

780-781XS VALVE WITH SF SWITCH BOX

FEATURES

The 3-way 780XS+SF (L-shaped) and 781 XS+SF (T-shaped stainless steel ball valves provide the mixing, distribution or discharge functions for pipes with non-loaded industrial fluids, providing direct view on position and feedback information control. It is a reduced-bore valve with an antistatic device. It is EC- and ATEX-approved. The ISO 5211 mounting pad enables the actuator to be directly assembled. The SF switch box is equipped as standard with 2 dry contacts. Due to its IP67 leak-tightness, it can be installed both indoors and outdoors. Different contacts and detectors are available as options. Lockable handle.

AVAILABLE MODELS

780 XS: L-shaped / 781 XS: T-shaped.

1.4408 SS.

1/4" to 2" diameters.

G thread connections.

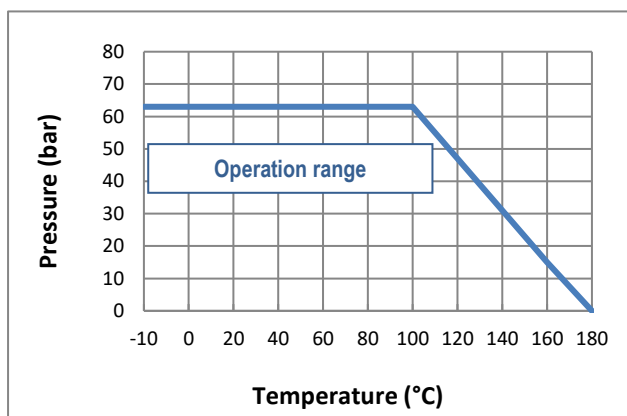
Electrical connection: 2 x M20x1.5.



With switch
ATEX

LIMITS OF USE

Fluid pressure: WP	63 bar (20°C)
Fluid temperature: WT°	- 30°C / +180°C
Ambient temperature	- 20°C / + 80°C
IP Code	IP 67



DIRECTIVES AND MANUFACTURING STANDARDS

OBJECT	Standard	ON	OBJECT	Standard
Pressure Equipment Directive 2014/68/EC	1/4" to 1": not subject		Final test	EN 12266
	1" 1/4 to 2": category III	TÜV 0035	Material certificate	EN 10204
Size	EN 12516-1		Steel grades	EN 1503-1
ATEX Directive	II 2G/D Tx zones 1,2,21 and 22 (SIRA 0518)			

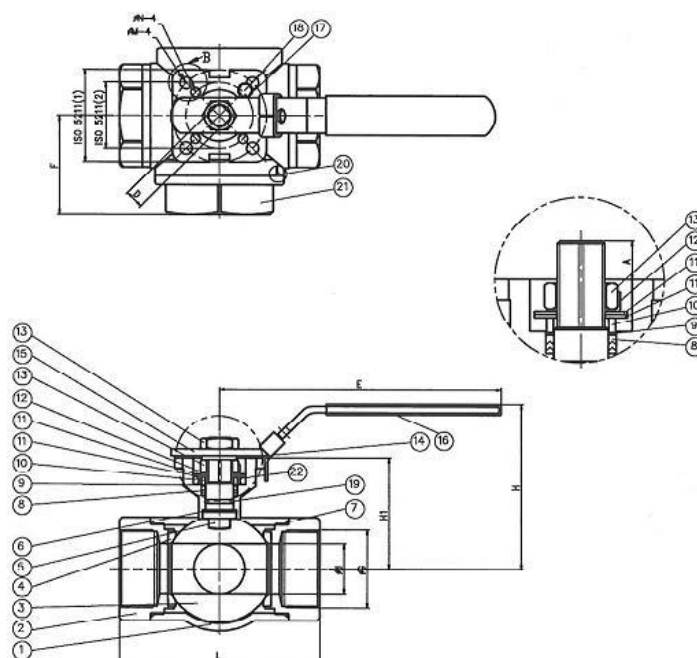
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		Rev.	03
		Date	06/2020

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CONSTRUCTION

No.	Name	Material	No.	Name	Material
1	Body	1.4408 SS	12	Lock washer	304 SS
2	Lateral ends	1.4408 SS	13	Lever nut	304 SS
3	Sphere	1.4408 SS	14	Washer	304 SS
4	Seats	PTFE	15	Lever	304 SS
5	Stem	316 SS	16	Liner	PVC
6	Stem gasket	PTFE	17	Stop	304 SS
7	Body gaskets	PTFE	18	Nut	304 SS
8	Cable gland gasket	PTFE	19	O-ring	FKM
9	Washer	TFM 1600	20	Body gasket	PTFE
10	Spacer	304 SS	21	Central end	1.4408 SS
11	Belleville spring	304 SS	22	Spring	304 SS



DIMENSIONS (mm)

DN	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"
D	11	11	12.5	16	20	25	32	38
L	75.7	75.7	75.7	86.6	103	118.2	125.8	149
H	64.9	64.9	64.9	71.6	94.3	100	115.7	124.9
F	38.3	38.3	38.3	44.7	50.8	57.7	62.6	74.3
A	8.2	8.2	8.2	9.0	11.5	11.5	15.1	15.1
E	132	132	132	132	180	180	225	225
H1	36.8	36.8	36.8	44.1	55.1	60.7	75.2	84.4
D	9	9	9	9	11	11	14	14
ISO	F03/F04	F03/F04	F03/F04	F03/F04	F04/F05	F04/F05	F05/F07	F05/F07
Weight (kg)	0.33	0.33	0.33	0.5	0.9	1.7	2.2	3.8

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ASSEMBLY AND MAINTAINANCE INSTRUCTIONS

1 - Installation

1.1 - Checks

- Check that the material of the valve body is chemically compatible with the fluid.
- Check that the pressure and service conditions are compatible with the (P, T) diagram of the valve. See § "Service limits"
- Check if the ball has an L-shaped or T-shaped hole.
- Check that the fluid is clean and free of particles. The latter could scratch the ball and damage the seats, hence causing the valve to leak. If need be, install an upstream filter.
- Check that there is no risk of thermal expansion of the fluid, which could damage the seats. In the open position, a hole at the top of the ball balances the pressures between the body cavity and the flow of the fluid. As an option, we recommend a relief hole upstream of the valve for equalising the pressures for fluids such as ammonia, LPG, chlorine, etc.
- Check that the valve is not used for flow or pressure control since it is not intended for this use and there is a risk of premature wear of the seats, in particular in the event of high pressure and/or temperature.
- Check that the valve is not used on a gas which might condense at certain times during the process. In such a case, the pressure within the body cavity could become negative, which could lead to a significant deformation of the seats. Please contact us.
- Static electricity: the valve will be supplied with a ball-stem-body internal electrical continuity tester. If the service conditions require the electrical continuity of the installation, check its earthing.
- If the valve is installed in an explosive zone, you must follow the additional "IMEVMATEX" instructions.

1.2 - Storage before installation

- Follow our general "IMESTOCK" instructions for storage.

1.3 - Installation

- Before any installation, isolate the piping upstream and downstream, depressurize the piping and bring the installation to ambient temperature. Carefully clean the piping of any particle (foreign body, dust, rust, etc.) or shavings by water rinsing or air blowing.
- Correctly identify the position of the flow directions with regard to the pipe installation.
- Remove the protective tips from the valve ends.
- Check the cleanliness of the internal surfaces of the valve and if need be, clean them.
- Direction of installation: the flow directions can be identified with respect to the stem marking.
- Check the perfect alignment and the proper support of the pipe installation upstream and downstream of the valve. Alignment defects cause mechanical deformations which can block the valve or lead to leaks at the body gaskets.
- Check that the standards for the valve internal thread and pipe thread are the same.
- Cover the pipe threads using a sealing material (tow, PTFE tape, sealing glue, etc.)
- Screw the tube into the valve end clockwise, as shown in the diagram below.
- Check the sealing of the connection using a suitable test (hydrostatic test or leak detection spray).

2 - Service

- If a hot fluid flows across the valve, do not touch the valve surface.
- Always operate the valve slowly and smoothly.
- Opening clockwise, closing anti-clockwise.

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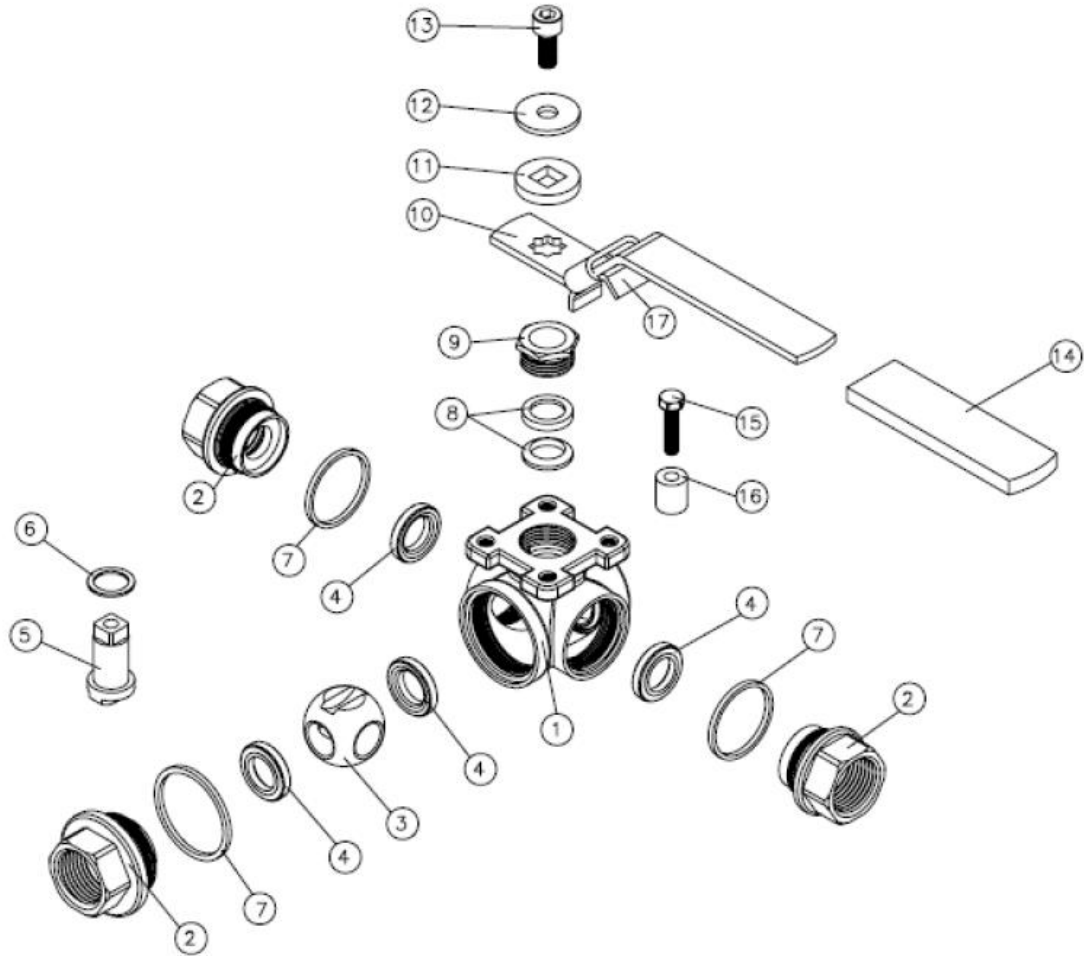
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3 - Servicing

3.1 - Frequency of servicing

- The servicing frequency depends upon the use of the valve, of the type of fluid, of its velocity, of its frequency of operation, of the cycles of rise and fall in pressure and temperature.
- Before any intervention, isolate the upstream and downstream pipe installation using the valves provided for this purpose. Depressurize the pipe installation and bring it to ambient temperature.
- If the lever has to be removed, do that before disassembling the body.
- To disassemble the central body, unscrew the lateral ends (items 2). Removal
- To remove the ball from the body, turn the stem by a quarter turn.



3.2 - Inspecting the state of the valve and possible repair

- Check the state of the ball (Item 3): it has to be clean and unscratched. If the cleaning or polishing is not possible, replace it (see the § on spare parts).
- Check the state of the seats (4.1 and 4.2): they must not be deformed, nor scratched, nor worn, or dirty. Otherwise, replace them with parts from the gasket kit.
- Check the state of the packing gland (6 and 8): no leak should be found at the stem and the rings should not be excessively worn. If need be, replace the gaskets.
- Check the state of the body gaskets (7.1, 7.2, and 7.3). Replace them if necessary.
- Reassemble the different parts of the valve, following the tightening torques shown in the table below.
- Check that the stem manoeuvring is smooth. Perform about ten manoeuvres.

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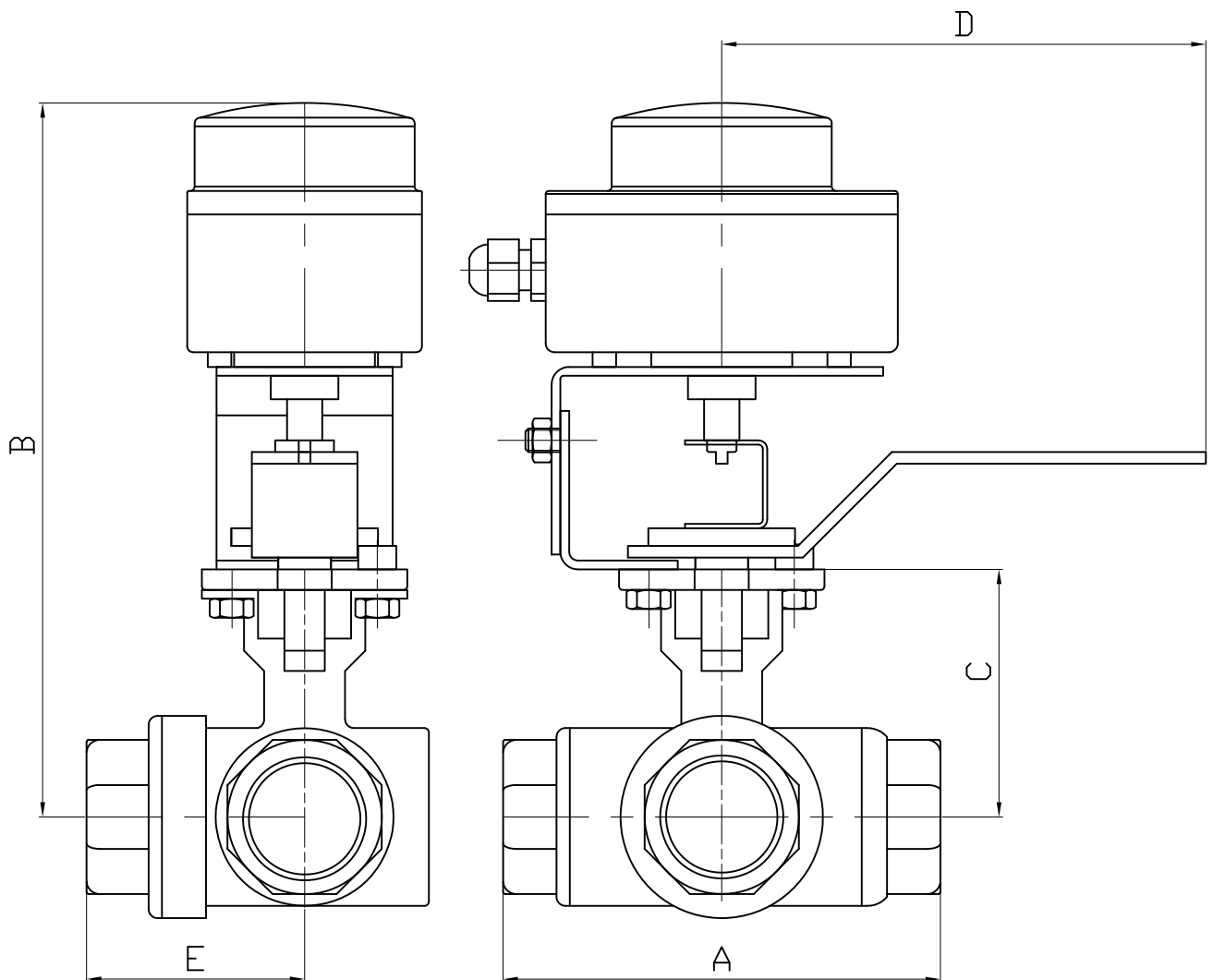
SPARE PARTS

DN	Gasket kit	Ball	Handle
Reference mark	4-6-7-8	3	14
1/4"	Please contact us.	Please contact us.	Please contact us.
3/8"	Please contact us.	Please contact us.	Please contact us.
1/2"	Please contact us.	Please contact us.	Please contact us.
3/4"	Please contact us.	Please contact us.	Please contact us.
1"	Please contact us.	Please contact us.	Please contact us.
1"1/4	Please contact us.	Please contact us.	Please contact us.
1"1/2	Please contact us.	Please contact us.	Please contact us.
2"	Please contact us.	Please contact us.	Please contact us.

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DN	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	75.7	75.7	75.7	86.6	103	118.2	125.8	149
B	210.3	210.3	210.3	218.3	227.5	232.7	247	256.4
C	36.8	36.8	36.8	44.8	54	59.2	73.5	82.9
D	110	110	110	110	135	135	165	165
E	38.3	38.3	38.3	44.1	55.1	60.7	75.2	84.4
KG	1.17	1.17	1.17	1.34	1.73	2.53	3.24	4.28

Informations données à titre indicatif et sous réserve de modifications éventuelles
data subject to alteration

				Maj cote B	19/12/2014	A
Ech: /	Date :26/06/2012	Dessiné par : E.D	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 780XS-781XS + BFC/BALL VALVE 780XS-781XS + LIMIT SWITCH BOX				Matière :		
				Poids (Kg) :		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Traitement : SANS		
				Plan n° Ens 1136A		

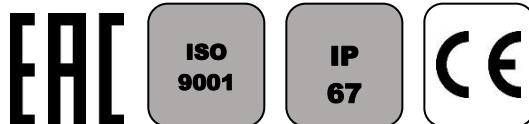
SF-TYPE SOLDO SWITCH BOXES

FEATURES

The SF-type switch box is intended for equipping quarter-turn pneumatic actuators and manual valves. It makes it possible to have an easy, direct view of the valve position and of the feedback information to control. Of robust construction, it can be installed outdoors. The position indicator provides a very good visual reading of the valve position. The SF switch box can be equipped with many switches and detectors (see below). The notched cams can be manually adjusted with great accuracy, and are insensitive to vibrations.

AVAILABLE MODELS

SF: IP67 model



LIMITS OF USE

Ambiant temperature	-20°C / +80°C
IP Code	IP 67
SF	Outside ATEX zone

MECHANICAL CONNECTION

Axis dimension	According to VDI/VDE 3845
Attachment	ISO 5211 F05
Stainless steel arches for attachment on to the actuator	<u>NAMUR 0</u> : 50x25x20 mm <u>NAMUR 1</u> : 80x30x20 mm <u>NAMUR 2</u> : 80x30x30 mm <u>NAMUR 3</u> : 130x30x30 mm <u>NAMUR 4</u> : 130x30x50 mm

ELECTRICAL CONNECTION

Standard cable inputs	2 x M20x1.5
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CONSTRUCTION

Casing and lid	Aluminium
Coating	Polyester paint
Stem	Stainless steel
Dome	Polycarbonate



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SF-TYPE SOLDO SWITCH BOXES

SWITCH DETAILS SF model

Ref.	Switch	Features
01	SPDT el.mech. switch silver plated contacts	Max 5A-250Vac / min 50mA-250Vac Max 5A-125Vac / min 50mA-125Vac Max 3A-24Vdc / min 50mA-24Vdc
03	SPDT el.mech. switch gold plated contacts (for Exia cert)	Max 1,8A/3A-250Vac / min 5mA-250Vac Max 2A/3A-125vac / min 5mA-125Vac Max 1,2A/1,5A-24Vdc / min 1mA-24Vdc
1F	DPDT el.mech. switch silver plated contacts	
C4	SPDT magnetic hermetically sealed reed switch.	Max 0,1A-120Vac / 1A-24Vdc
C8	DPDT magnetic hermetically sealed reed switch.	Max 0,1A-120Vac / 1A-24Vdc
N1	SPDT magnetic hermetically sealed silver plated snap acting contacts	Max 5A-250Vac / 5A-28Vdc
N3	SPDT magnetic hermetically sealed gold plated snap acting contacts	Max 1A-250Vac / 1A-30Vdc
N4	DPDT magnetic hermetically sealed silver plated snap acting contacts	Max 5A-250Vac / 5A-28Vdc
60	Inductive proximity NAMUR sensor SJ3,5-N	2 wire NC logic (for Exia cert)
62	Inductive proximity NAMUR sensor SJ3,5-SN	2 wire NC logic (for Exia cert, safety funct. low temp)
63	Inductive proximity NAMUR sensor - SJ3,5-S1N	2 wire NO logic (for Exia cert, safety funct)
70	Inductive proximity NAMUR - NJ2-V3-N	2 wire (for Exia cert)
73	Inductive proximity sensor (+70°C max.) - NBB2-V3-E2	P+F - 3 wire PNP NO amplified 10-30 Vdc, 100 mA
75	Inductive proximity sensor - IS 5026	IFM - 2 wire NO/NC amplified 5-36 Vdc, 200 mA
83	Inductive proximity sensor - NBB3-V3-Z4	P+F - 2 wire NO amplified 5-60 Vdc, 100 mA
TO	4-20 mA position transmitter	12-30 Vdc
HO	4-20 mA HART position transmitter	Atex Ex ia IIC T6 / T4 – certified 8-30Vdc

OPTIONS

There are many options for which you are invited to contact our sales service:

	SS : stainless steel box
	3-Channel L or T indicators
L	LT : version -40°C (according to the type of switch)
P	LT 1 : version -55°C (according to the type of switch)
1	Cable inputs 1/2" NPT
	Pilot-solenoid valve wiring
G	EAC Certificate
U	UL Certificate

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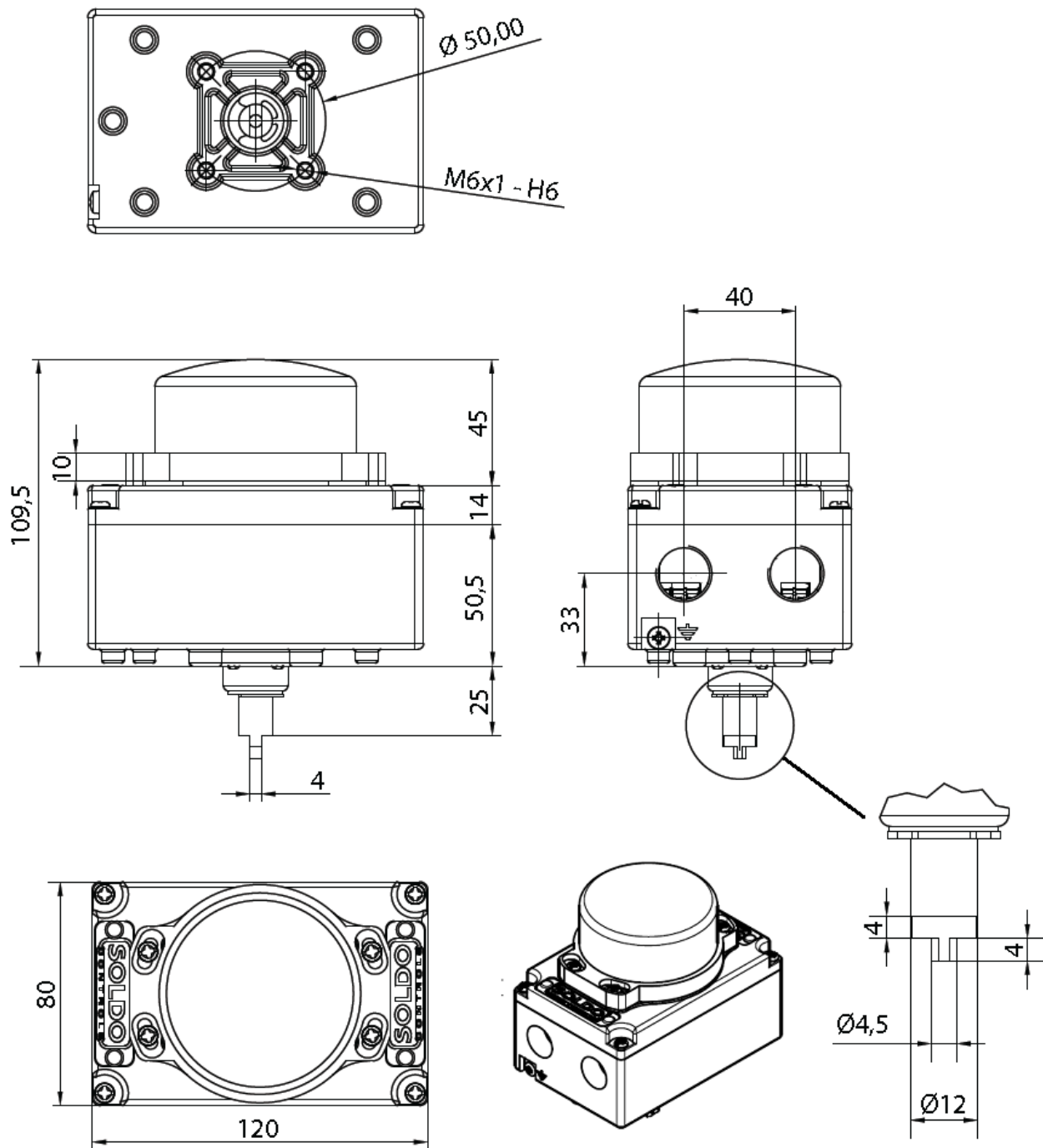


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DIMENSIONS (mm)



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