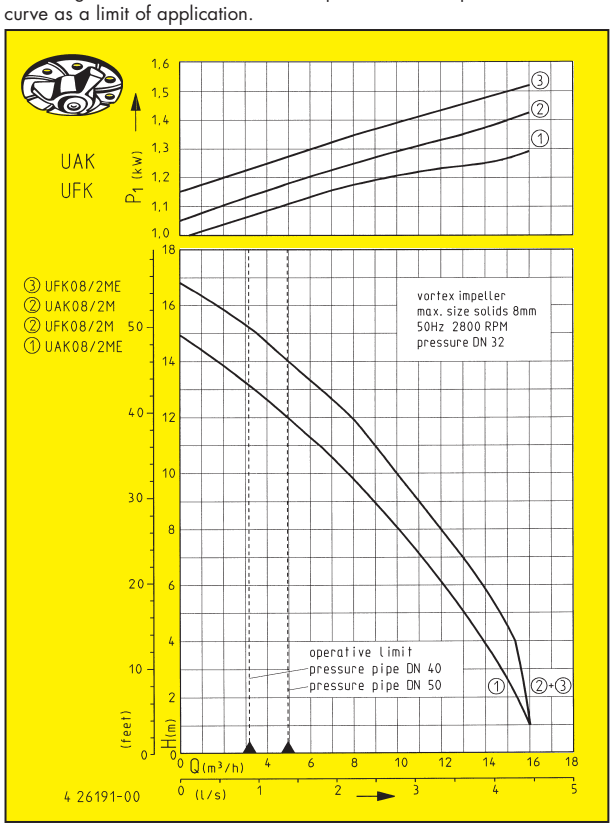
Application

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	370 x 235 mm	10 m	DN 32	16,5 kg	**9945**
UAK 08/2 ME	level control	370 x 235 mm	10 m	DN 32	16,0 kg	**9312**
UAK 08/2 MS	Pump with built-in	370 x 340 mm	10 m	DN 32	17,0 kg	**9946**
UAK 08/2 MES	level control	370 x 340 mm	10 m	DN 32	16,5 kg	**9313**
UFK 08/2 M	Pumps with	320 x 235 mm	10 m	DN 32	23,5 kg	**9968**
UFK 08/2 ME*	explosion-proof	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 [m³/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

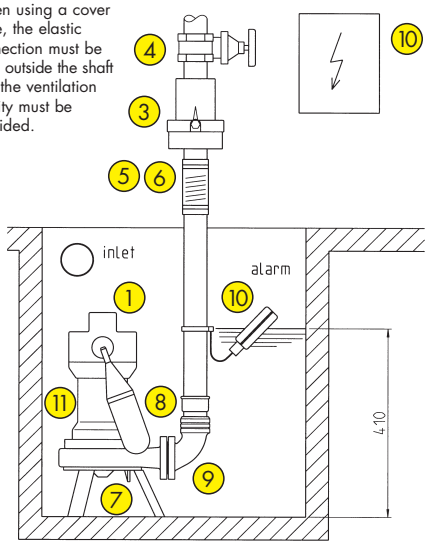
Electrical data

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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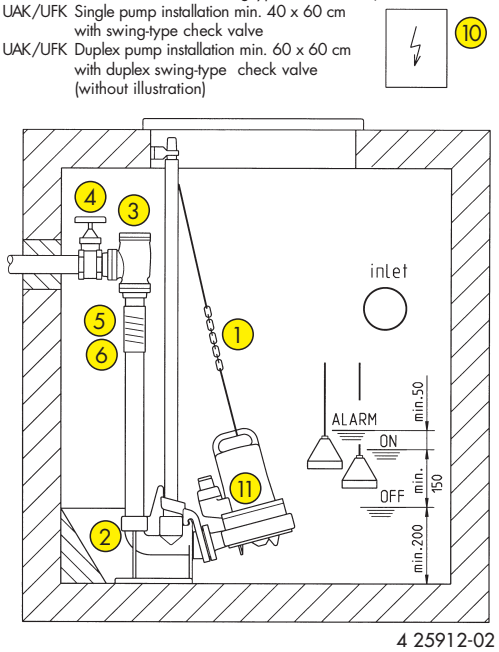
Mounting arrangement with guide rail system

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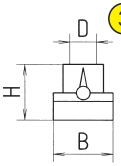
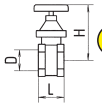
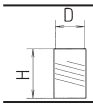
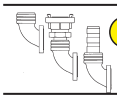
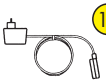
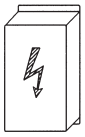
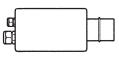
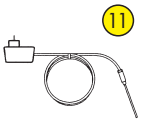
Fit the control unit in a well ventilated and dry area, safe from flooding, outside the hazardous location.

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			H	B	D						
		Swing-type check valve	1½" (DN 40), PN 4	150	120	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			H	L	D						
		Stop valve	1½" (DN 40), PN 16	125	max.60	1½"	**11837**	●	●	●	●	●	●
			2" (DN 50), PN 16	140	max.67	2"	**11838**	●	●	●	●	●	●
	5			E	D inside								
		Elastic connection	1½" (DN 40), PN 4	120	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** 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.					**12281**					●	
		**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

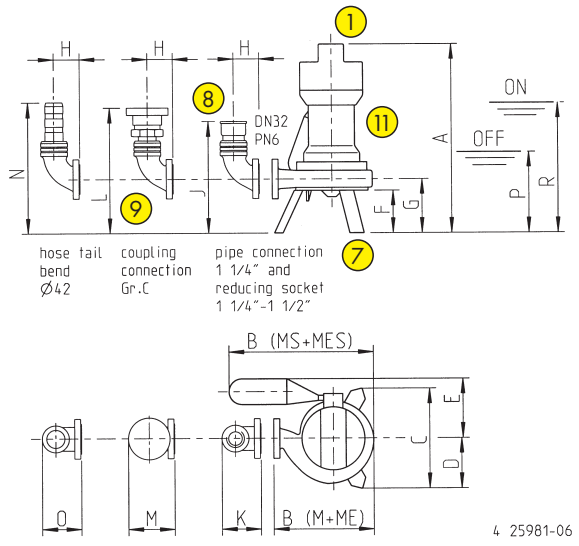
Motor
Submersible, enclosure IP 68, protected by winding thermostats, UFK types tested by PTB, type of protection ⟨Ex⟩ II 2 G EEx d IIB T4, automatic activation through control unit only

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.

Dimensions (mm) UAK/UFK 08/2 M



Typ	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R
UAK08/2M +ME	445	235	230	-	-	100	128	60	265	90	300	110	310	90	-	-
UAK08/2MS+MES	445	340	255	115	140	100	128	60	265	90	300	110	310	90	190	305
UFK08/2M +ME	395	235	230	-	-	100	128	60	265	90	300	110	310	90	-	-

In case of installation beneath the backpressure level the pressure tube must be taken in a loop over the local backup level acc. to EN 12056. Besides, it must be secured with EN 12050-4-proofed swing-type check valve. Additionally we recommend an alarm system.

Mounting arrangement Guide rail system GR 35

with UAK/UFK 08/2 M + ME