

DML - DMLF

SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (SINGLE CHANNEL)

in cast iron



Submersible electric pumps in cast iron for foul water.

APPLICATIONS

- Evacuation of civil and industrial waste water
- Effluent treatment
- Draining underground areas
- Handling fluids containing suspended solids / filaments
- Draining infiltration water
- Handling foul waste water (domestic services)
- Draining cesspits

TECHNICAL FEATURES

- Fitted with single-channel impeller
- Top and bottom seal ring (DML)
- Anti-vortex system in oil chamber (DML)

TECHNICAL DATA

- Maximum fluid temperature: 40°C
- Maximum solid dimensions: 76 mm (DML)
30 mm (DMLF 1.4 kW)
40 mm (DMLF)
- 4 pole motor (DML)
- 2 pole motor (DMLF)
- Insulation class F (DML)
- Insulation class H (DMLF)
- Protection rating IP68
- Three phase voltage 380-415V -10 +6%, 50Hz (DML 2.2 kW) - DOL
- Three phase voltage 380-415V ±10%, 50Hz (DML 3.7 - 22 kW) - Y/Δ
- Single phase voltage 230V ±10%, 50Hz (DMLF)
- Flanges DN80, DN100, DN150 (DML)
- Flanges DN50, DN65 (DMLF)
- Power up to 22kW (DML)
- Powers from 1.4 a 1.9 kW (DMLF)

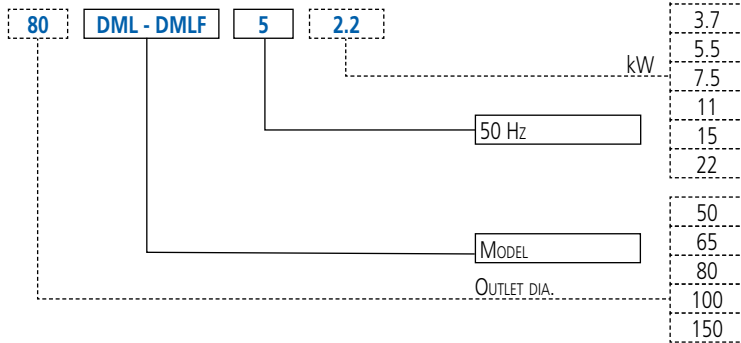
MATERIALS

- Pump body, single-channel impeller, elbow (bend) in cast iron
- Shaft in AISI 403 (DML) and AISI 420B (DMLF)
- Mechanical seal:
 - SiC/SiC/NBR (pump side) (DML and DMLF)
 - Carbon/Ceramic/NBR (motor side) (DML)

ACCESSORIES (on request)

For accessories, see page 151 onwards

PUMP IDENTIFICATION CODE





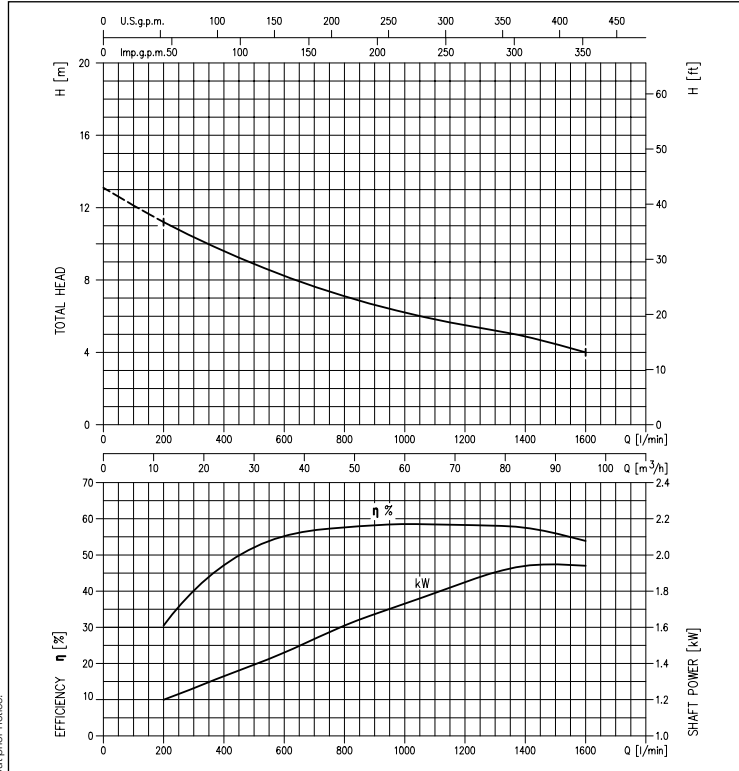
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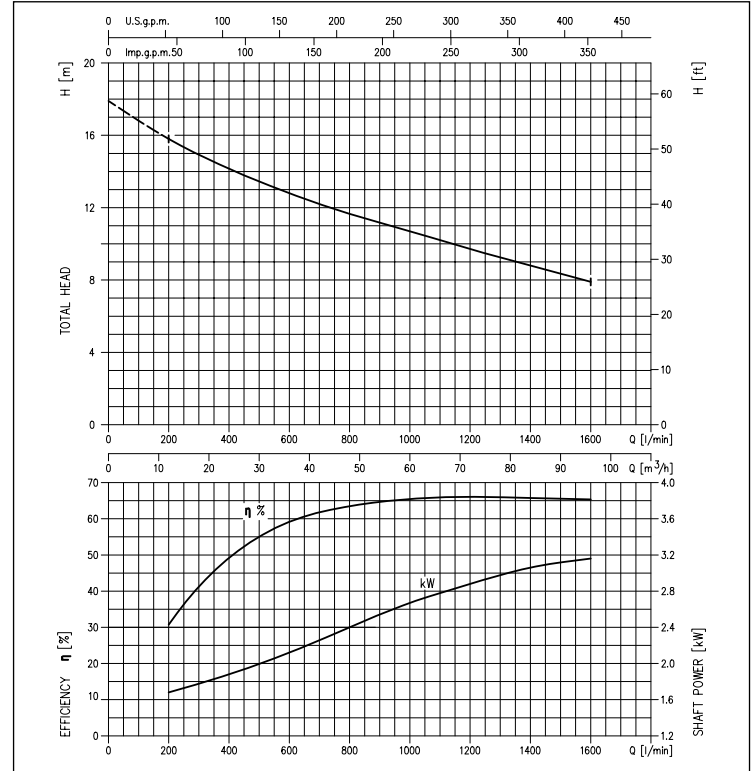
PERFORMANCE CURVES series 80DML52.2

(per ISO 9906 Annex A) IMPELLER DIA.: 179 mm



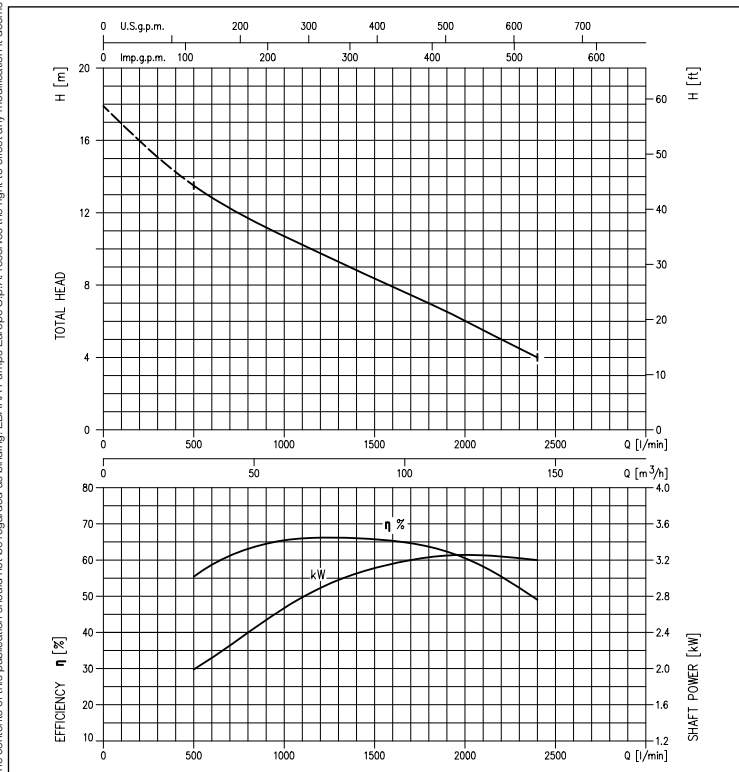
PERFORMANCE CURVES series 80DML53.7

(per ISO 9906 Annex A) IMPELLER DIA.: 210 mm



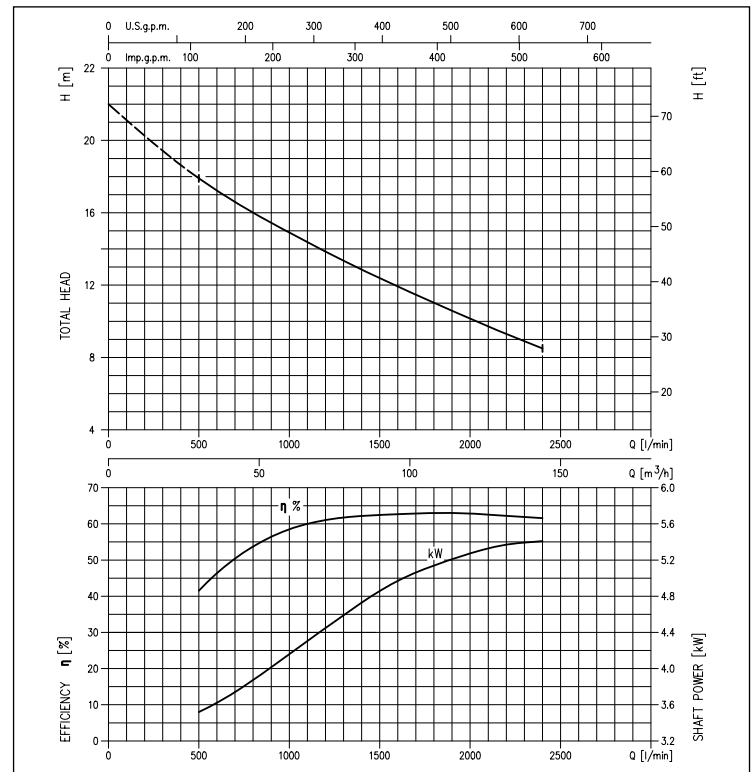
PERFORMANCE CURVES 100DML53.7

(per ISO 9906 Annex A) IMPELLER DIA.: 210 mm



PERFORMANCE CURVES 100DML55.5

(per ISO 9906 Annex A) IMPELLER DIA.: 232 mm



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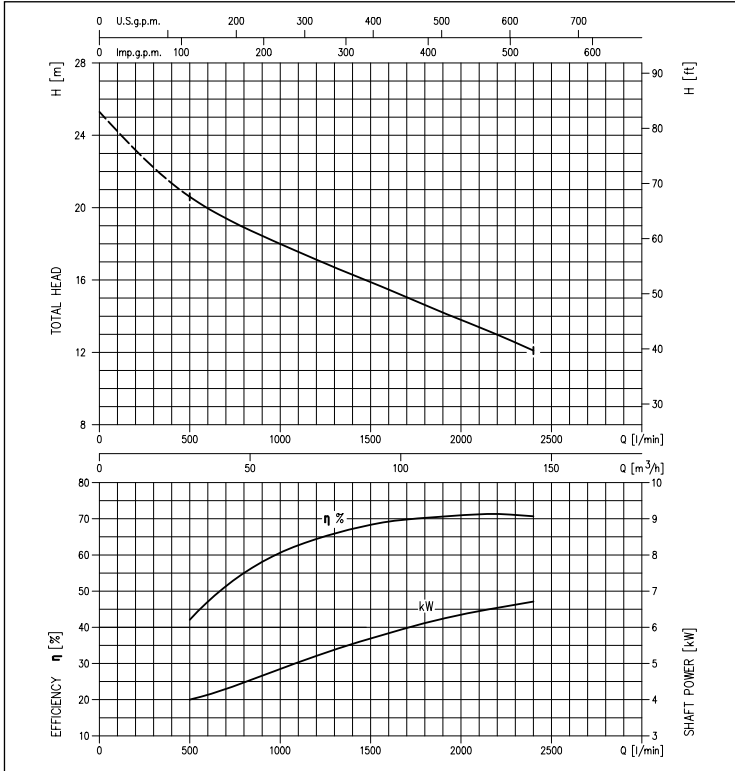


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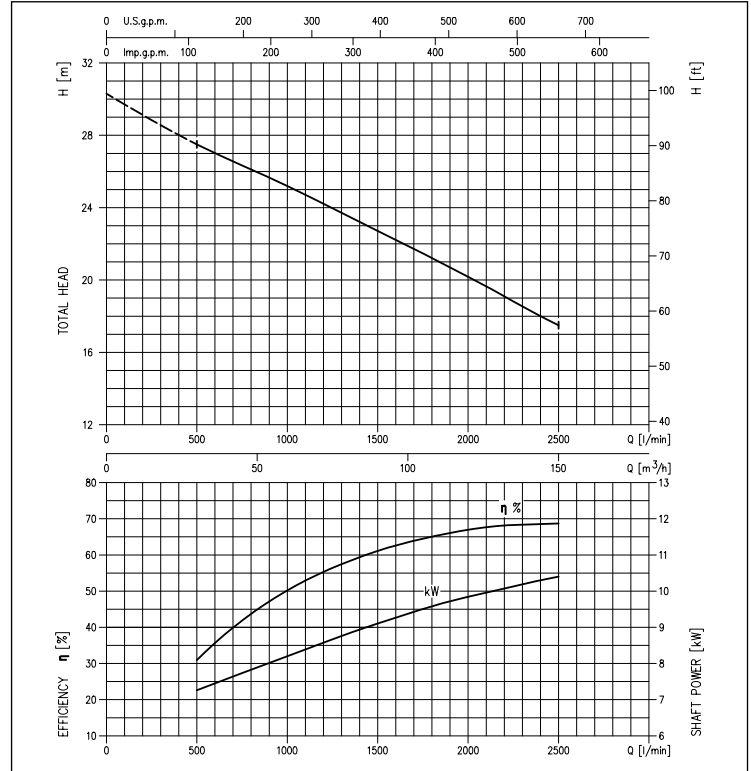
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in cast iron

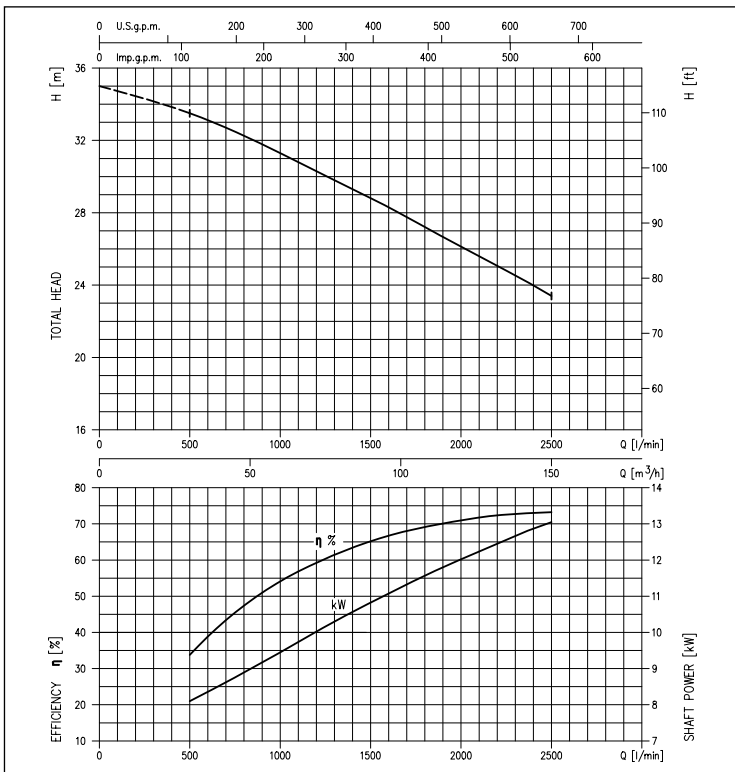
PERFORMANCE CURVES series 100DML57.5
(per ISO 9906 Annex A) IMPELLER DIA.: 248 mm



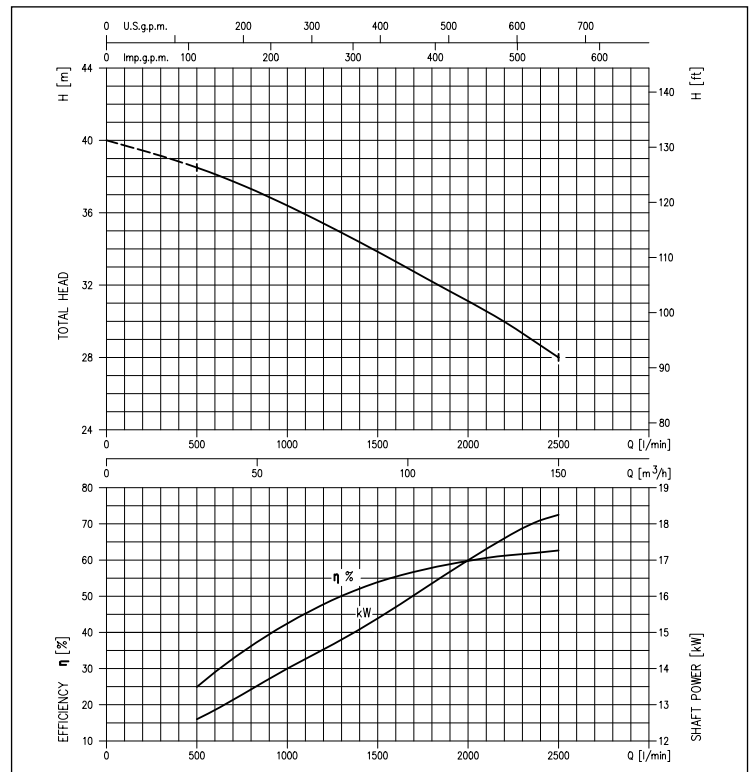
PERFORMANCE CURVES series 100DML511
(per ISO 9906 Annex A) IMPELLER DIA.: 286 mm



PERFORMANCE CURVES series 100DML515
(per ISO 9906 Annex A) IMPELLER DIA.: 309 mm



PERFORMANCE CURVES series 100DML522
(per ISO 9906 Annex A) IMPELLER DIA.: 330 mm



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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (SINGLE CHANNEL)

in cast iron

PERFORMANCE TABLE DML 80

Model	P ₂		Q=Flow rate								
	[HP]	[kW]	l/min m ³ /h	200 12	400 24	600 36	800 48	1000 60	1200 72	1400 84	1600 96
80DML52.2	3	2.2	11.2		9.6	8.2	7.1	6.2	5.5	4.9	4.0
80DML53.7	5	3.7	15.8		14.2	12.8	11.7	10.7	9.7	8.8	7.9

PERFORMANCE TABLE DML 100

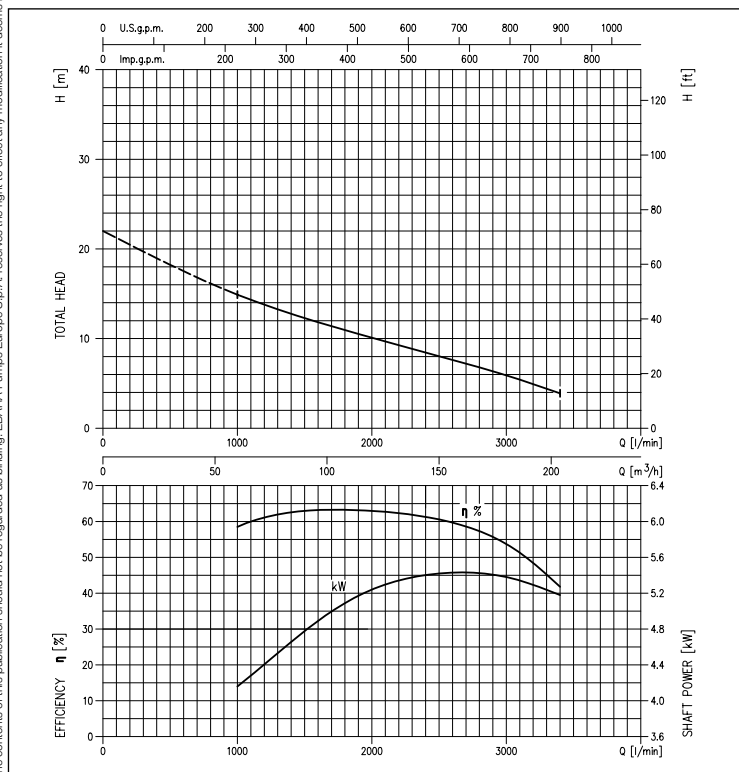
Model	P ₂		Q=Flow rate								
	[HP]	[kW]	l/min m ³ /h	500 30	1000 60	1300 78	1600 96	1900 114	2200 132	2400 144	2500 150
100DML53.7	5	3.7	13.5		10.7	9.3	7.9	6.5	5.0	4.0	-
100DML55.5	7.5	5.5	17.9		14.9	13.4	11.9	10.6	9.3	8.5	-
100DML57.5	10	7.5	20.6		18.0	16.7	15.5	14.2	13.0	12.1	-
100DML511	15	11	27.5		25.2	23.7	22.2	20.7	19.1	18.0	17.5
100DML515	20	15	33.5		31.3	29.8	28.3	26.7	25.1	24.0	23.4
100DML522	30	22	38.5		36.4	34.9	33.3	31.7	30.0	28.7	28.0

PERFORMANCE TABLE DML 150

Model	P ₂		Q=Flow rate									
	[HP]	[kW]	l/min m ³ /h	1000 60	2000 120	2500 150	3000 180	3400 204	4000 240	4500 270	5000 300	5500 330
150DML55.5	7.5	5.5	14.9		10.1	8.0	5.9	3.9	-	-	-	-
150DML57.5	10	7.5	18.0		13.7	11.6	9.5	7.5	4.0	-	-	-
150DML511	15	11	25.2		20.2	17.5	14.7	12.2	8.6	5.4	-	-
150DML515	20	15	31.3		26.1	23.4	20.6	18.2	14.8	11.9	8.6	-
150DML522	30	22	36.4		31.1	28.0	25.2	22.9	19.5	16.8	13.8	10.5

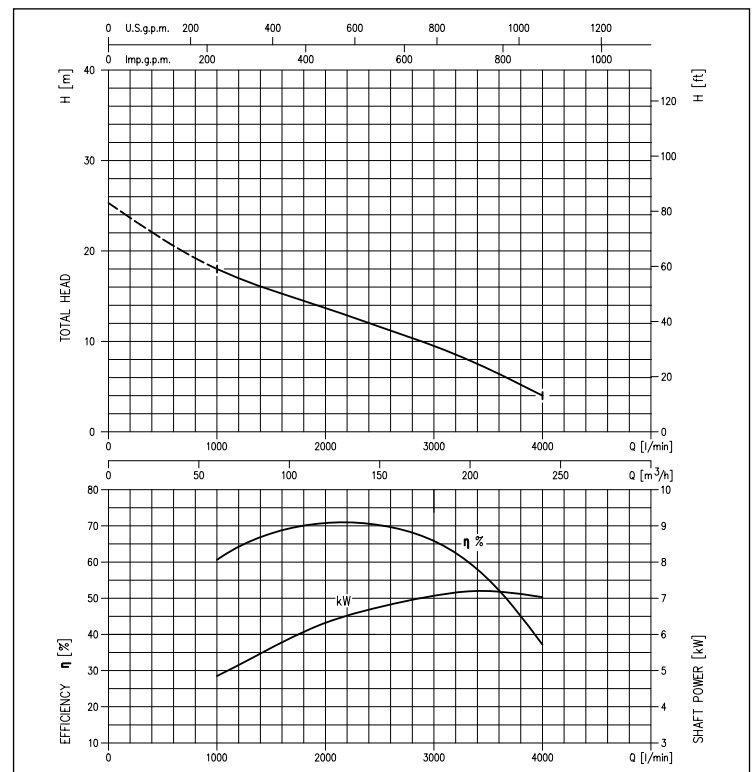
PERFORMANCE CURVES series 150DML 55.5

(per ISO 9906 Annex A) IMPELLER DIA.: 232 mm



PERFORMANCE CURVES series 150DML 57.5

(per ISO 9906 Annex A) IMPELLER DIA.: 248 mm



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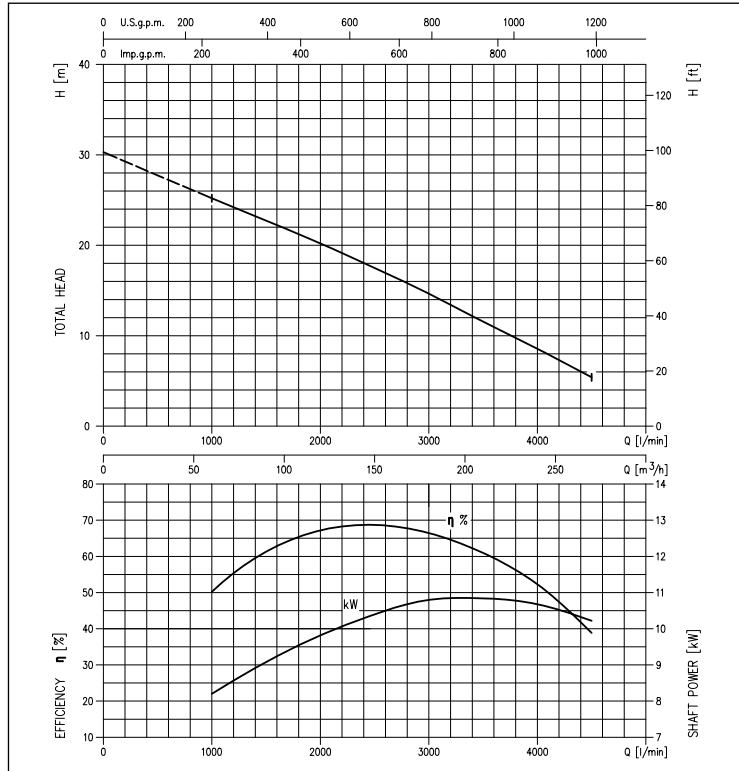
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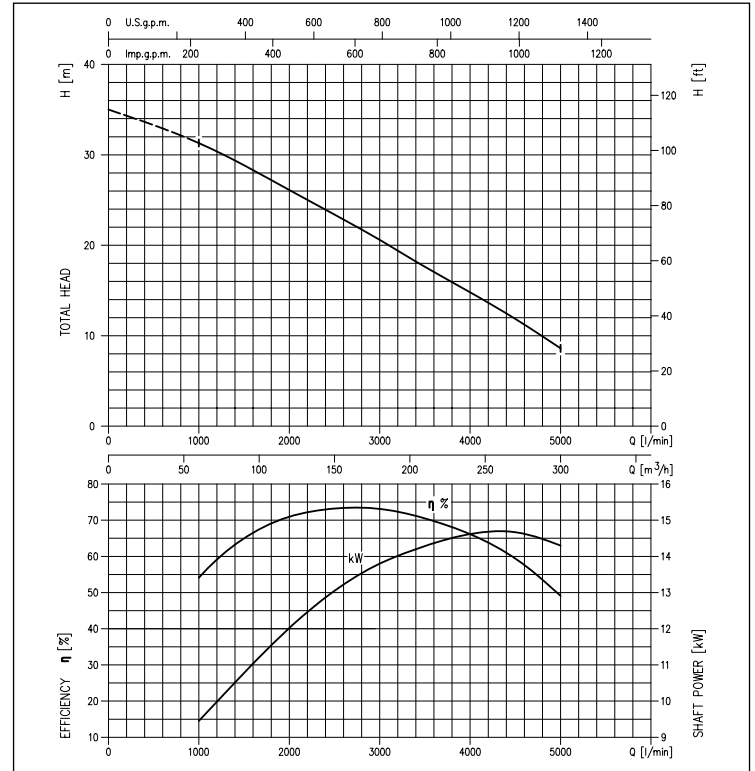
PERFORMANCE CURVES series 150DML 511

(per ISO 9906 Annex A) IMPELLER DIA.: 286 mm



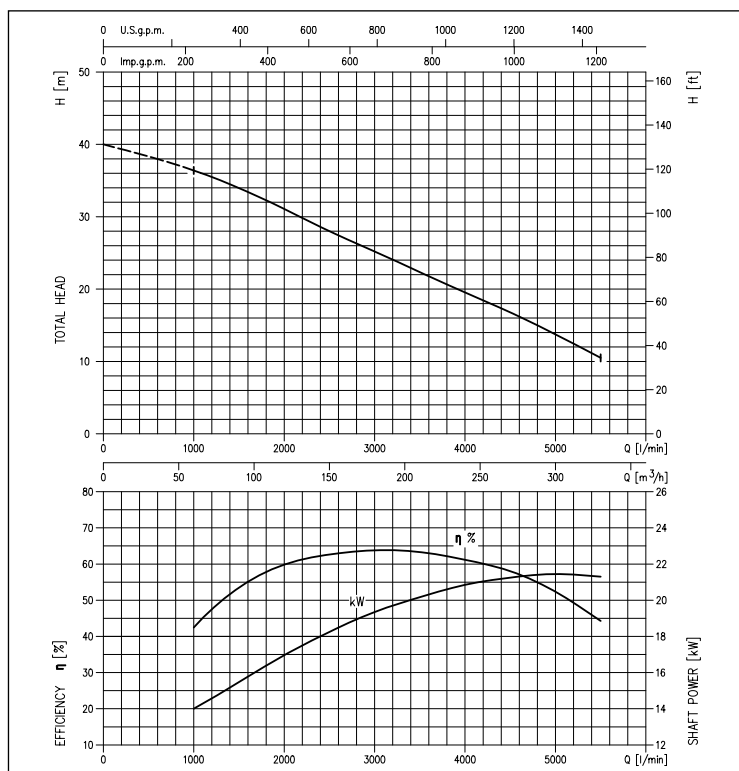
PERFORMANCE CURVES series 150DML 515

(per ISO 9906 Annex A) IMPELLER DIA.: 309 mm



PERFORMANCE CURVES series 150DML522

(per ISO 9906 Annex A) IMPELLER DIA.: 330 mm



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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (SINGLE CHANNEL)

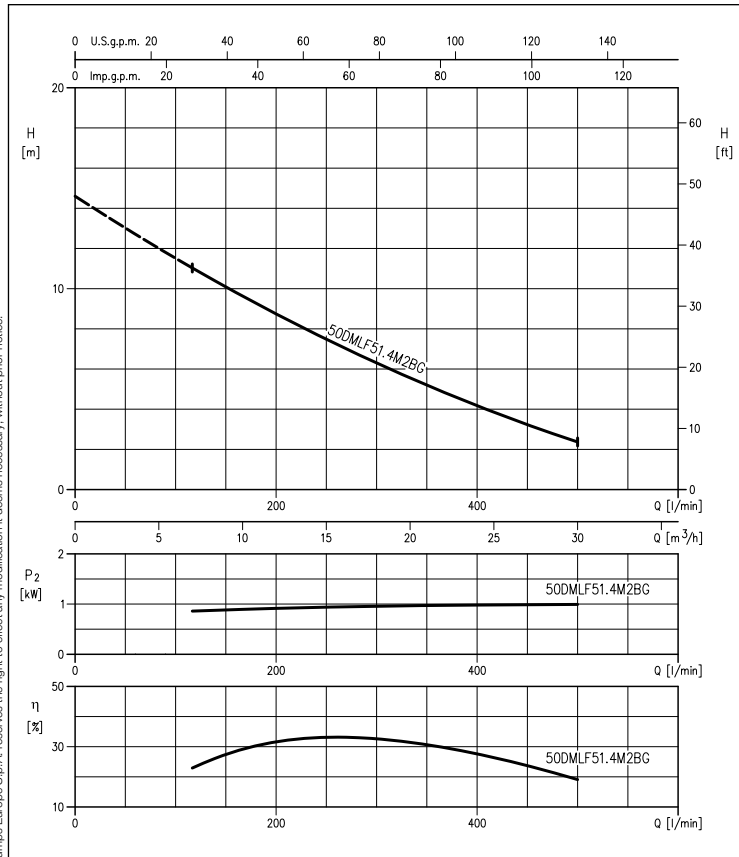
in cast iron

PERFORMANCE TABLE 50-65DMLF

Model	P ₂		Q=Flow rate									
	[HP]	[kW]	117 m ³ /h 7	183 11	200 12	300 18	350 21	400 24	500 30	600 36	667 40	750 45
50DMLF51.4M2BG	1.5	1.4	11.0	9.2	8.7	6.3	5.2	4.2	2.4	-	-	-
65DMLF51.5M2AG	1.5	1.5	-	16.5	16.2	13.7	12.5	11.2	8.5	5.6	3.6	-
65DMLF51.9M2BG	2.5	1.9	-	-	13.4	11.6	10.8	9.9	8.2	6.5	5.4	4

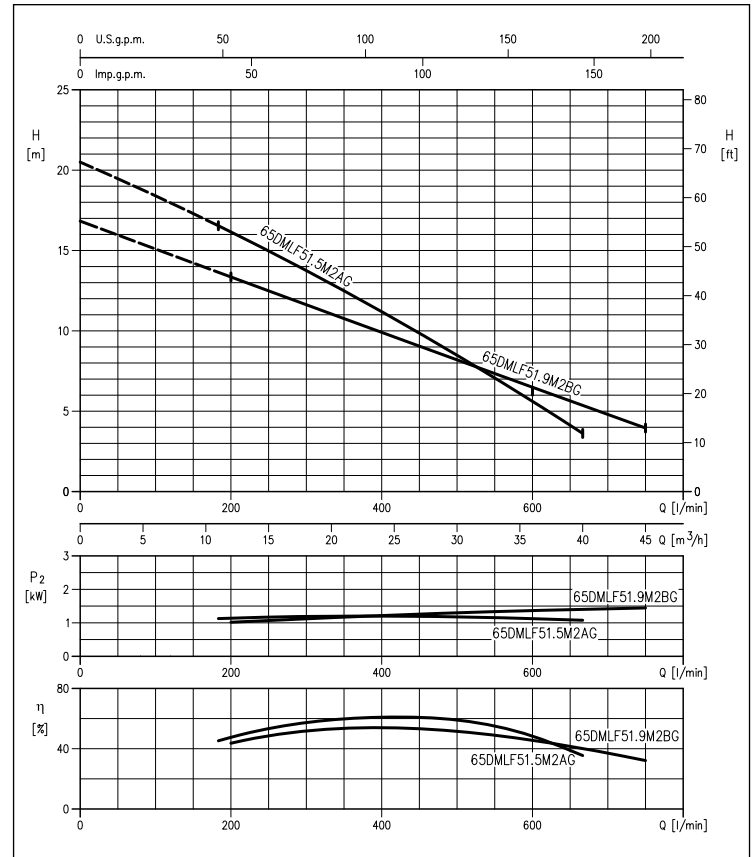
PERFORMANCE CURVES series 50DMLF51.4M2BG (1.4 kW)

(per ISO 9906 Annex A)



PERFORMANCE CURVES series 65DMLF51.5M2AG (1.5 kW)
series 65DMLF51.9M2BG (1.9 kW)

(per ISO 9906 Annex A)



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DIMENSIONS DML

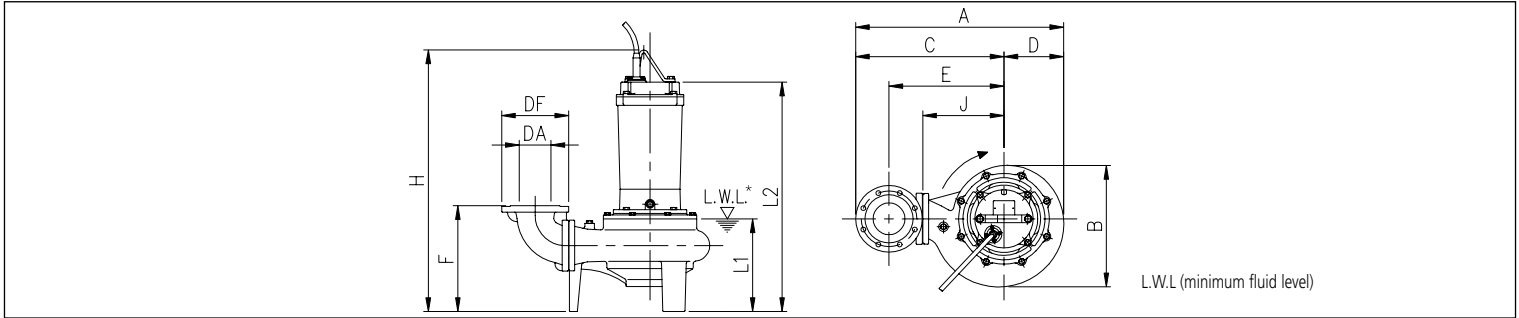


TABLE OF DIMENSIONS DML

Model	DA	kW	Dimensions [mm]										Weight [kg]
			A	B	C	D	E	F	H	J	L1	L2	
80DML52.5	80	2.2	542	320	385	157	285	308	668	210	279	547	80.0
80DML53.7	80	3.7	542	320	385	157	285	308	727	210	279	627	87.0
100DML53.7	100	3.7	582	320	425	157	315	313	727	210	279	627	89.0
100DML55.5	100	5.5	658	381	470	188	360	339	824	255	310	724	121.0
100DML57.5	100	7.5	658	381	470	188	360	339	824	255	310	724	125.0
100DML511	100	11	751	455	530	221	420	355	938	315	329	778	160.0
100DML515	100	15	751	455	530	221	420	355	938	315	329	778	166.0
100DML522	100	22	795	497	550	245	440	358	1021	335	342	841	226.0
150DML55.5	150	5.5	715.5	381	527.5	188	385	369	824	255	310	724	127.0
150DML57.5	150	7.5	715.5	381	527.5	188	385	369	824	255	310	724	132.0
150DML511	150	11	808.5	455	587.5	221	445	385	938	315	329	778	166.0
150DML515	150	15	808.5	455	587.5	221	445	385	938	315	329	778	172.0
150DML522	150	22	852.5	497	607.5	245	465	388	1021	335	342	841	232.0

DIMENSIONS QDC (lowering device kit) LM 80 (for models 80 (100) DML 52.2, 53.7)

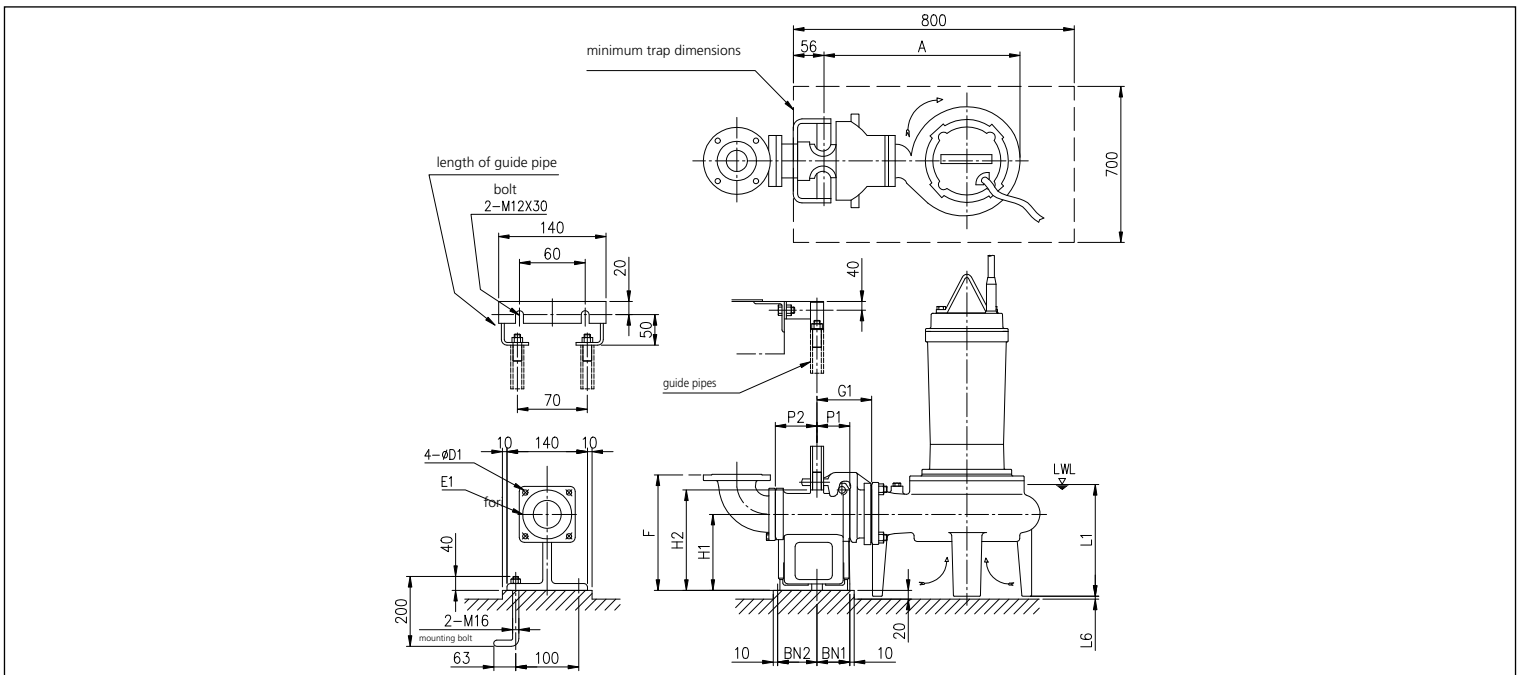


TABLE OF DIMENSIONS QDC (lowering device kit) LM 80

Model	Dimensions [mm]													QDC (lowering device kit)	Weight [kg]	
	A	P1	P2	G1	G2	F	H1	H2	L1	L6	BN1	BN2	D1			E1
80 DML 52.2	492	75	90	125	165	295	175	230	279	7	75	90	15	155	LM80	17.0
80 DML 53.7	492	75	90	125	165	295	175	230	279	7	75	90	15	155	LM80	17.0
100DML53.7	492	75	90	125	195	300	175	230	279	7	75	90	15	155	LM80	17.0

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DIMENSIONS QDC (lowering device kit) LL 100 (for models 100 (150) DML)

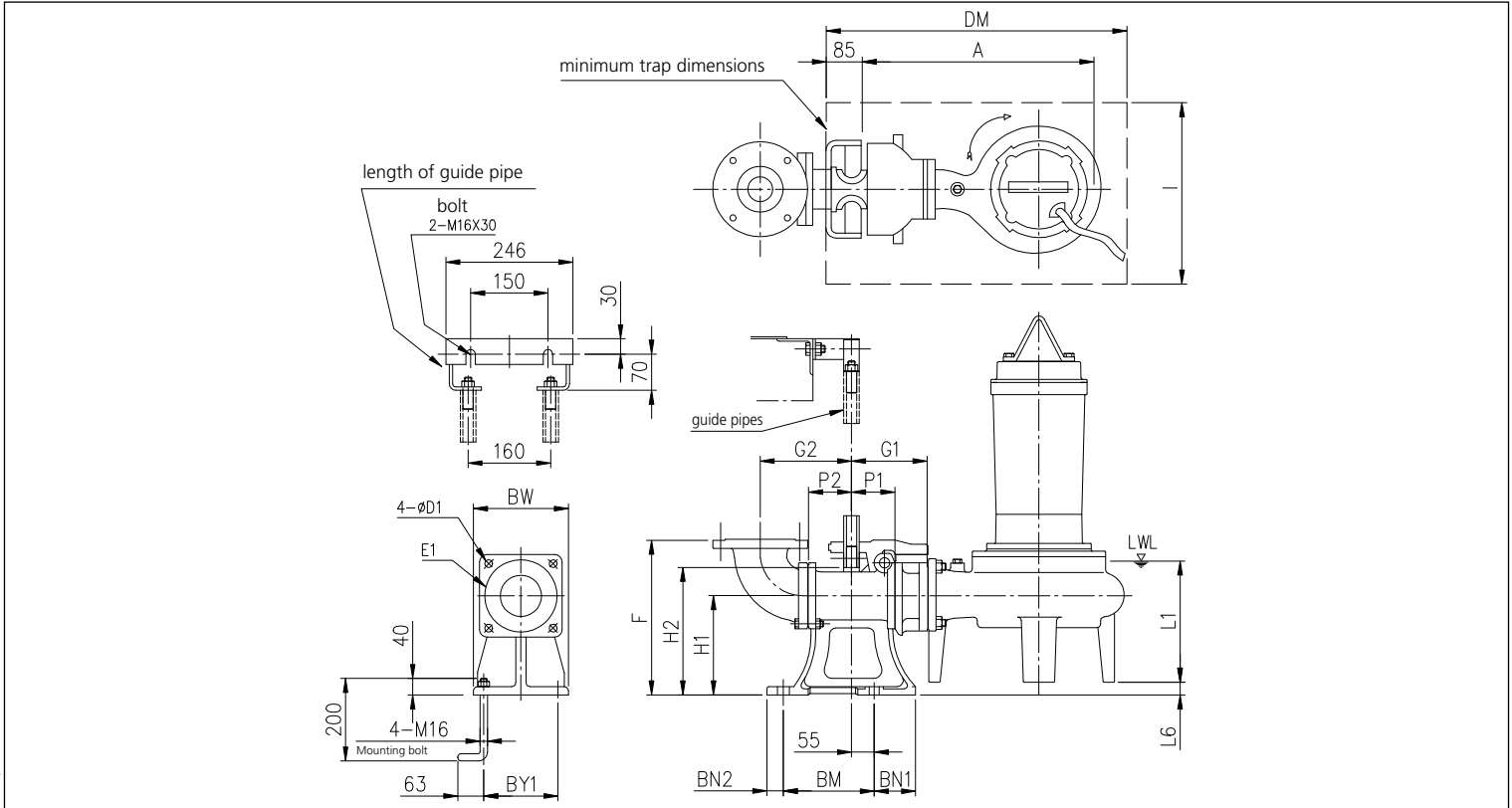


TABLE OF DIMENSIONS QDC (lowering device kit)

Model	A	P1	P2	G1	G2	F	H1	H2	Dimensions [mm]							Coupling foot	Weight [kg]				
									L1	L6	BN1	BN2	BM	BY1	BW			DM	I	D1	E1
100DML55.5	628	105	105	185	210	370	240	265	310	31	100	40	220	180	230	800	700	19	175	LL100	46.0
100DML57.5	628	105	105	185	210	370	240	265	310	31	100	40	220	180	230	800	700	19	175	LL100	46.0
100DML511	721	105	105	185	210	370	240	265	329	15	100	40	220	180	230	1000	700	19	175	LL100	46.0
100DML515	721	105	105	185	210	370	240	265	329	15	100	40	220	180	230	1000	700	19	175	LL100	46.0
100DML522	765	105	105	185	210	370	240	265	342	12	100	40	220	180	230	1000	700	19	175	LL100	46.0
150DML55.5	628	105	105	185	235	400	240	265	310	31	100	40	220	180	230	800	700	19	175	LL100	46.0
150DML57.5	628	105	105	185	235	400	240	265	310	31	100	40	220	180	230	800	700	19	175	LL100	46.0
150DML511	721	105	105	185	235	400	240	265	329	15	100	40	220	180	230	1000	700	19	175	LL100	46.0
150DML515	721	105	105	185	235	400	240	265	329	15	100	40	220	180	230	1000	700	19	175	LL100	46.0
150DML522	765	105	105	185	235	400	240	265	342	12	100	40	220	180	230	1000	700	19	175	LL100	46.0

FLANGE DIMENSIONS

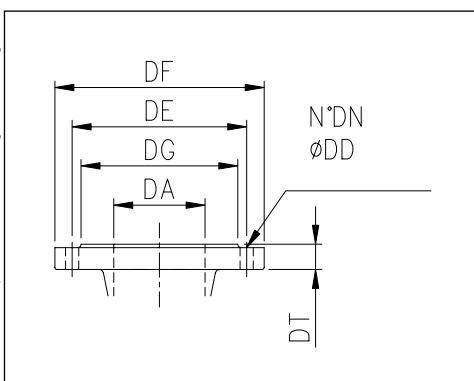


TABLE OF DIMENSIONS FLANGES

Dimensions						
DA	DG	DE	DF	DT	N. DN	DD
80	138	160	200	22	8	18
100	158	180	220	24	8	18
150	212	240	285	26	8	22

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in cast iron

DIMENSIONS 50DMLF/50DMLF with QDC (1.4 kW)

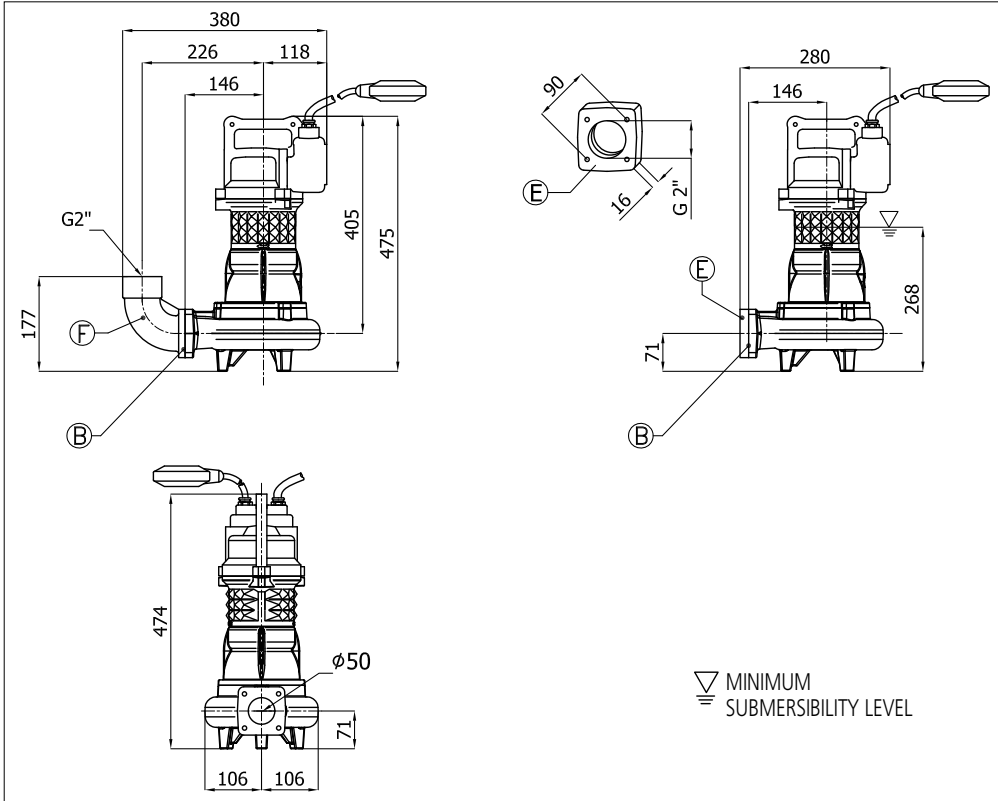
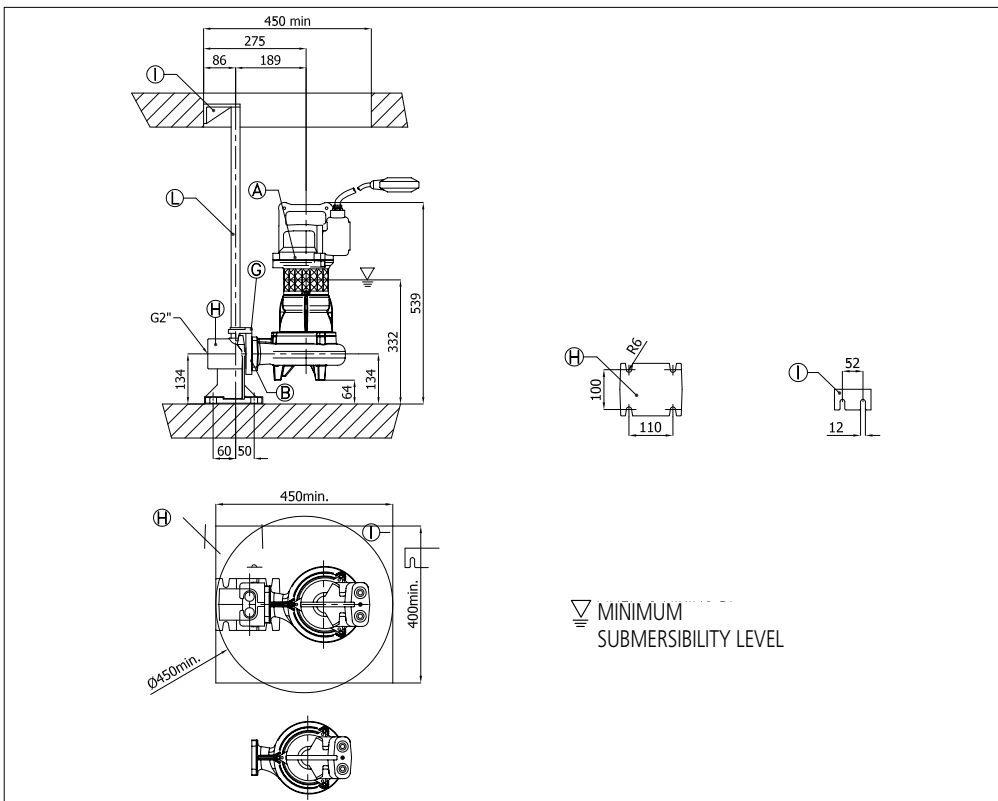


TABLE OF DIMENSIONS 50DMLF/50DMLF with QDC (1.4 kW)

DA	Model	[kW]	Weight [kg]
50	50DMLF51.4M2BG	1.4	31



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in cast iron

DIMENSIONS 65DMLF/65DMLF with QDC (1.5 - 1.9 kW)

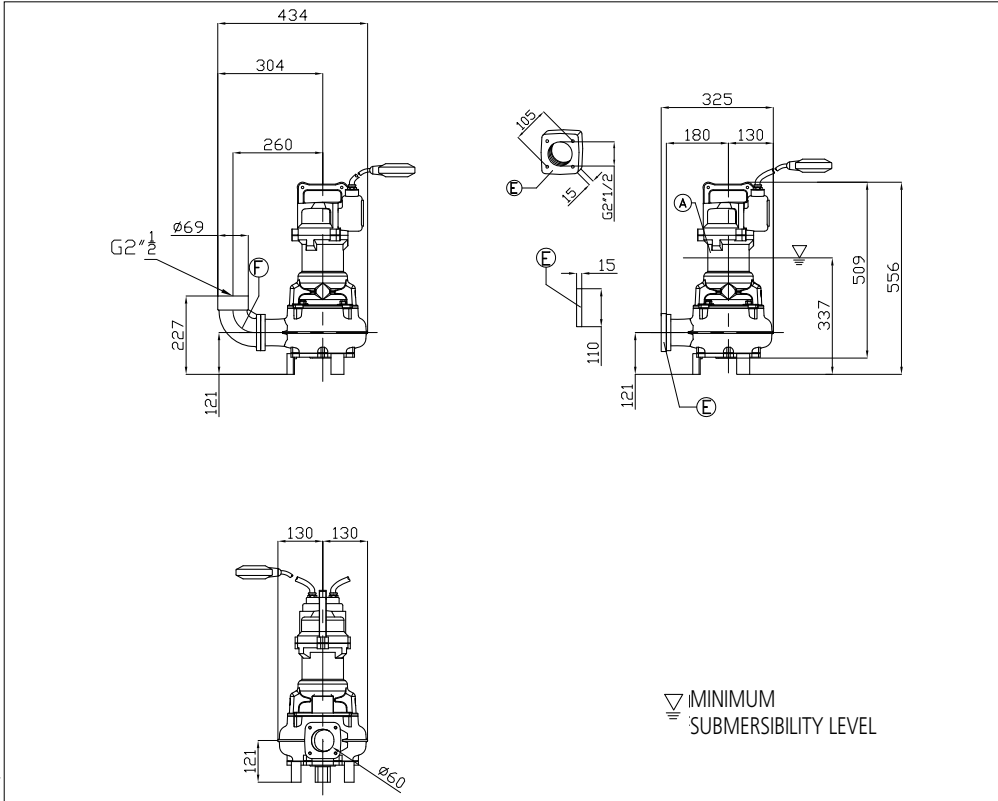
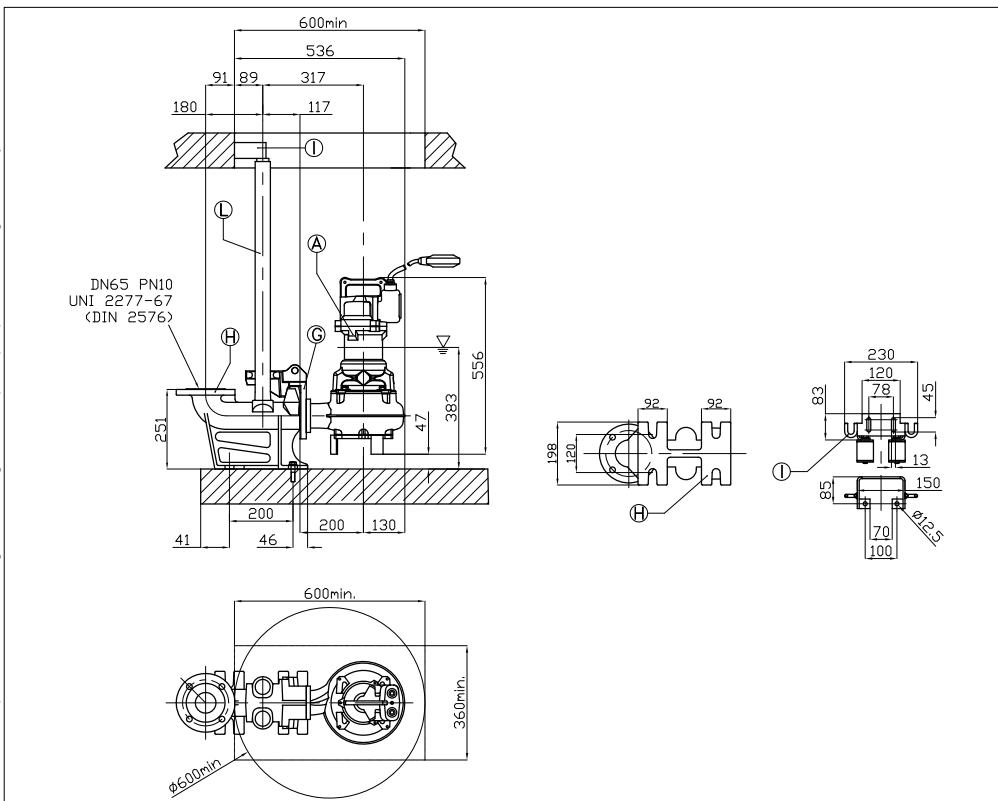


TABLE OF DIMENSIONS 65DMLF/65DMLF with QDC (1.5 - 1.9 kW)

DA	Model	[kW]	Weight [kg]
65	65DMLF51.5M2AG	1.5	42
	65DMLF51.9M2BG	1.9	45



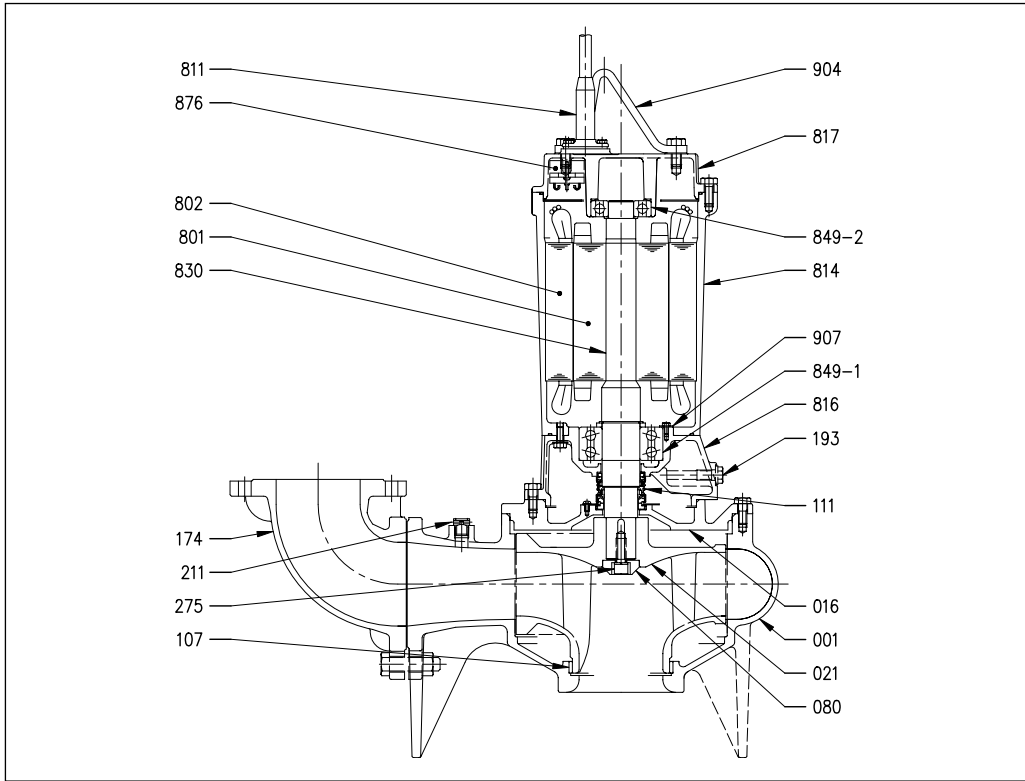
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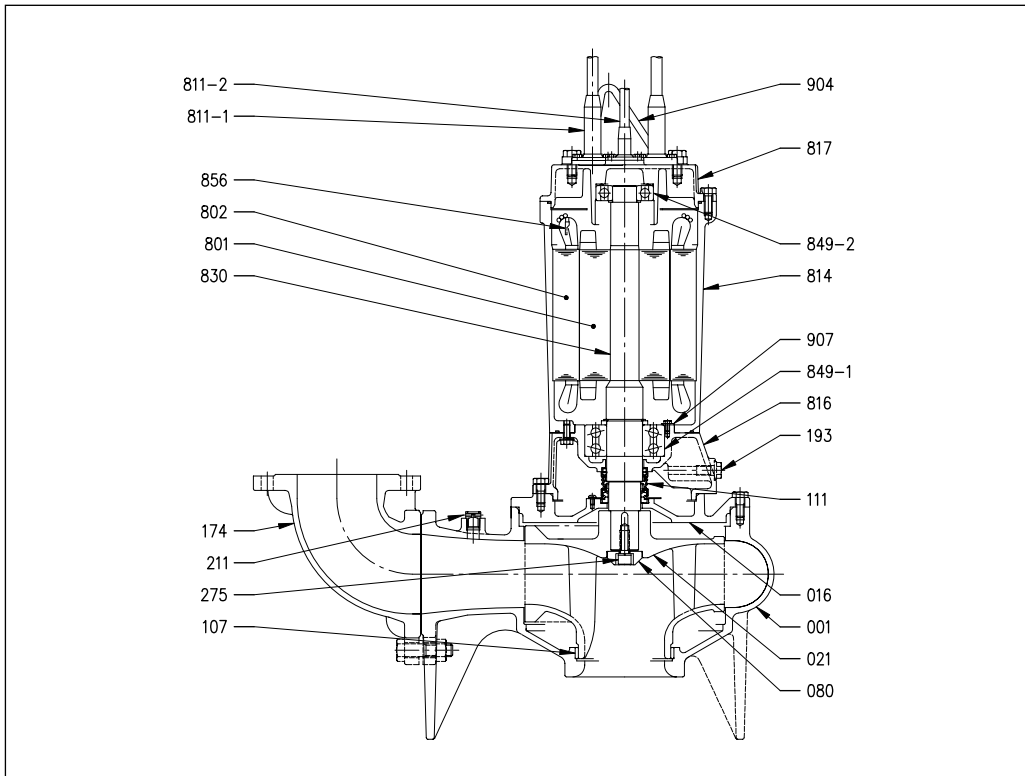
SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (SINGLE CHANNEL)

in cast iron

SECTIONAL VIEW 80DML 52.2



SECTIONAL VIEW 80 (100) (150) DML (3.7 - 7.5kW)



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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (SINGLE CHANNEL)

in cast iron

SECTIONAL VIEW 100 (150) DML (11 - 22kW)

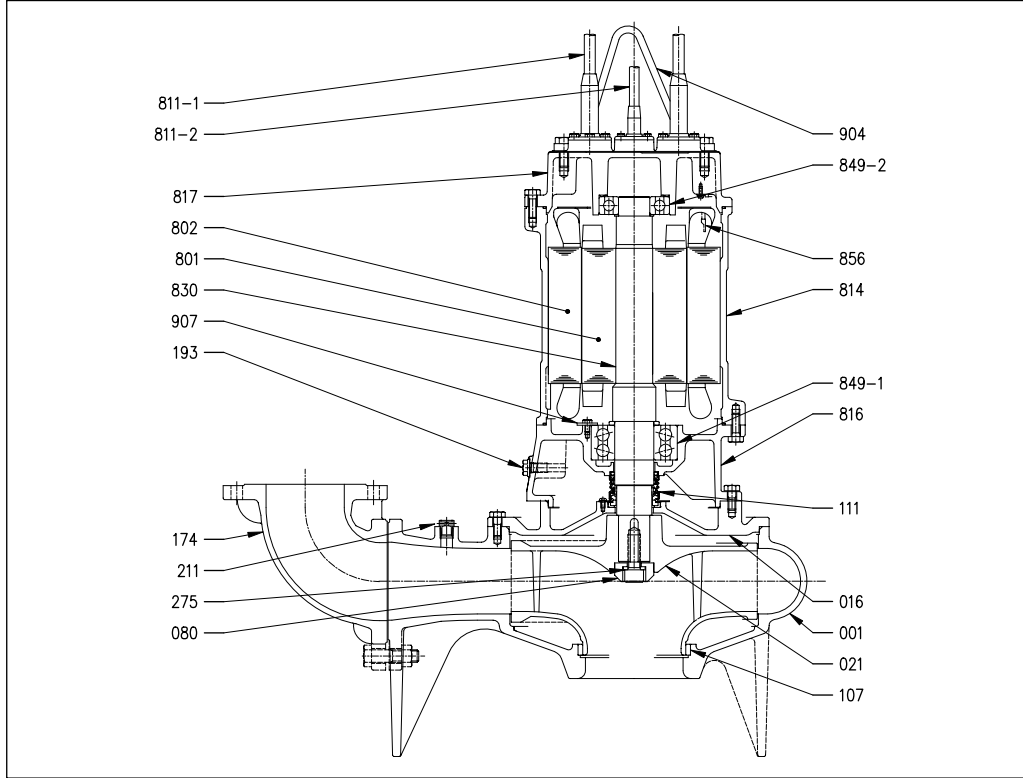


TABLE OF MATERIALS DML

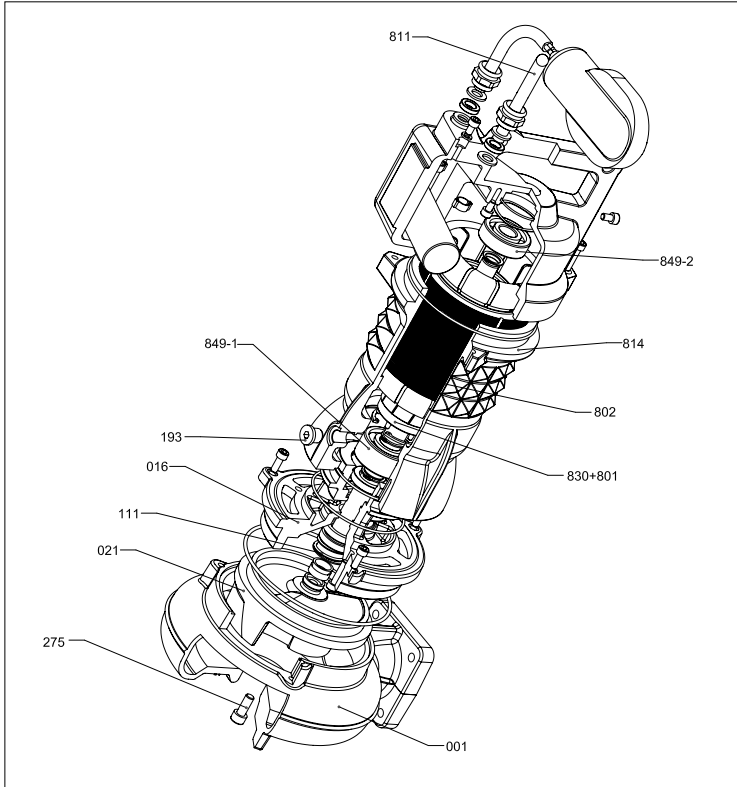
Ref.	Name	Material	Ref.	Name	Material
001	Pump body	Cast iron EN-GHJL-200 - EN 1561	811-1	Power cable	-
016	Mechanical seal cover	Cast iron EN-GHJL-200 - EN 1561	811-2	Signal cable	-
021	Impeller	Cast iron EN-GHJL-200 - EN 1561	814	Motor casing	Cast iron EN-GHJL-200 - EN 1561
080	Bushing	Steel	816	Upper mount	Cast iron EN-GHJL-200 - EN 1561
107	Clearance ring	Bronze	817	Lower bearing	Cast iron EN-GHJL-200 - EN 1561
111	Mechanical seal	-	830	Shaft	EN 1.4006 (AISI403)
174	Delivery bend/union	Cast iron EN-GHJL-200 - EN 1561	849-1	Ball bearing	-
193	Oil cap	NBR/Stainless steel	849-2	Ball bearing	-
211	Air relief valve	Brass	856	Thermal cutout	-
275	Bolt (impeller)	A2-70 stainless steel class ISO 3506/1	876	Motor cutout	-
801	Rotor	-	904	Lifting hook	Steel
802	Stator	-	907	Cover	Steel
811	Cable	-			

DML - DMLF

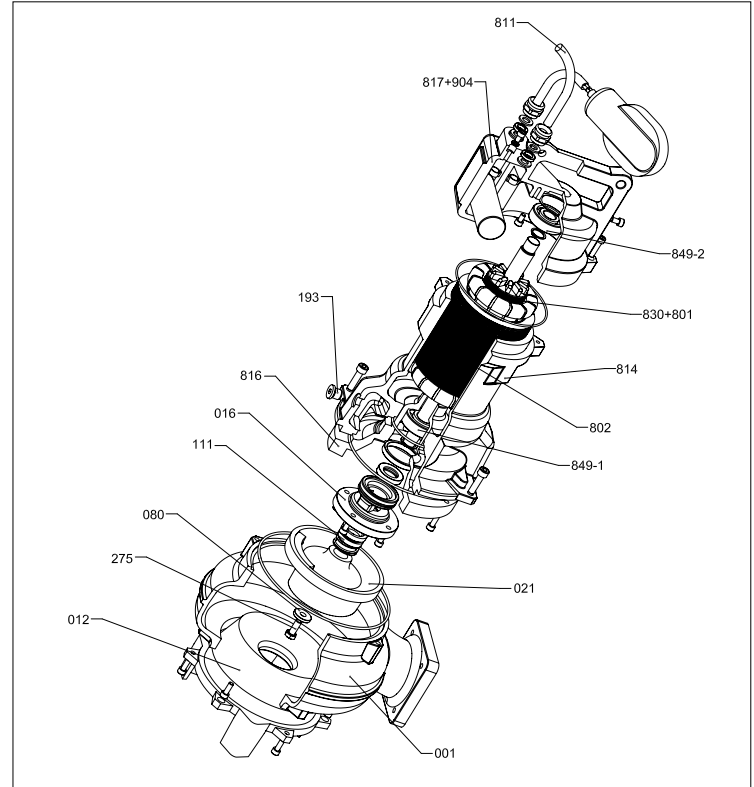
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SECTIONAL VIEW 50DMLF (1.4 kW)



SECTIONAL VIEW 65DMLF (1.5 kW)



SECTIONAL VIEW 65DMLF (1.9 kW)

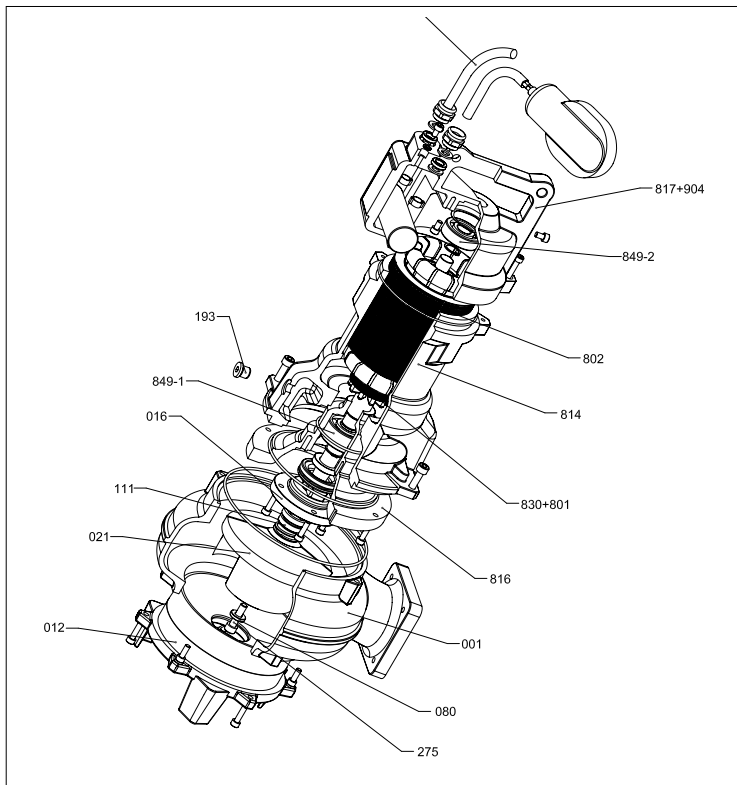


TABLE OF MATERIALS DMLF

Ref.	Name	Material
001	Pump body	Cast iron EN-GJL-250
012	Suction side cover	Cast iron EN-GJL-250
016	Mechanical seal cover	Cast iron EN-GJL-250
021	Impeller	Cast iron EN-GJL-250+Ni
080	Bushing	Steel
111	Mechanical seal	-
193	Oil cap	NBR/stainless steel
275	Impeller nut	AISI304 class A2
801	Rotor	-
802	Stator	-
811	Cable	-
814	Motor casing	Cast iron EN-GJL-250
816	Upper mount	Cast iron EN-GJL-250
817	Lower bearing	Cast iron EN-GJL-250
830	Shaft	AISI 420B
849-1	Ball bearing	-
849-2	Ball bearing	-
904	Lifting hook	Cast iron EN-GJL-250

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ELECTRICAL DATA TABLE DML(V) (2.2 - 3.7 kW)

[P ₂]		[kW]	2.2			3.7		
Resistance at 20°C		[Ω]	7.015			3.623		
GD ²		[kg/m ²]	0.02			0.03		
Voltage		[V]	380	400	415	380	400	415
Full load	0%	Current	2.13	2.52	2.81	3.29	3.88	4.45
		Power	450	480	580	620	780	840
	75%	Current	4.33	4.21	4.32	6.79	6.77	6.95
		Efficiency	67.11	68.45	67.13	72.12	71.40	69.56
		Power factor	86.20	82.63	79.22	86.08	82.84	79.82
	100%	rpm	1428	1437	1442	1439	1443	1447
		Current	5.50	5.20	5.20	8.60	8.40	8.40
		Efficiency	67.56	69.50	68.98	72.79	72.71	71.61
		Power factor	89.53	87.56	85.08	89.58	87.44	85.44
Torque with rotor locked		[%]	182	204	221	203	226	244
Starting current		[A]	24.30	25.70	26.70	45.50	48.10	50.00
Poles			4					
Phases			3					
Frequency [Hz]			50					
Starts per hour			10					
Tolerance for voltage		[%]	-10 +6%			±10%		
Tolerance for frequency		[%]	±1%					
Insulation class			F					
Model			ZDMEU					

ELECTRICAL DATA TABLE DML(V) (5.5 - 11 kW)

[P ₂]		[kW]	5.5			7.5			11		
Resistance at 20°C		[Ω]	1.920			1.326			0.862		
GD ²		[kg/m ²]	0.059			0.076			0.120		
Voltage		[V]	380	400	415	380	400	415	380	400	415
Full load	0%	Current	5.56	6.67	7.64	6.93	8.41	9.70	8.49	10.15	11.85
		Power	900	1200	1330	1200	1300	1600	1100	1450	1800
	75%	Current	10.30	10.51	10.83	13.65	14.06	14.48	18.26	19.27	19.66
		Efficiency	73.72	72.26	71.38	75.24	76.86	71.60	81.12	75.49	74.70
		Power factor	82.50	78.43	74.23	83.20	75.16	75.46	84.63	81.87	78.15
	100%	rpm	1454	1456	1460	1461	1460	1466	1462	1461	1465
		Current	12.70	12.60	12.70	16.90	16.90	17.10	23.50	23.80	23.80
		Efficiency	75.37	74.50	74.06	76.89	79.01	74.60	81.65	77.41	77.06
		Power factor	87.04	84.27	81.03	87.39	80.89	81.76	87.68	85.82	83.31
Torque with rotor locked		[%]	227	252	272	231	256	278	154	170	184
Starting current		[A]	78.00	82.60	87.80	110.20	116.50	121.70	128.20	136.00	141.90
Poles			4								
Phases			3								
Frequency [Hz]			50								
Starts per hour			10						7		
Tolerance for voltage		[%]	±10%						±1%		
Tolerance for frequency		[%]	±1%								
Insulation class			F								
Model			ZDMEU								

DML - DMLF

SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (SINGLE CHANNEL)

in cast iron

ELECTRICAL DATA TABLE DML(V) (15 - 22 kW)

[P ₂]		[kW]	15			22			
Resistance at 20°C		[Ω]	0.563			0.308			
GD ²		[kg/m ²]	0.16			0.34			
Voltage		[V]	380	400	415	380	400	415	
Full load	0%	Current	[A]	10.8	13.13	15.08	13.37	16.27	18.82
		Power	[W]	1220	1650	2000	1500	2000	2100
	75%	Current	[A]	24.86	25.03	25.59	33.90	33.38	34.04
		Efficiency	[%]	79.66	78.43	77.65	84.98	85.54	83.88
		Power factor	[%]	86.32	82.71	78.78	87.01	83.40	80.41
		rpm	[min ⁻¹]	1465	1464	1467	1473	1475	1474
	100%	Current	[A]	31.50	31.00	31.00	43.50	42.00	42.00
		Efficiency	[%]	80.84	80.23	79.78	85.80	86.52	85.34
		Power factor	[%]	89.13	86.77	84.16	89.33	87.27	85.16
		rpm	[min ⁻¹]	1449	1451	1455	1462	1466	1466
Torque with rotor locked		[%]	176	195	211	155	172	185	
Starting current		[A]	199.80	211.90	220.90	299.80	318.50	332.70	
Starts per hour			7						
Model			ZDMEU						

ELECTRICAL DATA TABLE DMLF (1.4 - 1.9 kW)

[P ₂]		[kW]	1.4		1.5		1.9		
Resistance at 20°C		[Ω]	-		-		-		
GD ²		[kg/m ²]	0.0011		0.0039		0.0078		
Voltage		[V]	230		230		230		
Full load	0%	Current	[A]	-		-		-	
		Power	[W]	-		-		-	
	75%	Current	[A]	-		-		-	
		Efficiency	[%]	72		72		73	
		Power factor	[%]	0.97		0.97		0.97	
		rpm	[min ⁻¹]	-		-		-	
	100%	Current	[A]	-		-		-	
		Efficiency	[%]	73		73		73	
		Power factor	[%]	0.99		0.99		0.99	
		rpm	[min ⁻¹]	-		-		-	
Torque with rotor locked		[%]	-		-		-		
Starting current		[A]	31.1		33.3		62.7		
Poles			2						
Phase			1						
Starts per hour			15						
Model			M272M-1.4-230/50NY-IE		M272M-1.5-230/50NY-IE		M272M-1.9-230/50NY-IE		
Type of pump			50DMLF51.4M2BG		65DMLF51.5M2AG		65DMLF51.9M2BG		