

# FSB 23 Fire-Safe High Pressure 2-Piece

## Ball Valves

1/4" – 2" (DN8 – DN50)

3000 psi (207 bar)



FIRE-SAFE



ANTI-STATIC



2014/68/EU

# 3000psi & Fire-Safe Ball Valve

DIE ERSTE Series FSB 23 is 2-piece screw-in structure. It has been tested and approved for Fire-Safe Certification of API 607 4th Edition. To meet tough requirements of API 607 4th Edition, Series FSB 23 ball valve is able to sustain high pressure of 3000psi and still provide smooth operation. The blowout-proof stem is standard equipment for FSB 23. The stem is inserted from inside the bore and will not shoot out under high pressure, and thus, provides safer working conditions.

The fire-safe design package is consisted of three parts: fire-safe lip, anti-static device, and sealing parts. The fire-safe lip is precisely machined to match the ball. In the case of fire and the soft ball seat has been decomposed, the fire-safe lip act as a secondary seal with the floating ball. Anti-static device grounded charges built up by valve operation, and prevent explosion, especially with flammable fluid. Valve sealing parts can be selected from various materials: graphite, PEEK, DELRIN, and Nylon. Please specify the seat material before making any inquiries or purchases. For fire-safe purposes, graphite body seal and stem packings are used.

Series FSB 23 ball valve is equipped with thrust washer and gland nuts to achieve non-leak quality. The thrust washer not only prevents galling between stem and body, it is also considered as a secondary stem seal and reduces torque. The gland nut is tightly sealed to prevent leakage and act as the last guard. Series FSB 23 ball valve is accompanied with different choices of seat materials to choose from. FSB 23 can also be used in normal condition with a change of ball seat; it can be used like other conventional 2-pc ball valve.

## API 607 Fire-Safe Test Approved

Series FSB 23 fire-safe ball valves have been fire tested according to API 607 4th Edition, conforming to standards of limiting leakages in high temperature situations

## Anti-Static Design

Anti-static device are standard equipments for Series FSB 23 fire safe ball valve. The device discharges static electricity build-up from the friction between the body, ball, and stem of the valve.

## Certifications of FSB 23



**API 607 Fire Test for Soft seated Quarter Turn Valves**



**Canadian Registration Number**



**ATEX Directive 2014/34/EU Explosive Prevention**

## CE marking

The whole series of ball valves are approved according to European Directive 2014/68/EU.

## Pressure Rating:

3000 psi (207 bar)

## Temperature Rating

- -4°F to 176°F (-20°C to 80°C) with DELRIN® seat
- -4°F to 464°F (-20°C to 240°C) with PEEK™ seat

## End Connection

Female pipe thread to NPT, DIN259/2999, and BS standards

## Body Material

ASTM CF8M, WCB  
(DIN 1.4408, and 1.0619)

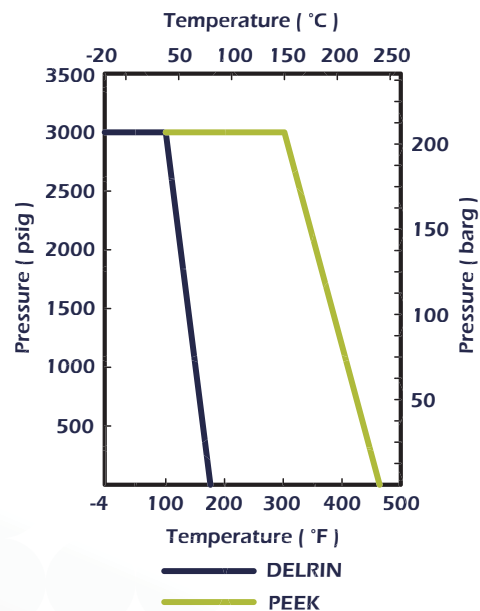
## Size Range

1/4" – 2" (DN8 ~ DN50)

## Standards and Specifications

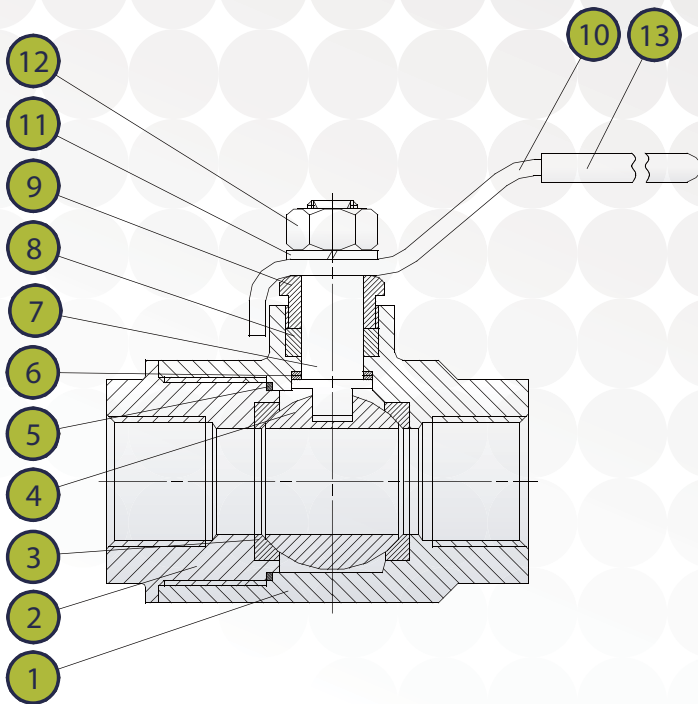
Valve body and end cap connections are high quality investment cast, and designed to meet ASME regulations. Heat treatment can be provided as well upon request: stainless steel material can be solution annealed, and carbon steel can be normalized. Valve stems are designed to follow ASME/ANSI specifications. All valves are factory tested to meet API 598 and MSS SP-72. Series FSB 23 are approved by API 607 4th Edition Fire-Safe Test.

## Valve Body Rating with Seat Material Plot



This table express Seat material resistance as declared by the original manufacturers. The values are to be considered with other parameters such as size, seat design and temperature limitations as governed by relevant standards such as ASME B16.34 or EN-12516.

## FSB 23 Fire-Safe Ball Valve

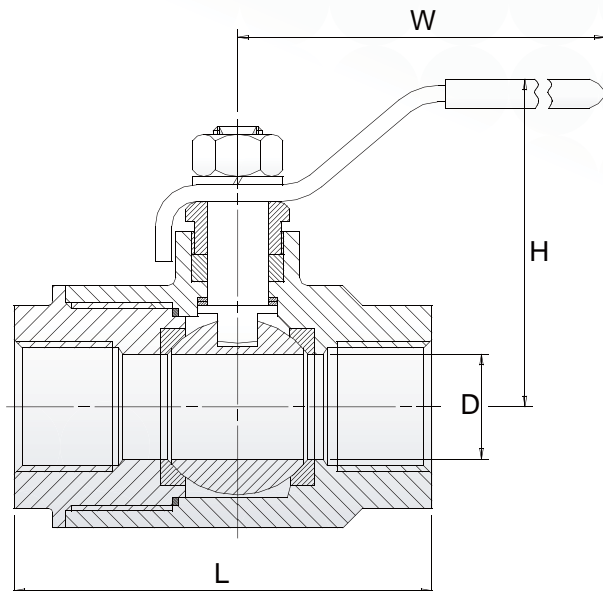


NO	PART NAME	MATERIAL
1	BODY	CF8M / WCB
2	END CAP	CF8M / WCB
3	BALL SEAT	Delrin® PEEK™ (optional)
4	SOLID BALL	CF8M / CF8
5	BODY SEAL	GRAPHITE & VITON
6	THRUST WASHER	GRAPHITE & PTFE
7	STEM	SS 316 / SS304
8	STEM PACKING	GRAPHITE
9	BELLEVILLE SPRING	SS 301
10	HANDLE	SS 304
11	SPRING WASHER	SS 304
12	NUT	SS 304
13	HANDLE SLEEVE	VINYL
14	ANTI-STATIC	SS316

## Dimensions inch/mm

Size Inch DN	d	L	W	H	Weight lbs Kg
1/4"	0.45	3.00	5.04	2.36	1.54
8	11.4	76.2	128	60	0.7
3/8"	0.5	3.00	5.04	2.36	1.54
10	12.7	76.2	128	60	0.7
1/2"	0.5	3.11	5.04	2.36	1.32
15	12.7	79	128	60	0.6
3/4"	0.75	3.7	5.9	2.68	2.87
20	19	94	150	68	1.3
1"	1.00	4.02	6.61	3.15	3.75
25	25.4	102	168	80	1.7
1 1/4"	1.26	4.55	6.61	3.39	5.29
32	32	115.5	168	86	2.4
1 1/2"	1.5	4.88	10.23	4.76	8.38
40	38	124	260	121	3.8
2"*	1.75	5.87	10.23	4.96	13.01
50*	44.5	149	260	126	5.9

\* 2" (DN50) in standard port.



# Optional Accessories

## Locking Devices

The valve handle can be accompanied with a simple locking device. By lifting the lock, valve handle is free to move. When the lock is dropped into the designated opening on the neck section, valve handle is locked. Additional pad lock with key is also available for secure positions. The pad lock can be placed on the circular hole on the handle. valve handle has a locking devices option. By lifting the lock, the valve handle is free to move. DIE ERSTE also offers extra key lock, in which the original locking devices will be kept in locking/unlocking position securely to prevent unexpected accident.

## Material Selection

DIE ERSTE offers various materials to choose from besides PTFE for seat and sealing parts. For general purposes, PTFE seat is recommended. For fire-safe condition, graphite is recommended for sealing parts, including body seal and stem packing. Ball seat can be selected from DELRIN, PEEK, or Nylon. For different material properties, please refer to DIE ERSTE Seat Material Guide.



## How to order

VALVE TYPE	PORT	BODY MATERIAL	SEAT	TRIM	TYPE OF CONNECTION	PRESSURE RATING	SPECIAL REQUEST	SIZE OF CONNECTION	OTHER
A	B	C	D	E	F	G	H	I	J



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5F-1, No. 936,  
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