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Production site: Via Brognolo 12, Passirano (Brescia) Italy
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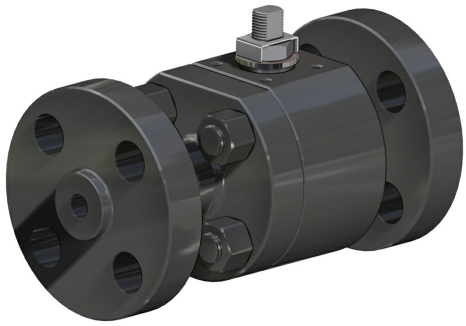
THOR Split Body ANSI 900-1500 carbon steel ball valve



Macro Ball valves

Category THOR

Subcategory THOR Split Body

Family THOR Split Body ANSI 900-1500

benefits

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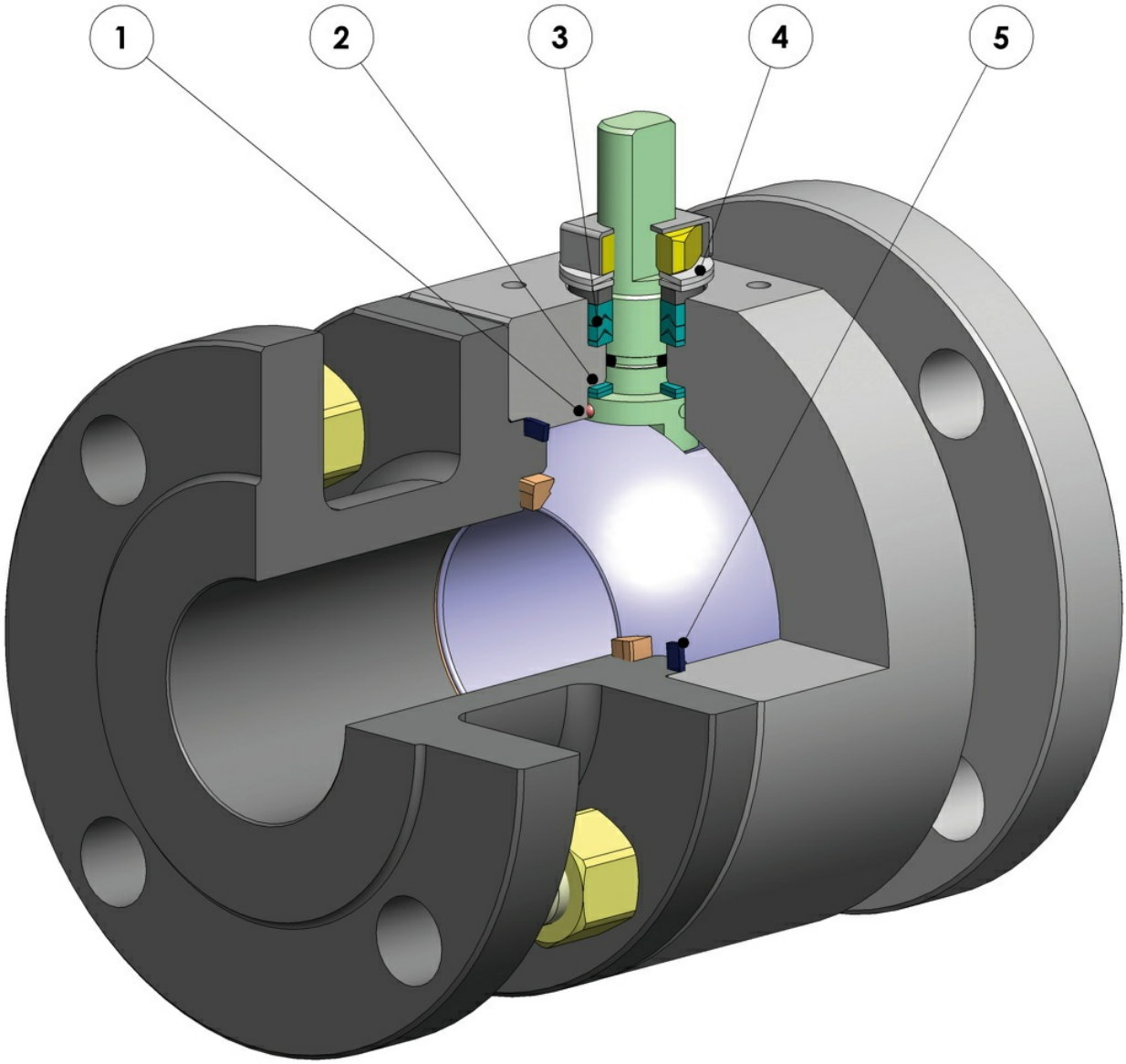

1. Antistatic device (electrical continuity between ball, stem and body)
Static electricity is avoided which can cause sparks and fire in an inflammable/explosive environment
Contact safety throughout the entire life of the valve

2. Double antifriction washer
Less Breakaway Torque is granted
Less wear comparing with the execution with the single washer

3. "V" seals pack; 3 seals + o-ring
It ensures a perfect tightness even after a high number of cycles

4. Spring washer on the shaft seal
Guarantee of the recovery of the gap due to the wear caused by the rotational movement of the shaft avoiding leakage towards the outside part.
Allow to maintain energized the "chevron" seals (V), thus avoiding any leakage to the outside, against huge temperature excursions

5. Stretch Graphite seal
Tightness towards outside is granted, independently by the thermal excursions to which the valve is subjected

Greater precision in the alignment of axes due to a unique positioning in the process machining from raw material to finished valve
Longer lifetime of the valve
Less breakaway torque

Easy maintainance directly on site
Reduced maintainance costs

Valve body in carbon steel made with NACE certified material as standard
Greater corrosion resistance
Greater ductility of the material

100% in- house manufacturing process technology
Maximum control and accuracy in all the stages of the manufacturing process
Flexibility in supply quickly special executions requested by customers

"Fire safe" Certificate
Guarantees the tightness of the valve also in case of fire

ATEX Certificate
Installation is possible in a potential explosive environment

TA LUFT fugitive emission Certificate
High level of safety of the tightness towards the outside is granted

PED Certificate
Full compliance with European Safety Standards for Pressure Equipment

UP to SIL 3 certified
Guarantee of the high level of functional safety

features

STANDARD FEATURES

- Floating ball, full bore
- Soft-seat seal: DEVLON
- Standard for connecting flanges: ASME B16.5
- Face to face ANSI B16.10
- Operating temperature see temperature pressure diagram
- Pressure class: ANSI 900-1500
- Tightness Class: EN12266-1 rate A
- Fluid controlled: petroleum products, self-lubricants (liquids and gases), provided they are compatible with the construction materials. For non self-lubricants (water,...) or other applications, contact the sales department.
- Antistatic device EN12266-2
- Stem seal: Modified PTFE V-pack
- Additional seal on stem with FKM O-ring
- Anti Blow-out stem
- Actuator connection as per standard ISO 5211
- Closing angle >7°
- Superficial treatment: blueing

FEATURES ON REQUEST

- LF2 carbon steel for low temperature execution (-40 C°)
- For other flange types please contact our sales department
- Sealing in: PTFE reinforced with glass (PTFE-GF), PTFE reinforced with carbongraphite (PTFE-CF) . For other types of materials please contact our sales department
- Mono-directional version with pressure-compensating hole in the ball
- Stainless steel lever
- For special versions in materials different from the standard (body, ball, stem), please contact our sales department.
- Stainless steel Stem nuts and springs
- Superficial treatment: white zinc coating ,epoxy coating
- For other coating please contact our sales department
- ATEX marking and certificate ON REQUEST

CERTIFICATIONS

- In compliance with European Directive 2014/68/EU PED; TA-LUFT VDI 2440; FIRE SAFE: ISO 10497 Third ed. 2010 / API 607 Sixth ed. 2010
- Safety integrity level up to SIL3 according to the IEC 61508
- Fugitive Emission ISO15848-1 ISO FE BH-C03-SSA0 t (-34°C,+150°C).
- In compliance with ATEX 2014/34/EU Directive , ATEX certificate ON REQUEST.

ENGINEERING STANDARD

- API 6D ON REQUEST.
- Body thickness in compliance with: ASME B16.34, ASME VIII div.1, EN 12516.
- Materials and rating in compliance with ASME B16.34

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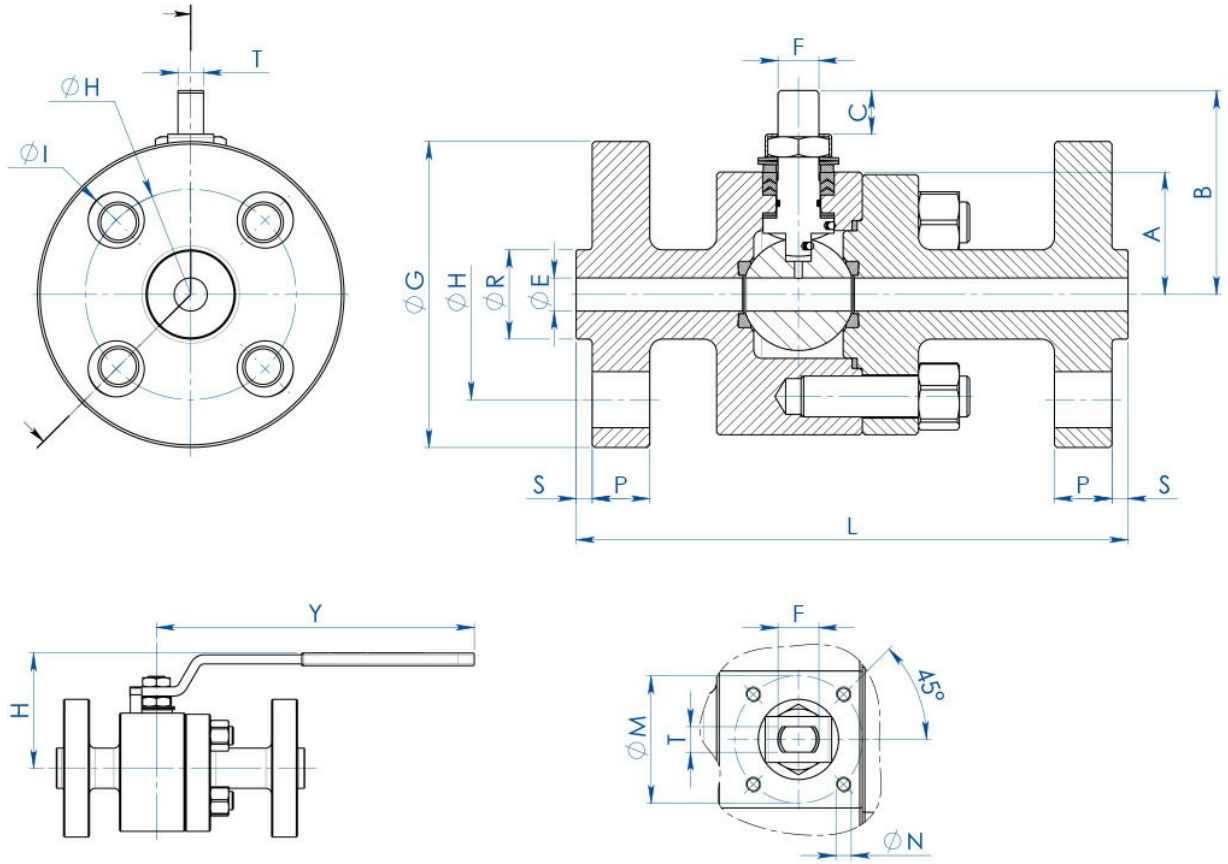
dimensions



DIMENSIONS																					
SIZE		ANSI	A	B	C	øE	ATT. ISO	øM	øN	F/T	øG	øR	S	øH	HOLES N°	øI	P	L	Kg	H	Y	LEV K
DN [mm]	[inch]																					
DN 15	1/2”	ANSI 900/1500	48	77,5	14,6	13	F05	50	M6	16/10	123	35,1	6,4	82,6	4	22	22,5	216	9,7	100	275	KLV5
DN 20	3/4”	ANSI 900/1500	48	77,5	14,6	19	F05	50	M6	16/10	130	42,9	6,4	88,9	4	22	25,2	229	11,7	100	275	KLV5
DN 25	1”	ANSI 900/1500	48	77,5	14,6	25	F05	50	M6	16/10	149	50,8	6,4	101,6	4	25,4	28,7	254	13,9	100	275	KLV5

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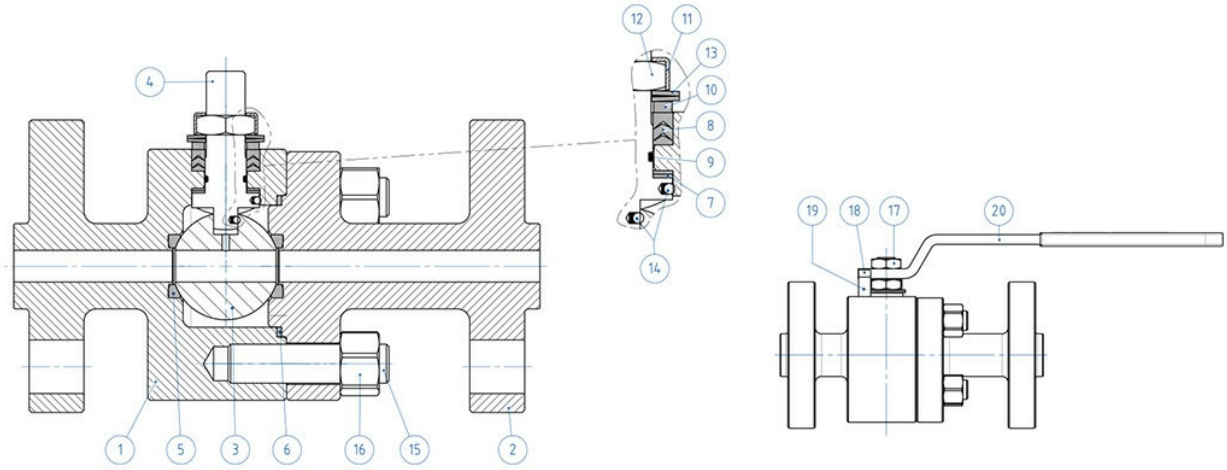
materials



MATERIALS SPLIT BODY ANSI 900-1500 carbon steel			
N°	**Description**	**A105 Carbon steel**	**A350 LF2 Carbon steel**
1	Body	ASTM A105	ASTM A350 LF2
2	Connector		
3	Ball	ASTM A351 CF8M (1.4408/Gx5CrNiMo19-12-2) (*)	
4	Stem	A564 TP.630 (17-4PH)	
5*	Seat	DEVLON (.)	
6*	Body-connector gasket	GRAFOIL	
7*	Stem lower sealing	DEVLON (.)	
8*	Chevron rings	Modified PTFE (.)	
9*	Stem o-ring	FKM (.)	
10	Packing gland ring	Carbon steel galvanized (x)	
11	top nut plate	304 S.S.	
12	Stem nut	Carbon steel galvanized (xx)	
13	Springs washer	Carbon steel galvanized (xx)	
14	Antistatic device	316 S.S.	
15	Stud bolt	ASTM A193-B7	ASTM A320-L7M
16	Nut	ASTM A194-Gr.2H	ASTM A194-Gr.7M
17	Lock nut	Carbon steel galvanized (x)	
18	Holder screw	A2-70 (304 S.S.)	
19	Holder screw	Carbon steel galvanized (x)	
20	Lever	Fe37 Galvanized (x)	
* Components of seals kit			

Available on request:
For DN15 available only in 316 S.S.
(x): 304 s.s.
(xx): 301 s.s.
(.): Other materials available on request

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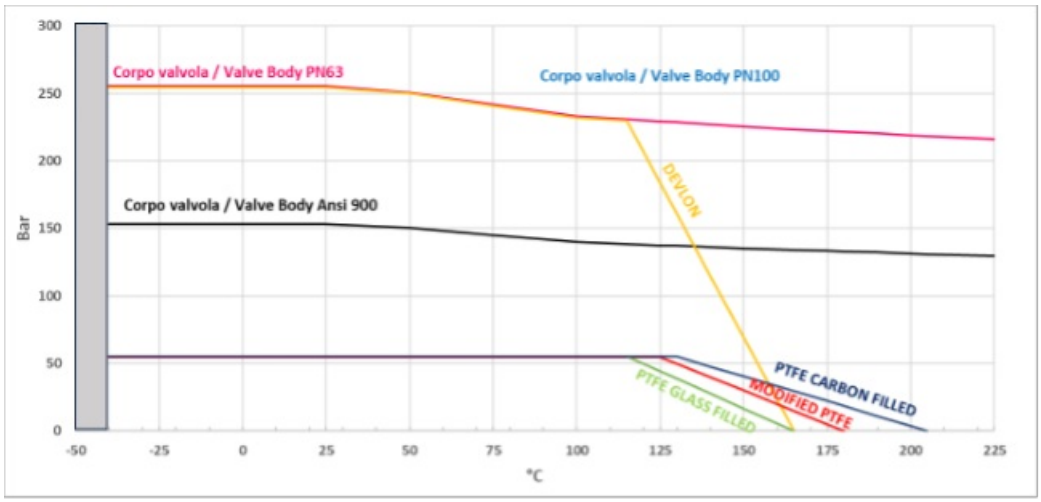
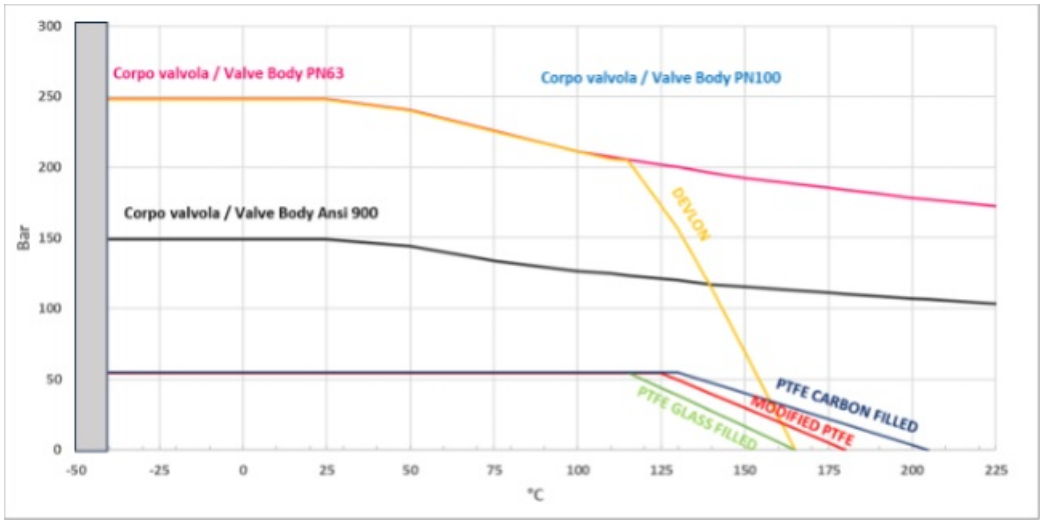
diagrams and breakaway torque

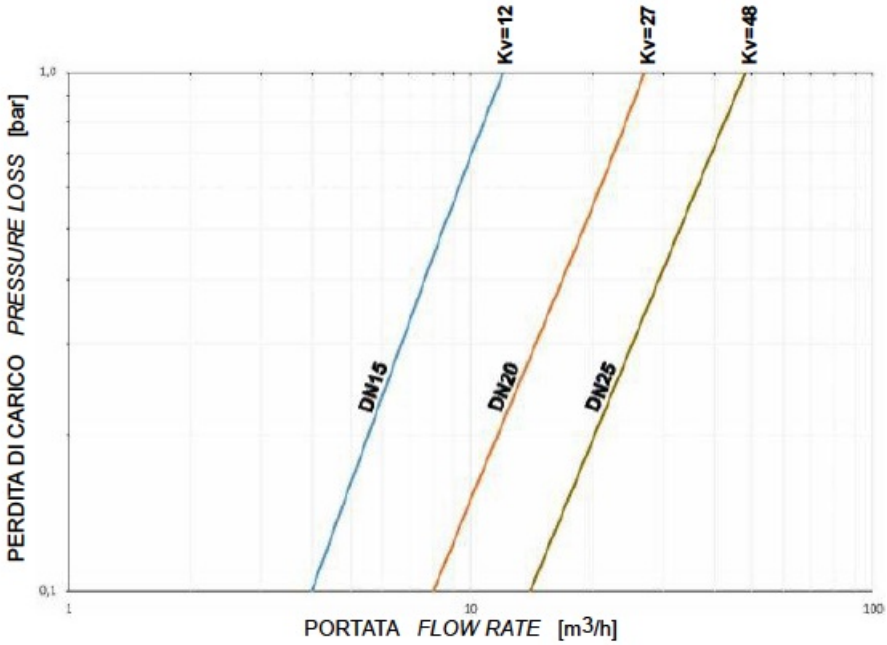
Temperature/pressure diagram for carbon steel valve



Temperature/pressure diagram for stainless steel valve



Flow/pressure loss diagram and Kv nominal coefficient



Kv is the coefficient, expressed in m3/h (with water at 15°C) causing a pressure loss of 1 bar.

BREAKAWAY TORQUES IN Nm WITH DEVLON SEATS AND WITH WATER (*)			
	DN 15	DN 20	DN 25
0 bar	15	18	20
100 bar	20	23	26
150 bar	25	30	40
250 bar	30	40	60

* If not lubricated fluids and/or fluids containing solid particles are intercepted, torques could be higher than those in the table.

Torque can vary depending on temperature and type of fluid, a safety factor 1,4 must be applied.
Torque can drop on high frequency of operation.

The sizing of pneumatic actuators has been done considering a minimum supply pressure of 5,6 barg.

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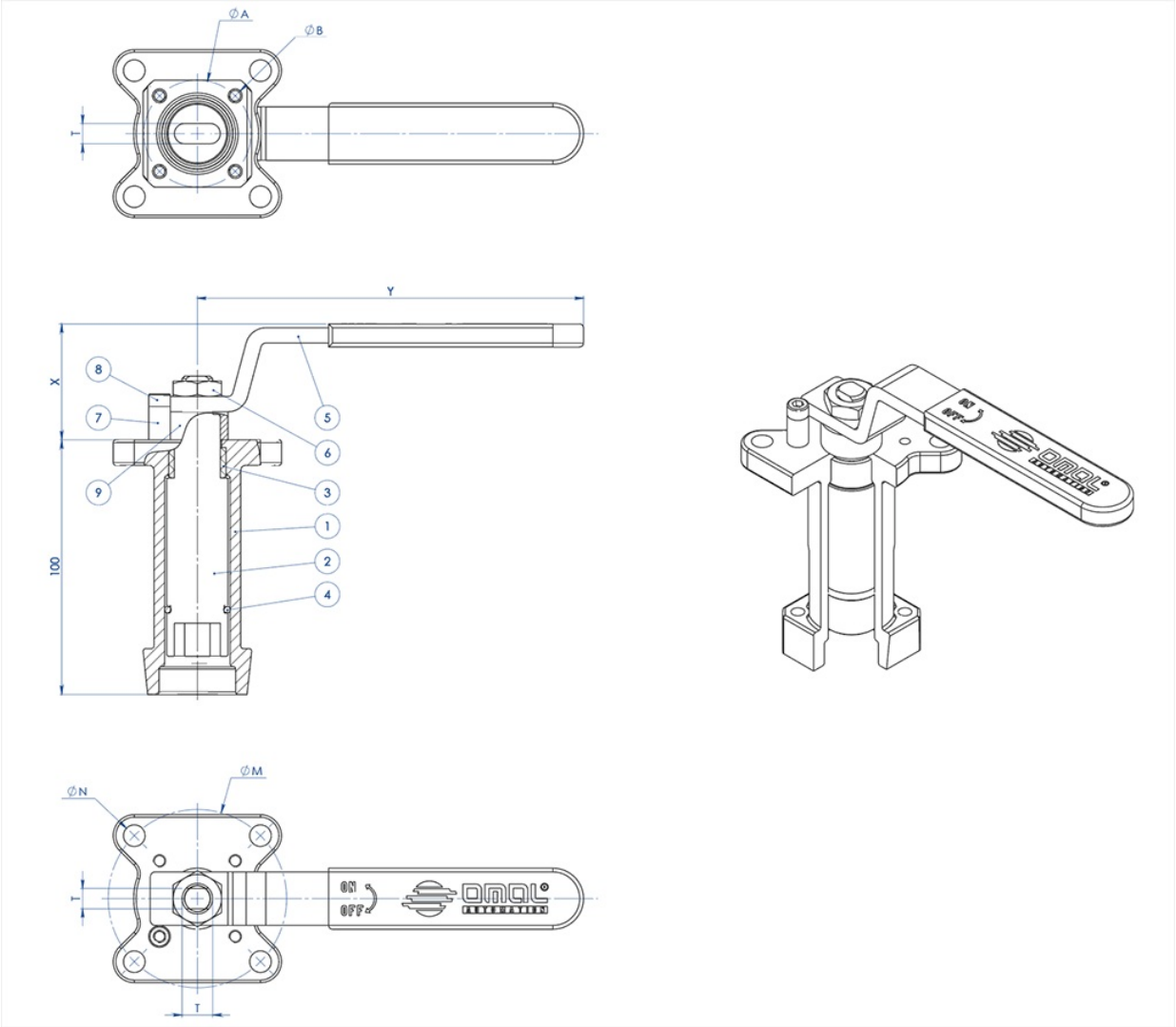
CASTING STEM EXTENSION WITH LEVER



MATERIALS		
PART. N°	**DESCRIPTION**	**MATERIAL**
1	Extension	AISI304 S.S.
2	Pin	AISI 430 F
3	Bush	DELRIN
4	O-RING	NBR
5	Lever	Fe 37 galvanized (*)
6	Nut	galvanized carbon steel (*)
7	Holder Lever	galvanized carbon steel (*)
8	Holder screw	A2-70
9	Spacer	PTFE Carbon Filled

(*): On request available in Aisi 304 s.s.

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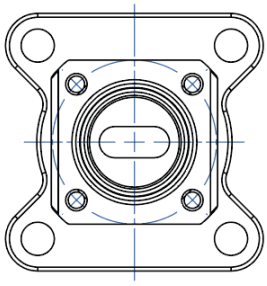
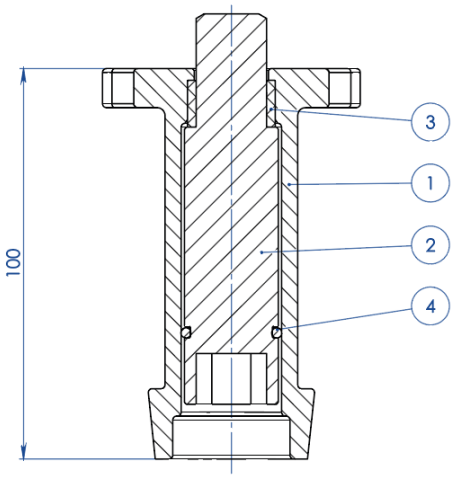
DIMENSIONS							
ISO VALVE	**ØA**	**ØB**	**ØM**	**ØN**	**F/T**	**X**	**Y**
F03	36	5,5	36	5,5	10/6	38,5	141,5
F04	42	5,5	42	M5	12/8	45,5	151,5
F05	50	6,5	50	6,5	16/10	48,5	276,5
F07	70	8,5	70	8,5	22/14	57,5	351,5
F10	102	11	102	11	30/18	79,5	451,5

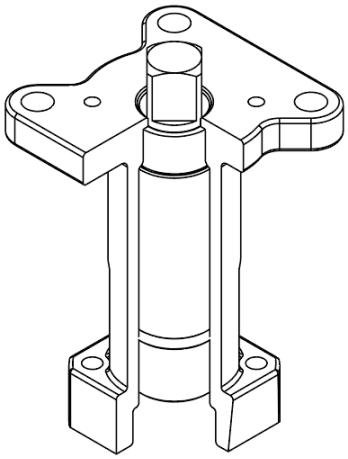
NOTE: Code of the spindle extension depending from drive's type and valve's connection; to be requested at the order.

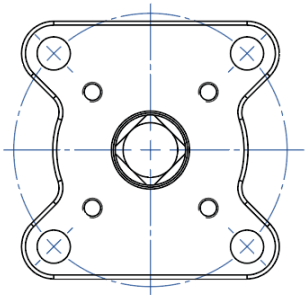
CASTING STEM EXTENSION FOR ACTUATORS



NOTA: Le dimensioni dipendono dalle dimensioni dell'attacco valvola
NOTE: Dimensions depending from valve's connection







NOTA: Le dimensioni dipendono dalla taglia dell'attuatore
NOTE: Dimensions depending from actuator's size

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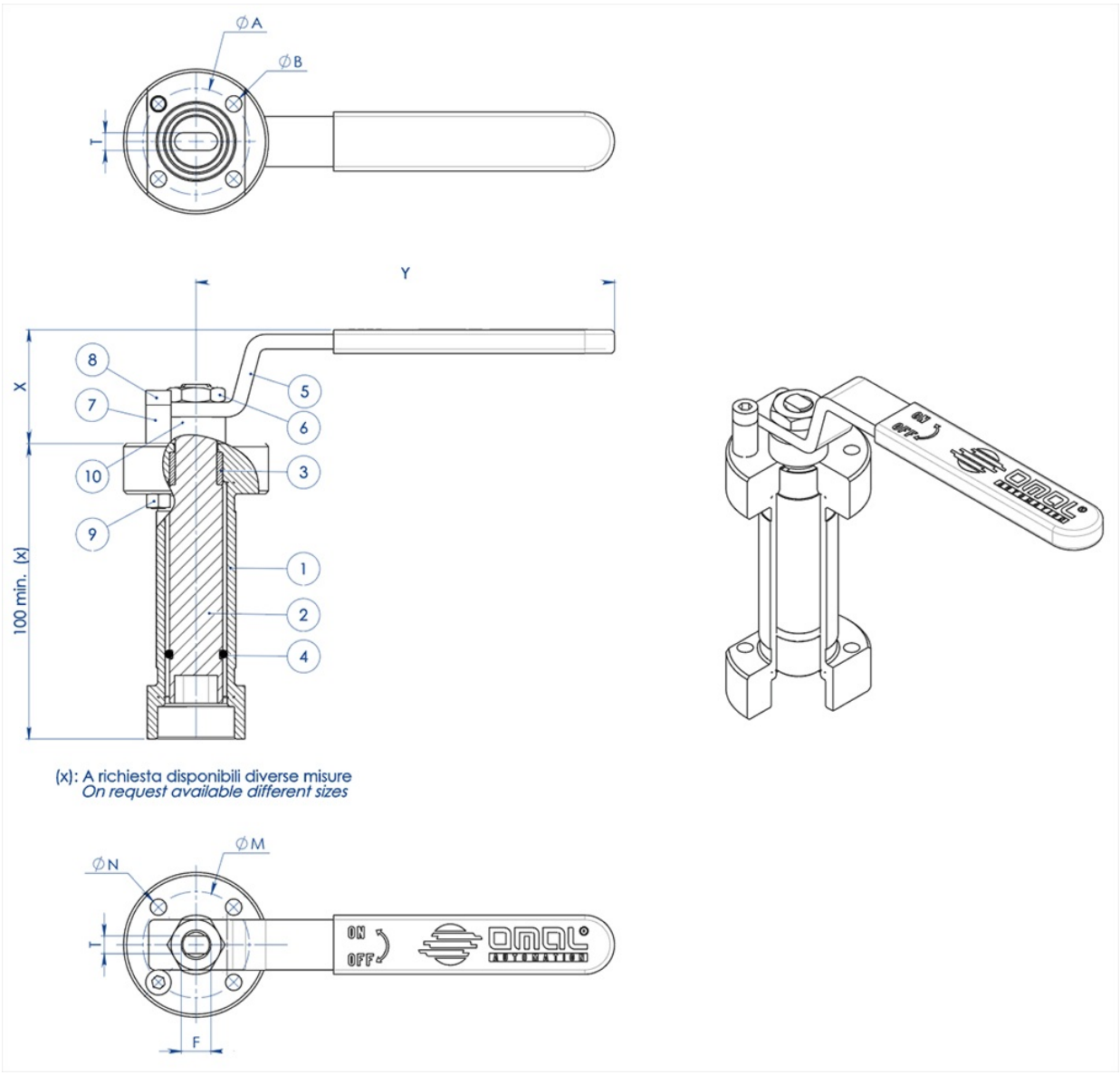
MATERIALS		
PART. N°	**DESCRIPTION**	**MATERIAL**
1	Extension	ASTM A351 CF8M
2	Pin	AISI 430 F
3	Bush	DELRIN
4	O-RING	NBR

NOTE: Code of the spindle extension depending from drive's type and valve's connection; to be requested at the order

WELDED STEM EXTENSION WITH LEVER



MATERIALS		
PART. N°	**DESCRIPTION**	**MATERIAL**
1	Extension	304 s.s.
2	Pin	AISI 430 F
3	Bush	DELRIN
4	O-Ring	NBR
5	Lever	Fe 37 galvanized (*)
6	Nut	galvanized carbon steel (*)
7	Holder Lever	galvanized carbon steel (*)
8	Holder screw	A2-70
9	Holder nut	A2-70 (**)
10	Spacer	PTFE Carbon Filled

(*): On request available in Aisi 304 s.s.
(**): No available on valves with Iso connection F04

DIMENSIONS							
ISO VALVE	**ØA**	**ØB**	**ØM**	**ØN**	**F/T**	**X**	**Y**
F03	36	5,5	36	5,5	10/6	38,5	141,5
F04	42	5,5	42	M5	12/8	45,5	151,5
F05	50	6,5	50	6,5	16/10	48,5	276,5
F07	70	9	70	9	22/14	57,5	351,5
F10	102	11	102	11	30/18	79,5	451,5

NOTE: Code of the stem extension depending from drive's type and valve's connection; to be requested at the order.

WELDED STEM EXTENSION FOR ACTUATORS

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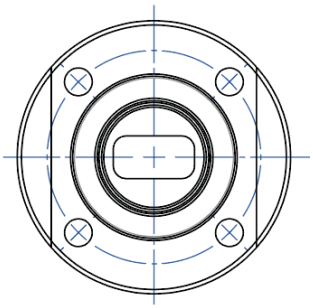
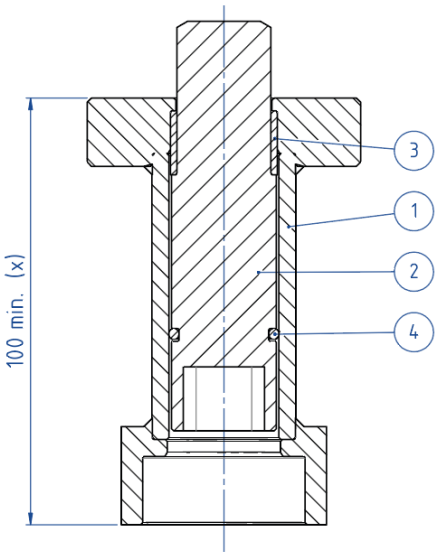
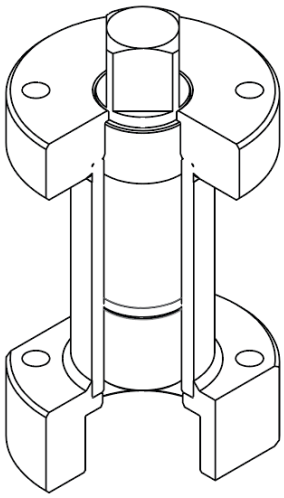
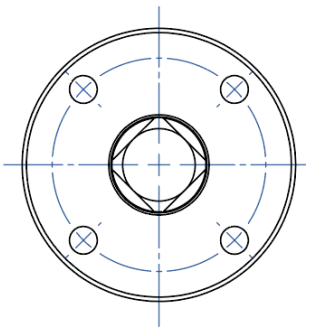


NOTA: Le dimensioni dipendono dalle dimensioni dell'attacco valvola
NOTE: Dimensions depending from valve's connection





(x): A richiesta disponibili diverse misure
On request available different sizes



NOTA: Le dimensioni dipendono dalla taglia dell'attuatore
NOTE: Dimensions depending from actuator's size

MATERIALS		
PART. N°	**DESCRIPTION**	**MATERIAL**
1	Extension	304 S.S.
2	Pin	AISI 430 F
3	Bush	DELRIN
4	O-RING	NBR

NOTE: Code of the stem extension depending from drive's type and valve's connection; to be requested at the order.

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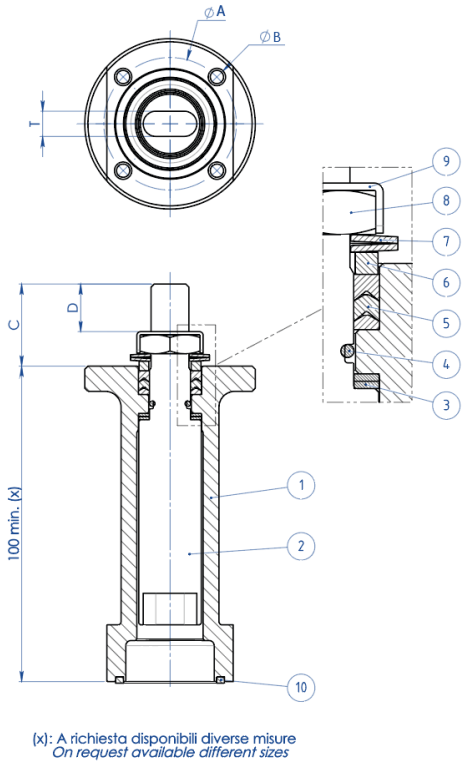
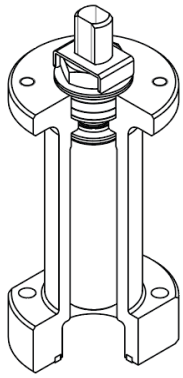
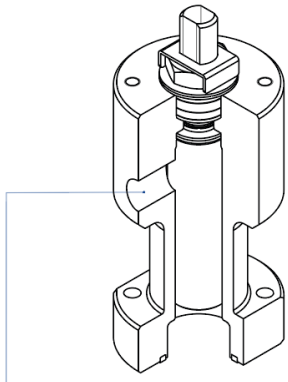
STEM EXTENSION WITH ADDITIONAL SEAL

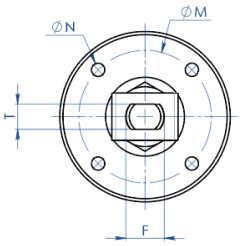


(x): A richiesta disponibili diverse misure
On request available different sizes





A richiesta disponibile anche la versione con presa per Sniffer
Stem extension with sniffer also available on request



MATERIALS		
PART. N°	**DESCRIPTION**	**MATERIAL**
1	Extension	304 s.s.
2	Pin	A564 TP.630 (17-4ph)
3	Bottom Sealing	TFM1600
4	O-Ring	FKM
5	Chevron Ring	TFM1600
6	Packing Gland Ring	304 s.s.
7	Spring Washer	50CrV4 Galvanized
8	Stem Nut	UNI 3740-1 6S Galvanized
9	Stop Nut Plate	304 s.s.
10	Gasket	GRAFOIL

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DIMENSIONS							
ISO VALVE	**ØA**	**ØB**	**ØM**	**ØN**	**F/T**	**C**	**D**
F03	36	5,5	36	M5	10/6	20	10,2
F04	42	5,5	42	M5	12/8	26	15,1
F05	50	6,5	50	M6	16/10	35	21,2
F07	70	8,5	70	M8	22/14	47,5	28,4
F10	102	10,5	102	M10	30/18	61	35,2

NOTE: Code of the spindle extension depending from drive's type and valve's connection; to be requested at the order.

documents

Certificati

TA LUFT - MAGNUM & THOR
ATEX - Ball Valves
SIL IEC 61508 - MAGNUM & THOR
Fugitive Emission ISO15848-1 ISO - THOR ANSI 1500
PED
FIRE SAFE - SPLIT BODY ANSI 900-1500 DN15-100 A105
API Licence number 6D-1007

Istruzioni

ISTRUZIONI ATEX 8_0486
ISTRUZIONI USO 8_0844-34

Manuali

MANUALE UMAH1000