

Multicut Sewage Pumps

- Cutting rotor with stirring effect
- Plug-in cable connection
- External adjustable cutting mechanism
- Controllable oil chamber
- SiC mechanical seal independent of sense of rotation
- Moisture-sealed cable inlet
- Installed motor protection



MultiCut Cutting System

The unique MultiCut cutting system ensures a maximum of operational safety at outstanding delivery characteristics. Fitted with a cutter plate made of hardened stainless steel and a three-bladed knife, it disintegrates coarse additions in the wastewater with more than 62,000 cutting processes per minute before they can get into the pump hydraulics.

Solids which cannot be transported are rejected outside of the pump by the cutting rotor as the cutting system is located upstream from the pump hydraulics. Specifically arranged grooves on the cutter plate ensure additional safety as the cutting unit is permanently cleaned automatically during the delivery.

Applications

Submersible sewage pumps fitted with the MultiCut cutting system are used as stationary appliances in pressurised drainage systems for discharge in sparsely populated areas or of detached houses. They are suitable for pumping domestic wastewater with the usual additions (as specified in German standard DIN 1986, Part 3).

For pumping from ducts which are connected to the public sewer system, explosion-proof submersible pumps of the UFK series have to be used. On account of the upstream cutting system, the pressurised line as from DN 32 - as from DN 80 minimum without cutting system - may be routed parallel to the terrain.

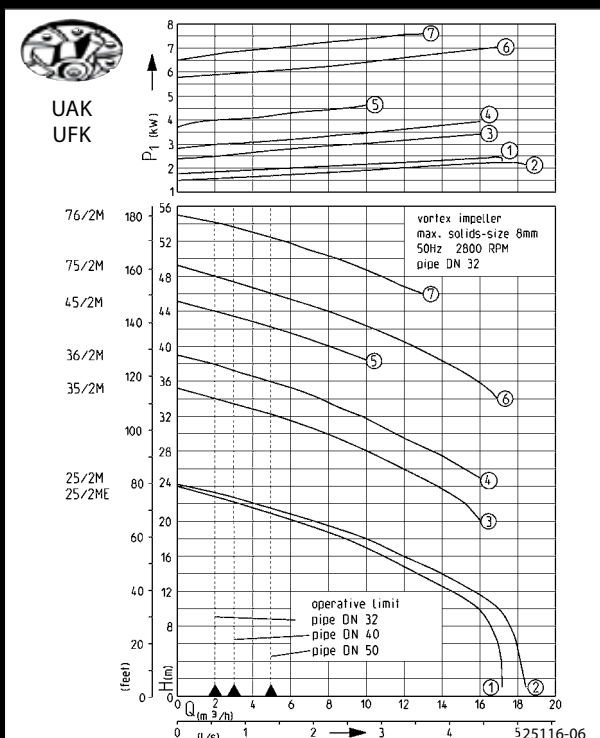
Operating conditions up to a temperature of the material to be transported of 40° Celsius

Submerged motor: Continuous operation (S1)

Emerged motor: Intermittent operation (S3)

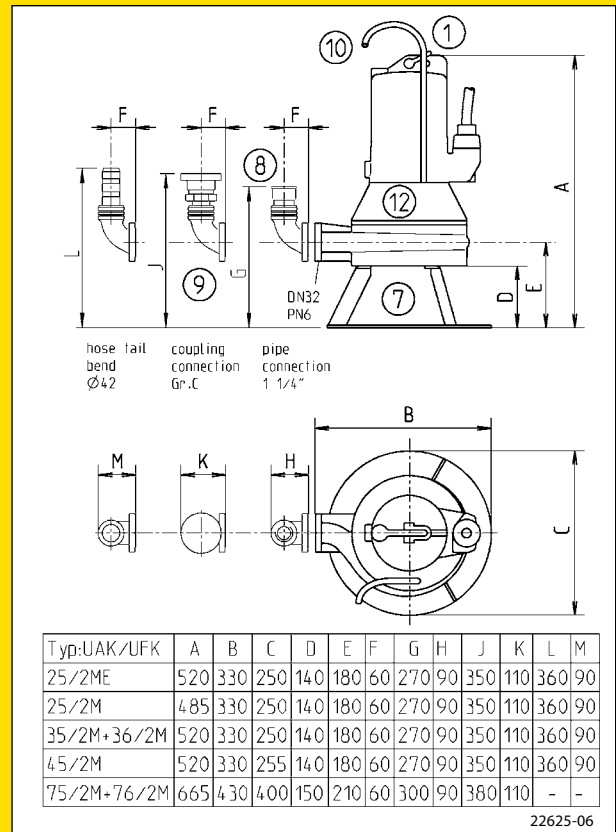
(e.g. 20% = 2 min. operation, 8 min. break)

Performance

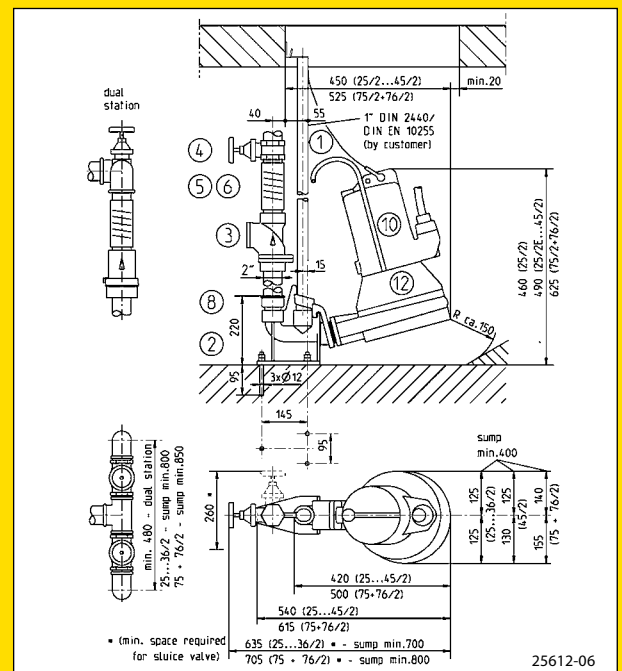


We reserve the right to change specifications without notice.
 Pump performance is subject to ISO 9906 tolerances.
 The minimum flow velocity in the pressure piping must be 0.7 m/s according to EN 12056.
 This data is represented in the performance curve as a limit of application.

Dimensions with pump base (mm)



Mounting arrangement with ball check valve



MultiCut Sewage Pumps

Type	Code No.	Type	Code-No.	Largest height x width	Cable length	Pressure connection	Weight approx.
UAK 25/2 ME*	09843	UFK 25/2 ME*	09742	390 x 330 mm	10 m	DN 32	37 kg
UAK 25/2 M	09809	UFK 25/2 M	09810	355 x 330 mm	10 m	DN 32	37 kg
UAK 35/2 M	09806	UFK 35/2 M	09807	390 x 330 mm	10 m	DN 32	41 kg
UAK 36/2 M	09907	UFK 36/2 M	09908	390 x 330 mm	10 m	DN 32	41 kg
UAK 45/2 M	09430	UFK 45/2 M	09431	390 x 330 mm	10 m	DN 32	42 kg
UAK 75/2 M	09912	UFK 75/2 M	09913	520 x 430 mm	10 m	DN 32	90 kg
UAK 76/2 M	09262	UFK 76/2 M	09263	520 x 430 mm	10 m	DN 32	90 kg

* See special technical notes in the chapter on "Technical data".

Electrical Data

Type	Voltage Volt	Motor rating kW			S3 %	Current Ampere	Built-in motor protection	RPM min. ⁻¹	Cable pluggable	Device Fuse min.	
		P ₁	P ₂								
UAK/UFK 25/2 ME**	1/N/PE~230	2.70	2.04	35	12.0	Thermostat	2776	H07 RN-F 6G 1.5	16 A		
UAK/UFK 25/2 M	3/PE~230/400	2.60	2.10	40	7.6/4.4	Thermostat	2860	H07 RN-F 6G 1.5	10 A		
UAK/UFK 35/2 M	3/PE~230/400	3.70	3.04	40	11.5/6.6	Thermostat	2895	H07 RN-F 6G 1.5	10 A		
UAK/UFK 36/2 M	3/PE~230/400	4.20	3.42	30	12.7/7.3	Thermostat	2880	H07 RN-F 6G 1.5	10 A		
UAK/UFK 45/2 M	3/PE~230/400	4.84	3.93	25	13.7/7.9	Thermostat	2857	H07 RN-F 6G 1.5	10 A		
UAK/UFK 75/2 M	3/PE~400/690	7.70	6.60	30	13.2/7.7	Thermostat	2920	H07 RN-F 10G 2.5	20 A***		
UAK/UFK 76/2 M	3/PE~400/690	7.70	6.60	30	13.2/7.7	Thermostat	2920	H07 RN-F 10G 2.5	20 A***		

** Operation possible only with control AD 12 ExME!

*** Value for Y/Δstart

Technical Data

Pump

Vertical, single-stage, submersible, pump housing with horizontal discharge, open impeller, MultiCut cutting system - adjustable.


Bearings

Common shaft for pump and motor, grease-packed ball bearing.

Seal

Silicon-carbide mechanical seal independent of the sense of rotation, oil chamber and artificial carbon mechanical seal or duplex rotary shaft seal to motor compartment, safe to run dry.

Motor

Submersible, insulation class F, type of protection IP 68, protected by winding thermostats, automatic activation by control only or - up to 3.2 kW three-phase current - by CEE plug with motor protection upon request, UFK types tested by German PTB Federal Agency, Ex designation  II 2 G Ex d IIB T4

Materials

Pump and motor housing as well as impeller made of grey cast iron GG (impeller 75/2 and 76/2 made of spheroidal graphiteiron), completely covered shaft with no contact to the pumped liquid, stainless steel hardened (57 HRC) cutting system, special flexible rubber cable.

Scope of supply

UAK sewage pump or explosion-proof UFK submersible pump in keeping with German / European standard DIN EN 12050 with shackle and 10 m cable, without plug, without base.

Special technical note for

UAK / UFK 25/2 ME

As the rated output of the motor exceeds 1.4 kW, the permission of the local power supply organisation has to be obtained prior to ordering and commissioning.

Soft starting device (only for UAK/UFK 25/2 ME)


The soft starting device is a resistance starter with a built-in overheating protection in order to reduce the starting current to approx. 33 A. The maximum switching frequency is 10/switching action per hour (at an ambient temperature of 40° Celsius). This assembly group is installed in the AD 12 ExME control in the factory when ordered. A subsequent installation is not possible.

Flushing Tube

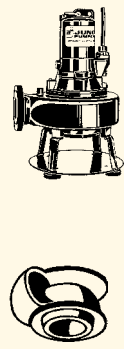
The flushing tube is screwed into the annular casing of the pump instead of the venting screw. It vents the pump and at the same time cleans the chamber with a jet of water. This bypass causes a loss of performance of abt. 10%.

Overview of submersible sewage pumps


MultiCut - Cutting System

 <ul style="list-style-type: none"> • Effluent with solid or long-fibre additions • Faeces-containing effluent • Domestic effluent without faeces • Mechanically cleaned effluent 	MultiCut DN 32 For backpressure protection of single dwellings	<ul style="list-style-type: none"> • 2,800 min.⁻¹ • H max 18 m • Q max 18 m³/h
	MultiCut DN 32 Stationary use in pressure drainage systems for the disposal of sprawled areas or single dwellings	<ul style="list-style-type: none"> • 2,800 min.⁻¹ • H max 55 m • Q max 20 m³/h

MultiStream - Single Channel Impeller

 <ul style="list-style-type: none"> • Fibres- and solids-containing effluent • Combined wastewater • Raw effluent • Raw sludge • Rainwater 	MultiStream DN 65 To be used for drainage applications or in case of floodings, e.g. in civil protection	<ul style="list-style-type: none"> • 2,800 min.⁻¹ • 40 mm free passage • H max 27 m • Q max 70 m³/h
	MultiStream DN 80 / DN 100 In communal and industrial pump stations with high delivery heads	<ul style="list-style-type: none"> • 2,800 min.⁻¹ • 70 mm free passage • H max 64 m • Q max 280 m³/h
	MultiStream DN 80 / DN 100 In communal and industrial pump stations and rain storage reservoirs	<ul style="list-style-type: none"> • 1,400 min.⁻¹ • 70 mm free passage • H max 22 m • Q max 190 m³/h
	MultiStream DN 100 / DN 150 In communal and industrial pump stations with high flow rates and in rain storage reservoirs	<ul style="list-style-type: none"> • 1,400 min.⁻¹ • 100 mm free passage • H max 39 m • Q max 520 m³/h

MultiFree - Vortex Impeller

 <ul style="list-style-type: none"> • Fibre and solids containing effluents with long-fibre additions prone to matting • Effluent with abrasive admixtures • Liquids containing trapped gas and air • Surface water • Mixed waste-water • Raw effluent • Raw sludge • Rain water 	MultiFree DN 65 Stationary use in pressure drainage systems and in domestic and commercial drainage systems	<ul style="list-style-type: none"> • 2,800 min.⁻¹ • 65 mm free passage • H max 21 m • Q max 70 m³/h
	MultiFree DN 80 In communal and industrial pump stations and in rain storage reservoirs	<ul style="list-style-type: none"> • 1,400 min.⁻¹ • 80 mm free passage • H max 12.5 m • Q max 115 m³/h
	MultiFree DN 100 In communal and industrial pump stations and in rain storage reservoirs	<ul style="list-style-type: none"> • 1,400 min.⁻¹ • 100 mm free passage • H max 16 m • Q max 168 m³/h