

MANUFACTURER OF MARINE DOORS AND WINDOWS SINCE 1943



DOCUMENTATION FOR SOLUTIONS N PNEUMATIC SYSTEM FOR SLIDING 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!

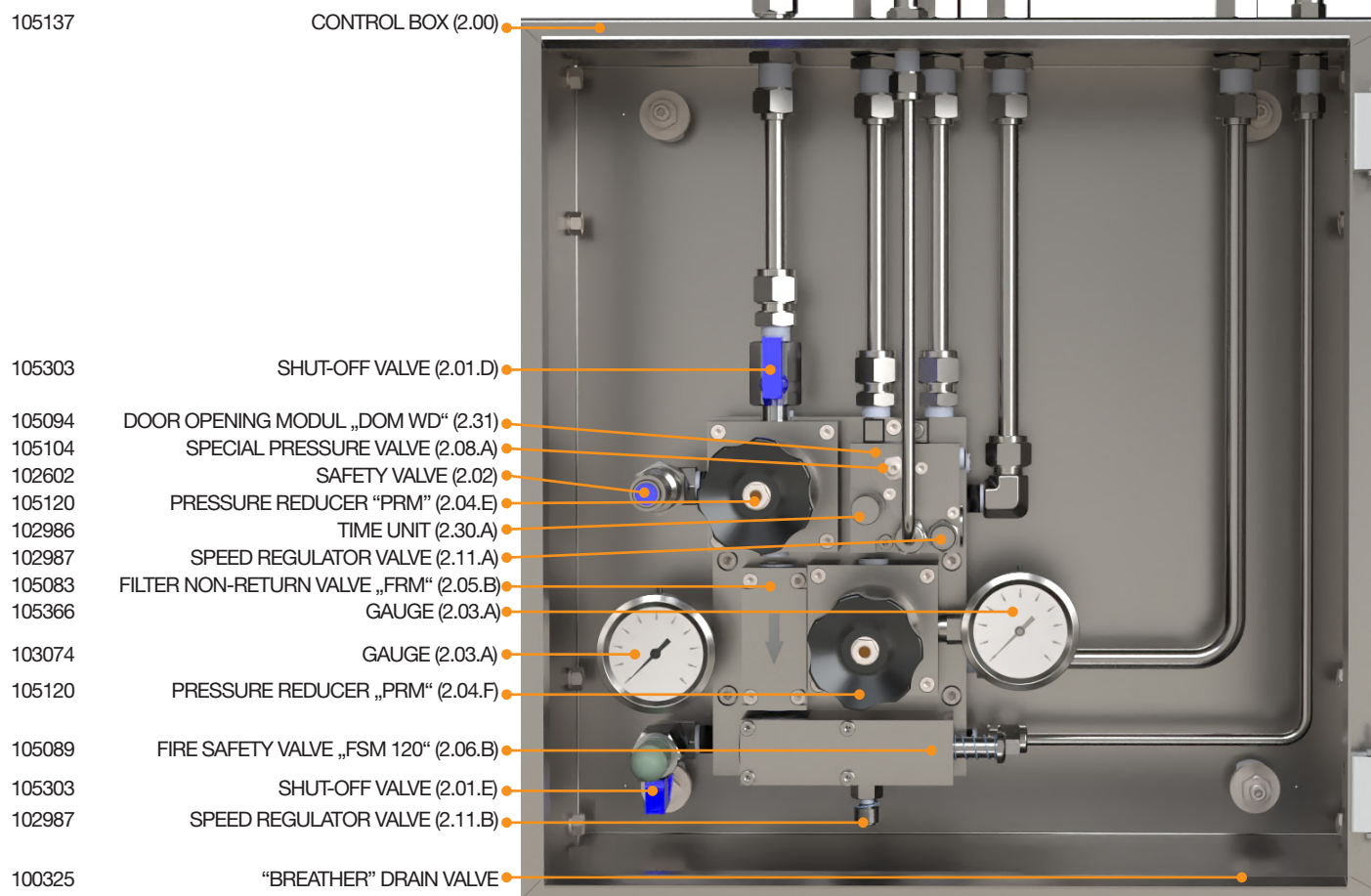
To ensure optimal performance, maintain fire safety and retain warranty features for your pneumatic system, you should always use original parts.

Available only from Baggerød AS

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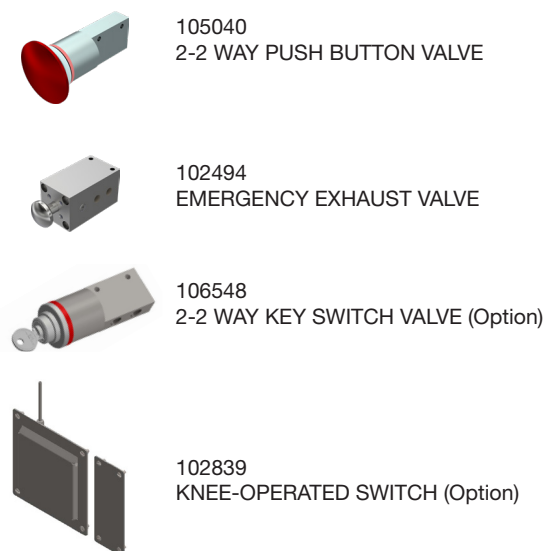
CONTROL BOX PARTS AND INSTRUMENTS



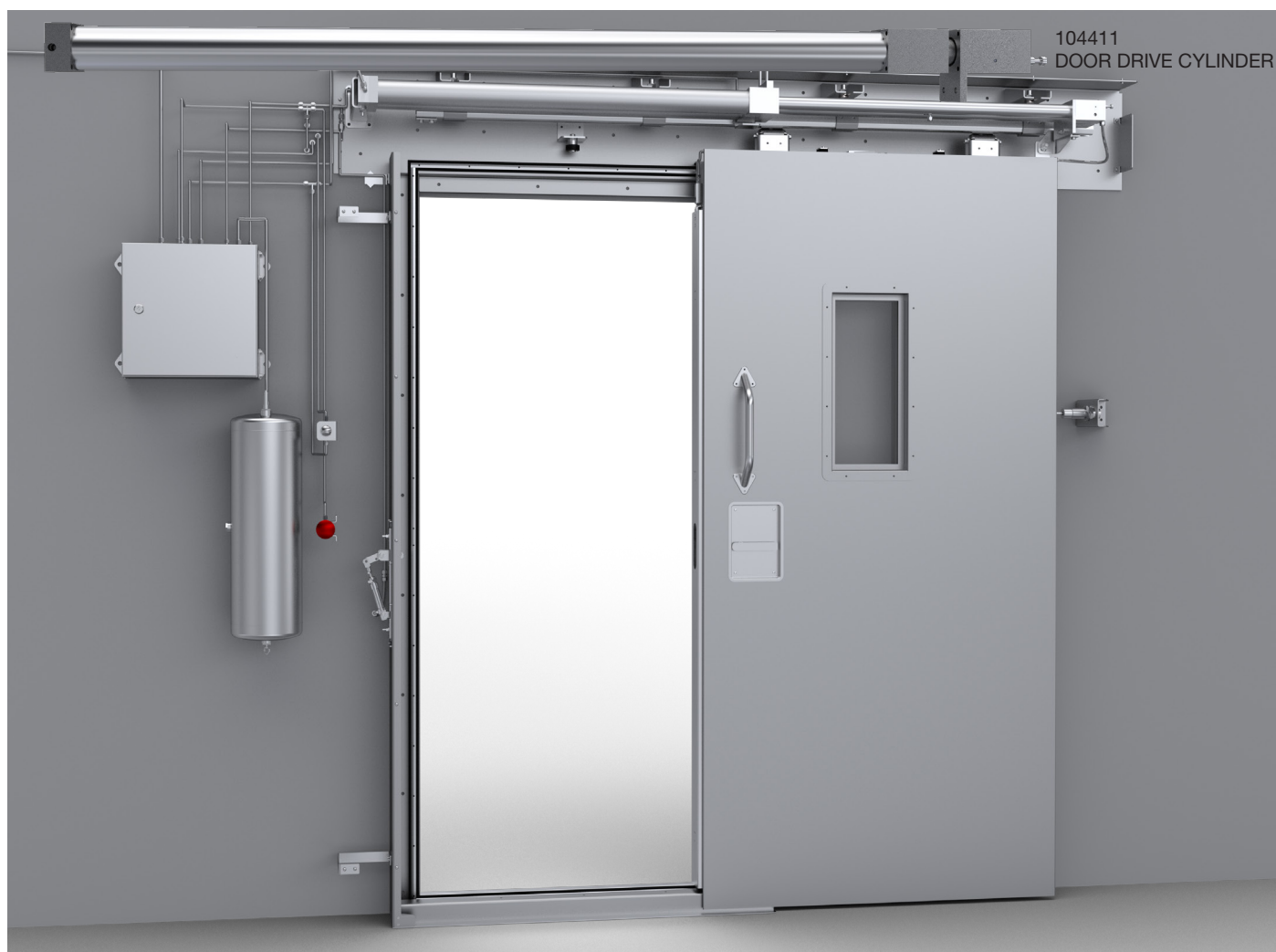
AIR FLOW PARTS



DOOR OPERATION PARTS



CYLINDER



SAFETY SYSTEM PARTS

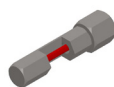
SAFETY STRIP

PROJECT SPECIFIC NUMBER
METAL "PUSH" RAIL

10002418 (BAGGERØD)
HINGES FOR SAFETY STRIP



102555
DOOR OPENING VALVE



102802
TEMPERATURE FEELER "FSV1"

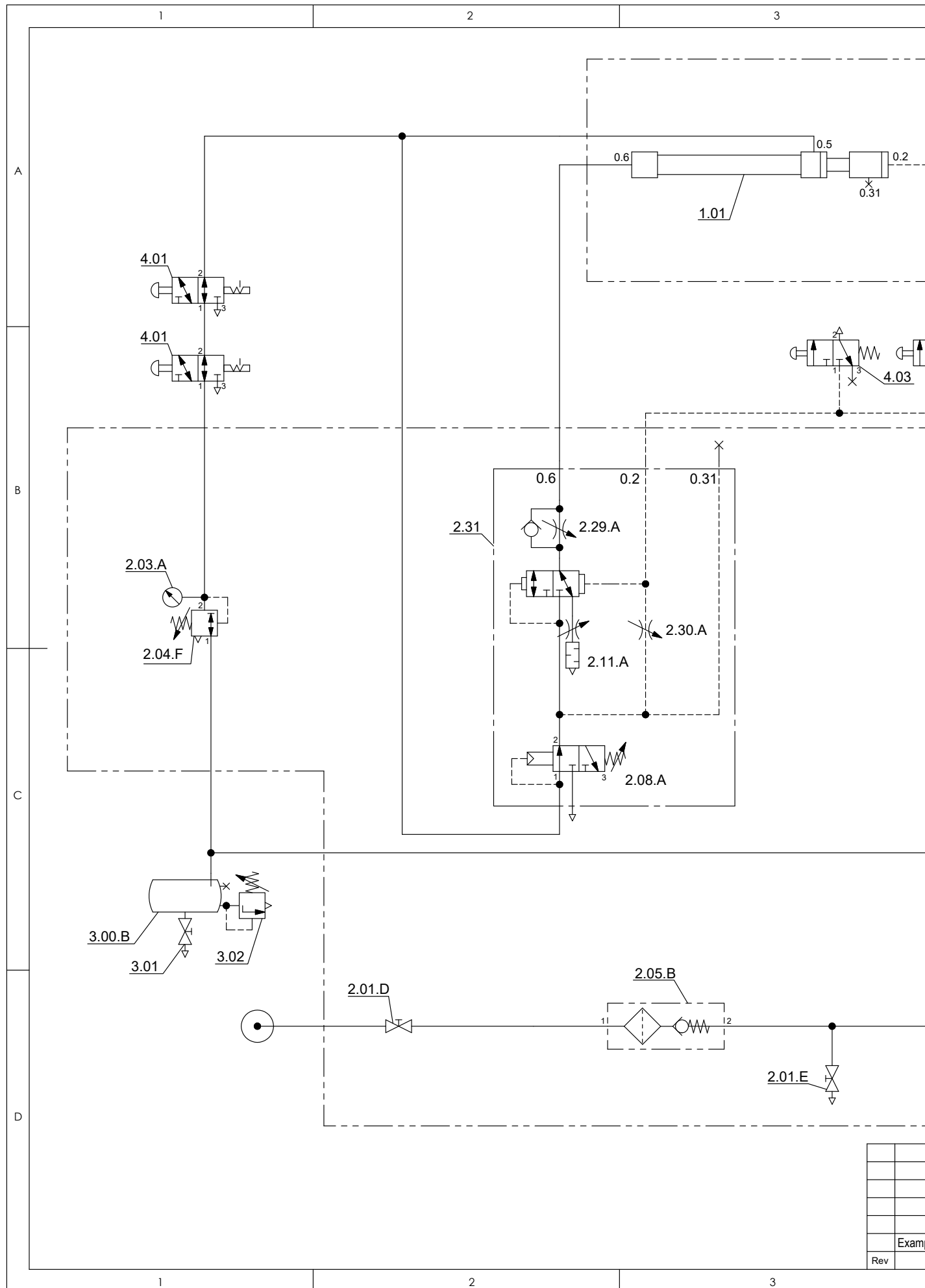
OTHER PARTS

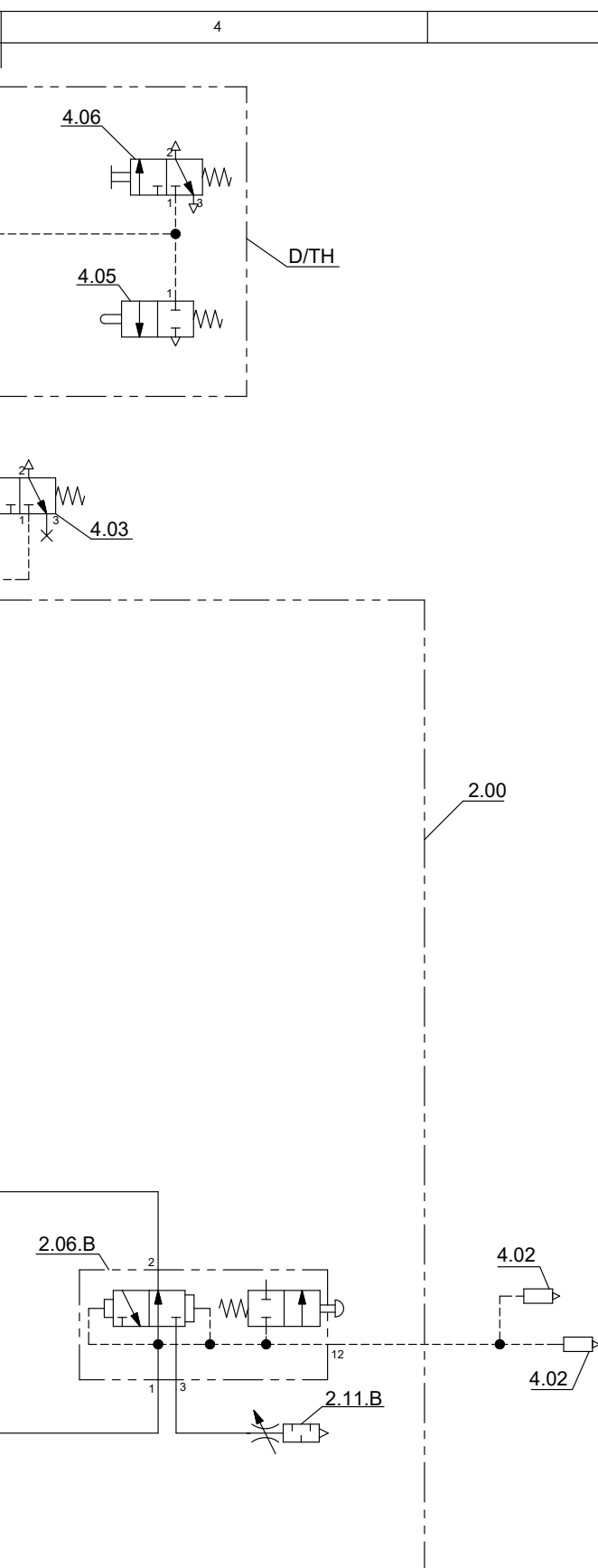


103062
TAPPET VALVE



102513
SHOCK ABSORBER





NOTES

D/TH: INSIDE DOOR / TRACK HOUSE

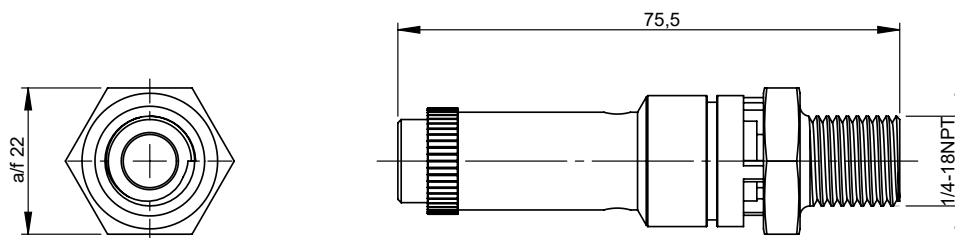
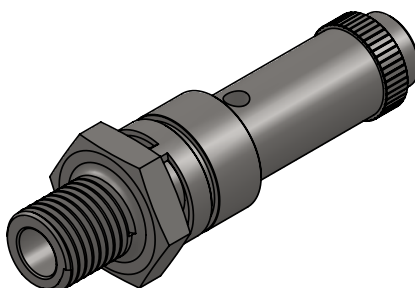
4.06	KNEE-OPERATED SWITCH	ACTIVATOR ACTIVE LEAF
4.05	DOOR OPENING VALVE	ACTIVATOR ACTIVE LEAF
4.03	PUSH BUTTON VALVE	DOOR ACTIVATOR
4.02	TEMPERATURE FEELER "FSV1"	FIRE SENSOR
4.01	EMERGENCY EXHAUST VALVE	MANUAL DOOR OPEN
3.02	SAFETY VALVE	OVERLOAD PROTECTOR
3.01	DRAIN VALVE	HUMIDITY EXHAUST
3.00.B	AIR RESERVOIR	STORAGE FOR EMERGENCY CYCLES
2.31	DOOR OPENING MODULE WD	DOOR OPENING DEVICE
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2.29.A	THROTTLE VALVE	DOOR OPENING SPEED
2.11.B	SPEED REGULATOR VALVE	EXHAUST CONTROL
2.11.A	SPEED REGULATOR VALVE	DOOR CLOSING SPEED
2.08.A	SPECIAL PRESSURE VALVE	LOW PRESSURE PROTECTION
2.06.B	FIRE SAFETY MODULE "FSM 120"	FIRE PROTECTOR
2.05.B	FILTER-NON-RETURN-MODUL	AIR CLEANER / ONE-WAY
2.04.F	PRESSURE REDUCER PRM	WORKING PRESSURE
2.01.E	SHUT-OFF VALVE	VENT SYSTEM
2.01.D	SHUT-OFF VALVE	SUPPLY LINE SEPERATOR
2.00	CONTROL BOX	CASING CONTROL UNIT
1.01	DOOR DRIVE CYLINDER	ACTIVE DOOR LEAF
ITEM NO.	DESCRIPTION/DIM	FUNCTION

				Drawing title:		Document code acc. to NORSOK Z-DP-002:	
				PNEUMATIC FLOW SHEET DRAWING		XA = Flow diagram XF = Hook up / location drawing	
				Supplier drawing no.: 201x-SOLP-FS-105415		Door drive system: SINGLE SLIDING	
						Sheet	Rev.
						1/1	
Description		Date	Draw. sign	Appr. sign			
4				5		6	

DATASHEET - 1026020070

solution **safety valve 10 barg**

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 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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draw. sign / date: MVMSH 11.04.2014

appr. sign / date: MVMBB 30.04.2014

document acc. to 201x file system

REVISION: 01



Armaturen- und Metallwerke Zöblitz GmbH

Betrieb mit HPO-Zulassung

Prüfbescheinigung für Sicherheitsventile

Test certification for safety valves

federbelastet
spring-opposed

SVWN 8	Ausführung Code-No.	Fabrik-Nr. Factory-No.	Herstellungsmonat/Jahr Month/year of production
	1/4NPT	AB051	21.02.20

CE 0036

TÜV.SV.15-882.8.D/G.O,65.p

Einstelldruck:
Pressure of reacting/

10.00 bar

PN50

pha-Wert/
Coefficient of discharge = 0,65

Umgebungstemperaturbereich:
Area of surround temperature:

-25 bis 40°C (äußere Vereisung vermeiden)
-25 till 40°C (avoid external freeze)

Betriebstemperatur:
Operating temperature:

max. 180 °C
max. 180 °C

Betriebsmedium:
Operating medium:

Druckluft
Compressed air

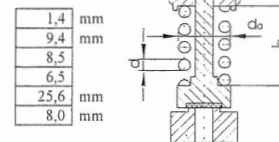
Werkstoffe/Materials:

Gehäuse/Case: 1.4571
Gehäusesitz/Socket of case: 1.4571
Dichtelement/Sealing element: Viton
Feder/Spring: 1.4568

EN 10272
EN 10272
EN 10270

Abmessungen/Measures

d = Drahtdurchmesser/Diameter of wire
d_a = äußerer Windungsdurchmesser/External winding diameter
i_s = Gesamtwindungszahl/Total number of windings
i_r = Anzahl der federnden Windungen/Number of spring-loaded windings
l₀ = Federlänge, unbelastet/Longitude of springs
d_s = Ventilsitzbohrungsdurchmesser/Drill diameter of valve seat



Einsatzbereich der Feder/Testing conditions: 9,91 bis/till 14,20 bar

Prüfbedingungen/Testing medium:

Merkblatt AD2000-A2 (Ausgabe 02.2001) „Sicherheitseinrichtungen gegen Drucküberschreitungen“/Leaflet AD2000-A2 (issue of 02.2001) „Safety devices for protection against excessive pressure“

Prüfmedium/ Testing medium:

Luft/air

Prüftemperatur/ Testing temperature: 20°C ± 5°C

Das Sicherheitsventil entspricht in Funktion und Ausführung dem Merkblatt AD-A2/The safety valve meet leaflet AD-A2 in function and model:

► ÖFFNEN innerhalb einer Öffnungsdruckdifferenz von/OPEN within a open pressure difference of/:

- 10 % des Ansprechdruckes p_A (p_A ≥ 1 bar)/10 % of reaction pressure p_A (p_A ≥ 1 bar) *)
- 0,1 bar bei Ansprechdruck p_A (p_A < 1 bar)/0,1 bar at reaction pressure p_A (p_A < 1 bar) *)

► SCHLIEßEN innerhalb einer Druckabsenkung von/CLOSE within a decrease of pressure of

- 10% unter dem Ansprechdruck p_A (p_A > 3 bar)/10% below reaction pressure p_A (p_A > 3 bar) *)
- 0,3 bar unter dem Ansprechdruck p_A (p_A ≤ 3 bar)/0,3 bar below reaction pressure p_A (p_A ≤ 3 bar) *)

*) Ansprechdruck entspricht dem gekennzeichneten Einstelldruck – Abströmbeginn minimaler Luftmengen/Reaction pressure meet the marked pressure of re-acting –start of escape of minimal air quantities

Krellner
Werkssachverständiger
Authorized inspector

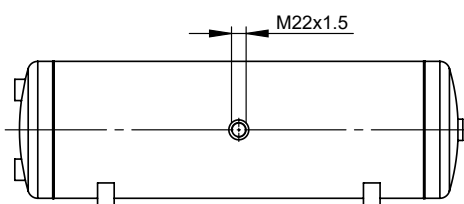
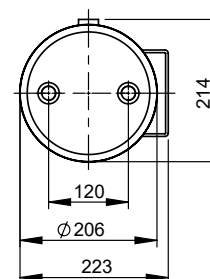
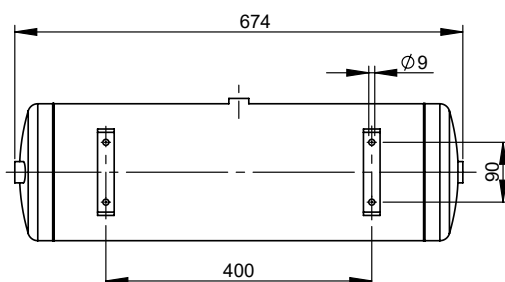
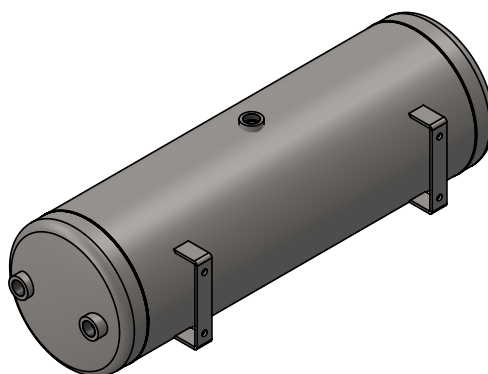
DATASHEET - 1028000070

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.



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 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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draw. sign / date: MVMSH 25.04.2014

appr. sign / date: MVMBB 30.04.2014

document acc. to 201x file system

REVISION: 01

KLEUSBERG

Udo Kleusberg · Druckluftbehälter

EU DECLARATION OF CONFORMITY

We, UDO KLEUSBERG GMBH&Co.KG, Steel Plate Processing
D - 57572 Niederfischbach · Konrad-Adenauer-Str. 200

declare on our sole responsibility that the pressure vessel product
manufactured in accordance with drawing: 99.2834.01
with the following information on the manufacturer's badge:

Manufacturing-No.: A/19930 - A/20029

Year of manufacture: 2019

max. operating over pressure (PS): 10 bar / volume (V): 20 L

EC-symbol: **CE** / PT : 14,3 (bar) / test date: 01.07.19

TYPE: 99.2834.01

(For the medium and use of the vessel see Operating Instructions)
in the supplied version conforms to the requirements of the 2014/68/EU
Directive on Pressure Equipment. Conformity assessment procedure used
in accordance with Appendix III of the Directive on Pressure Equipment:

Module(s) : A / Category : I

Technical Specification(s): AD-2000 Instructions/ Directive on Pressure
Equipment 2014/68/EU .

Acceptance testing is carried out by the test station:

TÜV CERT-Certification Office For Pressure Equipment of
TÜV Nord Systems GmbH & Co.KG, D-22525 Hamburg.

The manufacturer's badge/plate with the test
stamp  was provided as the symbol of completed testing.

UDO KLEUSBERG GMBH & Co.KG
D-57572 Niederfischbach

.....
(Signature)

Niederfischbach, 01.07.19

part-no.: 99.2834.01/2.A.



[6KON.Fgb/A.02]
UDO KLEUSBERG GMBH & Co.KG . Stahlblechverarbeitung .
D - 57572 Niederfischbach . Konrad-Adenauer-Str. 200 .
Telef. 02734/5758-0 . FAX 02734/575811

HRA AG Montabaur 2158 . Komplementär: Kleusberg Vertriebs GmbH . HRB AG Montabaur 1463 . Sitz:
57572 Niederfischbach . Geschäftsfl.: Dipl.-Betriebswirt Eckart Kleusberg . Dietrich Kleusberg

	Operating Instructions for pressure vessels categorie I / fluid group 2 according to Pressure Equipment Directive 2014/68/EU and AD 2000	4eBET.FGB Edition: 04																												
The pressure vessel with the following details on the manf. specification plate:  <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">(Manufacturer) :</td> <td style="width: 30%;">KLEUSBERG – Niederfischbach</td> <td style="width: 30%;">Manufacturer's mark:</td> <td style="width: 10%;"></td> </tr> <tr> <td>(Supplier) :</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(EEC mark) :</td> <td>CE</td> <td>Type: 99.2834.01</td> <td></td> </tr> <tr> <td>(Max. Operating Overpressure):</td> <td>PS 10 bar</td> <td>Year of manf.:</td> <td>2019</td> </tr> <tr> <td>(Capacity) :</td> <td>V 20 L</td> <td></td> <td></td> </tr> <tr> <td>(Operating Temp.) :</td> <td colspan="3">TSmin -40 °C/ TSmax +50 °C</td> </tr> <tr> <td>(Manf. No.) :</td> <td colspan="3">A/19930 – A/20029</td> </tr> </table> 1) Purpose: The vessel is only certified for predominantly static loads and for stationary use. A pressure deviation range of 20 % with 1000 run-ups as well as run-downs are however taken into account. 2) Medium: air, nitrogen or inert (not flammable) gases. It has to be ensured by the supplier/operator that the material tolerates the fluid/medium. 3) Installation/Maintenance: The vessel may only be opened and fitted or removed in the no-pressure state. When installing, ensure that the drainage socket is located at the lowest point and that it is easily accessible. Ensure that condensation does not collect. For this reason, the vessel must be bled at sufficient intervals (weekly) by means of the drainage socket at the lowest end of the vessel. 4) Securing: If feet are welded to the vessel, these are only to be used for loose standing. If the vessel is equipped with tension bands, these must not contact the vessel or the weld seams (no steel against steel). Layers of plastic, rubber or similar materials (e.g. an insulating paint layer) must be inserted. No additional tension/force may be applied which could affect the safety of operation. The connection mountings must not be used for securing. Vibration and corrosion which could be harmful for the vessel must be avoided by appropriate means. Should vibration be transmittable to the vessel when it is installed on a machine or a foundation, the feet and mounts provided on the vessel must be equipped with additional reinforcement plates. This is not necessary when the vessel is sufficiently protected by rubber shock absorbers or similar protection against possible vibration. 5) Important The vessel must not be welded or heat treated. The pressure vessel has been tested without equipment (safety equipment). The equipment test has not yet been carried out. The operator is responsible for observing the regulations when installing the vessel according to its purpose. Approval and supervision of the vessel is in accordance with the regulations which apply in the EC country where it is operated. Before start-up, the vessel/plant must be fitted with all required safety equipment (manometer, safety valves etc.) and legally approved. PS = permitted operating pressure: This is the highest overpressure which can arise during normal operation. The vessel is protected inside and out by without-corrosion . The corrosion auxiliary is 0 mm (c2=0). 6) Installation/Retesting The operator himself is responsible for the correct installation of the vessel and the mandatory retesting. Observance of the various legal requirements of the country of destination is the responsibility of the operator. We recommend however the following intervals between test by normal usage and appropriate maintenance: Outer testing every two years*) inside testing every 5 years, pressure test every 10 years by an expert. The shell(casing) wall thickness must not be less than 2,00 mm and the head thickness no less than 2,00 mm. Materials used: 1.4571 *) only if pressure vessel is heated. D – 57572 Niederfischbach, 01.07.19			(Manufacturer) :	KLEUSBERG – Niederfischbach	Manufacturer's mark:		(Supplier) :				(EEC mark) :	CE	Type: 99.2834.01		(Max. Operating Overpressure):	PS 10 bar	Year of manf.:	2019	(Capacity) :	V 20 L			(Operating Temp.) :	TSmin -40 °C/ TSmax +50 °C			(Manf. No.) :	A/19930 – A/20029		
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(Manf. No.) :	A/19930 – A/20029																													
KLEUSBERG Udo Kleusberg GmbH & Co.KG . Stahlblechverarbeitung . 57572 Niederfischbach . Postfach 7 . Telef. 02734/5758-0 . FAX 575811																														

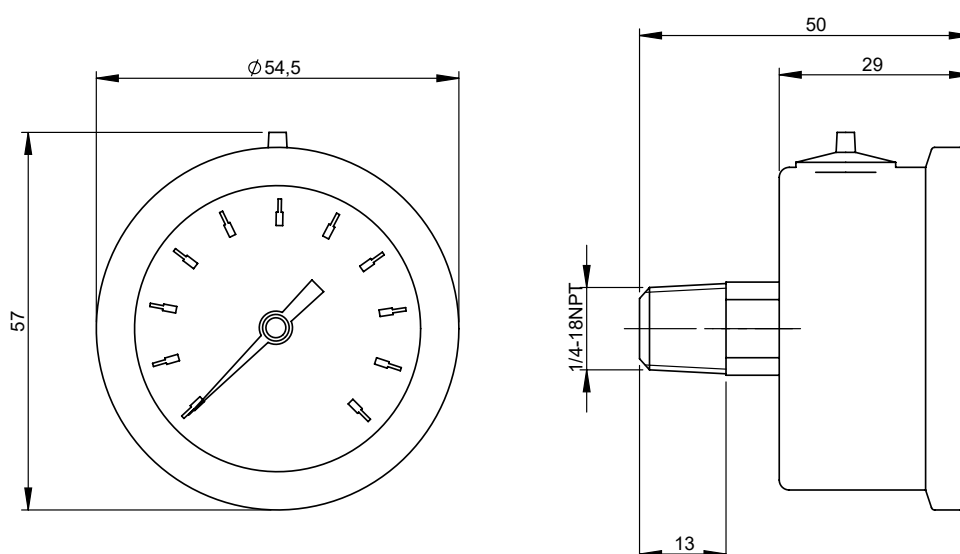
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DATASHEET - 1030740070

solution 

Gauge

flow sheet symbol:



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spare part ordering:**

solutions-n GmbH
Handwerksweg 7 - 27777 Ganderkesee - Germany
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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appr. sign / date: MVMSH 17.08.2015

document acc. to 201x file system

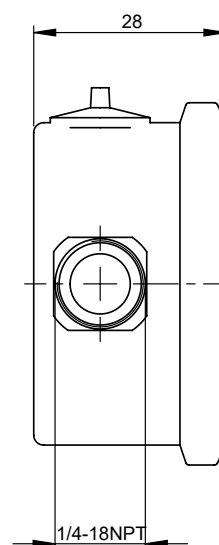
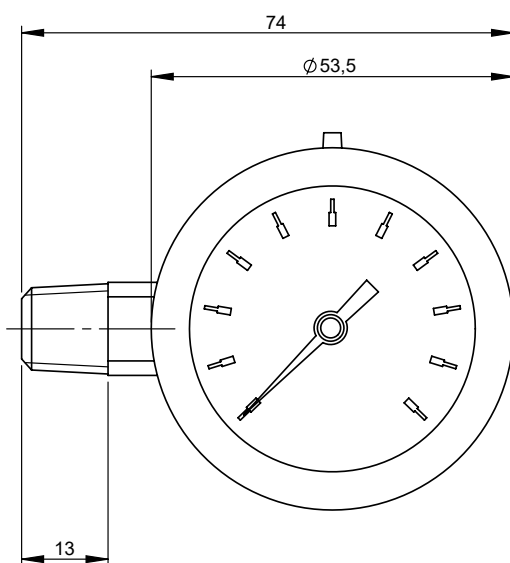
REVISION: 00

DATASHEET - 1053660070

solution 

Gauge

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 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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AFRISO

Technik für Umweltschutz

Messen. Regeln. Überwachen.

EU – Konformitätserklärung

EU-Declaration of Conformity / Déclaration EU de conformité
 Declaración de conformidad CE / Declaração de conformidade CE



Formblatt

FB 27 - 03

Name und Anschrift des Herstellers: AFRISO-EURO-INDEX GmbH, Lindenstr. 20, 74363 Göglingen
 Manufacturer / Fabricant / Fabricante / Nome e endereço do fabricante:

Erzeugnis: Manometer (Nichtelektrische Geräte der Gerätegruppe II)

Product / Produit / Producto / Produto:

Typenbezeichnung: RF* EX, KP* EX, PF*EX, (*= verschiedene Durchmesser/Baugrößen)

Type / Type / Tipo / Tipo:

Betriebsdaten: nichtelektrisch, Zone 1, 2, 21, 22. Ex II 2 GD c T6

Techn. Details:

Caractéristiques / Características / Detalhes técnicos:

Wir erklären in alleiniger Verantwortung, dass das bezeichnete Erzeugnis mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt:

The above mentioned product meets the requirements of the following European Directives

Le produit mentionné est conforme aux prescriptions des Directives Européennes suivantes

El producto indicado cumple con las prescripciones de las Directivas Europeas siguientes

O produto indicado cumpre com as prescrições das seguintes Diretivas Europeias:

Explosionsschutz- Richtlinie (2014/34/EU)

ATEX Directive / Directive ATEX / Directiva ATEX / Diretiva ATEX

Konformitätsbewertungsverfahren: interne Fertigungskontrolle

EG-Bescheinigung-Nr.: EX9 13 07 15639 013

Notifizierte Stelle: TÜV SÜD Product Service GmbH, Ridlestr. 65, 80339 München, Nr 0123

Unterzeichner:

Signed / Signataire / Firmante / Assinado por:

Dr. Aldinger, Geschäftsführer Technik

Technical Director / Diretor Técnico

20.4.2016

Datum / Date / Fecha / Data



AFRISO

AFRISO-EURO-INDEX GmbH
 Lindenstr. 20 • 74363 Göglingen
 Tel. 049 7135 902-0 • www.afri-so.de

[Signature]
 Unterschrift / Signature / Firma / Assinatura

Version: 3 / Index: 0

AFRISO-EURO-INDEX GmbH

D-74363 Göglingen

Seite: 1 von 1

993000 50004 00/13



EU-Konformitätserklärung EU Declaration of Conformity

Dokument Nr.:
Document No.:

14336002.01

Wir erklären in alleiniger Verantwortung, dass die mit CE gekennzeichneten Produkte
We declare under our sole responsibility that the CE marked products

Typenbezeichnungen (vollständige Typenliste siehe Anhang):
Type Designations (refer to annex for exhaustive list of types):

111, 131, 232, 432, 433, 532, 533, 562, 563, 632, 736,
APGT43, DPGS43, DPGS43HP, DPGT43, DPGT43HP, PGS21,
PGS23, PGS26, PGS43, PGT23, PGT26, PGT43, PGT43HP,
PGT63HP

Beschreibung:
Description:

Manometer mit elektrischem Ausgang
Pressure gauges with electrical output

gemäß gültigen Datenblättern:
according to the valid data sheets:

Siehe Anhang
Refer to annex

die wesentlichen Schutzanforderungen der folgenden Richtlinien erfüllen:
comply with the essential protection requirements of the directives:

Harmonisierte Normen:
Harmonized standards:

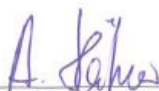
2011/65/EU	Gefährliche Stoffe (RoHS) Hazardous substances (RoHS)	EN 50581:2012
2014/68/EU	Druckgeräterichtlinie (DGRL) ⁽¹⁾ Pressure Equipment Directive (PED) ⁽¹⁾	
2014/30/EU	Elektromagnetische Verträglichkeit (EMV) ^(2, 3) Electromagnetic Compatibility (EMC) ^(2, 3)	EN 61326-1:2013 ⁽²⁾ EN 61326-2-3:2013 ⁽²⁾ EN 60947-5-2:2007 +A1:2012 ⁽³⁾ EN 60947-5-6:2000 ⁽³⁾
2014/34/EU	Explosionsschutz (ATEX) ⁽⁴⁾ Explosion protection (ATEX) ⁽⁴⁾	
	Ex II 2G Ex ia IIC T6/T5/T4 Gb II 2D Ex ia IIIB T85°C/T95°C/T100°C/T135°C Db II 2G Ex ia IIB T6/T5/T4 Gb ⁽⁵⁾	EN 60079-0:2012 +A11:2013 EN 60079-11:2012

- (1) Für Modelle mit PS ≥ 200 bar; Modul A, druckhaltendes Ausrüstungsteil
For models with PS ≥ 200 bar; Module A, pressure accessory
- (2) Für Modelle mit der Option:
For models with the option: +892.44
- (3) Für Modelle mit mindestens einer der Optionen:
For models with at least one of the options: +831, +831-*
- (4) EU-Baumusterprüfbescheinigung CML 18ATEX2109X von CML B.V., Amsterdam (Reg.-Nr. 2776).
EU type-examination certificate CML 18ATEX2109X of CML B.V., Amsterdam (Reg. no. 2776).
- (5) Für Modelle mit der zusätzlichen Option:
For models with the additional option: +PTFE Auskleidung
+PTFE lining

Unterzeichnet für und im Namen von / Signed for and on behalf of

WIKA Alexander Wiegand SE & Co. KG

Klingenberg, 2019-06-17


Alfred Häfner, Vice President
Process Instrumentation Pressure

WIKA Alexander Wiegand SE &
Co. KG
Alexander-Wiegand-Straße 30
63811 Klingenberg
Germany

Tel. +49 9372 132-0
Fax +49 9372 132-406
E-Mail info@wika.de
www.wika.de

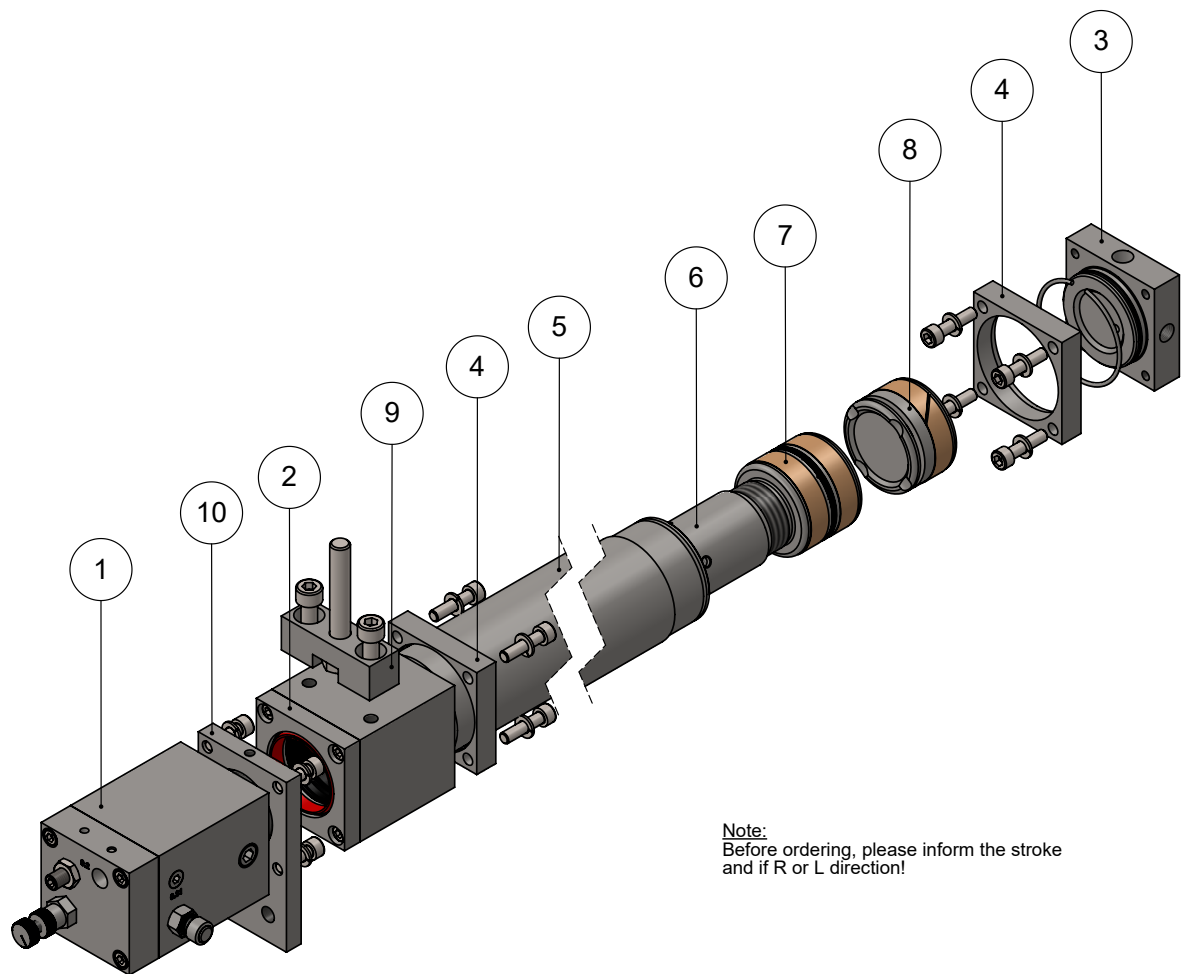
Kommanditgesellschaft, Sitz Klingenberg -
Amtsgericht Aschaffenburg HRA 1819


Dr. Michael Glombitza, Head of Quality Management
Process Instrumentation Pressure

Komplementärin:
WIKA International SE - Sitz Klingenberg -
Amtsgericht Aschaffenburg HRB 10505
Vorstand: Alexander Wiegand
Vorsitzender des Aufsichtsrats: Dr. Max Egli
16AR-02160

SPARE PARTS LIST - 1044110110
of P1050 door drive cylinder

solution 



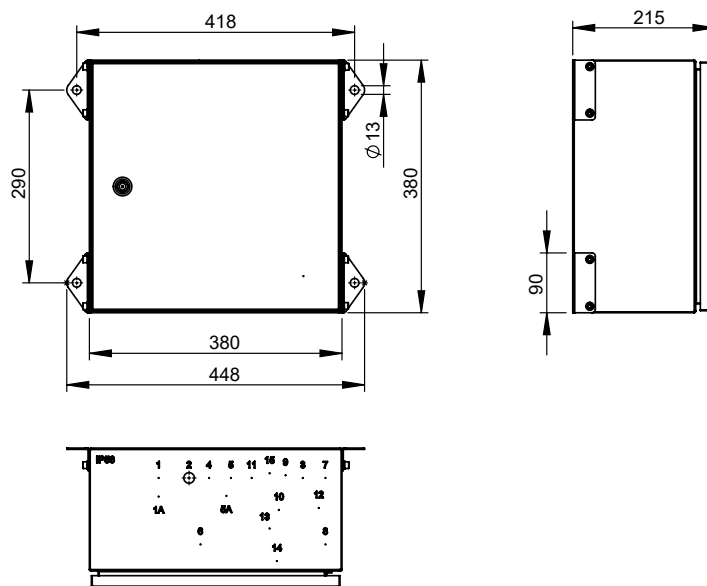
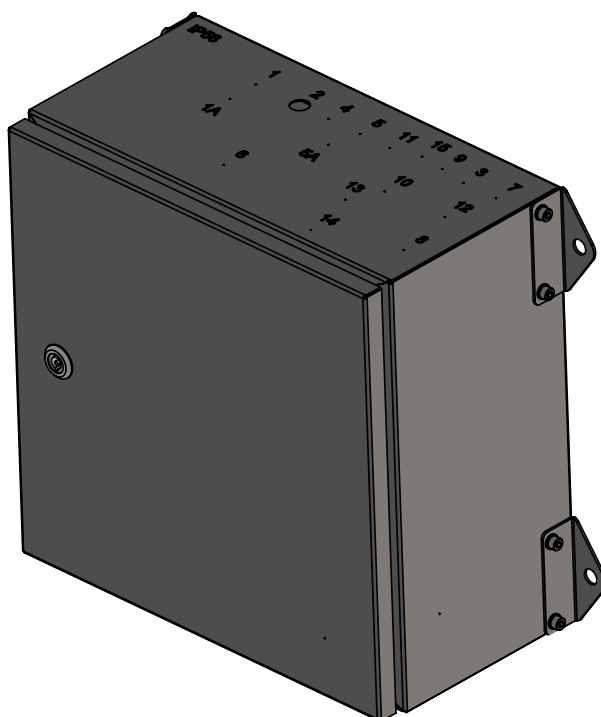
Note:
Before ordering, please inform the stroke
and if R or L direction!

n/a	sealing kit door drive cylinder P1050 complete	104844	1048440070
10	cylinder fastening on door leaf	104843	1048430070
9	cylinder fastening on top side	104842	1048420070
8.1	sealing kit push piston P1050	104841	1048410070
8	push piston S1040 / P1050 complete	100433	1004330070
7.1	sealing kit piston P1050	104840	1048400070
7	piston S1040 ≥2000mm / P1050 complete	103958	1039580070
6	piston rod	103222	1032220070
5	cylinder tube Ø50	100706	1007060070
4	flange Ø50 complete	102824	1028240070
3.1	sealing cylinder bottom & head Ø50	100805	1008050070
3	cylinder bottom Ø50 complete	104839	1048390070
2.1	sealing kit cylinder head Ø50	102498	1024980070
2	cylinder head Ø50 complete	102826	1028260070
1	control unit complete	103214	1032140070
Item	Description	Stock No. SOL	Datasheet No.

DATASHEET - 1051370070

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.:	105137
material:	AISI 316 / stainless steel
weight:	8820.03 g

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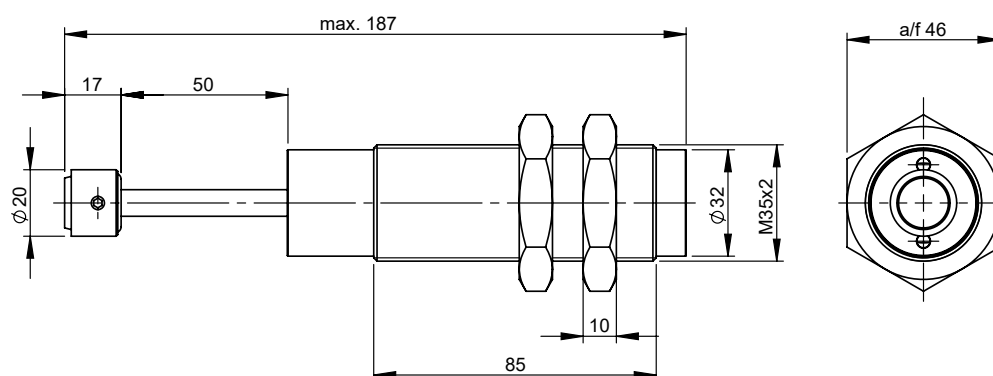
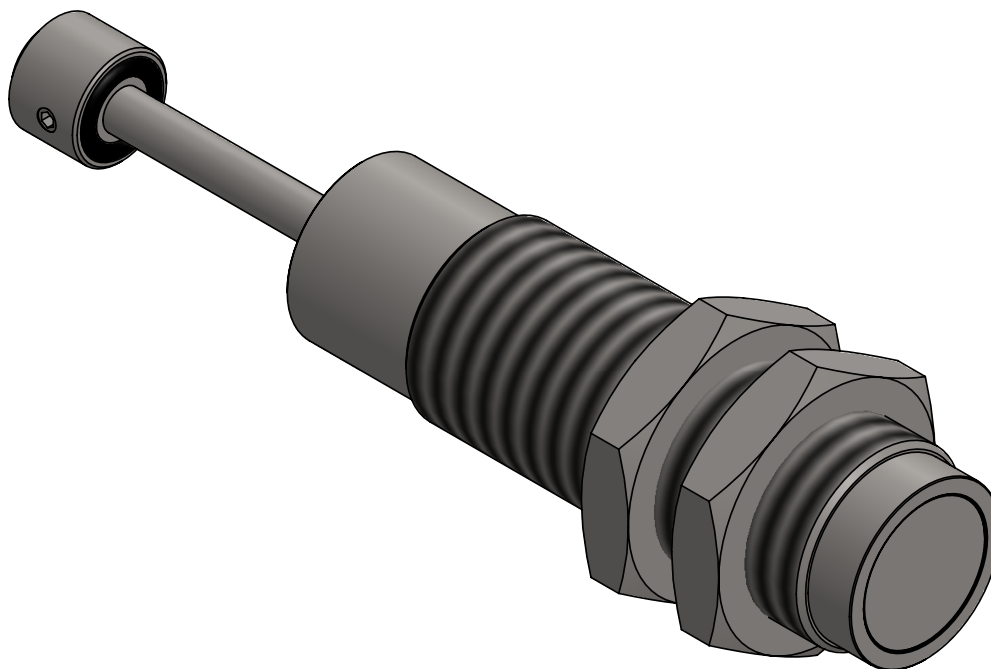
draw. sign / date: bbtBB 15.12.2018

appr. sign / date: bbtBB 15.12.2018

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REVISION: 01

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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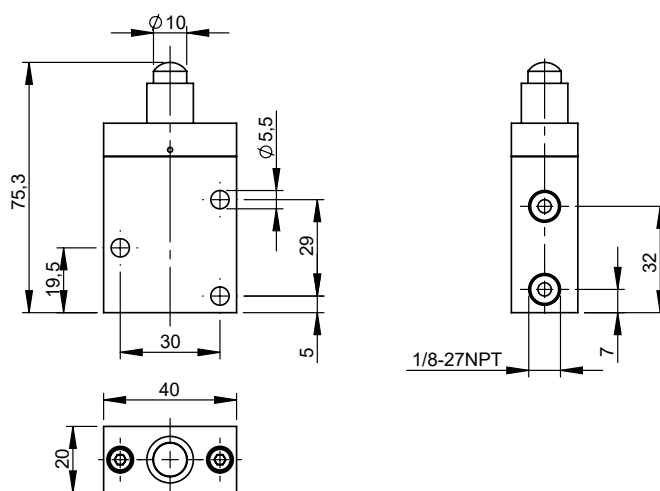
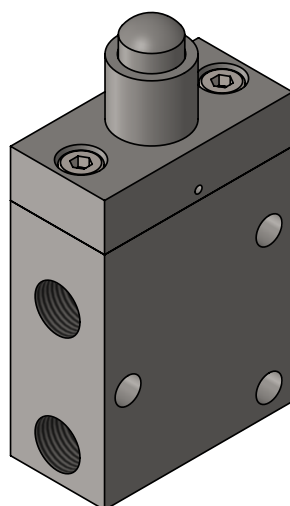
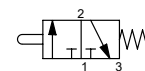
REVISION: 01

DATASHEET - 1030620070

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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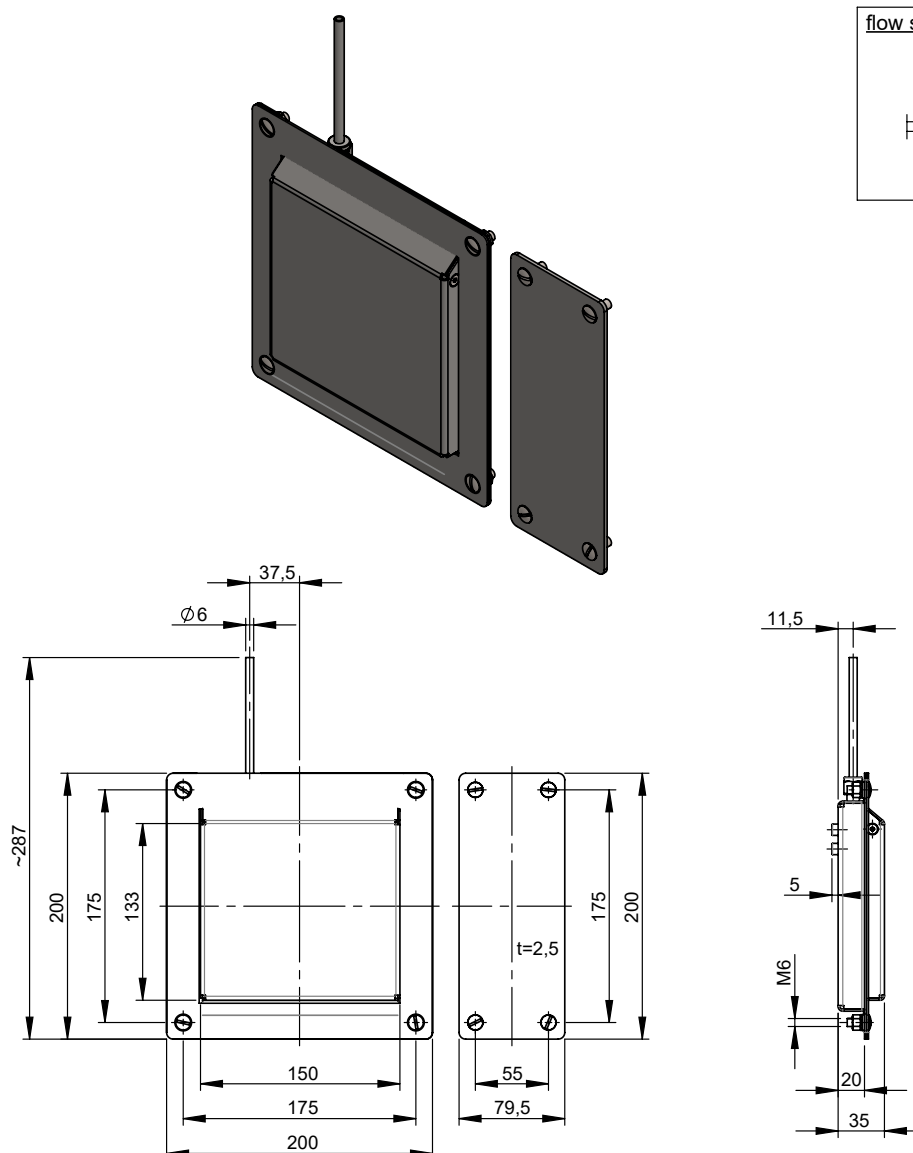
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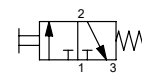
DATASHEET - 1028390070

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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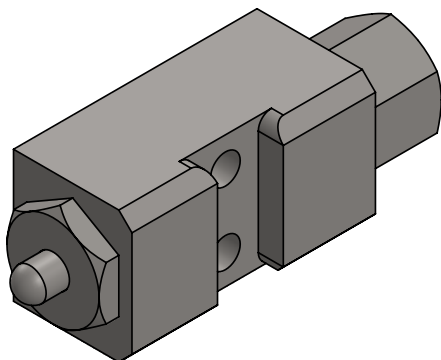
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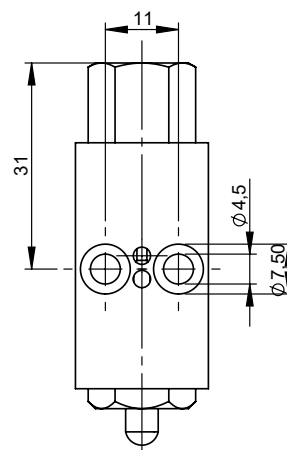
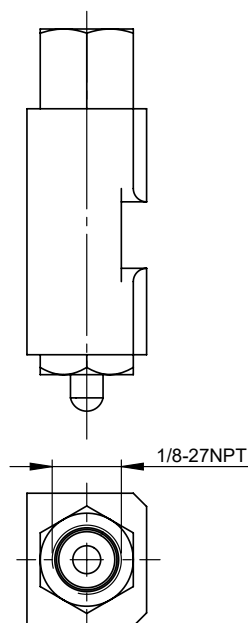
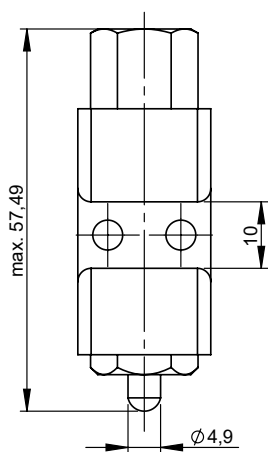
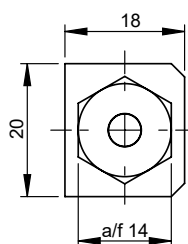
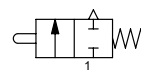
DATASHEET - 1025550070

solution 

door opening valve 16k



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 door opening valve 16k	
	SOL stock no.:	102555
	material:	AISI 316 / stainless steel
	weight:	103.98 g
	working pressure:	max. 10 BarG
	port sizes:	1x 1/8-27NPT

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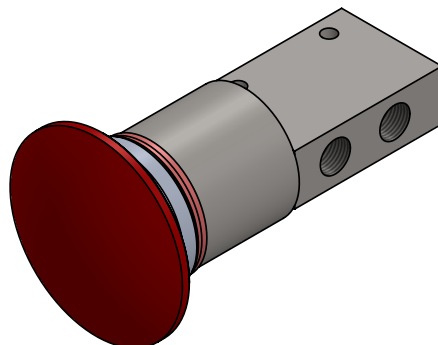
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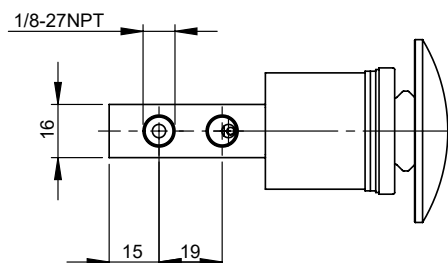
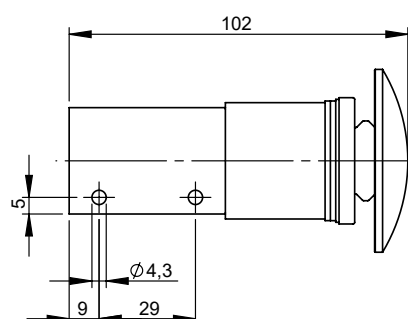
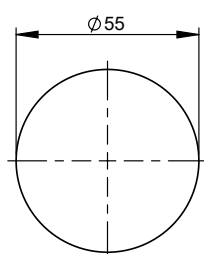
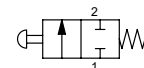
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DATASHEET - 1050400070

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.

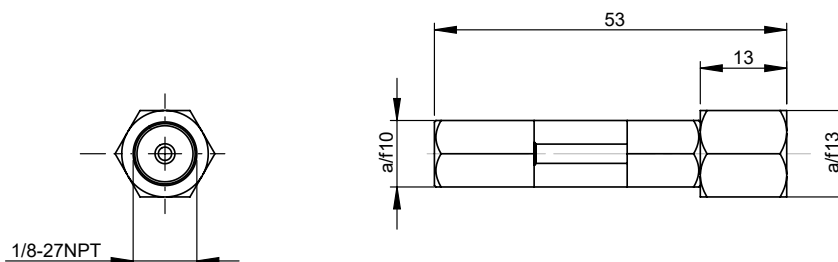
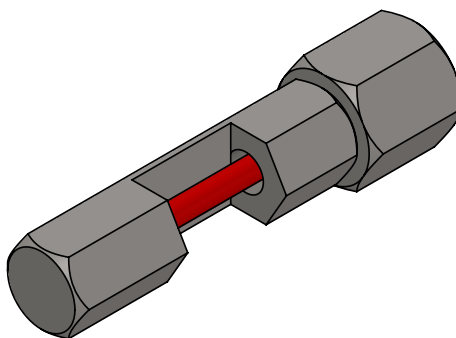
Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de	
	general characteristics of 2/2 way push button valve	
	SOL stock no.:	105040
	material:	AISI 316 / Aluminium
	weight:	318.55 g
	working 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 - 1028020070

solution **temperature feeler FSV1 68°C**

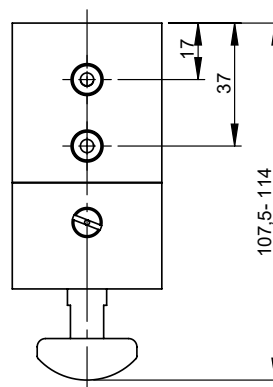
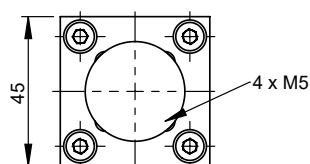
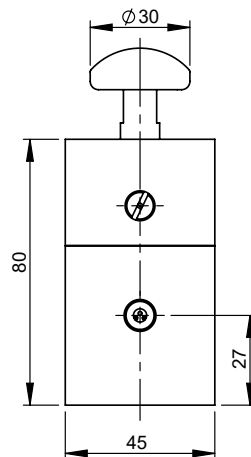
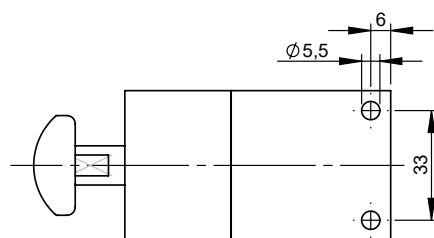
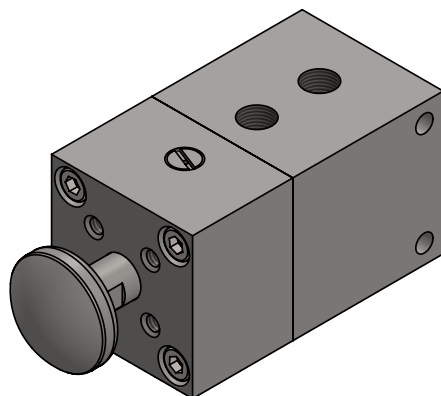
flow sheet symbol:



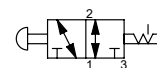
Please contact us for support and spare part ordering:	solutions-n GmbH Handwerksweg 7 - 27777 Ganderkesee - Germany phone: +49 4222 946156-0 email: order@solutions-n.de
general characteristics of temperature feeler FSV1 68°C	
SOL stock no.:	102802
material:	AISI 316 / stainless steel
weight:	27.84 g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

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DATASHEET - 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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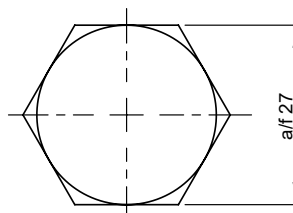
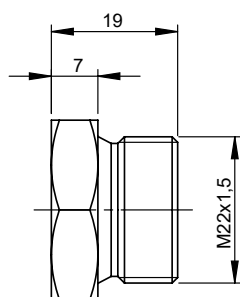
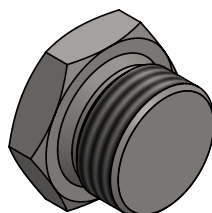
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appr. sign / date: bbIBB 19.05.2021

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REVISION: 02

DATASHEET - 1026440070

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

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 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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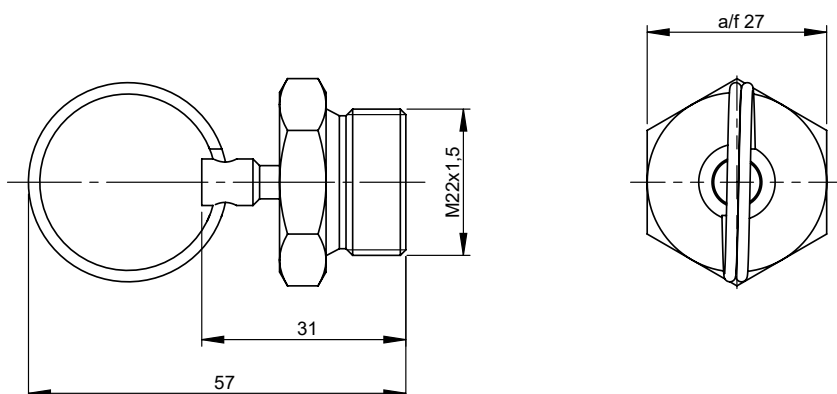
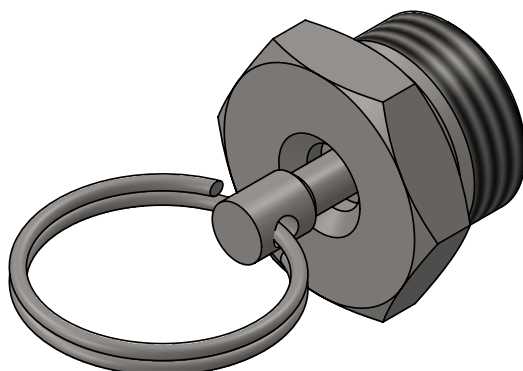
REVISION: 00

DATASHEET - 1028040070

solution 

drain valve

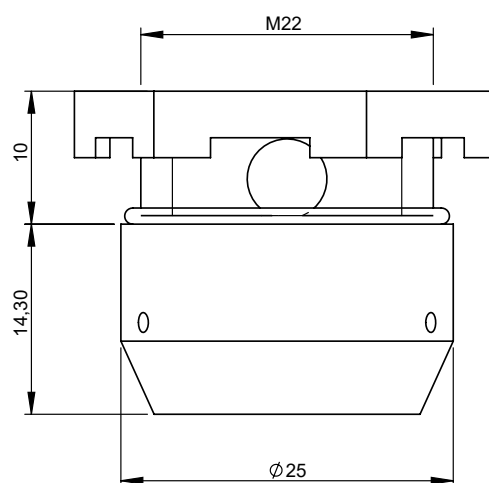
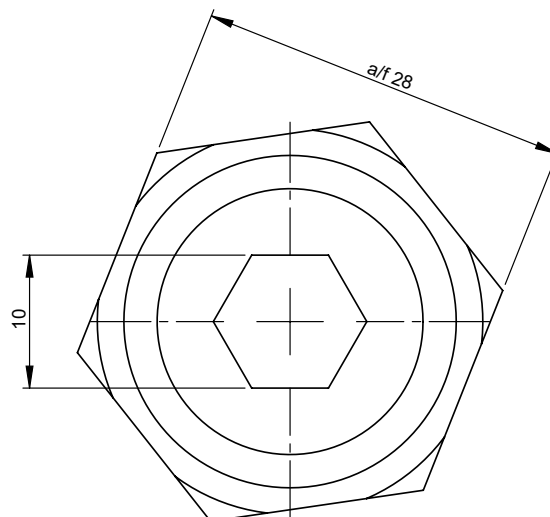
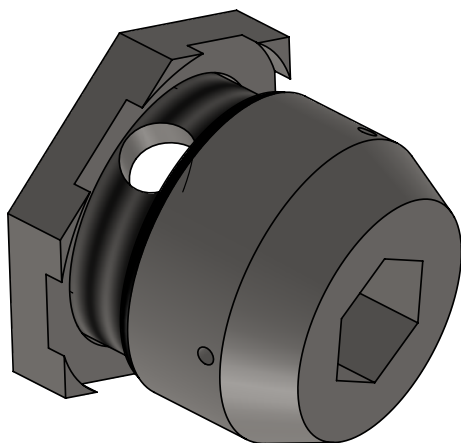
flow sheet symbol:



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

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DATASHEET - 1003250070

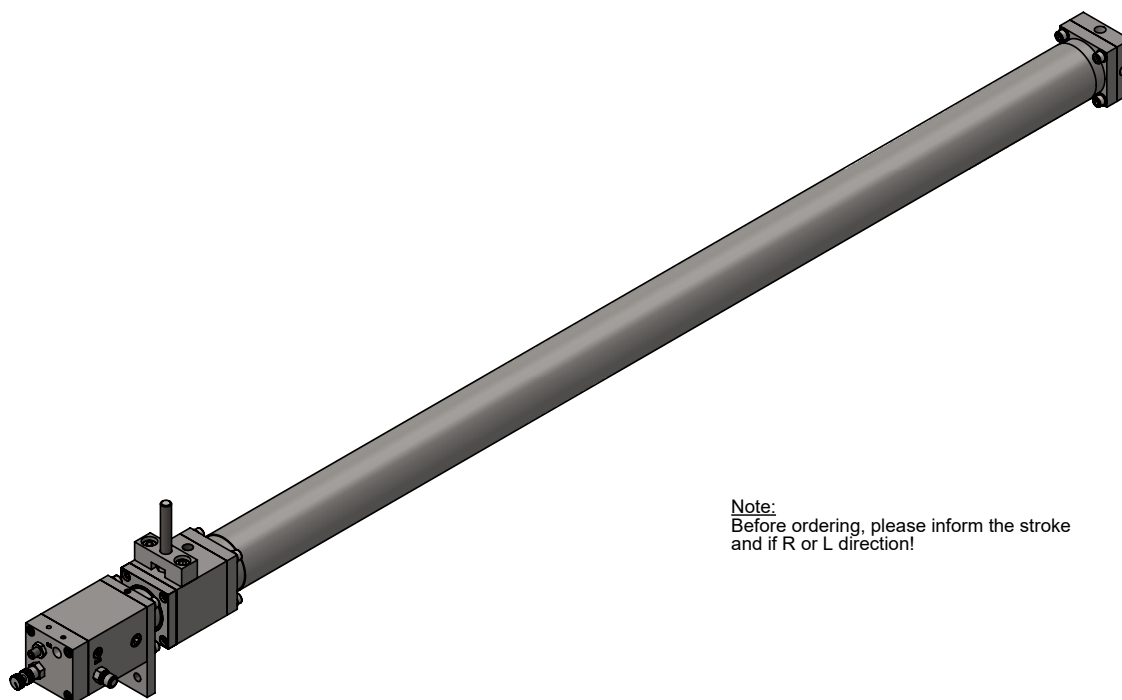
solution **breather drain valve IP 66**

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 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

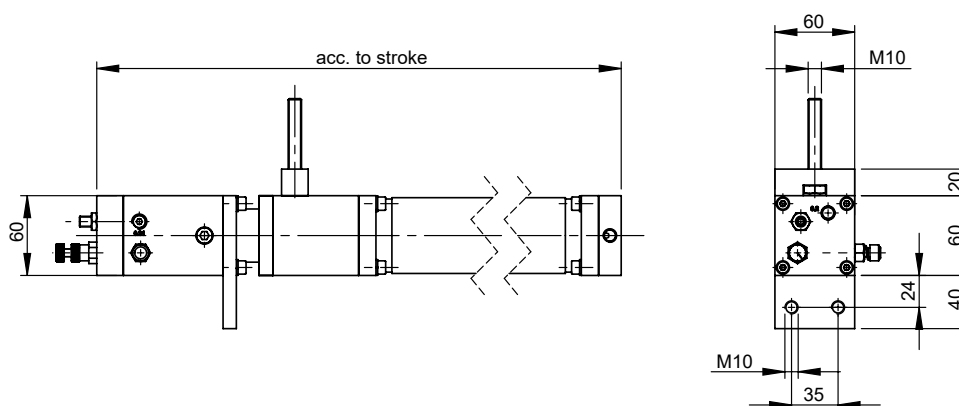
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DATASHEET - 1044110070

solution

P1050 door drive cylinder

Note:
Before ordering, please inform the stroke
and if R or L direction!



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 P1050 door drive cylinder		
	SOL stock no.:	104411	
	material:	AISI 316 / stainless steel	
	weight:	1000 mm stroke = 14769 g + 760 g/100 mm	
	working pressure:	max. 10 BarG	
	port sizes:	4x 1/8-27NPT	
	spare parts for P1050 door drive cylinder		
	spare parts list of P1050 door drive cylinder:	1044110110	

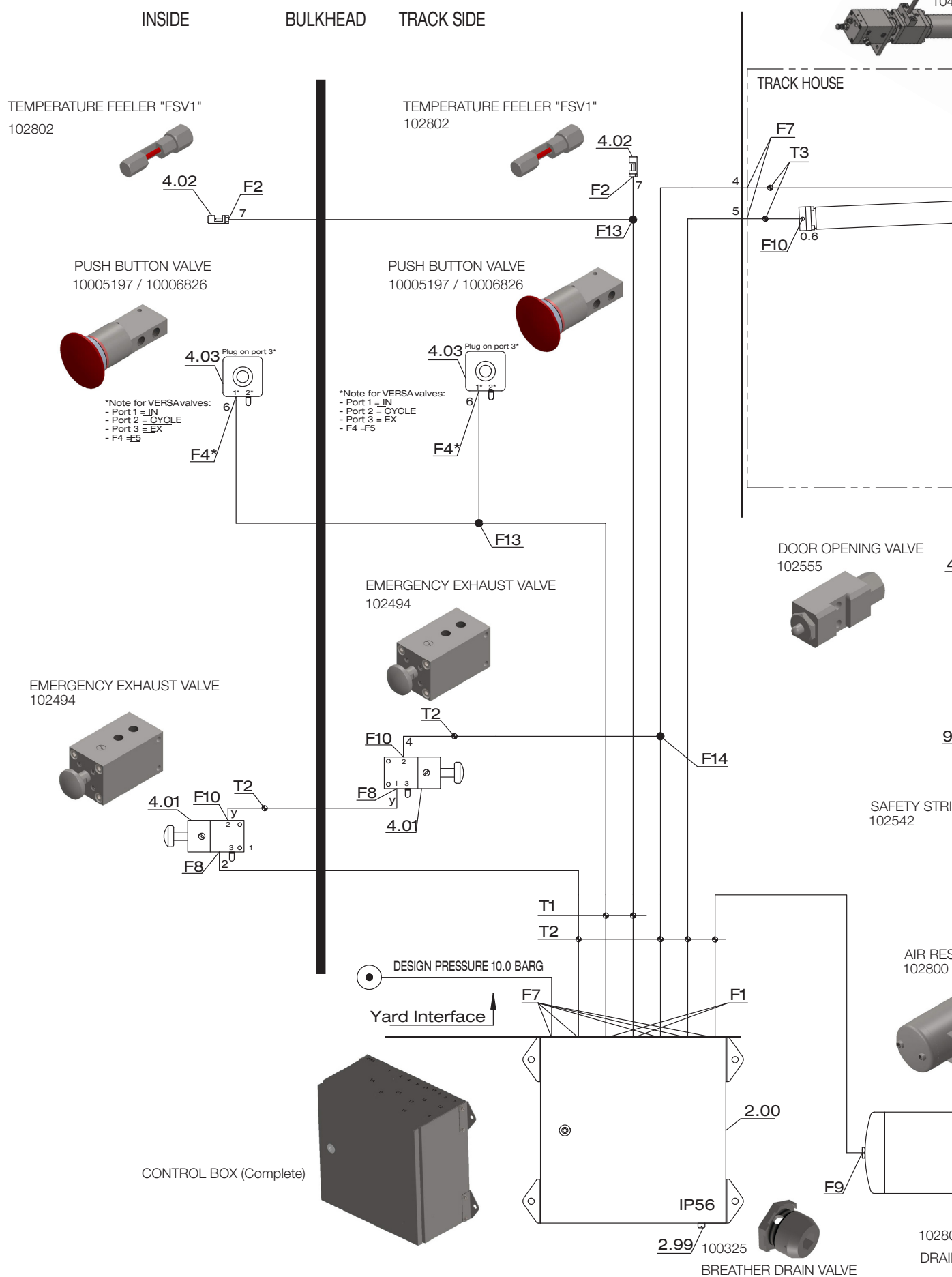
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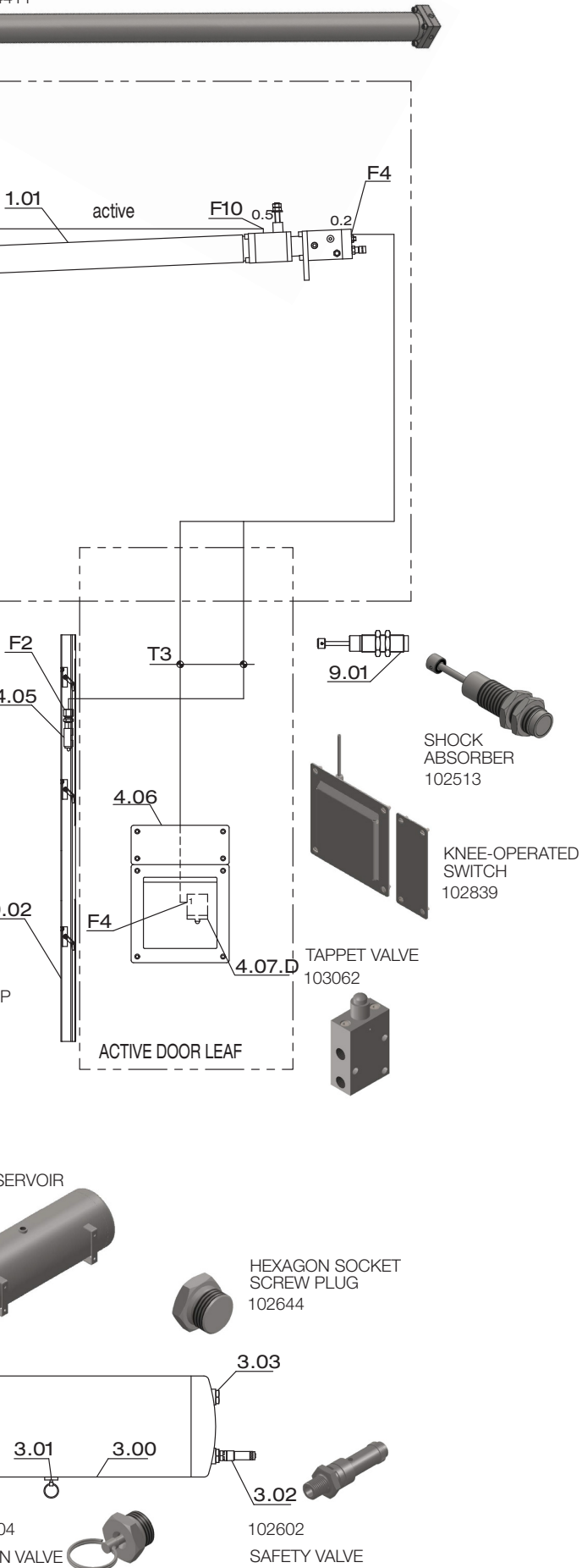
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FOR DRIVE CYLINDER
411



TUBING:

T1: 6mm (1/4") OD INSTRUMENT TUBING
(supplied by project)
T2: 10mm (3/8") OD INSTRUMENT TUBING
(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:

9.02	SAFETY STRIP (AISI316TI) SEE DOOR DRAWING
9.01	SHOCK ABSORBER (AISI316TI) 102513
4.07.D	TAPPET VALVE (AISI316TI) 103062 (Option)
4.06	KNEE-OPERATED SWITCH (AISI316TI) 102839 (Option)
4.05	DOOR OPENING VALVE (AISI316TI) 102555
4.03	PUSH BUTTON VALVE (AISI316TI)
4.02	TEMPERATURE FEELER "FSV1" (AISI316TI) 102802
4.01	EMERGENCY EXHAUST VALVE (AISI316TI) 102494
3.03	HEXAGON SOCKET SCREW PLUG (AISI316TI) 102644
3.02	SAFETY VALVE (AISI316TI) 102602
3.01	DRAIN VALVE (AISI316TI) 102804
3.00	AIR RESERVOIR (AISI316TI) 102800
2.99	BREATHING DRAIN VALVE (optional)(AISI316TI) 100325
2.00	CONTROL BOX (AISI316) Complete
1.01	DOOR DRIVE CYLINDER (AISI316TI) 104411

GRAPHIC PNEUMATIC HOOK UP DRAWING



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