

Application

Submersible sewage pumps with cutting system MultiCut are used as non-moving appliances for backpressure protection of single buildings. They are suitable for pumping domestic waste waters with the usual additions (as specified in DIN 1986 part 3).

For pumping from ducts that are connected to the public sewer system ex-proof submersible pumps of the series UFK have to be used. Due to the upstream cutting system the pressure line manufactured in DN 40 - without cutting system minimum DN 80 - can be routed parallel to the terrain.

Operating conditions up to 40 °C temperature of material to be pumped

Submerged motor: Continuous operation (S1)

Emerged motor: Intermittant operation (S3)

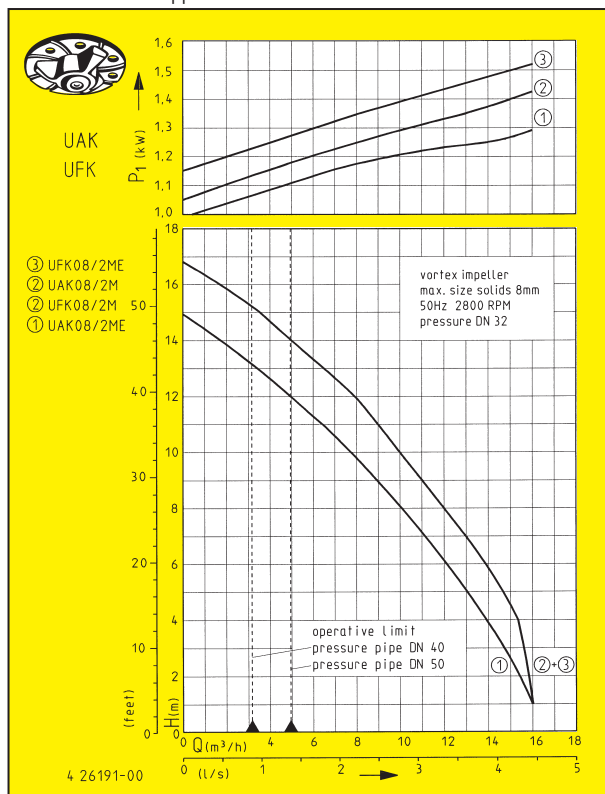
(eg. 35% = 3,5 min. operation, 6,5 min. pause)

The MultiCut System

The liquid flows into the impeller through a rigid, perforated cutter plate in which apertures are tapered to improve the suction performance. The sharpened three bladed cutter, rotating in front of the inlet, shears any solids present. The impeller then passes them through a counterflow system in the water plate, thence into the volute casing and out through the pump discharge.

The cutter plate rejects any material such as stones or metal that it is unable to cut. The combined cutting and pumping system gives trouble-free, low-cost sewage disposal even with difficult ground conditions.

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 system with agitator effect
- ▶ Pluggable cable joint
- ▶ External adjustable cutting system
- ▶ Controllable oil chamber
- ▶ SiC mechanical seal independent of rotation direction
- ▶ Moisture sealed cable inlet
- ▶ Built-in protection motor switch
- ▶ Z-53.2-347 (UFK)



We reserve the right to change specifications without notice. Pump performance is subject to ISO 9906 tolerances.

Submersible sewage pumps

Type		Height x Width (max.)	Cable length	Discharge branch	Weight	Code No.
UAK 08/2 M	Pumps without level control	370 x 235 mm	10 m	DN 32	16,5 kg	9945
UAK 08/2 ME		370 x 235 mm	10 m	DN 32	16,0 kg	9312
UAK 08/2 MS	Pump with built-in level control	370 x 340 mm	10 m	DN 32	17,0 kg	9946
UAK 08/2 MES		370 x 340 mm	10 m	DN 32	16,5 kg	9313
UFK 08/2 M	Pumps with explosion-proof	320 x 235 mm	10 m	DN 32	23,5 kg	9968
UFK 08/2 ME*		320 x 235 mm	10 m	DN 32	23,5 kg	9314

* operation only possible with control unit AD 8 ExME

Performance

Type	Delivery head H [m]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
UAK 08/2 ME+MES	Flow rate Q [m ³ /h]	16	15,5	14,5	14	13	12	11	10	9	7,5	6,5	5	3,5	1,5	
UAK 08/2 M+MS		16	16	16	15,5	14,5	14	13	12	11	10	9	8	6,5	5	3,5
UFK 08/2 M+ME		16	16	16	15,5	14,5	14	13	12	11	10	9	8	6,5	5	3,5

Electrical data

Type	Type of current	Motor rating kW P ₁	P ₂	S3 %	F.L.C. Amp.	Motor-protection	RPM min ⁻¹	Cable	Plug
UAK 08/2 M+MS	3~400	1,65	1,24	10	2,8	incorporated	2674	H07RN-F-4G1	CEE-16 A
UAK 08/2 ME+MES	1N~230	1,37	0,98	10	6,0	incorporated	2705	H07RN-F-3G1	Safety-
UFK 08/2 M	3~400	1,65	1,24	35	2,8	with control unit	2674	H07RN-F-6G1,5	without
UFK 08/2 ME	1N~230	1,70	1,14	25	7,5	with control unit	2584	H07RN-F-6G1,5	without

Mounting arrangement with pump base

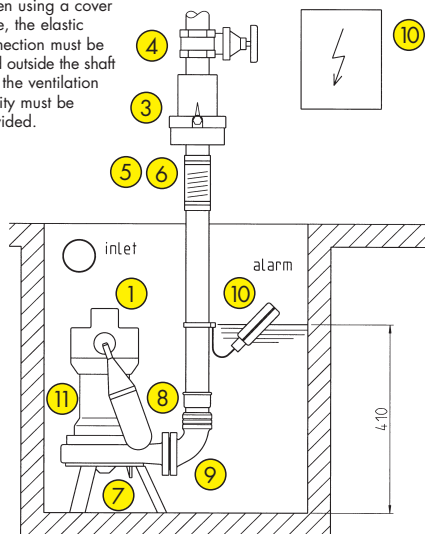
Sump dimensions

UAK/UFK Single pump installation min. 40 x 40 cm

UAK/UFK Duplex pump installation min. 60 x 60 cm with swing-type check valve, duplex swing-type check valve or ball check valve (without illustration)

UAK/UFK Duplex pump installation min. 80 x 60 cm with elbow ball check valve (without illustration)

When using a cover plate, the elastic connection must be fitted outside the shaft and the ventilation facility must be provided.



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Mounting arrangement with guide rail system

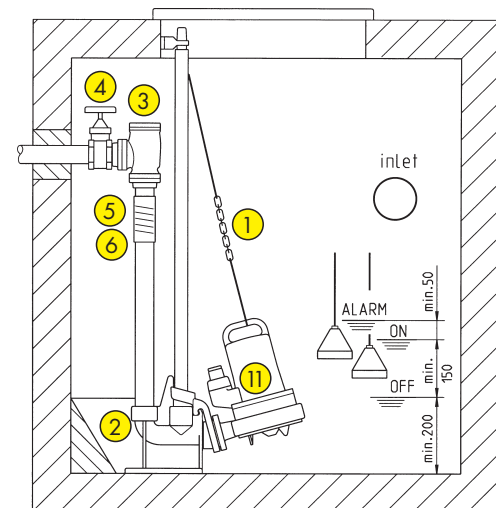
Sump dimensions

UAK/UFK Single pump installation min. 40 x 65 cm with elbow ball check valve, ball check valve or swing-type check valve

UAK/UFK Duplex pump installation min. 85 x 65 cm with elbow ball check valve, ball check valve or swing-type check valve (without illustration)

UAK/UFK Single pump installation min. 40 x 60 cm with swing-type check valve



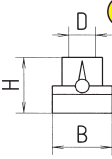








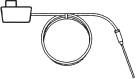
UAK/UFK Duplex pump installation min. 60 x 60 cm with duplex swing-type check valve (without illustration)



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Fit the control unit in a well ventilated and dry area, safe from flooding, outside the hazardous location.

Accessories

		Code No.	UAK M	UAK ME	UAK MS	UAK MES	UFK M	UFK ME	
	1 Chain DIN 766 5 x 18,5, length 2,5 m, 2 rings 320 kg 19189 5 x 18,5, length 5,0 m, 2 rings 320 kg 423 Stainless steel (1.4401), 4 x 16,0, length 2,5 m, 5 rings + 1 shackle 200 kg 23986 Stainless steel (1.4401), 4 x 16,0, length 5,0 m, 8 rings + 2 shackles 200 kg 24934 Hoist (not for chains 4 mm in stainless steel) 21394 Loop for connection of the chain to the pump 25581 Shackle A 0,6 13402		•	•	•	•	•	•	
	 2 Guide rail system GR 35 , 1½" inside thread (see example of installation) 14094		•	•			•	•	
	 3 Swing-type check valve 1½" (DN 40), PN 4 H 150 B 120 D 1½" 317 EN 12050-4 2" (DN 50), PN 4 150 120 2" 326 Ball check valve 2" (DN 50), PN 6 185 155 2" 9857 EN 12050-4 (without illustration) Elbow ball check valve 1½" (DN 40), PN 6, EN 12050-4 (without illustration) 22442 Duplex swing-type check valve 1½"(DN 40), PN 6 200 280 1½" 9155 for double pump station, EN 12050-4 (without illustration)		•	•	•	•	•	•	
		 4 Stop valve 1½" (DN 40), PN 16 H 125 L max.60 D 1½" 11837 2" (DN 50), PN 16 140 max.67 2" 11838		•	•	•	•	•	•
		 5 Elastic connection 1½" (DN 40), PN 4 E 120 D inside 50 20368 2" (DN 50), PN 4 150 63 17194		•	•	•	•	•	•
			 6 Hose band clamp 1½" 3571 Hose band clamp 2" 3572		•	•	•	•	•
7 Pump base (included with UAK 08/2 MS and MES) 26016 Holder in connection with static air level control 23100			•	•			•	•	
 8 Reducing socket 1½"-2" for Guide rail system GR 35 18388 1¼"-1½" for Outlet bend 10152 1¼"-2" for Outlet bend 14274		•	•			•	•		
	 9 Pipe connection 1¼" (inside thread), for transportable use 16870 Coupling connection size C, for transportable use 14076 Hose tail bend ø 42, for transportable use 14077		•	•	•	•	•	•	
		10 Alarm system , separate, mains-dependant 16723				•	•		
 Electrical connection Single unit AD 00 E 289 +pressure switches 17101 AD 8 ExME 25941 AD 25 ExM 26166 AD 25 MP SM 27118 Duplex unit BD 00 E 482 +pressure switches 17101 BD 25 ExM 26170 BD 25 MP SM 27152 Special control unit on request Accessories for AD.../BD... Holder* 23100				•				•	
	 CEE-plug with ex-motorprotection 12281 for pump in transportable use, ISO casing with 16 A CEE-plug The CEE-plug with ex-motorprotection can only be installed and operated outside the hazardous location.						•		
	 Rechargeable battery for off the line operation of the alarm system (for control units MP SM please order two pieces) 7562		•	•	•	•	•	•	
	 11 Seal leak control DKG (for UAK) 252 Seal leak control DKG-Ex (for UFK) 249		•	•	•	•		•	

*(included in the scope of supply of the GR 35)

Technical data

Pump

Vertical, single-stage, submersible, pump case with horizontal discharge flange, open impeller, adjustable Multi-Cut cutting system

Bearings

Common shaft for pump and motor, grease-packed ball bearings

Seal

Silicon carbide mechanical seal independent of rotation direction – oil chamber and duplex rotary shaft seal as secondary seal, suitable for dry running

Motor

Submersible, enclosure IP 68, protected by winding thermostats, UFK types tested by PTB, type of protection Ex II 2 G EEx d IIB T4, automatic activation through control unit only

Materials

Pump motor case and impeller in grey cast iron GG. UAK motor housing in stainless steel. Wearing plate in spheroidal graphite iron GGG. Top cover UAK glass fibre reinforced plastic. Pedestal (UAK MS + MES) manufactured in stainless steel. Shaft in special steel, stainless steel hardened (57 HRC) cutting system. Special flexible rubber cable.

Installation

Install pump vertically (hose tail bend possible up to size C), provide a detachable connection in front of the swing-type check valve or incorporate a guide rail system for permanent installation

Scope of supply

UAK pump acc. to EN 12050 ready for connection with 10 m cable and CEE-plug 16 A (type M + MS) respectively safety plug (type ME + MES). For pumps with float switch the pedestal is standard.

UFK Ex pump acc. to EN 12050 with 10 m cable without plug. Complete motor protection only in connection with the appropriate control unit.

