

***Valtek Torex TX Control and Shut-off Valves***

**Butterfly Valves**

VLENTB4143-02 01.11



### Primary characteristics

Valtek Torex TX, High-Performance butterfly valve is available with either metal-to-metal or PTFE seat. Due to its unique design triple offset, it closes extremely tight. It can be used both as a control valve and as a shut-off valve. This valve can be supplied in either wafer or lugged versions. The valve is available as standard in stainless steel and carbon steel. Contact Flowserve for more information.

The valve has:

- been designed according to the requirements in API 609.
- triple offset design enables the valve closure to be extremely tight
- small offset results in low operating torque in all control positions, so that low-torque actuators can be used.
- a special disc profile (segment of a toroid) - a principle which eliminates abrasive sliding action when the disc is opening and closing - ensures a longer service life.
- a high mean value of seating angle, so that the disc closes without tending to stick in the closed position, virtually eliminates any disk popping when opening the valve.
- metaloplast bearings. For temperature above 482 °F (250°C) hard chromium stem, direct mounted in the body
- a one-piece valve body of stainless steel.
- a metallic or PTFE seat ring.
- the Flowserve NAF standard for mounting the actuator, which simplifies installation and results in a compact valve/actuator unit.

### CE-marked

According to Pressure Equipment Directive (PED 97/23/EG) module H, category III.

For module H1, category IV contact NAF

### Applications

Valtek Torex TX can be used both as a control valve and as a shut-off valve, in a wide variety of applications and in different operating modes.

The valve represents a concrete result of our product philosophy which is focused on functionality, high quality and low life cycle costs, and is based on concentrating our range to a limited number of valve types, but all of them suitable for a wide variety of applications.

The excellent characteristics of Torex TX are particularly beneficial in arduous control applications, in which difficult media and demanding pressure conditions make severe demands on the design, materials and performance.

### Specifications

Material:	Stainless steel, carbon steel
Size range:	DN 80-700, 3-28"
Pressure ratings:	PN 10 - 25 ANSI Class 150
Max. differential pressure at 95 °F (35°C):	
Valve closed	DN 80-700 362.5 psi (25.0 bar)
At 70° open valve	DN 80 116 psi (8.0 bar)
	DN 100 188.5 psi (13 bar)
(Limitation depending of high velocity with big dynamic torque at this differential pressure when valve is open 70°)	DN 125 159.5 psi (11 bar)
	DN 150 94.25 psi (6.5 bar)
	DN 200 62.25 psi (4.5 bar)
	DN 250 43.5 psi (3.0 bar)
	DN 300 39.5 psi (2.7 bar)
	DN 350 26.1 psi (1.8 bar)
	DN 400 29.0 psi (2.0 bar)
	DN 500 27.55 psi (1.9 bar)
	DN 600, 700 26.1 psi (1.8 bar)
	See also page 3
Face-to-face lengths:	Wafer type PN 10-25 and ANSI Class 150: API standard 609 Class 150, size 28" EN 558, table 5, serie 20 Lug type ANSI Class 150: API standard 609 Class 150, size 28" EN 558, table 5, serie 20
Installation method:	Wafer type and Lug type body
Temperature range:	CF8M/1.4408 -22 - 662 °F (-30 - 350 °C) WCB/1.0619 -20 - 482 °F (-29 - 250 °C) (see product code)
Test pressure:	1.5 x PN with valve open 1.1 x Max. differential pressure with valve closed.
Sealing class:	PTFE seats: API 598 Metal seats: FCI 70-2, Class V, Test procedure type B.
Painting of carbon steel valves:	One-component primer and finishing coat.

**Flow capacities and characteristics (Table 1)  $K_v = C_v/1,16$**

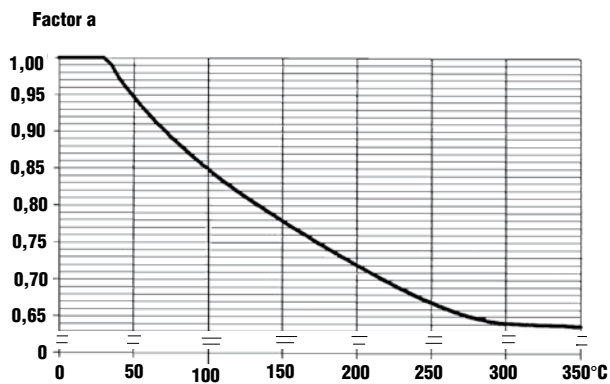
DN	$C_v$ at an opening angle of								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
80	17	37	60	87	116	151	186	232	244
100	24	53	99	133	180	238	302	389	412
125	38	87	142	202	273	379	545	705	783
150	44	110	186	290	418	586	795	1027	1102
200	70	174	302	499	754	1108	1543	1995	2169
250	107	284	499	818	1247	1821	2529	3277	3561
300	162	371	696	1172	1815	2616	3735	4907	5336
350	220	522	969	1566	2459	3579	5220	6856	7453
400	302	696	1288	2082	3173	4663	6844	9025	9918
500	487	1137	2111	3410	5197	7633	11206	14778	16240
600	731	1752	3213	5150	7702	11368	16681	21982	24267
700	1027	2395	4449	7186	10950	17179	23444	30937	34220

**Max. differential pressure**

Max. differential pressure with valve closed and a temperature up to 95 °F (35°C) is for all sizes 362 psi (25 bar). At temperatures above 95 °F (35°C) the maximum differential pressure shall be multiplied with a factor "a" according to the graph below.

At 70° open valve is the maximum differential pressure at 95 °F (35°C) limited according to Technical specification on page 2. The same reduction of these differential pressure at temperatures above 95 °F (35°C) as for the valve closed is valid.

(See the graph below).



**Table 2: Operating torque, ft-lb (Nm)**

DN	Differential pressure, psi (bar)			
	145 (10)	232 (16)	290 (20)	362.5 (25)
80	37 (50)	44 (60)	49 (67)	55 (75)
100	52 (70)	63 (85)	73 (100)	81 (110)
125	70 (95)	85 (115)	100 (136)	111 (150)
150	103 (140)	125 (170)	148 (200)	170 (230)
200	221 (300)	258 (350)	295 (400)	347 (470)
250	369 (500)	443 (600)	531 (720)	627 (850)
300	553 (750)	723 (980)	811 (1100)	922 (1250)
350	811 (1100)	1032 (1400)	1195 (1620)	1400 (1900)
400	1180 (1600)	1475 (2000)	1748 (2370)	1991 (2700)
500	2065 (2800)	2581 (3500)	3016 (4090)	3466 (4700)
600	3393 (4600)	4278 (5800)	4941 (6700)	5679 (7700)
700	5576 (7560)	7080 (9600)	8091 (10970)	9293 (12600)

### Operating torque

The above table specifies the torque necessary for closing the valve to the specified tightness. To achieve the specified tightness, the minimum design torque is corresponding to a differential pressure of 135 psi (10 bar). At flow through the valve the disc is being affected by dynamic torque which tries to close the valve. At liquid flow and high velocities this may be decisive for selection of actuator size. In general, for this valve, it is valid that water velocities below 26 f/s (8 m/s) in the pipe line at fully open valve do not give a dynamic torque higher than the closing torques according to the above table.

This means that it is utmost rare that the dynamic torque is decisive for the actuator selection.

In doubts, consult Flowserve concerning the torque required for actuator selection.

### Sizing of control valves

We have a valve sizing tool named Performance! This program can be ordered through your Flowserve representative.

**Table 3: Materials**

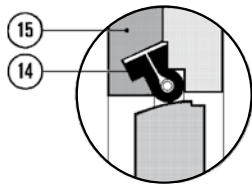
Item	Qty	Part	Material	Remark
1a	1	Body	EN 1.4408/CF8M	
1b	1	Body	EN 1.0619	Carbon steel version
2	1	Disc	EN 1.4408/CF8M	
4a	1	Stem, upper	EN 1.4460	
4b	1	Stem, upper	EN 1.4462	NACE-version
5a	1	Stem, lower	EN 1.4460	
5b	1	Stem, lower	EN 1.4462	NACE-version
6	1	Clamp ring	DN >250 EN 1.4408/CF8M DN ≤250 EN 1.4436/AISI316	
7	1	Retaining	EN 1.4436	
8	1	Gasket	Graphite	
9	1	Gasket	Graphite	
10	1	Seat ring	Inconel 718	
14	1	Seat ring	PTFE carbon reinforced	
15 <sup>1)</sup>	1	Clamp ring	DN >250 EN 1.4408/CF8M DN ≤250 EN 1.4436/AISI316	PTFE-version
18	1	O-ring	FPM	
20	1	Backing ring	PTFE	
21	1	Box packing set	Graphite	
22		Cup spring	17-7PH	For SafeGuard version
23	1	Gland cover	EN 1.4408/CF8M	
24	1	Boxpacking set	V-ring PTFE virgin/ PTFE 25 % C	
26	1	Stem bearing	Metaloplast	
27	1	Stem bearing	Metaloplast	
28	2	Pin screw	A4	
29	2	Nut	A4	
31 <sup>2)</sup>		Screw	A4	
33a	3	Pin	DN≤500 EN 1.4436 DN>500 EN 1.4460	
33b	3	Pin	DN≤500 EN 1.4436 DN>500 EN 1.4462	NACE-version
36	2	Key	Stainless steel	
37	1	Washer	Metaloplast	
38	2	Retaining plate	DN≤200 EN 1.4436 DN>200 EN 1.4460	

1) Clamp ring item 15 must be included if the valve is to be converted from some other type of seat to a PTFE seat ring.

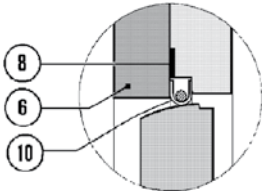
2) Quantity depending on dimension.

\*) Recommended spare parts.

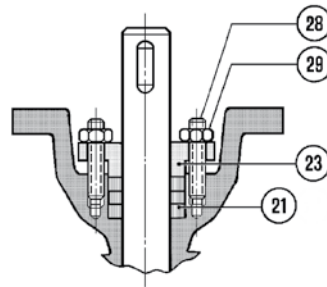
Other material combinations are available to order - consult Flowserve.



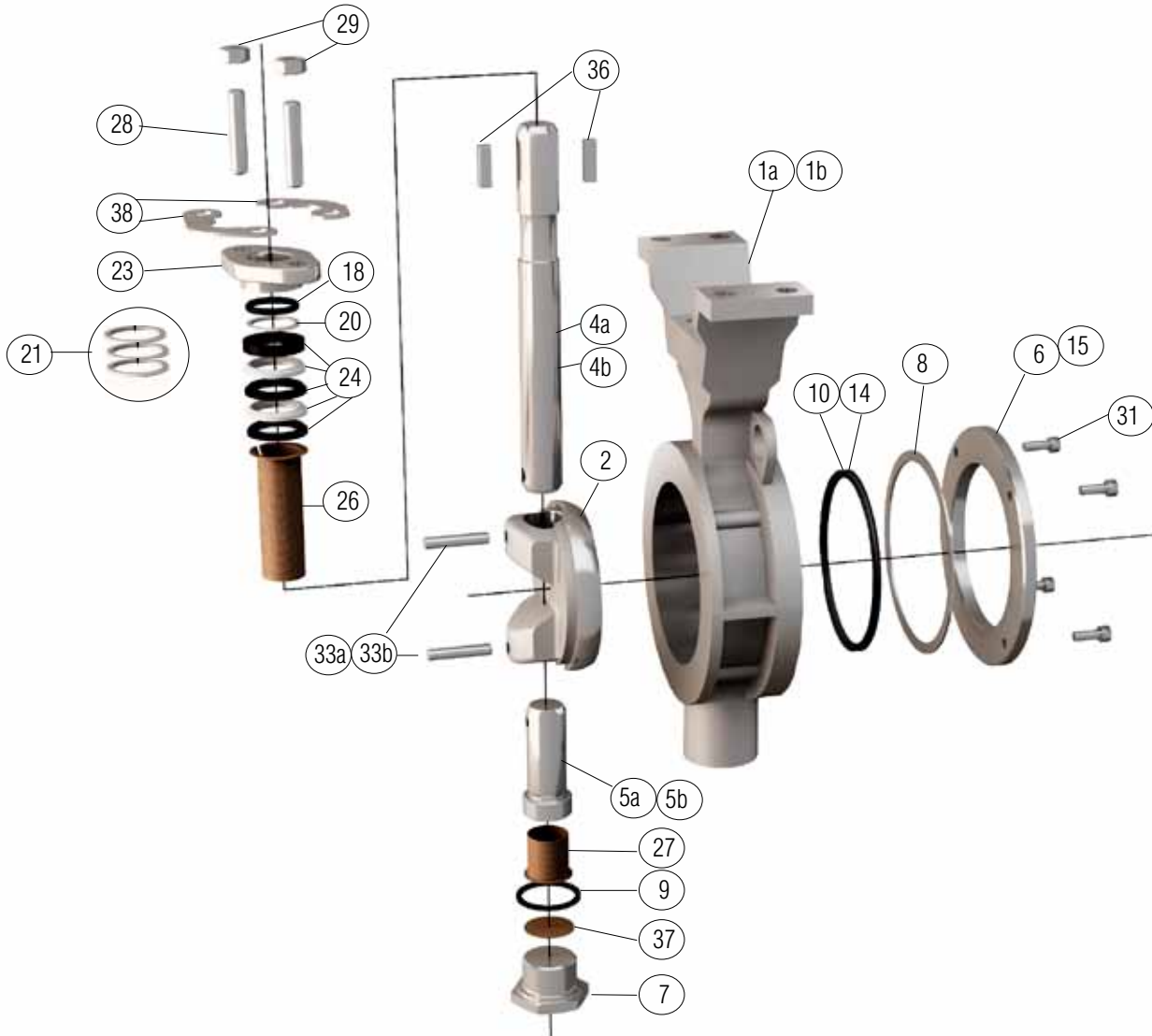
Seat type A (PTFE)



Seat type B (Inconel)



-07, -17



### Dimensions and weights

Dimensions for stem and keyway, see Fk 95.10.

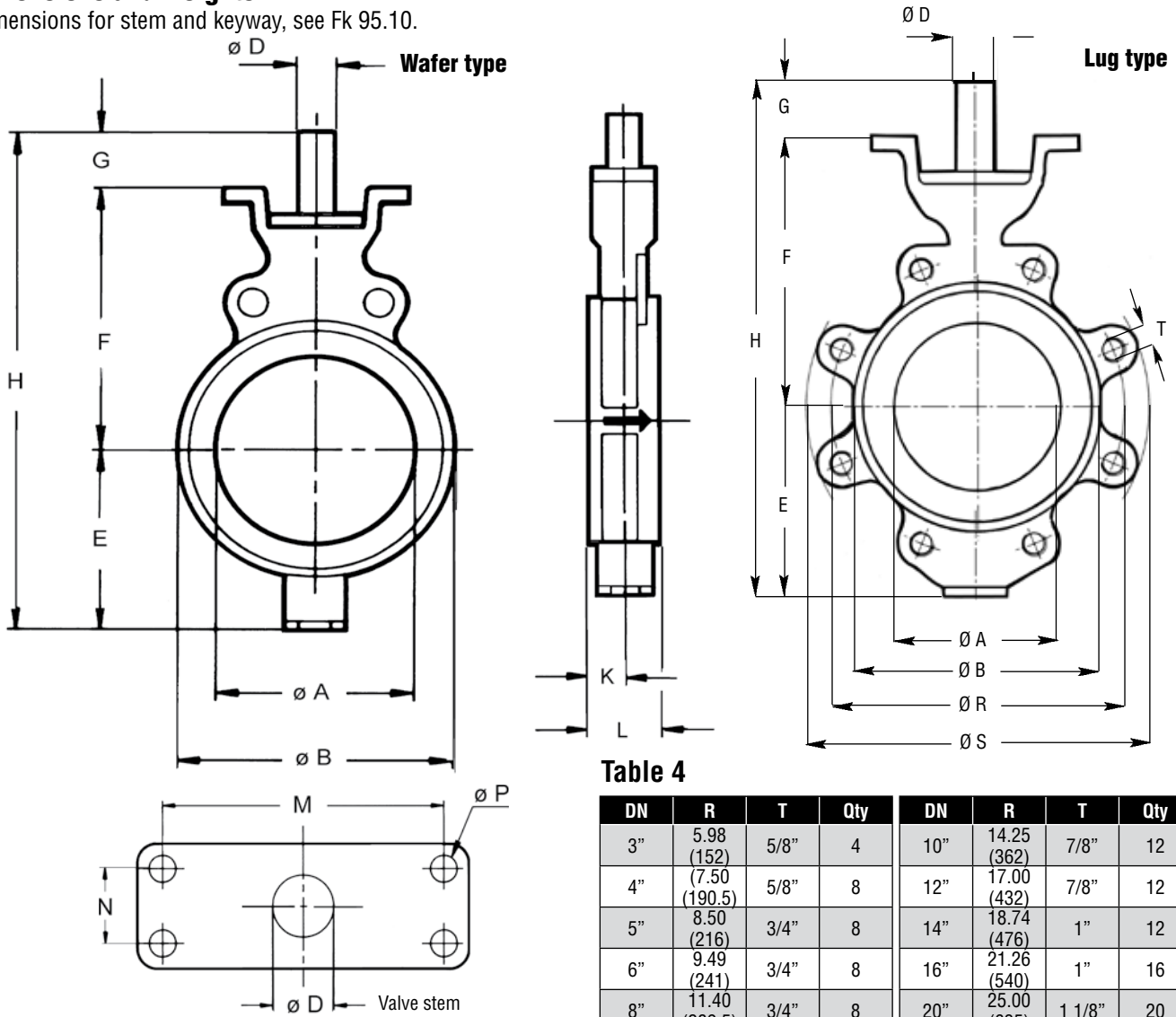


Table 4

DN	R	T	Qty	DN	R	T	Qty
3"	5.98 (152)	5/8"	4	10"	14.25 (362)	7/8"	12
4"	7.50 (190.5)	5/8"	8	12"	17.00 (432)	7/8"	12
5"	8.50 (216)	3/4"	8	14"	18.74 (476)	1"	12
6"	9.49 (241)	3/4"	8	16"	21.26 (540)	1"	16
8"	11.40 (289.5)	3/4"	8	20"	25.00 (635)	1 1/8"	20

### Actuator mounting

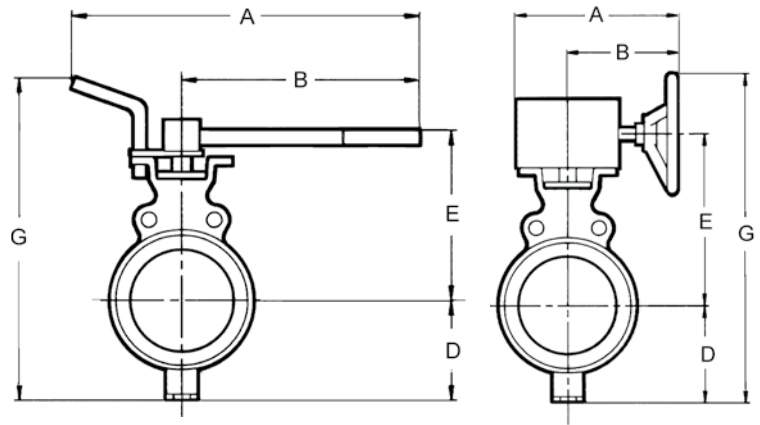
Table 5: PN 10-25, ANSI Class 150 Wafer type and Lug type

DN	A	B	D	E	F	G	H	K	L		M	N	P	S	Weight, lb (kg)	
									Wafer	Lug					Wafer	Lug
80	3.27 (83)	5.20 (132)	0.79 (20)	4.13 (105)	6.18 (157)	1.69 (43)	12.00 (305)	24.5 (0.96)	1.93 (49)	1.93 (49)	4.53 (115)	1.18 (30)	0.43 (11)	5.98 (182)	11.0 (5)	15.4 (7)
100	4.13 (105)	6.30 (160)	0.98 (25)	4.84 (123)	6.89 (175)	1.97 (50)	13.70 (348)	26 (1.02)	2.09 (53)	2.12 (54)	4.53 (115)	1.18 (30)	0.43 (11)	8.78 (223)	15.4 (7)	26.4 (12)
125	4.60 (117)	7.48 (190)	0.98 (25)	5.08 (129)	7.48 (190)	1.97 (50)	14.53 (369)	28 (1.10)	2.20 (56)	-	4.53 (115)	1.18 (30)	0.43 (11)	-	19.8 (9)	-
150	5.63 (143)	8.64 (215)	0.98 (25)	5.55 (141)	8.07 (205)	1.97 (50)	15.59 (396)	28 (1.10)	2.20 (56)	2.24 (57)	4.53 (115)	1.18 (30)	0.43 (11)	11.06 (281)	24.2 (11)	41.8 (19)
200	7.64 (194)	10.63 (270)	1.18 (30)	6.77 (172)	9.57 (243)	2.23 (59)	18.66 (474)	31 (1.22)	2.44 (62)	2.52 (64)	6.30 (160)	1.57 (40)	0.55 (14)	13.35 (339)	44.0 (20)	72.6 (33)
250	9.53 (242)	12.80 (325)	1.38 (35)	8.15 (207)	10.87 (276)	2.56 (65)	21.57 (548)	33 (1.30)	2.75 (70)	2.79 (71)	6.30 (160)	1.57 (40)	0.55 (14)	16.22 (412)	63.8 (29)	101.2 (46)
300	11.50 (292)	14.76 (375)	1.57 (40)	9.41 (239)	12.40 (315)	3.15 (80)	24.96 (634)	36 (1.42)	3.15 (80)	3.19 (81)	8.42 (214)	2.36 (60)	0.71 (18)	18.90 (480)	96.8 (44)	158.4 (72)
350	12.83 (326)	17.13 (435)	1.57 (40)	10.39 (264)	13.94 (354)	3.15 (80)	27.48 (698)	33 (1.30)	3.62 (92)	3.62 (92)	8.42 (214)	2.36 (60)	0.71 (18)	20.71 (526)	138.6 (63)	222.2 (101)
400	14.64 (372)	19.09 (485)	1.97 (50)	11.65 (296)	15.51 (394)	3.66 (93)	30.83 (783)	43 (1.69)	4.01 (102)	4.01 (102)	8.42 (214)	2.36 (60)	0.71 (18)	21.12 (592)	206.8 (94)	308.0 (140)
500	18.58 (472)	23.23 (590)	2.36 (60)	15.04 (382)	18.07 (459)	4.37 (111)	37.48 (952)	55 (2.16)	5.00 (127)	5.00 (127)	8.42 (214)	2.36 (60)	0.71 (18)	27.95 (687)	308.0 (140)	462.0 (210)
600	22.28 (566)	27.17 (690)	2.75 (70)	18.66 (474)	21.30 (541)	5.16 (131)	45.12 (1146)	63 (2.48)	6.06 (154)	6.06 (154)	10.90 (277)	4.53 (115)	1.30 (33)	32.68 (830)	618.2 (281)	880.0 (400)
700	26.38 (670)	31.57 (802)	3.15 (80)	21.85 (555)	22.99 (584)	5.87 (149)	50.71 (1288)	74.5 (2.93)	6.50 (165)	-	10.90 (277)	4.53 (115)	1.30 (33)	-	926.2 (420)	-

### Actuators

Valtek Torex TX is available with hand levers or with pneumatic or electric actuators and accessories. Use the following tables for selecting the hand levers and standard pneumatic actuators.

If other pneumatic or electric actuators are required, consult your Flowserve representative.



**Table 7: Torex TX with hand levers**

Valve size DN	Max dp psi (bar)	NAF No.	Dimensions, inch (mm)					Weight lb (kg) <sup>1)</sup>
			A	B	D	E	G	
<b>Hand lever as per Fk 70.51</b>								
80	362.5 (25)	791020-2	19.68 (500)	13.78 (350)	4.13 (105)	7.75 (197)	15.04 (382)	15.4 (7)
100	362.5 (25)	-3	19.68 (500)	350 (13.78)	123 (4.84)	215 (8.46)	418 (16.46)	9 (19.8)
125	290 (20) <sup>3)</sup>	-3	19.68 (500)	13.78 (350)	5.08 (129)	9.05 (230)	17.28 (439)	24.2 (11)
150	-	-3	19.68 (500)	13.78 (350)	5.55 (141)	9.64 (245)	18.35 (466)	28.6 (13)
<b>Worm gear actuator as per Fk 70.76 <sup>2)</sup></b>								
80	362.5 (25)	791051-11020	9.80 (249)	6.85 (174)	4.13 (105)	7.52 (191)	15.59 (396)	19.8 (9)
100	362.5 (25)	791051-11025	9.80 (249)	6.85 (17)	4.84 (123)	8.23 (209)	17.00 (432)	11 (24.2)
125	362.5 (25)	791051-11025	9.80 (249)	6.85 (174)	5.08 (129)	8.82 (224)	17.83 (453)	28.6 (13)
150	362.5 (25)	791051-11025	9.80 (249)	6.85 (174)	5.55 (141)	9.41 (239)	18.90 (480)	33.0 (15)
200	362.5 (25)	791051-22030	12.91 (328)	9.57 (243)	6.77 (172)	11.26 (286)	23.94 (608)	63.8 (29)
250	362.5 (25)	791051-22035	12.91 (328)	9.57 (243)	8.15 (207)	12.56 (319)	26.61 (676)	83.6 (38)
300	362.5 (25)	791051-33040	16.38 (416)	11.46 (291)	9.41 (239)	14.37 (365)	31.65 (804)	134.2 (61)
350	362.5 (25)	791051-33040	16.38 (416)	11.46 (291)	10.39 (264)	15.90 (404)	34.17 (868)	176.0 (80)
400	232.0 (16)	791051-33050	16.38 (416)	11.46 (291)	11.65 (296)	18.07 (459)	37.60 (955)	244.2 (111)
400	362.5 (25)	791051-43050	19.96 (507)	13.27 (337)	11.65 (296)	17.68 (449)	39.17 (995)	277.2 (126)
500	275.5 (19)	791051-43060	19.96 (507)	13.27 (337)	15.04 (382)	514 (20.24)	1146 (45.12)	172 (378.4)
500	362.5 (25)	791051-53060	591 (19.96)	421 (16.57)	382 (15.04)	20.24 (514)	43.15 (1096)	391.6 (178)
600	275.5 (19)	791051-55070	19.96 (591)	16.57 (421)	18.66 (474)	24.45 (621)	50.98 (1295)	701.8 (319)
600	362.5 (25)	791051-65070	27.44 (697)	19.17 (487)	18.66 (474)	24.80 (630)	1404 (55.27)	348 (765.6)
700	362.5 (25)	791051-65080	27.44 (697)	487 (19.17)	21.85 (555)	25.90 (658)	59.57 (1513)	1071.4 (487)

1) Wafer type PN 10-25, ANSI Class 150

2) Available with locking device. Contact Flowserve.

3) Metal seat only (PTFE choose gear)

Dimensions in inch (mm)

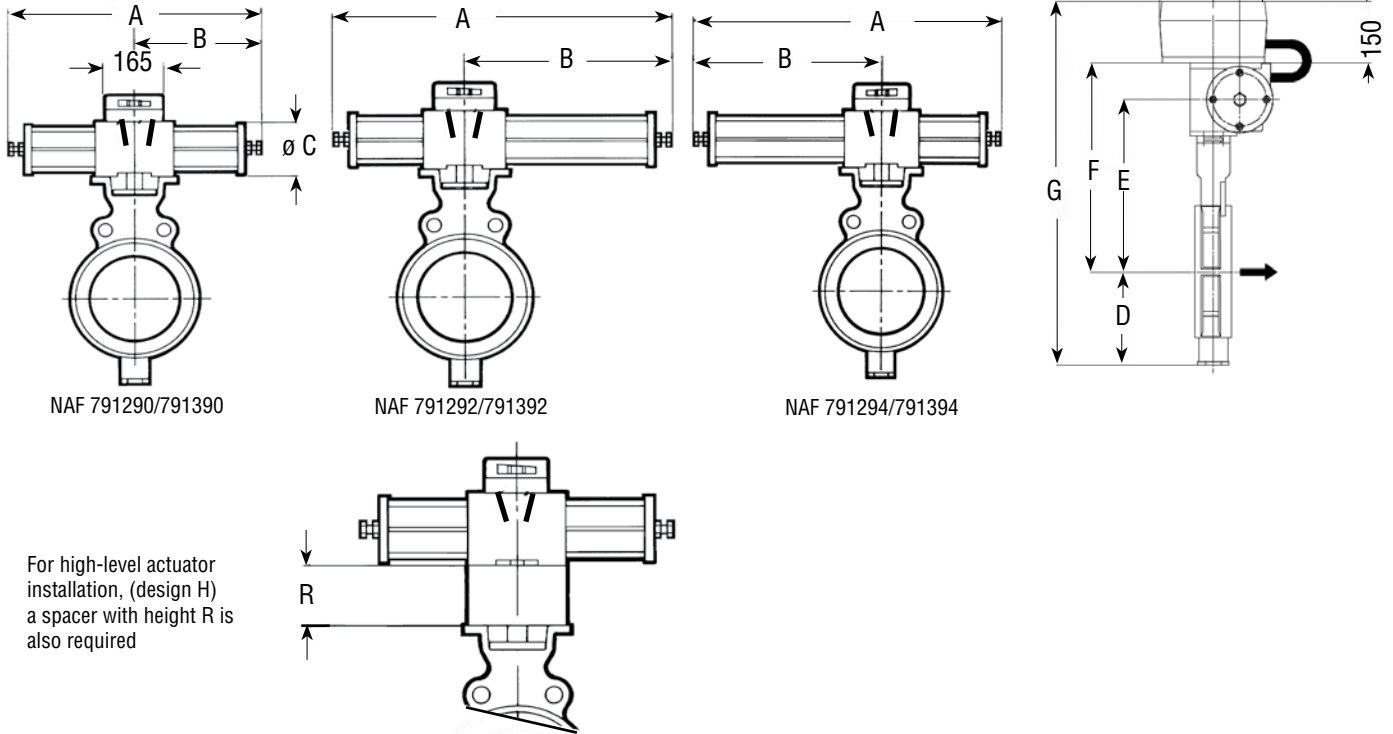
**Table 8: Valtek Torex TX valves with pneumatic actuators**

The below stated dP apply for clean media type water.  
For other media contact Flowserve, see also page 4

Valve size DN	Max dp bar (psi) at supply of			NAF No.	Dimensions, inch (mm)									Weight lb (kg) <sup>2)</sup>
	58 psi (4 bar)	72.5 psi (5 bar)	87 psi (6 bar)		A	B	C	D	E	F	G <sup>1)</sup>	H	R	
<b>Double-acting as per Fk 74.59</b>														
80	362.5 (25)	362.5 (25)	362.5 (25)	791290-0220	14.57 (370)	7.28 (185)	3.50 (80)	4.13 (105)	8.15 (207)	10.20 (259)	20.24 (514)	1.22 (31)	2.75 (70)	19.8 (9)
100	174.0 (12)	361.0 (18)	362.5 (25)	-0225	14.57 (370)	7.28 (185)	3.50 (80)	4.84 (123)	8.86 (225)	10.90 (277)	21.65 (550)	1.22 (31)	2.75 (70)	24.2 (11)
100	362.5 (25)	362.5 (25)	362.5 (25)	-1225	19.29 (490)	9.64 (245)	3.94 (100)	4.84 (123)	9.05 (230)	11.30 (287)	22.05 (560)	1.57 (40)	2.75 (70)	28.6 (13)
125	-	159.5 (11)	361.0 (18)	-0225	14.57 (370)	7.28 (185)	31.50 (80)	5.08 (129)	9.45 (240)	11.50 (292)	22.48 (571)	1.22 (31)	2.75 (70)	28.6 (13)
125	362.5 (25)	362.5 (25)	362.5 (25)	-1225	19.29 (490)	9.64 (245)	3.94 (100)	5.08 (129)	9.64 (245)	11.89 (302)	22.87 (581)	1.57 (40)	2.75 (70)	33.0 (15)
150	188.5 (13)	290.0 (20)	362.5 (25)	-1225	19.29 (490)	9.64 (245)	3.94 (100)	5.55 (141)	10.24 (260)	12.48 (317)	23.94 (608)	1.57 (40)	2.75 (70)	37.4 (17)
150	362.5 (25)	362.5 (25)	362.5 (25)	-2125	27.57 (700)	13.78 (350)	5.71 (145)	5.55 (141)	11.02 (280)	13.90 (353)	25.35 (644)	2.48 (63)	2.75 (70)	61.6 (28)
200	174.0 (12)	361.0 (18)	362.5 (25)	-2130	27.57 (700)	13.78 (350)	5.71 (145)	6.77 (172)	12.52 (318)	15.39 (391)	28.07 (713)	2.48 (63)	3.15 (80)	81.4 (37)
200	362.5 (25)	362.5 (25)	362.5 (25)	-2230	27.57 (700)	13.78 (350)	5.71 (145)	6.77 (172)	12.52 (318)	15.39 (391)	28.07 (713)	2.48 (63)	3.15 (80)	81.4 (37)
250	246.5 (17)	319.0 (22)	362.5 (25)	-2235	27.57 (700)	13.78 (350)	5.71 (145)	8.15 (207)	13.82 (351)	16.69 (424)	30.75 (781)	2.48 (63)	3.15 (80)	101.2 (46)
250	362.5 (25)	362.5 (25)	362.5 (25)	-3135	32.28 (820)	16.14 (410)	7.87 (200)	8.15 (207)	14.80 (376)	18.74 (476)	32.79 (833)	2.95 (75)	3.15 (80)	127.6 (58)
300	-	145.0 (10)	232.0 (16)	-2240	27.57 (700)	13.78 (350)	5.71 (145)	9.41 (239)	15.35 (390)	18.23 (463)	33.54 (852)	2.48 (63)	4.72 (120)	134.2 (61)
300	290.0 (20)	362.5 (25)	362.5 (25)	-3140	32.28 (820)	16.14 (410)	7.87 (200)	9.41 (239)	16.34 (415)	20.27 (515)	35.90 (904)	2.95 (75)	4.72 (120)	160.6 (73)
350	-	203.0 (14)	290.0 (20)	-3140	32.28 (820)	16.14 (410)	7.87 (200)	10.39 (264)	17.87 (454)	21.81 (554)	38.11 (968)	2.95 (75)	4.72 (120)	202.4 (92)
350	362.5 (25)	362.5 (25)	362.5 (25)	-3240	32.28 (820)	16.14 (410)	7.87 (200)	10.39 (264)	17.87 (454)	21.81 (554)	38.11 (968)	2.95 (75)	4.72 (120)	202.4 (92)
400	-	-	145.0 (10)	-3150	32.28 (820)	16.14 (410)	7.87 (200)	11.65 (296)	19.45 (494)	23.35 (593)	40.90 (1039)	2.95 (75)	4.72 (120)	270.6 (123)
400	232.0 (16)	362.5 (23)	362.5 (25)	-3250	32.28 (820)	16.14 (410)	7.87 (200)	11.65 (296)	19.45 (494)	23.35 (593)	40.90 (1039)	2.95 (75)	4.72 (120)	270.6 (123)
400	362.5 (25)	362.5 (25)	362.5 (25)	791390-4250	43.70 (1110)	21.85 (555)	10.24 (260)	23.46 (596)	20.55 (522)	25.75 (654)	43.31 (1100)	3.94 (100)	4.72 (120)	305.8 (139)
500	-	-	174.0 (12)	-4160	43.70 (1110)	21.85 (555)	10.24 (260)	15.04 (382)	23.11 (587)	28.31 (719)	49.25 (1251)	3.94 (100)	4.72 (120)	407.0 (185)
500	290.0 (20)	362.5 (25)	362.5 (25)	-4260	43.70 (1110)	21.85 (555)	10.24 (260)	15.04 (382)	23.11 (587)	28.31 (719)	49.25 (1251)	3.94 (100)	4.72 (120)	407.0 (185)
600	-	174.0 (12)	232.0 (16)	-4270	43.70 (1110)	21.85 (555)	10.24 (260)	18.66 (474)	28.23 (717)	31.53 (801)	56.10 (1425)	3.94 (100)	5.90 (150)	717.2 (326)
600	362.5 (25)	362.5 (25)	362.5 (25)	-5170	66.14 (1680)	33.07 (840)	15.55 (395)	18.66 (474)	28.46 (723)	34.05 (865)	58.86 (1495)	5.90 (150)	5.90 (150)	1102.2 (501)
700	159.5 (11)	246.5 (17)	248.0 (24)	-5180	66.14 (1680)	33.07 (840)	15.55 (395)	21.85 (555)	30.16 (766)	39.95 (964)	63.74 (1619)	5.90 (150)	-	-
700	362.5 (25)	362.5 (25)	362.5 (25)	-5280	66.14 (1680)	33.07 (840)	15.55 (395)	21.85 (555)	30.16 (766)	37.95 (964)	63.74 (1619)	5.90 (150)	-	-
<b>Single-acting, spring to close as per Fk 74.59</b>														
80	362.5 (25)	362.5 (25)	362.5 (25)	-1220	25.00 (635)	15.35 (390)	3.94 (100)	41.34 (105)	8.35 (212)	10.59 (269)	20.63 (524)	1.57 (40)	2.75 (70)	30.8 (14)
100	203.0 (14)	203.0 (14)	203.0 (14)	-1225	25.00 (635)	15.35 (390)	3.94 (100)	4.84 (123)	9.05 (230)	11.30 (287)	22.05 (560)	1.57 (40)	2.75 (70)	35.2 (16)
100	362.5 (25)	362.5 (25)	362.5 (25)	-2225	35.04 (890)	21.26 (540)	5.71 (145)	4.84 (123)	9.84 (250)	12.72 (323)	23.46 (596)	2.48 (63)	2.75 (70)	66.0 (30)
125	362.5 (25)	362.5 (25)	362.5 (25)	-2225	35.04 (890)	21.26 (540)	5.71 (145)	5.08 (129)	10.43 (265)	13.30 (338)	25.29 (617)	2.48 (63)	2.75 (70)	70.4 (32)
150	362.5 (25)	362.5 (25)	362.5 (25)	-2225	35.04 (890)	21.26 (540)	5.71 (145)	5.55 (141)	11.02 (280)	13.40 (353)	25.35 (644)	2.48 (63)	2.75 (70)	74.8 (34)
200	217.0 (15)	217.0 (15)	217.0 (15)	-2230	35.04 (890)	21.26 (540)	5.71 (145)	6.77 (172)	12.52 (318)	15.39 (391)	28.07 (713)	2.48 (63)	3.15 (80)	94.6 (43)
200	362.5 (25)	362.5 (25)	362.5 (25)	-3230	41.34 (1050)	25.20 (640)	7.87 (200)	6.77 (172)	13.50 (343)	17.44 (443)	30.12 (765)	2.95 (75)	3.15 (80)	138.6 (63)
250	362.5 (25)	362.5 (25)	362.5 (25)	-3235	41.34 (1050)	25.20 (640)	7.87 (200)	8.15 (207)	14.80 (376)	18.74 (476)	32.79 (833)	2.95 (75)	3.15 (80)	158.4 (72)
300	246.5 (17)	246.5 (17)	246.5 (17)	-3240	41.34 (1050)	25.20 (640)	7.87 (200)	9.41 (239)	16.34 (415)	20.27 (515)	35.59 (904)	2.95 (75)	4.72 (120)	191.4 (87)
300	362.5 (25)	362.5 (25)	362.5 (25)	791392-4240	59.84 (1520)	37.99 (965)	10.24 (260)	9.41 (239)	17.44 (443)	22.64 (575)	37.95 (964)	3.94 (100)	4.72 (120)	316.8 (144)
350	-	-	-	791292-3240	41.34 (1050)	25.20 (640)	7.87 (200)	10.39 (264)	17.87 (454)	21.81 (554)	38.11 (968)	2.95 (75)	4.72 (120)	233.2 (106)
350	362.5 (25)	362.5 (25)	362.5 (25)	791392-4240	59.84 (1520)	37.99 (965)	10.24 (260)	10.39 (264)	18.98 (482)	24.17 (614)	40.47 (1028)	3.94 (100)	4.72 (120)	358.6 (163)
400	-	-	-	791292-3250	41.34 (1050)	25.20 (640)	7.87 (200)	11.65 (296)	19.45 (494)	23.35 (593)	40.90 (1039)	2.95 (75)	4.72 (120)	301.4 (137)
400	361.0 (18)	361.0 (18)	361.0 (18)	791392-4250	59.84 (1520)	37.99 (965)	10.24 (260)	23.46 (596)	20.55 (522)	25.75 (654)	43.30 (1100)	3.94 (100)	4.72 (120)	426.8 (194)
400	362.5 (25)	362.5 (25)	362.5 (25)	-5250	87.00 (2210)	53.94 (1370)	15.55 (395)	11.65 (296)	22.00 (559)	28.50 (724)	46.06 (1170)	5.90 (150)	4.72 (120)	1229.8 (559)
500	-	-	-	-4260	59.84 (1520)	37.99 (965)	10.24 (260)	15.04 (382)	23.11 (587)	28.32 (719)	49.25 (1251)	3.94 (100)	4.72 (120)	448.8 (204)
500	362.5 (25)	362.5 (25)	362.5 (25)	-5260	87.00 (2210)	53.94 (1370)	15.55 (395)	15.04 (382)	24.57 (624)	31.06 (789)	52.00 (1321)	5.90 (150)	4.72 (120)	1485.0 (675)
600	362.5 (25)	362.5 (25)	362.5 (25)	-5270	87.00 (2210)	53.94 (1370)	15.55 (395)	18.66 (474)	28.46 (723)	36.85 (936)	58.86 (1495)	5.90 (150)	5.90 (150)	1685.2 (766)
700	174.0 (12)	174.0 (12)	174.0 (12)	-5280	87.00 (2210)	53.94 (1370)	15.55 (395)	21.85 (555)	30.16 (766)	37.95 (964)	63.74 (1619)	5.90 (150)	-	-

1) Including valve positioner  
2) Wafer type PN 10-25, ANSI Class 150





**Table 9**

The below stated dP apply for clean media type water.  
For other media contact Flowserve, see also page 4.

Valve size DN	Max dp bar (psi) at supply of			NAF No.	Dimensions, inch (mm)										Weight lb (kg) <sup>2)</sup>
	58 psi (4 bar)	72.5 psi (5 bar)	87 psi (6 bar)		A	B	C	D	E	F	G <sup>1)</sup>	H	R		
<b>Single-acting, spring to open according to Fk 74.59</b>															
80	-	-	261.0 (18)	791294-0220	17.91 (455)	34.25 (270)	3.15 (80)	4.13 (105)	8.15 (207)	10.20 (259)	20.24 (514)	1.22 (31)	2.75 (70)	22.0 (10)	
80	-	290.0 (20)	362.5 (25)	-1220	25.00 (635)	15.35 (390)	3.94 (100)	4.13 (105)	8.35 (212)	10.59 (269)	20.63 (524)	1.75 (40)	2.75 (70)	30.8 (14)	
80	362.5 (25)	362.5 (25)	362.5 (25)	-2220	35.04 (890)	21.26 (540)	5.71 (145)	4.13 (105)	9.13 (232)	12.00 (305)	22.05 (560)	2.48 (63)	2.75 (70)	61.6 (28)	
100	-	-	290.0 (20)	-1225	25.00 (635)	15.35 (390)	3.94 (100)	4.84 (123)	9.05 (230)	11.30 (287)	22.05 (560)	1.75 (40)	2.75 (70)	35.2 (16)	
100	362.5 (25)	362.5 (25)	362.5 (25)	-2225	35.04 (890)	21.26 (540)	5.71 (145)	4.84 (123)	9.05 (250)	12.72 (323)	23.46 (596)	2.48 (63)	2.75 (70)	66.0 (30)	
125	-	-	203.0 (14)	-1225	25.00 (635)	15.35 (390)	3.94 (100)	5.08 (129)	9.64 (245)	11.89 (302)	22.87 (581)	1.75 (40)	2.75 (70)	39.6 (18)	
125	261.0 (18)	362.5 (25)	362.5 (25)	-2225	35.04 (890)	21.26 (540)	5.71 (145)	5.08 (129)	10.43 (265)	13.31 (338)	24.29 (617)	2.48 (63)	2.75 (70)	70.4 (32)	
150	-	362.5 (25)	362.5 (25)	-2225	35.04 (890)	21.26 (540)	5.71 (145)	5.55 (141)	11.02 (280)	13.90 (353)	25.35 (644)	2.48 (63)	2.75 (70)	74.8 (34)	
200	-	-	290.0 (20)	-2230	35.04 (890)	21.26 (540)	5.71 (145)	6.77 (172)	12.52 (318)	15.39 (391)	28.07 (713)	2.48 (63)	3.15 (80)	94.6 (43)	
200	261.0 (18)	362.5 (25)	362.5 (25)	-3230	41.34 (1050)	25.20 (640)	7.87 (200)	6.77 (172)	13.50 (343)	17.44 (443)	30.12 (765)	2.95 (75)	3.15 (80)	138.6 (63)	
250	-	362.5 (25)	362.5 (25)	-3235	41.34 (1050)	25.20 (640)	7.87 (200)	8.15 (207)	14.80 (376)	18.74 (476)	32.79 (833)	2.95 (75)	3.15 (80)	158.4 (72)	
250	362.5 (25)	362.5 (25)	362.5 (25)	791394-4235	59.84 (1520)	27.99 (965)	10.24 (260)	8.15 (207)	15.90 (404)	21.10 (536)	34.76 (883)	3.94 (100)	3.15 (80)	283.8 (129)	
300	-	203.0 (14)	290.0 (20)	791294-3240	59.84 (1520)	25.20 (640)	7.87 (200)	9.41 (239)	16.34 (415)	20.27 (515)	35.59 (904)	2.95 (75)	4.73 (120)	191.4 (87)	
300	10 (145.0)	362.5 (25)	362.5 (25)	791394-4240	59.84 (1520)	27.99 (965)	10.24 (260)	9.41 (239)	17.44 (443)	22.64 (575)	37.95 (964)	3.94 (100)	4.73 (120)	316.8 (144)	
350	-	-	145.0 (10)	791294-3240	59.84 (1520)	25.20 (640)	7.87 (200)	10.40 (264)	17.87 (454)	21.81 (554)	38.11 (968)	2.95 (75)	4.73 (120)	233.2 (10)	
350	-	362.5 (25)	362.5 (25)	791394-4240	59.84 (1520)	27.99 (965)	10.24 (260)	10.40 (264)	18.98 (482)	24.17 (614)	40.47 (1028)	3.94 (100)	4.73 (120)	358.6 (163)	
400	-	174.0 (12)	362.5 (25)	791394-4250	59.84 (1520)	27.99 (965)	10.24 (260)	11.65 (296)	20.55 (522)	25.75 (654)	43.31 (1100)	3.94 (100)	4.73 (120)	426.8 (194)	
400	362.5 (25)	362.5 (25)	362.5 (25)	-5250	87.00 (2210)	53.94 (1370)	15.55 (395)	11.65 (296)	22.00 (559)	28.50 (724)	46.06 (1170)	5.90 (150)	4.73 (120)	1229.8 (559)	
500	-	-	174.0 (12)	-4260	59.84 (1520)	27.99 (965)	10.24 (260)	15.04 (382)	23.11 (587)	28.30 (719)	49.25 (1251)	3.94 (100)	4.73 (120)	528.0 (240)	
500	174.0 (12)	362.5 (25)	362.5 (25)	-5260	87.00 (2210)	53.94 (1370)	15.55 (395)	15.04 (382)	24.57 (624)	31.06 (789)	52.00 (1321)	5.90 (150)	4.73 (120)	485.0 (675)	
600	-	319.0 (22)	362.5 (25)	-5270	87.00 (2210)	53.94 (1370)	15.55 (395)	18.66 (474)	28.46 (723)	36.85 (936)	58.86 (1495)	5.90 (150)	3.94 (100)	1685.2 (766)	
700	-	145.0 (10)	203.0 (14)	-5280	87.00 (2210)	53.94 (1370)	15.55 (395)	21.85 (555)	30.16 (766)	37.95 (964)	63.74 (1619)	5.90 (150)	-	-	

1) Including valve positioner  
2) Wafer type PN 10-25, ANSI Class 150

## Accessories

Flowserve's pneumatic actuator Turnex, see [www.flowserve.com](http://www.flowserve.com).

## Valve positioner

Digital valve positioner, see [www.flowserve.com](http://www.flowserve.com).

## Terminal box

The actuator can be equipped with a junction box (part No. 34920930) of cast aluminium containing terminal blocks for connecting the solenoid valve and position sensors.

## Fugitive emissions Approval, EN ISO15848-1

Flowserve has certified some of our valves with a new stem sealing, according to EN ISO 15848-1 (this new standard will replace the old TA-luft standard). The packing box solution is with a V-ring set. The new packing set is live loaded with spring cups and equipped with an o-ring above the stem packing. Following valves have been certified in the first test.

Classification according to test results is

**ISO-FE BH - CC1 - SSA0 - t200°C PN25**

### Classification classes:

BH Tightness class B, test fluid Helium  
CC1 20000 mechanical cycles, 2 thermal cycles.  
SSA0 Without shaft seal adjustments during test  
T200°C Temperature Class  
PN25 Endurance Class.

## Certified Products

DN 80-350/Size 3"-14".

For other sizes and pressure classes contact Flowserve.


## Other versions

### - Degreased for oxygen

Before assembly, all valve parts are degreased in trichlorethylene vapour in accordance with quality instructions Qi-207. The valve is assembled and packed so that no oil or grease will enter the valve.

*Product code: D*

### - Explosive atmosphere acc. to Directive 94/9/EC ATEX

Valtek Torex TX is certified according to ATEX 94/9/EC in  2 G/D c

*Product code: XA*

**Product code for Valtek Torex TX**

Example:

**23 8 3 B B - 0150 - B A A A B A D**  
**Code 1 2 3 4 5 6 7 8 9 10 11 12 13**

**1. Valve type**  
**23** Torex TX

**2. Material**

**6** Carbon steel WCB / 1.0619  
**8** Stainless steel CF8M / 1.4408

**3. Pressure rating**

**2** PN 10 (DN 200-700) <sup>1)</sup>  
**3** PN 16 (DN 100-700) <sup>2)</sup>  
**4** ANSI Class 150 (Size 3"-28")  
**5** PN 25 (DN 80-700)

**4. Stem bearing**

	<b>Body</b>	<b>Stem</b>
<b>A</b>	-	Hard chrome plated <sup>3)</sup>
<b>B</b>	Metaloplastbearing (max 250°C)	-

**5. Installation method**

**B** Wafer type  
**L** Lug type body ANSI Class 150  
 (for PN classes cont. Flowserve)

**6. Size**

DIN-version	ANSI-version
<b>DN</b>	<b>Size</b>
<b>0080</b> 80	<b>0003</b> 3"
<b>0100</b> 100	<b>0004</b> 4"
<b>0125</b> 125	<b>0005</b> 5"
<b>0150</b> 150	<b>0006</b> 6"
<b>0200</b> 200	<b>0008</b> 8"
<b>0250</b> 250	<b>0010</b> 10"
<b>0300</b> 300	<b>0012</b> 12"
<b>0350</b> 350	<b>0014</b> 14"
<b>0400</b> 400	<b>0016</b> 16"
<b>0500</b> 500	<b>0020</b> 20"
<b>0600</b> 600	<b>0024</b> 24"
<b>0700</b> 700	<b>0028</b> 28"

**7. Seat ring**

**A** PTFE max temp. 662 °F (250°C)  
**B** Inconel max temp. 482 °F (350°C)

**8. Disc**  
**A** CF8M / 1.4408

**9. Disc surface**  
**A** None

**10. Seat ring seal/gasket bottom cover**  
**G** Graphite

**11. Stem seal**

<b>A</b> Zebra-CL™	max temp 482 °F (250 °C)
<b>B</b> Safeguard	max temp 482 °F (250 °C)
<b>G</b> Graphite (box)	max temp 482 °F (350 °C) <sup>4)</sup>
<b>H</b> Graphite extended stem	max temp 482 °F (350 °C)

**12. Stem material**  
**A** EN 1.4460  
**B** EN 1.4462 NACE

**13. Other versions**  
**D** Degreased version for oxygen  
**XA** ATEX certified

1) DN 80 has the same flange dimensions in PN 10, 16 and 25, choose PN 25  
 DN 100-150 has the same flange dimensions in PN 10 and 16, choose PN 16  
 2) DN 80 choose PN 25  
 3) Only in stainless steel version  
 4) For temperatures above 250°C it's due to type of actuator version H or other type of stem extension recommended.



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***To find the sales location nearest you visit  
Flowserve.com/SalesLocator***

For more information about Flowserve Corporation, visit  
[www.flowserve.com](http://www.flowserve.com)

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