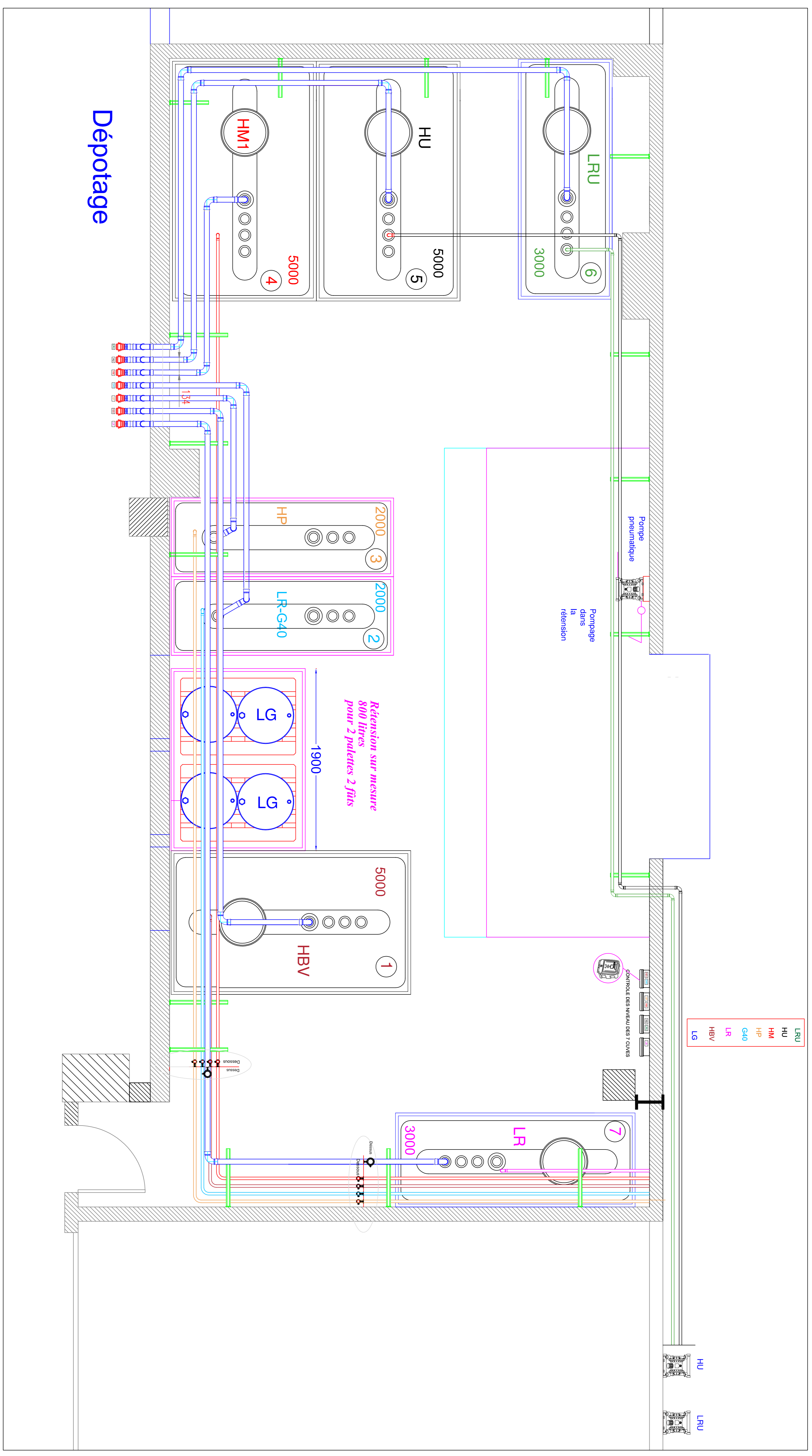




D.O.E
RATP PLEYEL



Dépotage

Référence/Quantité	Titre/Nom, dénomination, matériel, dimensions, etc.	No. d'article/Référence
Disposé par JP TONGLET	Vérifié par JP TONGLET	Date 08/12/2018
Approuvé par - date J-PT - 07-10-2019	Nom de créateur 08/12/2018	Echelle

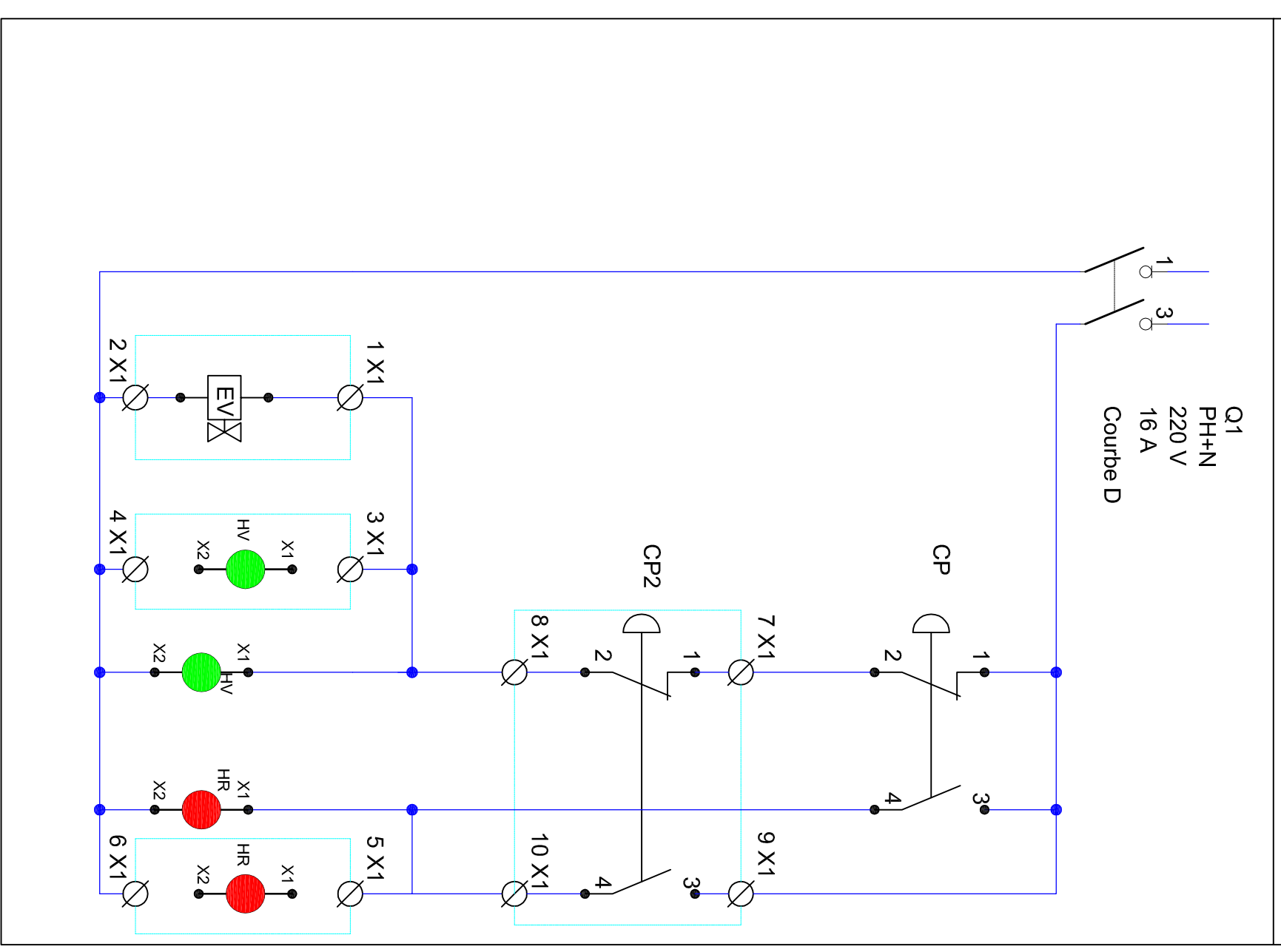


HUILERIE PLEYEL	
19100701	1
Edition	Feuille No
1	XX

No. rch	Mois de révision	Date	Signature	Vérifié
1	mise en page	07/10/2019	SBS	J-PT

coffret commande huilerie

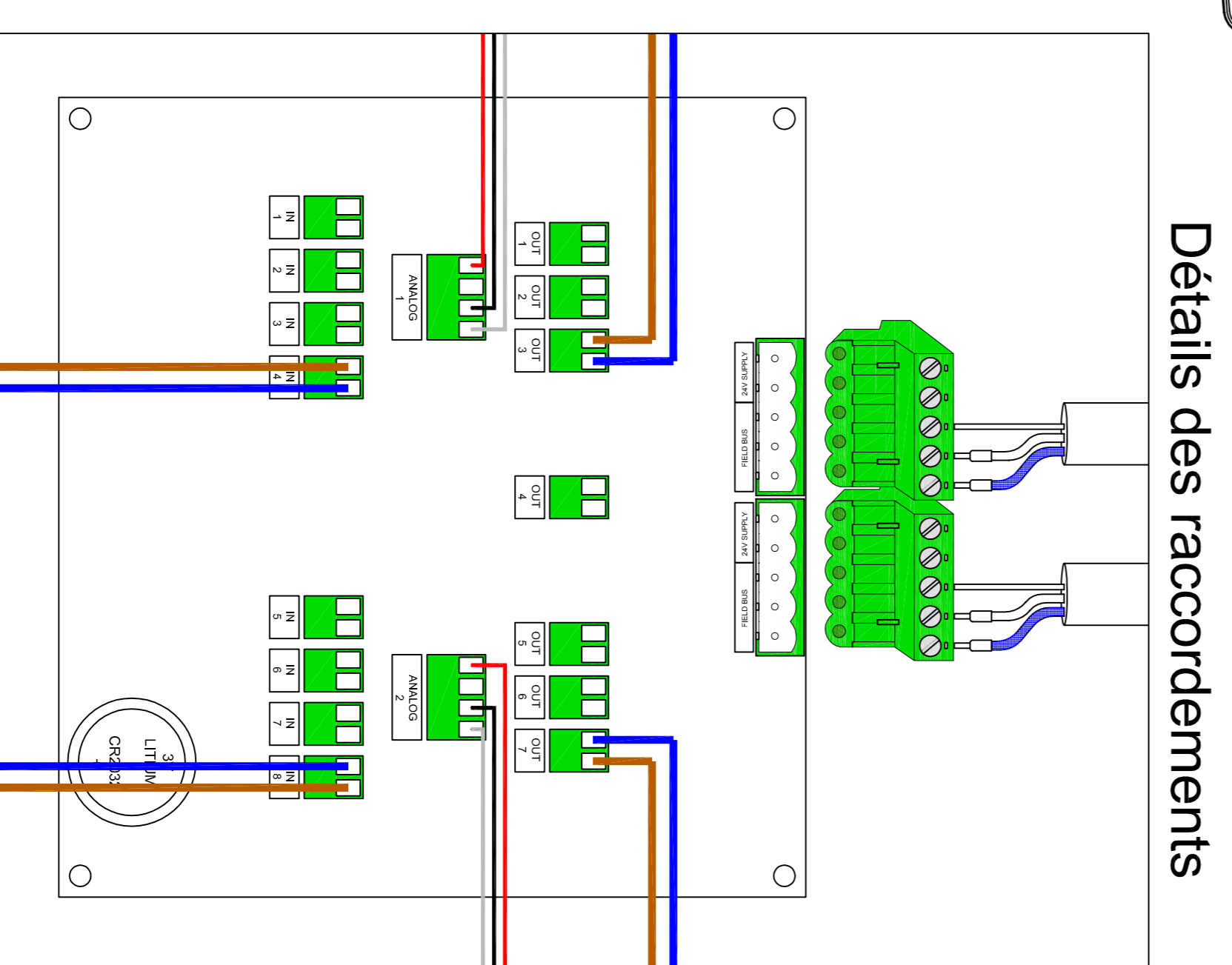
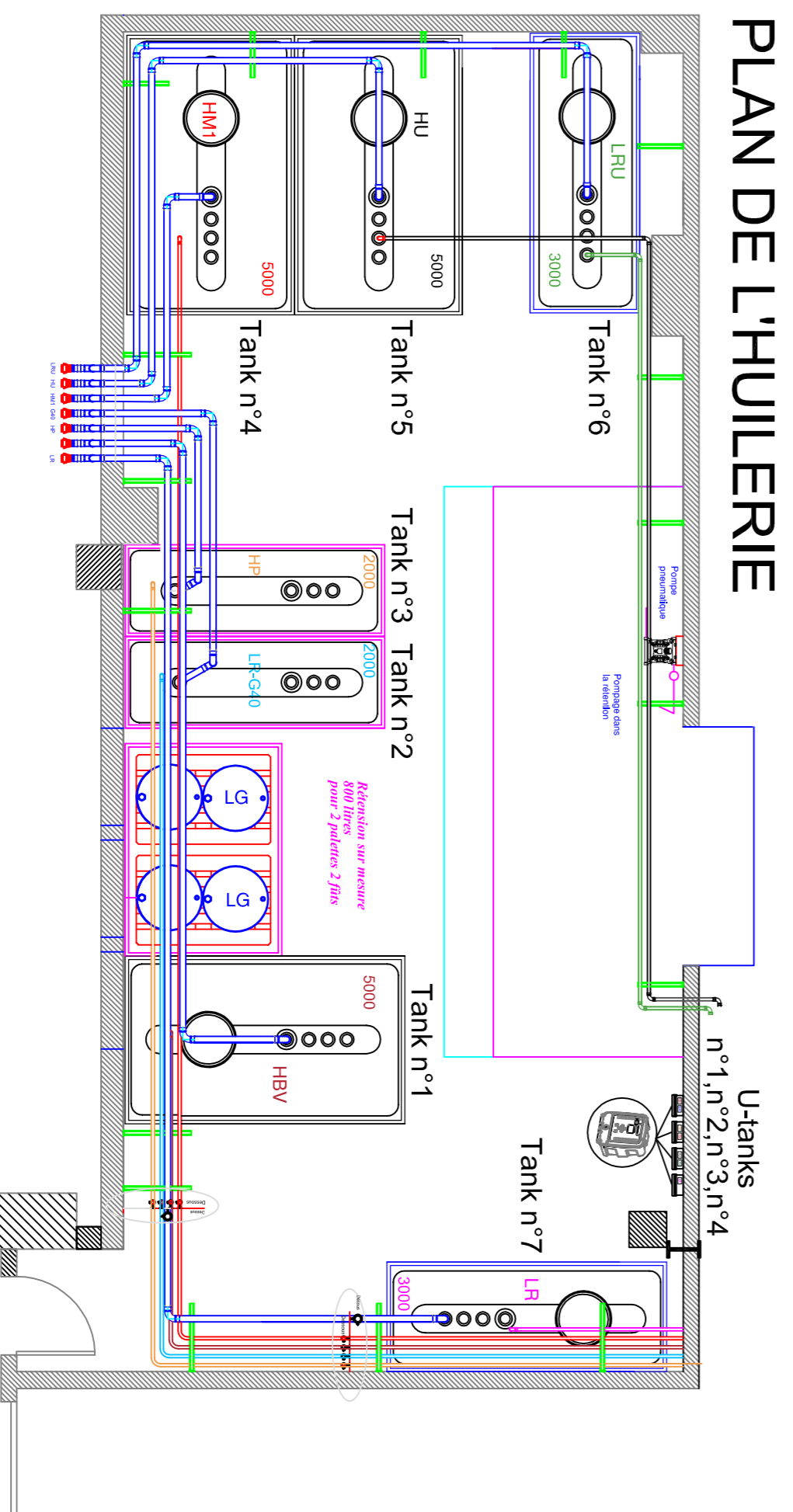
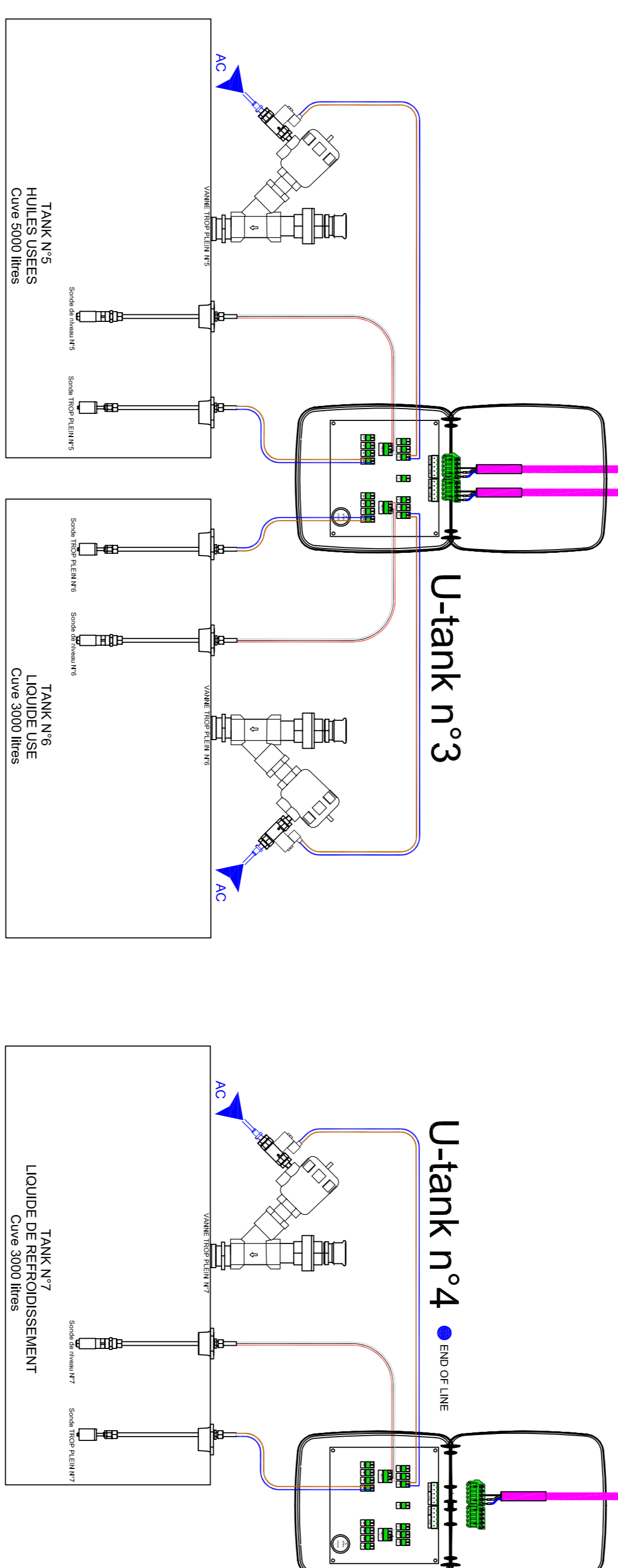
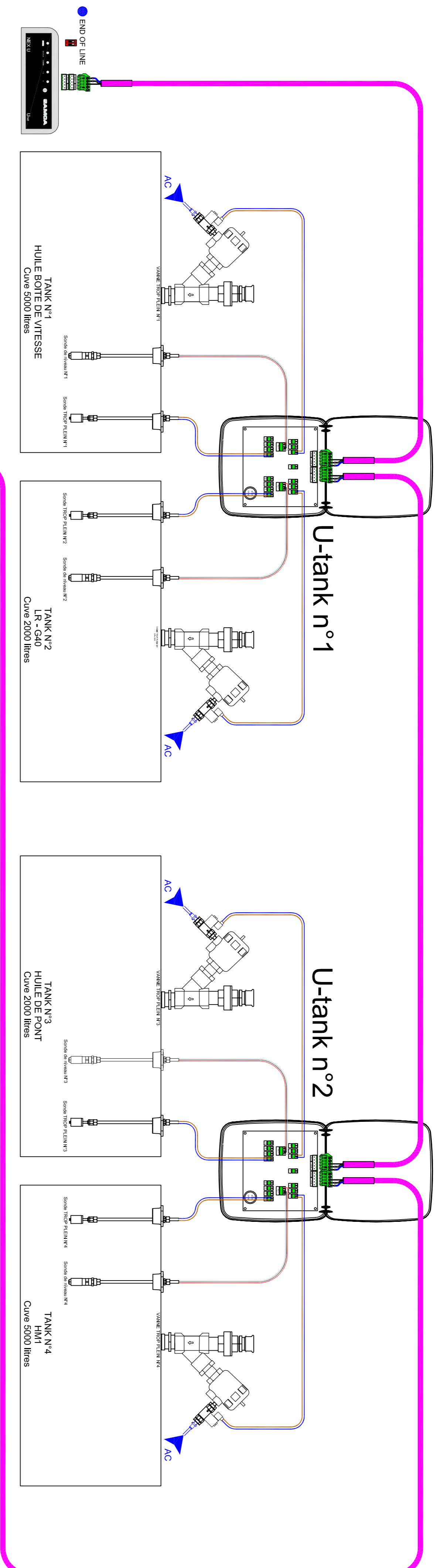
Arrêt d'urgence de signalitique



Destiné par	JP-TONGLETT	Vérifié par	JP-TONGLETT	Approuvé par - date	JP-T - 07-10-2019	No. d'article/Référence	
Titre/Num. désignation, matériel, dimensions, etc.	SCHEMA SECURITE HUILERIE			19100702	1	1	
Échelle							



Synoptique gestion des fluides

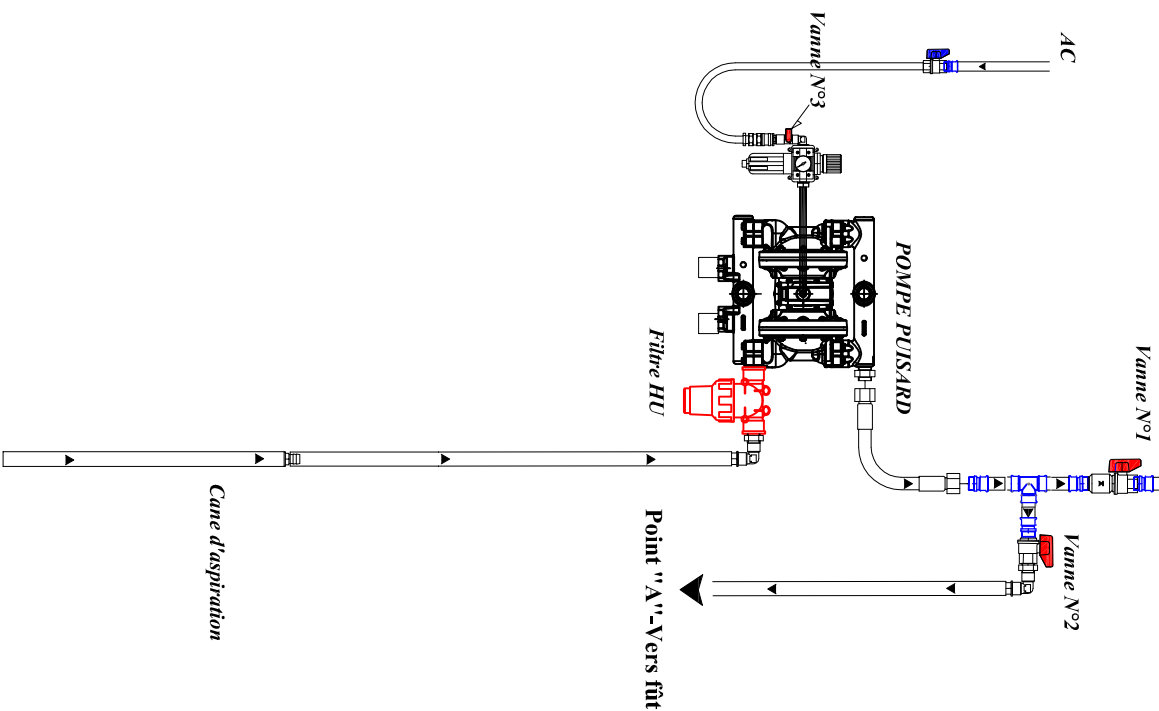


No. rch	Note de révision	Date	Signature	Vérité
1	mise en page	07/10/2019	SBS	JPT

Référence/Quantité	Titre/Nom, dénomination, matériel, dimensions, etc.	No. d'article/Référence
Disposé par JP TONGLET	Vérifié par JP TONGLET	
Approuvé par - date JPT - 07-10-2019	Nom de fichier 05/11/2018	Echelle
AXES INGENIERIE		
SCHEMA GESTION DES NIVEAUX DE CUVES		
19100703	Edition	Feuille No.
1	1	XX

VERS 'B'-'Cuve HU

HU provenant de l'atelier



Point de pompage du puisard

Phase aspiration d'huiles usées

- 1 -Plonger la canne d'aspiration dans le puisard
- 2 -La vanne N° 2 doit être fermé
- 3 -La vanne N° 1 doit être ouverte
- 4 -Actionner la pompe en ouvrant la vanne N°3

Phase aspiration produit autre que le HU

- 1 -Plonger la canne d'aspiration dans le puisard
- 2 -Positionner un fût en position 'A' pour récupérer le fluide
- 3 -La vanne N° 2 doit être ouverte
- 4 -La vanne N° 1 doit être fermé
- 5 -Actionner la pompe en ouvrant la vanne N°3

No. d'ordre de révision	Date
1	07/10/2019
Mise au point	SSS
	JFT

Références clients	Titre/Modèle, désignation, matériel, dimensions, etc.	No. d'atelier/référence
Quantité par lot	Vignette par - date	Date
40	07/10/2019	08/11/2018
40		
POMPAGE PUISARD		Échelle
19100709		
INGENIERIE		Édition
		Projet
		N°

OPERATOR'S MANUAL

66610X-X-C

INCLUDING: OPERATION, INSTALLATION AND MAINTENANCE

RELEASED: 8-24-89
 REVISED: 10-26-18
 (REV: AK)

1" DIAPHRAGM PUMP 1:1 RATIO (METALLIC)



READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

SERVICE KITS

Refer to the Model Description Chart to match the pump material options.

637118-C for air section repair (see page 8).

637119-XXX-C for fluid section repair **with** seats (see page 5).

637119-XX-C for fluid section repair **without** seats (see page 5).

637167 Abrasion Resistant Conversion Kit is available for use in heavy and abrasive material applications (see page 5).

PUMP DATA

Models see "Model Description Chart" for "-XXX"

Pump Type Metallic Air Operated Double Diaphragm

Material see "Model Description Chart"

Weight Aluminum 19 lbs (8.62 kgs)

Cast Iron 31 lbs (14.06 kgs)

Stainless Steel 28.95 lbs (13.13 kgs)

[add 8 lbs (3.63 kgs) for cast iron air motor section]

Maximum Air Inlet Pressure **120 psig (8.3 bar)**

Maximum Material Inlet Pressure **10 psig (0.69 bar)**

Maximum Outlet Pressure **120 psig (8.3 bar)**

Maximum Flow Rate (flooded inlet) .. **35 gpm (133 lpm)**

Displacement / Cycle @ 100 psig

Standard Diaphragm.....0.16 gal. (0.60 lit.)

Composite PTFE Diaphragm.....0.14 gal. (0.525 lit.)

Maximum Particle Size **1/8" dia. (3.2 mm)**

Maximum Temperature Limits (diaphragm / ball / seat material)

Acetal -20° to 180° F (-29° to 82° C)

E.P.R. / EPDM -60° to 280° F (-51° to 138° C)

Hytel® -20° to 180° F (-29° to 82° C)

Neoprene 0° to 200° F (-18° to 93° C)

Nitrile 10° to 180° F (-12° to 82° C)

Polypropylene 32° to 175° F (0° to 79° C)

Polyurethane -10° to 150° F (-23° to 66° C)

Kynar® PVDF 10° to 200° F (-12° to 93° C)

Santoprene® -40° to 225° F (-40° to 107° C)

PTFE 40° to 225° F (4° to 107° C)

Composite PTFE 14° to 194° F (-10° to 90° C)

Viton® -40° to 350° F (-40° to 177° C)

Dimensional Data see page 10 and 11

Noise Level @ 70 psig, 60 cpm ① .. 64.5 dB(A) ②

① Tested with 93110 muffler installed.

② The pump sound pressure levels published here have been updated to an Equivalent Continuous Sound Level (LAeq) to meet the intent of ANSI S1.13-1971, CA-GI-PNEUROP S5.1 using four microphone locations.

NOTICE: All possible options are shown in the chart. However, certain combinations may not be recommended, consult a representative or the factory if you have questions concerning availability.

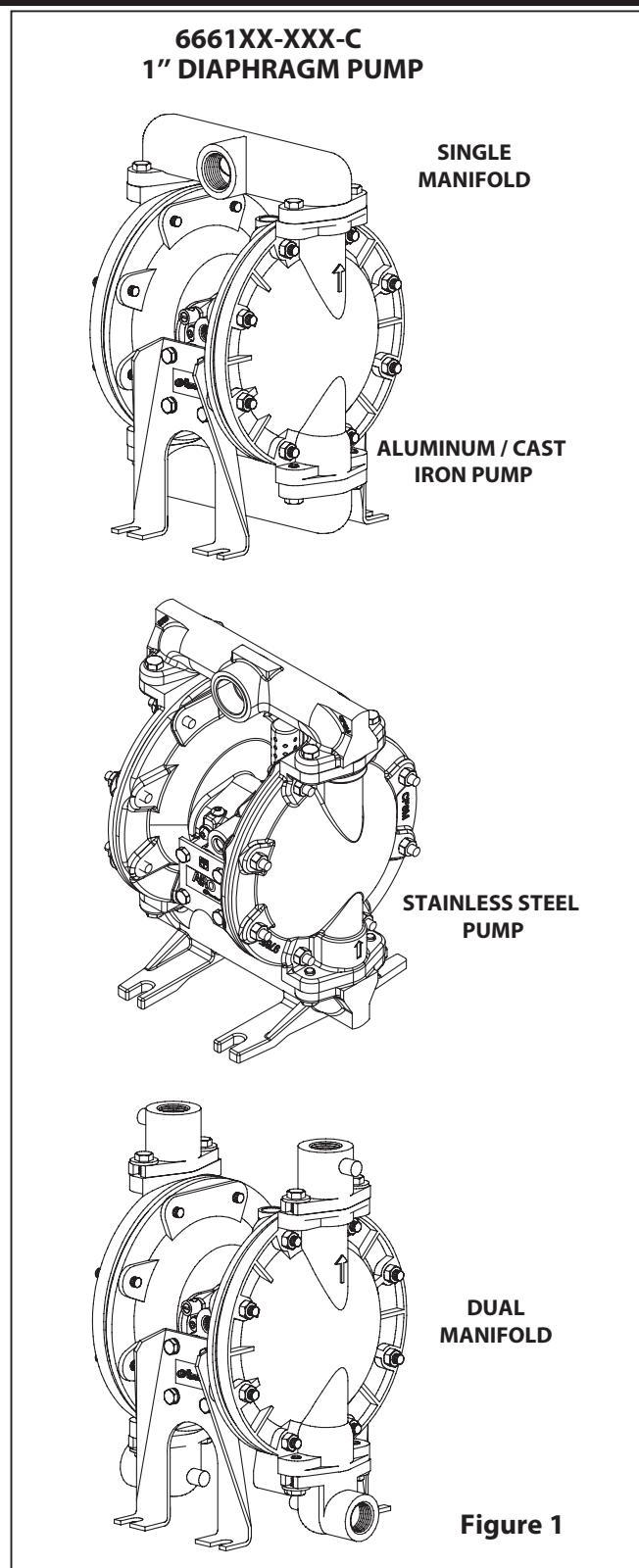


Figure 1

MODEL DESCRIPTION CHART

6661 X X - X X X - C

CENTER BODY MATERIAL

- 0 - Aluminum, NPTF
- 1 - Cast Iron, NPTF
- 2 - Aluminum, BSP
- 3 - Cast Iron, BSP

FLUID CAP / MANIFOLD MATERIAL

(Steel Hardware)

- 0 - Aluminum, Single
 - 1 - Stainless Steel, Single
 - 2 - Cast Iron, Single
 - 9 - Stainless Steel, Dual
- (Stainless Steel Hardware)
- A - Aluminum, Single
 - B - Stainless Steel, Single
 - C - Cast Iron, Single
 - D - Stainless Steel, Dual

SEAT MATERIAL

- 1 - Aluminum
- 2 - 316 Stainless Steel
- 3 - Polypropylene
- 4 - PVDF
- 5 - Carbon Steel
- 8 - Hard 440 Stainless Steel

BALL MATERIAL

- 1 - Neoprene
- 2 - Nitrile
- 3 - Viton
- 4 - PTFE
- 6 - Acetal
- 8 - Polyurethane
- A - Stainless Steel
- C - Hytrel
- E - Santoprene

DIAPHRAGM MATERIAL

- 1 - Neoprene
- 2 - Nitrile
- 3 - Viton
- 4 - PTFE / Santoprene
- 6 - Composite PTFE
- 9 - Hytrel
- B - Santoprene

FLUID SECTION SERVICE KIT SELECTION

6661XX- X X X - C

EXAMPLE: MODEL # 666100-361-C
 Fluid Section Service Kit # 637119-61-C

637119- X X - C
 BALL DIAPHRAGM

OPERATING AND SAFETY PRECAUTIONS

READ, UNDERSTAND, AND FOLLOW THIS INFORMATION TO AVOID INJURY AND PROPERTY DAMAGE.



⚠ WARNING EXCESSIVE AIR PRESSURE. Can cause personal injury, pump damage or property damage.

- Do not exceed the maximum inlet air pressure as stated on the pump model plate.
- Be sure material hoses and other components are able to withstand fluid pressures developed by this pump. Check all hoses for damage or wear. Be certain dispensing device is clean and in proper working condition.

⚠ WARNING STATIC SPARK. Can cause explosion resulting in severe injury or death. Ground pump and pumping system.

- Sparks can ignite flammable material and vapors.
- The pumping system and object being sprayed must be grounded when it is pumping, flushing, recirculating or spraying flammable materials such as paints, solvents, lacquers, etc. or used in a location where surrounding atmosphere is conducive to spontaneous combustion. Ground the dispensing valve or device, containers, hoses and any object to which material is being pumped.
- Use the pump grounding screw terminal provided. Use ARO part no. 66885-1 ground kit or connect a suitable ground wire (12 ga. minimum) to a good earth ground source.
- Secure pump, connections and all contact points to avoid vibration and generation of contact or static spark.
- Consult local building codes and electrical codes for specific grounding requirements.
- After grounding, periodically verify continuity of electrical path to ground. Test with an ohmmeter from each component (e.g., hoses, pump, clamps, container, spray gun, etc.) to ground to ensure continuity. Ohmmeter should show 0.1 ohms or less.
- Submerge the outlet hose end, dispensing valve or device in the material being dispensed if possible. (Avoid free streaming of material being dispensed.)
- Use hoses incorporating a static wire.
- Use proper ventilation.
- Keep inflammables away from heat, open flames and sparks.
- Keep containers closed when not in use
- **⚠ WARNING** Pump exhaust may contain contaminants. Can cause severe injury. Pipe exhaust away from work area and personnel.
- In the event of a diaphragm rupture, material can be forced out of the air exhaust muffler.
- Pipe the exhaust to a safe remote location when pumping hazardous or inflammable materials.
- Use a grounded 3/8" minimum ID hose between the pump and the muffler.

⚠ WARNING HAZARDOUS PRESSURE. Can result in serious injury or property damage. Do not service or clean pump, hoses or dispensing valve while the system is pressurized.

- Disconnect air supply line and relieve pressure from the system by opening dispensing valve or device and / or carefully and slowly loosening and removing outlet hose or piping from pump.

⚠ WARNING HAZARDOUS MATERIALS. Can cause serious injury or property damage. Do not attempt to return a pump to the factory or service center that contains hazardous material. Safe handling practices must comply with local and national laws and safety code requirements.

- Obtain Material Safety Data Sheets on all materials from the supplier for proper handling instructions.

⚠ WARNING EXPLOSION HAZARD. Models containing aluminum wetted parts cannot be used with 1,1,1-trichloroethane, methylene chloride or other halogenated hydrocarbon solvents which may react and explode.

- Check pump motor section, fluid caps, manifolds and all wetted parts to assure compatibility before using with solvents of this type.

⚠ CAUTION Verify the chemical compatibility of the pump wetted parts and the substance being pumped, flushed or recirculated. Chemical compatibility may change with temperature and concentration of the chemical(s) within the substances being pumped, flushed or circulated. For specific fluid compatibility, consult the chemical manufacturer.

⚠ CAUTION Maximum temperatures are based on mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperature. Consult the chemical manufacturer for chemical compatibility and temperature limits. Refer to PUMP DATA on page 1 of this manual.

⚠ CAUTION Be certain all operators of this equipment have been trained for safe working practices, understand it's limitations, and wear safety goggles / equipment when required.

⚠ CAUTION Do not use the pump for the structural support of the piping system. Be certain the system components are properly supported to prevent stress on the pump parts.

- Suction and discharge connections should be flexible connections (such as hose), not rigid piped, and should be compatible with the substance being pumped.

⚠ CAUTION Prevent unnecessary damage to the pump. Do not allow pump to operate when out of material for long periods of time.

- Disconnect air line from pump when system sits idle for long periods of time.

⚠ CAUTION Use only genuine ARO replacement parts to assure compatible pressure rating and longest service life.

NOTICE Replacement warning labels are available upon request: "Static Spark" (93616-1) and "Diaphragm Rupture" (93122).

⚠ WARNING = Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.

⚠ CAUTION = Hazards or unsafe practices which could result in minor personal injury, product or property damage.

NOTICE = Important installation, operation or maintenance information.

GENERAL DESCRIPTION

The ARO diaphragm pump offers high volume delivery even at low air pressure and a broad range of material compatibility options available. Refer to the model and option chart. ARO pumps feature stall resistant design, modular air motor / fluid sections. Air operated double diaphragm pumps utilize a pressure differential in the air chambers to alternately create suction and positive fluid pressure in the fluid chambers, valve checks ensure a positive flow of fluid. Pump cycling will begin as air pressure is applied and it will continue to pump and keep up with the demand. It will build and maintain line pressure and will stop cycling once maximum line pressure is reached (dispensing device closed) and will resume pumping as needed.

AIR AND LUBE REQUIREMENTS

⚠ WARNING EXCESSIVE AIR PRESSURE. Can cause personal injury, pump damage or property damage.

- A filter capable of filtering out particles larger than 50 microns should be used on the air supply. There is no lubrication required other than the "O" ring lubricant which is applied during assembly or repair.
- If lubricated air is present, make sure that it is compatible with the "O" rings and seals in the air motor section of the pump.

OPERATING INSTRUCTIONS

- Always flush the pump with a solvent compatible with the material being pumped if the material being pumped is subject to "setting up" when not in use for a period of time.
- Disconnect the air supply from the pump if it is to be inactive for a few hours.
- The outlet material volume is governed not only by the air supply, but also by the material supply available at the inlet. The material supply tubing should not be too small or restrictive. Be sure not to use hose which might collapse.
- When the diaphragm pump is used in a forced-feed (flooded inlet) situation, it is recommended that a "Check Valve" be installed at the air inlet.
- Secure the diaphragm pump legs to a suitable surface to ensure against damage by vibration.

MAINTENANCE

Refer to the part views and descriptions as provided on pages 5 through 9 for parts identification and service kit information.

- Certain ARO "Smart Parts" are indicated which should be available for fast repair and reduction of down time.
- Service kits are divided to service two separate diaphragm pump functions: 1. AIR SECTION, 2. FLUID SECTION. The FLUID SECTION is divided further to match typical part MATERIAL OPTIONS.
- Provide a clean work surface to protect sensitive internal moving parts from contamination from dirt and foreign matter during service disassembly and reassembly.
- Keep good records of service activity and include pump in preventive maintenance program.
- Before disassembling, empty captured material in the outlet manifold by turning the pump upside down to drain material from the pump.

FLUID SECTION DISASSEMBLY

1. Remove top manifold(s).
2. Remove (22) balls, (19) "O" rings and (21) seats.
3. Remove (15) fluid caps.

NOTE: Only PTFE diaphragm models use a primary diaphragm (7) and a backup diaphragm (8). Refer to the auxiliary view in the Fluid Section Illustration.

For 6661XX-XX6-C:

4. Remove (7) diaphragm, (5) washers and (30) shims.

For other models:

4. Remove the (14) screws, (6) washers, (7) or (7 / 8) diaphragms and (5) washers.
5. Remove (3) "O" rings.

FLUID SECTION REASSEMBLY

- Reassemble in reverse order.
- Clean and inspect all parts. Replace worn or damaged parts with new parts as required.
- Lubricate (1) diaphragm rod and (2) "O" ring with Key-Lube "O" ring lube.
- Use ARO pn / 98931-T bullet (installation tool) to aid in installation of (2) "O" ring on (1) diaphragm rod.

For 6661XX-XX6-C:

- Attach a regulated airline to the pump inlet; gradually increasing the air pressure (6-8 psi) to check which side of the pump with air blowing out, and then shut down the air supplier.
- Fasten (7) diaphragm with (5) washer into (1) diaphragm rod, and insert them into (101) Center body from the chamber identified with blowing air in the previous step.
- Install (15) fluid cap.
- Thread the other side of (7) diaphragm with (5) washer into (1) diaphragm rod, but do not tighten it.
- Record the angle for the misalignment between (7) diaphragm hole and (101) center body holes, then unthread the (7) diaphragm and place proper Qty. of (30) shims between (5) washer and (1) diaphragm rod.
- Attach a regulated airline to the pump inlet, gradually increasing the air pressure (6-8 psi) until the diaphragm shift to the other site, shut down the air supply.
- Install the second (15) fluid cap.

NOTE: For details, refer to service kits manual 48495949.

For other models:

- Be certain (7) or (7 / 8) diaphragm(s) align properly with (15) fluid caps before making final torque adjustments on bolt and nuts to avoid twisting the diaphragm.
- For models with PTFE diaphragms: Item (8) Santoprene diaphragm is installed with the side marked "AIR SIDE" towards the pump center body. Install the PTFE diaphragm with the side marked "FLUID SIDE" towards the fluid cap.
- Re-check torque settings after pump has been re-started and run a while.

PARTS LIST / 66610X-X-C FLUID SECTION

Fluid Section Service Kits (637119-XXX-C OR 637119-XX-C)

For Fluid Kits With Seats:

★ 637119-XXX-C Fluid Section Service Kits include: Seats (see SEAT Option, refer to -XXX in chart below), Balls (see BALL Option, refer to -XXX in chart below), Diaphragms (see DIAPHRAGM Option, refer to -XXX in chart below), plus "O" ring items (2), (3), (4), (19) and (33) listed below plus 93706-1 Key Lube grease packet (see page 6).

For Fluid Kits Without Seats:

★ 637119-XX-C Fluid Section Service Kits include: Balls (see BALL Option, refer to -XX in chart below), Diaphragms (see DIAPHRAGM Option, refer to -XX in chart below), plus "O" ring items (2), (3), (4), (19) and (33) listed below plus 93706-1 Key Lube grease packet (see page 6).

SEAT OPTIONS 6661XX-XXX-C			
★ "21"			
-XXX	Seat	Qty	[Mtl]
-1XX	92008-1	(4)	[A]
-2XX	90428-1	(4)	[SS]
-3XX	92926	(4)	[P]
-4XX	92941	(4)	[K]
-5XX	95675-1	(4)	[C]
-8XX	93367-1	(4)	[SH]

BALL OPTIONS 6661XX-XXX-C							
★ "22" (1" dia.) (Service Kit - XX)							
-XXX	Ball	Qty	[Mtl]	-XXX	Ball	Qty	[Mtl]
-X1X	90532-1	(4)	[N]	-XAX	90948	(4)	[SS]
-X2X	90532-2	(4)	[B]	-XCX	90532-C	(4)	[H]
-X3X	90532-3	(4)	[V]	-XEX	90532-A	(4)	[Sp]
-X4X	90532-4	(4)	[T]				
-X6X	90532-6	(4)	[D]				
-X8X	90532-8	(4)	[U]				

MATERIAL CODE	
[A] =	Aluminum
[B] =	Nitrile
[C] =	Carbon Steel
[CI] =	Cast Iron
[Co] =	Copper
[CP] =	Composite PTFE
[D] =	Acetal
[E] =	E.P.R.
[H] =	Hytrell
[K] =	P.V.D.F. (Kynar)
[N] =	Neoprene
[P] =	Polypropylene
[SP] =	Santoprene
[SH] =	Hard Stainless Steel
[SS] =	Stainless Steel
[T] =	PTFE
[V] =	Viton

HARDWARE OPTIONS 6661XX-XXX-C						
Item	Description (size)	Qty	Carbon Steel 6661XQ-, 1-, 2-, 2-		Stainless Steel 6661XA-, B-, C-, D-,	
			Part No.	[Mtl]	Part No.	[Mtl]
24	Washer - (models 6661X9 and 6661XD only (5/16"))	(8)	Y13-5-C	[C]	Y13-5-T	[SS]
26	Bolt (5/16" -18 x1")	(8)	Y6-55-C	[C]	Y6-55-T	[SS]
29	Nut (5/16" -18)	(16)	Y12-5-C	[C]	Y12-5-S	[SS]

**637119
ABRASION RESISTANT
CONVERSION KIT INCLUDE
"21" Seat 93367-1 (4)
"22" Ball 90532-8 (4)**

DIAPHRAGM OPTIONS 66610X-XXX-C														
-XXX	★ For Service Kits With Seats -XXX = (Seat), -XX = (Ball) -XX = (Diaphragm)	★ For Service Kits Without Seats -XX = (Ball), -XX = (Diaphragm)	★ "7"			★ "8"			★ "3"			★ "19"		
			Diaphragm	[Qty]	[Mtl]	Diaphragm	[Qty]	[Mtl]	"O" Ring 1/16" x 5/8" OD	[Qty]	[Mtl]	"O" Ring 3/32" x 1-9/16" OD	[Qty]	[Mtl]
-XX1	637119-XX1-C	637119-X1-C	90533-1	(2)	[N]	-----	---	---	Y325-14	(4)	[B]	Y325-126	(4)	[B]
-XX2	637119-XX2-C	637119-X2-C	90533-2	(2)	[B]	-----	---	---	Y325-14	(4)	[B]	Y325-126	(4)	[B]
-XX3	637119-XX3-C	637119-X3-C	90533-3	(2)	[V]	-----	---	---	Y328-14	(4)	[T]	Y327-126	(4)	[V]
-XX4	637119-XX4-C	637119-X4-C	93459-4	(2)	[T]	92973-B	(2)	[SP]	Y328-14	(4)	[T]	Y328-126	(4)	[T]
-XX6	-----	48495964	48490056	(2)	[CP]	-----	---	---	-----	---	---	Y328-126	(4)	[T]
-XX9	637119-XX9-C	637119-X9-C	90533-9	(2)	[H]	-----	---	---	Y328-14	(4)	[T]	Y327-126	(4)	[V]
-XXB	637119-XXB-C	637119-XB-C	90533-B	(2)	[SP]	-----	---	---	Y328-14	(4)	[T]	90534	(4)	[E]

MANIFOLD / FLUID CAP MATERIAL OPTIONS 6661XX-XXX-C											
Item	Description (Size)	Qty	Aluminum 6661X0-X, 6661XA-X			Stainless Steel 6661X1-, 1X9-, 1XB-, 1XD-			Cast Iron 6661X2-X, 6661XC-X		
			NPTF Part No.	BSP Part No.	[Mtl]	NPTF Part No.	BSP Part No.	[Mtl]	NPTF Part No.	BSP Part No.	[Mtl]
15	Fluid Cap	(2)	94945	94945	[A]	97615	97615	[SS]	94277	94277	[CI]
16	Manifold (6661X0, 1X2, 1XA, 1XC)	(2)	92001	92001-1	[A]	-----	-----	---	94278	94278-1	[CI]
17	Outlet Manifold (6661X9-, 6661XD- only)	(2)	-----	-----	---	92846	92846-1	[SS]	-----	-----	---
18	Inlet Manifold (6661X9-, 6661XD- only)	(2)	-----	-----	---	92847	92847-1	[SS]	-----	-----	---
23	Spring (6661X9-, 6661XD- only)	(2)	-----	-----	---	22155	22155	[SS]	-----	-----	---
60	Inlet Manifold (6661X1, 6661XB Only)	(1)	-----	-----	---	97617	97617-1	[SS]	-----	-----	---
61	Outlet Manifold (6661X1, 6661XB Only)	(1)	-----	-----	---	97616	97616-1	[SS]	-----	-----	---

COMMON PARTS

Item	Description (size in inches)	Qty	Part No.	[Mtl]	Item	Description (size in inches)	Qty	Part No.	[Mtl]
□ 1	Rod (6661XX-XX6-C)	(1)	48489660	[C]	9	Washer (0.505" ID) *	(2)	93189-1	[SS]
	(other models)	(1)	98724-1	[C]	14	Screw (1/2 " 20 x 1") *	(2)	Y5-85-T	[SS]
★ 2	"O" Ring (3/32" x 3/4" OD) ☆	(1)	Y330-113	[B]	30	Shim (6661XX-XX6-C)	(◆)	48499362 #	[C]
□ 5	Washer - Air Side (3-5/8" OD)	(2)	93441-2	[C]	43	Ground Lug (see page 7)	(1)	93004	[Co]
□ 6	Washer - Fluid Side *	(2)	93441-1	[SS]					
	models 661XQ and 6661X2 only	(2)	93441-2	[C]					

☆ Service Note: Fluid Section Service Kits also include part no. 93131 (5) "O" rings for repair of "B" (pre - 8/89) models.
Service Note: Part no. 98930-T installation tool is available separately for use with items 1 and 2.

□ "Smart Parts", keep these items on hand in addition to the service kits for fast repair and reduction of down time. * For 6661XX-XX6-C, on the fluid side, washer (6), (9) and screw (14) are not needed.

◆ The quantity is between 0 to 5, shims are not shown in the exploded view. # For service, shim pack 48499222 can be purchased. Refer to service kits manual 48495949 for details.

PARTS LIST / 6661X0, 1XA, 1X2, 1X9, 1XC and 1XD - FLUID SECTION

COLOR CODE		
MATERIAL	DIAPHRAGM COLOR	BALL COLOR
Acetal	N/A	Orange
Nitrile	Red (-)	Red (+)
Hydrel	Cream	Cream
Neoprene	Green (-)	Green (+)
Santoprene	Cream*	Cream
PTFE	White	White
Urethane	N/A	Red
Viton	Yellow (-)	Yellow (+)
	(-) Stripe	(+) Dot

* See item 8 in inset below.

TORQUE REQUIREMENTS

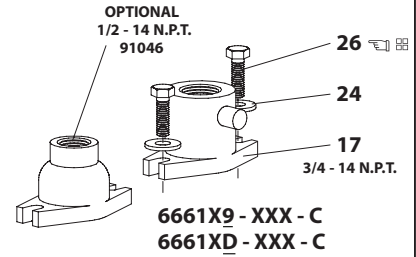
NOTE: DO NOT OVERTIGHTEN FASTENERS

- (14) Bolt, 25 - 30 ft lbs (33.9 - 40.7 Nm).
- (26) Bolts and (29) nuts, 120 - 140 in. lbs (13.6 - 15.8 Nm).
- (105) 40 - 50 in. lbs (4.5 - 5.6 Nm).

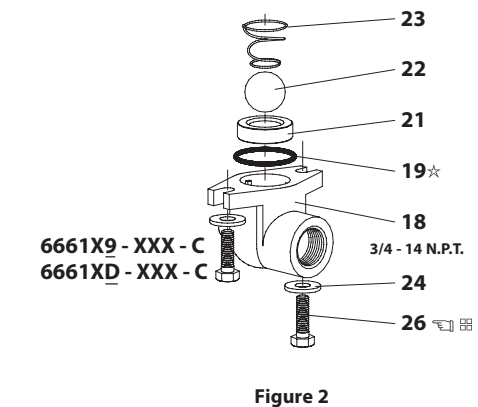
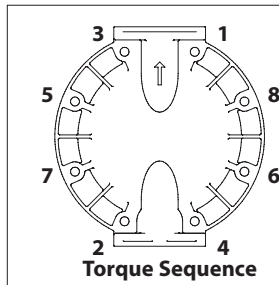
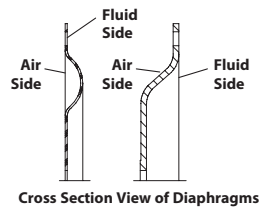
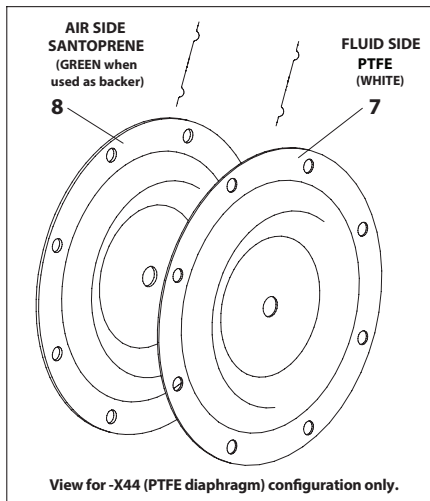
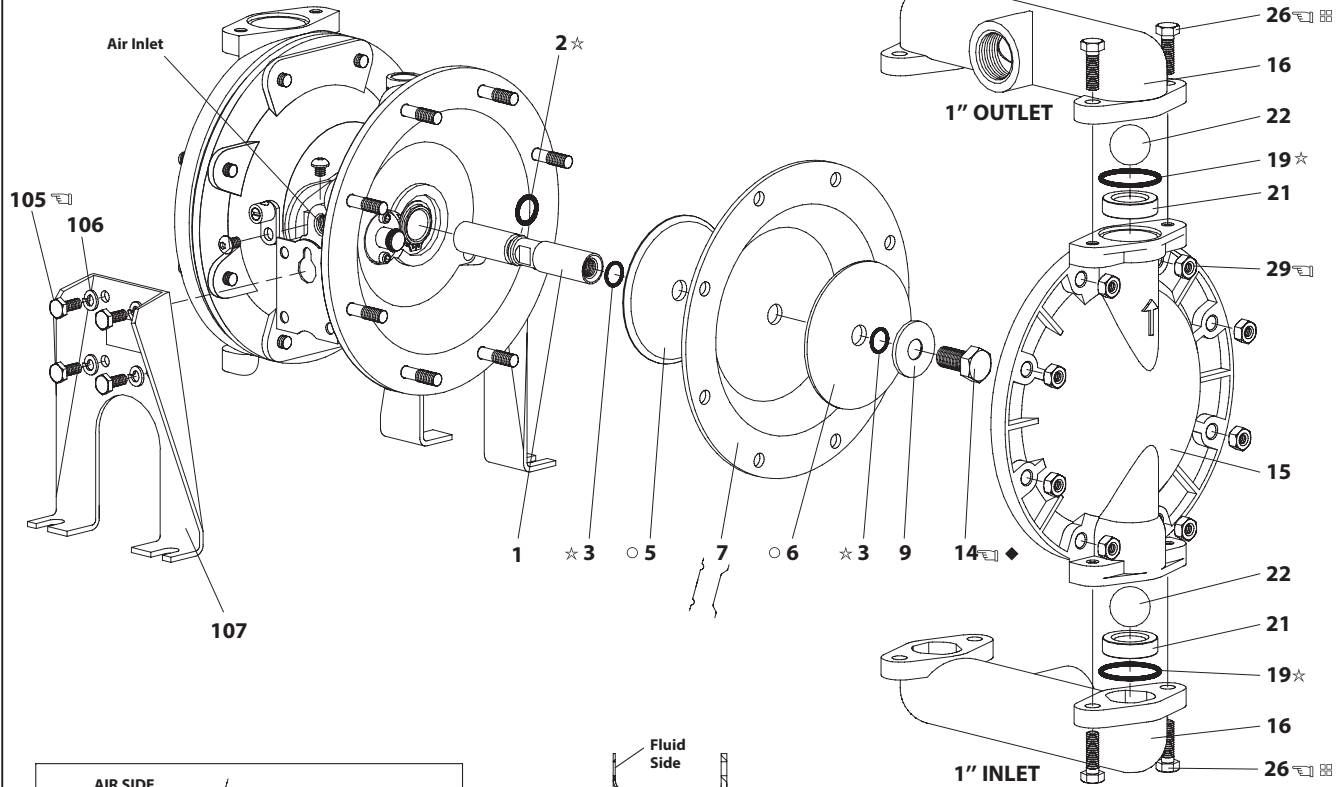
LUBRICATION / SEALANTS

- ◆ Apply Loctite 271 to threads.
- ☆ Apply Key-Lube to all "O" rings, "U" Cups & mating parts.
- ☒ Apply anti-seize compound to threads and bolt and nut flange heads which contact pump case when using stainless steel fasteners.

○ NOTE: Radius edge of parts (5 and 6) is against diaphragm.



FOR THE AIR MOTOR SECTION
SEE PAGES 8 AND 9



PARTS LIST / 6661X1, 6661XB - FLUID SECTION

COLOR CODE		
MATERIAL	DIAPHRAGM COLOR	BALL COLOR
Acetal	N/A	Orange
Nitrile	Red (-)	Red (-)
Hytrek	Cream	Cream
Neoprene	Green (-)	Green (+)
Santoprene	Cream*	Cream
PTFE	White	White
Urethane	N/A	Red
Viton	Yellow (-)	Yellow (-)
	(-) Stripe	(.) Dot

* See item 8 in inset below.

TORQUE REQUIREMENTS
NOTE: DO NOT OVERTIGHTEN FASTENERS

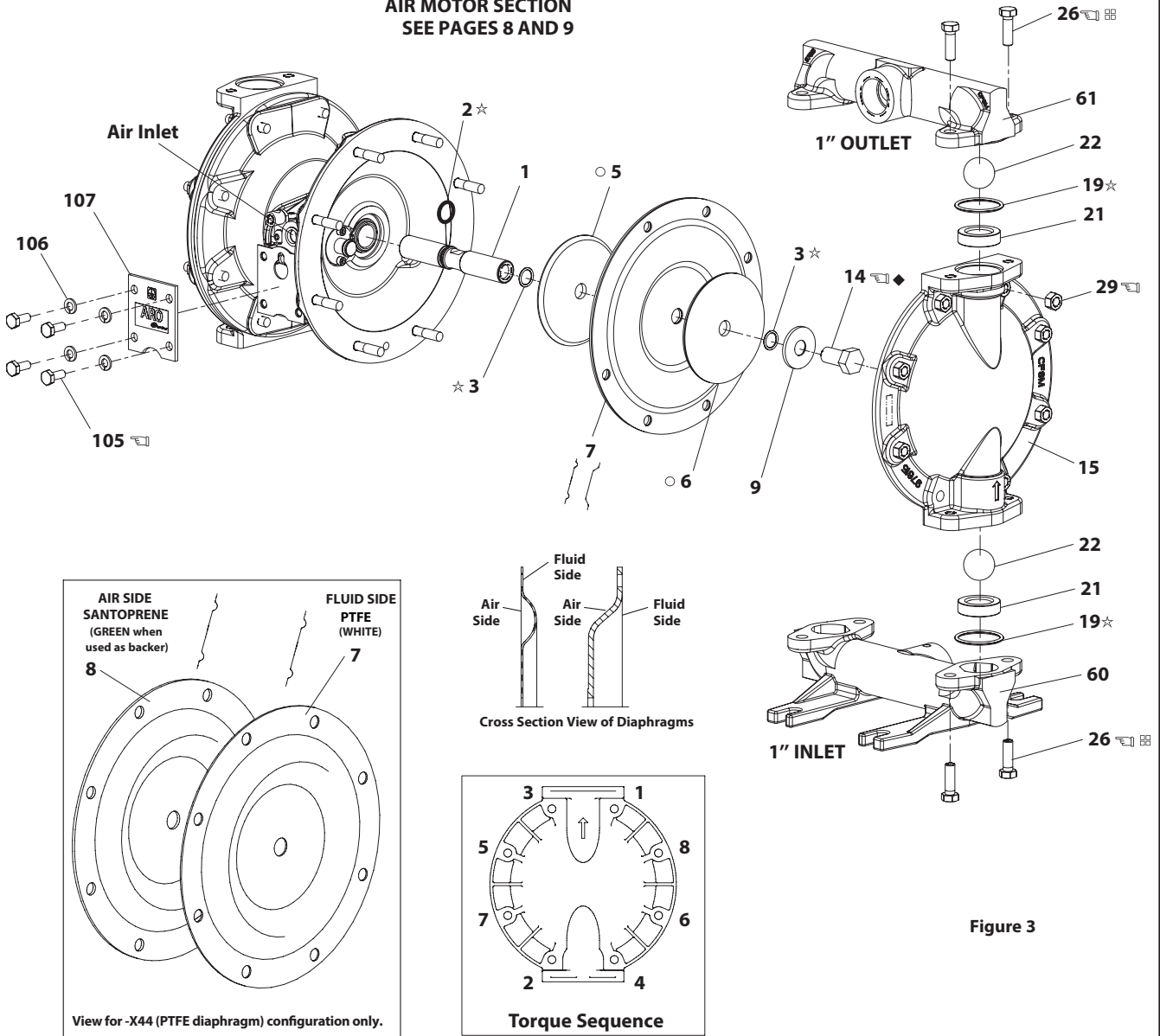
- (14) Bolt, 25 - 30 ft lbs (33.9 - 40.7 Nm).
- (26) Bolts and (29) nuts, 120 - 140 in. lbs (13.6 - 15.8 Nm).
- (105) 40 - 50 in. lbs (4.5- 5.6 Nm).

LUBRICATION / SEALANTS

- ◆ Apply Loctite 271 to threads.
- ☆ Apply Key-Lube to all "O" rings, "U" Cups & mating parts.
- ⊠ Apply anti-seize compound to threads and bolt and nut flange heads which contact pump case when using stainless steel fasteners.

○ NOTE: Radius edge of parts (5 and 6) is against diaphragm.

FOR THE AIR MOTOR SECTION SEE PAGES 8 AND 9



PARTS LIST / 66610X-X-C AIR MOTOR SECTION

✓ Indicates parts included in 637118-C Air Section Service Kit.

SERVICE KIT NOTE: Service Kit 637118-C is a general repair kit for all 1" and larger ARO diaphragm pump air motors. It contains extra "O" Rings and other parts that may not be needed to service this model.

Item	Description (size)	Qty	Part No.	[Mtl]
101	Motor Body (models 66610X, 66612X)	(1)	94743	[A]
	(models 66611X, 66613X)	(1)	94741	[CI]
✓ 102	"O" Ring (1/16" x 1" OD)	(2)	Y325-20	[B]
□ 103	Sleeve	(1)	94527	[D]
✓ 104	Retaining Ring, TruArc (.925" ID)	(2)	Y145-25	[C]
105	Screw/Wshr(1/4"-20 x 5/8") (-XX0, 1, 2, 9)	(8)	93860	[C]
	Cap Screw (1/4"-20 x 5/8") (-XXA, B, C, D)	(8)	Y6-42-T	[SS]
106	Lockwasher (1/4") (6661XA, 1XB, 1XC, 1XD)	(8)	Y14-416-T	[SS]
107	Leg (models 6661X0, 1X2, 1X9)	(2)	92003	[C]
	(models 6661XA, 1XC, 1XD)	(2)	92003-1	[SS]
107	Plate (models 6661X1, 1XB)	(2)	93707-1	[SS]
✓ 108	Gasket (with notch)	(1)	92878	[B/Ny]
□ 109	Piston	(1)	92011	[D]
✓ 110	"U" Cup (3/16" x 1-3/8" OD)	(1)	Y186-51	[B]
□ 111	Spool (models 66610X, 66612X)	(1)	92005	[A]
	(models 66611X, 66613X)	(1)	93047	[C]
□ 112	Washer (1.557" OD)	(5)	92877	[Z]
✓ 113	"O" Ring (1/8" x 1-1/4" OD)	(5)	Y325-214	[B]
✓ 114	"O" Ring (3/32" x 1-9/16" OD)	(6)	Y325-126	[B]
□ 115	Spacer	(4)	92876	[Z]
□ 116	Spacer	(1)	92006	[Z]

AIR MOTOR SECTION SERVICE

Service is divided into two parts – 1. Pilot Valve, 2. Major Valve. **GENERAL REASSEMBLY NOTES:**

- Air Motor Section Service is continued from Fluid Section repair.
- Inspect and replace old parts with new parts as necessary. Look for deep scratches on metallic surfaces, and nicks or cuts in "O" rings.
- Take precautions to prevent cutting "O" rings upon installation.
- Lubricate "O" rings with Key-Lube grease.
- Do not over tighten fasteners, refer to torque specification block on view.
- Re-torque fasteners following restart.

PILOT VALVE DISASSEMBLY

1. Remove (104) retaining ring.
2. Remove (123) screws and (122) "O" rings.
3. Remove (118) piston rod, (121) sleeve bushing, (119) "O" rings and (120) spacers from the (101) motor body.
4. Remove (103) sleeve and (102) "O" rings.

PILOT VALVE REASSEMBLY

1. Replace two (102) "O" rings if worn or damaged and reinstall (103) sleeve.
2. Install one of the (121) sleeve bushings, (119) "O" rings, (120) spacers and the remaining (121) bushing.
3. Carefully push (118) pilot rod into bushings etc. and retain on each end with the two (122) "O" rings, retain with (123) screws.
4. Replace (104) retaining rings.

Item	Description (size)	Qty	Part No.	[Mtl]
✓ 117	Gasket	(1)	92004	[B/Ny]
118	Pilot Rod	(1)	93309-1	[C]
✓ 119	"O" Ring (1/8" x 3/4" OD)	(4)	93075	[U]
120	Spacer	(3)	115959	[Z]
121	Sleeve Bushing	(2)	98723-1	[Bz]
✓ 122	"O" Ring (3/32" x 9/16" OD)	(2)	94820	[U]
✓ 123	Screw (#8 - 32 x 3/8")	(4)	Y154-41	[C]
124	Stud (5/16" - 18 x 1-3/4") (6661X0, 1X1, 1X2, 1X9)	(16)	92866	[C]
	(5/16" - 18 x 1-3/4") (6661XA, 1XB, 1XC, 1XD)	(16)	92866-1	[SS]
128	Pipe Plug (1/8 - 27 N.P.T x 1/4")	(1)	Y227-2-L	[C]
195A	Button Head Screw (1/4" - 20 x 1/4")	(2)	94987	[SS]
195B	Button Head Screw (1/4" - 20 x 3/8")	(1)	94987-1	[SS]
201	Muffler	(1)	93110	[C]
✓	Key-Lube "O" Ring Lubricant	(1)	93706-1	
	Pak of 10 Key-Lube		637175	
✓	Service Kits include: Y212-101 (2) Screws (#10 - 32 x 1/4") used on units manufactured between 8/90 and 4/92 to retain the pilot bushing.			

✓ Parts Y 145-26 (1.156" ID) (qty 2) retaining rings and Y325-24 "O" rings (qty 2) are included in the service Kit for the repair of larger pumps.

□ "Smart Parts" Keep these items on hand in addition to the Service Kits for fast repair and reduction of down time.

MATERIAL CODE

[A] = Aluminum	[CI] = Cast Iron	[U] = Polyurethane
[B] = Nitrile	[D] = Acetal	[Z] = Zinc
[Bz] = Bronze	[NY] = Nylon	
[C] = Carbon Steel	[SS] = Stainless Steel	

MAJOR VALVE DISASSEMBLY

1. Remove (107) plate (or leg depending on model), (108 and 117) gaskets.
2. On the side opposite the air inlet, push on the inner diameter (111) spool. This will force the (109) piston out. Continue pushing the (111) spool and remove. Check for scratches and gouges.
3. Reach into the air section (exhaust side) and remove (116) spacer, (115) spacers, (113) "O" rings, (114) "O" rings, (112) washers, etc. Check for damaged "O" rings.

MAJOR VALVE REASSEMBLY

1. Replace (112) washer, (114) "O" ring and (113) "O" ring onto (115) spacer and insert etc.
NOTE: Be careful to orient spacer legs away from blocking internal ports.
2. Lubricate and carefully insert (111) spool.
3. Install (117) gasket and (107).
4. Lubricate and install (110) packing cup and insert (109) piston into (air inlet side) cavity, the (110) packing cup lips should point outward.
5. Install (108) gasket and (107).

PARTS LIST / 66610X-X-C AIR MOTOR SECTION

IMPORTANT
 BE CERTAIN TO ORIENT (115) SPACER LEGS
 AWAY FROM BLOCKING INTERNAL PORTS
 WHEN REASSEMBLING AIR SECTION.

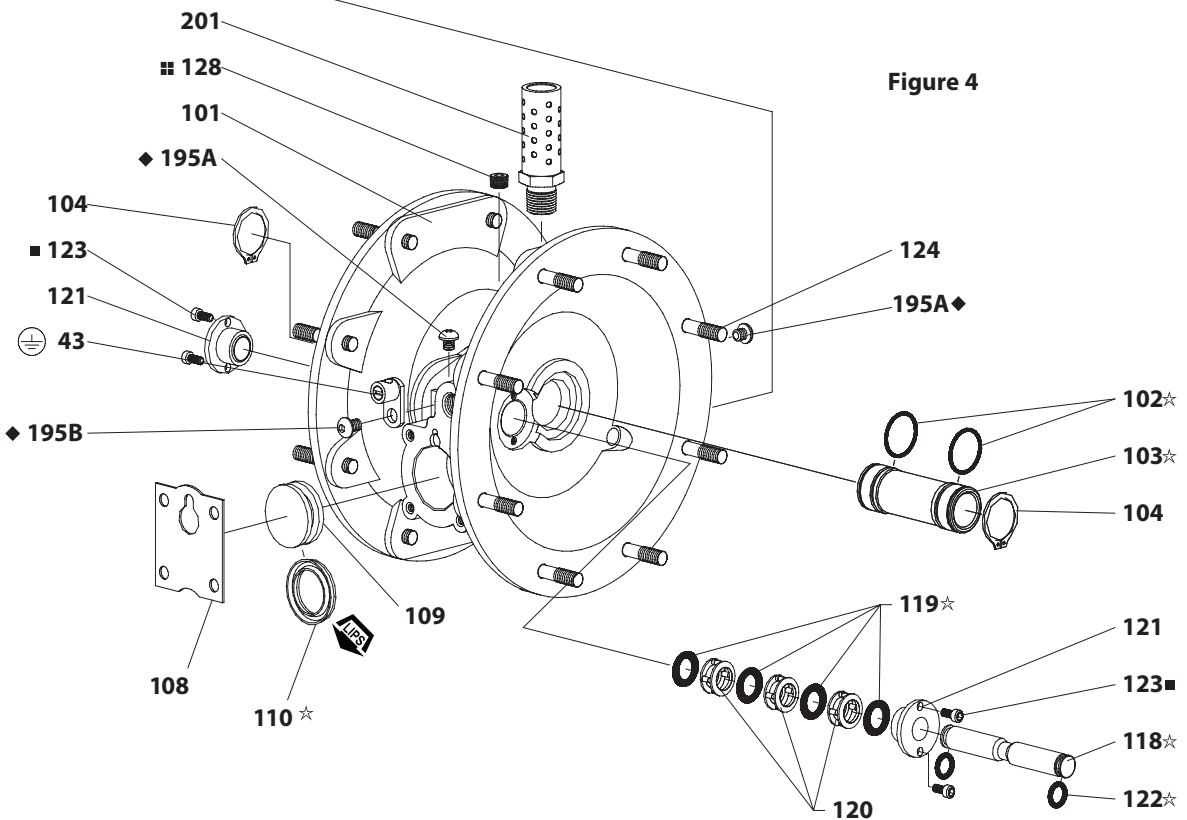
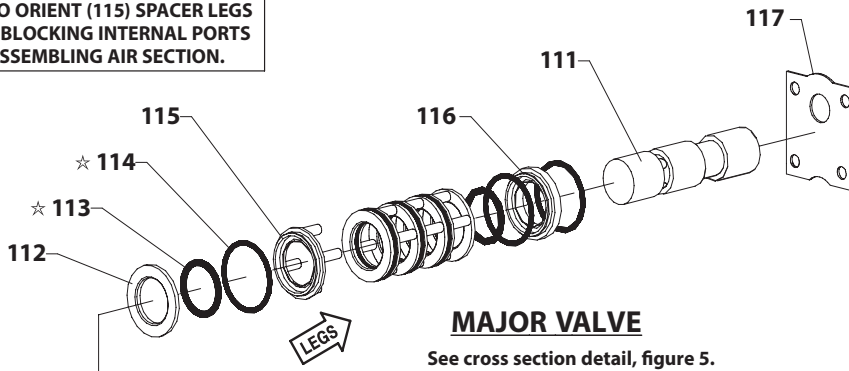
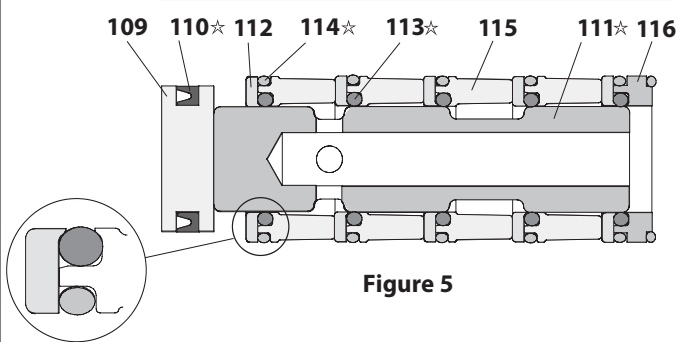


Figure 4

MAJOR VALVE CROSS SECTION DETAIL



LUBRICATION / SEALANTS

- ☆ Apply Key-Lube grease to all "O" rings, "U" Cups and mating parts.
- ◆ Apply Loctite 271 to threads.
- Apply Loctite 262 to threads.
- ▣ Apply Loctite 572 to threads.

TROUBLE SHOOTING

Product discharged from exhaust outlet.

- Check for diaphragm rupture.
- Check tightness of diaphragm nut.

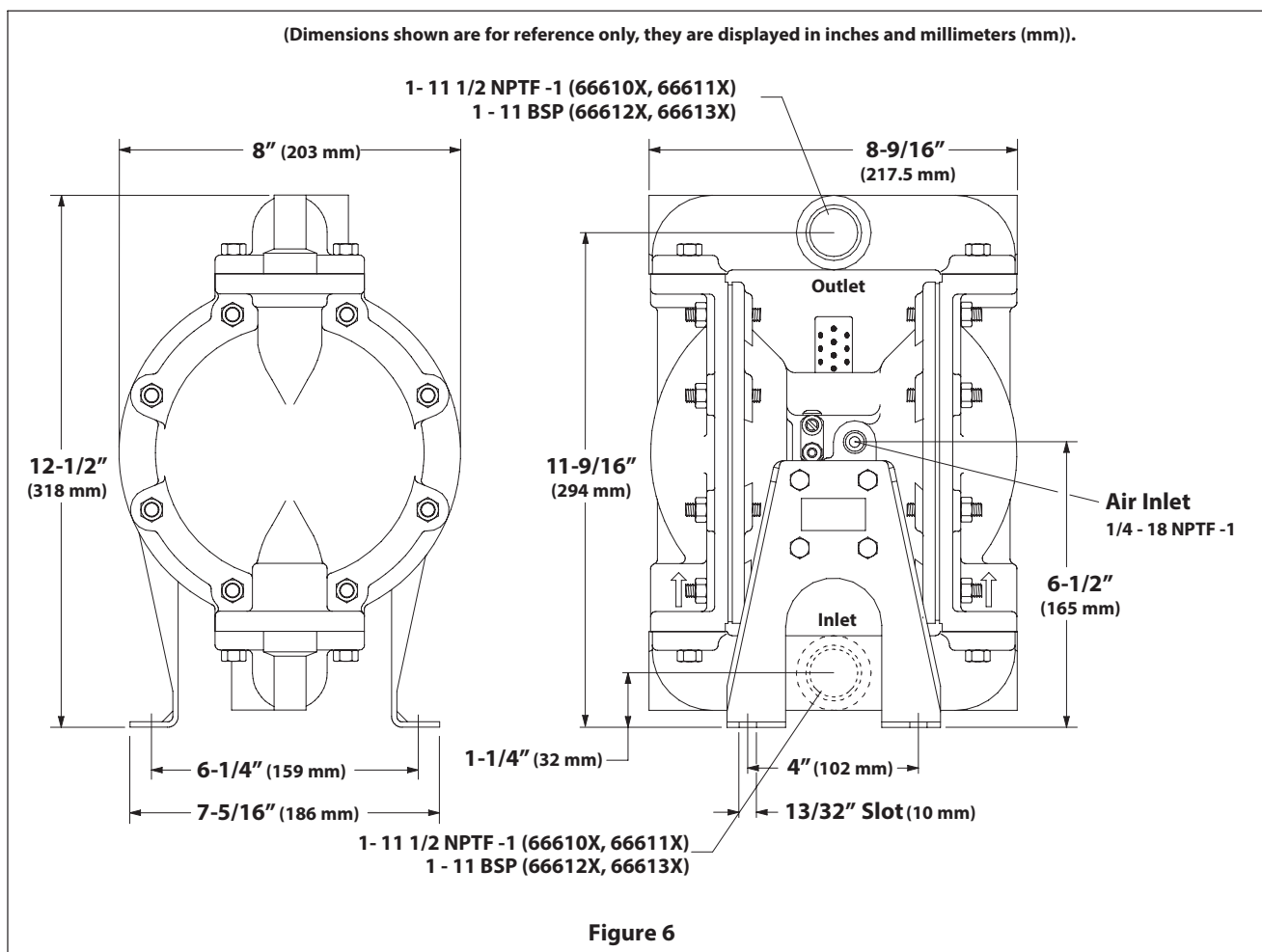
Air bubbles in product discharge.

- Check connections of suction plumbing.
- Check "O" rings between intake manifold and fluid caps.
- Check tightness of diaphragm nut.

Low output volume, erratic flow, or no flow.

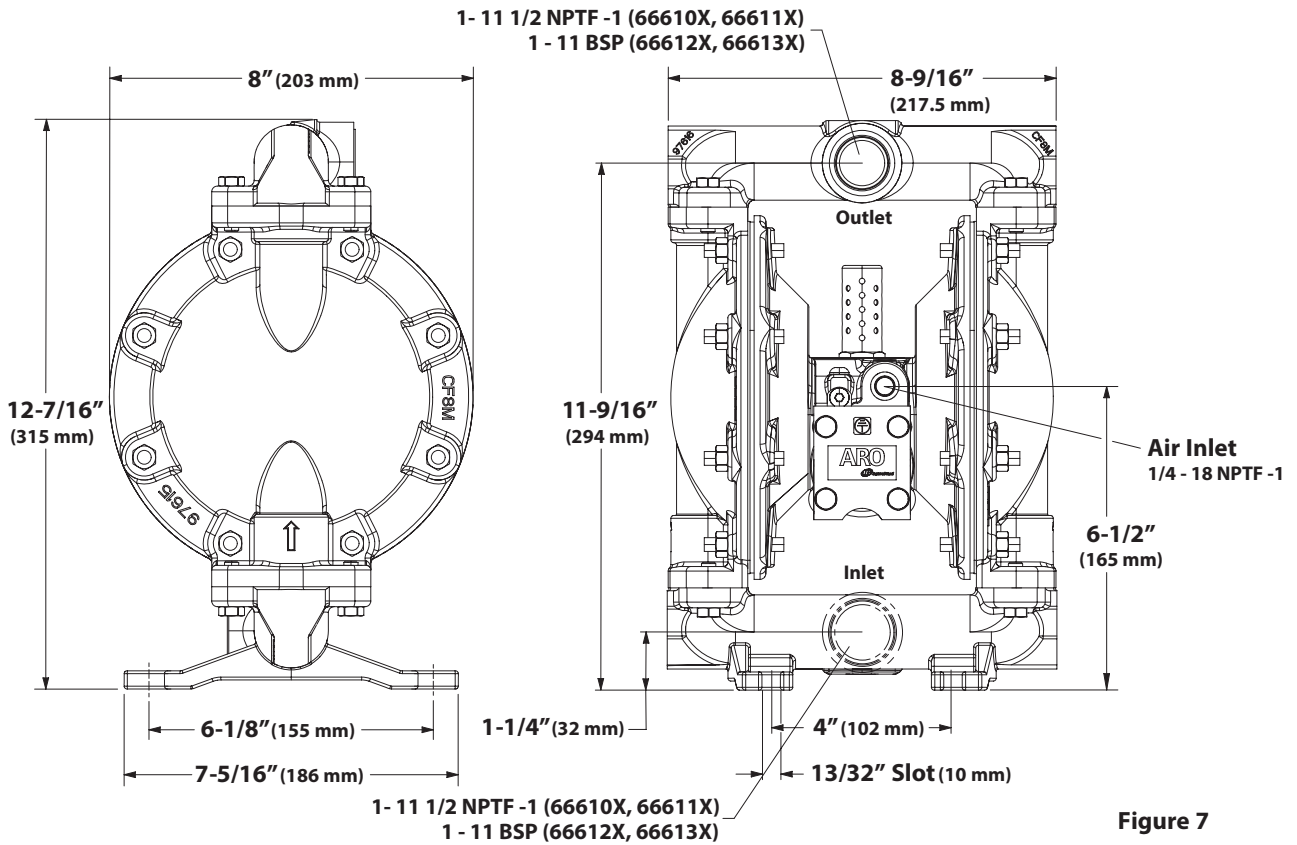
- Check air supply.
- Check for plugged outlet hose.
- Check for kinked (restrictive) outlet material hose.
- Check for kinked (restrictive) or collapsed inlet material hose.
- Check for pump cavitation – suction pipe should be sized at least as large as the inlet thread diameter of the pump for proper flow if high viscosity fluids are being pumped. Suction hose must be a non-collapsing type, capable of pulling a high vacuum.
- Check all joints on the inlet manifolds and suction connections. These must be air tight.
- Inspect the pump for solid objects lodged in the diaphragm chamber or the seat area.

DIMENSIONAL DATA- 6661X0, 1XA, 1X2 and 1XC



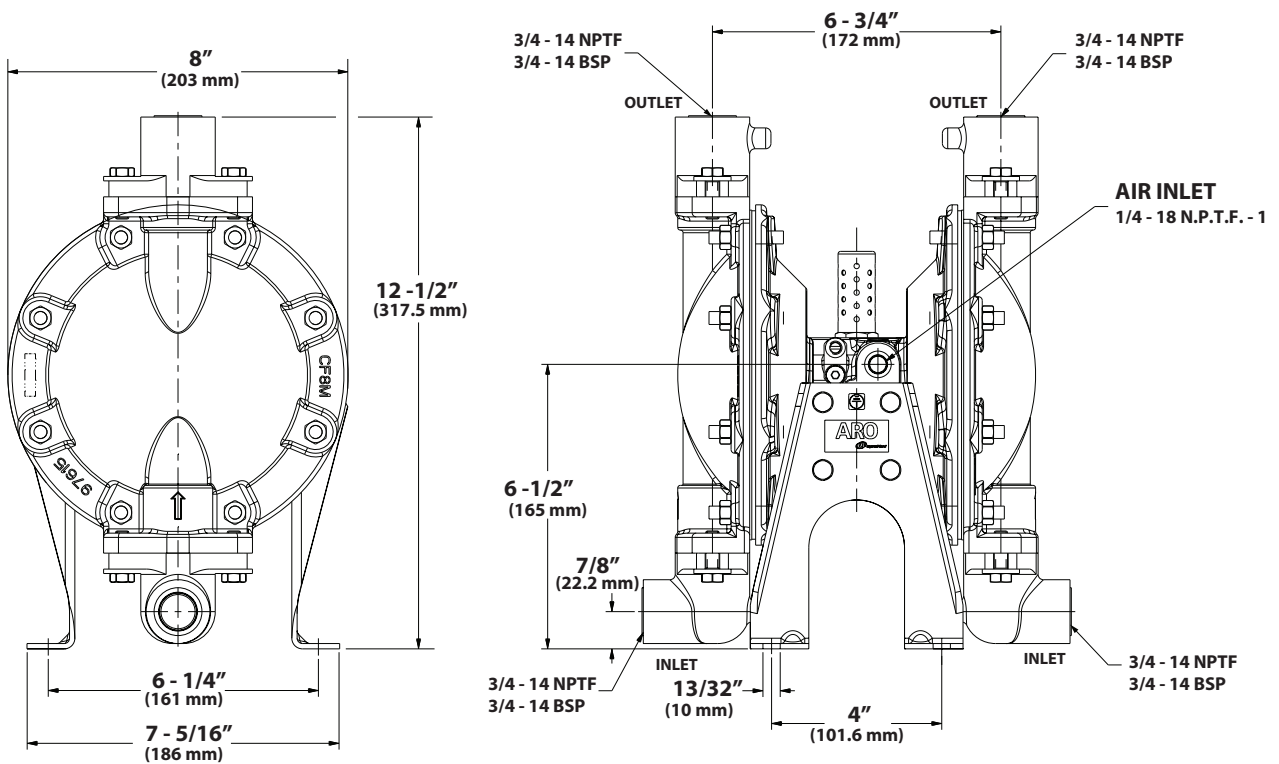
DIMENSIONAL DATA - 6661X1, 6661XB

(Dimensions shown are for reference only, they are displayed in inches and millimeters (mm)).



DIMENSIONAL DATA - 6661X9, 6661XD

(Dimensions shown are for reference only, they are displayed in inches and millimeters (mm)).



SENSORTECHNICS

Made by  First Sensor



Products + Services



At a glance

- Decades of experience in developing and manufacturing innovative, high-quality sensor solutions
- Design and manufacture of custom and application specific solutions
- Certified according to ISO 13485:2003 and ISO 9001:2008
- Integration in customers' supply chain management (lot sizes, delivery schedules, kanban, etc.)
- Production, sales, and service locations worldwide
- Long lasting customer relationships with high customer satisfaction levels
- Application areas: medical, industrial, semi-conductors, instrumentation, analytics, HVAC, environmental

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“
To enable your systems and industrial equipment to operate efficiently and safely you need reliable and accurate sensors. Our certifications in the medical industry and traceability of individual sensors based on serial numbers, help us demonstrate the high quality standards we keep when designing and manufacturing sensors.
”

Stefan Klein,
Quality Manager

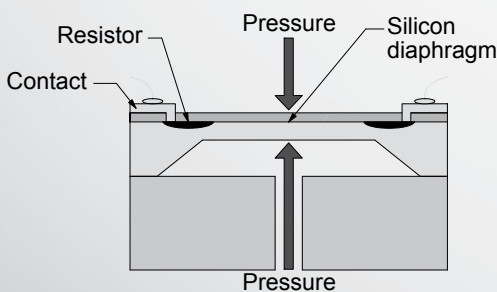
Pressure sensors

Reliable and highly accurate pressure sensors and transmitters for air, gases, and liquids form the major part of our extensive range of sensors. Whatever you might need, particularly small, particularly accurate or eminently robust and resilient sensors with high media compatibility – we can deliver them.

For many years, we have been one of the leading suppliers of pressure sensors for the broadest range of industrial, measurement, and medical engineering applications. The broad range and high quality of our sensor solutions as well as the diversity of interfaces, process connections, and housing designs are proof of our expertise.

Air and gases

In our piezoresistive pressure sensors for air and gases four resistors are interconnected to form a measuring bridge on a thin silicon membrane. Minute pressure variations act on the membrane and change the sensor's output signal, which is proportional to pressure. Our piezoresistive sensors cover full scale pressure ranges from 1 mbar to 1,000 bar. Variations featuring unamplified mV outputs, amplified analogue or digital outputs are available. Custom versions supporting self-testing or switching functionality provide for additional safety.



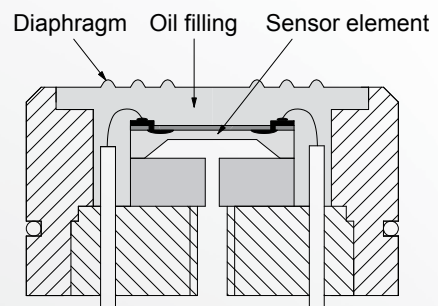
Principle of function
Pressure sensors for air and gases

Ultra-low differential pressure sensors

With full scale pressure ranges starting at 25 Pa (0.25 mbar) our LBA/LDE series differential pressure sensors for air and gases open up completely new application areas. These sensors employ an innovative technology based on thermal flow measurement through a micro-flow channel to combine extremely high sensitivity and resolution with high immunity to dust contamination and condensation.

Liquids



For liquids, Sensortech industrial pressure transmitters are fitted with media compatible ceramic or stainless steel type pressure sensors. The actual sensor elements are always isolated from the process media, ensuring usability and a long life span in corrosive and aggressive media. You can choose from a wide range of threaded fittings, a variety of output signals and standard or custom housings to adapt transmitters to your application requirements.



Principle of function
Pressure sensors for liquids

Uncompensated pressure sensors

Cost-effective piezoresistive pressure sensors for air and gases with pressure ranges up to 10 bar. The uncalibrated and uncompensated basic sensors feature analogue mV output signals and almost unlimited resolution. They offer very small housings with pressure ports for tubing or manifold connection and custom pressure ranges.

	HDU	HMU
Pressure ranges	100 mbar to 5 bar 1 to 70 psi	100 mbar to 10 bar 1 to 150 psi
Pressure type	Absolute, gage, differential	Absolute, gage, differential
Output signal	typ. 100 mV (FSO)	typ. 100 mV (FSO)
Thermal effects		
- Offset	typ. $\pm 0,02$ %FSS/ $^{\circ}$ C	typ. $\pm 0,02$ %FSS/ $^{\circ}$ C
- Span	typ. $-0,2$ %FSS/ $^{\circ}$ C	typ. $-0,2$ %FSS/ $^{\circ}$ C
- Bridge impedance	typ. $0,26$ %/ $^{\circ}$ C	typ. $0,26$ %/ $^{\circ}$ C
Temperature range		
- Operating	$-40...85$ $^{\circ}$ C ($-40...185$ $^{\circ}$ F)	$-40...85$ $^{\circ}$ C ($-40...185$ $^{\circ}$ F)
Dimensions without connections (approx.)	12 x 15 x 7 mm (0.47 x 0.59 x 0.28 inch)	10 x 13 x 6 mm (0.39 x 0.51 x 0.24 inch)
Features	<ul style="list-style-type: none"> • Analogue sensor with nearly unlimited resolution • Cost-effective basic pressure sensor 	<ul style="list-style-type: none"> • Analogue sensor with nearly unlimited resolution • Cost-effective basic pressure sensor • Increased media compatibility
Datasheet download: www.sensortechincs.com	/hdu	/hmu
Housing options (other housings available)		

Temperature compensated pressure sensors

Highly accurate piezoresistive pressure sensors for air and gases with full scale pressure ranges from 5 mbar. The sensors feature calibrated and temperature compensated analogue mV output signals and almost unlimited resolution. They are available in many different housing options and with custom pressure ranges.

	HCL	HDO	HRO
Pressure ranges	5 to 75 mbar (2 to 30 inH ₂ O)	10 mbar to 5 bar (4 inH ₂ O to 70 psi)	10 mbar to 10 bar 4 inH ₂ O to 150 psi
Pressure type	Gage, differential	Absolute, gage, differential	Gage, differential
Output signal	typ. 20 mV (FSO)	typ. 90 mV (FSO)	typ. 90 mV (FSO)
Accuracy (non-linearity and hysteresis)	typ. ±0.05 %FSO	typ. ±0.1 %FSO (P-grade) typ. ±0.2 %FSO (H-grade)	typ. ±0.25 %FSS
Temperature range			
- Compensated	0...70 °C (32...158 °F)	0...50 °C (32...122 °F)	0...70 °C (32...158 °F)
- Operating	-25...85 °C (-13...185 °F)	-40...85 °C (-40...185 °F)	-25...85 °C (-13...185 °F)
Dimensions without connections (approx.)	13 x 16 x 7 mm (0.51 x 0.63 x 0.28 inch)	12 x 15 x 7 mm (0.47 x 0.59 x 0.28 inch)	29 x 18 x 11 mm (1.14 x 0.71 x 0.43 inch)
Features	<ul style="list-style-type: none"> • Analogue sensor with nearly unlimited resolution • For very low pressures • Excellent offset stability • Virtually no position sensitivity 	<ul style="list-style-type: none"> • Analogue sensor with nearly unlimited resolution • Different accuracy classes available 	<ul style="list-style-type: none"> • Analogue sensor with nearly unlimited resolution • Different accuracy classes available
Datasheet download: www.sensorteknics.com	/hcl	/hdo	/hro
Housing options (other housings available)			



Pressure sensors with integrated signal conditioning

Digital piezoresistive miniature pressure sensors with amplified output signals for air and gases with full scale pressure ranges from 2.5 mbar, a broad range of housing options and custom pressure ranges. High resolution digital signal conditioning provides for a very high level of overall accuracy within large operating temperature ranges.

	HCLA	HCE	HDI
Pressure ranges	2.5 to 75 mbar (1 to 30 inH ₂ O)	10 mbar to 5 bar (4 inH ₂ O to 70 psi) & barometric pressure ranges	10 mbar to 5 bar (4 inH ₂ O to 70 psi) & barometric pressure ranges
Pressure type	Gage, differential	Absolute, gage, differential	Absolute, gage, differential
Output signal	0.25...4.25 V, I ² C bus	0.25...4.25 V, SPI bus	0.5...4.5 V, I ² C bus
Accuracy			
- Non-linearity	typ. ±0.05 %FSS	typ. ±0.1 %FSS	typ. ±0.1 %FSS
- Total accuracy incl. temperature effects (0...85° C, 32... 185 °F)		max. ±0.5 %FSS	max. ±0.5 %FSS (P-grade) max. ±1.5 %FSS (H-grade)
Operating temperature range	-25...85 °C (-13...185 °F)	-25...85°C (-13...185 °F)	-20...85 °C (-4...185 °F)
Dimensions without connections (approx.)	13 x 16 x 7 mm (0.51 x 0.63 x 0.28 inch)	13 x 16 x 7 mm (0.51 x 0.63 x 0.28 inch)	12 x 15 x 7 mm (0.47 x 0.59 x 0.28 inch)
Features	<ul style="list-style-type: none"> • Digital signal conditioning • For very low pressures • Excellent offset stability and virtually no position sensitivity • I²C bus interface and analogue output at the same time 	<ul style="list-style-type: none"> • Digital signal conditioning • Very high total accuracy • SPI bus interface and analogue output at the same time 	<ul style="list-style-type: none"> • Digital signal conditioning • Very high total accuracy • I²C bus interface and analogue output at the same time • Different accuracy classes available
Datasheet download: www.sensortek.com	/hcla	/hce	/hdi
Housing options (other housings available)			

Pressure sensors based on flow measurement

Ultra-low differential pressure sensors for air and gases based on thermal flow measurement through a micro-flow channel integrated within the sensor chip. The extremely low flow through the sensor ensures high immunity to dust contamination and condensation. The sensors feature high sensitivity and offset stability.

	LBA	LDE
Pressure ranges	25 to 500 Pa (0.1 to 2 inH ₂ O)	25 to 500 Pa (0.1 to 2 inH ₂ O)
Pressure type	Gage, differential	Gage, differential
Output signal	0.5...4.5 V	0.5...4.5 V, SPI bus
Offset stability	typ. 0.3 % p.a.	max. 0.1 % p.a. (from 50 Pa)
Total accuracy incl. temperature effects (5...55 °C, 41...131 °F)	max. ±(1.5 % of reading +1.5 %FSS) (for 250 Pa and 500 Pa)	max. ±(1.5 % of reading +1.5 %FSS) (for all pressure ranges)
Dimensions without connections (approx.)	13 x 18 x 8 mm (0.51 x 0.71 x 0.32 inch)	13 x 18 x 8 mm (0.51 x 0.71 x 0.32 inch)
Features	<ul style="list-style-type: none"> • Unmatched sensitivity and resolution • Analogue signal conditioning • Micro-flow channel integrated within sensor chip • High immunity to dust, humidity and long tubing • Miniature housing 	<ul style="list-style-type: none"> • Unmatched offset stability, linearity, sensitivity and resolution • Digital signal conditioning with SPI bus interface and analogue output at the same time • Micro-flow channel integrated within sensor chip • High immunity to dust, humidity and long tubing • Miniature housing
Datasheet download: www.sensortektechnics.com	/lba	/lde
Housing		




Pressure sensors with increased media compatibility

Miniature pressure sensors with digital signal conditioning and pressure ranges up to 10 bar. Increased media compatibility for gases and liquids. Very small housings with a selection of pressure ports for tubing connection or manifold mounting. Custom pressure ranges and modifications are available.

	HMA	HMI	HME
Pressure ranges	100 mbar to 10 bar 1 to 150 psi	100 mbar to 10 bar 1 to 150 psi	100 mbar to 10 bar 1 to 150 psi
Pressure type	Gage, differential	Gage, differential	Gage, differential
Output signal	0.5...4.5 V, 0.3...2.7 V	I ² C bus	SPI bus
Accuracy			
- Non-linearity	max. ±0.25 %FSS	max. ±0.25 %FSS	max. ±0.25 %FSS
- Total accuracy incl. temperature effects	max. ±1.5 %FSS	max. ±1.5 %FSS	max. ±1.5 %FSS
Compensated temperature range	-20...85 °C (-4...185 °F)	-20...85 °C (-4...185 °F)	-20...85 °C (-4...185 °F)
Dimensions without connections (approx.)	10 x 13 x 6 mm (0.39 x 0.51 x 0.24 inch)	10 x 13 x 6 mm (0.39 x 0.51 x 0.24 inch)	10 x 13 x 6 mm (0.39 x 0.51 x 0.24 inch)
Features	<ul style="list-style-type: none"> • Increased media compatibility for gases and liquids • Digital signal conditioning • Analogue output signal • Very small housings 	<ul style="list-style-type: none"> • Increased media compatibility for gases and liquids • Digital signal conditioning • I²C bus interface • Very small housings 	<ul style="list-style-type: none"> • Increased media compatibility for gases and liquids • Digital signal conditioning • SPI bus interface • Very small housings
Datasheet download: www.sensortekhnics.com	/hma	/hmi	/hme
Housing options (other housings available)			



Pressure sensors for corrosive liquids and gases

Pressure sensors suitable even for corrosive liquids and gases. Small housings for space-saving integration into demanding OEM applications. These sensors stand out through their excellent price/performance ratio as well as very good stability and repeatability. Customised options are available.

	SSO	SSI	KMA
Pressure ranges	200 mbar to 35 bar (3 to 500 psi)	200 mbar to 35 bar 3 to 500 psi	500 mbar to 100 bar (7 to 1500 psi)
Pressure type	Absolute, gage	Absolute, gage	Gage
Output signal	typ. 100 mV (FSO)	0.5...4.5 V, I ² C bus	0.5...4.5 V
Accuracy - Non-linearity - Total accuracy incl. temperature effects	typ. ±0.1 %FSS	typ. ±0.1 %FSS max. ±1.5 %FSS (-20...85 °C, -4... 185 °F)	max. ±0.4 %FSO
Temperature range - Compensated - Operating	0...50 °C (32...122 °F) -40...125 °C (-40...257 °F)	-20...85 °C (-4...185 °F) -40...120 °C (-40...248 °F)	0...85 °C (32...185 °F) -20...85 °C (-4...185 °F)
Dimensions without connections (approx.)	Ø 19 mm (Ø 0.75 inch)	Ø 19 mm (Ø 0.75 inch)	Ø 22 x 27 mm (Ø 0.87 x 1.06 inch)
Features	<ul style="list-style-type: none"> • High media compatibility • Fully welded stainless steel construction 	<ul style="list-style-type: none"> • High media compatibility • Fully welded stainless steel construction • Very high total accuracy • I²C bus interface and analogue output at the same time 	<ul style="list-style-type: none"> • High media compatibility • Ceramic pressure sensor element in stainless steel housing • Digital signal conditioning
Datasheet download: www.sensorteknics.com	/sso	/ssi	/kma
Housing options			

Low pressure transmitters

Pressure transmitters with amplified output signals for air and gases with full scale pressure ranges from 1 mbar. Options include a broad range of pressure and electrical connections as well as fast and flexible customisation to specific requirements.

	CTE7000	BTE5000
Pressure ranges	10 mbar to 7 bar 0.15 to 100 psi	1 mbar to 10 bar 1 inH ₂ O to 150 psi
Pressure type	Absolute, gage	Gage, differential
Output signal	0...5 V, 0...10 V, 0.5...4.5 V, 4...20 mA	1...6 V, 4...20 mA
Accuracy (non-linearity and hysteresis)	typ. ±0.2 %FSO	typ. ±0.1 %FSO
Temperature range		
- Compensated	0...50 °C (32...122 °F)	0...70 °C (32...158 °F)
- Operating	-40...85 °C (-40...185 °F)	-40...85 °C (-40...185 °F)
Dimensions without connections (approx.)	Ø 22 x 52 mm (Ø 0.87 x 2.05 inch)	Ø 40 x 72 mm (Ø 1.58 x 2.84 inch)
Features	<ul style="list-style-type: none"> • Rugged stainless steel housing • Small size 	<ul style="list-style-type: none"> • Two pressure ports for differential pressure measurement (e.g. for volumetric flow measurement, filter control etc.) • Rugged aluminium housing
Datasheet download: www.sensorteknics.com	/cte7000	/bte5000
Housing		



Pressure transmitters for corrosive liquids and gases

Pressure transmitters with amplified output signals even for corrosive liquids and gases. These transmitters use ceramic or stainless steel pressure sensor elements to ensure high media compatibility. The transmitters are available with a choice of different pressure and electrical connections and as custom versions.

	CTE8000	CTE9000	KTE6000
Pressure ranges	250 mbar to 100 bar 5 to 1500 psi	100 mbar to 35 bar 1.5 to 500 psi	250 mbar to 400 bar 5 to 6000 psi
Pressure type	Absolute, gage	Absolute, gage	Absolute, gage
Output signal	0...5 V, 0...10 V, 0.5...4.5 V, 1...6 V, 4...20 mA	0...5 V, 0...10 V, 0.5...4.5 V, 1...6 V, 4...20 mA	0...5 V, 0...10 V, 0.5...4.5 V, 1...6 V, 4...20 mA
Accuracy (non-linearity and hysteresis)	typ. ± 0.1 %FSO	typ. ± 0.2 %FSO	typ. ± 0.1 %FSO
Temperature range			
- Compensated	0...70 °C (32...158 °F)	0...50 °C (32...122 °F)	0...70 °C (32...158 °F)
- Operating	-25...85 °C (-13...185 °F)	-40...85 °C (-40...185 °F)	-25...85 °C (-13...185 °F)
Dimensions without connections (approx.)	Ø 22 x 52 mm (Ø 0.87 x 2.05 inch)	Ø 22 x 65 mm (Ø 0.87 x 2.56 inch)	Ø 27 x 68 mm (Ø 1.06 x 2.68 inch)
Features	<ul style="list-style-type: none"> • High media compatibility • Ceramic pressure sensor element • Small size 	<ul style="list-style-type: none"> • High media compatibility • Fully welded stainless steel pressure sensor element, without sealing 	<ul style="list-style-type: none"> • High media compatibility • Ceramic pressure sensor element • Flush mount versions • Rugged stainless steel housing
Datasheet download: www.sensortekhnics.com	/cte8000	/cte9000	/kte6000
Housing options			



Our innovative level sensors using a capacitive measuring method have set a new standard in the industry. More and more of our customers are discovering the potentials of these contact-free, highly sensitive sensors. Our engineers and product managers support you with in-depth, practical advice. These sensors not only form a new technological standard, but are inexpensive as well.

Dr. Adriano Pittarelli,
Product Manager

Level sensors

We cover not only all standard applications with a comprehensive offering of hydrostatic and optical sensors – continuous or point level measurement – but will also customise our sensors' housings and interfaces to meet your special requirements. Our latest sensor innovations using capacitive measuring technology set new level control standards.

Fluid level control sounds quite easy but can turn into a demanding sensor application problem if movement, foaming, or media and container issues come into play.

The classics: hydrostatic and optical

For this reason, we offer a broad range of both classic submersible level sensors using hydrostatic pressure measurement and optical level switches. While you work on the details of your optimal solution, it will be a pleasure for our sales and development engineers to serve you as trusted and experienced advisors and fill you in on the many types of housings and interfaces.

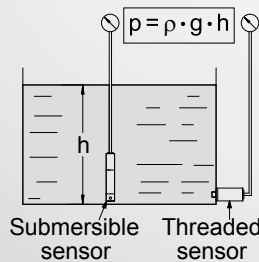
Highly flexible: capacitive sensors

Our latest sensor generation for measuring low levels continuously and contact-free is based on a new sensor technology. These innovative sensors use an electrode that forms a capacitance across the respective surrounding medium. Capacitive sensors

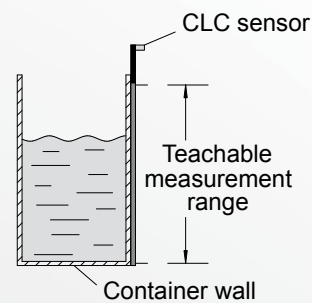
have a great advantage: flexibility of use. Liquids and bulk materials can be measured, continuous or point level measurements can be made and the measurement is performed from the outside, through non-metallic container walls. The electrode is simply attached to the outer side of the wall. Our capacitive sensors can very easily be calibrated to smallest amounts and level control within a few millimetres. Foams can be ignored and even two-phase mixtures – water and oil, for instance – can be detected reliably. What about disturbances caused by temperature and condensation? These are compensated with the help of a reference electrode.

Many economic benefits

Capacitive sensors are small, inexpensive and measure contact-free. Talk to us about these innovative level sensors and about how we can assist you technically and commercially with your design.



Principle of function
Hydrostatic level sensors



Principle of function
Capacitive level sensor

Hydrostatic liquid level sensors

Submersible hydrostatic level sensors with amplified output signals. These transmitters use ceramic or stainless steel pressure sensor elements to ensure high media compatibility. Fast and flexible modifications based on custom specific requirements are available for all hydrostatic liquid level sensors.

	CTE8000...CS	CTE9000...CS	KTE8000...CS
Pressure / level ranges	from 250 mbar from 2.5 mH ₂ O from 5 psi (from 12 ftH ₂ O)	from 100 mbar from 1 mH ₂ O from 1.5 psi (from 3.5 ftH ₂ O)	from 250 mbar from 2.5 mH ₂ O from 5 psi (from 12 ftH ₂ O)
Pressure type	Gage	Gage	Gage
Output signal	0...10 V, 4...20 mA	0...10 V, 4...20 mA	0...10 V, 4...20 mA
Accuracy (non-linearity and hysteresis)	typ. ±0.1 %FSO	typ. ±0.2 %FSO	typ. ±0.1 %FSO
Temperature range			
- Compensated	0...70 °C (32...158 °F)	0...50 °C (32...122 °F)	0...70 °C (32...158 °F)
- Operating	-10...70 °C (14...158 °F)	-10...70 °C (14...158 °F)	-10...70 °C (14...158 °F)
Dimensions (approx.)	Ø 22 x 130 mm (Ø 0.87 x 5.12 inch)	Ø 22 x 130 mm (Ø 0.87 x 5.12 inch)	Ø 24 x 123 mm (Ø 0.95 x 4.84 inch)
Features	<ul style="list-style-type: none"> • High media compatibility • Ceramic pressure sensor element • Small outside diameter 	<ul style="list-style-type: none"> • High media compatibility • Fully welded stainless steel pressure sensor element • Small outside diameter 	<ul style="list-style-type: none"> • High media compatibility • Ceramic pressure sensor element • Chemically resistant PPS plastic housing especially suited for salty, spring and waste waters etc.
Datasheet download: www.sensorteknics.com	/cte8000cs	/cte9000cs	/kte8000cs
Housing			

Capacitive level sensors

Continuous contact-free level sensors based on a new capacitive sensor technology. High flexibility to measure desired levels and media, also including application set-up by two-point calibration.

Level switches

Level switches based on capacitive or optical measurements. Both technologies operate reliably and accurately without any moving parts.

	CLC	CLW (capacitive)	OLP, OLT, OLM (optical)
	Ranges 0...100 mm (0...4 inch)	Hysteresis <25 mm (<1 inch)	In the area of optical level switches for liquid media, we offer models with microprocessor compatible TTL signals as well as high performance products with transistor outputs. They are available in miniature Polysulfone or TROGAMID® plastic housings or in stainless steel housings.
Output signal	0.5...4.5 V, 1-wire	low = 0 V, high = 5 V (switching output)	
Resolution	typ. 6 bit	-	
Temperature range			
- Compensated	±20 °C (±36 °F) (relative to calibration temperature)	±20 °C (±36°F) (relative to calibration temperature)	
- Operating	-20...85 °C (-4...185 °F)	-20...85 °C (-4...185 °F)	
Dimensions without connections (approx.)	125 x 25 x 3 mm (4.92 x 0.98 x 0.12 inch)	30 x 25 x 3 mm (1.18 x 0.98 x 0.12 inch)	
Features	<ul style="list-style-type: none"> • Continuous level sensing • Contact-free and sterile use • Easy installation • Small size • For liquids and bulk materials 	<ul style="list-style-type: none"> • Point level sensing, two switch points • Adjustable hysteresis up to 25 mm (1 inch) • Contact-free and sterile use • Easy installation • Small size • For liquids and bulk materials 	<ul style="list-style-type: none"> • Maximum accuracy and reliability • Excellent media compatibility • Very small form factors, easy installable • Many housing options
Datasheet download: www.sensorteknics.com	/clc	/clw	/optical-level
Housing			



“
Our broad range of sensors for flow measurement offer perfect solutions for unusual and especially demanding problems – whatever they may be, specific flow ranges, highest resolutions or custom housing requirements.
”

Markus Schwan,
Director R&D

Flow sensors

We rank developing and manufacturing state-of-the-art mass and volumetric flow sensors among our core competencies. Be it in medical devices or for industrial applications – we provide highly accurate and reliable flow sensors even for particularly small volumes and masses.

Depending on the application – mass flow or volumetric flow measurement – the broad range of sensors from our company use different measurement principles, each of them highly accurate.

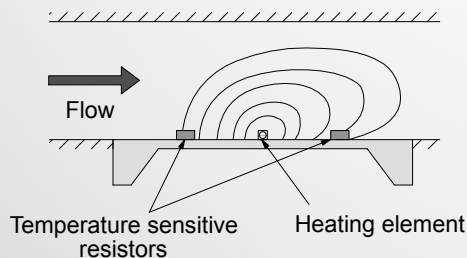
Thermal mass flow measurement

Our mass flow sensors use a thermal measurement method to enable extremely good response characteristics and accurate measurement even of low flows. For this purpose, the sensors contain a heating element placed between temperature sensitive resistors. If a mass flow shifts the temperature profile within the medium, a voltage signal proportional to the flow is generated as a result of the temperature difference between the resistors. The output is transmitted via a large variety of electrical interfaces. This measurement principle proves superior to

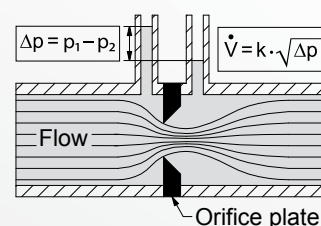
other methods for many applications. Specifically, it also allows bidirectional measurements and short response times for flow changes.

Sensors for volumetric flow measurement

Sensortech's differential pressure sensors lend themselves to measure volume flows of gases using the differential pressure method. This is done by constricting the cross section of a flow line, using a baffle or a nozzle, for instance. When the flow speed is raised, the static pressure drops. The differential pressure Δp , which is a measure for the volumetric flow, can be measured by a low differential pressure sensor. This is another area where we are noted for our robust and extremely accurate sensors, with full scale pressure ranges starting at ± 25 Pa (± 0.25 mbar).




Principle of function
Mass flow sensors



Principle of function
Volumetric flow measurement

Thermal mass flow sensors

Mass flow sensors for air and gases based on a highly sensitive thermal measuring principle. Due to stable MEMS silicon chip technology the sensors feature fast response times and low power consumption.

	WBA, WBI	WTA, WTR
Flow ranges	200 sccm to 1 slpm	1 to 50 slpm
Output signal	1...5 V (WBA), I ² C bus (WBI)	0.5...4.5 V (WTA), RS-485 (WTR)
Accuracy (repeatability and hysteresis)	max. ±0,25 % of reading	max. ±0,25 % of reading
Temperature range		
- Compensated	-25...85 °C (-13...185 °F) (WBA) 0...50 °C (32...122 °F) (WBI)	0...50 °C (32...122 °F)
- Operating	-25...85 °C (-13...185 °F)	-25...85 °C (-13...185 °F)
Dimensions without connections (approx.)	31 x 32 x 16 mm (1.22 x 1.26 x 0.63 inch)	70 x 34 x 20 mm (2.76 x 1.34 x 0.79 inch)
Features	<ul style="list-style-type: none"> • Fast response time • High sensitivity • Bidirectional flow sensing • Low power consumption 	<ul style="list-style-type: none"> • Fast response time • High sensitivity • Low power consumption
Datasheet download: www.sensorteknics.com	/wba /wbi	/wta /wtr
Housing		

Sensors for volumetric flow measurement

Differential pressure sensors and robust differential pressure transmitters for volumetric flow measurement.

For a large choice of suitable products please refer to the pressure sensor section, e. g., HCL, HCLA, LBA/LDE and BTE5000 series.



Custom flow sensor examples

Poured out perfectly



**Volumetric flow sensor
for an inventory control system
in catering**

A highly accurate life saver



**Highly accurate flow sensor
for controlling
respiratory equipment**

Extra requirement: sterilisable



**Sterilisable
flow sensor**



Technical equipment and systems combine more and more functionality in smaller and smaller space. In many cases, standard components cannot live up to this. As your strategic partner, we not only develop custom sensor solutions but also support you across the entire life cycle of the product – from specification on to design, prototyping, volume production, maintenance, spare parts delivery, and next product generation.

Dr. Jochen Müller,
Technical Director

Custom sensors

As large as the diversity of standard sensors may be, many customers still need custom solutions. And this is exactly where we score for you. Working closely with you, we design and manufacture custom sensor solutions, which incorporate complex and multifunctional capabilities in many cases. Discover us as your professional project partner.

For many years, our sensor technology, development, and manufacturing know-how has been helping us to establish strategic partnerships with many customers, contributing significantly to the market success of many products.

Many of these projects and partnerships start off with customising mechanical and electrical interfaces, housing shapes, or the like. This is where our teams first show flexibility – often at no additional cost.

And in the process, too: The customer reigns supreme

In our development projects for custom solutions, we will adapt to your wishes in every way: What are the particular technical specifications and commercial constraints? Should our development teams only design the sensor core? Or are they responsible for integrating multi-sensor modules into complete systems including evaluation unit, transmission protocol, and actuators as well? Who accounts for tests, documentation, and design optimisation for manufacturing?

In many strategic partnerships, our experts will assume responsibility for the entire life cycle of your custom solution. Once the development project is completed, we synchronise production lots, product support, and services with your needs.

It's economic

Here is a tip: You might want to speak to our development and sales engineers before investing time and effort to adapt your solution's specifications, design, and functionality to existing standard sensors. Our laboratories and state-of-the-art production facilities enable us to develop and manufacture custom solutions cost-effectively even in small quantities.

Experience shows that it pays. Significantly shorter development times, lower integration and quality assurance costs and – not least – greater market success of your products and your organisation will all pay back costs of individual sensor solutions several times.

Custom sensors

We provide you with tailor-made solutions, sensors, and systems, designed and manufactured to meet your requirements. This extends from modifying a standard product to developing a specific solution from start to finish comprising multiple components such as sensors, valves, pumps, and microcontrollers. In brief: Simply tell us what you need.

Small modification, great benefit



Example: Pressure transmitter tailored to your needs

We optimise standard sensors according to your requirements – for example, in calibration or with new pressure connector variations and electrical connections. You can use this to realise significant competitive advantages: Our team delivers precise sensor customisation, shortening the design phase of your own products while cutting down on your design and construction costs.

	Standard product CTE9001GY4	Custom pressure transmitter
Pressure range	0...1 bar gage	0...35 ft H ₂ O gage
Pressure connector	G1/8	Quick-fit pressure fitting
Electric connection	M12 x 1 Hirschmann plug	Shielded cable

Ensuring your sustainable competitive edge: Examples of custom developments

The Swiss army knife of pressure sensors



Custom pressure transmitter
with four calibrated pressure ranges

The challenge: A robust sensor system was needed for an automotive diagnostic unit that could be used for multiple measuring tasks in a flexible way, to measure air, oil, fuel, and cooling fluid pressures, and at the same time was suitable for rough shop floor environments.

The solution: A newly developed sensor that can be connected to the various applications using a quick-fit pressure fitting, so enabling service staff to handle it in an easy and user-friendly way. Four calibrated partial pressure ranges were defined within a standard pressure range of -15...500 psi to be selected separately depending on the measurement task. For each pressure range, a microcontroller calculates an error corrected signal/pressure characteristic, depending on the accuracy requirements of the particular measurement task.

Small sensor, great in accuracy



Custom
digital pressure sensor
with 0.1 % overall accuracy

The challenge: A pressure sensor was needed as a key component of a high-quality patient monitor, capable of resolving and accurately recording pressures down to fractions of one millibar, laying the base for optimal monitoring and control of the patient's breathing.

The solution: Mechanically stable assemblies are achieved by placing a piezoresistive sensor element on a ceramic substrate with the help of highly advanced chip-on-board technology. A high-quality, low-noise amplifier is used to amplify the measuring bridge's analogue mV output signal, which is then digitised using a 24 bit A/D converter with a sample interval of 250 μ s. This produces high resolution digital signals with a very high signal-to-noise ratio comparable with analogue signals. A microcontroller adjusts the digitised sensor output signal using sensor specific calibration coefficients. The result is a custom solution featuring an extremely high overall accuracy of typically 0.1 %FSO (max. 0.25 %FSO) over a 0...70 °C temperature range.



A one stop shop for sensor technology expertise – that is what many of our customers view as their benefit from partnering with us. Apart from our comprehensive sensor and actuator portfolio, our service includes in-depth advice based on practical experience, flexibility, reliability, and expertise in technical customisation.

Richard Bell,
Sales Director

Other sensors

In many other sensor technology fields, customers benefit from our expertise and years of experience. All from one source, our sensors and miniaturised pumps and valves do their jobs reliably in millions of industrial, environmental, measuring, and medical device products.

Do you have other sensor technology requirements? When advising our customers, our experts can choose from a wide range of additional sensor types for the most diverse values to be measured.

Miniature force sensors

Piezoresistive measurement technology helps our force sensors to ensure high sensitivity for the measurement of small forces as well as low power consumption that you ask for.

Oxygen sensors

Easy calibration as well as high stability and accuracy are key requirements of oxygen measuring applications. Moreover, our zirconium dioxide technology sensors are non-consumptive and distinguish themselves through a very long life cycle.

Air bubble detectors

Our air bubble detectors operate contact-free and find their use everywhere in the manufacturing and medical industries where liquids in tube or metal pipes need to be monitored.

Humidity sensors

Our humidity sensors are well suited for battery powered, mobile devices. Ideal for high-volume applications, they stand out through both accurate measuring and low power consumption.

Pumps and valves – miniaturised actuators

Our portfolio of special miniature pumps and valves for many different application purposes rounds off our broad range of solutions. Precision control of gas and liquids are a common feature.



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NEXU System

Document

N° Document

U-Tank

MU 1

Manuel d'Installation et Utilisateur

Code

383100

Nb de Pages

11

INTRODUCTION

Avertissement

Cet équipement est destiné à un usage professionnel.

Lire toutes les instructions dans ce manuel avant utilisation

- Cet équipement est destiné à faire partie du système de gestion des fluides NEXU et permettre le contrôle des niveaux.
- N'utiliser cet équipement que pour l'usage auquel il est destiné.
- Cet équipement n'est pas agréé pour un usage commercial.
- Ne pas endommager ou modifier cet équipement.
- Respecter les préconisations de sécurité du fabricant des fluides utilisés.
- Vérifier le bon paramétrage du système de contrôle avant la première utilisation.

INSTALLATION ET MISE EN SERVICE

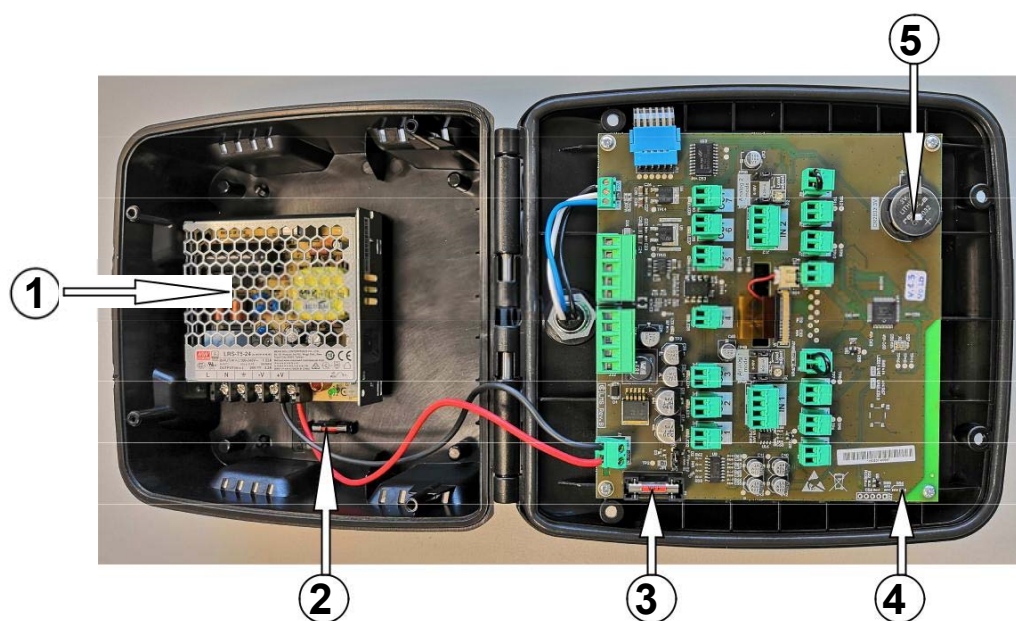
Eléments principaux

Eléments externes



1. Indicateur visuel (LED) d'état du niveau.
2. Ecran LCD 128x64 rétroéclairé.
3. Clavier.
4. LEDs de contrôle des status.
5. Clé de bascule en mode Bypass.
6. Vis (Torx T20) pour ouvrir/fermer la boîte.
7. Presse Etope pour câbles.

Éléments Internes



1. Boîtier d'alimentation.
2. Fusible de recharge.
3. Fusible principal.
4. Carte électronique principale.
5. Pile bouton CR2032 (pour sauvegarde des informations. Uniquement utilisée Pour le modèle autonome)

Câblage électrique

! AVERTISSEMENT !

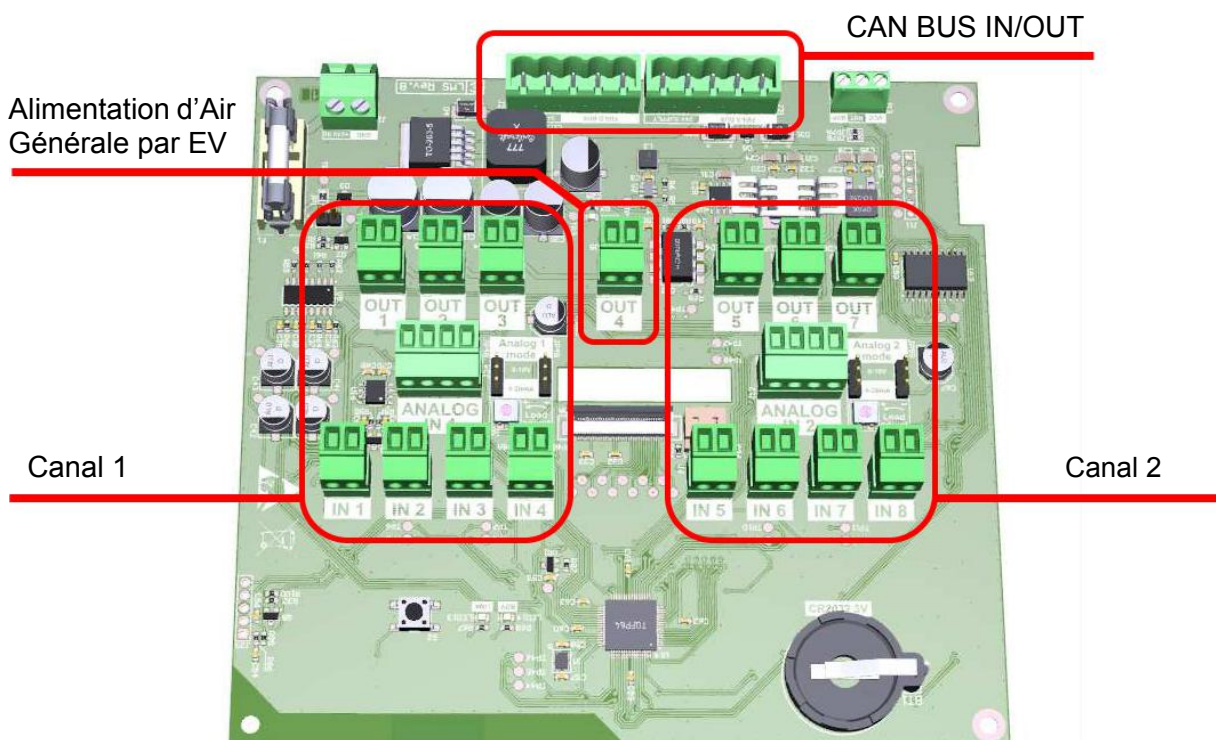
Débrancher l'alimentation électrique avant toute intervention de maintenance ou réparation sur cet équipement. Risque d'électrocution !!

1. Raccordement électrique

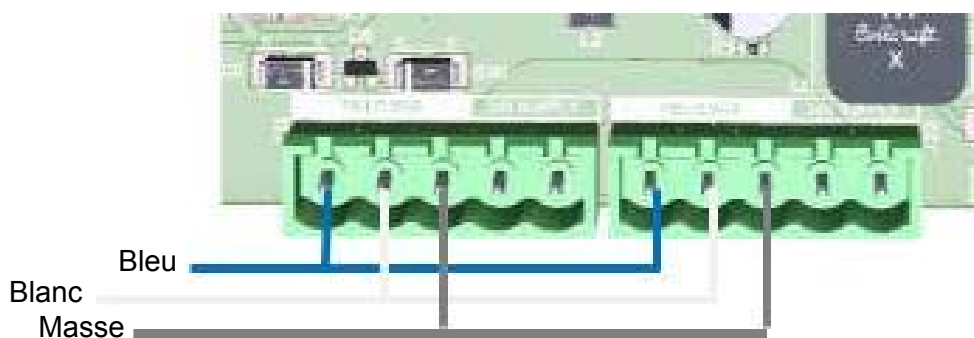
Raccorder le boîtier d'alimentation à une arrivée électrique (câble en attente du client) 230V AC 50/60Hz. Utiliser des fils conducteurs de section minimum 1.5mm² ou plus.



2. Aperçu des connexions de la carte électronique



2.1. CAN BUS ENTREE (IN)/ SORTIE (OUT)

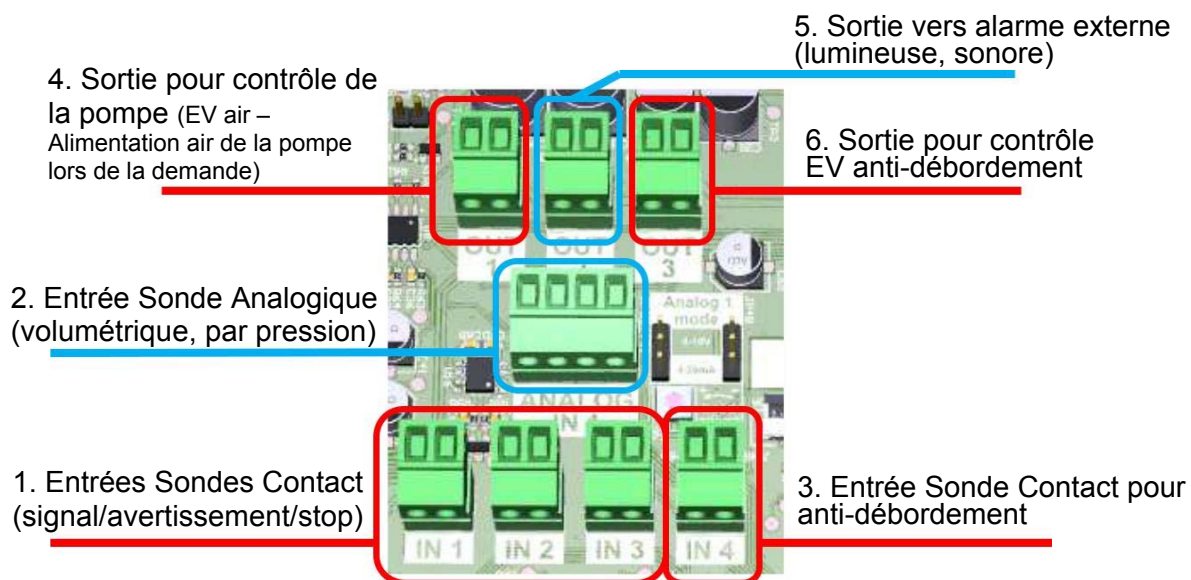


Les connecteurs J21 et J22 sont tous les deux fait pour connecter le module U-Tank au réseau Can Bus de l'installation NEXU. La connexion des fils du câble Can Bus utilisés pour l'alimentation électrique (Rouge et Noir) n'est pas nécessaire, puisque ce module a sa propre alimentation électrique externe (voir manuel général du système NEXU). Connecter chaque fil du câble Can Bus aux 3 premiers pôles du connecteur 5 points (réf 951982) selon le schéma ci-dessus.

2.2. Canaux 1 et 2

Ce module U-Tank peut contrôler jusqu'à 2 citernes de stockage de fluide, chacune étant connectée à l'un des canaux du module. Les 2 canaux sont symétriques et ont les mêmes fonctionnalités (inputs/outputs). Si seulement une citerne est raccordée au module, utiliser le canal 1.

Pour chaque canal, des connexions d'entrée/sortie sont disponibles. Le schéma ci-dessous représente le côté gauche de la carte correspondant au canal 1, mais les connecteurs sont identiques pour le canal 2 sur la partie droite de la carte électronique.



[1]. Entrées Sondes Contact

Ces 3 entrées permettent de raccorder jusqu'à 3 sondes contact (type 'tout ou rien' – à flotteur ou équivalent). Nous utilisons seulement des sondes avec contact 'Normal = Fermé' (cela signifie que le contact électrique à l'intérieur de la sonde doit rester ouvert lorsque le niveau est en-dessous/au-dessus de la sonde selon le sens choisi et son utilisation – niveau qui descend/monte).

Chaque entrée est à utiliser pour des actions ayant une logique différente:

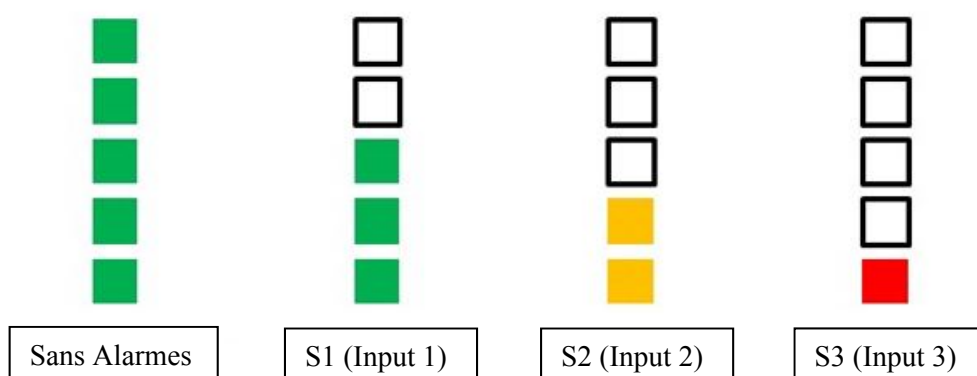
IN1 => S1 (SIGNAL): Création d'un message d'alerte, selon le texte défini dans le logiciel UTrack (Evenement et notification) et envoi de ce message par mail (dans le cas d'une connexion internet pour le boîtier UNET, et selon les paramètres définis au niveau des utilisateurs). Changement de l'indication du niveau de stock sur l'écran et d'état de l'indicateur visuel (voir image ci-après)

IN2 => S2 (ALARME): Idem S1 + Déclenchement de la Sortie 2, et par conséquent du dispositif d'alarme externe (flash lumineux, alarme sonore, ...) qui y est éventuellement raccordé.

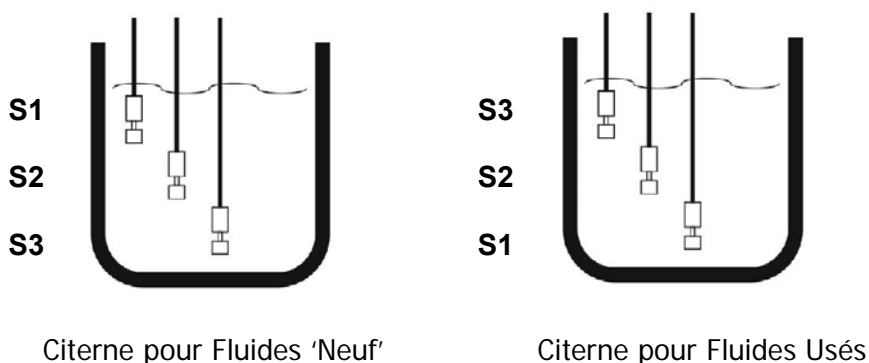
IN3 => S3 (ARRÊT): Idem S2 + Arrêt des distribution de fluide (dans ce cas il n'est plus possible faire une demande de livraison sur le(s) clavier(s)).

L'indicateur visuel d'état des niveaux, situé de chaque côté du boîtier pour chacune des 2 citernes gérées, aura un changement d'état des leds en fonction des sondes installées et du signal choisi (Inputs 1/2/3) au moment de leur raccordement, selon le visuel ci-dessous

UTANK leds



Merci de noter que les 3 sondes contact doivent être mises à différentes hauteurs, selon le type de citerne (fluide neuf ou usé):



Cependant, il est possible de n'utiliser qu'une seule ou 2 sondes qui devront alors être raccordées aux entrées correspondantes aux actions souhaitées (selon la description précédentes de chaque entrée).

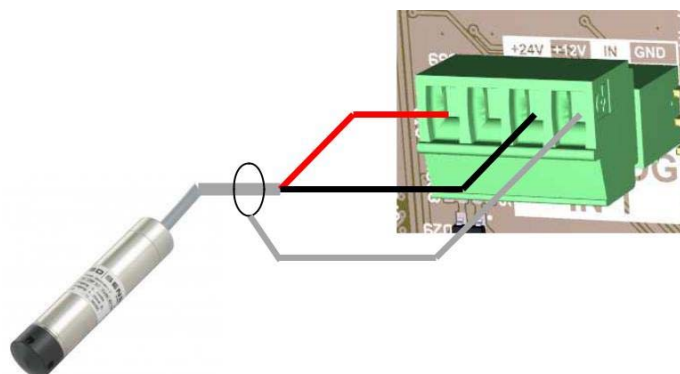
NOTE: Sonde analogique et de type contact ne peuvent pas être utilisées simultanément pour la même citerne.

[2]. Entrée pour Sonde analogique (Volumétrique, par pression):

Cette entrée permet de raccorder une sonde analogique de niveau afin d'obtenir en temps réel une mesure volumétrique du niveau de fluide dans la citerne. Seules les sondes volumétriques à pression fournies par SAMOA (références 382120) sont supportées par le système. L'utilisation de ce type de sondes implique de connaître le barème de jaugeage de la citerne (correspondance entre hauteur et volume du fluide) ainsi que la densité du fluide stocké.

La sonde analogique doit être connectée comme sur l'image ci-dessous :

- Fil Rouge sur +24V
- Fil Noir sur IN
- Fil de Mass sur GND
- Rien sur +12V



NOTE: Sonde analogique et de type contact ne peuvent pas être utilisées simultanément pour la même citerne.

[3] et [6]. Entrée / Sortie Anti-débordement

Cette entrée permet de connecter un sonde contact (type 'tout ou rien' – à flotteur ou équivalent). Nous utilisons seulement des sondes avec contact 'Normal = Fermé' (cela signifie que le contact électrique à l'intérieur de la sonde doit rester ouvert lorsque le niveau est en-dessous/au-dessus de la sonde selon le sens choisi et son utilisation – niveau qui descend/monte).

Cette entrée de niveau haut anti-débordement (3), associée à la sortie anti-débordement (6) pour gérer une électrovanne d'air (coupure de l'air sur une pompe de remplissage ou fermeture d'une vanne sur la tuyauterie), est prévue comme un équipement de sécurité permettant d'éviter le débordement de la citerne. En ajustant la hauteur de la sonde de niveau haut au niveau le plus haut de la citerne (citerne remplie), alors tant que ce niveau maximum sera atteint dans la citerne il ne sera plus possible de remplir la citerne (selon le dispositif choisi pour empêcher le remplissage de celle-ci).

NOTE: cette entrée/sortie est indépendante du système de gestion NEXU, et ne nécessite donc aucun paramétrage dans celui-ci. De même elle ne déclenche aucun avertissement/alarme dans le système ! Cet équipement de sécurité peut être utilisé en même temps, et de manière complémentaire, avec un sonde analogique ou de type contact.

LOGIQUE DU SIGNAL DE SORTIE: Actif (Sortie à 24V DC) lorsque le fluide atteint le niveau du flotteur de la sonde ; Inactif (Sortie à 0V) lorsque le niveau de fluide est en dessous du flotteur de la sonde.

[4]. Sortie pour contrôle d'air sur la pompe

Cette sortie permet le contrôle de l'arrivée d'air comprimé à la pompe associée à la citerne : lorsqu'une transaction est envoyée au système et nécessite la distribution du fluide associé à cette citerne, la pompe est alors alimentée en air afin de pouvoir répondre à la demande (à travers le pilotage d'une électrovanne air 24V DC – modèle à décompression, normalement fermée – installée au préalable sur le réseau d'arrivée d'air sur la pompe). Lorsqu'il n'y a pas de demande en cours sur le fluide associé à la citerne, la pompe n'est pas alimentée en air comprimé et par conséquent est dépressurisée et ne peut fonctionner pour pomper le fluide. Ce mode de fonctionnement aide à réduire les fuites d'air et évite aussi une pression permanente sur la pompe, et ainsi une source de panne.

LOGIQUE DU SIGNAL DE SORTIE: Actif (Sortie à 24V DC) lorsque une ou plusieurs unités de comptage (U-Valve, U-Meter, U-Count) connectées physiquement à la citerne demande une distribution, ou lorsque l'unité est en mode Bypass ; Inactif (Sortie à 0V) lorsqu'il n'y a aucune demande en cours de la part des unités de comptage citées précédemment.

[5]. Sortie pour alarme externe

Cette sortie est destinée à contrôler un système d'alarme externe, qui peut être un flash lumineux ou un avertisseur sonore. Il est contrôlé par les entrées IN2 et IN3 (voir pont [1]) d'alerte et d'arrêt : si le niveau atteint le contact de la sonde, cette sortie devient active.

LOGIQUE DU SIGNAL DE SORTIE: Actif (Sortie à 24V DC) lorsque le fluide atteint le niveau du flotteur de la sonde ; Inactif (Sortie à 0V) lorsque le niveau de fluide est en dessous/au dessus du flotteur de la sonde (selon la configuration, fluide neuf ou usé)

2.3. Alimentation Générale d'Air par électrovanne

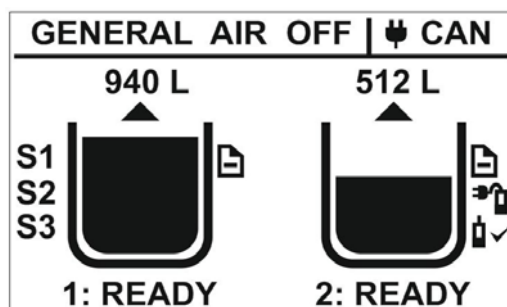
Cette sortie est destinée à contrôler l'alimentation générale d'air comprimé dans le réseau (à travers le pilotage d'une électrovanne d'air 24V DC installée au préalable sur le réseau). Un planning horaire peut être paramétré dans le logiciel U-Track, en indiquant les plages horaires de travail durant lesquelles l'air doit être disponible. Sinon, cette sortie peut également être contrôlée manuellement depuis le logiciel U-Track, si aucun planning horaire n'est défini.

LOGIQUE DU SIGNAL DE SORTIE: Actif (Sortie à 24V DC) lorsque le statut général de distribution d'air est ON (selon le planning horaire ou par activation manuelle), où lorsque le réseau est en ode Bypass ; Inactif (Sortie à 0V) lorsque le statut général de distribution d'air est OFF (selon le planning horaire ou par activation manuelle)

INTERFACE SYSTEME

1. Ecran


Lorsque le module est actif (le commutateur de la clé est en position 'normale'), l'écran suivant apparaît :





Différents items fournissent à l'utilisateur des informations sur l'état du système:

1.1. Information de configuration de la citerne

La flèche au-dessus de chaque citerne indique si il s'agit d'un fluide neuf (la flèche pointe vers le haut – vidange de la citerne) ou d'un fluide usée (la flèche pointe vers le bas – remplissage de la citerne).

Le symbole  sur le côté droit de chaque citerne, indique que les informations de configuration de la citerne ont été reçues correctement depuis le logiciel U-Track.

Le symbole  sur le côté droit de chaque citerne, indique qu'une sonde analogique est connectée en entrée de la citerne. Si cette sonde envoie un message avec une valeur acceptable, le symbole  est alors affiché.

Si la citerne a été paramétrée pour utiliser des sondes contact (digitale), jusqu'à 3 indications (**S1**, **S2**, **S3**) apparaîtront alors sur le côté gauche de la citerne, signifiant quelles entrées sont utilisées. Notez que l'ordre des sondes change selon l'utilisation de la citerne, pour fluide neuf (Sonde d'arrêt/S3 sera au bas de la citerne) ou pour fluide usé (Sonde d'arrêt/S3 sera au bas de la citerne).

1.2. Information d'état de la citerne

Le volume de fluide contenu dans la citerne est affiché en temps réel au-dessus, exprimé dans l'unité paramétrée (L pour litres en France). Si la citerne est équipée d'une sonde analogique, la quantité est le volume exact mesuré par celle-ci ; sinon la quantité indiquée est celle calculée par le logiciel U-Track (en fonction du stock renseigné et des débits).

En-dessous de chaque citerne, le numéro de citerne attribuée dans le système est affiché (de 1 à 52), Below each tank, the tank number inside the system is displayed (1 to 52), ainsi que le statut de la pompe contrôlée (gestion de l'arrivée d'air) si cela est le cas :

READY: la pompe est dépressurisée et en attente d'une demande de distribution

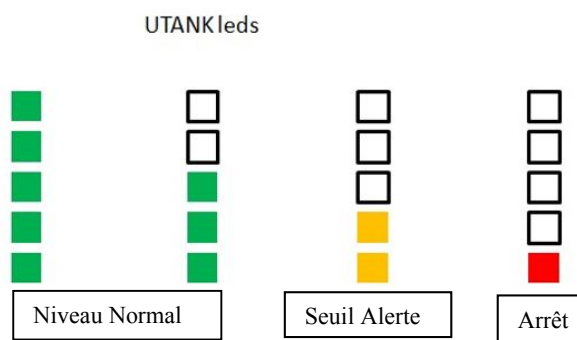
RUNNING: la pompe est en pression et distribue le fluide dans un ou plusieurs points.

STOP: la pompe est dépressurisée et bloquée pour tout distribution, car la citerne est soit vide (fluide neuf) soit pleine (fluide usée).

Le niveau de fluide est également affiché visuellement sur le boîtier au moyen de barres de LEDs, selon le niveau mesuré.

Notez que la couleur des LEDs de l'indicateur visuel changera en fonction de l'état de la citerne :

En niveau 'normal' les Leds seront vertes, niveau en-dessous du niveau d'alerte les Leds seront jaunes, niveau en-dessous du niveau d'arrêt les Leds seront rouge.



1.3. Information Generale

Sur la partie supérieure gauche de l'écran, le statut de l'alimentation générale en air de l'atelier est affiché :

GENERAL AIR ON: alimentation d'air comprimé ouverte



GENERAL AIR OFF: alimentation d'air comprimé fermée

Sur la partie supérieure droite de l'écran, le protocole de communication employé entre le U-Tank et le réseau NEXU est affiché. Actuellement seule la connexion câblée Can Bus est disponible.

2. Menu Système

2.1. Accès au menu principal

Pour accéder au menu principal, insérer la clé dans le commutateur et la tourner vers la

droite de la position normale () à la position Bypass (). Le menu principal apparaîtra alors à l'écran:






ATTENTION!: Pendant que le module est en mode Bypass aussi bien l'alimentation d'air générale que celle des pompes contrôlées sera activée en permanence sans tenir compte du paramétrage du système. De même le reste du réseau NEXU sera également en mode Bypass et autorisera alors les livraisons sans contrôle.

La flèche située sur la gauche de l'écran indique le sous-menu sélectionné. Utiliser les flèches Haut et Bas du clavier pour choisir l'option souhaitée, puis appuyer sur "OK" pour valider.

2.2. Paramétrage Local

Ce menu permet de configurer les paramètres locaux du module U-Tank (Adresse, Fin de Ligne EOL, nombre de citerne géré).


- Le premier paramètre est l'Adresse. Utiliser les flèches Haut et Bas pour choisir la valeur souhaitée, puis appuyer sur "OK" pour valider ou sur  pour revenir au menu principal.
- Le paramètre suivant est la Fin de Ligne (EOL). Ce paramètre dépend de la position du module dans le réseau Can Bus : si le module est situé entre 2 autres composants installés ailleurs (en d'autres termes le U-Tank n'est ni au début ni à la fin du câble Can Bus), mettre ce paramètre à "0"; si le U-Tank est au début ou à la fin du réseau Can Bus, mettre ce paramètre à "1". Utiliser les flèches Haut et Bas du clavier pour choisir la valeur désirée (le statut de la Led EOL changera alors en passant en bleu), puis appuyer sur "OK" pour valider ou sur  pour revenir au paramètre précédent.
- Le dernier paramètre est le nombre de citerne ? Le module U-Tank peut gérer 1 ou 2 citernes : si une seule citerne est raccordée au module, mettre ce paramètre à "1" ; si 2 citernes sont raccordées au module, mettre ce paramètre à "2". Utiliser les flèches Haut et Bas du clavier pour choisir la valeur désirée, puis appuyer sur "OK" pour valider ou sur  pour revenir au paramètre précédent.


A ce moment, l'écran affichera "OK! RESTARTING..." et le module redémarrera avec ces nouveaux paramètres.

NOTE: les nouveaux paramètres sont stockés dans la mémoire non volatile du module seulement après avoir atteint cette dernière étape de redémarrage. Aucun changement effectué précédemment ne sera sauvegardé si cette étape n'est pas atteinte.

2.3. Calibration

Ce paragraphe ne concerne que les sondes analogiques. Avant d'utiliser une sonde analogique pour la première fois (ou lors d'un remplacement), chaque sonde doit être calibrée. Notez qu'avant la procédure de calibration de la sonde, la configuration de la citerne ne doit pas encore avoir été reçue par le module U-Tank, sinon un message d'erreur apparaîtra.


- La première étape est la sélection du canal qui va être calibré. Utiliser les flèches Haut et Bas du clavier pour choisir la valeur désirée, puis appuyer sur "OK" pour valider ou sur  pour revenir au menu principal.
- Maintenant le U-Tank va vous demander de mettre la sonde en dehors du fluide. Assurez-vous que la sonde à calibrer est à la pression atmosphérique (à l'extérieur de la citerne à l'air libre, non immergée ou en contact avec le fluide), et appuyer sur "OK" pour valider. Si la sonde est à la pression atmosphérique et qu'une valeur acceptable est mesurée, le système passera à l'écran suivant, sinon un message d'erreur sera affiché.

- La dernière étape consiste à paramétrer la hauteur de la sonde dans la citerne. Cette hauteur est la distance entre le bas de la sonde et le fond de la citerne. Utiliser les flèches Haut et Bas du clavier pour entrer la valeur (en millimètres), puis appuyer sur "OK" pour valider ou sur  pour revenir à l'étape précédente.

A cet instant, l'écran indiquera "OK! CALIBRATION FINISHED", pour confirmer que les valeurs de calibration ont été enregistrées correctement.

NOTE: pour protéger la sonde de la présence de saleté ou débris dans le fond de la citerne, il n'est pas recommandé de laisser la sonde toucher le fond de la citerne.

2.4. Réinitialisation d'usine

Cette option permet d'effacer toutes les données du module U-Tank (paramètres locaux, données de calibration, données de configuration, etc...). Un message d'avertissement s'affichera, demandant confirmation de l'effacement de toutes les données : appuyer sur "OK" pour confirmer et effacer toutes les données ou sur  pour revenir au menu principal sans effacer aucune donnée.

ATTENTION! Si une réinitialisation d'usine est effectuée, le module pourra ne pas fonctionner correctement jusqu'à ce que toutes les données (paramètres locaux, configuration) ne soient renvoyées depuis le logiciel U-Track. Si vous utilisez des sondes analogiques, celles-ci devront également être calibrées une nouvelle fois.

2.5. +INFO

Cette option affichera des informations pertinentes à propos du module (adresse, version, etc...) et de la configuration (nom de produit, etc...).

Informations pour la mise au rebut



Le symbole ci-dessus signifie que selon les lois locales et règlements votre produit et/ou ses batteries doivent être jetés séparément des ordures ménagères. Lorsque ce produit atteint sa fin de vie, apporter le dans un point de collecte adapté et désigné par les autorités locales. La collecte séparée et le recyclage de votre produit et/ou ses batteries au moment de sa mise au rebut aidera à préserver les ressources naturelles et assure son recyclage d'une manière qui protège la santé humaine et l'environnement.



Vanne à siège incliné 2/2 voies pour fluides jusqu'à + 180 °C, raccord manchon, DN15 - 65

Pour les vannes de process avec automatisation décentralisée, voir ELEMENT type 2100



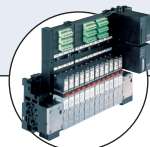
- Valeurs de débit élevées
- Durée de vie élevée
- Actionneurs universels, fermés ou ouverts en position de repos, avec gamme d'accessoires modulaire, têtes de commande comprises
- Arrivée du flux sous ou au-dessus du siège
- Transformation aisée de la fonction de commande

Type 2000 combinable avec



Type 8697

Indicateur de position électrique



Type 8640/8644

Îlot de vannes

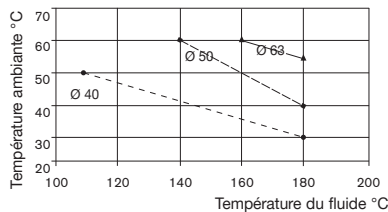


Type 6012/6014 P

Vanne pilote

La vanne à siège incliné à commande externe est composée d'un actionneur à piston à commande pneumatique et d'un corps de vanne à 2 voies. L'actionneur est disponible en deux matériaux différents, PA et PPS, selon la température ambiante. Le joint de tige éprouvé, à réglage automatique, garantit une excellente étanchéité. Les corps de vanne à 2/2 voies propices à l'écoulement, en bronze ou acier inox coulé de précision permettent des valeurs de débits élevées. Ces vannes robustes, ne nécessitant pas de maintenance, peuvent être équipées à posteriori d'un large éventail d'accessoires pour l'affichage de position, la limitation de la course ou l'actionnement manuel d'urgence. Vannes avec clamp et raccord soudé, voir fiches techniques séparées.

1) **Remarque** : Sur les actionneurs PA des tailles 40, 50 et 63, la combinaison est indiquée dans le tableau ci-dessous avec la température maximale du fluide et la température ambiante maximale :

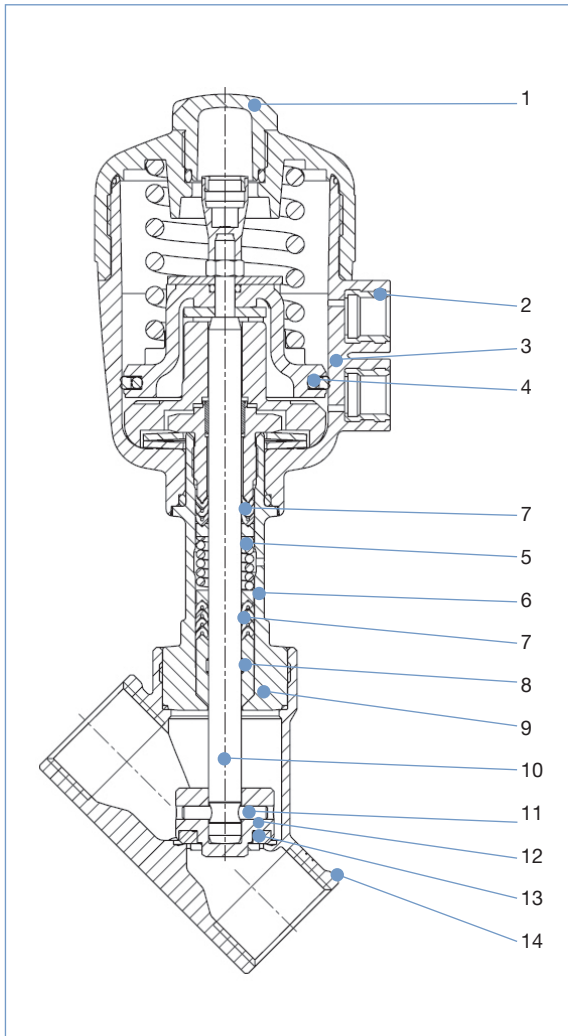


Caractéristiques techniques	
Diamètre nominal	DN15 à 65
Matériau du corps	Bronze, acier inoxydable coulé de précision 316L
Matériaux de l'actionneur	PA ou PPS
Matériaux du joint	PTFE (NBR, FKM, EPDM sur demande)
Fluides	Eau, alcools, huiles, carburants, fluides hydrauliques, solutions salines, lessives, solvants organiques, vapeur
Viscosité	max. 600 mm ² /s
Presse-étoupe (avec graisse silicone)	Joints en V PTFE avec compensation ressort
Température du fluide¹⁾	- 10 à + 180 °C avec joint PTFE
Température ambiante pour l'actionneur PA ¹⁾ actionneur PPS ¹⁾ Ø 40 - 80 actionneur PPS ¹⁾ Ø 100 - 125	- 10 à + 60 °C + 5 à + 140 °C + 5 à + 90 °C, brièvement jusqu'à + 140 °C
Position de montage	Au choix, de préférence actionneur vers le haut
Fluide de commande	Gaz neutres, air
Pression de pilotage maximale Taille d'actionneur Ø 40 - 80 Taille d'actionneur Ø 100 Taille d'actionneur Ø 100 Taille d'actionneur Ø 125	PA et PPS 10 bar PA 10 bar PPS 7 bar PA et PPS 7 bar
Raccords de conduite	F ¾ - F 2 ½ (NPT sur demande)

Sommaire

Indications sur la vanne	Indications sur le système On/Off CLASSIC	Demande de devis
Type 2000 manchon	Type 8801-YA	Type 8801-YA
Caractéristiques techniques et informations de commande	p. 1 - 7	Remarque concernant la commande et caractéristiques techniques
	p. 8 - 11	p. 12

Indications concernant le matériau du corps taraudé type 2000



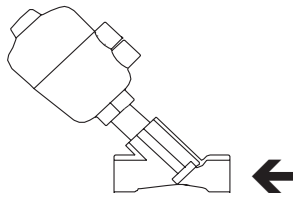
	Corps en bronze	Corps en acier inoxydable coulé de précision
1 Capot transparent	PC (avec actionneur PPS ; PSU)	PC (avec actionneur PPS ; PSU)
2 Raccords d'air de pilotage	Laiton	Acier inoxydable 1.4305
3 Actionneur	PA, PPS	PA, PPS
4 Joint de piston	NBR (avec actionneur PPS ; FKM)	NBR (avec actionneur PPS ; FKM)
5 Ressort	Acier inoxydable 1.4310	Acier inoxydable 1.4310
6 Tube ²⁾	Laiton CuZn	Acier inoxydable 1.4401 Acier inoxydable 316L ³⁾
7 Joint de tige	PTFE (FKM sur demande)	PTFE (FKM sur demande)
8 Racleur	PTFE PEEK ¹⁾	PTFE PEEK ¹⁾
9 Mamelon ²⁾	Laiton CuZn	Acier inoxydable 1.4401 Acier inoxydable 316L ³⁾
10 Tige	Acier inoxydable 1.4021	Acier inoxydable 1.4401
11 Broche	Acier inoxydable 1.4401	Acier inoxydable 1.4401
12 Clapet plat	Laiton CuZn	Acier inoxydable 1.4401
13 Joint	PTFE (NBR, FKM, EPDM sur demande)	PTFE (NBR, FKM, EPDM sur demande)
14 Corps de vanne	Bronze GCuSn5ZnPb2%Ni	Acier inoxydable 316L

¹⁾ Pour les tailles d'actionneur 100 mm et 125 mm

²⁾ En une partie pour les tailles d'actionneur 63 mm à 125 mm

³⁾ Pour les tailles d'actionneur 63 mm à 125 mm

Caractéristiques techniques du corps taraudé type 2000 avec arrivée du flux sous le siège (pour gaz et liquides)



Arrivée du flux sous le siège

Diamètre nominal [mm]	Taille d'actionneur [mm]	Valeur K_v eau (m ³ /h)	Pression de pilotage minimale NF [bar]	Pression de service max. jusqu'à + 180°		Poids [kg]
				NF [bar]	NO [bar]	
15	40	3,7	4,0	15	16	0,8
	50	4,2	3,9	16	16	0,8
20	40	7,0	4,0	6,5	16	0,9
	50	8,5	3,9	11	16	1,0
	63	9,0	4,5	16	-	1,4
25	50	10	-	-	16	1,2
	63	18	4,5	11	16	1,8
	80	18	5,0	16	16	2,2
32	63	25	4,5	6	16	2,2
	80	27	5,0	14	16	3,1
40	63	35	-	-	16	2,7
	80	38	5,0	9	16	3,5
	100	40	4,4	12,5	-	7,6
	125	40	3,2	16	-	9,0
50	63	49	-	-	13	4,0
	80	52	-	-	15	4,8
	100	55	4,4	7,2	-	7,0
	125	55	3,2	10	-	9,4
65	80	77	-	-	15	6,4
	125	90	3,2	5,2	-	11,0

Valeur K_v eau [m³/h] : Mesure à + 20 °C, 1 bar de pression à l'entrée de la vanne et sortie libre
 Indication de pression [bar] : Surpression par rapport à la pression atmosphérique

Diagramme de pression de pilotage pour la fonction de commande B et l'arrivée du flux sous le siège

Diagramme 1

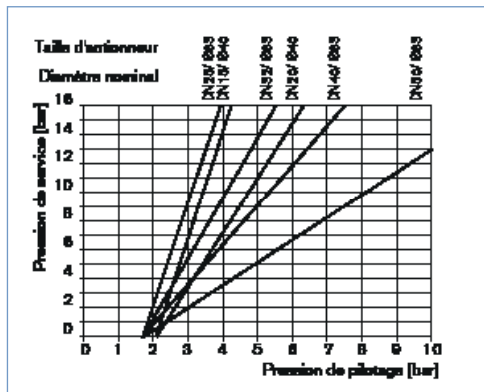


Diagramme 2

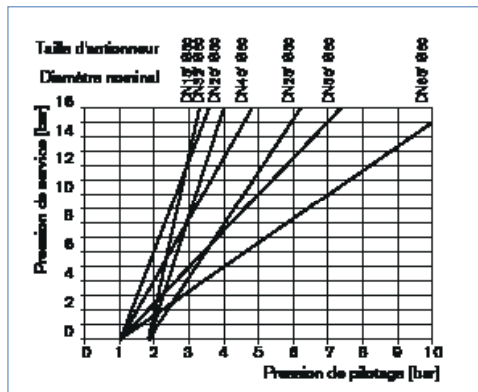
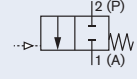
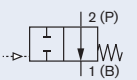


Tableau de commande du corps taraudé type 2000 avec arrivée du flux sous le siège (autres variantes sur demande)

Divers matériaux d'actionneur et de corps

Fonction de commande	Raccord de conduite	Dia- mètre nomi- nal [mm]	Taille d'action- neur Ø [mm]	Valeur K _v eau [m ³ /h]	Pression de pilotage min. [bar]	Pression de service max. jusqu'à +180 °C [bar]	Corps en bronze		Corps en acier inoxydable	
							N° d'ar- ticle Action- neur PA	N° d'ar- ticle Action- neur PPS	N° d'ar- ticle Action- neur PA	N° d'ar- ticle Action- neur PPS
A Vanne à ouver- ture/fermeture à actionnement pneu- matique, fermée en position de repos par la force du res- sort, arrivée du flux sous le siège 	G 3/8	15	40	3,7	4,0	15	178614	178613	142613	178612
	G 1/2		40	3,8	4,0	15	178608	178607	178606	178605
			50	4,2	3,9	16	178684	178683	178682	178681
	G 3/4	20	50	8,5	3,9	11	178680	178679	178678	178677
			63	9,0	4,5	16	178666	178665	178664	178663
	G 1	25	63	18	4,5	11	178676	178675	178674	178667
			80	18	5,0	16	186489	187565	186488	187844
	G 1 1/4	32	80	27	5,0	14	178699	178698	178697	178696
	G 1 1/2	40	80	38	5,0	9	178695	178694	178693	178692
			125	40	3,2	16	186487	-	187840	-
	G 2	50	100	55,0	4,4	7,2	001134	002170	001140	001239
			125	55,0	3,2	10	001593	002171	001601	-
G 2 1/2	65	125	90,0	3,2	5,2	001368	002172	001373	001703	
B Vanne à ouver- ture/fermeture à actionnement pneu- matique, ouverte en position de repos par la force du res- sort, arrivée du flux sous le siège 	G 3/8	15	40	3,7	Voir dia- grammes 1 et 2 en page pré- cédente	16	140368	178610	142616	178609
	G 1/2		40	3,8		16	178601	178602	178603	178604
			50	4,2		16	178691	178690	178689	178688
	G 3/4	20	50	8,5		16	178687	179020	178686	178685
			63	10		16	178850	178849	178848	178847
	G 1	25	50	10		16	178845	178853	178852	178851
	G 1 1/4	32	63	25		16	178864	178863	178862	178861
			80	35		16	178864	178863	178862	178861
	G 1 1/2	40	63	35		16	178864	178863	178862	178861
			80	49,0		13	001371	002179	001376	001709
	G 2	50	63	49,0		16	001595	002180	001603	002164
			80	52		16	001595	002180	001603	002164
G 2 1/2	65	80	77,0	15	001372	002181	001377	001710		

i Autres versions sur demande



Matériau

Joint : NBR, FKM, EPDM



Fonction de commande

Actionneur à double effet



Raccord de conduite

Clamp, raccord soudé (voir fiches techniques séparées)



Homologations

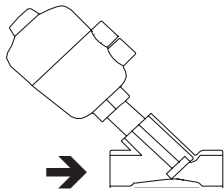
GL, SIL



Température du fluide

Vannes pour des températures de fluide jusqu'à + 200 °C ou jusqu'à - 40 °C

Caractéristiques techniques du corps taraudé type 2000 avec arrivée du flux au-dessus du siège (pour gaz et vapeurs seulement)



Arrivée du flux au-dessus du siège

Attention !

Les vannes avec arrivée du flux au-dessus du siège ne peuvent être utilisées que sous conditions avec les fluides liquides. Il y a un risque de coup de bélier !

Diamètre nominal [mm]	Taille d'actionneur [mm]	Valeur K_v eau (m ³ /h)	Pression de service max. Jusqu'à +180 °C	Poids [kg]
15	40	3,7	16	0,8
	50	4,2	16	0,8
20	40	7,0	16	0,9
	50	8,5	16	1,0
25	50	10,0	16	1,2
	63	18,0	16	1,8
32	63	25,0	16	2,2
40	63	35,0	16	2,7
	80	38,0	16	3,5
50	63	49,0	16	4,0
	80	52,0	16	4,8
65	80	77,0	14	6,4
	100	90,0	15	8,6

Valeur K_v eau [m³/h] : Mesure à +20 °C, 1 bar de pression à l'entrée de la vanne et sortie libre
 Indication de pression [bar] : Surpression par rapport à la pression atmosphérique

Caractéristiques techniques	Arrivée du flux au-dessus du siège (pour gaz et vapeur seulement)
Fluides	Fluides gazeux et vapeur
Autres caractéristiques techniques	Voir caractéristiques techniques en p. 1

Diagrammes de pression de pilotage pour la fonction de commande A et l'arrivée du flux au-dessus du siège

Diagramme 3

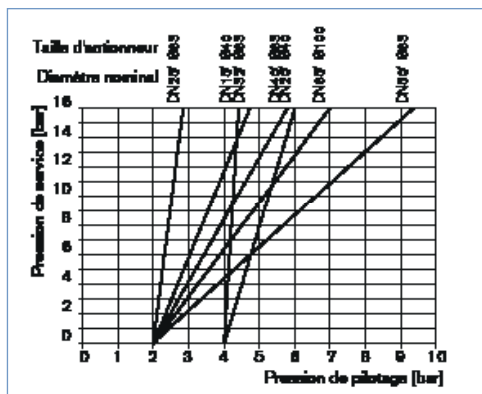


Diagramme 4

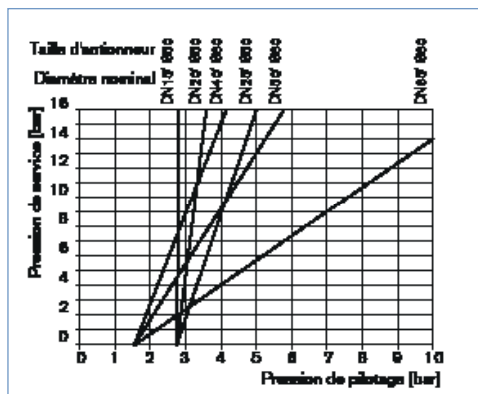
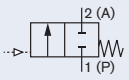


Tableau de commande du corps taraudé type 2000 avec arrivée du flux au-dessus du siège (autres variantes sur demande)

Divers matériaux d'actionneur et de corps

Pression de pilotage minimale en fonction de la pression de service, voir diagrammes 3 et 4 en page précédente

Fonction de commande	Raccord de conduite	Dia- mètre nominal [mm]	Taille d'action- neur Ø [mm]	Valeur K _v Eau [m³/h]	Pression de ser- vice max. jusqu'à +180 °C [bar]	Corps en bronze		Corps en acier inoxydable	
						N° d'article Action- neur PA	N° d'article Action- neur PPS	N° d'article Action- neur PA	N° d'article Action- neur PPS
A Vanne à ouverture/ fermeture à actionnement pneumatique, fermée en position de repos par la force du ressort, arrivée du flux au-dessus du siège 	G 3/8	15	40	3,7	16	186588	x	142615	x
	G 1/2		50	4,2	16	183939	186106	186376	186467
	G 3/4	20	40	7,0	16	186822	x	187672	x
	G 1		50	8,5	16	185356	180374	185304	180375
	G 1 1/4	25	50	10,0	16	186380	187556	186729	187872
	G 1 1/2		63	18,0	16	178860	178859	178857	178856
	G 2	32	63	25,0	16	178855	178854	178893	178892
	G 2 1/2	40	63	35,0	16	178896	178897	178895	178894
	G 2	50	63	49,0	16	001251	002149	001401	002158
	G 2 1/2	65	80	77,0	14	001398	002151	001402	002160
G 2 1/2	100		90,0	15	130332	186344	130333	-	

X sur demande

i Autres versions sur demande

Matériau

Joint : NBR, FKM, EPDM

Fonction de commande

Actionneur à double effet

Raccord de conduite

Clamp, raccord soudé (voir fiches techniques séparées)

Homologations

GL, SIL

Température du fluide

Vannes pour des températures de fluide jusqu'à + 200 °C ou jusqu'à - 40 °C

Tableau de commande accessoires

Vannes pilotes 3/2 voies avec vis creuse

Matériau du joint vanne FKM, matériau du joint vis creuse NBR

Vanne pour Taille d'actionneur [Ø mm]	Type	Entrée de pression P (corps de vanne)	Raccord de travail A (vis creuse)	Dia- mètre nomi- nal [mm]	Valeur Q air [l/min]	Plage de pression [bar]	Raccorde- ment électrique de bobine N. ind.	Puissance absorbée [W]	N° d'article par tension/ fréquence [V/Hz]	
									024/DC	230/50
50-63	6012P	Raccordement par flexible Ø6 mm	G 1/4	1,2	48	0-10	Forme B	4	552283	552286
40	6012P	G 1/4	G 3/8	1,2	48	0-10	Forme B	4	552295	552298
50-125	6014P	G 1/4	G 1/4	2	120	0-10	Forme A	8	424103	424107

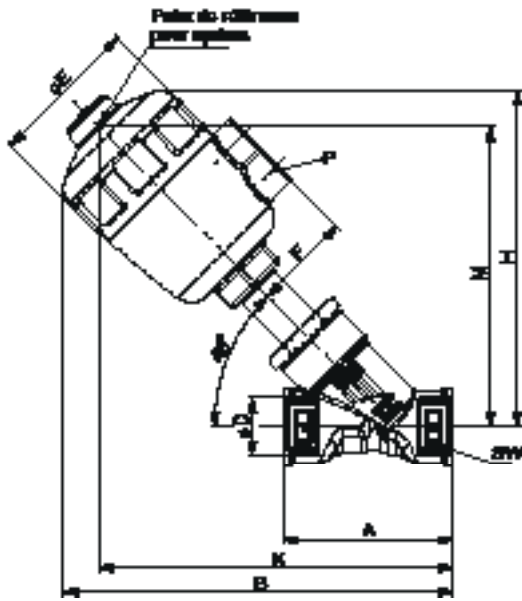
Connecteur type 2507, forme B ou type 2508, forme A

	N° d'article
Type 2507, forme B norme industrielle, 0 à 250 V sans câblage (type 6012 P)	423845
Type 2508, forme A selon DIN EN 175301-803, 0 à 250 V sans câblage (type 6014 P, type 0331P)	008376

Pour les autres accessoires, se reporter à la fiche technique séparée pour le type 1062 ou à la fiche technique des accessoires du type 2XXX pour la gamme complète des accessoires.

Remarque : Pour des raisons liées à la construction, une partie des accessoires n'est pas disponible pour les tailles d'actionneur Ø 40 mm. Veuillez demander la fiche technique des accessoires type 2XXX.

Dimensions du corps taraudé type 2000 [mm]



Diamètre nominal	Taille d'actionneur Ø	Raccord de conduite D	A	B	Ø E	H	K	M	P	SW
15	40	G 3/8	65	139	53	115	125	100	G 1/8	27
		G 1/2		139	53	115	125	100	G 1/8	
	50	G 3/8		163	64	140	147	123	G 1/4	
		G 1/2		163	64	140	147	123	G 1/4	
20	40	G 3/4	75	147	53	120	133	106	G 1/8	34
	50			171	64	144	155	129	G 1/4	
	63			198	80	171	179	152	G 1/4	
25	50	G 1	90	181	64	152	166	136	G 1/4	41
	63			206	80	177	188	158	G 1/4	
	80			228	101	198	204	173	G 1/4	
32	63	G 1 1/4	110	219	80	183	200	164	G 1/4	50
	80			240	101	205	217	180	G 1/4	
	100			292	127	255	261	226	G 1/4	
40	63	G 1 1/2	120	222	80	188	203	170	G 1/4	55
	80			244	101	209	220	185	G 1/4	
	100			295	127	260	264	230	G 1/4	
	125			324	158	289	287	253	G 1/4	
50	63	G 2	150	249	80	204	230	185	G 1/4	70
	80			270	101	225	246	201	G 1/4	
	100			317	127	272	287	242	G 1/4	
	125			347	158	302	310	265	G 1/4	
65	63	G 2 1/2	185	275	80	218	256	199	G 1/4	85
	80			296	101	239	272	215	G 1/4	
	100			344	127	287	314	257	G 1/4	
	125			374	158	317	337	280	G 1/4	

Remarque concernant la commande du système de vannes On/Off CLASSIC de type 8801-YA

La vanne à siège incliné de type 2000 peut être combinée à notre indicateur de position de type 8697 pour obtenir un système de vannes On/Off CLASSIC.

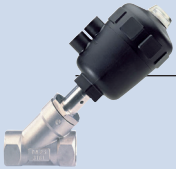


Le système de vannes On/Off CLASSIC est composé de :

- un indicateur de position **type 8697** (voir fiches techniques séparées)
- une vanne à siège incliné **type 2000** (voir tableau de commande à partir de la page 3)




Pour configurer d'autres systèmes de vanne, veuillez utiliser la page Demande de devis en page 10.

Vous commandez deux composants et obtenez une vanne entièrement montée et testée.

<p>Vanne à siège incliné type 2000 Corps taraudé</p> 	<p>Indicateur de position Type 8697</p> 
<p>Système de vannes On/Off CLASSIC</p>  <p>Type 8801-YA-U 2000 + 8697</p>	

Indicateur de position électrique



En savoir plus

Type 8697
Taille d'actionneur 40 à 225

L'indicateur de position de type 8697 est conçu pour un montage intégré dans les vannes de process de la série CLASSIC 20XX pour répondre aux exigences des environnements de process de l'hygiène. Des interrupteurs de proximité mécaniques ou inductifs détectent la position de la vanne.

Propriétés

- Design compact
- Indicateur de position à LED
- Détecteurs de proximité mécaniques ou inductifs pour l'enregistrement de la position finale
- Corps résistant aux produits chimiques selon IP 65/67 et facile à nettoyer, classification 4X
- Variante à sécurité intrinsèque selon ATEX / IECEx en option

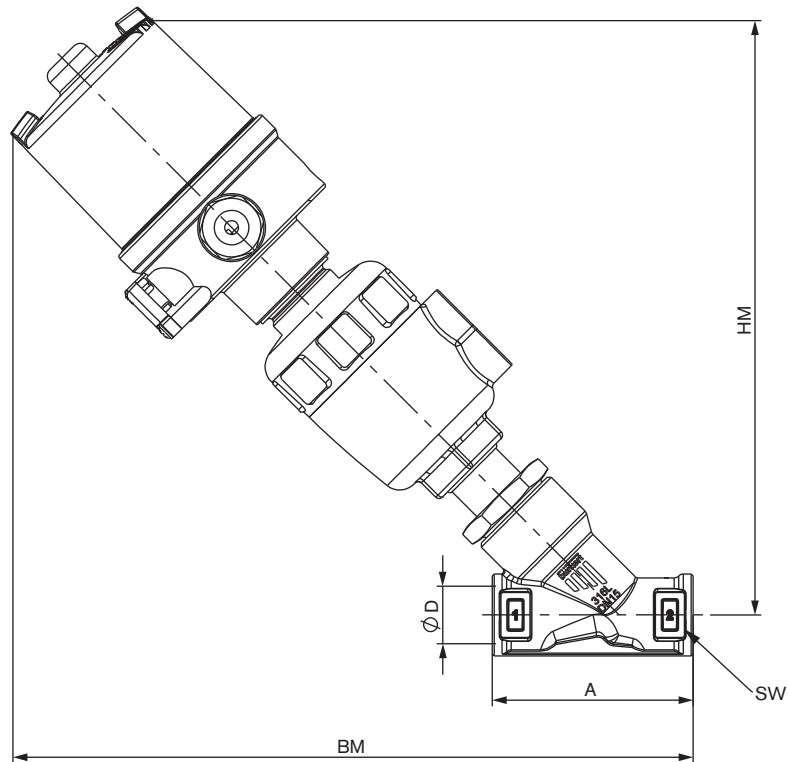
Avantages pour les clients

- Montage simple et rapide
- Sécurité du signal par le réglage autonome des interrupteurs de position finale
- Encombrement réduit dans les conduites de l'installation pour plus de flexibilité dans la conception de l'installation

Veuillez cliquer sur la case « En savoir plus » pour accéder à notre site Internet, sur la page du produit afin de télécharger la fiche technique.

Dimensions système de vannes On/Off CLASSIC type 8801-YA [mm]

Dimensions système de vannes On/Off CLASSIC type 8801-YA-U avec indicateur de position électrique type 8697



Diamètre nominal [mm]	Taille d'actionneur [mm]	BM [mm]	HM [mm]	A [mm]	ØD [mm]	SW [mm]
15	40	220	197	65	G 3/8	27
	40	220	197	65	G 1/2	
	50	215	239	65	G 3/8	
20	50	247	220	75	G 3/4	34
	63	279	244	75		
25	63	279	250	90	G 1	41
	80	295	266	90		
32	80	310	274	110	G 1 1/4	50
40	80	311	276	120	G 1 1/2	55
	125	379	344	120		
50	100	370	325	150	G 2	70
	125	386	344	150		
65	125	415	358	185	G 2 1/2	85

Remarque
Vous pouvez compléter les champs directement dans le fichier avant d'imprimer le formulaire.

Système de vannes On/Off CLASSIC type 8801-YA – Demande de devis

▶ **À compléter et à envoyer avec votre demande ou commande à votre distributeur Bürkert * le plus proche**

Société	Interlocuteur
N° client	Division
Rue	Tél./Fax
CP-lieu	E-mail

= champs obligatoires

Nombre de pièces

Délaï de livraison souhaité

Données de service

Tuyauterie	DN	<input type="text"/>	PN	<input type="text"/>
Matériau des tubes	<input type="text"/>			
Fluide de process	<input type="text"/>			
État fluide	<input type="checkbox"/> Liquide	<input type="checkbox"/> Vapeur	<input type="checkbox"/> Gaz	
	Standard	Unité		
Débit (Q, QN, W) ¹⁾	<input type="text"/>	<input type="text"/>		
Température à l'entrée de la vanne	<input type="text"/>			
Pression absolue à l'entrée de la vanne	<input type="text"/>			

¹⁾ Unités par défaut : liquide Q = m³/h ; vapeur W = kg/h ; gaz Qn = nm³/h

Caractéristiques de la vanne

Matériaux de l'actionneur	<input type="checkbox"/> PA	<input type="checkbox"/> PPS			
Matériau du corps	<input type="checkbox"/> Acier inoxydable	<input type="checkbox"/> Bronze			
Matériau du joint siège	<input type="checkbox"/> PTFE	<input type="checkbox"/> NBR	<input type="checkbox"/> Autres <input type="text"/>		
Pression nominale	PN	<input type="text"/>			
Diamètre nominal	DN	<input type="text"/>			
Raccordement	<input type="checkbox"/> Soudé	<input type="checkbox"/> Filetage femelle	<input type="checkbox"/> Clamp		
Raccordement selon norme	<input type="checkbox"/> ISO	<input type="checkbox"/> DIN	<input type="checkbox"/> ANSI	<input type="checkbox"/> JIS	<input type="checkbox"/> Autres <input type="text"/>
Fonction de commande	<input type="checkbox"/> SFA ²⁾	<input type="checkbox"/> SFB ²⁾	<input type="checkbox"/> À double effet		
Pression de pilotage	<input type="text"/> min.	<input type="text"/> max.			

²⁾ NF : Normalement fermée en position de repos par la force du ressort ; NO : Normalement ouverte en position du repos par la force du ressort

Caractéristiques pilotage

Cliquez sur la case « En savoir plus » pour accéder à notre site Internet, sur la page du produit afin de télécharger la fiche technique.

Indicateur de position électrique

Type 8697
Pour taille d'actionneur 40 à 225

En savoir plus



- Indicateur de position à LED
- Microrupteur ou détecteur de proximité pour indication de positions finales
- Corps selon IP 65/67, classification 4X
- Variante à sécurité intrinsèque selon ATEX / IECEx en option

Indicateur de positions finales

- Microrupteur 24 V DC
- Microrupteur 50 – 225 V DC/AC
- Interrupteur inductif 3 conducteurs PN
- Interrupteur inductif 2 conducteurs NAMUR (uniquement avec interrupteur inductif)
- Interrupteur inductif 2 conducteurs 24 V DC 3 conducteurs PNP)

Raccordement électrique

- Passe-câble
- Connecteur M12

Nombre d'indicateurs de positions finales

2x

Homologations

- ATEX cat. 2DG, IECEx
- ATEX cat. 2DG, IECEx
- sans

Système de vannes On/Off CLASSIC type 8801-YA – Demande de devis, suite

Accessoires de vanne	
Vanne pilote	Limitation de course
<input type="checkbox"/> Vanne pilote	<input type="checkbox"/> Limitation de course
Tension de service <input type="text"/>	<input type="checkbox"/> Limitation de course min./max., avec indicateur de position optique
N° d'article (si connu) : <input type="text"/>	<input type="checkbox"/> Limitation de course max., sans indicateur de position optique
	N° d'article (si connu) : <input type="text"/>

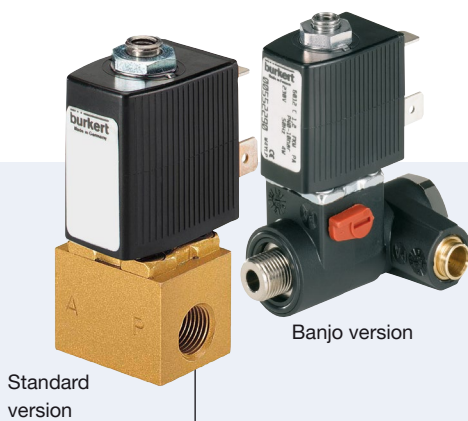
Certificats
<input type="checkbox"/> Attestation pour l'exécution de la commande EN-ISO 10204 2.1
<input type="checkbox"/> Rapport d'essai EN-ISO 10204 2.2
<input type="checkbox"/> Certification de conformité pour les matières premières EN-ISO 10204 3.1
<input type="checkbox"/> EN161 (directives European Gas Device)

Commentaire / croquis

DTS 1000379554 FR Version: - Status: RL (released | freigegeben | validé) printed: 14.12.2018

*Veuillez cliquer ici pour trouver le distributeur Bürkert compétent dans votre région → www.burkert.com

Plunger valve 3/2 way direct-acting



Standard version

Banjo version

Type 6012 can be combined with...



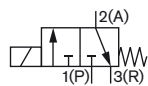
Type 2507
Cable plug industrial standard form B



Type 2516
Cable plug to DIN EN 175301-803* form C

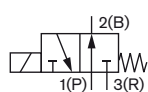
Valve 6012 is a direct-acting plunger valve. The stopper and plunger guide tube are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. A Bürkert-specific flange design (SFB) enables space-saving arrangement of valves on a manifold. Push-in fittings can be selected for flexible hose connection. A banjo connection with banjo bolt is the ideal solution for easy direct mounting on a pneumatic drive. Optional manual actuation enables quick commissioning and optimal maintenance. In combination with a plug in accordance with DIN EN 17301-803 Form B or C, the valves satisfy protection class IP65.

Circuit function C



3/2 way direct-acting solenoid valve, normally closed

Circuit function D



3/2 way direct-acting solenoid valve, normally open

- Direct-acting, compact small-format valve with diameter of up to DN 1.6
- Screwed coil system
- Banjo threaded connection for direct mounting on pneumatic valves
- Simple and quick push-in, flange, or manifold installation
- Service-friendly manual override

Technical data	
Body material	Brass, polyamide (PA), stainless steel 1.4305 Polyamide (PA)
Seal material	FKM / NBR
Medium	Neutral gases and liquids (e.g. compressed air, water, hydraulic oil, technical Vacuum) neutral gases (z.B. compressed air)
Medium temperature	Type 6012: -10 to +100 °C Type 6012, banjo version: -10 to +60 °C
Ambient temperature	max. +55 °C
Viscosity	Type 6012, banjo version: -10 to +40 °C max. 21 mm ² /s
Port connection	Type 6012: M5, G 1/8, Flange Type 6012, banjo version: G 1/8, G 1/4 and tube fitting Ø 6 mm
Operating voltages	24 V DC 24 V / 50 Hz 110 / 230 V / 50 Hz
Voltage tolerance	± 10 %
Duty cycle/single valve for block assembly on multiple manifold	100 % continuous rating Intermittent operation 60 % (30 min) With 2 W coil 100 % (on request)
Electrical connection	<ul style="list-style-type: none"> • Acc. to DIN EN 175301-803* Form C for cable plug Type 2516 (see ordering chart for accessories) • Acc. to DIN 43650 Form B (Industrial standard) for cable plug Type 2507 (see ordering chart for accessories) • Flying leads on request
Manual override	Optional, as a standard feature (for Type 6012, banjo version)
Installation	As required, preferably with actuator upright
Weight: Type 6012 / 6012P	125 g (G 1/8) / 135 g
Protection class	IP65 with cable plug
Thermic isolation class	Polyamide class B Coil: Epoxy class H

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

* Previously DIN 43650

Response times

Type 6012

Orifice [mm]	K _v value water [m ³ /h]	Pressure range		Coil power	Power consumption		Response times	
		WWC [bar] ¹⁾	WWD [bar] ¹⁾		Inrush	Hold	Opening [ms]	Closing [ms]
1.2	0.045	0-10	0-10	4 W AC or 4 W DC	9 VA 4 W	6 VA (4 W) 4 W	7-10	9-12
1.6	0.06	0-6	0-6				7-12	7-12

¹⁾ Pressure data [bar]:
Overpressure with
respect to atmospheric
pressure

- K_v value [m³/h]: Flow rate value for water, measured at +20 °C, 1 bar¹⁾ Pressure at valve inlet and 1 bar pressure difference

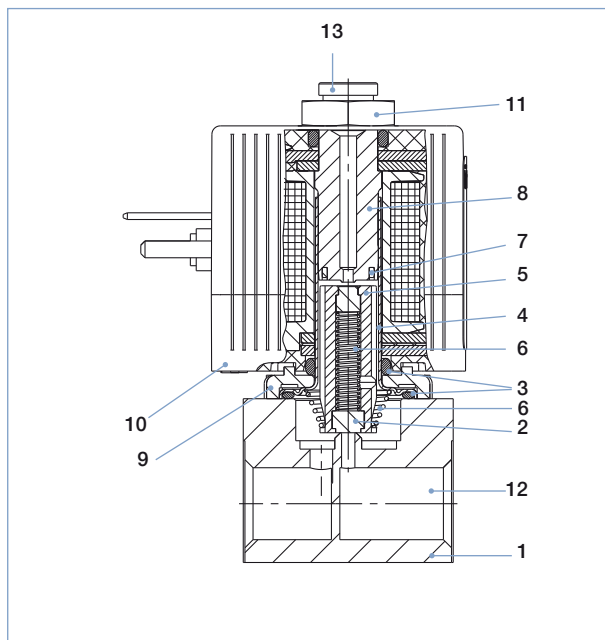
Type 6012, banjo version

Orifice [mm]	Q _{Nn} value air [l/min]	Pressure range [bar] ¹⁾	Coil power	Power consumption		Response times	
				Inrush	Hold	Opening [ms]	Closing [ms]
			4 W AC or 4 W DC	9 VA 4 W	6 VA (4 W) 4 W	7-10 7-12	9-12 7-12
1.2	48	0-10					

¹⁾ Pressure data [bar]:
Overpressure with
respect to atmospheric
pressure

- Q_{Nn} value [l/min]: Flow rate value for air, measured at +20 °C, 6 bar¹⁾ Pressure at valve inlet and 1 bar pressure difference
- Response times [ms]: Measures at valve outlet at 6 bar¹⁾ and +20 °C acc. to ISO 12238
Opening: Pressure build up 0 to 90 %
Closing: Pressure relief 100 to 10 %

Material

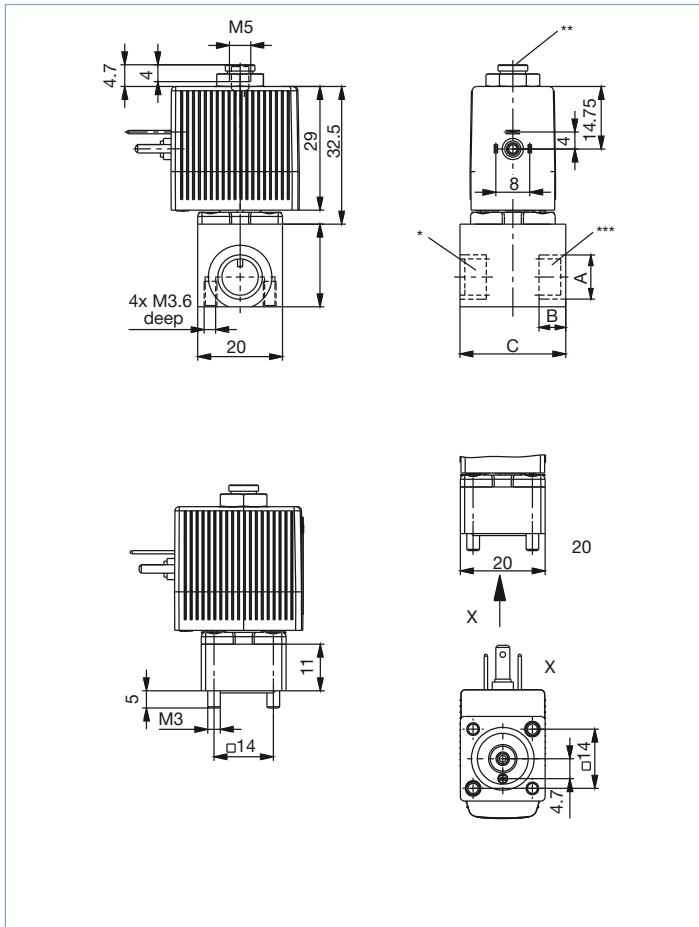


1	Body	Brass, stainless steel 1.4305 PA (polyamide)
2	Armature seal	FKM/EPDM
3	O-Ring	FKM/EPDM
4	Guide tube	Stainless steel 1.4303
5	Core	Stainless steel 1.4105
6	Spring	Stainless steel 1.4310
7	Shading ring	Copper (silver optional)
8	Stopper	Stainless steel 1.4105
9	Sub-base	Zn3 gl cC surface (brass version) Nickel-plated surface (St. st. version)
10	Coil	DIN EN 175301-803* Form C PA Form B (Industrial standard) Epoxy
11	Locknut	DIN176-9SMnPb28K (surface Zn5glcA)
12	Pressure inlet P with	Circuit function C
13	Pressure inlet P with	Circuit function D

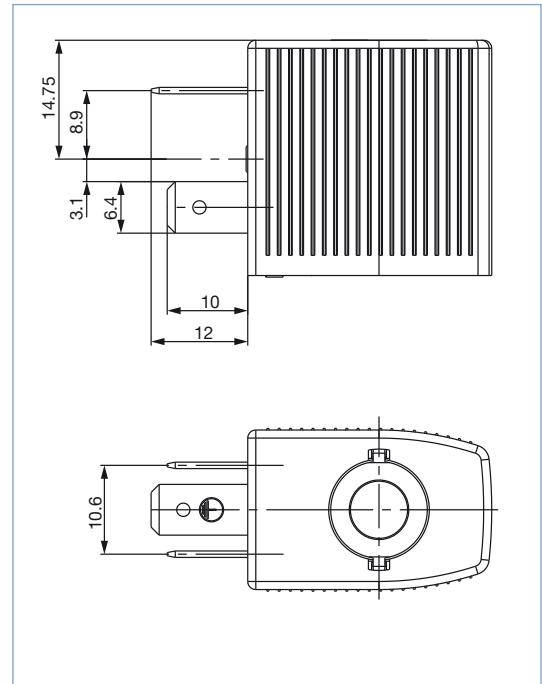
* previously DIN 43650

Dimensions [mm] - Type 6012

Coil connection acc. to DIN EN 175301-803* Form C (Cable Plug Type 2516)



Coil connection acc. to DIN EN 43650 Form B Industrial standard (cable plug 2507)



Port connection	A	B	C	D
Sleeve	M5	5	20	14
Sleeve	G 1/8	8	25	19.5
sub-base	-	-	20	11

* previously DIN 43650

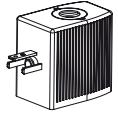
Connections

For the positions marked with *, ** or *** in the drawing, the connections are marked with the letters shown in the table above, depending on the circuit function. Unused connections in circuit functions A or B will be closed off with a blanking plug or cap nut.

Circuit function	Connection Type		
	*	**	***
A	P	blank off	A
B	blank off	B	P
C	P	R	A
D	R	P	B
T	P	R	A

Ordering chart

Type 6012: Solenoid valve in threaded port or sub-base version with polyamide electrical coil acc. to DIN EN 175301-803* Form C for cable plug Type 2516



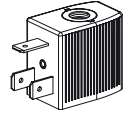
Circuit function	Orifice [mm]	Port Connection	K _v value water [m ³ /h]	Pressure range [bar] ¹⁾	Voltage/frequency [V/Hz]	Article no. brass body without manual override	Article no. brass body with manual override	Article no. St. st. body without manual override	Article no. PA body with manual override
C 3/2 way valve NC 	1.2	M5	0.045	0-10	24/DC	134143	-	-	-
					24/50	134144	-	-	-
					110/50	134145	-	-	-
					230/50	134146	-	-	-
					24/DC	134147	-	-	-
					24/50	134148	-	-	-
	1.6	M5	0.06	0-6	110/50	134149	-	-	-
					230/50	134150	-	-	-
					24/DC	134151	134159	134167	-
					24/50	134152	134160	134168	-
					110/50	134153	134161	134169	-
					230/50	134154	134162	134170	-
	1.2	G 1/8	0.045	0-10	24/DC	134155	134163	134171	-
					24/50	134156	134164	134172	-
					110/50	134157	134165	134173	-
					230/50	134158	134166	134174	-
					24/DC	134175	-	134183	134191
					24/50	134176	-	134184	134192
	1.6	G 1/8	0.06	0-6	110/50	134177	-	134185	134193
					230/50	134178	-	134186	134194
					24/DC	134179	-	134187	134195
					24/50	134180	-	134188	134196
					110/50	134181	-	134189	134197
					230/50	134182	-	134190	134198
D 3/2 way valve NO 	1.2	M5	0.045	0-10	24/DC	134199	-	-	-
					24/50	134200	-	-	-
					110/50	134201	-	-	-
					230/50	134202	-	-	-
					24/DC	134204	-	-	-
					24/50	134205	-	-	-
	1.6	M5	0.06	0-6	110/50	134206	-	-	-
					230/50	134207	-	-	-
					24/DC	134208	-	134216	-
					24/50	134209	-	134217	-
					110/50	134210	-	134218	-
					230/50	134211	-	134219	-
	1.2	G 1/8	0.045	0-10	24/DC	134212	-	134220	-
					24/50	134213	-	134221	-
					110/50	134214	-	134222	-
					230/50	134215	-	134223	-

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure
 * previously DIN 43650

- All valves with FKM seal; without cable plug.
- other versions on request.

Ordering chart

Type 6012: Solenoid Valve with threaded port or sub-base version with polyamide electrical coil
acc. to DIN 43650 Form B (Industrial standard) for cable plug Type 2507

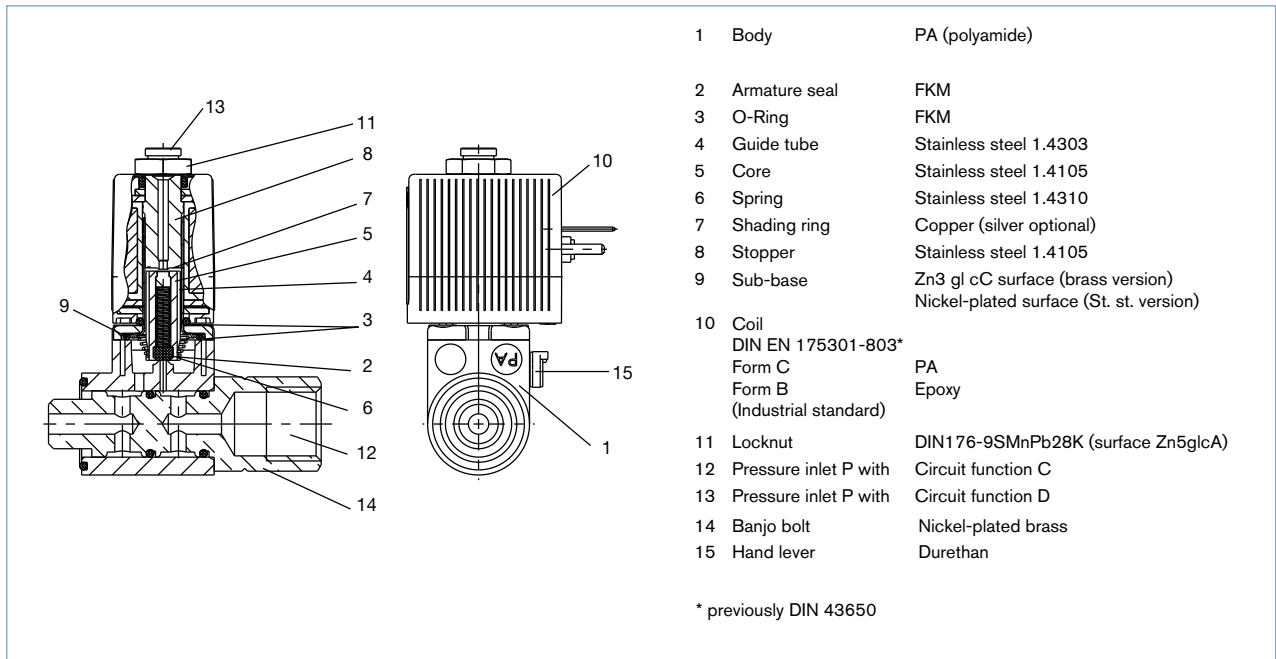


Circuit function	Orifice [mm]	Port Connection	K _v value water [m ³ /h]	Pressure range [bar] ¹⁾	Voltage/frequency [V/Hz]	Article no. brass body without manual override	Article no. brass body with manual override	Article no. St. st. body without manual override	Article no. PA body with manual override
C 3/2 way valve NC 	1.2	M5	0.045	0-10	24/DC	163569	-	-	-
					24/50	163570	-	-	-
					110/50	163571	-	-	-
					230/50	163572	-	-	-
					24/DC	163573	-	-	-
					24/50	163574	-	-	-
	1.6	M5	0.06	0-6	110/50	163575	-	-	-
					230/50	163576	-	-	-
					24/DC	161904	163584	163592	-
	1.2	G 1/8	0.045	0-10	24/50	163577	163585	163593	-
					110/50	163578	163586	163594	-
					230/50	163579	163587	163595	-
					24/DC	163580	163588	163596	-
	1.6	G 1/8	0.06	0-6	24/50	163581	163589	163597	-
					110/50	163582	163590	163598	-
					230/50	163583	163591	163599	-
					24/DC	163600	-	163608	161063
	1.2	sub-base	0.045	0-10	24/50	163601	-	163609	163616
110/50					163602	-	163610	163617	
230/50					163603	-	163611	163618	
24/DC					163604	-	163612	163619	
1.6	sub-base	0.06	0-6	24/50	163605	-	163613	163620	
				110/50	163606	-	163614	163621	
				230/50	217634	-	163615	163622	
				24/DC	163607	-	163616	163623	
D 3/2 way valve NO 	1.2	M5	0.045	0-10	24/DC	163623	-	-	
					24/50	163624	-	-	-
					110/50	163625	-	-	-
					230/50	163626	-	-	-
					24/DC	163627	-	-	-
					24/50	163628	-	-	-
	1.6	M5	0.06	0-6	110/50	163629	-	-	-
					230/50	163630	-	-	-
					24/DC	163631	-	163639	-
	1.2	G 1/8	0.045	0-10	24/50	163632	-	163640	-
					110/50	163633	-	163641	-
					230/50	163634	-	163642	-
					24/DC	163635	-	163643	-
	1.6	G 1/8	0.06	0-6	24/50	163636	-	163644	-
					110/50	163637	-	163645	-
					230/50	163638	-	163646	-
					24/DC	163639	-	163647	-

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure
* previously DIN 43650

- All valves with FKM seal; without cable plug.
- other versions on request.

Materials - Banjo version



Dimensions [mm] - Type 6012, banjo version

Version with coil connection acc. to DIN EN 175301-803* Form C (cable plug Type 2516)

Threaded port for compressed air

G	L
G 1/8	6.5
G 1/4	9.5

Push-in connection for compressed air

Pressure inlet P can be rotated through 360°.

Version with coil connection acc. to DIN 43650 Form B Industrial standard (cable plug Type 2507)

Threaded port for compressed air

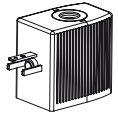
G	L
G 1/8	6.5
G 1/4	9.5

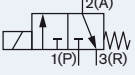
Push-in connection for compressed air

* previously DIN 43650

Ordering chart

Type 6012, banjo version: for direct mounting on to pneumatic actuator with polyamide coil acc. to DIN EN 175301-803* Form C for cable plug Type 2516

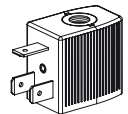


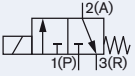
Circuit function	Orifice [mm]	Pressure inlet P (valve body)	Service port A (banjo bolt)	Q _{in} value air [l/min]	Pressure range [bar] ¹⁾	Voltage/frequency [V/Hz]	Article no.
C 3/2 way valve NC 	1.2	G 1/8	G 1/8	48	0-10	24/DC	429112
						24/50	429113
						110/50	429115
						230/50	429117
		G 1/4	G 1/8	48	0-10	24/DC	429126
						24/50	429127
						110/50	429128
						230/50	429129
		G 1/4	G 1/4	48	0-10	24/DC	427919
						24/50	427920
						110/50	427921
						230/50	427922
	Tube fitting Ø 6 mm	G 1/8	48	0-10	24/DC	425299	
					24/50	425300	
					110/50	428570	
					230/50	425304	
Tube fitting Ø 6 mm	G 1/4	48	0-10	24/DC	425285		
				24/50	425286		
				110/50	428569		
				230/50	425290		

¹⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure * previously DIN 43650

- All valves with PA body, NBR seal and manual override; without cable plug.
- other versions on request

Type 6012, banjo version: for direct mounting on to pneumatic actuator with epoxy coil acc. to DIN EN 43650* Form B Industrial standard for cable plug Type 2507

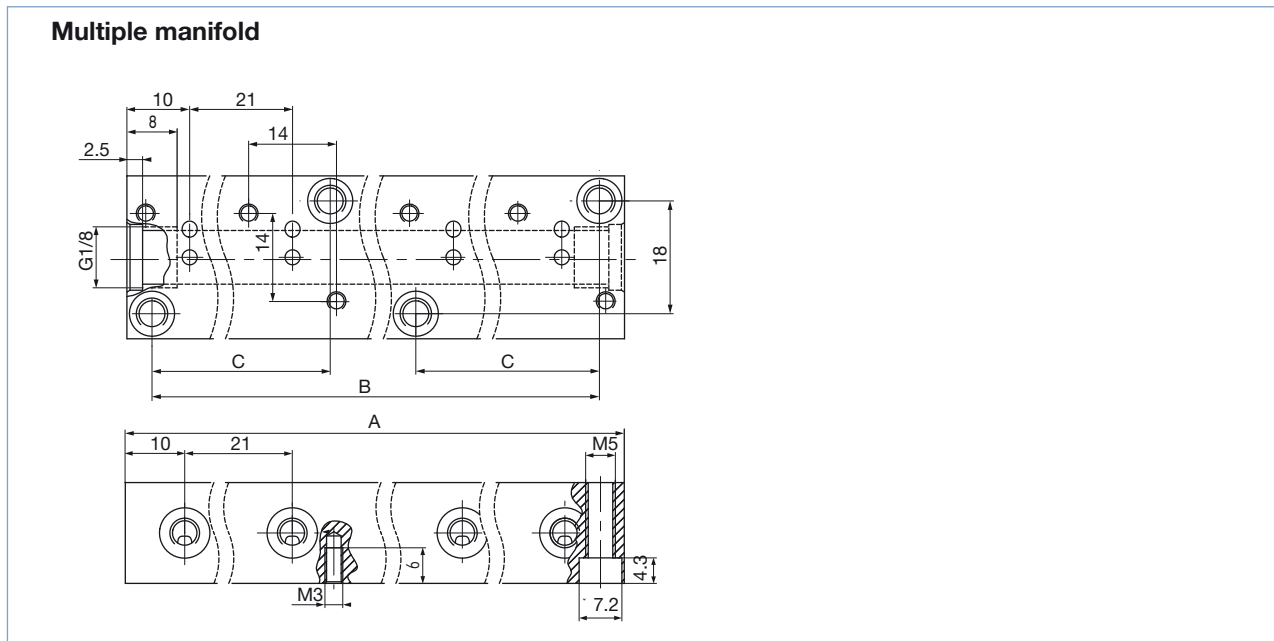


Circuit function	Orifice [mm]	Pressure inlet P (valve body)	Service port A (Banjo bolt)	Q _{in} value air [l/min]	Pressure range [bar] ¹⁾	Voltage/frequency [V/Hz]	Article no.
C 3/2 way valve NC 	1.2	G 1/8	G 1/8	48	0-10	24/DC	552299
						24/50	552300
						110/50	552301
						230/50	552302
		G 1/4	G 1/8	48	0-10	24/DC	552295
						24/50	552296
						110/50	552297
						230/50	552298
		G 1/4	G 1/4	48	0-10	24/DC	552291
						24/50	552292
						110/50	552293
						230/50	552294
	Tube fitting Ø 6 mm	G 1/8	48	0-10	24/DC	552287	
					24/50	552288	
					110/50	552289	
					230/50	552290	
Tube fitting Ø 6 mm	G 1/4	48	0-10	24/DC	552283		
				24/50	552284		
				110/50	552285		
				230/50	552286		

¹⁾ Pressure values [bar]: Overpressure with respect to atmospheric pressure

- All valves with PA body, NBR seal and manual override; without cable plug.
- other versions on request

Dimensions for manifolds (SFB)



Ordering chart for manifold

Material	No. of valves	A [mm]	B [mm]	C [mm]	Article no.
Aluminium	1	20	12	-	005312
	2	41	33	-	005355
	3	62	54	-	005313
	4	83	75	-	005314
	5	104	96	-	005315
	6	125	117	-	005316
	7	146	138	-	005893
	8	167	159	54	005166
	9	188	180	54	005241
	10	209	201	75	005819
	11	230	222	75	005242
	12	251	243	96	005222






- only available with circuit function C (normally closed).

Manifold accessories

Accessory	Features	Article no.
Blanking plug	with seal ring, G 1/8	005041
Covering plate	for unused valves	005100

Ordering chart for accessories






Cable plug type 2516 to DIN EN 175301-803* form C

	Circuitry	Voltage	Article no.
	None (standard)	0 - 250 V AC/DC	303141 
	with LED	12 - 24 V AC/DC	303145 
	with LED and varistor	12 - 24 V AC/DC	303148 
	with rectifier, LED and varistor	12 - 24 V AC/DC	303142 

- Supplied with cable plug: flat seal and fixing screw.
- Other versions of cable plug with circuitry acc. to DIN EN 175301-803* Form C as well as detailed technical data - see datasheet Type 2516

^{*)} previously DIN 43650

Cable plug Type 2507 acc. to DIN 43650 Form B (Industrial standard)

	Circuitry	Voltage	Article no.
	None (Standard)	2 - 250 V AC/DC	423845 
	with LED	24 V AC/DC	423849 
	with LED and freewheeling diode	12 - 24 V DC	423851 
	with rectifier, LED and varistor	12 - 24 V AC/DC	423853 

- Supplied with cable plug, flat seal and fixing screw.
- Further versions of cable plug with circuitry acc. to DIN EN 43650* Form B as well as detailed technical data - see datasheet Type 2507

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