Fluidcontrol

CMS - Condition Monitoring Systems

Installation and Operation Instructions

Original instructions

BE150109
09/2025

Bühler Technologies GmbH, Harkortstr. 29, 40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0
E-Mail: fluidcontrol@buehler-technologies.com
Internet: www.buehler-technologies.com

Bühler Technologies GmbH, Harkortstr. 29, 40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0
Internet: www.buehler-technologies.com
E-Mail: fluidcontrol@buehler-technologies.com

Read this instruction carefully prior to installation and/or use. Pay attention particularly to all advises and safety instructions to prevent injuries. Bühler Technologies can not be held responsible for misusing the product or unreliable function due to unauthorised modifications.

Document information
Document No.....BE150109
Version.....09/2025

Contents

1 Introduction

1.1 Intended Use

Condition monitoring systems (CMS) are used to monitor the condition of oils in hydraulic and lubrication circuits. Their scope is indicated in the specifications. Any other applications require the prior approval of Bühler Technologies GmbH.

1.2 Model Key

CMS - [ ] - [ ] - [ ] - [ ] - [ ]

Version

M	Installation
T	Portable
F	Mobile

Particle Monitor

DA	with display, analogue signal	(BPM-100-000-1DC2S1A)
OA	without display	(BPM-100-010-1DC2S1A)
DI	with display, IO-Link	(BPM-100-000-1D1S)*
OA	without display, IO-Link	(BPM-100-010-1D1S)*

Oil moisture sensor / oil condition

OOO	without (blanking plug)
MSO	BCM-MS200-1DC2A
WSD	BCM-WS100-1D*
WSA	BCM-WS100-1S2A
WDA	BCM-WD100-2S2A
WDD	BCM-WD100-1D1S*

Electrical

OO	without
VS	Version 1 (incl. mains plug and 24 V DC sensor supply for 8-pin sensors, M12 connector)

Pressure measurement

PO	without (blanking plug)
PM	Pressure gauge
PS	Pressure sensor PT-703-100-G14-M12-13*
PD	PT-771-100-1D1S*
PA	PT-771-100-1D1A*

* Cannot be connected via electrical interface “VS”. Option for customer-side power supply.

Technical data of the sensors can be found in the corresponding data sheet.

1.3 Scope Of Delivery

- 1 x CMS (condition monitoring system)
- Product documentation for the complete unit and individual components installed

2 Safety instructions

2.1 Important advice

The device may only be operated if:

- the product is used under the conditions described in the operating and installation manual, in accordance with the type label, and for the intended applications; Any unauthorised modifications to the device will void the warranty provided by Bühler Technologies GmbH,
- the information and markings on the type plates are observed,
- the limit values specified in the data sheet and in this operating and installation manual are observed,
- the device is not operated outside its specification,
- monitoring/protective devices are correctly connected,
- Service and repairs not described in these instructions is performed by Bühler Technologies GmbH,
- Using genuine replacement parts.

These operation instructions are a part of the equipment. The manufacturer reserves the right to change performance, specification or design data without prior notice. Keep this manual for future reference.

Signal words for warnings

DANGER	Signal word for an imminent danger with high risk, resulting in severe injuries or death if not avoided.
WARNING	Signal word for a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.
CAUTION	Signal word for a hazardous situation with low risk, resulting in damaged to the device or the property or minor or medium injuries if not avoided.
NOTICE	Signal word for important information to the product.

Warning signs

These instructions include the following warnings:

 General warning sign	 Warning of explosion hazard
 Warning of corrosive substances	 General mandatory sign
 High pressure warning	 Wear a safety mask
 Warning of hot surfaces	 Wear gloves
 Warning of environmental pollution	 Unplug from mains
 Voltage warning	

2.2 General hazard warnings

The device may only be installed by qualified specialist personnel who are familiar with the safety requirements and associated risks. In addition, through their professional training, they possess knowledge of the relevant standards and regulations.

Be sure to observe the safety regulations relevant to the installation location and the generally accepted rules of technology. Prevent malfunctions and thereby avoid personal injury and damage to property.

The operator of the system must ensure that:

- Safety instructions and operating manuals are available and observed,
- the respective national accident prevention regulations are observed,
- the permissible data and operational conditions are maintained,
- protective devices are used and the required maintenance is performed,
- the device is disposed of according to the law,
- valid national installation regulations are observed,
- Nearby equipment is EMC protected, e.g. through shielding.
- The current and voltage supply for the aggregate has a (mains) separator with adequate switching capacity. National requirements must be observed.

Maintenance, Repair

Please note during maintenance and repairs:

- Repairs to the unit must be performed by Bühler authorised personnel.
- Only perform conversion-, maintenance or installation work described in these operating and installation instructions.
- Always use genuine spare parts.
- Do not install damaged or defective spare part. If necessary, visually inspect prior to installation to determine any obvious damage to the spare parts.

Always observe the applicable safety and operating regulations in the respective country of use when performing any type of maintenance.

DANGER

Electrical voltage

Electrocution hazard.

a) Disconnect the device from power supply.

b) Make sure that the equipment cannot be reconnected to mains unintentionally.

c) The device must be opened by trained staff only.

d) Regard correct mains voltage.

CAUTION

Hot surface

Burning hazard
Let the device cool down before maintaining.

CAUTION

High pressure

Risk of injury from ejected parts or oil, environmental hazard from oil.

a) Maintenance and repair work must not be carried out on the oil circuit while it is pressurised. This also applies to the screw plugs.

b) Avoid environmental pollution during cleaning work or work on the oil circuit.

c) Use the designated collection container.

WARNING

Voltage flashovers

Electrocution hazard
Do not earth the heat exchanger when carrying out welding work!

DANGER

Potentially explosive atmosphere

Explosion hazard if used in hazardous areas.
The device is not suitable for operation in hazardous areas with potentially explosive atmospheres.

3 Transport and storage

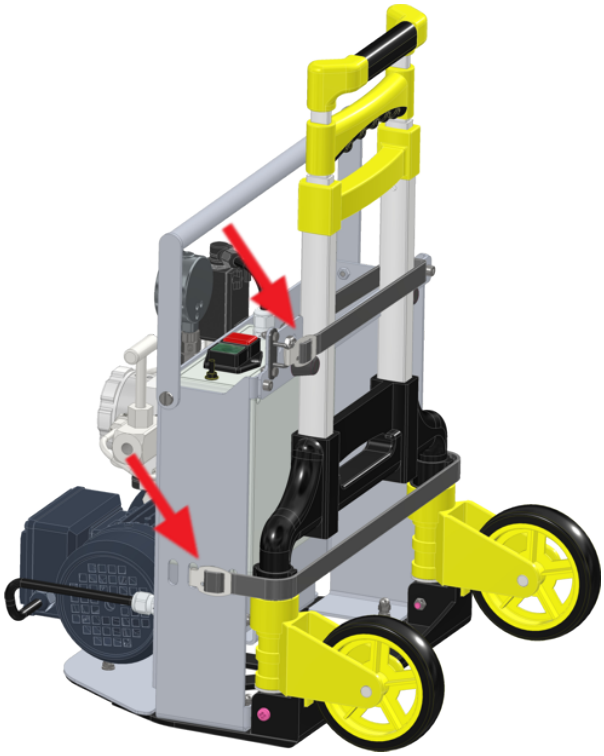
The products should only be transported in their original packaging or a suitable replacement. Ensure secure fastening and stowage.

If necessary, please use suitable lifting gear (slings etc.) to lift the unit.

When not in use, the equipment must be protected from moisture and heat. It must be stored in a covered, dry, dust-free room at room temperature.

Transport on a hand truck (available as an optional item)

To prevent damage to the unit due to falling, both rubber belts must be properly secured (see illustration):



4 Installation and connection

4.1 Installing the unit

The units are screwed in place at the attachment points using screws. Be sure the support structure is sized adequately. To protect the system from damage, the connections must be stress free. We recommend using flexible hoses. Be sure the hose is stable against negative pressure, e.g. steel wire reinforced. Avoid possible leaks in the circuit to prevent environmental damages. If necessary, use an oil pan. Protect the aggregate from mechanical impact.

4.1.1 Version “M” – Mounting

The aggregates are screwed in place at the attachment points using screws. Be sure the support structure is sized adequately. To protect the system from damage, the connections must be stress free. We recommend using flexible hoses. Ensure the hose on the suction end is stable against negative pressure, e.g. with steel-wire reinforcing.

Avoid possible leaks in the circuit to prevent environmental damages. If necessary, use an oil pan, for example. Protect the aggregate from mechanical impact.

4.1.2 Versions “T” - Portable and “F” - Mobile

The unit must be installed on a level, horizontal surface to prevent it from tipping over during operation. In addition, a location must be selected where the unit cannot be damaged by operational influences such as vibrations or moving system parts.

4.1.3 Additional advices for units with pump

The distance between the unit (pump suction end) and tank should be as short as possible.

There should be no difference between the vertical height of the tank and unit. The unit can also be installed below this level.

If the unit can only be installed above this level, the pump will have a constant suction pressure of 0.4 bar (atmosphere). Depending on the oil viscosity and temperature, this will result in a different suction lift. A difference in value of 2 m can be used as a guide.

Until the oil is heated to operating temperature, a suction pressure of 0.6 bar is permissible temporarily.

The diameter of the intake pipe should not be smaller than DN8. We recommend a max. flow rate of 1.5 m/s.

When first starting up a hydraulic system with a long intake pipe can cause problems due to excess air in the intake pipe. In this case we suggest filling the suction pipe with oil and using a suction valve without spring.

Oil is sprayed into the pump housing during the assembly process at our factory. During extended periods of storage the pump housing may not have enough oil anymore to create this oil film when switching on the pump. The pump may then completely lose suction. Before connecting the suction pipe we recommend spraying some oil into the pump housing to prevent this.

The pump may be exposed to max. 0.5 bar of pressure on the suction side.

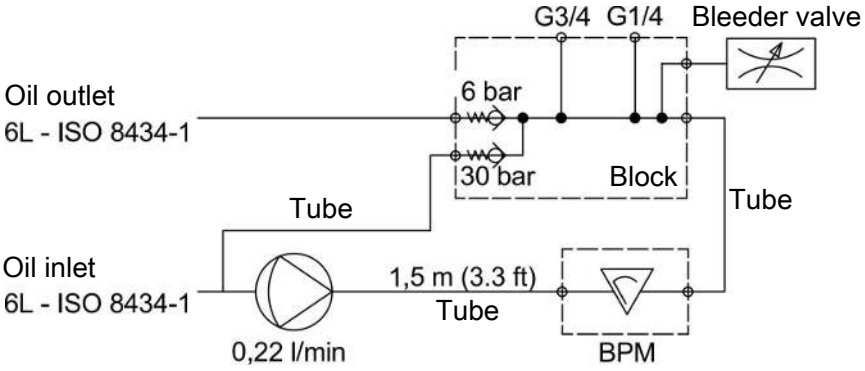
4.1.4 Installing swivel nuts in the fitting body

Proceed as follows:

– Carefully slide the preinstalled pipe end into the 24° cone on the fitting body.
– Tighten the swivel nut until a considerable increase in force can be felt (fixed point).
– Use a suitable spanner to tighten the swivel nut a 1/12 turn more (30°) beyond the fixed point. A marker line on the swivel nut and the fitting body facilitates observing the correct tightening angle.

Tube A.D.	Thread	Torque (Nm) for straight screwed plug	Torque (Nm) sealing plug
6	G 1/8"	18	13
8	G 1/4"	35	30
10	G 1/4"	35	30
12	G 3/8"	70	60
15	G 1/2"	90	80
18	G 1/2"	90	80
22	G 3/4"	180	140
28	G 1"	310	200
35	G 1 1/4"	450	400
42	G 1 1/2"	540	450

4.2 Hydraulic connection



The hydraulic connection must be established as described in the illustration. Connect the lines stress and vibration free, so typically using hoses.

Be sure to use suitable lines (with regard to pressure, fluid resistance, environmental influences, fire) when connecting to the hydraulic-, lubrication circuit. Tighten the hose lines with a suitable torque (see appendix).

4.3 Electrical connections

DANGER **Electrical voltage**

Electrocution hazard.

a) Disconnect the device from power supply.

b) Make sure that the equipment cannot be reconnected to mains unintentionally.

c) The device must be opened by trained staff only.

d) Regard correct mains voltage.

CAUTION **Electrical voltage**

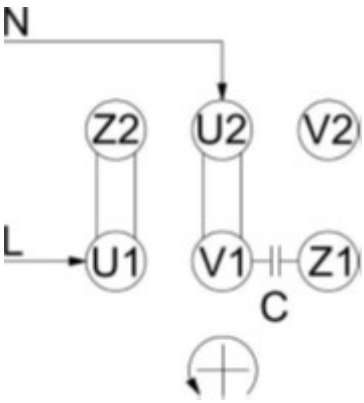
Wrong mains voltage may damage the device.
Installation of the device shall be performed by trained staff only. Regard the voltage given on the type plate. Make sure that the cables have sufficient strain relief.

Fusing
Fusing has to be done due to local standards!

Polarity
The direction of rotation of the pump can be seen on the right of the drive shaft or on the right of the fan wheel of the standard electric motor. The pump is marked with an arrow indicating the direction of rotation next to the pressure flange.

4.3.1 Electrical connection of the motor

Single-phase alternating current



Use the applicable local regulations to determine the safety values and the cross-sections of connection leads. The motor and, if equipped, starting devices must be connected to protective earth.

Lead fuses protect the cables in case of a short circuit, but are not sufficient to protect the motor coils from burning due to overload. A suitable protective motor switch equipped with a precise setting range for thermal protection must therefore be used.

Adjust the motor circuit breaker according to the nominal value specified on the type plate of the motor. Operation outside the specified mains voltage and frequency range limits is prohibited.

Take appropriate measures to protect energised parts from being touched by persons and/or interference from foreign objects.

The version with electrical box is equipped with an undervoltage release, 5 A micro-fuse and 1 A motor overcurrent fuse.

The operator of the equipment is responsible for ensuring lightning protection.

Connect the protective earth of the motor to the protective earth on site. Protective earth per DIN VDE 0100 must be connected to the marked earth lead terminal.

5 Operation and control

NOTICE

The device must not be started or operated outside the specifications!

5.1 Before starting

- Check that all parts are free of damage. Do not put a damaged device into operation.
- Check the correct connections of oil and power circuits according to chapter "Installation and connection".
- Make sure that all valves or other parts in the cooling circuit, which have to be opened, are opened.

5.2 During starting

Check whether the direction of pump rotation is to the right (clockwise) when looking at the drive shaft or to the right when looking at the fan wheel of the standard electric motor. Otherwise change the electrical connection.

CAUTION

Hot surface

Burning hazard
Let the device cool down before maintaining.

CAUTION

High pressure

Risk of injury from ejected parts or oil, environmental hazard from oil.

a) Maintenance and repair work must not be carried out on the oil circuit while it is pressurised. This also applies to the screw plugs.

b) Avoid environmental pollution during cleaning work or work on the oil circuit.

c) Use the designated collection container.

The system must be bled when it is commissioned for the first time or after long periods of downtime. A bleeder valve is provided on the aluminium block for this purpose. Once the bleeding process is complete, the valve must be closed properly.

Noise level

Our pump is supplied with a low noise. If the noise level increases significantly check if the suction line has the right dimension and if the pump works in the appropriate temp/viscosity range. Ask Bühler Technologies GmbH for technical advice.

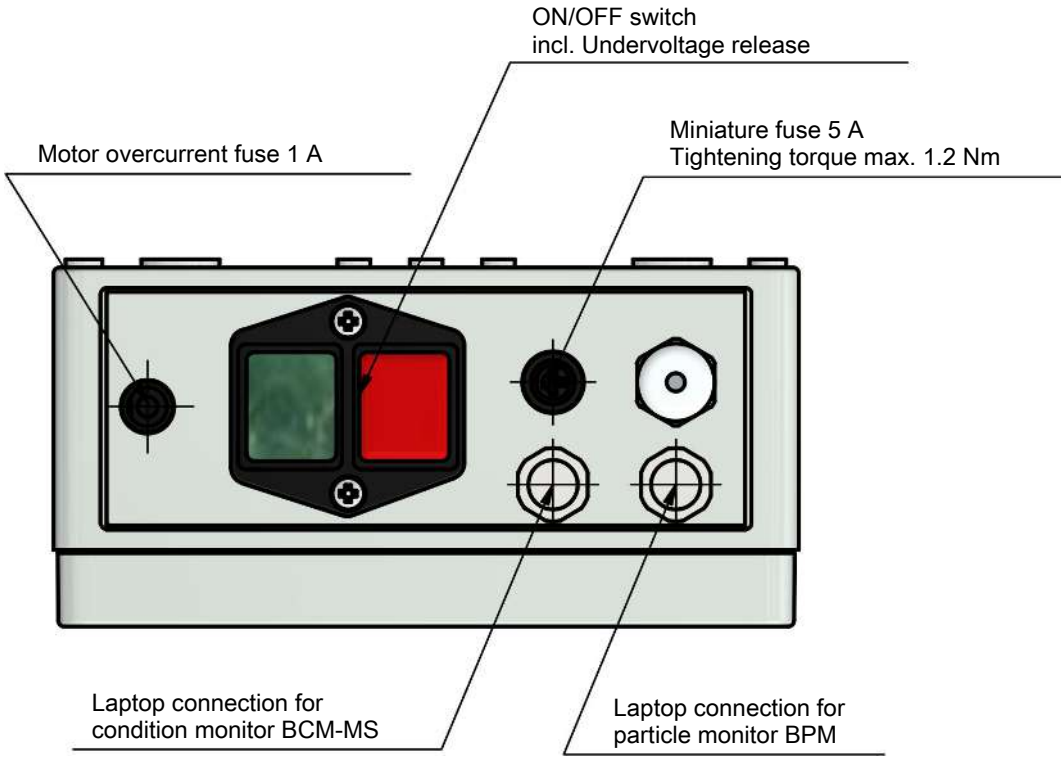
CAUTION

Hazard due to high pressure of the pump

Do not exceed the nominal pressure.
Install safety valves (pressure relief valves) to pumps that generate higher pressures.

The unit is protected against overpressure with a 30 bar pressure relief valve.

5.3 Version with electrical box



The electrical box controls the operation of the unit. It supplies the connected sensors with power and actuates the pump. The electrical system also includes the necessary fuses and undervoltage releases.

The two 8-pin M12 plug connectors are used to connect the data transmission cables to a laptop. The Bühler Technologies software “CM-Config “and “CM-DataViewer” enable access to the connected BPM and BCM-MS devices. The data transmission cable must be shielded to prevent signal interference.

6 Maintenance

During maintenance, remember:

- The equipment must be maintained by a professional familiar with the safety requirements and risks.
- Only perform maintenance work described in these operating and installation instructions.
- Observe the respective safety regulations and operating specifications when performing any type of maintenance.
- Always use genuine spare parts.

CAUTION

Hot surface

Burning hazard
Let the device cool down before maintaining.

CAUTION

High pressure

Risk of injury from ejected parts or oil, environmental hazard from oil.

a) Maintenance and repair work must not be carried out on the oil circuit while it is pressurised. This also applies to the screw plugs.

b) Avoid environmental pollution during cleaning work or work on the oil circuit.

c) Use the designated collection container.

7 Service and repair

If an error occurs during operation, you will find troubleshooting and corrective information in this chapter.

Repairs to the equipment may only be performed by Bühler authorised personnel.

If you have any questions, please contact our service department:

Tel.: +49-(0)2102-498955 or your local representative.

Further information about our individual service solutions for repair, modification and commissioning can be found at https://www.buehler-technologies.com/service.

If, after rectifying any faults and switching on the mains voltage, the device does not function correctly, it must be checked by the manufacturer. Please send the equipment inside suitable packaging to:

Bühler Technologies GmbH

- Reparatur/Service -

Harkortstraße 29

40880 Ratingen

Germany

In addition, please attach the completed and signed RMA decontamination declaration to the packaging. Otherwise, your repair order cannot be processed. You can find the form in the appendix of these instructions, or simply request it by e-mailing:

service@buehler-technologies.com.

7.1 Troubleshooting

Problem/malfunction	Possible cause	Action
No oil flow	– insufficient oil in the pump housing after prolonged standstill, thus no suction.	– spray some oil into the housing before connecting the oil line
	– oil viscosity too high, motor protection switch has been triggered.	– note max. viscosity. – the protective motor switch must be reset manually before restarting.
	– Air in the pipes	– bleed the unit using the bleeder valve
	– Short circuit	– eliminate the cause of the short circuit. – check or replace the micro-fuse.
Loud pump	– Negative intake pressure too high	– select a large enough suction hose – reduce suction lift

7.2 Spare parts

Item no.	Description
37MT018634	Pump drive motor
9018345	AZ pump X0P0102ABBA
1590002001	Electrical box
9110000031	5 A fuse, 5x20mm
see model key “particle monitor”	BDA particle monitor
see model key “oil moisture sensor / oil condition”	Oil moisture sensor / oil condition
see model key “pressure measurement”	Pressure sensor

8 Disposal

The applicable national laws must be observed when disposing of the products. Disposal must not result in a danger to health and environment.

The crossed out wheelie bin symbol on Bühler Technologies GmbH electrical and electronic products indicates special disposal notices within the European Union (EU).

The crossed out wheelie bin symbol indicates the electric and electronic products bearing the symbol must be disposed of separate from household waste. They must be properly disposed of as waste electrical and electronic equipment.

Bühler Technologies GmbH will gladly dispose of your device bearing this mark. Please send your device to the address below for this purpose.

We are obligated by law to protect our employees from hazards posed by contaminated devices. Therefore please understand that we can only dispose of your waste equipment if the device is free from any aggressive, corrosive or other operating fluids dangerous to health or environment. **Please complete the "RMA Form and Decontamination Statement", available on our website, for every waste electrical and electronic equipment. The form must be applied to the packaging so it is visible from the outside.**

Please return waste electrical and electronic equipment to the following address:

Bühler Technologies GmbH
WEEE
Harkortstr. 29
40880 Ratingen
Germany

Please also observe data protection regulations and remember you are personally responsible for the returned waste equipment not bearing any personal data. Therefore please be sure to delete your personal data before returning your waste equipment.

9 Appendices

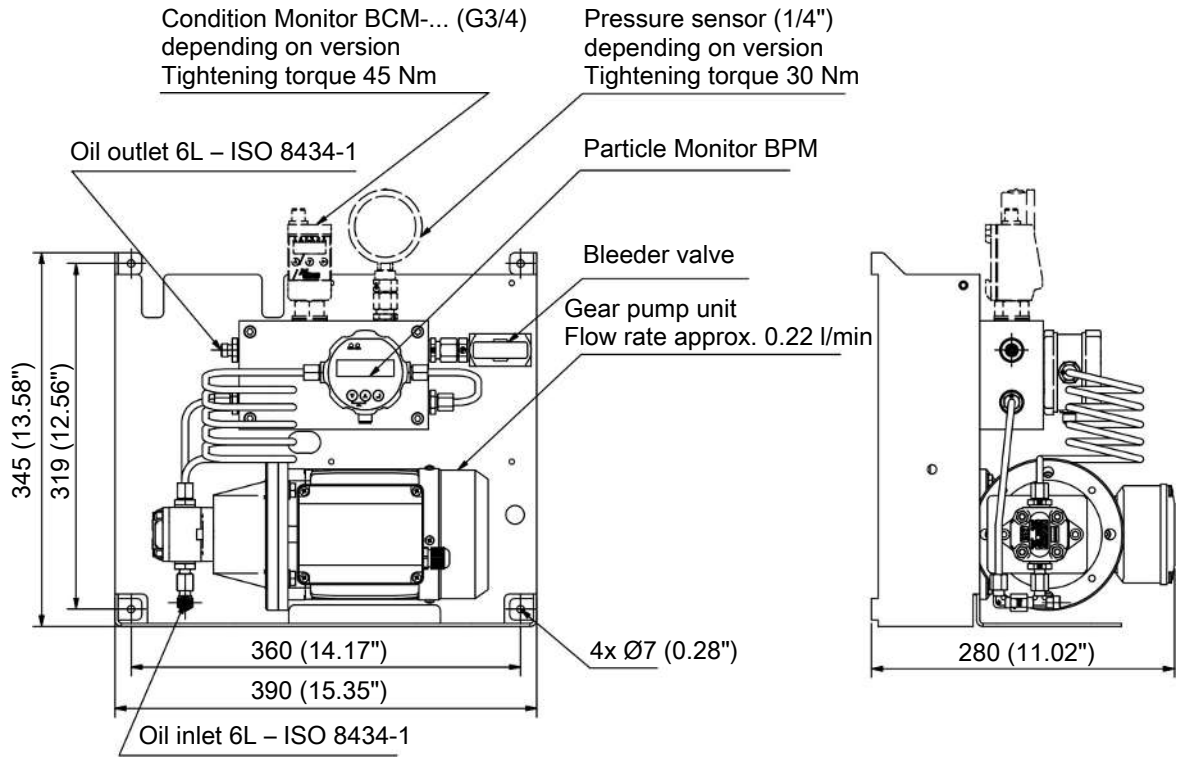
9.1 Technical data

Technical Data CMS	
Colour:	Steel parts: RAL 7001, silver grey Motor: RAL 7024 blue grey (Special colours available on request)
Surface protection:	Steel parts: ISO 12944, C3 medium Motor: ISO 12944, C2 medium Aluminium: bare (higher protection on request)
Operating fluids:	Mineral oils (H, HL, HLP, HLPD, HVLP) synthetic esters (HETG, HEPG, HEES, HEPR) polyalkylene glycols (PAG) zinc- and ash-free oils (ZAF) polyalphaolefins (PAO)
Operating pressure **on suction side:** **on discharge side:**	 Unpressurised (max. 0.5 bar) max. 50 bar
Suction pressure: **short-term:**	-0.4 bar -0.6 bar
Operating oil temperature:	-15 °C to +80 °C
Operating viscosity:	max. 500 cSt
Ambient temperature:	-20 °C to +40 °C (different ambient temperatures on request)
Weight:	18–22 kg (depending on version)
Power input:	approx. 1.4 A at 230 V 50 Hz

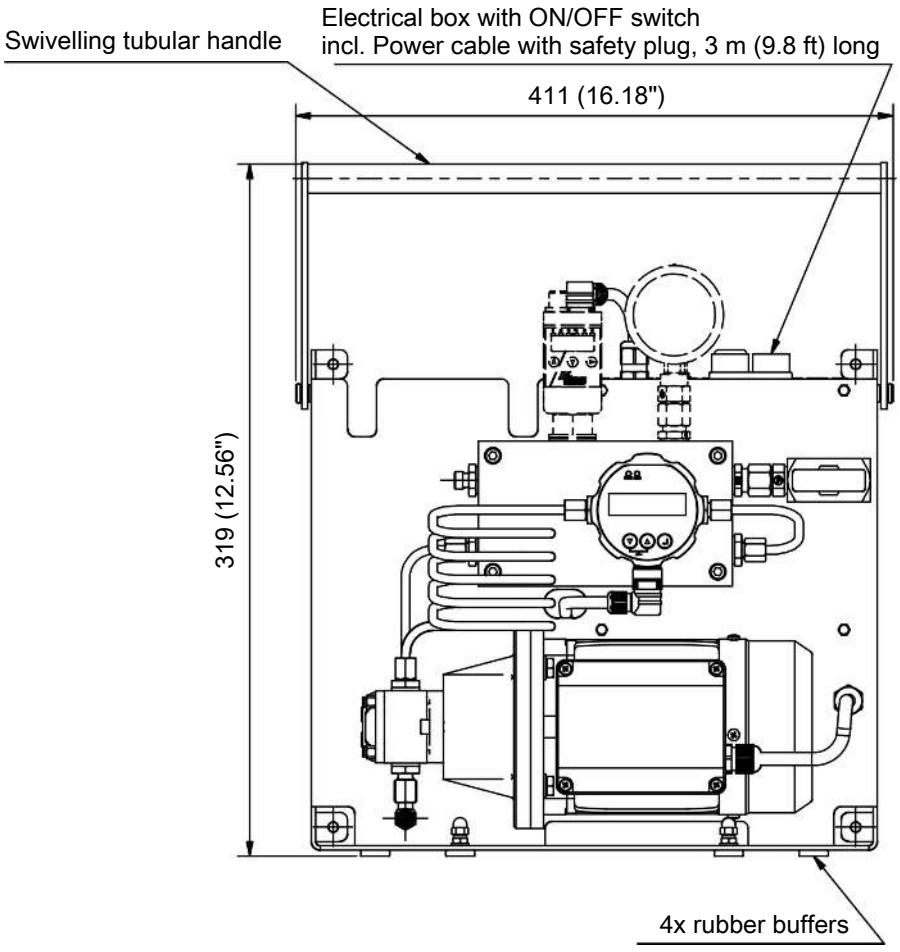
Electric motors (others available upon request)	
Voltage/frequency:	230 V 50 Hz, single-phase motor (special voltages/motor approvals on request)
Thermal stability:	Class of insulating material F, utilisation per Class B (higher on request)
IP rating:	IP55 (without electrical option) IP54 (with electrical option)
The motors comply with standards IEC 60034, IEC 60072, IEC 60085, EU 2019/1781	

9.2 Dimensions

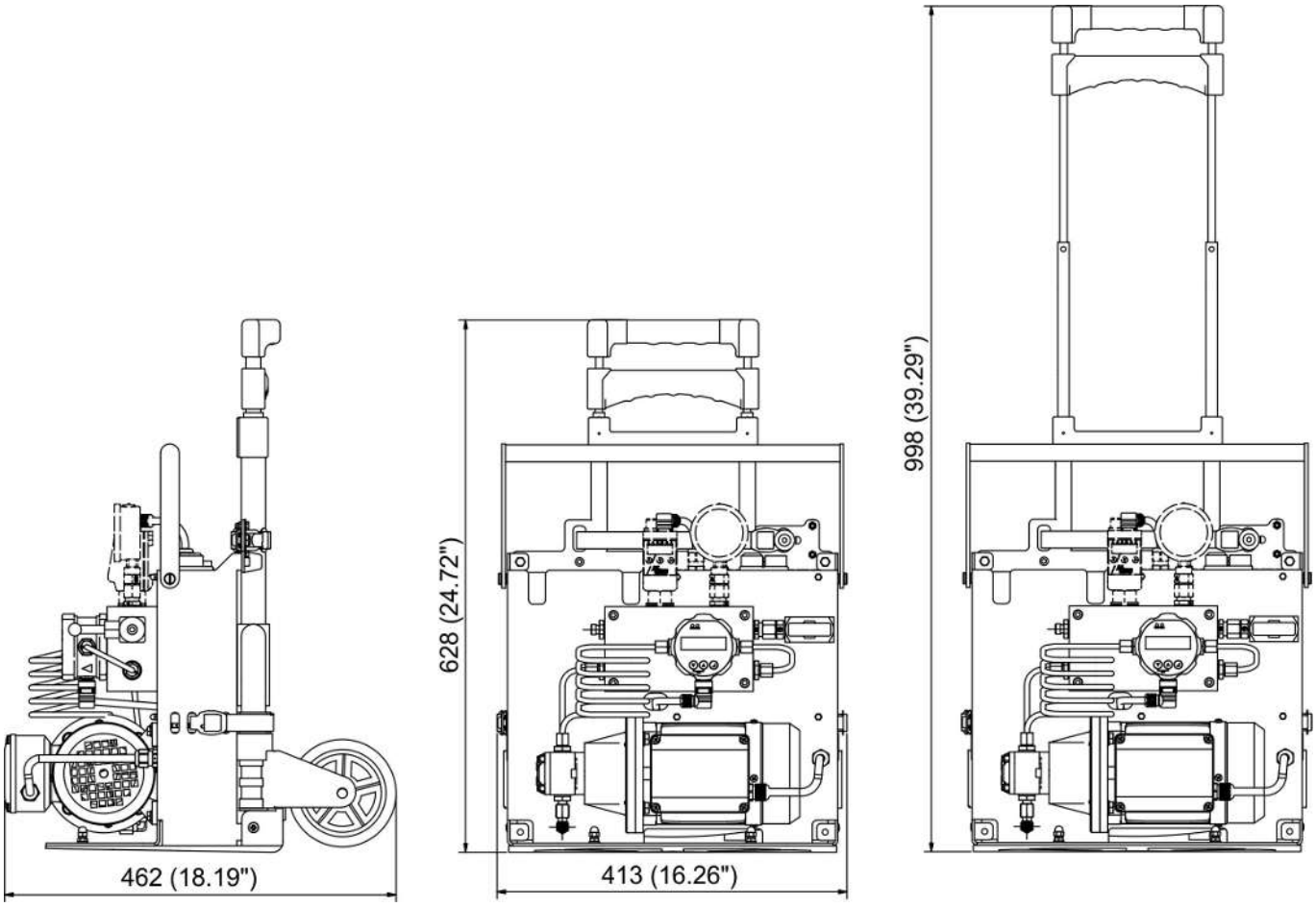
9.2.1 Version ‘M’ – Mounting



9.2.2 Version “T” – Portable



9.2.3 Version “F” – Mobile



9.3 Installation torques and clamping range for cable fitting

Size	Strain relief clamping range (mm)	Installation torque (Nm)
M12x1,5	3-6	1,5
M16x1,5	5-9,5	2,5
M20x1,5	8-13	3,5
M25x1,5	11-17	5
M32x1,5	15-21	5
M40x1,5	19-28	7,5
M50x1,5	27-35	7,5
M63x1,5	32-42	13

9.4 Screw torques

Thread	Torque (Nm)
M5	4
M6	8
M8	15
M10	30
M12	51

9.5 Hose torques

Connections/mounts	Torque (Nm)
Hose connections DN6	13
Hose connections DN8/10	30
Hose connections DN12	60

9.6 Calculations

9.6.1 Calculating viscosity

Valid for VG-oil between 10 - 100 °C at an exactness from ± 5 %.

	Definitions
V_{40}	oil viscosity at 40 °C in cst
T	temperature in °C
υ	viscosity in cst

$$b = 159 \cdot \ln \frac{V_{40}}{0{,}23}$$

$$a = 0{,}23 \cdot e^{\frac{-b}{877}}$$

$$\upsilon = a \cdot e^{\frac{b}{T+95{,}2}}$$

	Example: oil VG 46
V_{40}	46 cst
T	25 °C

$$b = 159 \cdot \ln \frac{46}{0{,}23} = 842{,}4325$$

$$a = 0{,}23 \cdot e^{\frac{-842{,}4325}{877}} = 0{,}08801$$

$$\upsilon = 0{,}08801 \cdot e^{\frac{842{,}4325}{25+95{,}2}} = 97{,}35 \text{ cst}$$

9.6.2 Table of operational viscosity for VG oil

	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C	80 °C	90 °C
VG 46	264,45	131,96	73,58	46,00	29,13	20,04	14,43	10,78	8,32
VG 68	444,77	210,85	112,61	68,00	41,63	27,86	19,58	14,32	10,84
VG 220	2.120,17	861,60	404,31	220,00	121,71	74,99	49,00	33,61	24,01
VG 320	3.489,92	1.350,22	607,96	320,00	171,40	102,85	65,66	44,12	30,94

Viscosity given in cst (mm^2/s)

9.6.3 Calculating the pressure loss

Valid for smooth straight piping per meter at laminar current.

	Definitions
υ	Viscosity in cst
ρ	spec. gravity in kg/dm³
DN	tube diameter in mm
V	flow in m/s
PV	pressure loss in bar

	Example: oil VG 46
υ	97,35 cst
ρ	0,8817 kg/dm³
DN	20 mm
V	3,18 m/s (60 l/min for tube DN 20)

$$PV = \frac{0{,}32 \cdot \upsilon \cdot \rho \cdot V}{DN^2}$$

$$PV = \frac{0{,}32 \cdot 97{,}35 \cdot 0{,}8817 \cdot 3{,}18}{20^2} = 0{,}22\ bar$$

NOTICE

Pressure loss increases significantly for bends and fittings.
It might be necessary in some cases to determine the final shape of the suction line on site under specific conditions.

Please do not hesitate to contact us for help to calculate the pressure loss of the suction line for you specific application.

NOTICE

To avoid damage of the cooling system, make sure that the maximum pump pressure is not exceeded. High pressure may occur if the system is shut off or throttled at the pressure side.

9.7 Pressure loss in straight pipes

Pressure loss (bar) per metre in straight tubing with laminar flow of mineral oil:

AZP 0.22 l/min – DN6

	VG 46	VG 68	VG 120	VG 160	VG 220	VG 320	VG 460	VG 680
10 °C	0.27	0.45	*	*	*	*	*	*
20 °C	0.13	0.21	0.42	*	*	*	*	*
30 °C	0.07	0.11	0.21	0.29	0.41	*	*	*
40 °C	0.04	0.07	0.12	0.16	0.21	0.31	(0.44)	*
50 °C	0.03	0.04	0.07	0.09	0.12	0.17	0.24	0.34
60 °C	0.02	0.03	0.05	0.06	0.08	0.10	0.14	0.19
70 °C – 100 °C	< 0.19 bar							

AZP 0.22 l/min – DN8

	VG 46	VG 68	VG 120	VG 160	VG 220	VG 320	VG 460	VG 680
10 °C	0.08	0.14	*	*	*	*	*	*
20 °C	0.04	0.07	0.13	*	*	*	*	*
30 °C	0.02	0.04	0.07	0.09	0.13	*	*	*
40 °C	0.01	0.02	0.04	0.05	0.07	0.1	0.14	*
50 °C	0.01	0.01	0.02	0.03	0.04	0.05	0.08	0.11
60 °C	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.06
70 °C – 100 °C	< 0.06 bar							

* Viscosity outside the specification, 500 cSt (mm²/s)

Total pressure loss = pressure loss per metre x pipe length in metres.

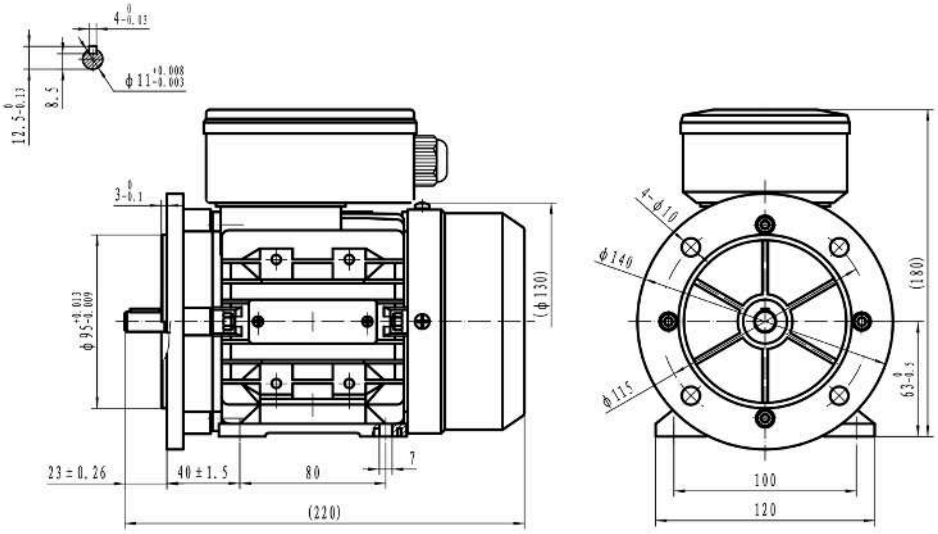
Note: max. suction pressure is 0.4 bar, temporarily 0.6 bar.

10 Attached documents

- Motor Data Sheet
- Pump data sheet
- CMS wiring diagram
- Declaration of Conformity KX150006
- RMA – Decontamination Declaration

Data sheet single phase asynchronous motors

Mounting position		
	IM	B35
	IM	2001



Electrical data			
Rated motor power	0.18		Kw
Rated motor speed	1420		min^{-1} 50Hz
Rated motor frequency	50		Hz
Rated motor voltage(+/-10%)	230		VΔ/50Hz
Capacitor	10µf/450V		µF/V
Rated motor current	1.22	VΔ/50Hz	A (In)
Starting motor current	2.9		xIn
Starting motor torque	0.51		xMn
Breakdown motor torque	1.68		xMn
Starting			D.O.L.
Efficiency class	IE2		
Efficiency	50Hz		
	64.7	-	100% load
	57.5	-	75% load
	45.3	-	50% load
Power factor cosφ	0.99	-	100% load

General data		
Frame size	63	
Mounting	B35	
Weight	5.15	Kg
Casing material	Aluminum	
Protection	IP	55
Insulation class	H	
Tropicalization	Yes	
Vibration class	A	
Duty	S1	
Direction of rotation	Bidirectional	
Method of cooling	IC	411
Cable entry	-	
Standards	IEC/DIN/ISO/VDE/EN	
Execute at Standard	IEC 60034-1	
Feet removable	Yes	
Paintwork	7024	C2 standard
Thermal protections	n/a	

Site conditions	
Ambient temperature	from -20°C to +40°C
Altitude above sea level	1000 m

Mechanical data						
Noise level	LpA	67	dB(A)	Bearing DE side	6201-2RS-C3	
	LwA	76	dB(A)	Bearing NDE side	6201-2RS-C3	
Moment of inertia	0.00045		Kgm²	Average bearing lifetime	40000	h
Bearings type			NSK	Relubrication interval L1 DE bearing	life	h
Lubricants for bearings	See installation and maintenance manual			Relubrication interval L1 NDE bearing	life	h
				Compensation ring	NDE SIDE	standard

There may be differences between rating plate and calculated values.

X	0	P	06	02	A	B	B	A

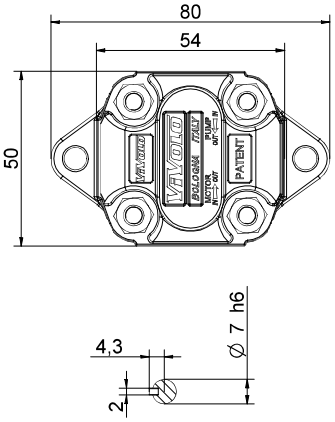
Serie		X	Serie XV
Gruppe		0	Gruppe 0
Kategorie		P	einseitig drehende Pumpe
Hubraum		06	0.76
Flansch		02	Ø22 Drehrichtung rechts
Welle		A	CI001 - Zylindrisch ø7 - M7x1 - Scheibenfeder Dicke 2
Gehäuse	IN	B	Ansaugung - 1/4" GAS
	OUT	B	Druckseite - 1/4" GAS
Deckel		A	Standard

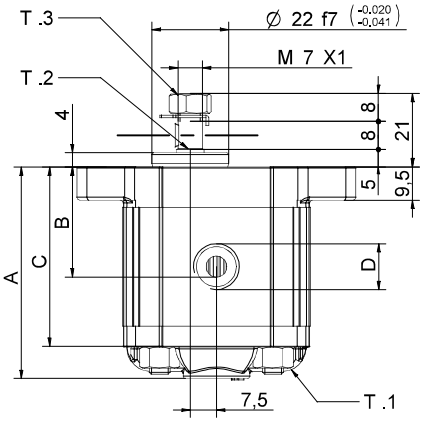

XP001

Technische Datentabelle

TYP	Hubraum	Maximaldruck		CODE	
	cm3/u	P1 bar	P3 bar	Drehung links	Drehung rechts
XV-0P/0.17	0,16	220	260	X 0 P 01 01 A B B A	X 0 P 01 02 A B B A
XV-0P/0.25	0,24	220	260	X 0 P 02 01 A B B A	X 0 P 02 02 A B B A
XV-0P/0.45	0,45	220	280	X 0 P 04 01 A B B A	X 0 P 04 02 A B B A
XV-0P/0.57	0,56	220	280	X 0 P 05 01 A B B A	X 0 P 05 02 A B B A
XV-0P/0.76	0,75	220	280	X 0 P 06 01 A B B A	X 0 P 06 02 A B B A
XV-0P/0.98	0,92	220	280	X 0 P 07 01 A B B A	X 0 P 07 02 A B B A
XV-0P/1.27	1,26	220	280	X 0 P 09 01 A B B A	X 0 P 09 02 A B B A
XV-0P/1.52	1,48	220	280	X 0 P 11 01 A B B A	X 0 P 11 02 A B B A
XV-0P/2.30	2,28	190	210	X 0 P 13 01 A B B A	X 0 P 13 02 A B B A

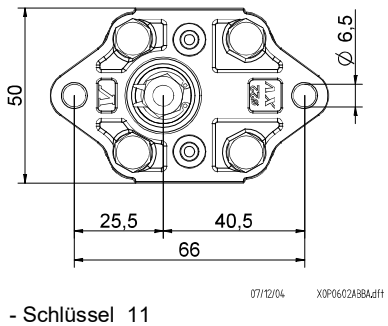
P1) Max. Betriebsdruck - P3) Max. Druckspitze
Für schwere Anwendungen empfiehlt sich eine Prüfung des zulässigen Wellendrehmoments





Dimensionstabelle

TYP	Gewicht	A	B	C	D	D
	kg	mm	mm	mm	IN	OUT
XV-0P/0.17	0,400	55,8	26,2	46,8	1/4" BSPP	1/4" BSPP
XV-0P/0.25	0,410	56,4	26,5	47,4	1/4" BSPP	1/4" BSPP
XV-0P/0.45	0,420	58,0	27,3	49,0	1/4" BSPP	1/4" BSPP
XV-0P/0.57	0,430	59,0	27,8	50,0	1/4" BSPP	1/4" BSPP
XV-0P/0.76	0,440	60,5	28,5	51,5	1/4" BSPP	1/4" BSPP
XV-0P/0.98	0,460	62,0	29,3	53,0	1/4" BSPP	1/4" BSPP
XV-0P/1.27	0,480	64,5	30,5	55,5	1/4" BSPP	1/4" BSPP
XV-0P/1.52	0,500	66,5	31,5	57,5	1/4" BSPP	1/4" BSPP
XV-0P/2.30	0,560	72,5	34,5	63,5	1/4" BSPP	1/4" BSPP

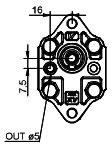
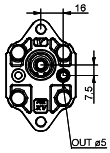
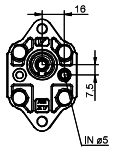
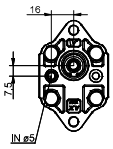
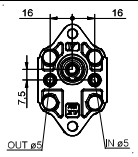
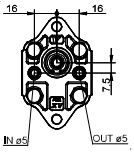


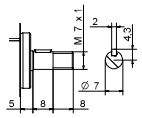
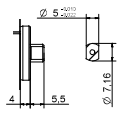
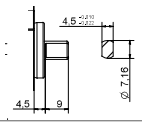
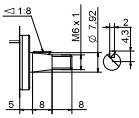
T.1 = 11.7÷13.7 [Nm] - Anzugsmoment - Schrauben M6
T.2 = 2.1 [Nm] - zulässiges Wellendrehmoment (N.B. Zur Auswahl der Welle stets das zulässige Drehmoment prüfen).
T.3 = 11.5 [Nm] - Anzugsmoment - Schlüssel 11

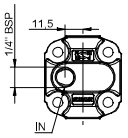
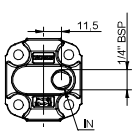
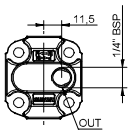
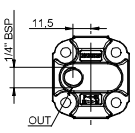
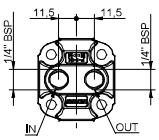
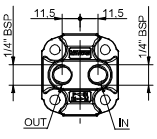
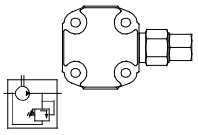
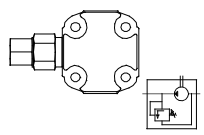
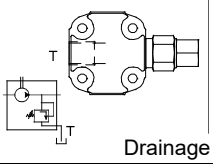
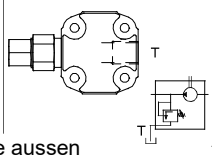
Tabelle der Varianten

FLANSCH ø22 – Standard

XV-0P

FLANSCH ø22 – Standard			
Drehung links		Drehung rechts	
	01		02
	03		04
	05		06
	07		08

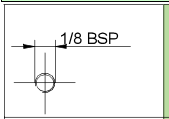
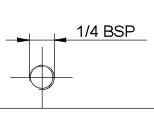
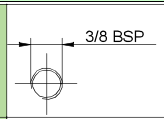
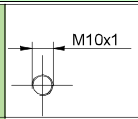
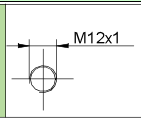
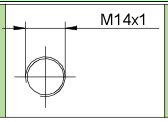
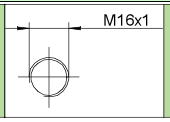
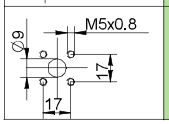
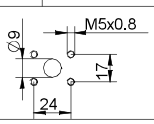
Welle			
CI001 - Zylindrisch T.2 = 2.1 [Nm]	A	001 - mit gefrästem Endstü T.2 = 9.2 [Nm]	B
			
005 - mit gefrästem Endstüc T.2 = 8.4 [Nm]	F	CO001 - Konisch T.2 = 21.9 [Nm]	E
			

Deckel		
Drehung links	Drehung rechts	
		A
		B
		C
		D
 Drainage innen		N
 Drainage aussen		O

Hubraum	
TYP	CODE
XV-0P/0.17	**01**
XV-0P/0.25	**02**
XV-0P/0.45	**04**
XV-0P/0.57	**05**
XV-0P/0.76	**06**
XV-0P/0.98	**07**
XV-0P/1.27	**09**
XV-0P/1.52	**11**
XV-0P/2.30	**13**

Gehäuse Standard			
Hubraum cm3/u	Standardgewinde		
0.17	B - B	Z - B	Z - Z
0.25	B - B	Z - B	Z - Z
0.45	B - B	Z - B	Z - Z
0.57	B - B	Z - B	Z - Z
0.76	B - B	Z - B	Z - Z
0.98	B - B	Z - B	Z - Z
1.27	B - B	Z - B	Z - Z
1.52	B - B	Z - B	Z - Z
2.30	B - B	Z - B	Z - Z

Kombinationstabelle der lagermässig vorrätigen Standardgewinde und Anflanschungen

Gehäuse (Gewinde und Anflanschungen)															
 1/8 BSP	A	 1/4 BSP	B	 3/8 BSP	C	 M10x1	D	 M12x1	E	 M14x1	F	 M16x1	G
 M5x0.8	H	 M5x0.8	I	Gehäuse Geschlossen	Z										

Bühler Technologies GmbH

Harkortstrasse 29
40880 Ratingen
Tel.: +49 (0)2102 4989-0
Fax.: +49 (0)2102 4989-20
info@buehler-technologies.com
www.buehler-technologies.com

Kunde	: Bühler intern
Anlagenbezeichnung	: Ölzustandssensoriksystem
Ex-Kennzeichnung	: Nicht-Ex Bereich
Installationsort	: Innenaufstellung
Hersteller (Firma)	: Bühler Technologies GmbH
Projektverantwortlicher	: Konyschev
Projektnummer	: 4963 - Ölzustandssensorik
Zeichnungsnummer	: 51/R1735
Auftragsnummer	: -----

Erstellt am:	29.07.2025	von:	Masson	Prüfer:	T.Schlecht
Bearbeitet am:	11.09.2025	von:	Masson	Geprüft am:	07.08.2025

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem		Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1 = +
		Bearbeiter	Masson		Seitenbeschreibung: Titel- / Deckblatt		
		Bearb. Datum	11.09.2025			Auftragsnummer: -----	Kunde: **Bühler intern** Bl. 1 Bl. 5.1
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**				

Inhaltsverzeichnis

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Inhaltsverzeichnis	Zeichnungsnummer: 51/R1735 / Maßstab: 1 : 1 / = / +
		Bearbeiter	Masson				
		Bearb. Datum	11.09.2025				
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**				Auftragsnummer: ----- / Kunde: **Bühler intern** / Bl. 2 / Bl. 5.1

Anschlussleistung

230VAC / 50Hz

Bezeichnung	Phase L1 (Intern)
Pumpe	280VA
Netzteil 24VDC	52.8VA
Gesamt	332,8VA

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Anschlussleistung	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	=
		Bearbeiter	Masson						+
		Bearb. Datum	11.09.2025				Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 3.1
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**						Bl. 5.1

Verdrahtungsfarben und Leitungsquerschnitte

Hauptstromkreis: 230V AC	**L** **N**	**Einzelader Schwarz** **Einzelader Hellblau**
Hauptstromkreis: 400V AC	**Phase L1** **Phase L2** **Phase L3** **N**	**Einzelader Braun (bis 16mm², danach farbige Kennzeichnung an Kabelenden)** **Einzelader Schwarz** **Einzelader Grau (bis 16mm², danach farbige Kennzeichnung an Kabelenden)** **Einzelader Hellblau**
Spannung 24V DC	**+24V DC** **0V DC**	**Einzelader Dunkelblau** **Einzelader Dunkelblau / Weiß**
Messsignale	**4-20mA,** **PT100, ...**	**Geschirmtes Kabel oder Einzelader in Weiß** **(je nach Anwendungsfall und Verlegung)**
Potentialfreie Kontakte, Fremdpotentiale	**(Ext.)**	**Orange**
Schutzleiter	**PE**	**Grün / Gelb**  **(Oder Erdungsbänder)**
Potenzialausgleich	**PA**	**Schwarz** 
Funktionserdung	**FE**	**Violett** 
Einspeisung 230VAC abgesichert bis ...	**16A** **25A** **32A** **40A**	**min. 2,5mm²** **min. 4,0mm²** **min. 6,0mm²** **min. 10,0mm²**
Einspeisung 400VAC abgesichert bis ...	**16A** **25A** **32A** **40A** **63A**	**min. 2,5mm²** **min. 4,0mm²** **min. 6,0mm²** **min. 10,0mm²** **min. 16,0mm²**
Potentialfreie Verdrahtung	**230V AC**	**min. 0,75mm² (je nach Anwendungsfall und Verlegung)**
Verdrahtung Steuerspannung, mA-Signale, Verdrahtung SPS	**24V DC**	**min. 0,5mm²**
Schaltschrank- Erdung		**16mm² (Erdungsbänder)**

Abweichende Angaben siehe Plan

3.1

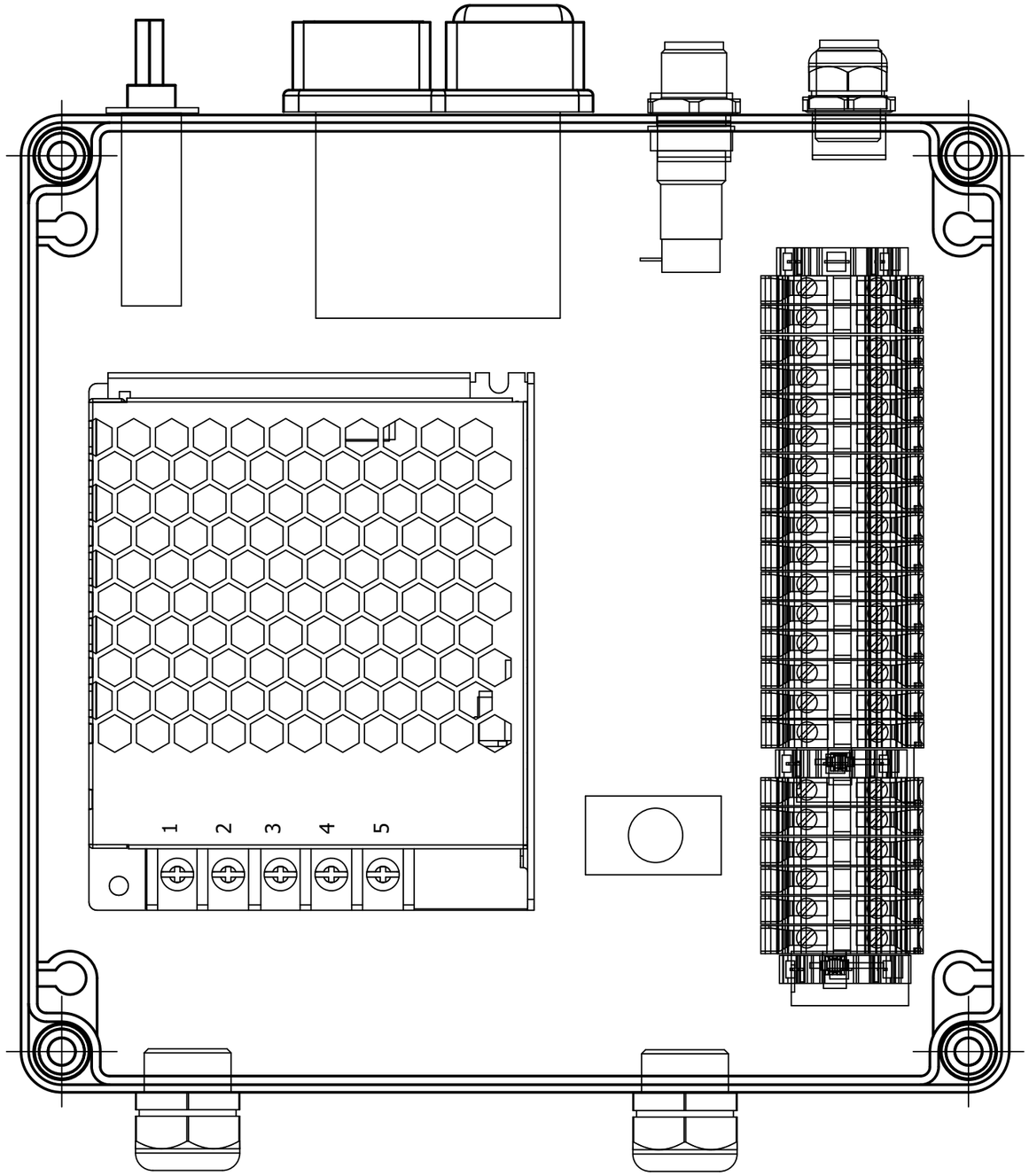
4

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Verdrahtungsfarben und Leitungsquerschnitte	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	=
		Bearbeiter	Masson						+
		Bearb. Datum	11.09.2025				Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 3.2
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**						Bl. 5.1

Klemmenleistenübersicht

Klemmenleiste	Klemmenleistendefinitionstext	Klemmen					Grafikseite der Klemmenpläne
		Spannung	Bezeichnung erste	Bezeichnung letzte	Summe gesamt	Summe PE	
+JB-XD0	Einspeisung	230VAC	PE	3	7	0	=REPORT+JB/1
+JB-XD1	Sensorik	Sgnal	1	16	16	0	=REPORT+JB/2

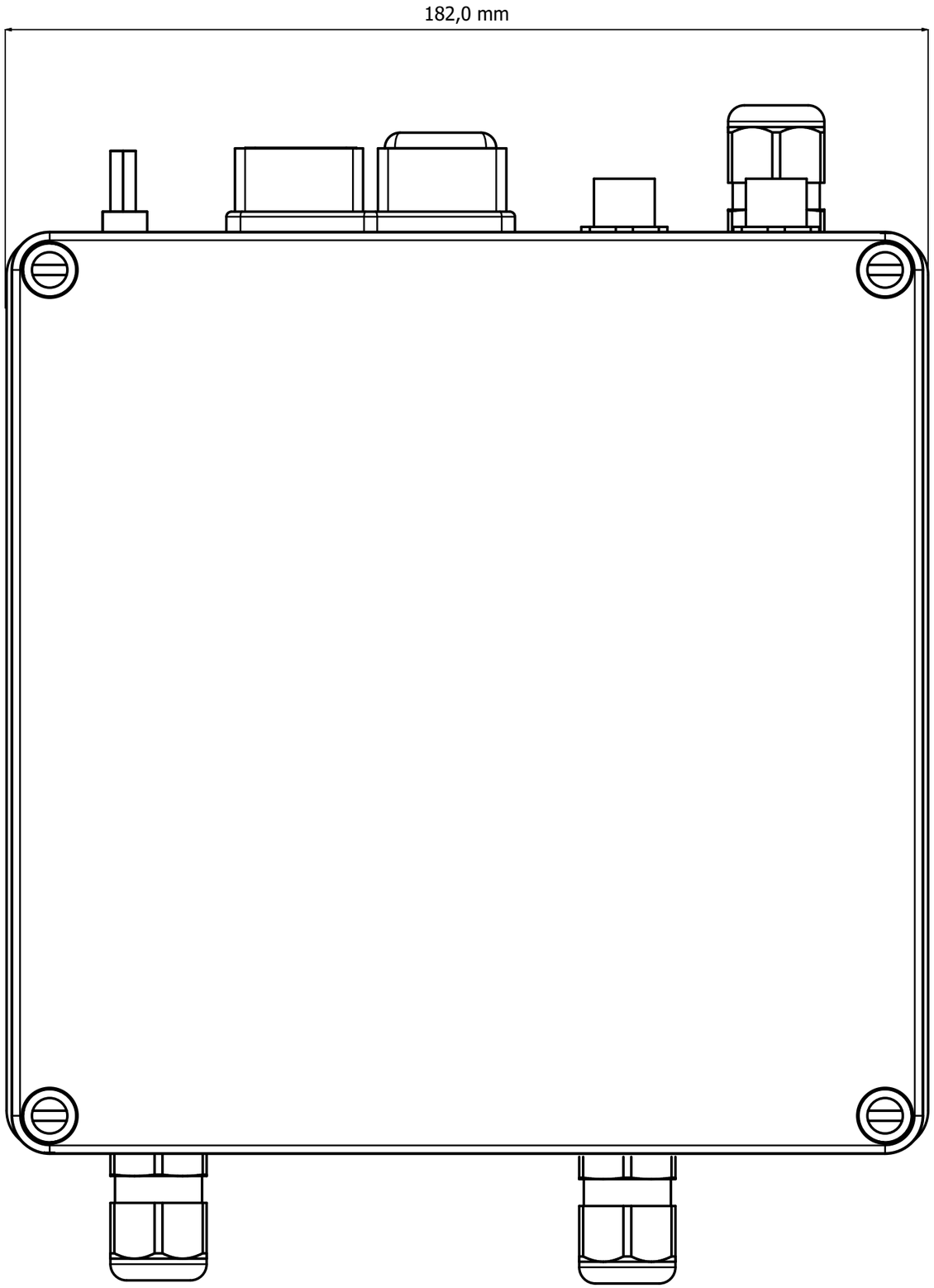
Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Klemmleistenübersicht	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	= +
		Bearbeiter	Masson						
		Bearb. Datum	11.09.2025				Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 4
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**						Bl. 5.1

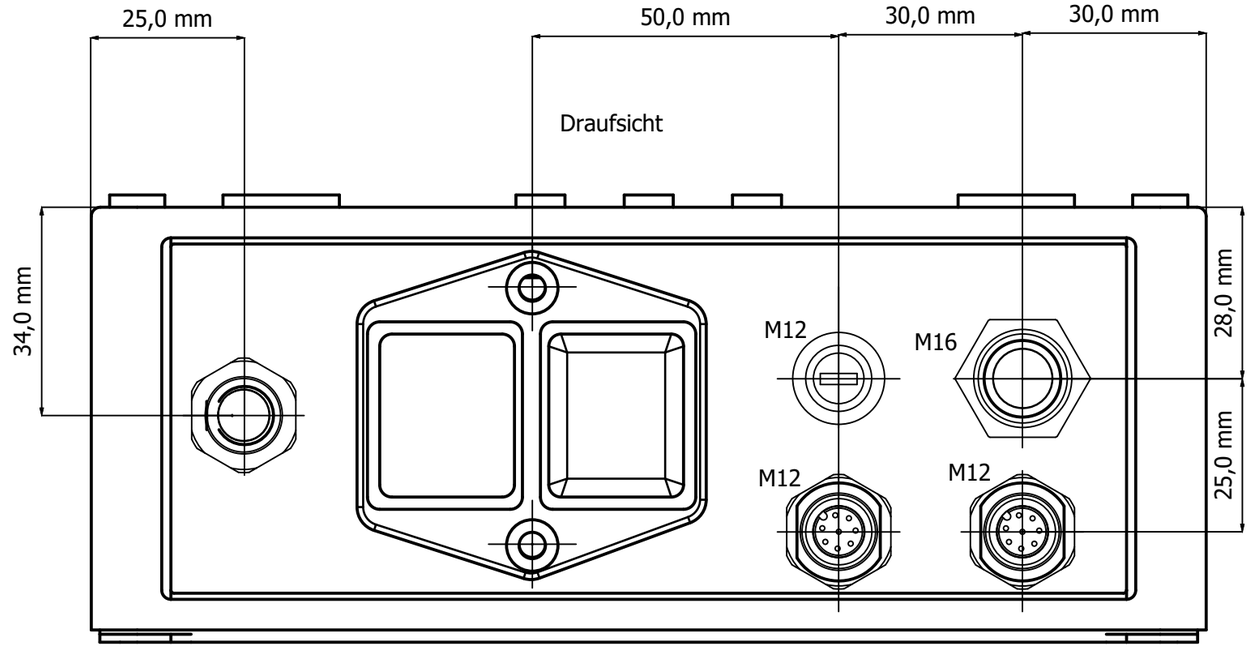


4

5.1

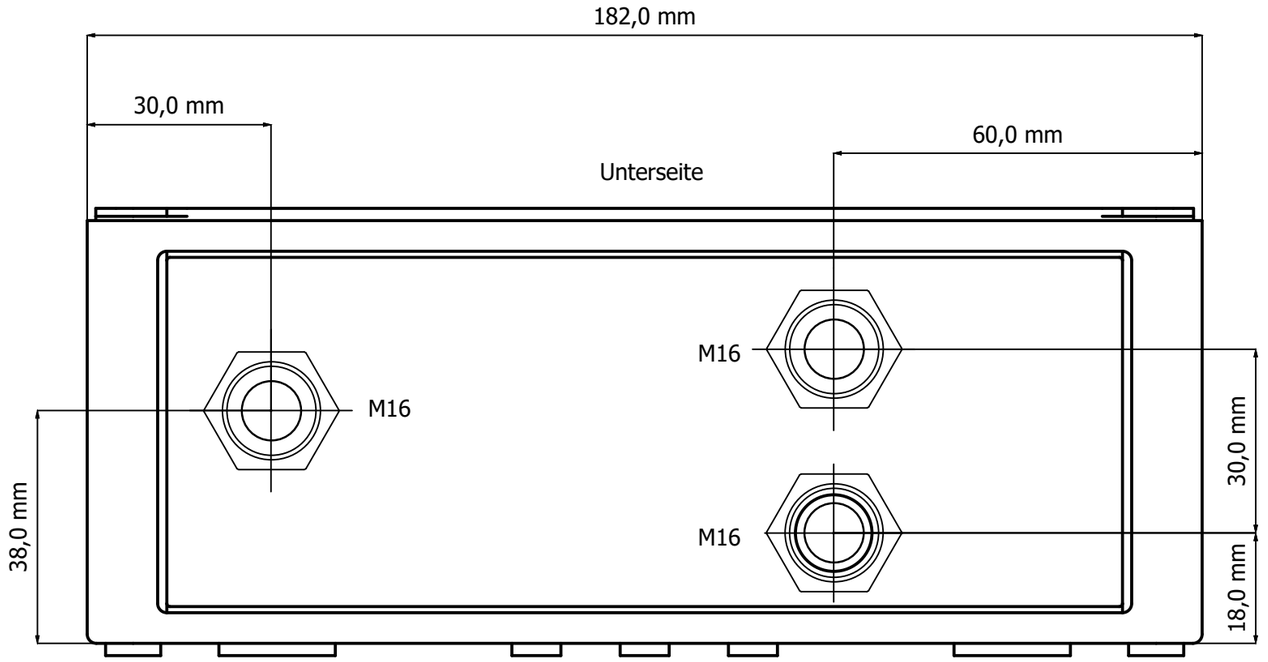
Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Aufbauplan Klemmkasten innen	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	= +
		Bearbeiter	Masson						
		Bearb. Datum	11.09.2025				Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 5
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**						Bl. 5.1





BPM - Partikel Monitor

BCM-MS / BCM-WD - Condition Monitoring



5

=ST+JB/6

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem		Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1 = +
		Bearbeiter	Masson		Seitenbeschreibung: Aufbauplan Klemmkasten außen		
		Bearb. Datum	11.09.2025			Auftragsnummer: -----	Kunde: **Bühler intern**
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**				Bl. 5.1
							Bl. 5.1

L1 / -TB72:1 /7
N / -TB72:2 /7
PE / -TB72:3 /7

-XD0 PE PE 4 5 1 2 3

-FA62
5A
Feinsicherung Träge
5x20mm

-FA64
AC-3 14,5A
230VAC
Ein-Aus-Schalter
mit Unterspannungsauslösung
306P402.01

-FC67
240VAC/48VDC, 1A
T11-311-1A
Überstromsicherung

-WD61
3 m
3G0,75 mm²
230V
GNYE BU BK

+EXTERN
3 poliger Stecker
PE N L1

-WD64
500 mm
3G0,75 mm²
230V
JZ-604 TC
BU BK GNYE

+EXTERN
Pumpe

-MA64
230VAC, 50Hz,
1.22A, 0.18kW

Pumpe

Einspeisung 1Ph/N/PE
230VAC / 50Hz

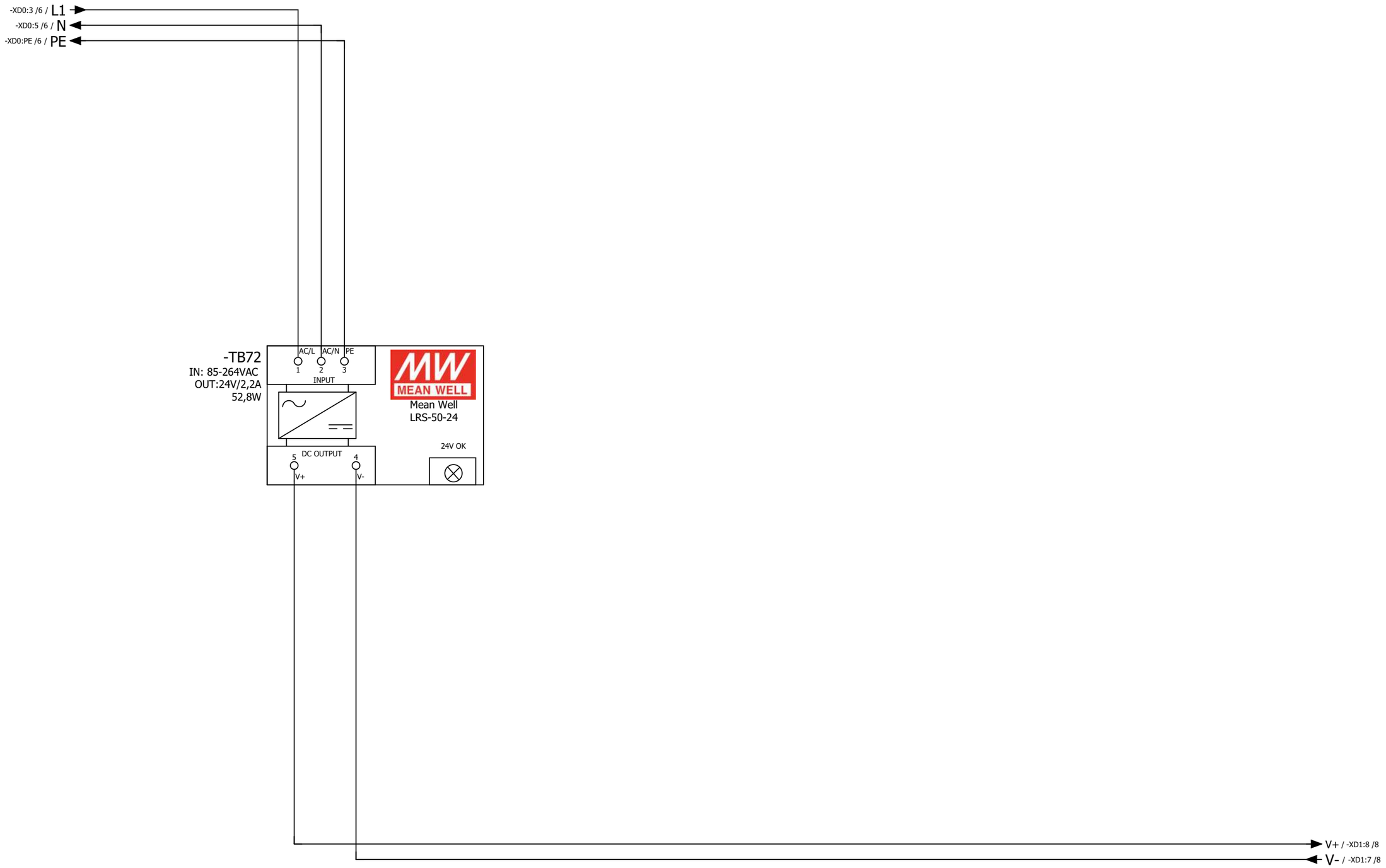
Abzusichern über:
Leitungsschutzschalter 16A

=+/5.1

7

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	Seitenbeschreibung: Einspeisung 230VAC/50Hz	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	= ST
		Bearbeiter	Masson					+ JB
		Bearb. Datum	11.09.2025			Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 6
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**					Bl. 8

1	2	3	4	5	6	7	8



6

8

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Netzteil	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	= ST + JB
		Bearbeiter	Masson						
		Bearb. Datum	11.09.2025				Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 7 Bl. 8
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**						

-TB72:5 /7 / V+

-TB72:4 /7 / V-

-XD1 1 2 3 4 5 6 7 8

-WG82 RD BU PK GY YL GN BN WH

Klemmkasten

Anlage

-BQ82

8	7	6	5	4	3	2	1
Signalmasse	n.c.	n.c.	n.c.	RxD, CAN high [IN]	TxD, CAN low [OUT]	L-	L+

max. 33 VDC

-XG84

RD	BU	PK	GY	YL	GN	BN	WH
8	7	6	5	4	3	2	1

Kommunikationsschnittstelle
für Condition Monitor
BCM-MS / BCM-WD

BCM-MS / BCM-WD - Condition Monitoring

-XD1 9 10 11 12 13 14 15 16

-WG85 RD BU PK GY YL GN BN WH

-BQ85

8	7	6	5	4	3	2	1
Signalmasse	Schaltausgang [high/low]	Analog out 4..20mA	Schalteingang [high/low]	RxD, CAN high [IN]	TxD, CAN low [OUT]	L-	L+

max. 33 VDC

-XG88

RD	BU	PK	GY	YL	GN	BN	WH
8	7	6	5	4	3	2	1

Kommunikationsschnittstelle
für Partikel Monitor BPM

BPM - Partikel Monitor

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem		Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	= ST
		Bearbeiter	Masson		Seitenbeschreibung: Sensorik			+ JB
		Bearb. Datum	11.09.2025			Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 8
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**					Bl. 8

Klemmenplan

Leiste
+JB-XD0
Einspeisung

Pfadfunktionstext	Kabelname	=ST-WD61	Kabeltyp	3G0,75 mm²	Funktionstext (E)	Zielbezeichn. (E)	Anschluss	Klemme	Brücke	Zielbezeichn. (I)	Funktionstext (I)	Anschluss	Kabeltyp	3G1 mm²	Kabelname	=ST-WD64	Seite / Spalte
		GNYE				+EXTERN	PE	PE		=ST+EXTERN-MA64		PE					=ST/6.2
		BU				+EXTERN	N	4		=ST-FA64							=ST/6.2
								5		=ST-TB72		2					=ST/6.2
								PE		=ST-TB72		3					=ST/6.2
		BK				+EXTERN	L1	1		=ST-FA62	Feinsicherung Träge	1					=ST/6.2
					Feinsicherung Träge	=ST-FA62	2	2		=ST-FC67							=ST/6.2
								3		=ST-TB72		1					=ST/6.3

=ST/8

2

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	BÜHLER TECHNOLOGIES	Seitenbeschreibung: Klemmenplan	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1	= REPORT
		Bearbeiter	Masson						+ JB
		Bearb. Datum	11.09.2025				Auftragsnummer: -----	Kunde: **Bühler intern**	Bl. 1
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**						Bl. 2

Klemmenplan

Leiste
+JB-XD1
Sensorik

Pfadfunktionstext			=ST-WG85	=ST-WG82	Kabelname / Kabeltyp	Funktionstext (E)	Zielbezeichn. (E)	Anschluss	Klemme	Brücke	Zielbezeichn. (I)	Funktionstext (I)	Anschluss	Kabelname / Kabeltyp					Seite / Spalte
							=ST-BQ82	8	1		-XG84		8						=ST/8.2
							=ST-BQ82	7	2										=ST/8.2
							=ST-BQ82	6	3										=ST/8.2
							=ST-BQ82	5	4										=ST/8.2
							=ST-BQ82	4	5		-XG84		4						=ST/8.2
							=ST-BQ82	3	6		-XG84		3						=ST/8.3
							=ST-BQ82	2	7		=ST-TB72		4						=ST/8.3
							=ST-BQ82	1	8		=ST-TB72		5						=ST/8.3
							=ST-BQ85	8	9		-XG88		8						=ST/8.5
							=ST-BQ85	7	10										=ST/8.6
							=ST-BQ85	6	11										=ST/8.6
							=ST-BQ85	5	12										=ST/8.6
							=ST-BQ85	4	13		-XG88		4						=ST/8.6
							=ST-BQ85	3	14		-XG88		3						=ST/8.7
							=ST-BQ85	2	15										=ST/8.7
							=ST-BQ85	1	16										=ST/8.7

Näheres siehe Revisionsübersicht		Geprüft von	T.Schlecht	Projektbeschreibung: Ölzustandssensoriksystem	Seitenbeschreibung: Klemmenplan	Zeichnungsnummer: 51/R1735	Maßstab: 1 : 1
		Bearbeiter	Masson				= REPORT
		Bearb. Datum	11.09.2025				+ JB
Revision	Rev. Datum	Projektnr.	**4963 - Ölzustandssensorik**			Auftragsnummer: -----	Kunde: **Bühler intern**
							Bl. 2
							Bl. 2

EU-/EG Konformitätserklärung
EU-/EC Declaration of conformity

Hiermit erklärt Bühler Technologies GmbH, dass die nachfolgenden Produkte den wesentlichen Anforderungen der Richtlinie

Herewith declares Bühler Technologies GmbH that the following products correspond to the essential requirements of Directive

2006/42/EG
(Maschinenrichtlinie)

2006/42/EC
(Machinery directive)

in ihrer aktuellen Fassung entsprechen.

in its actual version.

Produkt / *product:* CMS - Condition Monitoring Systeme / *CMS - Condition Monitoring Systems*

Die Betriebsmittel dienen zur Zustandserkennung von Ölen in Hydraulik-und Schmierkreisläufen. Je nach Ausführung werden die Ölparameter, die Temperatur, die relative Feuchte und der Druck überwacht.
The equipment is suited to detect the condition of oils in hydraulic and lubrication systems. Depending on the design, oil parameters, temperature, relative humidity and pressure are monitored.

Das oben beschriebene Produkt der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

EN 60204-1:2018

Zusätzlich wurden berücksichtigt:
In addition, the following standards have been used:

EN ISO 4413:2010 Kapitel/*chapters*: 5.2.1; 5.2.1.1; 5.2.2.1; 5.2.4; 5.2.5; 5.3.1; 5.4.4.2; 5.4.6.1.1; 5.4.6.1.6; 5.4.6.2; 6.2.2.1; 7.3.1.1
EN ISO 12100:2010 Kapitel/*chapters*: 6.2.2.1; 6.3.5.8

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Dokumentationsverantwortlicher für diese Konformitätserklärung ist Herr Stefan Eschweiler mit Anschrift am Firmensitz.
The person authorized to compile the technical file is Mr. Stefan Eschweiler located at the company's address

Ratingen, den 08.09.2025

Stefan Eschweiler
Geschäftsführer – *Managing Director*

Frank Pospiech
Geschäftsführer – *Managing Director*

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen,
Tel. +49 (0) 21 02 / 49 89-0
Internet: www.buehler-technologies.com

RMA-Formular und Erklärung über Dekontaminierung
RMA-Form and explanation for decontamination

RMA-Nr./ RMA-No.

Die RMA-Nr. bekommen Sie von Ihrem Ansprechpartner im Vertrieb oder Service. Bei Rücksendung eines Altgeräts zur Entsorgung tragen Sie bitte in das Feld der RMA-Nr. "WEEE" ein./ You may obtain the RMA number from your sales or service representative. When returning an old appliance for disposal, please enter "WEEE" in the RMA number box.

Zu diesem Rücksendeschein gehört eine Dekontaminierungserklärung. Die gesetzlichen Vorschriften schreiben vor, dass Sie uns diese Dekontaminierungserklärung ausgefüllt und unterschrieben zurücksenden müssen. Bitte füllen Sie auch diese im Sinne der Gesundheit unserer Mitarbeiter vollständig aus./ This return form includes a decontamination statement. The law requires you to submit this completed and signed decontamination statement to us. Please complete the entire form, also in the interest of our employee health.

Firma/ Company

Firma/ Company	
Straße/ Street	
PLZ, Ort/ Zip, City	
Land/ Country	

Ansprechpartner/ Person in charge

Name/ Name	
Abt./ Dept.	
Tel./ Phone	
E-Mail	

Gerät/ Device	
Anzahl/ Quantity	
Auftragsnr./ Order No.	

Serien-Nr./ Serial No.	
Artikel-Nr./ Item No.	

Grund der Rücksendung/ Reason for return

- ☐ Kalibrierung/ Calibration
- ☐ Modifikation/ Modification
- ☐ Reklamation/ Claim
- ☐ Reparatur/ Repair
- ☐ Elektroaltgerät/ Waste Electrical & Electronic Equipment (WEEE)
- ☐ andere/ other

bitte spezifizieren/ please specify

Ist das Gerät möglicherweise kontaminiert?/ Could the equipment be contaminated?

☐ Nein, da das Gerät nicht mit gesundheitsgefährdenden Stoffen betrieben wurde./ No, because the device was not operated with hazardous substances.

☐ Nein, da das Gerät ordnungsgemäß gereinigt und dekontaminiert wurde./ No, because the device has been properly cleaned and decontaminated.

☐ Ja, kontaminiert mit:/ Yes, contaminated with:

☐ explosiv/ explosive	☐ entzündlich/ flammable	☐ brandfördernd/ oxidizing	☐ komprimierte Gase/ compressed gases	☐ ätzend/ caustic	☐ giftig, Lebensgefahr/ poisonous, risk of death	☐ gesundheitsgefährdend/ harmful to health	☐ gesundheitsschädlich/ health hazard	☐ umweltgefährdend/ environmental hazard

Bitte Sicherheitsdatenblatt beilegen!/ Please enclose safety data sheet!

Das Gerät wurde gespült mit:/ The equipment was purged with:

Diese Erklärung wurde korrekt und vollständig ausgefüllt und von einer dazu befugten Person unterschrieben. Der Versand der (dekontaminierten) Geräte und Komponenten erfolgt gemäß den gesetzlichen Bestimmungen.

This declaration has been filled out correctly and completely, and signed by an authorized person. The dispatch of the (decontaminated) devices and components takes place according to the legal regulations.

Falls die Ware nicht gereinigt, also kontaminiert bei uns eintrifft, muss die Firma Bühler sich vorbehalten, diese durch einen externen Dienstleister reinigen zu lassen und Ihnen dies in Rechnung zu stellen.

Should the goods not arrive clean, but contaminated, Bühler reserves the right, to comission an external service provider to clean the goods and invoice it to your account.

Firmenstempel/ Company Sign

Datum/ Date

rechtsverbindliche Unterschrift/ Legally binding signature

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0, Fax: +49 (0) 21 02 / 49 89-20
E-Mail: service@buehler-technologies.com
Internet: www.buehler-technologies.com

Vermeiden von Veränderung und Beschädigung der einzusendenden Baugruppe

Die Analyse defekter Baugruppen ist ein wesentlicher Bestandteil der Qualitätssicherung der Firma Bühler Technologies GmbH. Um eine aussagekräftige Analyse zu gewährleisten muss die Ware möglichst unverändert untersucht werden. Es dürfen keine Veränderungen oder weitere Beschädigungen auftreten, die Ursachen verdecken oder eine Analyse unmöglich machen.

Umgang mit elektrostatisch sensiblen Baugruppen

Bei elektronischen Baugruppen kann es sich um elektrostatisch sensible Baugruppen handeln. Es ist darauf zu achten, diese Baugruppen ESD-gerecht zu behandeln. Nach Möglichkeit sollten die Baugruppen an einem ESD-gerechten Arbeitsplatz getauscht werden. Ist dies nicht möglich sollten ESD-gerechte Maßnahmen beim Austausch getroffen werden. Der Transport darf nur in ESD-gerechten Behältnissen durchgeführt werden. Die Verpackung der Baugruppen muss ESD-konform sein. Verwenden Sie nach Möglichkeit die Verpackung des Ersatzteils oder wählen Sie selber eine ESD-gerechte Verpackung.

Einbau von Ersatzteilen

Beachten Sie beim Einbau des Ersatzteils die gleichen Vorgaben wie oben beschrieben. Achten Sie auf die ordnungsgemäße Montage des Bauteils und aller Komponenten. Versetzen Sie vor der Inbetriebnahme die Verkabelung wieder in den ursprünglichen Zustand. Fragen Sie im Zweifel beim Hersteller nach weiteren Informationen.

Einsenden von Elektroaltgeräten zur Entsorgung

Wollen Sie ein von Bühler Technologies GmbH stammendes Elektroprodukt zur fachgerechten Entsorgung einsenden, dann tragen Sie bitte in das Feld der RMA-Nr. „WEEE“ ein. Legen Sie dem Altgerät die vollständig ausgefüllte Dekontaminierungserklärung für den Transport von außen sichtbar bei. Weitere Informationen zur Entsorgung von Elektroaltgeräten finden Sie auf der Webseite unseres Unternehmens.

Avoiding alterations and damage to the components to be returned

Analysing defective assemblies is an essential part of quality assurance at Bühler Technologies GmbH. To ensure conclusive analysis the goods must be inspected unaltered, if possible. Modifications or other damages which may hide the cause or render it impossible to analyse are prohibited.

Handling electrostatically conductive components

Electronic assemblies may be sensitive to static electricity. Be sure to handle these assemblies in an ESD-safe manner. Where possible, the assembles should be replaced in an ESD-safe location. If unable to do so, take ESD-safe precautions when replacing these. Must be transported in ESD-safe containers. The packaging of the assemblies must be ESD-safe. If possible, use the packaging of the spare part or use ESD-safe packaging.

Fitting of spare parts

Observe the above specifications when installing the spare part. Ensure the part and all components are properly installed. Return the cables to the original state before putting into service. When in doubt, contact the manufacturer for additional information.

Returning old electrical appliances for disposal

If you wish to return an electrical product from Bühler Technologies GmbH for proper disposal, please enter "WEEE" in the RMA number box. Please attach the fully completed decontamination declaration form for transport to the old appliance so that it is visible from the outside. You can find more information on the disposal of old electrical appliances on our company’s website.

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0, Fax: +49 (0) 21 02 / 49 89-20
E-Mail: service@buehler-technologies.com
Internet: www.buehler-technologies.com