PENTAIR

JUNG PUMPEN MULTICUT

25/2 ME	35/2 M	36/2 M	45/2M	75/2 M	76/2 M
25/2 ME, EX	35/2 M, EX	36/2 M, EX	45/2M, EX	75/2 M, EX	76/2 M, EX

DE Original-Betriebsanleitung
EN Instruction Manual
FR Instructions de service
NL Gebruikshandleiding
IT Istruzioni per l'uso
PL Instrukcja eksploatacji
CZ Návod pro provoz
SK Návod na prevádzku
HU Üzemeltetési útmutató
RO Manual de utilizare

LGA Type tested and monitored Guaranteed with tested Quality

You have purchased a product made by JUNG PUMPEN and with it, therefore, also excellent quality and service. Secure this service by carrying out the installation works in accordance with the instructions, so that our product can perform its task to your complete satisfaction. Please remember that damage caused by incorrect installation or handling will adversely affect the guarantee.

Therefore please adhere to the instructions in this manual!

As with all electrical devices, this product can also fail to operate due to an interruption in the electricity supply or due to a technical defect. If this could result in damage, a mains-independent alarm system must be installed. Depending on the application, you may also wish to install an emergency power generator, or a second system as a back-up.

SAFETY INSTRUCTIONS

This instruction manual contains essential information that must be observed during installation, operation and servicing. It is therefore important that the installer and the responsible technician/operator read this instruction manual before the equipment is installed and put into operation. The manual must always be available at the location where the pump or the plant is installed.

Failure to observe the safety instructions can lead to the loss of all indemnity.

In this instruction manual, safety information is distinctly labelled with particular symbols. Disregarding this information can be dangerous.

General danger to people

Warning of electrical voltage

ATTENTION!

Danger to equipment and operation

Qualification and training of personnel

All personnel involved with the operation, servicing, inspection and installation of the equipment must be suitably qualified for this work and must have studied the instruction manual in depth to ensure that they are sufficiently conversant with its contents. The supervision, competence and areas of responsibility of the personnel must be precisely regulated by the operator. If the personnel do not have the necessary skills, they must be instructed and trained accordingly.

Safety-conscious working

The safety instructions in this instruction manual, the existing national regulations regarding accident prevention, and any internal working, operating and safety regulations must be adhered to.

Safety instructions for the operator/user

All legal regulations, local directives and safety regulations must be adhered to.

The possibility of danger due to electrical energy must be prevented.

Leakages of dangerous (e.g. explosive, toxic, hot) substances must be discharged such that no danger to people or the environment occurs. Legal regulations must be observed.

Safety instructions for installation, inspection and maintenance works

As a basic principle, works may only be carried out to the equipment when it is shut down. Pumps or plant that convey harmful substances must be decontaminated.

All safety and protection components must be re-fitted and/or made operational immediately after the works have been completed. Their effectiveness must be checked before restarting, taking into account the current regulations and stipulations.

Unauthorised modifications, manufacture of spare parts

The equipment may only be modified or altered in agreement with the manufacturer. The use of original spare parts and accessories approved by the manufacturer is important for safety reasons. The use of other parts can result in liability for consequential damage being rescinded.

Unauthorised operating methods

The operational safety of the supplied equipment is only guaranteed if the equipment is used for its intended purpose. The limiting values given in the "Technical Data" section may not be exceeded under any circumstances.

Instructions regarding accident prevention

Before commencing servicing or maintenance works, cordon off the working area and check that the lifting gear is in perfect condition.

Never work alone. Always wear a hard hat, safety glasses and safety shoes and, if necessary, a suitable safety belt.

Before carrying out welding works or using electrical devices, check to ensure there is no danger of explosion.

People working in wastewater systems must be vaccinated against the pathogens that may be found there. For the sake of your health, be sure to pay meticulous attention to cleanliness wherever you are working.

Make sure that there are no toxic gases in the working area.

Observe the health and safety at work regulations and make sure that a first-aid kit is to hand.

In some cases, the pump and the pumping medium may be hot and could cause burns.

For installations in areas subject to explosion hazards, special regulations apply!

This appliance can be used by children aged 8 years or over and by persons with limited physical, sensory or intellectual capabilities, or with limited experience and knowledge, provided that they are supervised or have been instructed in the safe use of the appliance and are aware of the dangers involved. Children must not be allowed to play with the appliance. Cleaning and user maintenance must not be carried out by children unless they are supervised.

AREAS OF APPLICATION

Submersible pumps in the MultiCut range are suitable for effluent in pressure drainage systems or for the drainage of single dwellings.

MultiCut pumps are principally used for:

- effluent containing fibrous matter
- effluent containing solids (without stones)
- domestic effluent without faecal matter
- domestic effluent with faecal matter
- mechanically cleaned effluent

The submersible pumps are supplied without explosion protection or with explosion protection.

When using the pumps, the relevant national laws, regulations and stipulations must be adhered to, for example:

- Installation of lowvoltage systems (e.g., VDE 0100 in Germany)
- Safety and working materials (e.g., BetrSichV and BGR 500 in Germany)
- Safety in wastewater systems (e.g., GUV-VC5, GUV-R104, GUV-R126 in Germany)
- Electrical systems and operating resources (e.g., GUV-VA3 in Germany)
- Explosion protection EN 60079-0:2012, EN 60079-1:2007, EN 60079-14:2007, EN 60079-14:2007 and EN 1127-1:2011

For non-standard utilisation conditions in areas subject to explosion hazards, please ask the local authority responsible.

In Germany, this would be, for example, the Trade Supervisory Centre (Gewerbeaufsicht), the Technical Inspection Agency (TÜV), the building authority (Bauamt) or professional organisation (Berufsgenossenschaft).

The installation and operation of this equipment is regulated by the ordinance concerning the protection of health and safety in the provision of work equipment and its use at work, concerning safety when operating installations subject to monitoring, and concerning the organisation of industrial health and safety at work, (Betriebssicherheitsverordnung), Article 1.

Where no explosion protection is stipulated for the pumping of foul wastewater at the installation location, pumps without explosion protection may also be used.

Modes of operation

with the pumped medium at a temperature of 40°C:
Motor submersed: continuous operation S1
Motor emerged: short duration operation S2; see "Technical Data"
Motor emerged: intermittent operation S3; see "Technical Data"

The submersible pump is frost-resistant down to -20°C when stored in dry conditions. When installed, however, it must not be allowed to freeze in the water.

Transport

The pump must always be lifted by the handle and never by the power supply cable! The pump should only be lowered by using a rope or chain.

ELECTRICAL CONNECTION

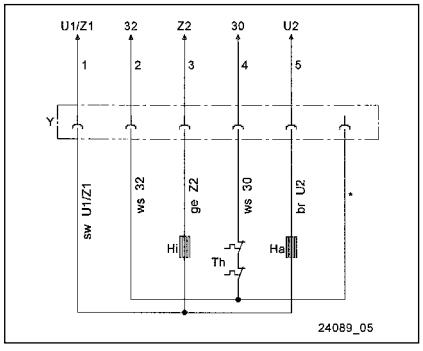
By using our controls, you can be sure that the requirements of the EU type-testing certificate are met.

Only qualified electricians may carry out electrical works to the pump or the controls.

The standards applicable in each case (e.g. EN), the country-specific regulations (e.g. VDE in Germany), and the regulations of the local supply network operator must be observed.

ATTENTION! Never lay the end of cables in water! Penetrating water may cause malfunctions**.**

Circuitry for pumps running on alternating current

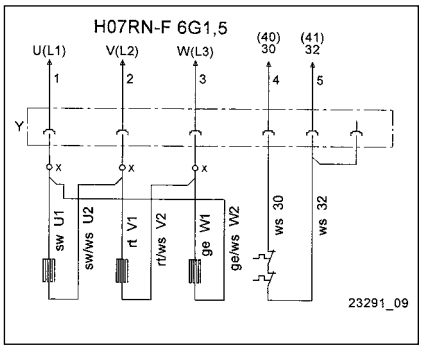


The alternating current pumps must not be used without a control unit.

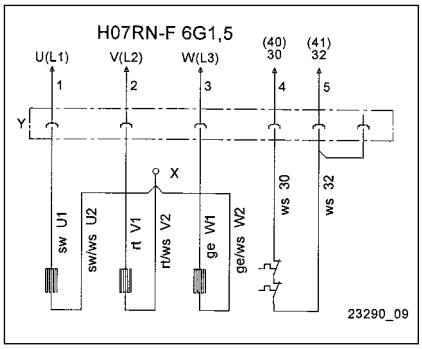
MultiCut pumps in alternating current versions are protected by 2 winding thermostats and a motor contact switch in the AD 12 Ex ME control unit. The two operating condensers in the control unit must be dimensioned according to the measurements indicated in the Type Examination Certificate.

Capacity 2 x 30 µF Tolerance ± 10%
Operating voltage 400 V , Operating mode DB

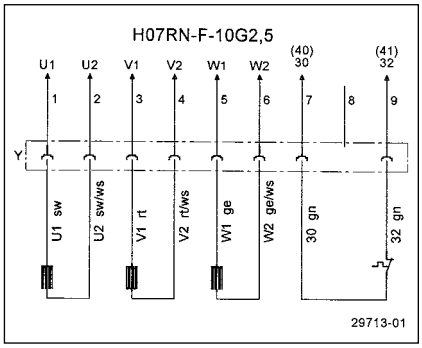
Δ-Circuitry for low voltage



Y-Circuitry for high voltage



Y-Circuitry for high voltage, 75/2 M and 76/2 M



Alterations to the circuitry are to be made using crimp connectors (X) between the coni plug connection (Y) and the built-in motor. The new crimp connection must be professionally made.

Only slow-blow fuses or automatic fuses with C or D characteristics are to be used as pre-fuses for the pump. Nec-

essary fuse protection for direct on-line start: 16 A, and for star-delta start 20 A (72/2 M, 76/2 M).

The pump must be protected via an overload trip. Setting for direct on-line start = nominal current, and for star-delta start = nominal current x 0.58.

If the protective device has been triggered, the cause of the malfunction must be eliminated before switching on again.

Coil thermostats

ATTENTION! In addition to the overload trip or protective switch of the motor, the thermostats integrated in the motor winding must also be connected. The thermostats are suitable for 250 V / 1.2 A (cos phi = 0.6) and are labelled 30 and 32 for connection purposes.

For this reason, after the protective device has been triggered, the mains cable must be unplugged before remedying the cause of the failure, as otherwise the pump will be automatically switched on again.

Thermostat connection without explosion protection

The thermostats are to be connected in such a way that the motor is switched off via the control circuit when the response temperature is reached. The motor is switched on again automatically after the winding has cooled down.

Thermostat connection with explosion protection

The thermostats are to be connected in such a way that the motor is switched off via the control circuit when the response temperature is reached. It must not be possible for the motor to switch on again automatically after the winding has cooled down.

After an automatic cut-out via the temperature limiters, the cause of the malfunction must first be eliminated. Only then may the motor be switched on again manually.

The restart interlock must be "non-resetting on power failure", i.e. the lock must be in place to prevent restarting even after a power cut (in Europe: Directive 94/9/EC, Appendix II 1.5, EN 60079-17 Table1, B10).

Operation with frequency converter

Frequency converters may only be used for controlling the frequency of special models of three-phase pumps. Alternating current pumps are unsuitable as a rule.

ATTENTION! For physical reasons, pumps may not be operated at a higher frequency than that shown on the type plate. If the frequency increases beyond the value on the type plate, the power input increases and the motor is then overloaded.

For special models of three-phase pumps that are designed for frequency converter operation, the motor type shown on the type plate is labelled with an additional "K" (e.g. D90-2/75 CK). These pumps also have a sticker on the end of the cable that indicates their suitability for use with a frequency converter.

These special motors are fitted with PTC thermistors as winding protectors. Voltages of more than 2.5 V may not be connected to the winding protection terminals 40 and 41! For explosion protected pumps, a type-tested tripping unit that complies with the EC type-testing requirements is also necessary.

Rotational direction

Not applicable for alternating current pumps. The rotational direction must be checked before installation! If the rotational direction is correct, the start-up jolt should be in the opposite direction to the rotational direction arrow on the motor housing. The wrong rotational direction is also indicated if the pump performs inadequately when installed, or if loud noises can be heard during operation. If the rotational direction is wrong, 2 phases of the supply cable must be swapped over.

The start-up jolt can be very forceful.

Potential equalisation

To comply with EN 60079-14 and EN 1127-1, an additional equipotential bonding must be installed for facilities with protective earth conductors in TN/TT networks in areas subject to explosion hazards. In Germany, for example, the design must be in accordance with VDE 0100, Part 540 (Association of German Electrical Engineers).

No additional potential equalisation is required on site for JUNG PUMPEN concrete or plastic chambers in explosion zones 1 and 2 (statement made by TÜV Nord (Technical Inspection Agency) in March 2008).

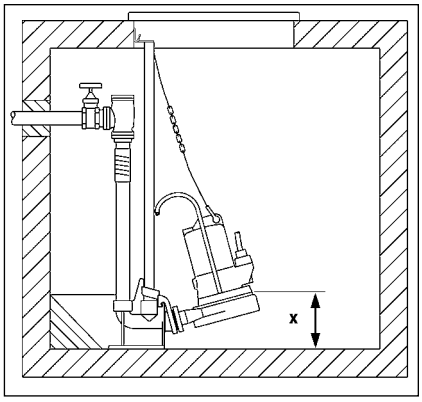
Exception: if conductive parts, such as cable protection sleeves made of corrugated pipe or a pressure pipe made of metal, are connected to the chamber from the outside. In this case, an electrically conductive connection must be made between the conductive parts and the housing of the pump(s). For corrosion protection reasons, the connection should be made using stainless steel.

Explosion protected pumps have a special connection point at the cable entry point.

INSTALLATION

The pump must be installed as shown in the examples. For installations in accordance with EN 12056-2, the pressure pipe must be laid in a loop above the local back pressure level and protected with a back pressure valve.

Example installation with guide rail system for pumping stations at a permanent location.

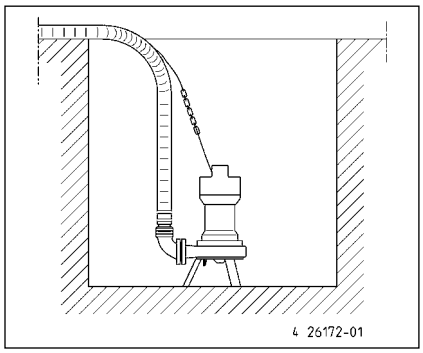


Assembly: Fix the coupling base firmly to the floor of the collection chamber using plugs and then mount the guide rails. Next, install the pressure pipe including the necessary fittings, such as the non-return valve and shut-off valves.

Finally, fit the pump with the screwed-on coupling catch on to the guide rails and lower it into place using a chain fixed to the shackle.

A fixing facility for lifting gear should be provided above the chamber opening at a sufficient height.

Example of installation with pump base or retrofitting or mobile operation.



Assembly: The submersible pump is fitted with a 90° connection and then lowered into the chamber or collecting pit using a chain. For short-term use, the pump can also be put into operation using a suitable plug.

Level monitoring can be carried out using various systems. Their specific characteristics and requirements can be found in the relevant operating manuals.

In accordance with the explosion protection laws and regulations, JUNG Ex-pumps should never be allowed to run dry or to operate in "snore" mode.

The pump must switch off when the water level sinks to the upper edge of the pump housing (x in the illustration), at the very latest. This shut-down must be implemented via a separate switching circuit. Dry running for servicing or inspection purposes may only take place outside the potentially explosive area.

A correspondingly larger diameter pipe should be used for longer pressure pipelines to avoid pipe friction losses.

Rising pressure pipes must be protected from frost! A chamber cover must be selected that is suitable for the intended use and has the required load-bearing capacity.

If the pump is malfunctioning, part of the contents of the oil reservoir could escape into the pumping medium.

Not Ex-pumps. If a hose is used as a pressure line, care must be taken to ensure that for every pumping operation the hose is completely empty before the pump is submersed. Any residual liquid would obstruct the ventilation of the pump housing and therefore also hinder the pumping operation.

This situation can also occur if the pump runs dry, pumps down to a lower lever than that shown in the installation drawing, or runs in "snore" mode during the daily test run.

SERVICING

We recommend that you service the equipment in accordance with EN 12056-4 and EN 60074-19.

To ensure continued reliability of service, we recommend that you take out a service contract.

Before carrying out any works: disconnect the pump and the controls from the mains and take steps to ensure that it cannot be emergized again.

Check the cable for mechanical or chemical damage. A damaged or kinked cable must be replaced.

When using a chain to lift the pump, please observe the relevant national regulations regarding accident prevention. Lifting gear must be checked regularly by an expert in accordance with the legal regulations.

Motors in the EX range conform to the "flameproof enclosures" ignition protection category. Maintenance works that affect the explosion protection may only be carried out by authorised specialists or by the manufacturer. When carrying out repairs, all areas next to flameproof gaps must be checked for damages and, if necessary, replaced genuine parts.

Oil check

The oil reservoir is sealed on the outside with a sealing screw "Öl" (oil). In order to check the mechanical seal, the oil, including any residue, must be drained from the oil reservoir and collected in a clean measuring container.

- If the oil is contaminated with water (milky), an oil change must be carried out. Check again after a further 300 operating hours, but at the very latest after 6 months!
- However, if the oil is contaminated with both water and pollutants, then not only the oil must be replaced, but the mechanical seal as well.

For monitoring the oil reservoir, it is also possible to retrofit the electrode of our "DKG" or DKG-Ex" seal leak control device in place of the "DKG" sealing screw.

Changing the oil

To ensure operational liability, the first oil change should be carried out after 300 operating hours, with further oil changes carried out after every 1000 operating hours.

If the number of operating hours is very low, an oil change should still be carried out at least once a year.

If wastewater with strongly abrasive constituents is being pumped, the oil changes should be carried out at correspondingly shorter intervals.

Use HLP hydraulic mineral oil, viscosity class 22 to 46, e.g. Mobil DTE 22, DTE 24, DTE 25, to replace the oil in the oil reservoir.

The volume of oil required is 520 cm³ for MultiCut 25/2 to 36/2, 750 cm³ for MultiCut 45/2 and 2600 cm for the MultiCut 75/2 und 76/2.

ATTENTION! The oil reservoir may only be filled with the specified quantity of oil. Overfilling will result in the pump being rendered inoperable.

Checking the pump unit

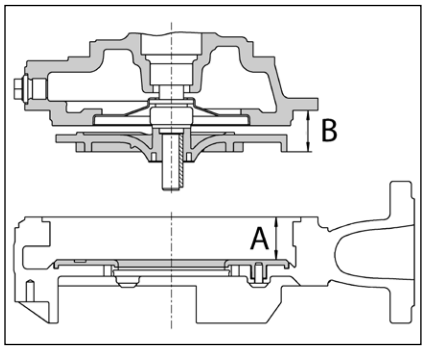
The housing screws for the pump, and the connecting and fixing screws of the installation must be checked to ensure they are fixed securely. They should be tightened if necessary.

If the pump performance decreases, or if increasingly loud noises can be heard during operation, or if the cutting performance decreases (the pump tends to become blocked), the impeller and cutting system must be checked for wear by an expert and replaced if necessary.

Replace the impeller

Worn impellers can have sharp edges.

1. Block the cutting rotor with a piece of wood and unscrew the central hexagon socket screw
2. Unscrew the four hexagon socket screws on the top of the spiral housing, and take off the spiral housing.
3. Fit the new impeller with the feather key onto the shaft, using the same number of adjusting washers as before.

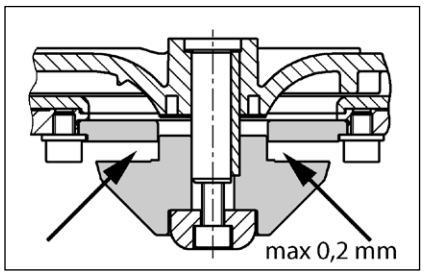


4. Measure dimension B on each blade and note the largest measurement.
5. Measure dimension A in several places and note the smallest measurement.
6. **ATTENTION!** The impeller gap A-B must measure 0,5-0,7 mm.
   If the gap is larger or smaller, use adjusting washers (12x16x0.2) under the impeller to adjust the gap.
7. Screw the spiral housing and the oil reservoir/motor back together again.
8. As a final step, put the cutting rotor back on and adjust the cutting gap.

Checking the cutting clearance

Using a suitable tool, e.g. feeler gauge, the cutting clearance between the cutting rotor and the cutting plate can be measured. A cutting clearance of over 0.2 mm must be reduced.

Adjustment of the cutting clearance



1. Block the cutting rotor with a piece of wood and unscrew the central hexagon socket screw.

2. Take off the compression piece, the cutting rotor and an adjusting washer and then attach the compression piece and the cutting rotor again.

3. Block the cutting rotor and tighten again with the hexagon socket screw (tightening torque 8 Nm).

4. Check the freedom of movement of the cutting rotor and the cutting clearance again (max. 0.2 mm).

If the cutting clearance is still too big, a further adjusting washer must be removed. Steps 1-4 must be repeated.

Cleaning

Worn impellers can have sharp edges.

To clean the impeller and the spiral housing first of all remove the compression piece and the cutting rotor as described above. Then unscrew the 4 hexagon socket screws and remove the spiral housing.

The impeller and the spiral housing can now be cleaned. After this fit the individual components again and adjust the cutting clearance.

To clean the pump chamber a flushing pipe can be fitted as and when required. To do so, the "Luft" (air) sealing screw is removed and in its place the flushing pipe fitted to the pump.

ATTENTION! If the wrong screws are unscrewed, the oil will run out of the oil reservoir.

Tightening torque M_A for A2 screw materials

for M 6 M_A = 8 Nm
for M 8 M_A = 20 Nm
for M 10 M_A = 40 Nm
for M 12 M_A = 70 Nm
for M 16 M_A = 160 Nm

WHAT TO DO IN THE EVENT OF ANY PROBLEMS

Pump does not work

- Check mains current (do not use a pin gauge)
- Fuse faulty = may be too weak (please refer to Electrical Connection)
- Mains supply cable damaged = repair to be carried out by manufacturer only

Pump runs but does not pump

- Empty pressure pipe or hose to allow the non-return valve to open and let the air escape from the spiral housing.
- Ventilate the pump housing by unscrewing the "Luft" (air) sealing screw.

Cutting system blocked

- Check the cutting system and readjust or replace as necessary.

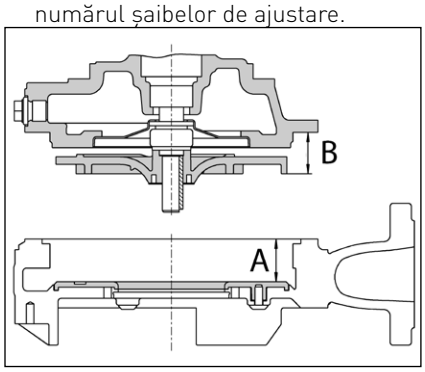
Impeller blocked

- Clean spiral housing and impeller.

Decreased pumping performance

- The impeller is worn out = replace it
- Wrong direction of rotation = change 2 phases of the power supply

2. Deșurubați cele patru șuruburi cu hexagon interior de deasupra carcasei spiralate și scoateți carcasa spiralată.
3. Montați rotorul nou pe arbore cu ajutorul cheii, mențineți pentru aceasta numărul șaibelor de ajustare.

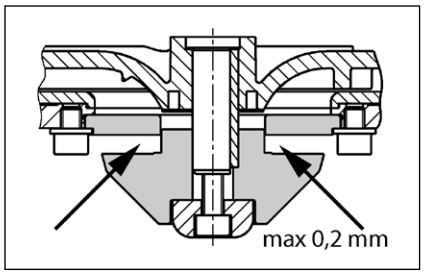


4. Stabiliți la fiecare paletă de rotor dimensiunea B și notați cea mai mare valoare.
5. Stabiliți în mai multe locuri dimensiunea A și notați cea mai mică valoare.
6. **VIGYÁZAT!** Interstițiul dintre rotor și stator trebuie să măsoare: 0,5-0,7 mm. Interstițiul poate să fie mai mare sau mai mic, trebuie să fie compensat cu șaibe de ajustare (12x16x0,2) în spatele rotorului..
7. Reasamblați carcasa spiralată și camera de ulei / motorul.
8. În final, rotorul de tăiere se montează din nou și distanța de tăiere se reglează.

Controlarea spațiului de tăiere

Distanța dintre rotorul de tăiere și placa de tăiere poate fi măsurată cu un dispozitiv adecvat, de ex. cu un spion. Distanța de tăiere de peste 0,2 mm trebuie redusă.

Reglarea distanței de tăiere



1. Se blochează rotorul de tăiere cu o bucată de lemn și se desface șurubul hexagonal central.

2. Se înlătură piesa de presiune, rotorul de tăiere și o pană de reglaj, după care se reintroduc piesa de presiune și rotorul de tăiere.

3. Se blochează rotorul de tăiere și se strânge din nou cu șurubul hexagonal (moment de torsiune 8 Nm).

4. Se controlează libertatea de mișcare a rotorului de tăiere și se mai măsoară încă o dată distanța (max. 0,2 mm).

Dacă distanța de tăiere este încă prea mare, trebuie îndepărtată încă o pană de reglaj. Trebuie repetați pașii 1-4.

Curățare

Rotorii uzați pot avea muchii ascuțite.

Pentru curățarea rotorului și a carcasei spiralate, se îndepărtează mai întâi piesa de presiune și rotorul de tăiere, după cum a fost descris mai sus. Apoi de desfac cele 3 șuruburi hexagonale și se îndepărtează carcasa spiralată.

Rotorul și carcasa spiralată pot fi acum curățate. După aceea se montează din nou părțile componente și se reglează distanța de tăiere.

Pentru curățarea puțului pompei se poate instala și ulterior un tub de clătire. În acest scop se îndepărtează șurubul de închidere "Luft" (Aer) și se montează tubul de clătire în loc la pompă.

ATENȚIE! La desfacerea șuruburilor greșite se revarsă conținutul rezervorului de ulei.

Moment de torsiune M_A pentru bacul de filieră A2

pentru M 6 M_A = 8 Nm

pentru M 8 M_A = 20 Nm

pentru M 10 M_A = 40 Nm

pentru M 12 M_A = 70 Nm

pentru M 16 M_A = 160 Nm

AJUTOR LA DERANJAMENTE

Pompa nu merge

- verificați tensiunea de alimentare (nu utilizați creionul de tensiune)
- siguranța defectă = eventual prea slabă (vezi conexiunea electrică)
- alimentarea la rețea defectă = reparație efectuată doar de către producător

Pompa merge, dar nu pompează

- goliți conducta, respectiv furtunul de alimentare pentru ca supapa fluture să se deschidă și aerul din carcasa spiralată să poată ieși
- evacuați aerul din carcasa pompei prin deșurubarea șurubului de închidere "Luft" (Aer).

Unitatea de tăiere este blocată

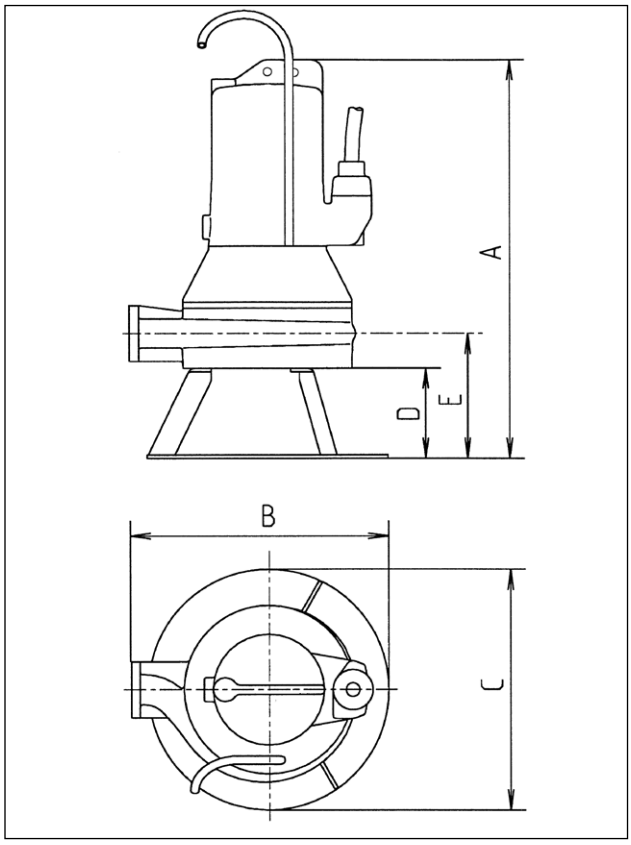
- Controlați sistemul de tăiere și eventual reglați-l, respectiv schimbați-l.

Rotorul este blocat

Se curăță carcasa spiralată și rotorul

Capacitate de pompare scăzută

- rotor de curgere uzat = înlocuire
- direcție greșită de rotație = se inversează 2 faze ale cablului de alimentare



	A	B	C	D	E
...25/2 ME	520	330	250	140	180
...35/2 M	520	330	250	140	180
...36/2 M	520	330	250	140	180
...45/2 M	520	330	255	140	180
...75/2 M	665	430	400	150	210
...76/2 M	665	430	400	150	210

Leistungen • Performance • Puissances • Capaciteit • Prestazioni
Wydajności i moce • Výkony • Výkony • Teljesítmény • Capacități

H [m]	**6**	**9**	**12**	**15**	**18**	**21**	**25**	**28**	**32**	**34**	**36**	**38**	**40**	**44**	**46**	**48**	**50**	**52**	**54**
25/2 ME	17	16	15	12	9	5											**Q [m /h]**		
35/2 M						16	13	10	5										
36/2 M							16	14	10	7	5	2							
45/2 M												10	8	2					
75/2 M										17	16	15	13	8	5	2			
76/2 M															13	11	9	6	3

TECHNISCHE DATEN • TECHNICAL DATA • CARACTÉRISTIQUES TECHNIQUES • TECHNISCHE GEGEVENS • DATI TECNICI • DANE TECHNICZNE • TECHNICKÉ ÚDAJE • TECHNICKÉ ÚDAJE • MŰSZAKI ADATOK • DATE TEHNICE

		25/2 ME	**35/2 M**	**36/2 M**	**45/2 M**
	[kg]	38	41	41	42
	PN 6	DN 32	DN 32	DN 32	DN 32
	[mm]	7	7	7	7
	S2	25 min.	27 min.	20 min.	14 min.
	S3*	35 %	40 %	30 %	25 %
Motor		E 90-2/110	D 90-2/110	D 90-2/110	D 90-2/110
- EX		08 ATEX 1113 X	08 ATEX 1113 X	08 ATEX 1113 X	08 ATEX 1113 X
	II 2 G	Ex d IIB T4	Ex d IIB T4	Ex d IIB T4	Ex d IIB T4
P1	[kW]	2,7	3,7	4,2	4,8
P2	[kW]	2,0	3,0	3,4	3,9
U	[V]	1/N/PE ~230	3/PE ~230 /400	3/PE ~230 / 400	3/PE ~230 / 400
f	[Hz]	50	50	50	50
I	[A]	12,0	11,5 / 6,6	12,7 / 7,3	13,7 / 7,9
cos phi		0,96	0,82	0,84	0,86
n	[min^{-1}]	2770	2895	2880	2857

		75/2 M	**76/2 M**
	[kg]	90	90
	PN 6 /10	DN 32	DN 32
	[mm]	8	8
	S2	27 min.	27 min.
	S3*	30 %	30 %
Motor		D 112-2/140	D 112-2/140
- EX		08 ATEX 1115 X	08 ATEX 1115 X
	II 2 G	Ex d IIB T4	Ex d IIB T4
P1	[kW]	7,7	7,7
P2	[kW]	6,6	6,6
U	[V]	3/PE ~400 / 690	3/PE ~400 /690
f	[Hz]	50	50
I	[A]	13,2 / 7,7	13,2 / 7,7
cos phi		0,86	0,86
n	[min^{-1}]	2920	2920

* Beispiel: 40%: 4 min Betrieb + 6 min Pause (Spieldauer 10 min)
* Example for 40%: 4 min. operation and 6 min. rest (Cycle duration 10 min.)
* Exemple: 40% = 4 min de service et 6 min de pause (Durée du jeu 10 min)
* Eksempel: 40 %: 4 min drift + 6 min pause (spilletid 10 min)
* Esempio: 40%: 4 min. di funzionamento + 6 min. di pausa (durata del ciclo 10 min.)
* Przykładowo 40%: 4 min pracy i 6 min przerwy (Czas cyklu 10 min)
* Příklad 40%: 4 min. provoz a 6 min. přestávka (trvání pracovního cyklu 10 min.)
* Príklad 40%: 4 min prevádzka a 6 min prestávka (doba trvania cyklu 10 min)
* 4 perc üzem és 6 perc szünet (ciklusidő 10 perc).
* Exemplu 40%: 4 min funcționare și 6 min pauză (timp aproximativ 10 min)

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JUNG PUMPEN GmbH - Industriestr. 4-6 33803 Steinhagen, Germany

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407.12.1504 - 408.12.1504 - 411.12.1504 - 412-12.1504

EN 12050-1:2001
Fäkalienhebeanlage

25/2 ME (JP09843/4)
35/2 M (JP09806/5)
36/2 M (JP09907/4)
45/2 M (JP09430/0)

75/2 M (JP09912/0)
76/2 M (JP09262/0)

25/2 ME, EX (JP09742/1)
35/2 M, EX (JP09807/5)
36/2 M, EX (JP09908/4)
45/2 M, EX (JP09431/0)

75/2 M, EX (JP09913/0)
76/2 M, EX (JP09263/0)

Sammeln und automatisches Heben von fäkalienfreiem und fäkalienhaltigem Abwasser über die Rückstauebene

BRANDVERHALTEN	NPD
WASSERDICHTHEIT, LUFTDICHTHEIT	
- Wasserdichtheit	Bestanden
- Geruchsdichtheit	Bestanden
WIRKSAMKEIT (HEBEWIRKUNG)	
- Förderung von Feststoffen	Bestanden
- Rohranschlüsse	Bestanden
- Mindestmaße von Lüftungsleitungen	Bestanden
- Mindestfließgeschwindigkeit	Bestanden
- Freier Mindestdurchgang der Anlage	Bestanden
- Mindestnutzvolumen	Bestanden
MECHANISCHE FESTIGKEIT	
- Tragfähigkeit und strukturelle Stabilität des Sammelbehälters für die Verwendung außerhalb von Gebäuden	NPD
- Strukturelle Stabilität des Sammelbehälters für die Verwendung innerhalb von Gebäuden	NPD
GERÄUSCHPEGEL	≤ 70 dB(A)
DAUERHAFTIGKEIT	
- der Wasserdichtheit und Luftdichtheit	Bestanden
- der Hebewirkung	Bestanden
- der mechanischen Festigkeit	Bestanden
GEFÄHRLICHE SUBSTANZEN	NPD

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407.12.1504 - 408.12.1504 - 411.12.1504 - 412-12.1504

EN 12050-1:2001
Lifting plant for wastewater containing faecal matter

25/2 ME (JP09843/4)
35/2 M (JP09806/5)
36/2 M (JP09907/4)
45/2 M (JP09430/0)

75/2 M (JP09912/0)
76/2 M (JP09262/0)

25/2 ME, EX (JP09742/1)
35/2 M, EX (JP09807/5)
36/2 M, EX (JP09908/4)
45/2 M, EX (JP09431/0)

75/2 M, EX (JP09913/0)
76/2 M, EX (JP09263/0)

Collection and automatic lifting of wastewater without sewage and wastewater containing faecal matters above the backflow level

REACTION TO FIRE	NPD
WATERTIGHTNESS, AIRTIGHTNESS	
- Water tightness	Pass
- Odour tightness	Pass
EFFECTIVENESS (LIFTING EFFECTIVENESS)	
- Pumping of solids	Pass
- Pipe connections	Pass
- Minimum dimensions of ventilating pipes system	Pass
- Minimum flow velocity	Pass
- Minimum free passage of the plant	Pass
-Minimum useful volume	Pass
MECHANICAL RESISTANCE	
- Load bearing capacity and structural stability of collection tank for use outside buildings	NPD
- Structural stability of collection tank for use inside buildings	NPD
NOISE LEVEL	≤ 70 dB(A)
DURABILITY	
- of structural stability	Pass
- of lifting effectiveness	Pass
- of mechanical resistance	Pass
DANGEROUS SUBSTANCES	NPD