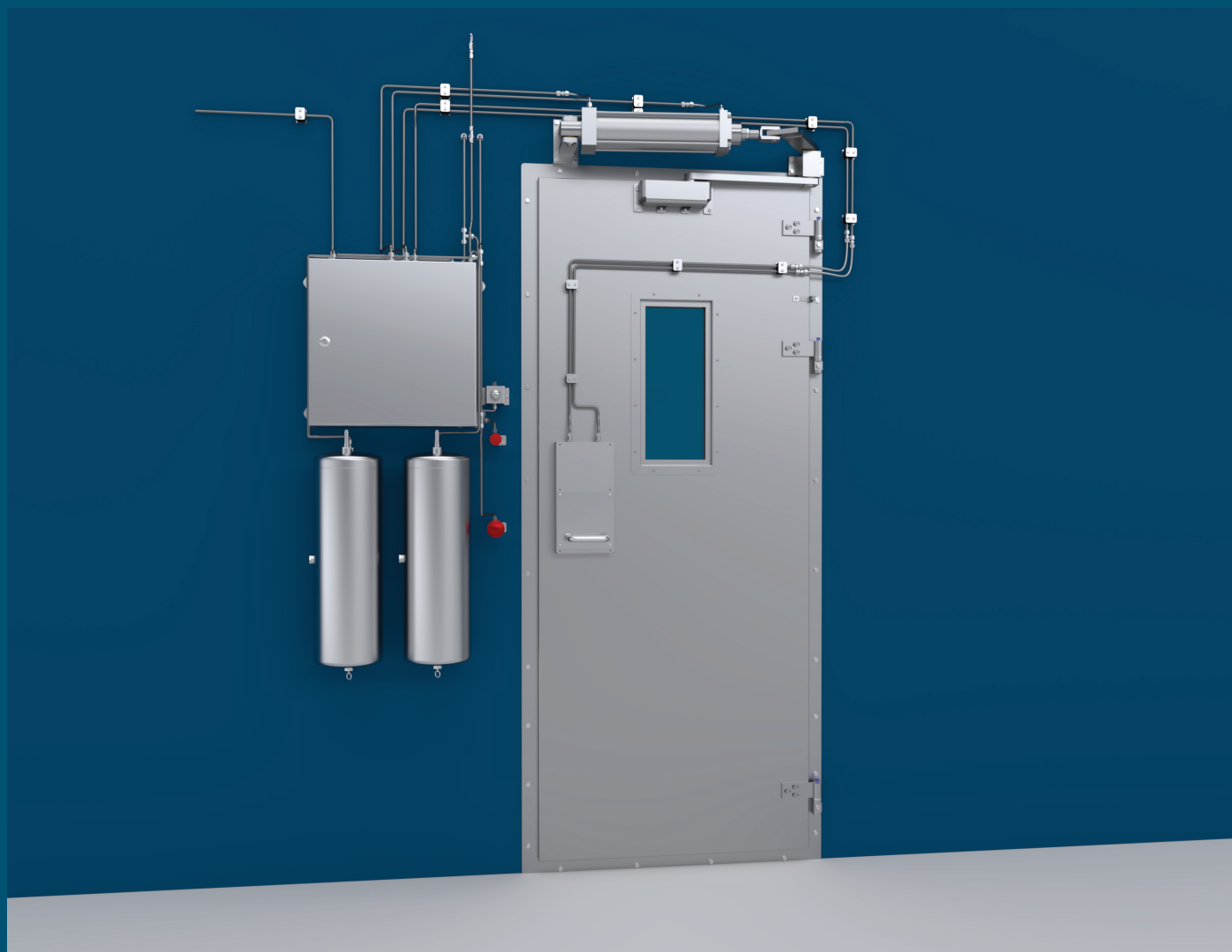


MANUFACTURER OF MARINE DOORS AND WINDOWS SINCE 1943



DOCUMENTATION FOR SOLUTIONS N PNEUMATIC SYSTEM FOR HINGED DOORS

solution 

 BAGGERØD

www.baggerod.no

SOLUTIONS N PNEUMATIC SYSTEMS

THE SMARTER AND MORE ACCURATE DRIVE SYSTEM

Choosing a Solutions N pneumatic drive system is the safest choice of drive system in the maritime market. The system is more sophisticated than other systems. Run at a lower air pressure and has very precise movement. The system is of course also very well documented.

System function:

- Immediate stop of the cylinder by activating the safety strip
- Open and close by an automatic door lock is available
- Separate adjustable opening speed by handle or external activator
- Customization during production phase based on a modular system
- System prepared for cold "Arctic" environment as a standard
- Partly same components for sliding and hinged systems
- Doors up to 800kg door leaf weight by 22° heeling can be operated
- Support by solutions-n at any time

Space requirements:

- Standard control box sizes for hinged and sliding systems
- Less space requirements based on a special cylinder principle needing less air reservoirs
- Less installation work based on one-tube-system

Spare parts:

- All datasheets incl. 3D-models with all required information available
- Quick access to all documentation
- Quick deliveries from stock by express
- Part no. of all suppliers are visual inside the system
- Modular system, Easy to service
- Service personnel trained by solutions-n



ONLY USE GENUINE PARTS!

To ensure optimal performance, maintain fire safety and retain warranty features for your pneumatic system, you should always use original parts.

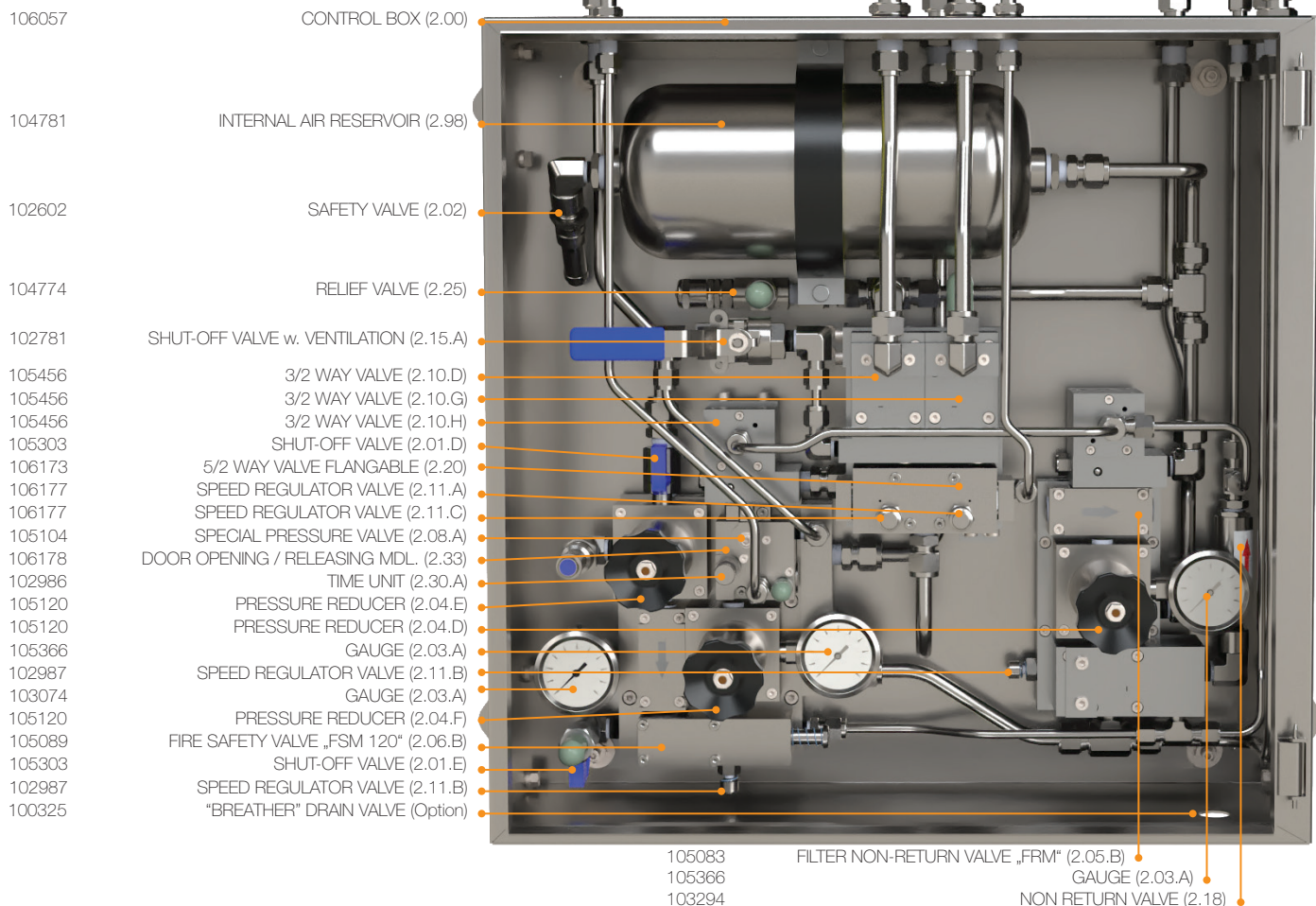
Available only from Baggerød AS

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CONTROL BOX PARTS AND INSTRUMENTS

Some shown components may not be part of your control box, depending on scope of functionality.



AIR FLOW PARTS. See page: 13

Baggerød art. no / solutions-n art. no	Description.
10006589 102800	AIR RESERVOIR TANK 20L (ONLY BOTTLE).
10007457 102644	HEXAGON SOCKET SCREW PLUG
10006829 102804	DRAIN VALVE
10006815 102602	SAFETY VALVE
10006814 105303	SHUT OFF VALVE (IN CONTROL BOX)
10007358 (BAGGERØD)	BRACKET FOR AIR RESERVOIR

DOOR OPERATION PARTS. See page: 16

Baggerød art. no / solutions-n art. no	Description.
10006826 105040	2-2 WAY PUSH BUTTON VALVE
10005881 102494	EMERGENCY EXHAUST VALVE
10006825 105041	"HOLD OPEN" 2-2 WAY PUSH TURN VALVE -1/8 NPT
10005407 102839	KNEE-OPERATED SWITCH (OPTION)
10007479 104833	KNEE-OPERATED SWITCH WALL (OPTION)
10007456 102543	TWO-WAY PNEUMATIC DOOR HANDLE VALVE (OPTION)
10007415 102490	PULL SWITCH VALVE -1/8 NPT (OPTION)
106669 / 106670	2-2 WAY TRIO VING KEY SWITCH VALVE (OPTION) NEW 2022
10007647 103806	KEY OPERATED SWITCH WITH SPRING RETURN FOR TRIO VING OVAL CYLINDER (OPTION)
10007662 106532 LEFT HAND	
10006824 106541 RIGHT HAND	
	RELEASING_DE-LATCHING UNIT DST

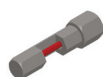


SAFETY SYSTEM PARTS

Baggerød art. no / solutions-n art. no
Description.



10006827 103062
TAPPET VALVE
SEE PAGE: 17

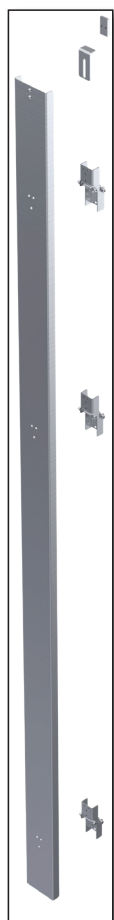


10006828 102802
TEMPERATURE FEELER "FSV1"
SEE PAGE: 19

SAFETY STRIP:
PROJECT/DOOR SPECIFIC NUMBER
"PUSH" RAIL, HINGES, BRACKETS



10002418 (BAGGERØD)
HINGES FOR SAFETY STRIP



OTHER PARTS (SOME ARTICLES ARE SIZE DEPENDANT)

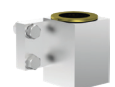
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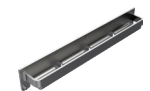
10007485 104948
LOWER LEVER ARM
SEE PAGE: 20-21



10007472 106289
UPPER LEVER ARM
SEE PAGE: 20-21



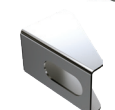
10007466 104957
LEVER BEARING
SEE PAGE: 20-21



10007376 103113
ROLLER BRACKET
SEE PAGE: 20-21



10004965 102513
SHOCK ABSORBER/DOOR STOPPER

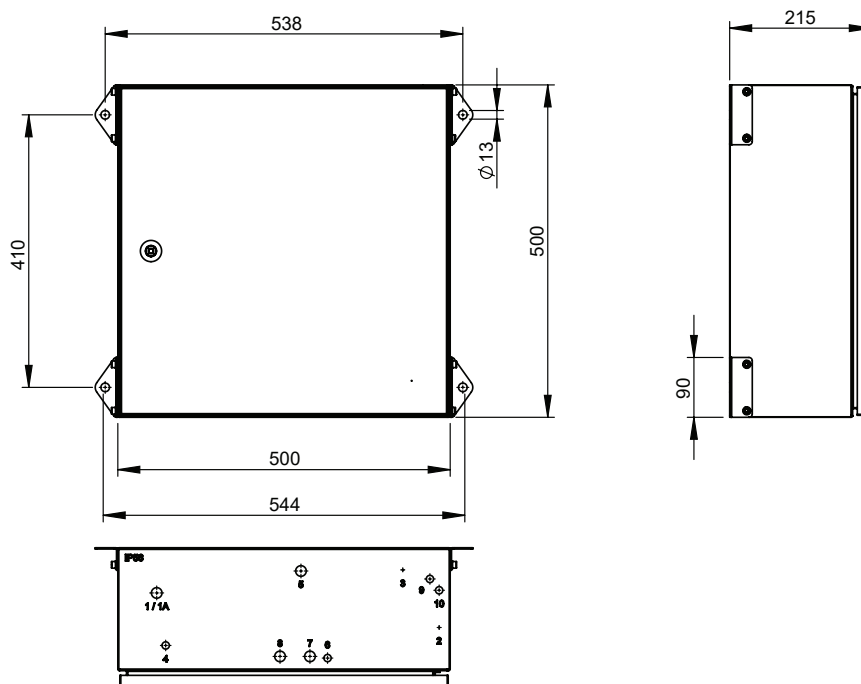
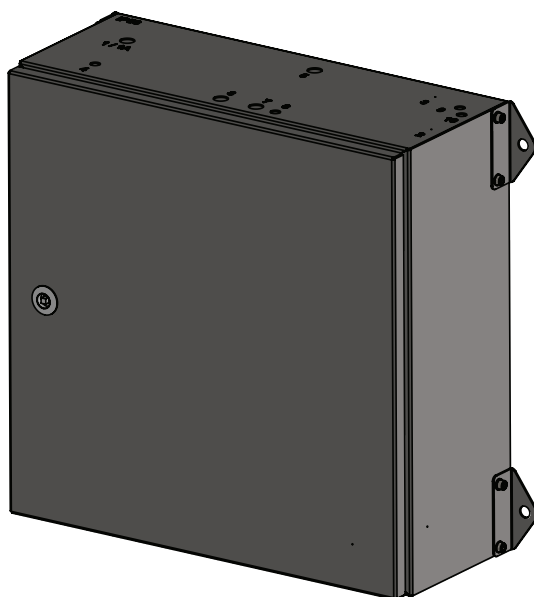


10007170 (BAGGERØD)
BRACKET FOR SHOCK ABSORBER

DATASHEET - 1060570070

solution 

control box IP 56



Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de
general characteristics of control box IP 56	
SOL stock no.:	106057
material:	AISI 316 / stainless steel
weight:	6930 g

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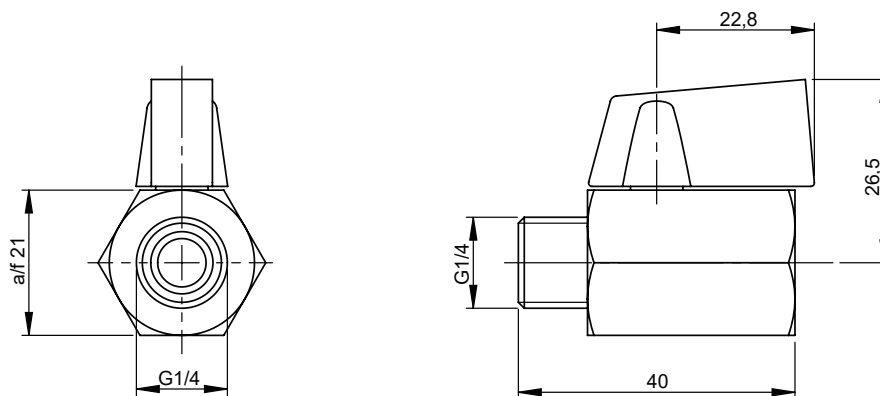
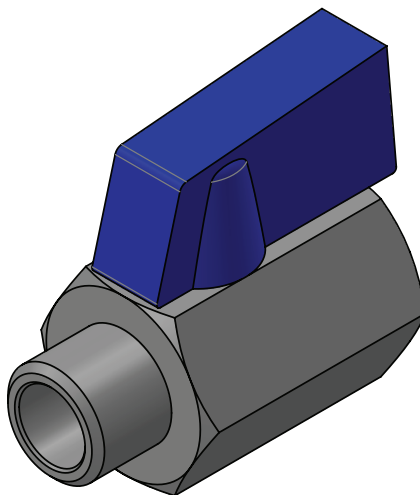
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DATASHEET - 1053030070

solution 

shut-off valve mini 2/2 way

flow sheet symbol:



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Handwerksweg 7 - 27777 Ganderkesee - Germany
phone: +49 4222 946156-0
email: order@solutions-n.de

general characteristics of shut-off valve mini 2/2 way

SOL stock no.:	105303
material:	AISI 316 / stainless steel
weight:	78,5 g
working pressure:	max. 10 BarG
port sizes:	2x G1/4

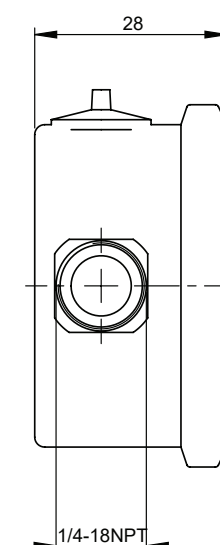
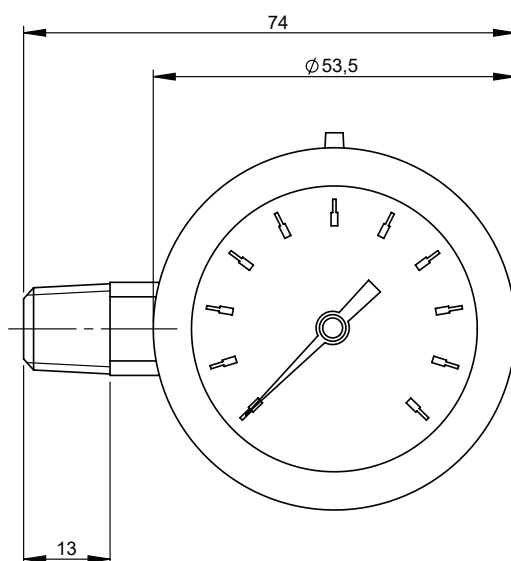
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DATASHEET - 1053660070

solution 

Gauge

flow sheet symbol:



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spare part ordering:**

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phone: +49 4222 946156-0
email: order@solutions-n.de

general characteristics of Gauge

SOL stock no.:	105366
material:	stainless steel
weight:	94,0 g
working pressure:	max. 10 BarG
port sizes:	1/4-18NPT

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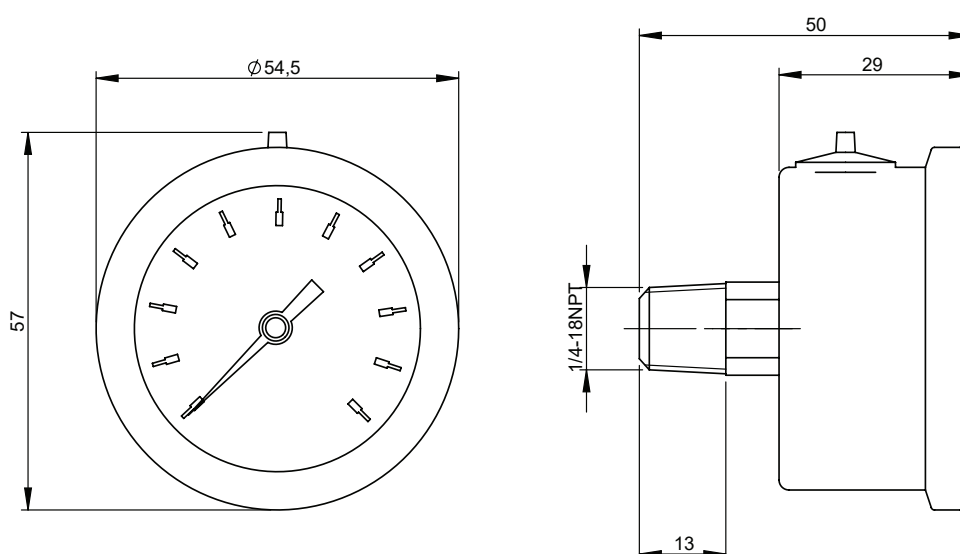
REVISION: 00

DATASHEET - 1030740070

solution 

Gauge

flow sheet symbol:



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phone: +49 4222 946156-0
email: order@solutions-n.de

general characteristics of Gauge

SOL stock no.:	103074
material:	stainless steel
weight:	92,5 g
working pressure:	max. 10 BarG
port sizes:	1/4-18NPT

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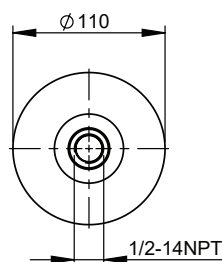
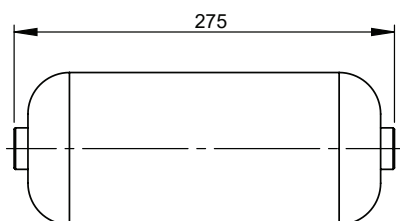
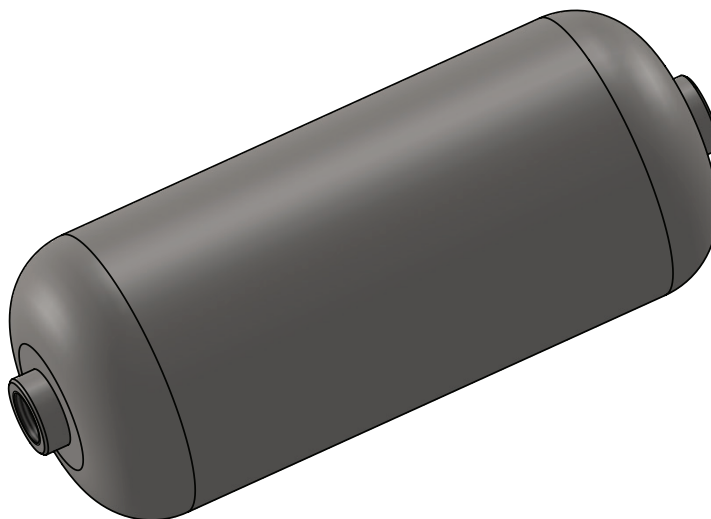
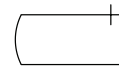
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DATASHEET - 1047810070

solution 

air reservoir 2l

flow sheet symbol:



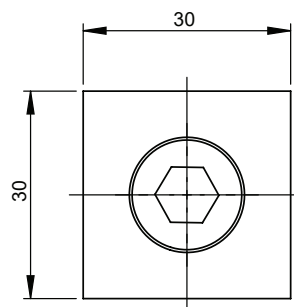
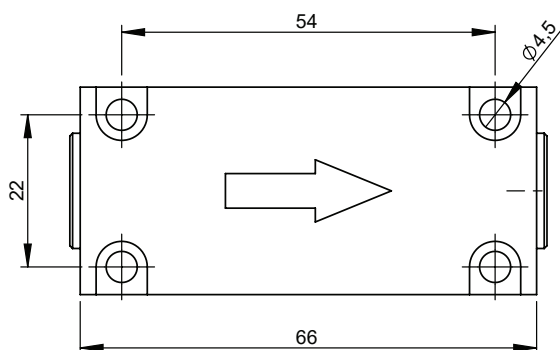
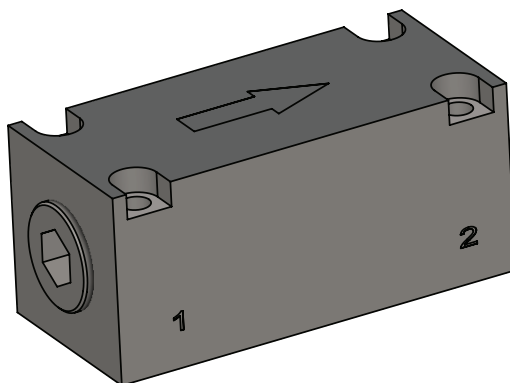
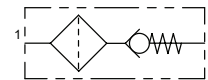
Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de
general characteristics of air reservoir 2l	
SOL stock no.:	104781
material:	AISI 316 / stainless steel
weight:	1940.64 g
working pressure:	max. 10 BarG
port sizes:	2x 1/2-14NPT
volume:	2l

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solution **filter non-return valve FRM**

flow sheet symbol:



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Handwerksweg 7 - 27777 Ganderkesee - Germany
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email: order@solutions-n.de

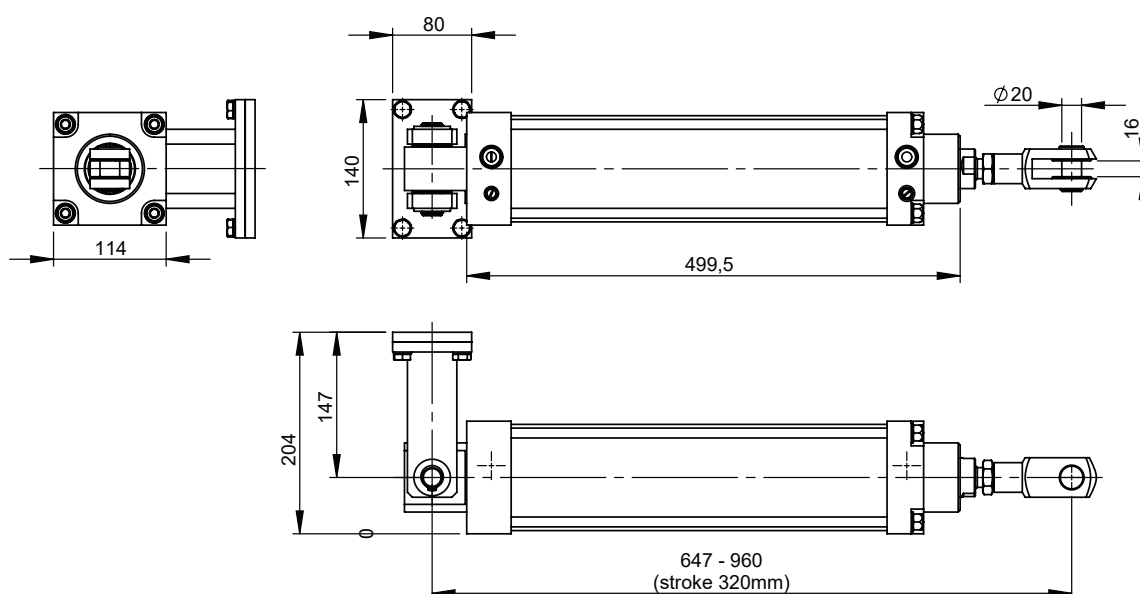
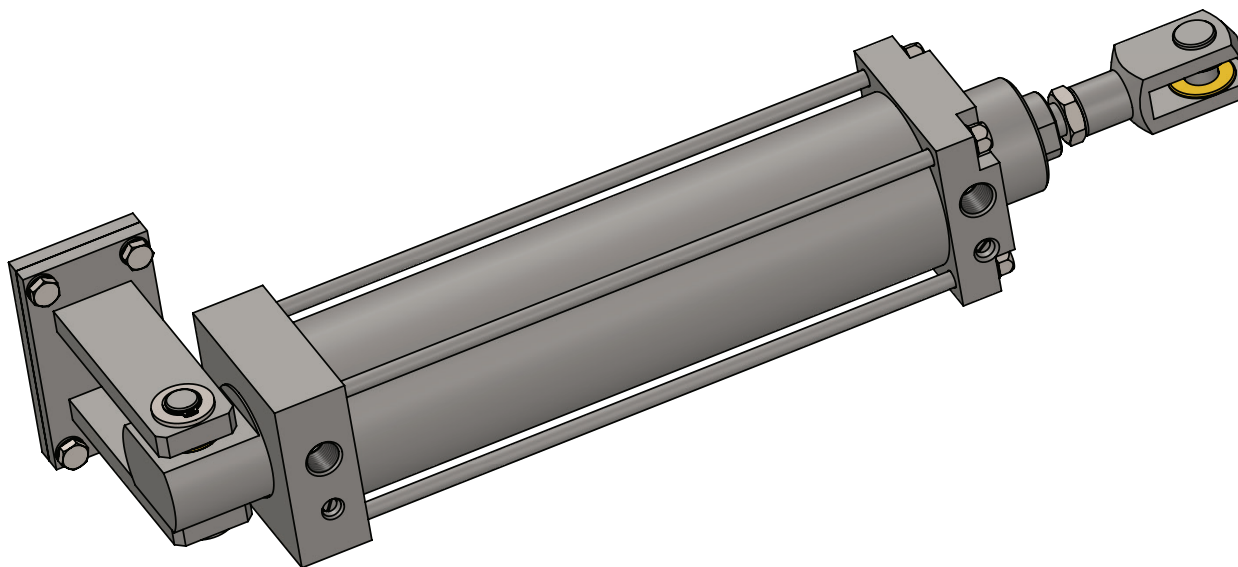
general characteristics of filter non-return valve FRM

SOL stock no.:	105083
material:	AISI 316 / stainless steel
weight:	405.23 g
working pressure:	max. 10 BarG

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DATASHEET - 1030710070

solution

H3500A door drive cylinder

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email: order@solutions-n.de

general characteristics of H3500A door drive cylinder

SOL stock no.:	103071
material:	AISI 316 / stainless steel
weight:	25182.77 g
working pressure:	max. 10 BarG
port sizes:	2x 1/2-14NPT

spare parts for H3500A door drive cylinder

spare parts list of H3500A door drive cylinder:	1030710110
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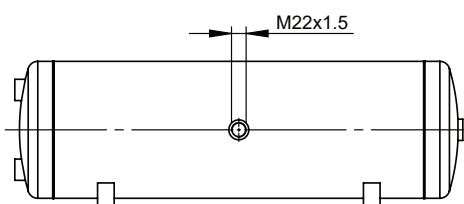
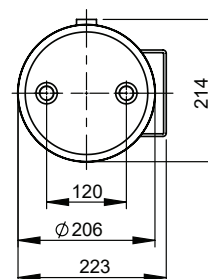
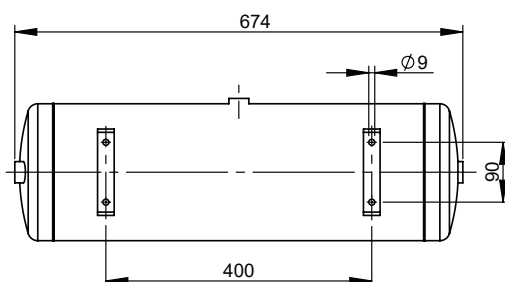
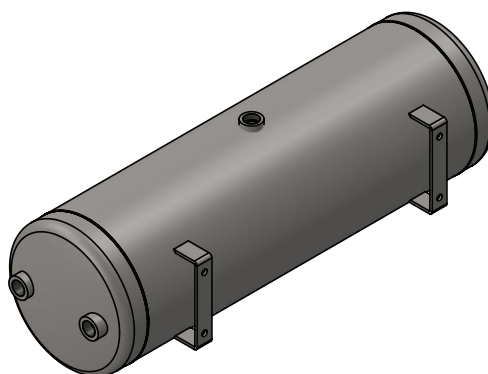
DATASHEET - 1028000070

solution **air reservoir 20l**

flow sheet symbol:



NOTE: The air reservoir can be installed vertically and horizontally.
Drain valves have always to be in the lowest position.



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	general characteristics of air reservoir 20l	
	SOL stock no.:	102800
	material:	AISI 316 / stainless steel
	weight:	8605.60 g
	working pressure:	max. 10 BarG
	port sizes:	4x M22x1,5
	volume:	20L

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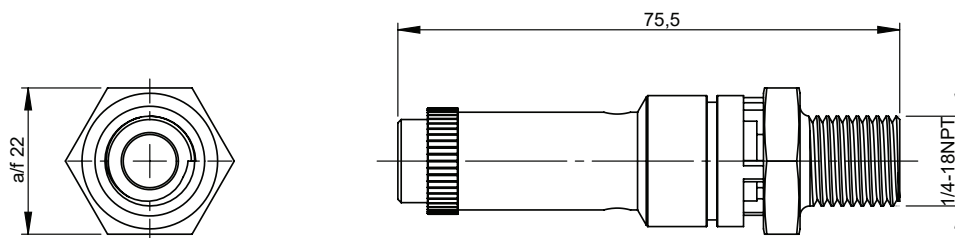
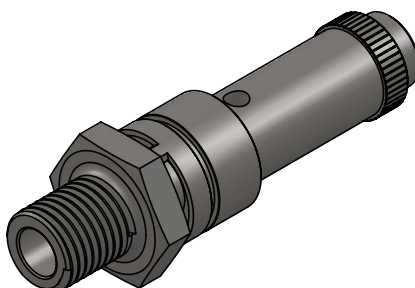
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DATASHEET - 1026020070

solution 

safety valve 10 barg

flow sheet symbol:



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general characteristics of safety valve 10 barg	
SOL stock no.:	102602
material:	AISI 316 / stainless steel
weight:	83,15 g
working pressure:	max. 10 BarG

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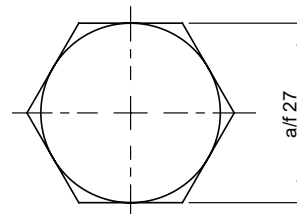
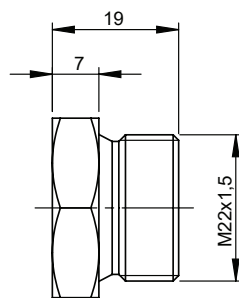
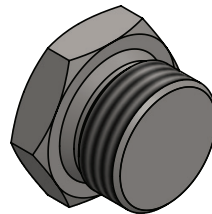
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solution **hexagon socket screw plug M22x1,5**

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general characteristics of hexagon socket screw plug M22x1,5	
SOL stock no.:	102644
material:	AISI 316 / stainless steel
weight:	70.01 g
spare parts for hexagon socket screw plug M22x1,5	
copper gasket:	102845

L

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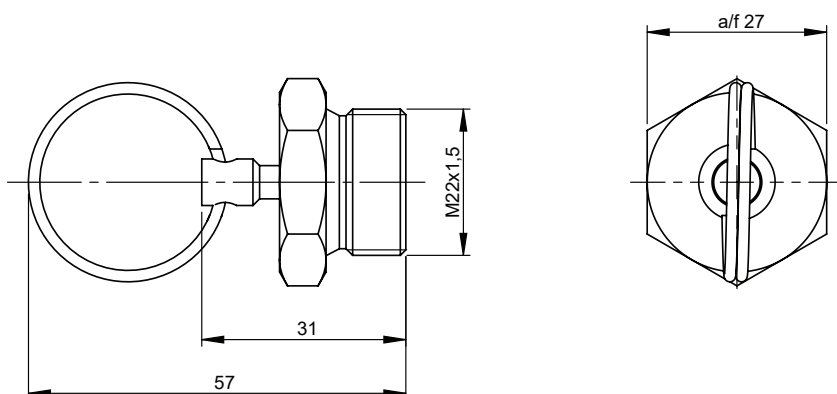
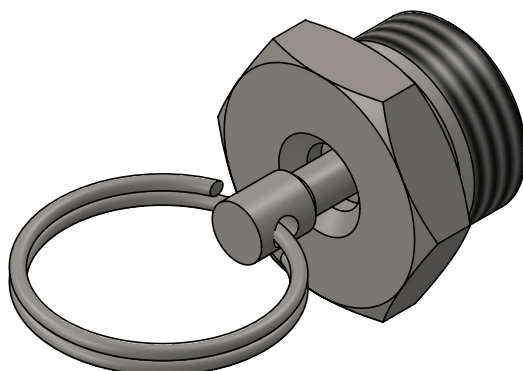
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DATASHEET - 1028040070

solution 

drain valve

flow sheet symbol:



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general characteristics of drain valve	
SOL stock no.:	102804
material:	AISI 316 / stainless steel
weight:	56.14 g
working pressure:	max. 10 BarG

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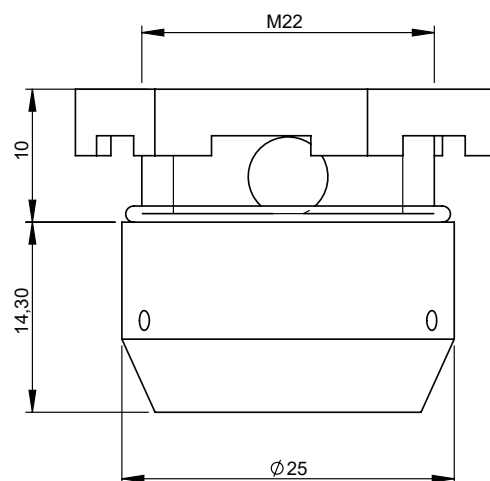
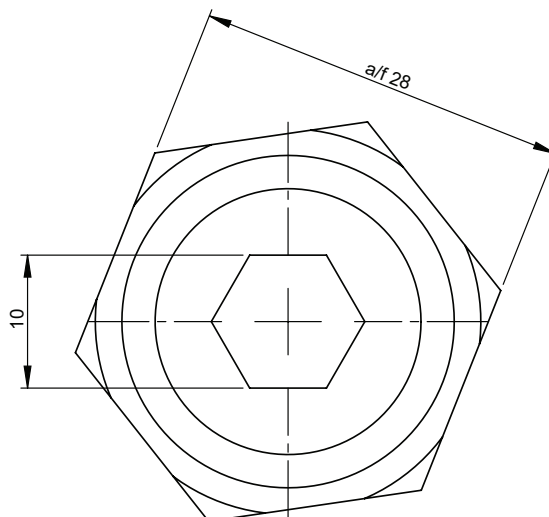
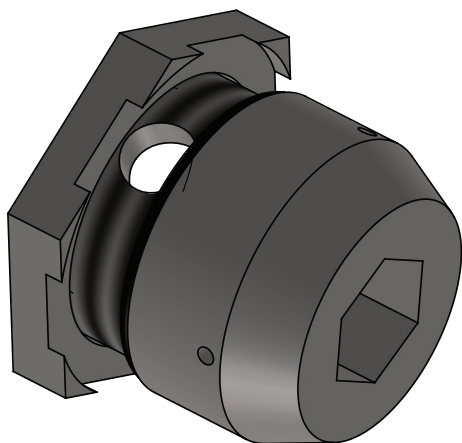
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DATASHEET - 1003250070

solution **breather drain valve IP 66**

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general characteristics of breather drain valve IP 66	
SOL stock no.:	100325
material:	AISI 316 / stainless steel
weight:	68.25 g
ATEX / IECEx rating:	II 2 GD Ex e IIC
protection class:	IP 66

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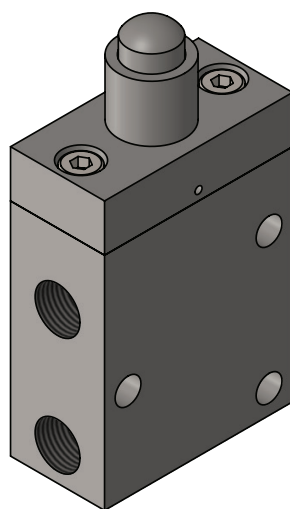
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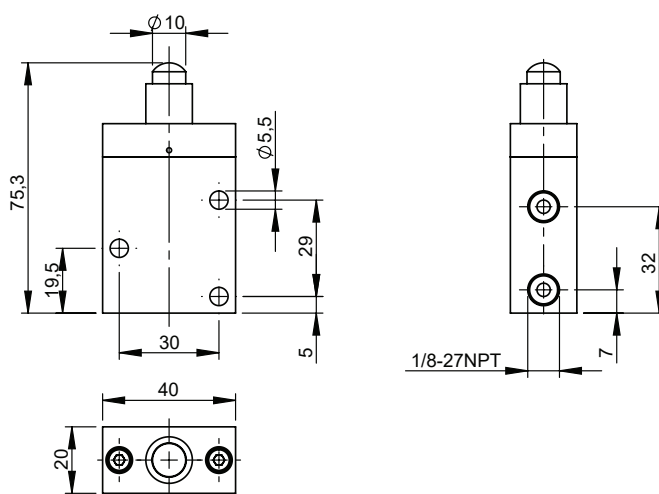
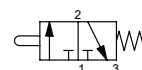
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solution 

tappet valve



flow sheet symbol:



Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de
general characteristics of tappet valve	
SOL stock no.:	103062
material:	AISI 316 / stainless steel
weight:	327.96 g
working pressure:	max. 10 BarG
port sizes:	2x 1/8-27NPT
spare parts for tappet valve	
valve cartridge with chamfer:	102972

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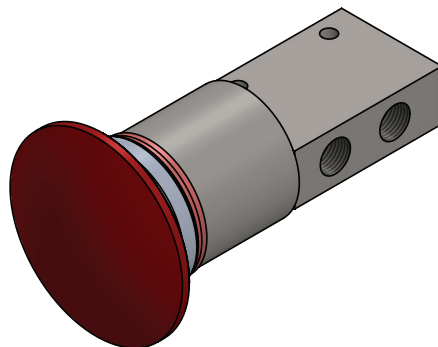
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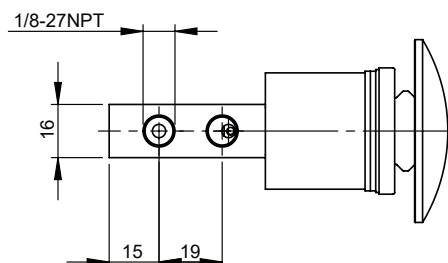
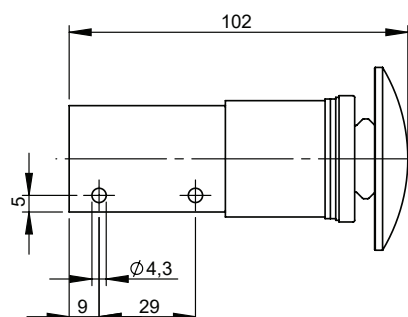
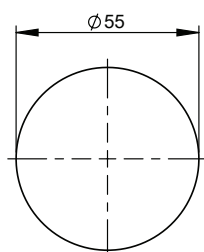
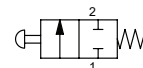
document acc. to 201x file system

REVISION: 00

DATASHEET - 1050400070

solution **2/2 way push button valve**

flow sheet symbol:

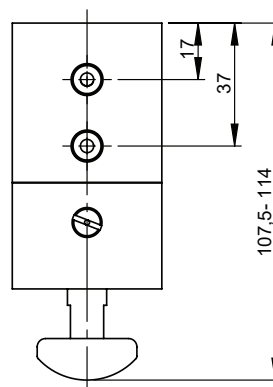
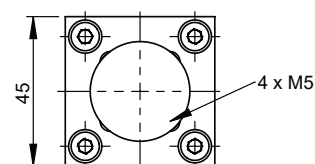
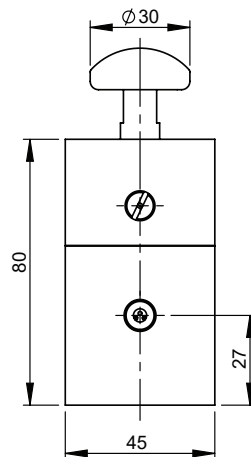
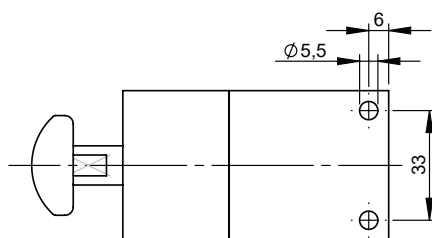
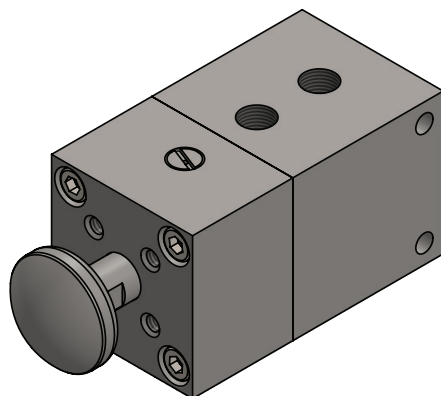


After installation on a panel plate, pay attention to the preload and necessary residual stroke for internal cartridge tappet. For this use a corresponding amount of spacers in accordance to plate thickness.

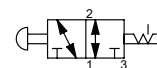
Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de	
	general characteristics of 2/2 way push button valve	
	SOL stock no.:	105040
	material:	AISI 316 / Aluminium
	weight:	318.55 g
	working pressure:	max. 10 BarG
	port sizes:	2x 1/8-27NPT
	spare parts for 2/2 way push button valve	
	push button	103544
2/2 way valve cartridge	103382	

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DATASHEET - 1024940070

solution **emergency exhaust valve 1/8**

flow sheet symbol:



Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de	
	general characteristics of emergency exhaust valve 1/8	
	SOL stock no.:	102494
	material:	AISI 316 / stainless steel
	weight:	1228.25 g
	working pressure:	max. 10 BarG
	port sizes:	3x 1/8-27NPT
	spare parts for emergency exhaust valve 1/8	
	sealing kit emergency exhaust valve:	100666
	push button emergency exhaust valve:	102993

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draw. sign / date: MVMSH 06.05.2014

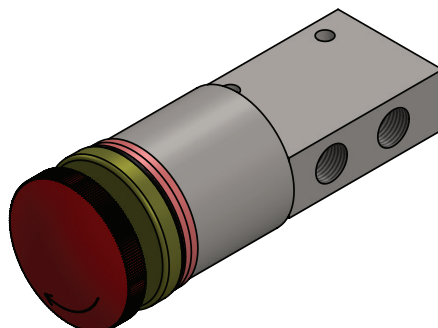
appr. sign / date: bbIBB 19.05.2021

document acc. to 201x file system

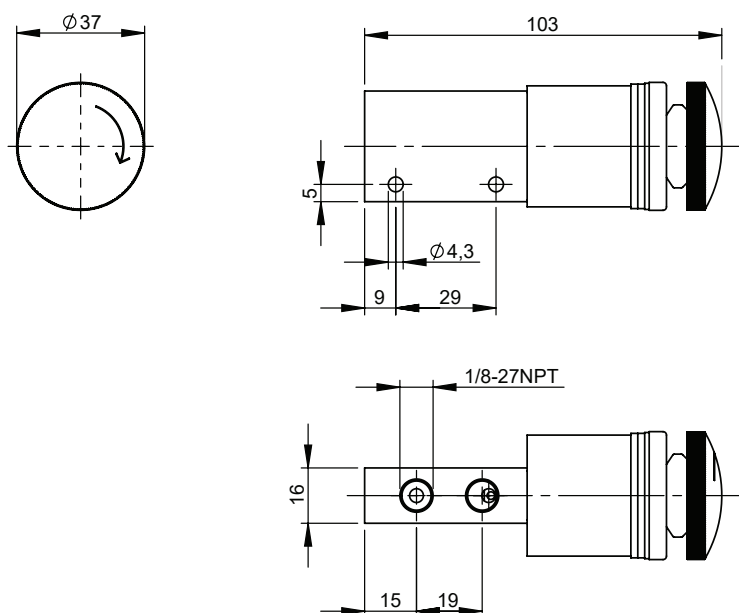
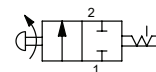
REVISION: 02

DATASHEET - 1050410070

solution

2/2 way push turn valve

flow sheet symbol:



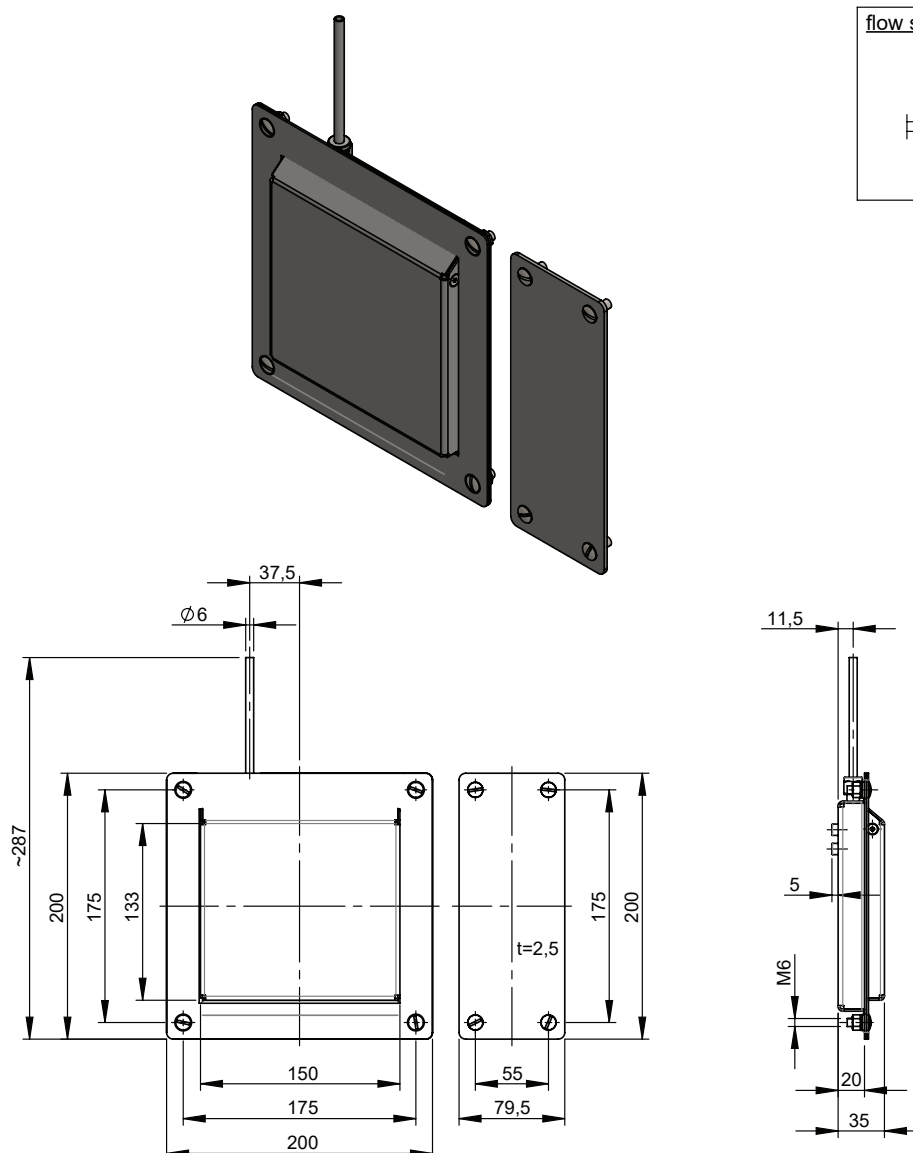
After installation on a panel plate, pay attention to the preload and necessary residual stroke for internal cartridge tappet. For this use a corresponding amount of spacers in accordance to plate thickness.

Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de	
	general characteristics of 2/2 way push turn valve	
	SOL stock no.:	105041
	material:	AISI316 / A
	weight:	313.06 g
	working pressure:	max. 10 BarG
	port sizes:	2x 1/8-27NPT
	spare parts for 2/2 way push turn valve	
	push turn button:	102999
2/2 way valve cartridge:	103382	

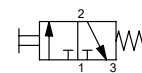
DATASHEET - 1028390070

solution 

knee operated switch



flow sheet symbol:



Please contact us for support and spare part ordering:	
solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de	
general characteristics of knee operated switch	
SOL stock no.:	102839
material:	AISI 316 / stainless steel
weight:	2338.95 g
working pressure:	max. 10 BarG
port sizes:	tube 6x1mm, 2x 1/8-27NPT
spare parts for knee operated switch	
tappet valve:	103062
repair kit:	102972

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draw. sign / date: MVMSH 28.03.2014

appr. sign / date: bbIBB 25.05.2021

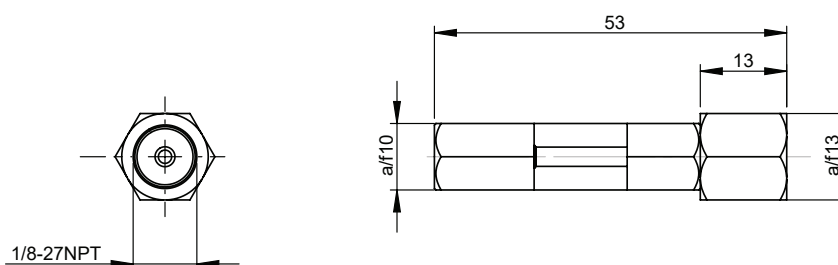
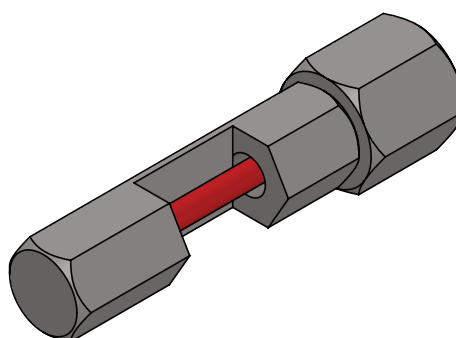
document acc. to 201x file system

REVISION: 02

DATASHEET - 1028020070

solution **temperature feeler FSV1 68°C**

flow sheet symbol:



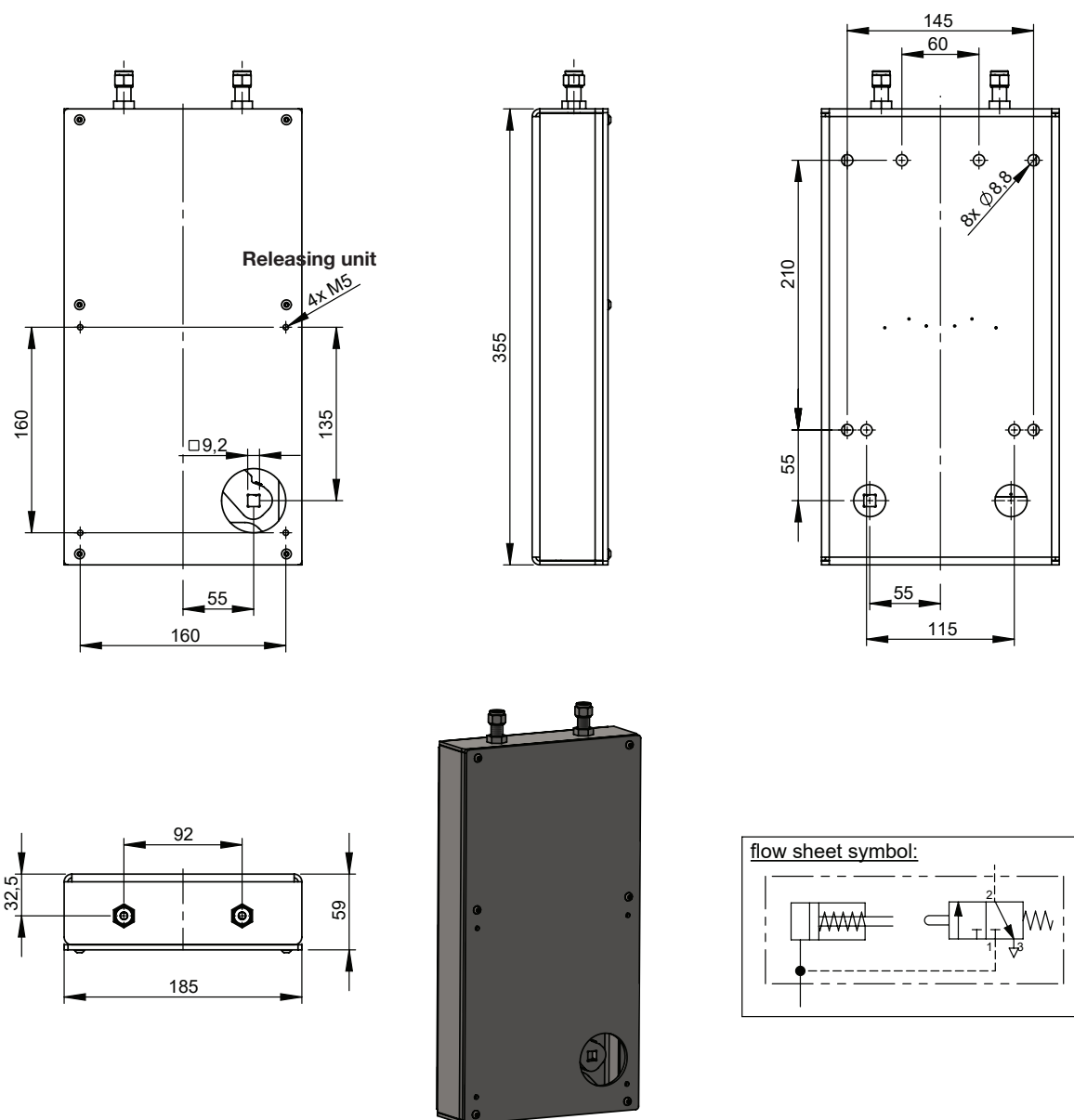
Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de
general characteristics of temperature feeler FSV1 68°C	
SOL stock no.:	102802
material:	AISI 316 / stainless steel
weight:	27.84 g
working pressure:	max. 10 BarG
port sizes:	1x 1/8-27NPT

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DATASHEET - 106532 ; 1065410070

solution

releasing / delatching unit



**Please contact us for support and
spare part ordering:**

solutions-n GmbH
Handwerksweg 7 - 27777 Ganderkesee - Germany
phone: +49 4222 946156-0
email: order@solutions-n.de

general characteristics of releasing / delatching unit

SOL stock no.:	106532 ; 106541
material:	AISI 316 / stainless steel
weight:	6510 g
working pressure:	max. 10 BarG
port sizes:	2x Ø6mm / 1/4"

spare parts for releasing / delatching unit

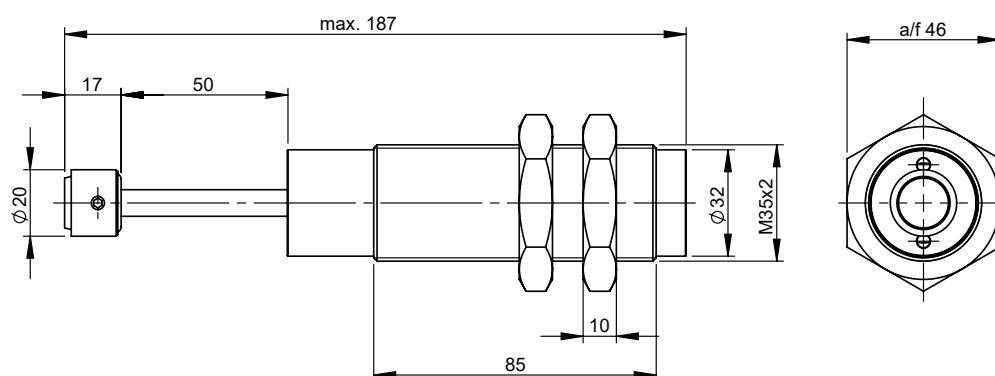
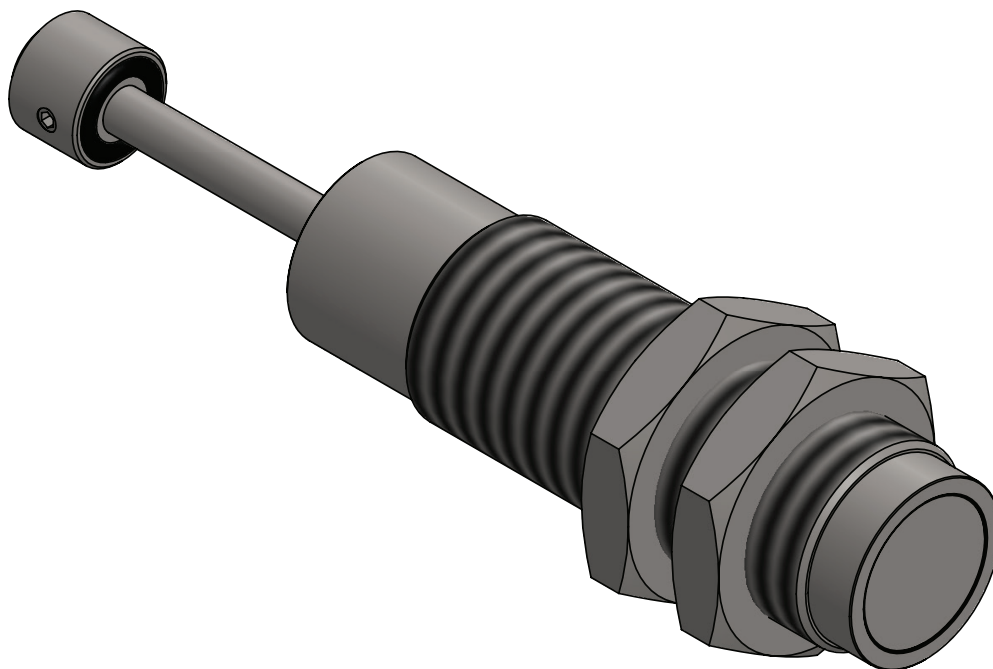
cylinder:	106539
tappet valve:	103062

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DATASHEET - 1025130070

solution 

shock absorber



Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de	
	general characteristics of shock absorber	
	SOL stock no.:	102513
	material:	AISI 316 / stainless steel
	weight:	696.42 g
	spare parts for shock absorber	
	nut for shock absorber:	101435

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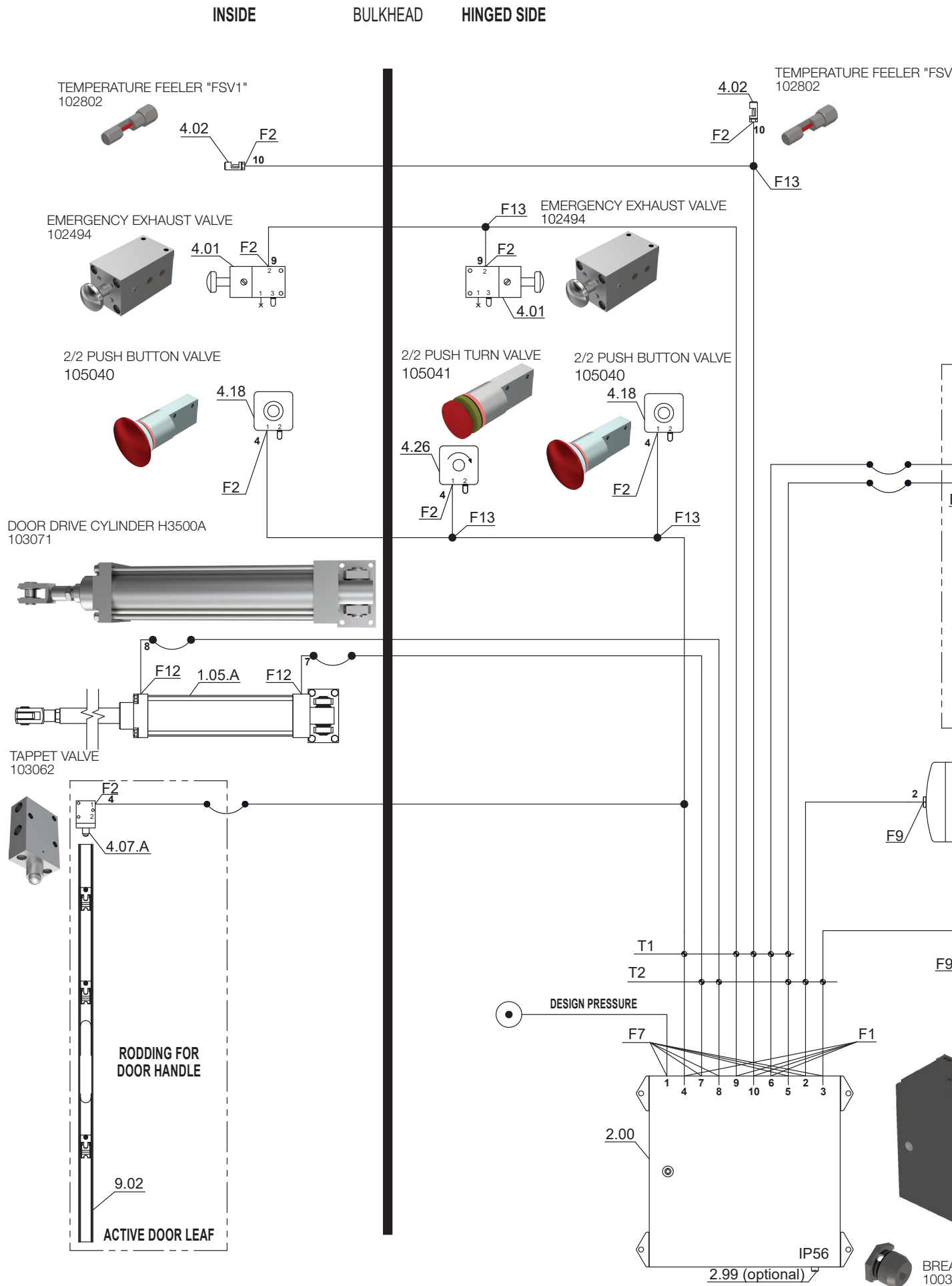
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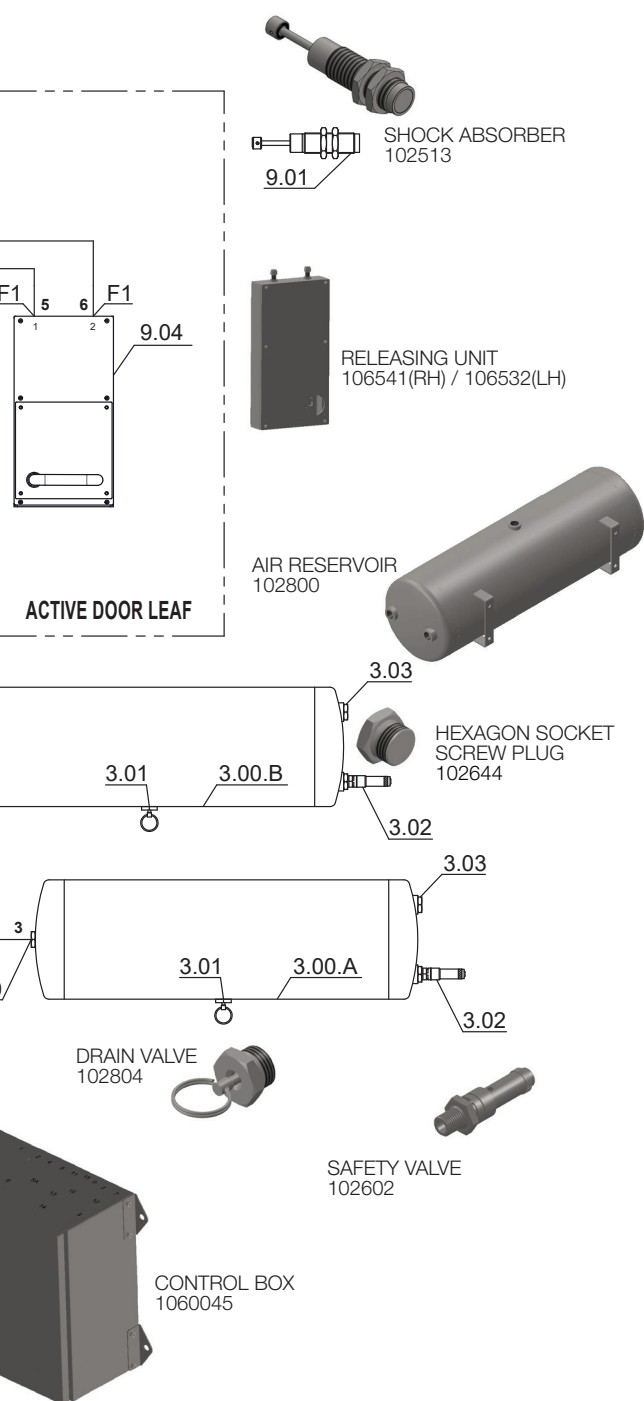
document acc. to 201x file system

REVISION: 01

Hook up to be viewed as two page view (spread)!



1"

**TUBING:**

T1: 6mm (1/4") OD INSTRUMENT TUBING

(Normally supplied by project)

T2: 10mm (3/8") OD INSTRUMENT TUBING

(Normally supplied by project)

T3: TUBING INTERNAL in track house and active door leaf

FITTINGS:

F1 BULKHEAD UNION, 6mm (1/4")

F7 BULKHEAD UNION, 10mm (3/8")



F2 STRAIGHT MALE, 6mm (1/4") - 1/8" NPT

F3 STRAIGHT MALE, 6mm (1/4") - 1/4" NPT

F8 STRAIGHT MALE, 10mm (3/8") - 1/8" NPT

F9 STRAIGHT MALE, 10mm (3/8") - 1/4" NPT



F4 ELBOW MALE, 6mm (1/4") - 1/8" NPT

F5 ELBOW MALE, 6mm (1/4") - 1/4" NPT

F10 ELBOW MALE, 10mm (3/8") - 1/8" NPT

F11 ELBOW MALE, 10mm (3/8") - 1/4" NPT

F12 ELBOW MALE, 10mm (3/8") - 1/2" NPT



F13 T-CONNECTOR, 6mm (1/4")

F14 T-CONNECTOR, 10mm (3/8")

PARTS (AISI316Ti/AISI316/AL /AISI316):

Item	Description	Baggerød no.	solutions-n no.
9.04	RELEASING UNIT RH	10006824	106541
9.04	RELEASING UNIT LH	10004695	106532
9.02	SAFETY STRIP	Project	Project
9.01	SHOCK ABSORBER	10004965	102513
4.26	2/2 PUSH TURN VALVE	10006825	105041
4.18	2/2 WAY PUSH BUTTON VALVE	10006826	105040
4.07.A	TAPPET VALVE	10006827	103062
4.02	TEMPERATURE FEELER "FSV1"	10006828	102802
4.01	EMERGENCY EXHAUST VALVE	10005881	102494
3.03	HEXAGON SOCKET PLUG	10007457	102644
3.02	SAFETY VALVE	10006815	102602
3.01	DRAIN VALVE	10006829	102804
3.00.B	AIR RESERVOIR BOTTLE	10006589	102800
3.00.A	AIR RESERVOIR BOTTLE	10006589	102800
2.99	BREATHING DRAIN VALVE	10007412	100325
2.00	CONTROL BOX	Project	Project
1.05.A	DOOR DRIVE CYLINDER H3500A	Project	103071-stroke

**GRAPHIC PNEUMATIC HOOK UP DRAWING
DOOR DRIVE SYSTEM: SINGLE HINGED**



Office/factory address:	Horten Industripark, Nedre vei 8, Building 30C, 3183 Horten, Norway
Post address:	Post address: Post box 155, NO-3192 - Horten, Norway
Spareparts Sales:	+47 33 03 56 99
Main office:	+47 33 03 56 80
E-mail:	parts@baggerod.no
Website:	www.baggerod.no
Enterprise no:	NO 983 493 653