

Submersible sewage pumps – MultiCut

Application

MultiCut submersible pumps are ideally suited for sewage and waste disposal in residential areas, such as Housing Estates, Holiday Parks or individual housing projects. These pumps are ideal for mounting in remote situations, such as Motorway Service Stations and Rural Communities/farms etc. The great advantage of this pumping system is the use of small bore pipework pumping over long distances, following the natural contours of the ground. The economic value of this type of system against conventional large diameter pumping mains are considerable. Operating conditions up to 40 °C temperature of material to be pumped.

Submerged motor: Continuous operation (S1)

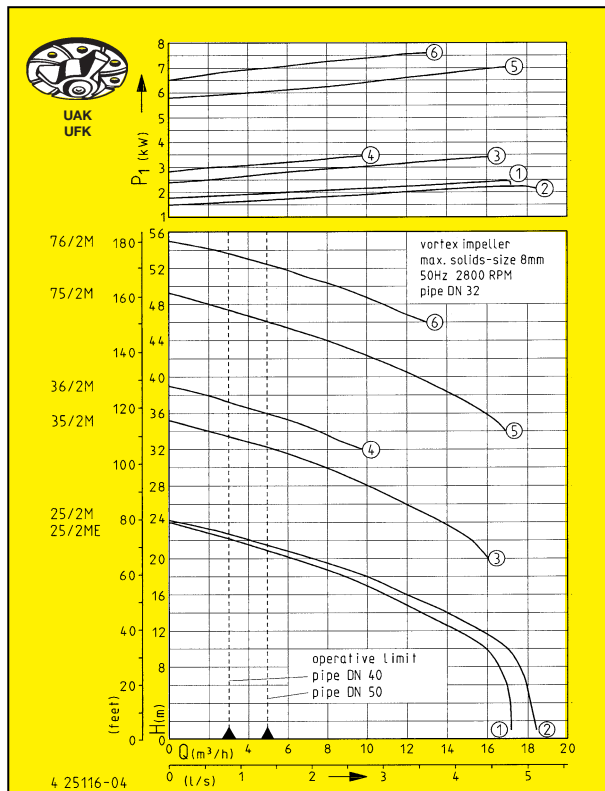
Emerged motor: Intermittant operation (S3)

(for example 20 % = 2 min. operation, 8 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 wear 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 DIN EN 12056. This data is represented in the performance curve as a limit of application.



UFK 25/2 M

- ▶ **Cutter with effect on suction performance**
- ▶ **Plug-in cable connection (UFK 25...-36/2 M)**
- ▶ **Outlying adjustable cutting system**
- ▶ **Controllable oil chamber**
- ▶ **SiC mechanical seal independent of sense of rotation**
- ▶ **Moisture sealed cable inlet**
- ▶ **Z-53.2-348 (UFK 25...-76/2M)**



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

Submersible sewage pumps

Type	Height/Width (max.)	Cable length	Discharge branch	Weight	Code No.
UAK 25/2 ME*	390 x 330 mm	10 m	DN 32	37 kg	9843
UAK 25/2 M	355 x 330 mm	10 m	DN 32	37 kg	9809
UAK 35/2 M	390 x 330 mm	10 m	DN 32	41 kg	9806
UAK 36/2 M	390 x 330 mm	10 m	DN 32	41 kg	9907
UAK 75/2 M	520 x 430 mm	10 m	DN 32	90 kg	9912
UAK 76/2 M	520 x 430 mm	10 m	DN 32	90 kg	9262
UFK 25/2 ME	390 x 330 mm	10 m	DN 32	37 kg	9742
UFK 25/2 M	355 x 330 mm	10 m	DN 32	37 kg	9810
UFK 35/2 M	390 x 330 mm	10 m	DN 32	41 kg	9807
UFK 36/2 M	390 x 330 mm	10 m	DN 32	41 kg	9908
UFK 75/2 M	520 x 430 mm	10 m	DN 32	90 kg	9913
UFK 76/2 M	520 x 430 mm	10 m	DN 32	90 kg	9263

* see technical advice

Performance

Type	Delivery head H (m)	6	9	12	15	18	21	25	28	32	34	36	40	44	46	48	50	52	54	
UAK/UFK 25/2 ME	Flow rate (m³/h)	17	16	15	12	9	5													
UAK/UFK 25/2 M		18	17	16	13	10	6													
UAK/UFK 35/2 M		-	-	-	-	-	16	13	10	6										
UAK/UFK 36/2 M		-	-	-	-	-	-	-	-	10	8	5								
UAK/UFK 75/2 M		-	-	-	-	-	-	-	-	-	17	17	13	8	5	2				
UAK/UFK 76/2 M		-	-	-	-	-	-	-	-	-	-	-	-	-	13	11	9	6	3	

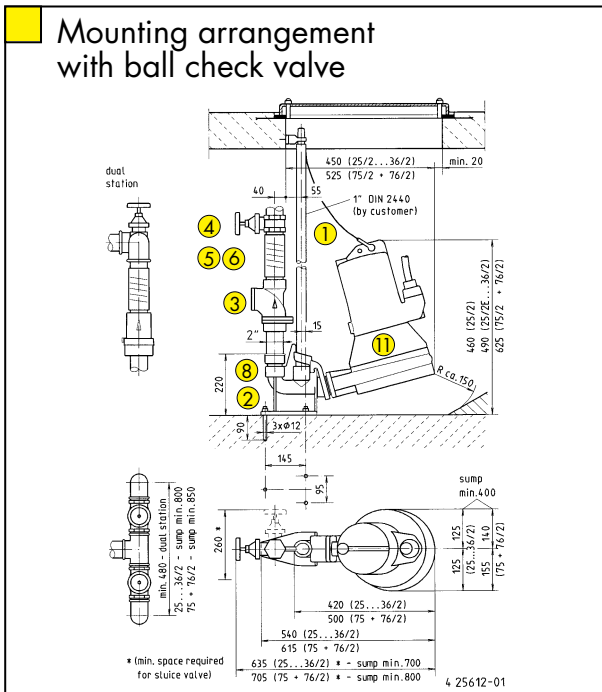
Electrical data

Type	Voltage Volt	Motor rating kW P ₁ P ₂	S3 %	F.L.C. Amp.	Built-in motor-protection	RPM min ⁻¹	Cable	Safety-fuse min.
UAK/UFK 25/2 ME**	230	2,70 2,00	20	12,6	thermostat	2817	H07 RN-F 6G 1,5	16 A
UAK/UFK 25/2 M	3 ~ 400	2,60 2,10	25	4,4	thermostat	2800	H07 RN-F 6G 1,5	10 A
UAK/UFK 35/2 M	3 ~ 400	3,70 3,10	25	6,6	thermostat	2896	H07 RN-F 6G 1,5	10 A
UAK/UFK 36/2 M	3 ~ 400	3,70 3,10	25	6,6	thermostat	2896	H07 RN-F 6G 1,5	10 A
UAK/UFK 75/2 M	400/690	7,70 6,80	20	12,7/7,4	thermostat	2925	H07 RN-F 10G 2,5	20 A***
UAK/UFK 76/2 M	400/690	7,70 6,80	20	12,7/7,4	thermostat	2925	H07 RN-F 10G 2,5	20 A***

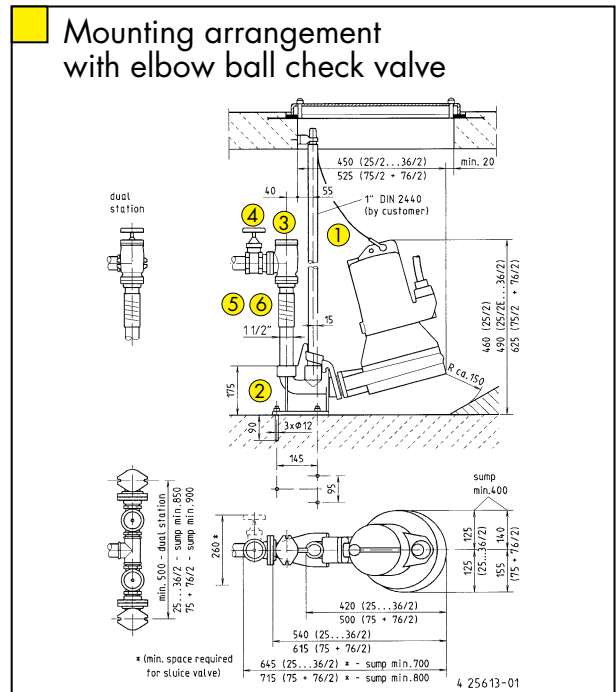
** operation only possible with control unit AD 12 ExME

***value for Y/Δ-starting



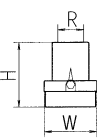
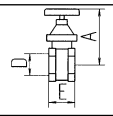




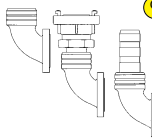


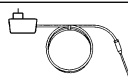
Mounting arrangement with ball check valve



Mounting arrangement with elbow ball check valve



Accessories

		Code No.	25/2ME	25/2M	35/2M	36/2M	75/2M	76/2M									
	① Chain with rings, DIN 766, weight-bearing capacity 5 x 18,5, length 2,5 m 320 kg 5 x 18,5, length 5,0 m 320 kg Stainless steel (1.4401), 4 x 16,0 length 2,5 m, 1 shackle 200 kg Stainless steel (1.4401), 4 x 16,0 length 5,0 m, 2 shackles 200 kg Hoist (not for chains in stainless steel)	19189 423 23986 24934 21394	•	•	•	•	•	•									
	 ② Guide rail system GR 35, 1 1/2" inside thread (see mounting arrangement)	14094	•	•	•	•	•	•									
		③ Swing-type check valve 1 1/2" (DN 40), PN 4 DIN EN 12050-4	<table border="1"> <thead> <tr> <th>W</th> <th>H</th> <th>R</th> </tr> </thead> <tbody> <tr> <td>120</td> <td>150</td> <td>1 1/2"</td> </tr> <tr> <td>2"</td> <td>150</td> <td>2"</td> </tr> </tbody> </table>	W	H	R	120	150	1 1/2"	2"	150	2"	•	•	•	•	
		W	H	R													
		120	150	1 1/2"													
2"	150	2"															
Ball check valve 2" (DN 50), PN 6 DIN EN 12050-4 (without illustration)	155 185 2"	9857	•	•	•	•	•										
Elbow ball check valve 1 1/2" (DN 40), PN 6, DIN EN 12050-4		22442	•	•	•	•	•										
	④ Stop valve	<table border="1"> <thead> <tr> <th>A</th> <th>E</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>125</td> <td>60</td> <td>1 1/2"</td> </tr> <tr> <td>140</td> <td>60</td> <td>2"</td> </tr> </tbody> </table>	A	E	D	125	60	1 1/2"	140	60	2"	•	•	•	•	•	
	A	E	D														
125	60	1 1/2"															
140	60	2"															
1 1/2" (DN 40), PN 16 2" (DN 50), PN 16		11837 11838	•	•	•	•	•										
	⑤ Elastic connection	<table border="1"> <thead> <tr> <th>E</th> <th>D inside</th> </tr> </thead> <tbody> <tr> <td>120</td> <td>50</td> </tr> <tr> <td>150</td> <td>63</td> </tr> </tbody> </table>	E	D inside	120	50	150	63	•	•	•	•					
	E	D inside															
120	50																
150	63																
1 1/2" (DN 40), PN 4 2" (DN 50), PN 4		20368 17194	•	•	•	•											
	⑥ Hose band clamp 1 1/2" Hose band clamp 2"	3571 3572	•	•	•	•											
			•	•	•	•											
	⑦ Pump base M (without illustration) Pump base M 220 Holder in connection with static air level control	20980 22302 23100	•	•	•	•	•										
			•	•	•	•	•										
			•	•	•	•	•										
	⑧ Reducing socket 1 1/2"-2", for guide rail system GR 35 1 1/4"-1 1/2", for pressure outlet 1 1/4"-2", for pressure outlet	18388 10152 14274	•	•	•	•	•										
			•	•	•	•	•										
			•	•	•	•	•										
	⑨ Pipe connection 1 1/4" (inside thread), for transportable use Coupling connection size C, for transportable use Hose tail bend ø 42, for transportable use	16870 14076 14077	•	•	•	•	•										
			•	•	•	•	•										
			•	•	•	•	•										
	⑩ Electrical connection Single unit	AD 12 ExME* + Softstarter for control unit AD 46 ExM* AD 46 MP SM* AD 610 ExM* AD 610 MP SM* AS 610 ExM* Duplex unit BD 46 ExM* BD 46 MP SM* BD 610 ExM* BD 610 MP SM* BS 610 with accessories	24066 24138 19749 27119 19953 27120 21998 23234 27153 23235 27154	•	•	•	•	•									
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	Rechargeable battery for off the line operation of the alarm system (for control units MP SM please order two pieces)	7562	•	•	•	•	•										
	⑪ Seal leak detector DKG (for UAK...) Seal leak detector DKG-Ex (for UFK...)	252 249	•	•	•	•	•										
			•	•	•	•	•										

* including static air level control

Technical data

Pump

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

Bearings

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

Seal

Silicon carbide mechanical seal independent of sense of rotation, oil chamber and artificial carbon mechanical seal or duplex rotary shaft seal as secondary seal, safe to run dry.

Motor

Submersible, insulation class F, enclosure IP 68, protected by winding thermostats, automatic activation through control unit only or – up to 3,2 kW three-phase current – by CEE-plug with motorprotection (upon request), UFK types tested by PTB, type of protection $\text{Ex II 2 G EEx d IIB T4}$.

Materials

Pump and motor case as well as impeller in grey cast iron GG (impeller 75/2 and 76/2 in spheroidal graphite iron), corrosion protected shaft no contact with pumped liquid, stainless steel hardened (HRC 57) cutting system, flexible rubber sheathed cable.

Scope of supply

Effluent pump UAK or sewage pump UFK with explosion protection acc. to DIN EN 12050 with shackle and 10 m cable, without plug, without pump base.

Special technical note for UAK/UFK 25/2 ME

Since the rated output of the a.c. motor exceeds 1.4 kW, the permission of the local power supply organisation must be obtained before ordering and commissioning.

Softstarting device (for UAK/UFK 25/2 ME only)

The softstarting device is a resistive starting unit with built-in overheating protection in order to reduce the starting current to approx. 33 A. The max. switching frequency is 10/hour at 40 °C of ambient temperature.

The installation of this componentry into the control panel AD 12 ExME takes place in the factory when ordering. A later installation is not possible.

