High Performance Butterfly Valve HD-800 Series

High Performance Double Eccentric Butterfly Valves
Standard Model: HD-800-S4RPTFE-A-XXX



Front View



Back View

OVERVIEW

- The **Fellbach HD-800 Series** is a high performance butterfly valve designed for extreme temperature, high pressure and vacuum conditions that are unsuitable for conventional universal butterfly valves.
- The **Fellbach HD-800 Series** features a self-sealing seat ring, double eccentric disc (Double offset) and a choice of two seat rings (Soft seat and Polymer seat).
- The **Fellbach HD-800 Series** can perfectly seal fluids such as corrosive slurry and high-pressure steam.

Product characteristics

According to the latest version of the API609 standard requirements, combined with advanced design concepts and intelligent manufacturing technology, the use of replaceable elastic seat, with the following characteristics:

- Double eccentric structure designed to achieve the effect of opening and separating, closing and sealing.
- Uniquely designed lip seal structure with zero leakage at two-way bubble level for elastic interference and self-sealing.
- Interchangeable polymer and rubber seats are suitable for use under various operating conditions for optimal service life and effectiveness.
- All valves are standard with blow-out stem design to ensure safety and reliability in operating conditions.
- The packing is designed so that the product can be used under low leakage and vacuum conditions without adjustment and special treatment.
- The tangential pin of the valve stem is half on the valve plate and half inside the valve stem. The tangential positioning makes the valve plate and valve under extrusion pressure rather than shear stress, making the connection more reliable.
  ■ Stem journal ends and valve plates in the valve body are designed to provide maximum stem support to enhance stem force and reduce switching torque and bearing wear.

Valve plate closing limit block and valve body cast into one, so that the valve plate relative to the seat positioning accuracy, extend the service life of the seat.

- ISO 5211 standard upper flange and square connecting shaft for integral casting for easy and reliable connection to any form of drive

HD-800 Series

Size Range	: 2” - 24” (50mm - 600mm)
Body Style	: Wafer, Lug
Temperature Range	: -40°C to +260°C
Pressure Rating	: ASME Class I50, 300
Shutoff Class	: Zero Leaking (Soft Seat) : Leaking Class IV (Polymer Seat)
Body Materials	: Stainless Steel CF8
Disc Materials	: Stainless Steel CF8
Stem Materials	: 17-4PH
Seat Materials	: RPTFE
Application	: High Pressure, : High Temperature : Critical Service

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Seat sealing all

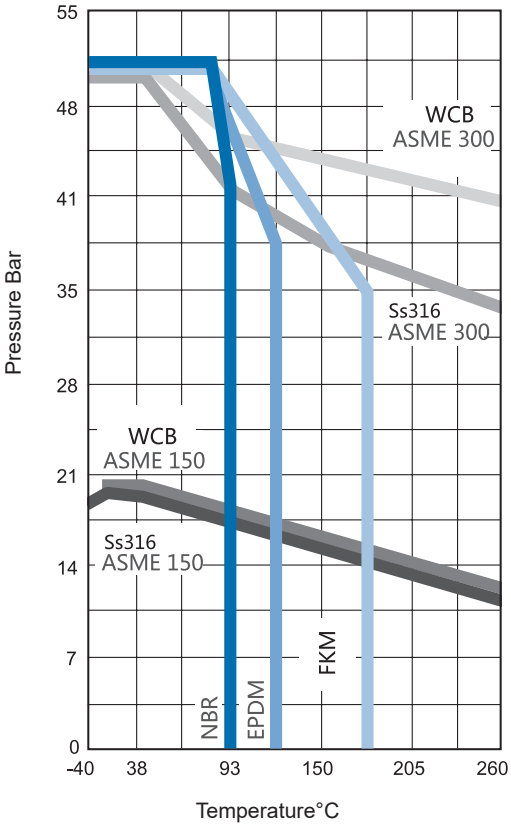
polymer seat valves in the factory after strict pressure test, according to the standard 1.1 times rated pressure under the two-way cut-off tightness test, leakage up to bubble-free zero leakage, higher than the ANSI/FCI 70-2 standard level VI leakage requirements.

ANSI/FCI 70-2 this standard, six levels of control valve seat leakage are determined. The standard leakage levels, leakage levels and test conditions are as follows:

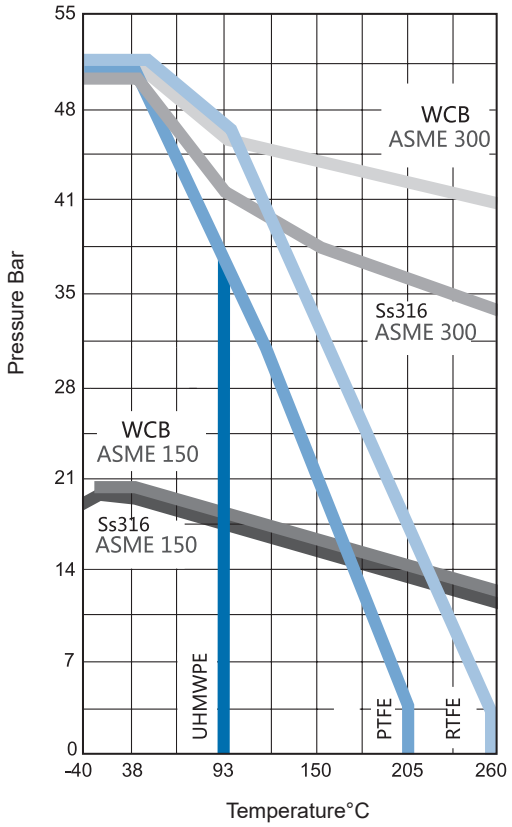
ANSI/FCI 70-2-2013		Maximum leakage			
Class VI	DN(NPS)	Bubble number	Mili litre/min	The test medium Air or nitrogen	Tests and temperatures Working pressure difference or 3.4BAR pressure difference, whichever is the lowest The temperature is 10 to 52 degrees Celsius
	50(2)	3	0.45		
	65(2.5)	4	0.60		
	80(3)	6	0.90		
	100(4)	11	1.70		
	150(6)	27	4.00		
	200(8)	45	6.75		
	250(10)		11.1		
	300(12)		16.0		
	350(14)		21.6		
	400(16)		28.4		
Class V	(5 x 10-12m³ / s / bar pressure difference / mm channer diameter)		Water	Operating pressure differential, temperature 10°C to 50°C	
Class IV	0.01% of rated flow capacity when valve is fully open		Air or Water	Working pressure or 3.4 bar pressure difference, whichever is lowest, temp.10°C to 50°C	

Temperature and pressure curves for different seat materials

Soft Seat (NBR, EPDM, FKM)



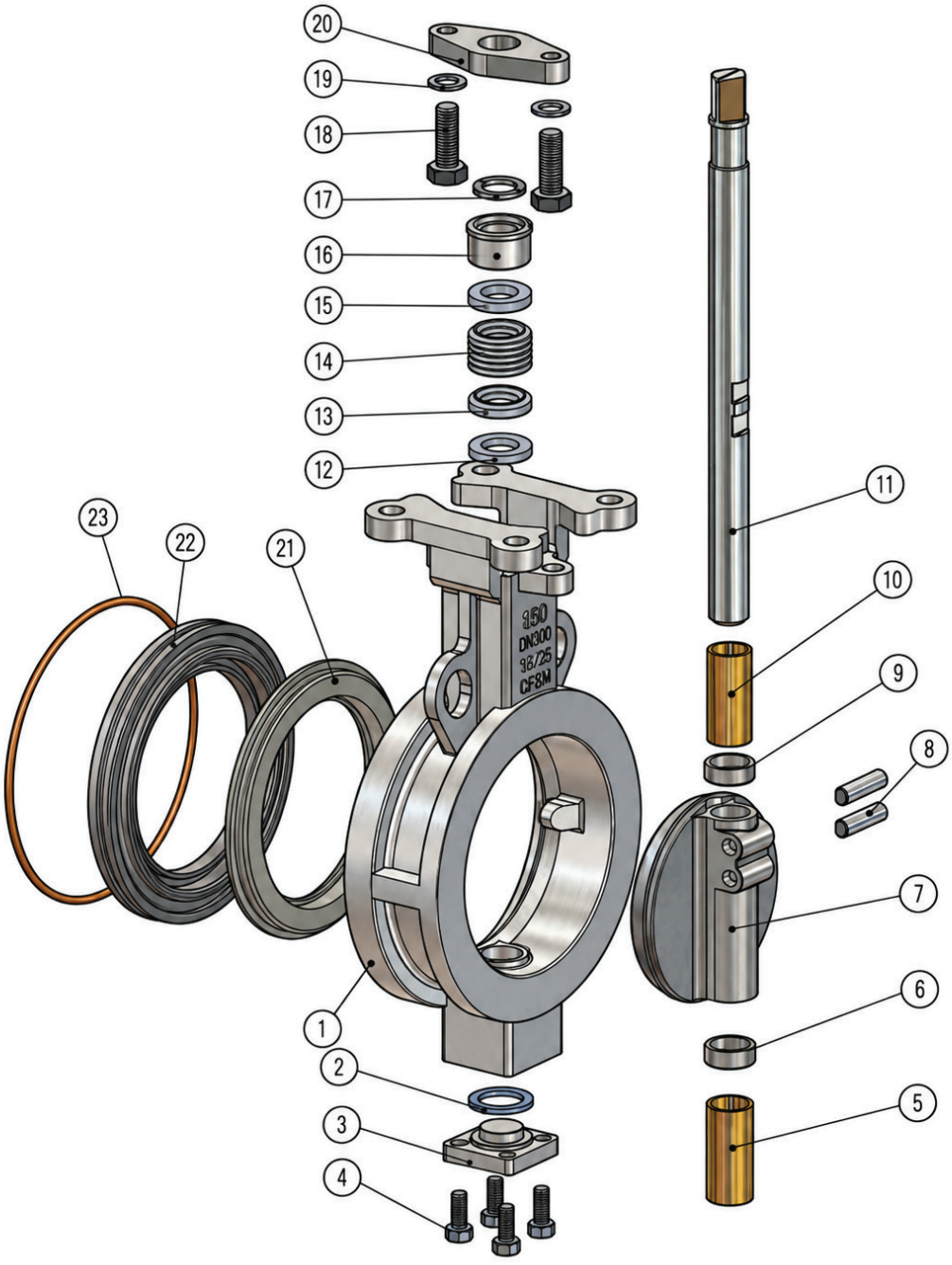
Polymer Seat (PTFE, RPTFE)



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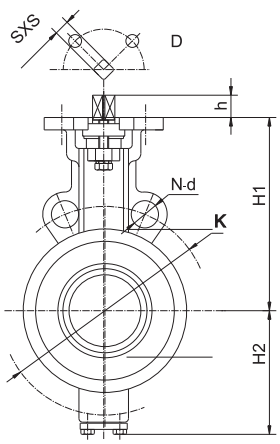
PARTS DIAGRAM HD-800 SERIES

No.	Description
1	Body
2	Gasket Seal
3	Bottom Cover
4	Bolts
5	Shaft Sleeve
6	Positioning Sleeve
7	Disc
8	Pin
9	Positioning Sleeve
10	Shaft Sleeve
11	Shaft
12	Packing Gasket
13	Lower Packing
14	Middle Packing
15	Upper Packing
16	Packing Sleeve
17	Fly-Proof Ring
18	Bolts
19	Spring Washer
20	Packing Gland
21	Seat (RPTFE)
22	Seat Ring
23	Retaining Ring

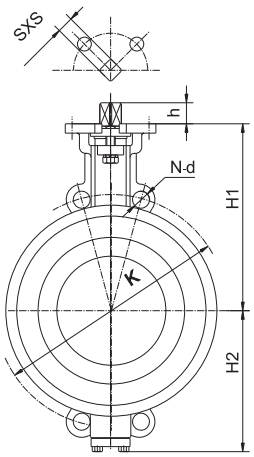


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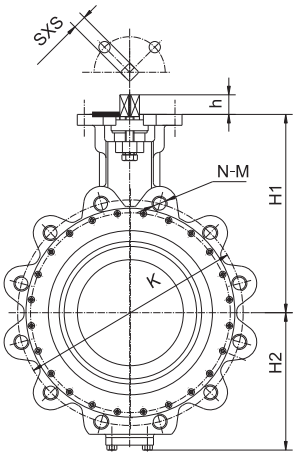
DIMENSION



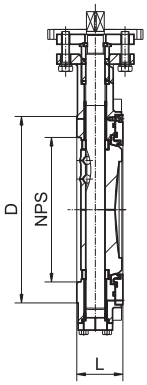
2" - 8"
WAFER



10" - 24"
WAFER



2" - 24"
LUG



Class 150												weight (kg)	
NPS	DN	L	K	D	H1	H2	N-d	N-M	ISO5211	SXS	h	WF	LUG
2	50	44	120.5	92	125	66	4-19	4-5/8	F05	11X11	16	5	6
2.5	65	46	139.5	105	138	78	4-19	4-5/8	F05	11X11	16	6	7
3	80	48	152.5	127	156	100	4-19	4-5/8	F07	14X14	18	7	9
4	100	54	190.5	157	168	115	8-19	8-5/8	F07	14X14	22	8	10
5	125	56	216	186	188	135	8-22	8-3/4	F10	17X17	22	11	14
6	150	57	241.5	216	205	150	8-22	8-3/4	F10	17X17	22	15	18
8	200	64	298.5	270	240	182	8-22	8-3/4	F12	22X22	27	22	28
10	250	71	362	324	280	216	12-25	12-7/8	F12	22X22	27	34	40
12	300	81	432	381	322	256	12-25	12-7/8	F14	27X27	32	53	68
14	350	92	476	413	375	285	12-29	12-1	F14	27X27	32	60	85
16	400	102	540	470	400	325	16-29	16-1	F14	36X36	42	82	95
18	450	114	578	533	480	350	16-32	16-1.1/8	F16	36X36	42	130	156
20	500	127	635	584	512	402	20-32	20-1.1/8	F16	46X46	54	170	210
24	600	154	749.5	692	570	455	20-35	20-1.1/4	F16	46X46	54	265	320

Class 300												weight (kg)	
NPS	DN	L	K	D	H1	H2	N-d	N-M	ISO5211	SXS	h	WF	LUG
2	50	44	127	92	125	66	8-19	8-5/8	F05	11X11	16	5	6
2.5	65	46	149	105	138	78	8-22	8-3/4	F05	11X11	16	6	7
3	80	48	168.5	127	156	100	8-22	8-3/4	F07	14X14	18	7	9
4	100	54	200	157	168	115	8-22	8-3/4	F07	14X14	22	8	10
5	125	56	235	186	188	135	8-22	8-3/4	F10	17X17	22	11	14
6	150	59	270	216	215	155	12-22	12-3/4	F12	22X22	22	17	20
8	200	73	330	270	255	195	12-25	12-7/8	F12	22X22	27	26	36
10	250	83	387.5	324	298	232	16-29	16-1	F14	27X27	27	42	54
12	300	92	451	381	342	278	16-32	16-1.1/8	F14	27X27	32	58	82
14	350	117	514.5	413	398	305	20-32	20-1.1/8	F16	36X36	32	95	132
16	400	133	571.5	470	430	355	20-35	20-1.1/4	F16	36X36	42	124	175

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OPENING AND CLOSING TORQUE TABLE

The torque valves of PTFE and RPTFE are listed im the table below. The rated torque value can be obtained through the corresponding pressure of torque gauge. For other different valve seat materials, please consult our sales engineer.

DN		6 Bar	10 Bar	16 Bar	20 Bar	25 Bar	40 Bar	50 Bar
in	mm	Nm	Nm	Nm	Nm	Nm	Nm	Nm
2	50	25	26	29	35	38	45	50
2.5	65	29	31	35	40	45	52	61
3	80	34	37	42	46	52	63	72
4	100	47	51	55	58	79	97	110
5	125	65	76	81	86	128	168	185
6	150	97	103	116	126	188	241	278
8	200	164	185	198	217	368	477	554
10	250	222	262	288	318	572	756	885
12	300	290	375	425	475	790	1035	1207
14	350	491	645	724	849	1372	1882	2239
16	400	628	826	925	1087	1643	2248	2671
18	450	816	1084	1274	1423	2118		
20	500	1098	1386	1656	1926	2842		
24	600	1673	2155	2494	2983	3840		

Matters needing attention

1. Torque value in the table is the design calculation value at room temperature. When choosing the actuator, a certain safety factor should be considered. Generally,

   Liquid medium x1.3

   Oil and grease x1.0

   Moist air x1.4

   Dry air X1.8

   Slurry containing solids X1.5

2. When the actual pressure is less than the value in the table, it shall be selected according to the nominal pressure value.

3. This form is for reference only. Please confirm with our company when choosing the executing agency. We reserve the right not to inform customers to modify the data.