



Schmutzwasser-Hebeanlage
Waste Water Ejector Unit
Station de relevage des eaux hargées
Przepompownia wody brudnej

UFB 200 / S-UFB 200

UFB 200 / S-UFB200

**Betriebsanleitung
Operating Instructions
Manuel d'utilisation
Instrukcja eksploatacji**

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Declaration of conformity

We, the

ZEHNDER Pumpen GmbH
Zwönitzer Straße 19
08344 Grünhain-Beierfeld,

herewith declare

that the waste water ejection units of the type series UFB
conform to the following relevant regulations in the respective valid version:

- **EC low voltage directive 2014/35/EU**
- **EMC directive 2014/30/EU**
- **Machinery directive 2006/42/EC**

Applied conform standards, particularly

EN 60335-1:2012/A11:2014

EN 60335-2-41:2003/A2:2010

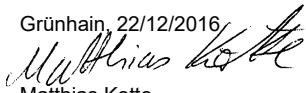
EN 809:1998/AC:2010

EN 55014-1:2006/A2:2011, EN 55014-2:1997/A2:2008

EN 61000-3-2:2014, EN 61000-3-3:2013

EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3/A1:2011, EN 61000-6-4/A1:2011

Grünhain, 22/12/2016



Matthias Kotte
Product development

1. General:

1.1 Introduction

This operating manual is valid for the waste water ejection units of the type series **UFB**.

If the instructions of the operation manual – especially the safety instructions - are not observed, or in case of unauthorized modifications of the device or the installation of non-original spare parts, the guarantee expires automatically. The manufacturer assumes no liability for damages resulting from such behaviour!

Such as any other electrical device, this product may fail due to absence of mains voltage or a technical failure. If damage could occur, an emergency power supply, a second plant (duplex plant) and/or an off-grid alarm device should be provided according to the application. We as manufacturer are at your disposal for consultation also after the purchase. In case of failures or damages, please contact your retailer.

Manufacturer: ZEHNDER Pumpen GmbH
Zwönitzer Straße 19
08344 Grünhain-Beierfeld

Manufactured sizes: UFB 200/30, UFB 200/35 and UFB 200/40;
S-UFB 200/30, S-UFB 200/35 and S-UFB 200/40

State of the operation manual: Feb. 2015

1.2 Enquiries and orders:

In case of enquiries or orders, address yourself to your specialist retailer.

1.3 Technical modifications:

	UFB 200/30 S-UFB 200/30	UFB 200/35 S-UFB 200/35	UFB 220/40 S-UFB 200/40
Input power P₁	300 W	850 W	850 W
Nominal motor power P₂	130 W	430 W	430 W
Voltage U	230 V	230 V	230 V
Frequency f	50 Hz	50 Hz	50 Hz
Nominal power reception I_{nenn}	1.3 A	3.7 A	3.7 A
Torque n	2800 min ⁻¹	2800 min ⁻¹	2800 min ⁻¹
max. discharge flow Q_{max}	7 m ³ /h	11 m ³ /h	10 m ³ /h
max. discharge height H_{max}	7.5 m	11 m	10.0 m
max. medium temperature t_{max}	40°C*	40°C*	40°C*
Pressure connection	G 1 ¼"	G 1 ¼"	G 1 ¼"
Dimensions WxHxL	460 x350x432 mm	460x350x432 mm	460x350x432 mm

Materials:

Tank/siphon	PE	PE	PE
Cover/grid	PVC	PVC	PVC
Pump housing	PP	PP	PP
Motor housing	UFB 1.4301 / S-UFB 1.4404		
Running wheel	PA 6	PA 6	PA-6
Shaft	UFB 1.4301 / S-UFB 1.4462		
Pressure line	PP	PP	PP
Sealing	UFB NBR/Chloroprene / S-UFB Viton		
Connections	ABS	ABS	ABS

* short-term up to 90° C (waste water of washing machines)

1.4 Range of application

The waste water ejection units of the type series UFB are especially designed for underground installation. They are used for the automatic disposal of domestic waste water and rain water in cellar rooms (e.g. floor drains, washing machines, wash-bowls, and showers) below the backwater level.

ATTENTION The waste water ejection units of the type series UFB / S-UFB **must not** be used for the discharge of sewages containing excrements or fat.

1.5 Scope of delivery

The waste water ejection units are delivered ready to plug in, completely with pump, floating switch and non-return valve as well as a grid and an odour stopper.

1.6 Special accessories

- Connection piece for supplementary lateral inlets of DN 50, DN 70 and DN 100
- Attachment piece with sealing for height compensation
- Cover plate (alternative to grid)

2. Safety:

(from: "VDMA sheet 24 292")

The operation manual at hand provides basic notes which must be taken into account during assembly, operation and maintenance works. Therefore, before assembly and commissioning, this operation manual must be read by the assembler as well as by the responsible personnel/operator at all costs. It always must be available on site of operation of the machine/unit.

The general safety notes listed under the main point safety are not the only notes to be taken into account. Please also observe the specific safety instructions, such as those for private use, listed under other main points.

2.1 Marking of the notes contained in the operation manual

The safety notes contained in this operation manual which can cause danger to persons are specifically marked by the following general danger symbol



Safety sign according to DIN 4844 - W 9,

The following symbol warns against dangers caused by voltage



Safety sign according to DIN 4844 - W 8.

In case of safety notes the non-observance of which can cause danger to the machine and its functioning, the word **ATTENTION** is inserted.

Notes that are directly attached to the machine, such as

- arrow indicating the direction of rotation
- marking of liquid connections

must be observed and kept in completely readable condition at all costs.

2.2 Personnel development and training

The personnel responsible for operation, maintenance, inspection and assembly must have the corresponding qualifications for those types of work. Area of responsibility, competence and the surveillance of the personnel must be regulated precisely by the operator. If the personnel do not possess the necessary knowledge, they must be trained and instructed. By order of the operator, the instruction and training, if necessary, can be carried out by the manufacturer/supplier. Furthermore the operator must make sure that the personnel have completely understood the content of the operation manual.

2.3 Dangers in case of non-observance of the safety notes

The non-observance of the safety notes can cause dangers to persons as well as to the environment and the machine. If the safety notes are not observed, this can result in the loss of all compensation claims.

In detail, non-observance can for instance result in the following damages **for example**:

- Failure of important functions of the machine/unit
- Failure of the prescribed methods for maintenance and repair
- Endangerment of persons through electrical, mechanical and chemical influences
- Endangerment of the environment through leakage of hazardous substances

2.4 Safety-conscious way of working

The safety notes listed in this operation manual, the existent national regulations on accident prevention as well as possible internal working, operating, and safety instructions of the operator must be observed.

2.5 Safety notes for the operator/user

- Hot or cold machine components which could cause danger must be secured against contact by the customer.
- Protection against contact with moving parts (e.g. coupling) must not be removed while the machine is operating.
- Leakages (e.g. of the shaft sealing) of hazardous materials to be conveyed (e.g. explosive, toxic, hot) must be discharged in such a way that no danger arises for persons or the environment. The legal requirements must be observed.
- Endangerments through electric power must be eliminated (details concerning this, see e.g. the regulations of the VDE (German Association for Electrical, Electronic and Information Technology) and the local energy suppliers).

2.6 Safety notes concerning maintenance, inspection, and assembly works

The operator must make sure that all maintenance, inspection, and assembly works are carried out by authorised, skilled, and qualified personnel which are adequately informed by having thoroughly studied the operation manual.

Generally, works on the machine are only to be carried out when the machine is turned off. The procedure of switching off the machine, which is described in the operation manual, must be observed at all costs. Pumps or pump units which convey media that are hazardous to health must be decontaminated. Immediately after completion of the works, all safety and protection devices must be reattached or reactivated.

Before restart, the points listed in the chapter commissioning must be taken into consideration..

2.7 Unauthorised modification of the machine and fabrication of spare parts

Retrofitting or modifications of the machine are permitted only after having consulted the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure the safety. The use of other parts can lead to the removal of liability for the resulting damages.

2.8 Unauthorised modes of operation

The operational reliability is only guaranteed, if the machine is used as intended according to chapter 1 – General. The limit values stated in the data sheet must not be exceeded.

ATTENTION

Also a device operating automatically such as an ejection unit must not be operated without supervision for a longer time period. If you leave the device unattended for a longer time period, please disconnect the devices draining the ejection unit (e.g. washing machine) from mains or use an alarm switching device with a washing machine stop, in order to prevent a flooding in case of failures on the ejection unit.

3. Transport and temporary storage

3.2 Transport

The ejection unit must not be thrown, hit or dropped.

3.2 Temporary storage/conservation

For temporary storage and conservation, it suffices if the unit is stored in a cool, dark, dry, and frost-protected place. The unit should be stored in horizontal position.

4. Description

Composition and mode of operation:

The ejection units are assembled ready for connection to 230 V, 50 Hz (alternating current). The motor is equipped with a thermal overload protection and switches off automatically if it is too hot. After cooling, it will be reactivated automatically. According to the guidelines of the German Institution for Structural Engineering (DIBt), the units are equipped with non-return valves and operate automatically with an integrated floating switch: if the liquid level inside of the tank exceeds a defined level, the floating switch activates the pump and the pumping process starts. After the tank is pumped out (floating switch decreases) the pump switches off automatically. In doing so, the integrated non-return valve prevents the backflow of the discharged water from the pressure pipe into the tank. The odour stopper (siphon) installed below the grid prevents the formation of unpleasant order. A dirt trap fitted to the siphon prevents the intrusion of coarse dirt (e.g. stones) in the pump room.

5. Installation



- Disconnect the power supply before carrying out any kind of work on the unit.

Safety regulations

- All used electric devices must comply with the standard IEC 364 / VDE 0100, that means for example, that the electrical sockets must be equipped with earthing terminals.
- The electrical connection may only be effected by an electrically skilled person! The relevant VDE regulations 0100 must be respected!
- The mains to which the unit is connected must be equipped with a highly sensitive separate earth leakage circuit breaker IA <30 mA. In case of an installation in bath or shower rooms, the respective DIN VDE 0100 part 701 regulations must be respected.

- Please respect the regulations of the EN 12 056-4.
- All electrical devices, such as control, alarm sensor and power socket must be installed on a flood-proof position in dry rooms.
- Attention! Prior to every assembly and disassembly of the pump or other works on the unit, the unit must be disconnected from the mains.
- In case of using an extension cable, it must comply with the included connector cable concerning quality.

Installation place:

The device is mounted similarly to the floor drain directly into the cellar floor. The regulations according to DIN 19599 apply.

ATTENTION The grid meets class K and is loadable up to max. 300 kg, this means the surfaces without traffic. Due to the max. slot width of 8 mm, the use in so-called barefoot areas (e.g. bath room) is possible.

5.1 Connection of the unit

- c) Before mounting, all parts must be checked for external transport damages.
- d) Inlets: Normally, the surface water flows through the grid and the odour stopper into the collecting tank.

ATTENTION During mounting of the siphon it must be ensured, that the bend does not impact the functionality of the floating switch. The siphon inlet and the pressure joint must be aligned (fig. 1).

Supplementary connections may be mounted into the tank wall (accessories).

Nominal width	Pipe diameter	Drilled hole in side panel
DN 50	50 mm	Ø 59 mm
DN 70	75 mm	Ø 90 mm
DN 100	10 mm	Ø 117 mm

The hole is drilled into the side panel using a drilling machine and a standard holes saw. The threaded ring is inserted from the inside through the drilled hole. It is sealed by screwing on the sleeve with rubber ring to the outer side (fig. 2).

ATTENTION During installation of the lateral connection it must be ensured that the functionality of the floating switch of the pump is not impacted.

Figure 1

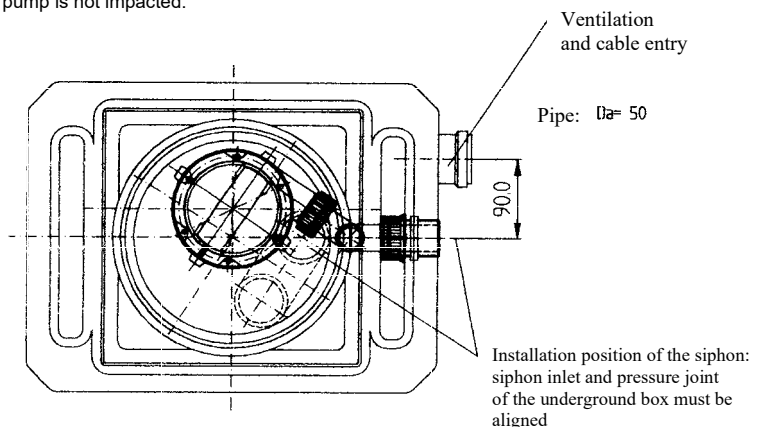
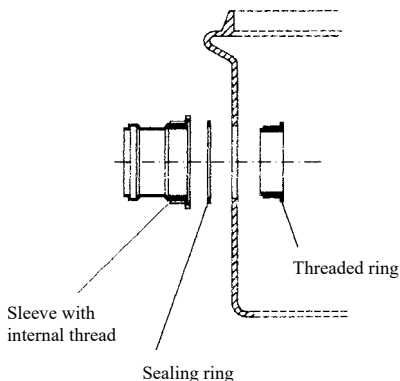


Figure 2



e) Pressure pipe

The pressure pipe is connected to the threaded joint G 1 ¼"(external thread). A non-return valve is already assembled inside of the pressure joint. The pressure pipe must be guided through a backwater level locally defined (see example of installation page 11)

f) Ventilation

The device is ventilated through a connection DN 50 (pipe Ø 50 mm) already installed. The supply cable is also led outside through it. (The ventilation may also be separately guided outwards by assembling a 2nd connection DN 50) (see example of installation page 11).

5.2 Fitting/commissioning

After assembling all pipelines, a functional test with tightness control should be effected.

After insertion of the mains plug, the unit is ready for operation so that the floating switch activates the pump automatically with the inlet of water.

In the attachment piece available as accessory, the installation depth (tank: 432 mm) can be increased continuously between min. 498 mm and max. 618.5 mm. (see installation example 11/12)

This attachment piece has the same reception for grid/cover plate and siphon as the basic tank. The sealing is ensured using an O-ring.

By sawing the pipe, the installation depth in the above mentioned section can be varied and due to the flexibility, every position of the attachment piece can be achieved.

Finally, the tank (and/or tank with attachment piece) will be grouted into the concrete bed.

6. Maintenance/repair



- Disconnect the power supply before carrying out any kind of work on the ejection unit.



- For troubleshooting and inspection of the motor or the electrical components, please contact your specialist retailer.

The unit shall be inspected and cleaned at least twice a year. In case of highly polluted waste waters (e.g. kitchen waste water containing fat) a more frequent inspection may be necessary. For this purpose, after disconnecting the mains plug, the grid and/or the cover plate must be removed.

Now, the siphon insert with dirt trap may be completely removed.

In case of UFB ejection units, escaping water in the pump housing of the pump is construction-conditioned (ventilation) – no defect!

In order to prevent malfunctions and blockages, this **ventilation hole** of the pump must be cleaned from solids and contaminations. Especially in case of **washing machines without lint filter, the ejection unit, especially the ventilation hole and the inlet filter of the pump as well as the floater, must be cleaned in shorter intervals.** The interior of the tank must be cleaned using clear water.



- For troubleshooting and inspection of the motor or the electrical components, please contact your specialist retailer.

Excepting in case of dysfunctions, a disassembly of the pump is not necessary.

After completion of the works, the siphon will be reinstalled (respect the correct position according to image 1!) and the O-ring will be carefully pressed into the existing groove between siphon and tank. In case of a heavy contamination or degradation, the O-ring must be replaced.

Finally, the grid/cover plate will be replaced and the mains plug will be plugged in.

For inspection, the unit should be inspected twice with clear water.

7. Malfunctions; causes and elimination



- Disconnect the power supply before carrying out any kind of work on the ejection unit.

Failure	Cause	Removal
1. No motor rotation	- Mains voltage missing or faulty	- Check power socket - Connect mains switch
	- Running wheel is blocked	- Remove cover; remove possibly existing foreign objects, in case of reoccurrence, removal by specialist.
	- Motor is overloaded	- If the motor does not switch-on after cooling, removal by specialist.
	- Floating switch is defective	- Removal by specialist
	- Motor is defective	- Removal by specialist
2. Motor rotates but does not convey	- Pressure pipe is blocked/Hose is bended	- Remove blockage and/or bends, effect a test running.
	- Pump ventilation in blocked	- Clean the ventilation hole in the pump housing
	- Non-return valve in not correctly installed	- Rotate, check the function
3. Motor runs in short intervals	- Non-return valve is leaky	- Clean and/or replace the non-return valve
4. Motor rotates with a high noise	- Foreign object reached the device	- Removal by specialist

8. Warranty

As manufacturer, for this unit we provide a warranty of 24 months from date of purchase.

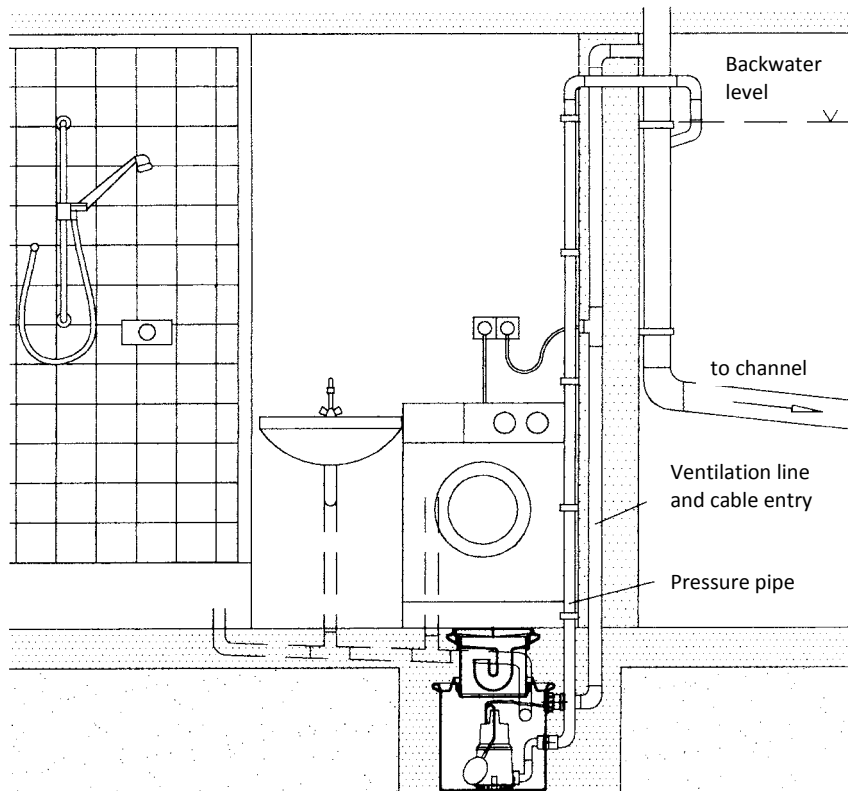
Your sales receipt passes for verification. During that warranty period, we gratuitously remedy all deficiencies which are attributed to material or fabrication defects by either repairing the unit, or by replacing the defective parts (to our choice).

Defects which are attributed to misuse or wear are excluded from warranty. We will assume no responsibility for consequential damages that are caused by a breakdown of the unit.

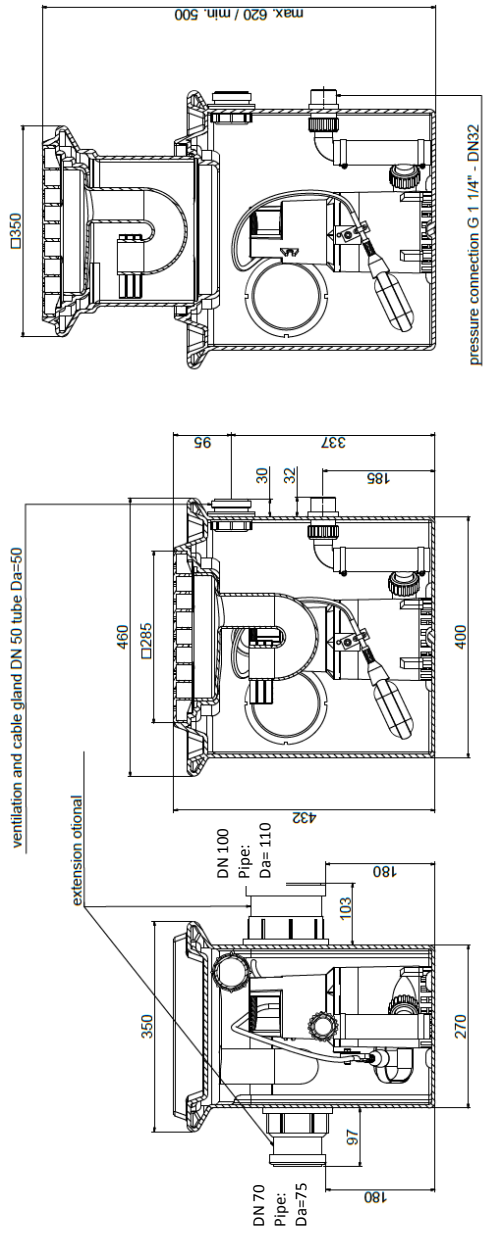
9. Technical modifications

We reserve the possibility of technical modifications for the purpose of further development.

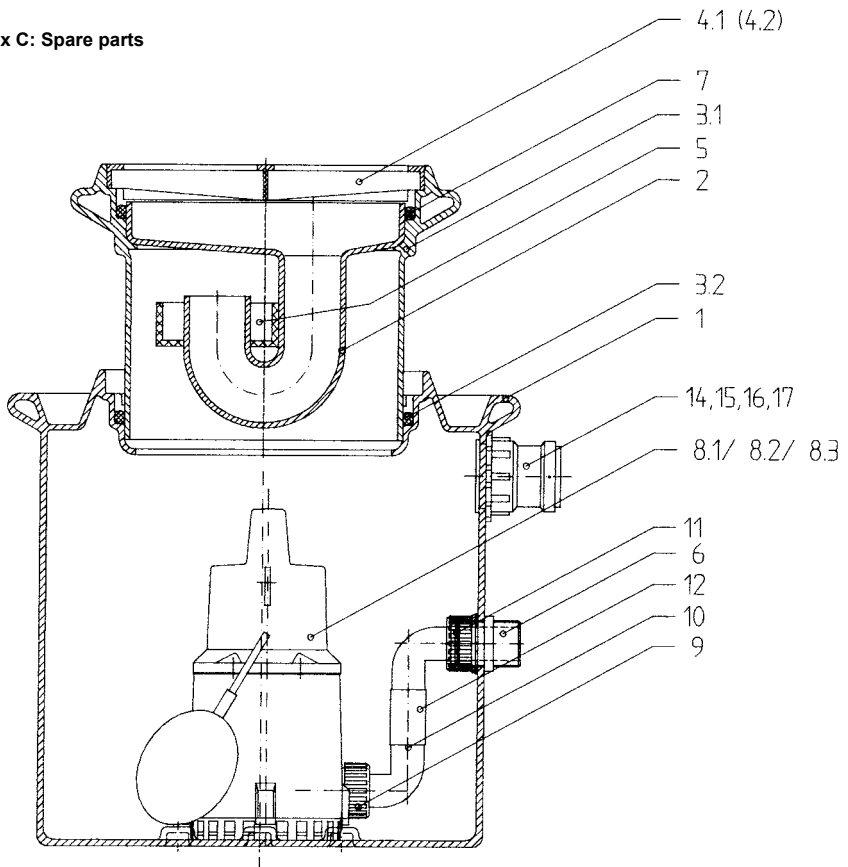
Appendix A Installation example



Appendix B: Dimensions

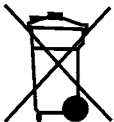


Appendix C: Spare parts



Pos.	Qty.	Designation	Art. no.
1/6	1	Tank with pressure joint	11518
2	1	siphon	11522
3.1	1	Attachment piece*	11521
3.2	1	O-ring for attachment piece	11526
4.1	1	Grid	11524
4.2	1	Cover*	11492
5	1	Dirt trap	ZE1630ME
7	1	O-ring for siphon	11526
8.1	1	Pump for UFB 200/30	11523
8.2	1	Pump for UFB 200/35	11540
8.3	1	Pump for UFB 200/40	11541
8.1		Pump for S-UFB 200/30	17208

Pos.	Qty.	Designation	Art. no.
8.2		Pump for S-UFB 200/35	11542
8.3		Pump for S-UFB 200/40	17949
9-12	1	Pressure connection complete	11497
11	1	Non-return valve	11736
14	1	Vent joint DN 50	11528
15	1	Inlet joint DN 50* till 04.2018	11494
15	1	Inlet joint DN 50*	20752
16	1	Inlet joint DN 70* till 04.2018	11495
16	1	Inlet joint DN 70*	20753
17	1	Inlet joint DN 100* till 04.2018	11496
17	1	Inlet joint DN 100*	20754



Only for EU countries

Do not put the electronic tools into the household waste!

According to the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and transposition into national law, wasted electronic tools must be collected separately and must be recycled in an environmentally compatible manner.