

SINCE 1922,
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TECHNICAL DATA SHEET

BUTTERFLY VALVE

**SINCE 1922,
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Summary

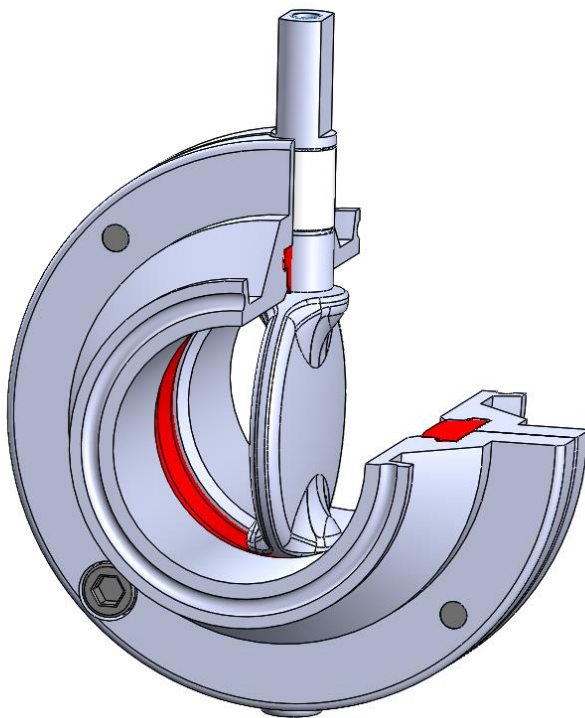
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DESCRIPTION OF THE COMPONENT AND ITS APPLICATION

Butterfly valves are low-cost on/off valves used for isolation and control functions in systems.

They are mainly composed of a disc mounted on a pivot inside a tubular body. The disc rotates around the pivot to open or close the fluid passage. When the valve is fully open, the disc is parallel to the fluid flow, allowing unrestricted passage. When fully closed, the disc aligns perpendicular to the flow, completely interrupting fluid passage.

BUTTERFLY VALVE



- Manual operation:
 1. from DN 10 to DN 250
 2. from ½" to 10"
- If pneumatically operated:
 1. da DN 10 a DN 200
 2. da 1/2" a 8"
- Different types of connections:
Please refer to page 17 for details.
- Valve body in stainless steel
- Valves compliant with the ATEX directive (ref. Page 7)
- **Upon request, we can provide valves with a declaration of suitability for contact with food, in accordance with MOCA CE Regulation 1935/2004.**



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DESCRIPTION OF THE COMPONENT AND ITS APPLICATION

FEATURES

TASSALINI butterfly valves are designed to offer minimal resistance to flow, allowing for reversible direction and gentle handling of the product.

They require minimal maintenance and have a long service life.

Flanges with the same diameter are interchangeable, allowing for any combination of outlets as well as different combinations between standards.

They can be actuated **MANUALLY** or **PNEUMATICALLY**.

In the first case, they can be equipped with a wide range of multi-position handles, allowing for product flow adjustment.

If operated by air, however, they can be equipped with a complete range of accessories such as: **HORIZONTAL OR VERTICAL ACTUATORS, SINGLE OR DOUBLE ACTING, WITH CONTROL UNITS AND ELECTRICAL COMPONENTS**.

All handles and actuators are installed on valves with a universal connection, allowing for great flexibility and quick replacement during modifications and expansions to the systems.

For clarifications regarding the application of the valves and the types of fluids they are compatible with, please contact our technical office.

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NORMATIVE REFERENCES

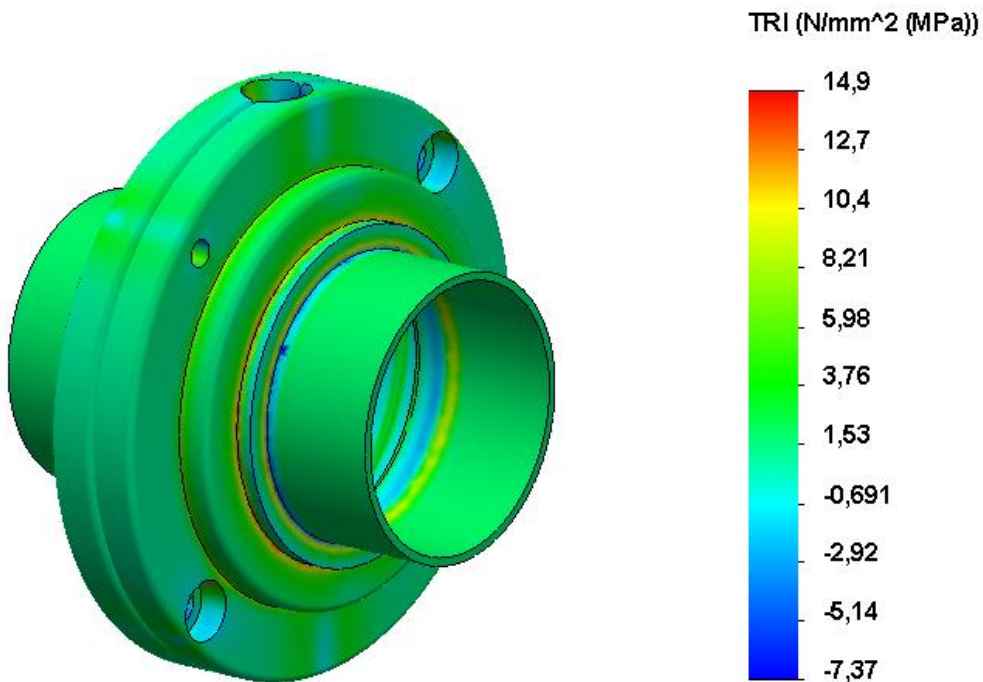
DESIGN

Valve body designed and sized according to **EN-13445**: Pressure vessels made of austenitic stainless steel not exposed to fire.

Regulatory reference for industrial and metal check valves: **EN-19**, **EN-593**.

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

Specific Finite Element Analysis (FEM) has been conducted on the valve body using dedicated software



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NORMATIVE REFERENCES

EUROPEAN DIRECTIVES AS REFERENCES

The **TASSALINI** butterfly valves comply with the following directive:

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

Applicable to the design, manufacture, and conformity assessment of equipment subjected to a maximum allowable pressure greater than 0.5 bar.

Excluded are pressure equipment in networks for the collection, distribution, and discharge of water.

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 hazardousness of the fluid (group 1/2)*, the directive classifies the equipment into various categories (Article 4.3, I, II, III, IV), essential for the assessment of conformity for CE marking. Equipment falling under Article 4.3 of the directive cannot bear the CE marking.

(*) Group 1: hazardous fluids (Directive 67/548/EEC) / explosives / extremely flammable / easily flammable / flammable / highly toxic / toxic / oxidizing.

Group 2: all other fluids.

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NORMATIVE REFERENCES

DECLARATION OF CONFORMITY BUTTERFLY VALVE WITH MANUAL OPERATION 2014/34/EU ATEX

The **TASSALINI** butterfly valves comply with the following directive:

- Directive **2014/34/EU ATEX**, which defines the minimum requirements regarding health and safety in workplaces with potentially explosive atmospheres.
- Device marking: GAS   <valve code> II2 G Ex h IIC T4 Gc.

TIPOLOGIA DEL DISPOSITIVO: dispositivo non elettrico per atmosfere esplosive

CLASSIFICAZIONE DEL DISPOSITIVO: gruppo II tipologia 2

CLASSIFICAZIONE DELLA ZONA: adatto per zone 2 (gas)

MASSIMA TEMPERATURA SUPERFICIALE: 135°C

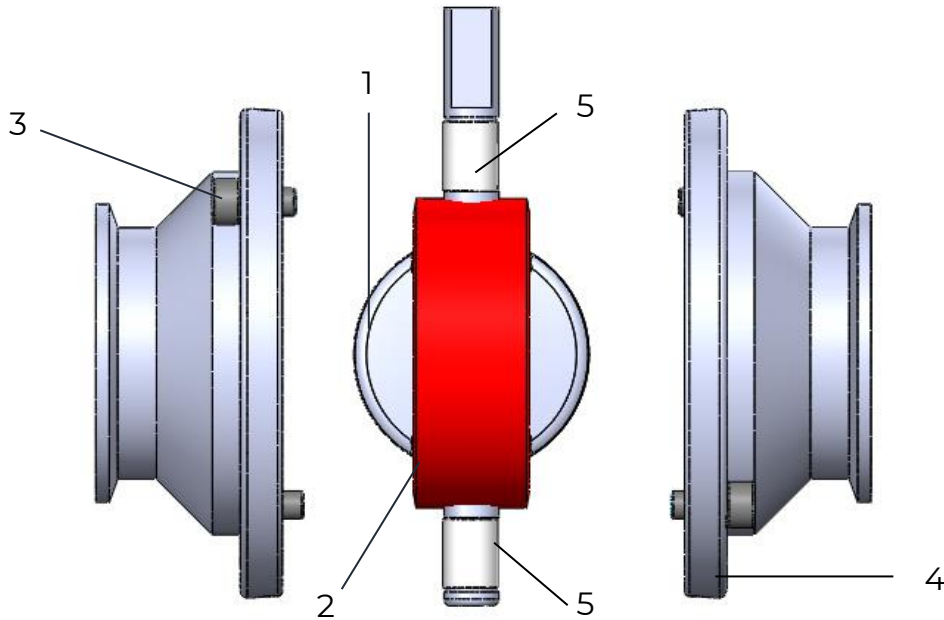
ATMOSFERE CONSENTITE: GAS IIC qualunque tipo di atmosfera gassosa con temperatura di accensione superiore ai 135 °C

LIVELLO DI PROTEZIONE DEL DISPOSITIVO: GAS EPL Gc Apparecchiatura da utilizzare in atmosfere esplosive a causa della presenza di gas nella Zona 2, con un livello di protezione "aumentato" che non è una fonte di accensione durante il normale funzionamento.

PROTEZIONE INVOLUCRO: IP65 Involucro completamente protetto contro la polvere e contro i getti d'acqua

NORMATIVE DI RIFERIMENTO: UNI EN 1127-1; UNI EN ISO 15198: 2008; CEI EN 60529/EC; UNI CEI EN ISO 800079-36; UNI CEI EN ISO 800079-37

COMPONENTS AND MATERIALS



N° Description	Q.ty	Material	EN	ASTM
1 Disc	1	Stainless Steel	X2CrNi 17-12-2/	Aisi 316L
			X2CrNi 18-9	Aisi 304L
2 Gasket	1	VMQ, EPDM, FPM, NBR, FPM coating PTFE, EPDM coating PTFE, PTFE + silicone	RIF. EN 13000-1:2021	-
3 Bolt	1	Stainless Steel	X2CrNi 18-9	Aisi 304L
4 Flange	1	Stainless Steel	X2CrNi 18-9	Aisi 304L
			X2CrNi 17-12-2	Aisi 316L
5 Bearings	1	PTFE	RIF. EN 13000-1:2021	-

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INSTALLATION AND MAINTENANCE

Below are some guidelines to be observed 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 INSTRUCTIONS: INSTALLATION

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

The maintenance of valves is the responsibility of personnel trained and qualified from a technical point of view.

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

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

Verify the compatibility of any connecting flanges with the operating pressure: the PN value of the flanges must be equal to or higher than the operating pressure.

GENERAL INSTRUCTIONS: MAINTENANCE

Maintenance must be performed by experienced and qualified personnel.

All maintenance operations, of any kind, must be carried out in accordance with the local safety regulations in force.

Valves require specific maintenance to ensure their maximum operational lifespan.

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TECHNICAL DATA

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

- **MANUAL** operation
- **PNEUMATIC** operation

USAGE CONDITION:

Description	T min / max Operating [°C]	T min / max Operating [°F]	Operating P. Recommended [bar]
Valve	-10 +95	+15 +205	6
PTFE	-10 +150	+15 +300	2
EPDM	-30 +140	-20 +280	6
SILICONE	-50 +200	-60 +390	6
NBR	-10+100	+15+210	6
FPM	-15 +220	+5 +430	6
FPM coat. PTFE	-10 +150	+15 +300	6
EPDM coat. PTFE	-10 +150	+15 +300	6

FINISH: Max Ra ≤ 0,8 µm; Other finishes available upon request

MAX OPERATING PRESSURE: 7 bar

VALVE WITH PTFE GASKET: 2 bar

BODY TEST: 15 bar



TECHNICAL DATA

OPENING TORQUE VALUES DEPENDING ON GASKET MATERIAL

Below are the torque values, in Nm, required to actuate the valve shutter. In particular, two cases are distinguished:

- **VALVE OPEN**
- **VALVE CLOSED**

TORQUE VALUE WITH VMQ GASKET (SILICONE)			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	4	9
3/4"	DN 15	4	9
-	DN 20	4	9
1"	DN 25	4	9
1.5"	DN 32	4	15
-	DN 40	5	20
2"	DN 50	5	24
2.5"	DN 60	5	30
3"	DN 65	6	32
-	DN 80	6	32
4"	DN 100	6	38
5"	DN 125	-	30
6"	DN 150	-	30
8"	DN 200	-	40

TORQUE VALUE WITH NBR GASKET (NITRILE RUBBER)			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	5	16
3/4"	DN 15	5	16
-	DN 20	5	16
1"	DN 25	5	16
1.5"	DN 32	6	30
-	DN 40	5	24
2"	DN 50	5	32
2.5"	DN 60	6	40
3"	DN 65	6	50
-	DN 80	6	34
4"	DN 100	8	46

Continued on next page.



TECHNICAL DATA

OPENING TORQUE VALUES DEPENDING ON GASKET MATERIAL

Below are the torque values, in Nm, required to actuate the valve shutter. In particular, two cases are distinguished:

- **VALVE OPEN**
- **VALVE CLOSED**

TORQUE VALUE WITH EPDM GASKET (ETHYLENE PROPYLENE DIENE MONOMER)			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	5	12
3/4"	DN 15	5	12
-	DN20	5	12
1"	DN 25	5	12
1.5"	DN 32	5	16
-	DN 40	5	14
2"	DN 50	5	22
2.5"	DN 60	5	25
3"	DN 65	6	31
-	DN 80	6	34
4"	DN 100	6	42
5"	DN 125	-	52
6"	DN 150	-	58
8"	DN 200	-	40

TORQUE VALUE WITH PTFE GASKET			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	4	8
3/4"	DN 15	4	8
-	DN 20	4	8
1"	DN25	4	8
1.5"	DN 32	4	10
-	DN 40	4	14
2"	DN 50	6	22
2.5"	DN 60	6	24
3"	DN 65	6	38
-	DN 80	8	46
4"	DN 100	8	53

Continued on next page.



TECHNICAL DATA

OPENING TORQUE VALUES DEPENDING ON GASKET MATERIAL

Below are the torque values, in Nm, required to actuate the valve shutter. In particular, two cases are distinguished:

- **VALVE OPEN**
- **VALVE CLOSED**

TORQUE VALUE WITH FPM/PTFE GASKET			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	5	10
3/4"	DN 15	5	10
-	DN 20	5	10
1"	DN 25	5	10
1.5"	DN 32	5	12
-	DN 40	5	18
2"	DN 50	6	34
2.5"	DN 60	6	34
3"	DN 65	6	38
-	DN 80	8	38
4"	DN 100	8	55

TORQUE VALUE WITH EPDM/PTFE GASKET			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	5	10
3/4"	DN 15	5	10
-	DN 20	5	10
1"	DN 25	5	10
1.5"	DN 32	5	13
-	DN 40	5	22
2"	DN 50	6	32
2.5"	DN 60	6	32
3"	DN 65	6	36
-	DN 80	8	38
4"	DN 100	8	48

Continued on next page.

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TECHNICAL DATA

OPENING TORQUE VALUES DEPENDING ON GASKET MATERIAL

Below are the torque values, in Nm, required to actuate the valve shutter. In particular, two cases are distinguished:

- **VALVE OPEN**
- **VALVE CLOSED**

TORQUE VALUE WITH FPM GASKET			
Measurement		Valve	Valve
Imperial	Metric	Open	Closed
		[Nm]	[Nm]
1/2"	DN 10	6	18
3/4"	DN 15	6	18
-	DN 20	6	18
1"	DN 25	6	18
1.5"	DN 32	5	22
-	DN 40	5	24
2"	DN 50	5	22
2.5"	DN 60	5	26
3"	DN 65	5	28
-	DN 80	6	32
4"	DN 100	6	44
5"	DN 125	-	35
6"	DN 150	-	62
8"	DN 200	-	40

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TECHINCAL DATA

PRODUCT CODE: BUTTERFLY VALVE, CONNECTIONS AND HANDLES

The coding of this specific component, given the numerous combinations of choices, is divided into 3 main categories: the sole coding of the valve, the sole coding of the type of handle, and the coding of the handle plus valve assembly. In the case of pneumatic actuator control, for coding, please refer to the specific technical datasheet.

ACRONYMS AND SYMBOLS TO BE USED FOR PRODUCT CODING

Below are the alphanumeric symbols to be used for product designation.

STANDARD	SYMBOL
DIN	D
SMS	S
RJT BS	B
ISS IDF	I
UNIVERSALE	L
UNI	U
GAS	G
ENO	E
CLAMP	K
MACON	M

CONNECTION	MEANING
BC-G	Conical swivel hose connect.
EF	Threaded end
EL	Smooth end
EM	Bored end
ES	Welind end
TC	Clamp end
FL	Flanged
F.FE-GAS	Female GAS threaded
F.MA-GAS	Male GAS threaded
BL-G	Smooth swivel hose connect

GASKET	MEANING
S	VMQ
E	EPDM
V	FPM
N	NBR
ET	EPDM+PTFE
VT	FPM+PTFE
T	PTFE

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TECHNICAL DATA

NUMERICAL CODING FOR CONNECTION SELECTION

Each valve can be connected with different types of fittings.

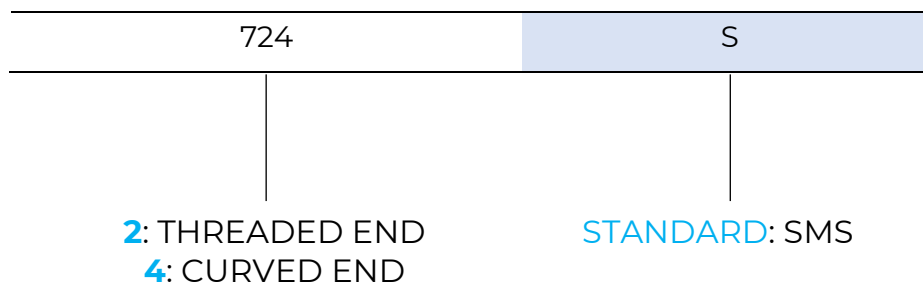
Below is the code-end pairing so that the customer can choose the most functional junction type for their application.

In the following pages, images of the listed connection types will be shown.

CODE	TYPE OF END
7-1	EL
7-2	EF
7-2E	ENO
7-3	BL-G BC-G
7-4	CURVE
7-5	FL
7-6	EM
7-7	ES
7-8	F.FE-GAS
7-9	F.MA-GAS
W100	EL (CLAMP)
K100	CLAMP

Example of coding for selecting the connection:

Butterfly valve with flanged and curved end, SMS standard.



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TECHNICAL DATA

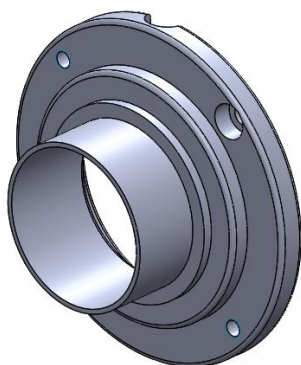
CONNECTIONS: TYPES AND THEIR RESPECTIVE DESIGNATION

Below are the images related to the various types of connections.

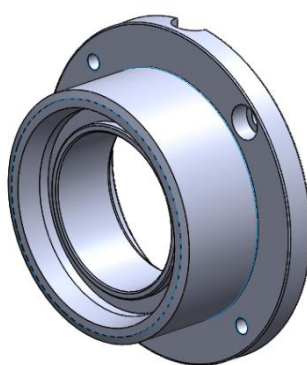
In case of particular combinations of junctions, to know their actual feasibility, we recommend contacting our technical office.

For all available sizes, please refer to the specific catalog.

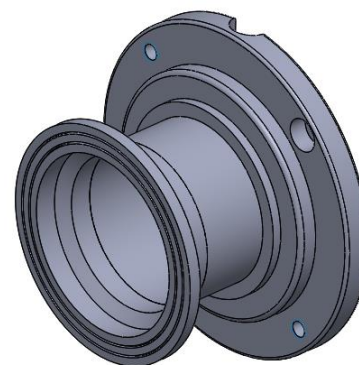
7-1: EL



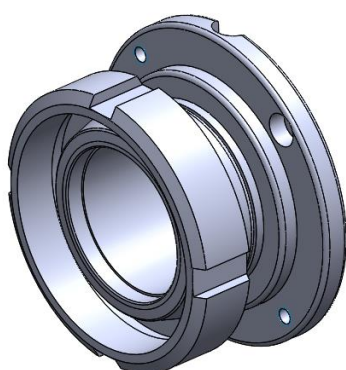
7-2: EF



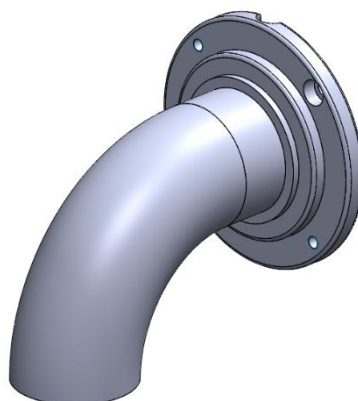
7-2E: ENO



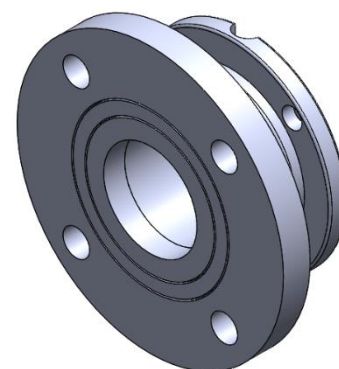
7-3: BL-G BC-G



7-4: CURVA



7-5: EFL



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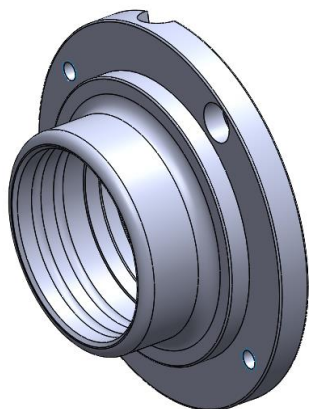
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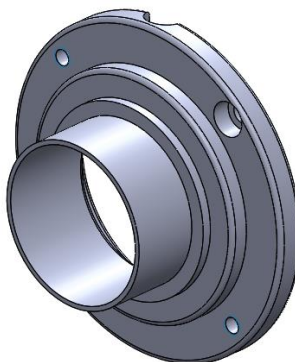
TECHNICAL DATA

CONNECTIONS: TYPES AND THEIR RESPECTIVE DESIGNATION

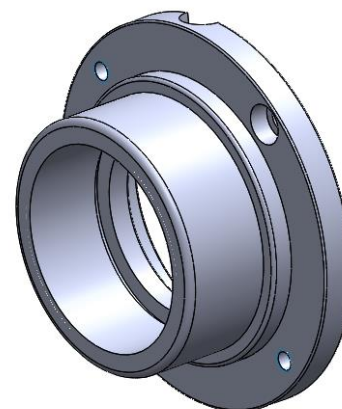
7-6: EM



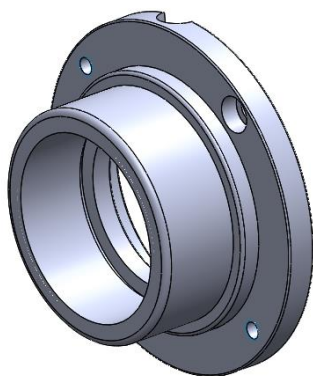
7-7: ES



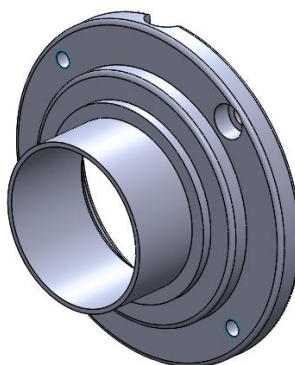
7-8: F.FE-GAS



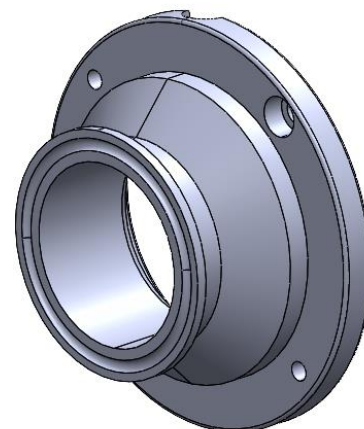
7-9: F.MA-GAS



W100: EL (CLAMP)



K100: CLAMP.



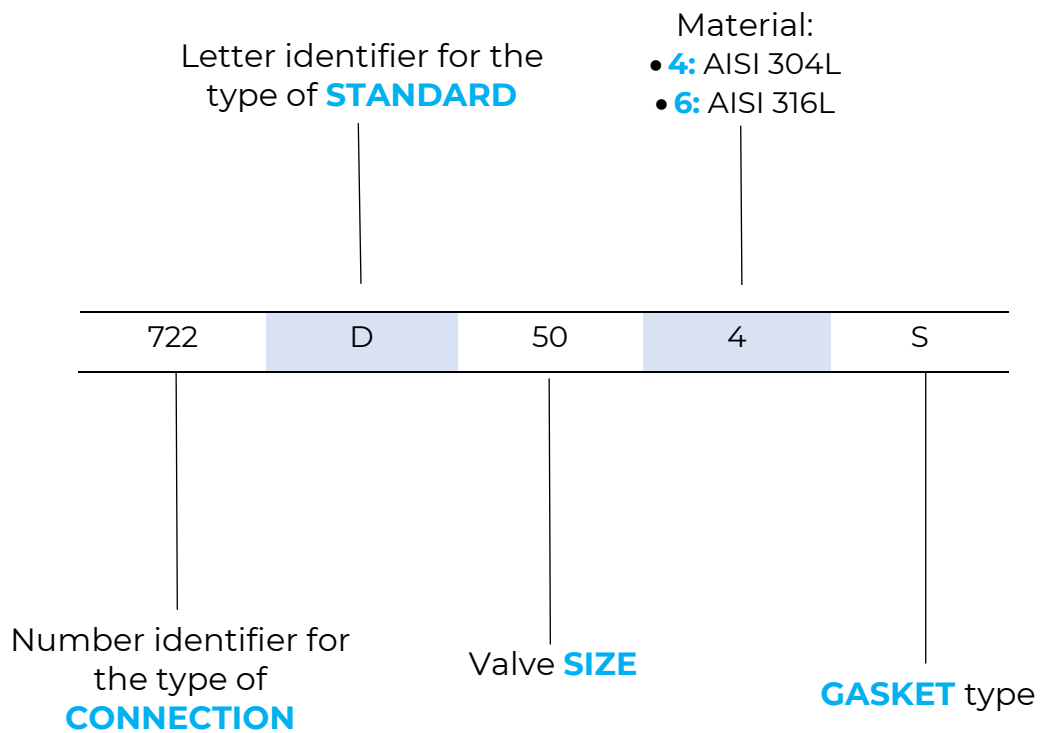
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TECHNICAL DATA

VALVE DESIGNATION ONLY



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TECHNICAL DATA

Below is presented the **CODING** methodology for the **HANDLE** only. This product is provided in **AISI 304 L** material and is available in 10 different types.

HANDLE CODING

HANDLE size:

- **25/76**: size from 25 to 76
- **101**: size 85, 101, 104

7M11L	25/76	4
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Number identifier for
the type of **HANDLE**

MATERIAL:

- **4**: AISI 304L

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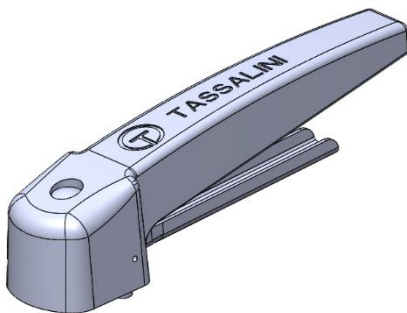
HANDLES: TYPES, DIMENSIONS, AND THEIR RESPECTIVE DESIGNATION

Below are the images related to the various types of **HANDLES** and their main **DIMENSIONS**.

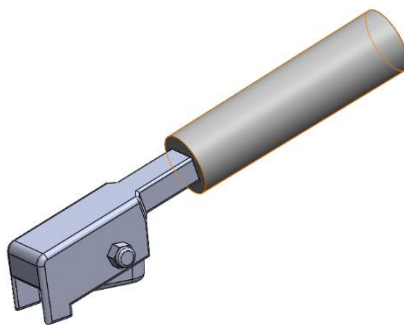
It is emphasized that all models are compatible for measurements from **DN 25 to 104**, with the exception of the **7M7**, which is available for measurements from **DN 85 to 200**.

For all available dimensions, please refer to the specific catalog.

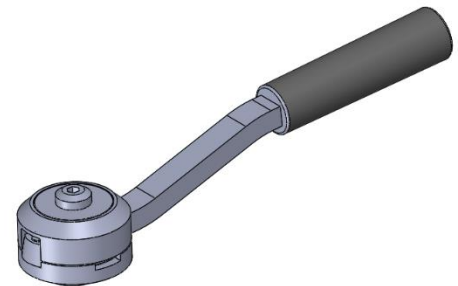
7M1: ABS HANDLE WITH LEVER



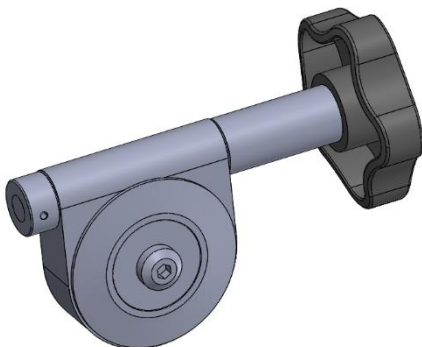
7M2: HANDLE WITH LOCKING



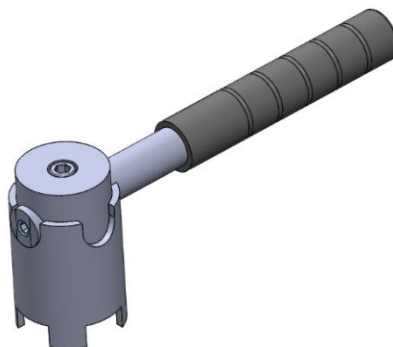
7M3: HANDLE WITH 2-POSITION ADJ..



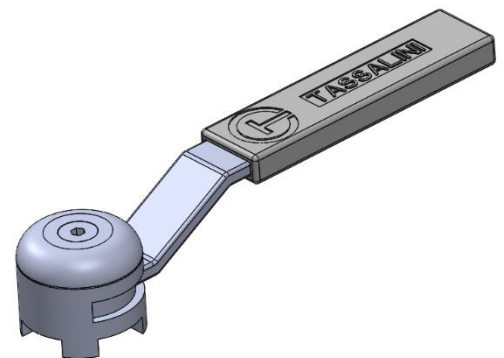
7M6: MICROMETRIC ADJ. HANDLE



7M7: HEAVY-DUTY TWO-POSITION HANDLE.



7M12: HANDLE WITH 4-POSITION ADJ..



TASSALINI S.P.A.

Via G. Di Vittorio 19/21 | 20068 Peschiera Borromeo (MI) | Italy
t +39 02 55 38 311 | f +39 02 54 73 441 | info@tassalini.it | www.tassalini.com

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February 2024 Rev. 1.0

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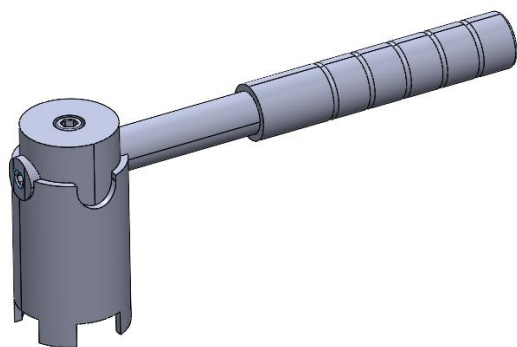
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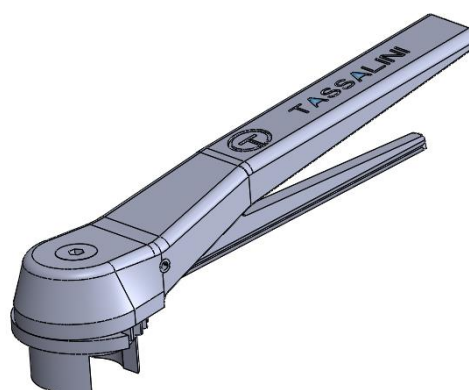
TECHNICAL DATA

HANDLES: TYPES, DIMENSIONS, AND THEIR RESPECTIVE DESIGNATION

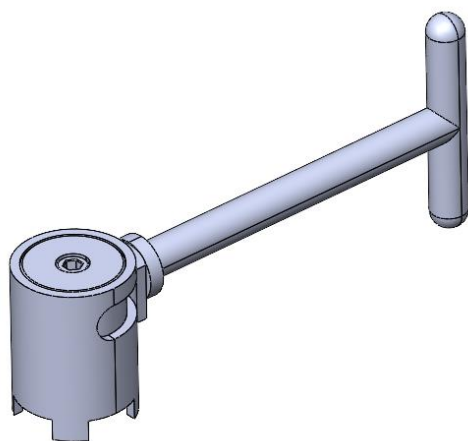
7M7-755: HANDLE FOR FLANGED BUTTERFLY VALVE



7M11: STAINLESS STEEL HANDLE WITH 7-POSITION LEVER



7M13: STAINLESS STEEL HANDLE WITH VARIABLE ADJUSTMENT



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TECHNICAL DATA

Below is the designation for the **VALVE AND HANDLE** assembly.

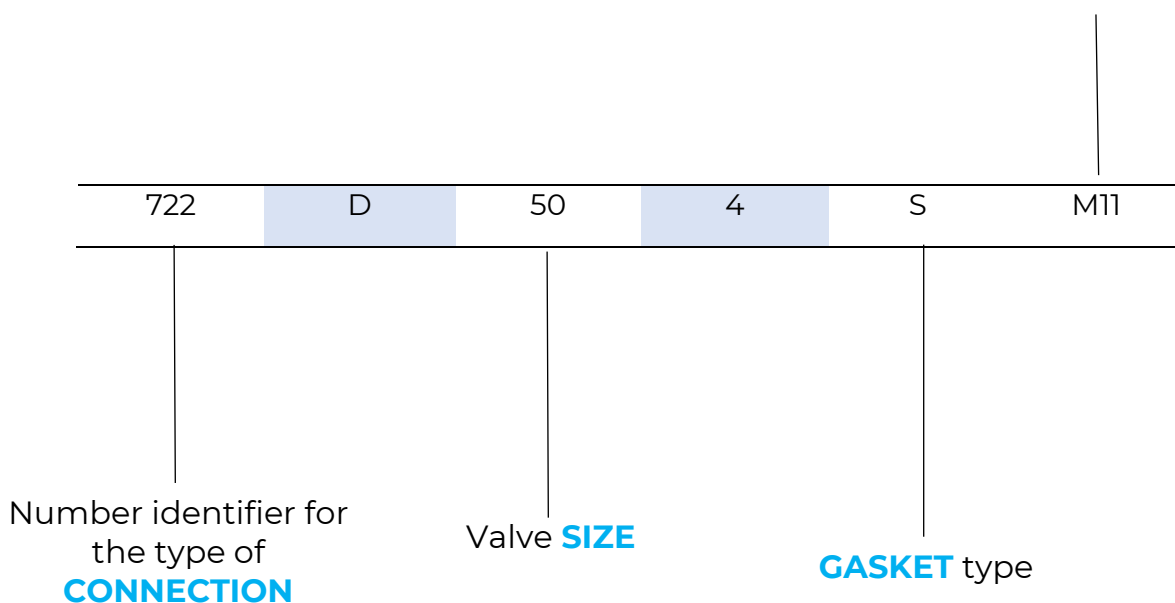
In the event that actuation via actuator is chosen, please refer to the relevant technical datasheet.

For any doubts or clarifications, please contact our technical office.

ASSEMBLY CODING: VALVE AND HANDLE

HANDLE type:

- 7M11L 25/76.4



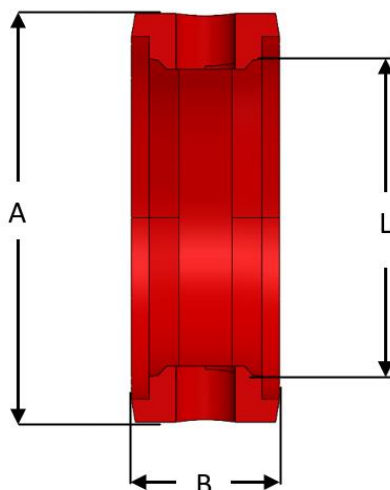
TECHNICAL DATA

GASKET: DIMENSIONS AND MATERIALS

Below are the images and overall dimensions of the **GASKETS**, noting that they are available in the following materials (**REF.PAG 15**).

GUARNIZIONE	MATERIALE
S	VMQ
E	EPDM
V	FPM
N	NBR
ET	EPDM+PTFE
VT	FPM+PTFE
T	PTFE

DIM.	DIAM.	A [mm]	B [mm]	L [mm]
DN 25	25/28	43.6	23.2	27.0
DN 32	34/38	52.3	23.2	35.0
DN 40	40	55.6	23.2	39.0
DN 50	51/52	66.0	23.4	49.0
DN 60	60/63	76.4	23.4	59.5
DN 65	70/76	88.8	25.4	69.5
DN 80	85	99.0	25.4	79.5
DN 100	101/104	119.0	25.4	100.0
DN 125	129	156.0	29.0	124.0
DN 150	154	182.0	29.0	149.0
DN 200	204	232.0	33.0	199.0



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