

FEUER- LÖSCHTECHNIK *FIRE FIGHTING*

BEDIENUNGS- UND WARTUNGSANLEITUNG OPERATION AND MAINTENANCE MANUAL

**ISTRUZIONI PER L'USO E LA MANUTENZIONE
INSTRUCTIONS DE SERVICE ET DE MAINTENANCE
INSTRUCCIONES DE SERVICIO Y MANTENIMIENTO
INSTRUKCJA OBSŁUGI I KONSERWACJI
РУКОВОДСТВО ПО ОБСЛУЖИВАНИЮ И ТЕХУХОДУ**

Feuerlöschtechnik *Fire Fighting*



Fire Fighting Pump NP3001 with VACUMAT

EN 1028-1-FPN 15-2000

Specifications as per acknowledgment of order

Order No.:

Ident-No.:

PF Pumpen und Feuerlöschtechnik GmbH
Zechensteig 225
D-09477 Jöhstadt

Phone: +49 37343 81-0
Fax: +49 37343 81-287
E-mail: info@johstadt.com
Internet: www.johstadt.com

1. Description of the Fire Fighting Pump

1.1 General information

This rotary pump has been designed especially for fire fighting purposes. It can be mounted on a fire fighting vehicle. The vehicle engine drives the pump via an auxiliary drive with an universal joint. But integration into a Diesel engine driven pumping unit is also possible. The main feature of a fire fighting pump is its constant state of readiness. But only by faithfully observing all operating and maintenance instructions is it possible to reduce the time required to start pumping operation to a minimum. This operation manual should be made available to the operator.

1.2 Specifications

Flow rate	l/min	2000
Rated pressure	bar	15
Rated speed	min ⁻¹	3400
Max. flow rate at 3m head	l/min	2550
Max. pressure	bar	20
Optimum suction speed	min ⁻¹	2500
Max. speed	min ⁻¹	3600
Venting time for 7,5 m suction head (with suction hoses DN 100)	s	30
Venting time for 6 m suction head (EN1846-3) (with suction hoses DN 100)	s	20
sense of rotation of pump	see direction of rotation arrow on pump housing	

1.3 Rotary pump

The suction end of the single stage pump carries various couplings with suction basket and stop valves (Option). Connections for the pressure/vacuum gauge are provided.

The pump shaft of stainless steel runs in permanently lubricated deep groove ball bearings. It is sealed on the pump case side by a maintenance-free slide seal. The pump can be drained by the drain cock on the bottom of the pump case. There is an extra drain cock at the suction end.

Thermal Bypass

When the pump is running at a low flow rate, the overheating of the water in the pump case is automatically prevented by a thermostat which opens a bypass at approx. 50-60 °C and drains the hot water from the pump case.



When mounting the pump on a vehicle the vehicle manufacturer has to provide the supports for the pipe lines and hoses on the suction and the delivery end to avoid breakage at the pump base or at the couplings.

When installing the lines of the thermostat preventing the overheating and the vent lines make sure that they cannot hamper or endanger the operating crew.

1.4 Venting

The vent pump, driven by a toothed belt, vents the rotary pump and the suction hoses until the pump draws water and builds up pressure. The vent pump is driven via an electromagnetic clutch and is automatically switched off when the pressure exceeds 0.8 bar.

At the standard type pump the vent pump is push button controlled and switched off by a manometric switch. By connecting the vent pump to a NO contact it can be automatically controlled by the pump head. This alternative should not be adopted if the pump is connected up to a water tank because no venting is necessary when drawing water from a tank.

If pumping bilge water with less than 1 bar head the automatic activation of the vent pump must be avoided. If the pump unit is mounted on a vehicle with an integrated water tank, an electromagnetic valve prevents drainage from the tank if the pump is not in action. Control of the valve is synchronized with the vent pump.

1.5 Head valves

The B-head valves which are flanged to the water distributor are normally closed i. e. even if the valves are open, springs force the valve disks onto the valve seats. This enables priming the pump with the valves being open. When the pump produces pressure, the valve disks are lifted off their seats. To avoid backlash pull out the lateral retaining pin and unscrew the the valve stem right to the stop. In this way the valve disks are lifted off their seats and pipes located above the pump can be drained.



Caution!

If the head valves provided are to be replaced by a different type of valve a check valve has to be installed to facilitate venting.

1.6 Material

Pump case and impeller are of aluminium. All other parts which get into contact with the liquid medium (pump shaft, standard parts etc) are of stainless steel.

The seals are of NBR (acrylnitril-butadien synthetic rubber)



2.

Safety

This manual lists the fundamental safety rules for the installation, operation and maintenance of the pump.

The engineers, fitters and operators responsible for the pump should read this manual prior to its installation and use.

This manual must be available at the pump when in operation.

Observe not only the safety rules mentioned under this heading but also the safety rules mentioned in the other chapters of the manual.

According to the EU directives for machinery this pump is an integral part of machinery. A written statement by the manufacturer concerning the EU directive is available. A certificate of conformity for the aggregate (fire fighting vehicle) has to be obtained.

2.1 Qualifications and training

The personnel responsible for the installation, operation, maintenance and supervision has to be appropriately qualified. The management has to issue directions as to responsibility, duties and supervision. Unqualified operators have to be trained accordingly.

2.2 Dangers resulting from non-observation of safety rules

Non-observance of safety rules may entail hazards to people, machine or environment.

Non-observance of safety rules may render the warranty invalid.

In particular, it may impair

- proper working of the pump unit
- maintenance and repair work of the pump
- hazards to persons by electrical, mechanical or chemical causes
- the environment by the leakage of hazardous substances

2.3 Safe operation

Strictly observe the safety rules of this manual, any additional national rules for the prevention of accidents as well as any local safety rules.

2.4 Safety rules for the operator

The customer is responsible for providing suitable guards for hot or cold parts of machinery that might present potential hazards.

Guards from moving parts (e. g. clutch) must not be removed during operation.

Leaking hazardous (hot or poisonous) liquids (e.g. at the shaft seal) have to be evacuated in such a way that hazards to persons or the environment are avoided. Observe any additional rules issued by the authorities.

Do not squirt the water jet in direction of any persons.

Take care to exclude any hazards from electrical energy supplies. For details see VDE rules or those of the local power works.

2.5 Safety rules for installation, maintenance and check-up

The customer has to make sure that all installation and maintenance work, as well as check-ups, is carried out by authorized and qualified personnel only. Any work on the pump to be carried out only with the pump switched off. Make sure to follow the shut down procedure for the pump as laid down in this manual.

Pumps and pump aggregates delivering health hazardous media have to be decontaminated.

After the maintenance work, all guards and safety devices have to be put back into place. Prior to starting the pump again take notice again of the instructions headed "Starting operation".

2.6 Unauthorized alterations

Modifications and alterations are subject to authorization by the manufacturer. Genuine spare parts from the manufacturer and authorized accessories are essential for the safety of the equipment.

If any unauthorized spare parts have been used any claim under the warranty clause becomes invalid.

2.7 Unauthorized mode of operation

Strictly observe the instructions under Par. 1 of this manual to make sure the pump works properly. The limits set out under "Specifications" must not be exceeded.

3. Mode of operation

Pump performance will decrease with increasing suction head

The pump should be located as near to the water supply as possible.

To prevent airlocks make sure to avoid the formation of loops in the suction line higher than the suction port.

There is quite a number of factors responsible for the differential between the manometric and the geodetic head: Length and diameter of the suction hose, resistance of the strainer basket, atmospheric pressure, and water temperature.

4. Tips for transport, storage, installation and safety

4.1 Transport

For transportation, fix the fire fighting pump on a pallet. Pumps on pallets cannot be stacked on top of each other. To move the pump the pallet has to be lifted.



Caution!

Do not use pump fixtures for attaching the pump to a crane.

4.2 Storage

If the pump is stored in a dry place no special precautions are necessary for about a whole year. At the threat of frost, however, make sure to drain the pump completely.

4.3 Installation

If the pump is to be mounted on a vehicle it has to be fastened to it by the pedestal or chassis. The drive flange has to be fixed by screws of 10.9 quality.



Caution!

If heavy pipes or fixtures have to be flanged to the intake or the tank make sure to prop them up properly on the vehicle.

Any hose or pipeline flanged to the tank, the delivery port or an extension has to be stressfree. It may be advisable to connect up the pipes by way of a hose.

To evacuate the drainage e. g. of the VACUMAT, the bypass, the drain cock run the hoses below the vehicle.

The connections of the pressure meters are 6 mm outer diameter connectors. The tubes from the pressure-meters have to slope towards the pump.



Caution!

Mandatory safety devices for the vehicle

A bypass to **protect the pump against overheating** is mandatory. A thermostat valve is fixed to the spiral pump casing for the purpose.

The pump has to be protected against excessive pressure. A manometric switch is optional.

The speed control of the vehicle can be made use of for controlling the NC switch. It has to be set to open at a **pressure of 20 bar.**

The drive shaft and the drive shaft flange have to have guards **to prevent contact.** The guards for the toothed belt of the VACUMAT have been provided by the manufacturer. Where applicable, flap valves have to be fitted to the delivery ports to prevent the pressure inside the pump to exceed 15 bar.

5. Operation of the rotary fire fighting pump

5.1 Starting up

5.1.1 Water supply from rivers, lakes, and reservoirs

- Place the fire fighting vehicle as close to the body of water as possible.
- Lay out the suction hoses and connect them to the pump. Avoid airlocks.
- Immerse the suction basket at least 20 - 30 cm below the water surface. The higher the performance the deeper put in the basket. To prevent the clogging of the suction basket put a screen around it. Shut the drain cocks under the pump and under the suction port.
- Close all delivery ports
- Close those suction ports that are not required. And open the required stop valves.
- Start engine
- Set a speed of 2500 rpm and press the "VACUMAT ON" button. The priming cycle is completed as soon as the gauge registers pressure and the vent pump delivers no more water. The vent pump will by then have been shut off automatically by the pressure switch.
- Increase engine speed. During the priming cycle the engine speed should be less than 3000 rpm.
- The pump should not run dry for more than 4 minutes.
- Gradually open the valves required and open the throttle until the desired head is reached.

**Caution!****Pressure in normal pressure pump must not exceed 20 bar!**

5.1.2 Hydrants

- Close drain cocks and delivery ports
- Connect suction hose to hydrant and pump
- Open required stop valve and close those suction ports that are not required.
- Turn on hydrant
- Start engine. As soon as the gauge registers head pressure, gradually open the required delivery or ball valves.
- Set throttle to the required head pressure.

**Caution!****The input pressure must not exceed 15 bar!**

The water being fed to the pump with a certain pressure, the vacuum/pressure gauge will deflect to the right. Watch the gauge constantly. The more water the pump draws from the hydrant the more the feed pressure will drop. It should not drop below 0.5 bar. If the pressure gets near that mark, throttle down accordingly. Otherwise the feed hose might collapse and reduce or even stop the water supply, or air might get sucked in.

5.2 Performance during operation

- Constantly watch the gauges. An experienced operator will obtain useful information from their readings. If, for instance, the vacuum-meter registers growing negative pressure the suction basket is likely to be clogged
- The delivery pressure has to be adapted to the quality or state of the hoses.
- Do not run the pump at full throttle when all delivery ports are closed lest the water inside the pump gets too hot. Throttle down in good time. At 60 °C the bypass opens automatically and the hot water will be discharged.
- Head valves and branch cock should be opened and closed gradually (Backlash!)
- Avoid cavitation. When the engine speed is stepped up but the pressure does not increase whereas the vacuum on the feed side is rising instead and the pump is getting noisy, it is a sign for cavitation.

5.3 Drainage work

This type of pump is suitable for drainage. In view of the low head in drainage work run the engine at low speed to avoid cavitation.

5.4 Ending operation

- Throttle down the engine and let engine cool off. Stop engine.
- In case of hydrant water supply, shut off hydrant.
- Open drain cocks.
- Disconnect suction and delivery hose lines.
- If polluted, aggressive, or sea water had been pumped rinse the pump with clear water e. g. from a hydrant. Press the "VACUMAT ON" button to rinse also the vent pump.
- Run the dry priming test.

5.5 Antifreeze precautions

At very low temperatures, the waterflow through the pump and the hoselines have to be kept going to prevent them from freezing up.

After ending the operation, carefully drain all parts that carried water. After draining, switch on the pump again and run it with the idling engine for about 30 seconds.

During long frost periods, pour about 2 l antifreeze into the suction port while the pump is running.

6. Trouble shooting

Below are listed a few potential disturbances that may occur with the pump or the hose lines. By closely watching the instruments (vacuum, pressure, engine speed) the operator can diagnose the trouble during operation. If you are unable to correct the faults yourself get into touch with a franchised dealer or our after sales service.

Trouble	Cause	Remedy
No vacuum, inspite of priming for some time.	Vent-, ball-, or drain cock of pump open Suction basket not deep enough in the water Leaks in suction line. Couplings not tightened. Leak in suction hose Leaking head valve	Close cocks Suction basket at least 30 cm below water surface Tighten coupling. Replace hose Try fixing blind coupling Replace valve seal
If none of these applicable, run a dry priming test	Vent pump clogged or faulty. Check if air is forced through vent ports Ball cocks leaking Faulty shaft seal.	Rinse vent pump Dismantle vent pump Replace seals Replace slide ring sealing
High vacuum but no or only little water	Check valve in the suction basket blocked or frozen. Suction strainer or feed port clogged	Thaw, clean or replace strainer basket Clean or replace strainer
Water delivery stops after priming. Water jet being interrupted repeatedly.	Pressure valve is fully open Suction basket not deep enough in water. Sucks in air. Leak in suction line (Couplings!)	Open only slightly Lower suction baket Seal or replace
Irregular water jet at the branch.(bangs from air pockets) Pressure fluctuates	If air pockets continue in jet the eddy round the suction basket sucks in air. Leaks in pump or feed line	Lower suction basket Seal pump, Replace suction hose.
Head drops suddenly (not to zero) Vacuum rises	Delivery hose burst	Shut pressure valve and replace hose
Head drops gradually. Vacuum rises	Suction line clogged (Suction basket, strainer in feed port) At the manifold another delivery port has been opened or larger nozzle size in branch	Reduce speed to idling mode. Switch off pump. Clean suction basket and hose Open throttle until required engine speed is reached
Head rises gradually. Vacuum drops	At the manifold a delivery port has been closed or branch nozzle diam. reduced.	Reduce engine speed until delivery pressure is reached.

7. Care and maintenance

Carry out regular checks and maintenance to ensure constant readiness of the pump.



Caution!

Check yearly the thermostat valve. When the pump is running with closed head valves, the thermostat valve opens a bypass at approx. 50-60 °C.

7.1 After each operation

After each operation or exercise clean the pump and fix any damage or shortcoming. Make sure that all screws and bolts are tight.

Clean strainer basket.

Run a dry priming test.

Take antifreeze precautions, if necessary.

Check the seals of the suction lines.

7.2 Dry priming test

After each operation, at least every three months, a dry priming test should be run. In this way, you make sure that the pump seals are tight and the venting system works properly.

Proceed in this way:

Close suction port with a dummy coupling.

Close head ports with the handwheel. Then take off the dummy couplings from the head valves again.

Close drain cocks.

Start engine and switch on pump (priming speed 2500 rpm)

Within 30 seconds a vacuum of 0.8 bar has to be reached. Stop pump and engine.

The vacuum obtained should not drop more than 0.1 bar during one minute.

Should the vacuum of 0.8 bar not be reached or drop more quickly than mentioned above the pump has a leak.

Find the cause, repair the damage and rerun the test.

Troublefree priming with correct build-up of head pressure and cut-out of the vent pump depends not only on the state of the pump alone.

Other factors are:

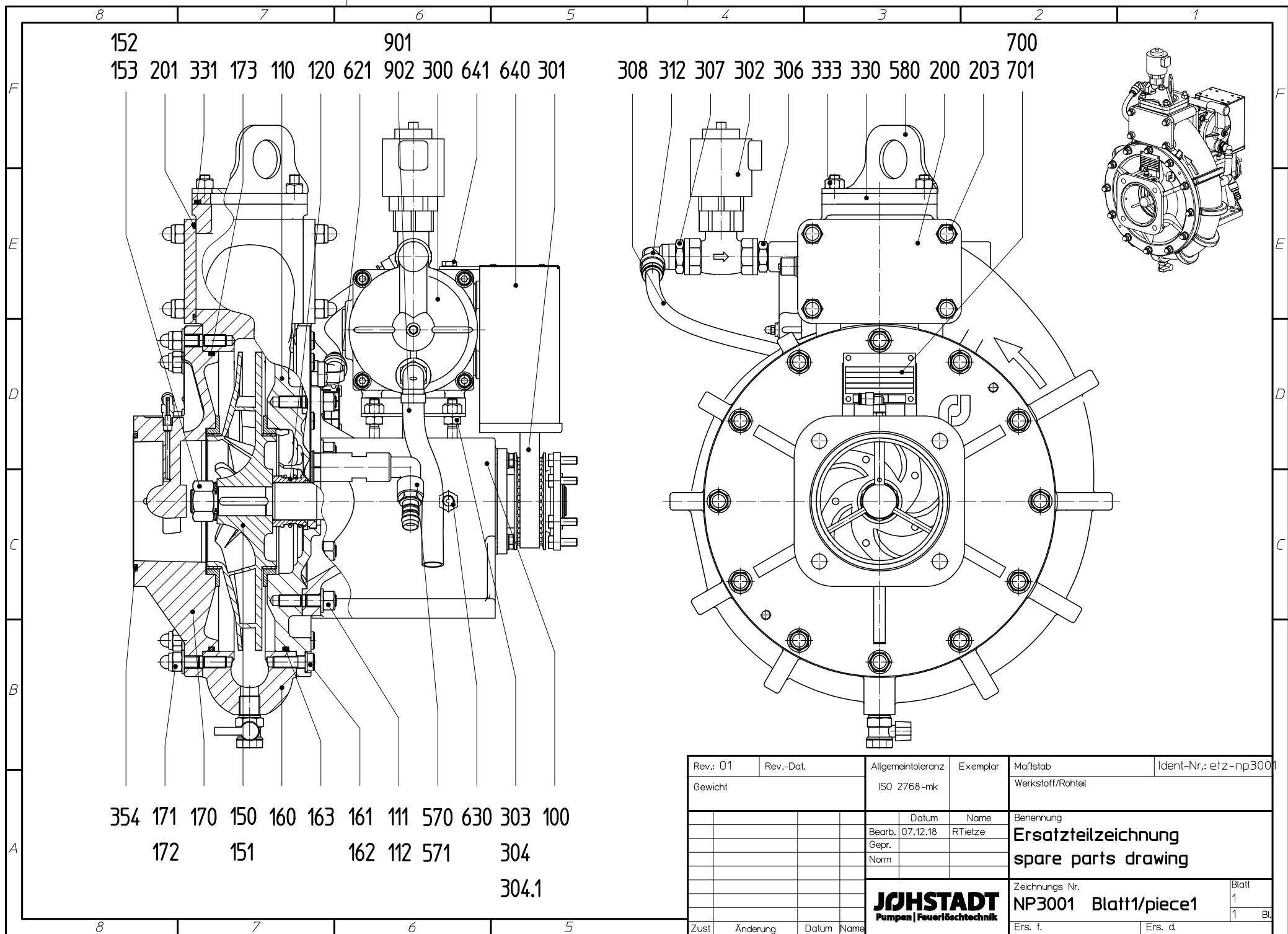
Leakproof suction hose lines

Operative water supply

Should there have been trouble with the water intake during an operation or exercise, the cause of the trouble has to be established after the operation.

If the dry priming test was alright the cause of the trouble cannot be in the pump.

Once every twelve months a dry priming test should be run with 2 or 3 suction hoses connected up. The dry hoses should be moved about at the couplings to detect any leaks. Repair or exchange any leaking suction hose.



152 901
153 201 331 173 110 120 621 902 300 641 640 301

700
308 312 307 302 306 333 330 580 200 203 701

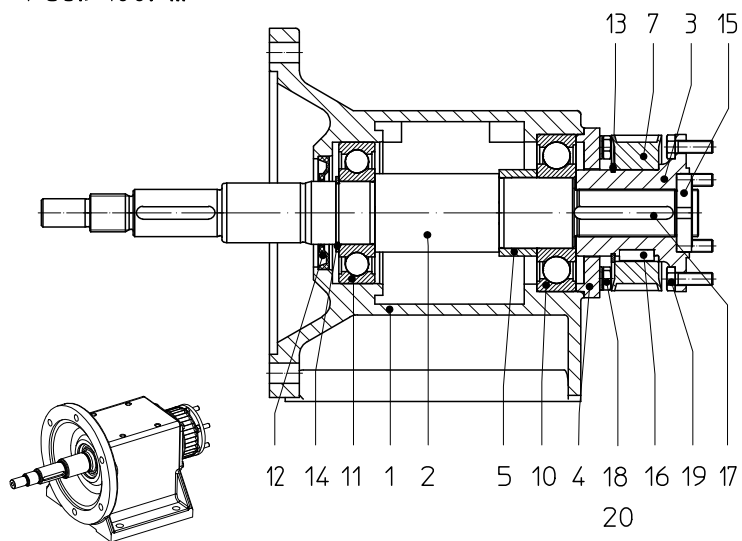
354 171 170 150 160 163 161 111 570 630 303 100
172 151 162 112 571 304
304.1

Rev.: 01		Rev.-Dat.		Allgemeintoleranz		Exemplar		Maßstab		Ident-Nr.: etz-np3001	
Gewicht				ISO 2768 -mk				Werkstoff/Rohteil			
					Datum	Name		Benennung			
					Bearb. 07.12.18	RTietze		Ersatzteilzeichnung spare parts drawing			
					Gepr.						
					Norm						
								Zeichnungs Nr.			
								NP3001 Blatt1/piece1			
								Blatt 1			
								1 Bl.			
Zust		Änderung		Datum		Name		Ers. f.		Ers. d.	

JHSTADT
Pumpen | Feuerlöschtechnik

Lagerung / bearing

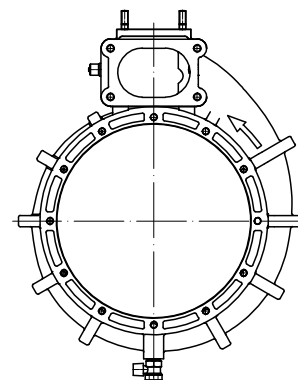
Pos.: 100. ...



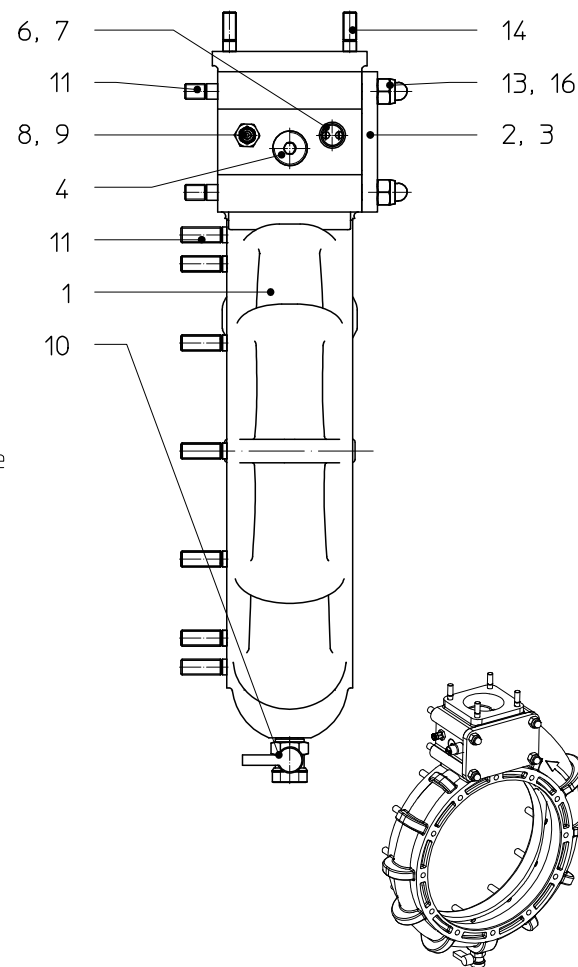
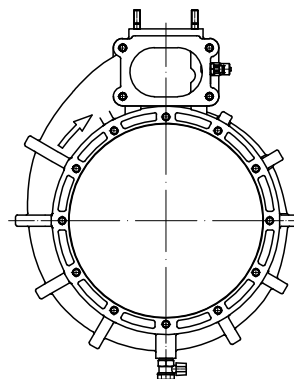
Pumpengehäuse / pump casing

Pos.: 160. ...

rechtsdrehend/clockwise

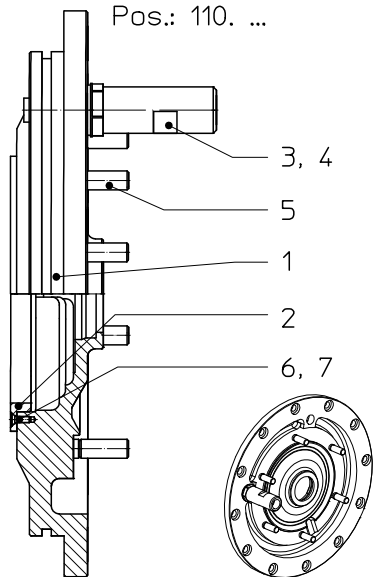


linksdrehend/counterclockwise



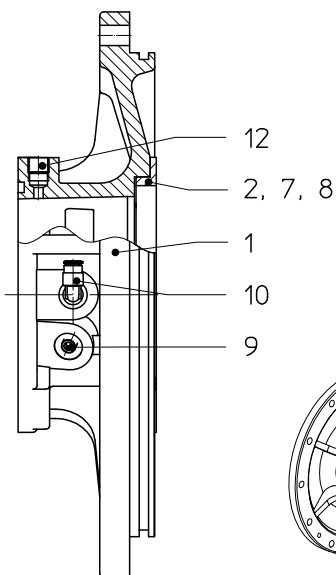
Gehäusedeckel-vollst. Casing cover-complete

Pos.: 110. ...



Saugeingang suction inlet

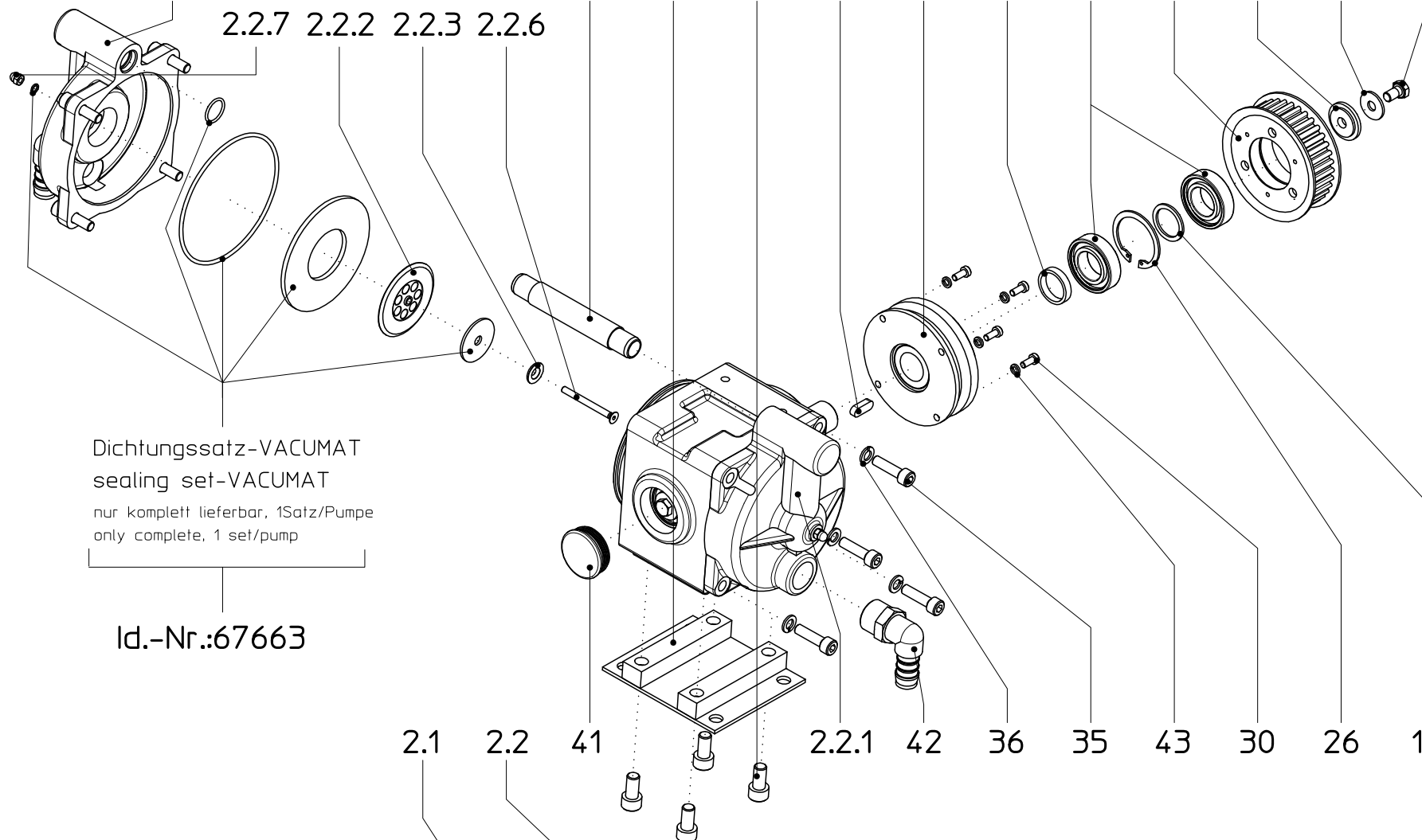
Pos.: 170. ...



Rev.:	Rev.-Dat.	Allgemeintoleranz	Exemplar	Maßstab 1:1	Ident-Nr.: etz-np3001-l
Gewicht		ISO 2768-mk		Werkstoff/Rohteil	
		Datum	Name	Benennung	
		Bearb. 30.11.18	RTietze	Ersatzteilzeichnung spare parts drawing	
		Gepr.			
		Norm			
				Zeichnungs Nr.	Blatt
				NP3001 Blatt2/piece2	2
				Ers. f.	Ers. d.
Zust	Änderung	Datum	Name		

JOHSTADT
Pumpen | Feuerlöschtechnik

Pos.: 300. ... 2.1.1 2.1.7 2.1.2 2.1.3 2.1.6 10 50 51 37 17 14 21 15 13 27 32
2.2.7 2.2.2 2.2.3 2.2.6



Dichtungssatz-VACUMAT
sealing set-VACUMAT
nur komplett lieferbar, 1Satz/Pumpe
only complete, 1 set/pump

Id.-Nr.:67663

regenerierte komplette Entlüftungspumpe auf Anfrage
renewed complete priming pump on request

Rev.: 01	Rev.-Dat. 06.02.15	Allgemeintoleranz	Exemplar	Maßstab	Ident-Nr.:
Gewicht		ISO 2768 -mk		Werkstoff/Rohteil	
		Datum	Name	Benennung	
		Bearb. 30.09.14	RTietze	Entlüftungspumpe/priming pump	
		Gepr.		Ersatzteile/spare parts	
		Norm			
				Zeichnungs Nr.	
				648.1/ ...	
				Blatt	
				1	
				Bt.	
Zust	Änderung	Datum	Name	Ers. f.	Ers. d.

JHSTADT
Pumpen | Feuerlöschtechnik

Ersatzteilliste *Spare parts list*

13.10.20 10:31
owst / PF.SSTLB.ETL

Artikel	129140	NP3001	FPN15-2000 RG	
100	125618	LAGERUNG	BEARING	1 Stück
100.1	53685	LAGERSOCKEL	BEARING BRACKET	1 Stück
100.2	125616	PUMPENWELLE	PUMP SHAFT	1 Stück
100.3	56475	KUPPLUNGSFLANSCH	DRIVE FLANGE	1 Stück
100.4	54095	LAGERDECKEL	BEARING COVER	1 Stück
100.5	125617	ABSTANDSBUCHSE	SPACER BUSHING	1 Stück
100.7	52120	ZAHNRIEMENSCHIBE	SPROCKET BELT PULLEY	1 Stück
100.10	54079	RILLENKUGELLAGER	DEEP GROOVE BALL	1 Stück
100.11	26713	RILLENKUGELLAGER	NEEDLE BEARING	1 Stück
100.12	7806	WELLENDICHTRING	PACKING RING	1 Stück
100.13	3954	SICHERUNGSRING	LOCKING RING	1 Stück
100.14	523	SICHERUNGSRING	LOCKING RING	1 Stück
100.15	5509	SICHERUNGSMUTTER	LOCKING NUT	1 Stück
100.16	15342	PASSFEDER	FEATHER KEY	1 Stück
100.17	8218	PASSFEDER	SPRING KEY	1 Stück
100.18	2249	SECHSKANTSCHRAUBE	HEXAGONAL SCREW	4 Stück
100.19	56476	SECHSKANTSCHRAUBE	HEXAGONAL BOLT	6 Stück
100.20	2293	SCHEIBE	WASHER	4 Stück
110	131208	GEHAEUSEDECKEL-VOLLS	SPIRAL CASING COMPLETE	1 Stück
110.1	128308	GEHAEUSEDECKEL	SPIRAL CASING	1 Stück
110.2	67742	SCHLEIFRING	SLIP RING	1 Stück
110.3	118115	THERMOSTAT-VENTIL	THERMOSTAT-VALVE	1 Stück
110.4	8872	DICHTRING	SEALING RING	1 Stück
110.5	3390	STIFTSCHRAUBE	STUD BOLT	6 Stück
110.6	2855	SENKSCHRAUBE	FLAT HEAD SCREW	4 Stück
110.7	3038	ZAHNSCHIBE	TOOTHED LOCK WASHER	4 Stück
111	29522	SECHSKANTMUTTER-M.KL	HEXAGON NUT	6 Stück
112	2261	SCHEIBE	WASHER	6 Stück
120	50488	GLEITRINGDICHTUNG	MECHANICAL SEAL	1 Stück
150	67581	LAUFRAD	IMPELLER	1 Stück
151	11154	PASSFEDER	SPRING KEY	2 Stück
152	122126	SCHEIBE	WASHER	1 Stück
153	57437	SECHSKANTMUTTER	HEXAGON NUT	1 Stück
160	127448	PUMPENGEHAEUSE	PUMP CASING	1 Stück
160.1	126627	SPIRALGEHAEUSE	SPIRAL CASING	1 Stück
160.2	125622	BLINDFLANSCH	BLIND FLANGE	1 Stück
160.3	11152	RUNDRING	O-RING	1 Stück
160.4	73804	VERSCHLUSSSCHRAUBE	CLOSING SCREW	1 Stück
160.6	29316	EL-MEMBRANDRUCKSCHAL	PRESSURE SWITCH	1 Stück
160.7	913	DICHTRING	SEALING RING	1 Stück
160.8	118253	STECKVERBINDER	CONNECTOR	1 Stück
160.9	67735	REDUZIERSTUECK	REDUCTION	1 Stück
160.10	55477	KUGELHAHN	BALL VALVE	1 Stück
160.11	14453	STIFTSCHRAUBE	GUDGEON	12 Stück
160.13	56858	STIFTSCHRAUBE	GUDGEON	4 Stück
160.13.1	108478	STIFTSCHRAUBE	GUDGEON	4 Stück
160.14	1924	STIFTSCHRAUBE	GUDGEON	4 Stück
160.16	11151	SECHSKANT-HUTMUTTER-	HEXAGON CAP NUT	4 Stück

161	71647	ZYLINDERSCHRAUBE	CYLINDER HEAD SCREW	12 Stück
162	6261	SCHEIBE	WASHER	12 Stück
163	11134	RUNDRING	O-RING	1 Stück
170	127450	SAUGEINGANG	SUCTION INLET	1 Stück
170.1	127449	SAUGDECKEL	SUCTION CAP	1 Stück
170.2	67742	SCHLEIFRING	SLIP RING	1 Stück
170.7	2855	SENKSCHEIBE	FLAT HEAD SCREW	4 Stück
170.8	3038	ZAHNSCHEIBE	TOOTHED LOCK WASHER	4 Stück
170.9	79157	VERSCHLUSSSCHRAUBE	SCREW PLUG	1 Stück
170.10	118254	STECKVERBINDER	CONNECTOR	1 Stück
170.11	125627	VERSCHLUSSSCHRAUBE	SCREW PLUG	1 Stück
171	11151	SECHSKANT-HUTMUTTER	HEXAGON CAP NUT	12 Stück
172	2261	SCHEIBE	WASHER	12 Stück
173	11134	RUNDRING	O-RING	1 Stück
300	96912	ENTLUEFTUNGSPUMPE	VACUMAT	1 Stück
300.2.1	51239	ZYLINDERKOPF-VOLLST.	CYLINDER HEAD COMPLETE	1 Stück
300.2.1.1	28861	ZYLINDERKOPF	CYLINDER HEAD	1 Stück
300.2.1.2	51236	VENTILKOERPER	VALVE BODY	1 Stück
300.2.1.3	51238	MEMBRANDRUCKSCHEIBE	PRESSURE WASHER	1 Stück
300.2.1.6	29052	SENKSCHEIBE	SLOTTED HEAD SCREW	1 Stück
300.2.1.7	29053	SECHSKANT-HUTMUTTER	HEXAGON CAP NUT	1 Stück
300.2.2	63497	ZYLINDERKOPF-VOLLST.	CYLINDER HEAD COMPLETE	1 Stück
300.2.2.1	63496	ZYLINDERKOPF	CYLINDER HEAD	1 Stück
300.2.2.2	51236	VENTILKOERPER	VALVE BODY	1 Stück
300.2.2.3	51238	MEMBRANDRUCKSCHEIBE	PRESSURE WASHER	1 Stück
300.2.2.6	29052	SENKSCHEIBE	SLOTTED HEAD SCREW	1 Stück
300.2.2.7	29053	SECHSKANT-HUTMUTTER	HEXAGON CAP NUT	1 Stück
300.10	63494	VERBINDUNGSROHR	CONNECTING PIPE	1 Stück
300.13	50285	ENDSCHEIBE	END WASHER	1 Stück
300.14	54567	ABSTANDSBUCHSE	SPACER SLEEVE	1 Stück
300.15	53532	ZAHNRIEMENSCHLEIBE	BELT PULLEY	1 Stück
300.16	29113	ABSTANDSBUCHSE	SPACER SLEEVE	1 Stück
300.17	54569	MAGNETKUPPLUNG	MAGNETIC COUPLING	1 Stück
300.21	28917	RILLENKUGELLAGER	BEARING	2 Stück
300.26	406	SICHERUNGSRING	LOCKING RING	1 Stück
300.27	7550	SCHEIBE	WASHER	1 Stück
300.30	50352	ZYLINDERSCHRAUBE	HEXAGON SOCKET HEAD CAP	4 Stück
300.32	5929	SECHSKANTSCHRAUBE	HEXAGONAL HEAD SCREW	2 Stück
300.35	7652	ZYLINDERSCHRAUBE	CYLINDER HEAD SCREW	8 Stück
300.36	2293	SCHEIBE	WASHER	8 Stück
300.37	50356	PASSFEDER	FITTING KEY	1 Stück
300.41	29174	LAMELLENSTOPFEN	PLUG	1 Stück
300.42	29103	WINKELVERSCHRAUBUNG	FITTING	2 Stück
300.50	54688	SPANNPLATTE	CHIP BOARD	1 Stück
300.51	4353	ZYLINDERSCHRAUBE	CYLINDER HEAD SCREW	4 Stück
301	54080	ZAHNRIEMEN	SPROCKET BELT	1 Stück
302	54681	MAGNETVENTIL	SOLENOID VALVE	1 Stück
303	29884	STIFTSCHRAUBE	STUD BOLT	4 Stück
304	429	SECHSKANTMUTTER	HEXAGON NUT	4 Stück
304.1	29523	SECHSKANTMUTTER-M.KL	HEXAGON NUT	4 Stück
306	19971	DOPPELNIPPEL	DOUBLE NIBBLE	1 Stück
307	54144	REDUZIERSTUECK	REDUCER	2 Stück
308	120163	PA-ROHR	PIPE	0,3 m

312	120742	STECKVERBINDER	CONNECTOR	2 Stück
330	110142	FLANSCH	FLANGE	1 Stück
331	57306	RUNDRING	O-RING	1 Stück
333	15992	SECHSKANTMUTTER-M.KL	HEXAGON NUT	4 Stück
354	4107	RUNDRING	O-RING	1 Stück
570	125043	WINKELVERSCHRAUBUNG	ELBOW	1 Stück
580	114281	ANHAENGBLECH	ATTACHED SHEET	1 Stück
620	56140	LEITUNGSSTAMM	CABLE	1 Stück
621	122113	STECKERBLECH	PLUG SHEET	1 Stück
630	60659	KAROSSERIESTOPFEN	PLUG	1 Stück
640	54132	RIEMENSCHUTZ-VOLLST.	BELT GUARD	1 Stück
641	5929	SECHSKANTSCHRAUBE	HEXAGONAL HEAD SCREW	2 Stück
642	2293	SCHEIBE	WASHER	2 Stück
700	78557	TYPENSCHILD	DATA PLATE	1 Stück
701	11319	HALBRUNDKERBNAGEL	HEAD GROOVED PIN	4 Stück
901	29104	SCHLAUCH	HOSE	2 m
902	16759	SCHLAUCHSCHELLE	HOSE CLAMP	2 Stück

**Einbauerklärung
Declaration of Incorporation**

nach EG Maschinenrichtlinie 2006/42/EG (Anhang II B)
according to EC Machinery directive 2006/42/EC (Annex II B)

Hersteller / *Manufacturer:*

PF Pumpen und Feuerlöschtechnik GmbH
Zeichensteig 225
09477 Jöhstadt
Germany

Hiermit erklären wir, dass das Produkt
We hereby declare that the product

Feuerlöschkreislumppe NP3001
Fire Fighting Pump NP3001

Typenbezeichnung
Type

FPN 15-1000
FPN 15-1500
FPN 15-2000

alle grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG erfüllt, soweit es im Rahmen des Lieferumfangs möglich ist.

is complying with all essential requirements of the Machinery Directive 2006/42/EG, as far as the scope of delivery allows.

Die unvollständige Maschine darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Maschine, in welche die unvollständige Maschine eingebaut werden soll, den Bestimmungen der Richtlinie 2006/42/EG über Maschinen entspricht und die EG-Konformitätserklärung gemäß Anhang II A ausgestellt ist.

The partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of Directive 2006/42/EC on Machinery, where appropriate, and until the EC Declaration of Conformity according to Annex II A is issued.

Angewandte harmonisierte Normen:
Harmonised Standards used:

DIN EN ISO 12100	Sicherheit von Maschinen-Allgemeine Gestaltungsleitsätze- Risikobeurteilung und Risikominderung (ISO 12100:2010); Deutsche Fassung EN ISO 12100:2010 <i>Safety of machinery-General principles for design- Risk assessment and risk reduction (ISO 12100:2010); German version EN ISO 12100:2010</i>
EN 1028-1	Feuerlöschpumpen-Feuerlöschkreislumpen mit Entlüftungseinrichtung-Teil:1 Sicherheitsanforderungen <i>Fire fighting pumps-Fire fighting centrifugal pumps with primer-Part:1 Safety requirements</i>
EN 1028-2	Feuerlöschpumpen-Feuerlöschkreislumpen mit Entlüftungseinrichtung-Teil:2 Übereinstimmung <i>Fire fighting pumps-Fire fighting centrifugal pumps with primer-Part:2 Verification</i>

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen:
The person authorised to compile the technical file:

PF Pumpen und Feuerlöschtechnik GmbH
Konstruktion
Zeichensteig 225
09477 Jöhstadt
Germany

Jöhstadt, den 01.11.2019


Dipl. Ing. (FH) Michael Kauffmann
Geschäftsführer / Managing director