

Application

Centrifugal submersible sewage pumps fitted with the MultiCut cutting system are used as stationary appliances for backpressure protection 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)

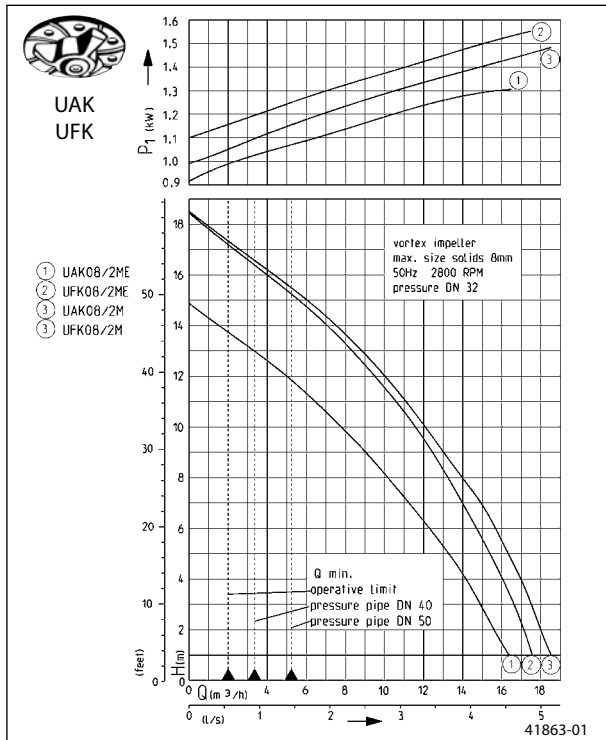
(e.g. 35% = 3.5 min. operation, 6.5 min. break)

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.



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.

- 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 sewage pumps

Sewage pumps

Type		Largest height x width	Cable length	Pressure connection	Weight approx.	Code No.
UAK 08/2 M	Pumps with control unit	370 x 235 mm	10 m	DN 32	16.5 kg	JP 09945
UAK 08/2 ME						JP 09312
UAK 08/2 MS	Pumps with automatic switch control	370 x 340 mm	10 m	DN 32	17.0 kg	JP 09946
UAK 08/2 MES						JP 09313
UAK 08/2 M	with Ex-proof	320 x 235 mm	10 m	DN 32	23.5 kg	JP 09968
UAK 08/2 ME	with Ex-proof	320 x 235 mm	10 m	DN 32	23.5 kg	JP 09314












Performance

Type	H [m]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
UAK 08/2 ME+MES	Q [m ³ /h]	16.5	15.5	15	14	13	12	11	10	9	7.5	6.5	5	3.5	1.5		
UAK 08/2 M+MS+ UFK 08/2 M		18.5	18	17.5	17	16.5	15.5	15	14	13	12	11	10	9	7.5	6	4.5
UAK 08/2 ME		17.5	17	16.5	16	15.5	15	14	13	12.5	11.5	10.5	9.5	8	7	5.5	4

Electrical data

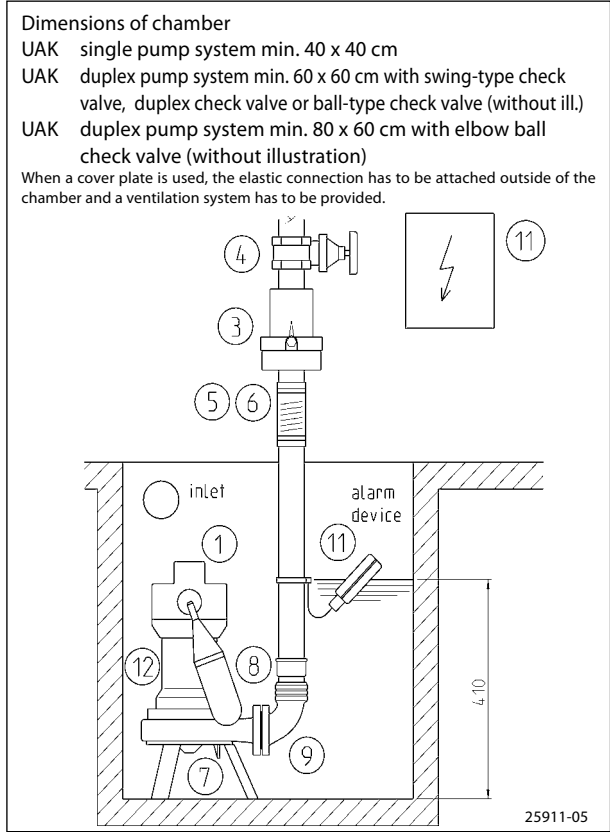
Type	Voltage Volt	Motor rating kW P ₁	P ₂	S3 %	Current Ampere	Motor protection	RPM min. ⁻¹	Cable	Plug
UAK 08/2 M+MS	3/PE~400	1.65	1.24	10	2.8	in the motor	2674	H07RN-F-4G1	CEE-16 A
UAK 08/2 ME+MES	1/N/PE~230	1.37	0.98	10	6.0	in the motor	2705	H07RN-F-3G1	Safety-
UAK 08/2 M	3/PE~400	1.65	1.24	35	2.8	with control	2674	H07RN-F-6G1.5	without
UAK 08/2 ME	1/N/PE~230	1.70	1.14	25	7.5	with control	2584	H07RN-F-6G1.5	without

Accessories

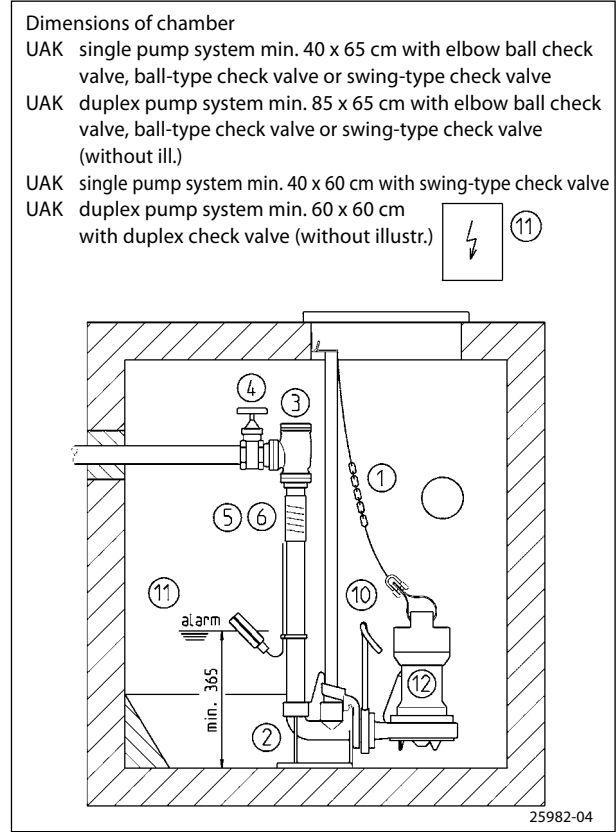
		Code No.	UAK M	UAK ME	UAK MS	UAK MES	UFK M	UFK ME	
	① Chain with eyelets DIN 766 Load-bearing capacity 5 x 18.5, 2.5 m, 2 eyelets 320 kg 5 x 18.5, 5.0 m, 2 eyelets 320 kg Stainless steel (1.4401), 4 x 16, 2.5 m, 5 eyelets + 1 shackle 200 kg Stainless steel (1.4401), 4 x 16, 5.0 m, 8 eyelets + 2 shackle 200 kg Hoist (not for 4 mm stainless steel chains) 350 kg Loop for attaching the chain to the pump Shackle A 0,6	JP 19189 JP 00423 JP 23986 JP 24934 JP 21394 JP 25581 JP 13402	•	•	•	•	•	•	
	② Guide rail system GR 35, 1½" female thread (see mounting arrangement) JP 14094 Guide rail system GR 35, 1½" female thread (see mounting arrangement) JP 29953 for UAK 08	JP 14094 JP 29953	•	•	•	•	•	•	
		③ Swing-type check valve 1½" (DN 40), PN 4 H 150 B 120 D 1½" JP 00317 DIN EN 12050-4 2" (DN 50), PN 4 150 120 2" JP 00326 Ball check valve 2" (DN 50), PN 6 185 155 2" JP 09857 DIN EN 12050-4 (without illustr.) Elbow ball check valve 1½" (DN 40), PN 6 JP 22442 DIN EN 12050-4 (without illustr.) Duplex swing-type check valve 1½" (DN 40), PN 6 200 280 1½" JP 09155 for duplex pump stations, DIN EN 12050-4 (without illustration)	JP 00317 JP 00326 JP 09857 JP 22442 JP 09155	•	•	•	•	•	•
			④ Stop valve 1½" (DN 40), PN 16 H 125max. 60 B 110 D 1½" JP 11837 2" (DN 50), PN 16 140 max. 67 2" JP 11838	JP 11837 JP 11838	•	•	•	•	•
				⑤ Elastic connection 1½" (DN 40), PN 4 H 120 D 50 JP 20368 2" (DN 50), PN 4 150 63 JP 17194	JP 20368 JP 17194	•	•	•	•
				⑥ Clamp 1½" JP 03571 2" JP 03572	JP 03571 JP 03572	•	•	•	•
⑦ Bases (contained in the scope of supply of UAK 08/2 MS and MES) JP 26016 Retaining plate in connection with static air level control JP 23100			JP 26016 JP 23100	•	•	•	•	•	•
	⑧ Reducing socket 1½"-2" for guide rail GR 35 JP 18388 1¼"-1½" for pipe connection JP 10152 1¼"-2" for pipe connection JP 14274	JP 18388 JP 10152 JP 14274	•	•	•	•	•		
	 ⑨ Pipe connection 1¼" (inside thread) for transportable application JP 16870	JP 16870	•	•	•	•	•		
	 ⑨ Coupling connection size C, for transportable application JP 14076 Hose connection Ø 42, for transportable application JP 14077	JP 14076 JP 14077	•	•	•	•	•		
⑩ Flushing tube - type I M stainless steel with connecting flange* JP 40333	JP 40333	•	•	•	•	•	•		
	⑪ Alarm system, separate, mains-dependant, 3 m JP 16723 Alarm system, separate, mains-dependant, 9.5 m JP 24434	JP 16723 JP 24434	•	•	•	•	•		
	Electrical connection Single units AD 00 E JP 00289 + pressure switches JP 17101 AD 8 ExME, DRP JP 43162 AD 25 ExM, DRP JP 43159 AD 25 MP SM* JP 27118 Duplex units BD 00 E JP 00482 + pressure switches JP 17101 BD 25 ExM, DRP JP 43165 BD 25 MP SM* JP 27152 Special control unit on request retaining plate (contained in the scope of supply of GR 35) JP 23100 * Control panels for pumps in explosion hazardous locations require a dry run protection JP 41463	JP 00289 JP 17101 JP 43162 JP 43159 JP 27118 JP 00482 JP 17101 JP 43165 JP 27152 JP 23100 JP 41463	•	•	•	•	•		
 Rechargeable battery for mains-independent alarm (for MP SM controls, order article No. JP 28603) JP 07562	JP 07562	•	•	•	•	•	•		
	⑫ Seal leak detector DKG (for UAK) JP 00252 Seal leak detector DKG-Ex (for UFK) JP 00249	JP 00252 JP 00249	•	•	•	•	•		

* Flushing at 5 m delivery head For additional accessories, please refer to controls.

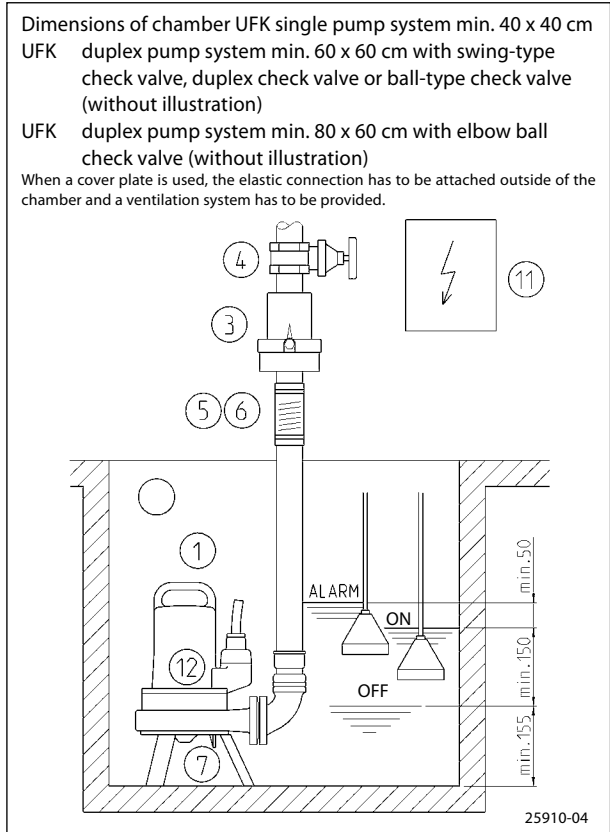
Mounting arrangement with UAK base



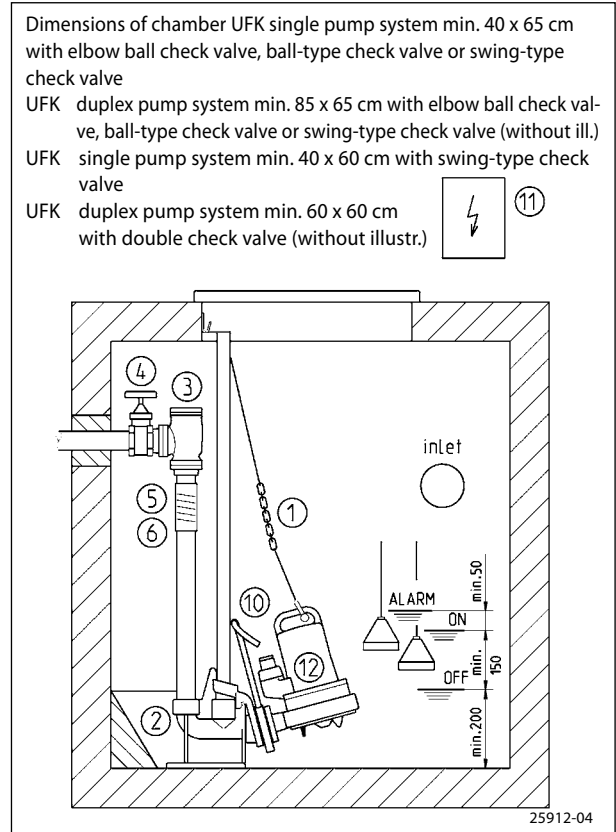
Mounting arrangement with guide rail system



Mounting arrangement with UFK base



Mounting arrangement with guide rail system



UAK main dimensions (mm)

hose tail bend Ø42
coupling connection Gr.C
pipe connection 1 1/4" and reducing socket 1 1/4"-1 1/2"

DN32 PN6

Typ UAK	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R
08/2M +ME	445	235	230	-	100	128	60	265	90	300	110	310	90	-	-	-
08/2MS+MES	445	340	255	115	140	100	128	60	265	90	300	110	310	90	190	305

When used downstream of the backpressure level, German / European standard DIN EN 12056 requires the pressure pipe to be connected elastically and to be passed over the locally defined backpressure level in a loop. Moreover, the installation of a non-return valve is prescribed, which has been tested in keeping with German / European standard DIN EN 12050-4. In addition, we recommend an alarm system for monitoring.

25981-08

Mounting arrangement with guide rail system

UAK

dual station

1" DIN 2440/
DIN EN 10255
(by customer)

370 min.20

40 55

4 5 6 3 1 2

1 1/2" 15

175 95 3xØ12 145 65

420

sump min.400

min.275 dual station sump min.600

260 * 105 110 105

340 460 535 * sump min.585

* (min. space required for sluice valve)

The installation of the DR40 is not possible for pumps with integrated float switch.

Observe the mounting instructions in case of modifications! 29999-03

UFK main dimensions (mm)

hose tail bend Ø42
coupling connection Gr.C
pipe connection 1 1/4" and reducing socket 1 1/4"-1 1/2"

DN32 PN6

60 60 60

310 300 265 395 100 128

90 110 90 235 230

When used downstream of the backpressure level, German / European standard DIN EN 12056 requires the pressure pipe to be connected elastically and to be passed over the locally defined backpressure level in a loop. Moreover, the installation of a non-return valve is prescribed, which has been tested in keeping with German / European standard DIN EN 12050-4. In addition, we recommend an alarm system for monitoring.

40211-01

Mounting arrangement with guide rail system

UFK

dual station

1" DIN 2440/
DIN EN 10255
(by customer)

385 min.20

40 55

4 5 6 3 1 2

1 1/2" 15

175 95 3xØ12 145 95

420

sump min.400

min.275 dual station sump min.600

260 * 90 105 105

355 475 550 * sump min.600

* (min. space required for sluice valve)

Observe the mounting instructions in case of modifications! 26122-09

Technical data

Pump

Vertical, single-stage, submersible, spiral casing with horizontal discharge flange, open impeller MultiCut cutting system - adjustable.


Bearing

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

Seal

Silicon-carbide mechanical seal independent of the sense of rotation, oil chamber and duplex radial shaft seal towards the motor compartment, safe to run dry.

Motor

Submersible, type of protection IP 68, protected by winding thermostats. UFK types tested by the German PTB Federal Agency for Ex designation  II 2 G Ex d IIB T4, automatic activation through control unit only.

Flushing tube

The type I M flush pipe is fitted between the pressure drainage of the pump and the pressure pipe. 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 %.

Materials

Pump and UFK motor housing made of grey cast iron, impeller made of glass-fibre reinforced plastic (corrosion-resistant), UAK motor housing made of stainless steel, wear plate made of spheroidal ductile cast iron, UAK terminal board hood made of glass-fibre reinforced plastic, pump base (type UAK MS + MES) made of stainless steel. Shaft made of stainless steel, cutting device made of hardened stainless steel (57 HRC), special flexible rubber cable.

Installation

Install the pump vertically (hose connection up to size C possible); in case of stationary installation provide detachable connection in front of the swing-type check valve and/or incorporate a guide rail system.

Scope of supply

UAK type as a prewired pump in keeping with German / European standard DIN EN 12050 with 10 m cable and CEE plug 16 A (type M + MS) and/or safety plug (type ME + MES).

The pump bases are part of the scope of supply for pumps with automatic switch control.

Type UFK as explosion-proof pump in keeping with German / European standard DIN EN 12050 with 10 m cable without plug. Complete motor protection only in combination with appropriate controls (see accessories).