TASSALINI
PRECISION MADE GREAT, SINCE 1922

TECHNICAL DATA SHEET

check valve

Summary

COMPONENT DESCRIPTION AND APPLICATION

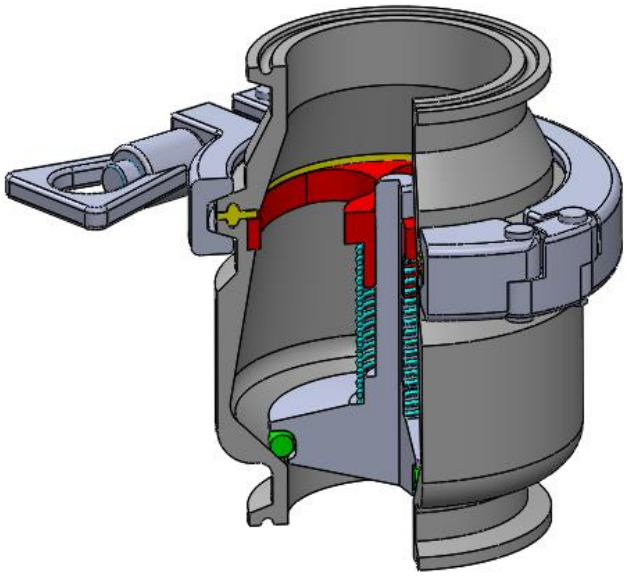
Check valves serve the purpose of preventing product backflow, ensuring unidirectional flow.

This technical data sheet presents two types of valves: **TC-TC** and **WG-WG**.

The valve opens as soon as the pressure acting on the plug exceeds the counterpressure exerted by a spring. When both pressures are balanced, the valve closes.

When the counterpressure is greater, the plug presses against the valve walls.

CHECK VALVE



- DN 15 – DN 150
- DN ½" – DN 4"
- Various connection types: with clamp or for welding
- Installation with vertical or horizontal axis
- Stainless steel valve body
- **Upon request, we can supply valves with a declaration of suitability for food contact material, as for Regulation F.C.M. (EC No. 1935/2004).**

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COMPONENT DESCRIPTION AND APPLICATION

FEATURES

TASSALINI check valves are crafted from stainless steel semi-finished products

The wide diaphragm opening allows the passage of solid particles.

For low pressures, the springs ensure the proper operation of the valve in both horizontal and vertical directions.

The working pressure can be calibrated by adjusting the compression applied to the spring.

Each valve is equipped with a **PTFE O-RING** on the stem and an **EPDM** gasket between the two mating parts. Both can be made from **EPDM**, **FPM/FKM**, **PTFE**, **VMQ**, and are **FDA** approved.

The external surface is mirror-polished, while the internal surface is satin-finished with a roughness of Ra ≤ 0.8 µm.

Upon request, a Ra ≤ 0.3 µm can be achieved on the mirror-polished surface.

The valve can be used in both vertical and horizontal positions, although it is preferable to use it in a vertical position.

For clarification regarding the valve's application and the types of fluids with which it is compatible, please contact our technical department.

REGULATORY REFERENCES

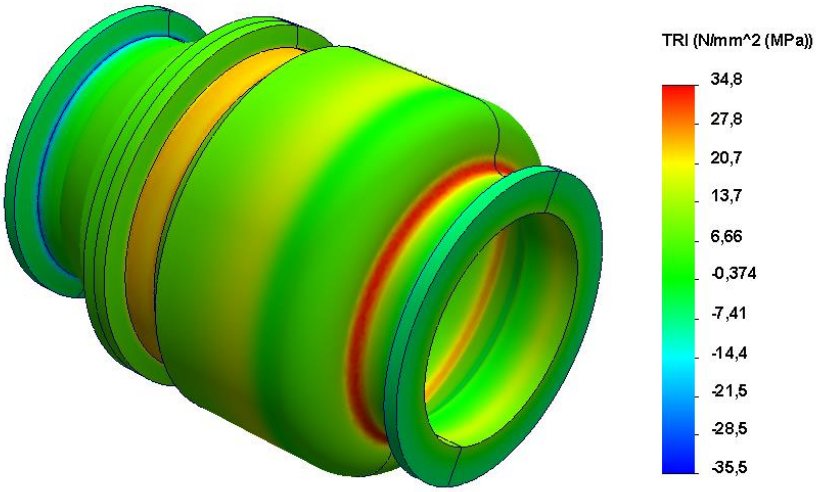
DESIGN

The valve body is designed and sized in accordance with **EN-13445**: Pressure vessels made of austenitic stainless steel not exposed to flames.

Reference standards for industrial and metal check valves: **EN-19, EN-16767**.

Standards for sizing the thickness of industrial valves: **EN-12516**.

Special FEM analyses with dedicated software have been performed on the valve body.



ACTUATOR MOUNTING BASE

- In accordance with EN ISO 5211

CLEARANCE DIMENSIONS

- In accordance with EN ISO 558
- ISO 5752,
- API 609

REGULATORY REFERENCES

EUROPEAN REFERENCE DIRECTIVES

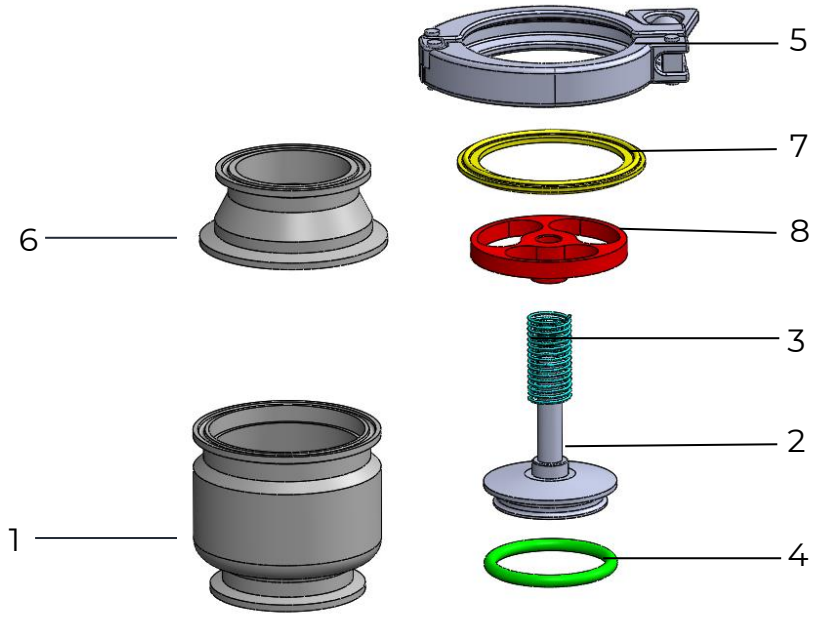
TASSALINI Check Valves are compliant with the following directive:

- **PED Directive (2014/68/EU)** for the design of pressure equipment.

The PED Directive (2014/68/EU) is applicable to the design, manufacturing, and conformity assessment of equipment subjected to a maximum allowable pressure exceeding 0.5 bar. Equipment used in water collection, distribution, and drainage networks is excluded. Depending on the type of pressure equipment, the maximum allowable pressure (PS), the nominal diameter (DN), the physical nature of the fluid (liquid, gas, or vapor), and the hazard level of the fluid (group 1/2)*, the directive categorizes the equipment into various categories (Article 4.3, I, II, III, IV), which are essential for the conformity assessment and CE marking. Equipment defined in Article 4.3 of the directive cannot bear the CE marking.

- Group 1: includes hazardous fluids (compliant with Directive 67/548/EEC), explosives, extremely flammable, easily flammable, flammable, highly toxic, toxic, and oxidizing.
- Group 2: includes all other fluids.

COMPONENTS AND MATERIALS



N° Description	Q.ty	Material	EN	ASTM
1 Body Valve	1	Stainless Steel	X2CrNi 17-12-2	Aisi 316L
2 Plug	1	Stainless Steel	X2CrNi 17-12-2	Aisi 316L
3 Spring	1	Stainless Steel	X5CrNi 17-12-2	Aisi 316
4 Plug Seal	1	PTFE-EPDM-VMQ-FPM/FKM	RIF. EN 13000-1:2021	-
5 Clamp	1	Stainless Steel	X2CrNi 18-10	Aisi 304
6 Reducer	1	Stainless Steel	X2CrNi 17-12-2	Aisi 316L
7 Seal	1	PTFE-EPDM-VMQ-FPM/FKM	RIF. EN 13000-1:2021	-
8 Diaphragm	1	Stainless Steel	X2CrNi 17-12-2	Aisi 316L

INSTALLATION AND MAINTENANCE

Below are some observations to be considered during the installation and maintenance of the valve. For specific instructions, please refer to the user manual and maintenance manual of the specific product.

For any specific information, please contact our technical office.

GENERAL GUIDELINES: INSTALLATION

All installation operations must be carried out in accordance with local safety instructions and regulations. All components should be handled by experienced professionals.

Maintenance of check valves is the responsibility of technically trained and qualified personnel.

Before performing any operation, ensure that there is no pressurized fluid or high-temperature fluid in the pipeline. The operator should never be exposed to potential hazards.

Properly align the pipes to avoid subjecting the valve body to abnormal stress.

Check the compatibility of any connecting flanges with the operating pressure: the PN value of the flanges should be equal to or greater than the operating pressure.

GENERAL GUIDELINES: MAINTENANCE

Maintenance should be performed by experienced and qualified personnel.

All maintenance operations of any type should be carried out in accordance with local safety regulations.

Valves require specific maintenance to ensure their maximum service life.

TECHNICAL DATA

TASSALINI check valves are available in various types. As stated in the introduction of the following technical document, the valves presented here are divided into two main categories:

- **TC-TC: TRI-CLAMP** ends
- **WG-WG: WELDING** ends

OPERATING CONDITIONS:

Description	Work T min / max [°C]	Work T min / max [°F]	Work P max. [bar]
Valve	-10 +95	+15 +205	10
PTFE	-10 +150	+15 +300	10
EPDM	-30 +140	-20 +280	10
SILICONE	-50 +200	-60 +390	10
FPM	-15 +220	+5 +430	10

INTERNAL FINISH: Ra Inf. = 0,8 µm

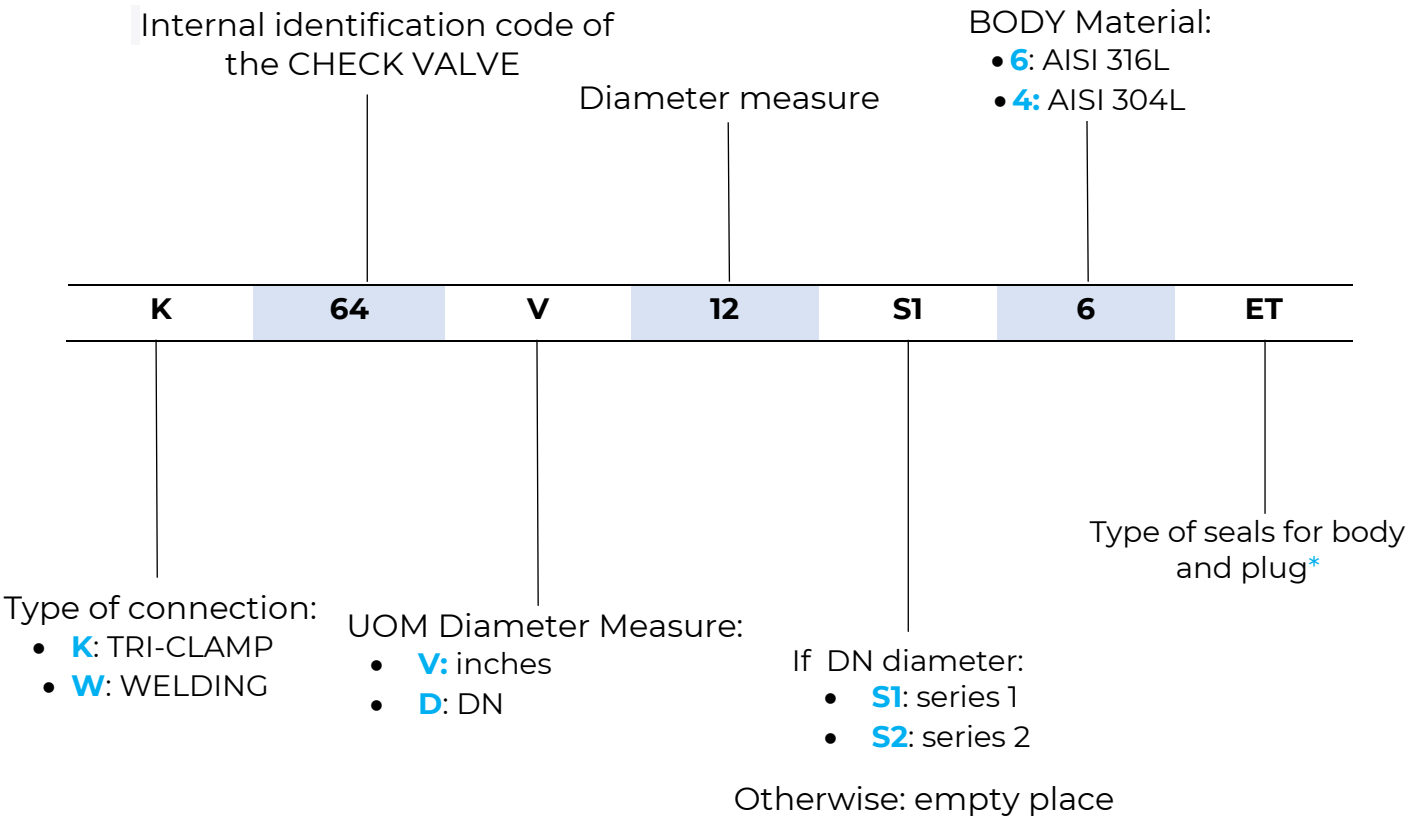
CLOSURE TEST: 0.7 bar

BODY TEST: 15 bar

TECHNICAL DATA

PRODUCT CODING FOR CHECK VALVE

Here is a user guide for the correct designation during the component selection phase.



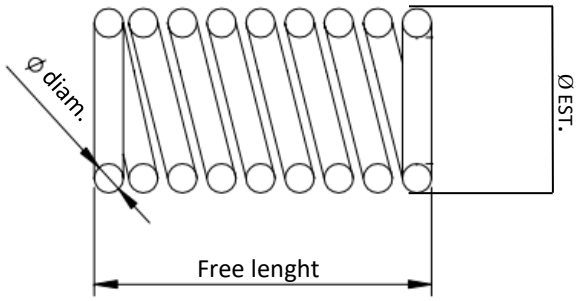
***Material combination: customer's choice**

	BODY	PLUG
ET	EPDM	PTFE
E	EPDM	EPDM
S	VMQ	VMQ
V	FPM-FKM	FPM-FKM
T	PTFE	PTFE

TECHNICAL DATA

SPRING DIMENSIONS:

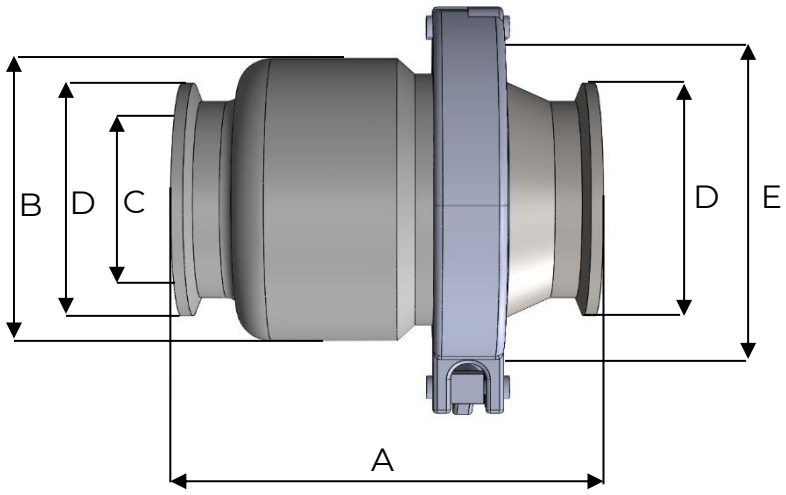
Springs made of **AISI 316** material supplied according to **EN 10204-3.1.**



Valve Diameter	SPRING CODE	Ø EST [mm]	Ø WIRE [mm]	FREE LENGTH [mm]	Coil Number
12	640 12 # 03	12.6	0.8	44	20
19	640 19 # 03	14	0.9	60	16
25/34	640 25/34 # 03	17.5	1	72	17 3/4
38/40	640 38/40 # 03	18.1	1.3	70	18
51/52	640 51/52 # 03	18	1.3	72	15
63/70	640 63/70 # 03	18.5	1.5	72	18 1/2
76/80	640 76/80 # 03	24.4	2	70	16
101	640 101 # 03	25.1	2.3	82	16
125	640 125 # 03	33	3.5	100	10
150	640 150 # 03	36.4	3.2	115	10

TECHNICAL DATA

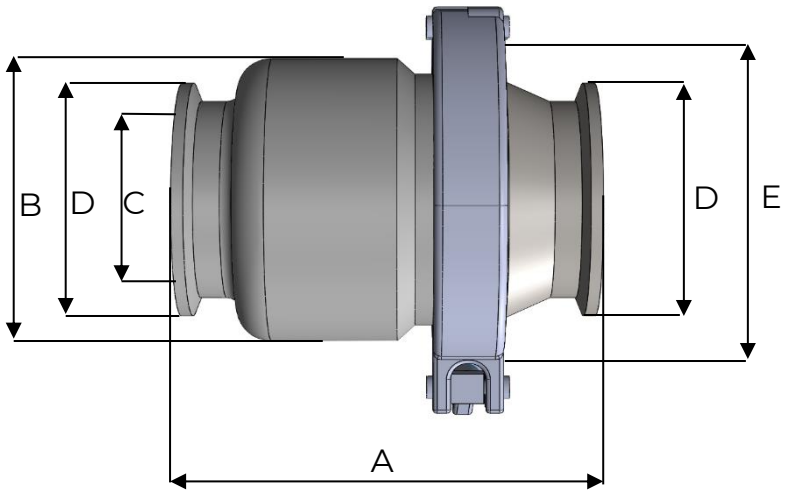
TC-TC TYPE VALVE, DIMENSIONS SERIES DIN 1-2



CHECK VALVE: TC/TC K64D DIN SERIES 1 and 2							
Code	**DN**	**Series**	**A [mm]**	**B [mm]**	**C [mm]**	**D [mm]**	**E [mm]**
K64D15.S1.6	15	1	77.0	42.0	15.0	34.0	50.5
K64D15.S2.6	15	2	77.0	42.0	16.0	34.0	50.5
K64D20.S1.6	20	1	77.0	42.0	19.0	34.0	50.5
K64D20.S2.6	20	2	77.0	42.0	20.0	34.0	50.5
K64D25.S1.6	25	1	94.0	50.5	25.0	50.5	50.5
K64D25.S2.6	25	2	94.0	50.5	26.0	50.5	50.5
K64D32.S1.6	32	1	95.0	64.0	31.0	50.5	64.0
K64D32.S2.6	32	2	95.0	64.0	32.0	50.5	64.0
K64D40.S1.6	40	1	101.5	64.0	37.0	50.5	64.0
K64D40.S2.6	40	2	101.5	64.0	38.0	50.5	64.0

TECHNICAL DATA

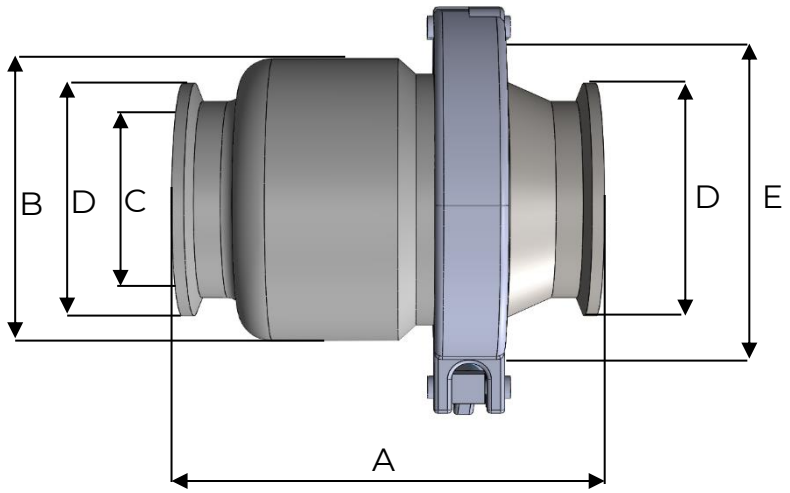
TC-TC TYPE VALVE, DIMENSIONS SERIES DIN 1-2



CHECK VALVE: TC/TC K64D DIN SERIES 1 and 2							
Code	**DN**	**Series**	**A [mm]**	**B [mm]**	**C [mm]**	**D [mm]**	**E [mm]**
K64D50.S1.6	50	1	102.0	77.5	49.0	64.0	77.5
K64D50.S2.6	50	2	102.0	77.5	50.0	64.0	77.5
K64D65.S2.6	65	2	123.0	106.0	66.0	91.0	106.0
K64D80.S2.6	80	2	127.0	130.0	81.0	106.0	119.0
K64D100.S2.6	100	2	124.0	148.0	100.0	119.0	144.4
K64D125.S2.6	125	2	145.0	160.0	125.0	155.0	166.8
K64D150.S2.6	150	2	164.0	210.0	150.0	183.0	218.0

TECHNICAL DATA

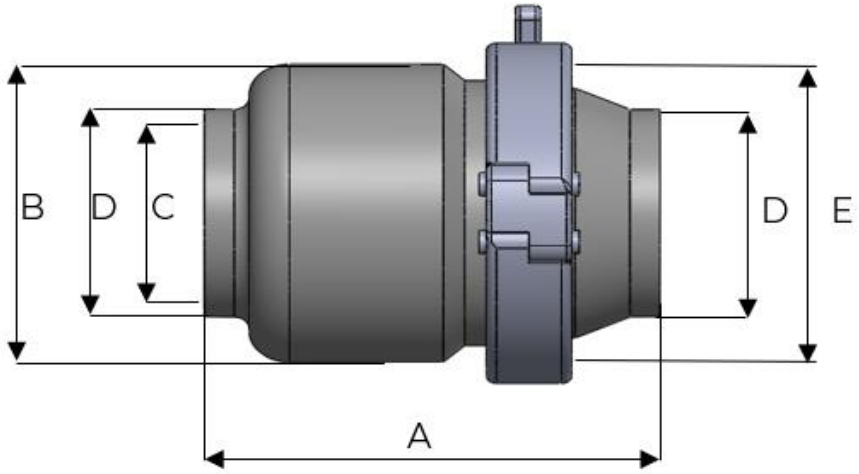
TC-TC TYPE VALVE, DIMENSIONS SERIES BS-4825



CHECK VALVE: TC/TC K64V SERIES BS 4825							
Code	**DN**	**SIZE**	**A [mm]**	**B [mm]**	**C [mm]**	**D [mm]**	**E [mm]**
K64V12.6	12	½”	74.0	25.0	9.4	25.0	25.0
K64V19.6	19	¾”	75.0	40	15.7	25.0	50.5
K64V25.6	25	1”	94.0	50.5	22.1	50.5	50.5
K64V38.6	38	1 ½”	95.0	64.0	34.8	50.5	64.0
K64V51.6	51	2”	102	77.5	47.5	64.0	77.5
K64V63.6	63	2 ½”	111.0	91.0	60.2	77.5	91.0
K64V76.6	76	3”	125.0	119.0	72.9	91.0	119.0
K64V101.6	101	4”	136.0	131.0	97.4	119.0	119.0

TECHNICAL DATA

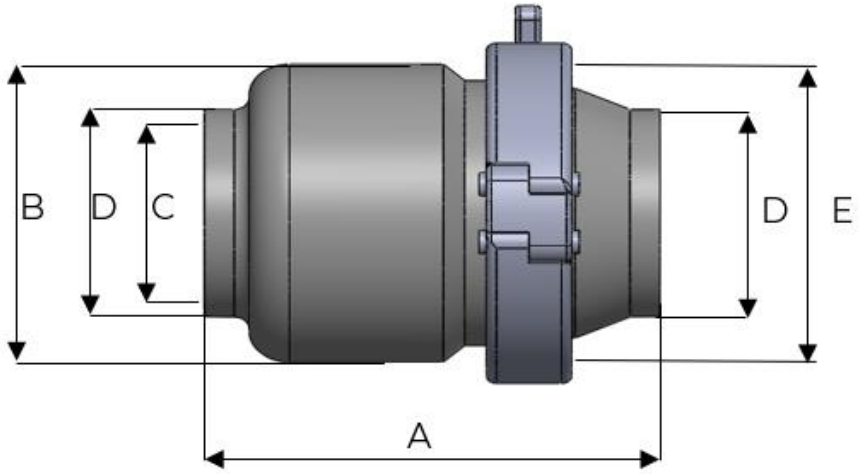
WG-WG TYPE VALVE, DIMENSIONS SERIES DIN 1-2



CHECK VALVE: WG/WG W64D DIN SERIES 1 and 2							
Code	**DN**	**Series**	**A [mm]**	**B [mm]**	**C [mm]**	**D [mm]**	**E [mm]**
W64D15.S1.6	15	1	77.0	42.0	15.0	18.0	50.5
W64D15.S2.6	15	2	77.0	42.0	16.0	19.0	50.5
W64D20.S1.6	20	1	77.0	42.0	19.0	22.0	50.5
W64D20.S2.6	20	2	77.0	42.0	20.0	23.0	50.5
W64D25.S1.6	25	1	94.0	50.5	25.0	28.0	50.5
W64D25.S2.6	25	2	94.0	50.5	26.0	29.0	50.5
W64D32.S1.6	32	1	95.0	64.0	31.0	34.0	64.0
W64D32.S2.6	32	2	95.0	64.0	32.0	35.0	64.0
W64D40.S1.6	40	1	101.5	64.0	37.0	40.0	64.0

TECHNICAL DATA

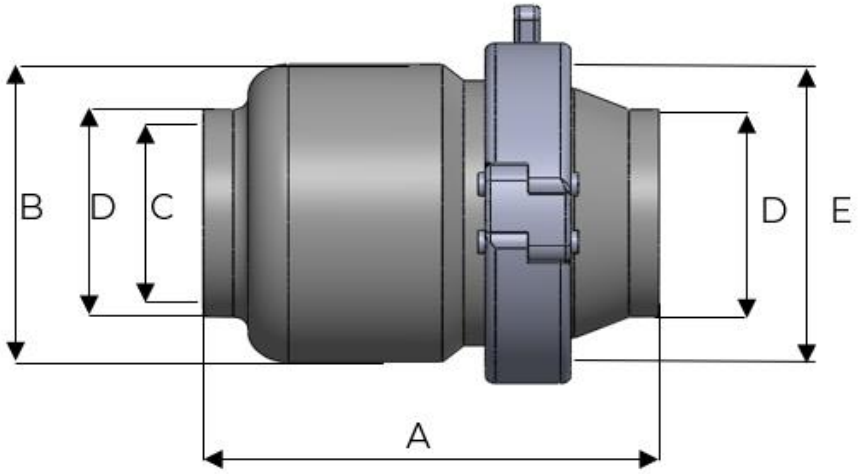
WG-WG TYPE VALVE, DIMENSIONS SERIESS DIN 1-2



CHECK VALVE: WG/WG W64D DIN SERIES 1 e 2							
Code	**DN**	**Series**	**A [mm]**	**B [mm]**	**C [mm]**	**D [mm]**	**E [mm]**
W64D40.S2.6	40	2	101.5	64.0	38.0	41.0	64.0
W64D50.S1.6	50	1	102.0	77.5	49.0	52.0	77.5
W64D50.S2.6	50	2	102.0	77.5	50.0	53.0	77.5
W64D65.S2.6	65	2	123.0	106.0	66.0	70.0	106.0
W64D80.S2.6	80	2	127.0	130.0	81.0	85.0	119.0
W64D100.S2.6	100	2	124.0	148.0	100.0	104.0	144.4
W64D125.S2.6	125	2	145.0	160.0	125.0	129.0	166.8
W64D150.S2.6	150	2	164.0	210.0	150.0	154.0	218.0

TECHNICAL DATA

WG-WG TYPE VALVE, DIMENSIONS SERIES BS-4825



CHECK VALVE: WG/WG W64V SERIES BS 4825							
Code	**DN**	**SIZE**	**A [mm]**	**B [mm]**	**C [mm]**	**D [mm]**	**E [mm]**
W64V12.6	12	½”	74.0	25.0	9.4	12.7	25.0
W64V19.6	19	¾”	75.0	40.0	15.7	19.0	50.5
W64V25.6	25	1”	94.0	50.5	22.1	25.4	50.5
W64V38.6	38	1 ½”	95.0	64.0	34.8	38.1	64.0
W64V51.6	51	2”	102.0	77.5	47.5	50.8	77.5
W64V63.6	63	2 ½”	111.0	91.0	60.2	63.5	91.0
W64V76.6	76	3”	125.0	119.0	72.9	76.2	119.0
W64V101.6	101	4”	136.0	131.0	97.4	101.6	119.0

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