

# Series 21

## Standard 2-Piece

### Full Port Ball Valves

1/4" – 3" (DN8 – DN80)  
1000 psi (PN64)



2014/68/EU

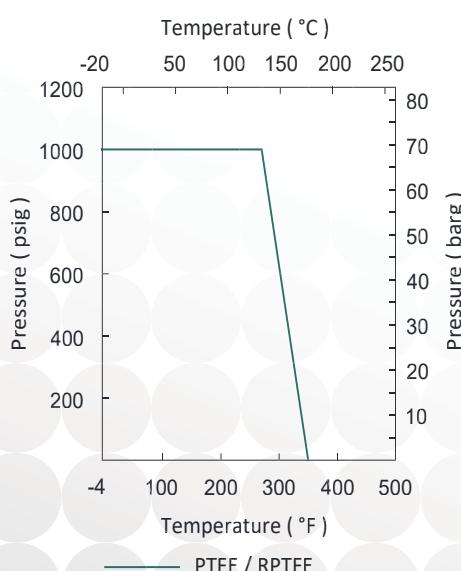
# Ball Valve Feature 2-Piece Design

DIE ERSTE Series 21 ball valves offers rugged, dependable, and economical flow control for hydraulic, chemical, steam, and oil/gas uses. To achieve such diverse requirements, DIE ERSTE provided several features to meet customer's need: valve body design, stem, and sealing. For Series 21 ball valves, full port and standard port are available.

The standard blowout-proof stem design gives a safer valve use environment when undergo unexpected events. Instead of insert the stem from the top, it is inserted from inside of the bore to prevent stem shooting out during accidents. Also, the double-D shape stem design provides the easiness of lever mounting. The self-adjusting stem and packing assembly automatically adjusts with valve changes caused by thermal effects.

DIE ERSTE provides solutions for valve sealing. All of our Series 21 valves are equipped with thrust washer and gland nuts to achieve almost no-leak quality. The thrust washer not only prevents galling between stem and body, it can be considered as a secondary stem seal and reduces torque. In addition, the gland nuts are sealed tightly to act as an additional third guard to stop leakage. Series 21 ball valves are accompanied with a wide range of seat materials to choose, as well as investment valve body cast with retraceable furnace number for future references.

## 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.

## CE marking

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

## Blowout-Proof Design

The stem is installed from the bottom-entry direction instead of top-bottom. This prevents stem to shoot out during unexpected accident, and further provides a safer valve using environment. This design is widely used in DIE ERSTE's ball valves.

## Pressure Rating

Full Port:

1000 psi (PN64) WOG for DN8 - DN50

600 psi (PN40) WOG for DN65 - DN80

150 psi (10 bar) with saturated steam

Standard Port:

2000 psi WOG for 1/4" ~ 1"

1500 psi WOG for 1-1/4" ~ 2"

150 psi with saturated steam

## Temperature Range:

-20°F to 350°F (-28°C to 180°C) with PTFE/RPTFE

## End Connection:

Female pipe thread that meets NPT, DIN 259/2999, and BS21 regulations. For butt-welding, socket-welding, and other end connection options, please contact with our sales representatives.

## Body Material:

ASTM CF8M, CF8, WCB

(DIN 1.4408, 1.4308, 1.0619)

## Size Range:

Full Port:

1/4" ~ 3" (DN8 ~ DN80)

Standard Port:

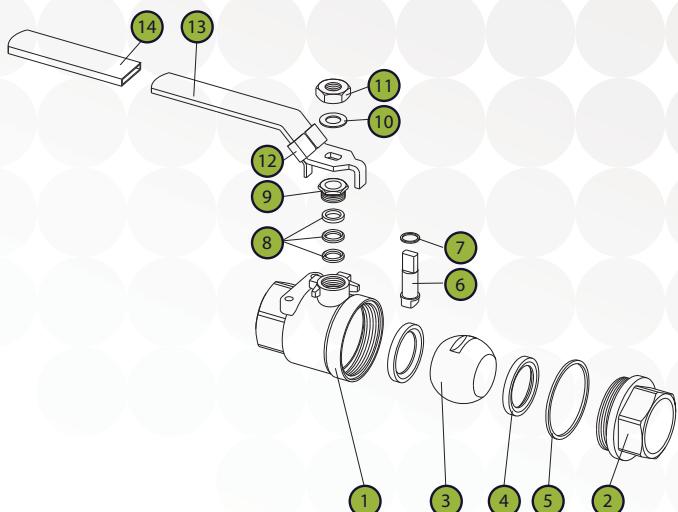
1/4" ~ 2" (DN8 ~ DN50)

## Standards and Specifications

Female Thread end-to-end length meets

NPT, DIN 259/2999, and BS21 regulations

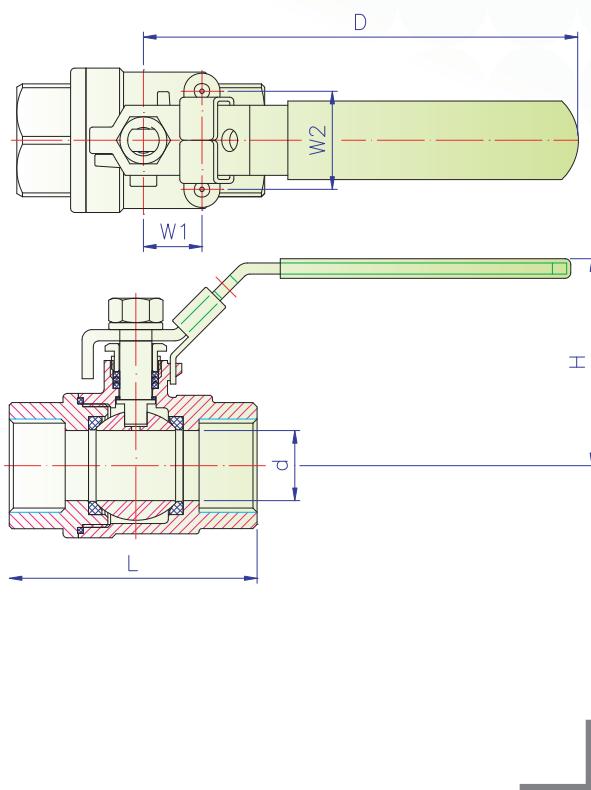
Valve body and end cap connections are high quality investment cast. Stainless steel can be special processed with anneal, and carbon steel can be normalized, both are upon request. Other valve components, such as valve body, end cap, and stem, are produced to follow the ASME and other international regulations. All the valves are factory tested to meet API and MSS standards to ensure the quality of the valves.

**Series 21 2pc Ball Valve**

NO	PART NAME	MATERIAL
1	BODY	CF8M/ CF8/ WCB
2	END CAP	CF8M/ CF8/ WCB
3	SOLID BALL	CF8M
4	BALL SEAT	PTFE
5	BODY SEAL	PTFE
6	STEM	SS316
7	THRUST	PTFE
8	STEM PACKING	PTFE
9	GLAND NUT	SS304
10	WASHER	SS304
11	HANDLE NUT	SS304
12	LOCKING DEVICE	SS304
13	HANDLE	SS304
14	HANDLE SLEEVE	VINYL

**Dimensions inch/mm****Full Port**

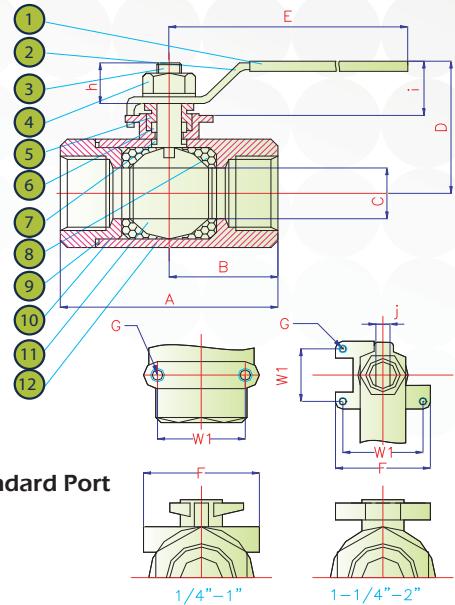
SIZE Inch DN	d	L	H	D	W1	W2	Cv Kv
1/4 8	0.44 11.2	2.19 55.7	2.04 52	4.13 105	0.5 12.7	1.12 28.5	8 6.84
3/8 10	0.49 12.5	2.19 55.7	2.04 52	4.13 105	0.5 12.7	1.12 28.5	10 8.55
1/2 15	0.59 15	2.56 65	2.24 57	4.13 105	0.5 12.7	1.12 28.5	13 11.1
3/4 20	0.78 20	2.91 73.8	2.56 65	5.12 130	0.9 22.4	1.37 35	50 42.73
1 25	0.98 25	3.48 88.5	2.99 76	6.22 158	0.9 22.4	1.37 35	93 79.5
1 1/4 32	1.26 32	4.01 101.7	3.18 81	6.22 158	1.00 25.4	1.5 38	170 145.3
1 1/2 40	1.49 38	4.35 110.5	3.66 93	7.48 190	1.00 25.4	1.5 38	250 213.67
2 50	1.96 50	4.96 126	3.94 100	7.48 190	1.00 25.4	1.5 38	450 384.6
2 1/2 65	2.5 65	6.39 162.5	5.51 140	10.3 262	1.14 29	2.36 60	750 641
3 80	2.99 76	7.02 178.3	5.91 150	10.3 262	1.37 35	2.76 70	1300 1111



## Dimensions inch/mm

## Standard Port

SIZE Inch DN	A	B	C	D	E	F	G	H	I	J	W1
1/4" 8	2.14 57	1.02 26	0.5 13	2 51	3.94 100	1.53 39	W3 16-24	0.43 11	1.37 35	0.2 5.2	1.1 28
3/8" 10	2.14 57	1.02 26	0.5 13	2 51	3.94 100	1.53 39	W3 16-24	0.43 11	1.37 35	0.2 5.2	1.1 28
1/2" 15	2.57 60	1.14 29	0.5 13	2 51	3.94 100	1.53 39	W3 16-24	0.43 11	1.37 35	0.2 5.2	1.1 28
3/4" 20	3.04 79	1.5 38	0.7 17.5	2.4 62	4.84 123	1.81 46	W3 16-24	0.47 12	1.65 42	0.24 6.2	1.37 35
1" 25	3.5 85	1.6 41	0.87 22.3	2.6 67	4.84 123	1.81 46	W3 16-24	0.47 12	1.65 42	0.24 6.2	1.37 35
1 1/4" 32	4 102	2.02 51.5	1 25	3.3 84	5.67 144	1.96 50	W1 4-20	0.78 20	1.57 40	0.36 9.3	1.4 35.6
1 1/2" 40	4.3 111	2.2 56	1.26 32	3.5 89	5.67 144	1.96 50	W1 4-20	0.78 20	1.65 42	0.36 9.3	1.4 35.6
2" 50	4.9 137	2.67 68	1.5 38.3	3.7 94	7.08 180	1.96 50	W1 4-20	0.78 20	1.57 40	0.36 9.3	1.4 35.6



# Optional Accessories

## Oval Handle

DIE ERSTE offers oval handle for Series 21 ball valves. The oval handles are used where the standard hand levers could be opened or closed by accident. The oval handle also allows user to identify the valve position. Lastly, it also slows down the valve close speed, which decrease the chances of water hammer on liquid.

## Locking Devices

The valve handle come with the locking device originally. 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.

## 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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Series 21 V4.1

Due to continuous development of the products, DIE ERSTE reserves the right to alter the dimension and information contained in the document as required. For specific performance data and proper material selection, please consult with your DIE ERSTE representatives.