



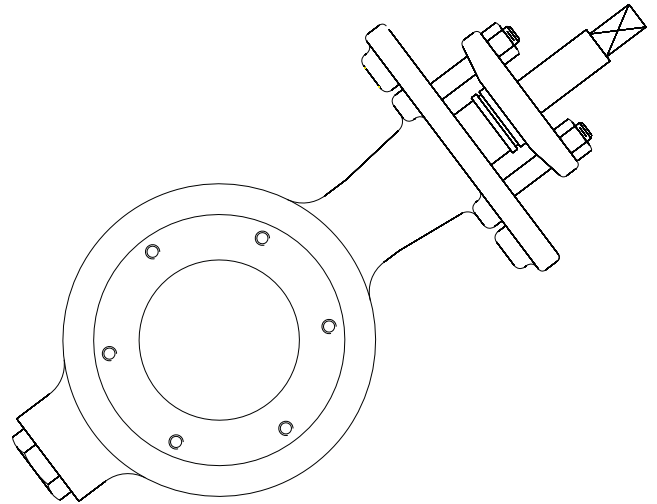
Double Eccentric

Butterfly Valves

fergo[®]

With FERGO as your business partner, you are always guaranteed a wide and well sorted product range and a unique technical know-how.

Product development is a key factor for FERGO, ensuring you the best products at any time.



Reduced Friction

Solid Heavy-duty Construction

Long life , easy field replaceable seat

High Pressure & Temperature Range

Bidirectional at full differential pressures

CE and ATEX approval

Fire Safe construction and fire safe certified

Cavity free flow passage equals high Cv values

What is important to you, when you buy Double Eccentric Butterfly Valves? What about: Heavy-duty? Long Service? CE-approved? Bidirectional? Reduced Friction? High Pressure & Temperature Range. High Cv values?

Double Eccentric Butterfly Valves from FERGO are characterized by their long service and reduced friction. The Double Eccentric Butterfly Valves are available in a wide range of dimensions at competitive prices.



Product Range and Benefits

Double Eccentric Butterfly Valve

Type AX160 Wafer

Dimensions
DN50 - DN600



Double Eccentric Butterfly Valve

Type AX161 LUG

Dimensions
DN50 - DN600



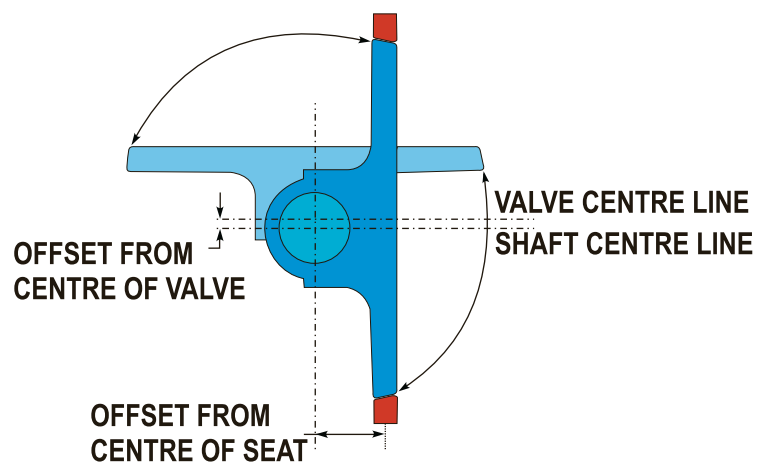
Double Eccentric Butterfly Valve

Type AX162 Double Flanged

Dimensions
DN50 - DN600



- The AXxx series of Double Eccentric Butterfly Valves from FERGO is a range of high performance, heavy-duty constructed butterfly valves available in Wafer, LUG or Double Flange executions.
- The seat constructions with its Double Offset provides excellent controllability, bubble tight shutoff, longer seat life as well as a smooth operation.
- Valve body is heavy duty.
- Optimal disc geometry and cavity free flow passage offers minimum flow resistance and high Cv values.
- Heavy duty pins connecting valve shaft to disc avoids lost motion under high torque conditions.
- Long life, easy field replaceable seat placed in body, away from flow stream, provides bubble tight shut off. Valves are equally suitable for control and tight shut off applications.
- Low friction bearings provide maximum radial support for higher shaft loads. The PTFE lined bearings having low co-efficient of friction minimizes operating torque and reduces actuator size. They are slip-in place type, easy for assemble and disassembly.
- Seat option includes Reinforced PTFE (15% Glass Fiber/12% Carbon/3% Graphite), EPDM, NBR, FPM soft seats and Flexible Metal Seats to suit a variety of fluids and applications.



Working principle of the Double Excentric construction

Specifications, Conformity to Standards, Testing and Inspection

DVC Series AXxx

Double Eccentric Butterfly Valves

Wafer, LUG and Double Flanged



Specifications

Valve size:

All executions:	Standard:	DN50 - DN600
	On request:	DN700 - DN1800
Soft seated:	On request:	DN2000 - DN3000

Ratings:

PN16, PN40, ANSI 150, ANSI 300, ANSI 600

Note: up to DN600 all ratings possible - above this contact FERGO for further info.

Design Standards:

API 609, ANSI B16.34, ANSI B16.5

Seat Leakage option:

Class VI (FCI 70-2) for PTFE, EPDM, FPM

Class IV (FCI 70-2) for Flexible Metal Seats

Class IV (FCI 70-2) for Fire Safe seats

Flow Direction:

Bi-directional

Conformity to Standards

Design and Manufacturing:

API 609 Category B, BS 5155, API607/ISO 10497 (Fire Safe)

Face-to-face Dimensions:

API 609, BS 5155, EN 558-1, ISO 5752

Flange Dimensions:

ANSI B16.5 (DN50 - DN600), ANSI B16.47 (DN700 and up)
EN 1092-1

Pressure Temperature Rating:

ANSI B16.34

Test and Inspection

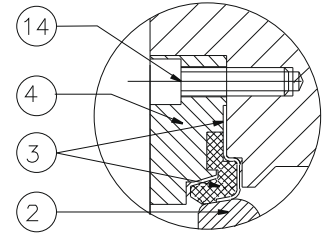
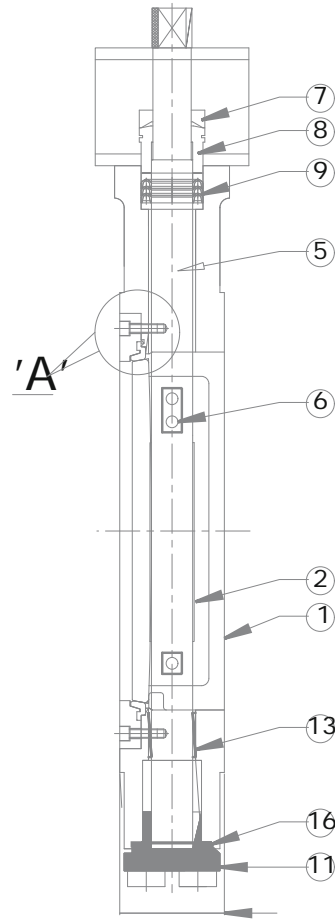
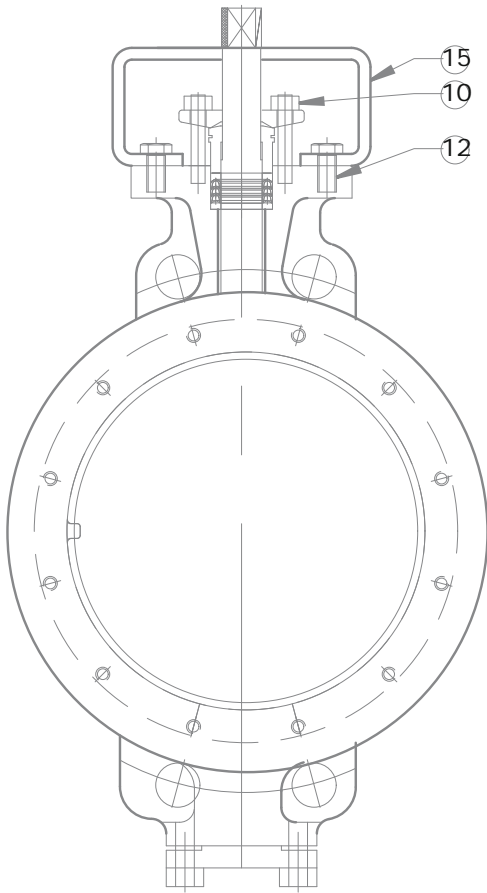
Valve Inspection:

API 598, ISO 5208, EN 12266-1/12266-2, ANSI/FCI 70-2

Example of test - according to API598 - soft seated

Test	Test pressure	Test standard	Test medium	Acceptance criteria
Hydro test (Shell)	30 bar (ANSI 150)	API 598	Water	No leakage
	80 bar (ANSI 300)	API 598	Water	No leakage
Seat Leakage Test	Max. □P Shut Off	FCI 70-2	Water	Class VI
	20 bar (ANSI 150)	API 598	Water	No leakage
	54 bar (ANSI 300)	API 598	Water	No leakage

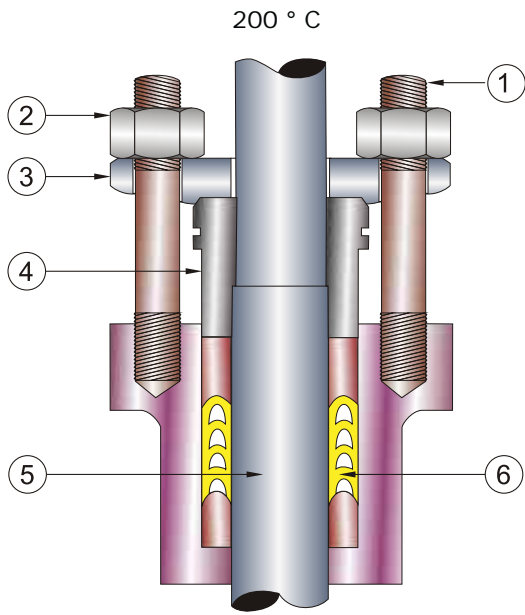
Construction



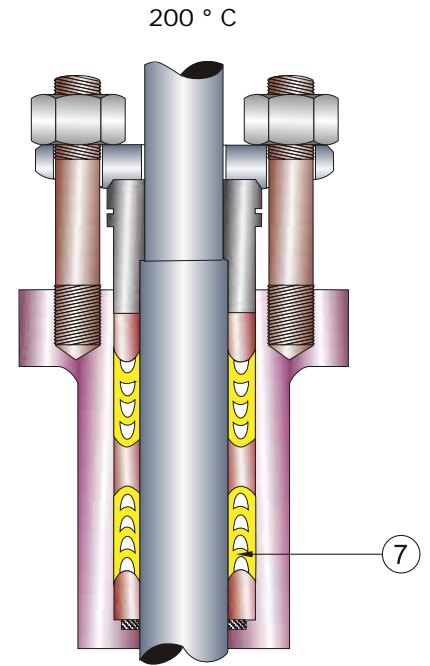
Details of "A"

No.	Description
1	Valve body
2	Disc
3	Seat ring * see page 7 - Seat construction
4	Seat retainer
5	Valve shaft
6	Disc pin
7	Gland flange
8	Gland bush
9	Gland packing
10	Packing studs / nuts
11	Bottom cover
12	Bracket bolts
13	Guide bush
14	Retainer bolt
15	Mounting bracket
16	Gasket

Gland packing options



No.	Description
1	Gland stud
2	Nut
3	Gland flange
4	Gland bush
5	Valve shaft
6	Gland packing (V-ring FPM)
7	Gland packing (V-ring FPM)



Single V-Teflon Gland Packing

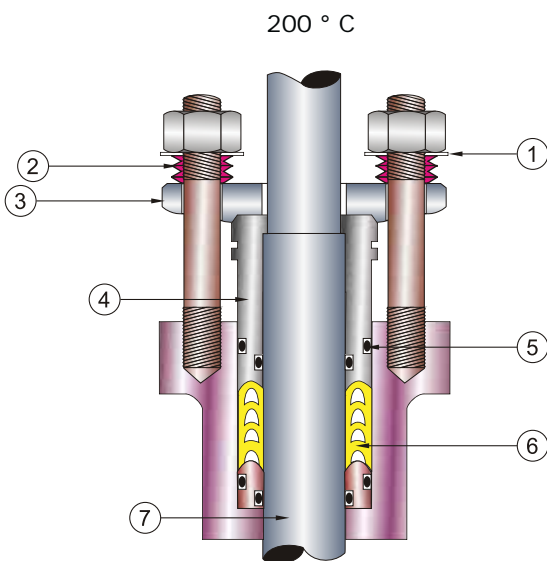
Inverted V-Teflon Gland Packing for Vacuum Applications

FERGO Type AXxx Double Eccentric Butterfly Valves come with a Single and Double set of V-Teflon rings (up to 200°C) and Graphite Moulded rings (>200°C to 600°C) as standard.

For vacuum application a second upper set of V-rings positioned in reverse direction is available.

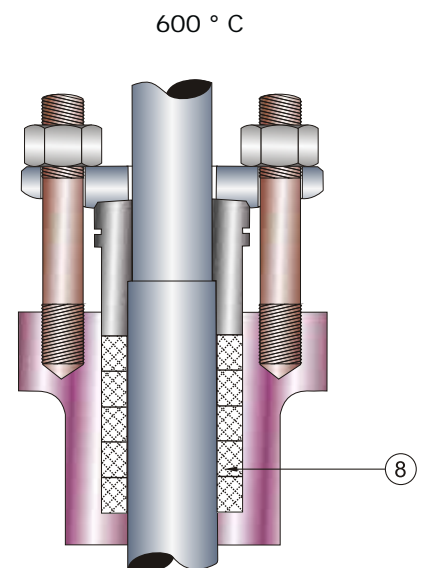
LFE gland packing consisting of V-PTFE rings and o-rings for low fugitive emission available.

Live load systems with spring washers available.



No.	Description
1	Washer
2	Spring washer
3	Gland flange
4	gland bush
5	O-ring
6	Gland packing (V-ring FPM)
7	Valve shaft
8	Grafoil gland packing

Single V-Teflon with Spring Washer "Live Load type"

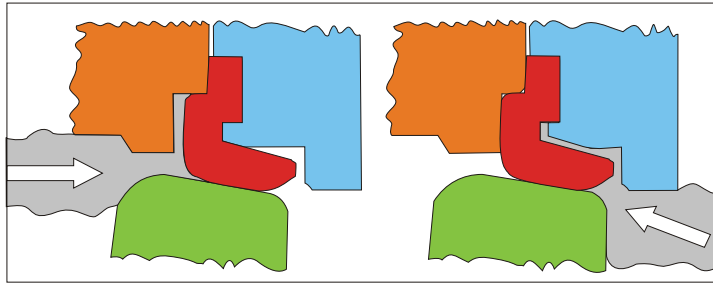


Single Grafoil Packing

Seat Construction

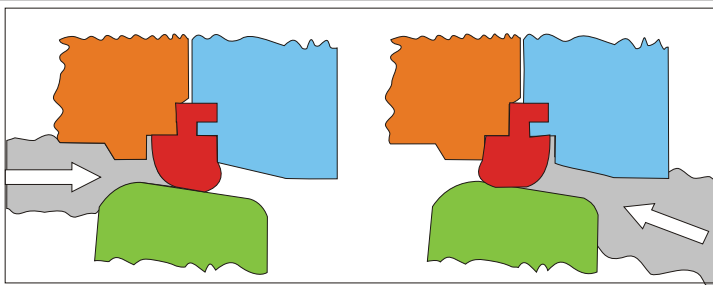
The Double Eccentric disc construction minimizes the interference between seat and disc allowing longer seat life even under frequent valve operation. Seats are available in various executions, both rigid and flexible, in order to meet specific customer requirements.

Flexible PTFE seat



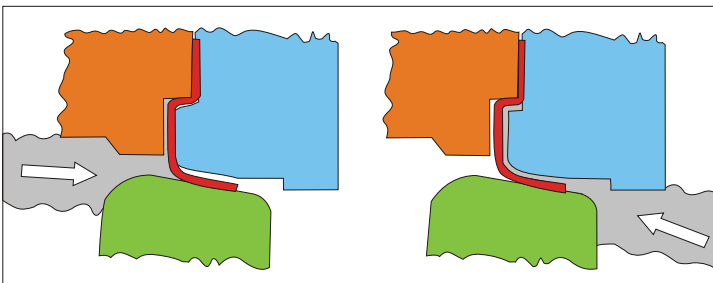
Reinforced PTFE (15% Glass Fiber/12% Carbon/3% Graphite) seats having a flexible lip provides bubble tight shut off in both directions. Suits a wide range of applications. Max. working temperature 200°C

Flexible rubber seats (NBR, EPDM, FPM)



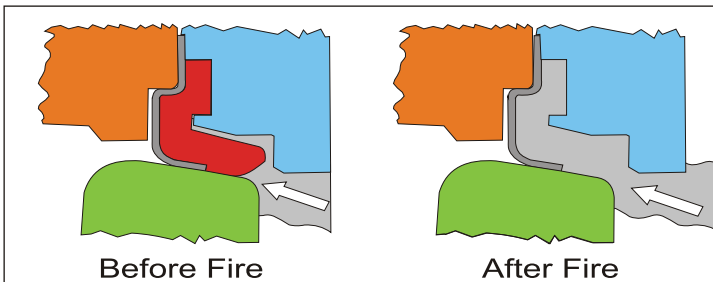
Rubber seats are available in NBR, EPDM and FPM. Rigid seats allow a clean flow passage and prevents fluid deposits within the seat. Rigid seats allows uni-directional flow (i.e. shaft inlet) providing tight shut off under positive pressure and vacuum applications.

Flexible Metal seat



Most suitable for high consistency fluid having suspended hard particles, for erosive services and for high temperature services >200°C to 600°C. Die pressed stainless steel seats with build-in flexible property gives Class IV leakage with minimal torque requirements.

Fire Safe Design



Flow from Seat Retainer Side: The lip shaped PTFE Seat moves axially in the direction of flow with the assistance of line pressure. The tightness between seat and disc increases with increasing line pressure.

Flow from Shaft Side: With the line pressure acting on the disc, it tries to move towards the seat which is supported by Seat Retainer. Seat does not move giving leak tight seal.

In case of a fire the PTFE will melt. The metal part of the Fire Safe seat remains intact making the valve construction Fire Safe.

Note: seats can be changed from one selection to another of the above mentioned. In this case the Seat Retainer ring needs to be changed as well, as every type of seat (PTFE, Rubber, Metal, Fire Safe) comes with it different Seat Retainer construction. On the drawings the blue part is the Seat Retainer ring

Kv and Cv Values and Pressure Temperature Ratings

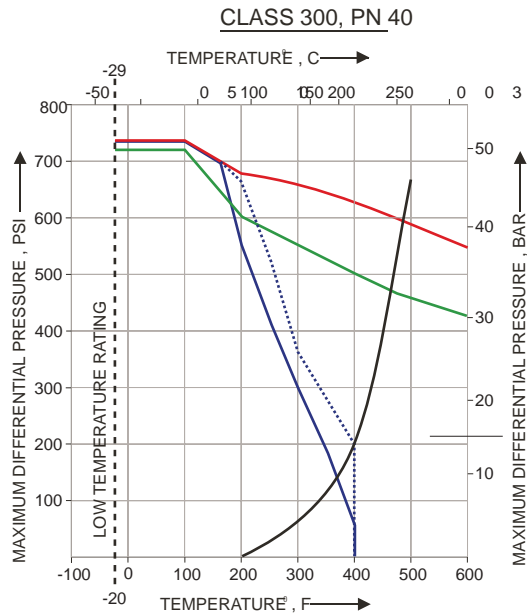
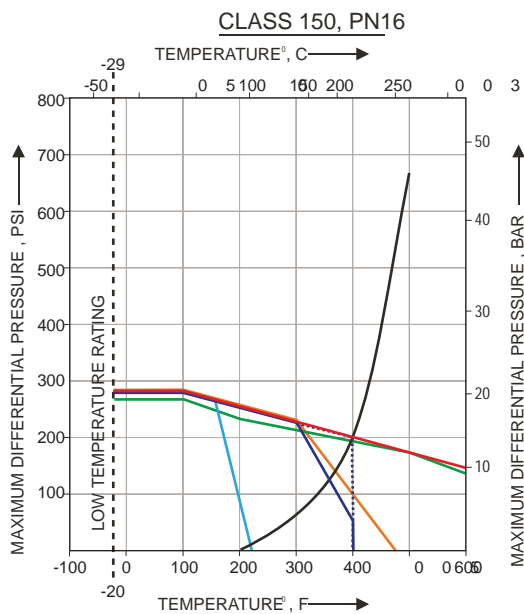
PN 16 - Class 150#

Valve size		Cv		Kv	
Inch	mm	60°	90°	60°	90°
2	50	25	50	22	43
2 1/2	65	39	78	34	67
3	80	82,5	165	71	142
4	100	200	400	172	344
5	125	325	650	280	559
6	150	525	1050	452	903
8	200	1100	2200	946	1892
10	250	1650	3300	1419	2838
12	300	2550	5100	2193	4386
14	350	2900	5800	2494	4988
16	400	4000	8000	3440	6880
18	450	5250	10500	4515	9030
20	500	7000	14000	6020	12040
24	600	10800	21600	9288	18576
28	700	14935	29870	12844	25688
30	750	17000	34000	14620	29240
32	800	20585	41170	17703	35406
36	900	27750	55500	23865	47730
40	1000	36800	73600	31648	63296
42	1050	41325	82650	35540	71079
44	1100	45600	91200	39216	78432
48	1200	54150	108300	46569	93138
52	1300	60840	121680	52322	104645
54	1350	66750	133500	57405	114810
56	1400	71000	142000	61060	122120
60	1500	79500	159000	68370	136740
64	1600	92160	184320	79258	158515
66	1650	98010	196020	84289	168577
72	1800	116640	233280	100310	200621

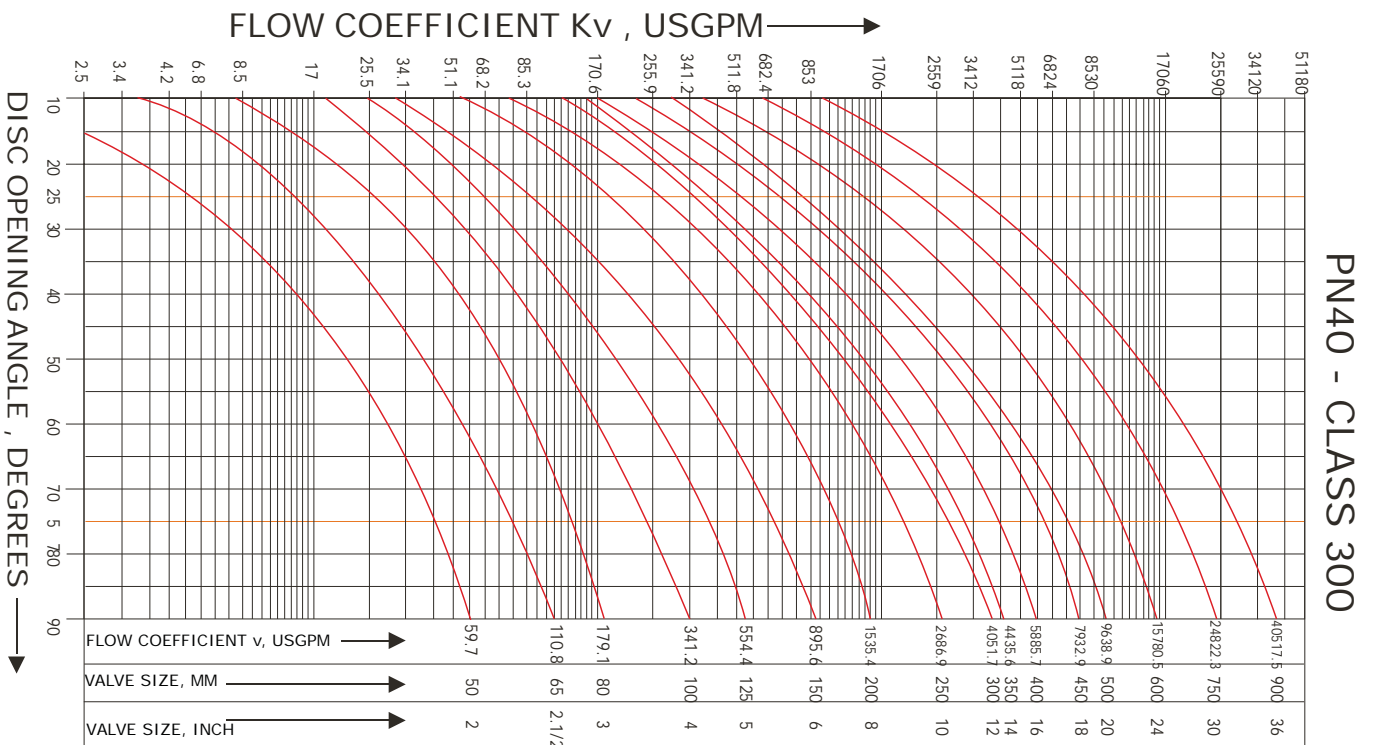
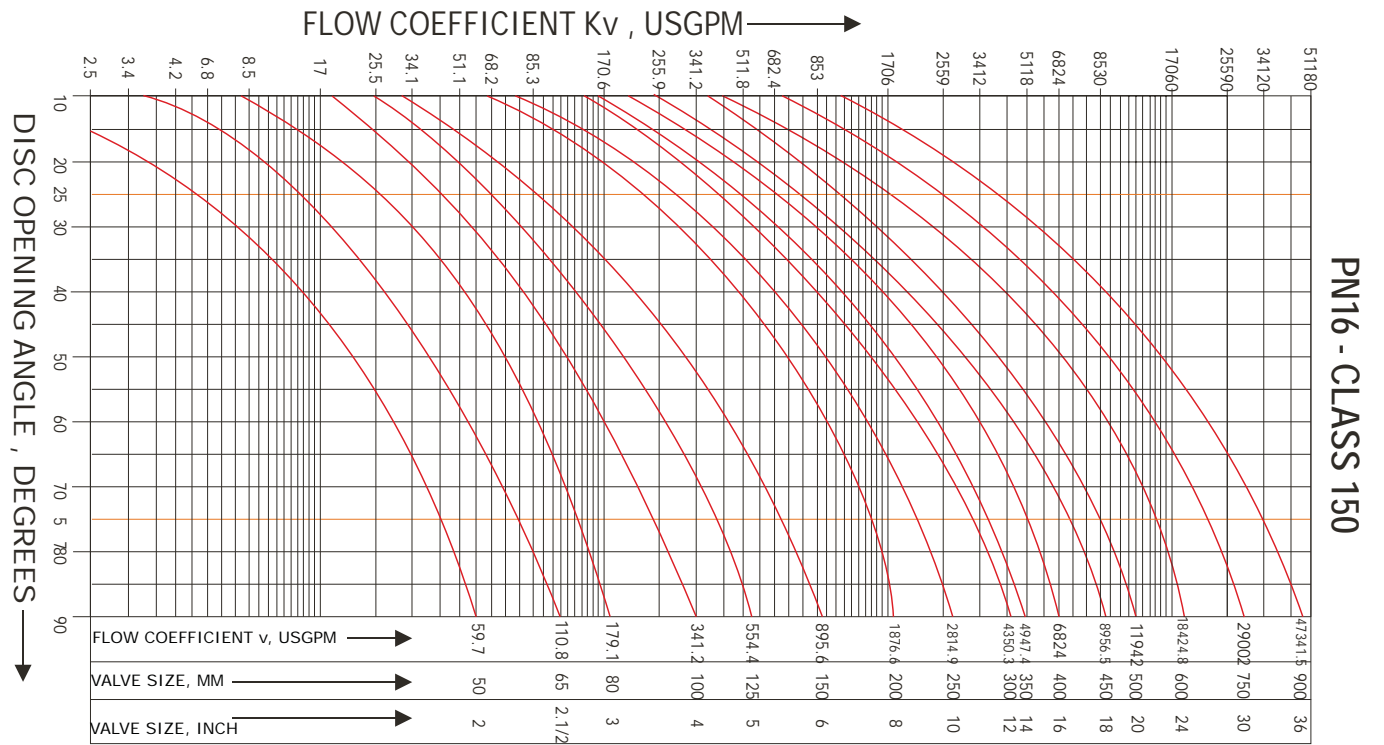
PN 40 - Class 300#

Valve size		Cv		Kv	
Inch	mm	60°	90°	60°	90°
2	50	25	50	22	43
2 1/2	65	39	78	34	67
3	80	82,5	165	71	142
4	100	200	400	172	344
5	125	325	650	280	559
6	150	525	1050	452	903
8	200	900	1800	774	1548
10	250	1575	3150	1355	2709
12	300	2375	4750	2043	4085
14	350	2600	5200	2236	4472
16	400	3450	6900	2967	5934
18	450	4650	9300	3999	7998
20	500	5650	11300	4859	9718
24	600	9250	18500	7955	15910
28	700	12785	25570	10995	21990
30	750	14550	29100	12513	25026
32	800	17620	35235	15153	30302
36	900	23750	47500	20425	40850

- Body & Disc
- A 351 Gr. CF8M , CAST STAINLESS STEEL
 - A 216 Gr. WCB , CAST CARBON STEEL
- Seals
- PTFE
 - RPTFE
 - EPDM
 - VITON
 - METAL SEAT (use graph of stainless steel)
 - SATURATED STEAM

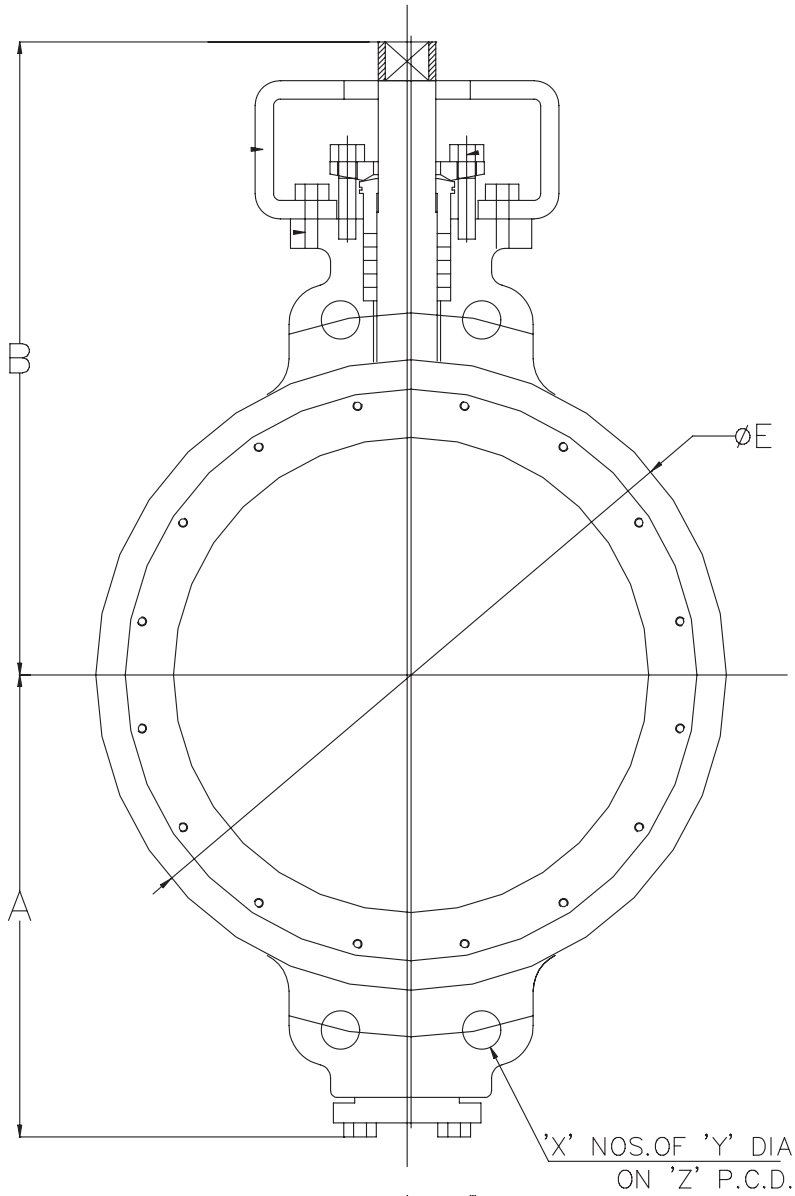


Flow Characteristic Curves

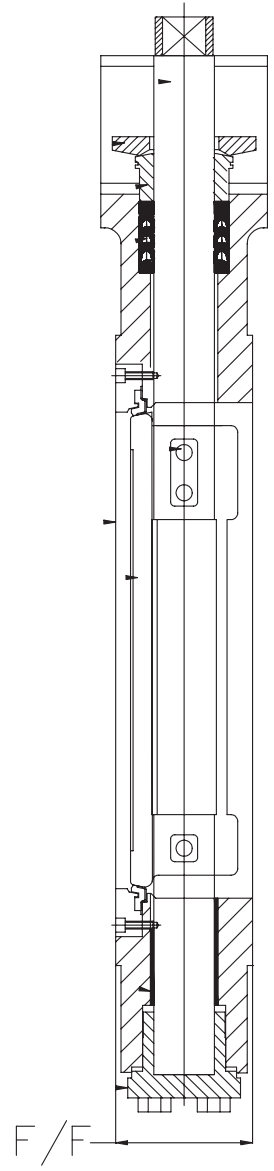


To convert Kv values into Cv values use:
 $Cv = Kv \times 1.17$

Type AX160 Wafer Construction - PN16, PN40, ANSI 150, ANSI 300



ELEVATION



SIDE VIEW

Type AX160 Wafer Dimension - PN16, PN40, ANSI 150, ANSI 300

PN16

PN40

SIZE	F/F	A	B	E	X	ØY	Z	SIZE	F/F	A	B	E	X	ØY	Z
50	43	75	177	92	-	-	-	50	43	75	175	102	-	-	-
65	46	80	187	105	-	-	-	65	46	75	185	122	-	-	-
80	46	113	223	127	-	-	-	80	48	115	217	138	-	-	-
100	52	123	245	157	-	-	-	100	54	142	250	162	-	-	-
125	56	155	280	186	-	-	-	125							
150	56	155	280	216	-	-	-	150	59	155	280	218	4	26	250
200	60	210	325	270	4	22	295	200	73	221	320	285	4	30	320
250	68	245	355	324	4	26	355	250	83	275	385	345	4	33	385
300	78	290	428	381	4	26	410	300	92	340	485	410	4	33	450
350	92	312	455	438	4	26	470	350	117	367	540	465	4	36	510
400	102	345	460	490	4	30	525	400	133	409	601	535	4	M36	585
450	114	384	525	550	4	M27	585	450	149	442	640	560	4	M36	610
500	127	400	560	610	4	M30	650	500	159	510	714	615	4	M39	670
600	154	465	675	725	4	M33	770	600	181	565	820	735	4	M45	795

Face-to-face: EN558-1 Serie 20

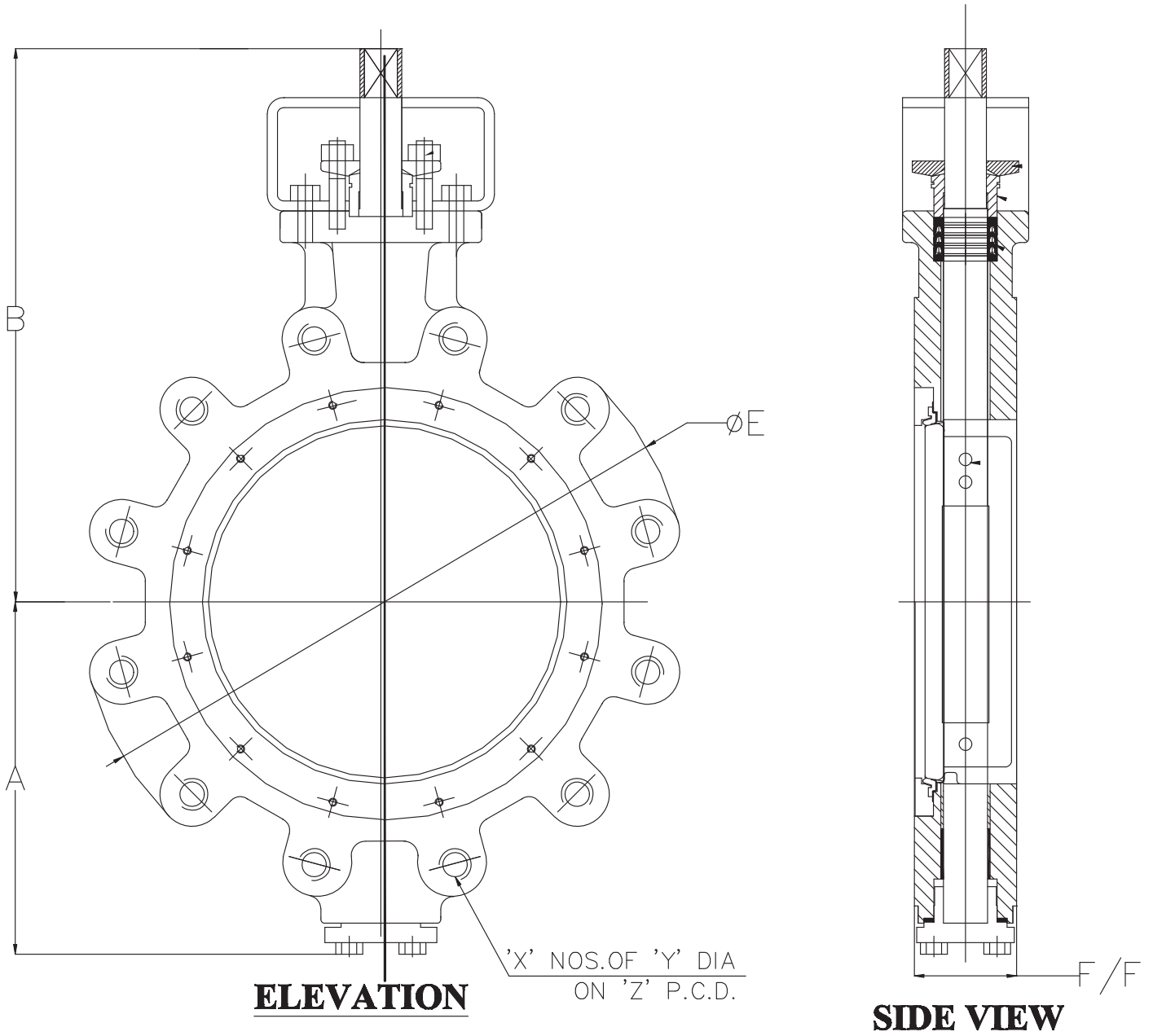
Face-to-face: EN558-1 Serie 25

ANSI 150

ANSI 300

SIZE	F/F	A	B	E	X	ØY	Z	SIZE	F/F	A	B	E	X	ØY	Z
50	43	70	166	92	-	-	-	50	43	70	166	92	-	-	-
65	46	75	176	105	-	-	-	65	46	75	176	105	-	-	-
80	48	92	215	127	-	-	-	80	48	92	215	127	-	-	-
100	54	117	233	157	-	-	-	100	54	117	237	157	-	-	-
125	57	147	267	186	-	-	-	125	59	147	267	186	-	-	-
150	57	147	267	216	-	-	-	150	59	147	267	216	-	-	-
200	64	210	357	270	4	22,2	298	200	73	225	357	270	4	7/8"	330
250	71	240	388	324	4	25,4	362	250	83	250	395	324	4	1"	387
300	81	285	457	381	4	25,4	432	300	92	300	465	381	4	1.1/8"	451
350	92	300	473	413	4	28,6	476	350	117	320	530	413	4	1.1/8"	514
400	102	345	493	470	4	28,6	540	400	133	365	545	470	4	1.1/4"	571,5
450	114	380	546	533	4	31,75	578	450	149	400	590	533	4	1.1/4"	629
500	127	400	605	584	4	1.1/8"	635	500	159	420	675	584	4	1.1/4"	686
600	154	460	760	692	4	1.1/4"	749	600	181	495	760	692	4	1.1/2"	813

Type AX161 LUG Construction - PN16, PN40, ANSI 150, ANSI 300



Type AX161 LUG Dimension - PN16, PN40, ANSI 150, ANSI 300

PN16

PN40

SIZE	F/F	A	B	E	X	ØY	Z	SIZE	F/F	A	B	E	X	ØY	Z
50	43	75	177	165	4	M16	125	50	43	75	177	165	4	M16	125
65	46	80	187	185	4	M16	145	65	46	100	192	185	8	M16	145
80	46	113	223	200	8	M16	160	80	49	113	223	200	8	M16	160
100	52	123	245	220	8	M16	180	100	56	151	252	235	8	M20	190
125	56	155	280	250	8	M16	210	125	64	155	284	270	8	M24	220
150	56	155	280	285	8	M20	240	150	70	182	311	300	8	M24	250
200	60	210	325	340	12	M20	295	200	71	240	345	375	12	M27	320
250	68	245	355	405	12	M24	355	250	76	280	392	450	12	M30	385
300	78	290	428	460	12	M24	410	300	83	330	457	515	16	M30	450
350	92	312	455	520	16	M24	470	350	92	367	540	580	16	M33	510
400	102	345	460	580	16	M27	525	400	102	409	601	660	16	M36	585
450	114	384	525	640	20	M27	585	450	114	442	640	685	20	M36	610
500	127	400	560	715	20	M30	650	500	127	510	714	755	20	M39	670
600	154	465	675	840	20	M33	770	600	154	565	820	890	20	M45	795

Face-to-face: EN558-1 Serie 20

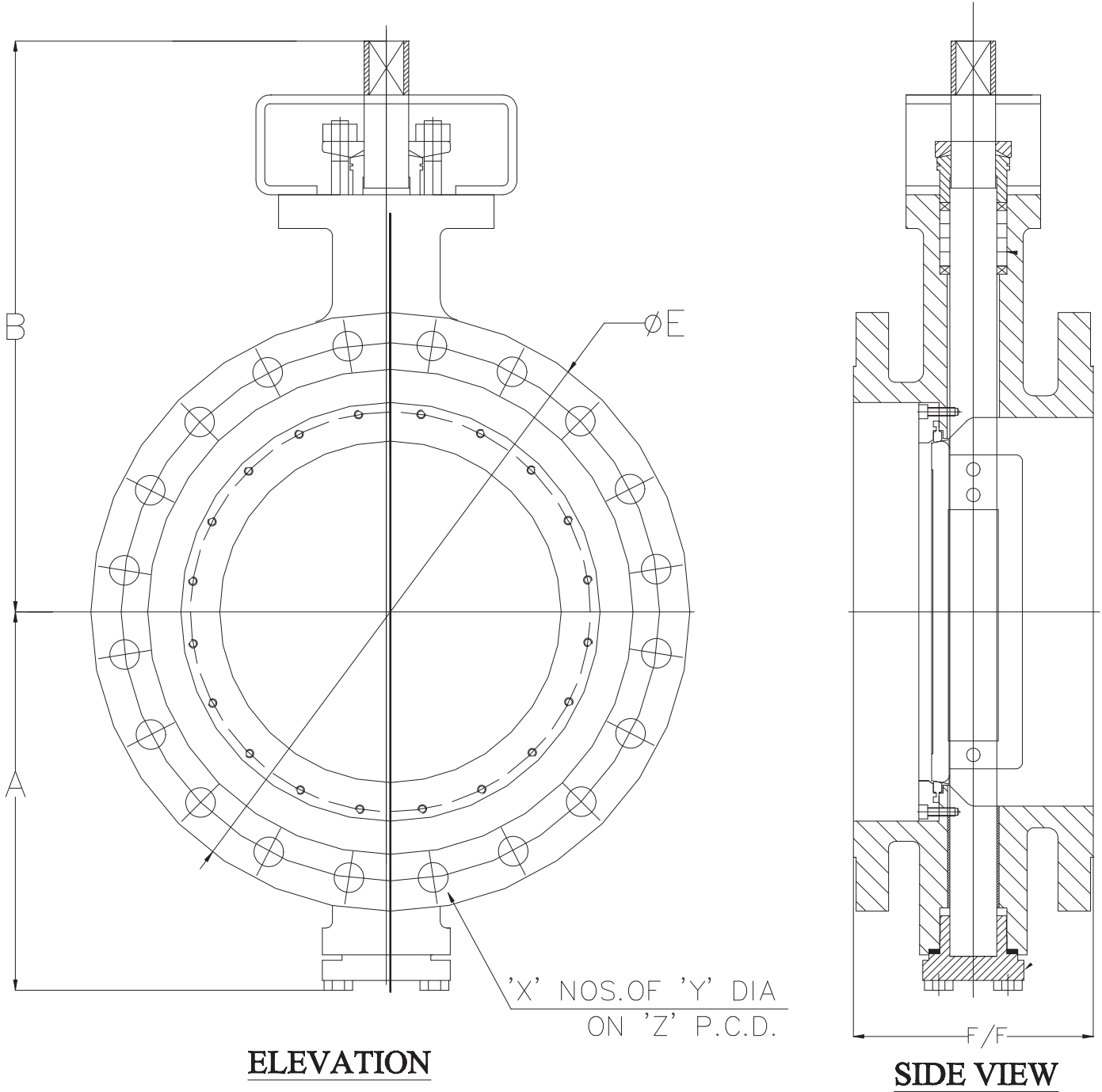
Face-to-face: EN558-1 Serie 25

ANSI 150

ANSI 300

SIZE	F/F	A	B	E	X	ØY	Z	SIZE	F/F	A	B	E	X	ØY	Z
50	43	70	166	152,5	4	5/8"	121	50	43	70	166	165,1	8	5/8"	127
65	46	75	176	178	4	5/8"	140	65	46	75	176	190,5	8	3/4"	149
80	48	92	215	190,5	4	5/8"	152	80	48	92	215	209,5	8	3/4"	168
100	54	117	233	228,5	8	5/8"	190,5	100	54	117	237	254	8	3/4"	200
125	57	147	267	254	8	3/4"	216	125	59	147	267	279,4	8	3/4"	235
150	57	147	272	279,5	8	3/4"	241	150	59	147	267	317,5	12	3/4"	270
200	64	210	357	343	8	3/4"	298	200	73	225	357	381	12	7/8"	330
250	71	240	388	406,5	12	7/8"	362	250	83	250	395	444,5	16	1"	387
300	81	285	457	482,5	12	7/8"	432	300	92	300	465	520,7	16	1.1/8"	451
350	92	300	473	533,5	12	1"	476	350	117	320	530	584,2	20	1.1/8"	514
400	102	345	493	597	16	1"	540	400	133	365	545	647,7	20	1.1/4"	571,5
450	114	380	546	635	16	1.1/8"	578	450	149	400	590	711,2	24	1.1/4"	629
500	127	400	605	698,5	20	1.1/8"	635	500	159	420	675	774,7	24	1.1/4"	686
600	154	460	760	813	20	1.1/4"	749	600	181	495	760	914,4	24	1.1/2"	813

Type AX162 Double Construction - PN16, PN40, ANSI 150, ANSI 300



Type AX162 Double Dimension - PN16, PN40, ANSI 150, ANSI 300

PN16

PN40

SIZE	F/F	A	B	E	X	ØY	Z	SIZE	F/F	A	B	E	X	ØY	Z
50	108	75	175	165	4	18	125	50	150	75	175	165	4	18	125
65	112	75	185	185	8	18	145	65	170	75	185	185	8	18	145
80	114	95	225	200	8	18	160	80	180	115	217	200	8	18	160
100	127	125	245	220	8	18	180	100	190	142	250	235	8	22	190
125								125							
150	140	155	280	285	8	22	240	150	210	155	280	300	8	26	250
200	152	210	320	340	12	22	295	200	230	221	320	375	12	30	320
250	165	240	355	405	12	26	355	250	250	275	385	450	12	33	385
300	178	300	430	460	12	26	410	300	270	340	485	515	16	33	450
350	190	312	455	520	16	26	470	350	290	367	540	580	16	36	510
400	216	345	460	580	16	30	525	400	310	409	601	660	16	39	585
450	222	384	525	640	20	30	585	450	330	442	640	685	20	36	610
500	229	400	560	715	20	33	650	500	350	510	714	755	20	42	670
600	267	465	675	840	20	36	770	600	390	565	820	890	20	48	795

ANSI 150

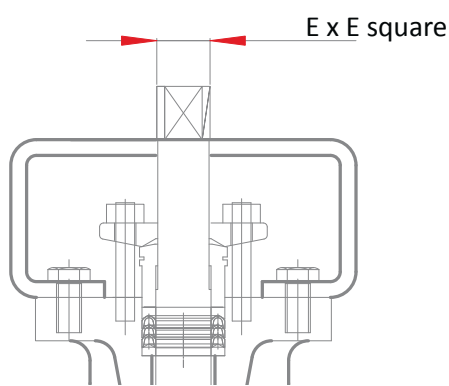
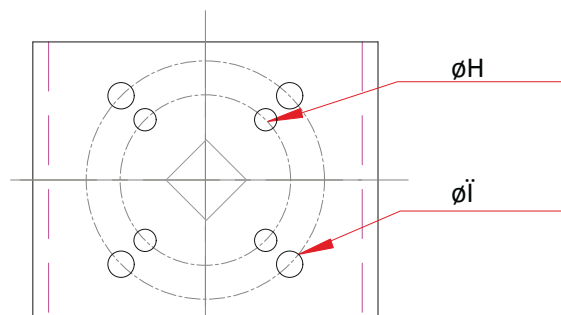
ANSI 300

SIZE	F/F	A	B	E	X	ØY	Z	SIZE	F/F	A	B	E	X	ØY	Z
50	108	70	166	152,5	4	19	121	50	150	70	166	165,1	8	19	127
65	112	75	176	178	4	19	140	65	170	75	176	190,5	8	22	149
80	114	92	215	190,5	4	19	152	80	180	92	215	209,5	8	22	168
100	127	117	233	228,5	8	19	190,5	100	190	117	237	254	8	22	200
125	140	147	267	254	8	22	216	125	200	147	267	279,4	8	22	235
150	140	147	272	279,5	8	22	241	150	210	147	267	317,5	12	22	270
200	152	210	357	343	8	22	298	200	230	225	357	381	12	25,4	330
250	165	240	388	406,5	12	25	362	250	250	250	395	444,5	16	28,5	387
300	178	285	457	482,5	12	25	432	300	270	300	465	520,7	16	32	451
350	190	300	473	533,5	12	28,5	476	350	290	320	530	584,2	20	32	514
400	216	345	493	597	16	28,5	540	400	310	365	545	647,7	20	35	571
450	222	380	546	635	16	32	578	450	330	400	590	711,2	24	35	629
500	229	400	605	698,5	20	32	635	500	350	420	675	774,7	24	35	686
600	267	460	760	813	20	35	749	600	390	495	760	914,4	24	41	813

PN16/ANSI 150 ISO 5211 MOUNTING FLANGE / SQUARE

Mounting flanges and square top of valves according to ISO 5211 are shown below.

The layout is according to the specific use of seat type / pressure rating:



SOFT SEATED PN 16 / ANSI 150:

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ØH	F05	F05	F07	F07	F07	F07	F07	-	F10	-	-	-	-	-
ØI	F07	F07	F10	F10	F10	F10	F10	F12	F14	F14	F14	F16	F16	-
ExE	14	14	17	17	22	22	22	27	27	27	36	46	46	-

METAL SEATED PN 16 / ANSI 150:

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ØH	F07	F07	F07	F07	F07	-	F10	-	-	-	-	-	-	-
ØI	F10	F10	F10	F10	F10	F12	F14	F14	F14	F16	F16	F16	-	-
ExE	17	22	22	22	22	27	27	27	36	46	46	46	-	-

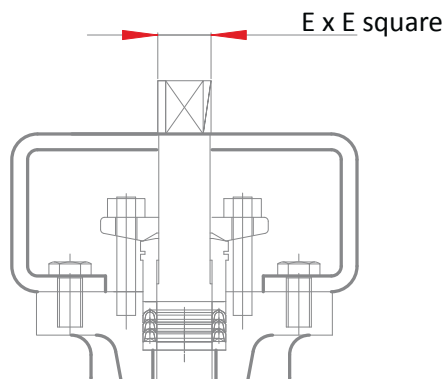
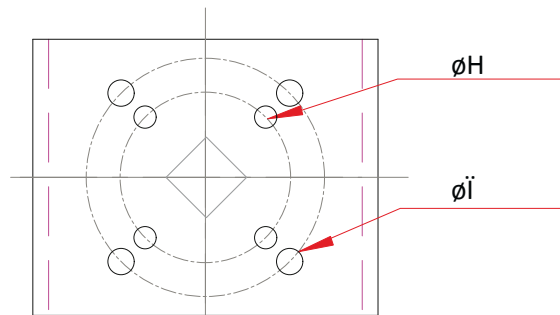
FIRE SAFE PN 16 / ANSI 150:

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ØH	F07	F07	F07	F07	F07	F07	-	F10	F10	-	-	-	-	-
ØI	F10	F10	F10	F10	F10	F10	F12	F14	F14	F14	F16	F16	F16	-
ExE	17	17	17	22	22	22	27	27	27	36	46	46	46	-

PN40/ANSI 300 ISO 5211 MOUNTING FLANGE / SQUARE

Mounting flanges square top of valves according to ISO 5211 are shown below.

The layout is according to the specific use of seat type / pressure rating:



SOFT SEATED PN 40 / ANSI 300:

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ØH	F07	F07	F07	F07	F07	F07	-	F10	-	-	-	-	-	-
ØI	F10	F10	F10	F10	F10	F10	F12	F12	F14	F16	F16	F16	-	-
ExE	17	17	17	22	22	22	27	27	27	46	46	46	-	-

METAL SEATED PN 40 / ANSI 300:

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ØH	F07	F07	F07	F07	-	-	-	-	-	-	-	-	-	-
ØI	F10	F10	F10	F10	F12	F14	F14	F16	F16	F16	-	-	-	-
ExE	22	22	22	22	27	27	36	46	46	46	-	-	-	-

FIRE SAFE PN 40 / ANSI 300:

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ØH	F07	F07	F07	F07	F07	F07	F10	-	-	-	-	-	-	-
ØI	F10	F10	F10	F10	F10	F10	F14	F14	F14	F16	-	-	-	-
ExE	17	22	22	22	22	22	27	27	36	46	-	-	-	-

Torque figures for FERGO Type AXxx

Seat: PTFE / Rubber class 150#, PN16						
Valve size		5 Bar	10 Bar	15 Bar	16 Bar	20 Bar
NB	DN					
2	50	35	38	40	41	44
2 1/2	65	36	39	44	45	48
3	80	43	45	48	49	53
4	100	53	58	68	69	75
5	125	65	78	85	90	111
6	150	80	118	185	189	205
8	200	131	186	210	218	249
10	250	238	288	338	358	438
12	300	300	363	475	490	550
14	350	525	613	775	803	915
16	400	638	988	1113	1240	1750
18	450	975	1219	2100	2160	2400
20	500	1213	1850	2475	2555	2875
24	600	2125	2500	3688	3915	4825

Seat: Fire safe class 300#, PN40				
5 Bar	10 Bar	15 Bar	16 Bar	20 Bar
64	69	74	75	81
65	73	78	80	85
73	81	90	93	104
90	103	113	115	123
98	119	136	151	210
140	181	223	226	238
356	400	450	458	488
363	410	490	495	513
373	469	575	605	728
698	925	1188	1210	1300
1178	1328	1675	1773	2163
1225	1648	2328	2388	2625
1550	2155	2625	2760	3300
2938	3563	4313	4525	5375

Seat: Soft Seat Class 300#, PN 40						
Valve size		5 Bar	10 Bar	15 Bar	16 Bar	20 Bar
NB	DN					
2	50	50	53	55	60	63
2 1/2	65	53	55	60	65	69
3	80	60	65	70	75	79
4	100	85	99	110	124	130
5	125	116	144	155	168	185
6	150	208	223	231	248	275
8	200	253	294	325	369	419
10	250	406	475	498	528	585
12	300	583	656	731	798	890
14	350	953	1231	1506	1606	1756
16	400	1856	2015	2238	2425	2638
18	450	2475	2706	2988	3188	3738
20	500	3063	3469	3725	4045	4563
24	600	5093	5610	6144	6644	7225

Seat: Fire Safe Class 300#, PN 40				
5 Bar	10 Bar	15 Bar	16 Bar	20 Bar
86	90	94	95	96
90	94	96	99	106
95	100	104	106	123
133	146	158	174	185
172	194	208	223	243
240	265	281	300	328
378	425	463	508	548
619	718	767	813	878
910	1191	1341	1486	1721
1645	1966	2254	2529	2754
2398	2883	3294	3689	3946
3269	3905	4459	4971	5584
4344	5306	6115	6870	7554
6640	7908	9196	10211	11268

Seat: Metal: Class 150#, PN16						
Valve size		5 Bar	10 Bar	15 Bar	16 Bar	20 Bar
NB	DN					
2	50	65	71	75	78	85
2 1/2	65	68	75	80	83	90
3	80	80	88	104	106	111
4	100	94	100	115	119	131
5	125	119	155	206	216	258
6	150	213	315	420	439	511
8	200	355	390	498	534	679
10	250	399	610	813	866	1080
12	300	716	925	1233	1291	1526
14	350	1143	1513	2016	2119	2528
16	400	1181	1811	2414	2573	3209
18	450	1638	2284	3044	3233	3898
20	500	2306	3060	4079	4285	5110
24	600	4035	5168	6890	7210	8491

Seat: Metal: Class 300#, PN40				
5 Bar	10 Bar	15 Bar	16 Bar	20 Bar
85	90	95	98	100
90	93	98	100	108
88	95	103	108	124
131	135	146	154	184
258	308	413	466	590
511	606	738	893	1123
679	838	1188	1356	1739
1080	1325	1831	2101	2686
1526	1825	2438	2741	3461
2528	3030	4063	4593	5811
3209	3925	5444	6246	7984
3898	4714	6408	7285	9256
5110	6138	8240	9318	11790
8491	10141	13484	15176	19424



- CE - according to PED 97/23/EC
- 3.1 certificate according to EN 10204
- Fire Safe certified
- ATEX certification