

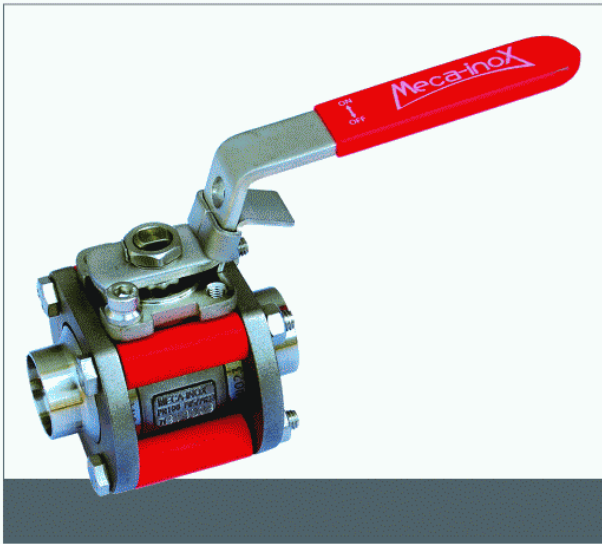
PS4

尺寸：1/4英寸到8英寸

Size 1/4" to 8"

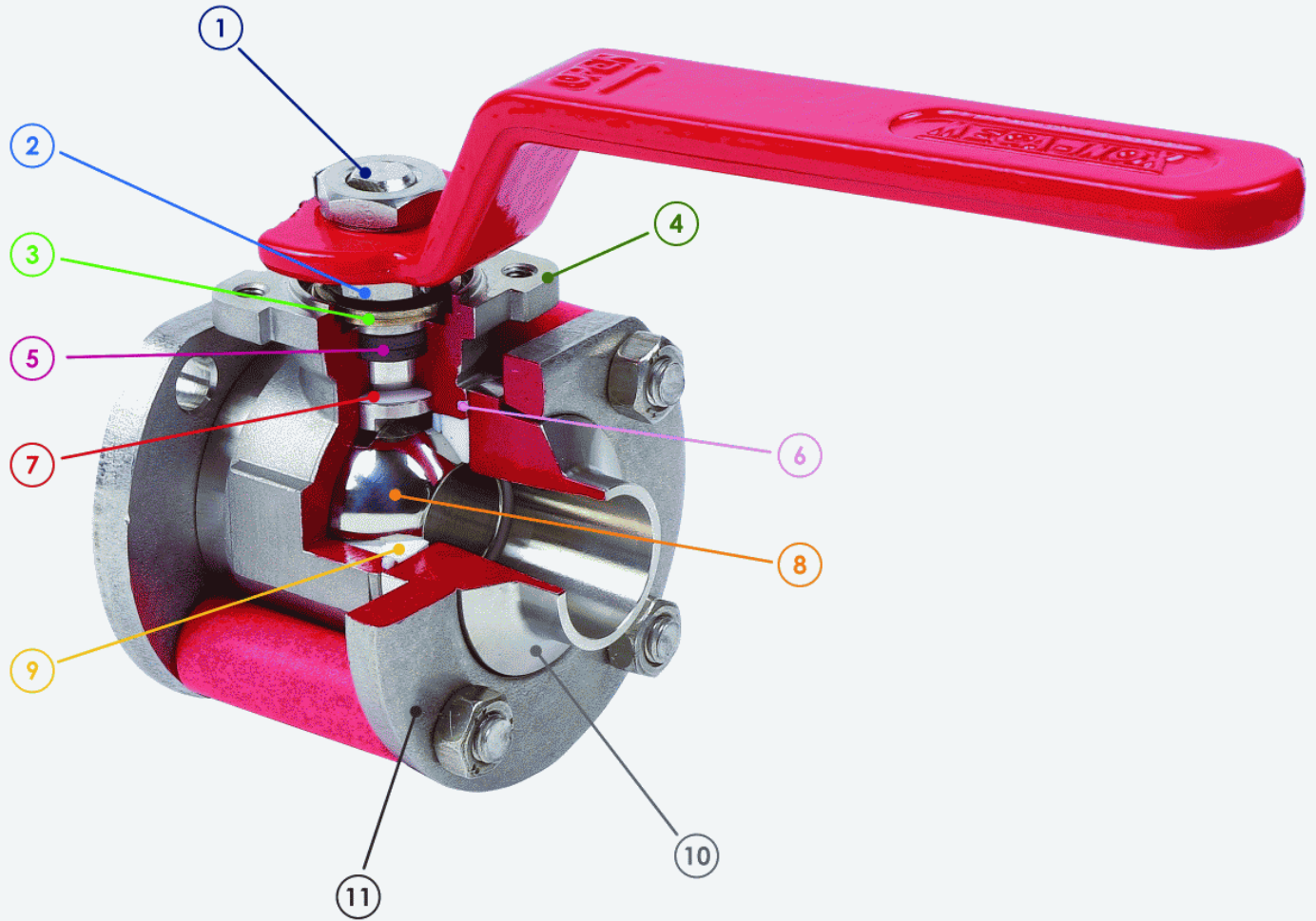
PN100/PN16
通径或缩径
旋转自由端子装置
ISO平台

PN 100 / PN 16
Full or reduced bore
Rotating ends system
ISO top flange



PS4





3片式不锈钢球阀组件套装
Stainless Steel 3-piece Kit box packing

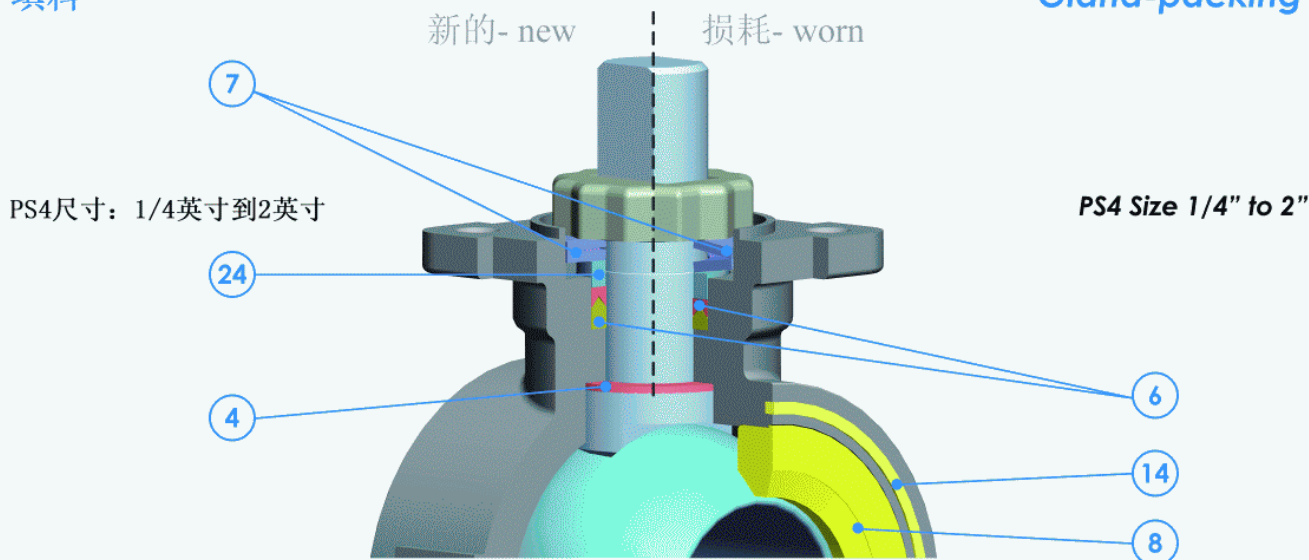


3片式碳钢球阀组件套装
Carbon Steel 3-piece Kit box packing

- | | | |
|--|----------|---|
| <p>防喷出阀杆:</p> <p>所设计的阀杆具有抗高扭矩操作, 不易断裂也不扭曲变形。</p> | <p>①</p> | <p>Antiblow-out stem:</p> <p>The stem is designed to resist high operating torques without breaking nor twisting.</p> |
| <p>安全的锁紧螺母:</p> <p>这些锁紧螺母在阀门操作时可以确保填料螺母和手柄螺母原位不动。</p> | <p>②</p> | <p>Safety nut lock:</p> <p>These nut locks ensure to keep the packing nut and the handle nut in place during valve operations.</p> |
| <p>弹簧垫片:</p> <p>弹簧垫片起弹簧作用, 用来补偿填料的损耗。</p> | <p>③</p> | <p>Spring washers:</p> <p>The spring washers act as a spring to compensate the packing wear.</p> |
| <p>ISO5211平台:</p> <p>更容易和阀上的驱动装置匹配。该法兰具有槽口, 可锁定手柄。</p> | <p>④</p> | <p>ISO 5211 top flange:</p> <p>Makes easier the adaptation of an actuator on the valve. This flange has notches to welcome a lockable handle.</p> |
| <p>填料:</p> <p>填料腔是机加工而成, 配合呈V形环状的填料。经TA-LUFT认证: 该套装置可以形成一个防静电的填料。</p> | <p>⑤</p> | <p>Gland-packing:</p> <p>The gland box is machined and receive a V-ring packing. This assembly ensures an antistatic gland-packing, TA LUFT certified.</p> |
| <p>嵌套式阀体密封:</p> <p>PTFE为阀体及其连接件提供高可靠性密封。</p> | <p>⑥</p> | <p>Encapsulated body seals:</p> <p>In PTFE, they are giving a reliable sealing between the body and connections.</p> |
| <p>阀杆密封:</p> <p>属于初级密封。由PTFE和PEEK组成, 可以实现较长的工作寿命和工作次数。</p> | <p>⑦</p> | <p>Stem thrust seal:</p> <p>Act as a primary sealing. Made of PTFE + PEEK, it ensures a longer lifetime and number of cycles.</p> |
| <p>阀球:</p> <p>在阀杆槽口处钻孔形成泄压孔, 以避免在阀门“打开”位置时的任何过压。</p> | <p>⑧</p> | <p>Ball:</p> <p>A cavity relief is drilled in the stem notch in order to avoid any overpressure in "Open" position.</p> |
| <p>阀座:</p> <p>可提供的阀座材质范围广泛。PS4阀可应用在-196°C~320°C, 在0 BAR的很多工况。</p> | <p>⑨</p> | <p>Seats:</p> <p>A wide range of seat materials is available. The PS4 valve can be use in many process applications from -196°C to 320 °C 0 PSI. (0 BAR)</p> |
| <p>机加工连接件:</p> <p>它们要求在短时间内进行制造并交付。这些连接件可以根据任何管道标准进行机加工。</p> | <p>⑩</p> | <p>Machined connections:</p> <p>They require a short leadtime to be manufactured. These connections can be machined according, to any pipe standard.</p> |
| <p>自由松套法兰</p> <p>该方式可以使与管路的装配更加简易。由于法兰孔可以对正, 螺栓可以避免产生应力。</p> | <p>⑪</p> | <p>Rotating flanges:</p> <p>This concept makes easier the assembly of the connections on the pipe. It avoids any stress on the bolting as no misalignment is possible.</p> |

填料

Gland-packing



■ 按照NF EN12516-1, DIN3814和ANSI B16.34标准进行设计

■ 防静电填料满足ISO7121, NF EN1983标准要求

PTFE+碳+石墨 填料 (6) (DN<50)

阀杆和阀体以及阀杆和球阀/弹簧装置 (B) 之间的

■ 加入PEEK和PTFE作为阀杆初级密封 (4)

■ 带有一个V形填料的次级密封 (6), 来自依靠阀体的压力进行密封。

■ 不锈钢填料压盖 (24)

■ 由一对弹簧垫片 (7) 进行损耗补偿

■ DN>50上的阀座支撑 (20)

■ Design according NF EN 12516-1, DIN 3841, ANSI B16.34

■ Antistatic gland packing according to ISO 7121, NF EN 1983

Gland packing(6) in PTFE+ carbon + graphite (DN < 50)

Ball / spring system (B) between stem & body and stem & ball (DN > 50)

■ Primary sealing with thrust seal (4) in PEEK reinforced PTFE

■ Secondary sealing with a "V-ring" packing (6) to allow sealing under pressure coming from the valve body

■ Gland in stainless steel (24)

■ Wear compensation thanks to the pair of spring washers (7)

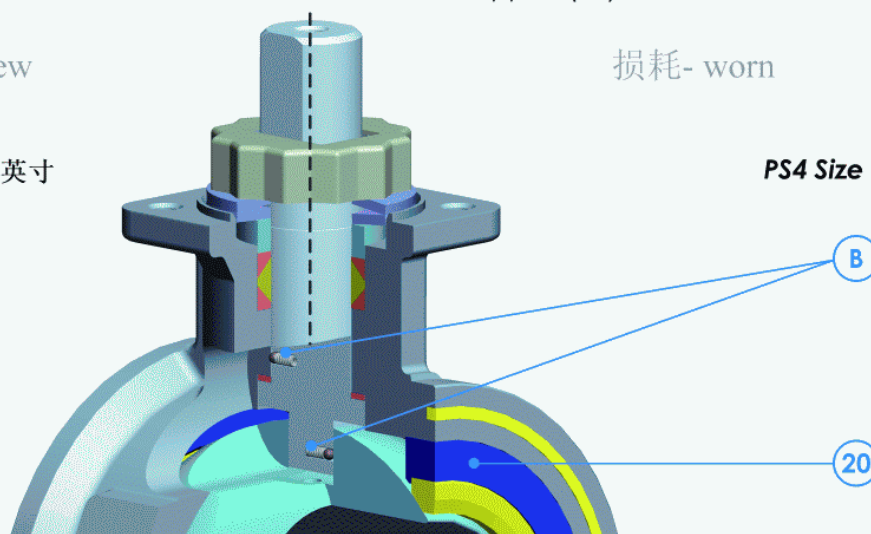
■ Seat support (20) on DN > 50

新的 - new

损耗 - worn

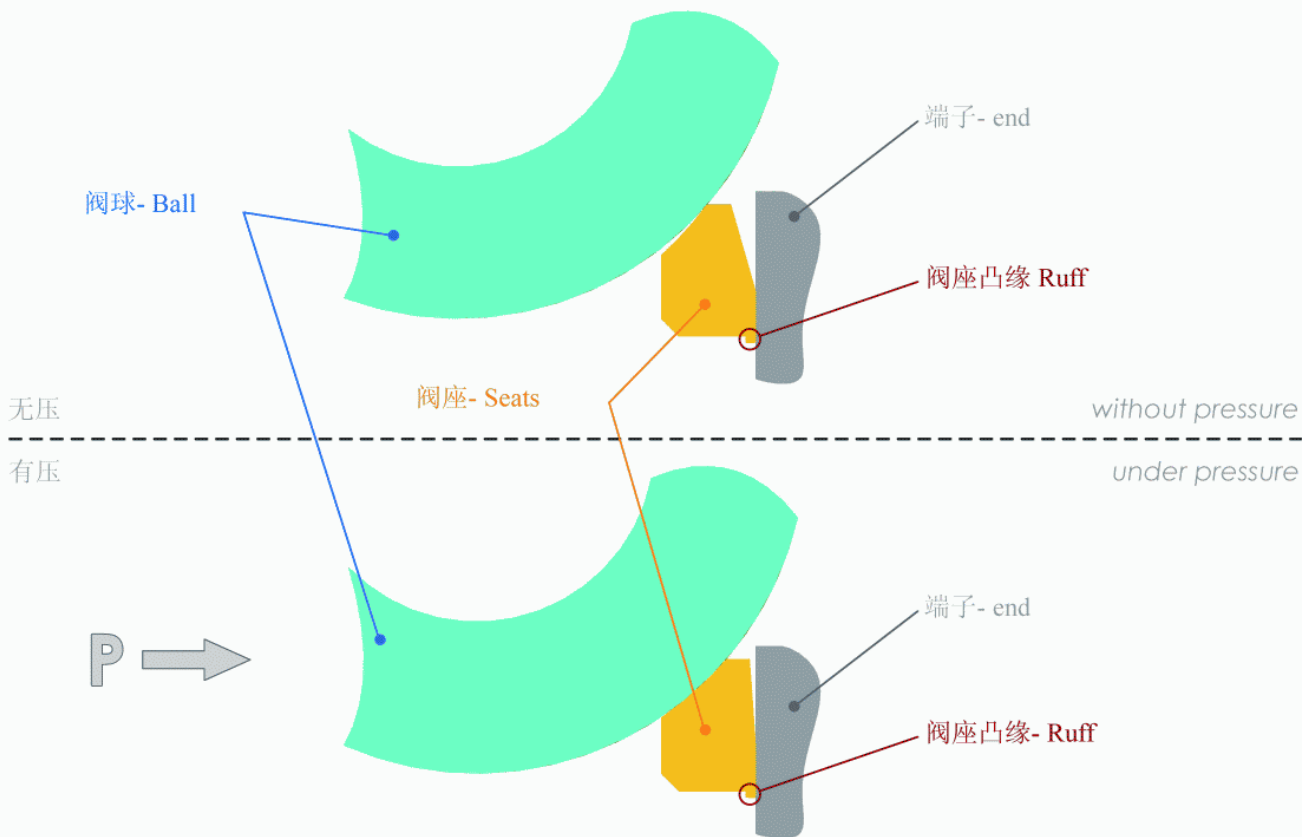
PS4尺寸: 2-1/2英寸到6英寸

PS4 Size 2"1/2 to 6"



阀座和阀体密封

Seats and body seals



- 嵌套式阀体密封 (14) 保证内外高度。

为上游/下游密封而设计的阀座。

- 背部弹性可吸收公差差异。

- 缓冲阀座可优化运行扭矩。

- 轴环可避免阀座当上游压力大于下游压力时移动

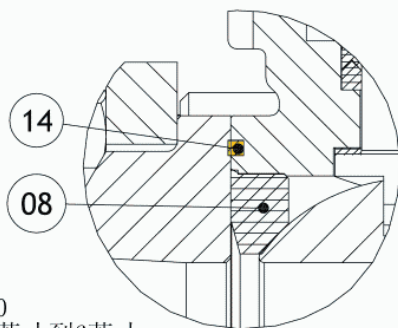
- Encapsulated body seals (14) to guarantee internal / external highness.

Seats profiles designed for upstream / downstream sealing.

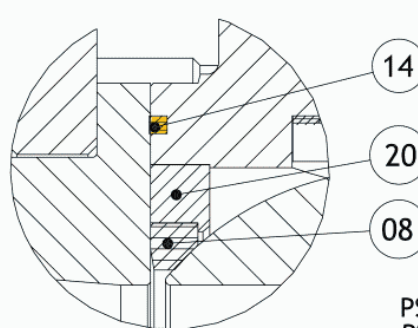
- Back elasticity to absorb tolerance differences.

- Progressive bearing to optimize operating torques.

- Ruff to avoid the seat to be taken away when upstream pressure is higher than down stream pressure.



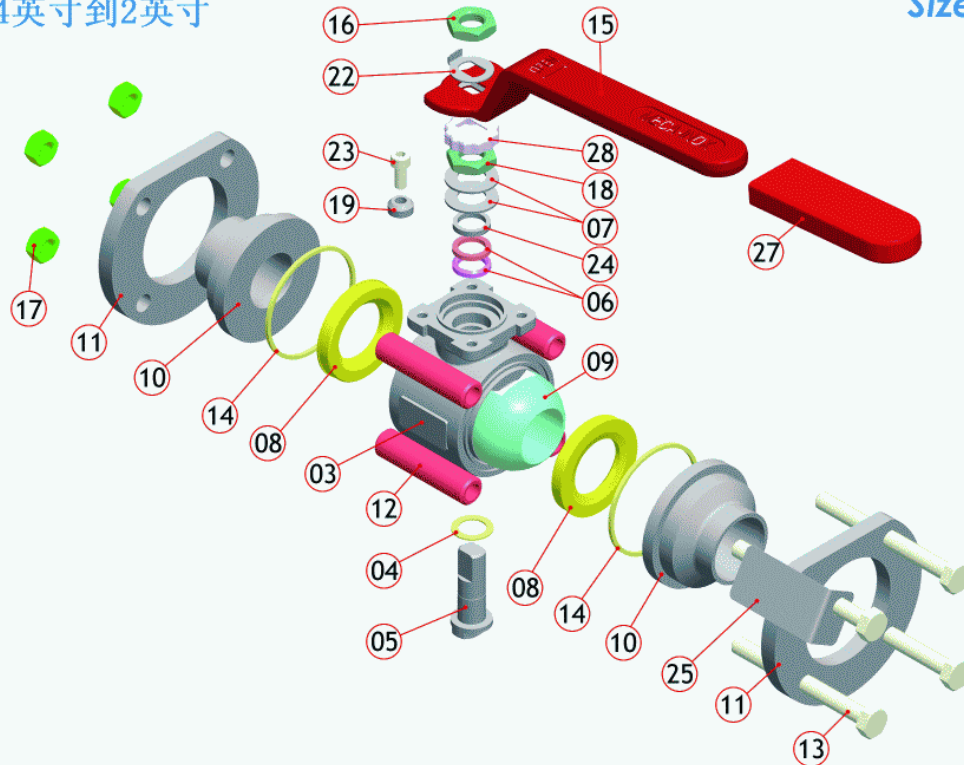
PS4 DN: 65-150
PS4 DN: 2-1/2英寸到6英寸



PS4 DN 65 to 150
PS4 DN 2"1/2 to 6"

尺寸：1/4英寸到2英寸

Size 1/4" to 2"

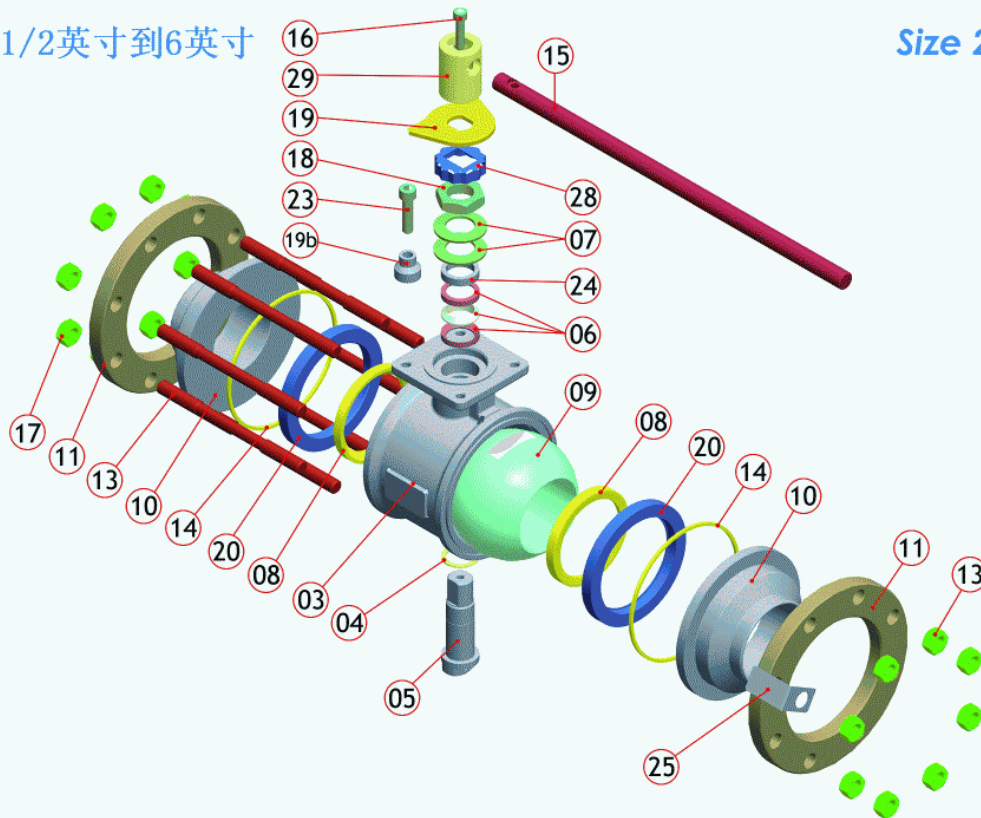


					Item	Qty	Description	Material (ASTM)	
								S.steel	C.steel
03	1	阀体	1.4409	1.0169	03	1	Body	CF3M (316L)	A216 WCB
04	1	阀杆密封	20% PEEK PTFE	20% PEEK PTFE	04	1	Stem thrust seal	20% PEEK PTFE	20% PEEK PTFE
05	1	阀杆	1.4404	1.4404	05	1	Stem	316L	316L
06	1	填料	PTFE 33%C+2%石墨	PTFE 33%C+2%石墨	06	1	Gland packing	33%C+2%Gr PTFE	33%C+2%Gr PTFE
07	2	弹簧垫片	1.4310	1.4310	07	2	Spring washers	301	301
08	2	阀座	PTFE	20% PEEK PTFE	08	2	Seat	PTFE	20% PEEK PTFE
09*	1	阀球	1.4409	1.4006	09*	1	Ball	CF3M (316L)	410
10	2	自由端子	1.4404	1.1151	10	2	Loose ends	316L	1020
		法兰端子	1.4404	1.1151			Flanged ends	316L	1020
11	2	阀体法兰	1.4307	1.0144	11	2	Body flanges	304L	A 501
12	4	套管			12	4	Distance piece	Red PTFE	Red PTFE
13	4	螺栓尺寸1/4英寸到1-1/2英寸	1.4301		13	4	Screw Size 1/4" to 1 1/2"	304	Class 8.8
		螺柱尺寸2英寸	1.4301	1.4301			Stud Size 2"	304	304
14	2	阀体密封	PTFE	PTFE	14	2	Body seal	PTFE	PTFE
		手柄 (标准型)	1.1181	1.1181			Handle standard	1035	1035
15	1	手柄 (可选项)	参见操作可选项		15	1	Handle option	See OPTIONS FOR OPERATION	
16	1	手柄坚固螺母	1.4404	1.4404	16	1	Lever nut	316L	316L
16b	1	调整螺栓DN10	1.4301	1.4301	16b	1	Lever screw DN 10	304	304
		紧固螺母					Nut screw		
17	4	尺寸：1/4英寸到1-1/2英寸	1.4301	10,8级	17	4	Size 1/4" to 1 1/2"	304	Class 10.8
	8	尺寸：2英寸	1.4301	1.4301		8	Size 2"	304	304
18	1	压盖螺母	1.4404	1.4404	18	1	Nut gland	316L	316L
19	1	止动拴垫圈	1.4307	1.4307	19	1	Stop ring	304L	304L
22	1	止动片	1.4307	1.4307	22	1	Nut stop	304L	304L
23	1	止动拴	1.4301	1.4301	23	1	Screw stop	304	304
24	1	填料压盖	1.4404	1.4404	24	1	Gland	316L	316L
25	1	商标 (可选项)	1.4307	1.4307	25	1	Identification label (option)	304L	304L
27	1	带颜色的塑料手柄套 (可选项)	PVC	PVC	27	1	Color plastic cover (option)	PVC	PVC
28	1	螺母止动片	1.4307	1.4307	28	1	Stop nut gland	304L	304L

* Drilled ball as standard

尺寸：2-1/2英寸到6英寸

Size 2"1/2 to 6"



编号	数量	零部件名称	材质 (ASTM)		Item	Qty	Description	Material (ASTM)	
			不锈钢	碳钢				S.steel	C.steel
03	1	阀体	1.4409	1.0169	03	1	Body	CF3M (316L)	A216 WCB
04	1	阀杆密封	20%PEEK PTFE	20%PEEK PTFE	04	1	Stem thrust seal	20%PEEK PTFE	20%PEEK PTFE
05	1	阀杆	1.4404	1.4404	05	1	Stem	316L	316L
06	1	填料	PTFE	PTFE	06	1	Gland packing	PTFE	PTFE
07	2	弹簧垫片	1.4310	1.4310	07	2	Spring washers	301	301
08	2	阀座	PTFE	PTFE	08	2	Seat	PTFE	PTFE
09*	1	球阀			09*	1	Ball		
		尺寸：2-1/2英寸到4英寸	1.4409	1.4006			Size 2"1/2 to 4"	CF3M (316L)	410
		尺寸：5英寸到6英寸	1.4409	1.4409			Size 5" to 6"	CF3M (316L)	CF3M (316L)
10	2	自由端子	1.4404	1.1151	10	2	Loose ends	316L	1020
		法兰端子	1.4404	1.1151			Flanged ends	316L	1020
11	2	阀体法兰	1.4307	1.0037	11	2	Body flanges	304L	A283 Gr C
13	6	螺柱			13	6	Stud		
		尺寸：2-1/2英寸	1.4307	1.0060			Size 2"1/2	304L	A572
		尺寸：3英寸到5英寸					Size 3" to 5"		
		尺寸：6英寸					Size 6"		
14	2	阀体密封	PTFE	PTFE	14	2	Body seal	PTFE	PTFE
15	1	手柄 (标准型)	1.0037	1.0037	15	1	Handle standard	A283 Gr C	A283 Gr C
		手柄 (可选项)	参见操作可选项				Handle option	See OPTIONS FOR OPERATION	
16	1	手柄螺栓	1.4301	1.4301	16	1	Handle screw	304	304
		紧固螺母					Nut screw		
		尺寸：2-1/2英寸	1.4307	8.8级			Size 2"1/2	304L	Class 8.8
		尺寸：3英寸到5英寸					Size 3" to 5"		
		尺寸：6英寸					Size 6"		
18	1	压盖螺母	1.4404	1.4404	18	1	Nut gland	316L	316L
19	1	止动板	1.4307	1.4307	19	1	Stop plate	304L	304L
19b	1	止动环	1.4307	1.4307	19b	1	Locking plug	304L	304L
20	2	阀座支撑	25%玻璃纤维PTFE ou 1.4404	25%玻璃纤维PTFE ou 1.4404	20	2	Seat holder	25% glassfilled PTFE	25% glassfilled PTFE
23	1	止动销	1.4301	1.4301	23	1	Screw stop	304	304
24	1	填料压盖	1.4404	1.4404	24	1	Gland	316L	316L
25	1	商标 (可选项)	1.4307	1.4307	25	1	Identification label (option)	304L	304L
28	1	螺母止动片	1.4307	1.4307	28	1	Stop nut gland	304L	304L
		手柄连接套 (标准型)	1.0037	1.0037			Handle adaptor standard	A283 Gr C	A283 Gr C
		手柄连接套 (可选项)	1.4305	1.4305			Handle adaptor option	303	303

3片式球阀

06

3-piece ball valves

PS4

PS4: 技术参数

TFM阀座 (第二代PTFE)

碳钢, 316L, 904L, 304L, 哈氏合金C。

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。

客户定制:

上游泄压孔用于阀门关闭位置时阀腔泄压。

批准:

PED 97/23/CE

TA-LUFT认证 (低泄漏)

AD Merkblatt 2000

FDA (食品和药品管理局) 批准的阀座材料

客户定制:

ATEX 94/9/CE

按照TPED 99/36/CE认证打上π标志

PS4: technical data

TFM seats (2nd generation PTFE)

Carbon steel, 316L, 904L, 304L, Hastelloy C.

Standard version:

Ball drilling in the stem mark for cavity relief in the open position.

On request:

Upstream vent hole for cavity relief in the closed position.

Approvals:

PED 97/23/CE

TA-Luft (fugitive emissions)

AD Merkblatt 2000

Seat material FDA approved (Food & Drug)

On request:

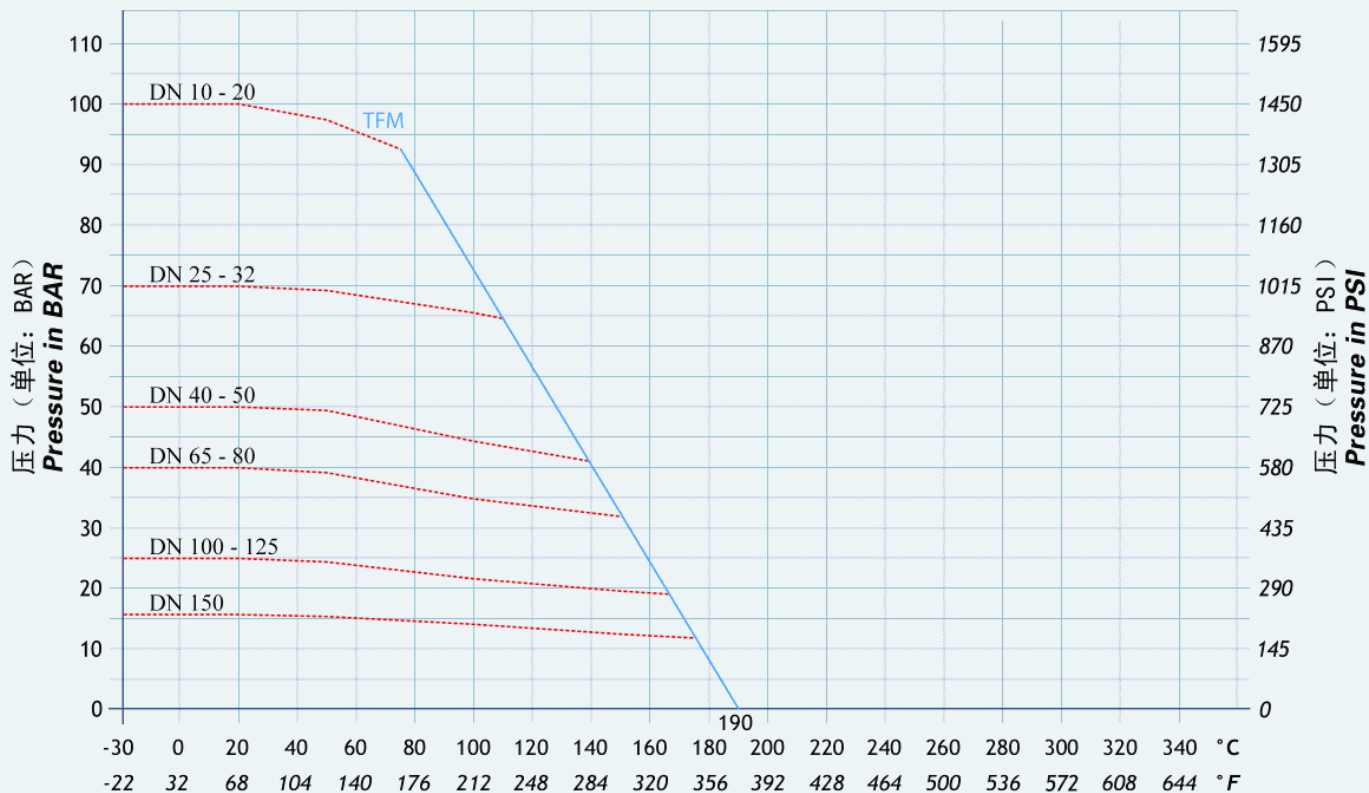
ATEX 94/9/CE

π marking according to TPED 99/36/CE

压力-温度图表

PS4

Pressure-Temperature Diagrams



碳钢球阀的最低温度:

- 高膨胀系数的气体和液体: -10°C
- 其他液体: -25°C

Minimum temperature for carbon steel ball valves:

- 10°C for gas and fluids with high dilatation coefficient
- 25°C for other fluids

PZ4

PZ4: 技术参数

20%PEEK填充PTFE阀座

碳钢, 316L, 904L, 304L, 哈氏合金C。

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。

客户定制:

上游泄压孔用于阀门关闭位置时阀腔泄压。

批准:

PED 97/23/CE

TA-LUFT认证 (低泄漏)

AD Merkblatt 2000

FDA (食品和药品管理局) 批准的阀座材料

客户定制:

ATEX 94/9/CE

按照TPED 99/36/CE认证打上π标志

PZ4: technical data

20% PEEK filled PTFE seats

Carbon steel, 316L, 904L, 304L, Hastelloy C.

Standard version:

Ball drilling in the stem mark for cavity relief in the open position.

On request:

Upstream vent hole for cavity relief in the closed position.

Approvals:

PED 97/23/CE

TA-Luft (fugitive emissions)

AD Merkblatt 2000

Seat material FDA approved (Food & Drug)

On request:

ATEX 94/9/CE

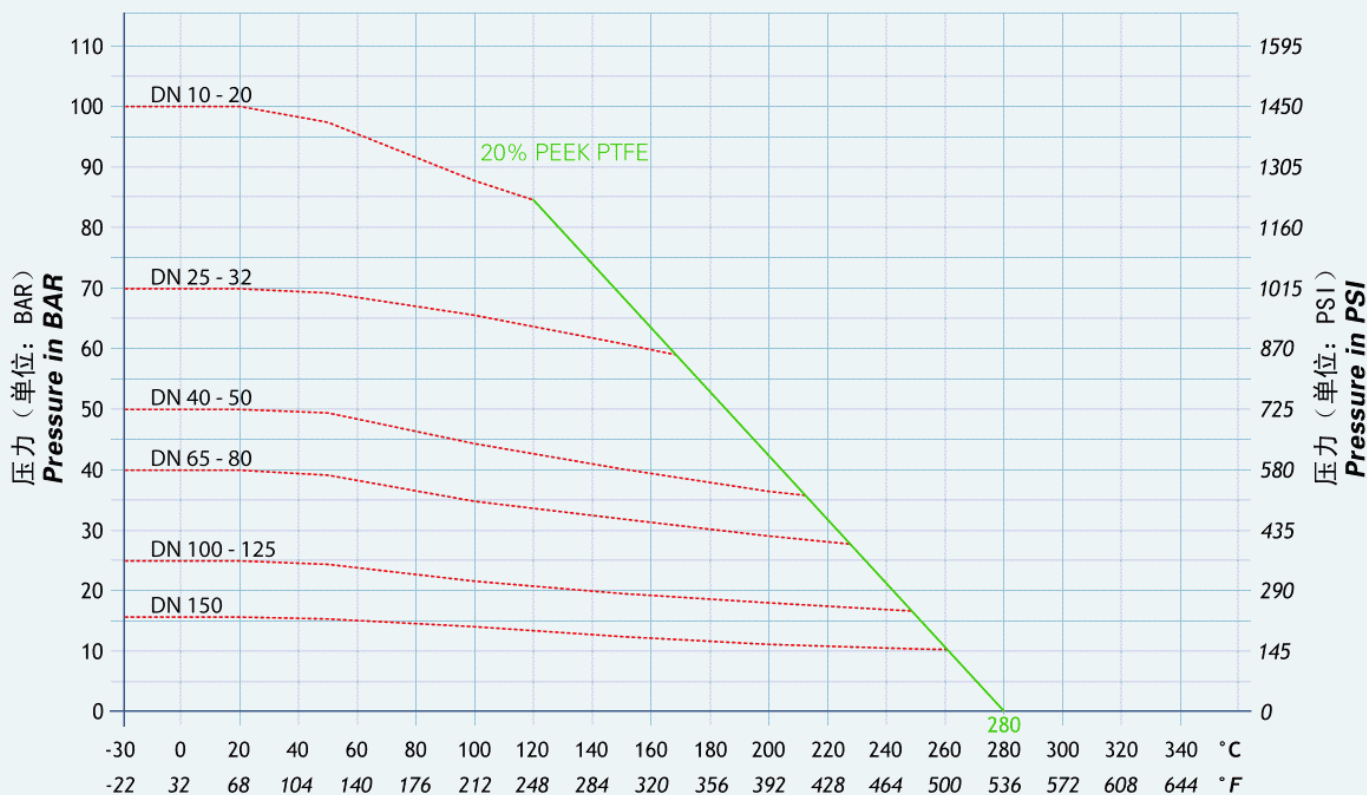
π marking according to TPED 99/36/CE



压力-温度图表

PZ4

Pressure-Temperature Diagrams



碳钢球阀的最低温度:

- 高膨胀系数的气体和液体: -10°C
- 其他液体: -25°C

Minimum temperature for carbon steel ball valves:

- 10°C for gas and fluids with high dilatation coefficient
- 25°C for other fluids

PP4

PP4: 技术参数

PEEK阀座

碳钢, 316L, 904L, 304L, 哈氏合金C。

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。

客户定制:

上游泄压孔用于阀门关闭位置时阀腔泄压。

批准:

PED 97/23/CE

TA-LUFT认证 (低泄漏)

AD Merkblatt 2000

FDA (食品和药品管理局) 批准的密封材料

客户定制:

ATEX 94/9/CE

按照TPED 99/36/CE认证打上π标志

PP4: technical data

PEEK seats

Carbon steel, 316L, 904L, 304L, Hastelloy C.

Standard version:

Ball drilling in the stem mark for cavity relief in the open position.

On request:

Upstream vent hole for cavity relief in the closed position.

Approvals:

PED 97/23/CE

TA-Luft (fugitive emissions)

AD Merkblatt 2000

Seat material FDA approved (Food & Drug)

On request:

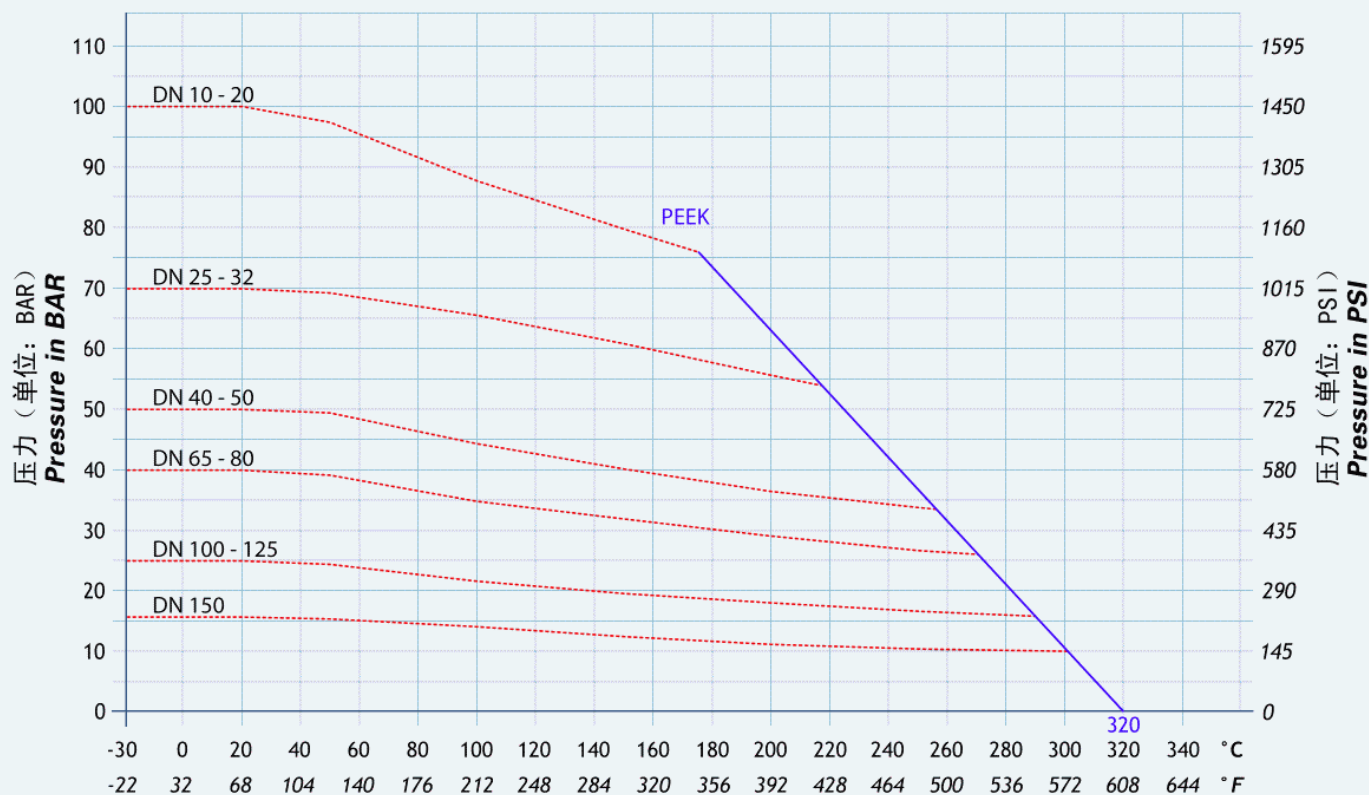
ATEX 94/9/CE

π marking according to TPED 99/36/CE

压力-温度图表

PP4

Pressure-Temperature Diagrams



碳钢球阀的最低温度:

- 高膨胀系数的气体和液体: -10°C
- 其他液体: -25°C

Minimum temperature for carbon steel ball valves:

- 10°C for gas and fluids with high dilatation coefficient
- 25°C for other fluids

PN4

PN4: 技术参数

TFM阀座 (第二代PTFE)

316L, 904L, 304L, 哈氏合金C型式。
阀球和端子的内部抛光表面粗糙度 (Ra) 为0.4微米

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。
不锈钢套管。

客户定制:

上游泄压孔用于阀门关闭位置时阀腔泄压。
阀球不带减压孔
连接件用1.4435 (BNZ低铁)

批准:

PED 97/23/CE
TA-LUFT认证 (低泄漏)
AD Merkblatt 2000
FDA (食品和药品管理局) 批准的密封材料
客户定制:
ATEX 94/9/CE
按照TPED 99/36/CE认证打上π标志

PN4: technical data

TFM seats (2nd generation PTFE)

316L, 904L, 304L, Hastelloy C version.
Ball & end polished inside to Ra 0.4 μm

Standard version:

Ball drilling in the stem mark for cavity relief in the open position.
stainless steel distance piece.

On request:

Upstream vent hole for cavity relief = One way valve.
Ball without cavity relief
Connections in 1.4435 (BNZ low ferrite)

Approvals:

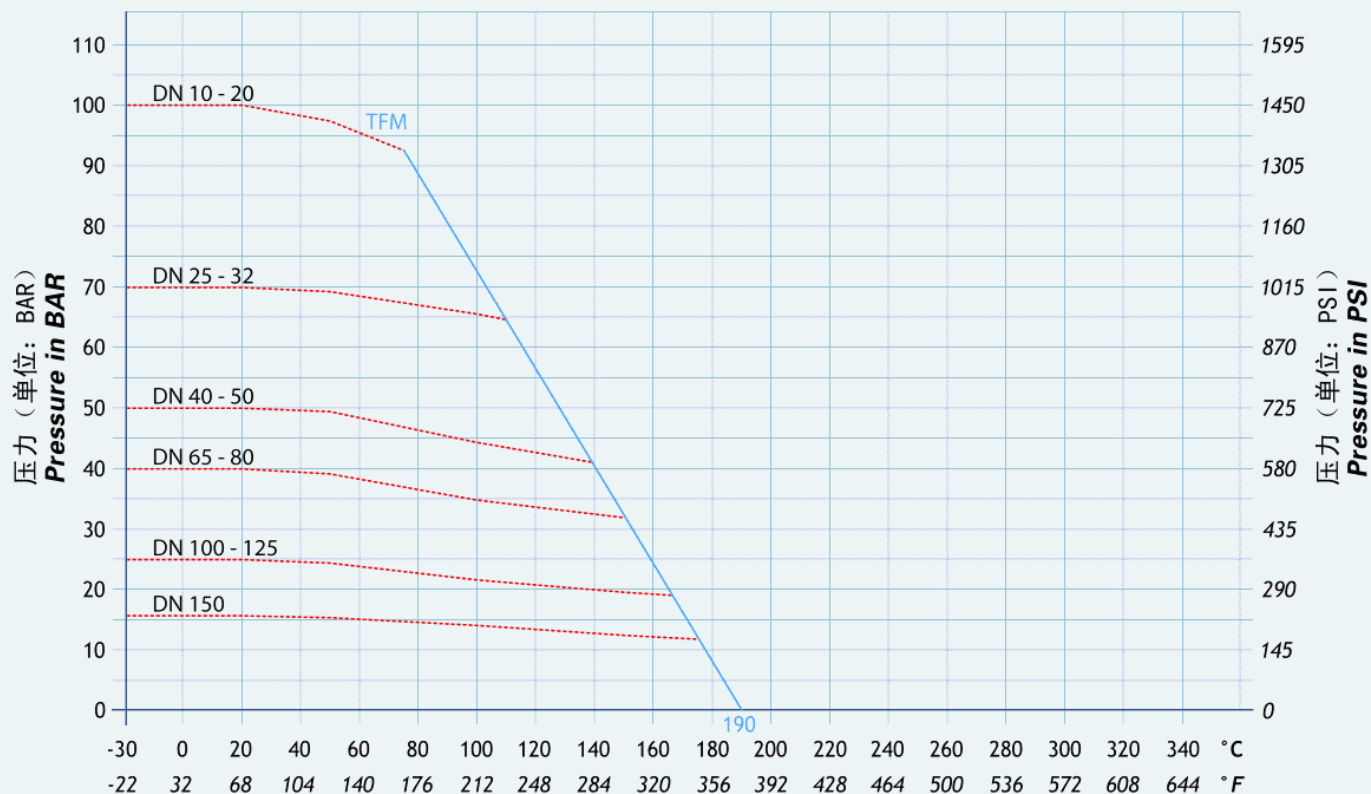
PED 97/23/CE
TA-Luft (fugitive emissions)
AD Merkblatt 2000
Seat material FDA approved (Food & Drug)
On request:
ATEX 94/9/CE
π marking according to TPED 99/36/CE



压力-温度图表

PN4

Pressure-Temperature Diagrams



PJ4

PJ4: 技术参数

TFM阀座 (第二代PTFE)

阀体密封和填料使用氟素硅胶

316L, 904L, 304L, 哈氏合金C型式。

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。

上游泄压孔用于阀门关闭位置时阀腔泄压。

客户定制:

可交付RHJ型延伸阀杆用于隔热管道上的操作。

批准:

PED 97/23/CE

TA-LUFT认证 (低泄漏)

AD Merkblatt 2000

FDA (食品和药品管理局) 批准的密封材料

客户定制:

ATEX 94/9/CE

按照TPED 99/36/CE认证打上π标志

PJ4: technical data

TFM seats (2nd generation PTFE)

Body seal and gland-packing in fluorosilicon

316L, 904L, 304L, Hastelloy C version.

Standard version:

Ball drilling in the stem mark for cavity relief in the open position.

Upstream vent hole for cavity relief in the closed position.

On request:

Delivered with RHJ stem extension for operation above pipe insulation.

Approvals:

PED 97/23/CE

TA-Luft (fugitive emissions)

AD Merkblatt 2000

Seat material FDA approved (Food & Drug)

On request:

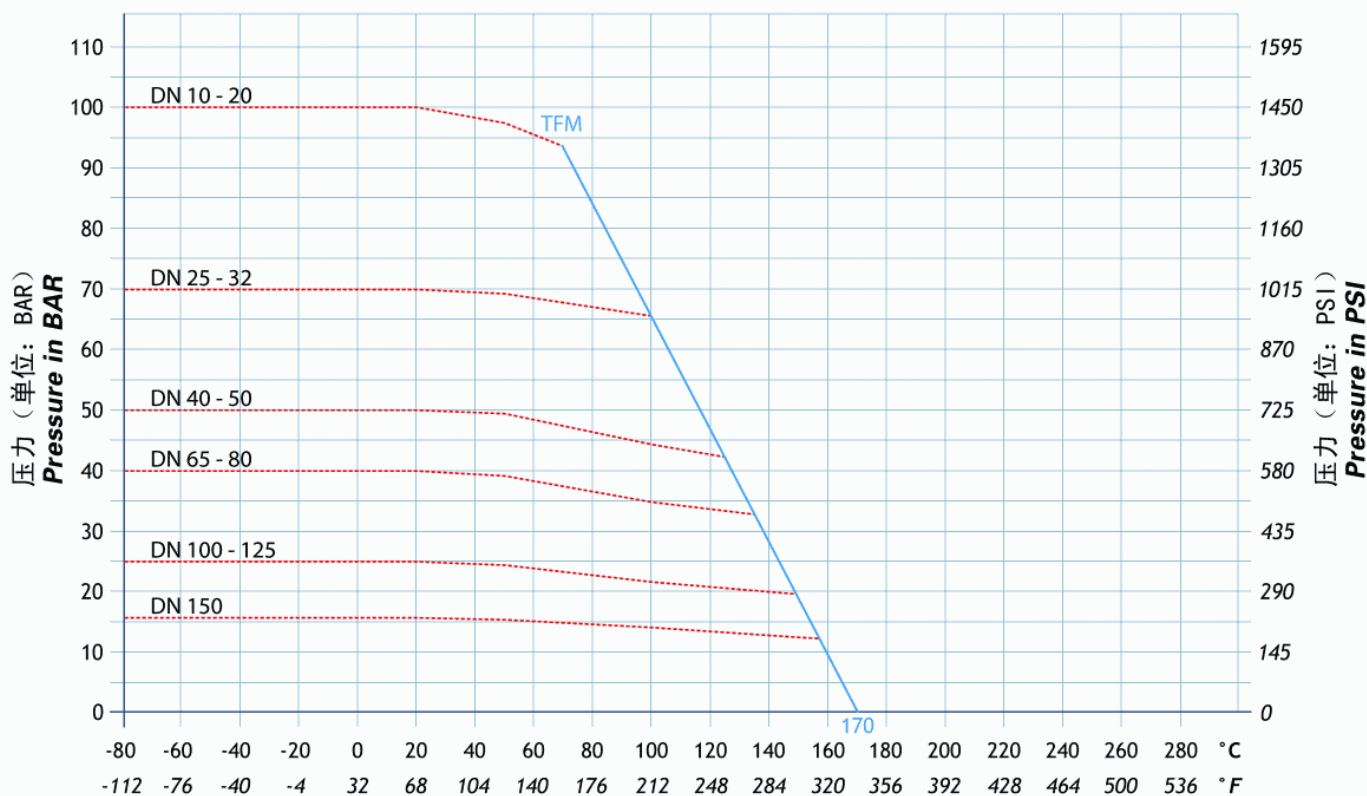
ATEX 94/9/CE

π marking according to TPED 99/36/CE

压力-温度图表

PJ4

Pressure-Temperature Diagrams



PH4

PH4: 技术参数

超高分子量聚乙烯阀座 (U.H.M.W.P.E.)
 阀体密封和填料使用氟素硅胶
 316L, 904L, 304L, 哈氏合金C型式。

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。
 在这种情况下, 填料不抗静电。

客户定制:

上游泄压孔用于阀门关闭位置时阀腔泄压。
 阀球上没有减压孔

批准:

PED 97/23/CE
 TA-LUFT认证 (低泄漏)
 AD Merkblatt 2000
 FDA (食品和药品管理局) 批准的密封材料
 客户定制:
 ATEX 94/9/CE
 按照TPED 99/36/CE认证打上π标志

PH4: technical data

Ultra High Molecular Weight Poly Ethylen seats
 (U.H.M.W.P.E.)
 316L, 904L, 304L, Hastelloy C version.

Standard version:

Ball drilling in the stem mark for cavity relief in
 the open position.
 In this version, the gland packing is not
 antistatic.

On request:

Upstream vent hole for cavity relief in the
 closed position.
 Ball without cavity relief

Approvals:

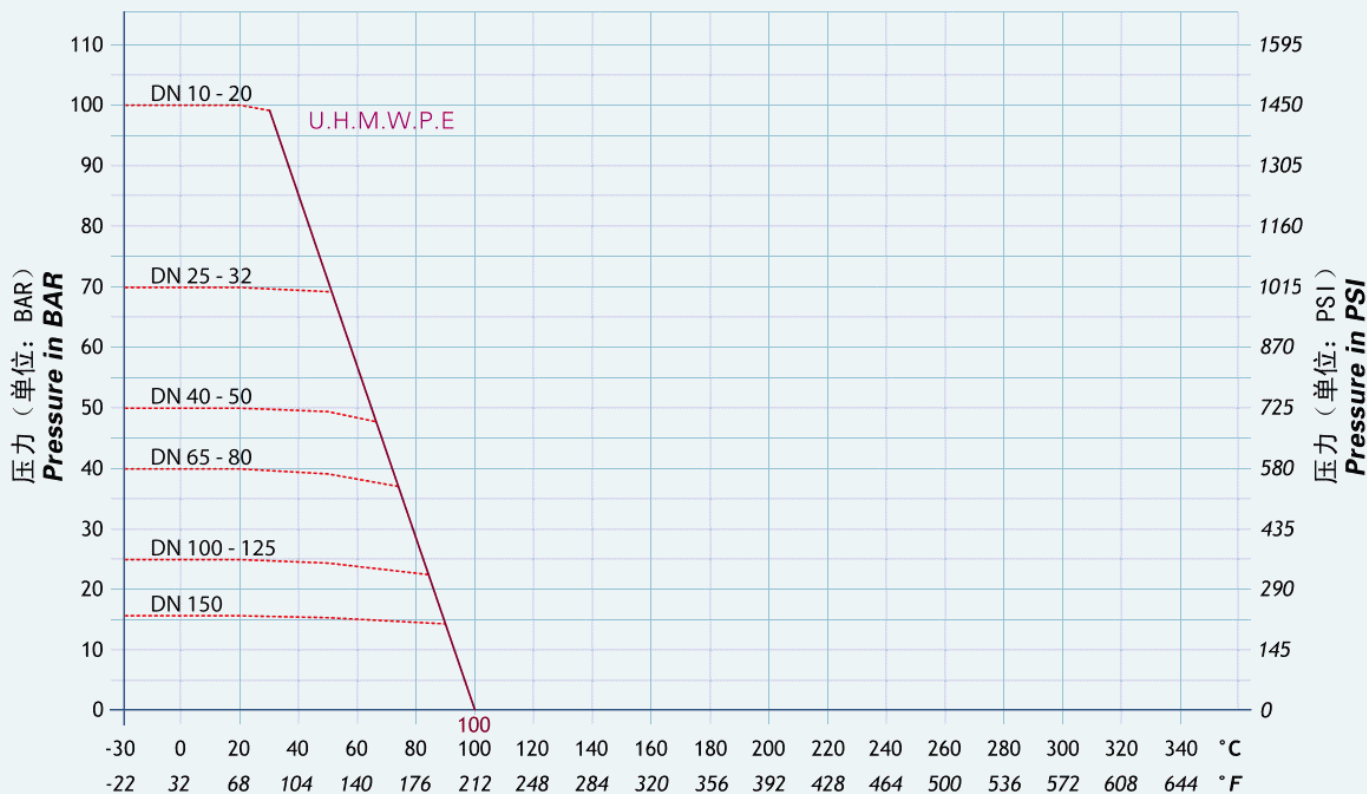
PED 97/23/CE
 TA-Luft (fugitive emissions)
 AD Merkblatt 2000
 Seat material FDA approved (Food & Drug)
 On request:
 π marking according to TPED 99/36/CE



压力-温度图表

PH4

Pressure-Temperature Diagrams



PY4 CY / PY4

PY4和PY4 CY技术参数

用于低温的特殊阀座

316L, 904L, 304L, 哈氏合金C型式。

标准型:

在阀球上与阀杆连接处钻孔, 用于阀腔泄压。

上游泄压孔用于阀门关闭位置时阀腔泄压。

脱脂处理用于氧气介质。

低于-50°C时, 建议使用低温延伸阀杆型式。这可以避免阀杆结冰, 易于保证阀的正常操作 (PY4 CY型号)

批准:

PED 97/23/CE
TA-LUFT认证 (低泄漏)
AD Merkblatt 2000
FDA (食品和药品管理局) 批准的密封材料
客户定制:
ATEX 94/9/CE
按照TPED 99/36/CE认证打上π标志

PY4 & PY4 CY technical data

Special seats for low temperature applications

316L, 904L, 304L, Hastelloy C version.

Standard version:

Ball drilling in the stem mark for cavity relief in the open position.

Upstream vent hole for cavity relief in the closed position.

Degreasing for oxygene applications.

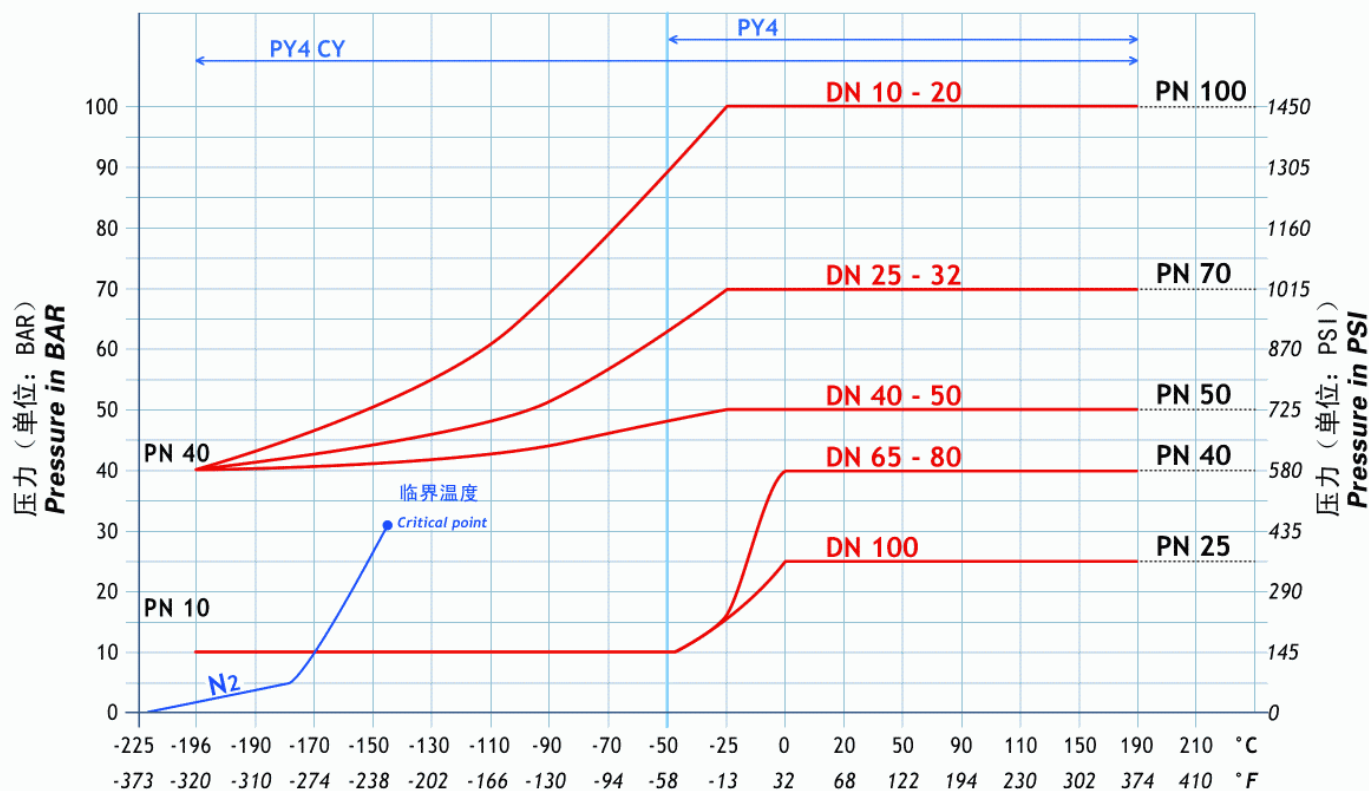
Below -50°C, it is advised to use the version with the cryogenic stem extension. This avoids any stem freezing and allows easy valve operation. (PY4 CY type)

Approvals:

PED 97/23/CE
TA-Luff (fugitive emissions)
AD Merkblatt 2000
Seats material certified BAM
On request:
ATEX 94/9/CE
π marking according to TPED 99/36/CE

压力-温度图表

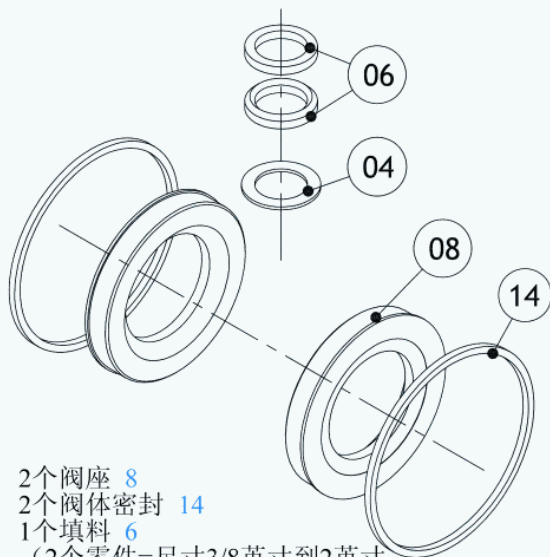
PY4 CY / PY4 Pressure-Temperature Diagrams



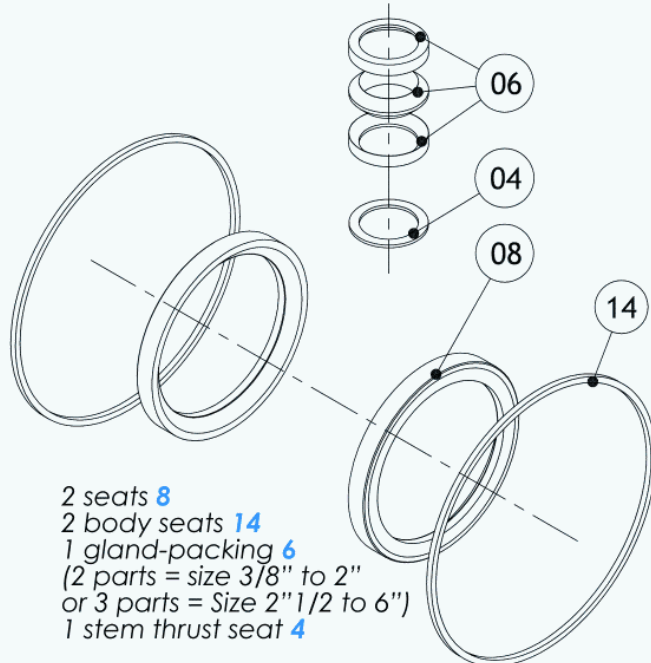
尺寸：3/8英寸到2英寸
Size 3/8 "to 2"

PS4

尺寸：2-1/2英寸到6英寸
Size 2"1/2 to 6"



2个阀座 8
2个阀体密封 14
1个填料 6
(2个零件=尺寸3/8英寸到2英寸
或3个零件=尺寸2.5英寸到6英寸)
1个阀杆密封 4



2 seats 8
2 body seats 14
1 gland-packing 6
(2 parts = size 3/8" to 2"
or 3 parts = Size 2"1/2 to 6")
1 stem thrust seat 4

PS4

PS4尺寸1/4英寸到2英寸
PS4 DN 1/4" to DN 2"

/ Item / Valve type	04	06	08	14
PS4	20%PEEK PTFE	33%C+2%石墨 PTFE 33%C+2%Gr PTFE	TFM	PTFE
PZ4	20%PEEK PTFE	33%C+2%石墨 PTFE 33%C+2%Gr PTFE	20%PEEK PTFE	PTFE
PP4	20%PEEK PTFE	33%C+2%石墨 PTFE 33%C+2%Gr PTFE	PEEK	PTFE
PN4	20%PEEK PTFE	33%C+2%石墨 PTFE 33%C+2%Gr PTFE	TFM	PTFE
PH4	U.H.M.W.P.E	33%C+2%石墨 PTFE 33%C+2%Gr PTFE	U.H.M.W.P.E	U.H.M.W.P.E
PY4	20%PEEK PTFE	33%C+2%石墨 PTFE 33%C+2%Gr PTFE	PTFE + 碳 PTFE+Carbon	PTFE
PJ4	20%PEEK PTFE	氟素硅胶 Fluorosilicone	TFM	氟素硅胶 Fluorosilicone

PS4尺寸2-1/2英寸到6英寸
PS4 DN 2"1/2 to DN 6"

编号 / Item 阀门型号 / Valve type	04	06	08	14
PS4	20%PEEK PTFE	PTFE	PTFE	PTFE
PZ4	20%PEEK PTFE	PTFE	20%PEEK PTFE	PTFE
PP4	20%PEEK PTFE	PTFE	PEEK	PTFE
PN4	20%PEEK PTFE	PTFE	PTFE	PTFE
PH4	U.H.M.W.P.E	PTFE 33%C+2%Gr 33%C+2%Gr PTFE	U.H.M.W.P.E	U.H.M.W.P.E
PY4	20%PEEK PTFE	PTFE	PTFE + 碳 PTFE+Carbon	PTFE
PJ4	20%PEEK PTFE	氟素硅胶 Fluorosilicone	PTFE	氟素硅胶 Fluorosilicone

3片式球阀 14 3-piece ball valves

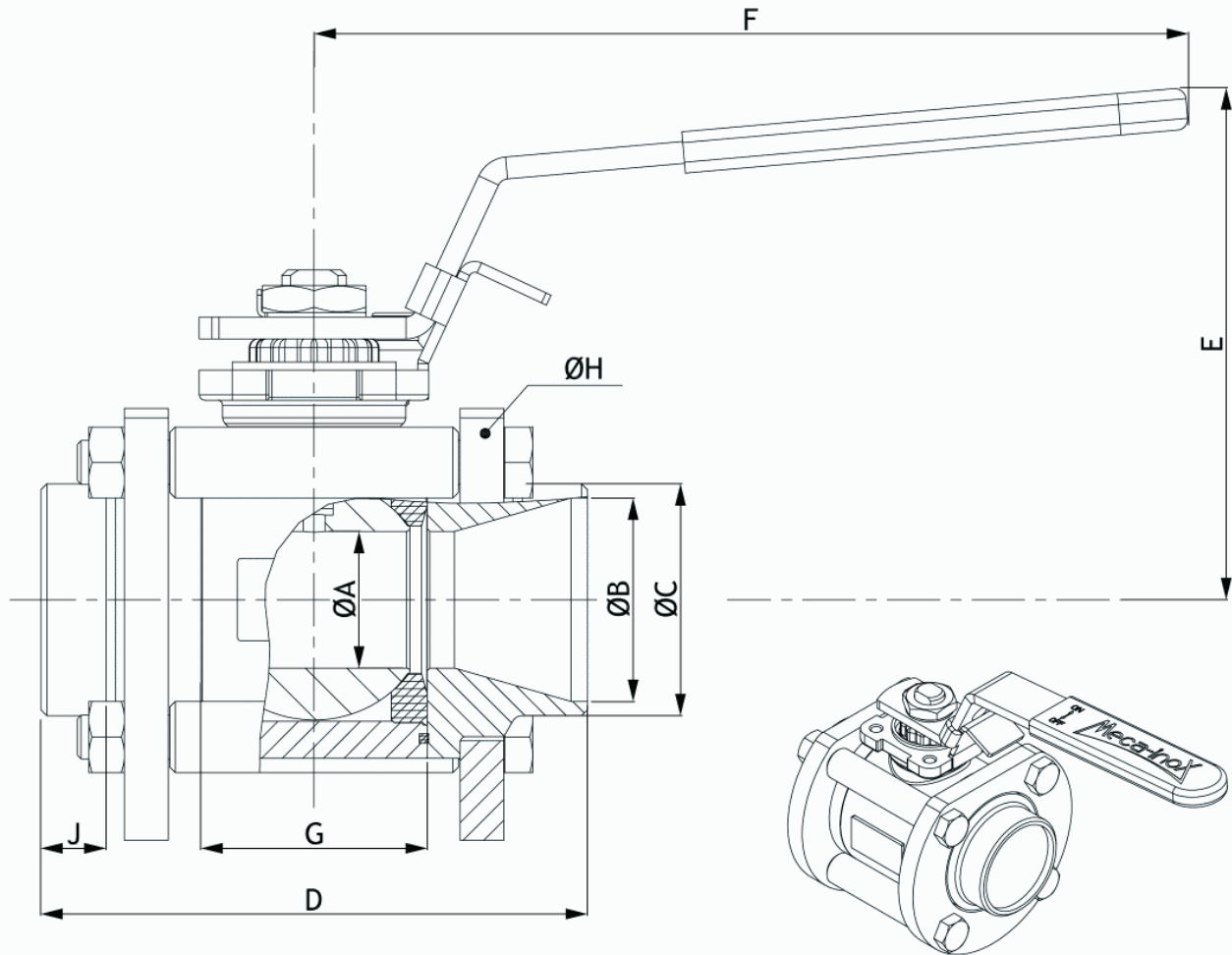
PS4 BW

对焊

尺寸1/2英寸到2-1/2英寸
缩径
ISO管道

Butt Weld

Size 1/2" to 2-1/2"
Reduced bore
ISO pipe



缩径

V

Reduced bore

尺寸 Size	PN	ØA	ØB		ØC	D	E	F	G	ØH	J	ISO 5211	重量 (公斤) Weight (Kg)
			不锈钢 S.Steel	碳钢 C.Steel									
15 1/2"	100	11,1	17,3	15,5	21,3	65	68	118	20,4	56	8,5	F03	0,650
20 3/4"	100	14	22,9	20,5	26,9	70	73	118	24,4	63	8,8	F03	0,800
25 1"	100	19	29,7	27,5	33,7	85	88	158	31,6	80	91	F04	1,610
32 1-1/4"	70	25	37,2	34,4	42,4	100	92	158	41,4	88	11,9	F04	2,100
40 1-1/2"	70	32	43,1	40,3	48,3	110	109	188	48,2	104	10,9	F05	3,120
50 2"	50	38	54,5	52,3	60,3	125	114	188	56,2	117	14,1	F05	4,300
65 2-1/2"	50	50	70,3	66,1	76,1	150	137	225	71	148	13,2	F07	8,590

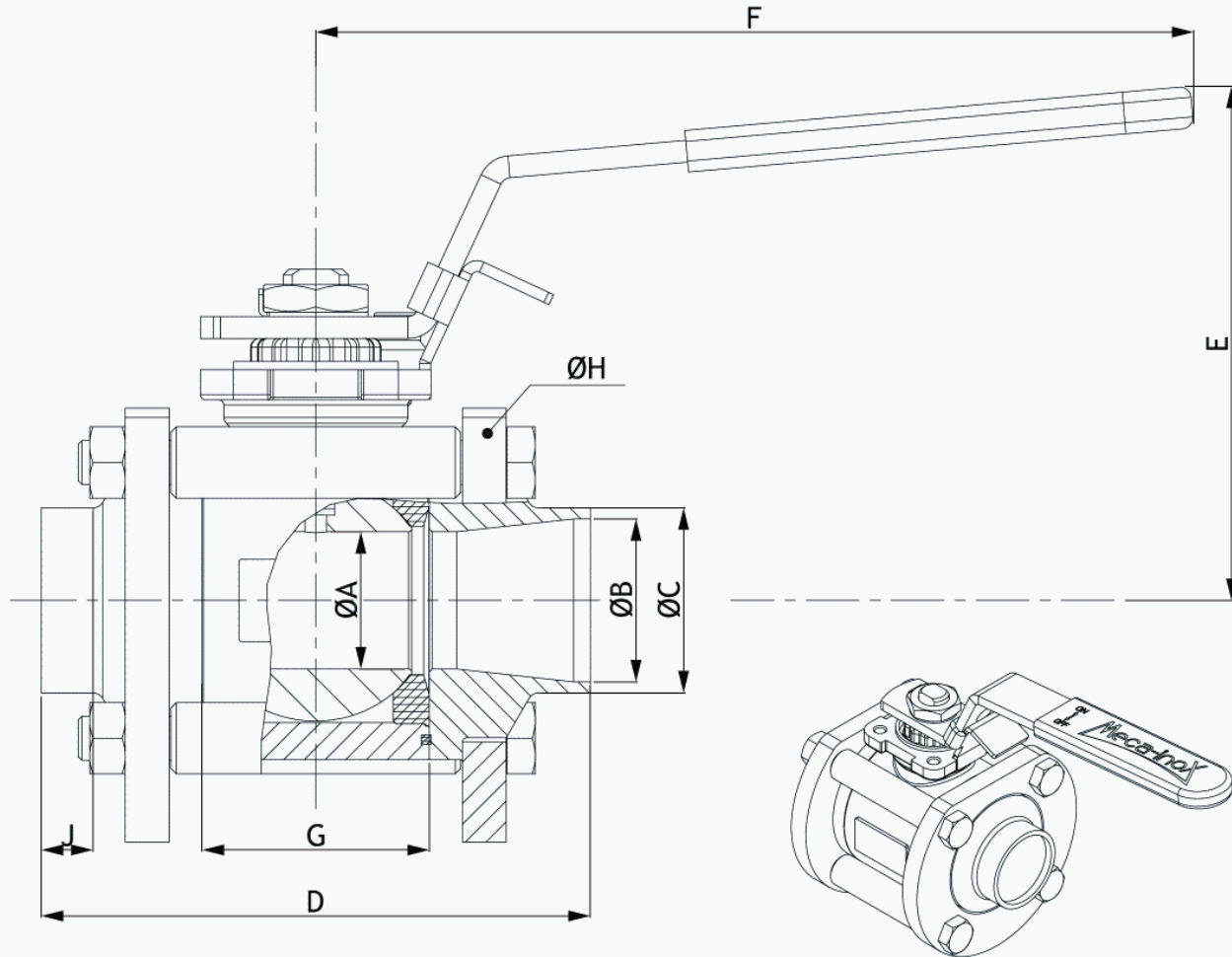
PS4 BW

对焊

尺寸1/4英寸到2英寸
 口径
 ISO管道

Butt Weld

Size 1/4" to 2"
 Full bore
 ISO pipe



口径

N

Full bore

尺寸 Size	PN	ØA	ØB		ØC	D	E	F	G	ØH	J	ISO 5211	重量 (公斤) Weight (Kg)
			不锈钢 S.Steel	碳钢 C.Steel									
08 1/4"	100	11,1	9,5	8,9	13,5	65	68	118	20,4	56	6,4	F03	0,640
12 3/8"	100	11,1	13,2	12,6	17,2	65	68	118	20,4	56	7,3	F03	0,640
15 1/2"	100	14	17,3	15,5	21,3	70	73	118	24,4	63	7,3	F03	0,800
20 3/4"	100	19	22,9	20,5	26,9	85	88	158	31,6	80	7,2	F04	1,610
25 1"	70	25	29,7	27,3	33,7	100	92	158	41,4	88	9,4	F04	2,080
32 1 1/4"	70	32	37,2	34,4	42,4	110	109	188	48,2	104	9,2	F05	3,310
40 1 1/2"	50	38	43,1	40,3	48,3	125	114	188	56,2	117	10,7	F05	4,270
50 2"	50	50	54,5	52,3	60,3	150	137	225	71	148	8,6	F07	8,690

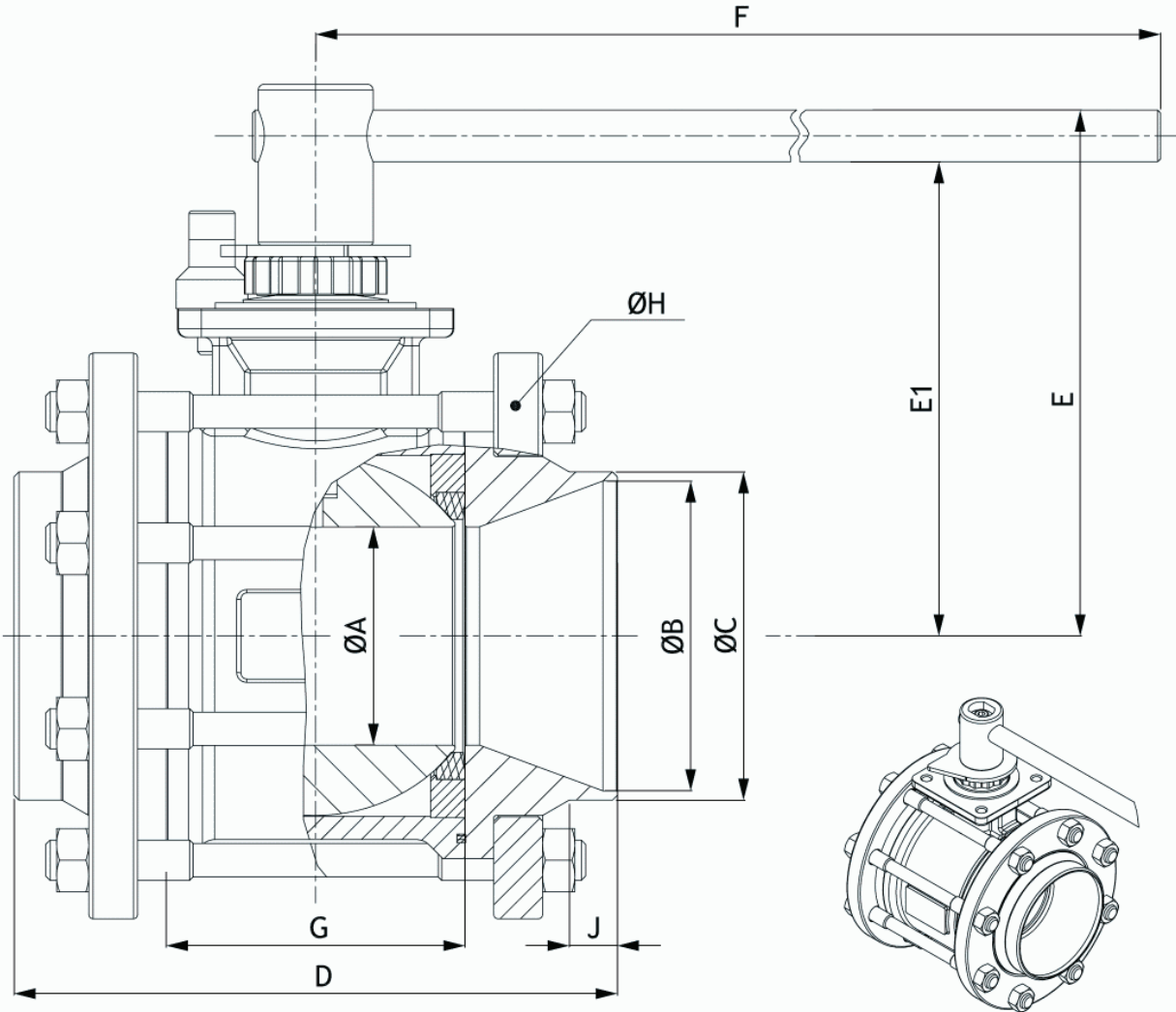
PS4 BW

对焊

尺寸3英寸到8英寸
缩径
ISO管道

Butt Weld

Size 3" to 8"
Reduced bore
ISO pipe



缩径

V

Reduced bore

尺寸 Size	PN	ØA	ØB		ØC	D	E	E1	F	G	ØH	J	ISO 5211	重量 (公斤) Weight (Kg)	
			不锈钢 S.Steel	碳钢 C.Steel											
80	3"	40	64	83,1	78,9	88,9	180	171	153	370	84	174	12,8	F07	14,840
100	4"	40	76	107,9	101,7	114	210	182	165	440	104	197	16,4	F10	22,310
125	5"	25	100	133,7	131,7	140	230	204	184	505	130	236	12,9	F10	33,980
150	6"	25	125	162,3	159,3	168	260	248	221	710	155	288	11,6	F12	57,940
200	8"	16	150	211,5	207,9	219	290	270	243	710	183	324	12,1	F12	78,900

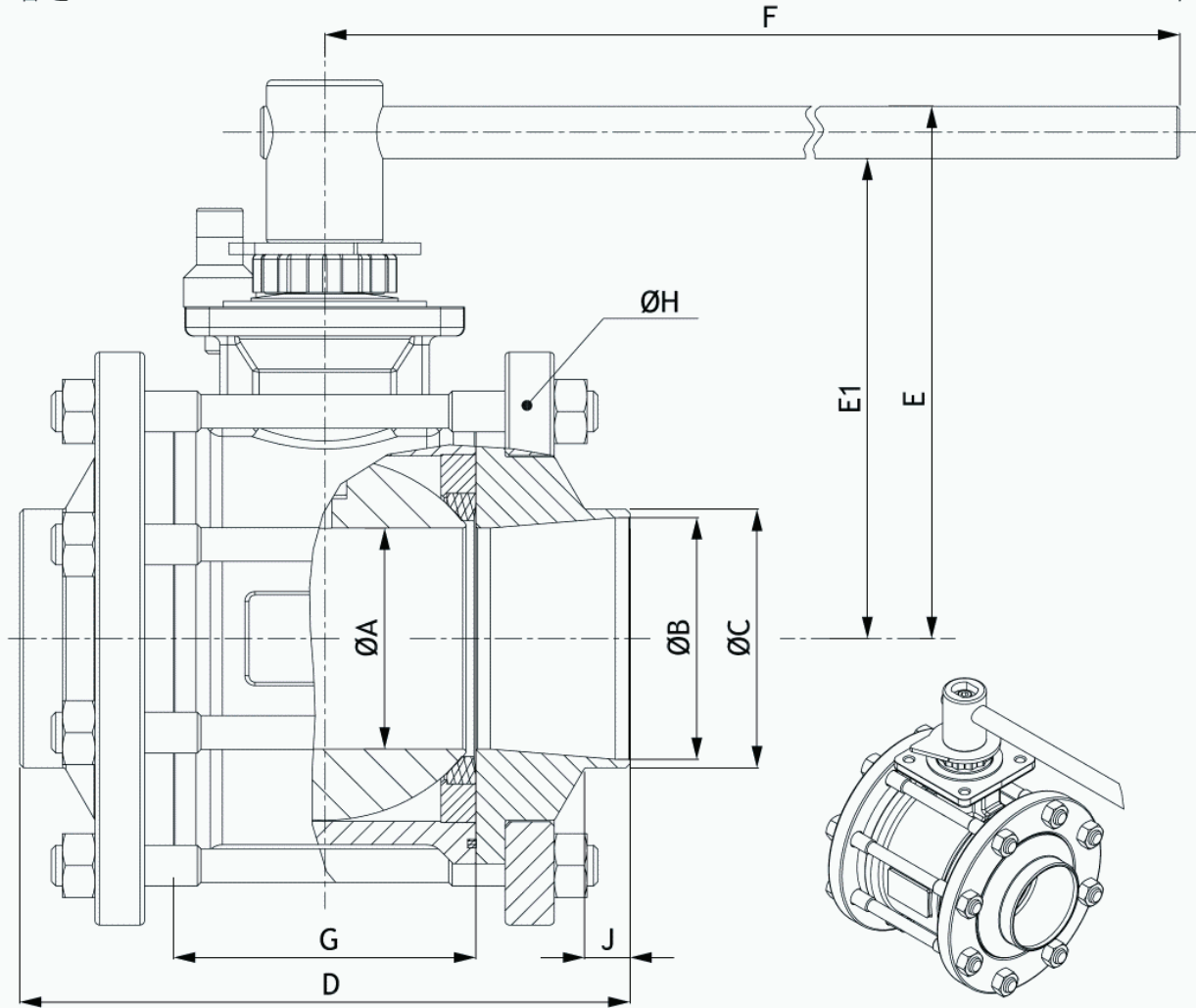
PS4 BW

对焊

尺寸2-1/2英寸到6英寸
 口径
 ISO管道

Butt Weld

Size 2"1/2 to 6"
 Full bore
 ISO pipe



口径

N

Full bore

尺寸 Size	PN	ØA	ØB		ØC	D	E	E1	F	G	ØH	J	ISO 5211	重量 (公斤) Weight (Kg)	
			不锈钢 S.Steel	碳钢 C.Steel											
65	2"1/2	40	64	70,3	66,3	76,1	180	171	153	370	84	174	14,4	F07	14,800
80	3"	40	76	83,1	78,9	88,9	210	182	165	440	104	197	14,9	F10	22,510
100	4"	25	100	107,9	101,7	114	230	204	184	505	130	236	12,7	F10	34,360
125	5"	25	125	133,7	131,7	140	260	248	221	710	155	288	12,6	F12	58,430
150	6"	16	150	162,3	159,3	168	290	270	243	710	183	324	10,9	F12	80,860

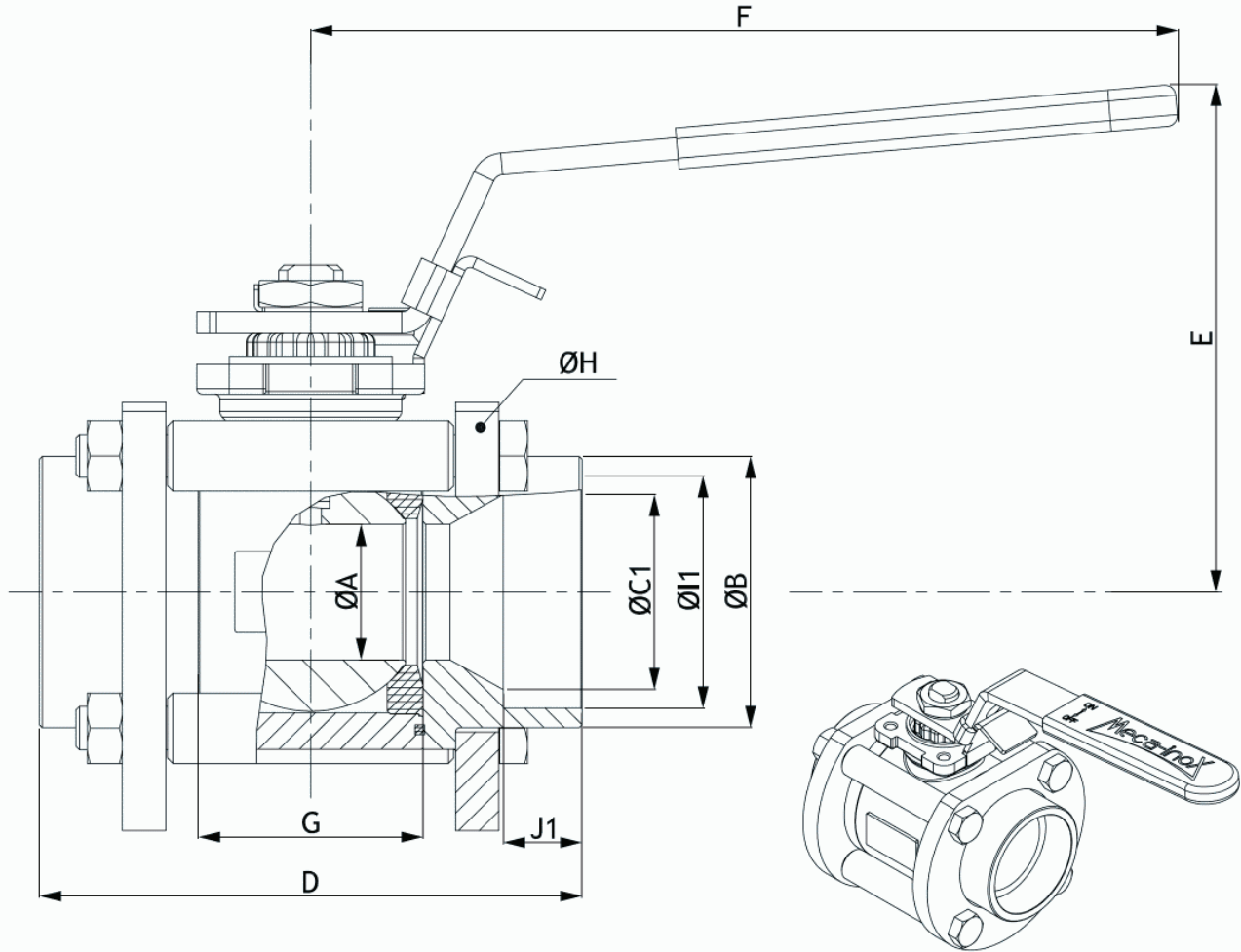
PS4 SW

承插焊

尺寸1/2英寸到2-1/2英寸
缩径

Socket Weld

Size 1/2" to 2"1/2"
Reduced bore



缩径

V

Reduced bore

尺寸 Size	PN	ØA	ØB	ØC1	D	E	F	G	ØH	ØI1	J1	ISO 5211	重量 (公斤) Weight (Kg)
15 1/2"	100	11,1	27,0	16,1	65	68	118	20,4	56	21,9	10,5	F03	0,650
20 3/4"	100	14	33,0	21,7	70	73	118	24,4	63	27,3	13,5	F03	0,810
25 1"	100	19	42,0	27,3	85	88	158	31,6	80	34,0	13,5	F04	1,610
32 1"1/4"	70	25	50,0	36,0	100	92	158	41,4	88	42,8	14,5	F04	2,080
40 1"1/2"	70	32	56,0	41,9	110	109	188	48,2	104	48,9	16,0	F05	3,270
50 2"	50	38	69,0	53,1	125	114	188	56,2	117	61,3	17,5	F05	4,220
65 2"1/2"	50	50	85,0	68,9	150	137	225	71	148	77,1	19,0	F07	8,380

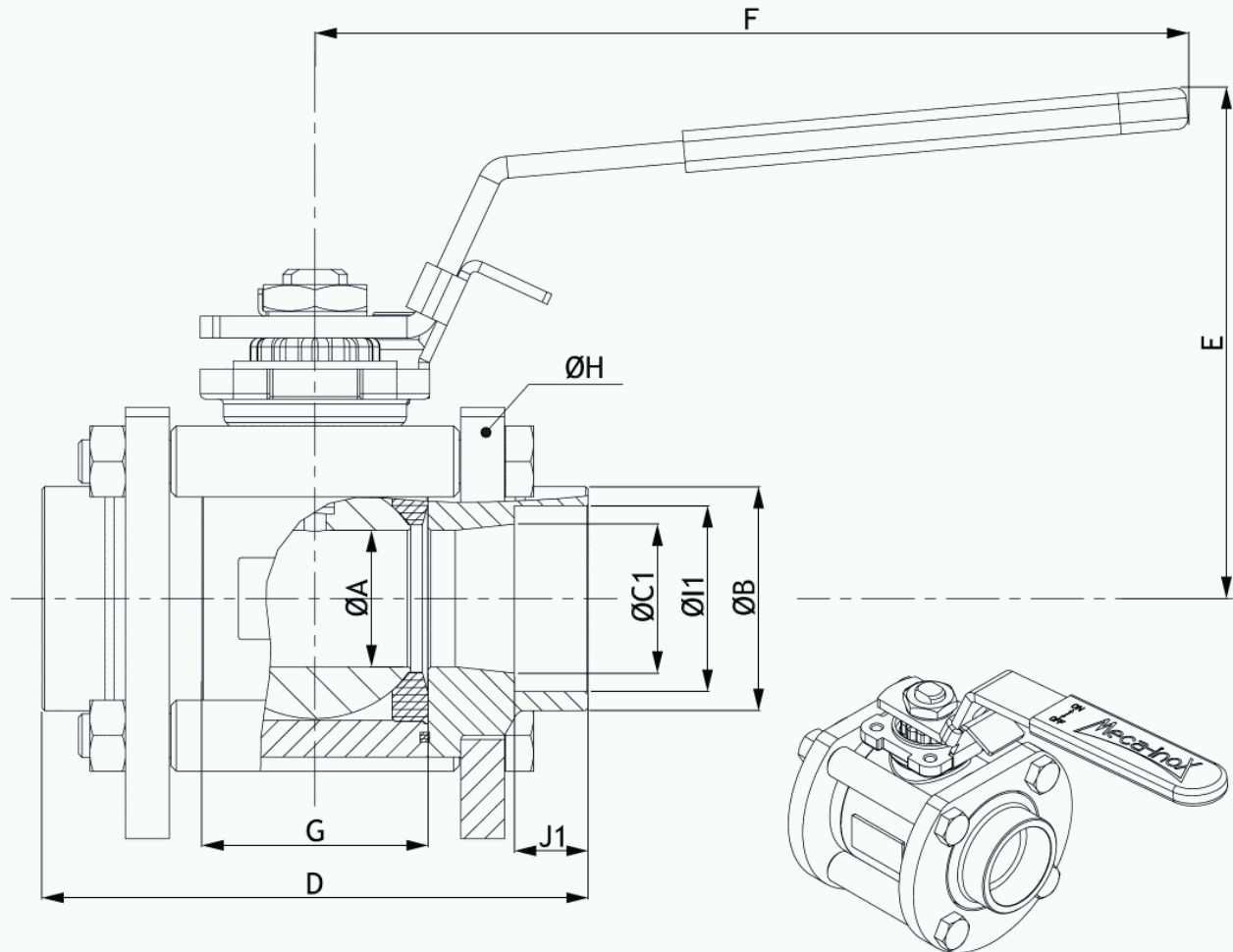
PS4 SW

承插焊

Socket Weld

尺寸1/4英寸到2英寸
 口径

Size 1/4" to 2"
 Full bore



口径

N

Full bore

尺寸 Size	PN	ØA	ØB	ØC1	D	E	F	G	ØH	ØI1	J1	ISO 5211	重量 (公斤) Weight (Kg)
08 1/4"	100	11,1	19,6	11,1	65	68	118	20,4	56	14,3	10,5	F03	0,650
12 3/8"	100	11,1	24,0	12,6	65	68	118	20,4	56	17,8	10,5	F03	0,650
15 1/2"	100	14	29,0	16,1	70	73	118	24,4	63	21,9	10,5	F03	0,810
20 3/4"	100	19	34,3	21,7	85	88	158	31,6	80	27,3	13,5	F04	1,610
25 1"	70	25	41,0	27,3	100	92	158	41,4	88	34,0	13,5	F04	2,110
32 1 1/4"	70	32	49,8	36,0	110	109	188	48,2	104	42,8	14,5	F05	3,320
40 1 1/2"	50	38	55,9	41,9	125	114	188	56,2	117	48,9	16,0	F05	4,270
50 2"	50	50	69,2	53,1	150	137	225	71	148	61,3	17,5	F07	8,640

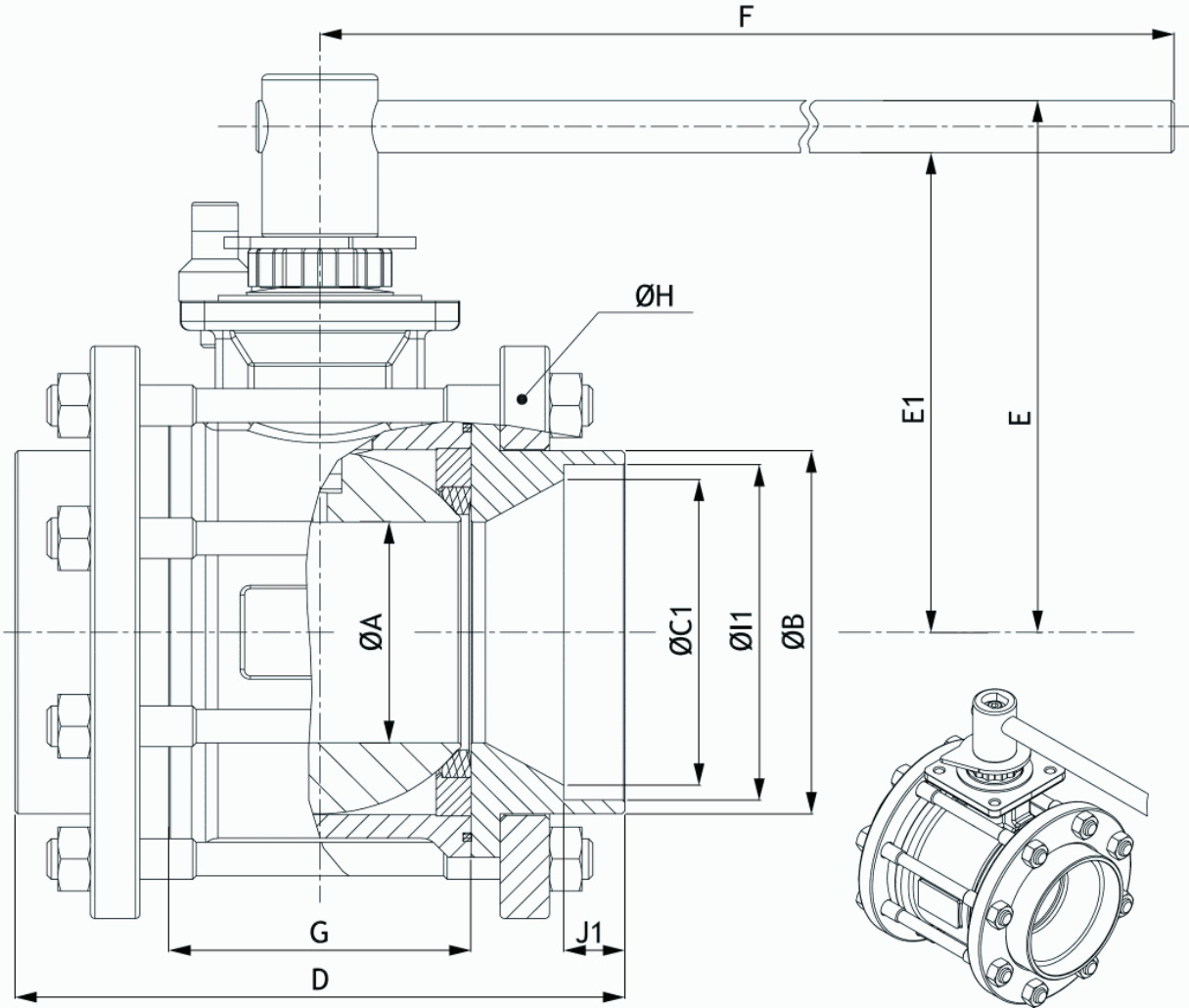
PS4 SW

承插焊

尺寸3英寸到8英寸
缩径

Socket Weld

Size 3" to 8"
Reduced bore



缩径

V

Reduced bore

尺寸 Size	PN	ØA	ØB	ØC1	D	E	E1	F	G	ØH	ØI1	J1	ISO 5211	重量 (公斤) Weight (Kg)	
80	3"	40	64	101	81	180	171	153	370	84	174	89,9	21	F07	14,700
100	4"	40	76	125	105,3	210	182	165	440	104	197	115,5	21	F10	22,010
125	5"	25	100	148,5	135	230	204	184	505	130	236	141,3	24	F10	32,820
150	6"	25	125	177,5	164	260	248	221	710	155	288	170,3	24	F12	56,140
200	8"	16	150	229	214	290	270	243	710	183	324	221,8	30	F12	74,290

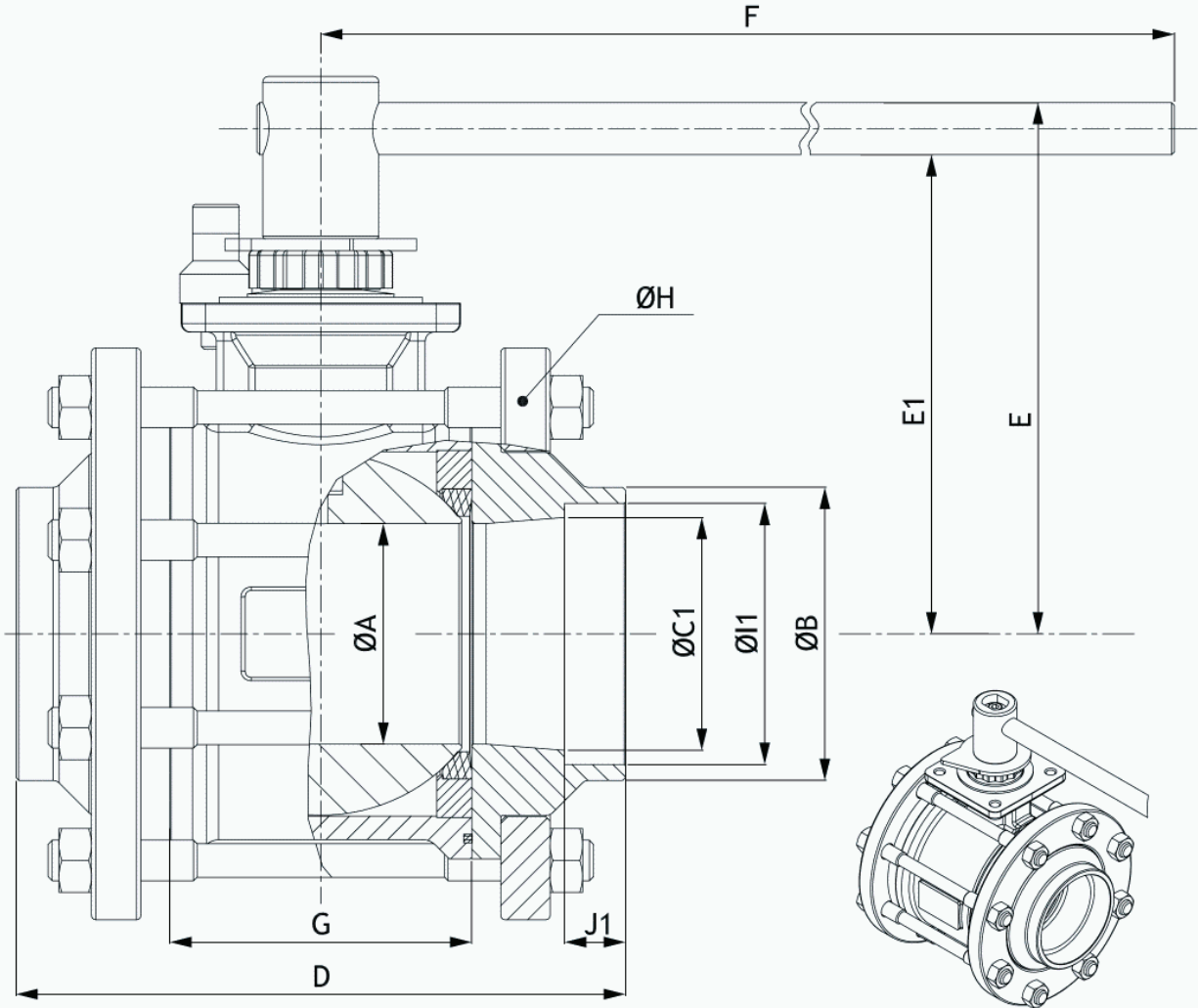
PS4 SW

承插焊

尺寸2-1/2英寸到6英寸
 口径

Socket Weld

Size 2"1/2 to 6"
 Full bore



口径

N

Full bore

尺寸 Size	PN	ØA	ØB	ØC1	D	E	E1	F	G	ØH	ØI1	J1	ISO 5211	重量 (公斤) Weight (Kg)	
65	2"1/2	40	64	87	69	180	171	153	370	84	174	76,8	19	F07	14,890
80	3"	40	76	101	81	210	182	165	440	104	197	89,9	21	F10	22,750
100	4"	25	100	127,5	105,3	230	204	184	505	130	236	115,5	21	F10	34,35
125	5"	25	125	148,5	135	260	248	221	710	155	288	141,3	24	F12	57,120
150	6"	16	150	177,5	164	290	270	243	710	183	324	170,3	24	F12	80,040

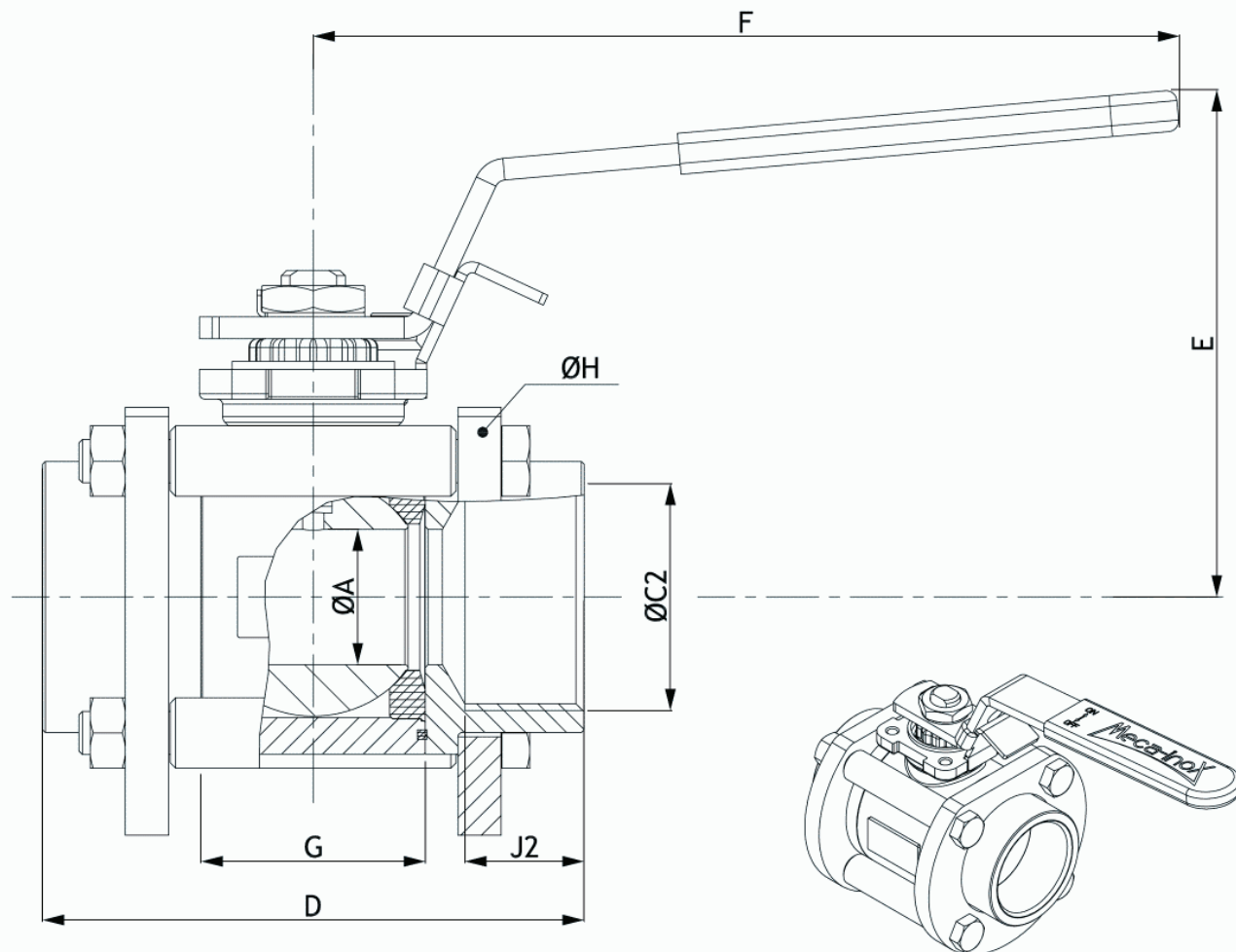
PS4 TG (BSP) / PS4 TB (NPT)

BSP和NPT螺纹连接

尺寸1/2英寸到2-1/2英寸
缩径

BSP & NPT thread

Size 1/2" to 2"1/2"
Reduced bore



缩径

V

Reduced bore

尺寸 Size		PN	ΔA	$\Delta C2$		D	E	F	G	ΔH	J2	ISO 5211	重量 (公斤) Weight (Kg)
				BSP "P"	NPT								
15	1/2"	100	11,1	1/2"	1/2"	65	68	118	20,4	56	16	F03	0,640
20	3/4"	100	14	3/4"	3/4"	70	73	118	24,4	63	16	F03	0,800
25	1"	100	19	1"	1"	85	88	158	31,6	80	20	F04	1,600
32	1"1/4	70	25	1"1/4	1"1/4	100	92	158	41,4	88	22	F04	2,050
40	1"1/2	70	32	1"1/2	1"1/2	110	109	188	48,2	104	22	F05	3,270
50	2"	50	38	2"	2"	125	114	188	56,2	117	25	F05	4,160
65	2"1/2	50	50	2"1/2	2"1/2	150	137	225	71	148	30	F07	7,730

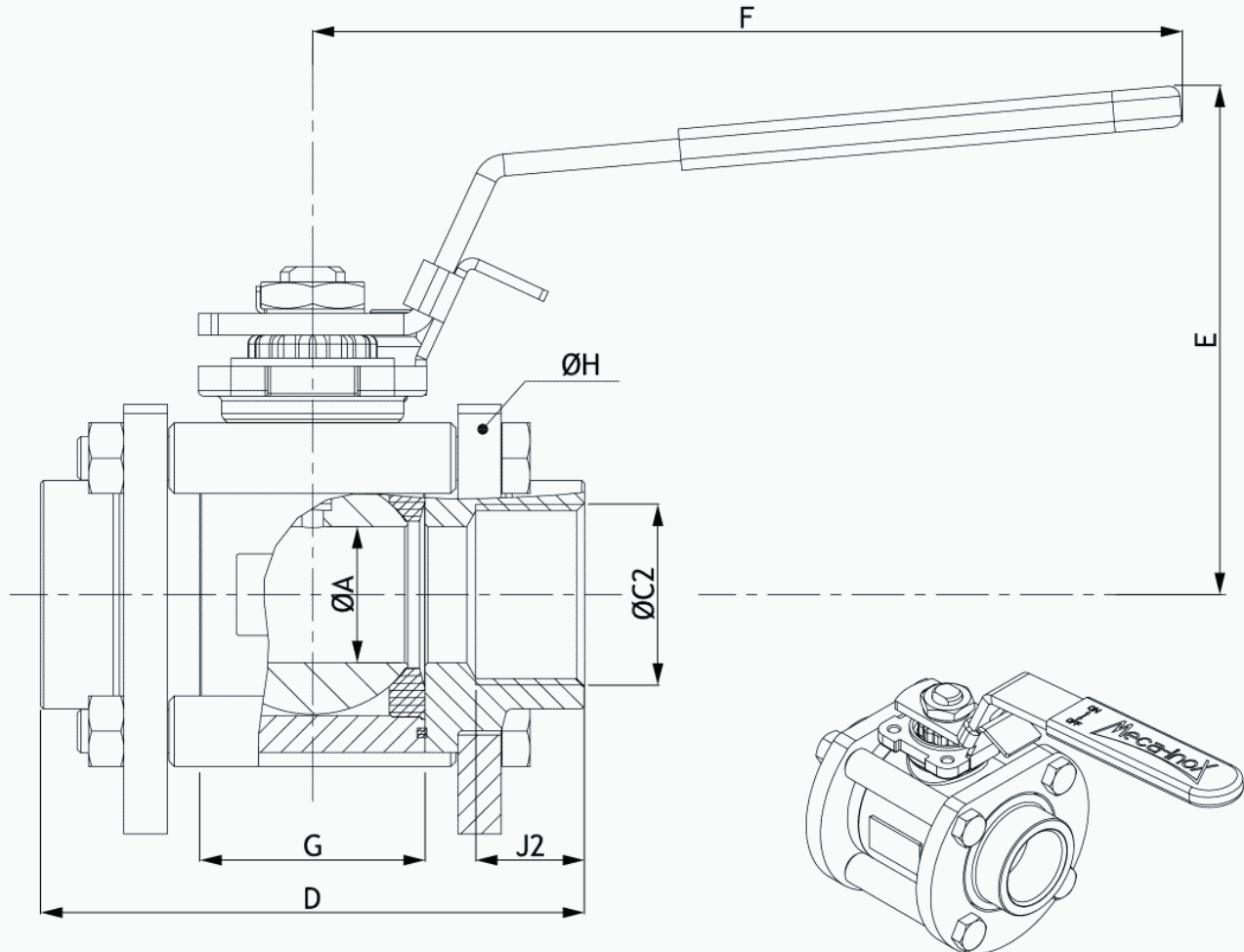
PS4 TG (BSP) / PS4 TB (NPT)

BSP和NPT螺纹连接

BSP & NPT thread

尺寸1/4英寸到2英寸
 口径

Size 1/4" to 2"
 Full bore



口径

N

Full bore

尺寸 Size	PN	ØA	ØC2		D	E	F	G	ØH	J2	ISO 5211	Weight (Kg)	
			BSP "P"	NPT									
08	1/4"	100	11,1	1/4"	1/4"	65	68	118	20,4	56	12	F03	0,700
12	3/8"	100	11,1	3/8"	3/8"	65	68	118	20,4	56	12	F03	0,680
15	1/2"	100	14	1/2"	1/2"	70	73	118	24,4	63	16	F03	0,980
20	3/4"	100	19	3/4"	3/4"	85	88	158	31,6	80	16	F04	1,690
25	1"	70	25	1"	1"	100	92	158	41,4	88	20	F04	2,120
32	1"1/4"	70	32	1"1/4"	1"1/4"	110	109	188	48,2	104	22	F05	3,320
40	1"1/2"	50	38	1"1/2"	1"1/2"	125	114	188	56,2	117	22	F05	4,380
50	2"	50	50	2"	2"	150	137	225	71	148	25	F07	8,840

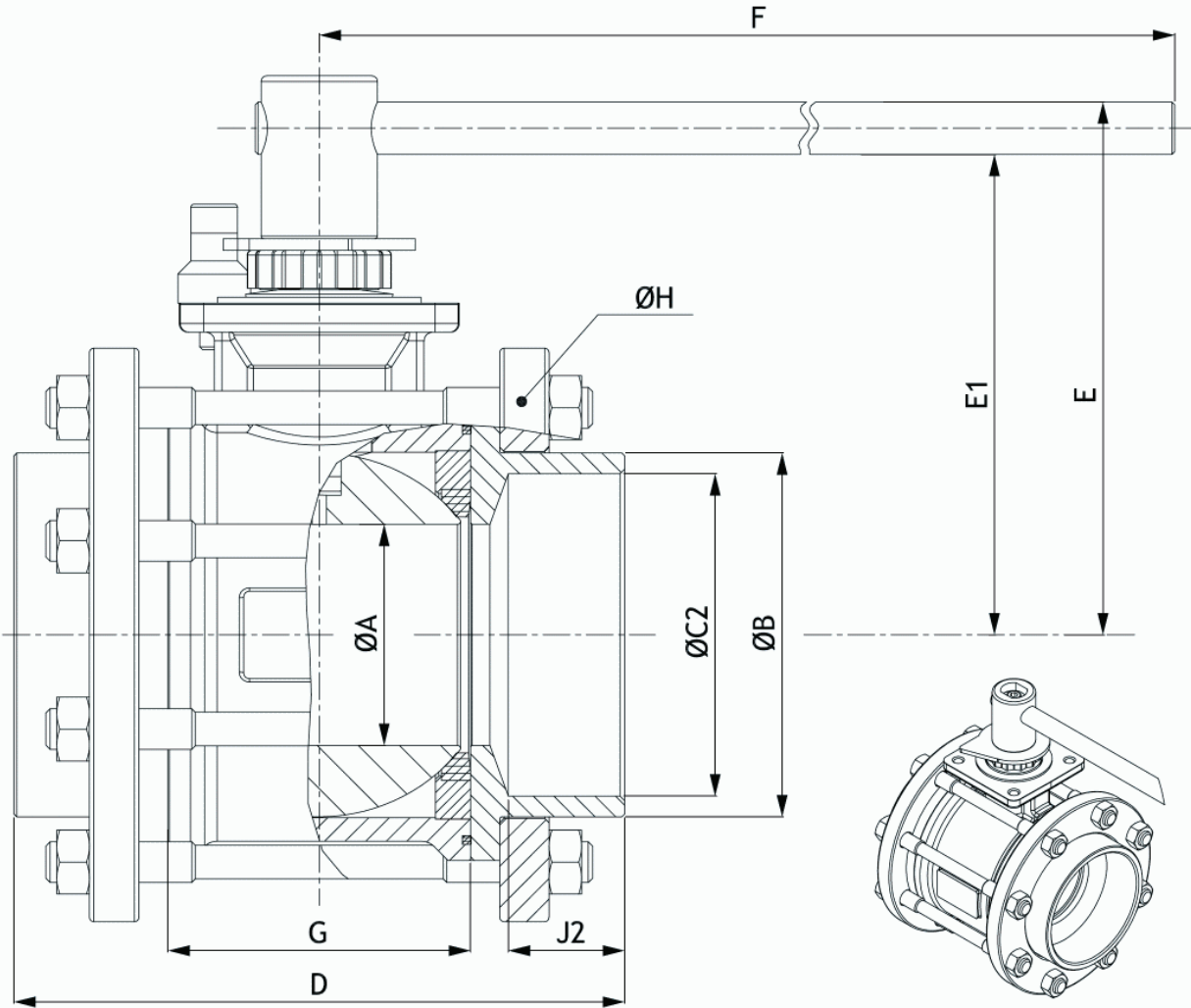
PS4 TG (BSP) / PS4 TB (NPT)

BSP和NPT螺纹连接

BSP & NPT thread

尺寸3英寸到4英寸
缩径

Size 3" to 4"
Reduced bore



缩径

V

Reduced bore

尺寸 Size	PN	ØA	ØB	ØC2		D	E	E1	F	G	ØH	J2	ISO 5211	重量 (公斤) Weight (Kg)	
				BSP "P"	NPT										
80	3"	40	64	107	3"	3"	180	171	153	370	84	174	34	F07	14,940
100	4"	40	76	125	4"	4"	210	182	165	440	104	197	40	F10	21,590

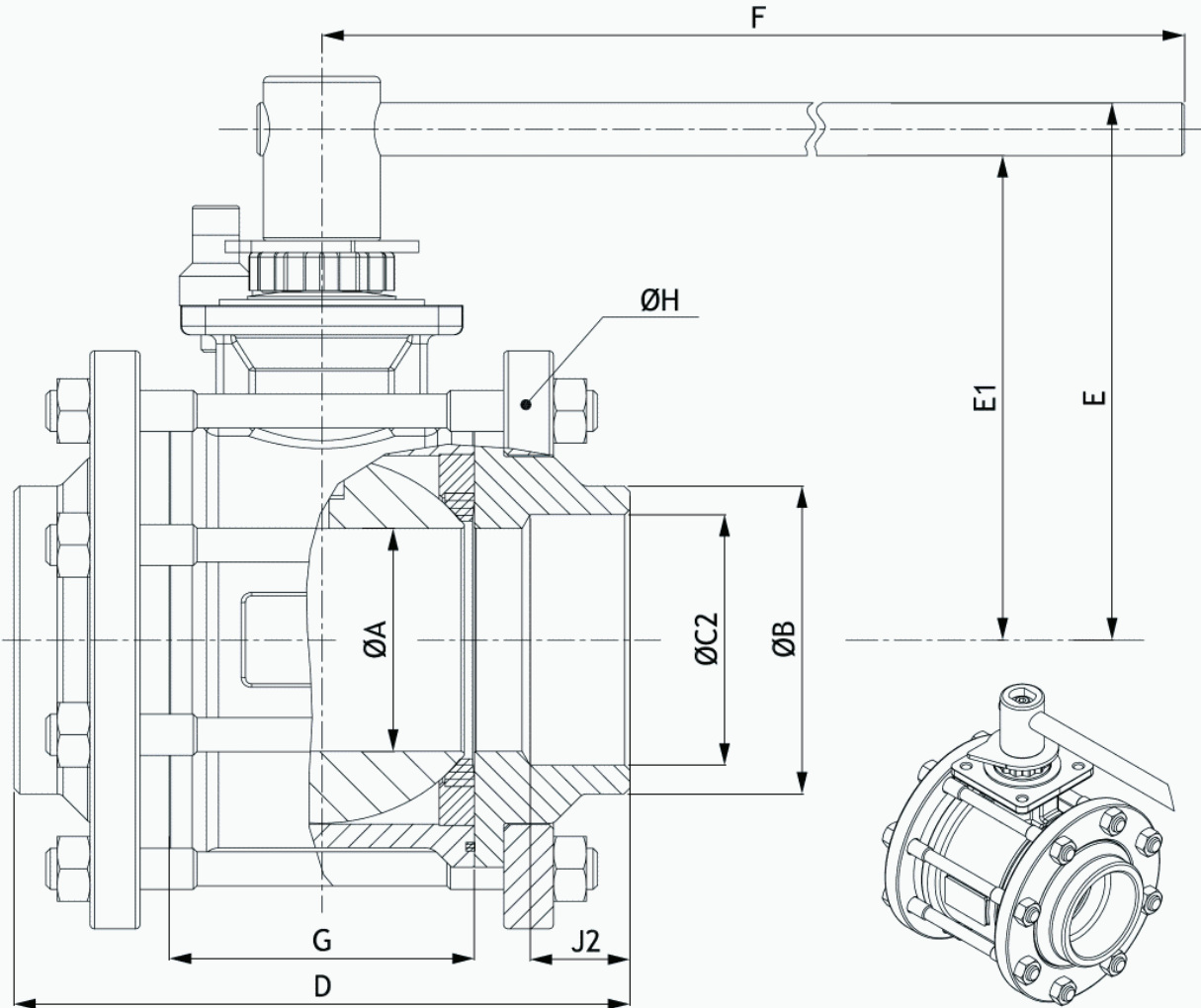
PS4 TG (BSP) / PS4 TB (NPT)

BSP和NPT螺纹连接

尺寸2-1/2英寸到4英寸
 口径

BSP & NPT thread

Size 2"1/2 to 4"
 Full bore



口径

N

Full bore

尺寸 Size	PN	ØA	ØB	ØC2		D	E	E1	F	G	ØH	J2	ISO 5211	重量 (公斤) Weight (Kg)	
				BSP "P"	NPT										
65	2"1/2	40	64	85	2"1/2	2"1/2	180	171	153	370	84	174	31	F07	15,000
80	3"	40	76	105	3"	3"	210	182	165	440	104	197	34	F10	22,950
100	4"	25	100	130	4"	4"	230	204	184	505	130	236	40	F10	34,740

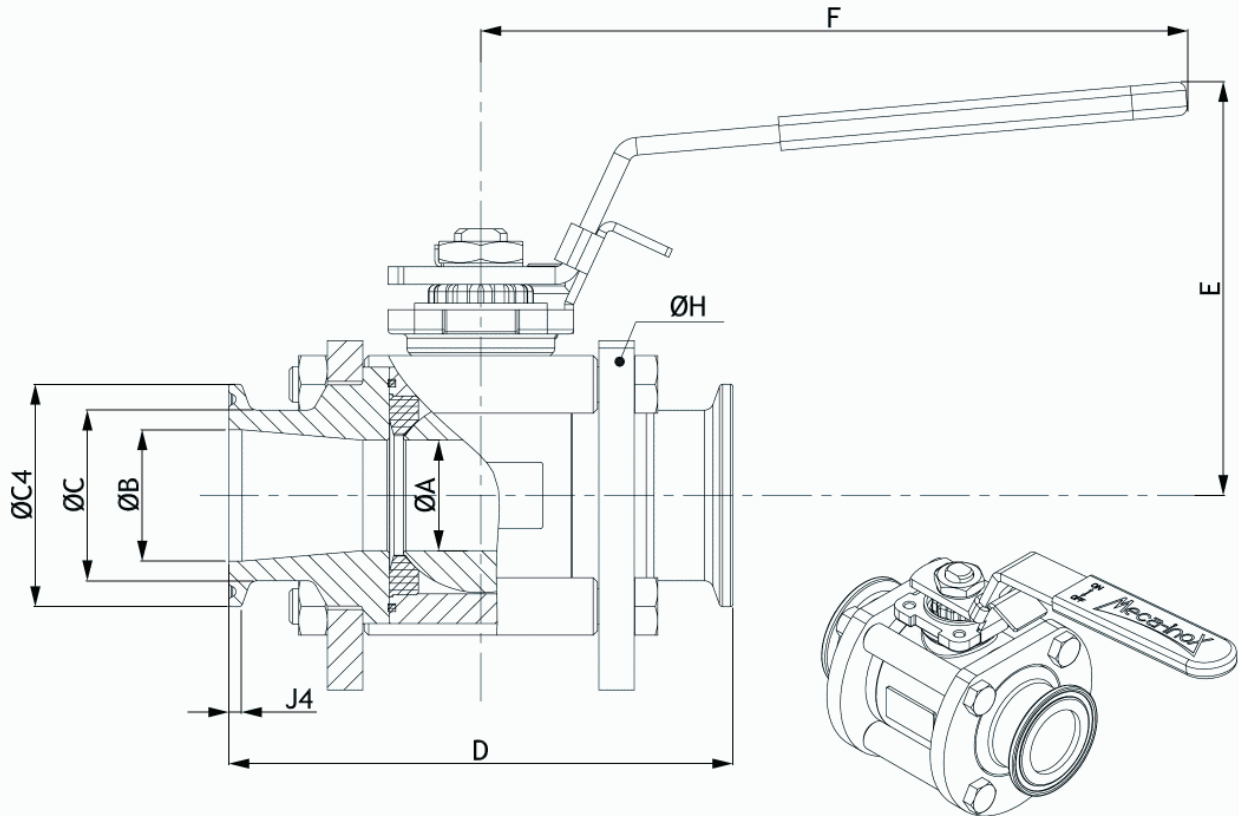
PS4 CL

卡箍式端子连接

Triclamp ends

尺寸: 1/4英寸到2英寸
 通径

Size 1/4" to 2"
 Full bore



标准:
 端子+阀球=Ra 0.8µm

Standard:
 ends + ball = Ra 0.8 µm

尺寸 Size		PN	ØA	D	E	F	ØB	ØC	ØC4	J4
10	1/4"	100	11,1	89	68	118	客户定制: /on request: 执行的尺寸标准: following dimensions standards: ISO / DIN / BSOD / SMS / MICRO-CLAMP			
15	1/2"	100	14	101	73	118				
20	3/4"	100	19	114	88	158				
25	1"	70	25	114	92	158				
32	1"1/4"	70	32	139	109	188				
40	1"1/2"	50	38	159	114	188				
50	2"	50	50	164	137	225				

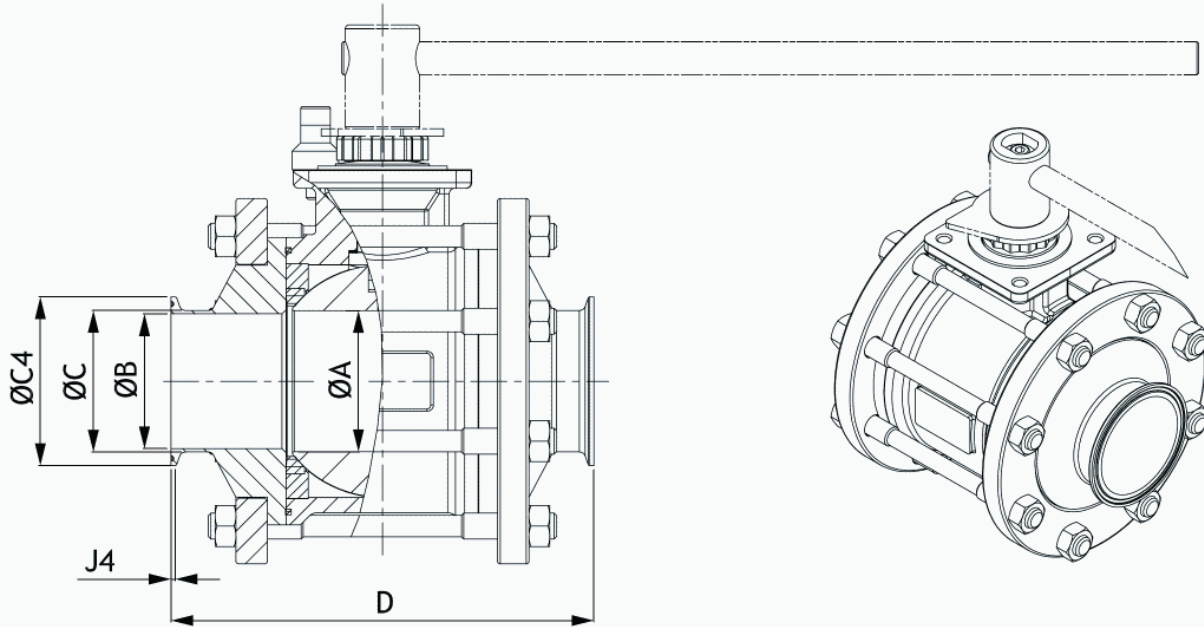
PS4 CL

卡箍式端子连接

尺寸：2-1/2英寸到6英寸
 口径

Triclamp ends

Size 2"1/2 to 6"
 Full bore



标准：
 端子+阀球=Ra 0.8µm

Standard:
 ends + ball = Ra 0,8 µm

口径

Full bore

尺寸 Size	PN	ØA	D	ØB	ØC	ØC4	J4
65	2"1/2	40	64	202	客户定制: /on request: 执行的尺寸标准: following dimensions standards: ISO / DIN / BSOD / SMS / MICRO-CLAMP		
80	3"	40	76	228			
100	4"	25	100	256			
125	5"	25	125	303			
150	6"	16	150	335			

PS4 BW / PS4 ORB

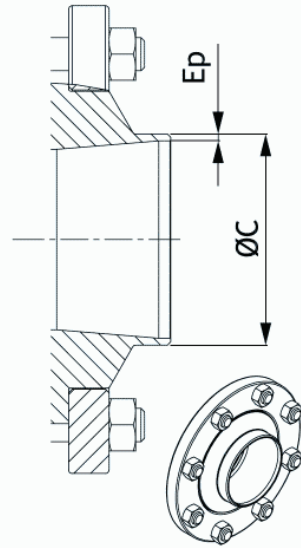
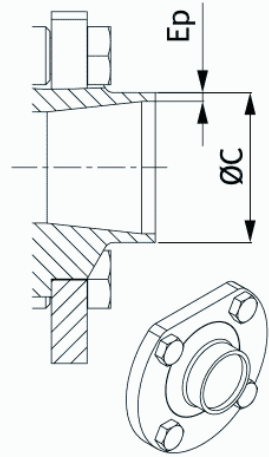
其他管道标准

Others pipe standards

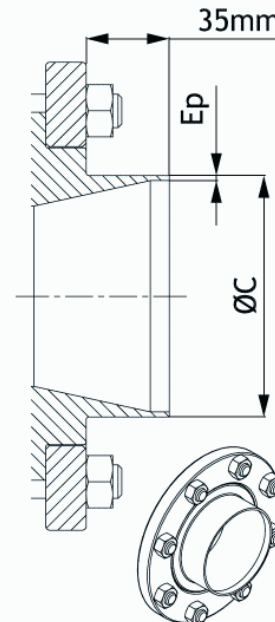
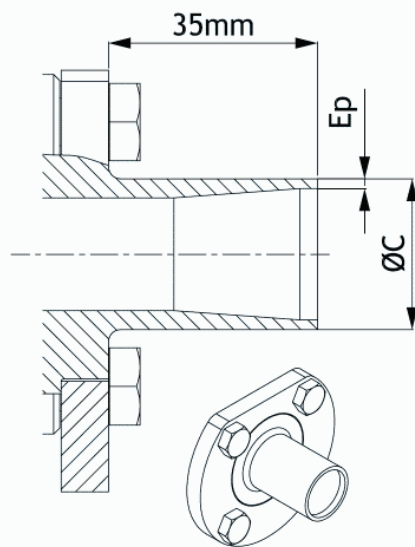
尺寸：1/4英寸到8英寸

Size 1/4" to 8"

PS4 BW



PS4 ORB



管道标准 Pipe standard	DN															
	8		12		15		20		25		32		40		50	
	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep
metric	10	1	12	1	18	1	23	1	28	1,5	34	2	44	2	54	2
SMS 3008	10	1	12	1	18	1	23	1	25	1,2	32	1,2	38	1,2	51	1,2
DIN 11850 R2	-	-	13	1,5	19	1,5	23	1,5	29	1,5	35	1,5	41	1,5	53	1,5
Schedule 10S	13,72	1,65	17,15	1,65	21,34	2,11	26,67	2,11	33,4	2,77	42,16	2,77	48,26	2,77	60,33	2,77
Schedule 40S	13,72	2,24	17,15	2,31	21,34	2,77	26,67	2,87	33,4	3,38	42,16	3,56	48,26	3,68	60,33	3,91
BSOD	6,35	1,65	9,52	1,65	12,7	1,65	19,05	1,65	25,4	1,65	31,75	1,65	38,1	1,65	50,8	1,65

管道标准 Pipe standard	DN											
	65		80		100		125		150		200	
	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep	Ø C	Ep
metric	68	1,5	83	1,5	104	2	129	2	154	2	204	2
SMS 3008	63,5	1,6	76,1	1,6	101,6	2	-	-	-	-	-	-
DIN 11850 R2	70	2	85	2	104	2	129	2	154	2	-	-
Schedule 10S	73,03	3,05	88,9	3,05	114,3	3,05	141,3	3,4	168,3	3,4	219,1	3,76
Schedule 40S	73,03	5,15	88,9	5,49	114,3	6,02	141,3	6,55	168,3	7,11	219,1	8,18
BSOD	63,5	1,65	76,2	1,65	101,6	2,1	-	-	-	-	-	-

例子:

Example:

PS4 L BW N I 025 (尺寸/ size)



阀座 Seats		阀体法兰 Body flange		连接 Connection		径 Bore		材质 Material	
PS4	PTFE	L	自由端子 Loose ends	BW	对焊 Butt Welding	V	缩径 Reduced bore	A	碳钢 Carbon steel
PZ4	20% PEEK PTFE	T	嵌入 Flush mounted	CL	卡箍式端子 Clamp ends	N	通径 Full bore	I	不锈钢 Stainless steel 316L
PP4	PEEK			DB	压缩式卡套接头 Compression fittings	T	全通径 True Bore	F	Low Ferrite <2%
PN4	纯PTFE Pure PTFE			FB	3/8" NPSM			U	Uranus B6 904L
PY4	深冷 Cryo special			FC	罐底焊接 Tank bottom			H	C22
PJ4	高温液体 Special thermal fluids			SW	承插焊 Socket Welding			J	不锈钢 Stainless steel 304L
PH4	PE Hostalen Gür UHMWPE			TB	NPT螺纹连接 NPT threaded				
				TG	BSP螺纹连接 BSP threaded				
				OR	轨道式自动焊接 Orbital welding				

客户定制:

- 混合连接方式
- 其他材质
- 特殊端子

Upon request:

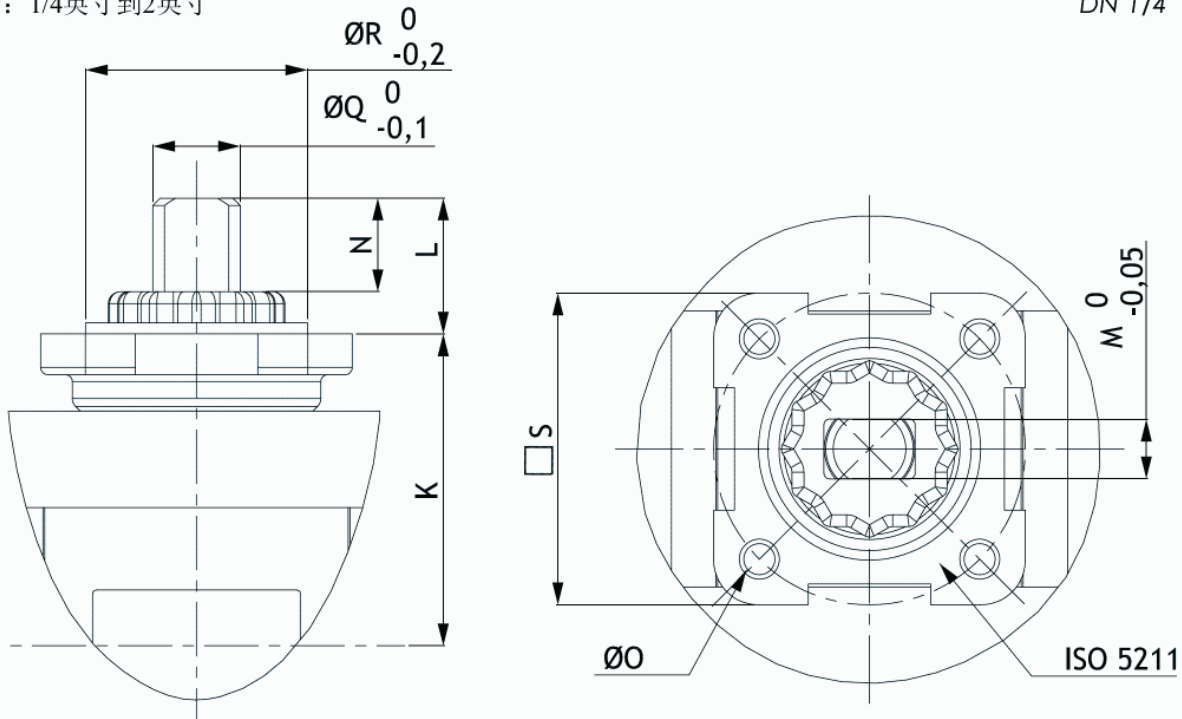
- Mix of connections
- other material
- specific ends

阀杆和平台尺寸

尺寸: 1/4英寸到2英寸

Stem & top flange dimensions

DN 1/4" to 2"



尺寸 Size		ISO 5211		K	L	M	N	ØO	ØQ	ØR	S	
通径 Full	缩径 Reduced					-0,05			-0,1	-0,2		
10	1/4"-3/8"	15	1/2"	F03	27,5	7	6	3,6	4xM5 / Ø36	9,8	25	36
15	1/2"	20	3/4"	F03	31	13,4	6	8,7	4xM5 / Ø36	9,8	25	36
20	3/4"	25	1"	F04	37,9	18,4	8	12,6	4xM5 / Ø42	11,8	29,95	42
25	1"	32	1"1/4	F04	42	18,4	8	12,6	4xM5 / Ø42	11,8	29,95	42
32	1"1/4	40	1"1/2	F05	54	24,2	11	16,2	4xM6 / Ø50	15,8	34,95	50
40	1"1/2	50	2"	F05	59	24,2	11	16,2	4xM6 / Ø50	15,8	34,95	50
50	2"	65	2"1/2	F07	73	29,6	12	19	4xM8 / Ø70	17,8	54,95	69

工作扭矩

Operating torques

DN	PS4: PTFE				PZ4: 20%PEEK PTFE				PP4: PEEK			
	扭矩 牛顿.米 / TORQUE N.m				扭矩 牛顿.米 / TORQUE N.m				扭矩 牛顿.米 / TORQUE N.m			
	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP	ΔP
	7 bar	16 bar	25 bar	MAX	7 bar	16 bar	25 bar	MAX	7 bar	16 bar	25 bar	MAX
10	4,4	4,4	4,4	5,5	4,4	4,4	4,4	5,5	12,1	15,4	17,6	20,9
15	7,7	7,7	7,7	13,2	7,7	7,7	7,7	13,2	12,1	15,4	17,6	25,3
20	14,3	19,8	19,8	31,9	14,3	19,8	19,8	31,9	16,5	20,9	23,1	52,8
25	16,5	19,8	19,8	31,9	16,5	19,8	19,8	31,9	19,8	25,3	31,9	66,0
32	25,3	25,3	33,0	71,5	28,6	28,6	35,2	71,5	30,8	40,7	59,4	105,6
40	36,3	36,3	42,9	93,5	38,5	38,5	48,4	93,5	42,9	63,8	93,5	145,2
50	42,9	55,0	66,0	114,4	46,2	55,0	66,0	143,0	51,7	74,8	110,0	187,0

安全系数: 1.43
不添加硅树脂或油脂
车间的环境条件

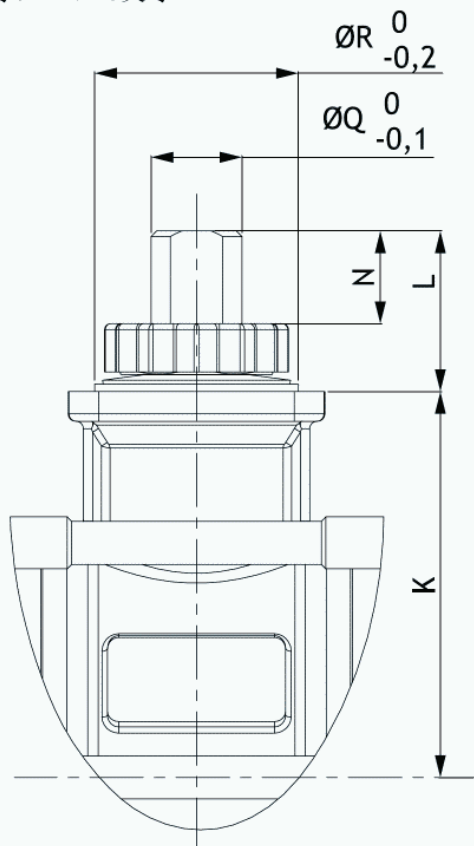
1,43 safety margin included
Without addition of silicone nor grease
Workshop ambient conditions

阀杆和平台尺寸

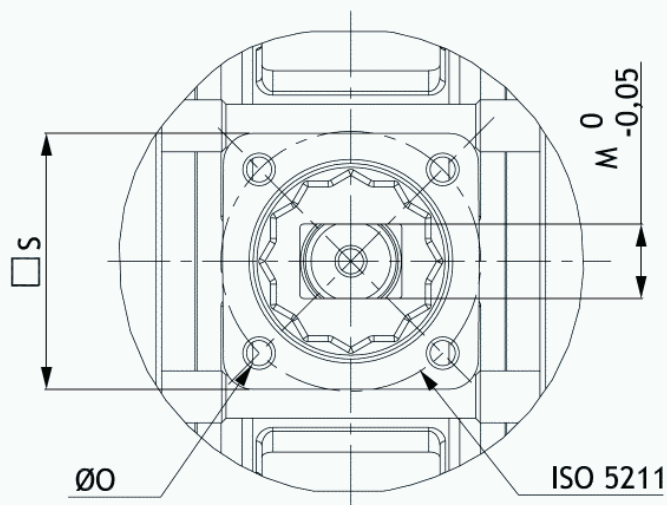
尺寸: 2-1/2-6英寸

Stem & top flange dimensions

DN 2"1/2 to 6"



PS4 尺寸 2-1/2-6英寸
PS4 DN 2"1/2 to DN 6"



尺寸 Size	通径 Full		缩径 Reduced		ISO 5211	K	L	M 0 -0,05	N	ØO	ØQ 0 -0,1	ØR 0 -0,2	S
	65	80	100	125									
2"1/2	80	100	125	150	F07	104	43,2	20	25	4xM8 / Ø70	24,5	54,9	69
3"	100	125	150	200	F10	114	43,2	20	25	4xM10 / Ø102	24,5	69,9	96
4"	125	150	200	250	F10	133	48,7	22	30	4xM10 / Ø102	29,3	69,9	96
5"	150	200	250	300	F12	161	58,2	24	32,5	4xM12 / Ø125	36,8	84,9	119
6"	200	250	300	350	F12	180	58,2	24	32,5	4xM12 / Ø125	36,8	84,9	119

工作扭矩

Operating torques

DN	PS4: PTFE				PZ4: 20%PEEK PTFE				PP4: PEEK			
	扭矩 牛顿.米 / TORQUE N.m				扭矩 牛顿.米 / TORQUE N.m				扭矩 牛顿.米 / TORQUE N.m			
	ΔP 7 bar	ΔP 16 bar	ΔP 25 bar	ΔP MAX	ΔP 7 bar	ΔP 16 bar	ΔP 25 bar	ΔP MAX	ΔP 7 bar	ΔP 16 bar	ΔP 25 bar	ΔP MAX
65	86,0	100,0	115,0	129,0	93,0	108,0	129,0	135,0	104,0	143,0	208,0	315,0
80	115,0	186,0	215,0	229,0	123,0	198,0	229,0	258,0	138,0	258,0	401,0	544,0
100	151,0	208,0	237,0	-	123,0	223,0	251,0	-	181,0	301,0	444,0	-
125	200,0	258,0	429,0	-	215,0	280,0	472,0	-	-	-	-	-
150	400,0	560,0	720,0	-	429,0	601,0	-	-	-	-	-	-

安全系数: 1.43
不添加硅树脂或油脂
车间的环境条件

1,43 safety margin included
Without addition of silicone nor grease
Workshop ambient conditions

PS4 / PZ4 / PP4

Kv 值

Kv values

通径 - Full bore

尺寸	Size	ΔP=1 bar	ΔP=0,001 bar
		Kv (m ³ /h)	流量 / flow (m ³ /h)
8	1/4"	6	0,19
12	3/8"	8	0,25
15	1/2"	13	0,40
20	3/4"	26	0,81
25	1"	46	1,47
32	1"1/4"	82	2,59
40	1"1/2"	120	3,81
50	2"	223	7,07
65	2"1/2"	423	13,37
80	3"	617	19,52
100	4"	1154	36,49
125	5"	1883	59,56
150	6"	2844	89,95

缩径 - Reduced bore

尺寸	Size	ΔP=1 bar	ΔP=0,001 bar
		Kv (m ³ /h)	流量 / flow (m ³ /h)
15	1/2"	8	0,25
20	3/4"	13	0,40
25	1"	26	0,81
32	1"1/4"	46	1,47
40	1"1/2"	82	2,59
50	2"	120	3,81
65	2"1/2"	223	7,07
80	3"	397	12,56
100	4"	560	17,71
125	5"	942	29,80
150	6"	1433	45,32
200	8"	2011	63,60

流量系数: Kv

(单位: m³/h)
 ΔP=压力降 (单位: bar)
 Q=流量 (单位: m³/h)
 d=密度
 $\Delta P = d(Q/Kv)^2$
 $Q = Kv \cdot \sqrt{(\Delta P/d)}$

Flow coefficient : Kv

$Kv = Q \cdot \sqrt{(d/\Delta P)}$ in m³/h
 ΔP = pressure drop in bar
 Q = flow in volum in m³/h
 d = density / water
 $\Delta P = d(Q/Kv)^2$
 $Q = Kv \cdot \sqrt{(\Delta P/d)}$