

User Manual

Standard 400/600/950 E

(Article No. 150-00)
(Article No. 150-00-06)
(Article No. 150-00-08)

Version as of 06/2020



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⇒⇒⇒ Important ⇐⇐⇐

Each time before starting the pump, the device must be completely filled with water.

⇒⇒⇒ Important ⇐⇐⇐

The pump can only be run dry for short periods.

⇒⇒⇒ Important ⇐⇐⇐

Scope of Delivery:

230 V dosing pump, stainless steel suction lance with foot filter and 2.5 m suction + 2.5 m return hose, 5 m pressure hose, electric connection, nozzle kits, weld-on tubes (for fastening the nozzles on the screw conveyor).

Standard 400 E (0.18 KW) 2 nozzle holders with nozzle kits
Standard 600 E (0.37 KW) 3 nozzle holders with nozzle kits
Standard 950 E (0.37 KW) 4 nozzle holders with nozzle kits

Quick Guide:

The following steps must be carried out prior to the first start-up of the dosing device:

1. Screw together the suction lance. If required, seal the thread nipple with sealing tape.
2. Unscrew the foot filter and fill the suction line with liquid. Replace the foot filter. This is a one-time process required exclusively for first commissioning.
3. Fully open the control valve (6) by turning it counter-clockwise.
4. Use the black button on the switch housing to switch on the pump.
5. Use the red (emergency stop) switch to switch off the pump. To restart the pump, turn the red (emergency stop) switch clockwise.

Important! The pump must not run dry for more than 1 minute.

After a short time, the floater in the flow indicator will start to float. The scale shows the flow rate in l/h. In order to adjust the flow rate, turn the control valve (clockwise = reduction; counter-clockwise = increase).

In order to check the flow rate, it is necessary to measure the pump volume in litres. This is done by placing the nozzles into a bucket and running the pump with the desired preservative. Leave the pump running for one minute. Measure the quantity and compare it with the pump setting, which may be readjusted if required.

The viscosity of some preservatives depends on the temperature. They become more viscous at cold temperatures and less viscous at hot temperatures, which is why it is necessary to measure the pump volume in litres.

Use the provided weld-on tubes to fix the nozzles on the screw conveyor. The provided tension springs are pulled around the screw conveyor tube and hooked in on the other side.

The dosing device must be rinsed with water from time to time. The same applies when the device has not been used for several days. At the beginning of the frost season, the device must be topped up with antifreeze.

Wear acid-resistant gloves, safety glasses and a respiratory mask during all work. Your safety is of paramount importance. When working with preservatives, always have a bucket of clear water within reach. In the event of an accident, you will thus be able to rinse the affected body parts immediately.

It is imperative to read the safety data sheets of the respective preservatives and to observe the manufacturer's instructions!

Important Instructions Regarding the Handling of Preservatives

Preservatives are mixtures of strong organic acids which, in their diluted form, have a caustic effect on the skin and mucous membranes. When handling the product, it is therefore required to follow the precautions commonly applicable to acids. It is imperative to wear protective glasses, protective gloves and respiratory masks. If preservatives come into contact with the skin, the affected area must be immediately rinsed with plenty of water.

When grain is treated in closed rooms and/or poured into reservoirs and silos or onto threshing floors, the acid smell may cause a nuisance to the personnel working there. Good ventilation of the storage rooms should therefore be ensured during this time. If possible, consider the wind direction when selecting a set-up location for the dosing device. The unpleasant smell will disappear a few minutes after the dosing process and/or grain storage.

Caution! It is imperative to observe the safety data sheets and dosing tables provided by the respective preservative manufacturers and/or suppliers.

Storage instructions and information on how to behave in emergencies are to be found in the DIN safety data sheets which have to be provided by each acid manufacturer and/or supplier.

OPERATING INSTRUCTIONS

1. What work steps are to be performed?

- Integration of the dosing device into the work process
- Mounting of the nozzle holders on the mixing screw
- Power supply of the device
- Measurement of the grain moisture
- Determination of the required acid quantity (in kg/100 kg of grain)
- Determination of the grain screw's conveying capacity (in t/h)
- Determination of the acid quantity to be injected (in kg/h)
- Selection of the nozzle size and the pressure
- Adjustment of the required pump pressure
- Functionality and tightness checks
- Connection of the dosing device to the acid tank
- Activation of the equipment combination and monitoring during operation

2. Integration of the dosing device into the work process

The device can be integrated into all common work processes in the area of feed grain storage (conveyor screw or trough conveyor). The dosing device uses at least 2 dosing nozzles (or 3 nozzles in case of grain maize) to add the preservative at the respective starting points of conveyor screws with a minimum length of 3 m.

From a conveying capacity of 50 t/h, it is necessary to use 3 nozzles (or 4 nozzles in case of grain maize) for the preservation of grain maize or grain.

It is imperative to add the preservative via a screw conveyor.

After that, the grain may be transported with any means of conveyance (conveyor belt, elevator, blower).

3. Mounting of the nozzle holders on the screw conveyor tube

The nozzle holders must be attached to the lower end of the screw downstream of the grain inlet. The drill hole must have a diameter of approx. 16 mm. The nozzle holders should be placed at a distance of 1.5 times the spiral coil of the screw (approx. 20 cm).

5. Maintenance and Care

Good maintenance of the device is indispensable due to the corrosiveness of acids. After each use, but especially before any long-term dosing interruptions, it is imperative to thoroughly rinse the entire line system with water. The nozzle must be removed for that purpose.

Three buckets are required for the rinsing process: one bucket of clean water for the suction pipe and one bucket each for the return pipe and the nozzle hoses.

Caution! At the end of the season, after completion of this cleaning process, the line system must additionally be rinsed with antifreeze (Caution! Frost risk!).

Shortly before switching off the device, the suction pipe should be pulled up so that most of the liquid will be sprayed out. After that, switch off the device.

Important

Before the new season starts, the line system must of course be thoroughly rinsed and checked for tightness. Apart from that, it is required to check all hose connections and their fittings.

6. Guarantee Provisions

The Standard 400/600/950 E models are covered by a six-month guarantee valid from the date of purchase, with the exclusion of compensation for damages, redhibitory action or any other claims. During the warranty period, all parts which have become defective due to low-quality work or material defects will be replaced or repaired free of charge. The warranty is subject to the General Terms of Delivery for Products and Services of the Electronics Industry.

We shall not assume any liability whatsoever for any damages and malfunctions resulting from improper handling, e.g. dropping of the device, poor maintenance, damages caused during transport and unpacking, damages resulting from poor packaging during further shipment or malfunctions due to natural wear and tear. Any claims under this guarantee must first be asserted against a responsible seller. For the purpose of fulfilling the guarantee obligation, the device must be registered with the responsible seller and/or manufacturer.

This warranty shall be non-transferable. It shall lapse when the device is resold or repaired by other companies or other persons without our consent. The same shall apply if the serial number on the device has been altered or made illegible.

7. Caution It is imperative to observe the manufacturer's directions for the handling of acids. When using any other media, observe the manufacturer's safety instructions.

Do not reach into the screw conveyor!

This device must only be operated by persons who have thoroughly studied this user manual and are fully aware of the risks associated with the handling of acids. As a matter of principle, persons under the age of 18 are prohibited from operating the device. Exceptions to this requirement are trainees from the age of 16 who must, however, be supervised whilst working with the device.

Caution! Pay attention to playing children.

All pressurised components, such as hoses and fittings, are to be checked for tightness from time to time. Be aware that parts of the device might get damaged by leaking acid. Acid may cause damages to coatings and ordinary metal.

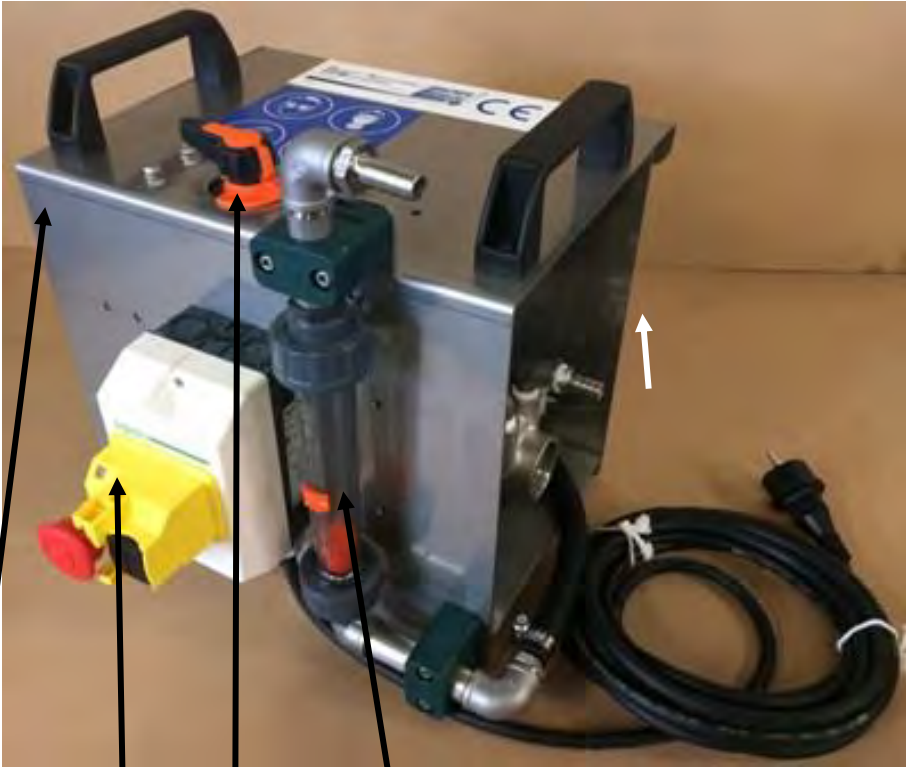
We explicitly point out that our guarantee only covers the quality of the materials used. Consequential damages or damages resulting from improper operation (e.g. non-compliance with this user manual) shall be expressly excluded from our liability.

Nozzles

Important information for users

- The nozzles must be used exclusively in accordance with the intended purpose.
- The observance of the important information stated in this data sheet as well as compliance with all regulations of the employer's liability insurance association shall also fall within the scope of the intended use.
- The operating personnel must be familiarised with the handling of the device.
- Prior to each use...
 - ...check the functionality;
 - ...make sure that the nozzle connection is firmly seated;
 - ...ensure that the device is safe for operation.
- Nozzles are subject to natural wear and tear, which is why they must be regularly checked and replaced, if required.
- Increased flow rates and/or irregular spray patterns (e.g. due to wear and tear, damage or soiling) may result in deficiencies in the process or – where chemical means are used – damages.
- Depending on the setting, two-substance nozzles may generate an aerosol. The nebulisation of chemicals poses a risk to the operating personnel due to inhalation.
- Liquid jets must never be aimed at persons!
Chemical additives, high temperatures and/or high pressures may cause injuries.
- Caution!
When using media such as air, gas or vapour, the spray jet might be hardly visible or not be visible at all.

Spare Parts List



150-01 150-02 150-06-1 150-03

- Article no. **150-01** Portable housing
- Article no. **150-02** Mushroom pushbutton
- Article no. **150-03** DFM 185 flow indicator – complete unit
- Article no. **150-06-1** Control valve

Article no. 150-02, mushroom pushbutton



Motor/pump



150-07

150-230V-400

150-09

150-10

150-11

Article no. **150-07**

Article no. **150-230V-400**

Article no. **150-09**

Article no. **150-10**

Article no. **150-11**

Pump base

230 Volt motor

Hose connection, pressure side

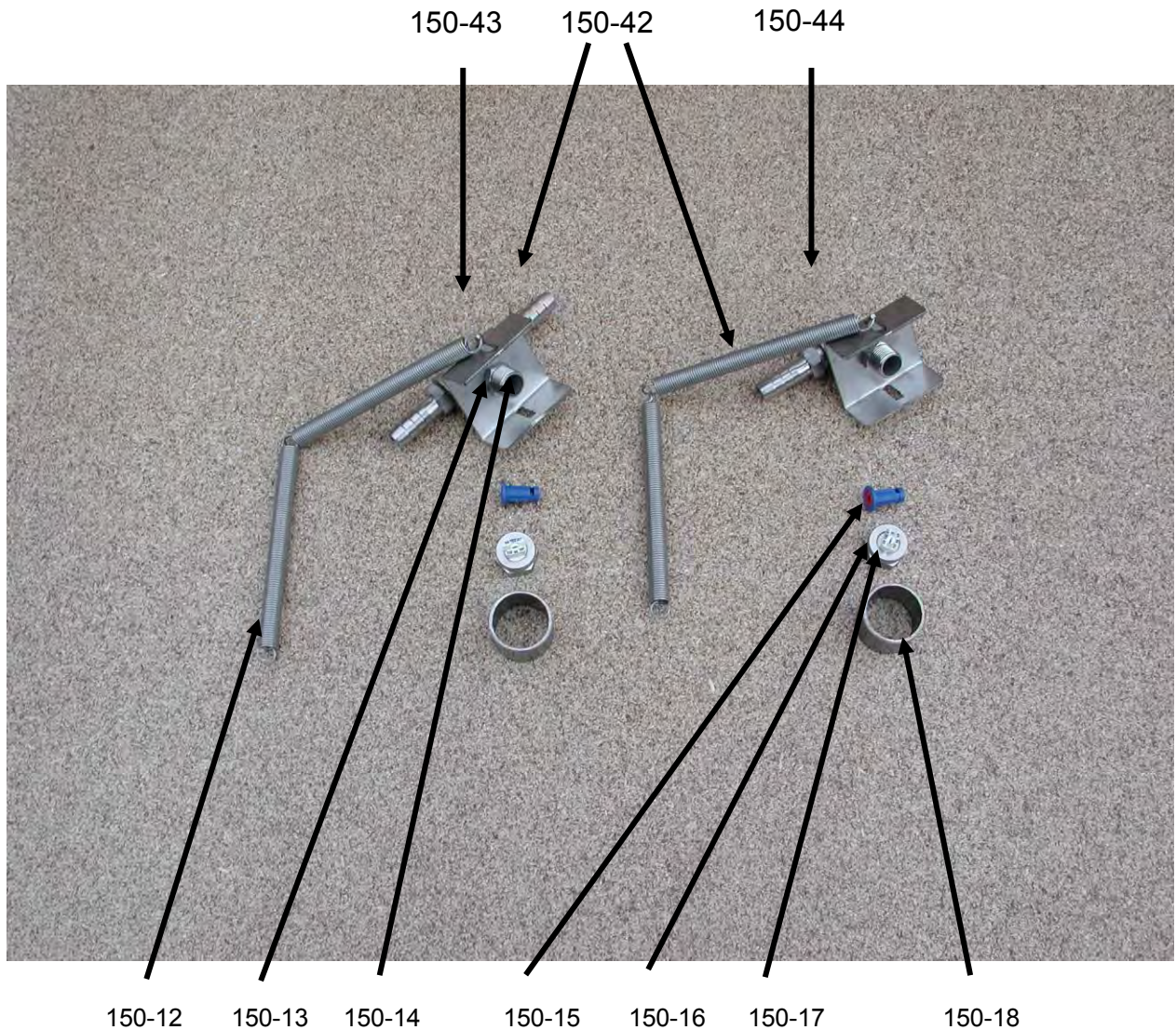
Pump

Hose connection, suction side

Article 150-40, nozzle holder, complete set consisting of:

Article 150-45, nozzle holder, T-piece

Article 150-46, nozzle holder, elbow fitting



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|--|---|
| Article no. 150-12 Tension spring | Article no. 150-17 Nozzle plates |
| Article no. 150-13 Nozzle holding plate | Article no. 150-18 Weld-on tubes |
| Article no. 150-14 Double nipple | Article no. 150-42 3/8" hose connector |
| Article no. 150-15 Drip guard | Article no. 150-43 T-piece |
| Article no. 150-16 Nozzle retaining nut | Article no. 150-44 Elbow fitting |

- | | |
|------------------------|---|
| Art. no. 19-015 | Nozzle insert, 0.15 mm diameter, colour: green |
| Art. no. 19-020 | Nozzle insert, 0.20 mm diameter, colour: yellow |
| Art. no. 19-030 | Nozzle insert, 0.30 mm diameter, colour: blue |
| Art. no. 19-040 | Nozzle insert, 0.40 mm diameter, colour: red |
| Art. no. 19-050 | Nozzle insert, 0.50 mm diameter, colour: brown |
| Art. no. 19-060 | Nozzle insert, 0.60 mm diameter, colour: grey |
| Art. no. 19-080 | Nozzle insert, 0.80 mm diameter, colour: white |

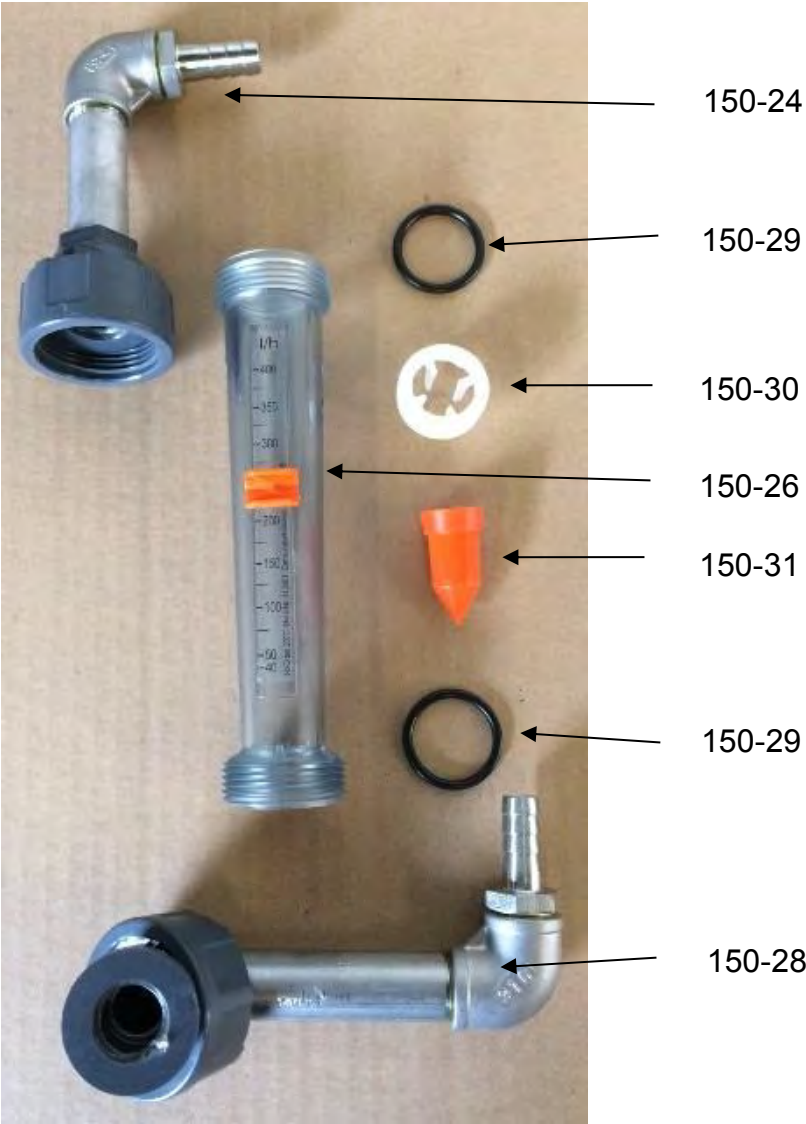
Article 150-06-1 regulating unit



150-27 150-22 150-19 150-21-1 150-32 150-21 150-19 150-25

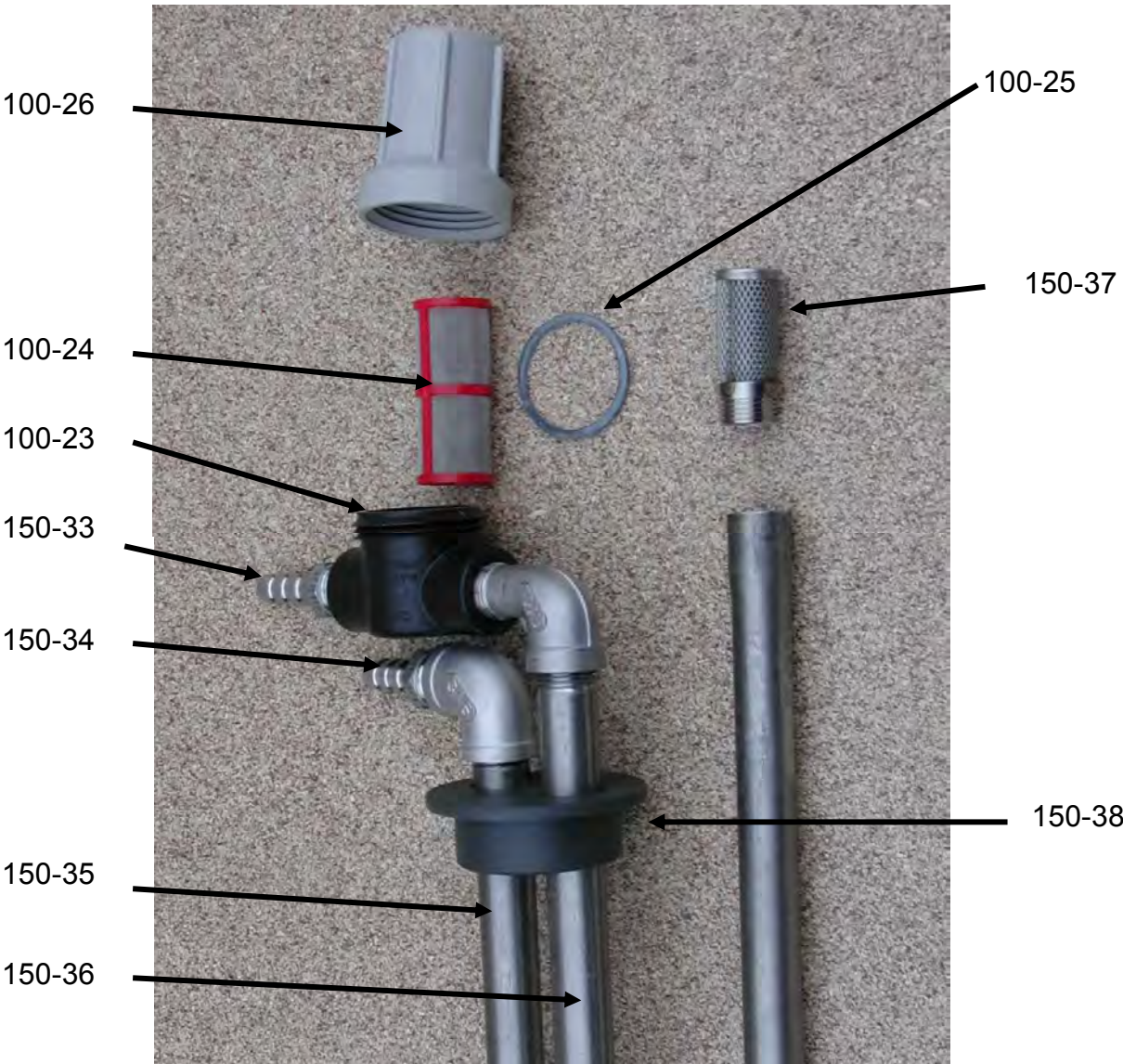
- Article no. **150-19** 1/2" hose connector
- Article no. **150-21** 1/2" pipe nipple, 100 mm
- Article no. **150-21-1** 1/2" pipe nipple, 60 mm
- Article no. **150-22** 1/2" T-piece
- Article no. **150-25** arc 90°, 1/2", IG/IG
- Article no. **150-27** arc 90°, 1/2", IG/AG
- Article no. **150-32** Proportional ball valve

Article 150-03, DFM 185 flow indicator, complete set



- Article no. **150-24** Upper hose connection including union nut
- Article no. **150-26** DFM 185 measuring cylinder
- Article no. **150-28** Lower pressure connection including union nut
- Article no. **150-29** O-ring for DFM 185
- Article no. **150-30** Support ring
- Article no. **150-31** Floater

Article 150-41, suction lance, complete set



- Article no. **100-55** **Suction filter (articles 100-23, 100-24, 100-25, 100-26)**
- Article no. **100-23** Filter housing
- Article no. **100-24** Filter insert
- Article no. **100-25** O-ring, suction filter
- Article no. **100-26** Filter cup

- Article no. **150-33** Suction line connection
- Article no. **150-34** Return line connection
- Article no. **150-35** Return line
- Article no. **150-36** Suction line
- Article no. **150-37** Foot filter
- Article no. **150-38** Cover