

## Series FSB 1D Wafer Type 1-Piece

# Full Port Ball Valve with Flanged End

½" – 4" (DN15 – DN100) PN 16 / PN 40









FIRE-SAFE

ANTI-STATIC

GUARANTEE

## Compact, Space-Saving, Fire-Safe

DIE ERSTE Series FSB 1D wafer type ball valve is designed to be used in compact pipeline system, where spaces are limited and weight problem are essential. Similar to other one-piece ball valve, Series FSB 1D has retainer screw-in structure. The reduced length of valve body provides shorter distance; also the weight is decreased up to 40% of other conventional one-piece body ball valve. Series FSB 1D ball valve can be installed on pipeline system without extra support, regardless of the pipeline length. The mono-body design avoids using extra joint faces with bolts or threads, and thus, reduces the chances of leakage from valve body joints.

Fire-safe design package and ISO 5211 direct mount is included for more possibilities. The fire-safe design package includes fire-safe lip, anti-static device, and graphite seals. The fire-safe lip is perfectly machined to fit with the ball shape. In the case of fire, where the soft ball seats have been decomposed, the floating ball becomes in contact with the fire-safe lip. With the pressure from upstream, the floating ball and the fire-safe lip forms a secondary metal-to-metal seal, and thus, chances of leakage will lower to the minimum. Antistatic device provides a grounding path for electric charges built up from frequent valve openings and closings. Graphite seals are used particularly in high temperature applications due to its high temperature resistance of graphite.

Blowout-proof stem is equipped for Series FSB 1D ball valves. The live-loaded and self-adjusting stem is designed and manufactured have a protruded ring surrounded the stem body. This design allows the stem to stay in the valve body during excess pressure occurs in the pipeline system.

#### Certifications for FSB 1D

Certified

API 607 4th Edition API 607 Fire Test for Soft Seated **Quarter Turn Valves** 



**Canadian Registration Number** 



### CE Marking ( 6 0035

The whole series of ball valves are approved according to European Directive 97/23/EC.

#### **Compact Uni-Body Design**

The reduced length and lighter body weight of the valve body allows Series FSB 1D ball valve to be installed in compact working conditions. The uni-body design also reduces the possibilities of leaking.

#### Fire-Safe Design

Series FSB 1D ball valve can still opeate after fire damage the soft PTFE seat. Valve ball comes into contact with the specially designed fire-safe

lip and establishes a metal-to-metal contact sealing.

#### Size Range

DN15 ~ DN100

#### Pressure Ratina

PN16 for sizes DN65~DN100 PN40 for sizes DN15~DN50 150 psi (10 bar) with saturated steam

#### **Temperature Range**

- -20°F to 350°F (-28°C to 176°C) with PTFE seat
- -20°F to 400°F (-28°C to 200°C) with RPTFE 15% seat

#### **End Connection**

Wafer type RF flanged end connection.

#### **Body Material**

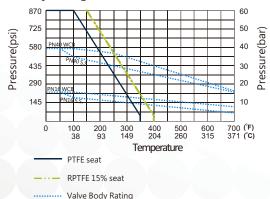
ASTM CF8M, CF8, WCB (DIN 1.4408. 1.4308, 1.0619)

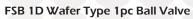
#### Standards and Specifications

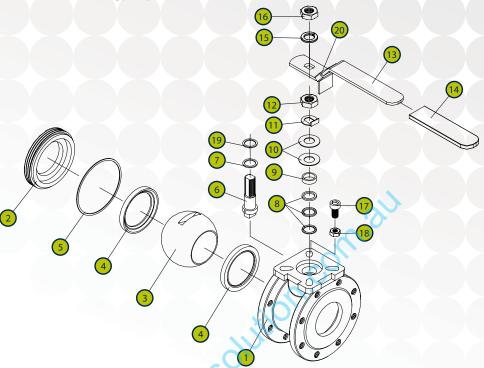
Flanged end connection basic construction design according to ANSI B16 34

Valve body and retainer connections are high quality investment cast. Heat treatments of different material are available for highest quality: stainless steel with annealing, and carbon steel with normalization. Series FSB 1D ball valves are factory tested and inspected according API 598 standards. For fire-safe certification, Series FSB 1D have been tested and approved for API 607 5th Edition Fire-Safe Test.

#### Valve Body Rating with Seat Material Plot





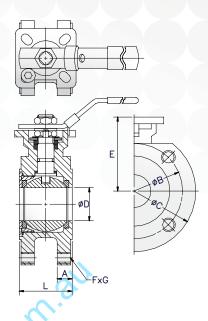


NO	PART NAME	MATERIAL			
1	BODY	1.4408 / 1.0619			
2	END CAP	1.4408 / 1.0619			
3	SOLID BALL	SS 316			
4	BALL SEAT	PTFE RPTFE 15% RPTFE 25%			
5	BODY SEAL	GRAPHITE			
6	STEM	SS 316			
7	THRUST WASHER	GRAPHITE			
8	STEM PACKING	GRAPHITE			
9	GLAND	SS 304			
10	BELLEVILLE SPRING	SS 301			

NO	PART NAME	MATERIAL		
11	LOCK SADDLE WASHER	SS 304		
12	GLAND NUT	SS 304		
13	HANDLE	SS 304		
14	HANDLE SLEEVE	VINYL		
15	SPRING WASHER	SS 304		
16	HANDLE NUT	SS 304		
17	STOP BOLT	SS 304		
18	STOP NUT	SS 304		
19	O-RING	VITON		
20	LOCKING DEVICE	SS 304		

Dimensions	(PN16)	inch/mm
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SIZE Inch DN	d	L	G	А	В	С	E	Flange	ISO
1/2"	0.59 15	2.05 52	M12	0.55 14	2.56 65	3.74 95	1.97 50	4	F03-F04
3/4" 20	0.79 20	2.05 52	M12	0.63 16	2.95 75	4.13 105	1.97 50	4	F03-F04
1" 25	0.98 25	2.36 60	M12	0.63 16	3.35 85	4.33 110	2.36 60	4	F04-F05
1 1/4" 32	1.26 32	2.28 58	M16	0.71 18	3.94 100	5.12 130	2.83 72	4	F04-F05
1 ½" 40	1.49 38	3.07 78	M16	0.71 18	4.33 110	5.91 150	3.03 77	4	F05-F07
2″ 50	1.97 50	3.15 80	M16	0.79 20	4.92 125	5.91 150	3.34 85	4	F05-F07
2½" 65	2.56 65	4.33 110	M16	0.79 20	5.71 145	7.01 178	4.13 105	4	F07-F10
3" 80	2.99 76	4.76 121	M16	0.79 20	6.30 160	7.48 190	4.56 116	8	F07-F10
4" 100	3.78 96	5.83 148	M20	0.87 22	7.48 190	8.66 220	5.43 138	8	F10-F12



## Optional Accessories

#### **Automation Accessories**

With the mounting pad design, Series FSB 1D ball valves can be combined with every DIE ERSTE automatic control products easily with bracket and connector. Currently, DIE ERSTE offers pneumatic rack and pinion actuator and Jexme electric actuator to accompany the Series FSB 1D ball valves.

#### **Flange Options**

Die Erste offers different flange design standards. Besides PN 16, PN 40 and ANSI Class 150 are also available upon request.

#### How to order

VALVE TYPE	PORT	BODY MATERIAL	SEAT	TRIM	TYPE OF CONNECTION	PRESSURE RATING	SPECIAL REQUEST	SIZE OF CONNECTION	OTHER
Α	В	C	D	Е	F	G	Н		J
		Y Y							