

OPERATING MANUAL

Drum pumps

CONGRATULATIONS FOR YOUR CHOICE FOR THE HIGH QUALITY PRODUCTS OF JESSBERGER. BEFORE USING JESSBERGER DRUM AND CONTAINER PUMPS OR ACCESSORIES OPERATOR HAS THOROUGHLY TO READ AND UNDERSTAND ALL INSTRUCTIONS AND SAFETY WARNING LABELS INCLUDING THE MANUFACTURER'S INSTRUCTIONS ON THE MATERIAL BEING PUMPED.

SECTION 1: GENERAL

- Pump motor and pump tube will be delivered in two separate cartons. The package may contain accessories.
- Check a chemical resistance chart to be sure the medium being pumped is compatible with pump that is made of polypropylene, PVDF, aluminium or stainless steel. If you have any doubts please ask JESSBERGER.
- Make sure that nameplate information corresponds to voltage supplied.
- The operator should wear suitable protective clothing including: face mask, safety shield or goggles, gloves, apron and safety shoes.
- Make sure that you have connected motor and pump in the right way. To engage motor to pump tube, place motor on top of pump tube and turn hand wheel counter-clockwise until the motor coupling and pump tube coupling are completely engaged and secured. It is important that motor coupling will fit exactly into pump tube coupling.
- All connections must be properly in place and tightened securely. Stainless steel hose clamps are required on hose and must be properly tightened, also wing nut at the hose barb.
- Since all JESSBERGER motors and pump tubes are interchangeable (except for pumping flammable liquids or to use in a hazardous area) it is absolutely necessary for operator to read this operating instruction for motor **and** pump tube and to understand it.
- Configure power supply with a ground fault circuit interrupter to avoid shock of currents based on humidity or contamination.
- Only use a drum pump for its general use and only position it in such a way that drum pump can not fall into medium.
- Flammable or combustible liquids can only be handled with ATEX conform air operated motors and explosion-proof electric motors in conjunction with an ATEX proofed stainless steel pump tube.**
- The use of PP (polypropylene), PVDF (polyvinylidene fluoride) ALU pump tubes or universal motors JP-120, JP-140, JP-160, JP-180, JP-280 (all are internally ventilated) as well as the universal motors JP-360 and JP-380 (all externally ventilated, IP 55) for flammable or combustible liquids is prohibited and could cause fire, injury or death.**
- Bonding and grounding safety procedures according to legal authority regulations must be used when handling flammables, operating in a hazardous duty environment or when the danger or static discharge is present. Avoid liquid splashing. Refer to Section 6.
- All federal, state and internally safety regulations have to be followed.
- Never leave a drum pump unattended!
- To increase life time of pump clean the pump after every usage. Please remember that motors should not be kept upside aggressive vapours.
- Empty pump tube, hose, armatures before you take off motor and before you take pump tube out of the drum.
- Please use the optional available wall hanger to store drum pump safe and properly when pump is out of operation. Pump tube shall not kept horizontal but rather in vertical position - at best with wall hanger.
- Check motor, pump tube and hose for operational safety.
- Do not expose drum pump to the weather.
- The universal motors JP-120 and JP-140 have additional a thermal protection switch. All other electric motors are supplied with an overload protection switch that stops the motor at overloading.
- At motors with speed control: Please check before starting JP-120, JP-140, JP-160, JP-164, JP-180, JP-280 that rotary knob to control speed stands on position "O". If you will switch on motor at the handle and if you turn rotary knob slowly to right side the pump will start operation. This rotary knob for speed control is never allowed to be used as ON/OFF switch. Result would be a bigger abrasion and an earlier breakdown of motor.

SECTION 2: Operating manual for universal motors JP-120, JP-140, JP-160, JP-164, JP-180, JP-280, JP-360, JP-380 und JP-400, JP-440, JP-460 und JP-480.

2.1. The universal motors JP-120, JP-140, JP-160, JP-180 and JP-280 are internally ventilated universal motors, with 230 Volt – 50/60 Hz (JP-120 - 250 Watt, JP-140 - 450 Watt, JP-160 - 400 Watt, JP-180 - 600 Watt, JP-280 - 825 Watt, **JP-164** with 24 Volt - 400 Watt), 12.000 rpm, ON/OFF switch as overload switch (at JP-120 and JP-140: thermo protection), 5 m cable and plug, protection class: IP 24. JP-120, JP-140, JP-180 and JP-280 are also in 115 Volt - 60 Hz available.

- Do not use universal motors JP-120, JP-140, JP-160, JP-164, JP-180 and JP-280 for flammables or in hazardous duty environments.**
- Check nameplate data to verify proper voltage.
- Before connecting plug to power supply, be sure motor switch is in the OFF position (Position "O").
- Never carry motor by or pull on power cord.
- Please check continuously whether the power cord is damaged and do not expose it to solvents. If the supply cord is damaged it must be replaced by a special cord or assembly available from the manufacturer or its service agent.
- Motor can be stopped during operation cause of the overload switch; if this happens place the switch in the OFF position "O" and allow the motor to cool.
- Attention: Motor without low voltage release will start after cooling down or a return of power.**
- Motor with low voltage release will not turn on once power is restored before motor will be switched on.**
- Check viscosity and specific gravity limitations of your medium before resuming operation.
- Make sure that you have connected motor and pump in the right way. To engage motor to pump tube, place motor on top of pump tube and turn hand wheel counter-clockwise until the motor coupling and pump tube coupling are completely engaged and secured. It is important that motor coupling is put up exactly on pump tube coupling.
- To replace cartridge brushes, refer to Section 5.
- Never submerge motor in liquid or splash motor with liquid. Operation of motor in wet conditions can cause injury or death.

2.2. Universal motors JP-360 and JP-380

Externally ventilated universal motors with optional speed regulation and control electronics - 230 Volt - 50/60 Hz – over load protection switch, manual ON/OFF switch, 5 m cable with plug, degree of protection: IP 55. The motors are totally enclosed air-cooled universal motors. The construction of the motors prevents the penetration of aggressive and corrosive vapors into the interior and thus the destruction of important engine components. The motors are therefore ideally suited for an environment with aggressive vapors which could damage the operation of an internal-ventilated engine. Therefore, these universal motors have a longer operating and service life for such an environment.

1. Do not use the universal motors for pumping flammable liquids or in hazardous environments.
2. Check nameplate data to verify proper voltage.
3. Before connecting plug to power supply, be sure motor switch is in the position OFF.
4. Never carry motor by or pull on power cord.
5. Please check continuously whether the power cord is damaged and do not expose it to solvents. If the supply cord is damaged it must be replaced by a special cord or assembly available from the manufacturer or its service agent.
6. Motor can be stopped during operation cause of the over load switch; if this happens place the switch in the position OFF and allow the motor to cool.
7. **Attention: Motor without low voltage release will start again after cooling down or a return of power.**
8. **With low voltage release, the motor does not restart until the ON/OFF switch is actuated again.**
9. Check viscosity and specific gravity limitations of your medium before resuming operation.
10. Make sure that you have connected motor and pump in the right way. To engage motor to pump tube, place motor on top of pump tube and turn hand wheel counter-clockwise until the motor coupling and pump tube coupling are completely engaged and secured. It is important that motor coupling is put up exactly on pump tube coupling.
11. To replace cartridge brushes, refer to Section 5.
12. Never submerge motor in liquid or splash motor with liquid.

Motor description:

Motor Version	Speed control	Temperature control	Over load protection	Low voltage-release
JP-360	Optional	✓	✓	Optional
JP-380	Optional	✓	✓	Optional

Speed control (Option)

The speed of the drum pump motor can be controlled via a knob on the handle. This enables an adjustment of the flow rate. The speed control is available as an option.

Over load protection

When the maximum current consumption will be reached the motor stops. It can be switched on again immediately via pushing the position ON. Before restarting the motor it shall be reviewed that the power of the motor is suitable for the required application.

Low voltage release (Option)

Motors with the option low voltage release are protected against an unsupervised starting of the motor after an interruption of the operating voltage. This motor cannot be operated by a remote control.

Declaration in the capture "Function with low voltage release".

ATTENTION: Motors without low voltage release will start after a loss of power by themselves if the power returns. Motors without low voltage release have to be protected against an unsupervised starting.

Function with low voltage release

After pressing the switch to ON the motor will start. When the operating voltage will be interrupted the motor will be switched off. When the

operating voltage will return the motor has to be restarted via pressing the switch to ON.

Function without low voltage release

After pushing the switch to ON the motor will be started. When the operating voltage will be interrupted the motor will be switched off. When the operating voltage will return the motor starts again by itself **without** the need of pushing any key. The motor starts immediately. The start occurs with the speed that was selected manually as the last one.

Motor Version	Voltage	Frequency	Nominated power	Protection class	Weight
JP-360	230 V	50 /60 Hz	650 W	IP 55	6,2 Kg
	115 V	60 Hz			
JP-380	230 V	50/60 Hz	825 W	IP 55	6,5 Kg
	115 V	60 Hz			

Initial operation

The universal motor may only be connected to a properly wired and grounded electrical outlet. The connection values mentioned at the nameplate must be observed. The motor is provided as a drive for drum pumps. An abusive use is not permitted. The motor has to be placed on the pump tube and fixed via the hand wheel. When the motor is operated without a fixed connection to the pump tube the couplings can get destroyed soon.

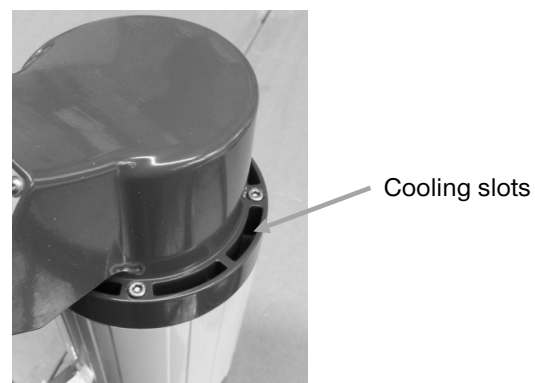
Repairing

By using non original parts people can be hurt or the universal motor be damaged. Repairs may only be carried out by qualified staff. The universal motor has always be unplugged during repair work.

Note

The cooling slots may not be covered. Make sure that no objects will be in the area of the cooling slots because they will be sucked by the fan of the universal motor.

A covering of the cooling slots will result into an overheating of the motor.



2.3. JP-400 - Ex de IIA T6 – ZELM 09 ATEX 0425 X

Explosion-proof motor JP-400 has an EC-type examination certificate for equipment or protective system intended to use in potentially explosive environments – directive 2014/34/EU – ATEX – and is therefore a motor that can be used for pumping flammable liquids or in hazardous environments. Motor is certificated by: ZELM 09 ATEX 0425 X, protection class Ex de IIA T6 – 230 Volt – 50 Hz – 550 Watt - 12.000 rpm; ON/OFF switch as overload protection switch, wire cord - plug not included.

BEFORE STARTING THIS MOTOR, HAVE A SAFETY ENGINEER CHECK UNIT AND ALL SAFETY PROCEDURES. DO NOT USE THIS MOTOR WITHOUT PROPER KNOWLEDGE AND INSTRUCTIONS. FOLLOW ALL LOCAL, STATE AND FEDERAL SAFETY AND ELECTROTECHNICAL REGULATIONS.

1. Verify nameplate data with available electrical connections.
2. Use only a Ex-proof listed plug and a Ex-proof socket, Group Ex de IIC T6. Installation has to be made by a qualified electrician.
3. Check to be sure that the motor is in the OFF position "O" before connection to power supply.

IF FLAMMABLES ARE TO BE PUMPED OR MOTOR IS TO BE USED IN A HAZARDOUS DUTY ENVIRONMENT OR WHERE THE POSSIBILITY OF STATIC DISCHARGE IS PRESENT - PLEASE NOTE:

4. The motor JP-400 is only allowed to be driven with the type-tested JP-SS stainless steel pump tube that is ATEX proofed. All instructions and specifications of the manufacturer have to be followed.
5. Never use the JP-400 motor in conjunction with plastic pump tubes like PP and PVDF or an ALU pump tube when pumping flammables or in a hazardous duty environment.
6. It is absolute necessary to use a bonding ground set. These wires act as electrical conductive connection between explosion proofed motor/pump tube and container and alternatively between ground as earthing and potential equalization. Further details you will find on page 6.
7. The permanent connected cable is only allowed to be connected or used outside Ex-areas or in an ignition protection type pressure resistant or for higher safety executed casing.
8. Make sure that you have connected motor and pump in the right way. To engage motor to pump tube, place motor on top of pump tube and turn hand wheel counter-clockwise until the motor coupling and pump tube coupling are completely engaged and secured. It is important that motor coupling is put up exactly on pump tube coupling.
9. Never submerge motor in liquid or splash motor with liquid. Motor has to be located outside the container.
10. Repair has to be done by JESSBERGER or by an authorized motor repair facility. Unauthorized repair voids the warranty and U.L. listing and could cause injury or death.
11. At installation and during use you have to take care regarding TRbF and explosion-proofed rules made by BG Chemie (for Germany).

If there is any question regarding proper safety procedures – STOP! Do not start the motor. Check with your safety engineer or ask JESSBERGER before starting.

Repairs on this motor may only be carried out by the manufacturer or by qualified electricians in accordance with the manufacturer's specifications.

2.4. JP-440, JP-460, JP-480 – ATEX and IECEx certified

EX II 2G Ex db IIC T6 Gb

EC - Certificate number EPS 17 ATEX 1 088 X

IECEx EPS 17.0045X

The universal motors have an EC type-examination certificate and an IECEx certification for devices intended for use in potentially explosive environments - directive 2014/34/EC - and are therefore approved pressure-tight encapsulated explosion-proof motors for pumping of flammable liquids or for use in potentially hazardous environments.

Certification: Bureau Veritas EPS 17 ATEX 1 088 X and IECEx EPS 17.0045X. Protection class Ex II 2G db IIC T6 Gb, ON/OFF switch as over load protection switch, with and without low voltage release, 5 m cable without plug.

Motor Version	Voltage	Frequency	Nominated power	Protection class	Weight
JP-440	230 V 115 V	50/ 60 Hz 60 Hz	400 W	IP 55	6,0 Kg
JP-460	230 V 115 V	50 /60 Hz 60 Hz	640 W	IP 55	6,3 Kg
JP-480	230 V 115 V	50/60 Hz 60 Hz	825 W	IP 55	6,6 Kg

Commissioning:

The universal motors may only properly connected and grounded. The connection values on the type plate must be observed. The motors are intended as a drive for drum pumps. A misused application is not permissible. A motor is placed on the pump tube and fixed with the hand wheel. If the motor is operated without a fixed connection to the pump tube, the coupling may be damaged

Before working with these motors, a safety engineer should check the pump and observe all safety regulations. Do not use these motors without having the necessary knowledge and observing the regulations. Follow all legal and safety regulations, in particular the relevant electro-technical regulations.

1. Verify nameplate data with available electrical connections.
2. Use only a Ex-proof listed plug and a Ex-proof socket, Group Ex de IIC T6. Installation has to be made by a qualified electrician.
3. Check to be sure that the motor is in the OFF position "O" before connection to power supply.

IF FLAMMABLES ARE TO BE PUMPED OR MOTOR IS TO BE USED IN A HAZARDOUS DUTY ENVIRONMENT OR WHERE THE POSSIBILITY OF STATIC DISCHARGE IS PRESENT- PLEASE NOTE:

4. Use these motors only in conjunction with type-certificated stainless steel pump tube (ATEX).
5. Never use these motors in connection with a PP, PVDF or ALU pump tube if you are pumping flammable liquids or in hazardous environments.
6. It is absolutely necessary to use a bonding ground set. These wires act as electrical conductive connection between explosion proofed motor/pump tube and container and alternatively between ground as earthing and potential equalization. Mount them in the required position before starting. Further details you will find on page 6.
7. Make sure that you have connected motor and pump in the right way. To engage motor to pump tube, place motor on top of pump tube and turn hand wheel counter-clockwise until the motor coupling and pump tube coupling are completely engaged and secured. It is important that motor coupling is put up exactly on pump tube coupling.
8. Never submerge motor in liquid or splash motor with liquid. Motor has to be located outside the container (Zone 1 or Zone 2).
9. Repair has to be done by the manufacturer or by an authorized motor repair facility. Unauthorized repair voids the warranty and U.L. listing, you lose the documented explosion protection and the non-consideration can cause to property damage, injury or death.
10. At installation and during use you have to take care regarding TRbF and explosion proofed rules made by BG Chemie (for Germany).

If there is any question regarding proper safety procedures – STOP!

Do not start the motor. Check with your safety engineer or ask JESSBERGER before starting

Repairs of these motors may only be carried out by the manufacturer or by qualified electricians in accordance with the manufacturer's constructive specifications.

SECTION 3: Air operated motors JP-AIR 1, JP-AIR 2 and JP-AIR 3

JP-AIR 1, ATEX conform IBEx U05 ATEX B007 X, 300 Watt at max. 6 bar air pressure, 8.000 rpm while open-circuit operation, air consumption 13,0 l/sec (0,78 m³/min) during normal operation.

JP-AIR 2 ATEX conform IBEx U07 ATEX B014 X, 600 Watt at max. 6 bar air pressure, 14.600 rpm while open-circuit operation, air consumption 15,7 l/sec (0,94 m³/min) during normal operation.

JP-AIR 3, ATEX conform IBEx U05 ATEX B007 X, 400 Watt at max. 6 bar air pressure, 17.000 rpm while open-circuit operation, air consumption 12,00 l/sec (0,72 m³/min) during normal operation.

Max. air pressure for all our air operated motors: 6 bar

1. Always use a filter, lubricator, regulator (FLR) on the in-take side of the unit. Failure to provide an FLR will result in premature failure of the air motor. A filter is necessary to provide moisture free air and avoid rust build up. A lubricator using SAE 10 wt. oil is necessary to provide internal lubrication. The regulator assures proper air pressure. Use only permitted hoses for air pressure and connectors.
2. Daily normal maintenance is recommended.

- Air operated motors JP-AIR 1, JP-AIR 2 and JP-AIR 3 are conform to ATEX and therefore suitable to use for pumping flammables or for use in a hazardous duty environment – EX II 2GD c IIC T6 (80°C) X.
- Never use these ATEX conform air operated motors in conjunction with a PP or PVDF or ALU pump tube when pumping flammable media or for use in hazardous area.**
- It is absolutely necessary to use a bond grounding set. These wires act as electrical conductive connection between explosion proofed pump and container and alternatively between ground as earthing and potential equalization. Further details you will find on page 6.
- If motor slows down or stops, remove motor from pump and air supply. Turn the motor shaft with your finger; it should turn easily. If it does not, check your lubricator to be sure air motor is receiving proper lubrication.
- Check the muffler to make sure it is not clogged. A safety solvent can be used to clean the clogged muffler. A clogged muffler will cause back pressure and prevent the unit from working freely.
- Never stand directly in path of muffler exhaust.
- Never operate the air motor without the muffler in place and tightened properly.

SECTION 4: INSTRUCTIONS FOR PUMP TUBES made of Polypropylene, PVDF, Aluminium and SS 316 Ti

4.1. Polypropylene pump tube JP-PP, Mixing pump tube JP-PP Mix and PP laboratory pumps.

Material: Polypropylene – Hastelloy C-4 2.4610 drive shaft or alternatively SS 316 Ti drive shaft – FKM V-seal – FKM sealed ball bearings – PTFE guide sleeve with slot – pure carbon grade 6038C carbon bushing – hose connection 3/4" or 1" or 5/4". Pump tube lengths in mm: 700, 1.000, 1.200, 1.500 and 1.800, special lengths from 200 mm up to 3.000 mm, max. temperature 50°C.

PP Mixing pump tube and PP laboratory pumps JP-125, JP-128 and JP-132 are made of same materials.

4.2. PVDF pump tube (sealless) JP-PVDF

PVDF (polyvinylidene fluoride) construction - natural PVDF contains no pigment or color and is ideal for the transfer of ultra pure chemicals – Hastelloy C-4 2.4610 drive shaft – PTFE V-seal, FKM sealed ball bearings – PTFE guide sleeve with slot – pure carbon grade 6038C carbon bushing – hose connection 3/4" or 1" or 5/4" – pump tube lengths 700, 1.000 mm for 200 l drums or 1.200 mm and 1.500 mm for bigger containers. Special lengths are available in a short time; max. temperature 90°C.

4.3. ALU pump tube (sealless) JP-ALU

Material: Aluminium and PVDF – stainless steel shaft SS 316 Ti – FKM V-seal – FKM sealed ball bearings – PTFE guide sleeve – pure carbon grade 6038C carbon bushing – hose connection 3/4" or 1" or 5/4". Pump tube lengths in mm: 700, 1.000, 1.200 and 1.500. Special lengths possible from 200 mm up to 3.000 mm; max. temperature: 90°C.

- Do not use one of these three different pump tubes on flammables or in hazardous duty environments.**
- Pumps can run dry without damaging the structural integrity of the unit. Prolonged periods of dry running should be avoided.
- Always check the chemical compatibility of the liquid being pumped with pump construction and hose you have selected.
- Securely tighten all connections before beginning operation. Use only stainless steel hose clamps to secure hose and tighten securely.
- Before starting motor, check to be sure hose is securely fastened in receiving vessel so hose cannot splash chemicals, causing injury. Use of optional clamp is recommended.
- Check temperature limitation, pressure rating and chemical compatibility of the hose you have selected.

- Never submerge pump into the medium below the hose connection.
- If liquid appears below discharge housing, check security of hose clamps and wing nut. If leakage fails to stop, cease operation. Neutralize pump and send it to authorized JESSBERGER dealers. Or order broken parts directly at JESSBERGER.

4.4. Stainless steel 316Ti pump tube (sealless or with mechanical seal) JP-SS, Mixing pump tube JP-SS Mix and SS laboratory pumps.

Stainless steel 316Ti pump tube (Ø 41 mm, sealless (!) and SS-mixing tube have an EC-type examination certificate for equipment or protective system intended to use in potentially explosive atmospheres: ZELM 09 ATEX 0424 X for use in zone 0, protection class EX II 1/2 G IIB T4. Stainless steel 316 Ti construction - PTFE rotor, PTFE V-seal - PTFE guide sleeve - pure carbon grade 6038C carbon bushing – FKM sealed ball bearings - 3/4" or 1" or 5/4" hose connection. Standard pump tube lengths in 700, 1.000, 1.200, 1.500, 1.800, 2.100, 2.400, 2.700 and 3.000 mm, special lengths available from 200 mm up to 3.000 mm. Max. temperature: 80°C (outside Ex-areas temperatures on request).

This pump tube is also available with mechanical seal (also with ATEX certificate) SS laboratory pumps JP-128 and JP-132 are made of same materials. The laboratory pumps have NO ATEX certificate yet and cannot be used for pumping flammables or for use in Ex-areas.

- Stainless steel pump tube (sealless) can run dry without damaging the structural integrity of the unit. Prolonged periods of dry running should be avoided.
- Always check the chemical compatibility of the liquid being pumped with pump construction and hose you have selected.
- Check temperature limitation, pressure rating and chemical compatibility of the hose you have selected. In Ex-areas or for flammable media conductive hoses and safe hose clamps/connections have to be used.
- Securely tighten all connections before beginning operation. Use only stainless steel hose clamps to secure hose and tighten securely.
- The JP-SS pump tube requires a PTFE between the wing nut and pump body (discharge). Be sure this seal is in place or leakage of chemicals will occur.
- When using the JP-SS on flammables or in hazardous duty environments, it is always necessary to bond and ground. See Section 6 for illustration.
- If liquid appears below the bearing housing, re-check security of all fittings. Re-check to be sure the PTFE seal is in place. If leakage continues, cease operation, neutralize the pump and return it to an authorized JESSBERGER Pump distributor for inspection and possible repair.

Special conditions for Ex-areas or pumping flammables:

- The JP-SS pump tube and JP-SS mixing pump tube can only be driven by an explosion-proofed motor. The motor must not exceed an output of 0,85 kW and a speed of 13.800 rpm (when dry running).**
- During operation it has to be paid attention that the drum interior will be sealed in a sufficient way to observe separation of Ex-zones.**
- The JP-SS or JP-SS mixing pump tubes and accessories have to be integrated in potential equalization. National and international rules have to be observed.**

SECTION 5: REPLACEMENT OF CARTRIDGE BRUSHES

The replacement of cartridge brushes or any electrical work at universal motors should only be performed by a licensed electrician or by plant personnel fully trained in electrical repair.

a) At universal motor JP-120 and JP-140

- Disconnect motor from power supply and pump tube.
- Remove upper cap of motor.
- Fix the fan and turn off the motor coupling.

- Turn off three screws in lower housing and pull motor block out of motor housing to the top.
- Disconnect metal springs and take out carbon brushes.

b) At universal motor JP-360 and JP-380

- Disconnect motor from power supply and pump tube.
- Use an ESD protected working place.
- Place the motor on a firm, clean surface.
- Remove screws of engine covers and handle.
- Pull the cover carefully from the motor housing. Remove the connection cable to the hall sensor and the motor pack.
- Remove the holding springs and the connection strands of the carbon brushes and pull the brushes out of their seats.
- Assembly in the reverse order!

c) At universal motors JP-160, JP-164, JP-180, JP-280

- Disconnect motor from power supply and pump tube.
- Remove upper cap of motor.
- Remove motor handle by dismantling screws and disconnect connecting cables from switch.
- After removing 4 screws from lower housing take the motor housing off.
- Move tension springs carefully over the carbon brushes holder and disconnect connection cables from the brushes.
- Remove carbon brushes from brush holder.

INSTALLATION OF NEW CARTRIDGE BRUSHES
a) At universal motors JP-120 and JP-140

- Install carbon cartridges into chamber.
- Connect the connection cables at cartridges.
- Pay attention that cartridges are fixed in right way.
- Assemble motor in reverse order as described above.

b) At universal motors JP-360 and JP-380

- Insert the terminal lug of the carbon brushes into the cable lug provided for this purpose.
- Squeeze carefully the carbon brush and cautious insert the carbon brush into the carbon brush holder. Check the position.
- Attach the retaining plate for the carbon brushes again at the brush holder. Pay attention that the cable for the carbon brushes is fixed in a way that it is not in contact with the rotor (risk of short circuit).
- Replace the bearing shield.
- Install the fan propeller.
- Mount the engine cover and pay attention to an absolutely central position.

c) At universal motors JP-160, JP-164, JP-180, JP-280

- Install carbon cartridges into chamber.
- Connect the connection cables at cartridges.
- Pay attention that cartridges are fixed in right way.
- Assemble motor in reverse order as described above.

SECTION 6: TRANSFERRING OF FLAMMABLES OR USE IN HAZARDOUS DUTY ENVIRONMENTS

Please check carefully all information that is mentioned at SS tubes, air operated motors and Ex-proofed electric motors!

Only use hose connectors for pumping flammable media and do not use any hose clamps!

When pumping flammables or for use in hazardous area only Ex-proofed motor drives in combination with an approved stainless steel pump tube are allowed to be used. On the nameplate of motors the approval mark Ex is inscribed and the pump tube has a note like zone 0, company name, type and sign for approval. Motor and pump tube have to be suitable and authorized for class of temperature and explosion group of flammable liquid.

JESSBERGER stainless steel pump tube is approved: EC-type examination certificate of ZELM for equipment or protective system intended to use in potentially explosive atmospheres, ZELM 09 ATEX 0424X, EX II ½ G IIB T4. Electric Ex-motor JP-400 is certified according to: ZELM 09 ATEX 0425X, EX II 2 G EEx de IIA T6. The pressure-tight encapsulated electric Ex-motors JP-440, JP-460 and JP-480 are certified as follows: EPS 17 ATEX 1 088 X and IECEx EPS 17.0045X - EX II 2G Ex db IIC T6 Gb. Air operated motors have also an Ex-certificate (see page 4).

Bondings have to be connected between the vessels, pump tube, motor and a constant ground, i.e. a metal rod driven into the earth. Ground and bond wires must have less than one ohm resistance for safe usage. Check continuity before starting.

For further details please see drawing!

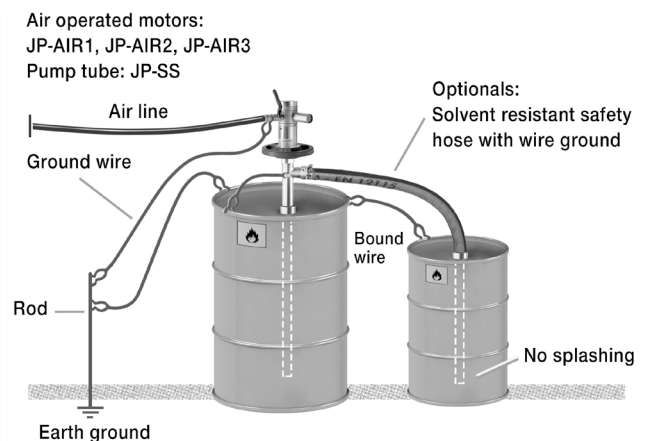
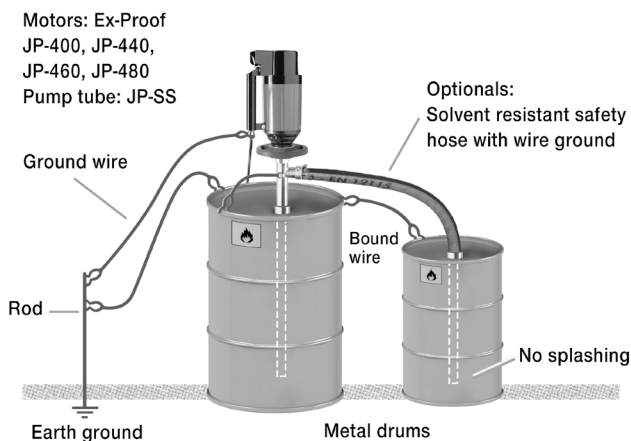
WARRANTY

JESSBERGER grants guarantee for the products for the period of 12 months starting with date of invoice. The warranty refers on manufacturer's defects in materials or construction but is not valid for wear parts (all rotating parts).

Do not make any unauthorized modifications at our products and do not modificate physical construction or parts without written permission of JESSBERGER.

Manufacturer's responsibility is strictly limited to repair or replacement of defective components. The manufacturer assumes no automatically void of improper selection, installation, city resulting in fire, injury or death.

Our general terms and conditions you will find on our website www.jesspumpen.de.



EU Konformitätserklärung | EC Declaration of Conformity

Hiermit erklären wir, dass die nachfolgend bezeichneten Produkte aufgrund ihrer Konzipierung und Bauart in den von uns in Verkehr gebrachten Ausführungen den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der folgenden EU Richtlinien entsprechen. Bei einer nicht mit uns abgestimmten Änderung der Produkte verliert diese Konformitätserklärung ihre Gültigkeit.

We hereby declare that the design and construction of following designated products in the versions marketed by us comply with the relevant fundamental safety and health requirements of the following EC directives. This declaration loses its validity if the products will be modified in any way that is not agreed with us.

Allgemeine Bezeichnung | General description

Fasspumpen | Drum pumps

bestehend aus | consisting of

Fasspumpenmotor | Drum pump motor

und | and

Pumpwerk | Pump tube

Seriennummer | Serial number

Siehe Typenschild | Refer to the name plate

A. Pumpwerke | Pump tubes

I. Nicht für den Ex Bereich zugelassene Pumpwerke | Pump tubes that are not certified for Ex-areas

Bezeichnung | Description

Polypropylen PP (SS) / (HC) 25, 28, 32, 41 mm DL
PVDF 41 mm DL
Aluminium 41 mm DL
Mischpumpwerk Polypropylen | Mixing tube Polypropylene
PP 41/50 mm DL
Edelstahl | Stainless Steel 28, 32 mm DL

Angewandte Richtlinien | Relevant directives

EG Maschinenrichtlinie 2006/42/EG |
Machinery directive 2006/42/EC

Angewandte harmonisierte Normen

EN ISO 12100:2010

Relevant harmonized standards

EN 809:1998+A1:2009/AC:2010

II. Für den Ex Bereich zugelassene Pumpwerke | Pump tubes that are certified for Ex-areas

Bezeichnung | Description

Edelstahl | Stainless Steel 41 mm DL

EG-Baumusterprüfbescheinigung | EC type examination certificate

ZELM 09 ATEX 0424 X

Bezeichnung | Description

Edelstahl | Stainless Steel 41 mm GLRD

EG-Baumusterprüfbescheinigung | EC type examination certificate

ZELM 09 ATEX 0424 X, 2. Ergänzung | 2. Addition

Bezeichnung | Description

Mischpumpwerk Edelstahl | Mixing pump tube Stainless Steel
41/ 50 mm DL

EG-Baumusterprüfbescheinigung | EU type examination certificate

ZELM 09 ATEX 0424 X, 1. Ergänzung | 1. Addition

Bezeichnung | Description

Edelstahl Restentleerung | Stainless Steel with full drum emptying
function 41 mm GLRD

EG-Baumusterprüfbescheinigung | EU type examination certificate

ZELM 09 ATEX 0424 X, 3. Ergänzung | 3. Addition

Angewandte Richtlinien | Relevant directives

ATEX 2014/34/EU | ATEX directive 2014/34/EU
Maschinenrichtlinie 2006/42/EG | Machinery directive 2006/42/EG

Angewandte harmonisierte Normen | Relevant harmonized standards

EN ISO 80079-36:2016
EN ISO 80079-37:2016

Die notifizierte Stelle ZELM Ex, Prüf- und Zertifizierungsstelle, Siekgraben 56, 38124 Braunschweig hat das jeweilige Prüfmuster geprüft und die oben aufgeführten Bescheinigungen ausgestellt.

The notified Ex body ZELM Ex, Prüf- und Zertifizierungsstelle, Siekgraben 56, 38124 Braunschweig tested the particular type in an examination and issued the certificates that are mentioned above.

B. Fasspumpenmotoren | Drum pump motors

I. Elektrische Fasspumpenmotoren | Electric driven drum pump motors

1. Nicht für den Ex Bereich zugelassene Motoren | Motors that are not certified for Ex-areas

Bezeichnung | Description

JP-120, JP-140, JP-160, JP-164, JP-180, JP-360, JP-380

Angewandte Richtlinien | Relevant directives

Maschinenrichtlinie | Machinery directive 2006/42/EG
Niederspannungsrichtlinie | Low voltage directive 2014/35/EU
EMV Richtlinie | EMV directive 2014/30/EU
Richtlinie RoHS 2011/65/EU und 2015/863/E
Directive RoHS 2011/65/EU and 2015/863/E

Angewandte harmonisierte Normen | Relevant harmonized standards

EN ISO 12100:2010
EN 60335-1:2012/A11:2014
EN 60335-2-41:2003+A1:2004+A2:2010
EN 62233:2008, EN 62233Ber.1:2008
EN 55014-1:2017
EN 55014-2:2015
EN 61000-3-2:2014
EN 61000-3-3:2013

2. Für den Ex-Bereich zugelassene Motoren | Motors that are certified for Ex-areas

Bezeichnung | Description

JP-400

Baumusterprüfbescheinigung | Type examination certificate

ZELM 09 ATEX 0425 X

Angewandte Richtlinien | Relevant directives

Maschinenrichtlinie 2006/42/EG
Machinery directive 2006/42/EC
Niederspannungsrichtlinie 2014/35/EU
Low voltage directive 2014/35/EU
EMV Richtlinie 2014/30/EU
EMV directive 2014/30/EU
Richtlinie RoHS 2011/65/EU
Directive RoHS 2011/65/EU
ATEX Richtlinie 2014/34/EU
ATEX directive 2014/34/EU

Angewandte harmonisierte Normen | Relevant harmonized standards

EN ISO 12100:2010
EN 60335-1:2012/A11:2014
EN 60335-2-41:2003+A1:2004+A2:2010
EN 62233:2008, EN 62233Ber.1:2008
EN 55014-1:2006+A1:2009+A2:2011
EN 55014-2:2015
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 60079-0:2012 + A11:2013
EN 60079-1:2014
EN 60079-7:2007

Die notifizierte Stelle ZELM Ex, Prüf- und Zertifizierungsstelle, Siekgraben 56, 38124 Braunschweig hat das Prüfmuster geprüft und die oben aufgeführte Bescheinigung ausgestellt.

The notified Ex body ZELM Ex, Prüf- und Zertifizierungsstelle, Siekgraben 56, 38124 Braunschweig has tested the type examination and issued the certificate that is mentioned above.

Der Universalmotor JP-400 stimmt mit den Anforderungen der ATEX Richtlinie 2014/34/EU überein. Eine oder mehrere in der obigen EG-Baumusterprüfbescheinigung genannten Normen wurden in der Zwischenzeit durch neue Normen ersetzt. Daher erklären wir für den Universalmotor JP-400 die Übereinstimmung im Hinblick auf die neuen Normen, da die veränderten Anforderungen durch die neuen Normen für dieses Produkt unserer Prüfung nach nicht relevant sind.

The universal motor JP-400 complies with the requirements of the ATEX directive 2014/34/EU. One or several of the regulations mentioned in the EC type examination certificate have been already replaced in the meantime by new regulations. Therefore we declare regarding the universal motor JP-400 that it complies with the requirements of the new regulations as the new modifications of the new regulations are not relevant for this product based on our approval.

Bezeichnung | Description

JP-440, JP-460, JP-480

Baumusterprüfbescheinigung | Type examination certificate

EPS 17 ATEX 1 088 X

Angewandte Richtlinien | Relevant directives

Maschinenrichtlinie 2006/42/EG
Machinery directive 2006/42/EC
Niederspannungsrichtlinie 2014/35/EU
Low voltage directive 2014/35/EU

EMV Richtlinie 2014/30/EU
EMV directive 2014/30/EU
Richtlinie RoHS 2011/65/EU
Directive RoHS 2011/65/EU
ATEX Richtlinie 2014/34/EU
ATEX directive 2014/34/EU

Angewandte harmonisierte Normen | Relevant harmonized standards

EN 60079-0:2012 + A 11:2013
EN 60079-0:2014

Die notifizierte Stelle, Burea Veritas Consumer Products Services Germany GmbH, Thurn-und-Taxis-Str. 18, 90411 Nürnberg hat das Prüfmuster geprüft und die oben aufgeführte Bescheinigung ausgestellt.

The notified Ex body, Burea Veritas Consumer Products Services Germany GmbH, Thurn-und-Taxis-Str. 18, 90411 Nuremberg has tested the type examination and issued the certificate that is mentioned above.

II. Für den Ex Bereich zugelassene Druckluftmotoren | Air operated motors that are certified for Ex-areas

Bezeichnung | Description

JP-AIR 1, JP-AIR 2, JP-AIR 3

Baumusterprüfbescheinigung | Type examination certificate

JP-AIR 1 und/and 3: IBExU05ATEXB007 X
JP-AIR 2: IBExU07ATEXB014 X

Angewandte Richtlinien | Relevant directives

ATEX 2014/34/EU
EG Maschinenrichtlinie 2006/42/EG | Machinery directive 2006/42/EG

Angewandte harmonisierte Normen | Relevant harmonized standards

EN ISO 12100:2010
EN ISO 80079-36:2016
EN ISO 80079-37:2016

Die notifizierte Stelle IBExU, Institut für Sicherheitstechnik GmbH, Fuchsmühlenweg 7, 09559 Freiberg bewahrt die technischen Unterlagen gemäß ATEX-Richtlinie, Anhang VIII Nummer 2 auf.

The notified body IBExU, Institut für Sicherheitstechnik GmbH, Fuchsmühlenweg 7, 09559 Freiberg is keeping the technical documentation relating to ATEX-directive, annex VIII, point 2.

Ottobrunn, 15.10.2019

JESSBERGER GmbH



Tobias Jessberger

Geschäftsführer | Managing director

Dokumentationsverantwortlicher |

Authorised person for technical documentation

Benannte Stelle | Notified body QM-System & ATEX 2014/34/EU:
TÜV Rheinland Industrie Service GmbH (0035)

FB-0007 EU Konformitätserklärung Fasspumpen Rev. 04.16

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