

SINCE 1922,  
PRECISION MADE GREAT

TASSALINI



**TASSALINI**

PRECISION MADE GREAT, SINCE 1922



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## TECHNICAL DATA SHEET

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BUTTERFLY VALVE

SINCE 1922,  
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## Summary

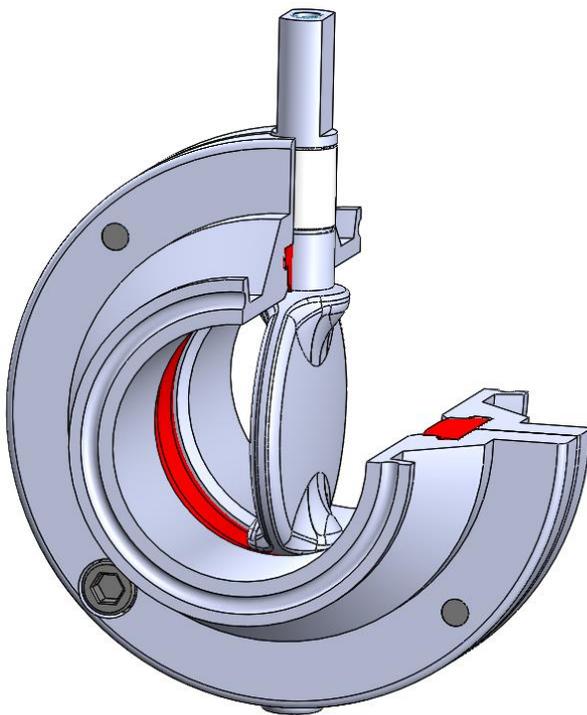
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## DESCRIPTION OF THE COMPONENT AND ITS APPLICATION

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

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### 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

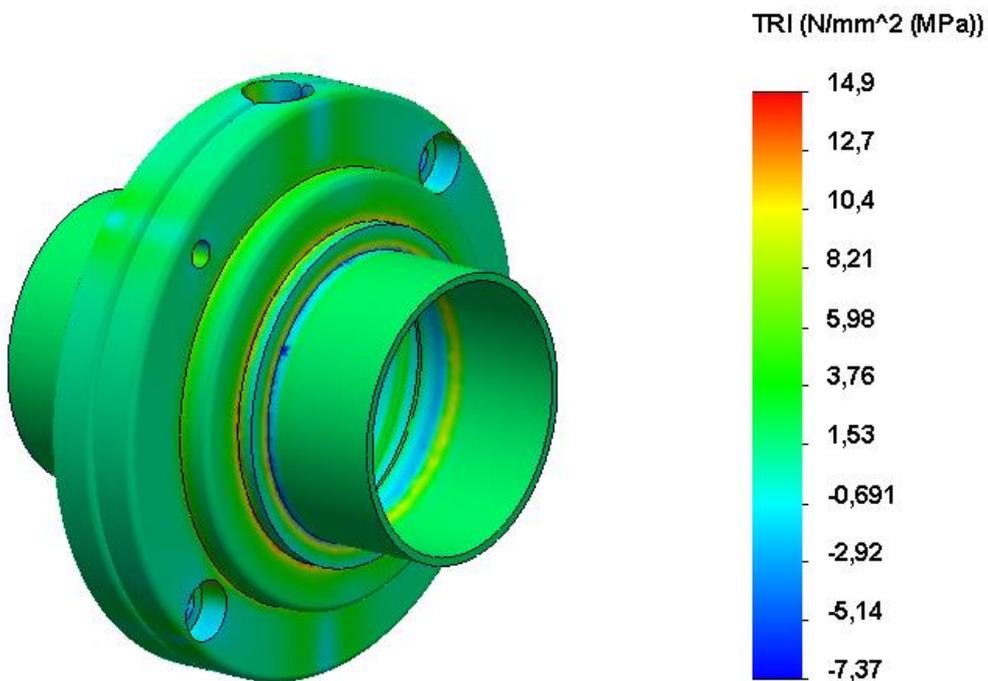
### DESIGN

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

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### 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

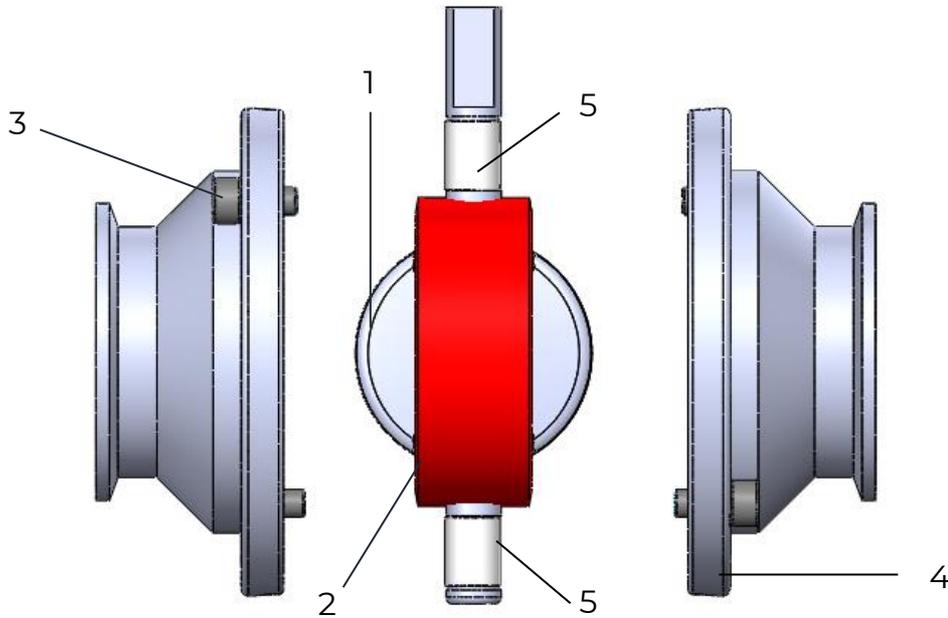
**ATMOSFERE CONSENTITE:** GAS IIC qualunque tipo di atmosfera gassosa con temperatura di accensione superiore ai 135 °C

**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**

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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.



## 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.



## 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

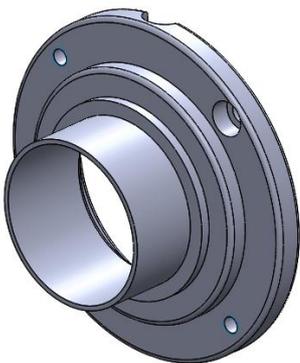
### CONNECTIONS: TYPES AND THEIR RESPECTIVE DESIGNATION

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

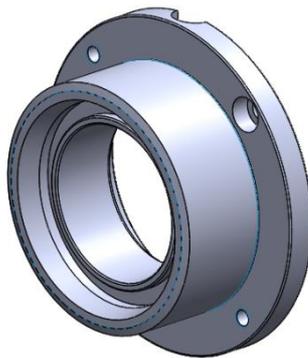
In case of particular combinations of junctions, to know their actual feasibility, we recommend contacting our technical office.

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

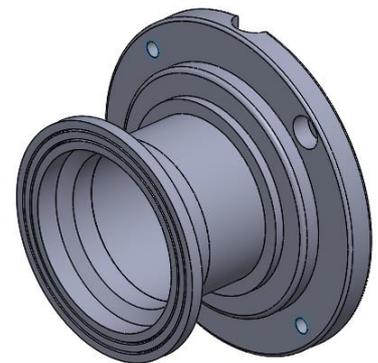
7-1: EL



7-2: EF



7-2E: ENO



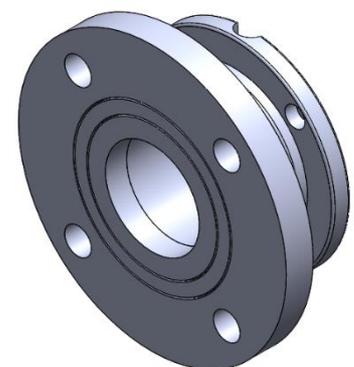
7-3: BL-G BC-G



7-4: CURVA



7-5: EFL



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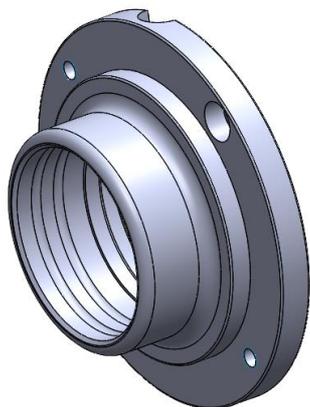
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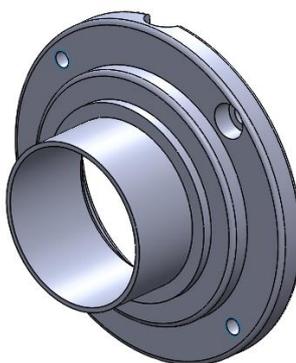
## TECHNICAL DATA

### CONNECTIONS: TYPES AND THEIR RESPECTIVE DESIGNATION

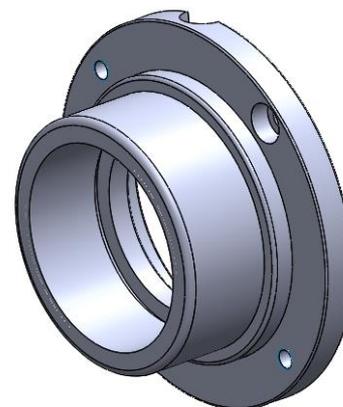
**7-6:** EM



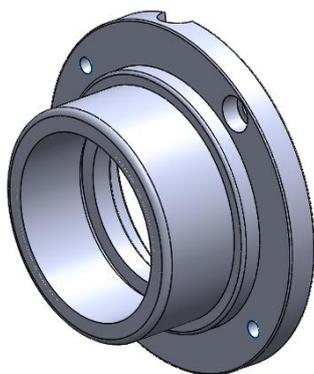
**7-7:** ES



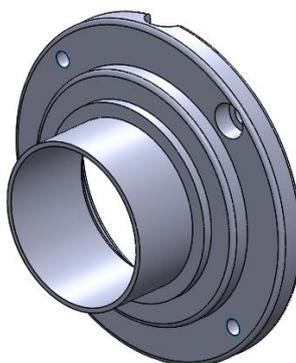
**7-8:** F.FE-GAS



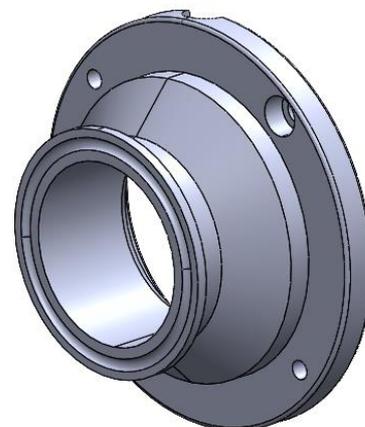
**7-9:** F.MA-GAS



**W100:** EL (CLAMP)



**K100:** CLAMP.



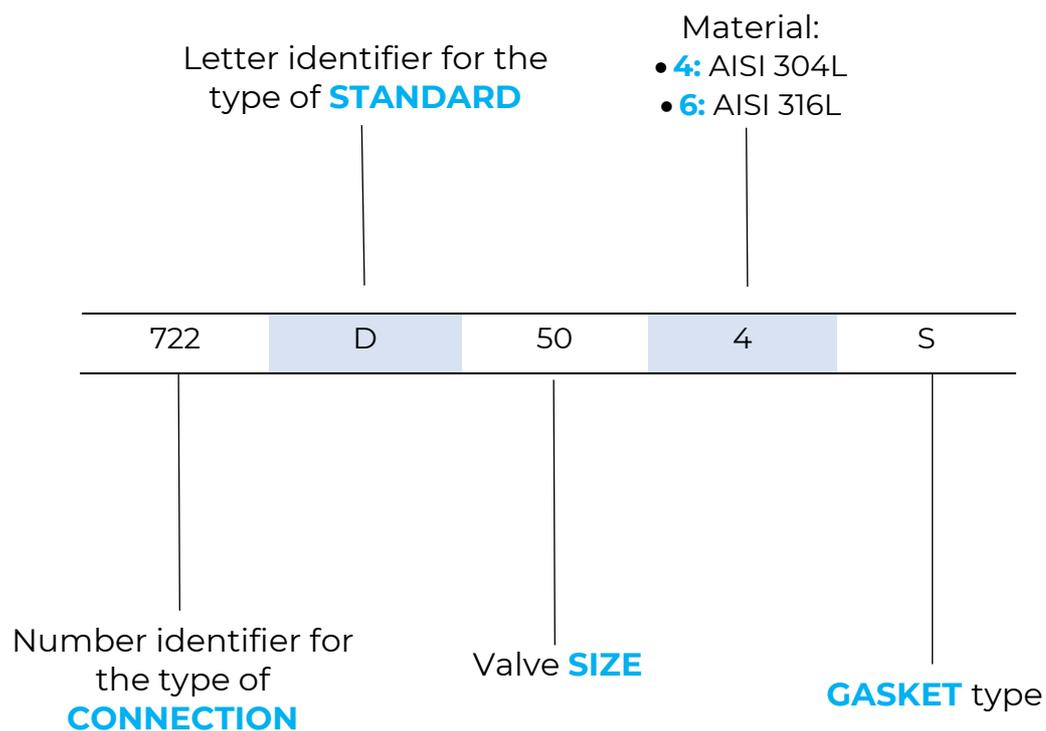
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## TECHNICAL DATA

### 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
-------	-------	---

Number identifier for  
the type of **HANDLE**

**MATERIAL:**

- **4**: AISI 304L

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## TECHNICAL DATA

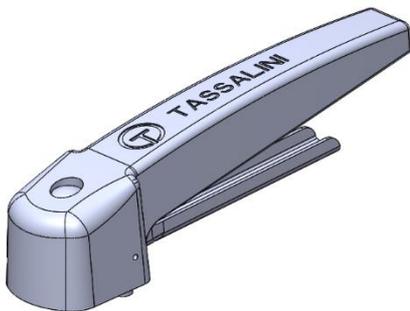
### HANDLES: TYPES, DIMENSIONS, AND THEIR RESPECTIVE DESIGNATION

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

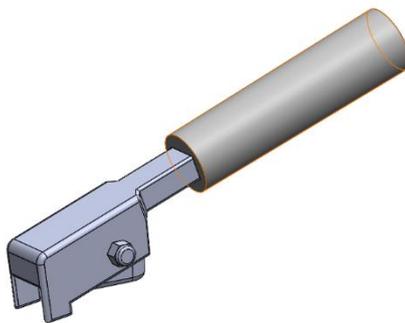
It is emphasized that all models are compatible for measurements from **DN 25 to 104**, with the exception of the **7M7**, which is available for measurements from **DN 85 to 200**.

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

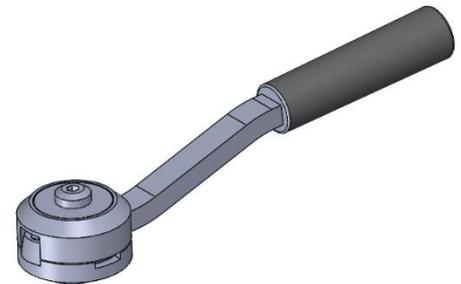
**7M1:** ABS HANDLE WITH LEVER



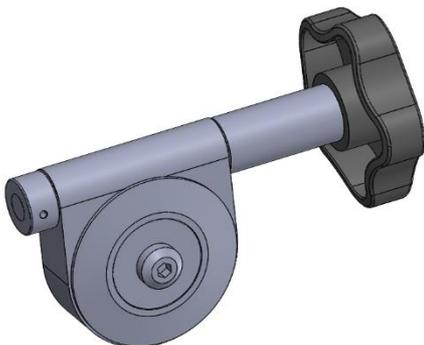
**7M2:** HANDLE WITH LOCKING



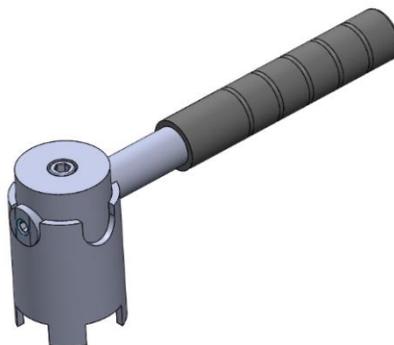
**7M3:** HANDLE WITH 2-POSITION ADJ..



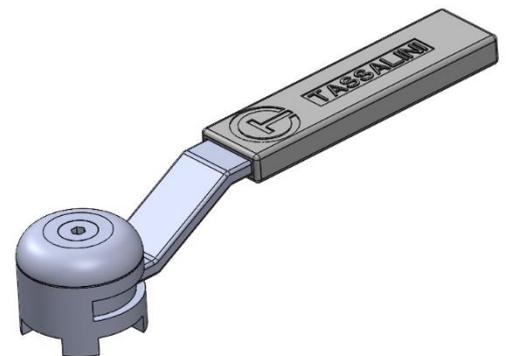
**7M6:** MICROMETRIC ADJ. HANDLE



**7M7:** HEAVY-DUTY TWO-POSITION HANDLE.



**7M12:** HANDLE WITH 4-POSITION ADJ..



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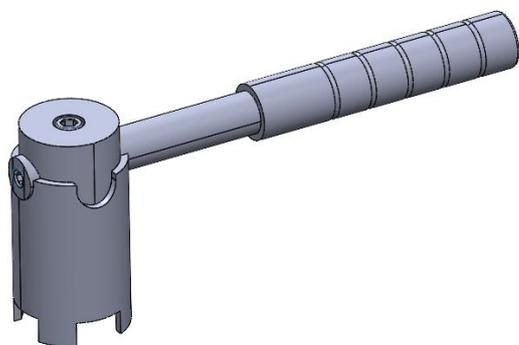
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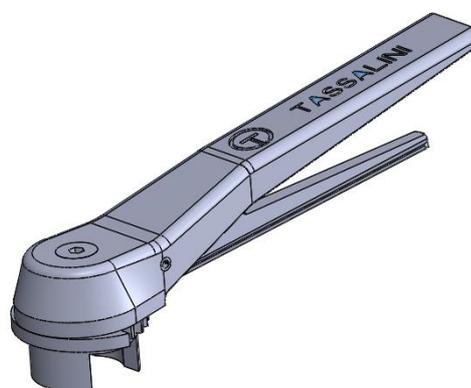
## TECHNICAL DATA

### HANDLES: TYPES, DIMENSIONS, AND THEIR RESPECTIVE DESIGNATION

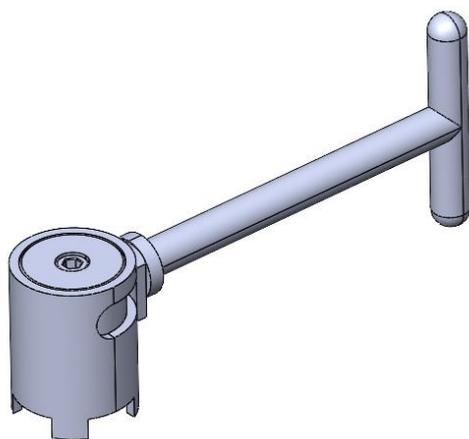
**7M7-755:** HANDLE FOR FLANGED BUTTERFLY VALVE



**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.

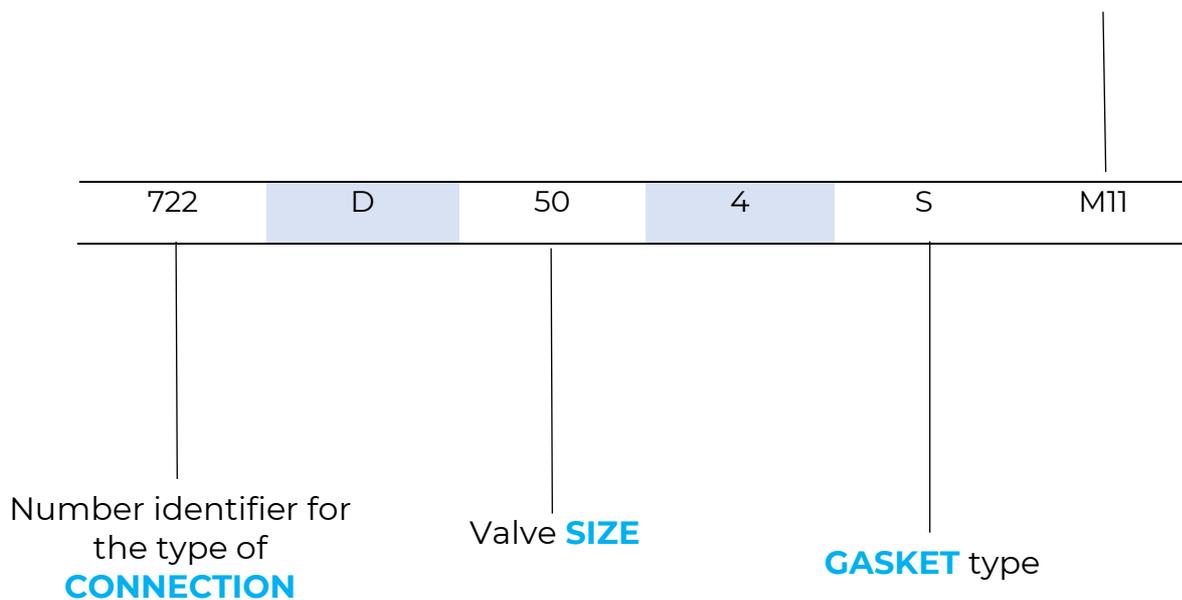
In the event that actuation via actuator is chosen, please refer to the relevant technical datasheet.

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

### ASSEMBLY CODING: VALVE AND HANDLE

**HANDLE** type:

- 7M11L 25/76.4





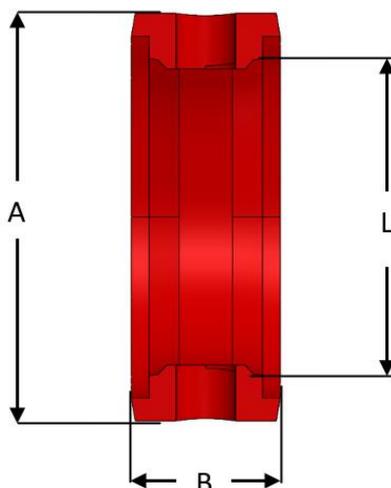
## TECHNICAL DATA

### 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



SINCE 1922,  
PRECISION MADE GREAT

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## VALVOLE A MEMBRANA

- Realizzate seguendo rigorosamente i criteri e i test imposti dalle norme 3-A.
- Corpo in acciaio inossidabile AISI 316L realizzato mediante stampaggio a caldo, solubilizzato, lavorato meccanicamente e lucidato.
- Comandi manuali e pneumatici in acciaio inossidabile AISI 316L per sterilizzazioni a elevate temperature.
- Membrane in EPDM o PTFE. Membrane in EPDM e supporti elastici per le membrane in PTFE telati per conferire maggiore resistenza meccanica.
- Perfetta tenuta e completo isolamento da fattori inquinanti esterni.
- Completo autodrenaggio di tutte le parti interne durante le fasi di lavaggio CIP.
- Manutenzioni ridotte "top entry" con facilità di accesso e senza necessità di smontare la valvola dall'impianto.
- Produzione standard: estremità Clamp o estremità a saldare. A richiesta, disponibili con estremità filettate norme DIN, SMS, RJT, ISS o estremità flangiate UNI, DIN, ANSI.
- Finitura standard: lucidatura esterna e satinatura interna grana 150 (finitura LS); a richiesta, lucidatura esterna e interna grana 240 (finitura LL), lucidatura elettrolitica grana 400 (finitura LE).
- Max. pressione di esercizio: 7 bar.

## DIAPHRAGM VALVES

- Produced in strict conformity with criteria and tests required by 3-A standards.
- Press-forged, solution heat-treated, machined and polished AISI 316L stainless steel body.
- AISI 316L stainless steel manual and pneumatic controls for high temperature sterilization.
- EPDM or PTFE diaphragms. EPDM diaphragms and elastic supports for the PTFE diaphragms fabric-finished to give high mechanical strength.
- Perfect seal and complete insulation from external pollutants.
- Complete self-drainage of all internal parts during CIP process.
- Reduced top-entry maintenance with easy access and no need to remove the valve from the system.
- Standard production: Clamp or welded ends. Available on request with threaded ends to DIN, SMS, RJT and ISS standards or flanged ends to UNI, DIN, ANSI standards.
- Standard finish: 150 grain external polishing and internal glazing (LS finish); on request 240 grain external and internal polishing (LL finish), 400 grain electrolytic polishing (LE finish).
- Maximum operating pressure: 7 bars.

## VANNES À MEMBRANE

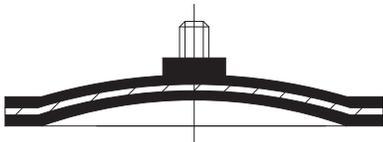
- Réalisées en respectant scrupuleusement les critères et les tests imposés par les normes 3-A.
- Corps en acier inoxydable AISI 316L réalisé par moulage à chaud, solubilisé, usiné mécaniquement et poli.
- Commandes manuelles et pneumatiques en acier inoxydable AISI 316L pour les stérilisations aux hautes températures.
- Membranes en EPDM ou PTFE. Membranes en EPDM et supports élastiques pour les membranes en PTFE toilées pour conférer une meilleure résistance mécanique.
- Étanchéité parfaite et isolation complète contre les facteurs polluants extérieurs.
- Autodrainage complet de toutes les parties internes durant les opérations de lavage CIP.
- Opérations d'entretien réduites "top entry", facilité d'accès et aucune nécessité de démonter la vanne de l'installation.
- Production standard: bouts Clamp ou bouts à souder. Sur demande, disponibles avec bouts filetés conformes aux normes DIN, SMS, RJT, ISS ou bouts bridés UNI, DIN, ANSI.
- Finissage standard: polissage extérieur et satinage intérieur grain 150 (finissage LS); sur demande, polissage extérieur et intérieur grain 240 (finissage LL), polissage électrolytique grain 400 (finissage LE).
- Pression d'exploitation maximum: 7 bars.



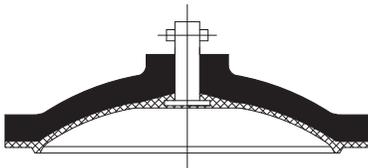
## VÁLVULAS DE MEMBRANA

- Realizadas respectando rigurosamente los criterios y los test establecidos por las normas 3-A.
- Cuerpo de acero inoxidable AISI 316L realizado mediante estampado en caliente, solubilizado, trabajado mecánicamente y pulido.
- Mandos manuales y neumáticos de acero inoxidable AISI 316L para esterilizaciones a elevadas temperaturas.
- Membranas de EPDM o PTFE. Membranas de EPDM y soportes elásticos para las membranas de PTFE entretelados para otorgar mayor resistencia mecánica.
- Cierre perfecto y aislamiento completo de factores contaminantes exteriores.
- Autodrenaje completo de todas las piezas interiores durante el proceso de lavado CIP.
- Mantenimientos reducidos "top entry" con facilidad de acceso y sin necesidad de desmontar la válvula del sistema.
- Producción estándar: extremos Clamp o extremos para soldar. A pedido, disponibles con extremos fileteados según normas DIN, SMS, RJT, ISS o extremos rebordeados UNI, DIN, ANSI.
- Acabado estándar: pulido exterior y satinado interior grano 150 (acabado LS); a pedido, pulido exterior e interior grano 240 (acabado LL), pulido electrolítico grano 400 (acabado LE).
- Máxima presión de ejercicio: 7 bares.

MEMBRANE  
DIAPHRAGMS  
MEMBRANES  
MEMBRANAS



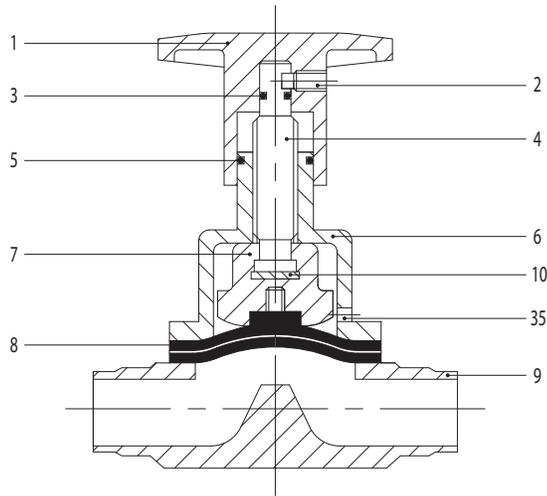
■ EPDM  
-40°C + 150°C  
-40°F + 300°F



■ PTFE  
-10°C + 150°C  
+15°F + 300°F



VALVOLA A MEMBRANA    VANNE À MEMBRANE  
DIAPHRAGM VALVE    VÁLVULA DE MEMBRANA



- |   |  |
|---|--|
| 1. Volantino<br>Handwheel<br>Volant<br>Manivela                     | 6. Comando<br>Control<br>Commande<br>Mando   |
| 2. Grano<br>Dowel<br>Cheville<br>Pasador                            | 7. Compressore<br>Compressor<br>Compresseur<br>Compressor  |
| 3. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR | 8. Membrana<br>Diaphragm<br>Membrane<br>Membrana   |
| 4. Stelo<br>Spindle<br>Came<br>Varilla                              | 9. Corpo valvola<br>Valve casing<br>Corps vanne<br>Cuerpo  |
| 5. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR | 10. Reggispinta<br>Thrust bearing<br>Butée<br>Cojinete de empuje   |
|   | 35. Foro rilevaz. perdita<br>Leakage detection hole<br>Trous relèvement pertes<br>Orificio desc. pérdida |

CODIFICAZIONE  
CODING  
CODIFICATION  
CODIFICACIÓN

Pos.	Cod. base	Norme	1/2"	3/4"	1"	1 1/2"	2"	Mat.	Part. o agg.
1	57		12/19	12/19	25	38	51	6L	01
2	GRA		M6	M6	M6	M8	M8	4L	
3	OR		2018	2018	106	114	114	N	
4	57		12/19	12/19	25	38	51	6L	04
5	OR		3056	3056	3068	3100	3100	N	
6	57		12	19	25	38	51	6L	06
7	57	E	12	19	25	38	51	6L	07
7	57	T	12	19	25	38	51	6L	07
8	57		12	19	25	38	51	E/T	08
9	57	W	12,7	19,05	25,4	38,1	50,8	6L	09
9	57	W	21,3	26,9	33,7	48,3	60,3	6L	09
9	57	L	12	18/22	28	40	52	6L	09
9	57	D	10	15/20	25	40	50	6L	09
9	57	K	12	19	25	38	51	6L	09
10	57	E	12/19	12/19	25	38/51	38/51	OT	10
10	57	T	12/19	12/19	25	38/51	38/51	OT	10



VALVOLA A MEMBRANA PNEUMATICA

NORMALMENTE APERTA

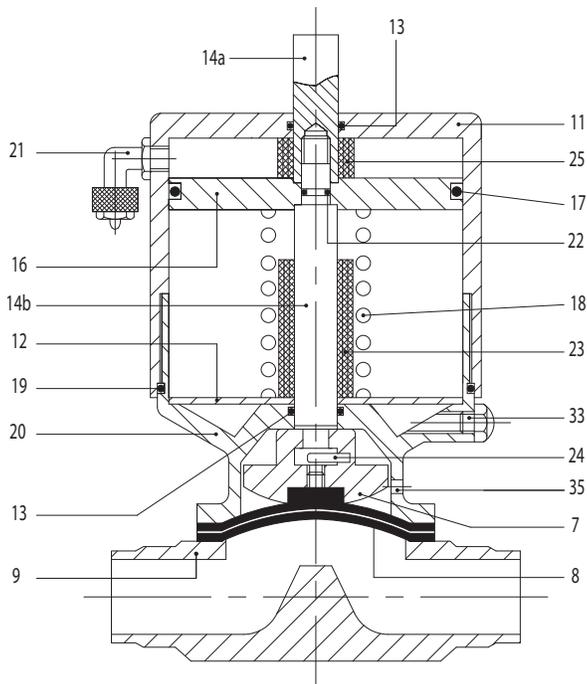
NORMALLY OPEN PNEUMATIC DIAPHRAGM VALVE

VANNE À MEMBRANE PNEUMATIQUE

NORMALEMENT OUVERTE

VÁLVULA NEUMÁTICA DE MEMBRANA

NORMALMENTE ABIERTA



- |  |  |
|--|--|
| 7. Compressore<br>Compressor<br>Compresseur<br>Compresor                     | 18. Molla<br>Spring<br>Ressort<br>Muelle   |
| 8. Membrana<br>Diaphragm<br>Membrane<br>Membrana                             | 19. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 9. Corpo valvola<br>Valve body<br>Corps vanne<br>Cuerpo                      | 20. Cilindro<br>Cylinder<br>Cylindre<br>Cilindro   |
| 11. Cappello cilindro<br>Cylinder cap<br>Capot cylindre<br>Capuchón cilindro | 21. Raccordo aria<br>Air union<br>Raccord air<br>Conexión para aire                                      |
| 12. Disco<br>Disc<br>Disque<br>Disco   | 22. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 13. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 23. Distanziale<br>Spacer<br>Entretoise<br>Distanciador  |
| 14a. Stelo superiore<br>Upper stem<br>Tige supérieure<br>Varilla superior    | 24. Spina<br>Plug<br>Broche<br>Enchufe   |
| 14b. Stelo inferiore<br>Lower stem<br>Tige inférieure<br>Varilla inferior    | 25. Distanziale superiore<br>Upper spacer<br>Entretoise supérieure<br>Distanciador superior              |
| 16. Pistone<br>Piston<br>Piston<br>Pistón                                    | 33. Uscita aria<br>Air vent<br>Décharge air<br>Descarga de aire  |
| 17. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 35. Foro rilevaz. perdite<br>Leakage detection hole<br>Trous relèvement pertes<br>Orificio desc. pérdida |



**VALVOLE A MEMBRANA PNEUMATICA**

**NORMALMENTE CHIUSA**

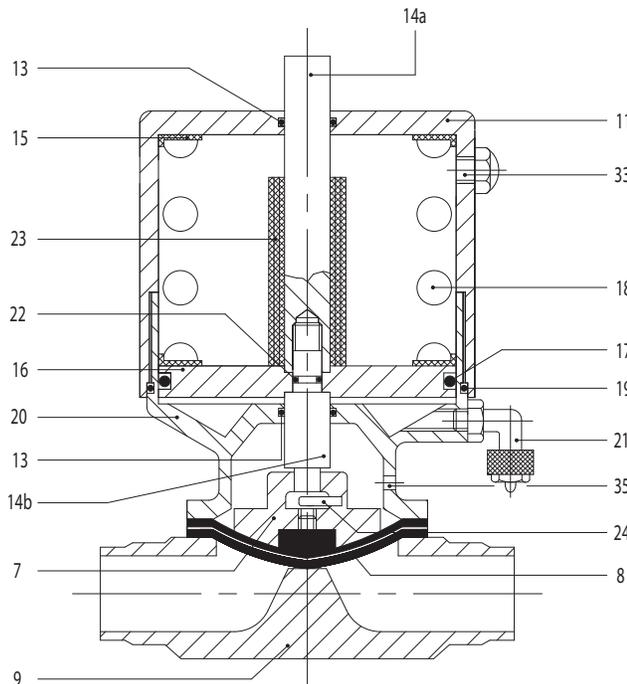
**NORMALLY CLOSED PNEUMATIC DIAPHRAGM VALVE**

**VANNE À MEMBRANE PNEUMATIQUE**

**NORMALEMENT FERMÉE**

**VÁLVULA NEUMÁTICA DE MEMBRANA**

**NORMALMENTE CERRADA**



- |  |  |
|--|--|
| 7. Compressore<br>Compressor<br>Compresseur<br>Compresor                     | 17. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 8. Membrana<br>Diaphragm<br>Membrane<br>Membrana                             | 18. Molla<br>Spring<br>Ressort<br>Muelle   |
| 9. Corpo valvola<br>Valve body<br>Corps vanne<br>Cuerpo                      | 19. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 11. Cappello cilindro<br>Cylinder cap<br>Capot cylindre<br>Capuchón cilindro | 20. Cilindro<br>Cylinder<br>Cylindre<br>Cilindro   |
| 13. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 21. Raccordo aria<br>Air union<br>Raccord air<br>Racor del aire  |
| 14a. Stelo superiore<br>Upper stem<br>Tige supérieure<br>Varilla superior    | 22. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 14b. Stelo inferiore<br>Lower stem<br>Tige inférieure<br>Varilla inferior    | 23. Distanziale<br>Spacer<br>Entretoise<br>Distanciador  |
| 15. Guida molla<br>Spring holder<br>Guide ressort<br>Guía muelle             | 24. Spina<br>Plug<br>Broche<br>Enchufe   |
| 16. Pistone<br>Piston<br>Piston<br>Pistón                                    | 33. Uscita aria<br>Air vent<br>Décharge air<br>Descarga de aire  |
|  | 35. Foro rilevaz. perdite<br>Leakage detection hole<br>Trous relèvement pertes<br>Orificio desc. pérdida |



**VALVOLA A MEMBRANA PNEUMATICA**

NORMALMENTE APERTA CON UNITÀ DI CONTROLLO

**NORMALLY OPEN PNEUMATIC DIAPHRAGM**

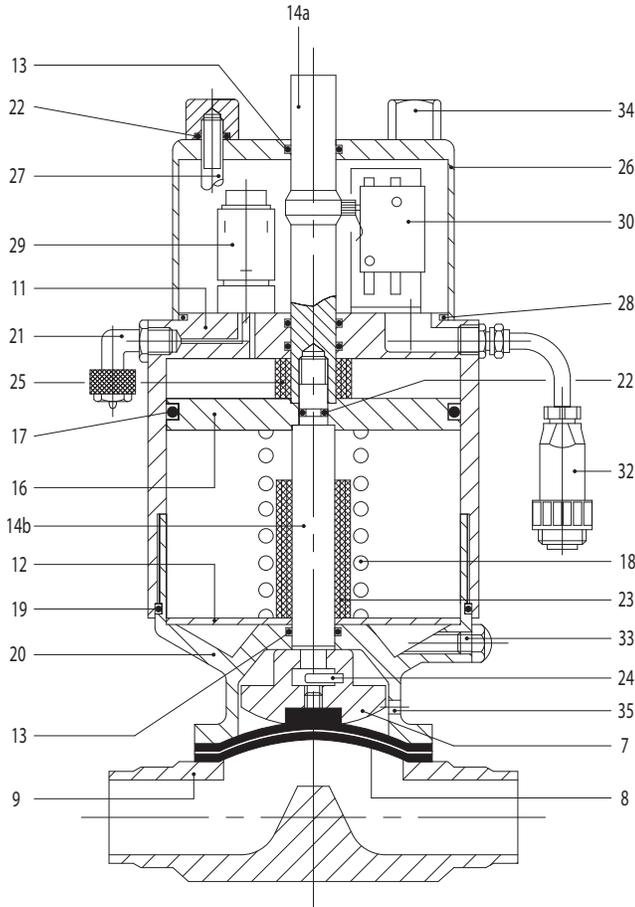
VALVE WITH CONTROL UNIT

**VANNE À MEMBRANE PNEUMATIQUE**

NORMALEMENT OUVERTE AVEC UNITÉ DE CONTRÔLE

**VÁLVULA NEUMÁTICA DE MEMBRANA**

NORMALMENTE ABIERTA CON UNIDAD DE CONTROL



- |  |  |
|--|--|
| 7. Compressore<br>Compressor<br>Compresseur<br>Compresor                     | 21. Raccordo aria<br>Air union<br>Raccord air<br>Racor del aire  |
| 8. Membrana<br>Diaphragm<br>Membrane<br>Membrana                             | 22. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 9. Corpo valvola<br>Valve body<br>Corps vanne<br>Cuerpo                      | 23. Distanziale<br>Spacer<br>Entretoise<br>Distanciador  |
| 11. Cappello cilindro<br>Cylinder cap<br>Capot cylindre<br>Capuchón cilindro | 24. Spina<br>Plug<br>Broche<br>Enchufe   |
| 12. Disco<br>Disc<br>Disque<br>Disco   | 25. Distanziale superiore<br>Upper spacer<br>Entretoise supérieure<br>Distanciador                       |
| 13. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 26. Cappello unità contr.<br>Control unit cap<br>Capot unité contrôle<br>Capuc. unidad control           |
| 14a. Stelo superiore<br>Upper stem<br>Tige supérieure<br>Varilla superior    | 27. Tirante<br>Tie rod<br>Tirant<br>Tirante  |
| 14b. Stelo inferiore<br>Lower stem<br>Tige inférieure<br>Varilla inferior    | 28. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 16. Pistone<br>Piston<br>Piston<br>Pistón                                    | 29. Elettrovalvola<br>Solenoid valve<br>Électrovanne<br>Electroválvula                                   |
| 17. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 30. Microinterruttore<br>Microswitch<br>Minirupteur<br>Microruptor                                       |
| 18. Molla<br>Spring<br>Ressort<br>Muelle                                     | 32. Connettore<br>Connector<br>Connecteur<br>Conector  |
| 19. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 33. Uscita aria<br>Air vent<br>Décharge air<br>Descarga de aire  |
| 20. Cilindro<br>Cylinder<br>Cylindre<br>Cilindro                             | 34. Dado<br>Nut<br>Écrou<br>Tuerca   |
|  | 35. Foro rilevaz. perdita<br>Leakage detection hole<br>Trous relèvement pertes<br>Orificio desc. pérdida |



**VALVOLA A MEMBRANA PNEUMATICA**

NORMALMENTE CHIUSA CON UNITÀ DI CONTROLLO

**NORMALLY CLOSED PNEUMATIC DIAPHRAGM**

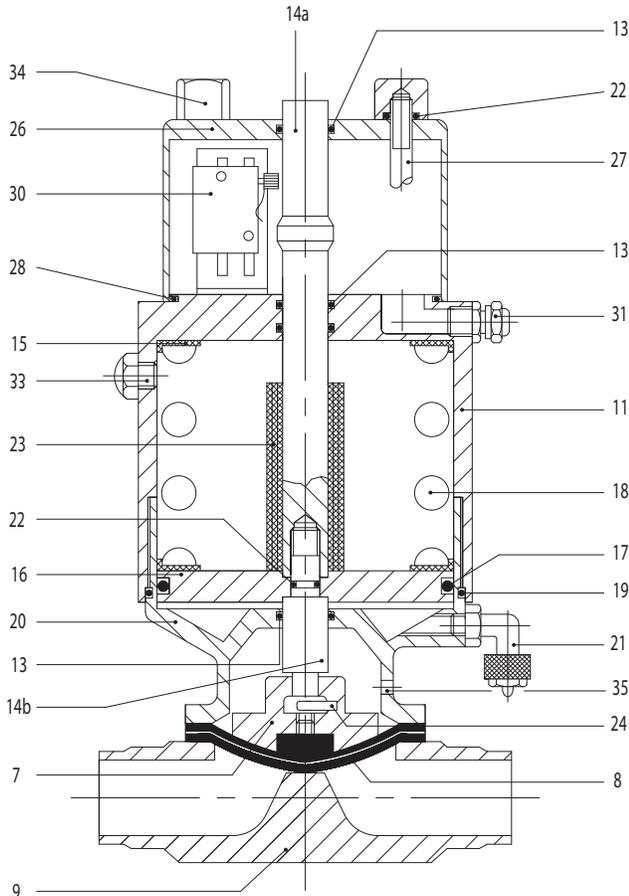
VALVE WITH CONTROL UNIT

**VANNE À MEMBRANE PNEUMATIQUE**

NORMALEMENT FERMÉE AVEC UNITÉ DE CONTRÔLE

**VÁLVULA NEUMÁTICA DE MEMBRANA**

NORMALMENTE CERRADA CON UNIDAD DE CONTROL



- |  |  |
|--|--|
| 7. Compressore<br>Compressor<br>Compresseur<br>Compresor                     | 20. Cilindro<br>Cylinder<br>Cylindre<br>Cilindro   |
| 8. Membrana<br>Diaphragm<br>Membrane<br>Membrana                             | 21. Raccordo aria<br>Air union<br>Raccord air<br>Racor del aire  |
| 9. Corpo valvola<br>Valve body<br>Corps vanne<br>Cuerpo                      | 22. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 11. Cappello cilindro<br>Cylinder cap<br>Capot cylindre<br>Capuchón cilindro | 23. Distanziale<br>Spacer<br>Entretoise<br>Distanciador  |
| 13. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 24. Spina<br>Plug<br>Broche<br>Enchufe   |
| 14a. Stelo superiore<br>Upper stem<br>Tige supérieure<br>Varilla superior    | 26. Cappello unità contr.<br>Control unit cap<br>Capot unité contrôle<br>Capuc. unidad control           |
| 14b. Stelo inferiore<br>Lower stem<br>Tige inférieure<br>Varilla inferior    | 27. Tirante<br>Tie rod<br>Tirant<br>Tirante  |
| 15. Guida molla<br>Spring holder<br>Guide ressort<br>Guía muelle             | 28. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR                                     |
| 16. Pistone<br>Piston<br>Piston<br>Pistón                                    | 30. Microinterruttore<br>Microswitch<br>Minirupteur<br>Microrruptor                                      |
| 17. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 31. Pressacavo<br>Cable-grommet<br>Presse-câble<br>Sujeta cables   |
| 18. Molla<br>Spring<br>Ressort<br>Muelle                                     | 33. Uscita aria<br>Air vent<br>Décharge air<br>Descarga de aire  |
| 19. Anello di tenuta OR<br>OR seal ring<br>Joint torique<br>Junta OR         | 34. Dado<br>Nut<br>Écrou<br>Tuerca   |
|  | 35. Foro rilevaz. perdite<br>Leakage detection hole<br>Trous relèvement pertes<br>Orificio desc. pérdida |



CODIFICAZIONE  
CODING  
CODIFICATION  
CODIFICACIÓN

Pos.	Cod. base	Norme	1/2"	3/4"	1"	1 1/2"	2"	Mat.	Part. o agg.
7	57	E	12	19	25	38	51	6L	07
7	57	T	12	19	25	38	51	6L	07
8	57		12	19	25	38	51	E	08
8	57		12	19	25	38	51	T	08
9	57	W	12,7	19,05	25,4	38,1	50,8	6L	09
9	57	K	12	19	25	38	51	6L	09
11	58		12	19/25	19/25	38/51	38/51	4L	11
12	58	NA	12	19/25	19/25	38/51	38/51	4L	12
13	OR		3056	123	123	123	123	N	
14a	58	NA	12	19	25	38	51	6L	14a
14b	58	NA	12	19/25	19/25	38/51	38/51	6L	14b
14a	58	NC	12	19	25	38	51	6L	14a
14b	58	NC	12	19/25	19/25	38/51	38/51	6L	14b
15	58		12	12	12	12	12	T	15
16	58		12	19/25	19/25	38/51	38/51	AL	16
17	OR		6150	6275	6275	6400	6400	N	
18	58		NA 12	12	12	NA 38/51	NA 38/51	4L	18
19	OR		3206	3325	3325	3450	3450	N	
20	58		12	19	25	38	51	6L	20
21	58		1/8"	1/8"	1/8"	1/8"	1/8"	4L	
22	OR		106	108	108	108	108	N	
23	58	NA	12	19	25	38	51	T	23
23	58	NC	12	19	25	38	51	T	23
24	58		3x15	3x15	3x15	3x15	3x15	6L	24
25	58	NA	12	19	25	38	51	T	25
26	60		12	19/25	19/25	38/51	38/51	4L	26
27	60		12/51	12/51	12/51	12/51	12/51	4L	27
28	OR		2262	2300	2300	2375	2375	N	
29	015		U	U	U	U	U		
30	014		1	1	1	1	1		
31	026		12/51	12/51	12/51	12/51	12/51	4L	31
32	030 S		S	S	S	S	S		
33	58		1/8"	1/8"	1/8"	1/8"	1/8"	4L	33
34	60		12/51	12/51	12/51	12/51	12/51	4L	34



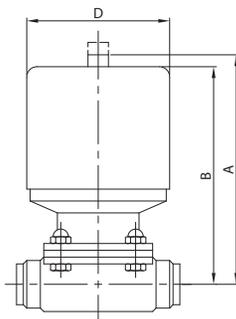
CONNESSIONI  
ENDS  
BOUTS  
EXTREMOS

DN	BS			SCHEDULE				ISO		DIN					
	D.E.	+16 swg	18 swg	D.E.	5S	10S	40S	D.E.	Sp.	Serie 1		Serie 2		Serie 3	
		Sp.	Sp.		Sp.	Sp.	D.E.			Sp.	D.E.	Sp.	D.E.	Sp.	
15	12,70	1,63	1,22	21,34	1,65	2,11	2,77	21,3	1,6	18	1	19	1,5	20	2
20	19,05	1,63	1,22	26,67	1,65	2,11	2,87	26,9	1,6	22	1	23	1,5	24	2
25	25,40	1,63	1,22	33,40	1,65	2,77	3,38	33,7	2,0	28	1	29	1,5	30	2
40	38,10	1,63	1,22	48,26	1,65	2,77	3,68	48,3	2,0	40	1	41	1,5	42	2
50	50,80	1,63	1,22	60,33	1,65	2,77	3,91	60,3	2,6	52	1	53	1,5	54	2

VALORI CV E KV  
CV AND KV VALUES  
VALEURS CV ET KV  
VALORES CV Y KV

%	DN 15 1/2"		DN 20 3/4"		DN 25 1"		DN 40 1 1/2"		DN 50 2"	
APERTURA OPENING OUVERTURE APERTURA	CV (US gal/min)	KV (l/s)								
100	6,7	1,6	13,3	3,16	20	4,76	50	12	101	24,04
90	6,4	1,5	12,8	3,04	19,2	4,57	48	11,4	97	23,1
80	6,11	1,45	12,3	2,9	18,4	4,37	46	11	92,9	22,1
70	5,85	1,4	11,7	2,8	17,6	4,2	44	10,5	88,9	21,15
60	5,58	1,32	11,2	2,65	16,8	4	42	10	84,83	20,2
50	4,65	1,1	9,3	2,2	14	3,33	35	8,4	70,7	16,83
40	3,7	0,9	7,45	1,76	11,2	2,66	28	6,7	56,5	13,46
30	2,8	0,65	5,6	1,3	8,4	2	21	5	42,4	10,1
20	1,85	0,43	3,7	0,9	5,6	1,33	14	3,8	28,27	6,73
10	0,92	0,21	1,85	0,43	2,8	0,66	7	1,66	14,13	3,36
0	0		0		0		0		0	

DIMENSIONI, VOLUMI E TEMPI DI MANOVRA  
DIMENSIONS, AIR VOLUMES AND OPERATING TIMES  
DIMENSIONES, VOLUMES ET TEMPS DE MANOEUVRE  
DIMENSIONES, VOLUMENES Y TIEMPOS DE MANIOBRA



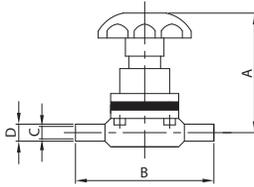
Diam. valvola Valve diam. Diam. vanne Diam. válvula	A	B	D	Vol. Aria chiude Air closes Air ferme Aire cierra	Vol. Aria apre Air opens Air ouvre Aire abre	Tempi Time Temps Tiempos
mm	mm	mm	mm	cm <sup>3</sup>	cm <sup>3</sup>	s
15	118	111	60	50	20	1
20	127	120	89	230	65	1
25	132	124	89	230	65	1
40	196	186	129	1000	250	2
50	210	200	129	1000	350	2

Diam. valvola Valve diam. Diam. vanne Diam. válvula	A	B	D	Vol. Aria chiude Air closes Air ferme Aire cierra	Vol. Aria apre Air opens Air ouvre Aire abre	Tempi Time Temps Tiempos
in	in	in	in	in <sup>3</sup>	in <sup>3</sup>	s
1/2"	4 5/8"	4 3/8"	2 3/8"	3	1	1
3/4"	5"	4 5/8"	3 1/2"	13	4	1
1"	5 1/4"	4 7/8"	3 1/2"	13	4	1
1 1/2"	7 5/8"	7 3/8"	5 1/8"	60,5	15	2
2"	8 1/4"	7 7/8"	5 1/8"	61	20	2



MICROVALVOLA M. EL.  
D. MICROVALVE PE.  
MINIVANNE MEMBR. EL.  
MICROVALVULA M. EL.

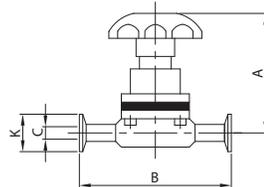
**S57W**



DN	A	B	C	D	gr
6	66,5	67,0	3,9	6,3	190
9	66,5	67,0	7,1	9,5	190
12	66,5	67,0	9,4	12,7	190

MICROVALVOLA M. E. SM.  
D. MICROVALVE E. FR.  
MINIVANNE MEMBR. B. FR.  
MICROVALVULA M. E. SM.

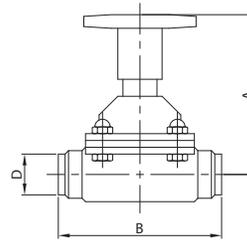
**S57K**



DN	A	B	C	K	gr
12	66,5	67,0	9,4	25,0	200

V. MEMBRANA EL.  
DIAPHRAGM V. PE.  
V. MEMBRANA BL.  
V. MEMBRANA EL.

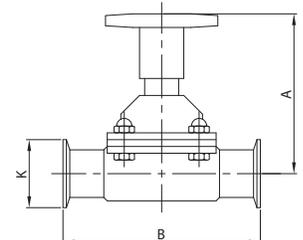
**57W**



DN	A	B	D	gr
12	78,0	89,0	12,7	840
19	79,0	102,0	19,0	1.200
25	92,0	114,0	25,4	1.680
38	112,0	140,0	38,1	3.140
51	135,0	159,0	50,8	5.040

V. MEMBRANA E. SM.  
DIAPHRAGM V. E. FR.  
V. MEMBRANA B. FR.  
V. MEMBRANA E. SM.

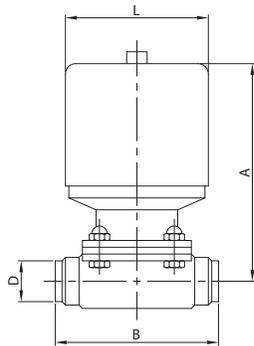
**57K**



DN	A	B	K	gr
12	78,0	89,0	25,0	840
19	79,0	102,0	25,0	1.200
25	92,0	114,0	50,5	1.680
38	112,0	140,0	50,5	3.140
51	135,0	159,0	64,0	5.040

V. M. PNEUMATICA EL.  
PNEUMATIC D. V. PE.  
V. M. PNEUMATIQUE BL.  
V. M. NEUMÁTICA EL.

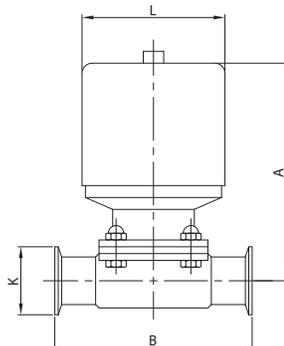
**58W**



DN	A	B	D	L	gr
12	107,0	89,0	12,7	60,0	1.360
19	120,0	102,0	19,0	90,0	2.460
25	124,0	114,0	25,4	90,0	2.780
38	186,0	140,0	38,1	127,0	6.880
51	200,0	159,0	50,8	127,0	8.160

V. M. PNEUMATICA E. SM.  
PNEUMATIC D. V. E. FR.  
V. M. PNEUMATIQUE B. FR.  
V. M. NEUMÁTICA E. SM.

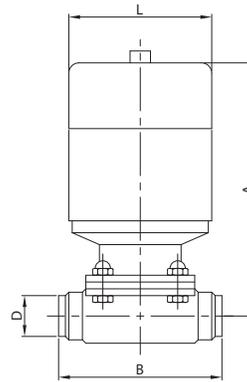
**58K**



DN	A	B	K	L	gr
12	107,0	89,0	25,0	60,0	1.360
19	120,0	102,0	25,0	90,0	2.460
25	124,0	114,0	50,5	90,0	2.780
38	186,0	140,0	50,5	127,0	6.880
51	200,0	159,0	64,0	127,0	8.160

V. M. UN. CONTROLLO EL.  
D. V. CONTROL UNIT PE.  
V. M. UN. CONTRÔLE BL.  
V. M. UN. CONTROL EL.

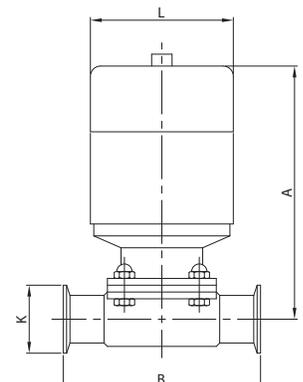
**60W**



DN	A	B	D	L	gr
12	183,0	89,0	12,7	60,0	1.660
19	197,0	102,0	19,0	90,0	3.010
25	201,0	114,0	25,4	90,0	3.330
38	263,0	140,0	38,1	127,0	7.880
51	277,0	159,0	50,8	127,0	9.160

V. M. UN. CONTROLLO E. SM.  
D. V. CONTROL UNIT E. FR.  
V. M. UN. CONTRÔLE B. FR.  
V. M. UN. CONTROL E. SM.

**60K**

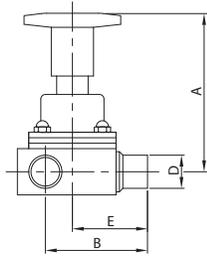


DN	A	B	K	L	gr
12	183,0	89,0	25,0	60,0	1.660
19	197,0	102,0	25,0	90,0	3.010
25	201,0	114,0	50,5	90,0	3.330
38	263,0	140,0	50,5	127,0	7.880
51	277,0	159,0	64,0	127,0	9.160



V. MEMBRANA 3 V. T EL.  
DIAPHRAGM V. 3 W. T PE.  
V. MEMBRANE 3 V. T BL.  
V. MEMBRANA 3 V. T EL.

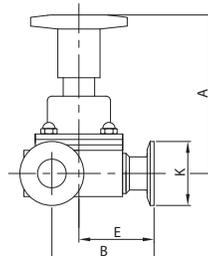
**ZDT 57W**



DN	A	B	D	E	gr
12	97,5	56,5	12,7	44,5	840
19	99,0	66,5	19,0	51,0	1.200
25	120,0	80,0	25,4	57,0	1.680
38	156,0	101,5	38,1	70,0	3.140
51	182,0	118,5	50,8	79,5	5.040

V. MEMBR. 3 V. T E. SM.  
DIAPHR. V. 3 W. T FR.  
V. MEMBR. 3 V. T B. FR.  
V. MEMBR. 3 V. T E. SM.

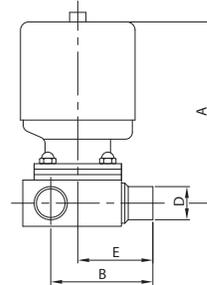
**ZDT 57K**



DN	A	B	E	K	gr
12	97,5	56,5	44,5	25,0	840
19	99,0	66,5	51,0	25,0	1.200
25	120,0	80,0	57,0	50,5	1.680
38	156,0	101,5	70,0	50,5	3.140
51	182,0	118,5	79,5	64,0	5.040

V. M. PNEUM. 3 V. T EL.  
PNEUM. D. V. 3 W. T PE.  
V. M. PNEUM. 3 V. T BL.  
V. M. NEUM. 3 V. T EL.

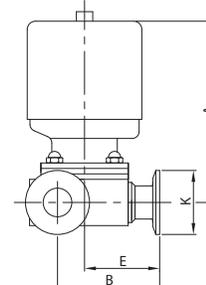
**ZDT 58W**



DN	A	B	D	E	gr
12	111,0	56,5	12,7	44,5	1.360
19	123,0	66,5	19,0	51,0	2.460
25	129,0	80,0	25,4	57,0	2.780
38	189,0	101,5	38,1	70,0	6.880
51	201,0	118,5	50,8	79,5	8.160

V. M. PN. 3 V. T E. SM.  
PN. D. V. 3 W. T E. FR.  
V. M. PN. 3 V. T B. FR.  
V. M. NEUM. 3 V. T E. SM.

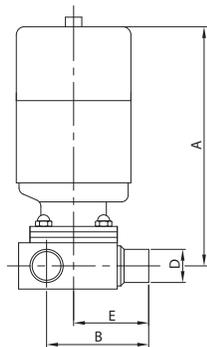
**ZDT 58K**



DN	A	B	E	K	gr
12	111,0	56,5	44,5	25,0	1.360
19	123,0	66,5	51,0	25,0	2.460
25	129,0	80,0	57,0	50,0	2.780
38	189,0	101,5	70,0	50,5	6.880
51	201,0	118,5	79,5	64,0	8.160

V. M. UN. C. 3 V. T EL.  
D. V. C. UNIT 3 W. T PE.  
V. M. UN. CONTR. 3 V. T BL.  
V. M. UN. CONTR. 3 V. T EL.

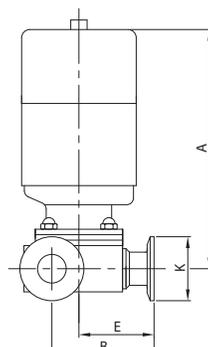
**ZDT 60W**



DN	A	B	D	E	gr
12	187,0	56,5	12,7	44,5	1.660
19	200,0	66,5	19,0	51,0	3.010
25	206,0	80,0	25,4	57,0	3.330
38	266,0	101,5	38,1	70,0	7.880
51	278,0	118,5	50,8	79,5	9.160

V. M. UN. C. 3 V T E. SM.  
D. V. C. UN. 3 W. T E. FR.  
V. M. UN. C. 3 V. T B. FR.  
V. M. UN. C. 3 V. T E. SM.

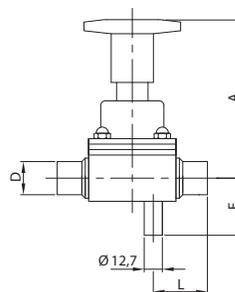
**ZDT 60K**



DN	A	B	E	K	gr
12	187,0	56,5	44,5	25,0	1.660
19	200,0	66,5	51,0	25,0	3.010
25	206,0	80,0	57,0	50,5	3.330
38	266,0	101,5	70,0	50,5	7.880
51	278,0	118,5	79,5	64,0	9.160

V. M. PRELIEVO EL.  
SAMPLING D. V. PE.  
V. M. PRISE ECHANT. EL.  
V. M. TOMAMUESTRAS EL.

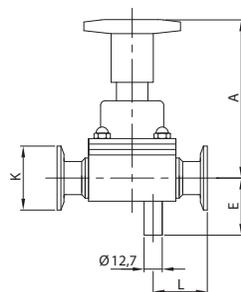
**ZDL 57W**



DN	A	D	E	L	gr
12	94,5	12,7	34,5	27,0	840
19	96,0	19,0	39,0	32,0	1.200
25	116,0	25,4	42,0	37,0	1.680
38	155,0	38,1	59,0	42,0	3.140
51	182,0	50,8	66,0	46,0	5.040

V. M. PRELIEVO E. SM.  
SAMPLING D. V. E. FR.  
V. M. PRISE ECHANT. B. FR.  
V. M. TOMAM. E. SM.

**ZDL 57K**

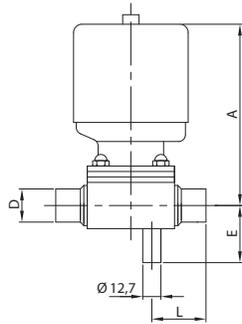


DN	A	E	K	L	gr
12	94,5	34,5	25,0	27,0	840
19	96,0	39,0	25,0	32,0	1.200
25	116,0	42,0	50,5	37,0	1.680
38	155,0	59,0	50,5	42,0	3.140
51	182,0	66,0	64,0	46,0	5.040



V. M. PNEUM. PRELIEVO EL.  
SAMPLING PN. D. V. PE.  
V. M. PN. PRISE ECH. EL.  
V. M. NEUM. TOMAM. EL.

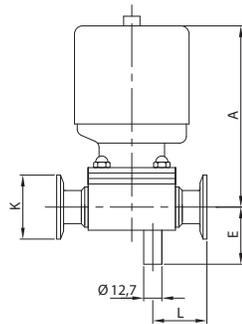
**ZDL 58W**



DN	A	D	E	L	gr
12	107,0	12,7	34,5	27,0	1.360
19	120,0	19,0	39,0	32,0	2.460
25	124,0	25,4	42,0	37,0	2.780
38	186,0	38,1	59,0	42,0	6.880
51	200,0	50,8	66,0	46,0	8.160

V. M. PNEUM. PREL. E. SM.  
SAMPL. PN. D. V. E. FR.  
V. M. PN. PRISE ECH. B. FR.  
V. M. NEUM. TOMAM. E. SM.

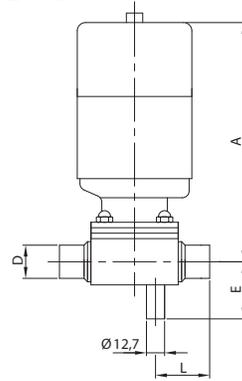
**ZDL 58K**



DN	A	E	K	L	gr
12	107,0	34,5	25,0	27,0	1.360
19	120,0	39,0	25,0	32,0	2.460
25	124,0	42,0	50,5	37,0	2.780
38	186,0	59,0	50,5	42,0	6.880
51	200,0	66,0	64,0	46,0	8.160

V. M. PNEUM. PREL. E. SM.  
SAMPL. PN. D. V. E. FR.  
V. M. PN. PRISE ECH. B. FR.  
V. M. NEUM. TOMAM. E. SM.

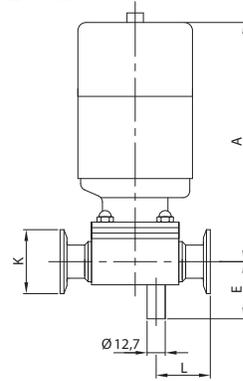
**ZDL 60W**



DN	A	D	E	L	gr
12	183,0	12,7	34,5	27,0	1.660
19	197,0	19,0	39,0	32,0	3.010
25	201,0	25,4	42,0	37,0	3.330
38	263,0	38,1	59,0	42,0	7.880
51	277,0	50,8	66,0	46,0	9.160

V. M. U. C. PREL. E. SM.  
SAMPL. D. V. C. UN. E. FR.  
V. M. U. C. PRISE ECH. B. FR.  
V. M. U. C. TOMAM. E. SM.

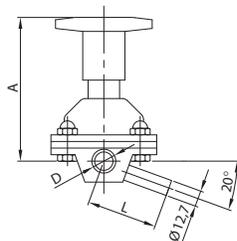
**ZDL 60K**



DN	A	E	K	L	gr
12	183,0	34,5	25,0	27,0	1.660
19	197,0	39,0	25,0	32,0	3.010
25	201,0	42,0	50,5	37,0	3.330
38	263,0	59,0	50,5	42,0	7.880
51	277,0	66,0	64,0	46,0	9.160

V. M. PRELIEVO 20° EL.  
20° SAMPLING D. V. PE.  
V. M. PRISE ECH. 20° EL.  
V. M. TOMAM. 20° EL.

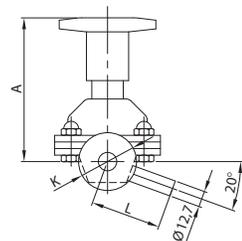
**D2L 57W**



DN	A	D	L	gr
12	94,5	12,7	46,0	840
19	96,0	19,0	50,0	1.200
25	116,0	25,4	55,0	1.680
38	155,0	38,1	71,0	3.140
51	182,0	50,8	84,0	5.040

V. M. PRELIEVO 20° E. SM.  
20° SAMPLING D. V. E. FR.  
V. M. PRISE ECH. 20° B. FR.  
V. M. TOMAM. 20° E. SM.

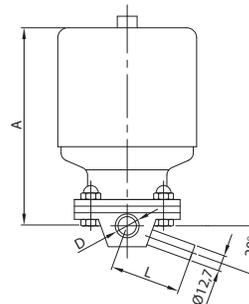
**D2L 57K**



DN	A	K	L	gr
12	94,5	25,0	46,0	840
19	96,0	25,0	50,0	1.200
25	116,0	50,5	55,0	1.680
38	155,0	50,5	71,0	3.140
51	182,0	64,0	84,0	5.040

V. M. PNEUM. PREL. 20° EL.  
20° SAMPL. PN. D. V. PE.  
V. M. PN. PR. ECH. 20° BL.  
V. M. NEUM. TOMAM. 20° EL.

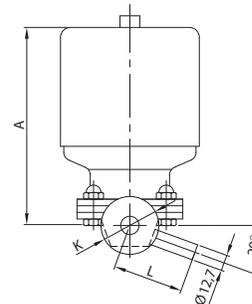
**D2L 58W**



DN	A	D	L	gr
12	107,0	12,7	46,0	1.360
19	120,0	19,0	50,0	2.460
25	124,0	25,4	55,0	2.780
38	186,0	38,1	71,0	6.880
51	200,0	50,8	84,0	8.160

V. M. PN. PREL. 20° E. SM.  
20° SAMPL. PN. D. V. E. FR.  
V. M. PN. PR. ECH. 20° B. FR.  
V. M. N. TOMAM. 20° E. SM.

**D2L 58K**



DN	A	K	L	gr
12	107,0	25,0	46,0	1.360
19	120,0	25,0	50,0	2.460
25	124,0	50,5	55,0	2.780
38	186,0	50,5	71,0	6.880
51	200,0	64,0	84,0	8.160



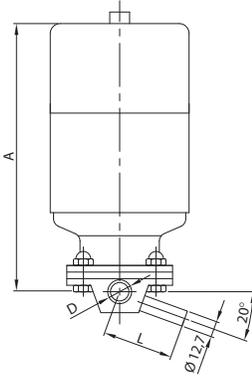
V. M. U. C. PREL. 20° EL.  
20° SAMPL. D. V. C. UN. PE.  
V. M. U. C. PR. ECH. 20° EL.  
V. M. U. C. TOMAM. 20° EL.

V. M. U. C. PREL. 20° E. SM.  
20° SAMPL. D. V. C. UN. E. FR.  
V. M. U. C. PR. ECH. 20° B. FR.  
V. M. U. C. TOMAM. 20° E. SM.

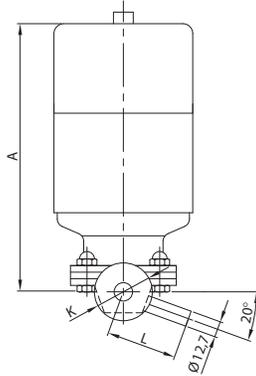
V. M. FONDO SERBATOIO EL.  
TANK BOTTOM D. V. PE.  
V. M. FOND CUVE BL.  
V. M. FONDO TANQUE EL.

V. M. FONDO SERB. E. SM.  
TANK BOTTOM D. V. E. FR.  
V. M. FOND CUVE B. FR.  
V. M. FONDO TANQUE E. SM.

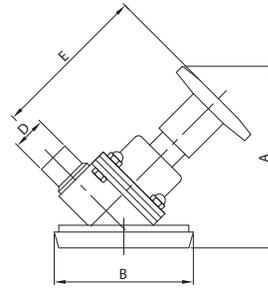
### D2L 60W



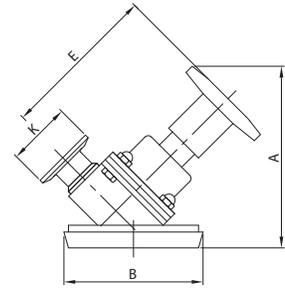
### D2L 60K



### KTB 57W



### KTB 57K



DN	A	D	L	gr
1/2 12	183,0	12,7	46,0	1.660
3/4 19	197,0	19,0	50,0	3.010
1 25	201,0	25,4	55,0	3.330
1 1/2 38	263,0	38,1	71,0	7.880
2 51	277,0	50,8	84,0	9.160

DN	A	K	L	gr
1/2 12	183,0	25,0	46,0	1.660
3/4 19	197,0	25,0	50,0	3.010
1 25	201,0	50,5	55,0	3.330
1 1/2 38	263,0	50,5	71,0	7.880
2 51	277,0	64,0	84,0	9.160

DN	A	B	D	E	gr
1/2 12	117,0	68,0	12,7	94,5	1.040
3/4 19	123,0	86,0	19,0	96,0	1.550
1 25	142,0	100,0	25,4	116,0	2.030
1 1/2 38	181,0	121,0	38,1	155,0	4.090
2 51	206,0	150,0	50,8	182,0	7.090

DN	A	B	E	K	gr
1/2 12	117,0	68,0	94,5	25,0	1.040
3/4 19	123,0	86,0	96,0	25,0	1.550
1 25	142,0	100,0	116,0	50,5	2.030
1 1/2 38	181,0	121,0	155,0	50,5	4.090
2 51	206,0	150,0	182,0	64,0	7.090

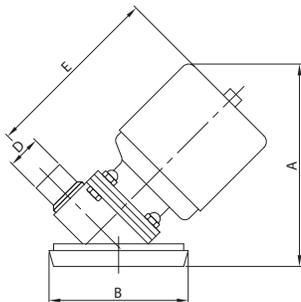
V. M. PNEUM. F. SERB. EL.  
TANK B. PNEUM. D. V. PE.  
V. M. PN. FOND CUVE BL.  
V. M. NEUM. F. TANQUE EL.

V. M. PN. F. SERB. E. SM.  
TANK B. PNEUM. D. V. E. FR.  
V. M. PN. FOND CUVE B. FR.  
V. M. N. F. TANQUE E. SM.

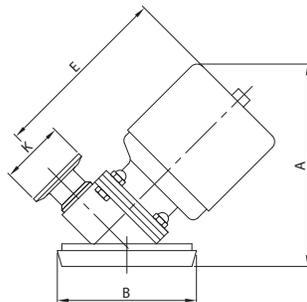
V. M. U. C. F. SERB. EL.  
TANK B. D. V. C. UN. PE.  
V. M. U. C. F. CUVE BL.  
V. M. U. C. F. TANQUE EL.

V. M. U. C. F. SERB. E. SM.  
TANK B. D. V. C. UN. E. FR.  
V. M. U. C. F. CUVE B. FR.  
V. M. U. C. F. TANQUE E. SM.

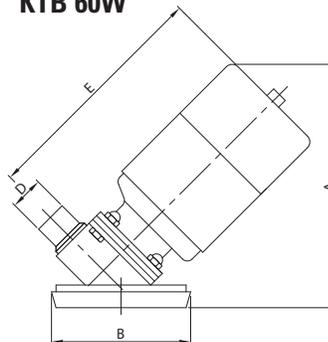
### KTB 58W



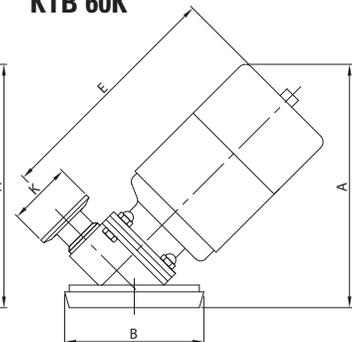
### KTB 58K



### KTB 60W



### KTB 60K



DN	A	B	D	E	gr
1/2 12	125,0	68,0	12,7	107,0	1.560
3/4 19	147,0	86,0	19,0	120,0	2.810
1 25	151,0	100,0	25,4	124,0	3.130
1 1/2 38	209,0	121,0	38,1	186,0	7.830
2 51	226,0	150,0	50,8	200,0	10.210

DN	A	B	E	K	gr
1/2 12	125,0	68,0	107,0	25,0	1.560
3/4 19	147,0	86,0	120,0	25,0	2.810
1 25	151,0	100,0	124,0	50,5	3.130
1 1/2 38	209,0	121,0	186,0	50,5	7.830
2 51	226,0	150,0	200,0	64,0	10.210

DN	A	B	D	E	gr
1/2 12	180,0	68,0	12,7	183,0	1.860
3/4 19	202,0	86,0	19,0	197,0	3.360
1 25	207,0	100,0	25,4	201,0	3.680
1 1/2 38	264,0	121,0	38,1	263,0	8.830
2 51	282,0	150,0	50,8	277,0	11.210

DN	A	B	E	K	gr
1/2 12	180,0	68,0	183,0	25,0	1.860
3/4 19	202,0	86,0	197,0	25,0	3.360
1 25	207,0	100,0	201,0	50,5	3.680
1 1/2 38	264,0	121,0	263,0	50,5	8.830
2 51	282,0	150,0	277,0	64,0	11.210



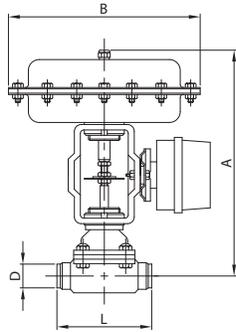
V. M. MODULANTE EL.  
 MODULATING D. V. PE.  
 V. M. MODULANTE BL.  
 V. M. MODULANTE EL.

V. M. MODULANTE E. SM.  
 MODULATING D. V. E. FR.  
 V. M. MODULANTE B. FR.  
 V. M. MODULANTE E. SM.

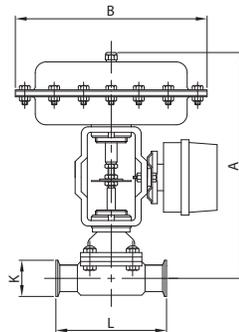
MEMBRANA EPDM  
 EPDM DIAPHRAGM  
 MEMBRANE EPDM  
 MEMBRANA EPDM

MEMBRANA PTFE  
 PTFE DIAPHRAGM  
 MEMBRANE PTFE  
 MEMBRANA PTFE

59W



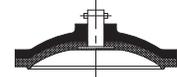
59K



57 E 08



57 T 08



DN	A	B	D	L	gr
1/2 12	305,5	290,0	12,7	89,011.840	
3/4 19	307,0	290,0	19,0	102,012.200	
1 25	311,0	290,0	25,4	114,012.680	
1 1/2 38	330,5	290,0	38,1	140,014.140	
2 51	345,5	290,0	50,8	159,016.040	

DN	A	B	K	L	gr
1/2 12	305,5	290,0	25,0	89,011.840	
3/4 19	307,0	290,0	25,0	102,012.200	
1 25	311,0	290,0	50,5	114,012.680	
1 1/2 38	330,5	290,0	50,5	140,014.140	
2 51	345,5	290,0	64,0	159,016.040	

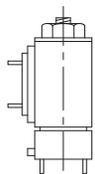
ELETTOVALVOLA NC.  
 SOLENOID VALVE NC.  
 ÉLECTROVANNE NF.  
 ELECTROVÁLVULA NC.

CONNETTORE  
 CONNECTOR  
 CONNECTEUR  
 CONECTOR

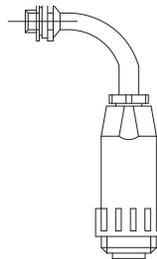
MICROINTERRUTTORE  
 MICROSWITCH  
 MINIRUPTEUR  
 MICRORRUPTOR

CONTATTO DI PROSSIMITÀ  
 PROXIMITY CONTACT  
 CONTACT DE PROXIMITÉ  
 MICROSENSOR

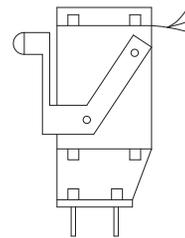
015 NC



030 S



014 1



014 2

013 A  
 013 A/N  
 013 A/N/EX



