3127.180 Technical specification

The Flygt 3127.180 submersible pump with a capacity of up to 80 l/s covers a number of applications.

The electric motor and the pump are close coupled and provide a compact and robust unit which requires little space and is easy to handle.

The basic model is designed to pump liquid containing solid particles, such as waste water. It can also be used for pumping clean water or raw water.

The pump can be fitted with a cutter and open impeller and is then suitable for liquid containing long-fibred material, such as liquid manure.

INSTALLATION ALTERNATIVES

The different models are available in one or more versions, depending on method of installation.

Basic model

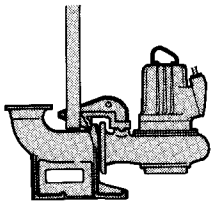
The pump casing and the one-, two- and three-vane impellers can pass solids with diameters up to 107 mm. Vortex impeller are also available.

Cutter model

The pump housing and the cutting two-vane impeller can pass solids with diameter up to 60 mm.

The pump operates completely or partially submerged.

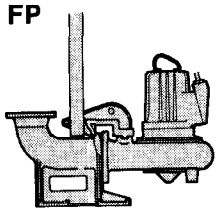
CP/DP



This system with guide bar and discharge connection permits automatic connection of the pump to the discharge line. The unit can be removed for inspection without anyone having to enter the sump.

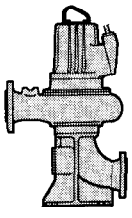
The pump works completely or partially submerged.

FP



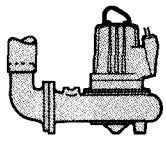
For permanent installation, a system with guide bar and discharge connection fixed to the sump floor or pump well is used. When the pump is lowered down the guide bars it engages automatically with the discharge connection — and automatically released when it is raised.

CT



The pump is installed dry on a base stand and is connected directly to the inlet and outlet lines. The submersible design of the pump prevents damage in the event of flooding.

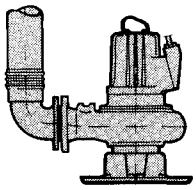
FS



The pump, which is designed for hose connections alone, can be used for various of duties.

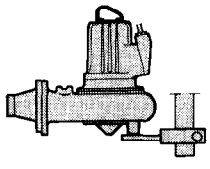
As a manure pump, it can also easily be used for emptying tanks and urine receptacles as well as for drainage pumping.

CS/DS/HS



A portable pump intended for operating completely or partially submerged in the pumped liquid. It is equipped with base stand and hose connection.

FJ



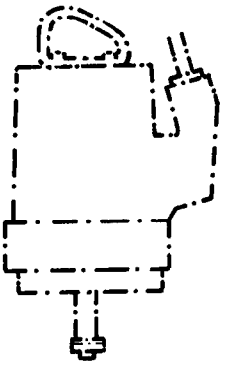
A flexible system consisting of discharge connection with guide bar combined with a jet nozzle for mixing. For simple handling, a lifting davit is mounted on the guide bar.

The jet nozzle is also designed as a hose connection (nominal diameter 100 mm).

Different versions of the hydraulic section

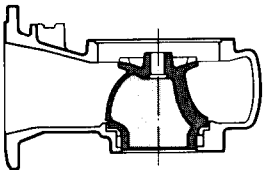
Depending on desired performance, the pump is available for clean water, waste water and sludge in both low-head, medium-head and high-head versions. The motors are 4-pole, but there is also a 2-pole motor for the high-head version. A swirl-type impeller is available as an alternative to the vane-type impeller. A heavy duty version is available for highly abrasive media.

The cutter model for liquids contaning long fibres and the lifting model for raw water are available in low-head versions.



BASIC MODEL

LT low-head version for
CP, CT and CS installation



Impeller		
Curve No.	Number of vanes	Flow passage, mm
410 (not CT)	2	Circular dia. 76
411	2	dia. 76
412	2	Eliptical 62 × 96
441 (not CT)	1	107 × 117
442	1	100 × 110

TECHNICAL DATA

Pump type		Impeller Curve No.	Motor: Squirrel-cage, 3-phase AC motor Insulation class F, 50 Hz					
			Rated power	Speed	Rated current			
			kW	rpm	220V	380V	415V	500V
CP/CS	3127 LT	410, 441						
	3127 MT	430, 435						
	3127 HT	480, 481	5.9	1445	21 A	12 A	11 A	9.5A
DP	3127	470						
HS	3127	466						
FP/FS/FJ	3127	490						

For details of cable requirements contact your local Flygt agent.

* When the pump is installed dry (CT) its input must be limited to 5.6 kW.

** When the pump is installed dry (CT) its input must be limited to 4.7 kW.

Weights in kg

Pump type	Pump unit	Discharge connection
Basic model		
CP-3127 LT	154	64
CP-3127 MT	142	53
CP-3127 HT (curve 480—485)	136	35
CP-3127 SH (curve 250 and 255—259)	136	35
DP-3127	129	35
CT incl. inlet bend and base stand		
CT-3127 LT	221	—
CT-3127 MT	188	—
CT-3127 HT (curve 483—485)	156	—
CS incl. hose conn. and base stand		
CS-3127 LT	181	—
CS-3127 MT	158	—
CS-3127 HT (curve 480—485)	142	—
CS-3127 HT (curve 250 and 255—259)	142	—
HS-3127	152	—
Cutter model		
FP-3127	149	53
FS-3127, incl. hose conn.	151	—
FJ-3127	174	—

Access frame with cover: 29 kg — for CP/DP installation of base model

Multiple-port valve: 67 kg — for FP installation of cutter model

Lifting davit incl. accessories: 60 kg — for cutter model

- The 3127.180 is also available in 60 Hz.
- Liquid temperature: max 40°C (104°F). The pump is also available in a version (W3127.180) for liquid temperature up to 90°C (194°F)
- The pump can be submerged down to 20 m below the surface.
- The motors are designed to supply their rated outputs at deviations of up to ±5 % of the rated frequency and voltage. Voltage variations of up to ±10 % are possible without overheating.
- The 3127.180 can be started up to 15 times per hour.
- Starting methods: Direct on-line start or star-delta start.

Materials

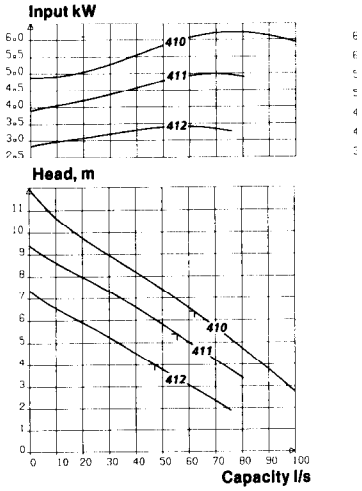
		BS	DIN
Cast parts in all versions, except for impeller in FP/FS/FJ and HS versions	Cast iron	1452 Grade 260	1691 GG 25 G
Lower bearing housing	Aluminium	LM 25	1725 G-AlSi7Mg wa
Shaft	Stainless steel	970 1431S29	17440 X20CrNi 172
Studs, nuts, screw and washers	Stainless steel	304S15	17440 X5CrNi 18/9
Lifting handle	Galvanized steel	970 En3	17100 St 37
Impeller for HS version	Chromium-alloyed cast iron (HRC 60)		
Impeller for FP/FS/FJ version	Spheroidal graphite iron with hardfacing where wear is greatest	SNG 27/12	1693 GGG42
Lower diffuser for FP/FS/FJ versions	Chromium-alloyed cast iron (HRC 60)		
O-rings	Nitrile rubber (70° IRH)		
Stationary wear ring	Brass or nitrile-rubber-clad steel	1400 LG 2	1705 Rg 5
Wear parts for HS	Nitrile-rubber-clad steel (40° IRH)		
Wear parts for FP/FS/FJ	Chromium-alloyed cast iron (HRC 60)		
Mechanical shaft seals			
— inner:	Ceramic/Graphite or Tungsten carbide/Tungsten carbide		
— outer:	Tungsten carbide/Tungsten carbide or corrosion-resistant tungsten carbide or Siliconized carbon/Siliconized carbon		
Surface treatment			
Impeller for FP/FS/FJ, DP and HS versions	Sprayed with primer		
Impeller for curve 255—259 and 436	Sprayed with primer		
Impeller for curve 441, 442, 430—434, 480—485 and 250	Coated with amide plastic, RILSAN		
Outer casing	After priming the outer casing is coated wiht black chlorinated rubber paint.		

PERFORMANCE CURVES

Each pump is tested in accordance with ISO 2548 class C.

⌐ = Optimum operating point.

CP/CT/CS
LT Curve No. 410*, 411, 412

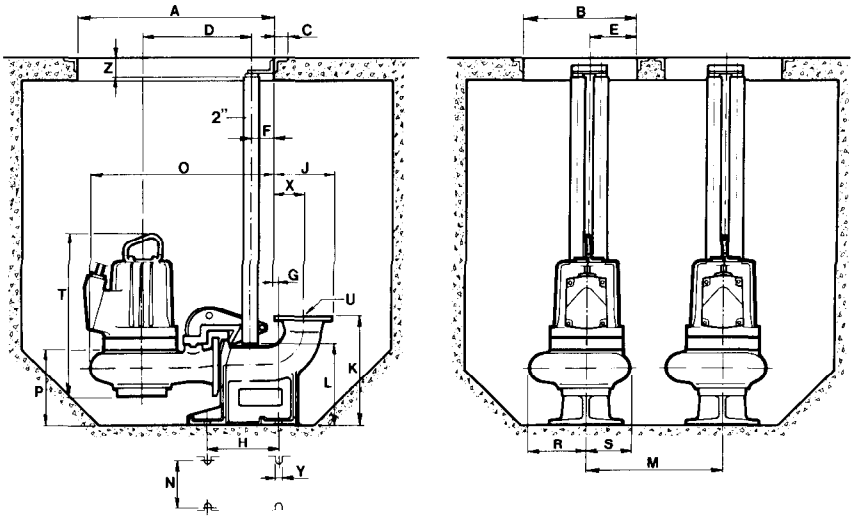


* Due to power limitation when the pump is installed dry, the following impellers are not available for CT versions: Curves 410, 430, 435, 441, 480 and 481.

Dimensions

All dimensions in mm.

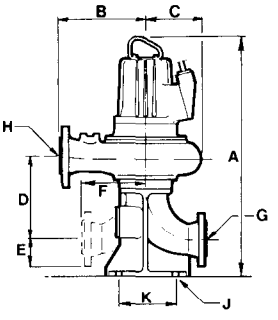
CP/DP



CP version	A	B	C	D	E	F	G	H	J	K	L	M Dim. min.
LT	780	570	50	466	262	85	139	280	396.5	450	381	670
MT ∅ 100	780	570	50	426	262	85	69	250	274	400	258	670
MT ∅ 150	780	570	50	426	262	85	109	280	339	450	367	670
HT (curve 480—485)	780	570	50	426	262	85	69	250	274	400	258	670
HT (curve 250 and 255—259)	780	570	50	426	262	85	59	250	255	400	258	670
DP version	780	570	50	386	262	85	69	250	274	400	258	670

CP version	N	O	P	R	S	T	U	X	Y	Z
LT	250	768	335	251	177	673	dia. 200**	224	23	70
MT ∅ 100	200	713	291	216	184	658	dia. 100*	164	23	70
MT ∅ 150	250	725	321	242	190	658	dia. 150*	194	23	70
HT (curve 480—485)	200	713	256	230	195	621	dia. 100*	164	23	70
HT (curve 250 and 255—259)	200	679	256	182	155	613	dia. 80*	154	23	70
DP version	200	676	317	205	205	689	dia. 100*	164	23	70

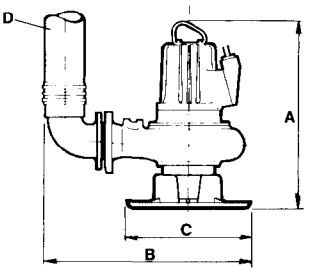
CT



CT version	A	B	C	D	E	F
LT	1177	350	217	450	171.5	300
MT ∅ 100	1058	310	214	354	142.5	250
MT ∅ 150	1058	310	214	372	142.5	250
HT (curve 483—485)	912	310	202	264	115	200

CT version	G	H	J	K
LT	dia. 200**	dia. 150*	dia. 23	360
MT ∅ 100	dia. 150*	dia. 100*	dia. 23	300
MT ∅ 150	dia. 150*	dia. 150*	dia. 23	300
HT (curve 483—485)	dia. 100*	dia. 100*	dia. 23	220

CS/HS



CS version	A	B	C	D
LT	776	dia. 870	dia. 439	dia. 200
MT ∅ 100	761	dia. 780	dia. 430	dia. 150
MT ∅ 150	761	dia. 700	dia. 406	dia. 100
HT (curve 480—485)	722	dia. 700	dia. 407	dia. 100
HT (curve 250 and 255—259)	714	dia. 700	dia. 380	dia. 80
HS version	692	dia. 550	dia. 407	dia. 100

* Flange as per SMS 342, DIN 2533 or BS 4622:1970 table 11.

** Flange as per SMS 342, DIN 2532 or BS 4622:1970 table 11.