



CSE Non-return Valve

Concept 概念：

Check valve refers to a valve whose opening and closing parts are circular discs and rely on its own weight and medium pressure to generate actions to block the back flow of the medium. It is an automatic valve, also known as check valve, one-way valve, backflow valve or isolation valve. The medium flows in from the inlet end (lower side) and flows out from the outlet end (upper side). When the inlet pressure is greater than the sum of the weight of the disc and its flow resistance, the valve is opened. On the contrary, the valve is closed when the medium flows back.

逆止閥是指啟閉件為圓形閥瓣並靠自身重量及介質壓力產生動作來阻斷介質倒流的一種閥門。屬自動閥類，又稱止回閥、單向閥、回流閥或隔離閥。介質從進口端(下側)流入，從出口端(上側)流出。當進口壓力大於閥瓣重量及其流動阻力之和時，閥門被開啟。反之，介質倒流時閥門則關閉。

Working principle 工作準則：

Opens when the pressure below the valve plug exceeds the pressure above the plug and the spring force. The valve closes when pressure equalization has been achieved. A higher counter pressure will press the valve plug against the seat.

當閥塞下方的壓力超過閥塞上方的壓力和彈簧力時，打開。

當達到壓力平衡時，閥關閉。較高的反壓力會將閥塞壓在閥座上。

Standard design 標準設計：

When the check valve is fully opened, the fluid pressure is almost unimpeded, so the pressure drop through the valve is relatively small. Except that the valve flap can be lifted and lowered freely, the fluid pressure lifts the valve flap from the sealing surface of the valve seat, and the backflow of the medium causes the valve flap to fall back to the valve seat and cut off the flow. According to the conditions of use, the valve clack can be an all-metal structure, or it can be in the form of a rubber pad or a rubber ring inlaid on the valve clack frame.

逆止閥在完全打開的狀況下，流體壓力幾乎不受阻礙，因此通過閥門的壓力降相對較小。此閥門除了閥瓣可以自由地升降之外，流體壓力使閥瓣從閥座密封面上抬起，介質回流導致閥瓣回落到閥座上，並切斷流動。根據使用條件，閥瓣可以是全金屬結構，也可以是在閥瓣架上鑲嵌橡膠墊或橡膠環的形式。



TECHNICAL DATA 技術數據

Temperature □ □

Max. temperature: 140°C (EPDM)

Min. temperature: 10°C

Pressure □ □

Max. product pressure: 1000 kPa (10 bar)

Mechanical □ □

Required differential pressure for opening the valve when fitted in a vertical pipe, 6 kPa (0.06 bar)

安裝在垂直管道中時打開閥門所需的壓差：6 kPa (0.06 巴)

Options □ □

Product wetted seal rings of Nitrile (NBR) or Fluorinated rubber (FPM).

腈 (NBR) 或氟化橡膠 (FPM) 的產品潤濕密封環。

PHYSICAL DATA 物理數據

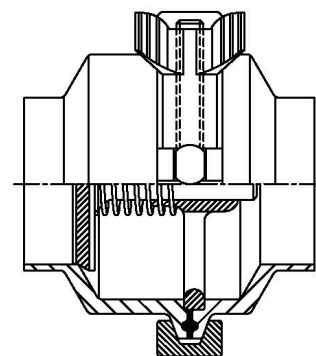
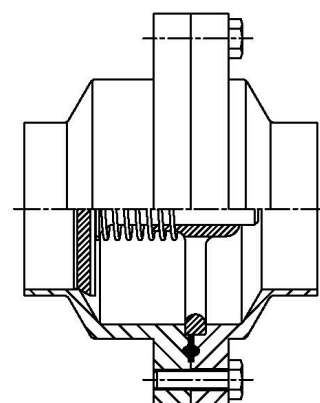
Materials

Product wetted steel parts: 1.4301 (304) / 1.4404 (316L)

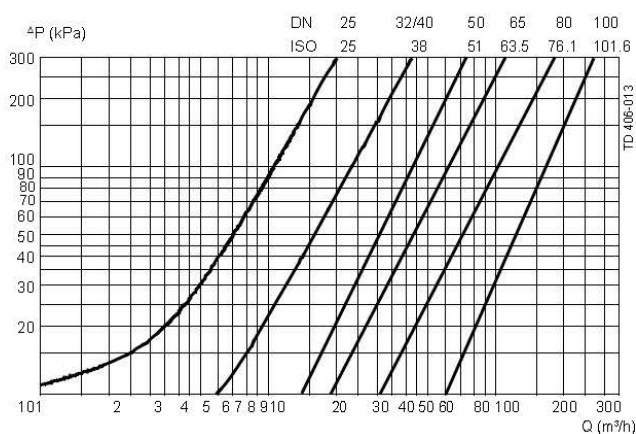
External surface finish Bright (Machined Ra 1.6)

Internal surface finish Bright (polished), Ra < 0.8 µm

Product wetted seals: EPDM rubber



Pressure drop/capacity diagram 壓降/容量圖



Note!

For the diagram the following applies:

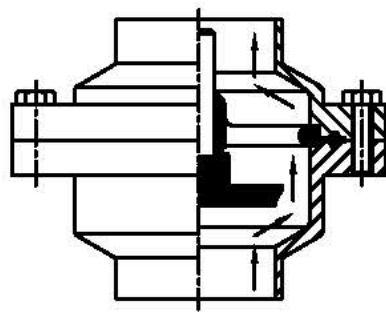
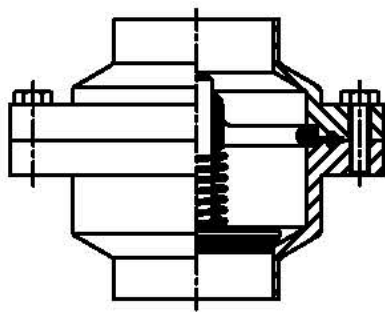
Medium: Water (20°C).

Measurement: In accordance with VDI 2173.

□ □ □ □ □ □ :

□ □ : □ (20°C) 。

□ □ : □ □ VDI 2173。



Flow direction.□ □

Shows the optimal built-in situation.

□ □ □ □ □ □ □ □ 。

Dimensions (mm)

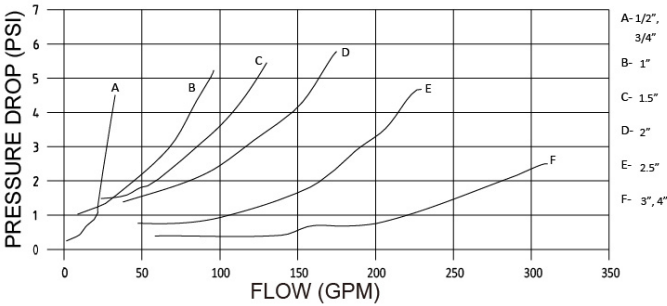
Parts list			
NO.	Parts name	Q'TY	Material
1	Long Body	1	ST.ST 304 , 316L
2	Short NBody	1	ST.ST 304 , 316L
3	Disc	1	ST.ST 316L
4	Seal	2	EPDM
5	Seal-Ring	1	EPDM
6	Flow Support Plate	1	ST.ST 316L
7	ST.ST Spring	1	ST.ST 316L
8	ST.ST Screw	4	ST.ST 316L

Open pressure (PSI)

1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"
0.5	0.5	1.0	1.6	1.3	0.6	0.4	0.4

Open Pressure (fig.1)

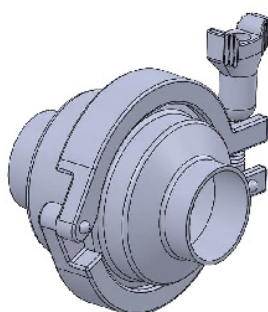
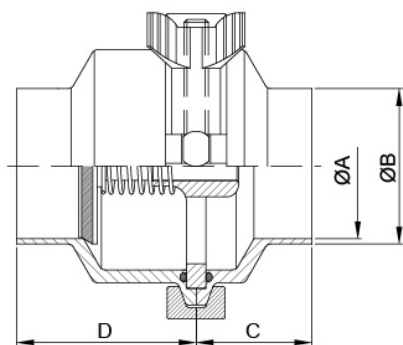
SPRING CHECK VALVE flow rate (fig 2)



Note:

For the diagram the following applies:

Medium :Water(20°C)

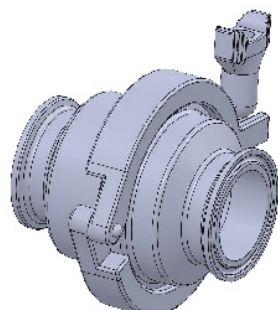
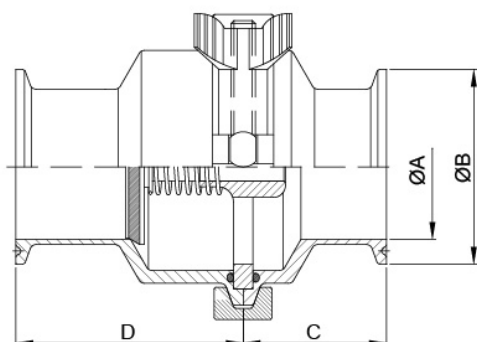


CHECK VALVE MIDDLE CLAMP TYPE/WELD END

3A/BS	ØA	ØB	C	D
1/2"	9.4	12.7	23	34
3/4"	15.75	19.05	23	34
1.0"	22.1	25.4	38	59
1.5"	34.8	38.1	38	59
2.0"	47.5	50.8	38	59
2.5"	60.2	63.5	38	59
3.0"	72.9	76.2	38	59
4.0"	97.6	101.6	44	50

SMS	ØA	ØB	C	D
DN25	22.5	25	38	59
DN38	35.4	38	38	59
DN50	48	51	38	59
DN63	60.3	63.5	38	59
DN76	72.1	76	38	59

DIN	ØA	ØB	C	D
DN25	25	28	38	59
DN32	31	34	38	59
DN40	37	40	38	59
DN50	49	52	38	59
DN65	66	70	38	59

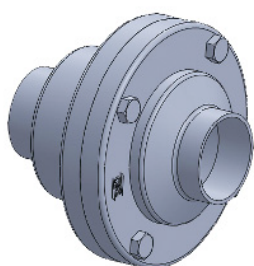
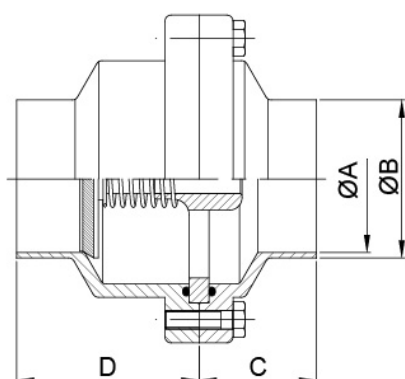


CHECK VALVE MIDDLE CLAMP TYPE/CLAMP END

3A/BS	ØA	ØB	C	D
1/2"	9.4	25.2	28.5	39.5
3/4"	15.75	25.2	28.5	39.5
1.0"	22.1	50.5	42	59
1.5"	34.8	50.5	42	59
2.0"	47.5	64	42	59
2.5"	60.2	77.5	42	59
3.0"	72.9	91	42	59

SMS	ØA	ØB	C	D
DN25	22.5	50.5	42	59
DN38	35.4	50.5	42	59
DN50	48	64	42	59
DN63	60.3	77.5	42	59
DN76	72.1	91	42	59

DIN	ØA	ØB	C	D
DN25	25	50.5	42	59
DN32	31	50.5	42	59
DN40	37	50.5	42	59
DN50	49	64	42	59
DN65	66	91	42	59
DN80	81	106	42	59

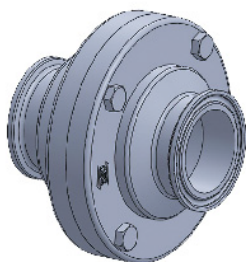
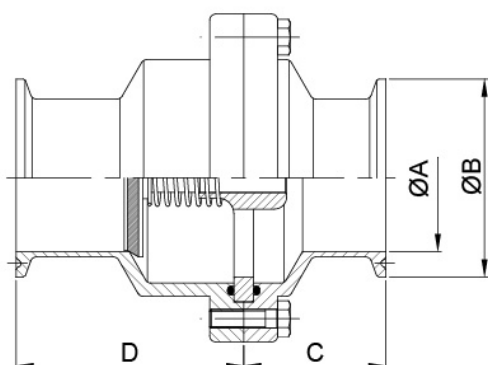


CHECK VALVE MIDDLE FLANGE TYPE/WELD END

3A/BS	ØA	ØB	C	D
1/2"	9.4	12.7	23	34
3/4"	15.75	19.05	23	34
1.0"	22.1	25.4	38	59
1.5"	34.8	38.1	38	59
2.0"	47.5	50.8	38	59
2.5"	60.2	63.5	38	59
3.0"	72.9	76.2	38	59
4.0"	97.6	101.6	44	50

SMS	ØA	ØB	C	D
DN25	22.5	25	38	59
DN38	35.4	38	38	59
DN50	48	51	38	59
DN63	60.3	63.5	38	59
DN76	72.1	76	38	59

DIN	ØA	ØB	C	D
DN25	25	28	38	59
DN32	31	34	38	59
DN40	37	40	38	59
DN50	49	52	38	59
DN65	66	70	38	59
DN80	81	85	38	59

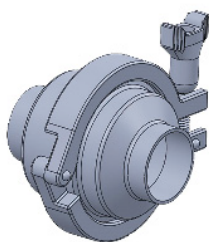
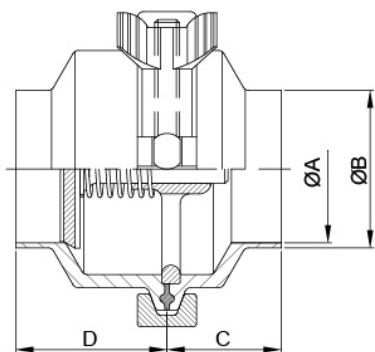


CHECK VALVE MIDDLE FLANGE TYPE/CLAMP END

3A/BS	ØA	ØB	C	D
1/2"	9.4	25.2	28.5	39.5
3/4"	15.75	25.2	28.5	39.5
1.0"	22.1	50.5	42	59
1.5"	34.8	50.5	42	59
2.0"	47.5	64	42	59
2.5"	60.2	77.5	42	59
3.0"	72.9	91	42	59
4.0"	97.6	119	56.7	62.6

SMS	ØA	ØB	C	D
DN25	22.5	50.5	42	59
DN38	35.4	50.5	42	59
DN50	48	64	42	59
DN63	60.3	77.5	42	59
DN76	72.1	91	42	59

PG TYPE



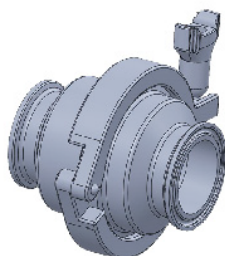
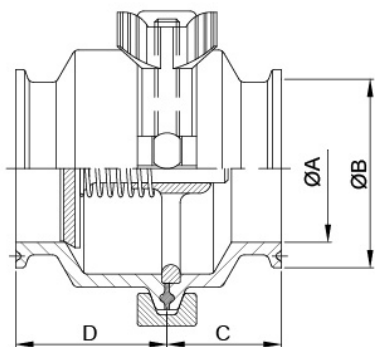
CHECK VALVE MIDDLE CLAMP TYPE/WELD END

3A/BS	ØA	ØB	C	D
1/2"	9.4	12.7	24	34
3/4"	15.75	19.05	24	34
1.0"	22.1	25.4	34	48
1.5"	34.8	38.1	36	48
2.0"	47.5	50.8	36	48
2.5"	60.2	63.5	36	48
3.0"	72.9	76.2	36	48
4.0"	97.6	101.6	47	54

SMS	ØA	ØB	C	D
DN25	22.5	25	34	48
DN38	35.5	38	36	48
DN50	48.5	51	36	48
DN63	60.3	63.5	36	48
DN76	72.1	76.1	36	48
DN100	100	104	47	54

DIN	ØA	ØB	C	D
DN25	25	28	24	34
DN32	31	34	24	34
DN40	37	40	34	48
DN50	49	52	36	48
DN65	66	70	36	48
DN80	81	85	36	48
DN100	100	104	47	54

PG TYPE



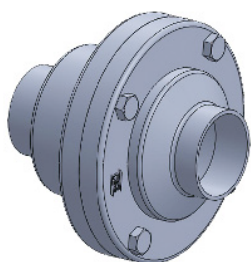
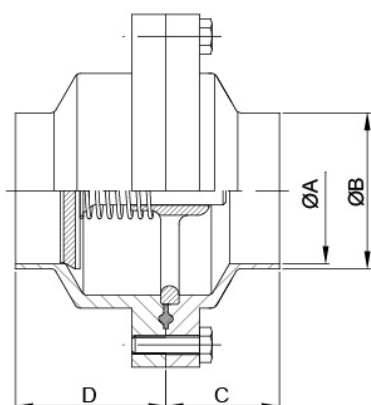
CHECK VALVE MIDDLE CLAMP TYPE/CLAMP END

3A/BS	ØA	ØB	C	D
1/2"	9.4	25.2	28.5	39.5
3/4"	15.75	25.2	28.5	39.5
1.0"	22.1	50.5	34	48
1.5"	34.8	50.5	36	48
2.0"	47.5	64	36	48
2.5"	60.2	77.5	36	48
3.0"	72.9	91	36	48
4.0"	97.6	119	47	54

SMS	ØA	ØB	C	D
DN25	22.5	50.5	34	48
DN38	35.5	50.5	36	48
DN50	48.5	64	36	48
DN63	60.3	77.5	36	48
DN76	72.1	91	36	48
DN100	100	119	47	54

DIN	ØA	ØB	C	D
DN25	25	50.5	34	48
DN32	31	50.5	36	48
DN40	37	50.5	36	48
DN50	49	64	36	48
DN65	66	91	36	48
DN80	81	106	36	48
DN100	100	119	47	54

PG TYPE



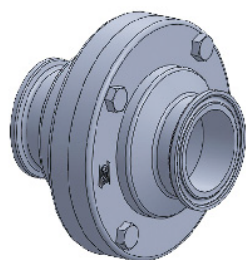
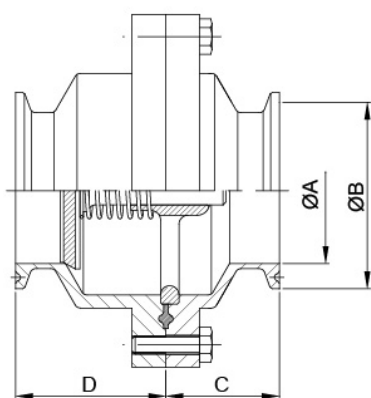
CHECK VALVE MIDDLE FLANGE TYPE/WELD END

3A/BS	ØA	ØB	C	D
1.0"	22.1	25.4	34	48
1.5"	34.8	38.1	36	48
2.0"	47.5	50.8	36	48
2.5"	60.2	63.5	36	48
3.0"	72.9	76.2	36	48
4.0"	97.6	101.6	47	54

SMS	ØA	ØB	C	D
DN25	22.5	25	34	48
DN38	35.5	38	36	48
DN50	48.5	51	36	48
DN63	60.3	63.5	36	48
DN76	72.1	76.1	36	48
DN100	100	104	47	54

DIN	ØA	ØB	C	D
DN25	25	28	34	48
DN32	31	34	36	48
DN40	37	40	36	48
DN50	49	52	36	48
DN65	66	70	36	48
DN80	81	85	36	48

PG TYPE

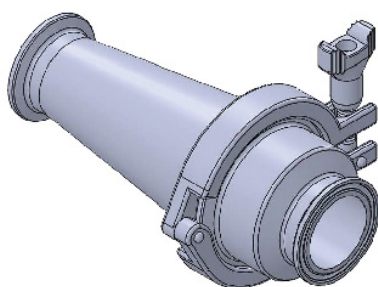
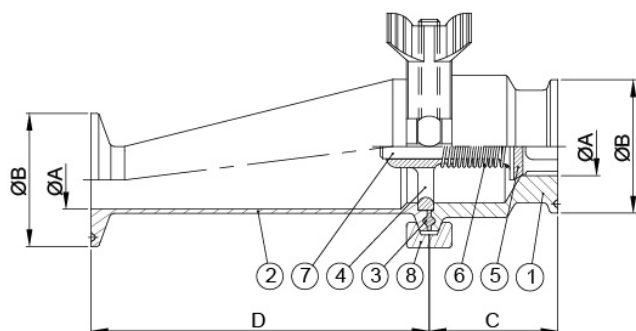


CHECK VALVE MIDDLE FLANGE TYPE/CLAMP END

3A/BS	ØA	ØB	C	D
1.0"	22.1	50.5	34	48
1.5"	34.8	50.5	36	48
2.0"	47.5	64	36	48
2.5"	60.2	77.5	36	48
3.0"	72.9	91	36	48
4.0"	97.6	119	47	54

SMS	ØA	ØB	C	D
DN25	22.5	50.5	34	48
DN38	35.5	50.5	36	48
DN50	48.5	64	36	48
DN63	60.3	77.5	36	48
DN76	72.1	91	36	48
DN100	100	119	47	54

LEVEL TYPE

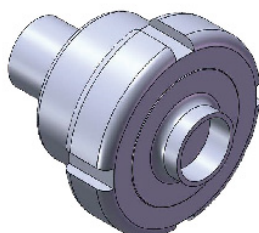
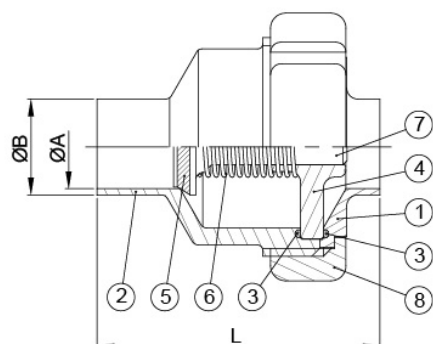


3A ECCENTRIC CHECK VALVE CLAMP END

SIZE	ØA	ØB	C	D
1.0"	22.1	50.5	48	127.3
1.5"	34.8	50.5	48	127.3
2.0"	47.5	64	48	127.3
2.5"	60.2	77.5	48	127.3

NO.	NAME
1	Short body
2	Long body
3	13PG
4	Flow support plate
5	Seal-Ring
6	Spring
7	Disc
8	Clamp

UNION TYPE



3A CHECK VALVE WELD END

SIZE	ØA	ØB	L
1.0"	22.1	25.4	75
1.5"	34.8	38.1	76
2.0"	47.5	50.8	76
2.5"	60.2	63.5	78
3.0"	72.9	76.2	78
4.0"	97.6	101.6	80

NO.	NAME
1	Short body
2	Long body
3	O-Ring
4	Flow support plate
5	Seal-Ring
6	Spring
7	Disc
8	Nut