



VALPRES

USER MANUAL VALPRES FLOATING VALVES

**INSTALLATION, OPERATION,
MAINTENANCE & STORAGE**

70 SERIES - 2-PIECE

71 SERIES - 3-PIECE

SERIES 72 - WAFER (flat body)

SERIES 73 -

SERIES 76 - SPLIT BODY

77 SERIES - 3-WAY

SERIES 68 - SPLIT BODY API 608

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1 PURPOSE

The purpose of this manual is to describe the procedures that ensure the safe and correct installation, operation and maintenance of the valves.

This manual applies to the Series 70, 71, 72, 73, 76, 77 and 68 of floating ball valves manufactured by Valpres srl.

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2 DEFINITION AND CHARACTERISTICS OF BALL VALVES

A ball valve is a fluid interception device consisting of:

1. **body** or casing, which constitutes the external part of the valve and in which the shaped connections are used to connect the valve with the piping;
2. **ball**, which is the actual interception organ of the valve; the seal is achieved by compressing two seats in deformable material against the same shutter;
3. **stem**, that consists in the connection system between the shutter and the control device;
4. **control device**, which is the device used to operate the valve; this system is normally a lever.

Valpres ball valves can be used for on-off service (with full bore balls, and also with reduced bore), flow deviation (3-way valves with "L" and "T"-shaped balls), or for flow regulation (if equipped with V-type ball and adequate seats).

Valpres ball valves are coded with a numeric code consisting of 8 characters (YYXXXXZZ):

1. The first two characters represent the series (YY: 2-piece, 3-piece, wafer type, etc.)
2. Characters from third to sixth the codification (XXXX) refer to the multiple combinations of metallic materials, seats and O-rings
3. The last two characters (ZZ) represent the nominal diameter of the valve.

The series of floating ball valves manufactured by Valpres can be summarized as follows:

- **SERIES 70:** 2-piece screwed and underground valves
- **SERIES 71:** 3-piece valves
- **SERIES 72:** wafer type valves according to column 100 and 101 to EN 558
- **SERIES 73:** 1-piece valve. Side entry with screwed end connection
- **SERIES 76:** 2-piece split body valve
- **SERIES 77:** 3-way valves, threaded with reduced and full bore

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- **SERIES 68:** 2-piece split body valves in accordance with API608.

Table of correlation between diameters and codes:

Size / diameter	Valve code 6 figures	+2 final figures
3/8" - DN10	YY XXXX + ZZ	03
1/2" - DN15		04
3/4" - DN20		05
1" - DN25		06
1 1/4" - DN32		07
1 1/2" - DN40		08
2" - DN50		10
2 1/2" - DN65		12
3" - DN80		14
4" - DN100		18
5" - DN125		19
6" - DN150		20
8" - DN200		21
10" - DN250		77
12" - DN300		78

3 DESIGN USES AND LIMITATIONS OF USE

FLUIDS: all fluids in liquid and gaseous state, dangerous (excluding unstable) and non-hazardous according to what is stated and shown in the tables in the European Directive on pressure vessels 2014/68/EU.

VALVE BODY DESIGN THICKNESS: according to EN 12516 and/or ANSI B16.34

FLANGES: according to EN 1092/ANSI B 16.5

MAXIMUM WORKING PRESSURES AT ROOM TEMPERATURE

Valve rating	Maximum pressure at room temperature (bar)
PN10	10
PN16	16
PN25	25
PN40	40
PN 63	63
PN 100	100
ANSI 150	20
ANSI 300	40
ANSI 600	100
CLASS 800	140

MAXIMUM WORKING PRESSURE AT MAXIMUM TEMPERATURE

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- EN 12516 and/or ANSI B16.34
- EN 1092 and/or ANSI B 16.5
- Limiting characteristics imposed by the materials used for the ball seats and the stem seal o-rings

OPERATING TEMPERATURES OF THE O-RING / V-pack USED

O-ring materials	Range (°C)
NBR	-20 +120
HNBR	-40 +150
EPDM	-40 +150
MFQ	-60 +200
FKM	-20 +160/180
FKM PEROX	-20 +200
FFKM	-15 +270
V-pack materials	Range (°C)
PTFE	-40 +180
GRAFITE	-60 +450

OPERATING TEMPERATURES OF BALL SEATS:

Ball seats material	Range (°C)
PTFE	-20 +160
PTFE+FIBERGLASS	-60 +160
PTFE+CARBON GRAPHITE	-60 +210
TFM	-60 +210
PEEK	-40 +250

MINIMUM WORKING TEMPERATURES OF METALLIC MATERIALS in the absence of toughness controls:

Materials	Minimum temperature (°C)
ENGJL-250	-10
A105	-20
A216 WCB	-29 / -10
A352 LCB	-40
A352 LCC	-45
A351-CF8M / AISI 316	-70
AISI 304	-70
ASTM A 995-GR B (Super Duplex)	-70

The combinations and values shown above are related to the process and P/T conditions of the different valve ratings.

TABLE OF OPERATING TEMPERATURE FOR SOME OF THE MOST COMMON ITEMS

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Valve	Minimum temperature	Maximum temperature
700000	- 20°C	+ 160°C
700061	- 20°C	+ 160°C
701000	- 20°C	+ 160°C
702000	- 20°C	+ 160°C
703000	- 20°C	+ 160°C
704000	- 20°C	+ 160°C
705000	- 10°C	+ 160°C
706600 - 707600	- 10°C	+ 120°C
708000	- 20°C	+ 80°C
709000	- 20°C	+ 160°C
709100	- 10°C	+ 160°C
710000 - 711000 - 712000	- 20°C	+ 160°C
710001	- 20°C	+ 160°C
713000 - 714000 - 715000	- 10°C	+ 160°C
720000 - 721000	- 20°C	+ 160°C
721V00	- 40°C	+ 180°C
722V00	- 20°C	+ 180°C
720006	- 20°C	+ 160°C
720009	- 10°C	+ 160°C
720017	- 10°C	+ 160°C
720078	- 20°C	+ 160°C
720008	- 10°C	+ 160°C
720212	- 20°C	+ 160°C
720232	- 10°C	+ 160°C
720400	- 20°C	+ 160°C
720700 - 720650	- 20°C	+ 160°C
722000 - 720001	- 10°C	+ 160°C
725000	- 20°C	+ 160°C
725002	- 10°C	+ 160°C
730000 - 730003	- 10°C	+ 120°C
731000	- 10°C	+ 120°C
760000	- 20°C	+ 160°C
760001	- 10°C	+ 160°C
760V00 - 761V00	- 40°C	+ 180°C
760V40 - 760V41	- 40°C	+ 180°C
760005	- 20°C	+ 160°C
760013	- 20°C	+ 160°C
760014	- 10°C	+ 160°C
760016	- 10°C	+ 160°C
76031904SL	- 10°C	+ 160°C
76031905SL	- 10°C	+ 160°C
76031906SL	- 10°C	+ 160°C
76031908SL	- 10°C	+ 160°C
76031910SL	- 10°C	+ 200°C
76032014SL	- 10°C	+ 160°C
76032104SL	- 10°C	+ 160°C
76032210SL	- 10°C	+ 160°C
762000	- 10°C	+ 160°C

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760040	- 20°C	+ 160°C
760041	- 10°C	+ 160°C
760801	- 20°C	+ 160°C
760802	- 10°C	+ 160°C
761030	- 20°C	+ 160°C
761031	- 10°C	+ 160°C
760200 - 760150	- 20°C	+ 160°C
765000	- 20°C	+ 160°C
765001	- 10°C	+ 160°C
766000	- 20°C	+ 160°C
766001	- 10°C	+ 160°C
763000	- 20°C	+ 160°C
764000	- 10°C	+ 160°C
763100 - 764100	- 20°C	+ 160°C
763030 - 764150	- 20°C	+ 160°C
772000 - 775000	- 20°C	+ 160°C
776000 - 776001	- 10°C	+ 160°C
776007 - 776010	- 20°C	+ 160°C
776400 - 776401	- 20°C	+ 160°C
776600 - 776601	- 10°C	+ 160°C

For a correct identification of the maximum and minimum operating limits of each product, please contact Valpres technical-commercial staff to identify the component that determines the maximum and minimum limit on the valve assembly.

VALVES WITH THREADED CONNECTION

The connection of the valves to the piping system is done through the two threaded connections obtained in the valve body.

The two threaded connections are made according to international standards and consequently the fittings or pipes to which they are fixed must comply with the same standards.

To facilitate the sealing of the joints, special sealing products (hemp, Teflon tape, etc.) can be wrapped on the pipe thread.

During the assembly it is recommended to tighten the pipe by locking the valve with a special wrench in the hexagonal or octagonal area obtained outside the same thread on which the pipe is mounted; furthermore, the clamping force must not be excessive, to avoid causing tensions inside the valve.

VALVES WITH FLANGED CONNECTION

The fixing on the piping system takes place via the flanges of the valve body.

The two flanged connections are made according to international standards and consequently the flanges to which they are connected must comply with the same standards. The seal between the flanges must be guaranteed by a gasket whose choice and assembly are the responsibility of the installer.

During installation, to optimally couple the flange and counter flange, tighten the screws in two steps (pre-tightening and subsequent locking, taking care to tighten the screws two by two symmetrically to the flange diameter).

VALVE WITH WELD CONNECTION

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The two end connections to be welded are normally built according to international standards and consequently the fittings or pipes to which they are connected must meet the same standards. During welding, make sure that the central part of the valve is not overheated. For greater safety, remove the central part of the valve when possible (i. e. 3-pc ball valves).

LEAKAGE CLASS CATEGORY

All Valpres floating valves are in CLASS A (no leakages according to UNI EN 12266-1). Tests according to API 598 or ISO 5208 are available on request.

HYDRAULIC TEST: according to UNI EN 12266-1, API598, ISO 5208. Standard testing according to UNI EN 12266-1.

FIRE SAFE: upon request and in accordance with the following standards according to the type of valve: ISO 10497 / API 607 / API 6FA / BS 6755

ANTISTATIC DEVICE: if required and present in accordance with 12266-1, API 6D and API608

USE IN POTENTIALLY EXPLOSIVE ATMOSPHERE: according to the EC 2014/34 / EU Directive ATEX and IEC / EN 80079-36

Marking example



Symbols	Description
II	Group II (surface)
2	Category 2 (zone 1 and 21)
G	Explosive atmosphere with gas or vapor
D	Explosive atmosphere with dusts
Ex h IIC	Construction safety for gas environments
Ex h IIIC	Construction safety for environments with dusts
T6, T5, T4, T3, T2, T1	Temperature classes for gas
T85°C T100°C T135°C T200°C T 300°C T450°C	Temperature classes for dusts

LOADS FROM WIND ACTIONS

Negligible according to ASME III section 1, subs. NB

LOADS FROM EARTHQUAKES

Negligible according to ASME III section 1, subsection. NB

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FATIGUE FROM LOOP CYCLES

Negligible according to ASME III section 1, subs. NB and according to the maximum number of operating hours

FATIGUE FROM FLUCTUATION OF WORKING PRESSURE

Negligible according to ASME III section 1, subs. NB and according to the maximum number of operating hours

OPERATION AND MAXIMUM OPERATING HOURS

100000 hours

OR

50000 opening/closing cycles for liquids service

5000 opening/closing cycles for gaseous fluids service

The most restrictive condition applies among the ones mentioned above.

Bench-tested conditions, with pure distilled water/nitrogen and at room temperature.

4 ATEX CLASSIFICATION AND REQUIREMENTS FOR SAFE USE

The ATEX regulation is a European directive that requires all plant managers to master the risks related to the explosion of certain atmospheres in the presence of dust, gas and an oxidant (oxygen in the air).

ATEX environments are classified into:

- zones 0, 1 o 2 in the presence of gases,
- zones 20, 21 o 22 in the presence of dusts

There are two large groups of materials:

- group I: specific case of mines (more restrictive),
- group II: all surface industries.

The table below shows the ATEX classifications and categories covered by Valpres products.

The conditions satisfied by Valpres valves are highlighted in green.

ZONE	0	20	1	21	2	22
Atmosphere	G=gases	P=dusts	G=gases	P=dusts	G=gases	P=dusts
Explosive atmosphere	Permanent		Occasional		Accidental	
Equipment category or groups	1		2		3	
Temperature (°C)	T1	T2	T3	T4	T5	T6
(Max. surface temperature)	450°C	300°C	200°C	135°C	100°C	85°C

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(Max. surface temperature detectable by field measurements according to EN ISO 80079-36: 2016 paragraph 8.2)	440°C	290°C	195°C	130°C	95°C	80°C
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IMPORTANT: “temperature class” is defined as the maximum temperature that can be reached by the casing or other parts exposed to the explosive atmosphere. This value must always be lower than the minimum ignition temperature of the atmosphere under consideration.

A valve is not able to independently generate heat, but it undergoes a thermal stress through the fluid that passes into it. The classification based on the safety temperature must take into account the safety margins as described in EN ISO 80079-36:2016 paragraph 8.2 (as indicated in the table above).



Caution

In the presence of 2014/34/EU ATEX classified areas, the user must ensure the equipotentiality of the valve-pipe-system component and system grounding.



Caution

The user must provide for the periodic removal of dust deposits greater than 3 mm. In the presence of coal dust zones, the maximum allowable temperature is 150 °C as indicated in EN ISO 80079-36 paragraph 6.2.4.



Caution

In the presence of 2014/34/EU ATEX classified areas where the valve is installed, manual handling of the lever is mandatory with the use of an antistatic cloth or gloves with the same effect. The plastic-coated surface of the lever could be charged with electrostatic charges because of the wind and can become a source of ignition when the lever is moved manually by the operator.



Caution

In the presence of 2014/34/EU ATEX classified areas, the user must provide personally or through third party devices and suitable installation, to avoid collisions with metal parts during the assembly, operation and maintenance phases. This note is mainly referred to metals containing zirconium, titanium, magnesium in a percentage higher than 7.5% as indicated in ISO80079-36 par. 6.4.4 and IEC 60079-0 par. 8.3.

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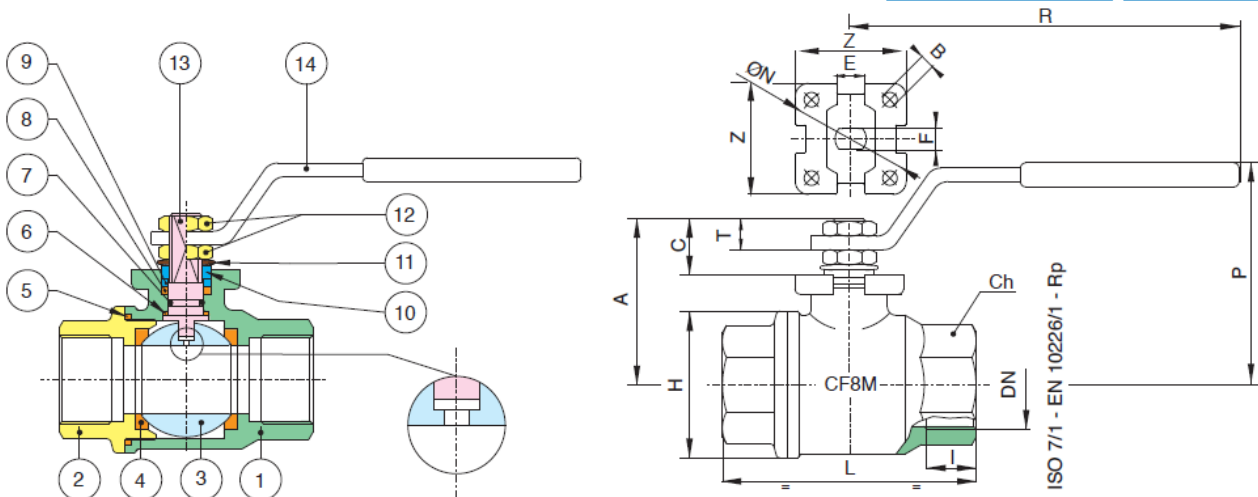
5 VALPRES GENERAL SERIES SAMPLE DRAWINGS

2-PIECE - SERIES 70

Limiti di temperatura: -20° +160° - Temperature range: -20° +160°
Vuoto: 10⁻² torr. - Vacuum: 10⁻² torr.

Esecuzione speciale per -40°C A RICHIESTA
Low temperature design
-40°C ON REQUEST

V Ball options
 V90 V60 V30-60



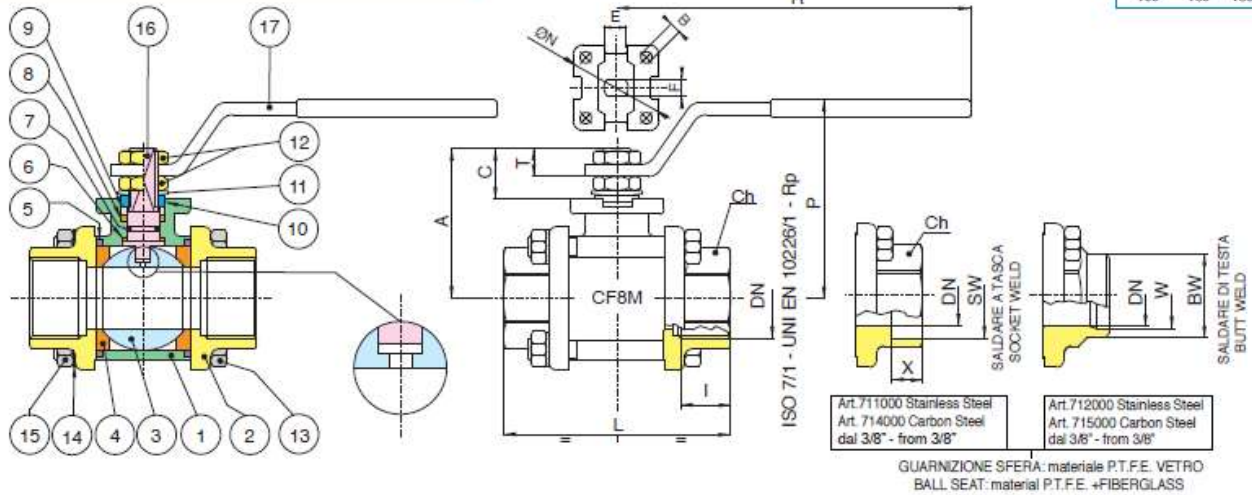
POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACION	MATERIALE-MATERIALS MATERIAUX-WERKSTOFF- MATERIAL	N°P
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	A351-CF8M	1
2	MANICOTTO	END CONNECTION	MANCHON	MUFFE	TERMINAL	A351-CF8M	1
3	SFERA	BALL	BILLE	KUGEL	BOLA	A479-Tp316/A351-CF8M	1
4	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE BILLE	KUGELDICHTUNG	ASIENTO ESFERA	P.T.F.E.	2
5	GUARNIZIONE	SEAT	JOINT	DICHTUNG	JUNTAS	P.T.F.E.	1
6	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHEIBE	EMPAQUETADURA	P.T.F.E.	1
7	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	1
8	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	P.T.F.E.	1
9	BUSSOLA PREMIGUARNIZIONE	PACKING GLAND	BAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPAS	INOX AISI 303 (1/8" - 2")-CARBON STEEL (2"1/2 - 4")	1
10	RONDELLA MEZZOGIRO	END STOP	RONDELLE	ANSCHLAGSCHEIBE	ARANDELA MEDIA VUELTA	INOX AISI 430 (1/8" - 2")-CARBON STEEL (2"1/2-4")	2-1
11	MOLLA A TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	CARBON STEEL (2"1/2-3"-4")	2
12	DADO	NUT	ECROU	MUTTER	TUERCA	A182-F304 (1/8" - 2")-CARBON STEEL (2"1/2 - 4")	2
13	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp316	1
14	LEVA	HANDLE	POIGNÉE	HANDHEBEL	PALANCA	INOX AISI 430 (1/8" - 2") CARBON STEEL (2"1/2-4")	1

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3-PIECE SERIES 71

Stainless steel: Limiti di temperatura: -20° +160° - Temperature range: -20° +160°
Carbon steel: Limiti di temperatura: -10° +160° - Temperature range: -10° +160°
Vuoto: 10⁻⁵ torr. - Vacuum: 10⁻⁵ torr.

V Ball options



Art.710000-711000-712000 Art. 713000-714000-715000

POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACION	MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF- MATERIAL	N°P	
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	A351-CF8M	A352-LCB	1
2	MANICOTTO	END CONNECTION	MANCHON	MUFFE	TERMINAL	A351-CF8M	A352-LCB	2
3	SFERA	BALL	BILLE	KUGEL	BOLA	A479-Tp316 / A351-CF8M	A479-Tp304/A351-CF8	1
4	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE BILLE	KUGELDICHTUNG	ASIENTO ESFERA	P.T.F.E.	P.T.F.E.	2
5	GUARNIZIONE	SEAT	JOINT	DICHTUNG	JUNTAS	P.T.F.E.	P.T.F.E.	2
6	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHEIBE	EMPAQUETADURA	P.T.F.E.	P.T.F.E.	1
7	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)	1
8	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	P.T.F.E.	P.T.F.E.	1
9	BUSSOLA PREMIGUARNIZIONE	PACKING GLAND	BAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPAS	INOX AISI 303 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL	1
10	RONDELLA MEZZOGIRO	END STOP	RONDELLE	ANSCHLAGSCHEIBE	ARANDELA MEDIA VUELTA	INOX AISI 303 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	INOX AISI 303 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	2-1
11	MOLLA A TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL (2"1/2 - 3" - 4")	2
12	DADO	NUT	ECROU	MUTTER	TUERCA	A192-F304 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL	2
13	TIRANTE CORPO	BOLT	TIRANTS	ZUGSTANGE	TIRANTE CUERPO	INOX AISI 304 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL (1/4" - 2") - (2"1/2 - 4")	4-6
14	RONDELLA	WASHER	RONDELLE	UNTERLEGSCHLEIBE	ARANDELA	INOX AISI 304 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL (1/4" - 2") - (2"1/2 - 4")	4-6
15	DADO	NUT	ECROU	MUTTER	TUERCA	INOX AISI 304 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL (1/4" - 2") - (2"1/2 - 4")	4-6
16	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp316	A479-Tp304	1
17	LEVA	HANDLE	POIGNÉE	HANDHEBEL	PALANCA	INOX AISI 400 (1/4" - 2") CARBON STEEL (2"1/2 - 3" - 4")	CARBON STEEL	1

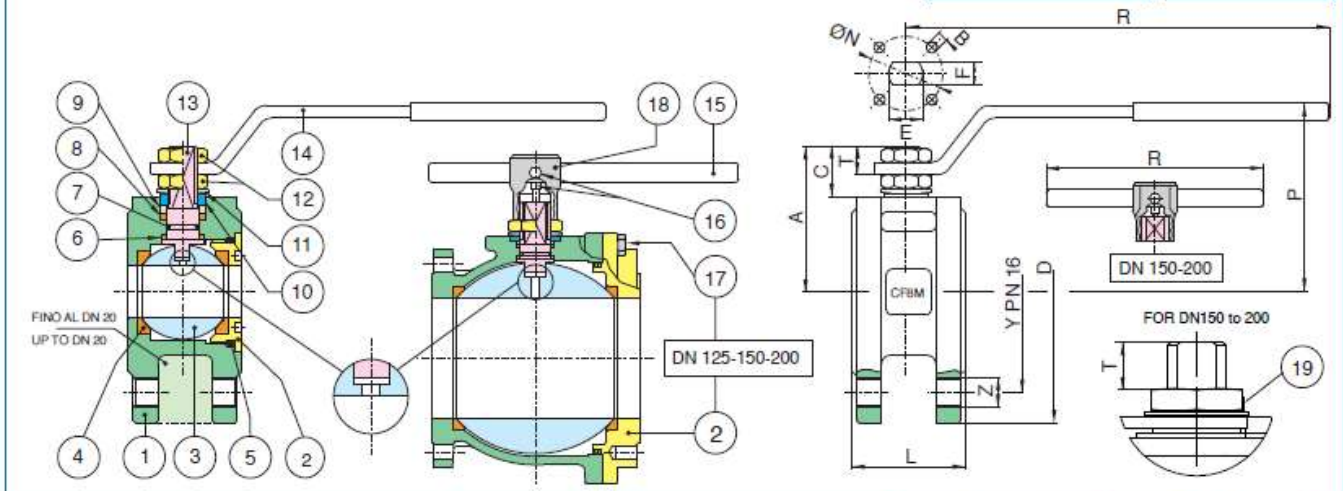
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WAFFER - SERIES 72

Limiti di temperatura: -20° +160° - Temperature range: -20° +160°
Vuoto: 10⁻² torr. - Vacuum: 10⁻² torr.

Esecuzione speciale
per -40°C A RICHIESTA
Low temperature design
-40°C ON REQUEST

V Ball options
V90 V93 V90-60

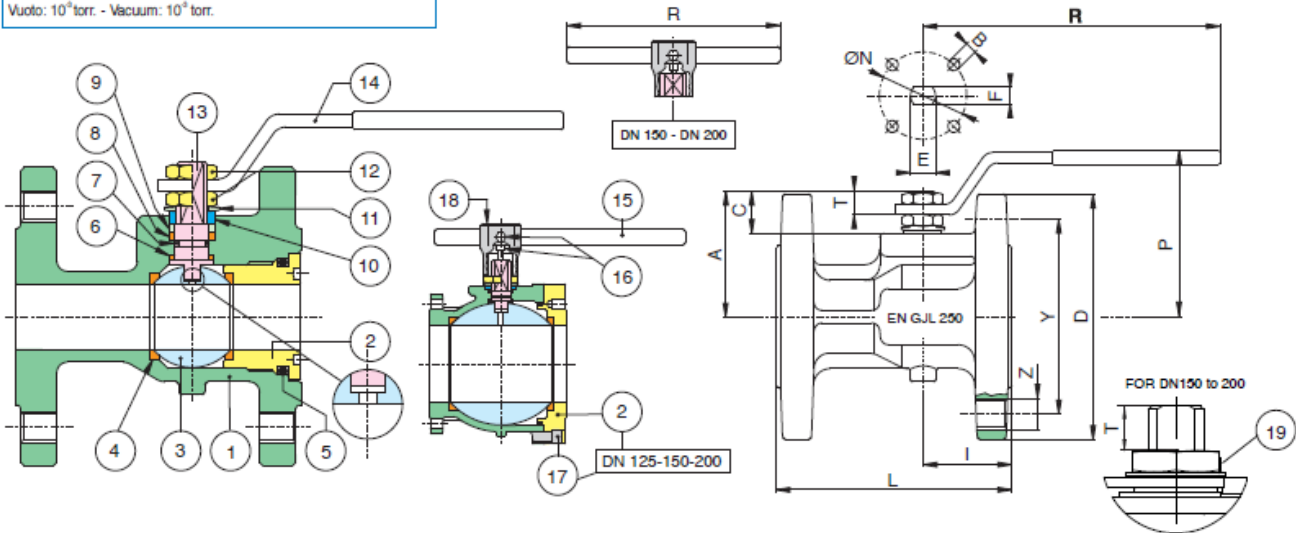


POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACION	Art.720000		Art. 721000		NPP
						MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF-MATERIAL		MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF-MATERIAL		
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	A351-CF8/A182-F304		A351-CF8M/A182-F316		1
2	GHIERA	END CONNECTION	RACCORDS	RING	TERMINAL	A351-CF8/A182-F304		A351-CF8M/A182-F316		1
3	SFERA	BALL	BILLE	KUGEL	BOLA	A351-CF8/A479-Tp304		A351-CF8M/A479-Tp316		1
4	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE BILLE	KUGELDICHTUNG	ASIENTO ESFERA	P.T.F.E.		P.T.F.E.		2
5	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)		FKM (VITON®)		1
6	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHEIBE	EMPAQUETADURA	P.T.F.E.		P.T.F.E.		1
7	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)		FKM (VITON®)		1
8	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	P.T.F.E.		P.T.F.E.		1
9	BUSSOLA PREMIGLIARIZ.	PACKING GLAND	BAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPAS	CARBON STEEL		CARBON STEEL		1
10	RONDELLA MEZZOGIRO	END STOP	RONDELLE	ANSCHLAGSCHEIBE	ARANDELA MEDIA VUELTA	INOX AISI 430 (DN15 - DN50) CARBON STEEL (DN65 - DN150)		INOX AISI 430 (DN15 - DN50) CARBON STEEL (DN65 - DN150)		2-1
11	MOLLA A TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	CARBON STEEL		CARBON STEEL		2
12	DADO	NUT	ECROU	MUTTER	TUERCA	CARBON STEEL		CARBON STEEL		2
13	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp304		A479-Tp316		1
14	LEVA	HANDLE	POIGNÉE	HANDEBEL	PALANCA	CARBON STEEL		CARBON STEEL		1
15	LEVA DN150-200	HANDLE DN 150-200	POIGNÉE DN 150-200	HANDEBEL DN 150-200	PALANCA DN 150-200	CARBON STEEL		CARBON STEEL		1
16	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	CARBON STEEL		CARBON STEEL		2
17	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	CARBON STEEL		CARBON STEEL		8-12
18	CORPO LEVA DN150-200	BODY HANDLE DN150-200	CORPS LEVIER DE COMMAND DN 150-200	HABEL DN150-200	CUERPO PALANCA DN150-200	EN-GJL-250		EN-GJL-250		1
19	RONDELLA ANTISVITAMENTO	UNSCREWING GROWER	RONDELLE ANTI DÉVISSAGE	SICHERUNGSSCHEIBE	ARANDELA DESENROSCADO	A182-F316		A182-F316		1

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SERIES 73

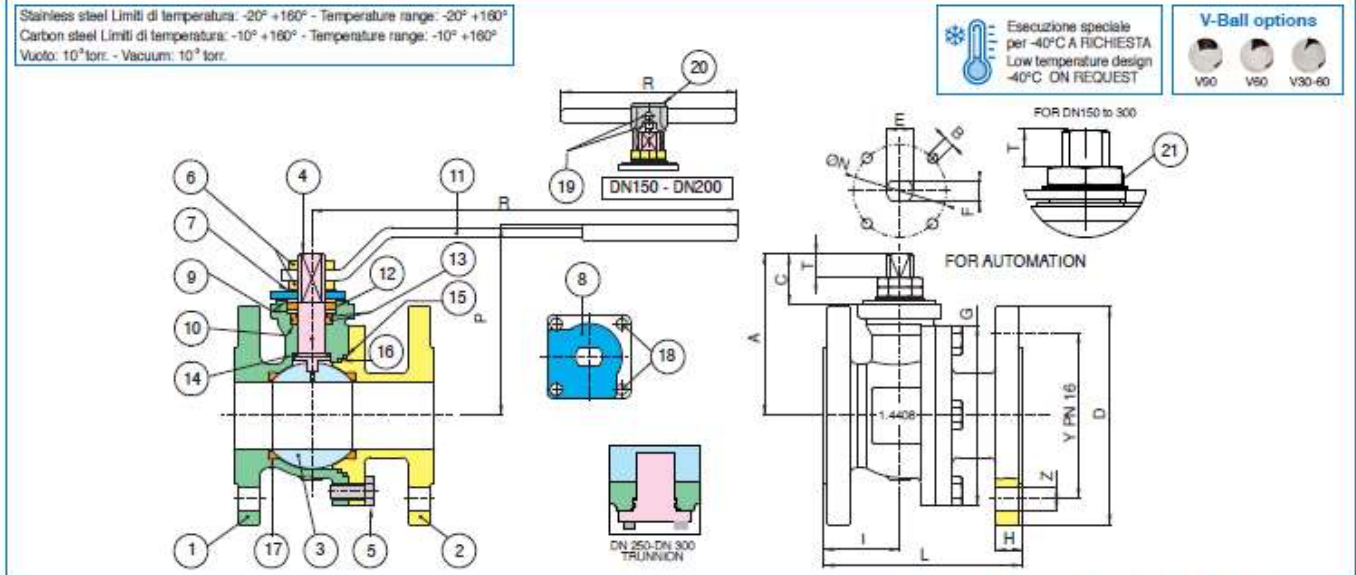
Limiti di temperatura: -10° +120° - Temperature range: -10° +120°
Vuoto: 10⁻³ torr. - Vacuum: 10⁻³ torr.



POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACION	MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF - MATERIAL	N°P
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	EN-G.J.L-250	1
2	GHIERA	END CONNECTION	RACCORDS	RING	TERMINAL	ASTM A105	1
3	SFERA	BALL	BILLE	KUGEL	BOLA	A351-CF8	1
4	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE BILLE	KUGELDICHTUNG	ASIEN TO ESFERA	P.T.F.E.	2
5	O-RING	O-RING	O-RING	O-RING	O-RING	NBR	1
6	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHIEBE	EMPAQUETADURA	P.T.F.E.	1
7	O-RING	O-RING	O-RING	O-RING	O-RING	NBR	1
8	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELDICHTUNG	ASIEN TO EJE	P.T.F.E.	1
9	BUSSOLA PREMOLLIARNIZIONE	PACKING GLAND	BAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPAS	CARBON STEEL	1
10	RONDELLA MEZZOGIRO	END STOP	RONDELLE	ANSCHLAGSCHEIBE	ARANDELA MEDIA VUELTA	INOX AISI 430 (DN15 - DN60) CARBON STEEL (DN65 - DN200)	2-1
11	MOLLA A TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	CARBON STEEL	2
12	DADO	NUT	ECROU	MUTTER	TUERCA	CARBON STEEL	2
13	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp304	1
14	LEVA	HANDLE	POIGNÉE	HANDHEBEL	PALANCA	CARBON STEEL	1
15	LEVA DN150-200	HANDLE DN 150-200	POIGNÉE DN 150-200	HANDHEBEL DN 150-200	PALANCA DN 150-200	CARBON STEEL	1
16	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	CARBON STEEL	1
17	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	CARBON STEEL	8
18	CORPO LEVA DN 150-200	BODY HANDLE DN 150-200	CORPS LEVIER DE COMMAND DN 150-200	HABEL DN150-200	CUERPO PALANCA DN 150-200	EN-G.J.L-250	1
19	RONDELLA ANTISVITAMENTO	UNSCREWING GROWER	RONDELLE ANTI DÉVISSAGE	SICHERUNGSSCHEIBE	ARANDELA DESENROSCADO	A182-F316	1

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SPLIT BODY - SERIES 76



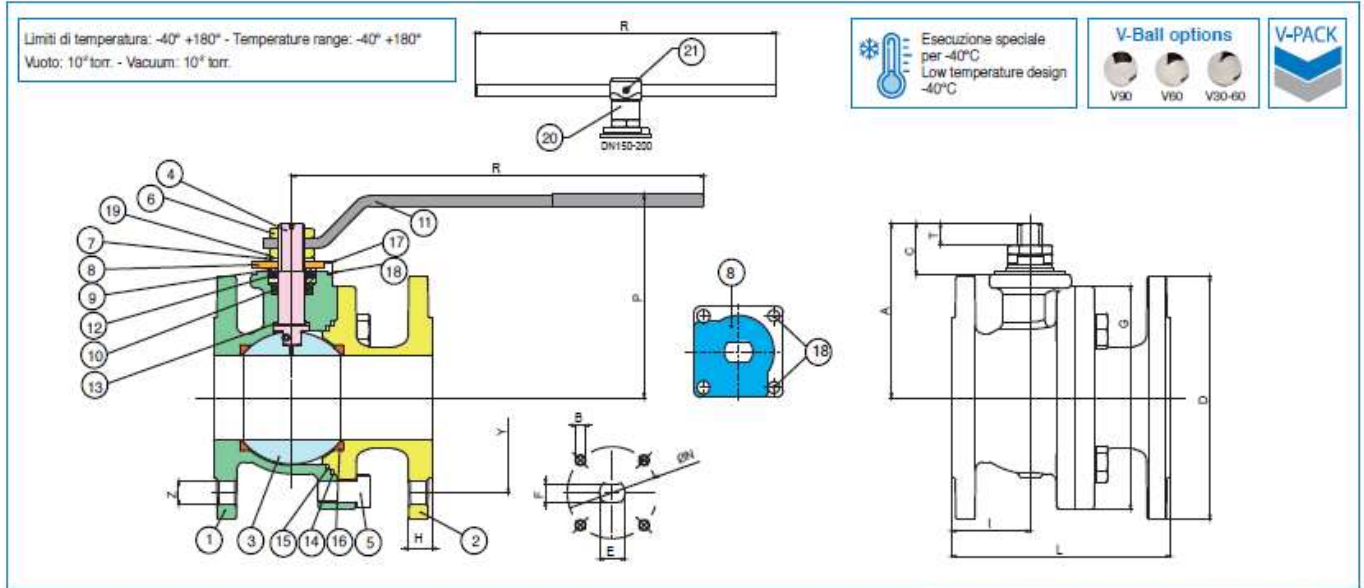
Art. 760000

Art. 760001

POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACIÓN	MATERIALE - MATERIALS - MATERIAUX WERKSTOFF - MATERIAL		N°P	SPARE PARTS
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	1.4408/A351-CF8M	1.0619/A216-WCB	1	
2	FLANGIA	END CONNECTION	BRIDE	FLANSCH	BRIDA	1.4408/A351-CF8M	1.0619/A216-WCB	1	
3	SFERA	BALL	SPHERE	KUGEL	BOLA	A479-Tp316/A351-CF8M	A479-Tp304/A351-CF8	1	●
4	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp316	A479-Tp304	1	●
5	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	STAINLESS STEEL	CARBON STEEL	4-8-12	
6	DADO	NUT	ECROU	MUTTER	TUERCA	STAINLESS STEEL	STAINLESS STEEL	1-2	●
7	MOLLA A TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	STAINLESS STEEL	CARBON STEEL	2	
8	PIASTRA MEZZOGIRO	90° STOP	90° STOP	90° STOP	90° STOP	A182-F316	CARBON STEEL	1	
9	BUSSOLA PREMIGUARNIZIONE	PACKING GLAND	SAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPAS	A182-F316	A182-F316	2	
10	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	P.T.F.E.	P.T.F.E.	1	●
11	LEVA	HANDLE	LEVIER DE COMMANDE	HANDHEBEL	PALANCA	A182-F316	CARBON STEEL	1	●
12	GUARNIZIONE ASTA	STEM SEAL	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	GRAPHOIL	GRAPHOIL	1	●
13	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)	2	●
14	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHEIBE	EMPAQUETADURA	P.T.F.E.	P.T.F.E.	1	●
15	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	GRAPHOIL	GRAPHOIL	1	●
16	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	P.T.F.E.	P.T.F.E.	1	●
17	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE SPHERE	SITZE KUGELDICHTUNG	ASIENTO ESFERA	P.T.F.E.	P.T.F.E.	2	●
18	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	STAINLESS STEEL	CARBON STEEL	2	
19	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	STAINLESS STEEL	CARBON STEEL	2	
20	CORPO LEVA DN150-200	BODY HANDLE DN150-200	CORPS LEVIER DE COMMANDE DN150-200	HEBEL DN150-200	CUERPO PALANCA DN150-200	EN-GJL 250	EN-GJL 250	1	●
21	RONDELLA ANTISVITAMENTO	UNSCREWING GROWER	RONDELLE ANTIDÉVISSAGE	SICHERUNGSSCHEIBE	ARANDELA DESENROSCADO	A182-F316	A182-F316	1	

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SPLIT BODY - SERIES 76V



Art. 760V00

Art. 760V01

POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACIÓN	MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF-MATERIAL	N°P	
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	A351-CF8M	A352-LCB	1
2	FLANGIA	END CONNECTION	BRIDE	FLANSCH	BRIDA	A351-CF8M	A352-LCB	1
3	SFERA	BALL	SPHÈRE	KUGEL	BOLA	A351-CF8M	A351-CF8	1
4	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp316	A479-Tp304	1
5	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	A2-70	8.8 ENP CS	*4-8-12
6	DADO	NUT	ECROU	MUTTER	TUERCA	A2-70	6S ENP CS	** 2-1
7	MOLLA TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	AISI 304	50CrV4	4
8	PIASTRA MEZZOGIRO	90° STOP	90° STOP	90° STOP	90° STOP	AISI 316	A37 ENP CS	1
9	BUSSOLA PREMIGUARNIZIONE	PACKING GLAND	BAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPAS	A479-Tp316	A479-Tp316	2
10	PACCO CHEVRON ASTA	V-PACK	V-PACK	V-PACK	V-PACK	PTFE	PTFE	1
11	LEVA	HANDLE	LEVIER DE COMMANDE	HANDHEBEL	PALANCA	AISI 316	A37 ENP CS	1
12	GUARNIZIONE ASTA	STEM SEAL	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	GRAPHOIL	GRAPHOIL	1
13	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHEIBE	EMPAQUETADURA	PTFE	PTFE	1
14	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	GRAPHOIL	GRAPHOIL	1
15	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	PTFE	PTFE	1
16	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE SPHERE	SITZE KUGELDICHTUNG	ASIENTO ESFERA	TFM - MPTFE	TFM - MPTFE	2
17	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	A2-70	A2-70	2
18	RONDELLA	WASHER	RONDELLE	UNTERLEGSCHIEBE	ARANDELA	AISI 304	AISI 304	2
19	RONDELLA ANTISVITAMENTO	UNSCREWING GROWER	RONDELLE ANTIDEVISSAGE	SICHERUNGSSCHIEBE	ARANDELA DESENROSCADO	AISI 316	AISI 316	1
20	CORPO LEVA DN150-200	BODY HANDLE DN150-200	CORPS LEVIER DE COMMANDE DN150-200	HEBEL DN150-200	CUERPO PALANCA DN150-200	EN-GJL 250	EN-GJL 250	1
21	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	8.8 CS	8.8 CS	2

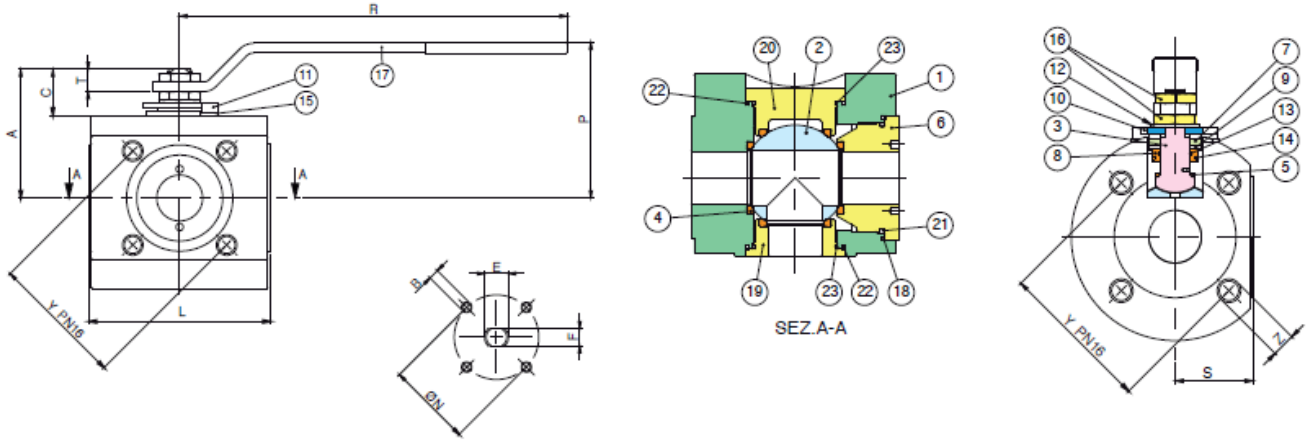
*DN15-DN65=4 - DN80-125=8 - DN150-200=12

**DN15-DN125=2 - DN150-200=1

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3-WAY VALVE - SERIES 77

Stainless steel Limiti di temperatura: -20° +160° - Temperature range: -20° +160°
Carbon steel Limiti di temperatura: -10° +160° - Temperature range: -10° +160°
Vuoto: 10³ torr. - Vacuum: 10³ torr.



Art. 776401-776400

Art. 776601-776600

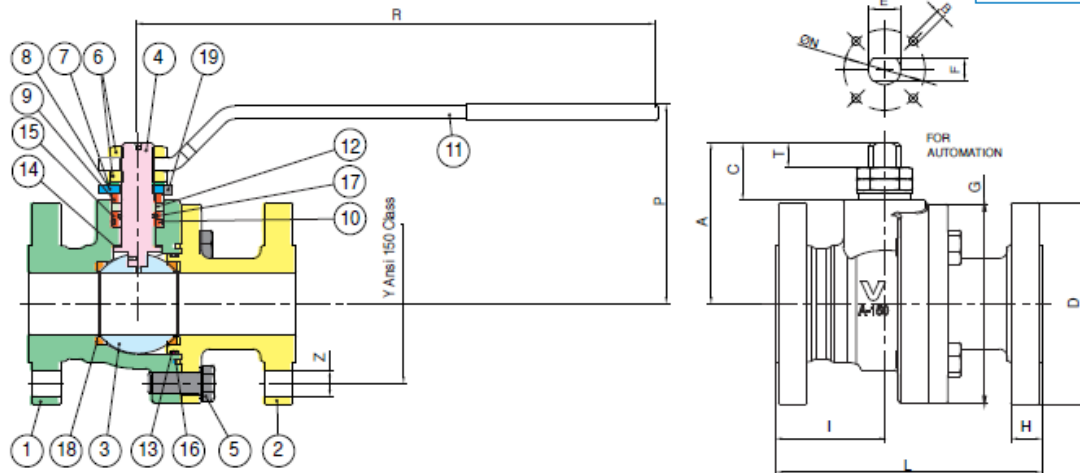
POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACION	MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF - MATERIAL	NP
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	A182-F316/F316L	ASTM A105
2	SFERA	BALL	BILLE	KUGEL	BOLA	A479-Tp316/A351-CF8M	A479-Tp316/A351-CF8M
3	ASTA	STEM	TIGE	SPINDEL	EJE	A479-Tp316	A479-Tp304
4	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE BILLE	KUGELDICHTUNG	ASIENTO ESFERA	P.T.F.E.	P.T.F.E.
5	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHIEBE	EMPAQUETADURA	P.T.F.E.	P.T.F.E.
6	GHIERA	END CONNECTION	MANCHON	RING	MANGUITO	A182-F316/F316L	ASTM A105
7	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELICHTUNG	ASIENTO EJE	GRAPHOIL	GRAPHOIL
8	GUARNIZIONE ASTA	STEM SEAT	JOINT DE L'AXE	SPINDELICHTUNG	ASIENTO EJE	P.T.F.E.	P.T.F.E.
9	BUSSOLA PREMIGUARNIZIONE	PACKING GLAND	BAGUE DE PRESSE ETOUPE	VORSPANNRING	MANGUITO PRENSAESTOPA	A182-F316	CARBON STEEL
10	RONDELLA MEZZOGIRO	END STOP	RONDELLE	ANSCHLAGSCHEIBE	ARANDELA MEDIAMUJETA	A182-F316	CARBON STEEL
11	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	STAINLESS STEEL	CARBON STEEL
12	MOLLA A TAZZA	SPRING WASHER	RESSORT À DISQUES	TELLERFEDER	MUELLE CONTENEDOR	A182-F304	CARBON STEEL
13	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)
14	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)
15	RONDELLA	WASHER	RONDELLE	UNTERLEGSCHIEBE	ARANDELA	STAINLESS STEEL	STAINLESS STEEL
16	DADO	NUT	ECROU	MUTTER	TUERCA	STAINLESS STEEL	CARBON STEEL
17	LEVA	HANDLE	LEVIER DE COMMANDE	HANDHEBEL	PALANCA	A182-F316	CARBON STEEL
18	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	P.T.F.E.	P.T.F.E.
19	GHIERA	STEM RETAINING NUT	PRESSE ETOUPE	STOPFBUCHSE	TERMINAL	A182-F316/F316L	ASTM A105
20	GHIERA	STEM RETAINING NUT	PRESSE ETOUPE	STOPFBUCHSE	TERMINAL	A182-F316/F316L	ASTM A105
21	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)
22	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	P.T.F.E.	P.T.F.E.
23	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)

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SPLIT BODY API 608 - SERIES 68

Limiti di temperatura: -20° +180° - Temperature range: -20° +180°
Vuoto: 10⁻⁶ torr. - Vacuum: 10⁻⁶ torr.

Esecuzione speciale per -45°C A RICHIESTA
Low temperature design -45°C ON REQUEST



Art.68J000 Art. 68F000 Art. 68R015

POS.	DENOMINAZIONE	PART NAME	DESCRIPTION	TEILBENENNUNG	DENOMINACION	MATERIALE - MATERIALS - MATERIAUX - WERKSTOFF-MATERIAL			N°P
1	CORPO	BODY	CORPS	GEHÄUSE	CUERPO	A351-CF8M	A352-LCC	ASTM A995-Gr. 6	1
2	FLANGIA	END CONNECTION	BRIDE	FLANSCH	BRIDA	A351-CF8M	A352-LCC	ASTM A995-Gr. 6	1
3	SFERA	BALL	BILLE	KUGEL	BOLA	A479-Tp316	A479-Tp316	UNS S32760	1
4	ASTA	STEM	TIGE	SPINDEL	EJE	(17-4-PH)	(17-4-PH)	UNS S32760	1
5	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	A193 B8 Cl.2	A320 L7	A193 B8 Cl.2	4-8-12
6	DADO	NUT	ECROU	MUTTER	TUERCA	STAINLESS STEEL	CARBON STEEL	STAINLESS STEEL	2
7	MOLLA A TAZZA	SPRING WASHER	RESSORT A DISQUES	TELLERFEDER	MUELLE CONTENEDOR	A182-F304	CARBON STEEL	STAINLESS STEEL	2
8	PIASTRA MEZZOGIRO	90° STOP	90° STOP	90° STOP	90° STOP	AISI 316	AISI 316	AISI 316	1
9	BUSSOLA	BUSH	BAGUE	BUCHSE	ANILLO	A479-Tp316L	A479-Tp316L	A479-Tp316L	1
10	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)	FKM (VITON®)	1
11	LEVA	HANDLE	LEVIER DE COMMANDE	HANDHEBEL	PALANCA	AISI 316	CARBON STEEL	AISI 316	1
12	GUARNIZIONE ASTA	STEM SEAL	JOINT DE L'AXE	SPINDELDICHTUNG	ASIENTO EJE	GRAFITE	GRAFITE	GRAPHITE	1
13	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)	FKM (VITON®)	1
14	RONDELLA ASTA	THRUST WASHER	RONDELLE DE L'AXE	SPINDELSCHEIBE	EMPAQUETADURA	R.P.T.F.E.	R.P.T.F.E.	R.P.T.F.E.	1
15	BUSSOLA PORTA O-RING	O-RING BUSH	BAGUE O-RING	BUCHSE	JUNTA TORICA	A479-Tp316L	A479-Tp316L	UNS S32760	1
16	GUARNIZIONE CORPO	BODY SEAT	JOINT DE CORPS	GEHÄUSE ABDICHTUNG	ASIENTO CUERPO	GRAFITE	GRAFITE	GRAPHITE	1
17	O-RING	O-RING	O-RING	O-RING	O-RING	FKM (VITON®)	FKM (VITON®)	FKM (VITON®)	2
18	GUARNIZIONE SFERA	BALL SEAT	JOINT DE TENUE BILLE	SITZE KUGELDICHTUNG	ASIENTO ESFERA	R.P.T.F.E.	R.P.T.F.E.	R.P.T.F.E.	2
19	VITE	SCREW	VIS	SCHRAUBE	TORNILLO	A2-70	CARBON STEEL	A2-70	2

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6 TRANSPORT AND HANDLING

6.1 Packed valves

CASES: The lifting and handling of the packed valves will be carried out by a forklift truck by means of the hooks of the forks.

BOX: The lifting of valves packed in a box must be carried out in the marked lifting points positions that indicate the center of gravity. The transportation of all packed material must be carried out safely and following all local safety regulations.

6.2 Loose valves

The lifting and the handling of these valves must be carried out by using appropriate means and respecting the carrying limits. The handling must be carried out on pallets, protecting the machined surfaces to avoid damage. With large valves, the sling and the hooking of the load must be carried out using appropriate tools (brackets, hooks, fasteners, ropes) and load balancing devices in order to avoid that they fall or move during the handling.



Caution

For lifting and/or handling of the valve, the lifting equipment (fasteners, hooks, etc.) must be sized and selected considering the weight of the valve indicated on the packing list and/or on the delivery note.

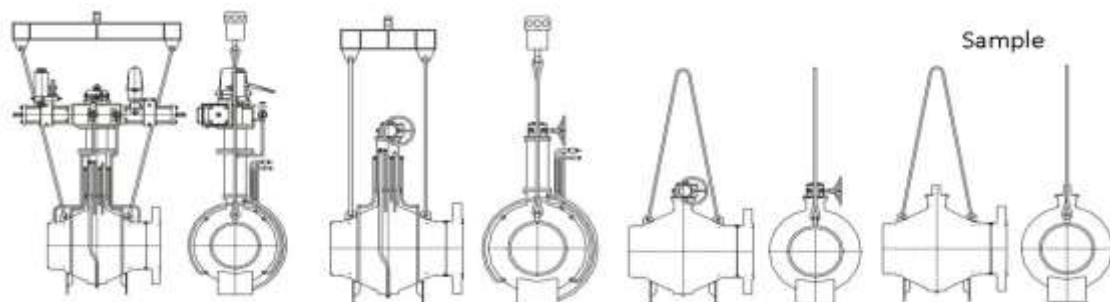
The lifting and handling must be carried out only by qualified personnel.

Do not use the actuator lifting points, if any, to lift the valve. These lifting points are only for the actuator.

During the handling of the equipment, extra care should be taken when passing over the workers or over any other place where a possible fall could cause damages.

In any case, local safety regulations must be observed.

The user is responsible for any damage resulting from the incorrect handling.



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7 STORAGE

It is recommended to store the valves in a clean, dry place until they are installed.
 The valves must be stored in a closed, clean and dry place, protected from weather and corrosion.
 Before installing the valve on the pipe, make a visual inspection and a lever opening/closing movement to exclude the presence of damage due to shipment.
 Keep all protective packaging, the lids of the flanges and the caps attached to the valves during the storage period.

Periodic checks into the storage area must be performed to verify the integrity of the packaging.



Caution

The storage in open area for a limited period can be considered only in the case in which the valves have an adequate packing (i.e. containers for transport by sea, goods on a pallet and protected with barrier sacks).

Do not place the packaging directly on the ground.

Do not expose the packaging to weather or direct sunlight. Check the packaging every two months.

8 INSTALLATION AND USE

Before assembling in line, it is necessary to make sure that the protection plastic caps have been removed from the valve. The valve must be mounted on fixed pipelines and equipped with anchorage points that support external mechanical actions and vibrations.

The valve must be installed with the ball in the open position after making sure that inside the pipe there is no pressure and at ambient temperature.

The pipe upstream and downstream the valve must be connected to the same without generating tensions on the valve during or after assembly.

It is recommended to perform a thorough washing of the entire system **with the valve in open position** to allow the removal of any residual dirt from manufacturing and assembly. This operation is performed to guarantee that metal shavings and residues do not damage the shutter components or seats.

For carbon steel valves (i. e. series 705000, 713000, 722000 and similar) it is recommended to perform an external surface coating when the valves are going to be installed in environments that may generate oxidation.

For control valves with V-BALL, during the mounting make sure to put the V shaped gap facing upstream. Valves with V-ball are intended to be unidirectional.



Caution

It is strongly recommended to wash the pipes before installing the valve; if this is not possible, the valve should be mounted with the ball fully open before starting the wash.

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CAUTION: Make sure that all test liquids contain corrosion inhibitors, and these must be compatible with seat and seal materials.

For valves with welded ends, please use an adequate welding procedure that limits the temperature to a maximum of 90° C at 90 mm measured from the rear of the seat. The use of a transition pipe is necessary when it is not possible to meet this requirement.

In case of welding high strength pipes, the thickness of the component must be at least equal to the ratio between the minimum yield strength of the pipe and the yield strength of the component. The maximum thickness of the component should not be higher than 1.5 times the thickness of the pipe. The use of a transition pipe is necessary when it is not possible to meet this requirement.

To avoid bending stress, the valves as well as the piping line must be properly supported.

Unless expressly indicated, the valves are not designed to support external loads (i. e. seismic loads, shock loads, over-stress during service). In order to check the integrity of the valve components and prevent damage due to wear and tear, it is recommended to carry out regular "maintenance in service" at least once a year (more than once a year in the case of severe use, i. e. dirt service), or as required by local regulations.

The temperature and pressure limits are clearly indicated on the nameplate or on the valve body; Valpres accepts no liability for any use beyond the specified limits.

Valpres disclaims all liability if the valve is not used for the service indicated in the technical specifications of the customer.

The user is not authorized, in any case, to modify the valve: this action causes the immediate expiration of the warranty period and the API mark (which applies for Valpres valves Series 68).

Valpres accepts no liability for personal injury, loss of property or damages to facilities caused by:

- improper use of the valves;
- improper or poor maintenance as described in this manual;
- unqualified and untrained personnel regarding pressure equipment;
- failure to comply with safety standards.

If Valpres is not informed of the final use of the valve (i. e. for a valve ordered and stored by a third party, and then sold to the end user), it is the responsibility of the third party/user to verify the chemical compatibility of the materials of the valve according to the service for which the valve will be used.

Unless otherwise required, the valves are supplied without thermal and acoustic insulation. Even if the valves are equipped with an antistatic device, it is highly recommended to ground the line.

The operating staff must be equipped with the proper personal protective equipment (PPE).



Caution

When the valve is provided with a flow direction arrow marked on the body, please check carefully that the direction of the flow corresponds to the one indicated on the valve. Valves without arrows are bidirectional.

Carefully check the installation of the pressure relief device, if any.

Carefully read the user manual of the actuator if the valve is equipped with an actuator.

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The fluid flowing through the valve must be chemically compatible with the materials used for body, seats and o-rings. In addition, pressure and temperature ranges must be within the limits indicated in the technical documentation of the product.

To perform these checks, please visit the website www.valpres.it (see the "Technical Information" section).

9 MAINTENANCE

The valve must undergo periodical functional checks. It is advised to increase the check frequency when the valve is working under extreme conditions and with dirty fluids.

For a correct operation of the valve it is recommended to maneuver it (open and close, or vice versa) at least twice a year, or to adjust the stem nuts every 1000 operating cycles.

In case of actuated valves, please verify the absence of electrical, pneumatic and hydraulic power before any maintenance intervention.



Caution

If the end user carries out the maintenance of the valves on his own, he will be held responsible for the conservation of all the safety characteristics of the product and of its components.

Procedure for inspection and maintenance:

1. Clean the metal parts with a solvent using a soft cloth;
2. Clean the gaskets with a soft cloth;
3. Check gaskets, sealing rings, elastomers, stem and ball;
4. Replace any worn parts with new ones.



Caution

After every disassembly it is recommended to replace the seals. Do not use gaskets or elastomers with a different size than the original ones.

For the re-assembly of the valve, repeat the same disassembly operations but in reverse order. For the tightening of bolts and nuts on Split Body and API 608 valves, please refer to the "Bolting" section (paragraph 13.2)



Caution

During re-assembly, please pay extra attention in order not to cause damages to seals and elastomers.

If the valve is intended for oxygen or hydrogen applications, it must be re-assembled in a controlled environment without any traces of grease.

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10 BALL VALVES: OPERATION MODE

The valves described in this manual have been designed for the following services:

- On/off
- Flow or pressure control (with V-balls)

For the on/off service the valve works in fully open or fully closed position.

Do not use the on/off type valve for flow regulation or with partial opening to avoid damages to the sealing surface of the seats.

To ensure a longer lifespan of the valve, it is recommended to carry out periodic maintenance activity.

With fluids characterized by strong thermal excursion and high thermal expansion coefficients, the installation of ball valves with relief hole is required. For a correct installation the relief hole must be placed upstream. Such valves are not bi-directional and a marking (arrow) indicating the flow direction is present on the valve. Valpres staff is available to support its customers to identify the most suitable product.

V-Ball Valves:

Valpres V-ball valves are used for fluid control and regulation. The installation of the V-ball system is conditioned on the collection of specific process information essential for its correct selection as reported in the ISA75.01 standard, Control Valve sizing equations.

The installation of a V-ball must be considered as an expert use. Valpres provides selection and technical support through its commercial network and sales managers.

The most common technical data for a correct use of a control ball valve can be listed as follows:

- The balls are commonly (except for specific requirements) assembled with the V-port facing the upstream ball seat;
- The V-shaped balls are mounted in valves with filled PTFE seats as a minimum installation requirement;
- In case of installation of a V-ball into a valve with metal seats, the surface of the ball must be treated with chromium and tungsten carbides;
- In case of manual valves, it is recommended the installation of a graduated handle so that it is possible to identify the different flow rates:



- The installation of a V-ball into a ball valve requires, as a prerequisite, a calculation through a Valpres authorized software: VALPSIZE. The data sheet obtained with the software must be kept together with the sale documents. They are an integral part of the stored documentation for the warranty rights.

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Example of a V-ball sizing obtained through the VALPSIZE software

For a request of non-compliance opening, the practice will be taken over only with the presentation of Valpsize data sheet bound to the order.

11 VALVE LEAKAGES

For any valve leakages, please refer to disassembly and re-assembly instruction of the valve (see paragraphs 8 and 9).



Caution

The above operations must be mandatorily performed by qualified personnel aware of the safety rules and field techniques. For any special use, such as for hydrogen or oxygen services, no grease must be injected, and injection points are not present.

12 MAINTENANCE



Caution

Depressurize the line before starting any maintenance. Otherwise, serious personal injury and/or equipment damage might happen.

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MAINTENANCE DATA SHEETS

SERIES 70

General maintenance for valves INOX-VAL 700000

Operation 1: Loosen the end connection (no. 2)

Operation 2: fully take off the ball (no. 3)

Operation 3: Take off nuts and handle (no. 13-6) in order to pull the stem out (det. 4)

Operation 4: Replace the following components: no. 8-9-10-11-12

Operation 5: Thoroughly clean the body, the ball, the stem and the end connection (no. 1-3-4-2) before reassembling the valve

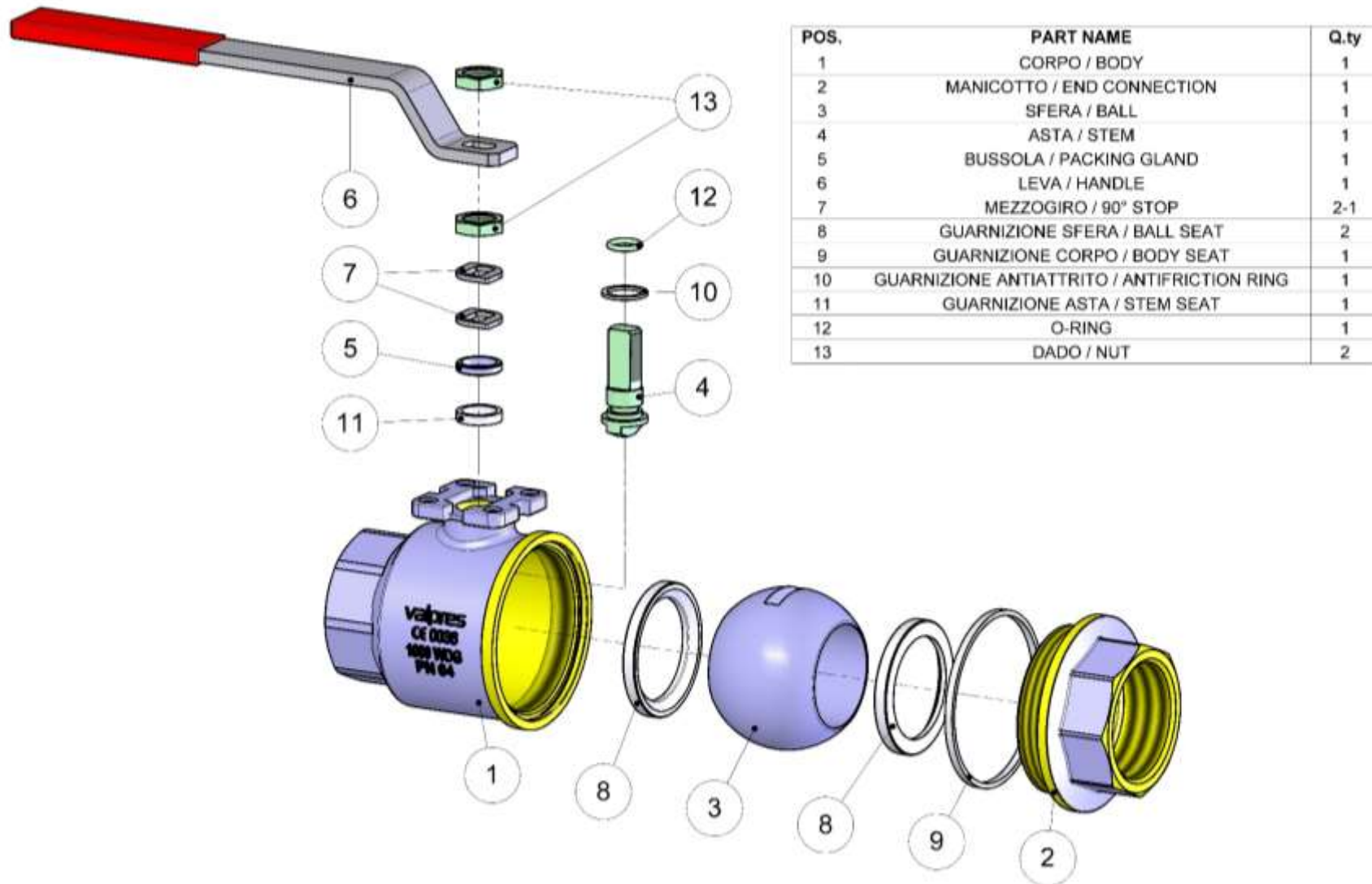
Operation 6: Insert the thrust washer (no. 10) and the o-ring (no. 12) on the stem (no. 4)

Operation 7: Assemble the stem (no. 4) inside the body (no. 1) and then assemble the components no. 11-5-7-13-16

Operation 8: Assemble the ball and the ball seat (no. 3-8) inside the assembled body

Operation 9: Put the seat (no. 9) on the end connection (no. 2) and the ball seat (no. 8) in the end connection (no. 2)

Operation 10: Assemble the end connection (no. 2) in the body (on. 1) and screw it on until it stops metal to metal.



POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	MANICOTTO / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA / STEM	1
5	BUSSOLA / PACKING GLAND	1
6	LEVA / HANDLE	1
7	MEZZOGIRO / 90° STOP	2-1
8	GUARNIZIONE SFERA / BALL SEAT	2
9	GUARNIZIONE CORPO / BODY SEAT	1
10	GUARNIZIONE ANTIATTRITO / ANTI-FRICTION RING	1
11	GUARNIZIONE ASTA / STEM SEAT	1
12	O-RING	1
13	DADO / NUT	2

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SERIES 71

General maintenance for valves RADIAMONT 710000

Operation 1: Loosen the end connection (det. 2)

Operation 2: Take fully off the screws, the nuts and the washers (det. 15-13-16)

Operation 3: Remove the components from the body (det. 2-9-8-3)

Operation 4: Take the nuts and the handle off (det. 14-6) to pull the stem out (det. 4)

Operation 5: Proceed to the substitution of the following items: 8-9-10-11-12

Operation 6: Clean the body, the end connection, the ball and the stem (det. 1-2-3-4) before reassembling the valve

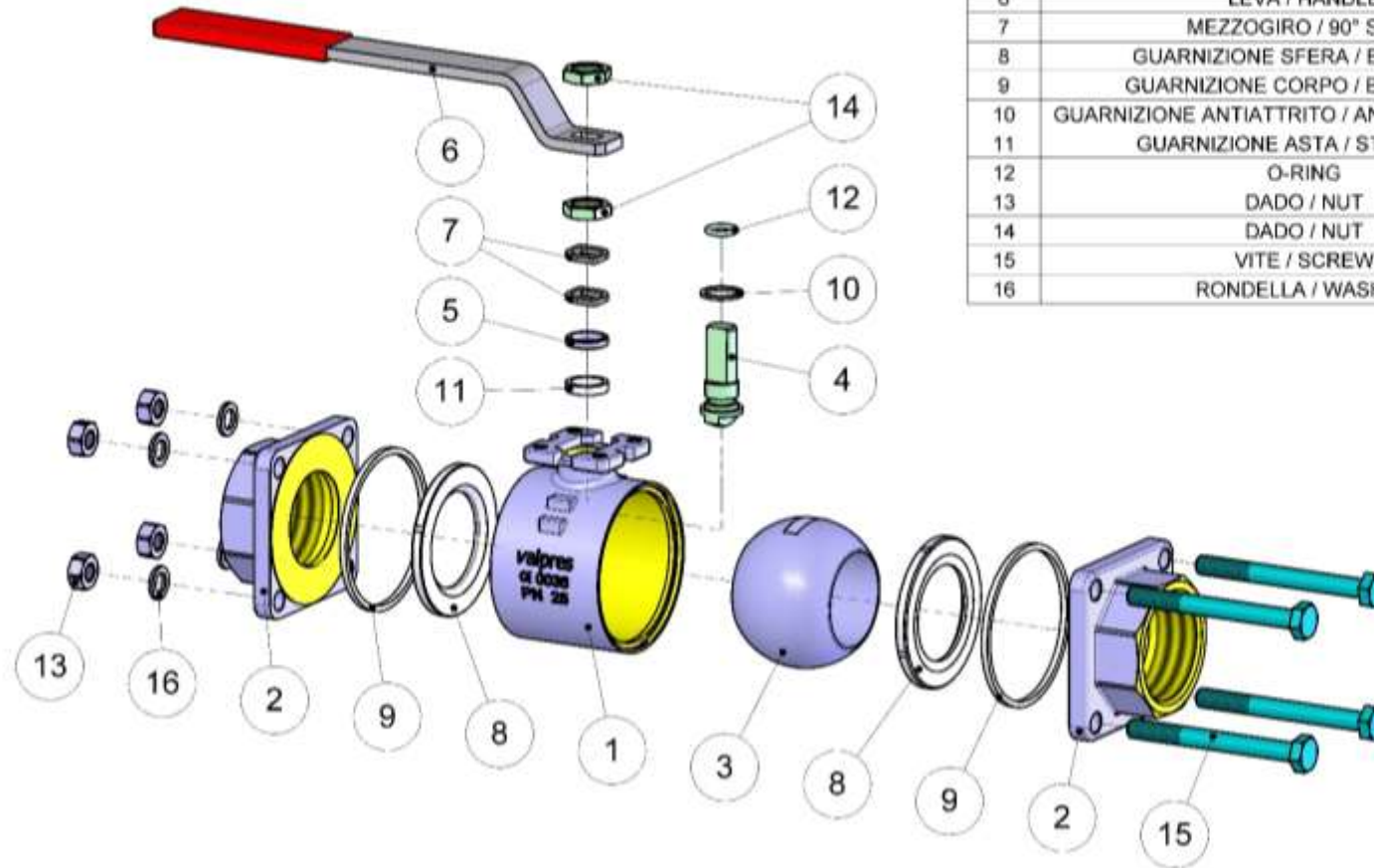
Operation 7: Put the o-ring (det. 12) and the thrust washer (det. 10) on the stem (det. 4)

Operation 8: Put the pre-assembled stem (det. 4) inside the body (det. 1) and then assemble the items 11-5-7-14-6-14

Operation 9: Put the ball, ball seats and body seats (det. 3-8-9) inside the body

Operation 10: Assemble the end connections (det. 2) on the body (det. 1) and screw it on until it stops metal to metal with items 15-16-13.

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POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	MANICOTTO / END CONNECTION	2
3	SFERA / BALL	1
4	ASTA / STEM	1
5	BUSSOLA / PACKING GLAND	1
6	LEVA / HANDLE	1
7	MEZZOGIRO / 90° STOP	2-1
8	GUARNIZIONE SFERA / BALL SEAT	2
9	GUARNIZIONE CORPO / BODY SEAT	2
10	GUARNIZIONE ANTIATTRITO / ANTI-FRICTION RING	1
11	GUARNIZIONE ASTA / STEM SEAT	1
12	O-RING	1
13	DADO / NUT	4-6
14	DADO / NUT	2
15	VITE / SCREW	4-6
16	RONDELLA / WASHER	4-6

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SERIES 72

General maintenance for valves WAFER 720000

Operation 1: Up to 5"-DN125 loosen the end connection (det. 2). From 6"-DN150 loosen the screws (det. 16) and remove the end connection (det. 2)

Operation 2: Take fully off the ball (det. 3)

Operation 3: Take the nuts and the handle off (det. 14-6) to pull the stem out (det. 4)

Operation 4: Proceed to the substitution of the following items: 8-9-10-11-12

Operation 5: Clean the body, the end connection, the ball and the stem (det. 1-2-3-4) before reassembling the valve

Operation 6: Put the o-ring (det. 11) and the thrust washer (det. 9) on the stem (det. 4)

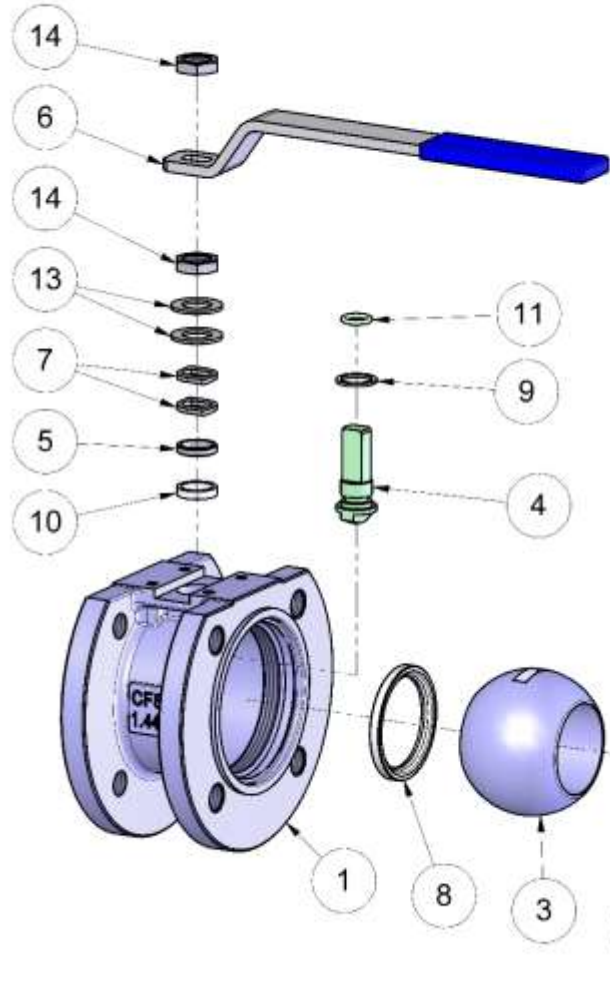
Operation 7: Put the pre-assembled stem (det. 4) inside the body (det. 1) and then assemble the items 10-5-7-13-14-6

Operation 8: Put the ball seat (det. 8) and the ball (det. 3) inside the body

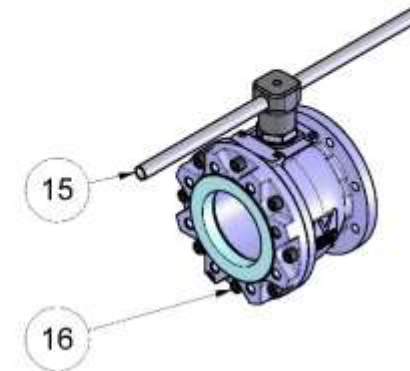
Operation 9: Put the o-ring (det. 12) and the ball seat (det. 8) on the end connection (det. 2)

Operation 10: Up to 5"-DN125 tighten the end connection (det. 2) in the body (det. 1) until it stops metal to metal. From 6"-DN150 tighten the screws (det. 16) until the end connection (det. 2) stops on the body (det. 1) metal to metal

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POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	GHIERA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA / STEM	1
5	BUSSOLA / PACKING GLAND	1
6	LEVA / HANDLE	1
7	MEZZOGIRO / 90° STOP	2-1
8	GUARNIZIONE SFERA / BALL SEAT	2
9	GUARNIZIONE ANTIATTRITO / ANTIFRICTION RING	1
10	GUARNIZIONE ASTA / STEM SEAT	1
11	O-RING	1
12	O-RING	1
13	MOLLA A TAZZA / SPRING WASHER	2
14	DADO / NUT	2
15	LEVA / HANDLE (DN150-200)	1
16	VITE / SCREW	8-12



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SERIES 72V

General maintenance for valves WAFER PLUS 72V000

Operation 1: Loosen the end connection (det. 2)

Operation 2: Take fully off the ball (det. 3), the ball seats (det. 8), the o-ring (det. 13) and body-connection seat (det. 9)

Operation 3: Remove (if necessary) the 90° stop screws and their washers (det. 16 – 17)

Operation 4: Remove the first nut (det. 15), the handle (det. 6) and the unscrewing grower (det. 18)

Operation 5: Take note of H quote. If the v-pack was already re-energized ask the correct H quote to Valpres srl

Operation 6: Remove the following items: 15 – 14 – 7 – 5 – 11 - 5 - 12

Operation 7: Remove the stem (det. 4) and thrust washer (det. 10)

Operation 8: Clean the body, the end connection, the ball and the stem (det. 1 – 2 – 3 - 4) before reassembling them

Operation 9: Proceed to the substitution of the following items: 8 – 9 – 10 - 11 – 12 – 13

Operation 10: Put the stem (det. 4 – 10) into the body

Operation 11: Put the v-pack (det. 12) into the body, make sure that they are facing in the direction of the media of being sealed, whether liquid or air

Operation 12: Assemble the valve with the following items: 5 – 11 – 5 – 7 – 14 – 14 – 15

Operation 13: Tight the first nut (det. 15) up to reach H quote

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Operation 14: Put the unscrewing grower (det. 19), then the handle (det. 6) and the second nut (det. 15)

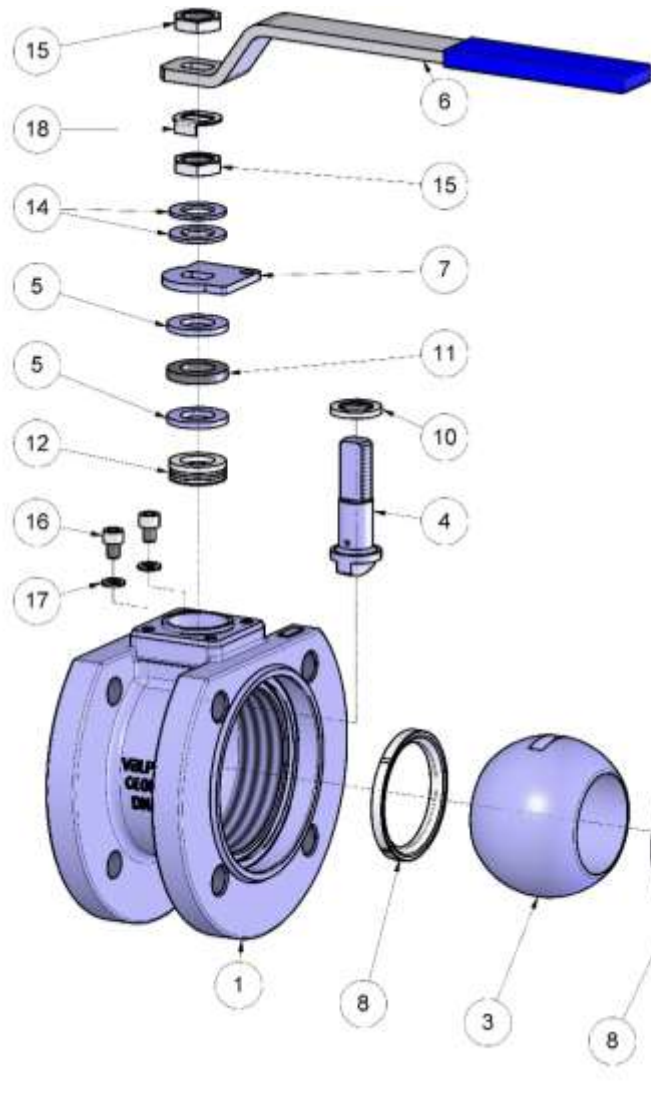
Operation 15: Put the first ball seat (det. 8) inside the body

Operation 16: Put the o-ring and the body seat (det. 9 - 13) and the second ball seat (det. 8) on the end connection (det. 2)

Operation 17: Put the grease on the ball (det. 3), then put it into the body (1)

Operation 18: Tighten the end connection (det. 2, pre-assembled with 8 - 9 - 13) in the body (det. 1) until it stops metal to metal

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POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	GHIERA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA / STEM	1
5	BUSSOLA / PACKING GLAND	2
6	LEVA / HANDLE	1
7	MEZZOGIRO / 90° STOP	1
8	GUARNIZIONE SFERA / BALL SEAT	2
9	GUARNIZIONE CORPO / BODY SEAT	1
10	GUARNIZIONE ANTIATTRITO / ANTI-FRICTION RING	1
11	GUARNIZIONE ASTA / STEM SEAT	1
12	GUARNIZIONE ASTA / STEM SEAT	1
13	O-RING	1
14	MOLLA A TAZZA / SPRING WASHER	2
15	DADO / NUT	2
16	VITE / SCREW	2
17	RONDELLA / WASHER	2
18	RONDELLA ANTISVITAMENTO / UNSCREWING GROWER	1

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SERIES 73

General maintenance for valves EURO-SFER 730000

Operation 1: Up to 4"-DN100 loosen the end connection (det. 2). From 5"-DN125 loosen the screws (det. 16) and remove the end connection (det. 2)

Operation 2: Remove the ball (det. 3) and ball seats (det. 8)

Operation 3: Take the nuts and the handle off (det. 14-6) to pull the stem out (det. 4)

Operation 4: Proceed to the substitution of the following items: 8-9-10-11-12

Operation 5: Clean the body, the end connection, the ball and the stem (det. 1-2-3-4) before reassembling the valve

Operation 6: Put the o-ring (det. 11) and the thrust washer (det. 9) on the stem (det. 4)

Operation 7: Put the pre-assembled stem (det. 4) inside the body (det. 1) and then assemble the items 10-5-7-13-14-6

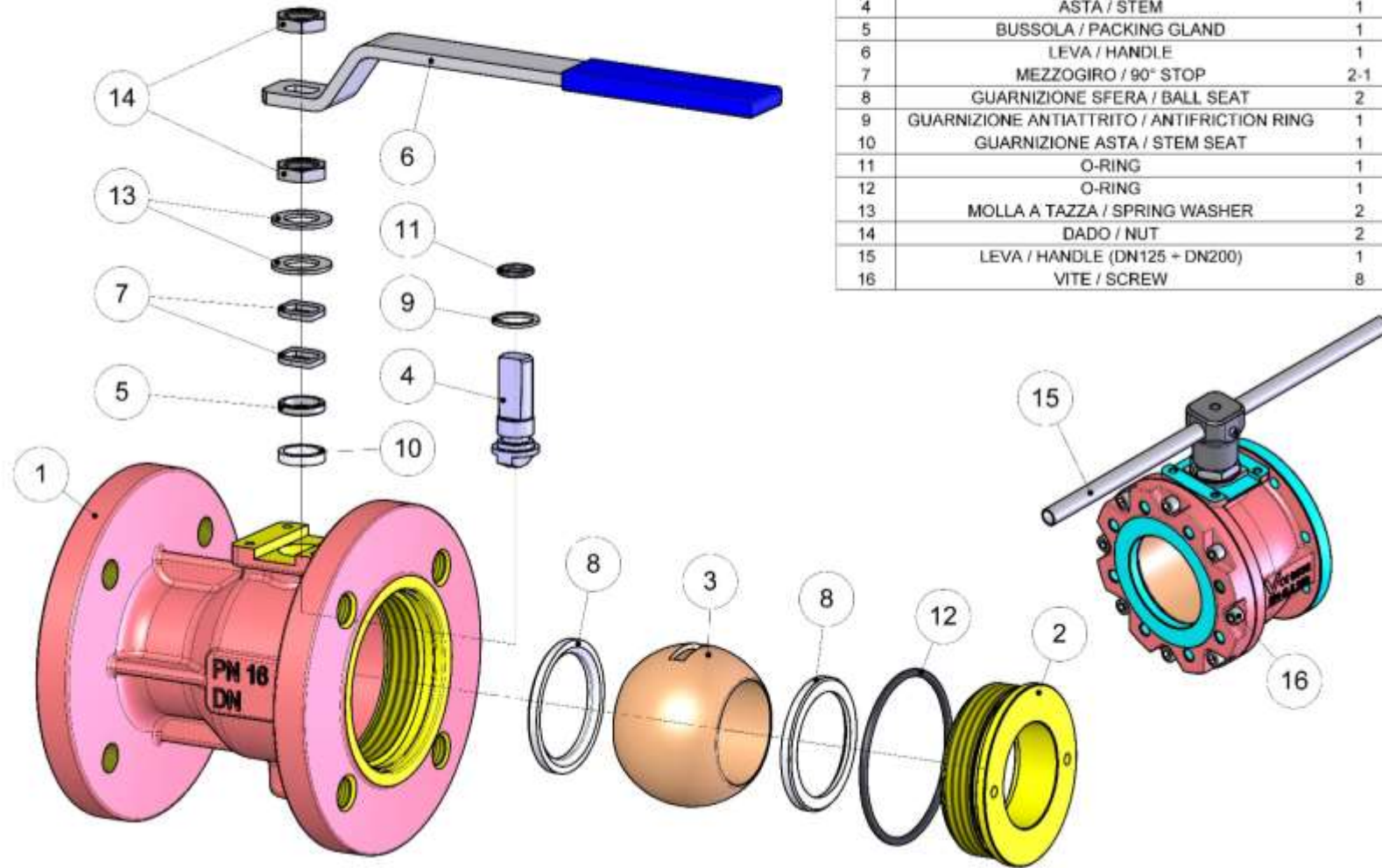
Operation 8: Put the ball seat (det. 8) and the ball (det. 3) inside the body

Operation 9: Put the o-ring (det. 12) and the ball seat (det. 8) on the end connection (det. 2)

Operation 10: Up to 4"-DN100 tighten the end connection (det. 2) in the body (det. 1) until it stops metal to metal. From 5"-DN125 tighten the screws (det. 16) until the end connection (det. 2) stops on the body (det. 1) metal to metal

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POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	GHIERA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA / STEM	1
5	BUSSOLA / PACKING GLAND	1
6	LEVA / HANDLE	1
7	MEZZOGIRO / 90° STOP	2-1
8	GUARNIZIONE SFERA / BALL SEAT	2
9	GUARNIZIONE ANTIATTRITO / ANTI-FRICTION RING	1
10	GUARNIZIONE ASTA / STEM SEAT	1
11	O-RING	1
12	O-RING	1
13	MOLLA A TAZZA / SPRING WASHER	2
14	DADO / NUT	2
15	LEVA / HANDLE (DN125 + DN200)	1
16	VITE / SCREW	8



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SERIES 76

General maintenance for valves SPLIT-BODY 760000

Operation 1: Loosen the screws (det. 19)

Operation 2: Take fully off the ball (det. 3)

Operation 3: Take the nuts and the handle off (det. 17-8) to pull the stem out (det. 4)

Operation 4: Proceed to the substitution of the following items: 6-7-10-11-12-13-14-15

Operation 5: Clean the body, the end connection, the ball and the stem (det. 1-2-3-4) before reassembling the

Operation 6: Put the o-ring (det.14-15) into the stem seat (det. 13), put the thrust washer (det. 11) on the stem (det. 4)

Operation 7: Put the stem (det. 4-11) inside the body (det. 1) and then assemble the items 13 (pre-assembled with 14-15), 5-12-5-9-16-17-8-17

Operation 8: Put the ball seat (det. 10) inside the body

Operation 9: Put the body seats (det. 6-7) and the ball seat (det. 10) on the end connection (det. 2)

Operation 10: Put the grease on the ball (det. 3).

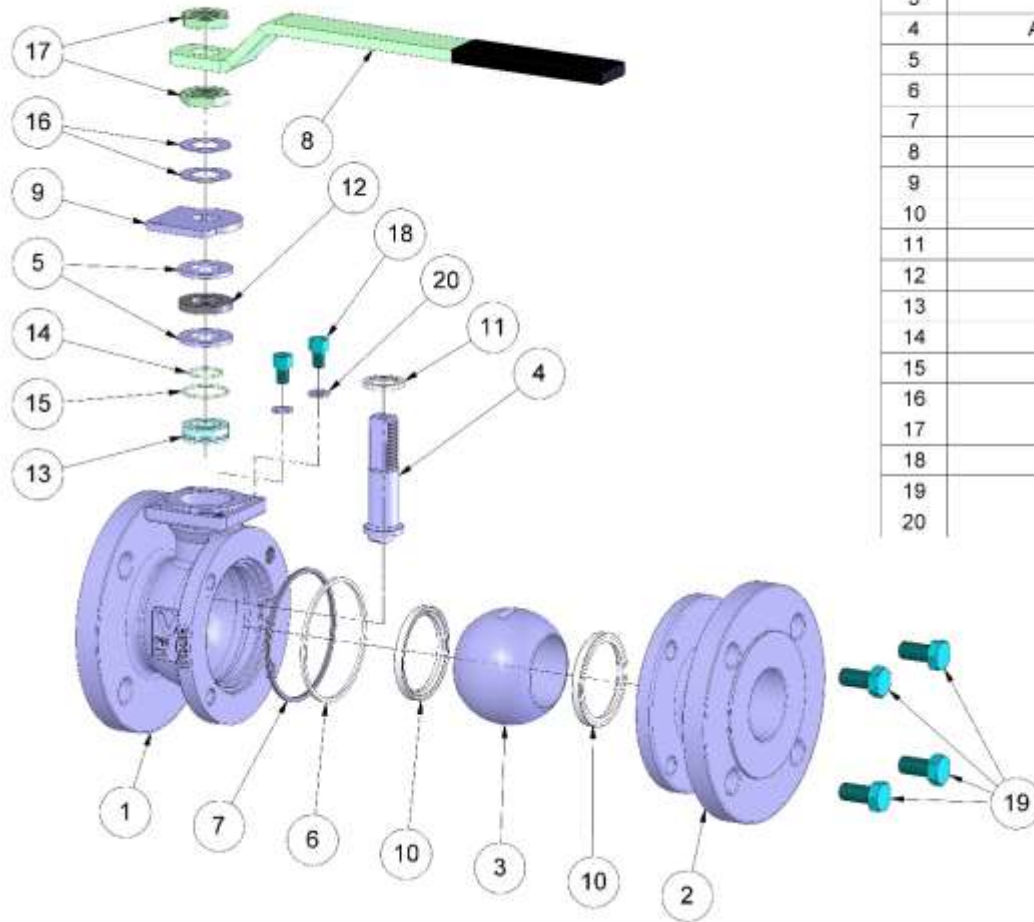
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Operation 11: Assemble the ball (det. 3) in the body (det. 1).

Operation 12: Assemble the end connection (det. 2, pre-assembled with 6-7-10) on the body (det.1).

Operation 13: Assemble the screws (det. 19).

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POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	FLANGIA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA ANTISTATICA / ANTISTATIC STEM	1
5	BUSSOLA / PACKING GLAND	2
6	GUARNIZIONE CORPO / BODY SEAT	1
7	GUARNIZIONE CORPO / BODY SEAT	1
8	LEVA / HANDLE	1
9	MEZZOGIRO / 90° STOP	1
10	GUARNIZIONE SFERA / BALL SEAT	2
11	RONDELLA ASTA / THRUST WASHER	1
12	GUARNIZIONE ASTA / STEM SEAT	1
13	GUARNIZIONE ASTA / STEM SEAT	1
14	O-RING	1
15	O-RING	1
16	MOLLA A TAZZA / SPRING WASHER	2
17	DADO / NUT	2
18	VITE / SCREW	2
19	VITE / SCREW	4 - 8 - 12
20	RONDELLA / WASHER	2

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SERIES 76V

General maintenance for valves SPLIT-BODY PLUS 760V00

Operation 1: Loosen the screws (det. 17) and remove the end connection (det. 2)

Operation 2: Take fully off the ball (det. 3), the ball seats (det. 10) and body-connection seats (det. 6 - 7)

Operation 3: Remove (if necessary) the 90° stop screws and their washers (det. 16 - 18)

Operation 4: Remove the first nut (det. 15, if 2 pcs.), the handle (det. 8) and the unscrewing grower (det. 19)

Operation 5: Take note of H quote. If the v-pack was already re-energized ask the correct H quote to Valpres srl

Operation 6: Remove the following items: 15 - 14 - 9 - 5 - 12 - 5 - 13

Operation 7: Remove the stem (det. 4) and thrust washer (det. 11)

Operation 8: Clean the body, the end connection, the ball and the stem (det. 1 - 2 - 3 - 4) before reassembling them

Operation 9: Proceed to the substitution of the following items: 6 - 7 - 10 - 11 - 12 - 13

Operation 10: Put the stem (det. 4 - 11) into the body

Operation 11: Put the v-pack (det. 13) into the body, make sure that they are facing in the direction of the media of being sealed, whether liquid or air

Operation 12: Assemble the valve with the following items: 5 - 12 - 5 - 9 - 14 - 14 - 15

Operation 13: Tight the first nut (det. 15) up to reach H quote

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Operation 14: Put the unscrewing grower (det. 19), then the handle (det. 8) and the second nut (det. 15, if present)

Operation 15: Put the first ball seat (det. 10) inside the body

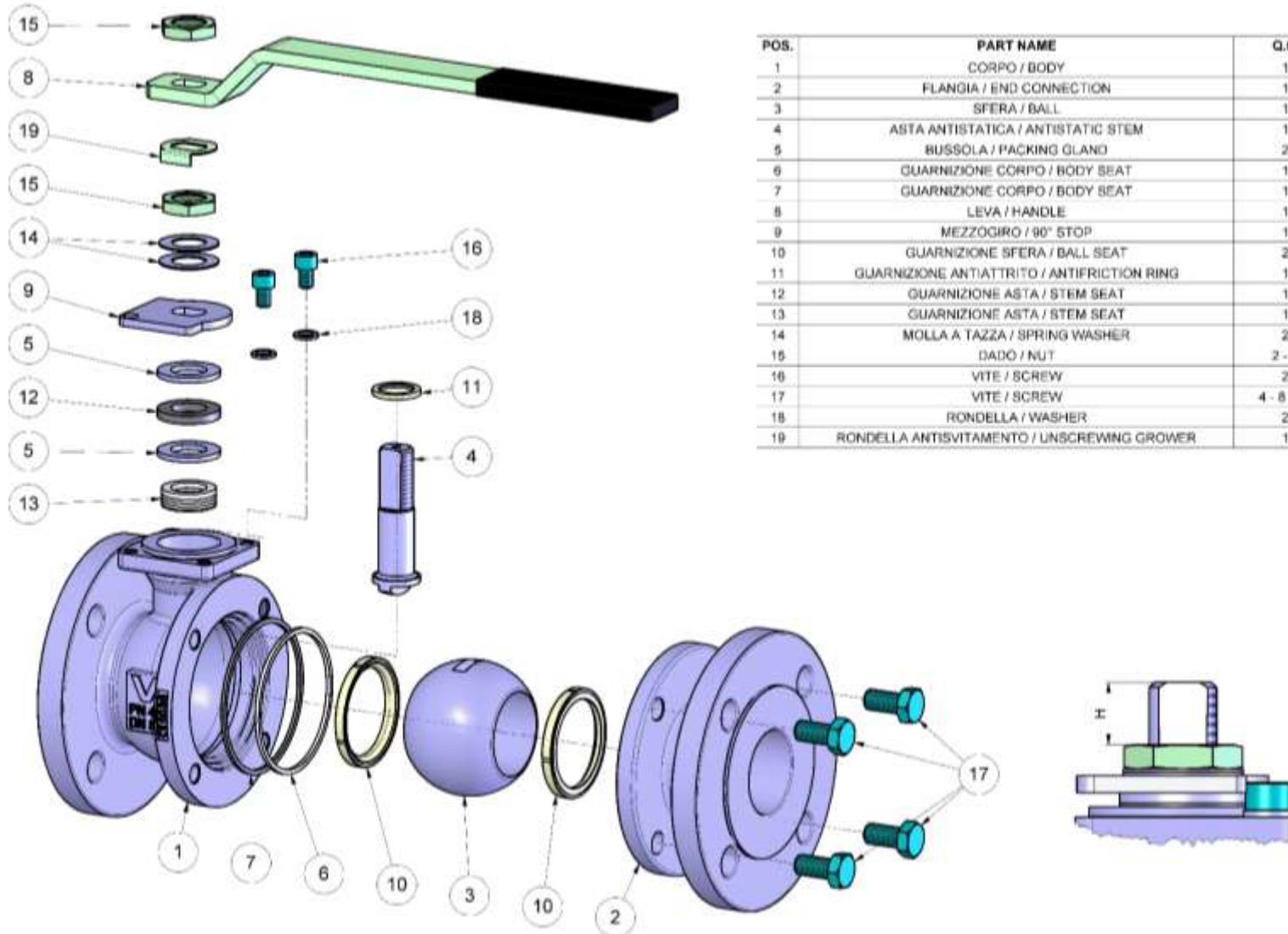
Operation 16: Put the body seats (det. 6 - 7) and the second ball seat (det. 10) on the end connection (det. 2)

Operation 17: Put the grease on the ball (det. 3), then put it into the body (1)

Operation 18: Assemble the end connection (det. 2, pre-assembled with 6 - 7 - 10) on the body (det. 1)

Operation 19: Assemble the screws (det. 17)

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POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	FLANGIA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA ANTISTATICA / ANTISTATIC STEM	1
5	BUSSOLA / PACKING GLAND	2
6	GUARNIZIONE CORPO / BODY SEAT	1
7	GUARNIZIONE CORPO / BODY SEAT	1
8	LEVA / HANDLE	1
9	MEZZOGIRO / 90° STOP	1
10	GUARNIZIONE SFERA / BALL SEAT	2
11	GUARNIZIONE ANTIATTRITO / ANTI-FRICTION RING	1
12	GUARNIZIONE ASTA / STEM SEAT	1
13	GUARNIZIONE ASTA / STEM SEAT	1
14	MOLLA A TAZZA / SPRING WASHER	2
15	DADO / NUT	2 - 1
16	VITE / SCREW	2
17	VITE / SCREW	4 - 8 - 12
18	RONDELLA / WASHER	2
19	RONDELLA ANTISVITAMENTO / UNSCREWING GROWER	1

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SERIES 763V

General maintenance for valves WAFER-SPLIT 763V00

Operation 1: Loosen the screws (det. 17) and remove the end connection (det. 2)

Operation 2: Take fully off the ball (det. 3), the ball seats (det. 10) and body-connection seats (det. 6 - 7)

Operation 3: Remove (if necessary) the 90° stop screws and their washers (det. 16 - 18)

Operation 4: Remove the first nut (det. 15), the handle (det. 8) and the unscrewing grower (det. 19)

Operation 5: Take note of H quote. If the v-pack was already re-energized ask the correct H quote to Valpres srl

Operation 6: Remove the following items: 15 - 14 - 9 - 5 - 12 - 5 - 13

Operation 7: Remove the stem (det. 4) and thrust washer (det. 11)

Operation 8: Clean the body, the end connection, the ball and the stem (det. 1 - 2 - 3 - 4) before reassembling them

Operation 9: Proceed to the substitution of the following items: 6 - 7 - 10 - 11 - 12 - 13

Operation 10: Put the stem (det. 4 - 11) into the body

Operation 11: Put the v-pack (det. 13) into the body, make sure that they are facing in the direction of the media of being sealed, whether liquid or air

Operation 12: Assemble the valve with the following items: 5 - 12 - 5 - 9 - 14 - 14 - 15

Operation 13: Tight the first nut (det. 15) up to reach H quote

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Operation 14: Put the unscrewing grower (det. 19), then the handle (det. 8) and the second nut (det. 15)

Operation 15: Put the first ball seat (det. 10) inside the body

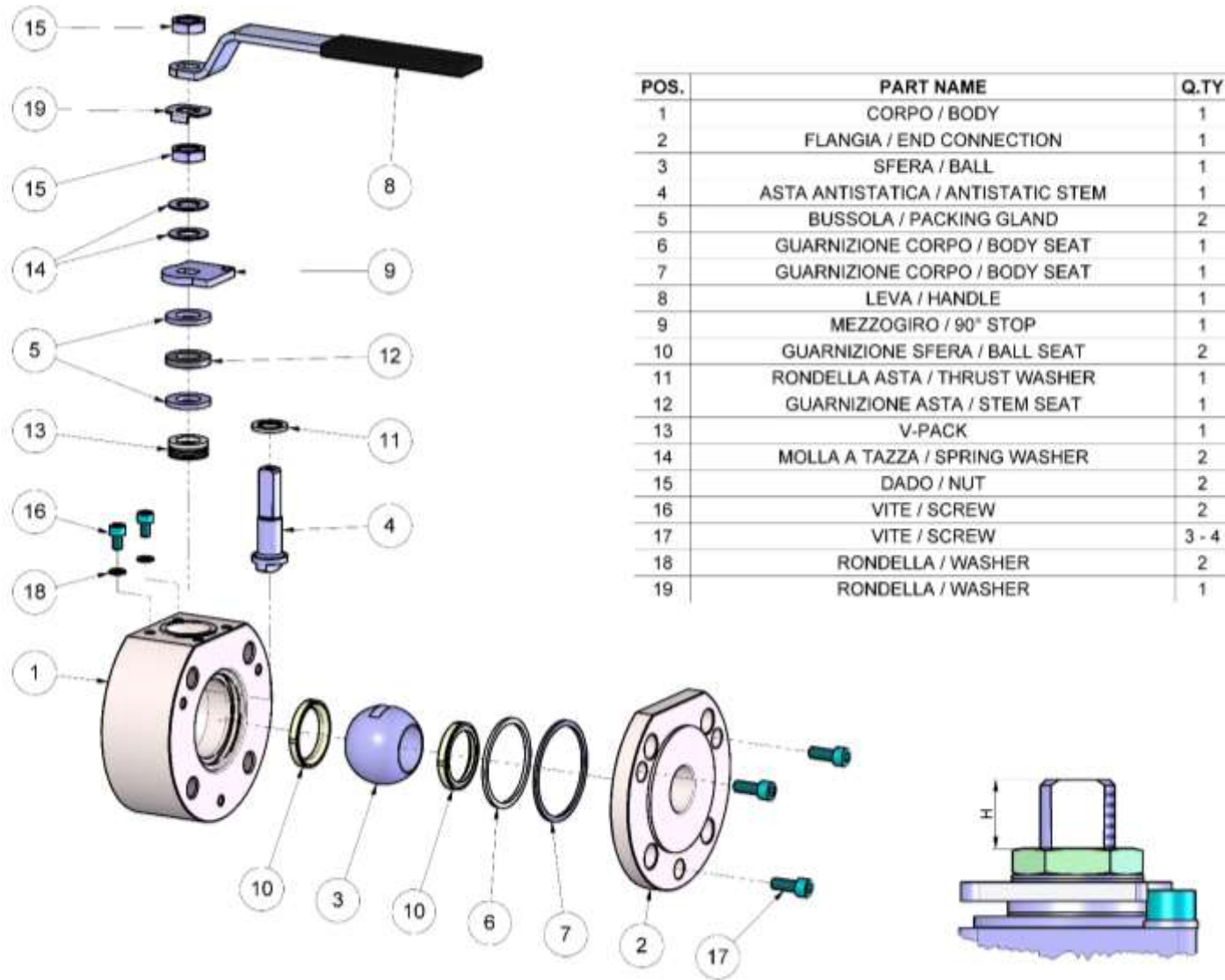
Operation 16: Put the body seats (det. 6 - 7) and the second ball seat (det. 10) on the end connection (det. 2)

Operation 17: Put the grease on the ball (det. 3), then put it into the body (1)

Operation 18: Assemble the end connection (det. 2, pre-assembled with 6 - 7 - 10) on the body (det. 1)

Operation 19: Assemble the screws (det. 17)

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SERIES 77

General maintenance for valves COMBI-SFER 776000

Operation 1: Up to 4"-DN100 loosen the end connection (det. 2). From 5"-DN125 loosen the screws (det. 16) and remove the end connection (det. 2)

Operation 2: Take fully off the ball (det. 3)

Operation 3: Take the nuts and the handle off (det. 14-6) to pull the stem out (det. 4)

Operation 4: Proceed to the substitution of the following items: 8-9-10-11-12

Operation 5: Clean the body, the end connection, the ball and the stem (det. 1-2-3-4) before reassembling the valve

Operation 6: Put the o-ring (det. 11) and the thrust washer (det. 9) on the stem (det. 4)

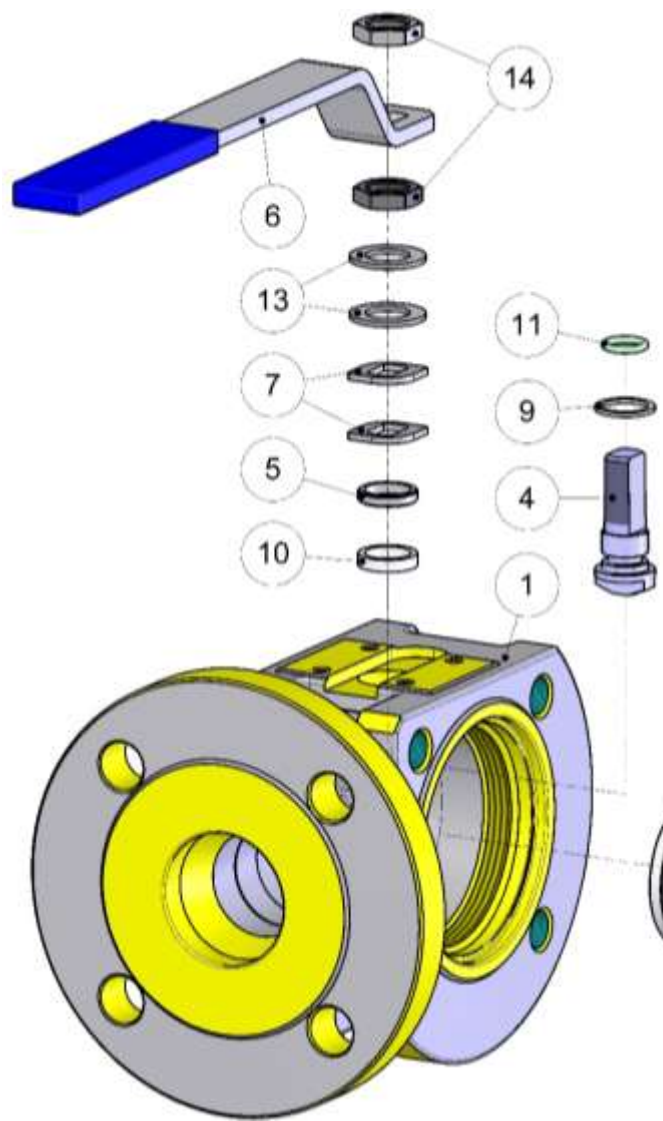
Operation 7: Put the pre-assembled stem (det. 4) inside the body (det. 1) and then assemble the items 10-5-7-13-14-6

Operation 8: Put the ball seat (det. 8) and the ball (det. 3) inside the body

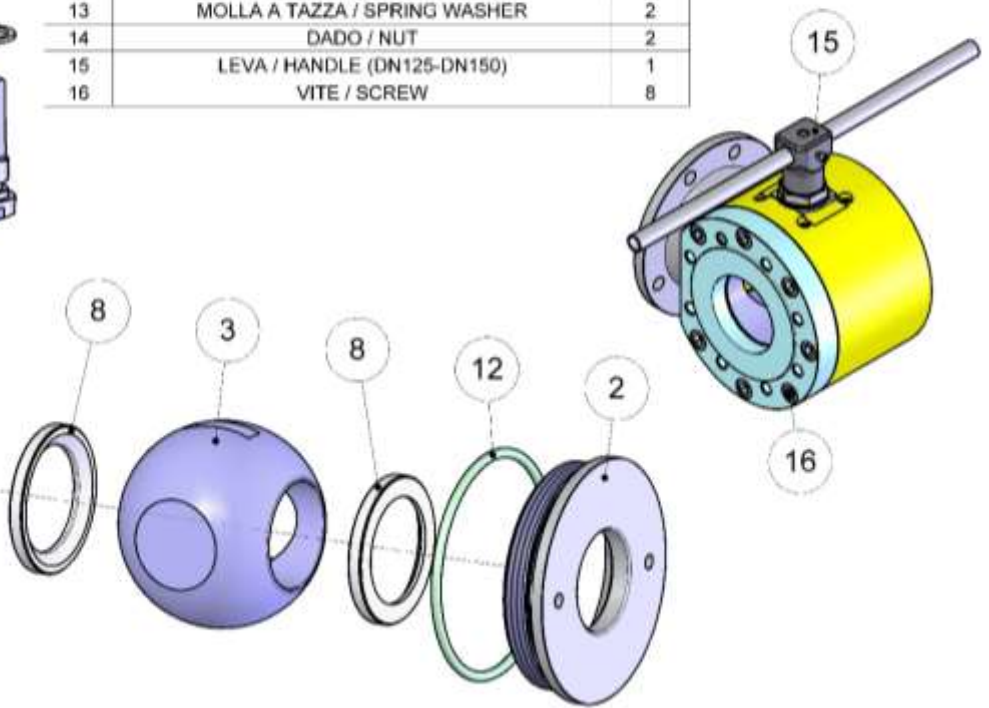
Operation 9: Put the o-ring (det. 12) and the ball seat (det. 8) on the end connection (det. 2)

Operation 10: Up to 4"-DN100 tighten the end connection (det. 2) in the body (det. 1) until it stops metal to metal. From 5"-DN125 tighten the screws (det. 16) until the end connection (det. 2) stops on the body (det. 1) metal to metal

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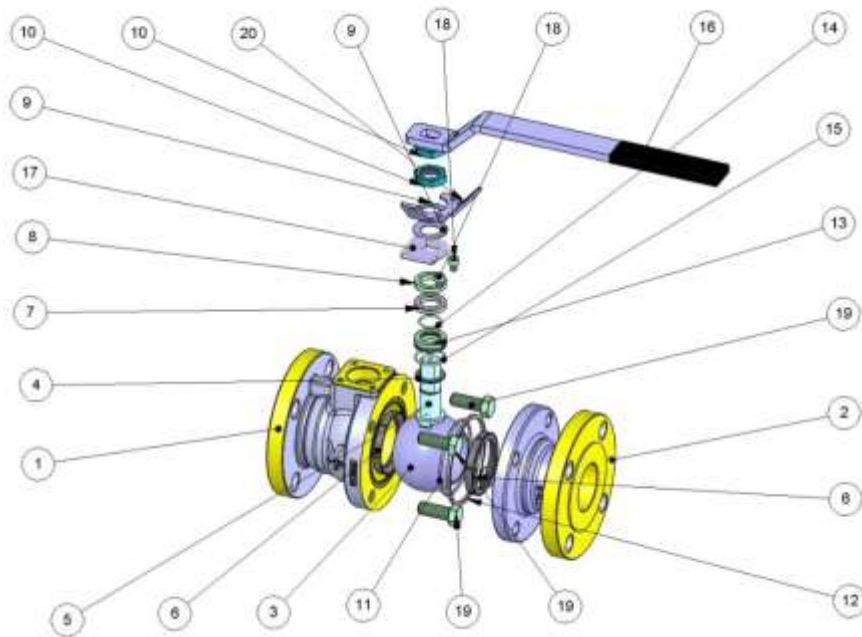
POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	GHIERA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA / STEM	1
5	BUSSOLA / PACKING GLAND	1
6	LEVA / HANDLE	1
7	MEZZOGIRO / 90° STOP	2
8	GUARNIZIONE SFERA / BALL SEAT	2
9	GUARNIZIONE ANTIATTRITO / ANTIFRICTION RING	1
10	GUARNIZIONE ASTA / STEM SEAT	1
11	O-RING	1
12	O-RING	1
13	MOLLA A TAZZA / SPRING WASHER	2
14	DADO / NUT	2
15	LEVA / HANDLE (DN125-DN150)	1
16	VITE / SCREW	8



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SERIES 68: SOFT AND METAL SEATS

12.1 - "Soft" seats disassembly



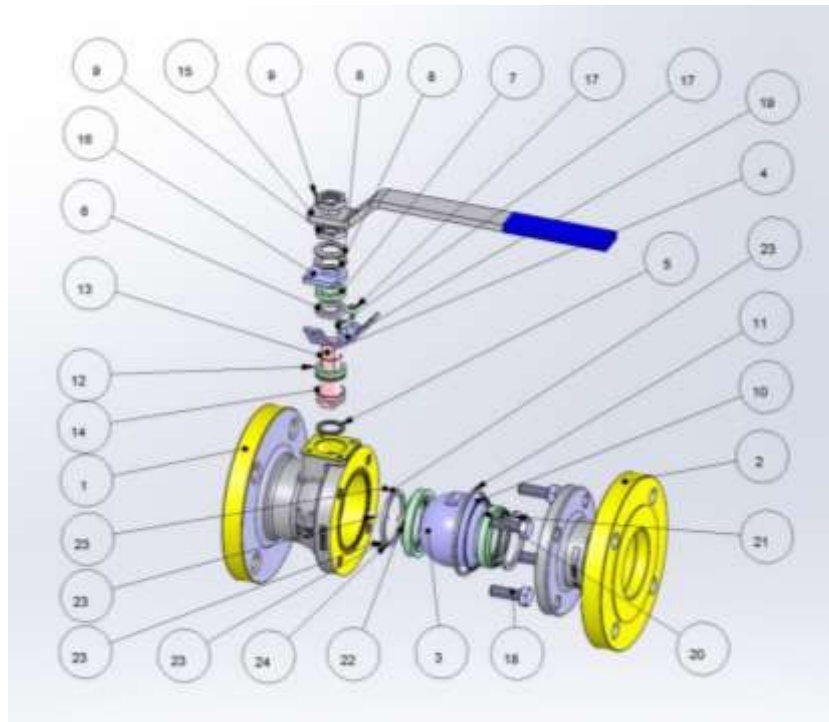
POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	FLANGIA / END CONNECTION	1
3	SFERA / BALL	1
4	RONDELLA ASTA / THRUST WASHER	1
5	ASTA / STEM	1
6	GUARNIZIONE SFERA / BALL SEAT	2
7	GUARNIZIONE ASTA / STEM SEAT	1
8	BUSSOLA / PACKING GLAND	1
9	MOLLA A TAZZA / SPRING WASHER	2
10	DADO / NUT	2
11	O-RING	1
12	GUARNIZIONE CORPO / BODY SEAT	1
13	BUSSOLA PORTA O-RING / O-RING BUSH	1
14	O-RING	1
15	O-RING	1
16	LEVA / HANDLE	1
17	MEZZOGIRO / 90° STOP	1
18	VITE / SCREW	2
19	VITE / SCREW	4
20	LOCKING HANDLE	1

Disassembly procedure:

1. After the valve has been removed from the line, place the valve upright with the valve body section (1) positioned on the ground.
2. Remove the handle (16) or other operating systems.
3. Unscrew and remove the body screws (19).
4. Pull the end connection/cover (2) out of the body (1).
5. At this point you can remove:
 - The body cover fire seal (12);
 - O-rings/body gaskets (11);
 - The soft seat of the sphere (6) mounted on the terminal/cover attachment.
6. Remove the ball (3).
7. Remove the soft seat mounted on the valve body (6).
8. Unscrew and remove the stem nut (10)
9. Extract the two spring washers (9)
10. Extract the 90° stop (17)
11. Remove the stem (5) from inside the valve body (1).
12. At this point it is possible to remove:
 - The thrust washer (4) fixed on the stem (5);
 - The bush (8);
 - The stem seal (7);
 - The O-ring bush (13) and the 2 elastomers mounted inside (14-15).
13. Unscrew and remove two screws (18) from the body (1)
14. Remove the locking handle (20).

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12.2 Metal seats disassembly



POS.	PART NAME	Q.ty
1	CORPO / BODY	1
2	FLANGIA / END CONNECTION	1
3	SFERA / BALL	1
4	ASTA / STEM	1
5	RONDELLA ASTA / THRUST WASHER	1
6	GUARNIZIONE ASTA / STEM SEAT	1
7	BUSSOLA / PACKING GLAND	1
8	MOLLA A TAZZA / SPRING WASHER	2
9	DADO / NUT	2
10	ANELLO / RING	1
11	GUARNIZIONE CORPO / BODY SEAT	1
12	BUSSOLA PORTA O-RING / O-RING BUSH	1
13	O-RING	1
14	O-RING	1
15	LEVA / HANDLE	1
16	MEZZOGIRO / 90° STOP	1
17	VITE / SCREW	2
18	VITE / SCREW	4
19	LOCKING HANDLE	1
20	SEGGIO METALLICO / METAL SEAT	1
21	GUARNIZIONE SEGGIO / SEAT GASKET	1
22	SEGGIO METALLICO / METAL SEAT	1
23	MOLLA / SPRING	6
24	GUARNIZIONE SEGGIO / SEAT GASKET	1

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Disassembly procedure:

1. After the valve has been removed from the line, place the valve upright with the valve body section (1) positioned on the ground.
2. Remove the handle (15) or other operating systems.
3. Unscrew and remove the body screws (18).
4. Disconnect the terminal/cover connection (2) from the body (1)
5. At this point you can remove:
 - The fireproof gasket (11);
 - The o-ring/body gasket (10);
 - The metal seat of the sphere (20), mounted on the end connection (2);
 - The seat gasket (21) mounted on the end connection.
6. Remove the ball (3).
7. Remove the metal seat from the valve body (22).
8. Pull the six metal seat springs (23) out of the body (1).
9. Pull the seat seal (24) out of the body (1).
10. Unscrew and remove the stem nut (9).
11. Remove the spring washers (8).
12. Extract the 90° stop (16).
13. Remove the stem (4) from inside the valve body (1).
14. At this point you can remove:
 - The thrust washer (5) mounted on the stem;
 - The bush (7);
 - The rod seal (6);
 - The o-ring bush (12) and the 2 elastomers mounted inside (13; 14)
15. Unscrew and remove the two screws (17) from the body (1)
16. Remove the locking handle (19)

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13 BOLTS TIGHTENING

13.1 Recommendations

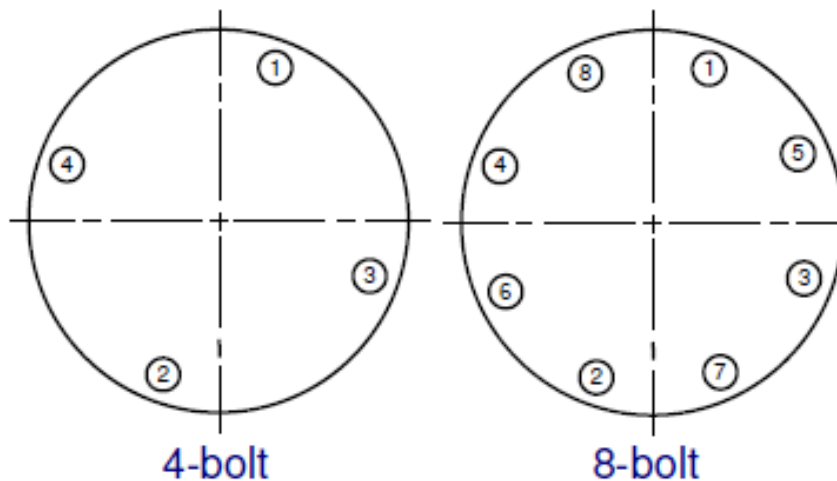
1. 1. Put some grease on the screw thread and under the surface of the nut head.
2. 2. Screw the bolts into the “cross position” (an example of the sequence is shown below).
3. 3. During tightening make sure that the faces of the flanges remain perfectly parallel.



Note

For best coupling performance, tighten step by step, starting with the sequence using a torque value approximately equal to 1/3 of the maximum torque. Repeat the sequence increasing the torque until the maximum torque value is reached.

13.2 Bolt tightening sequence



The verification of the correct tightening of screws and bolts for the disassembly and maintenance operations requires, when mounting again the valve, not to exceed the values shown below, and the simultaneous check that the metal components are in mechanical stop:

SCREW TIGHTENING TORQUE:

THREAD	TORQUE (Nm) Screw tightening connection flange
M5	5,5
M6	9
M8	20

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M10	35
M12	60
M14	10
M16	150
M18	200
M20	280
M22	400
M24	500

TIGHTENING TORQUES OF THE NUTS STEM:

THREAD	TORQUE (Nm) Tightening nuts stem
M8	10
M10	15
M12	20
M16	30
M18	35
M20	35
M24	40
M27	50
M42	60
M52	70

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14 VALVE TEST AND INSPECTION

14.1 Periodic inspection

A general inspection of the valve must be performed every three months by trained personnel to verify the adequacy of the valve components.

Each condition of noncompliance must be classified as:

- Presence of iron oxide/rust
- Damage to the surface finish of the valve (painting, galvanization)
- Component oxidation
- Damage to the surface of the valve

All preventive inspection actions are responsibility of the end user.

The staff involved in inspection activities must be provided with personal protective equipment (PPE) necessary to complete each task in safe conditions.

14.2 Preventive actions



Caution

1. Check the tightness of the bolts and any other device fixed to the valve at least once a year.
2. Check every five years critical service valves and/or actuated valves, verifying the sealing surface and re-lapping them if necessary. Replace all gaskets and seals .
3. For actuated valves, in addition to the above, please refer to the maintenance manual of the actuator.

14.3 Test and inspection of the valve



Caution

1. Perform visual inspection at least once a year in order to verify that there are no external leakage and, with the valve in the closed position, check if there are leaks between the ball and the seats.
2. For actuated valves, in addition to the above, refer to the maintenance manual of the actuator.
3. Verify at least once a year there is no external or internal corrosion.
4. In order to verify the correct operation of the valves/actuators, a complete cycle of opening and closing must be performed once a year, starting from the normal operating position of the valve.

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5. To improve the reliability of the valve, it is suggested to carry out a partial stroke test (from partially OPEN or CLOSED position up to about 15°-20°).

15 TROUBLESHOOTING

Problem	Probable cause	Solution
The valve cycles irregularly	Actuator unit	Refer to the manual of use and maintenance of the actuator or remove the cover and check the connection between valve stem and actuator.
	Check for any ice in the valve shutter	Heat the valve or inject an anti-freeze solution in the valve
	There is a build-up in the seat area due to a contamination of the line	Clean the seat area as per the standard cleaning procedure of the seats
	Ball/seats deformed	Replace ball/seats
	The ball is not fully aligned with the seat holes	Adjust the adjustment stops of the actuator cams Check the alignment of the actuator valve joint / connection bracket Check that the valve rod is not twisted as a result of excessive effort generated by manual operation with levers / parrots
The valve is leaking from the stem	Check the stem nut torque values, possible presence of damaged O-rings/V-pack	Tighten the stem nut or disassemble and replace the O-rings/V-pack Inject valve sealant or replace O-rings
The valve shutter does not close completely	Ice in the valve	Heat the valve or inject an anti-freeze solution in the valve
	Ball/seats deformed	Replace ball/seats
	The ball is not fully aligned with the seat holes	In the actuator, check the stop of the worm gear and/or the limit switches.
	Seizure between stem and head	Replace stem and gaskets with new ones
The poppet valve in the closed position does not completely stop the fluid that is drawn in the line	Contamination around the area of the seat because of the service	Clean the seat area as indicated
	Ball seat or o-ring damaged	Replace seats and o-rings
	The valve does not close completely	Check that the operator does not stop the rotation of the ball before reaching the fully closed position

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The valve stops incorrectly	Adjust the stops of the actuator
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16 LIMITATIONS

The correct choice construction materials, seats and seals, internal components of the valve and the rating pressure/temperature determine the safe operation of the valves and the specific performance requirements for the application.

This information is located on the label printed/welded on the valve body.

Because the application fields in which these valves may be used are many, it is impossible to cover all the operating and maintenance instructions for valve service.

It is the user's responsibility to use the valve as recommended in accordance with the pressure and temperature limits as indicated in this manual.

In case of doubts, please contact Valpres technical-commercial staff.

Any unstable fluid or gas (as indicated in the directive 2014/68/EU) must be indicated by the user to Valpres when placing a request for quotation. Please note that this category of fluids/gases generally cannot be used with Valpres valves.

17 RISK ANALYSIS

Risks related to Directive 2014/68/EU (PED)

The valve must be used within the parameters indicated on the valve label/markings. Crossing even one of these limits can be very dangerous.

Below you can find a list of possible conditions of risk that, even if evaluated and noted in the risk analysis of the components, are not necessarily eliminated.

Possible hazardous conditions:

1. Wind, snow, ice
2. Water hammer
3. Chemical attacks
4. Lack of balance of fluids
5. Uncontrolled chemical reactions
6. Currents
7. Shock waves
8. Acoustic vibrations and flow-induced vibrations

Additional requirements

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Below you can find a list of possible dangerous situations which, if not previously specified in the contract documents, have not been considered in the valve design stage.

Possible Hazardous Conditions:

9. Thermal fatigue
10. Seismic loads
11. Erosion
12. Collapse under vacuum
13. External corrosion
14. Contaminated fluids
15. Abrasions
16. Cavitation and flashing
17. External fire

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