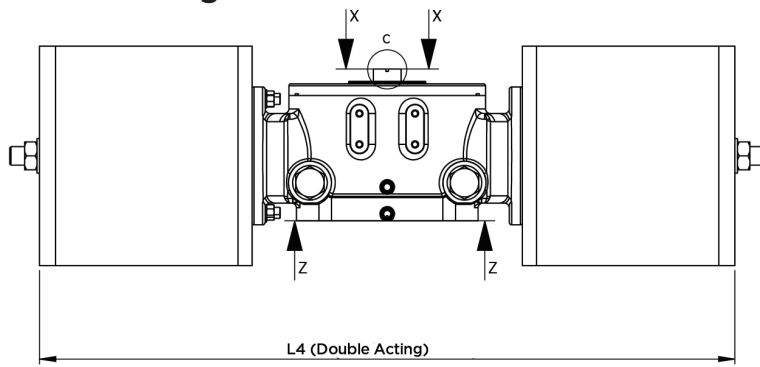
No	Part Description	Material	Unit	Quantity
32	ORING	NBR	AD	1
33	RULMAN		AD	2
34	SHAFT	AISI 4140	AD	1
35	SEGMAN	8,8	AD	2
36	PINION	AISI 304	AD	2
37	BEARING		AD	2
38	SHAFT	AISI 4140	AD	1
39	SHAFT	C 1040	AD	1
40	BOLT	AISI 304	AD	4
41	ORING	NBR	AD	1
42	ORING	NBR	AD	1
43	TOP OVER	AISI 4140	AD	1
44	BOLT	AISI 304	AD	8
45	LABEL	ALUMINUM	AD	1
46	BUSH	BRONZE	AD	2
47	SHAFT	AISI 4140	AD	1
48	SET CREW	AISI 304	AD	1
49	FLANGE	STEEL PLATE	AD	1
50	PISTON BODY	St44	AD	1
51	SHAFT	STEEL	AD	4
52	SHAFT	STEEL	AD	1
53	SPRING	SPRING STEEL	AD	1
54	BOLT	AISI 304	AD	8
55	FLANGE	STEEL PLATE	AD	1
56	SEGMAN	8,8	AD	4
57	BUSH	BRONZE	AD	4
58	FLANGE	STEEL PLATE	AD	1
59	FLANGE	STEEL PLATE	AD	1
60	PINION	AISI 304	AD	4
61	NUT	AISI 304	AD	4

TORK HEAVY DUTY ORDER CODES

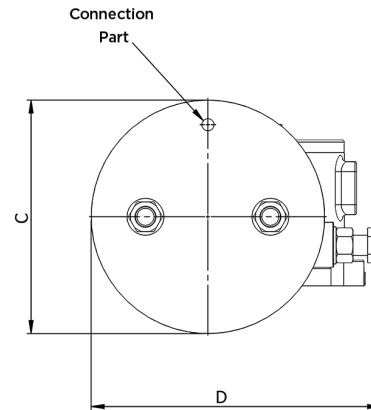
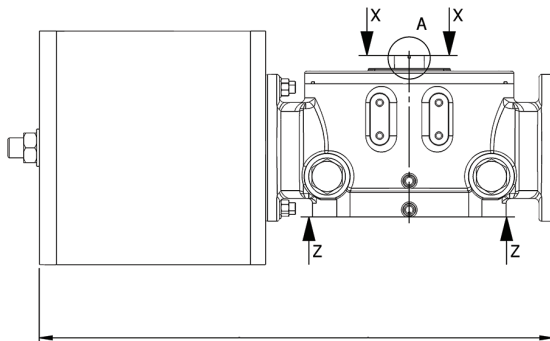
THDA - X - XXXX - XX - X - X

Body Sizes	Piston Diameter	Hydraulic	Mode of Operation	Working Temperature	Spring Codes
A	0063	H063	DA: Double Acting Single Piston	S -20°C ; +80°C	E1
B	0080	H080			E2
C	0100	H100	DD: Double Acting Double Piston	A -50°C ; +80°C	E3
D	0125	H125			E4
E	0150	H150	SR: Single Acting	H -20°C ; +160°C	E5
G	0200	H200			E6
H	0250	H250			
J	0300				
M	0350				
N	0400				
	0500				
	0600				
	0700				
	0800				
	0900				
	1000				
	1100				
	1200				
	1300				

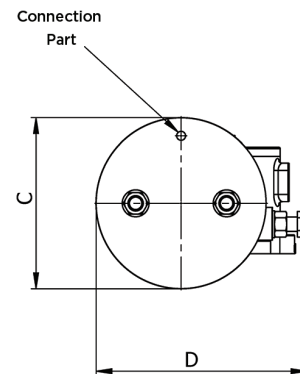
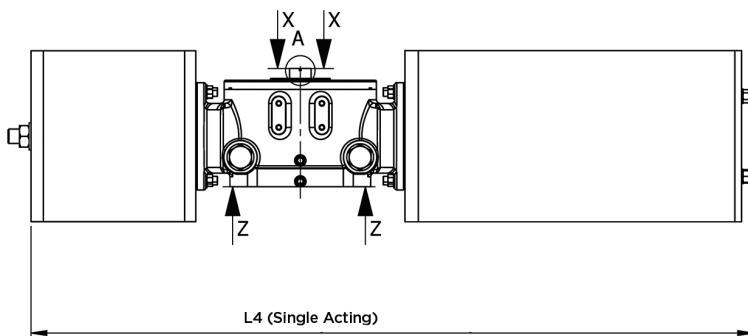
Double Acting Double Piston



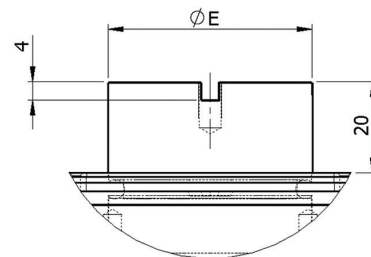
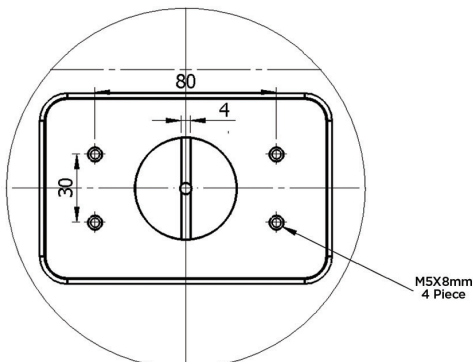
Double Acting Single Piston



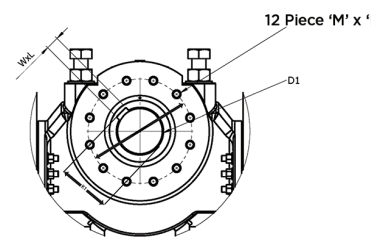
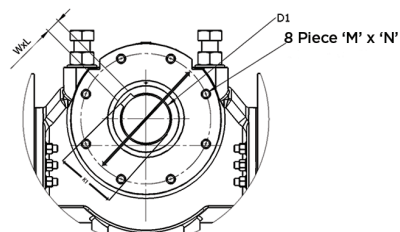
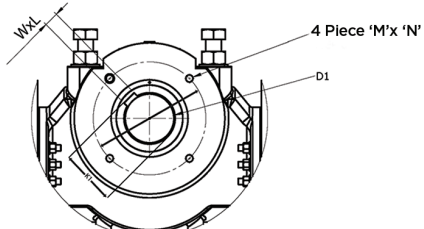
Single Acting



Limit Switch Montage



Valve Connection Part



MODEL	D1	SHAFT SIZE (W)	K1	SHAFT LENGTH (L)	M	N	ØO	FLANGE
THDA-A	-	-	-	-	M10	15	102	F10
THDA-B	-	-	-	-	M16 x 2P	24	140	F14
THDA-C	80	22	85.4	156	M20 x 2.5P	22	165	F16
THDA-D	100	28	106.4	183	M16 x 2P	24	254	F25
THDA-E	120	32	127.4	212	M20 x 2.5P	22	298	F30
THDA-G	160	40	170	295	M30 x 3.5P	32	356	F35
THDA-H	178	45	188.4	366	M36 x 4P	44.5	406	F40
THDA-J	220	50	231.4	389	M36 x 4P	54	483	F48
THDA-M	280	63	292.4	448	M36 x 4P	54	603	F60
THDA-N	360	90	377.4	550	M36 x 4P	54	603	F60

MODEL	L2	L4	C	D	ØE	CONNECTION SIZE
THDA-A063	570	325	-	180	20	1/4" NPT
THDA-A080	571	328	-			1/4" NPT
THDA-A0100	575	332	-			1/4" NPT
THDA-A0125	580	340	-			1/4" NPT
THDA-B0100	924	560	-	176	25	1/4" NPT
THDA-B0150	925	562	-			3/8" NPT
THDA-B0200	950	585	-			1/2" NPT
THDA-B0250	931	566	-			1/2" NPT
THDA-C0300	1553	726	310	400	45	3/4" NPT
THDA-C0350	1560	736	364	430		3/4" NPT
THDA-C0400	1567	744	425	460		3/4" NPT
THDA-D0300	1684	823	310	400	45	1/2" NPT
THDA-D0350	1691	830	364	425		1/2" NPT
THDA-D0400	1698	837	425	455		3/4" NPT
THDA-D0500	1705	845	525	505		3/4" NPT
THDA-E0300	1956	990	310	465	45	1/2" NPT
THDA-E0350	1962	995	364	488		1/2" NPT
THDA-E0400	1969	1005	425	520		3/4" NPT
THDA-E0500	1976	1010	525	570		3/4" NPT
THDA-E0600	1983	1020	625	620		3/4" NPT
THDA-E0700	1990	1025	780	700		1" NPT
THDA-G0400	2295	1215	425	565	45	1" NPT
THDA-G0500	2302	1225	525	615		3/4" NPT
THDA-G0600	2309	1230	625	665		3/4" NPT
THDA-G0700	2316	1235	780	745		1" NPT
THDA-G0800	2323	1245	850	780		1" NPT
THDA-G0900	2330	1250	950	830		1 1/2" NPT
THDA-H0500	2963	1518	530	580	55	3/4" NPT
THDA-H0600	2970	1526	640	634		3/4" NPT
THDA-H0700	2977	1533	780	704		1" NPT
THDA-H0800	2984	1538	850	739		1" NPT
THDA-H0900	2991	1545	950	789		1 1/2" NPT

* For single acting and double acting piston L4 sizes, please contact with us

Double Acting Tork Value (Nm)

Double Acting Heavy Duty Actuator				
THDA-DA	Min Tork (Nm)	Start/Stop Tork (Nm)	Standart Flange	Working Pressure (bar)
THDA-A-0080-DA	95	185	F10	6
THDA-A-0063-DA	65	125	F10	6
THDA-A-0100-DA	160	310	F10	6
THDA-A-0125-DA	223	433	F10	6
THDA-B-0100-DA	331	642	F14	6
THDA-B-0125-DA	462	896	F14	6
THDA-B-0150-DA	709	1375	F14	6
THDA-B-0200-DA	1093	2121	F14	6
THDA-B-0250-DA	1708	3314	F14	6
THDA-B-0300-DA	2255	4375	F14	5.5
THDA-B-0350-DA	2232	4331	F14	5
THDA-C-0300-DA	3181	6172	F16	6
THDA-C-0350-DA	3608	7000	F16	5
THDA-C-0400-DA	3299	6400	F16	3.5
THDA-D-0300-DA	3818	7406	F25	6
THDA-D-0350-DA	5196	10080	F25	6
THDA-D-0400-DA	6221	12069	F25	5.5
THDA-D-0500-DA	6186	12000	F25	3.5
THDA-E-0300-DA	4581	8887	F30	6
THDA-E-0350-DA	6235	12096	F30	6
THDA-E-0400-DA	8144	15799	F30	6
THDA-E-0500-DA	12725	24687	F30	6
THDA-E-0600-DA	12216	23699	F30	4
THDA-E-0700-DA	12471	24193	F30	3
THDA-G-0400-DA	9803	19018	F35	6
THDA-G-0500-DA	15317	29715	F35	6
THDA-G-0600-DA	22057	42790	F35	6
THDA-G-0700-DA	27520	53389	F35	5.5
THDA-G-0800-DA	26141	50714	F35	4
THDA-G-0900-DA	24814	48139	F35	3
THDA-H-0500-DA	18852	36573	F40	6
THDA-H-0600-DA	27147	52665	F40	6
THDA-H-0700-DA	36950	71683	F40	6
THDA-H-0800-DA	48261	93627	F40	6
THDA-H-0900-DA	50900	98747	F40	5
THDA-J-0600-DA	33597	65173	F48	6
THDA-J-0700-DA	45726	88708	F48	6
THDA-J-0800-DA	59723	115863	F48	6
THDA-J-0900-DA	75587	146639	F48	6
THDA-J-1000-DA	77765	150863	F48	5
THDA-M-0700-DA	60044	116485	F60	6
THDA-M-0800-DA	78424	152143	F60	6
THDA-M-0900-DA	99256	192556	F60	6
THDA-M-1000-DA	122538	237724	F60	6
THDA-N-1000-DA	157886	306298	F60	6
THDA-N-1100-DA	191041	370620	F60	6
THDA-N-1200-DA	227355	441069	F60	6
THDA-N-1300-DA	266826	517643	F60	6

Double Acting Tork Value (Nm)

Double Acting Heavy Duty Actuator				
THDA-DA	Min Tork (Nm)	Start/Stop Tork (Nm)	Standart Flange	Working Pressure (bar)
THDA-A-0080-DD	190	370	F10	6
THDA-A-0063-DD	130	250	F10	6
THDA-A-0100-DD	320	620	F10	6
THDA-A-0125-DD	446	866	F10	6
THDA-B-0100-DD	662	1284	F14	6
THDA-B-0125-DD	924	894	F14	6
THDA-B-0150-DD	1418	2750	F14	6
THDA-B-0200-DD	2186	4242	F14	6
THDA-D-0300-DD	7636	14812	F25	6
THDA-E-0350-DD	12470	24192	F30	6
THDA-G-0400-DD	19606	38036	F35	6
THDA-G-0500-DD	30634	59430	F35	6
THDA-H-0500-DD	37704	73146	F40	6
THDA-H-0600-DD	54294	105330	F40	6
THDA-J-0600-DD	67194	130346	F48	6
THDA-M-0700-DD	120088	233970	F60	6
THDA-N-1000-DD	315772	612596	F60	6

Single Acting Tork Value (Nm)

Single Acting Heavy Duty Actuator				
THDA-SR	Spring Tork Start /min/ Stop (Nm)	Air Trok Start /min/ Stop (Nm)	Standard Flange	Working Pressure (bar)
THDA-A-0063-SR- s01	70 / 33 / 60	65 / 32 / 55	F10	6
THDA-A-0080-SR- s02	93 / 44 / 78	107 / 51 / 92	F10	6
THDA-A-0100-SR- s03	111 / 51 / 89	221 / 109 / 199	F10	6
THDA-A-0125-SR- s03	111 / 51 / 89	344 / 172 / 322	F10	6
THDA-B-0100-SR- s04	378 / 177 / 311	331 / 154 / 264	F14	6
THDA-B-0125-SR- s05	449 / 212 / 355	585 / 285 / 518	F14	6
THDA-B-0150-SR- s06	611 / 290 / 514	861 / 419 / 764	F14	6
THDA-B-0200-SR- s07	1126 / 515 / 880	1241 / 578 / 995	F14	6
THDA-B-0250-SR- s08	1758 / 853 / 1477	1838 / 855 / 1556	F14	6
THDA-B-0300-SR- s09	2092 / 991 / 1674	2701 / 1264 / 2283	F14	5.5
THDA-B-0350-SR- s09	2092 / 991 / 1674	2657 / 1241 / 2239	F14	4
THDA-C-0300-SR- s10	3035 / 1458 / 2498	3674 / 1723 / 3137	F16	6
THDA-C-0350-SR- s11	3508 / 1668 / 2830	4171 / 1940 / 3492	F16	5
THDA-C-0400-SR- s11	3508 / 1668 / 2830	3571 / 1631 / 2893	F16	3.5
THDA-D-0300-SR- s12	4124 / 1932 / 3222	4184 / 1886 / 3282	F25	6
THDA-D-0350-SR- s13	5529 / 2546 / 4170	5910 / 2650 / 4552	F25	6
THDA-D-0400-SR- s13	5529 / 2546 / 4170	6802 / 3110 / 5443	F25	5
THDA-D-0500-SR- s13	5529 / 2546 / 4170	6116 / 2756 / 4757	F25	3
THDA-E-0300-SR- s14	7727 / 3482 / 5565	4804 / 1863 / 2641	F30	7
THDA-E-0350-SR- s14	7727 / 3482 / 5565	6532 / 2754 / 4369	F30	6
THDA-E-0400-SR- s15	9330 / 4169 / 6601	9199 / 3975 / 6470	F30	6
THDA-E-0500-SR- s16	11052 / 4933 / 7799	14831 / 6732 / 11578	F30	5.5
THDA-E-0600-SR- s16	11052 / 4933 / 7799	12938 / 5756 / 9685	F30	3.5
THDA-G-0500-SR- s17	17527 / 7458 / 11100	18616 / 7859 / 12189	F35	6
THDA-G-0600-SR- s18	25994 / 10753 / 15481	27309 / 11304 / 16796	F35	6
25994 / 10753 / 15481	25994 / 10753 / 15481	37908 / 16767 / 27395	F35	5.5
THDA-G-0800-SR- s19	28965 / 12304 / 18273	32441 / 13838 / 21750	F35	4
THDA-G-0900-SR- s19	28965 / 12304 / 18273	29866 / 12510 / 19174	F35	3
THDA-H-0600-SR- s20	39848 / 17034 / 25503	35939 / 14638 / 21594	F40	7
THDA-H-0700-SR- s20	39848 / 17034 / 25503	46180 / 19916 / 31835	F40	6
THDA-H-0800-SR- s21	50668 / 20909 / 30015	63612 / 27352 / 42959	F40	6
THDA-H-0900-SR- s22	60021 / 24740 / 35467	63280 / 26160 / 38726	F40	5
THDA-J-0600-SR- s23	57386 / 25761 / 40990	35045 / 13432 / 18649	F48	7
THDA-J-0700-SR- s23	57386 / 25761 / 40990	47718 / 19964 / 313321	F48	6
THDA-J-0800-SR- s24	67579 / 30312 / 48183	67680 / 29411 / 48283	F48	6
THDA-J-0900-SR- s25	83846 / 36730 / 56744	89895 / 38857 / 62793	F48	6
THDA-J-1000-SR- s25	83846 / 36730 / 56744	94119 / 41035 / 67018	F48	5
THDA-M-0800-SR- s26	114362 / 47145 / 67600	109900 / 44350 / 63138	F60	7
THDA-M-0900-SR- s26	114362 / 47145 / 67600	124956 / 52110 / 78194	F60	6
THDA-M-1000-SR- s27	156089 / 65396 / 95550	142174 / 57142 / 81635	F60	6
THDA-N-1100-SR- s28	251094 / 99760 / 136670	295721 / 123121 / 181296	F60	7
THDA-N-1200-SR- s28	251094 / 99760 / 136670	304399 / 127595 / 189975	F60	6
THDA-N-1300-SR- s29	309644 / 122195 / 165944	351700 / 144632 / 208000	F60	6

tork

valve & automation

HEAD OFFICE Bostancı Yolu Cad, Kuru Sok, No16 Y. Dudullu, 34776 Ümraniye İstanbul - TÜRKİYE

P +90 216 364 34 05 **F** +90 216 364 37 57

FACTORY İMES O.S.B. 5. Cad, No6 Çerkeşli O.S.B. Mah, Dilovası Kocaeli - TÜRKİYE

P +90 262 290 20 20 **F** +90 262 290 20 21

SMS-TORK Endüstriyel Otomasyon Ürünleri San. Tic. Ltd. Şti.

[f/SMSTORK](#) [m/sms-tork](#) www.smstork.com