HIGH PERFORMANCE AND PATENTED RACK AND PINION ACTUATOR









ATEX

 ϵ

SIL3



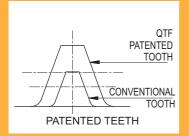
Engineering For The Future



INVOLUTE'- TEETH







- PATENTED special tooth profile with dual involute helps smooth rolling, low wear, minimal play helps in improving control operations
- Large teeth size helps actuator to take larger loads
- Highly suitable for extreme cyclic loads
- Conventional actuators have 16 teeth as a 12 teeth pinion design would normally cause interference. However, Rotex has successfully managed to develop and PATENT a unique 12 teeth pinion without interference

SPRINGS







- PATENTED,
 concentric tapered
 springs with flower
 design and modular
 construction to
 generate optimum
 torque. Normally, the
 slim springs tend to
 buckle. Rotex
 constructed springs
- do not buckle and provide a stable output

 PATENTED, solid turns in the middle act like a guide. The guiding of the spring allows the actuator to work with minimal friction and hence gives it a long life
- A total of 14 springs are provided which would normally give 14 torque variations. However, Rotex designed Wonder Spring is a unique product which will help the actuator generate 28 torque variations



RANGE OF RACK AND PINION ACTUATOR

QTF

ALUMINIUM 90 DEGREE

- · Aluminium extruded, hard anodized
- 90° rotation, +5°/-7°
 1 Nm to 5000 Nm





CTF

CARBON STEEL 90 DEGREE

- · WCB body, hard chrome bore
- 90° rotation, +5°/ -7°
- 1 Nm to 5000 Nm

STF

STAINLESS STEEL 90 DEGREE

- CF8M body90° rotation, +5°/ -7°1 Nm to 5000 Nm





QSF

100% STROKE ADJUSTABLE

- Aluminium body, WCB covers
 110° rotation, 100% stroke adjustable, only for outward stroke
- 1 Nm to 5000 Nm

***-SUT 90

MECHANICAL 3 POSITION

- Available in QTF, CTF and STF
 90° rotation, +5°/ -7°, 3rd position 0-45° fully adjustable
- 1 Nm to 5000 Nm
- · Fine and coarse control



****-SUEL 90 OR ****-SUEL 180

ELECTRICAL 3 POSITION

- Available in QTF, CTF and STF
 90° rotation, +5°/-7°, 3rd position 100% adjustable by setting cam in limit switch
- 1 Nm to 5000 Nm





***-180

ALUMINIUM 180-2 POSITION

- · Available in QTF, CTF and STF
- 90° rotation, +5°/-7°
- 0.5 Nm to 2500 Nm

***-HR 180

0-90-180 DEGREE

- Available in QTF, CTF and STF
- 0-90-180°, all position adjustable
- Fail safe pinion will return to 0°
- 0.5 Nm to 2500 Nm



***-HO 180

-90-0-90 DEGREE

- · Available in QTF, CTF and STF
- -90-0-90°, all positions adjustable Fail safe pinion will return to 0° (Fail mid)
- 0.5 Nm to 2500 Nm



QUICK ACTING

- Available in QTF, CTF and STF
- Quick closing upto 0.2 Sec
- Large ports for quick exhaust
- 1 Nm to 5000 Nm





PATENTED TECHNOLOGY, NEW GENERATION, COMPACT EXTRUDED HARD ANODIZED...

FEATURES

- PATENTED teeth profile double rack and pinion construction
- Hard anodized body providing high corrosion resistance
- The piston bearings have unique lubrication retaining groove
- Maximum working pressure 8 bar, Special version for 13 bar available
- · Additional lubrication is not required
- Temperature range NBR -20 °C to +80 °C, VITON -20 °C to +125 °C, Flourosilicon -60 °C to +110 °C
- Convertible to single acting by just adding springs
- Life more than 1 million cycles, tested as per EN 15714-3
- Stopper cam can be reversed

DOUBLE ACTING

ATEX C E SIL3









RACK AND PINION

- Teeth have dual involute profile for increased life
- Strong teeth for cyclic loads
- Can sustain opening and closing with impacts
- Hard anodized rack teeth for reduced wear

END STROKE (0°-90°)

- Setting the perfect opening and closing of the ball valve will ensure a long life of the ball valve seats
- Extremely important for pipe line pigging application
- +5°over travel setting possible for opening
- 7° Under traveling can be adjusted

INTEGRAL KEY

- Integral strong Aluminium key provides firm locking of the pinion, eliminating lateral movement under operation
- It acts as a bearing for outward stroke and avoids interference of teeth

...ALUMINUM BODY DOUBLE RACK AND PINION ACTUATOR SERIES "QTF"

FEATURES

- PATENTED spring retainer construction
- PATENTED taper springs for compact and high performance
- Rotex developed "Wonder Spring" to give large combination of torques
- Springs are epoxy coated for corrosion resistance
- Modular spring construction permits large combination of spring torque
- Easy assembling & dismantling to change to various spring codes.

SINGLE ACTING

ATEX C E SIL3









ISO PAD

- Valve mounting as per ISO 5211 with an additional mounting of a higher size
- Standardisation of mounting accessories
- ISO centering ring for precise location
- Octagonal drive shaft for ease of mounting

- SPRING QTF 32-110
- PATENTED conical spring for increased life
- High chrome material epoxy coated springs
- Modular spring set catering to various valve torque characteristics
- Non buckling modular spring design
- No special tools required to dismantle

SPRING QTF 125-350

- PATENTED guiding system for low buckling
- Unique 14 spring combination
- One Wonder Spring among 14 allows 27 torque variations in comparison to 12 or 14 in conventional actuators
- Long guide in retainer avoids jerks and enhances the life



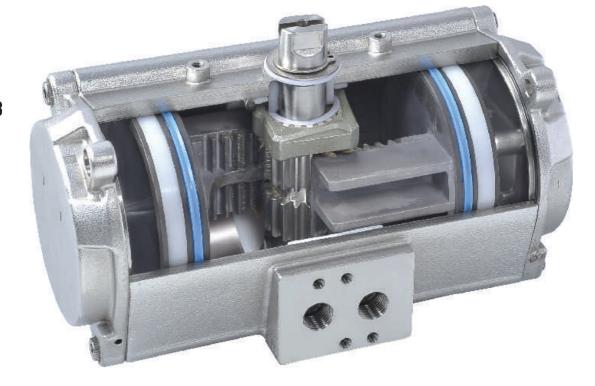
STF STAINLESS STEEL ACTUATORS

FEATURES

- Double rack and pinion construction
- Body and covers from CF8M material
- for high corrosion resistance
 The pinion and pistons are supported on polyacetal bearings
- Maximum working pressure 8 bar
- · Additional lubrication is not required
- Temperature range NBR -20 °C to +80 °C PE -40 °C to 110 °C
- Life more than 1 million cycles
- Anti blow-out pinion

- · Unique spring retainer construction
- Convertible to single acting just by adding springs

ATEX ((SIL3









CF8M BODY, COVER

- High grade CF8M castings
- Body bore honed for smooth finish and long life of seals
- No crevices for easy cleaning, avoiding bacterial growth

INTERNALS

- All internals are direct replacement to QTF
- All the seals are common for QTF, STF
- Torques and spring ratings are as per the QTF chart

PISTON WITH RACK

- Double rack and pinion construction
- Hard anodized pistons
- CF8M piston on request
- NBR as standard

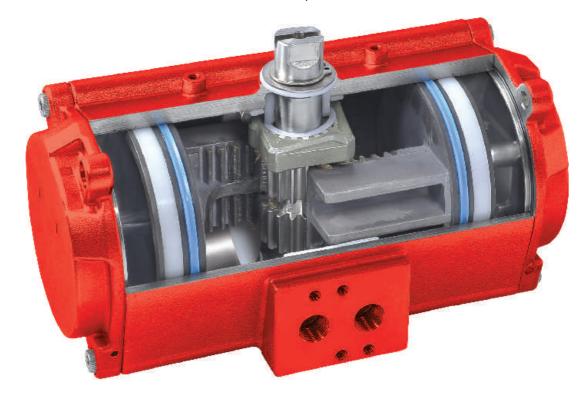
CTF CARBON STEEL ACTUATOR

FEATURES

- · Double rack and pinion construction (WCB) body
- Body and cover are from carbon steel material for high strength
 The pinion and pistons are supported
- on polyacetal bearings
- Maximum working pressure 8 bar
- Actuator body honed and hard chrome plated for long life and corrosion resistance
- Temperature range NBR -20 °C to +80 °C PE -40 °C to 110 °C
- Life more than 1 million cycles
- Anti blow-out pinion

- Unique spring retainer construction
- Convertible to single acting just by adding springs

ATEX ((SIL3









WCB BODY, COVER

- High grade WCB casting
- Body bore honed chrome plated for smooth finish and long life of
- No crevices for easy cleaning, avoiding bacterial growth

INTERNALS

- All internals are direct replacement to QTF
- All the seals are common for QTF, CTF and STF
- Springs & spring rating are as per the QTF chart

PISTON WITH RACK

- Double rack and pinion construction
- Hard anodized pistons
- WCB/ CF8M piston on request
- NBR as standard



Wide⁴X™SUPER SEAL

- Wide X seal for extremely long life
- Wide X grooves provides lubrication pockets for smooth operation Extremely low friction

- Life over 3 million cyclesNo additional lubrication needed

ATEX ((SIL3





APPLICATION

PROPERTIES

Wide X SEAL

- · Available in NBR, VITON, Flourosilicon material
- Suitable for dry unlubricated air Hydraulic media up to 15 bar
- · Extremely tolerant to dirt and dust
- Needs no proficiency for installation
- Flexible lip reduces friction and in turn the wear
- Special Rotex engineered seal instead of the standard quad
- Excellent response to control application with negligible
- stick-slip Seal can be replaced from O-ring to Wide X

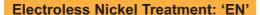
ROTARY ACTUATOR CORROSION PROTECTION OPTIONS

CTF CARBON STEEL ACTUATOR

Body:

Hard Anodized Aluminium: (Standard)

- · Special Aluminium alloy is used as a base metal
- Hard Anodizing of Aluminium results in better corrosion protection, surface hardness and superior wear resistance
- 50 µm thickness of the controlled oxidized surface of the alloy comprises primarily of Aluminium trioxide (Al₂O₃) crystals along with Magnesium, Tungsten Oxides which make the surface chemically inert and extremely hard (in excess of 45° Rc)
- The surface can withstand all environmental oxidations including, those of saline, except strong alkaline by the surface (Refer the technical document for more information)
- The oxidized Aluminium base metal cannot be peeled, making it an extremely stable surface treatment



Nickel is deposited on the Aluminium surface by its chemical reaction on the body, which is hard anodized. This treatment covers the crevices including the threads and the passage hole making the surface absolutely non-porous and corrosion free. Superior corrosion resistance as compared to hard anodizing, makes this treatment a suitable choice for corrosive environments. Ideal for external wash.

Epoxy Coated Actuator: 'CL'

The two pack epoxy coating is done on a hard anodized surface of the Aluminium body by the spray technique. It produces a 100mu thick layer (only external surfaces). This epoxy coating helps in protecting the actuator from extremely corrosive environments. Choose this option specially for alkaline environments. It is also suitable for environments like Ammonia, Ammonia Liquor etc. ROTEX guarantees 500 hrs. salt spray test. Colours: Blue, Green, Red, Yellow

Pinion:

Zinc Flake Plated: (Standard)

Standard surface treatment given to the pinion shaft of Steel (EN 8). Adequate for most applications including corrosive environments. The square drive is machined to meet the close tolerances.

Actuator Label

12-60-102-16



12-60-102-17









Stainless Steel: '8M'

Optionally available for aggressive environments. Pinion can also be supplied in SS316.

This label is used when the valve is not supplied by Rotex but only the top automation is supplied by Rotex

This label is used when the full on-off valve automation is done by Rotex



DOUBLE ACTING TORQUE QTF/ CTF/ STF IN Nm 90°

TORQUE Nm (10 Nm = 1 kgm)

MODEL	3 bar	4 bar	5 bar	6 bar	7 bar
QTF 32	4	5	7	8	10
QTF 40	10	14	17	21	24
QTF 50	16	22	27	33	38
QTF 63	30	40	50	59	69
QTF 80	48	64	80	96	111
QTF 90	76	102	127	153	178
QTF 100	109	145	182	218	255
QTF 110	135	180	225	270	315
QTF 125	188	250	313	375	438
QTF 150	312	415	519	623	727
QTF 175	450	600	750	900	1050
QTF 200	696	928	1160	1390	1625
QTF 250	1130	1510	1890	2265	2640
QTF 300	1630	2170	2715	3260	3800
QTF 350	2190	2920	3650	4380	5110

DOUBLE ACTING TORQUE QTF/ CTF/ STF IN Nm 180°

TORQUE Nm (10 Nm = 1 kgm)

MODEL	3 bar	4 bar	5 bar	6 bar	7 bar
QTF 32	2	3	4	4	5
QTF 40	5	7	9	10	12
QTF 50	8	11	14	16	19
QTF 63	15	20	25	30	35
QTF 80	24	32	40	48	56
QTF 90	38	51	64	76	89
QTF 100	55	73	91	109	127
QTF 110	68	90	113	135	158
QTF 125	94	125	156	188	219
QTF 150	156	208	260	312	364
QTF 175	225	300	375	450	525
QTF 200	348	464	580	695	813
QTF 250	565	755	945	1133	1320
QTF 300	815	1085	1358	1630	1900
QTF 350	1095	1460	1825	2190	2555

SINGLE ACTING TORQUE (QTF/ CTF/ STF) IN Nm

SIZE	SET	SPF	RING	3 bar		41	oar	5 b	ar	6 bar	
	NO.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
	6	2	3	1	2	2	3	4	5	4	5
QTF32	7	3	4	-	-	1	3	3	4	3	4
	8	3	5	-	-	1	2	2	4	2	4
	5	5	8	3	5	6	9	10	12	13	16
QTF40	6 7	5	8	2	5	6	8 7	9	12	12	15
	8	6 8	10 12	1 -	4	4 2	6	7 5	11 9	11 9	14 13
	5	8	12	4	8	10	14	15	19	20	25
0===0	6	9	13	3	8	9	13	14	19	20	24
QTF50	7	10	16	1	6	6	12	12	17	17	22
	8	13	19	-	-	3	9	8	15	14	20
	5	15	22	8	15	17	25	27	35	37	45
QTF63	6	15	24	6	14	16	24	26	34	36	44
QTIOS	7	19	28	1	11	11	21	21	31	31	41
	8	23	35	-	-	5	17	15	27	25	37
	11	17	26	22	31	38	47	54	63	70	79
OTEO	16	22	33	14	26	30	42	46	58	62	74
QTF80	18	23	36	12	24	28	40	44	56	60	72
	22 24	28 31	42 48	5 -	20	21 16	36 32	37 32	52 48	53 48	68 64
	26	37	56	-		8	27	24	43	40	59
	11	27	41	35	49	61	75	86	100	112	126
	16	35	53	23	41	48	67	74	92	99	117
QTF90	18	37	57	19	39	45	64	70	90	96	115
	22	44	68	9	32	34	57	60	83	85	108
	24	50	76	-	-	25	51	51	77	76	102
	26	58	89	-	-	13	43	38	69	64	94
	11	38	59	51	71	87	107	123	143	160	180
QTF100	16	50	76	33	59	69	95	105	132	142	168
4.1.1.2	18	53	81	28	56	64	92	100	128	137	165
	22 24	64 72	97 109	12	46	49 36	82 74	85 72	118 110	121 109	155 146
	26	84	127	-	-	18	62	55	98	91	135
	11	48	73	63	88	108	133	153	178	198	223
	16	62	95	41	73	86	118	131	163	176	208
	18	66	101	34	69	79	114	124	159	169	204
QTF110	22	79	120	15	56	60	102	105	147	151	192
	24	89	136	-	-	45	91	90	136	135	181
	26	104	158	-	-	23	77	68	122	113	167
	6W	63	98	90	125	152	187	215	250	277	312
	8W	82	128	59	106	122	168	184	231	247	293
QTF125	9	87	136	52	101	114	163	177	226	239	288
	11	106	166	22	81	84	144	147	206	209	269
	12W 13W	121 130	188 203	-	-	62	130 120	124	192 182	187 172	255
	6W	105	169	143	207	47 247	311	109 351	414	455	245 518
	8W	137	221	91	174	195	278	299	382	403	486
	9	145	234	78	166	182	270	286	374	390	478
QTF150	11	178	286	26	134	130	238	234	342	338	446
	12W	202	325	-	-	91	214	195	318	299	421
	13W	218	350	-	-	65	198	170	301	273	405
	6W	145	238	213	305	363	455	513	605	663	755
	8W	190	311	140	260	290	410	440	560	590	710
QTF175	9	201	329	121	249	271	399	421	549	571	699
Q11 170	11	245	402	48	204	198	355	348	505	498	655
	12W	280	457	-	-	143	321	293	471	443	621
	13W	302	493	-	-	107	299	257	449	407	599

The above torque combinations are most commonly used. Contact ROTEX for other combinations to select most optimum actuator. SPRING MAX = Spring Start, SPRING MIN = Spring End



SINGLE ACTING TORQUE (QTF/ CTF/ STF) IN Nm

SIZE	SET	SPR	RING	3 b	3 bar		oar	5 bar		6 bar	
	NO.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
	33	251	371	326	446	558	678	790	911	1023	1143
	54	359	529	167	337	400	569	632	802	864	1034
0.75000	57	367	546	151	329	383	561	615	794	847	1026
QTF200	74	461	681	16	236	248	468	481	700	713	932
	79	533	790	-	-	139	396	371	628	604	860
	80	566	838	-	-	91	363	323	595	555	828
	33	348	584	548	784	925	1161	1302	1539	1680	1916
	54	495	830	302	638	680	1015	1057	1392	1434	1770
QTF250	57	511	858	274	622	652	999	1029	1376	1406	1754
	74	656	1096	36	476	413	853	791	1231	1168	1608
	79	744	1248	-	-	262	765	639	1143	1016	1520
	60	791	1327	-	-	182	718	560	1095	937	1473
	33	570	850	779	1060	1322	1603	1865	2146	2409	2689
QTF300	54	791	1181	449	839	992	1382	1535	1925	2078	2468
QIF300	57	822	1228	402	807	945	1350	1488	1894	2031	2437
	74	1038	1549	80	592	623	1135	1166	1678	1710	2221
	79	1189	1776	-	-	397	984	940	1527	1483	2070
	80	1265	1889	-	-	283	908	827	1451	1370	1994
	33	785	1152	1021	1387	1745	2112	2470	2836	3194	3560
OTFOFO	54	1126	1646	526	1047	1250	1771	1975	2495	2699	3219
QTF350	57	1183	1724	449	990	1173	1714	1897	2438	2622	3163
	74	1470	2152	20	703	745	1427	1469	2151	2193	2875
	79	1686	2469	-	-	428	1211	1152	1935	1877	2659
	80	1802	2634	-	-	263	1095	987	1819	1711	2543

The above torque combinations are most commonly used. Contact ROTEX for other combinations to select most optimum actuator. SPRING MAX = Spring Start, SPRING MIN = Spring End

TECHNICAL INFORMATION QTF/ CTF/ STF

AIR CONSUMPTION

AIR CONSUMPTION (in litre A.N.R/ bar 90° STROKE)										
MODEL	PISTON INWARD STROKE	PISTON OUTWARD STROKE								
WODEL	Litre/ bar	Litre/ bar								
QTF32	0.12	0.09								
QTF40	0.20	0.10								
QTF50	0.26	0.15								
QTF63	0.43	0.27								
QTF80	0.69	0.44								
QTF90	1.15	0.72								
QTF100	1.64	1.02								
QTF110	1.94	1.24								
QTF125	3.44	1.71								
QTF150	5.18	2.88								
QTF175	7.42	4.12								
QTF200	11.76	6.80								
QTF250	13.75	10.20								
QTF300	31.50	16.30								
QTF350	37.00	25.70								

WEIGHT

WEIGHT (in kg)									
MODEL	DOUBLE ACTING	SINGLE ACTING							
QTF32	0.8	0.9							
QTF 40	1.3	1.5							
QTF 50	1.7	2.0							
QTF 63	2.3	2.8							
QTF 80	3.1	3.9							
QTF 90	5.1	6.5							
QTF 100	7.3	9.1							
QTF 110	8.3	10.6							
QTF 125	11.7	15.4							
QTF 150	17.0	25.7							
QTF 175	22.1	28.0							
QTF 200	33.0	51.0							
QTF 250	48.0	69.0							
QTF 300	60.0	111.0							
QTF 350	77.0	133.0							

For double acting, the total air consumption is sum of inward & outward stroke air consumption. For single acting only outward stroke air consumption

AIR CONSUMPTION

AIR CC	NSUMPTI	ON (in litre A.N.R/ bar 90° STROKE)									
MODE	:1	PISTON INWARD STROKE	PISTON OUTWARD STROKE								
WODE		Litre/ bar	Litre/ bar								
CTF/STF 32	32E	0.12	0.09								
CTF/STF 40	40E	0.15	0.11								
CTF/STF 50	50E	0.26	0.18								
CTF/STF 63	63E	0.37	0.28								
CTF/STF 80	80E	0.70	0.41								
CTF/STF 90	90E	1.14	0.69								
CTF/STF 100	100E	1.36	0.92								
CTF/STF 110	110E	1.87	1.18								
CTF/STF 125	125E	2.24	1.69								
CTF/STF 150	150E	3.97	2.75								
CTF/STF 175	175E	5.45	4.70								
CTF/STF 200	200E	11.76	6.80								
CTF/STF 250	250E	13.75	10.20								
CTF/STF 300	300E	31.50	16.30								
CTF/STF 350	350E	37.00	25.70								

WEIGHT

WEIGHT in kg.									
MODEL	DOUBLE ACTING	SINGLE ACTING							
CTF/STF 32	1.76	1.86							
CTF/STF 40	2.53	2.75							
CTF/STF 50	2.90	3.12							
CTF/STF 63	4.14	4.50							
CTF/STF 80	5.61	6.32							
CTF/STF 90	8.41	10.10							
CTF/STF 100	11.79	13.80							
CTF/STF 110	16.10	18.40							
CTF/STF 125	19.30	21.80							
CTF/STF 150	25.70	29.70							
CTF/STF 175	34.00	39.00							
CTF/STF 200	69.00	87.00							
CTF/STF 250	115.00	136.00							
CTF/STF 300	145.00	195.00							
CTF/STF 350	192.00	256.00							

For double acting, the total air consumption is sum of Inward & outward stroke air consumption. For single acting only outward stroke air consumption



TECHNICAL INFORMATION QTF/ CTF/ STF

SPRING SETS

FOR QTF/ CTF/ STF 32 - 63

SPRING SET	INNER SPRING	OUTER SPRING
1	1	0
2	0	1
3	2	0
4	1	1
5	0	2
6	2	1
7	1	2
8	2	2

FOR QTF/ CTF/ STF 80 - 110

SPRING SET	INNER SPRING	MIDDLE SPRING	OUTER SPRING
1	1	0	0
2	0	1	0
3	2	0	0
4	1	1	0
5	0	0	1
6	0	2	0
7	2	1	0
8	1	0	1
9	1	2	0
10	0	1	1
11	2	0	1
12	2	2	0
13	1	1	1
14	0	0	2
15	0	2	1
16	2	1	1
17	1	0	2
18	1	2	1
19	0	1	2
20	2	0	2
21	2	2	1
22	1	1	2
23	0	2	2
24	2	1	2
25	1	2	2
26	2 :/ CTE/ ST	2 E 125 - 25	2



FOR QTF/ CTF/ STF 125 - 350

			-		
SPRING SET	BLACK SPRING	RED SPRING	SPRING SET	BLACK SPRING	RED SPRING
1	1	0	7W	7	1
1W	1	1	8	8	0
2	2	0	W8	8	1
2W	2	1	9	9	0
3	3	0	9W	9	1
3W	3	1	10	10	0
4	4	0	10W	10	1
4W	4	1	11	11	0
5	5	0	11W	11	1
5W	5	1	12	12	0
6	6	0	12W	12	1
6W	6	1	13	13	0
7	7	0			

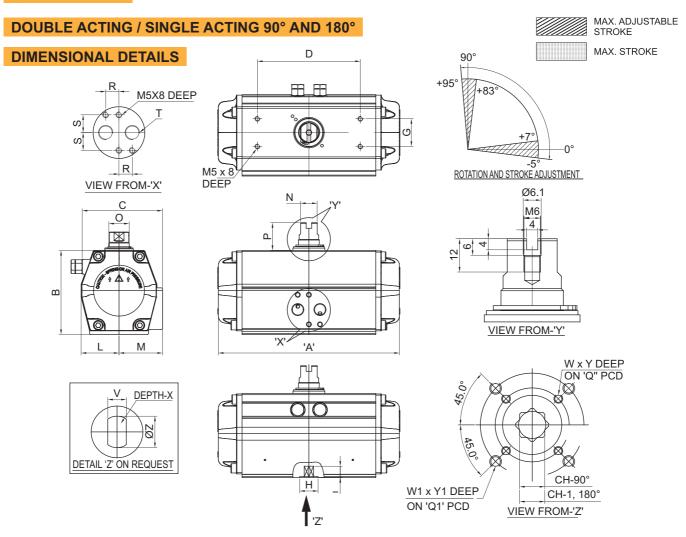


RED AND BLACK SPRING



ALL BLACK SPRING

QTF ACTUATOR



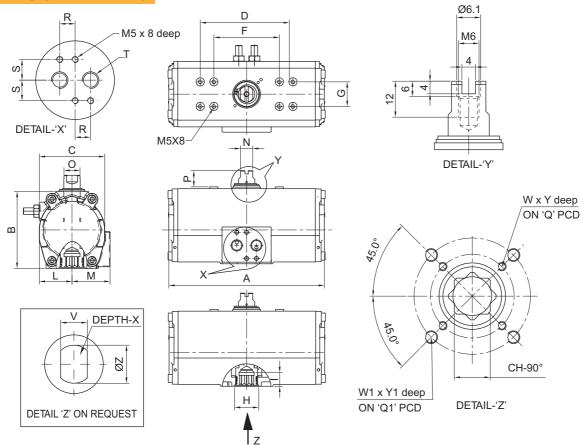
ACTUATOR	OTESS	OTE 40	OTEFO	OTECO	OTEGO	OTEON	OTE400	OTE440	OTE405	OTE450	OTE475	OTFOOO	OTFORO	OTEOOO	OTESES
ACTUATOR MODEL	QTF32 QTF32E	QTF40E	QTF50E	QTF63 QTF63E	QTF80 QTF80E	QTF90 QTF90E	QTF100 QTF100E	QTF110 QTF110E	QTF125 QTF125E	QTF150 QTF150E	QTF175 QTF175E	QTF200 QTF200E	QTF250 QTF250E	QTF300 QTF300E	QTF350 QTF350E
A	138	162	175	196	208	238	274	284	395	412	511	550	695	634	773
В	49	72	81	91	106	126	139	146	161	191	199	253	253	360	360
C	56	68	76	88	102	115	124	132	149	176	189	264	264	373	373
D	50	80	80	80	80	80	80	80	80	80	80	130	130	130	130
G	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Н	24	30	30	40	42	42	55	58	70	70	90	90	122	90	122
1	11	15	15	19	21	21	27	27	27	35	48	55	55	55	57
L	25	30	34	41	49	58	62	66	73	88	93	132	132	187	187
M	31	38	42	47	53	57	63	67	76	88	96	157	157	207	207
N A/F	8	12	14	15	15	23	26	30	30	36	41	55	55	55	55
0	10	14	16	20	20	27	30	33	36	42	48	60	60	60	60
Р	20	20	20	20	20	20	20	20	30	20	20	30	30	30	30
Q	36	36	36	50	50	-	70	70	102	102	102	102	-	-	-
Q1	-	50	50	70	70	70	102	102	125	125	125	140	140	165	165
FLANGE	F03	F03	F03	F05	F05	F07	F07	F07	F10	F10	F10	F10	F14	F16	F16
FLANGE	-	F05	F05	F07	F07	-	F10	F10	F12	F12	F12	F14	-	-	-
R	12	12	12	12	12	12	12	12	12	12	12	12	12	20	20
S	16	16	16	16	16	16	16	16	16	16	16	16	16	22.5	22.5
T	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"
CH-90°	9	11	11	14	17	17	22	22	22	27	27	36	46	46	55
W	M5	M5	M5	M6	M6	-	M8	M8	M10	M10	M10	M10	M10	-	-
Υ	8	8	8	8	8	-	10	10	12	12	12	12	-	-	-
W1	-	M6	M6	M8	M8	M8	M10	M10	M12	M12	M12	M16	M16	M20	M20
Y1	-	8	8	10	10	10	10	15	20	20	20	16	20	20	20



CTF/ STF SERIES

DOUBLE ACTING/ SINGLE ACTING 90° AND 180°

DIMENSIONAL DETAILS

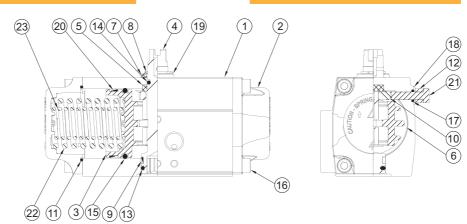


						1 2	-								
	CTF32	CTF40	CTF50	CTF63	CTF80	CTF90	CTF100	CTF110	CTF125	CTF150	CTF175	CTF200	CTF250	CTF300	CTF350
ACTUATOR	CTF32E	CTF40E	CTF50E	CTF63E	CTF80E	CTF90E	CTF100E	CTF110E	CTF125E	CTF150E	CTF175E	CTF200E	CTF250E	CTF300E	CTF350E
MODEL	STF32	STF40	STF50	STF63	STF80	STF90	STF100	STF110	STF125	STF150	STF175	STF200	STF250	STF300	STF350
	STF32E	STF40E	STF50E	STF63E	STF80E	STF90E	STF100E	STF110E	STF125E	STF150E	STF175E	STF200E	STF250E	STF300E	STF350E
Α	138	134	162	190	218	226	265	294	338	365	495	550	695	634	773
В	49	79	79	94	110	140	140	154	154	192	188	253	253	364	364
С	56	65	65	80	97	122	122	142	142	174	174	264	264	364	364
D	-	-	-	-	-	-	-	130	130	130	130	130	130	130	130
F	50	80	80	80	80	80	80	80	80	80	80	-	-	-	-
G	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Н	24	30	30	32	40	40	48	48	60	65	90	90	122	90	122
1	11	14	14	17	19	19	25	25	25	33	45	55	55	55	57
L	25	32.5	32.5	40	48	61	61	71	71	87	87	132	132	182.0	182.0
M	31	39	39	46.5	54.5	64	64	74	74	90	90	160	160	212.0	212.0
N A/F	8	8	13	15	15	15	25	15	25	24	46	55	55	55	55
0	10	9.5	16	19	19	19	29	19	29	29	48	58	58	58	58
Р	20	20	20	20	20	20	20	20	20	20	20	30	30	30	30
Q	36	36	36	50	50	50	70	70	70	102	102	102	-	-	-
Q1	-	50	50	70	70	70	102	102	102	125	125	140	140	165	165
ISO	F03	F03	F03	F05	F05	F05	F07	F07	F07	F10	F10	F10	-	-	-
FLANGE	-	F05	F05	F07	F07	F07	F10	F10	F10	F12	F12	F14	F14	F16	F16
R	12	12	12	12	12	12	12	12	12	12	12	12	12	20	20
S	16	16	16	16	16	16	16	16	16	16	16	16	16	22.5	22.5
T	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"
CH-90°	9	11	11	14	17	17	22	22	22	27	27	36	46	46	55
W	M5	M5	M5	M6	M6	M6	M8	M8	M8	M10	M10	M10	-	-	-
Υ	8	8	8	8	8	8	12	10	11	13	13	12	-	-	-
W1	-	M6	M6	M8	M8	M8	M10	M10	M10	M12	M12	M16	M16	M20	M20
Y1	-	8	8	10	10	10	12	13	13	16	16	16	16	20	20
													12 - 60	-00 - 000	

QTF ACTUATOR

MATERIAL OF CONSTRUCTION

CROSS SECTION DRAWING

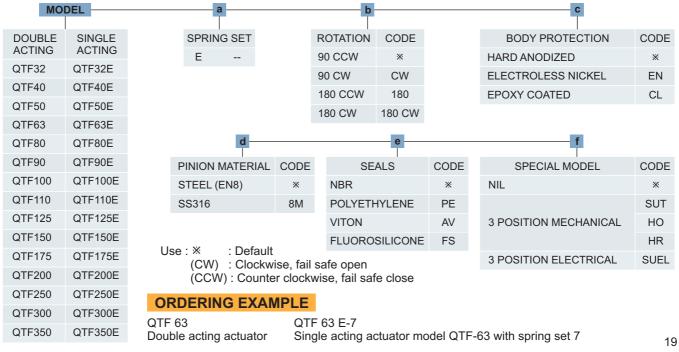


PART LIST

S.N.	PART DESCRIPTION	QTY	MATERIAL	S.N.	PART DESCRIPTION	QTY	MATERIAL
1	BODY	1	ALUMINIUM ALLOY	13	PINION SEAL	1	NBR
2	COVER	2	ALUMINIUM	14	PINION SEAL	1	NBR
3	PISTON WITH RACK	2	ALUMINIUM	15	PISTON SEAL	2	NBR
4	PINION	1	STEEL	16	HEX SOCKET SCREW	8	AISI 304
5	PINION BEARING	1	POLYACETAL	17	O-RING	2	NBR
6	RACK BEARING	2	POLYACETAL	18	WASHER	2	AISI 304
7	WASHER	1	POLYACETAL	19	WASHER	1	NBR
8	EXTERNAL CIRCLIP	1	SPRING STEEL	20	PISTON BEARING	2	POLYACETAL
9	PINION BEARING	1	POLYACETAL	21	STROKE ADJUSTMENT	2	AISI 304
10	CAM INSERT	1	CAST CARBON STEEL		SCREW		
11	COVER SEAL	2	NBR	22	OUTER SPRING	2	STEEL
12	LOCK NUT	2	AISI 304	23	INNER SPRING	2	STEEL

^{*} THE NUMBER OF SPRINGS VARY WITH SIZE OF THE ACTUATOR AND THE SPRING SET SELECTED.

ORDERING CODE

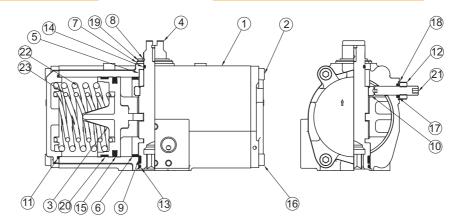




CTF/ STF SERIES

MATERIAL OF CONSTRUCTION

CROSS SECTION DRAWING



PART LIST

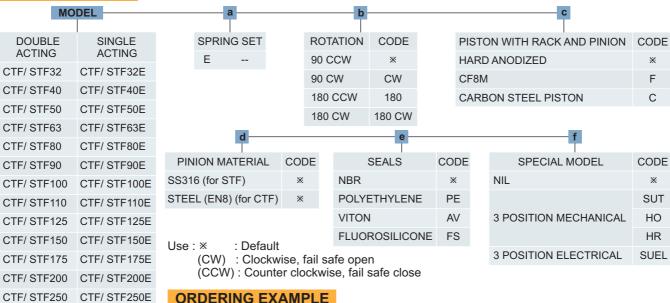
S.N.	PART DESCRIPTION	QTY	MATERIAL	S.N.	PART DESCRIPTION	QTY	MATERIAL	
1	BODY		CF8M (WCB for CSF)		PINION SEAL		NBR	
2	COVER	2	CF8M (WCB for CSF)	14	PINION SEAL	1	NBR	
3	PISTON WITH RACK	2	ALUMINIUM	15	PISTON SEAL	2	NBR	
4	PINION	1	STEEL	16	HEX SOCKET SCREW	8	AISI 304	
5	PINION BEARING	1	POLYACETAL	17	O RING	2	NBR	
6	CENTER BORE SLEEVE	1	POLYACETAL	18	WASHER	2	AISI 304	
7	WASHER	1	POLYACETAL	19	WASHER	1	AISI 304	
8	EXTERNAL CIRCLIP	1	SPRING STEEL	20	PISTON BEARING	2	POLYACETAL	
9	PINION BEARING	1	POLYACETAL	21	STROKE ADJUSTMENT	2	SS2205	
10	CAM INSERT	1	CAST CARBON STEEL		SCREW			
11	COVER SEAL	2	NBR	22	OUTER SPRING	2	SPRING STEEL GRADE 3	
12	LOCK NUT	2	AISI 304	23	INNER SPRING	2	SPRING STEEL GRADE 3	

^{*} THE NUMBER OF SPRINGS VARY WITH SIZE OF THE ACTUATOR AND THE SPRING SET SELECTED.

ORDERING CODE

CTF/ STF300 CTF/ STF300E

CTF/ STF350 CTF/ STF350E



ORDERING EXAMPLE

STF63 E8-F-PE

STF63, Spring return with spring set 8, with stainless steel piston with polyethylene seals.

3 POSITION ROTARY ACTUATOR

SPRING RETURN CONTROLLED BY LIMIT SWITCH

FEATURES

- The actuator is suitable for coarse fine adjustment, typically for batching operations or processes
- · The actuator has to be spring return
- The operation sequences fixed from full open, partial open to full close
- · Infinite intermediate positions are possible with the limit switch
- It can be fine tuned to the application easily
- The settings can be changed at site with ease, by simply adjusting the third cam provided
- It is applicable for 90° or 180°
 Any ROTEX spring return actuator can be converted into this arrangement by adding ROTEX limit switch along with ROTEX NAMUR valve type 30138
- The accuracy and repeatability is around 3% and depends upon the air pressure variation, change in the torque of ball valve, change in density and the pressure of media, etc.
- Refer the dimension table on page 17, Direct Acting torque on page 12, for Single Acting refer torque on page 13 and 14 and reduce all values to half



3 POSITION ROTARY ACTUATOR

DOUBLE ACTING/SINGLE ACTING

3 POSITION MECHANICAL STOPPER

FEATURES

- The actuator is suitable for coarse fine adjustment, typically for batching operations or processes
- · The actuator has to be double acting
- The repeatability is 100% since stopping is by mechanical stoppers. It is suitable for application calling for the precise fine-coarse adjustment like liquid filling system
- The actuator can be switched to one position from any other position very easily with the solenoid control.
 The 3rd position is achieved by the mechanical stopping of the piston movement, in the return stroke by pneumatic stopper pistons
- The intermediate position is present at 20% opening.
 The opening can be adjusted as required by the set screw. This is field adjustable
- The actuator as a standard, works in reverse action, as opposed to conventional configuration i.e. piston inward stroke opens the valve, and piston outward stroke closes the valve
- The end stops (+/- 10°) are provided on the closing and opening side of the actuator for setting valve closing precisely
- The springs can be provided to bring actuator to mid position as a standard (optional attachment)
- · For the dimension details, contact ROTEX
- Refer the spring torque tables on page 13,14





180 DEGREE ROTARY ACTUATOR

FEATURES

- · Ideal for bottom entry 3 way valves
- · Compact and light construction
- Tight shut off available for longer seat life, with the end stroke adjustment of the actuator
- · Suitable for control duty

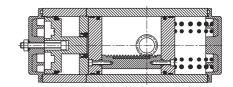
DOUBLE ACTING / SINGLE ACTING

FEATURES

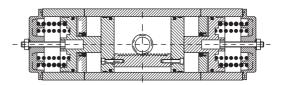
- Suitable typically for 3 way valves, requiring ON-OFF operation. It is available in both single acting (spring return) or double acting versions
- The single acting 180° actuator can provide center off for the 3 way ball valve, bottom entry by choosing the option, of 3 position
- It can be converted to 3 position 0 90° 180°
 Actuator for 3 way valves using ROTEX limit switch and NAMUR valve type 30138
- The end stop adjustment is provided for opening and closing direction as a standard
- Actuator mounting is as per ISO 5211 and accessories to NAMUR
- · For weight and air consumption data, refer works
- 180° actuator has 50% of torque value, of that of 90°actuator



FAIL SAFE AT 0° (END)



FAIL SAFE AT 0° (MID)





REGULATING ACTUATOR

FEATURES

- Backlash free operation between rack and pinion makes ROTEX actuator suitable for regulation duty coupled along with positioner (Pneumatic or Electro-Pneumatic)
- Long life of the actuator seals, the non wearing characteristic of the mechanical parts ensure that the control action is maintained, over the life time of the actuator
- It can be coupled along with various types of valves (Ball, V Port Ball or Plug, Segment ball, Butterfly, Plug) or louvers and dampers for variety of applications
- Typical control schemes along with the regulating actuator include provisions for:
- 1. Air failure safety includes stay-put or fail safe operation, like full close or full open
- 2. Power failure safety, including stay-put or fail safe operation, like full close or full open
- 3. Both air & power failure safety, including above

QTF ACTUATOR

BALL VALVE WITH ROTARY ACTUATOR



FEATURES

- · Well aligned assembly
- Accurately machined bracket and coupler. Perfect location
- Ease in dismounting even without affecting valve functional position
- Longer life due to extra over travel

FIRE SAFE DESIGN

- · Rotex standard is fire safe
- Fire safe as per BS: 5351 fire tested as API 607 1993, 4th edition
- Non fire safe available on request

VALVE CONSTRUCTION

- Floating/ Trunnion mounted ball valve
- · Top entry ball valve

DESIGN

- · Single piece
- Three piece
- 3 way "T" port
- 4 way

MATERIAL

- Forged steel/ Stainless steel Cast steel/ Stainless steel
- Alloy steel
- · Special materials on request

END CONNECTION

- Screwed #800 to #2500
- Socket weld #800 to #2500
- Butt weld #800 to #2500
- Flanged #150 to #2500

OTHER

- · Metal seated
- Plastic body valve
- Cryogenic valve
- Sanitary/food grade valve
- · Double block & bleed type
- · Lined valve
- V-notch valve
- Jacketed valve



STF ACTUATOR

BALL VALVE WITH ROTARY ACTUATOR

FEATURES

- · Well aligned assembly
- Accurately machined bracket and coupler. Perfect location
- Ease in dismounting even without affecting valve functional position
- Longer life due to extra over travel

FIRE SAFE DESIGN

- · Rotex standard is fire safe
- Fire safe as per BS: 5351
 Fire tested as API 607 1993, 4th edition
- Non fire safe available on request

VALVE CONSTRUCTION

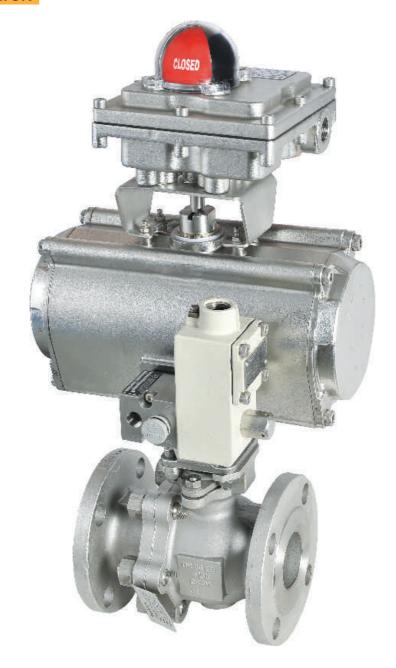
- Floating/ Trunnion mounted ball valve
- · Top entry ball valve

DESIGN

- Single piece
- · Two piece
- · Three piece
- 3 way "T" Port
- 4 way

MATERIAL

- Forged steel/ Stainless steel Cast steel/ Stainless steel
- Alloy steel
- · Special materials on request



END CONNECTION

- Screwed #800 to #2500
- Socket weld #800 to #2500
- Butt weld #800 to #2500
- Flanged #150 to #2500

OTHER

- Metal seated
- Plastic body valve
- Cryogenic valve
- Sanitary/ food grade valve
- Double block & bleed type
- Lined valve
- V-notch valve
- Jacketed valve

QTF ACTUATOR

BUTTERFLY VALVE WITH ROTARY ACTUATOR



MATERIAL

- Cast Iron, Ductile Iron , Cast Carbon Steel
- · Cast Stainless Steel
- · Special material on request

FEATURES

- Ideal for clean fluids and line size above 50 NB
- · Tight shut off available
- Longer seat life with the end stroke adjustment of the actuator
- · Suitable for control duty

DESIGN

• As per AWWA: C504 and BS: 5155

TYPE

- Centerline
- Double eccentric, high performance type
- Triple eccentric for light shutoff

CONSTRUCTION

- Single body/ split body wafer type
- Single body/ split body lug type
- · Single body/ split bod flanged type

END CONNECTION

- Wafer type/ lug type in rating PN6, PN10, PN16, PN25, PN40, PN100, PN200, PN400
- Flanged type in rating #150 #300 #600

OTHER

- Metal seal dampers (Leakage class II)
- · Metal seated tight shut off
- · Fire safe butterfly valve
- Lined butterfly valve
- · Sanitary service butterfly valve



QTF ACTUATOR

PLUG VALVE WITH ROTARY ACTUATOR

FEATURES

- Ideally suited to aggressive, corrosive and potentially hazardous media
- Absolute tight shut off in case of sleeved plug valve
- Long life due to taper plug construction
- · Frequent operations possible
- · Longer life
- · Suited for slurry application
- Line plug valve suited for corrosive service On/ Off or control duty

FIRE SAFE DESIGN

- · Rotex standard is fire safe
- Fire safe as per BS: 5351 fire tested as API 607 1993, 4th edition
- Non fire safe available on request

VALVE CONSTRUCTION

- As per BS:5353 (Sleeved plug valve)
- · Lubricated, taper plug valve
- Pressure balanced, inverted plug valve
- · Sleeved plug valve

DESIGN

- 2 way
- · 3 way side entry/ bottom entry
- 4 way
- 5 way bottom entry

END CONNECTION

- Screwed #800 to #2500
- Socket weld #800 to #2500
- Butt weld #800 to #2500
- Flanged #800 to #2500



MATERIAL

- Cast iron
- · Ductile iron
- · Cast steel/ Cast Stainless steel
- Alloy steel
- · Special materials on request

OTHERS

- · Lined plug valve
- · V-port plug valve
- · Jacketed plug valve
- Sanitary service valve

QTF ACTUATOR

LINED BALL VALVE WITH ROTARY ACTUATOR



FEATURES

- · Well aligned assembly
- Accurately machined bracket and coupler. Perfect location
- Ease in dismounting even without affecting valve functional position
- Longer life due to extra over travel

VALVE CONSTRUCTION

- · Lined ball valve
- PFA or FEP lining
- · Floating ball valve
- Floating ball valve with integral stem

DESIGN

- Two piece
- · Three piece
- 3 way "T" port

MATERIAL

- Forged steel/ Stainless steel Cast steel/ Stainless steel, lined
- Alloy steel, lined
- · Special materials on request

OTHER

- · PTFE lined on special request
- V-notch valve

END CONNECTION

• Flanged #150 to #300



QTF ACTUATOR

TRICLOVER END BALL VALVE WITH ROTARY ACTUATOR

FEATURES

- · Well aligned assembly
- Accurately machined bracket and coupler. Perfect location
- Ease in dismounting even without affecting valve functional position
- Longer life due to extra over travel

FIRE SAFE DESIGN

- · Rotex standard is fire safe
- Fire safe as per BS: 5351
 Fire tested as API 607 1993,
 4th edition
- Non fire safe available on request

DESIGN

· Floating ball valve

DESIGN

- · Three piece
- 3 way "T" port

MATERIAL

- Forged steel/ Stainless steel Cast steel/ Stainless steel
- · Alloy steel
- · Special materials on request

OTHER

- Metal seated
- · Sanitary/food grade valve
- V-notch valve

END CONNECTION

• Triclover end

QTF ACTUATOR

UNIQUE FIRST "FIRE SAFE" FLUSH BOTTOM VALVE WITH ROTARY ACTUATOR



FEATURES

- Stem of the valve fire safe and non blowout proof
- Well aligned assembly
- Accurately machined bracket and coupler. Perfect location
- Ease in dismounting even without affecting valve functional position
- Longer life due to extra over travel

DESIGN

- · Single piece
- · Two piece
- · Three piece
- "T" port for zero retain

FIRE SAFE DESIGN

- · Rotex standard is fire safe
- Fire safe as per BS: 5351 fire tested as API 607 1993, 4th edition
- Non fire safe available on request

VALVE CONSTRUCTION

· Floating ball valve

OTHER

- Metal seated
- Sanitary/food grade valve
- Lined valve
- V-notch valve
- Jacketed valve

MATERIAL

- Forged steel/ Stainless steel Cast steel/ Stainless steel
- Alloy steel
- Special materials on request

END CONNECTION

• Flanged #150 to #900



QTF ACTUATOR

ZE/ROVOL BALL VALVE WITH ROTARY ACTUATOR

FEATURES

- · Well aligned assembly
- Accurately machined bracket and coupler. Perfect location
- Ease in dismounting even without affecting valve functional position
- Longer life due to extra over travel

FIRE SAFE DESIGN

- · Rotex standard is fire safe
- Fire safe as per BS: 5351 fire tested as API 607 1993, 4th edition
- Non fire safe available on request

VALVE CONSTRUCTION

Floating ball valve

DESIGN

- · Three piece
- 3 way "T" port

- Metal seated
- · Sanitary/food grade valve
- Lined valve
- V-notch valve
- Jacketed valve



MATERIAL

- Forged steel/ Stainless steel Cast steel/ Stainless steel
- · Alloy steel
- · Special materials on request

END CONNECTION

- Screwed #800
- Socket weld #800
- Butt weld #800
- Triclover end
- Flanged #150 to #2500

VALVE AUTOMATION SYSTEM

TOP AUTOMATION

Rotex supplies entire top automation for the Valve Manufacturer or automation center. We supply all the parts duly mounted above the valve. Various combination of accessories can be supplied as listed below.

We manufacture complete on-off valve with Rotex valves and accessories. Rotex has following but not limited to listed below capability to create valve automation system.

PARTIAL STROKING DEVICE

- Mechanical lockout for partial stroking.
- Using pneumatic valves
- · Using limit switch and SOV
- Using SMART positioner

AUXILIARY TANK

Auxiliary tank is used for using for emergency. Most application it is used for converting a double acting actuator to fail safe close or open. Tanks are mounted on the actuator with safety valve and other accessories. Rotex tanks are PED approved, and can supply with 3.2 certification

FIRE JACKETING

Fire box can be supplied with entire on-off valve. The fire box are UL approved. Ball valves are outside fire box.

FIRE BLANKET

Fire blankets are strapped on to the on-off system just like above

QUICK CLOSING

Rotex actuator can be operated at high speed. Rotex provide special ports for quick closing. On critical speeds Rotex installs hydraulic shock absorber to absorb the end stroke.

HYDRUALIC DAMPENING

Rotex actuator can be supplied with speed control using hydraulic dampener. The entire stroke of the actuator can be controlled to as low as 120 sec to open a small actuator like QTF80.



ROTEX GROUP SALES HEAD QUARTER

B/703/704, Western Edge-II, Off Western Express Highway, Borivli (East), Mumbai-400066

Ph: +91 22 42111444 Fax: +91 22 42111400

Email: sales-bby@rotexautomation.com

ROTEX AUTOMATION LIMITED

UNIT 1 987/11, GIDC Makarpura,

Vadodara - 390010, Gujarat, INDIA. Ph.: +91 265 2638136/ 2638795/ 46

Fax: +91 265 2638130

Email: rotexbrd@rotexautomation.com

ROTEX MANUFACTURERS AND ENGINEERS PRIVATE LIMITED

UNIT 1

Manpada Road, Dombivli (E) - 421204

Maharashtra, INDIA.

Ph.: +91 251 2871033/ 2871390/ 2871196/ 2871989/ 2870890

Fax: +91 251 2871191/ 2870663 Email: rotexdbl@rotexautomation.com

ROTEX AUTOMATION LIMITED

UNIT 2 C - 1 B/ 1501, 4 & 5, GIDC

Vithal Udyognagar - 388121,

Gujarat, INDIA.

Ph.: +91 2692 236224/ 236292/ 236399

Fax: +91 2692 236442

Email: rotexvun@rotexautomation.com

ROTEX MANUFACTURERS AND ENGINEERS PRIVATE LIMITED

UNIT 2

Plot No. E-61, Additional

Ambarnath MIDC

Ambarnath (East) – 421 506 Dist Thane, Maharashtra, India

OVERSEAS:

ROTEX Controls B.V. Aventurijn 222 3316 LB Dordrecht The Netherlands

Phone: +31 78 618 21 07 Email: info@rotexcontrols.nl

ROTEX Controls, Inc. 21 Sullivan Parkway Fort Edward, NY 12828 Phone: +1 (888) 813 - 9772 Fax: +1 (866) 478 - 9620 Email: sales@rotexcontrols.com



MAGWEN Valves GmbH Am Biotop 1 39171

Osterweddingen/Suelzeta Ph.: +49 39205 676 13 Fax: +49 39205 676 50 Email: sales@magwen.de www.magwen.de

www.rotexautomation.com



@rotexautomation.com