

# Barrel Pump DULCO®Trans

Barrel pumps are the ideal solution for moving liquids.



## Pump capacity according to size from 2,800 – 6,600 l/h

DULCO®Trans is used for bottling, draining and transferring liquids from canisters, hobboscks, drums, storage tanks and containers.

Included in the scope of supply: Metering hose with pump nozzle.

## Your benefits

- Reliable pumping of liquid chemicals
- Pump sets available for different delivery containers
- Pump nozzle for convenient filling of liquids
- Undervoltage trigger prevents unintentional start-up after an interruption to the operating voltage.
- The overcurrent safety switch prevents overloading of the motor.

## Field of application

Barrel pump for bottling, emptying and transferring liquids from canisters, drums and containers.

# Barrel Pump DULCO®Trans

Barrel pumps are the ideal solution for moving liquids.

## Technical Data

Type		DULCO®Trans 32/700	DULCO®Trans 41/1000	DULCO®Trans 41/1200
Max. density	kg/dm³	1.3	1.5	1.9
Max. viscosity	mPas	400	600	1000
Media temperature PP	°C	50	50	50
Media temperature PVDF	°C	90	90	90
Suction pipe outer diameter	mm	32	41	41
Hose connection		d 19	d 25	d 25
Discharge hose		2 m, DN 19	2 m, DN 25	2 m, DN 25
Motor rating	W	450	640	825
Enclosure rating		IP 24	IP 24	IP 24
Voltage/frequency		230 V/1~/50/60 Hz	230 V/1~/50/60 Hz	230 V/1~/50/60 Hz
Under-voltage cut-out		with	with	with
Overvoltage safety switch		with	with	with
Temperature monitoring		none	none	none
Speed control		none	none	none
Connection cable		5 m, EUR plug	5 m, EUR plug	5 m, EUR plug
Drum adapter		G 2"	G 2"	G 2"
Weight PP/PVDF	kg	5.9/7.9	7.6/9.2	8.3/9.7
Dimensions H x W x D	mm	986 x 170 x 90	1,315 x 220 x 90	1,515 x 220 x 90

## Dimensions

Type		DULCO®Trans 32/700	DULCO®Trans 41/1000	DULCO®Trans 41/1200
A	mm	170	220	220
B	mm	90	90	90
C	mm	656	996	1,016
D	mm	700	1,000	1,200
F	mm	32	41	41
G	d	19	25	25
H	mm	986	1,315	1,515

## Materials in Contact With the Medium

The following materials come into contact with the liquids:

	PP version	PVDF version
External and internal pipe, pump nozzle	Polypropylene	PVDF
Drive shaft	Hastelloy C	Hastelloy C
Rotor	PP	PVDF
Axial face seal	PTFE	PTFE
O-rings	FKM	FKM
Metering hose	PVC	Multi-purpose chemical hose

# Barrel Pump DULCO®Trans

Barrel pumps are the ideal solution for moving liquids.

## DULCO®Trans PP Version

	Feed rate max. l/h	Feed lift max. m	Order no.
DULCO®Trans 32/700 PP	2,800 *	10	1098490
DULCO®Trans 41/1000 PP	5,400 *	11	1098491
DULCO®Trans 41/1200 PP	6,600 *	16	1098489

## DULCO®Trans PVDF Version

	Feed rate max. l/h	Feed lift max. m	Order no.
DULCO®Trans 32/700 PVDF	2,800 l/h *	10	1098492
DULCO®Trans 41/1000 PVDF	5,400 l/h *	11	1098493
DULCO®Trans 41/1200 PVDF	6,600 l/h *	16	1098494

\* The pump capacity is understood as including the hose and pump nozzle, using water at room temperature as the medium.

## Spare parts kits for the barrel pump DULCO®Trans

	Order no.
Spare parts kit for DULCO®Trans 32/700 PP	1098502
Spare parts kit for DULCO®Trans 32/700 PVDF	1098503
Spare parts kit for DULCO®Trans 41/1000 PP	1098500
Spare parts kit for DULCO®Trans 41/1000 PVDF	1098498
Spare parts kit for DULCO®Trans 41/1200 PP	1098501
Spare parts kit for DULCO®Trans 41/1200 PVDF	1098499

# Assembly and operating instructions

## Barrel pump

### DULCO®Trans 25/700 PP

**EN**

A2266

Please carefully read these operating instructions before use. · Do not discard.  
The operator shall be liable for any damage caused by installation or operating errors.  
The latest version of the operating instructions are available on our homepage.

*MaharFan*

### General non-discriminatory approach

In order to make it easier to read, this document uses the male form in grammatical structures but with an implied neutral sense. It is aimed equally at both men and women. We kindly ask female readers for their understanding in this simplification of the text.

### Supplementary information

➡ Please read the supplementary information in its entirety.

### Information



*This provides important information relating to the correct operation of the unit or is intended to make your work easier.*

### Warning information

Warning information includes detailed descriptions of the hazardous situation, see ➡ *Chapter 2.1 'Labelling of Warning Information' on page 6.*

The following symbols are used to highlight instructions, links, lists, results and other elements in this document:

### More symbols

Symbol	Description
1. ➡	Action, step by step.
⇒	Outcome of an action.
➡	Links to elements or sections of these instructions or other applicable documents.
■	List without set order.
[Button]	Display element (e.g. indicators). Operating element (e.g. button, switch).
'Display /GUI'	Screen elements (e.g. buttons, assignment of function keys).
CODE	Presentation of software elements and/or texts.

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# 1 Function, Resistance and Scope of Delivery

## Function

Barrel pumps are the ideal solution when liquids have to be moved. The unit is used for bottling, draining and transferring non-flammable and non-explosive liquids from canisters, hobbicks, drums, storage tanks and containers.

Unit	Max. pump capacity	Max. delivery height	Order number
DULCO®Trans 25/700 PP	900 l/h*	5.0 m	1023085

\* The pump capacity is measured by the hose and pump nozzle, using water at 25°C.

## Chemical resistance



*The field of application of the unit depends on the chemical resistance of the materials used.*

## Wetted materials of the unit:

Component	Material
External and internal pipe, pump nozzle	PP
Drive shaft	Hastelloy® C
Rotor	ETFE
Metering hose	PVC with woven inner layer

The resistance list, which is continually updated, can be found on the manufacturer's homepage [www.prominent.com](http://www.prominent.com)

## Nameplate

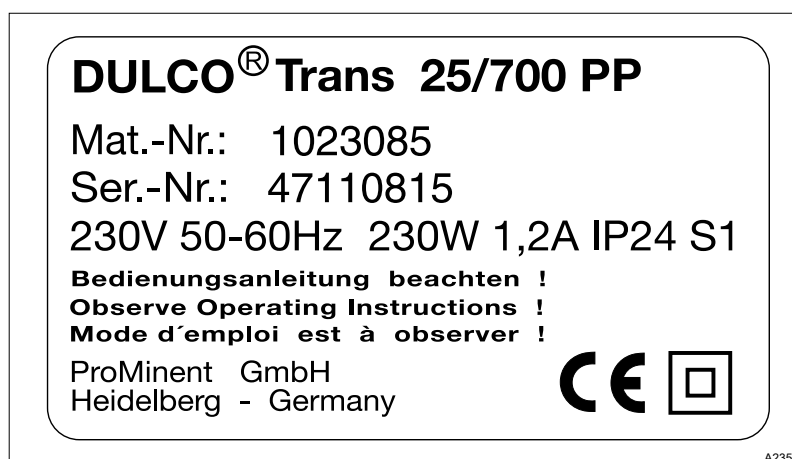
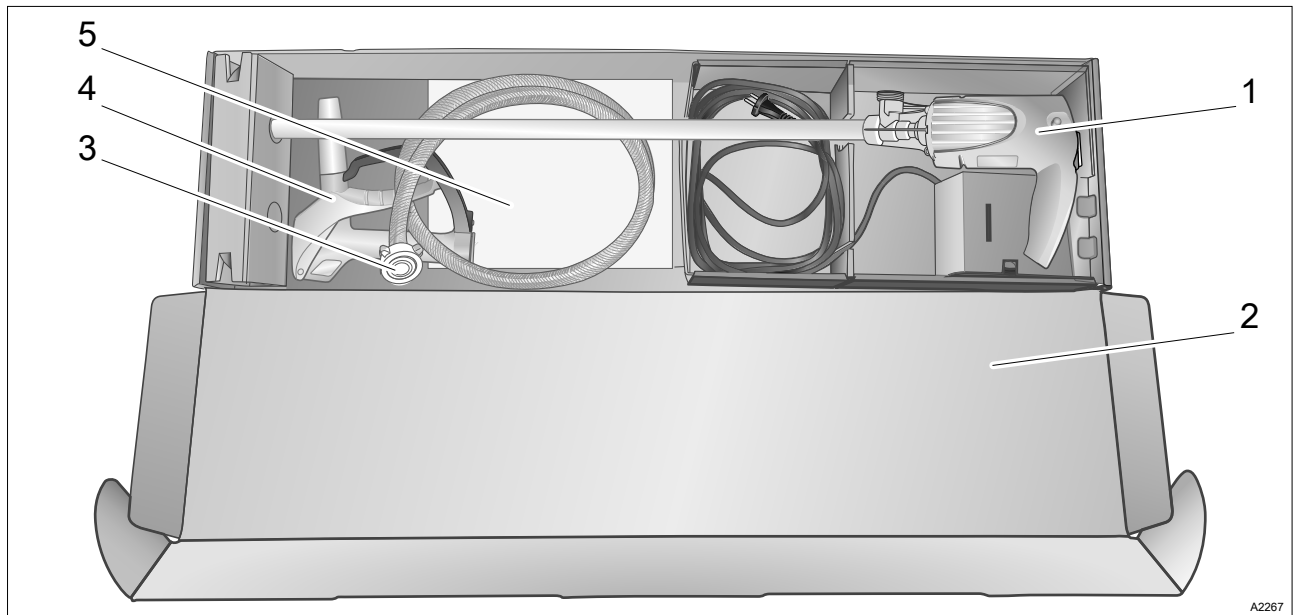


Fig. 1: Nameplate on the pump housing.

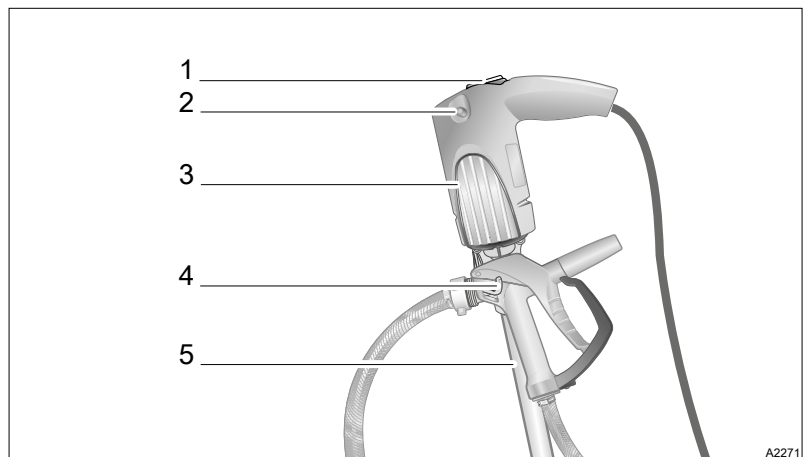
## Scope of delivery



*Fig. 2: Scope of delivery.*

- |                                     |  |
|-------------------------------------|--|
| 1 Barrel pump DULCO®Trans 25/700PP. | 4 PVDF pump nozzle assembled on the PVC pump hose. |
| 2 Packaging.                        | 5 Installation and Operating Instructions.         |
| 3 PVC hose with hose connection.    |  |

## Overview of the key components



*Fig. 3: Overview of the key components.*

- |   |
|---|
| 1 2-stage switch.                             |
| 2 Overcurrent protection switch.              |
| 3 Integrated bracket for suspending the pump. |
| 4 Fixing hook for the pump nozzle.            |
| 5 Suction tube.                               |



## 2 Safety Chapter

### 2.1 Labelling of Warning Information

#### Introduction

These operating instructions provide information on the technical data and functions of the product. These operating instructions provide detailed warning information and are provided as clear step-by-step instructions.

The warning information and notes are categorised according to the following scheme. A number of different symbols are used to denote different situations. The symbols shown here serve only as examples.



#### **DANGER!**

##### **Nature and source of the danger**

Consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger.

Description of hazard

- Denotes an immediate threatening danger. If the situation is disregarded, it will result in fatal or very serious injuries.



#### **WARNING!**

##### **Nature and source of the danger**

Possible consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger.

- Denotes a possibly hazardous situation. If the situation is disregarded, it could result in fatal or very serious injuries.



#### **CAUTION!**

##### **Nature and source of the danger**

Possible consequence: Slight or minor injuries. Material damage.

Measure to be taken to avoid this danger.

- Denotes a possibly hazardous situation. If the situation is disregarded, it could result in slight or minor injuries. May also be used as a warning about material damage.



#### **NOTICE!**

##### **Nature and source of the danger**

Damage to the product or its surroundings.

Measure to be taken to avoid this danger.

- Denotes a possibly damaging situation. If the situation is disregarded, the product or an object in its vicinity could be damaged.

**Type of information**

*Hints on use and additional information.*

*Source of the information. Additional measures.*

- *Denotes hints on use and other useful information. It does not indicate a hazardous or damaging situation.*

## 2.2 Users' qualifications

**WARNING!**

**Danger of injury with inadequately qualified personnel!**  
**The operator of the plant / device is responsible for ensuring that the qualifications are fulfilled.**

If inadequately qualified personnel work on the unit or loiter in the hazard zone of the unit, this could result in dangers that could cause serious injuries and material damage.

- All work on the unit should therefore only be conducted by qualified personnel.
- Unqualified personnel should be kept away from the hazard zone

Training	Definition
Instructed personnel	An instructed person is deemed to be a person who has been instructed and, if required, trained in the tasks assigned to him/her and possible dangers that could result from improper behaviour, as well as having been instructed in the required protective equipment and protective measures.
Trained user	A trained user is a person who fulfils the requirements made of an instructed person and who has also received additional training specific to the system from ProMinent or another authorised distribution partner.
Trained qualified personnel	A qualified employee is deemed to be a person who is able to assess the tasks assigned to him and recognize possible hazards based on his/her training, knowledge and experience, as well as knowledge of pertinent regulations. The assessment of a person's technical training can also be based on several years of work in the relevant field.
Electrician	Electricians are deemed to be people, who are able to complete work on electrical systems and recognize and avoid possible hazards independently based on his/her technical training and experience, as well as knowledge of pertinent standards and regulations.  Electricians should be specifically trained for the working environment in which they are employed and know the relevant standards and regulations.  Electricians must comply with the provisions of the applicable statutory directives on accident prevention.
Customer Service department	Customer Service department refers to service technicians, who have received proven training and have been authorised by ProMinent to work on the system.



### **Note for the system operator**

*The pertinent accident prevention regulations, as well as all other generally acknowledged safety regulations, must be adhered to!*

## 2.3 Intended Use

- The barrel pump is used for the fast and safe drainage or transfer of storage tanks, drums and container.
- Depending on its design, the barrel pump can pump non-flammable liquids of all kinds.
- The collector motor is used to drive the barrel pump in areas not at risk of explosion and is used for non-flammable liquids.
- The pump nozzle is used for the bottling of liquids.
- Barrel pump, motor and pump nozzle are suitable for protected use indoors and may not be exposed to weathering.
- The barrel pump, motor and pump nozzle are intended for commercial use.

## 2.4 Foreseeable Misuse

- The barrel pump and its accessories are not intended to be used by untrained people and by people with restricted physical, sensory or mental capabilities.
- Children should be supervised to ensure that they do not play with the unit.
- The use of the pump nozzle is not permitted in petrol filling stations (TRBF40).
- The pumping of flammable liquids is not permitted.
- Operation in areas at risk of explosion is not permitted.

## 2.5 Safety

This chapter gives an overview of all the important safety aspects for the protection of individuals as well as for safe and fault-free operation of the product. Other task-specific warning information can be found in the individual action sequences.

The following chapters describe the residual risks that use of this unit presents even when used as intended. Please refer to the safety information listed here and comply with the warning information in the later chapters of these instructions to reduce these risks of personal injury and material damage and avoid hazardous situations.

## 2.5.1 Safety Information for Pump and Motor



### WARNING!

#### Danger from hazardous substances!

Possible consequence: Fatal or very serious injuries.


Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



### *Non-observance of the safety information*

*Non-observance of the safety information can lead to damage to people and the environment and also result in damage to the motor and pump.*

- In the event of an emergency, disconnect from the mains power supply.
- The motor is not explosion-protected.
- Do not leave the pump operating unsupervised.
- Do not use the pump in areas at risk of explosion.
- Never pump flammable liquids.
- Only use the pump for its intended purpose, see  Chapter 2.3 'Intended Use' on page 8
- The pump is operated vertically.
- Set up the pump so that it cannot fall into the storage tank.
- Regularly check the pump and hose for operational safety.
- Regularly check the motor in accordance with statutory/ country-specific regulations and accident prevention regulations, in Germany such as in accordance with BGV A3.
- Secure the motor against accidental start-up. The pump can start up as soon as the mains plug has been inserted.
- Before plugging in the mains plug, turn the 2-stage switch to "0" (middle).
- The motor restarts automatically following power failure.
- Only immerse the pump in the liquid as far as the pressure nozzle.
- Only allow the pump to stand in the liquid while it is pumping.
- Use the pump up to a maximum liquid temperature of 60 °C.
- Ambient temperature: + 1 °C ... + 40 °C.
- Note any escaping air and displace volume when immersing the pump in the water. Immerse the pump carefully and slowly.
- Use a spray guard with open drums or storage tanks.
- Remove any spilled liquid and dispose of it in an environmentally-friendly manner, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Note any internal instructions.
- Wear protective clothing, referring to the material safety data sheets issued by the manufacturer of the hazardous material.

- Do not expose the pump to weathering.
- Clean the pump after each use, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not store the pump in aggressive fumes.

### 2.5.2 Safety Information for the Pump Nozzle



#### **WARNING!**

##### **Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



#### ***Non-observance of the safety information***

*Non-observance of the safety information can lead to damage to people and the environment and also result in damage to the pump nozzle.*


- Only pump clean liquids.
- When using, note the maximum operating pressure of 2 bar at 60 °C. The pump nozzle can recoil.
- When filling into a storage tank, make sure that no overpressure can build up in this storage tank. Danger from spraying liquids.
- Do not fill up too quickly to prevent the liquids from splashing out of the storage tank.
- Only bend the hose slightly to prevent too high mechanical stresses being exerted on the pump nozzle
- Only fill up using the pump nozzle under supervision, as the nozzle does not automatically shut off.
- Check during commissioning whether the manual lever returns automatically into its starting position.
- Use visual controls to regularly monitor the external condition of the pump nozzle.
- Allow the pump nozzle to drain at the end of the filling process.
- Regularly check to make sure that the hose clips are fixed securely.
- Remove any spilled liquid and dispose of it in an environmentally-friendly manner, referring to the material safety data sheets issue by the manufacturer of the hazardous material.
- Note any internal instructions.
- Wear protective clothing, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not expose the pump nozzle to weathering.

- Clean the pump nozzle after each use, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not store the pump nozzle in aggressive fumes.

## 2.6 Sound pressure level

The sound pressure level is < 70 dB (A). This value was measured on the manufacturer's test stand.

## 3 Storage and Transport

- **User qualification:** instructed user, see  *Chapter 2.2 'Users' qualifications' on page 7*

Environmental conditions for storage and transport:

- Permissible ambient temperature: +1 °C ... +40 °C.
- Humidity: maximum 90 % relative air humidity, non-condensing.
- Other: No dust, no direct sunlight.


### 3.1 Transport

The sensor should be transported in its original packaging and in compliance with the permissible environmental conditions. No further special conditions have to be observed in relation to transport.

### 3.2 Disposal of Packaging



**Packaging material**

*Dispose of packaging material in an environmentally responsible way. All packaging components carry the corresponding recycling code .*

## 4 Assembly and Commissioning

- **User qualification:** instructed user, see [Chapter 2.2 'Users' qualifications'](#) on page 7

### 4.1 Assembly of the Pump

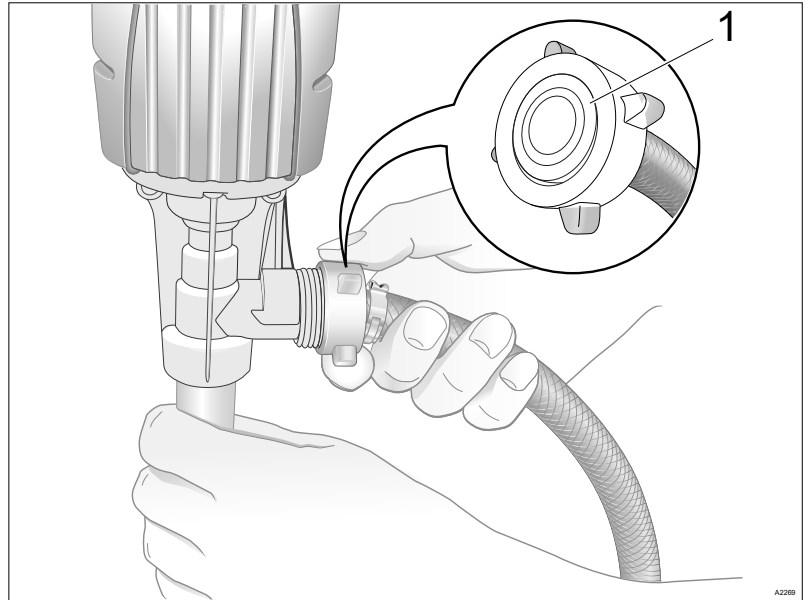


Fig. 4: Assembly.

1. ➤ Check whether there is a seal (1) in the threaded connector.
2. ➤ Manually tighten the threaded connector clockwise.

### 4.2 Motor Description and Overcurrent Tripping

Air-ventilated collector motor with 2-stage switch and overcurrent protection switch.

Repeated overloading can damage the motor. Overloading can be caused by high-viscosity liquids or liquids with a higher density than water.


- In the event of overloading, switch the motor off, lower the speed by turning the 2-stage switch to stage I or reduce the viscosity and/or the density of the liquid.

#### Overcurrent trip:

- The motor switches off if the maximum current is exceeded.
- You can immediately switch on the motor again by actuating the 2-stage switch.



## 5 Operation

- **User qualification:** instructed user, see  *Chapter 2.2 'Users' qualifications' on page 7*



### **WARNING!**

#### **Electrical voltage**

Possible consequence: Fatal or very serious injuries.

- Before using, check the mains connection cable for damage.
- Keep the mains connection cable away from solvents.



### **WARNING!**

#### **Danger from hazardous substances!**


Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



#### ***Threaded connector (union nut)***

- *Only operate the pump when the threaded connector (union nut) between the hose and pump is manually tightened, see  Chapter 4 'Assembly and Commissioning' on page 13.*
- *Only switch on the motor if the pump's suction pipe is in the liquid.*

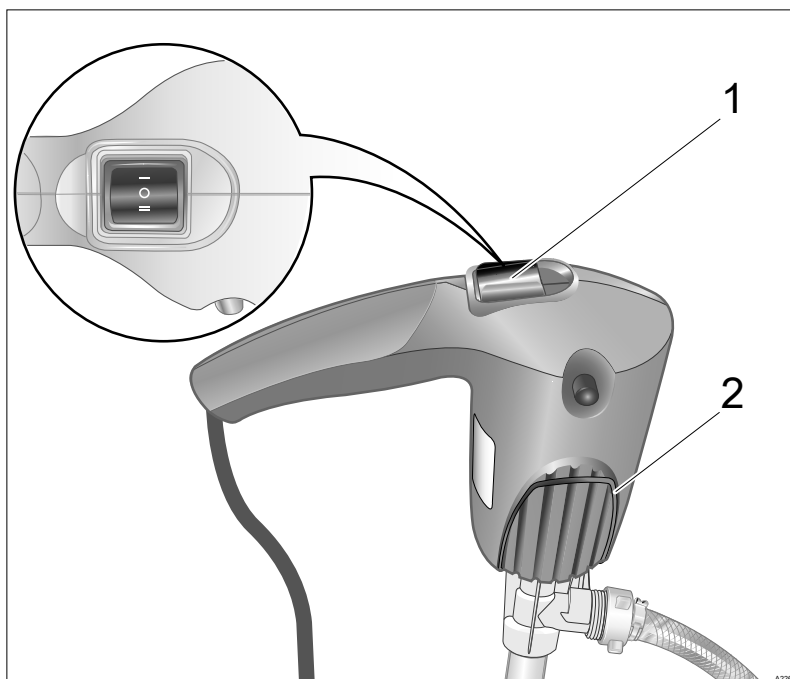


Fig. 5: 2-stage switch (1).

1. ➤ Place the pump in the liquid and fix the pump to the container using the integral grip (2).
2. ➤ Check whether the manual lever of the pump nozzle returns automatically to its starting position.
  - ⇒ Never switch the pump on should this not be the case, as the pumping process could not therefore be regulated.
3. ➤ Compare the operating voltage observed with the data on the nameplate.
4. ➤ Before plugging in the mains plug, turn the 2-stage switch to "0" (Middle).
5. ➤ Insert the mains plug.
  - ⇒ The pump is now ready for operation.
6. ➤ Use the 2-stage switch to switch the pump to Stage I (reduced speed) or Stage II.
7. ➤ Press the pump nozzle's manual lever to pump the medium.




#### **Measures after use**

*Drain the pump, hose and fittings after each use.*

*Allow the pump nozzle to drain in a controlled manner after filling, as there can still be liquid in the outlet tube, which would otherwise flow out in an uncontrolled manner.*

## 6 Cleaning After Each Use

- **User qualification:** instructed user, see  Chapter 2.2 'Users' qualifications' on page 7



### WARNING!

#### Change of medium = Clean the pump

Hazard from the chemical incompatibility of the media.

Possible consequence: Health risk and/or damage to the pump and/or medium.

Remedy: Always thoroughly clean the pump when the medium is changed. If you do not clean the pump, it can lead to incompatibility between the medium and pump or old medium and new medium. Refer to the material safety data sheet on the feed chemical.

### Cleaning using a suitable cleaning agent

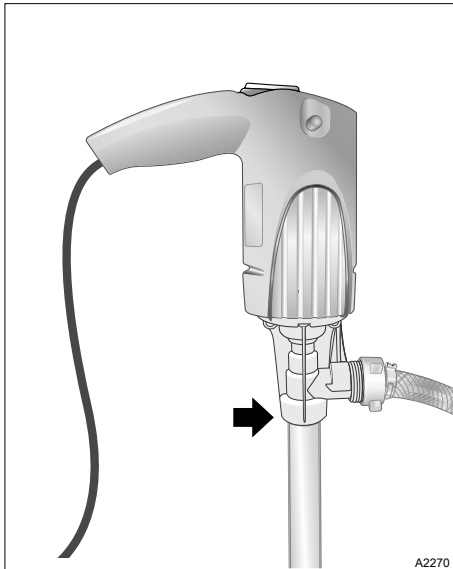


Fig. 6: Lip (arrow) of the outlet nozzle.

Regular cleaning of the pump increases its service life and maintains the performance of the pump.

1. ➤ Note the resistance of the pump and the hose to the cleaning agent, referring to the reference list.
2. ➤ Use a suitable cleaning agent to rinse the pump, referring to the materials safety data sheet for the medium. Never use flammable or explosive liquids.
3. ➤ Only immerse the pump in the cleaning agent as far as the lip (arrow) of the outlet nozzle and never immerse the pump fully.
4. ➤ Rinse the pump until the pump is clean.
  - ⇒ The pump is now ready for further use, also with a different medium.

## 7 Repair, Faults and Spare Parts

### 7.1 Checks/Repairs

Replacing the hose connection or seal:

- **User qualification:** trained user, see ↗ Chapter 2.2 'Users' qualifications' on page 7



- Regularly check the pump in accordance with statutory/country-specific regulations and accident prevention regulations (in Germany such as in accordance with BGV A3).

*It is essential that all faulty parts are replaced. Preferably use genuine spare parts. A minimum of 6 balls (2) must be contained in the rotary joint.*

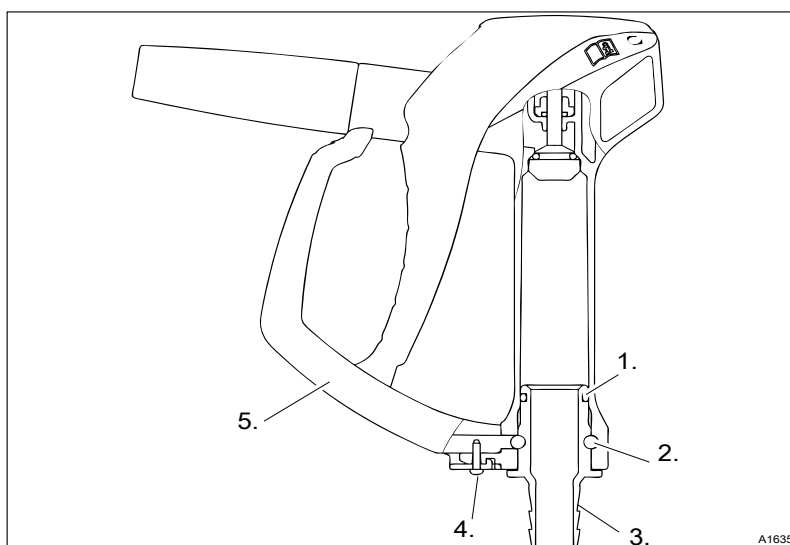


Fig. 7: Components of the pump nozzle.

1. Seal.
2. Ball.
3. Hose connection.
4. Locking bolt.
5. Protective mounting bracket.

1. ➞ Disconnect the pump from the mains power supply.
  2. ➞ Allow the hose and pump nozzle to run empty.
  3. ➞ Clean the pump, see ↗ Chapter 6 'Cleaning After Each Use' on page 16.
  4. ➞ Remove the protective mounting bracket, unscrewing the locking bolt to do so.
  5. ➞ Remove the balls from the rotary joint, possibly using a magnetic pin.
  6. ➞ Clean all components.
  7. ➞ Replace all faulty or defective parts. .
  8. ➞ Replace all 6 balls in the rotary joint.
  9. ➞ Replace the protective mounting bracket and screw in the locking bolt.
- ⇒ The pump nozzle is ready for use again.

## 7.2 Troubleshooting

- **User qualification:** trained user, see [🔗 Chapter 2.2 'Users' qualifications'](#) on page 7

Fault	Cause	Solution
Manual lever on pump nozzle sticks.	Joint stuck. Return spring faulty.	Dismantle pump nozzle, clean it and replace any fault components if necessary, <a href="#">🔗 Chapter 7.1 'Checks/Repairs'</a> on page 17.
Pump starts but does not pump.	Maximum delivery height and/or viscosity/density exceeded.	Adjust delivery height and/or viscosity, .
	Inner tube blocked.	Check and possibly clean inner tube.

Please contact Service with all other faults. For contact data see the Legal Notices.

Check on the manufacturer's website [www.prominent.com](http://www.prominent.com) whether a more recent version of the operating instructions is available, as further remedies may have been developed in the meantime.

## 7.3 Spare Parts for the DULCO®Trans

- **User qualification:** Service, see [🔗 Chapter 2.2 'Users' qualifications'](#) on page 7.

Spare parts should only be ordered and fitted through Service.

### 7.3.1 Spare Parts Kit for DULCO®Trans 25/700 PP

Spare parts kit (order number 1024179) for DULCO®Trans 25/700 PP, parts list

Pos.	Description	Material	Quantity	Order no.
12	Carbon brush	Carbon	2	944 01 008
13	Carbon brush holder	Metal	2	944 00 044
42	Bearing housing	PP	1	304 40 021
43	Rotor	ETFE	1	304 40 022
44	Foot piece	PP	1	304 40 020

### 7.3.2 Spare Parts for the Motor

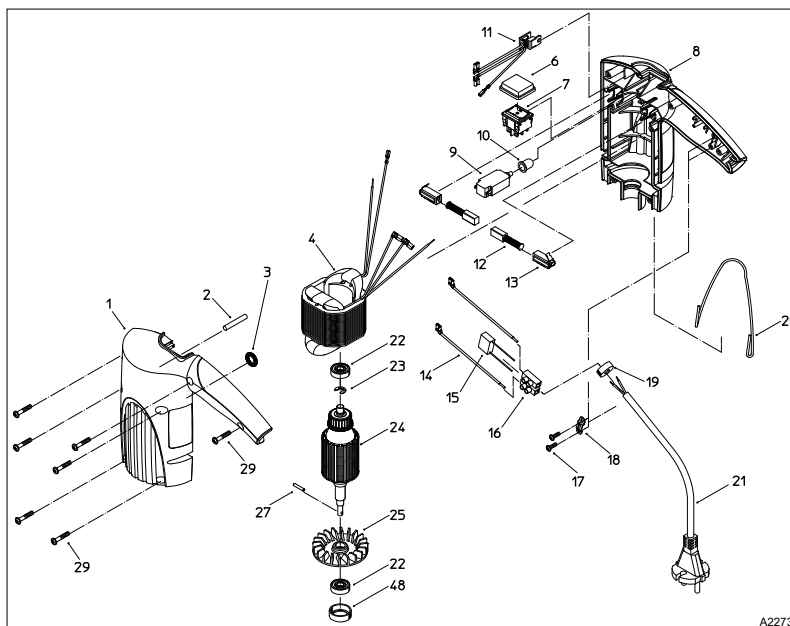


Fig. 8: Spare parts drawing for the motor.

#### Spare parts list for the motor

Position	Description	Quantity	Order number
--	Motor, complete	1	310 00 023
1	Motor housing, left half	1	310 00 025
2	Cord	1	925 95 906
3	O-ring Ø 9 x 3 (NBR)	1	925 13 005
4	Field package	1	310 00 033
6	Switch cap	1	303 00 034
7	2-stage switch	1	936 00 034
8	Motor housing, right half	1	310 00 024
9	Overcurrent protection switch	1	936 03 024
10	Dust cap	1	936 03 011
11	Electronics, complete	1	940 04 035
12	Carbon brush	2	944 01 008
13	Carbon brush holder	2	944 00 044
14	Control wire, length 90 mm	2	931 10 007
15	Capacitor	1	940 03 061
16	Connection terminal	1	935 05 001
17	Bolt	2	902 15 000
18	Tension relief clamp	1	935 02 002
19	Seal (CR)	1	925 09 017
20	Integral bracket clamp.	1	310 00 003
21	Mains/power supply cable, 5 m long	1	303 00 047

Position	Description	Quantity	Order number
22	Grooved ball bearing	2	922 20 002
23	Securing washer	1	908 05 007
24	Anchor, complete with pos. 22, 23, 25, 27, 48	1	310 00 031
25	Fan blade	1	310 00 008
27	Clamp pin	1	914 47 002
29	Bolt	7	902 25 000
48	Bearing bush	1	310 00 028

### 7.3.3 Spare Parts for the Pump

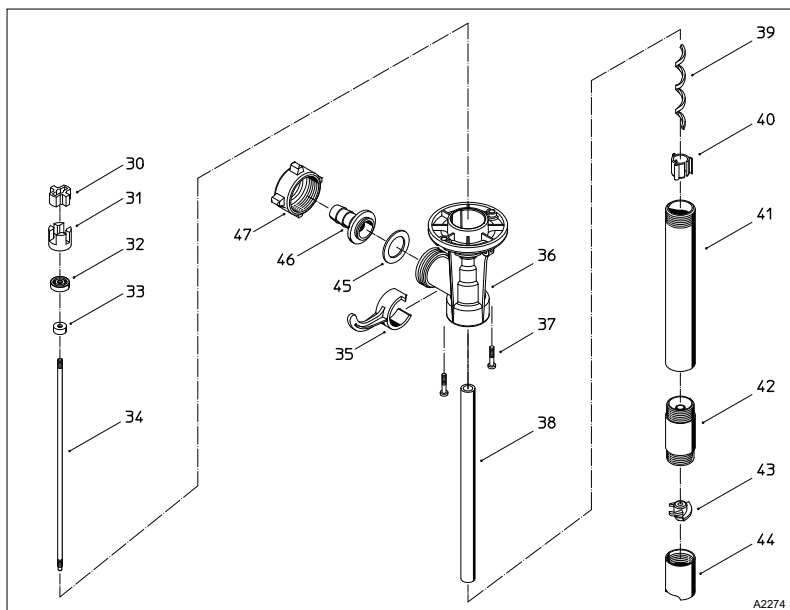


Fig. 9: Spare parts drawing for the pump.

#### Spare parts list for the pump

Position	Description	Quantity	Order number	Wetted materials
--	Pump, complete, without motor	1	314 40 001	
30	Coupling spider	1	303 40 637	
31	Coupling cage	1	303 40 635	
32	Grooved ball bearing	1	922 00 000	
33	Shaft seal	1	925 00 002	FKM
34	Shaft	1	304 40 014	Hastelloy® C
35	Hook	1	310 40 055	
36	T-piece	1	314 40 003	PP
37	Bolt	2	902 55 006	
38	Inner tube with pos. 39	1	304 40 024	PP
39	Guide bearing	1	304 40 017	PTFE
40	Centring star	1	314 40 019	ETFE
41	Outer tube	1	304 40 004	PVDF
42	Bearing housing	1	304 40 021	PP
43	Rotor	1	304 40 022	ETFE
44	Foot piece	1	304 60 020	PP
45	Flat seal	1	925 34 001	PE
46	Hose plug, DN 13	1	959 05 099	PP
47	Union nut, G 1	1	907 90 030	
--	Hose, DN 13	1	001 10 008	PVC



Position	Description	Quantity	Order number	Wetted materials
--	1-ear clamp	1	959 13 239	
	Food-safe lubricant for shaft sealing ring.	1 kg	952 00 012	

### 7.3.4 Spare Parts for the Pump Nozzle

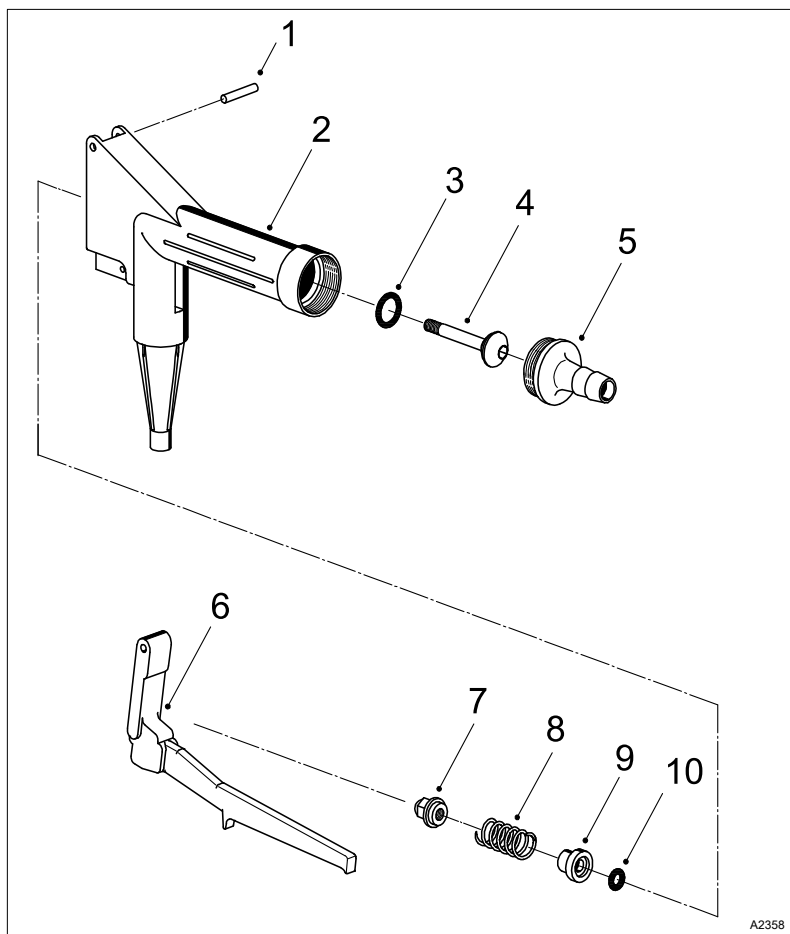


Fig. 10: Spare parts drawing for the pump nozzle.

#### Spare parts list for the pump nozzle


Position	Description	Quantity	Order number	Wetted materials
	Pump nozzle, complete	1	001 13 127	
1	Cylinder pin	1	914 72 002	
2	Housing with nozzle, Ø 8	1	001 13 128	PP
3	O-ring, Ø 13 x 2.5	1	925 25 008	FKM
4	Valve rod with position 3	1	001 13 132	PP / FKM
5	Hose plug, DN 13	1	959 05 263	PP
6	Manual lever	1	001 13 131	
7	Domed nut	1	906 80 002	
8	Compression spring	1	926 57 000	
9	Guide sleeve	1	001 12 413	
10	O-ring, Ø 6 x 2.5		925 15 004	
	Sealing paste	1 kg	953 04 001	

### 7.3.5 Accessories

#### Accessories

Description	Quantity	Order number
Barrel threaded connector (PP) Ø 25, with external thread R 2	1	001 14 076

## 8 Use Parts Disposal/Declaration of Decontamination

- **User qualification:** instructed user, see  Chapter 2.2 'Users' qualifications' on page 7

**WARNING!****Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.

**NOTICE!****The used part can only be accepted with a completed Declaration of Decontamination**

Printed copy also available as a download at:  
[www.prominent.com](http://www.prominent.com)

A completed and signed "Declaration of Decontamination" is required by law and in order to protect our staff, before your order can be processed.

Ensure that the Declaration of Decontamination is attached to the outside of the package. Otherwise we are unable to accept your delivery.

**NOTICE!****Regulations governing the disposal of used parts**

- Note the national regulations and legal standards that currently apply in your country when disposing of the product.

ProMinent GmbH, Heidelberg/Germany will take back clean used parts.

## 9 Technical Data at a Glance

Part no. 1023085

Parameter	Value/Design
Pump type	DULCO®Trans 25/700 PP
Feed rate*)	900 l/h (motor at stage II)
Max. delivery height	5.0 m (motor at stage II)
Max. viscosity	< 150 mPas
Max. medium temperature	< 45 °C
Max. medium density	< 1.2 kg/dm³
Immersion depth	700 mm
Suction tube outer diameter	25 mm
Wetted materials	PP, Hastelloy® C, ETFE, PE, FKM, PVC
Pump housing	PP
Shaft	Hastelloy® C
Rotor	ETFE
Axial face seal	none
Seals	none
Hose	PVC with fabric insert 1.5 m, DN 13
Pump nozzle	PP, DN 13
Hose connection	DN 13 for hose 13/18 mm
Hose clamps	2 no., stainless steel 1.4301
Drum adapter	none
Motor performance	230 W
Motor IP protection	IP 24
Voltage	230 VAC; 1~; 50 Hz / 60 Hz**)
Nominal current	1.2 A
Undervoltage trigger	none
Overcurrent protection switch	with
Speed control	2-stage
Connecting cable	5 m, with standard European plug
Motor colour	RAL 2003 (orange)
Colour of top part of housing	Motor has no top part
Weight	2.4 kg
Dimensions HxWxD	927 x 197 x 83 mm
*) Hose and pump nozzle connected, water at 20°C	
**) at 60 Hz: pump capacity reduced by 8%	

## 9.1 Performance Diagram

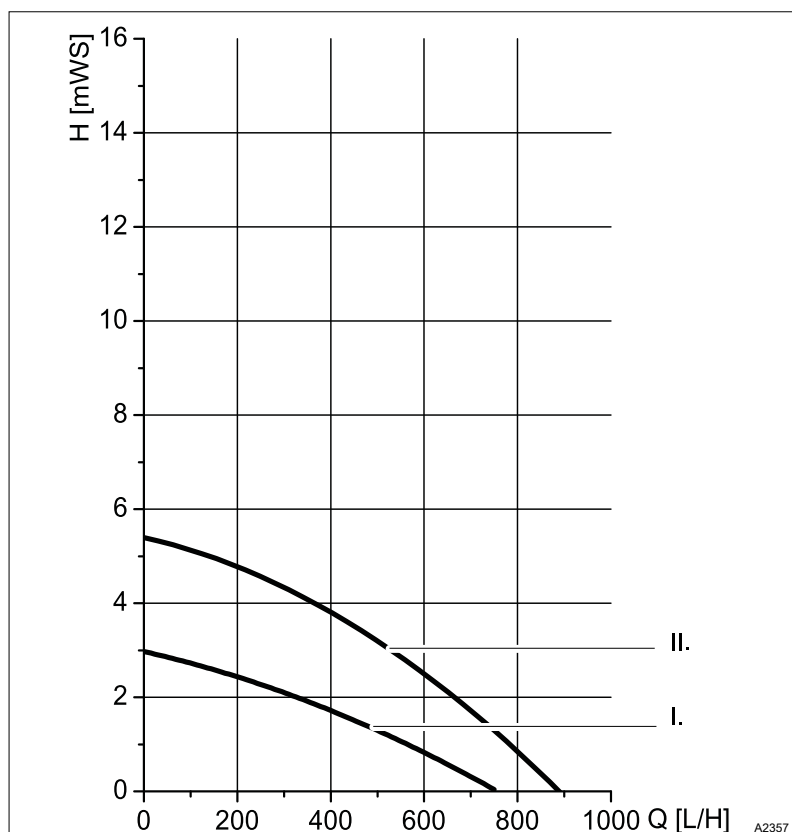


Fig. 11: Performance diagram. Measured values  $\pm 10\%$ , measured with water  $20^\circ\text{C}$ , hose and pump nozzle connected.

- I. 2-stage switch at "I"
- II. 2-stage switch at "II"

## 9.2 Dimensional Drawing with Main Dimensions

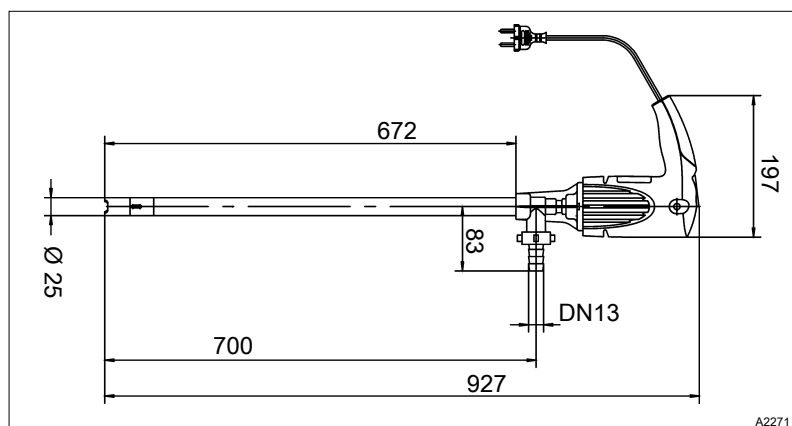


Fig. 12: Dimensional drawing with main dimensions, all measurements in mm.

## 10 EC Declaration of Conformity for Machinery

In accordance with DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Appendix I, BASIC HEALTH AND SAFETY REQUIREMENTS, section 1.7.4.2. C.

We,

- ProMinent GmbH
- Im Schuhmachergewann 5 - 11
- D - 69123 Heidelberg, Germany,

hereby declare that the product specified in the following, complies with the relevant basic health and safety requirements of the EC Directive, on the basis of its functional concept and design and in the version distributed by us. Any modification to the product not approved by us will invalidate this declaration.

### Extract from the EC Declaration of Conformity

Designation of the product:	Barrel pump
Product type:	DULCO®trans
Serial number:	see nameplate on the device
Relevant EC directives:	EC Machinery Directive (2006/42/EC) EC EMC Directive (2004/108/EC) Compliance with the protection targets of the Low Voltage Directive 2006/95/EC according to Appendix I, No. 1.5.1 of the Machinery Directive 2006/42/EC
Harmonised standards applied, in particular:	EN ISO 12100
Date:	01.03.2012

The EC Declaration of Conformity is available to download on our homepage [www.prominent.com](http://www.prominent.com).

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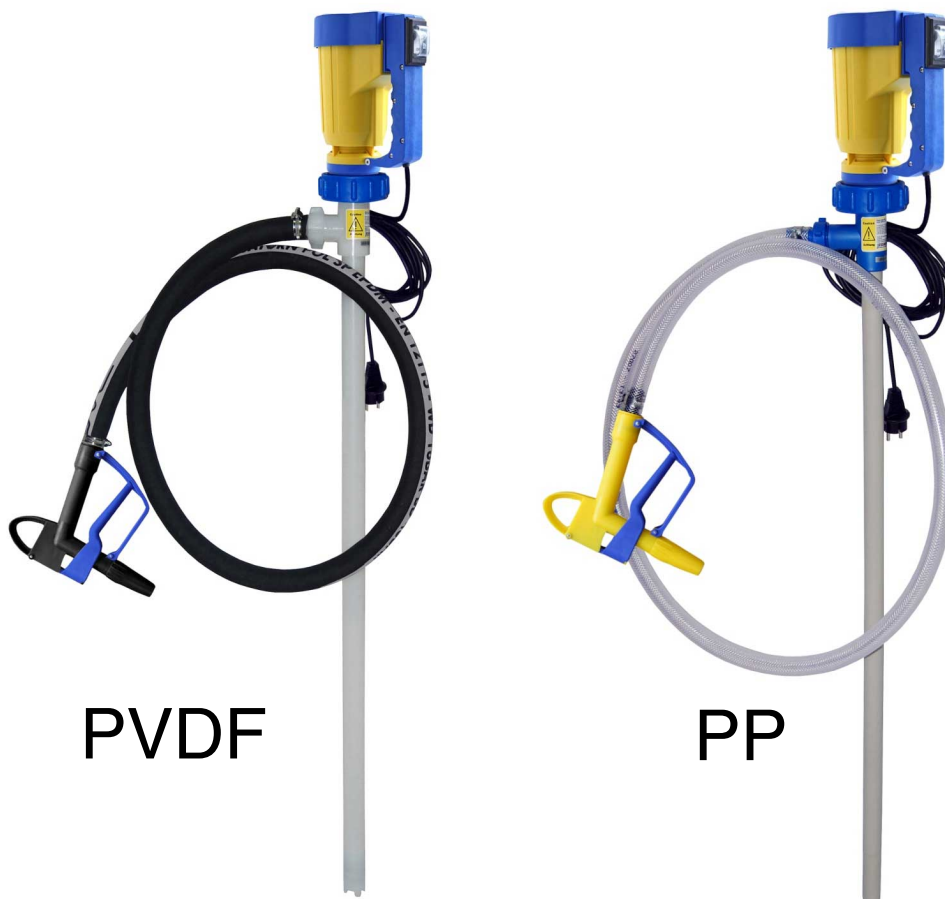
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# Assembly and operating instructions

## Barrel pump

### DULCO®Trans 32/700 PVDF or PP

EN



PVDF

PP

Please carefully read these operating instructions before use. · Do not discard.  
The operator shall be liable for any damage caused by installation or operating errors.  
The latest version of the operating instructions are available on our homepage.

A2659

### General non-discriminatory approach

In order to make it easier to read, this document uses the male form in grammatical structures but with an implied neutral sense. It is aimed equally at both men and women. We kindly ask female readers for their understanding in this simplification of the text.

### Supplementary information

➡ Please read the supplementary information in its entirety.

#### Information



*This provides important information relating to the correct operation of the unit or is intended to make your work easier.*

#### Warning information

Warning information includes detailed descriptions of the hazardous situation, see ➡ *Chapter 2.1 'Labelling of Warning Information' on page 7.*

The following symbols are used to highlight instructions, links, lists, results and other elements in this document:

Tab. 1: More symbols

Symbol	Description
1. ➡	Action, step by step.
⇒	Outcome of an action.
➡	Links to elements or sections of these instructions or other applicable documents.
■	List without set order.
[Button]	Display element (e.g. indicators). Operating element (e.g. button, switch).
'Display /GUI'	Screen elements (e.g. buttons, assignment of function keys).
CODE	Presentation of software elements and/or texts.

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# 1 Function, resistance and scope of delivery

## Function

Barrel pumps are the ideal solution when liquids have to be moved. The unit is used for bottling, draining and transferring non-flammable and non-explosive liquids from canisters, hobboscks, drums, storage tanks and containers.

Device	Max. pump capacity	Max. delivery height	Order number
DULCO®Trans 32/700 PP	49 l/min*	10.0 m	1098490
DULCO®Trans 32/700 PVDF	49 l/min*	10.0 m	1098492

\* The pump capacity is also measured with water at 20 °C, a 1" pressure pipe and an oval wheel meter

## Chemical resistance



*The field of application of the unit depends on the chemical resistance of the materials used.*

Tab. 2: Wetted materials of the unit, PP version:

Component	Material
External and internal pipe, pump nozzle	PP
Drive shaft	Hastelloy® C
Rotor	PP
Metering hose	PVC

The resistance list, which is continually updated, can be found on the manufacturer's homepage [www.prominent.com](http://www.prominent.com)

Tab. 3: Wetted materials of the unit, PVDF version:

Component	Material
External and internal pipe, pump nozzle	PVDF
Drive shaft	Hastelloy® C
Rotor	PVDF
Metering hose	Cross-linked PE

The resistance list, which is continually updated, can be found on the manufacturer's homepage [www.prominent.com](http://www.prominent.com)

Nameplate

**DULCO® Trans 32/700 PP**

Mat. - Nr.: 1098490

Ser.- Nr.: E 145 XXX XX

230V 50/60Hz 450 W 1,96A, IP24

Bedienungsanleitung beachten !

Observe Operating Instructions !

Mode d'emploi est à observer !

ProMinent GmbH

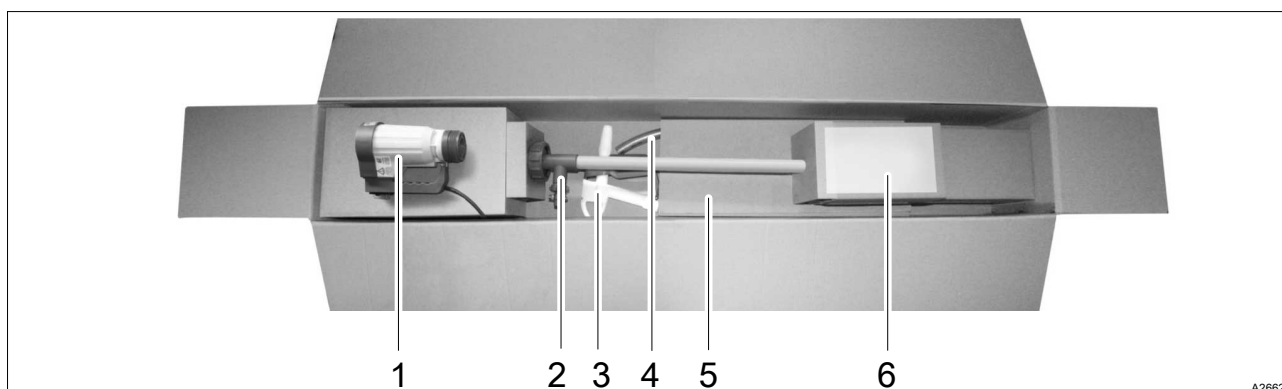
Heidelberg - Germany



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Fig. 1: Nameplate on the pump housing, PP version.

Scope of delivery



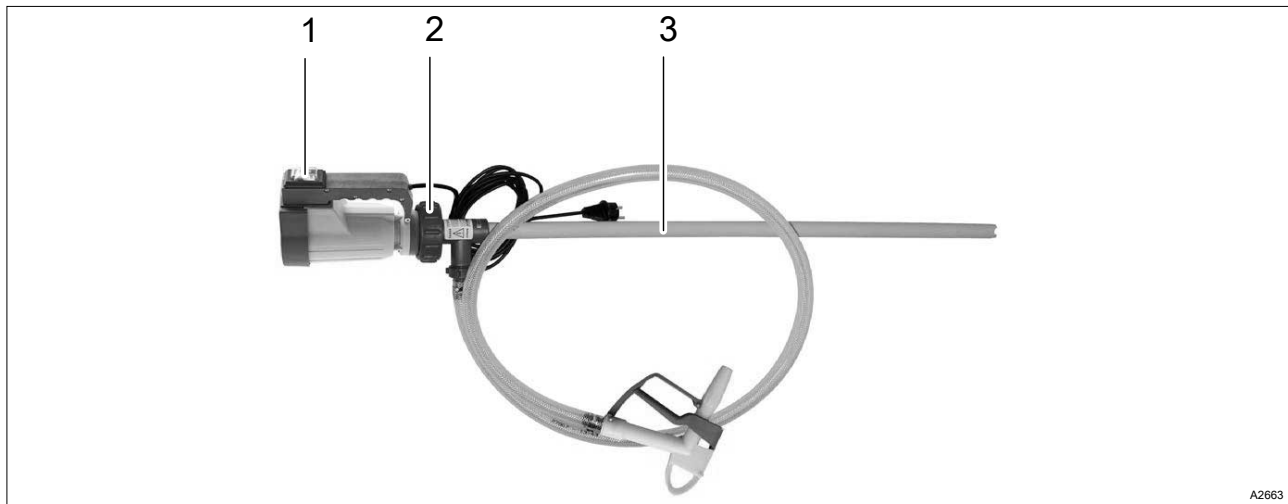
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Fig. 2: Scope of delivery, PP version.

- |   |  |   |                                     |
|---|--|---|-------------------------------------|
| 1 | Barrel pump motor                          | 4 | Metering hose                       |
| 2 | Pump                                       | 5 | Packaging                           |
| 3 | Pump nozzle assembled on the metering hose | 6 | Assembly and operating instructions |



Overview of the key components



*Fig. 3: Overview of the key components, PP version.*

- 1 On/off switch.
- 2 Connecting nut.
- 3 Suction tube.

## 2 Safety chapter

### 2.1 Labelling of Warning Information

#### Introduction

These operating instructions provide information on the technical data and functions of the product. These operating instructions provide detailed warning information and are provided as clear step-by-step instructions.

The warning information and notes are categorised according to the following scheme. A number of different symbols are used to denote different situations. The symbols shown here serve only as examples.



#### **DANGER!**

##### **Nature and source of the danger**

Consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger.

Description of hazard

- Denotes an immediate threatening danger. If the situation is disregarded, it will result in fatal or very serious injuries.



#### **WARNING!**

##### **Nature and source of the danger**

Possible consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger.

- Denotes a possibly hazardous situation. If the situation is disregarded, it could result in fatal or very serious injuries.



#### **CAUTION!**

##### **Nature and source of the danger**

Possible consequence: Slight or minor injuries. Material damage.

Measure to be taken to avoid this danger.

- Denotes a possibly hazardous situation. If the situation is disregarded, it could result in slight or minor injuries. May also be used as a warning about material damage.



#### **NOTICE!**

##### **Nature and source of the danger**

Damage to the product or its surroundings.

Measure to be taken to avoid this danger.

- Denotes a possibly damaging situation. If the situation is disregarded, the product or an object in its vicinity could be damaged.



***Type of information***

*Hints on use and additional information.*

*Source of the information. Additional measures.*

- *Denotes hints on use and other useful information. It does not indicate a hazardous or damaging situation.*

## 2.2 User qualification



### WARNING!

**Danger of injury with inadequately qualified personnel**

**The operator of the system / equipment is responsible for ensuring that the qualifications are fulfilled.**

If inadequately qualified personnel work on the unit or loiter in the hazard zone of the unit, this could result in dangers that could cause serious injuries and material damage.

- All work on the unit should therefore only be conducted by qualified personnel.
- Unqualified personnel should be kept away from the hazard zone.

The pertinent accident prevention regulations, as well as all other generally acknowledged safety regulations, must be adhered to.

Training	Definition
Instructed personnel	An instructed person is deemed to be a person who has been instructed and, if required, trained in the tasks assigned to him and possible dangers that could result from improper behaviour, as well as having been instructed in the required protective equipment and protective measures.
Trained user	A trained user is a person who fulfils the requirements made of an instructed person and who has also received additional training specific to the system from the manufacturer or another authorised distribution partner.
Trained, qualified personnel	A trained, qualified employee is deemed to be a person who is able to assess the tasks assigned to him and recognize possible hazards based on his training, knowledge and experience, as well as knowledge of pertinent regulations. A trained, qualified employee must be able to perform the tasks assigned to him independently with the assistance of drawing documentation and parts lists. The assessment of a person's technical training can also be based on several years of work in the relevant field.
Electrical technician	An electrical technician is able to complete work on electrical systems and recognise and avoid possible dangers independently based on his technical training and experience as well as knowledge of pertinent standards and regulations. An electrical technician must be able to perform the tasks assigned to him independently with the assistance of drawing documentation, parts lists, terminal and circuit diagrams. The electrical technician must be specifically trained for the working environment in which the electrical technician is employed and be conversant with the relevant standards and regulations.
Service	The Service department refers to service technicians, who have received proven training and have been authorised by the manufacturer to work on the system.

## 2.3 Intended Use

- The barrel pump is used for the fast and safe drainage or transfer of storage tanks, drums and container.
- Depending on its design, the barrel pump can pump non-flammable liquids of all kinds.

- The collector motor is used to drive the barrel pump in areas not at risk of explosion and is used for non-flammable liquids.
- The pump nozzle is used for the bottling of liquids.
- Barrel pump, motor and pump nozzle are suitable for protected use indoors and may not be exposed to weathering.
- The barrel pump, motor and pump nozzle are intended for commercial use.

## 2.4 Foreseeable Misuse

- The barrel pump and its accessories are not intended to be used by untrained people and by people with restricted physical, sensory or mental capabilities.
- Children should be supervised to ensure that they do not play with the unit.
- The use of the pump nozzle is not permitted in petrol filling stations (TRBF40).
- The pumping of flammable liquids is not permitted.
- Operation in areas at risk of explosion is not permitted.

## 2.5 Safety

This chapter gives an overview of all the important safety aspects for the protection of individuals as well as for safe and fault-free operation of the product. Other task-specific warning information can be found in the individual action sequences.

The following chapters describe the residual risks that use of this unit presents even when used as intended. Please refer to the safety information listed here and comply with the warning information in the later chapters of these instructions to reduce these risks of personal injury and material damage and avoid hazardous situations.

### 2.5.1 Safety information for pump and motor



#### **WARNING!**

#### **Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.


Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



### ***Non-observance of the safety information***

*Non-observance of the safety information can lead to damage to people and the environment and also result in damage to the motor and pump.*

- In the event of an emergency, disconnect from the mains power supply.
- The motor is not explosion-protected.
- Do not leave the pump operating unsupervised.
- Do not use the pump in areas at risk from explosion.
- Never pump flammable liquids.
- Only use the pump for its intended purpose, see  Chapter 2.3 'Intended Use' on page 9
- The pump is operated vertically.
- Set up the pump so that it cannot fall into the storage tank.
- Regularly check the pump and hose for operational safety.
- Regularly check the motor in accordance with statutory/ country-specific regulations and accident prevention regulations, in Germany such as in accordance with BGV A3.
- Secure the motor against accidental start-up. The pump can start up as soon as the mains plug has been inserted.
- Before plugging in the mains plug, turn the On/Off switch to "0".
- The motor does not restart automatically following power failure.
- Only immerse the pump in the liquid as far as the pressure nozzle.
- Only allow the pump to stand in the liquid while it is pumping.
- Use the pump up to a maximum liquid temperature of 50 °C (PP version) or a maximum liquid temperature of 90 °C (PVDF version).
- Ambient temperature: + 1 °C ... + 40 °C.
- Note any escaping air and displace volume when immersing the pump in the water. Immerse the pump carefully and slowly.
- Use a spray guard with open drums or storage tanks.
- Remove any spilled liquid and dispose of it in an environmentally-friendly manner, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Note any internal instructions.
- Wear protective clothing, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not expose the pump to weathering.
- Clean the pump after each use, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not store the pump in aggressive fumes.

## 2.5.2 Safety information for the pump nozzle



### **WARNING!**

#### **Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



### ***Non-observance of the safety information***

*Non-observance of the safety information can lead to damage to people and the environment and also result in damage to the pump nozzle.*


- Only pump clean liquids.
- When using, note the maximum operating pressure of 2 bar at 50 °C (PP design) or 2 bar at 60 °C (PVDF design). The pump nozzle can bounce back.
- When filling into a storage tank, make sure that no overpressure can build up in this storage tank. Danger from spraying liquids.
- Do not fill up too quickly to prevent the liquids from splashing out of the storage tank.
- Only bend the hose slightly to prevent too high mechanical stresses being exerted on the pump nozzle
- Only fill up using the pump nozzle under supervision, as the nozzle does not automatically shut off.
- Check during commissioning whether the manual lever returns automatically into its starting position.
- Use visual controls to regularly monitor the external condition of the pump nozzle.
- Allow the pump nozzle to drain at the end of the filling process.
- Regularly check to make sure that the hose clips are fixed securely.
- Remove any spilled liquid and dispose of it in an environmentally-friendly manner, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Note any internal instructions.
- Wear protective clothing, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not expose the pump nozzle to weathering.
- Clean the pump nozzle after each use, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not store the pump nozzle in aggressive fumes.

## 2.6 Sound pressure level

The sound pressure level is < 70 dB (A). This value was measured on the manufacturer's test stand.



## 3 Storage and Transport

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9

Environmental conditions for storage and transport:

- Permissible ambient temperature: +1 °C ... +40 °C.
- Humidity: maximum 90 % relative air humidity, non-condensing.
- Other: No dust, no direct sunlight.


### 3.1 Transport

The sensor should be transported in its original packaging and in compliance with the permissible environmental conditions. No further special conditions have to be observed in relation to transport.


### 3.2 Disposal of Packaging



**Packaging material**

*Dispose of packaging material in an environmentally responsible way. All packaging components carry the corresponding recycling code .*

## 4 Assembly and commissioning

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9

### 4.1 Assembly of the pump

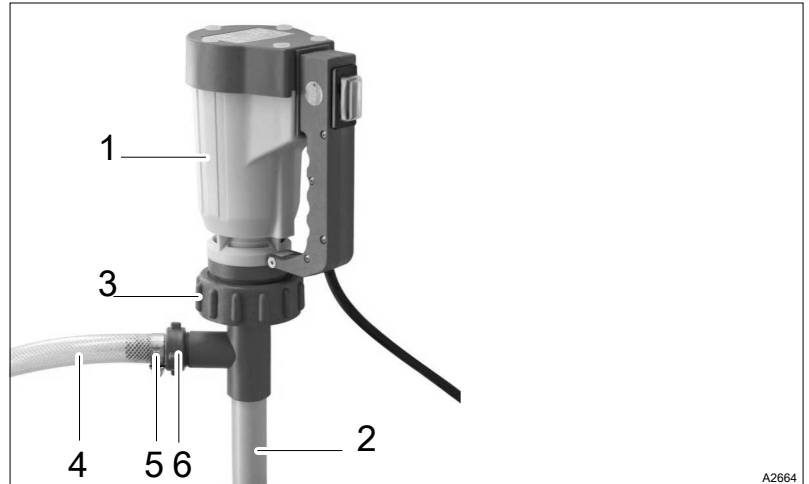


Fig. 4: Assembly.

1. ➔ Use the connecting nut (3) to connect the pump (2) and the motor (1).
2. ➔ Place the hose (4) (PVC = transparent, PE = black) on the hose plug (6) of the pump and use the hose clamp (5) to fix the hose in place.

### 4.2 Motor description and overcurrent tripping

Inner-ventilated universal motor with overcurrent switch and zero voltage trigger.


Repeated overloading can damage the motor. Overloading can be caused by high-viscosity liquids or liquids with a higher density than water.

- ➔ If the motor switches off due to overloading, reduce the viscosity and/or the density of the liquid.

#### Overcurrent trip:

- The motor switches off if the maximum current is exceeded.
- ➔ You can immediately switch on the motor again by actuating the On/Off switch.

## 5 Operation

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9



### **WARNING!**

#### **Electrical voltage**

Possible consequence: Fatal or very serious injuries.

- Before using, check the mains connection cable for damage.
- Keep the mains connection cable away from solvents.



### **WARNING!**

#### **Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



#### ***Threaded connector (union nut)***

- *Only operate the pump when the threaded connector (union nut) between the hose and pump is manually tightened, see .*
- *Only switch on the motor if the pump's suction pipe is in the liquid.*

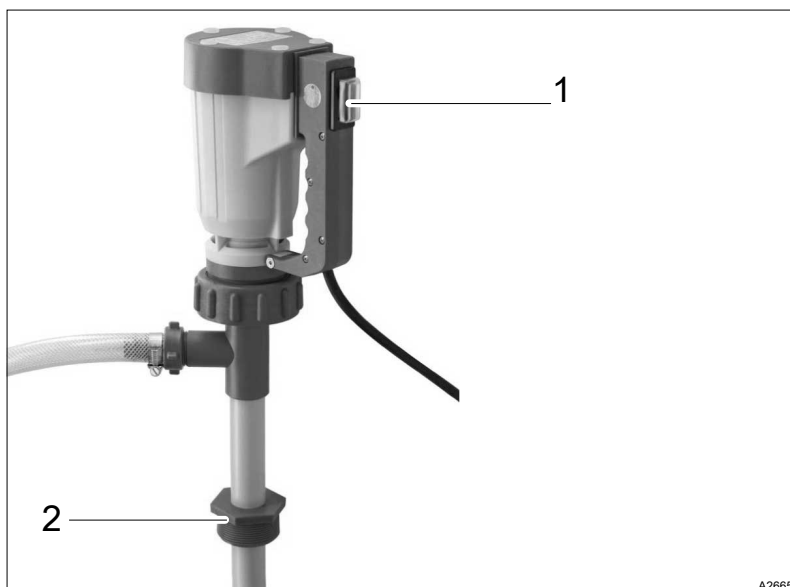


Fig. 5: Operating the pump

1. ➤ Fix the barrel threaded connector (2) to the barrel. Insert the pump into the liquid.
2. ➤ Check whether the manual lever of the pump nozzle returns automatically to its starting position.
  - ⇒ Never switch the pump on should this not be the case, as the pumping process could not therefore be regulated.
3. ➤ Compare the operating voltage observed with the data on the nameplate.
4. ➤ Before plugging in the mains plug, turn the On/Off switch (1) to "0".
5. ➤ Insert the mains plug.
  - ⇒ The pump is now ready for operation.
6. ➤ Use the On/Off switch to switch on the pump.
7. ➤ Press the pump nozzle's manual lever to pump the medium.




#### **Measures after use**

*Drain the pump, hose and fittings after each use.*

*Allow the pump nozzle to drain in a controlled manner after filling, as there can still be liquid in the outlet tube, which would otherwise flow out in an uncontrolled manner.*

## 6 Cleaning after each use

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9



### WARNING!

#### Change of medium = Clean the pump

Hazard from the chemical incompatibility of the media.

Possible consequence: Health risk and/or damage to the pump and/or medium.

Remedy: Always thoroughly clean the pump when the medium is changed. If you do not clean the pump, it can lead to incompatibility between the medium and pump or old medium and new medium. Refer to the material safety data sheet on the feed chemical.

### Cleaning using a suitable cleaning agent

Regular cleaning of the pump increases its service life and maintains the performance of the pump.

1. ➤ Note the resistance of the pump and the hose to the cleaning agent, referring to the reference list.
2. ➤ Use a suitable cleaning agent to rinse the pump, referring to the material safety data sheet for the medium. Never use flammable or explosive liquids.



Fig. 6: Lip (arrow) of the outlet nozzle.

3. ➤ Only immerse the pump in the cleaning agent as far as the lip (arrow) of the outlet nozzle and never immerse the pump fully.
4. ➤ Rinse the pump until the pump is clean.
  - ⇒ The pump is now ready for further use, also with a different medium.

## 7 Repair, faults and spare parts

### 7.1 Checks/repairs

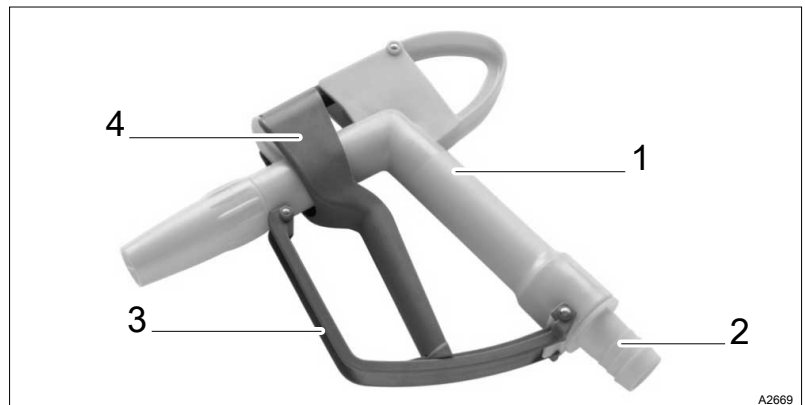
Replacing the hose connection or seal:

- **User qualification:** trained user, ↗ Chapter 2.2 'User qualification' on page 9



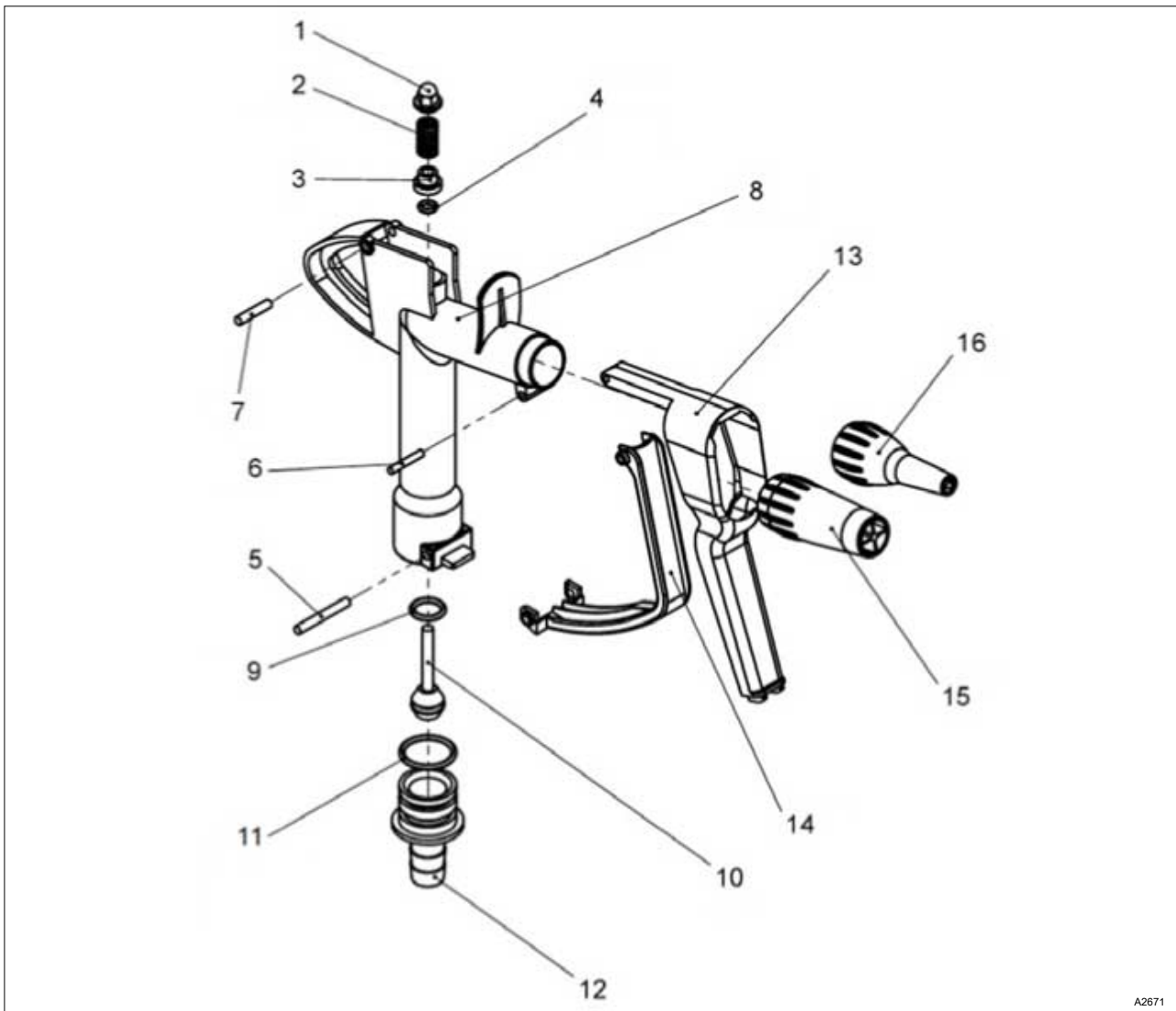
- Regularly check the pump in accordance with statutory/country-specific regulations and accident prevention regulations (in Germany such as in accordance with BGV A3).

*It is essential that all faulty parts are replaced. Preferably use genuine spare parts.*



*Fig. 7: Components of the pump nozzle (PP = yellow and Blue, PVDF = Black).*

1. Housing.
2. Hose connection.
3. Protective mounting bracket.
4. Manual lever.



A2671

Fig. 8: Components of the pump nozzle (PP = yellow and Blue, PVDF = Black).

Please proceed as follows to replace the seals of the pump nozzle.

1. ➤ Disconnect the pump from the mains power supply.
2. ➤ Allow the hose and pump nozzle to run empty.
3. ➤ Clean the pump.
4. ➤ Remove the three grooved pins (5, 6 and 7) by pushing them out using a small pin. The stainless steel pin is wider at one side and can therefore only be removed in the direction of the wider end
5. ➤ Then first remove the bracket (14), the manual lever (13) and then the hose plug (12) on which the first (11) of a total of three seals is located.
6. ➤ Then block the hexagonal opening at the rear end of the valve rod (10) by inserting a long Allen key (size 8) into the nozzle body from the rear side of the pump nozzle on which you have removed the hose plug and blocking the hexagonal opening.

7. ➤



*A compression spring (2) sits behind the domed nut. When removing the domed nut, make sure that you are not injured by the spring when removing it as it is pressurised.*

Whilst holding the Allen key firmly with one hand, remove the domed nut (1) from the other side with a size 10 socket.

8. ➤ A seal mount (3) is located behind the spring at the rear end of which is located the second seal (4).
9. ➤ After removing the domed nut, the spring and the seal mount with the second seal, you can push out the valve rod (10) from this side towards the hose connection already removed and replace the third seal (9).
10. ➤ Clean and check all components.
11. ➤ Replace all faulty or defective parts.
12. ➤ Finally fit the pump nozzle in the reverse order to that already described and test the leak-tightness of the pump nozzle at the end of a water line with 3 ... 4 bar pressure.  
⇒ The pump nozzle is ready for use again.

## 7.2 Troubleshooting

- **User qualification:** trained user, see ➤ *Chapter 2.2 'User qualification' on page 9*

Fault	Cause	Solution
Manual lever on pump nozzle sticking.	Joint stuck.	Dismantle the pump nozzle, clean it and replace any faulty components if necessary.
Pump starts but does not pump.	Maximum delivery height and/or viscosity/density exceeded.	Adjust the delivery height and/or viscosity.
	Inner tube blocked.	Check and possibly clean inner tube.
	Couplings, rotor faulty.	Check the couplings and rotor and replace if necessary.

Please contact Service with all other faults. For contact data see the Legal Notices.

Check on the manufacturer's website [www.prominent.com](http://www.prominent.com) whether a more recent version of the operating instructions is available, as further remedies may have been developed in the meantime.

## 7.3 Spare parts for the DULCO®Trans

- **User qualification:** Service, see ➤ *Chapter 2.2 'User qualification' on page 9*

Spare parts should only be ordered and fitted through Service.



### 7.3.1 Spare parts kit for DULCO®Trans 32/700 PP

*Tab. 4: Spare parts kit (order number 1098502) for DULCO®Trans 32/700 PP, parts list*

Pos.	Description	Material	Quantity	Order no.
8 a	Motor coupling	PA	1	8333
19 a	Carbon brushes	Carbon	2	8473
1 b	V-seal	PTFE	1	4000
2 b	Pump factory coupling	PA	1	1004
5 b	Bearing unit	Steel	1	1038
9 b	Pump housing with PTFE bearing	PP/ PTFE	1	1532
11 b	Rotor	PP	1	1092
12 b	Pump foot	PP	1	1095

### 7.3.2 Spare parts kit for DULCO®Trans 32/700 PVDF

*Tab. 5: Spare parts kit (order number 1098503) for DULCO®Trans 32/700 PVDF, parts list*

Pos.	Description	Material	Quantity	Order no.
8 a	Motor coupling	PA	1	8333
19 a	Carbon brushes	Carbon	2	8473
1 b	V-seal	PTFE	1	4000
2 b	Pump factory coupling	PA	1	1004
5 b	Bearing unit	Steel	1	1038
9 b	Pump housing with PTFE bearing	PVDF/ PTFE	1	4532
11 b	Rotor	PVDF	1	4092
12 b	Pump foot	PVDF	1	4095

### 7.3.3 Spare parts for the motor

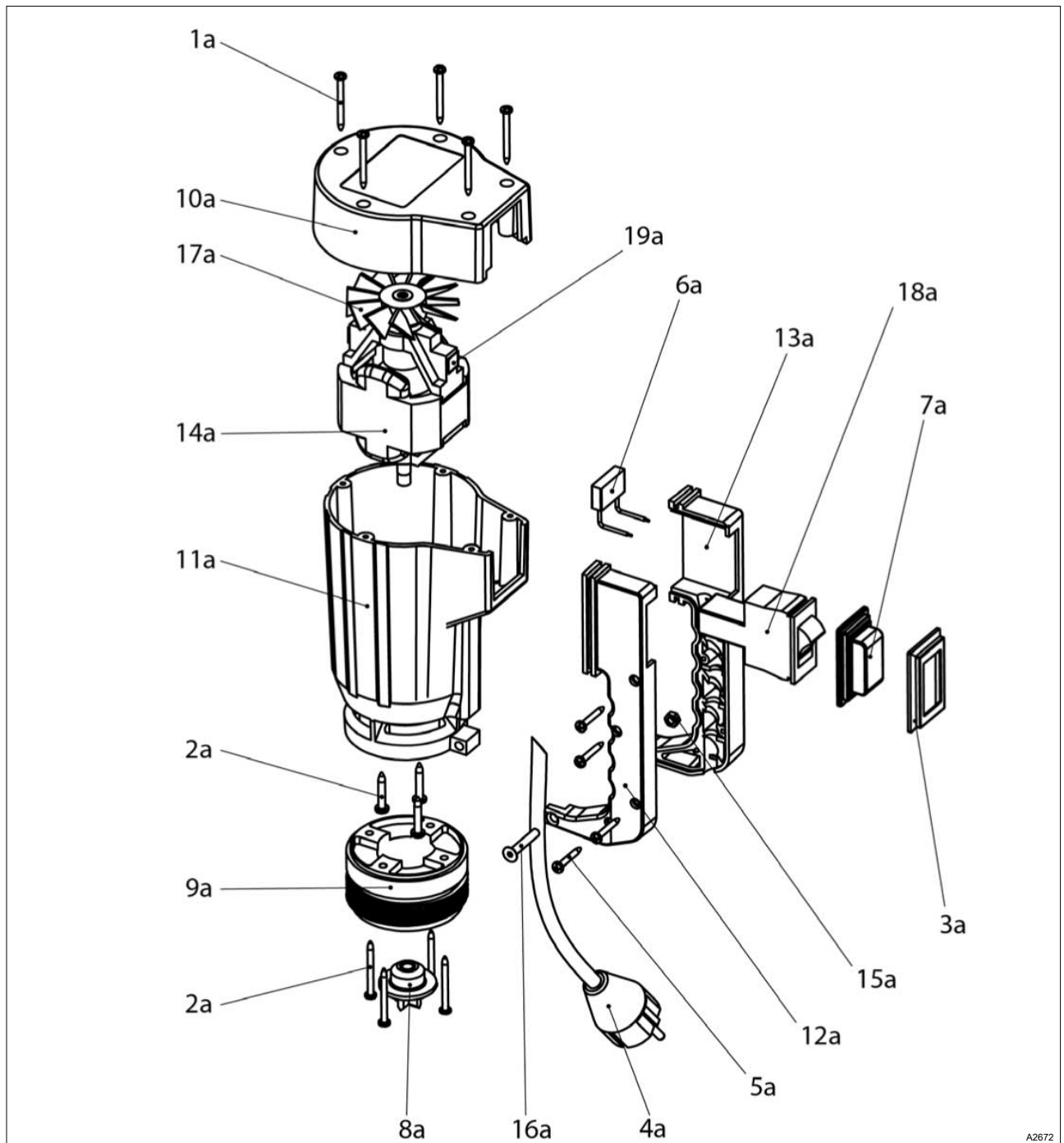


Fig. 9: Spare parts drawing for the motor.

*Tab. 6: Spare parts list for the motor*

Position	Description	Quantity	Order number
1a	Oval-head screw VA	5	8015
2a	Oval-head screw VA	7	8017
3a	Switch frame	1	8038
4a	Cable 2-pin with earthed plug	1	8039
5a	Oval-head screw VA	4	8045
6a	Interference suppressor 220 ... 240 V	1	8056
7a	Switch cover	1	8073
8a	Motor coupling	1	8333
9a	Connecting flange	1	8450
10a	Motor cover	1	8451
11a	Motor housing	1	8452
12a	Handle, left-hand part	1	8453
13a	Handle, right-hand part	1	8454
14a	Motor package 450 watts	1	8472
15a	Hexagonal nut VA	1	8458
16a	Allen bolt VA	1	8459
17a	Impeller	1	8474
18a	Motor protection switch, 3 A, USP, 230 V	1	8714
19a	Carbon brushes	2	8473

### 7.3.4 Spare parts for the pump

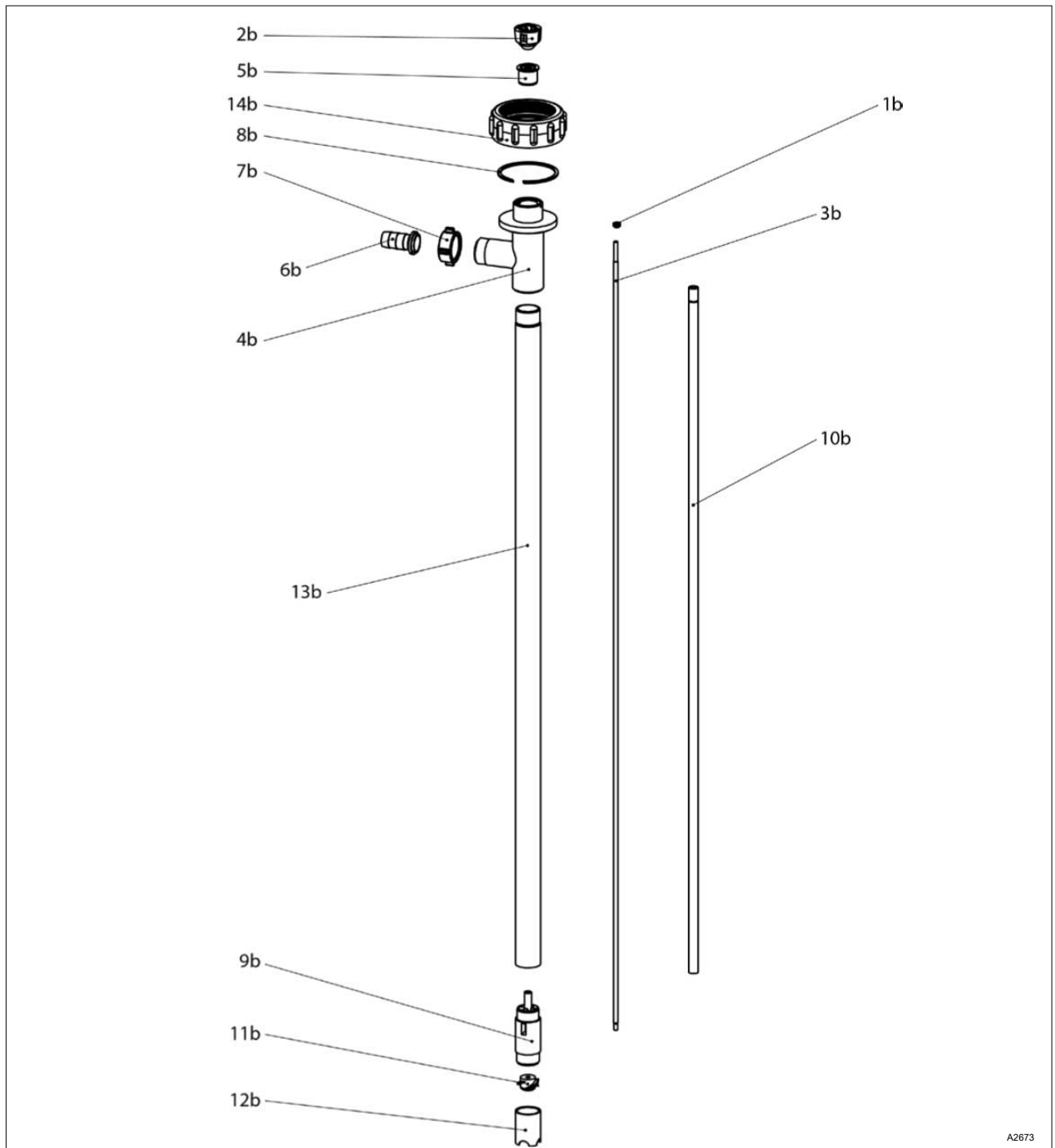


Fig. 10: Spare parts drawing for the pump.

Tab. 7: Spare parts list for the pump (PP design)

Position	Description	Quantity	Order number	Materials
1b	V-seal	1	4000	PTFE
2b	Coupling	1	1004	PA
3b	Drive shaft	1	1005	Hastelloy®
4b	Outlet piece	1	1013	PP
5b	Bearing unit (assembled)	1	1038	Steel
6b	Hose plug DN19	1	1021	PP
7b	Wing nut	1	1022	PP
8b	Retainer	1	1508	Spring steel
9b	Pump housing with PTFE bearing	1	1532	PP, PTFE
10b	Inner tube	1	1071	PP
11b	Rotor	1	1092	PP
12b	Pump foot	1	1095	PP
13b	Outer tube	1	1132	PP
14b	Connecting nut	1	1840	PP

Tab. 8: Spare parts list for the pump (PVDF version)

Position	Description	Quantity	Order number	Materials
1b	V-seal	1	4000	PTFE
2b	Coupling	1	1004	PA
3b	Drive shaft	1	1005	Hastelloy®
4b	Outlet piece	1	4013	PVDF
5b	Bearing unit (assembled)	1	1038	Steel
6b	Hose plug DN19	1	4021	PVDF
7b	Wing nut	1	4022	PVDF
8b	Retainer	1	1508	Spring steel
9b	Pump housing with PTFE bearing	1	4532	PVDF, PTFE
10b	Inner tube	1	4071	PVDF
11b	Rotor	1	4092	PVDF
12b	Pump foot	1	4095	PVDF
13b	Outer tube	1	4132	PVDF
14b	Connecting nut	1	1840	PP

### 7.3.5 Spare parts for the pump nozzle

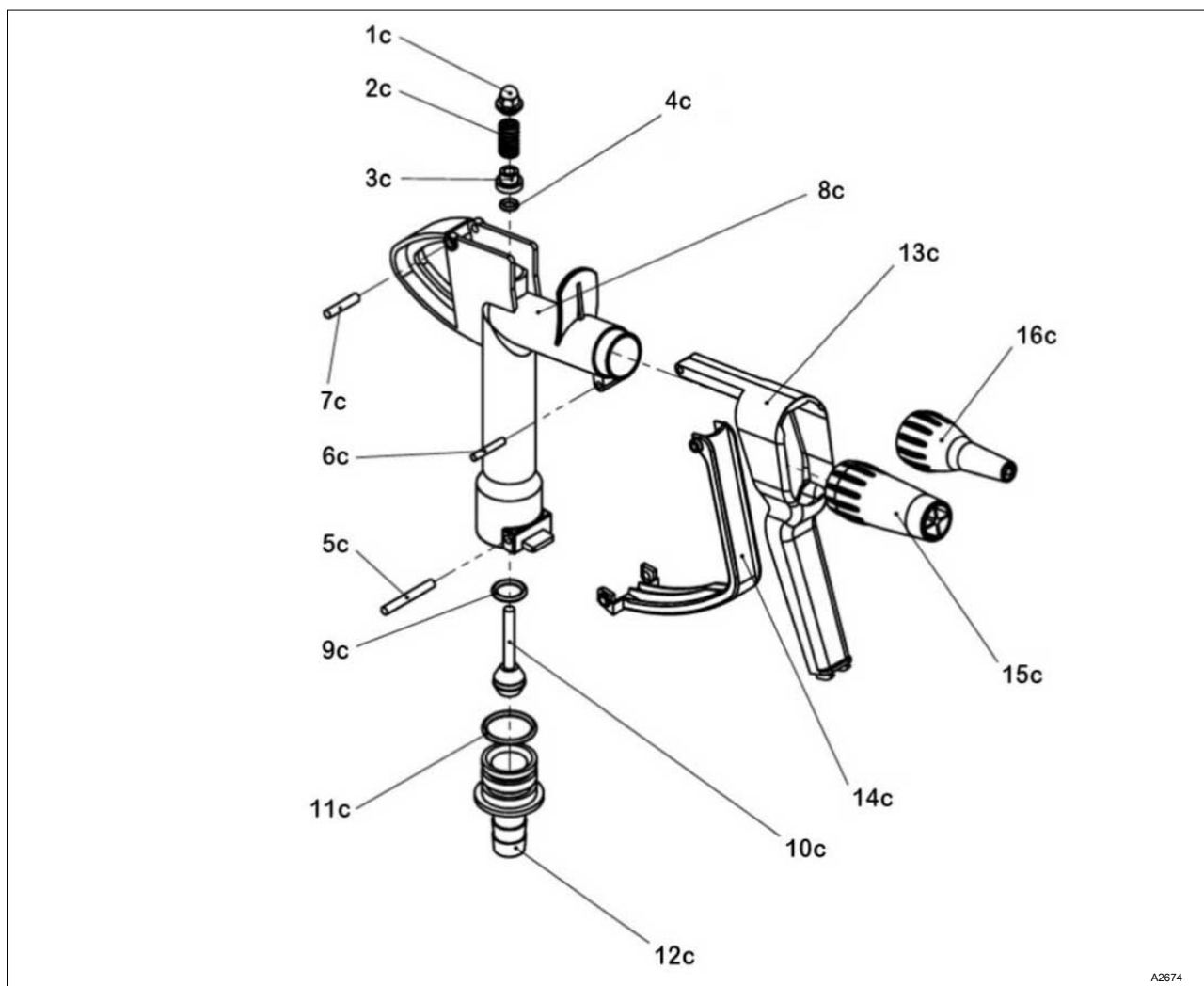


Fig. 11: Spare parts drawing for the pump nozzle.

Tab. 9: Spare parts list for the pump nozzle (PP design)

Position	Description	Quantity	Order number	Materials
1c	Domed nut	1	1135	PP
2c	Compression spring	1	1136	Stainless steel
3c	Seal mount	1	1137	PP
4c	O-ring	1	1138	FKM
5c	Distance pin Ø 5x40	1	1141	Stainless steel
6c	Distance pin Ø 5x25	1	1142	Stainless steel
7c	Distance pin Ø 4x25	1	1143	Stainless steel
8c	Housing	1	1144	PP
9c	O-ring	1	1145	FKM
10c	Valve rod	1	1148	PP
11c	O-ring	1	1149	FKM
12c	Hose plug DN19	1	1153	PP
13c	Manual lever	1	1155	PP

Position	Description	Quantity	Order number	Materials
14c	Bracket	1	1156	PP
15c	Nozzle Ø 20	1	1157	PP
16c	Nozzle Ø 9	1	1158	PP

Tab. 10: Spare parts list for the pump nozzle (PVDF version)


Position	Description	Quantity	Order number	Materials
1c	Domed nut	1	1159	PVDF
2c	Compression spring	1	1136	Stainless steel
3c	Seal mount	1	1160	PVDF
4c	O-ring	1	1138	FKM
5c	Distance pin Ø 5x40	1	1141	Stainless steel
6c	Distance pin Ø 5x25	1	1142	Stainless steel
7c	Distance pin Ø 4x25	1	1143	Stainless steel
8c	Housing	1	1161	PVDF
9c	O-ring	1	1145	FKM
10c	Valve rod	1	1162	PVDF
11c	O-ring	1	1149	FKM
12c	Hose plug DN19	1	1164	PVDF
13c	Manual lever	1	1155	PP
14c	Bracket	1	1156	PP
15c	Nozzle Ø 20	1	1166	PVDF
16c	Nozzle Ø 9	1	1167	PVDF

### 7.3.6 Accessories

Tab. 11: Accessories

Description	Quantity	Order number
Barrel threaded connector (PP) Ø 32, with thread G 2	1	9080

## 8 Disposal of used parts

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9



### NOTICE!

#### Regulations governing the disposal of used parts

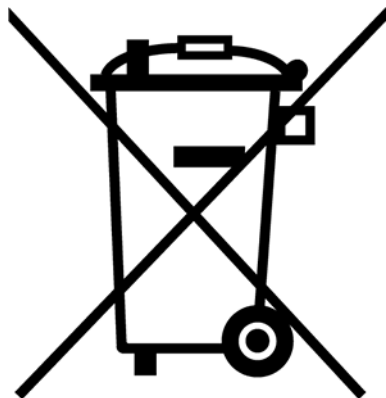
- Note the national regulations and legal standards that currently apply in your country

The manufacturer will take back decontaminated used devices providing they are covered by adequate postage.

Decontaminate the device before returning it for repair. To do so, remove all traces of hazardous substances. Refer to the Material Safety Data Sheet for your feed chemical.

A current Declaration of Decontamination is available to download on the ProMinent website.

Sign indicating EU collection system



In accordance with the European Directive 2012/19/EU on waste electrical and electronic equipment, this device features the symbol showing a waste bin with a line through it. The device must not be disposed of along with domestic waste. To return the device, use the return and collection systems available and observe the local legal requirements.





## 9 Technical data at a glance

### 9.1 Technical data, PP version

Tab. 12: Part no. 1098490. PP version

Parameter	Value/Design
Pump type	DULCO Trans 32/700 PP
Feed rate*)	49 l/min
Max. delivery height	10 m
Max. viscosity	400 mPas
Max. medium temperature	< 50 °C max.
Medium density	1.3 kg/dm³
Immersion tube length, measured from the end of the pump foot to the middle of the pressure nozzle	700 mm
Suction tube outer diameter	32 mm
Wetted materials	PP, Hastelloy®, PTFE, FKM, PVC
Pump housing	PP
Shaft	Hastelloy®
Rotor	PP
Axial face seal	none
Seals	PTFE (pump), FKM (pump nozzle)
Hose	PVC with fabric insert 2 m, DN19
Pump nozzle	PP, DN19
Hose connection	DN19
Hose clamps	2 no., stainless steel 1.4301
Drum adapter	Ø 32, with G 2 thread
Motor performance	450 W
Motor IP protection	IP 24
Voltage	230 VAC; 1~; 50 Hz / 60 Hz
Nominal current	1.96 A
Undervoltage trigger	with
Overcurrent protection switch	with
speed control	none
Connecting cable	5 m with earthed plug
Motor colour	yellow
Colour of top part of housing	blue
Weight	5.9 kg
Dimensions HxWxD	986 x 230 x 110 mm
*) Measured values ± 5 %, test medium: water 20 °C, 1" pressure pipe, oval wheel meter	

## 9.2 Technical data, PVDF version

Tab. 13: Part no. 1098492. PVDF version

Parameter	Value/Design
Pump type	DULCO Trans 32/700 PVDF
Feed rate*)	49 l/min
Max. delivery height	10 m
Max. viscosity	400 mPas
Max. medium temperature	< 90 °C max.
Medium density	1.3 kg/dm <sup>3</sup>
Immersion tube length, measured from the end of the pump foot to the middle of the pressure nozzle	700 mm
Suction tube outer diameter	32 mm
Wetted materials	PVDF, Hastelloy®, PTFE, PE, FKM
Pump housing	PVDF
Shaft	Hastelloy®
Rotor	PVDF
Axial face seal	none
Seals	PTFE (pump), FKM (pump nozzle)
Hose	PE 2 m, DN19
Pump nozzle	PVDF, DN19
Hose connection	DN19
Hose clamps	2 no., stainless steel 1.4301
Drum adapter	Ø 32, with G 2 thread
Motor performance	450 W
Motor IP protection	IP 24
Voltage	230 VAC; 1~; 50 Hz / 60 Hz
Nominal current	1.96 A
Undervoltage trigger	with
Overcurrent protection switch	with
speed control	none
Connecting cable	5 m with earthed plug
Motor colour	yellow
Colour of top part of housing	blue
Weight	7.9 kg
Dimensions HxWxD	986 x 230 x 110 mm

\*) Measured values ± 5 %, test medium: water 20 °C, 1" pressure pipe, oval wheel meter

### 9.3 Performance diagram

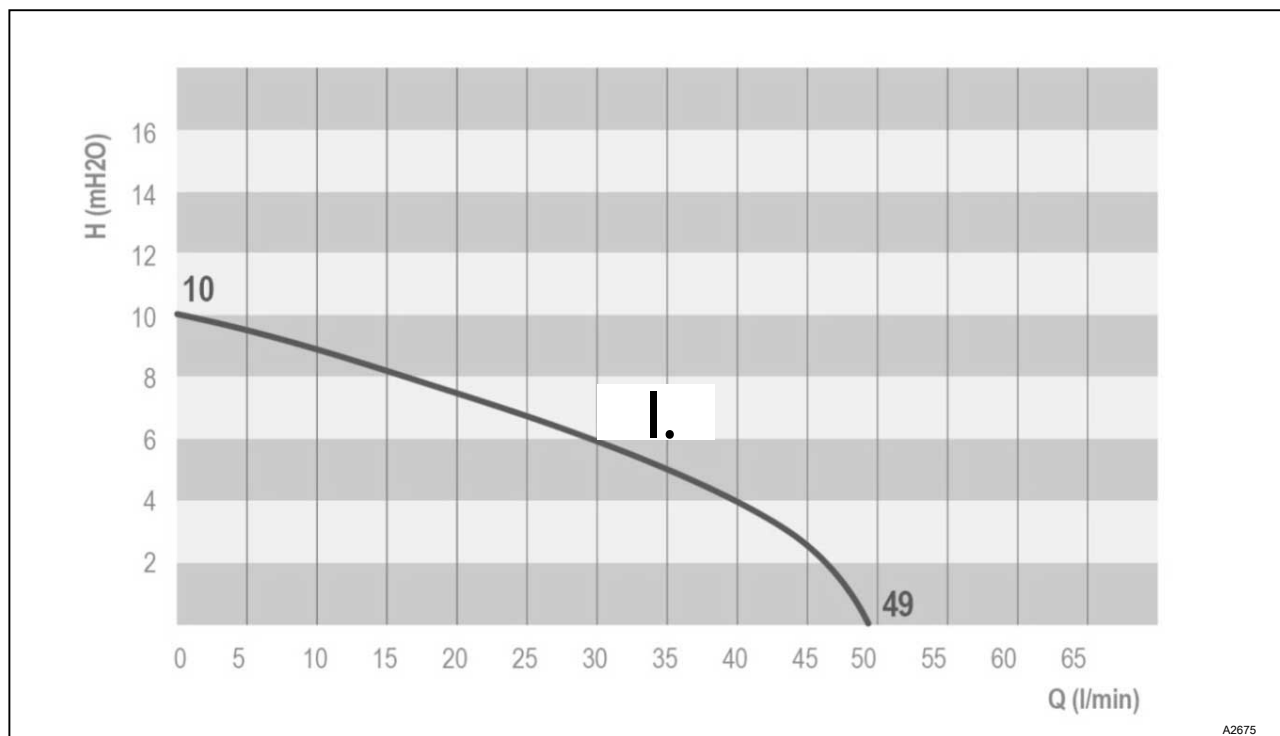


Fig. 12: Performance diagram. Measured values  $\pm 5\%$ , test medium: water 20 °C, 1" pressure pipe, oval wheel meter.

I. Rotor

### 9.4 Dimensional drawing with main dimensions

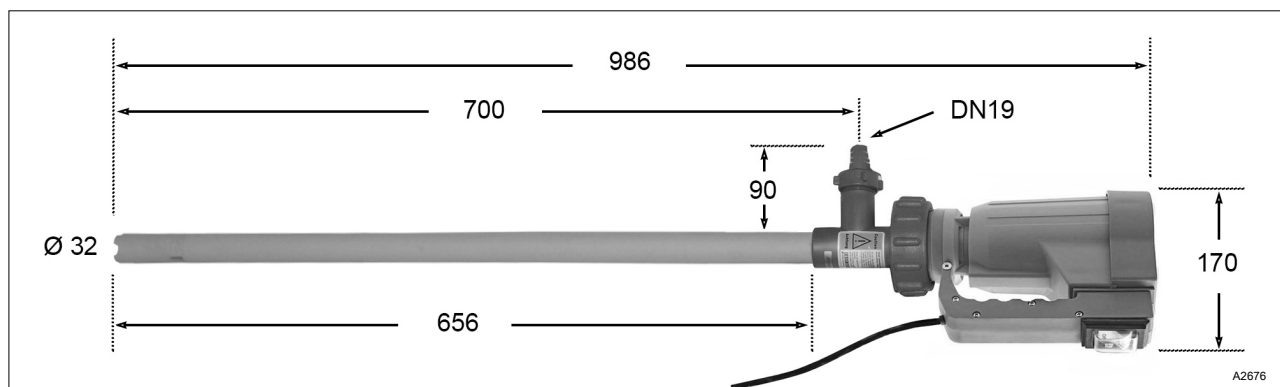


Fig. 13: Dimensional drawing with main dimensions, all measurements in mm.

## 10 EC / EU Declaration of Conformity for Machinery

In accordance with DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Appendix I, BASIC HEALTH AND SAFETY REQUIREMENTS, section 1.7.4.2. C.

We,

- ProMinent GmbH
- Im Schuhmachergewann 5 - 11
- D - 69123 Heidelberg, Germany,

hereby declare that the product specified in the following, complies with the relevant basic health and safety requirements of the Directive, on the basis of its functional concept and design and in the version distributed by us.

Any modification to the product not approved by us invalidates this declaration.

Tab. 14: Extract from the EC/EU Declaration of Conformity

Designation of the product:	Barrel pump
Product type:	DULCO®trans
Serial number:	see nameplate on the device
Relevant EC Directives:	EC Machinery Directive (2006/42/EC) Compliance with the protection targets of the Low Voltage Directive 2014/35/EU according to Appendix I, No. 1.5.1 of the Machinery Directive 2006/42/EC. EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU)
Harmonised standards applied, in particular:	EN ISO 12100:2010 EN 809:1998 + A1:2009 + AC:2010 EN 60335-2-41:2003 + A1:2004 + A2:2010 EN 55014-1:2006 + A1:2009 + A2:2011 EN 55014-2:1997 + A1:2001 + A2:2008 EN 50581:2012
Place, Date:	Heidelberg, 1.02.2019

The EC Declaration of Conformity is available to download on our website [www.prominent.com](http://www.prominent.com).

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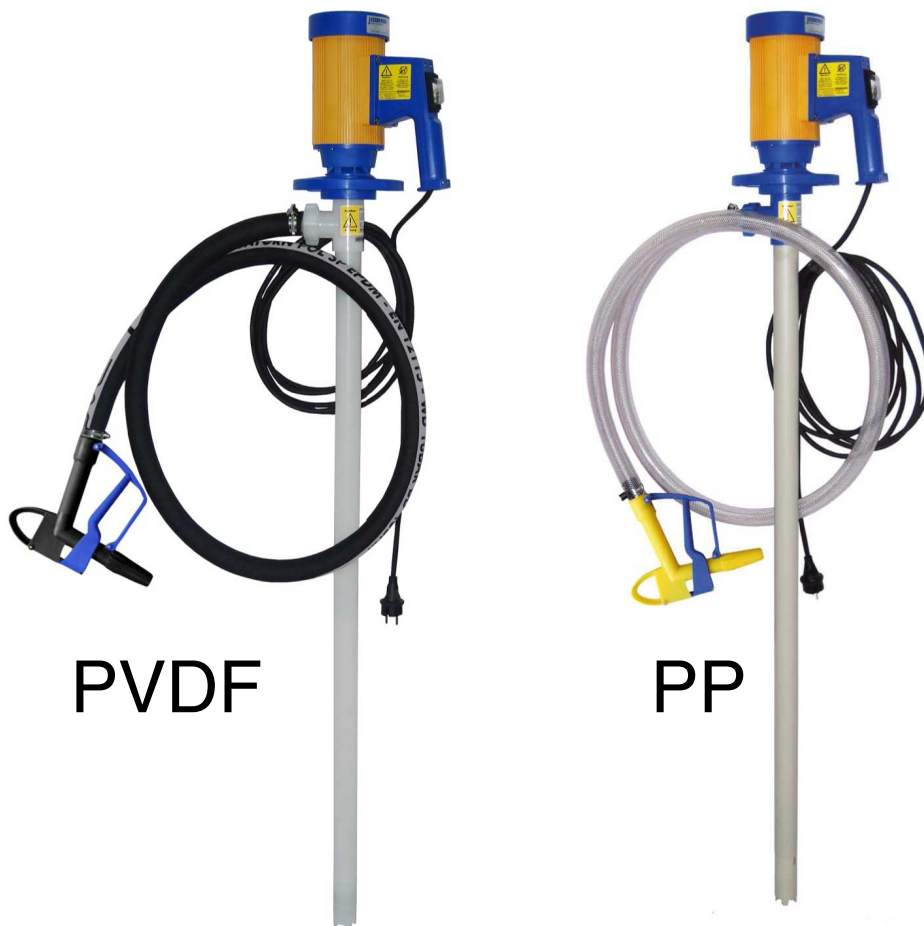
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# Assembly and operating instructions

## Barrel pump

### DULCO®Trans 41/1000 PVDF or PP

EN



PVDF

PP

A2670

Please carefully read these operating instructions before use. · Do not discard.  
The operator shall be liable for any damage caused by installation or operating errors.  
The latest version of the operating instructions are available on our homepage.

*MaharFan*



### General non-discriminatory approach

In order to make it easier to read, this document uses the male form in grammatical structures but with an implied neutral sense. It is aimed equally at both men and women. We kindly ask female readers for their understanding in this simplification of the text.

### Supplementary information

➡ Please read the supplementary information in its entirety.

#### Information



*This provides important information relating to the correct operation of the unit or is intended to make your work easier.*

#### Warning information

Warning information includes detailed descriptions of the hazardous situation, see ➡ Chapter 2.1 'Labelling of Warning Information' on page 7.

The following symbols are used to highlight instructions, links, lists, results and other elements in this document:

Tab. 1: More symbols

Symbol	Description
1. ➡	Action, step by step.
⇒	Outcome of an action.
➡	Links to elements or sections of these instructions or other applicable documents.
■	List without set order.
[Button]	Display element (e.g. indicators). Operating element (e.g. button, switch).
'Display /GUI'	Screen elements (e.g. buttons, assignment of function keys).
CODE	Presentation of software elements and/or texts.

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# 1 Function, resistance and scope of delivery

## Function

Barrel pumps are the ideal solution when liquids have to be moved. The unit is used for bottling, draining and transferring non-flammable and non-explosive liquids from canisters, hobbicks, drums, storage tanks and containers.

Device	Max. pump capacity	Max. delivery height	Order number
DULCO®Trans 41/1000 PP	93 l/min*	11.0 m	1098491
DULCO®Trans 41/1000 PVDF	93 l/ min*	11.0 m	1098493

\* The pump capacity is also measured with water at 20 °C, a 1" pressure pipe and an oval wheel meter.

## Chemical resistance



*The field of application of the unit depends on the chemical resistance of the materials used.*

Tab. 2: Wetted materials of the unit, PP version:

Component	Material
External and internal pipe, pump nozzle	PP
Drive shaft	Hastelloy® C
Rotor	PP
Metering hose	PVC with woven inner layer

The resistance list, which is continually updated, can be found on the manufacturer's homepage [www.prominent.com](http://www.prominent.com)

Tab. 3: Wetted materials of the unit, PVDF version:

Component	Material
External and internal pipe, pump nozzle	PVDF
Drive shaft	Hastelloy® C
Rotor	PVDF
Metering hose	Cross-linked PE

The resistance list, which is continually updated, can be found on the manufacturer's homepage [www.prominent.com](http://www.prominent.com)

Nameplate

**DULCO® Trans 41/1000 PP**

Mat. - Nr.: 1098491

Ser.- Nr.: E 180 XXX XX

230V 50/60Hz 640 W 2,82A, IP24

Bedienungsanleitung beachten !

Observe Operating Instructions !

Mode d'emploi est à observer !

ProMinent GmbH

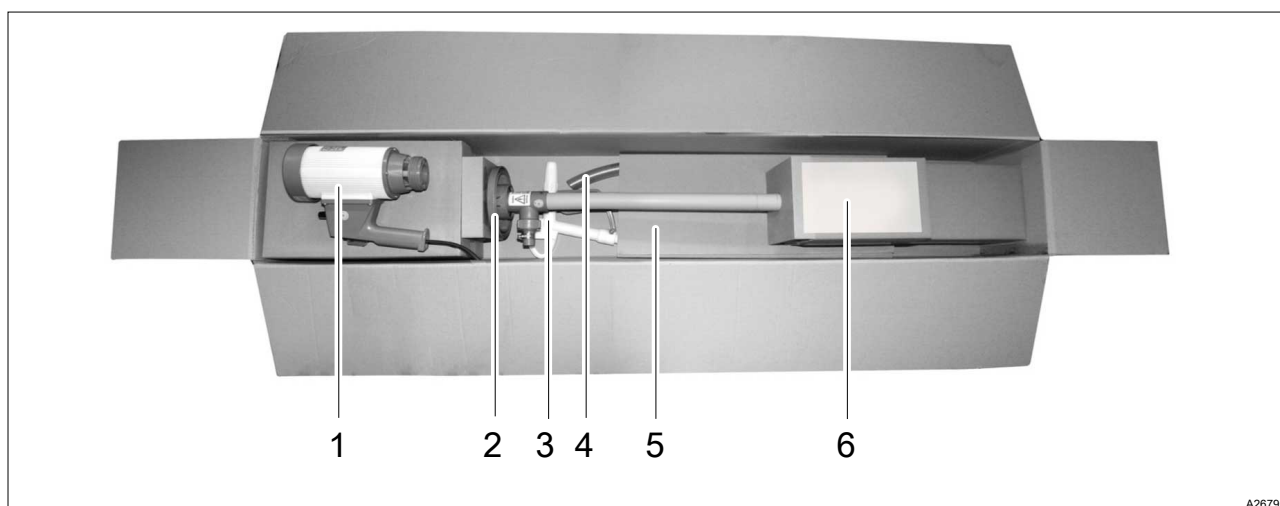
Heidelberg - Germany



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Fig. 1: Nameplate on the pump housing, PP version.

Scope of delivery

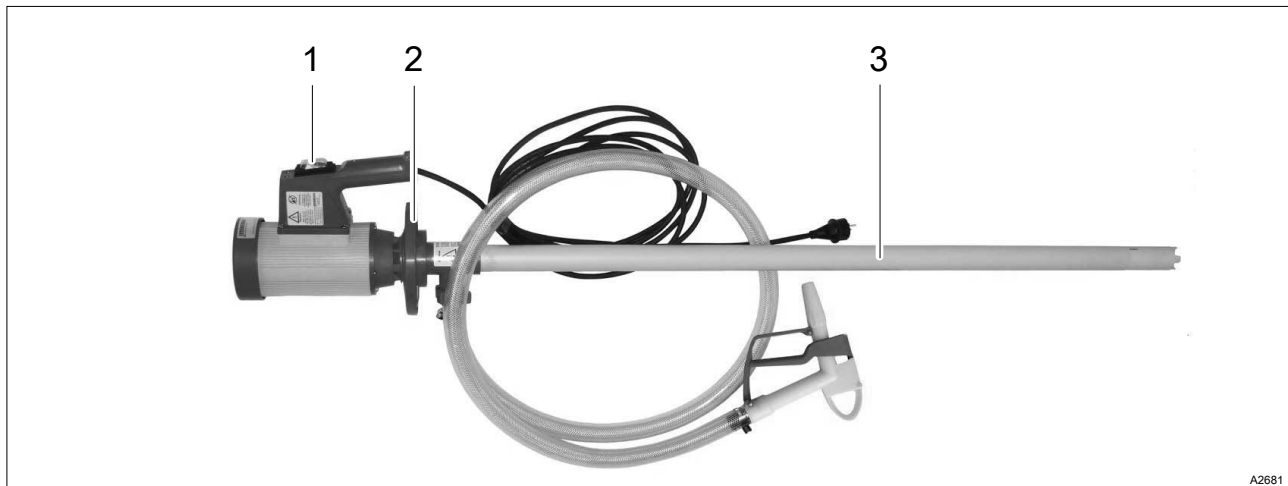


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Fig. 2: A2679

- |   |  |   |                                     |
|---|--|---|-------------------------------------|
| 1 | Barrel pump motor                          | 4 | Metering hose                       |
| 2 | Pump                                       | 5 | Packaging                           |
| 3 | Pump nozzle assembled on the metering hose | 6 | Assembly and operating instructions |

### Overview of the key components



*Fig. 3: Overview of the key components, PP version.*

- 1 On/off switch.
- 2 Connecting nut.
- 3 Suction tube.

## 2 Safety chapter

### 2.1 Labelling of Warning Information

#### Introduction

These operating instructions provide information on the technical data and functions of the product. These operating instructions provide detailed warning information and are provided as clear step-by-step instructions.

The warning information and notes are categorised according to the following scheme. A number of different symbols are used to denote different situations. The symbols shown here serve only as examples.



#### **DANGER!**

##### **Nature and source of the danger**

Consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger.

Description of hazard

- Denotes an immediate threatening danger. If the situation is disregarded, it will result in fatal or very serious injuries.



#### **WARNING!**

##### **Nature and source of the danger**

Possible consequence: Fatal or very serious injuries.

Measure to be taken to avoid this danger.

- Denotes a possibly hazardous situation. If the situation is disregarded, it could result in fatal or very serious injuries.



#### **CAUTION!**

##### **Nature and source of the danger**

Possible consequence: Slight or minor injuries. Material damage.

Measure to be taken to avoid this danger.

- Denotes a possibly hazardous situation. If the situation is disregarded, it could result in slight or minor injuries. May also be used as a warning about material damage.



#### **NOTICE!**

##### **Nature and source of the danger**

Damage to the product or its surroundings.

Measure to be taken to avoid this danger.

- Denotes a possibly damaging situation. If the situation is disregarded, the product or an object in its vicinity could be damaged.



***Type of information***

*Hints on use and additional information.*

*Source of the information. Additional measures.*

- *Denotes hints on use and other useful information. It does not indicate a hazardous or damaging situation.*

## 2.2 User qualification



### WARNING!

**Danger of injury with inadequately qualified personnel**

**The operator of the system / equipment is responsible for ensuring that the qualifications are fulfilled.**

If inadequately qualified personnel work on the unit or loiter in the hazard zone of the unit, this could result in dangers that could cause serious injuries and material damage.

- All work on the unit should therefore only be conducted by qualified personnel.
- Unqualified personnel should be kept away from the hazard zone.

The pertinent accident prevention regulations, as well as all other generally acknowledged safety regulations, must be adhered to.

Training	Definition
Instructed personnel	An instructed person is deemed to be a person who has been instructed and, if required, trained in the tasks assigned to him and possible dangers that could result from improper behaviour, as well as having been instructed in the required protective equipment and protective measures.
Trained user	A trained user is a person who fulfils the requirements made of an instructed person and who has also received additional training specific to the system from the manufacturer or another authorised distribution partner.
Trained, qualified personnel	A trained, qualified employee is deemed to be a person who is able to assess the tasks assigned to him and recognize possible hazards based on his training, knowledge and experience, as well as knowledge of pertinent regulations. A trained, qualified employee must be able to perform the tasks assigned to him independently with the assistance of drawing documentation and parts lists. The assessment of a person's technical training can also be based on several years of work in the relevant field.
Electrical technician	An electrical technician is able to complete work on electrical systems and recognise and avoid possible dangers independently based on his technical training and experience as well as knowledge of pertinent standards and regulations. An electrical technician must be able to perform the tasks assigned to him independently with the assistance of drawing documentation, parts lists, terminal and circuit diagrams. The electrical technician must be specifically trained for the working environment in which the electrical technician is employed and be conversant with the relevant standards and regulations.
Service	The Service department refers to service technicians, who have received proven training and have been authorised by the manufacturer to work on the system.

## 2.3 Intended Use

- The barrel pump is used for the fast and safe drainage or transfer of storage tanks, drums and container.
- Depending on its design, the barrel pump can pump non-flammable liquids of all kinds.



- The collector motor is used to drive the barrel pump in areas not at risk of explosion and is used for non-flammable liquids.
- The pump nozzle is used for the bottling of liquids.
- Barrel pump, motor and pump nozzle are suitable for protected use indoors and may not be exposed to weathering.
- The barrel pump, motor and pump nozzle are intended for commercial use.

## 2.4 Foreseeable Misuse

- The barrel pump and its accessories are not intended to be used by untrained people and by people with restricted physical, sensory or mental capabilities.
- Children should be supervised to ensure that they do not play with the unit.
- The use of the pump nozzle is not permitted in petrol filling stations (TRBF40).
- The pumping of flammable liquids is not permitted.
- Operation in areas at risk of explosion is not permitted.

## 2.5 Safety

This chapter gives an overview of all the important safety aspects for the protection of individuals as well as for safe and fault-free operation of the product. Other task-specific warning information can be found in the individual action sequences.

The following chapters describe the residual risks that use of this unit presents even when used as intended. Please refer to the safety information listed here and comply with the warning information in the later chapters of these instructions to reduce these risks of personal injury and material damage and avoid hazardous situations.

### 2.5.1 Safety information for pump and motor



#### **WARNING!**

#### **Danger from hazardous substances!**


Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.


**Non-observance of the safety information**

*Non-observance of the safety information can lead to damage to people and the environment and also result in damage to the motor and pump.*

- In the event of an emergency, disconnect from the mains power supply.
- The motor is not explosion-protected.
- Do not leave the pump operating unsupervised.
- Do not use the pump in areas at risk from explosion.
- Never pump flammable liquids.
- Only use the pump for its intended purpose, see  Chapter 2.3 'Intended Use' on page 9
- The pump is operated vertically.
- Set up the pump so that it cannot fall into the storage tank.
- Regularly check the pump and hose for operational safety.
- Regularly check the motor in accordance with statutory/ country-specific regulations and accident prevention regulations, in Germany such as in accordance with BGV A3.
- Secure the motor against accidental start-up. The pump can start up as soon as the mains plug has been inserted.
- Before plugging in the mains plug, turn the On/Off switch to "0".
- The motor does not restart automatically following power failure.
- Only immerse the pump in the liquid as far as the pressure nozzle.
- Only allow the pump to stand in the liquid while it is pumping.
- Use the pump up to a maximum liquid temperature of 50 °C (PP version) or a maximum liquid temperature of 90 °C (PVDF version).
- Ambient temperature: + 1 °C ... + 40 °C.
- Note any escaping air and displace volume when immersing the pump in the water. Immerse the pump carefully and slowly.
- Use a spray guard with open drums or storage tanks.
- Remove any spilled liquid and dispose of it in an environmentally-friendly manner, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Note any internal instructions.
- Wear protective clothing, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not expose the pump to weathering.
- Clean the pump after each use, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not store the pump in aggressive fumes.

## 2.5.2 Safety information for the pump nozzle



### **WARNING!**

#### **Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.



### ***Non-observance of the safety information***

*Non-observance of the safety information can lead to damage to people and the environment and also result in damage to the pump nozzle.*

- Only pump clean liquids.
- When using, note the maximum operating pressure of 2 bar at 50 °C (PP design) or 2 bar at 60 °C (PVDF design). The pump nozzle can bounce back.
- When filling into a storage tank, make sure that no overpressure can build up in this storage tank. Danger from spraying liquids.
- Do not fill up too quickly to prevent the liquids from splashing out of the storage tank.
- Only bend the hose slightly to prevent too high mechanical stresses being exerted on the pump nozzle
- Only fill up using the pump nozzle under supervision, as the nozzle does not automatically shut off.
- Check during commissioning whether the manual lever returns automatically into its starting position.
- Use visual controls to regularly monitor the external condition of the pump nozzle.
- Allow the pump nozzle to drain at the end of the filling process.
- Regularly check to make sure that the hose clips are fixed securely.
- Remove any spilled liquid and dispose of it in an environmentally-friendly manner, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Note any internal instructions.
- Wear protective clothing, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not expose the pump nozzle to weathering.
- Clean the pump nozzle after each use, referring to the material safety data sheets issued by the manufacturer of the hazardous material.
- Do not store the pump nozzle in aggressive fumes.

## **2.6 Sound pressure level**

The sound pressure level is < 70 dB (A). This value was measured on the manufacturer's test stand.

## 3 Storage and Transport

- **User qualification:** instructed user, see ⓘ Chapter 2.2 'User qualification' on page 9

Environmental conditions for storage and transport:

- Permissible ambient temperature: +1 °C ... +40 °C.
- Humidity: maximum 90 % relative air humidity, non-condensing.
- Other: No dust, no direct sunlight.

### 3.1 Transport

The sensor should be transported in its original packaging and in compliance with the permissible environmental conditions. No further special conditions have to be observed in relation to transport.

### 3.2 Disposal of Packaging



#### **Packaging material**

*Dispose of packaging material in an environmentally responsible way. All packaging components carry the corresponding recycling code ♻️.*

## 4 Assembly and commissioning

- **User qualification:** instructed user, & Chapter 2.2 'User qualification' on page 9

### 4.1 Assembly of the pump

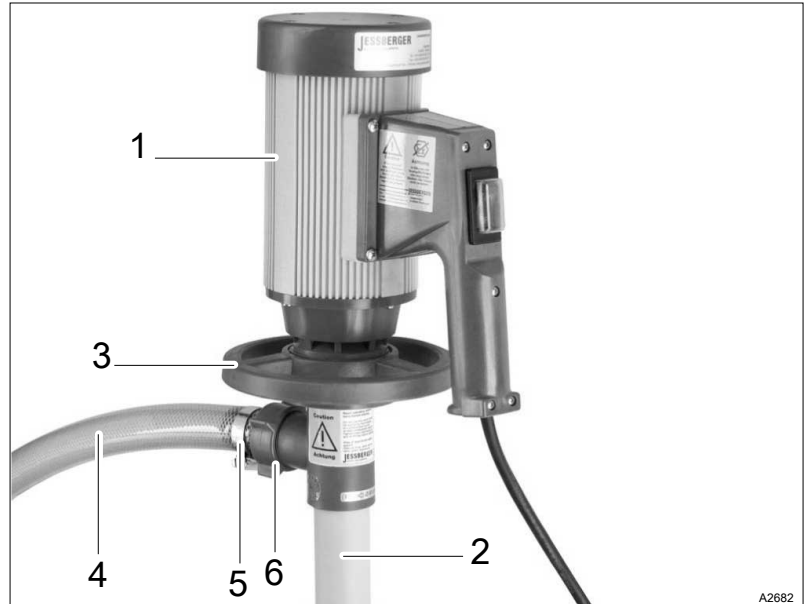


Fig. 4: Assembly.

1. ➔ Use the connecting nut (3) to connect the pump (2) and the motor (1).
2. ➔ Place the hose (4) (PVC = transparent, PE = black) on the hose plug (6) of the pump and use the hose clamp (5) to fix the hose in place.

### 4.2 Motor description and overcurrent tripping

Inner-ventilated universal motor with overcurrent switch and zero voltage trigger.


Repeated overloading can damage the motor. Overloading can be caused by high-viscosity liquids or liquids with a higher density than water.

- ➔ If the motor switches off due to overloading, reduce the viscosity and/or the density of the liquid.

#### Overcurrent trip:

- The motor switches off if the maximum current is exceeded.
- ➔ You can immediately switch on the motor again by actuating the On/Off switch.

## 5 Operation

- **User qualification:** instructed user,  Chapter 2.2 'User qualification' on page 9

**WARNING!****Electrical voltage**

Possible consequence: Fatal or very serious injuries.

- Before using, check the mains connection cable for damage.
- Keep the mains connection cable away from solvents.


**WARNING!****Danger from hazardous substances!**

Possible consequence: Fatal or very serious injuries.

Please ensure when handling hazardous substances that you have read the latest safety data sheets provided by the manufacture of the hazardous substance. The actions required are described in the safety data sheet. Check the safety data sheet regularly and replace, if necessary, as the hazard potential of a substance can be re-evaluated at any time based on new findings.

The system operator is responsible for ensuring that these safety data sheets are available and that they are kept up to date, as well as for producing an associated hazard assessment for the workstations affected.

***Threaded connector (union nut)***

- *Only operate the pump when the threaded connector (union nut) between the hose and pump is manually tightened, see  Chapter 4 'Assembly and commissioning' on page 15.*
- *Only switch on the motor if the pump's suction pipe is in the liquid.*

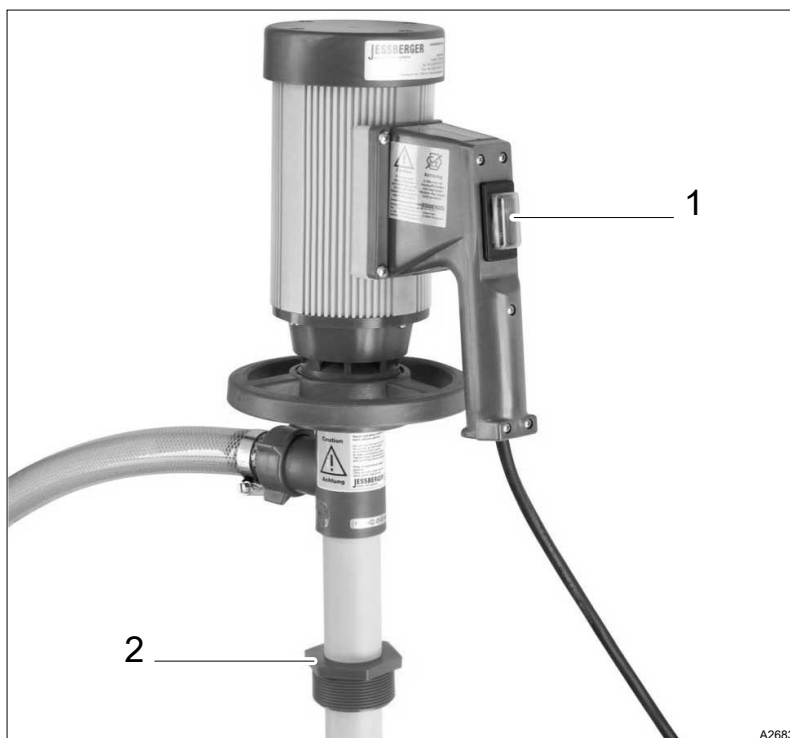


Fig. 5: Operating the pump

1. ➤ Fix the barrel threaded connector (2) to the barrel. Insert the pump into the liquid.
2. ➤ Check whether the manual lever of the pump nozzle returns automatically to its starting position.
  - ⇒ Never switch the pump on should this not be the case, as the pumping process could not therefore be regulated.
3. ➤ Compare the operating voltage observed with the data on the nameplate.
4. ➤ Before plugging in the mains plug, turn the On/Off switch (1) to "0".
5. ➤ Insert the mains plug.
  - ⇒ The pump is now ready for operation.
6. ➤ Use the On/Off switch to switch on the pump.
7. ➤ Press the pump nozzle's manual lever to pump the medium.




#### **Measures after use**

*Drain the pump, hose and fittings after each use.*

*Allow the pump nozzle to drain in a controlled manner after filling, as there can still be liquid in the outlet tube, which would otherwise flow out in an uncontrolled manner.*



## 6 Cleaning after each use

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9



### WARNING!

#### Change of medium = Clean the pump

Hazard from the chemical incompatibility of the media.

Possible consequence: Health risk and/or damage to the pump and/or medium.

Remedy: Always thoroughly clean the pump when the medium is changed. If you do not clean the pump, it can lead to incompatibility between the medium and pump or old medium and new medium. Refer to the material safety data sheet on the feed chemical.

### Cleaning using a suitable cleaning agent

Regular cleaning of the pump increases its service life and maintains the performance of the pump.

1. ➤ Note the resistance of the pump and the hose to the cleaning agent, referring to the reference list.
2. ➤ Use a suitable cleaning agent to rinse the pump, referring to the material safety data sheet for the medium. Never use flammable or explosive liquids.



Fig. 6: Lip (arrow) of the outlet nozzle.

3. ➤ Only immerse the pump in the cleaning agent as far as the lip (arrow) of the outlet nozzle and never immerse the pump fully.
4. ➤ Rinse the pump until the pump is clean.
  - ⇒ The pump is now ready for further use, also with a different medium.

## 7 Repair, faults and spare parts

### 7.1 Checks/repairs

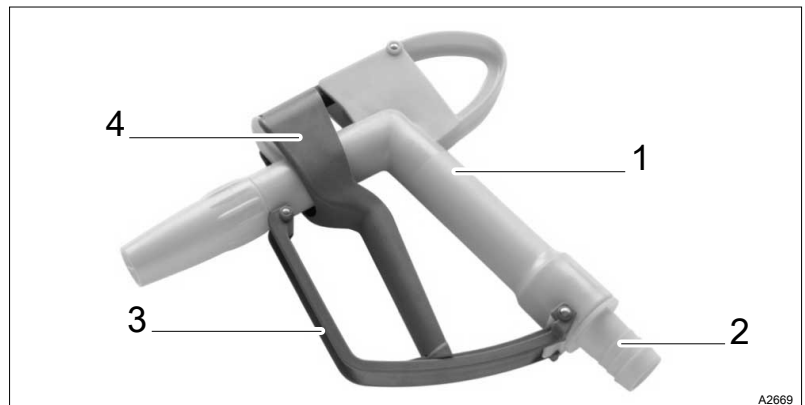
Replacing the hose connection or seal:

- **User qualification:** trained user, ↗ Chapter 2.2 'User qualification' on page 9



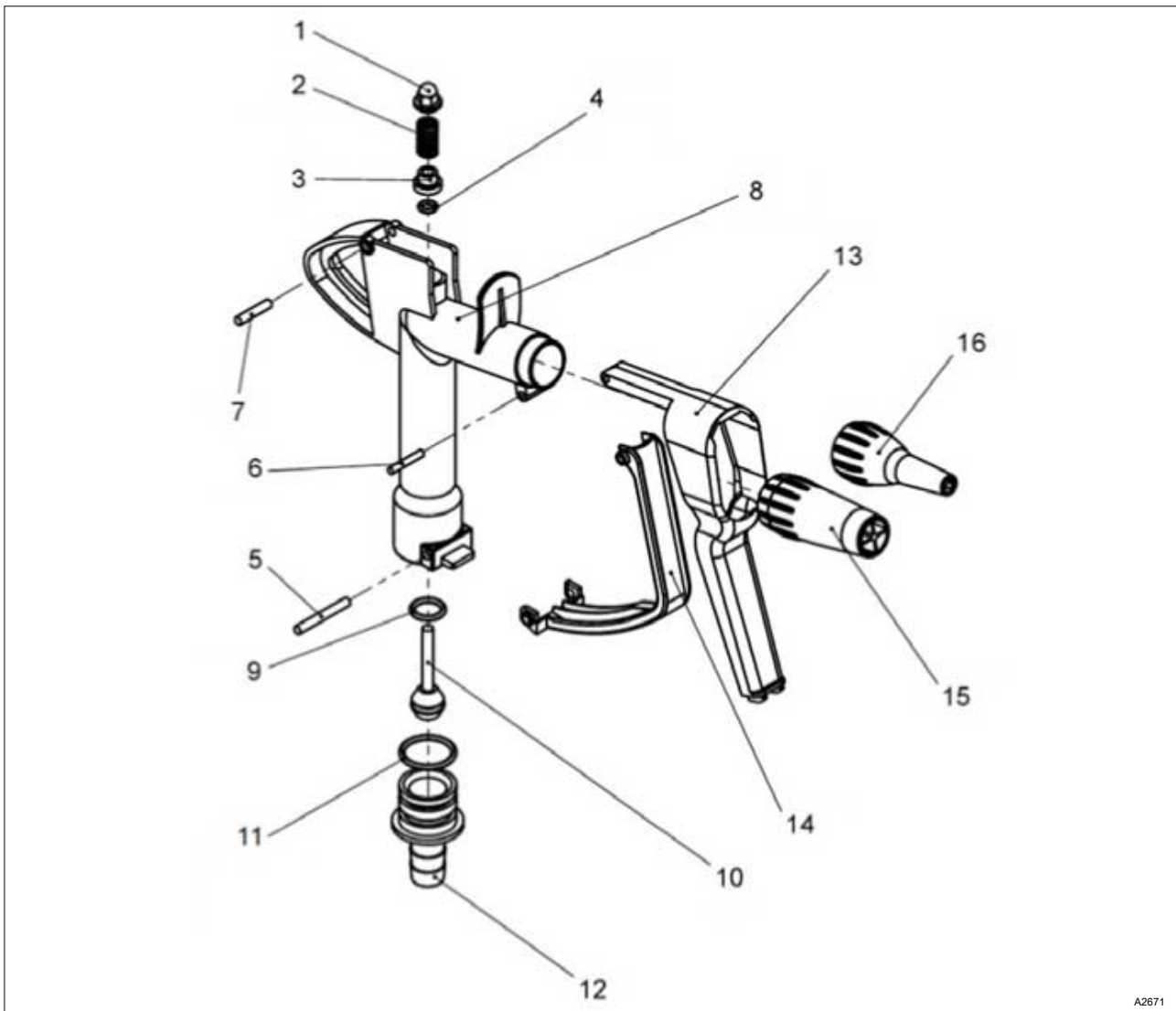
- Regularly check the pump in accordance with statutory/country-specific regulations and accident prevention regulations (in Germany such as in accordance with BGV A3).

*It is essential that all faulty parts are replaced. Preferably use genuine spare parts.*



*Fig. 7: Components of the pump nozzle (PP = yellow and Blue, PVDF = Black).*

1. Housing.
2. Hose connection.
3. Protective mounting bracket.
4. Manual lever.



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Fig. 8: Components of the pump nozzle (PP = yellow and Blue, PVDF = Black).

Please proceed as follows to replace the seals of the pump nozzle.

1. ➤ Disconnect the pump from the mains power supply.
2. ➤ Allow the hose and pump nozzle to run empty.
3. ➤ Clean the pump.
4. ➤ Remove the three grooved pins (5, 6 and 7) by pushing them out using a small pin. The stainless steel pin is wider at one side and can therefore only be removed in the direction of the wider end
5. ➤ Then first remove the bracket (14), the manual lever (13) and then the hose plug (12) on which the first (11) of a total of three seals is located.
6. ➤ Then block the hexagonal opening at the rear end of the valve rod (10) by inserting a long Allen key (size 8) into the nozzle body from the rear side of the pump nozzle on which you have removed the hose plug and blocking the hexagonal opening.

7. ➤



*A compression spring (2) sits behind the domed nut. When removing the domed nut, make sure that you are not injured by the spring when removing it as it is pressurised.*

Whilst holding the Allen key firmly with one hand, remove the domed nut (1) from the other side with a size 10 socket.

8. ➤ A seal mount (3) is located behind the spring at the rear end of which is located the second seal (4).
9. ➤ After removing the domed nut, the spring and the seal mount with the second seal, you can push out the valve rod (10) from this side towards the hose connection already removed and replace the third seal (9).
10. ➤ Clean and check all components.
11. ➤ Replace all faulty or defective parts.
12. ➤ Finally fit the pump nozzle in the reverse order to that already described and test the leak-tightness of the pump nozzle at the end of a water line with 3 ... 4 bar pressure.  
⇒ The pump nozzle is ready for use again.

## 7.2 Troubleshooting

- **User qualification:** trained user, see ➤ *Chapter 2.2 'User qualification' on page 9*

Fault	Cause	Solution
Manual lever on pump nozzle sticking.	Joint stuck.	Dismantle the pump nozzle, clean it and replace any faulty components if necessary.
Pump starts but does not pump.	Maximum delivery height and/or viscosity/density exceeded.	Adjust the delivery height and/or viscosity.
	Inner tube blocked.	Check and possibly clean inner tube.
	Couplings, rotor faulty.	Check the couplings and rotor and replace if necessary.

Please contact Service with all other faults. For contact data see the Legal Notices.

Check on the manufacturer's website [www.prominent.com](http://www.prominent.com) whether a more recent version of the operating instructions is available, as further remedies may have been developed in the meantime.

## 7.3 Spare parts for the DULCO®Trans

- **User qualification:** Service, see ➤ *Chapter 2.2 'User qualification' on page 9*.

Spare parts should only be ordered and fitted through Service.

### 7.3.1 Spare parts kit for DULCO®Trans 41/1000 PP

*Tab. 4: Spare parts kit (order number 1098500) for DULCO®Trans 41/1000 PP, parts list*

Pos.	Description	Material	Quantity	Order no.
16 a	Carbon brushes	Carbon	2	8080
21 a	Motor coupling	PA	1	8333
1 b	V-seal	PTFE	1	4000
2 b	Pump factory coupling	PA	1	1004
5 b	Bearing unit	Steel	1	1038
10 b	Pump housing with PTFE bearing	PP/PTFE	1	1524
12 b	Rotor	PP	1	1608
13 b	Pump foot	PP	1	1609

### 7.3.2 Spare parts kit for DULCO®Trans 41/1000 PVDF

*Tab. 5: Spare parts kit (order number 1098498) for DULCO®Trans 41/1000 PVDF, parts list*

Pos.	Description	Material	Quantity	Order no.
16 a	Carbon brushes	Carbon	2	8080
21 a	Motor coupling	PA	1	8333
1 b	V-seal	PTFE	1	4000
2 b	Pump factory coupling	PA	1	1004
5 b	Bearing unit	Steel	1	1038
10 b	Pump housing with PTFE bearing	PVDF/PTFE	1	4607
12 b	Rotor	PVDF	1	4608
13 b	Pump foot	PVDF	1	4609

### 7.3.3 Spare parts for the motor

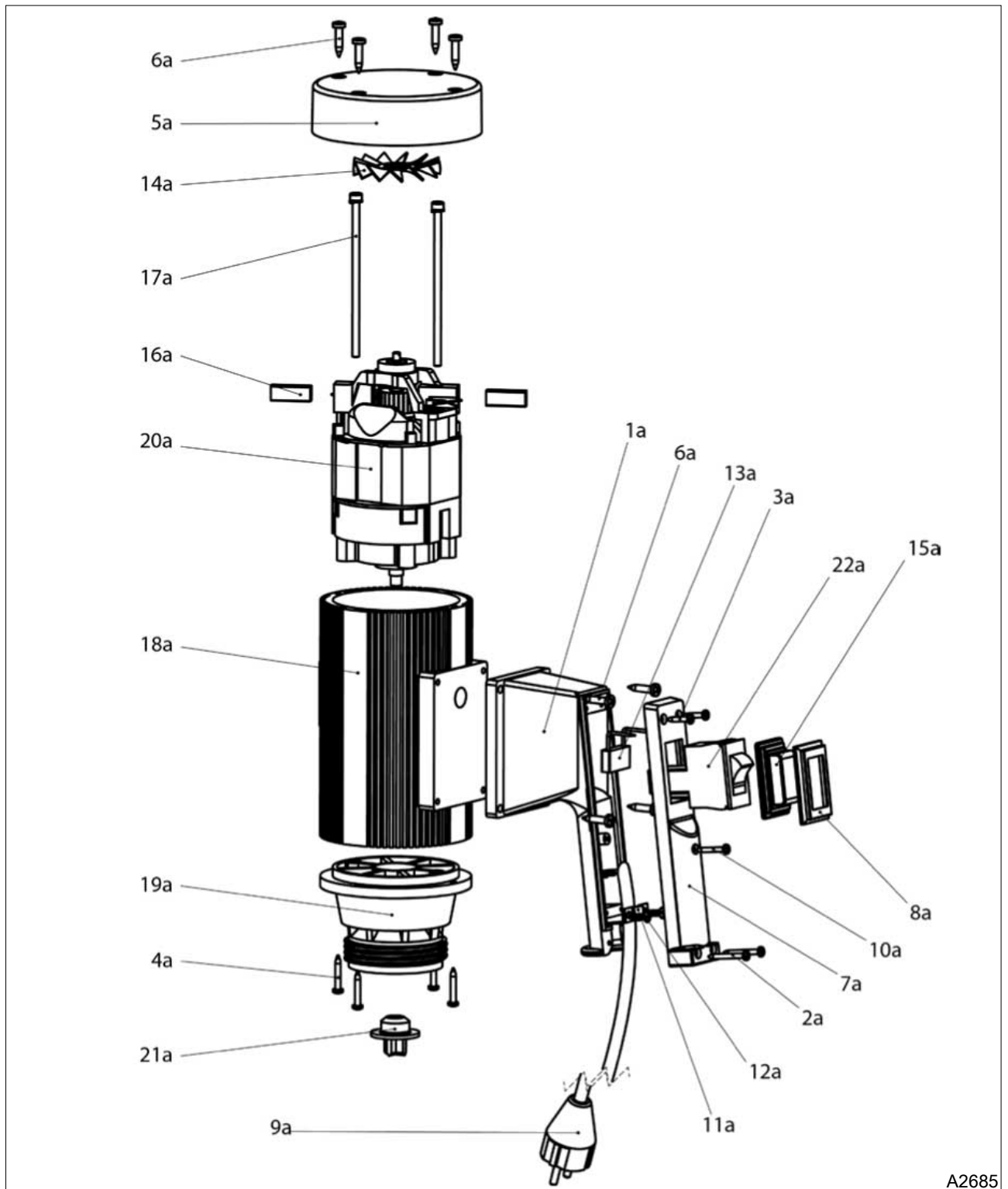


Fig. 9: Spare parts drawing for the motor.

*Tab. 6: Spare parts list for the motor*

Position	Description	Quantity	Order number
1a	Lower part of handle	1	8001
2a	Screw	2	8015
3a	Screw	2	8016
4a	Screw	4	8017
5a	Motor cover	1	8026
6a	Screw	8	8035
7a	Handle cover	1	8037
8a	Switch frame	1	8038
9a	5 m cable with earthed plug	1	8039
10a	Screw	1	8045
11a	Tension relief clamp	1	8046
12a	Screw	2	8047
13a	Spark interference filter	1	8056
14a	Impeller	1	8070
15a	Switch cover, transparent	1	8073
16a	Carbon brush	2	8080
17a	M5x110 screw	2	8081
18a	Motor housing	1	8082
19a	Lower bearing label	1	8083
20a	Motor package 230 V, 50 Hz	1	8180
21a	Motor coupling	1	8333
22a	Switch 230 V, 3.5 A, 50 Hz with USP	1	8708

### 7.3.4 Spare parts for the pump

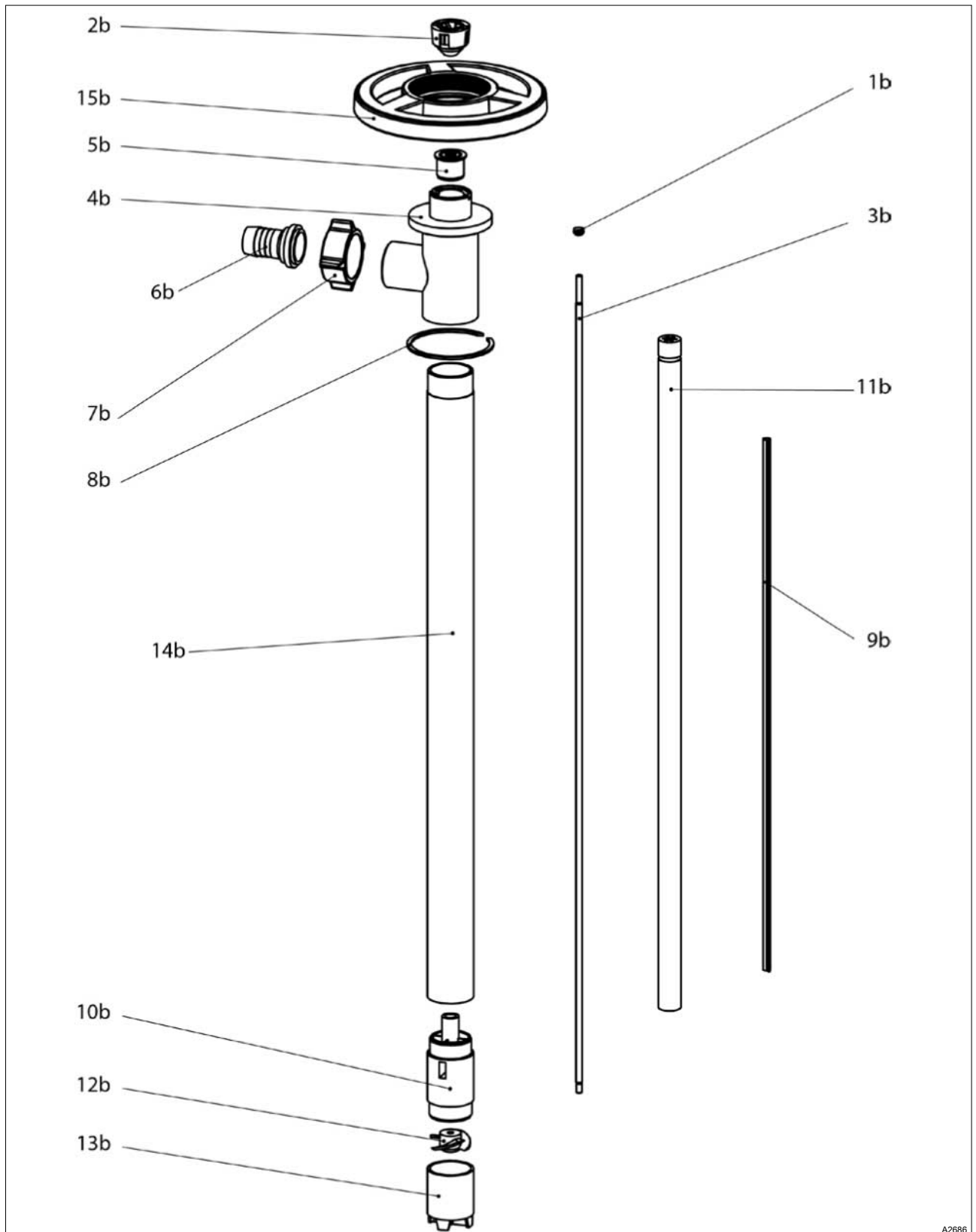


Fig. 10: Spare parts drawing for the pump.



Tab. 7: Spare parts list for the pump (PP design)

Position	Description	Quantity	Order number	Materials
1b	V-seal	1	4000	PTFE
2b	Coupling	1	1004	PA
3b	Drive shaft, Hastelloy®	1	1006	Hastelloy®
4b	Outlet piece	1	1028	PP
5b	Bearing unit (assembled)	1	1038	Steel
6b	Hose plug DN 19	1	1051	PP
7b	Wing nut	1	1106	PP
8b	Retainer	1	1508	Spring steel
9b	Teflon hose	1	1514	PTFE
10b	Pump housing with PTFE bearing	1	1524	PP, PTFE
11b	Inner tube	1	1601	PP
12b	Rotor	1	1608	PP
13b	Pump foot	1	1609	PP
14b	Outer tube	1	1611	PP
15b	Manual adjustment wheel	1	1842	PP

Tab. 8: Spare parts list for the pump (PVDF version)

Position	Description	Quantity	Order number	Materials
1b	V-seal	1	4000	PTFE
2b	Coupling	1	1004	PA
3b	Drive shaft, Hastelloy®	1	1006	Hastelloy®
4b	Outlet piece	1	4028	PVDF
5b	Bearing unit (assembled)	1	1038	Steel
6b	Hose plug DN 19	1	4051	PVDF
7b	Wing nut	1	4106	PVDF
8b	Retainer	1	1508	Spring steel
9b	Teflon hose	1	1514	PTFE
10b	Pump housing with PTFE bearing	1	4607	PVDF, PTFE
11b	Inner tube	1	4601	PVDF
12b	Rotor	1	4608	PVDF
13b	Pump foot	1	4609	PVDF
14b	Outer tube	1	4591	PVDF
15b	Manual adjustment wheel	1	1842	PP

### 7.3.5 Spare parts for the pump nozzle

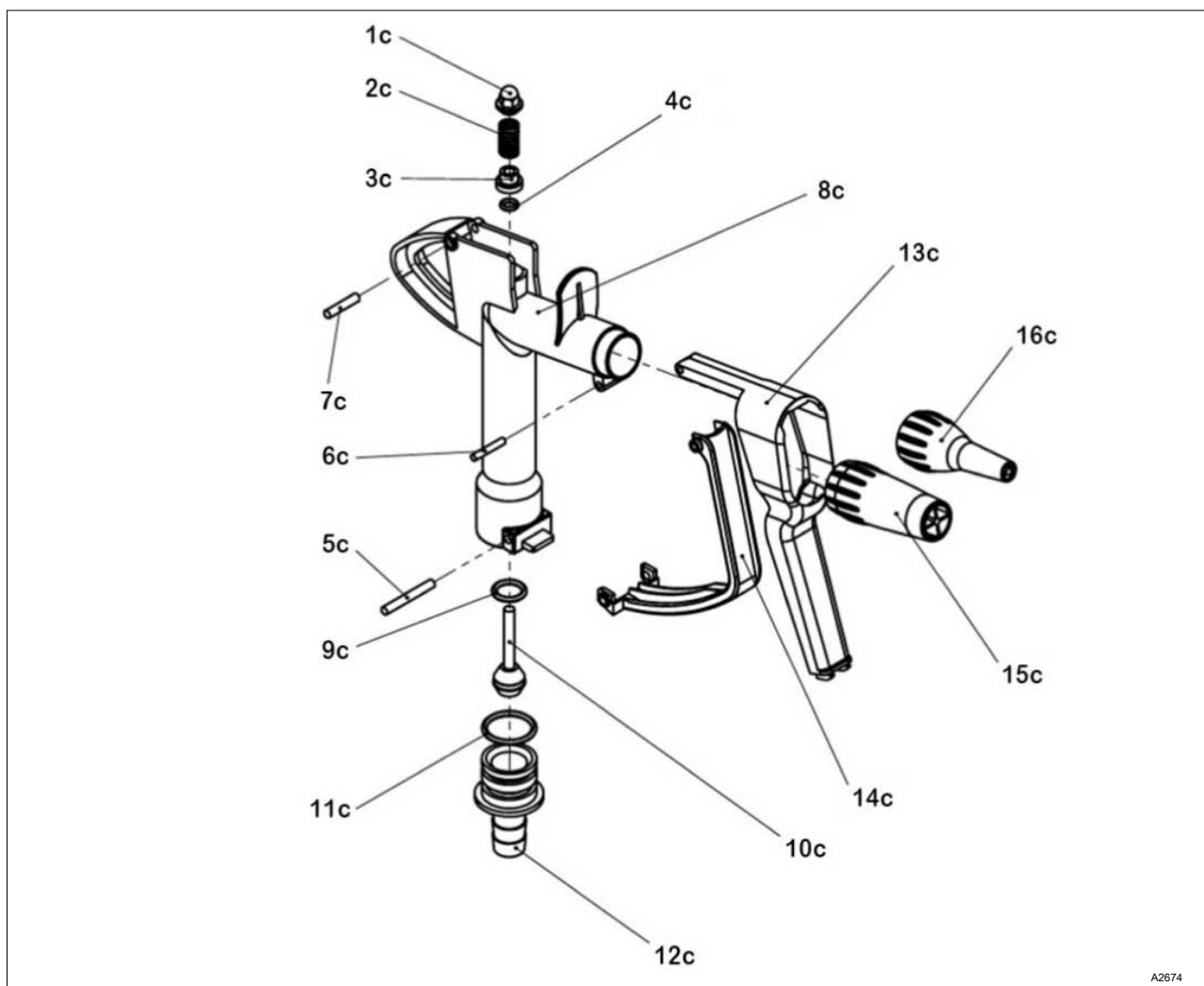


Fig. 11: Spare parts drawing for the pump nozzle.

Tab. 9: Spare parts list for the pump nozzle (PP design)

Position	Description	Quantity	Order number	Materials
1c	Domed nut	1	1135	PP
2c	Compression spring	1	1136	Stainless steel
3c	Seal mount	1	1137	PP
4c	O-ring	1	1138	FKM
5c	Distance pin Ø 5x40	1	1141	Stainless steel
6c	Distance pin Ø 5x25	1	1142	Stainless steel
7c	Distance pin Ø 4x25	1	1143	Stainless steel
8c	Housing	1	1144	PP
9c	O-ring	1	1145	FKM
10c	Valve rod	1	1148	PP
11c	O-ring	1	1149	FKM
12c	Hose plug DN19	1	1153	PP
13c	Manual lever	1	1155	PP

Position	Description	Quantity	Order number	Materials
14c	Bracket	1	1156	PP
15c	Nozzle Ø 20	1	1157	PP
16c	Nozzle Ø 9	1	1158	PP

Tab. 10: Spare parts list for the pump nozzle (PVDF version)


Position	Description	Quantity	Order number	Materials
1c	Domed nut	1	1159	PVDF
2c	Compression spring	1	1136	Stainless steel
3c	Seal mount	1	1160	PVDF
4c	O-ring	1	1138	FKM
5c	Distance pin Ø 5x40	1	1141	Stainless steel
6c	Distance pin Ø 5x25	1	1142	Stainless steel
7c	Distance pin Ø 4x25	1	1143	Stainless steel
8c	Housing	1	1161	PVDF
9c	O-ring	1	1145	FKM
10c	Valve rod	1	1162	PVDF
11c	O-ring	1	1149	FKM
12c	Hose plug DN19	1	1164	PVDF
13c	Manual lever	1	1155	PP
14c	Bracket	1	1156	PP
15c	Nozzle Ø 20	1	1166	PVDF
16c	Nozzle Ø 9	1	1167	PVDF

### 7.3.6 Accessories

Tab. 11: Accessories

Description	Quantity	Order number
Barrel threaded connector (PP) Ø 41, with thread G 2	1	9001

## 8 Disposal of used parts

- **User qualification:** instructed user, see  Chapter 2.2 'User qualification' on page 9



### NOTICE!

#### Regulations governing the disposal of used parts

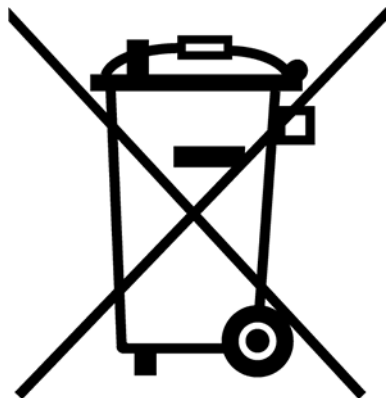
- Note the national regulations and legal standards that currently apply in your country

The manufacturer will take back decontaminated used devices providing they are covered by adequate postage.

Decontaminate the device before returning it for repair. To do so, remove all traces of hazardous substances. Refer to the Material Safety Data Sheet for your feed chemical.

A current Declaration of Decontamination is available to download on the ProMinent website.

Sign indicating EU collection system



In accordance with the European Directive 2012/19/EU on waste electrical and electronic equipment, this device features the symbol showing a waste bin with a line through it. The device must not be disposed of along with domestic waste. To return the device, use the return and collection systems available and observe the local legal requirements.



## 9 Technical data at a glance

### 9.1 Technical data, PP version

Tab. 12: Part no. 1098491. PP version

Parameter	Value/Design
Pump type	DULCO®Trans 41/1000 PP
Feed rate*)	93 l/min
Max. delivery height	11 m
Max. viscosity	600 mPas
Max. medium temperature	< 50 °C
Max. medium density	1.5 kg/dm³
Immersion tube length, measured from the end of the pump foot to the middle of the pressure nozzle	1000 mm
Suction tube outer diameter	41 mm
Wetted materials	PP, Hastelloy®, PTFE, FKM, PVC
Pump housing	PP
Shaft	Hastelloy®
Rotor	PP
Axial face seal	none
Seals	PTFE (pump), FKM (pump nozzle)
Hose	PVC 2 m, DN 19
Pump nozzle	PP, DN 19
Hose connection	DN 19
Hose clamps	2 no., stainless steel 1.4301
Drum adapter	Ø 41, with G 2 thread
Motor performance	640 W
Motor IP protection	IP 24
Voltage	230 VAC; 1~; 50 Hz / 60 Hz
Nominal current	2.82 A
Undervoltage trigger	with
Overcurrent protection switch	with
speed control	none
Connecting cable	5 m, with standard European plug
Motor colour	yellow
Colour of top part of housing	blue
Weight	7.6 kg
Dimensions HxWxD	1315 x 270 x 170 mm
*) Measured values ± 5 %, test medium: water 20 °C, 1" pressure pipe, oval wheel meter	

## 9.2 Technical data, PVDF version

Tab. 13: Part no. 1098493. PVDF version

Parameter	Value/Design
Pump type	DULCO Trans 41/1000 PVDF
Feed rate*)	93 l/min
Max. delivery height	11 m
Max. viscosity	600 mPas
Max. medium temperature	< 90 °C max.
Medium density	1.5 kg/dm <sup>3</sup>
Immersion tube length, measured from the end of the pump foot to the middle of the pressure nozzle	1000 mm
Suction tube outer diameter	41 mm
Wetted materials	PVDF, PTFE, Hastelloy®, PE, FKM, PVC
Pump housing	PVDF
Shaft	Hastelloy®
Rotor	PVDF
Axial face seal	none
Seals	PTFE (pump), FKM (pump nozzle)
Hose	PE 2 m, DN19
Pump nozzle	PVDF, DN19
Hose connection	DN19
Hose clamps	2 no., stainless steel 1.4301
Drum adapter	Ø 41, with G 2 thread
Motor performance	640 W
Motor IP protection	IP 24
Voltage	230 VAC; 1~; 50 Hz / 60 Hz
Nominal current	2.82 A
Undervoltage trigger	with
Overcurrent protection switch	with
speed control	none
Connecting cable	5 m with earthed plug
Motor colour	yellow
Colour of top part of housing	blue
Weight	9.2 kg
Dimensions HxWxD	1315 x 270 x 170 mm

\*) Measured values ± 5 %, test medium: water 20 °C, 1" pressure pipe, oval wheel meter

### 9.3 Performance diagram

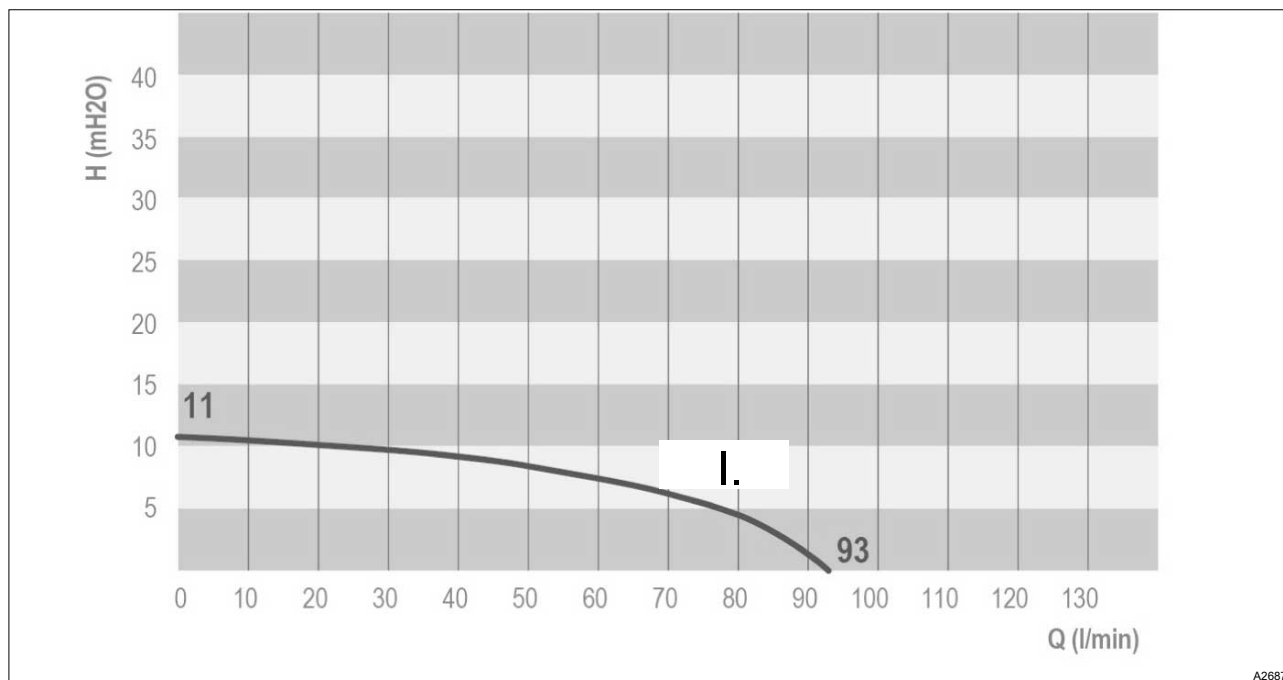


Fig. 12: Performance diagram. Measured values  $\pm 5\%$ , test medium: water 20 °C, 1" pressure pipe, oval wheel meter.

I. For version: Rotor

### 9.4 Dimensional drawing with main dimensions

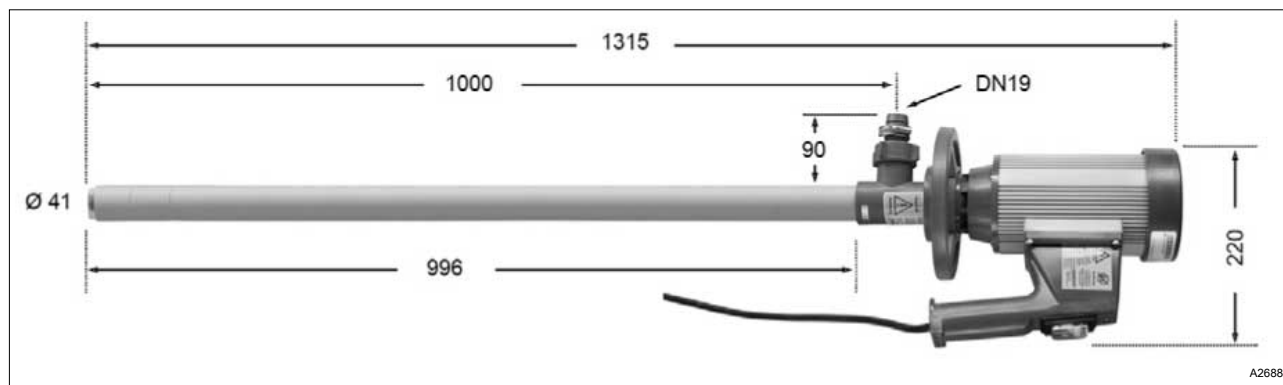


Fig. 13: PP version: Dimensional drawing with main dimensions, all measurements in mm.

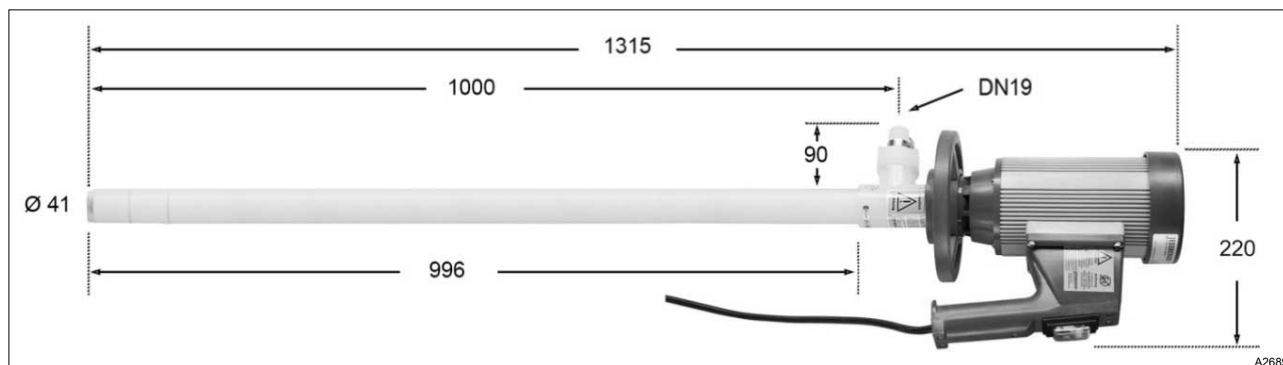


Fig. 14: PVDF version: Dimensional drawing with main dimensions, all measurements in mm.

## 10 EC / EU Declaration of Conformity for Machinery

In accordance with DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Appendix I, BASIC HEALTH AND SAFETY REQUIREMENTS, section 1.7.4.2. C.

We,

- ProMinent GmbH
- Im Schuhmachergewann 5 - 11
- D - 69123 Heidelberg, Germany,

hereby declare that the product specified in the following, complies with the relevant basic health and safety requirements of the Directive, on the basis of its functional concept and design and in the version distributed by us.

Any modification to the product not approved by us invalidates this declaration.

Tab. 14: Extract from the EC/EU Declaration of Conformity

Designation of the product:	Barrel pump
Product type:	DULCO®trans
Serial number:	see nameplate on the device
Relevant EC Directives:	EC Machinery Directive (2006/42/EC) Compliance with the protection targets of the Low Voltage Directive 2014/35/EU according to Appendix I, No. 1.5.1 of the Machinery Directive 2006/42/EC. EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU)
Harmonised standards applied, in particular:	EN ISO 12100:2010 EN 809:1998 + A1:2009 + AC:2010 EN 60335-2-41:2003 + A1:2004 + A2:2010 EN 55014-1:2006 + A1:2009 + A2:2011 EN 55014-2:1997 + A1:2001 + A2:2008 EN 50581:2012
Place, Date:	Heidelberg, 1.02.2019

The EC Declaration of Conformity is available to download on our website [www.prominent.com](http://www.prominent.com).



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