

DML - DMLF

SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron



Submersible sewage pumps (single-channel) in cast iron

APPLICATIONS

- Evacuation of civil and industrial waste waters
- Treating liquid manure
- Draining sub-layer zones
- Generally moving foul waste liquids also containing solid substances and/or suspended filamentary substances
- Emptying seepage water
- Moving sewage (sanitary services)
- Emptying cesspits

TECHNICAL DETAILS

- Equipped with single-channel impeller
- Shaft seal upper and lower part (DML)
- Turbulence less system in oil chamber (DML)

TECHNICAL DATA

- Maximum temperature of the liquid: 40°C
- Max solids size for passage: 76 mm (DML)
30 mm (DMLF 1,1 kW)
40 mm (DMLF)
- 4 poles motor (DML)
- 2 poles motor (DMLF)
- Insulation class F (DML)
- Insulation class H (DMLF)
- Protection degree IP68
- 380-415-10+6%, 50Hz (DML 2,2 kW) - threephase voltage
380-415±10%, 50Hz (DML 3,7÷22 kW) - threephase voltage
230±10%, 50Hz (DMLF) singlephase voltage
- Flanges: DN80, DN100, DN150 (DML)
DN50, DN55, DN65 (DMLF)
- Power up to 22kW(DML)
from 1,1 to 1,8 kW (DMLF)

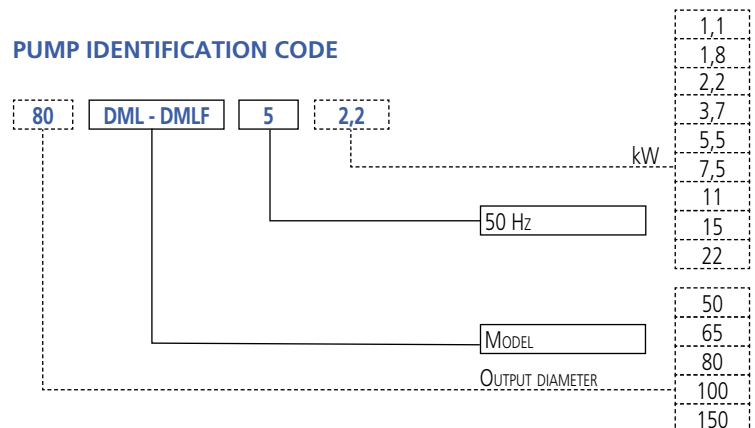
MATERIALS

- Pump body, single-channel impeller, elbow 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)

- See from page 134

PUMP IDENTIFICATION CODE



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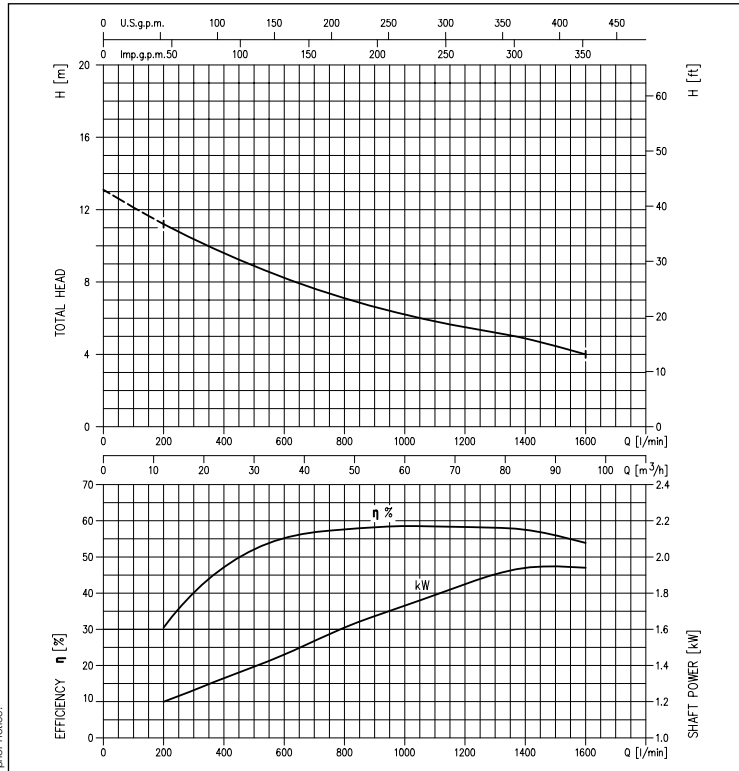
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in cast iron

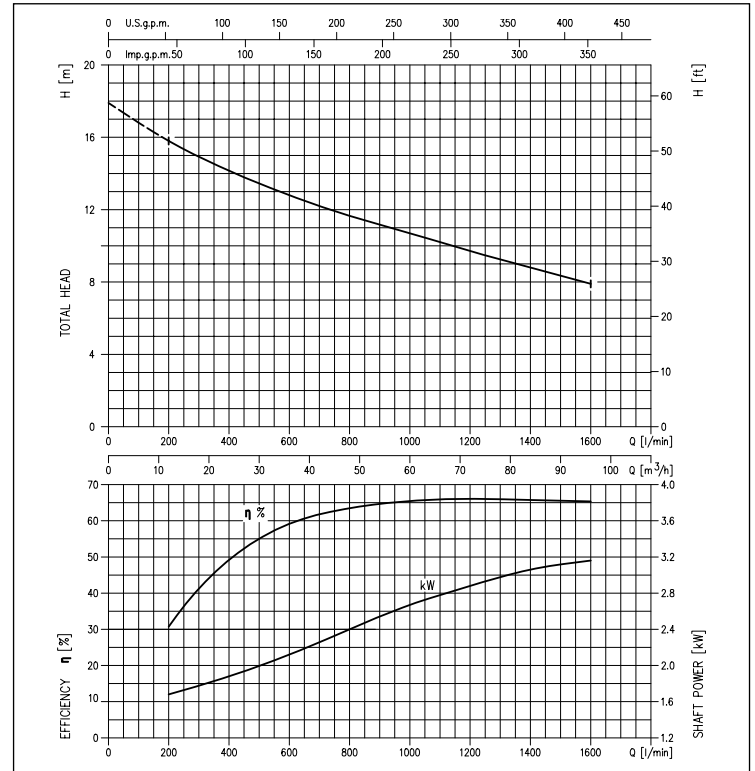
80DML52.2 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 179 mm



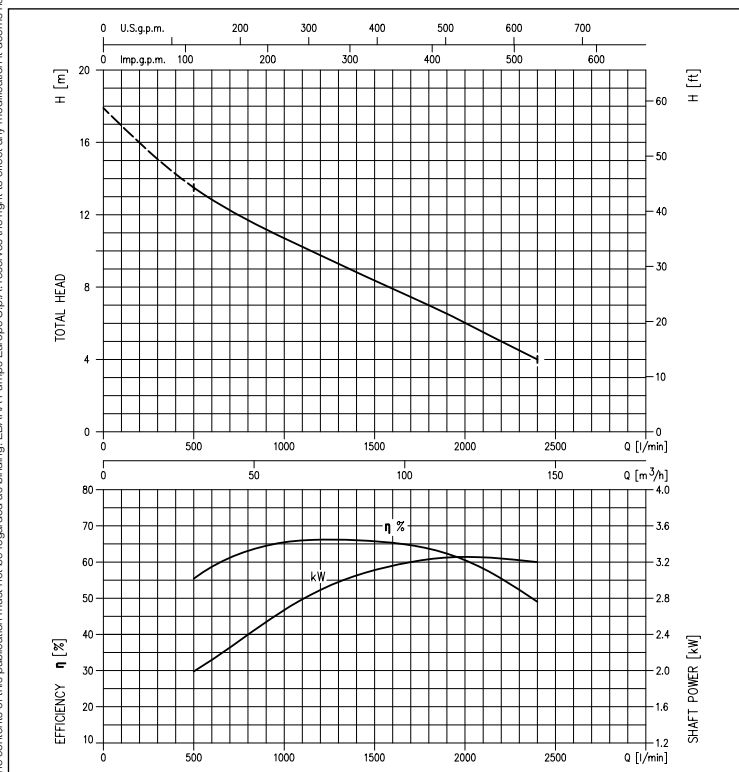
80DML53.7 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 210 mm



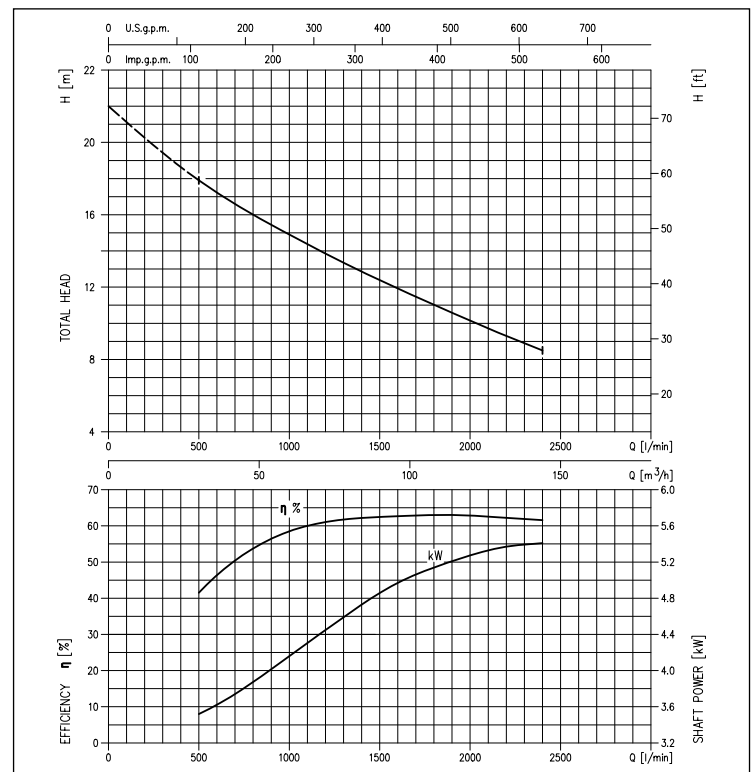
100DML53.7 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 210 mm



100DML55.5 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 232 mm



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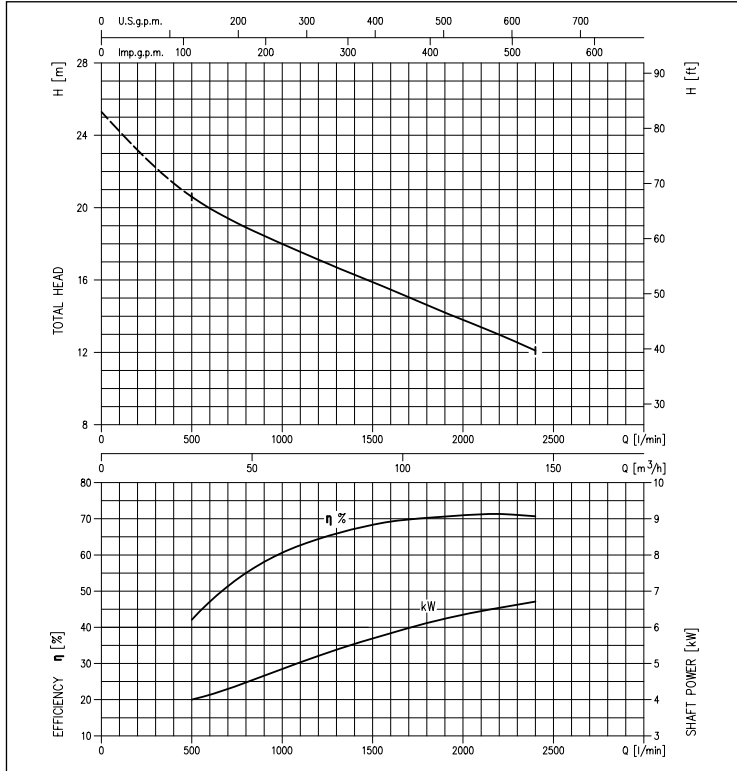
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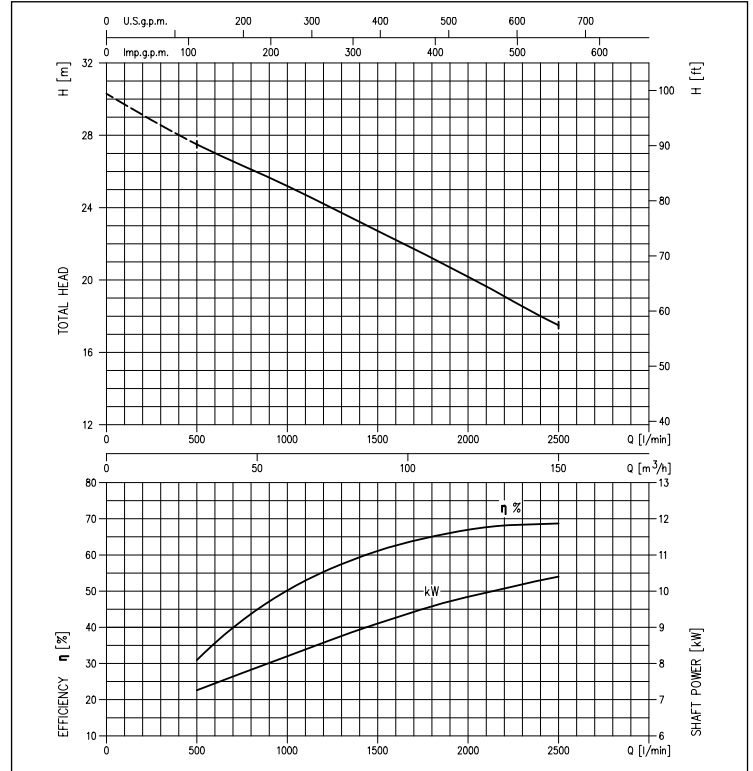
100DML57.5 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 248 mm



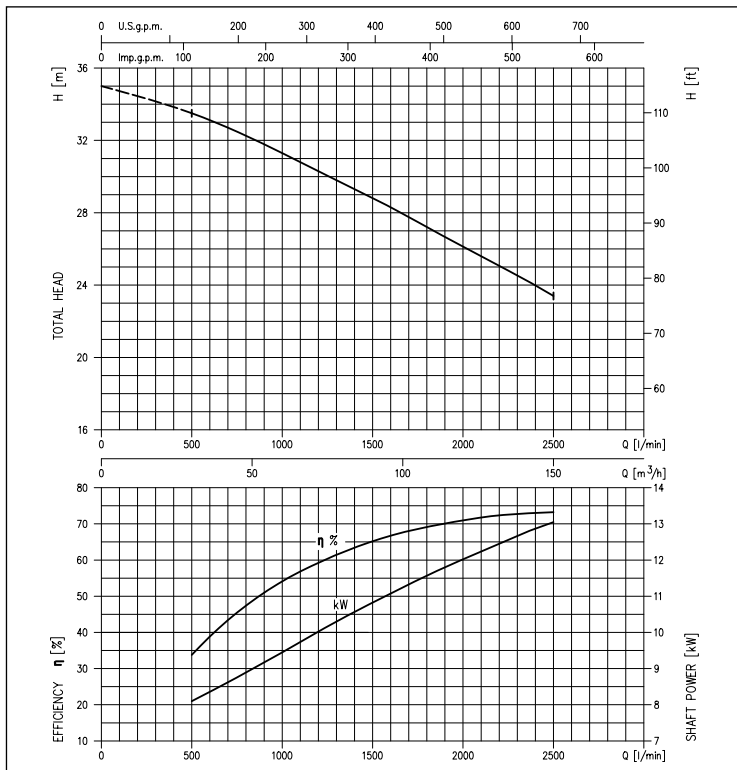
100DML511 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 286 mm



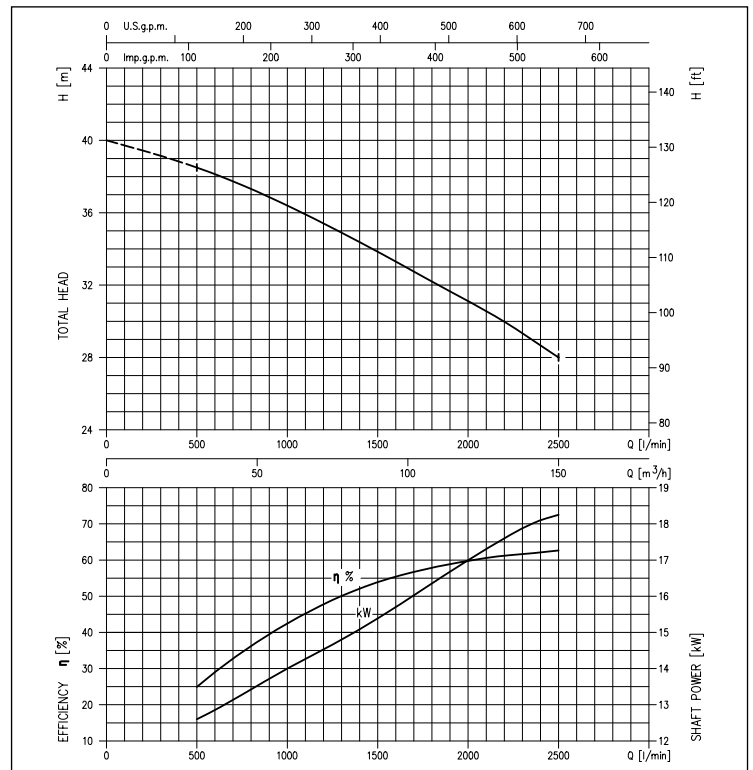
100DML515 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 309 mm



100DML522 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 330 mm



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SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

PERFORMANCE TABLE DML 80

Model	P ₂		Q=Flow rate								
	[HP]	[kW]	l/min	200	400	600	800	1000	1200	1400	1600
			m ³ /h	12	24	36	48	60	72	84	96
			H=Head [m]								
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

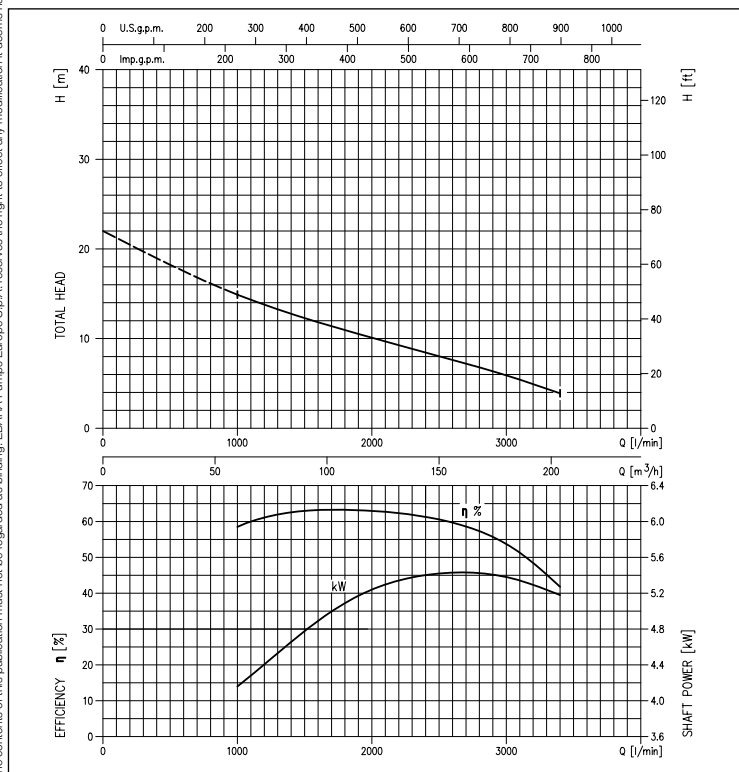
Model	P ₂		Q=Flow rate								
	[HP]	[kW]	l/min	500	1000	1300	1600	1900	2200	2400	2500
			m ³ /h	30	60	78	96	114	132	144	150
			H=Head [m]								
100DML53.7	5	3,7	13,5		10,7	9,3	7,9	6,5	5,0	4,0	-
100DML55.5	7,5	5,5	17,9		14,9	13,4	11,9	10,6	9,3	8,5	-
100DML57.5	10	7,5	20,6		18,0	16,7	15,5	14,2	13,0	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	1000	2000	2500	3000	3400	4000	4500	5000	5500
			m ³ /h	60	120	150	180	204	240	270	300	330
			H=Head [m]									
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

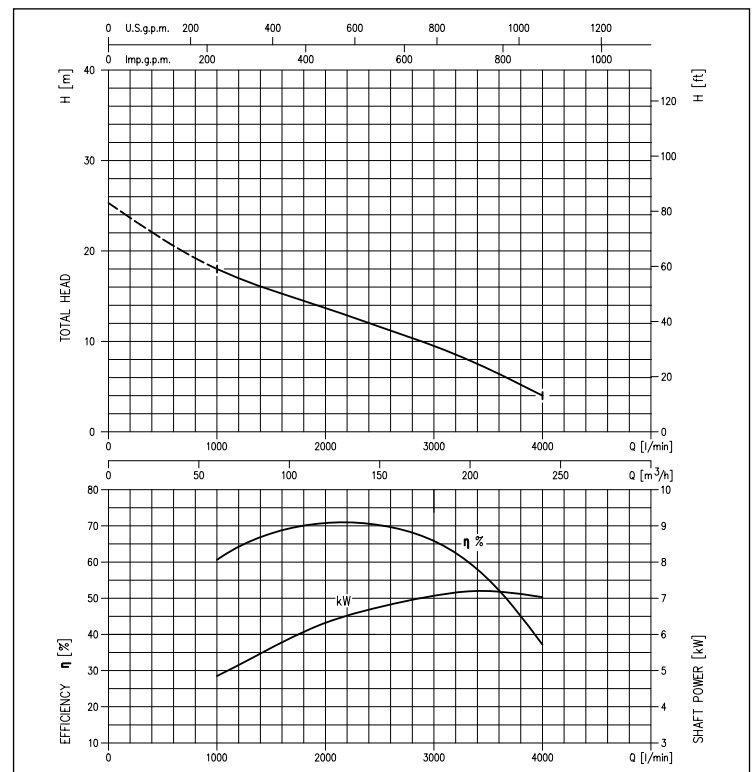
150DML 55.5 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 232 mm



PERFORMANCE CURVES range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 248 mm



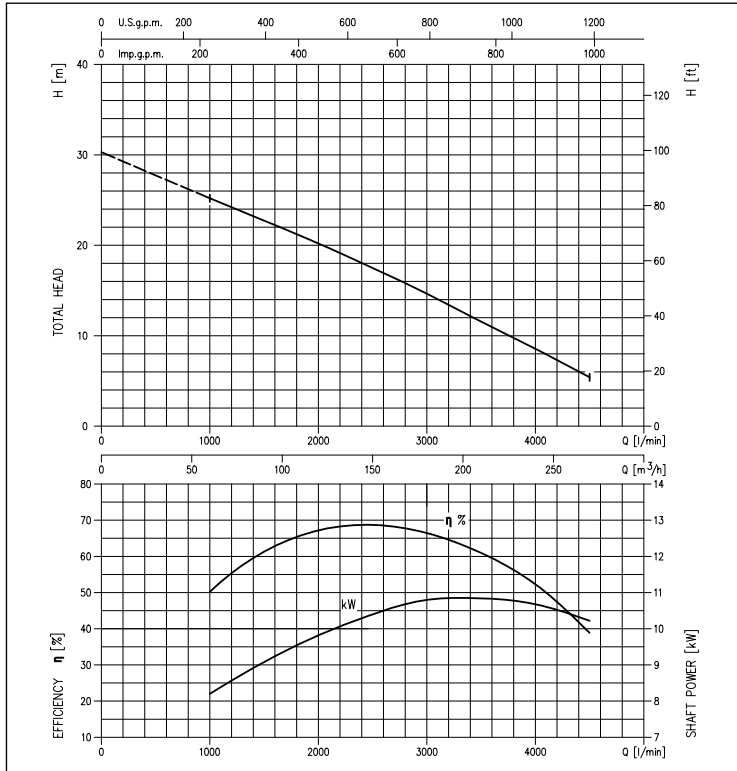
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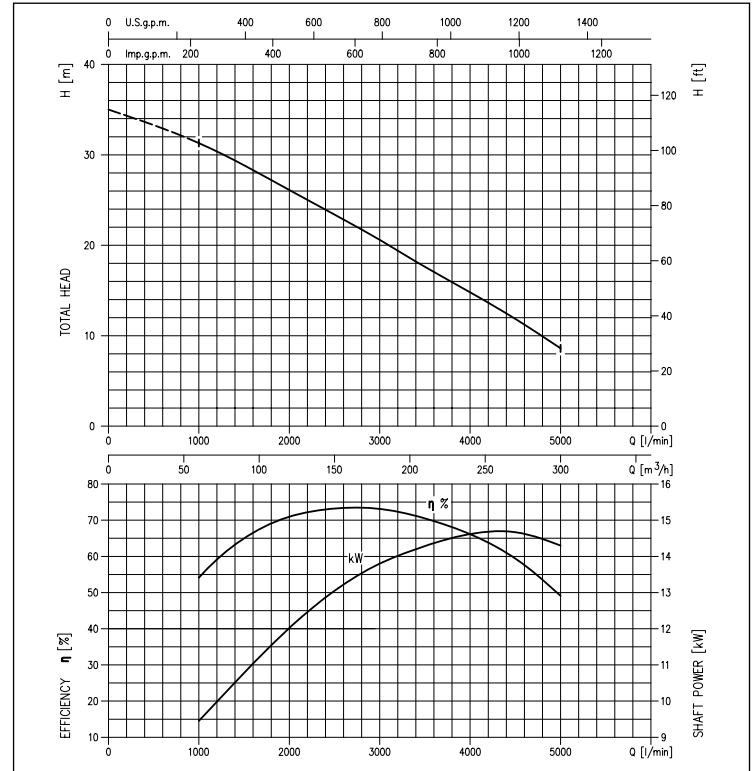
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SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL) in cast iron

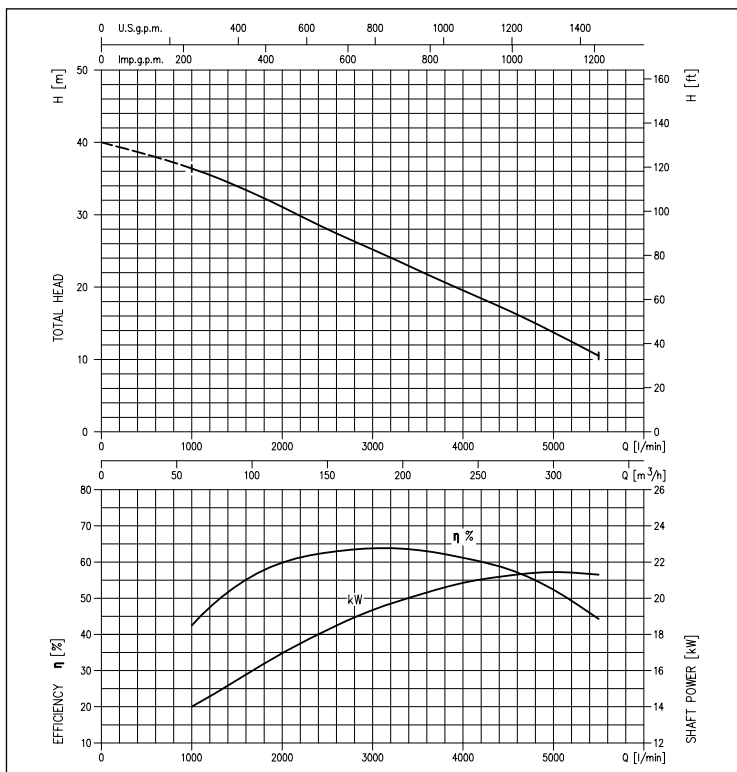
150DML 511 range PERFORMANCE CURVES
(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 286 mm



150DML 515 range PERFORMANCE CURVES
(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 309 mm



150DML522 range PERFORMANCE CURVES
(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 330 mm



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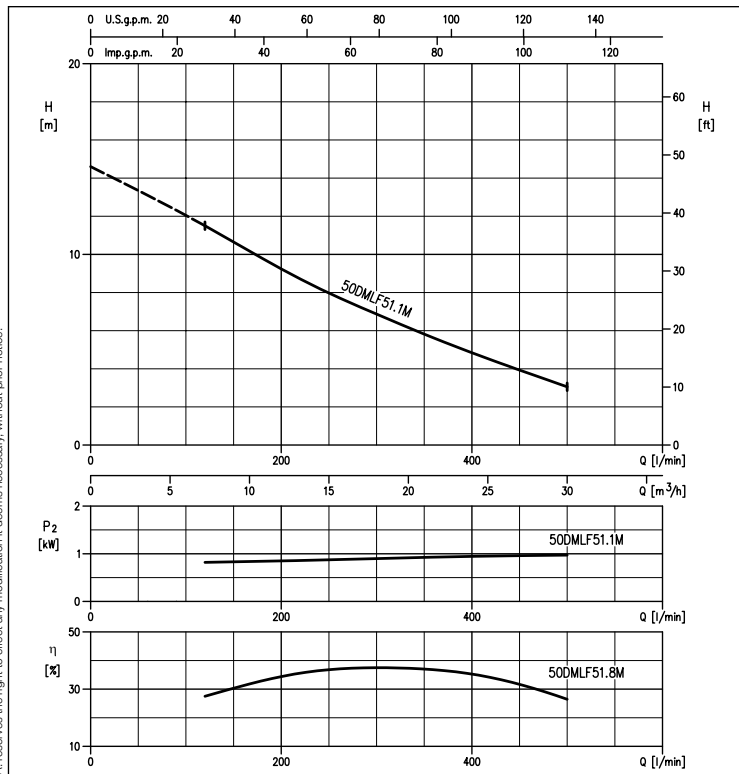
SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

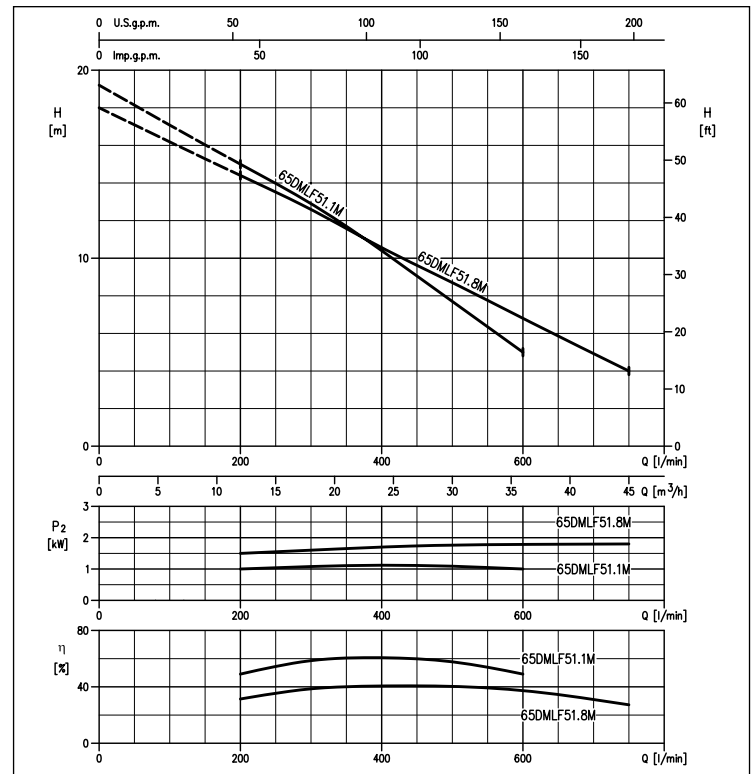
PERFORMANCE TABLE 50-65DMLF

Model	P ₂		Q=Flow rate									
	[HP]	[kW]	l/min m ³ /h	120	200	223	300	322	400	500	600	750
50DMLF51.1M	1,5	1,1		11,5	9,3	8,6	6,9	6,4	4,8	3,1	-	-
65DMLF51.1M	1,5	1,1		-	15	14,5	12,9	12,4	10,4	7,7	5	-
65DMLF51.8M	2,5	1,8		-	14,4	14	12,5	12,1	10,6	8,7	6,8	4

50DMLF51.1M (1.1 kW) range PERFORMANCE CURVES



65DMLF51.1M(1.1kW) range PERFORMANCE CURVES
65DMLF51.8M(1.8kW) range



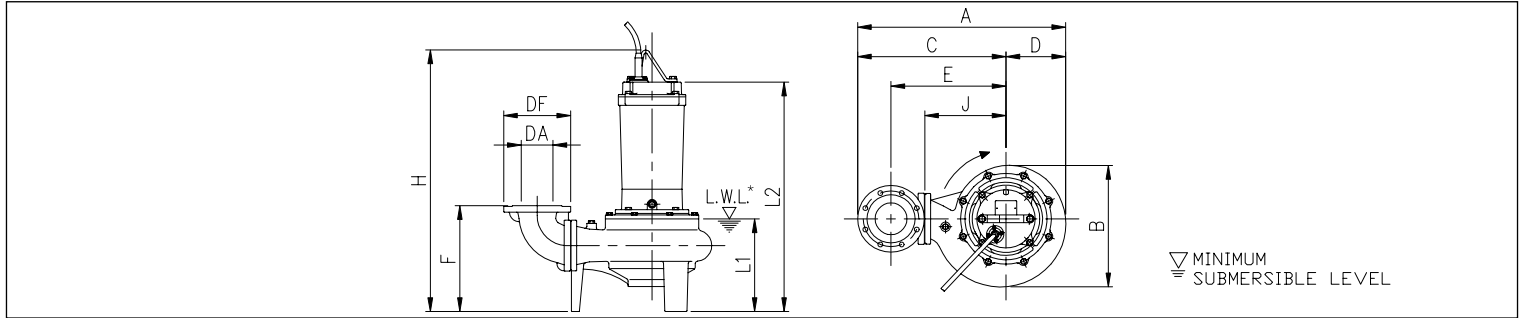
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in cast iron

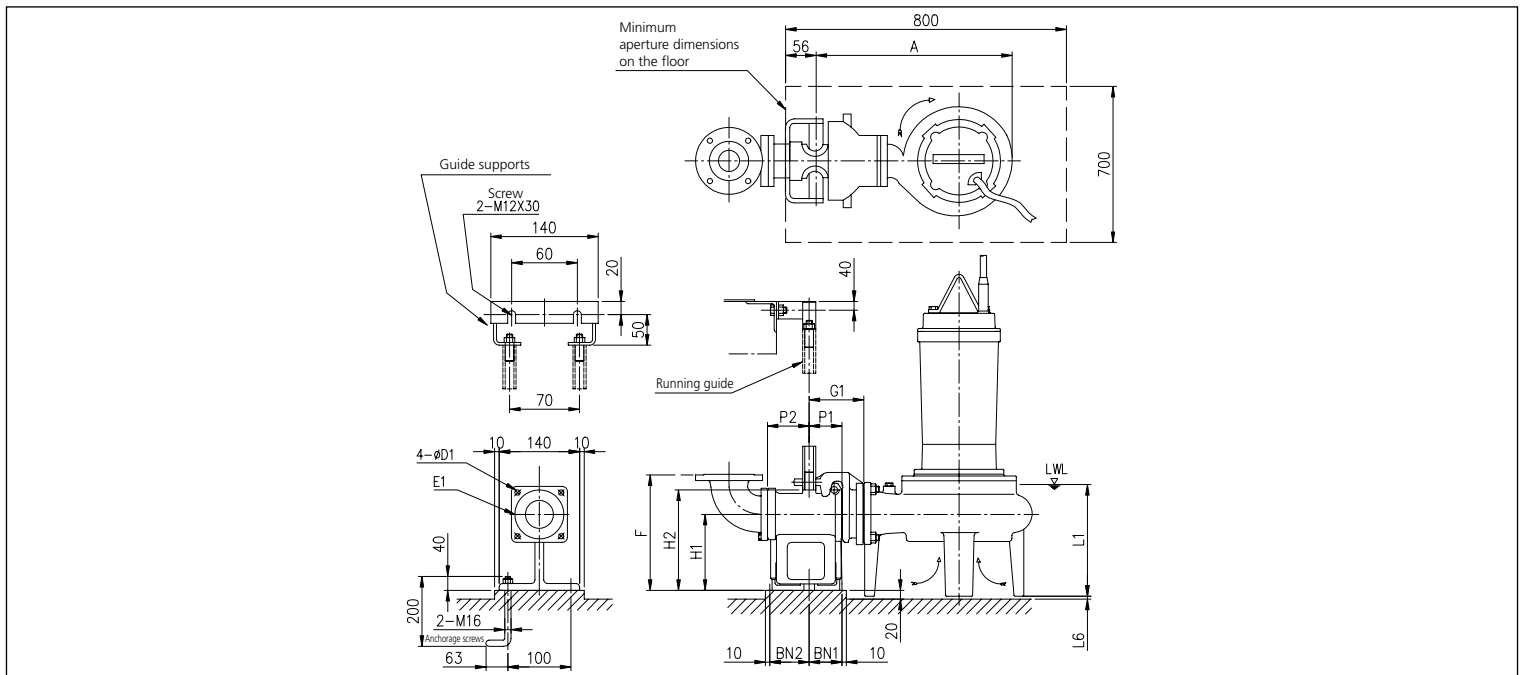
DIMENSIONS DML



DIMENSIONS TABLE DML

Model	Dimensions [mm]													Weight [kg]
	DA	kW	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 (quick discharge connector) LM 80 (for model 80 (100) DML 52.2, 53.7)



DIMENSIONS TABLE QDC (quick discharge connector) LM 80

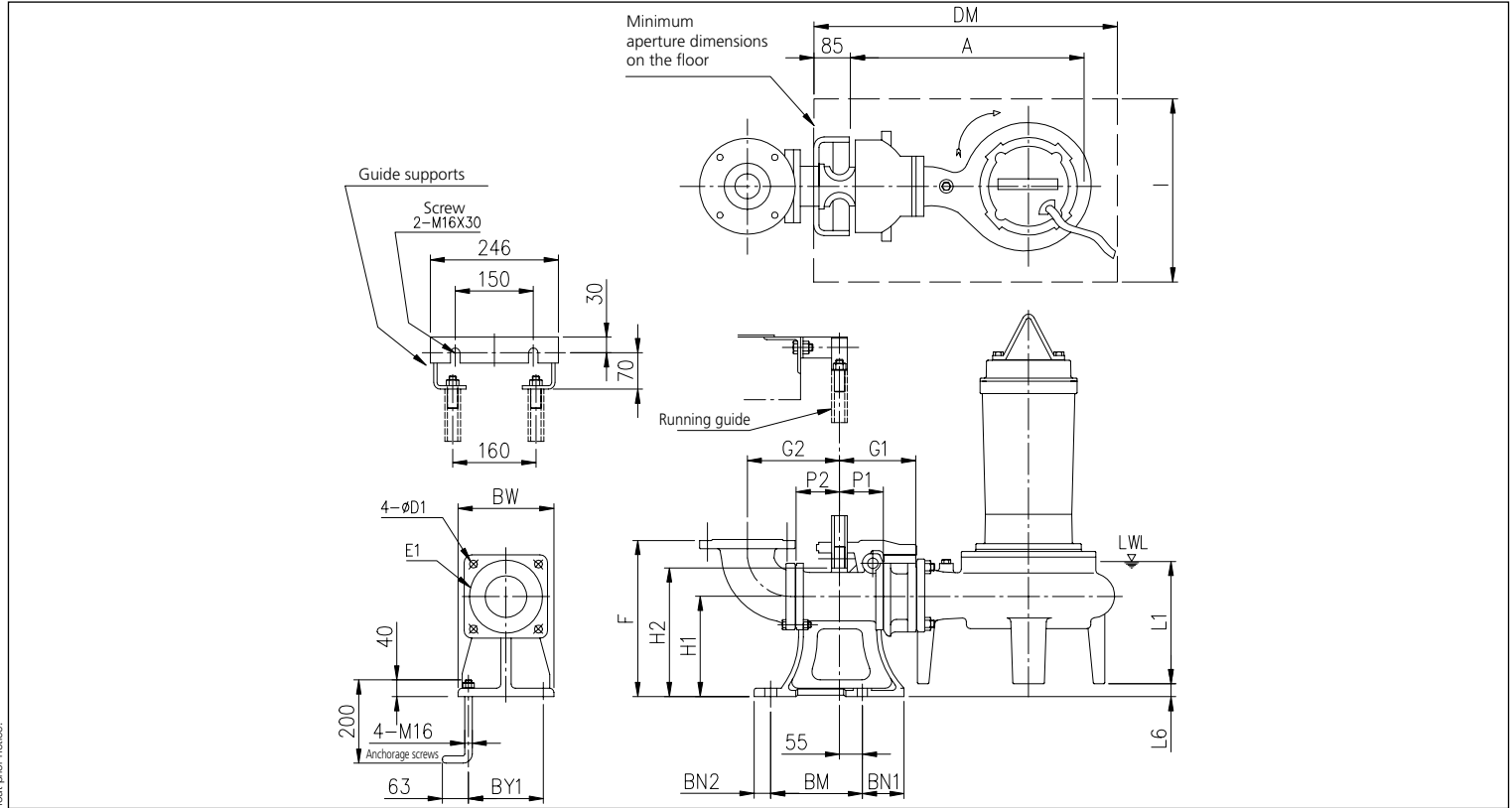
Model	Dimensions [mm]													QDC (quick discharge connector)	Weight [kg]	
	A	P1	P2	G1	G2	F	H1	H2	L1	L6	BN1	BN2	D1			E1
80 DML 52.2	492	75	90	125	165	295	175	230	279	7	75	90	15	155	LM80	17,0
80 DML 53.7	492	75	90	125	165	295	175	230	279	7	75	90	15	155	LM80	17,0
100DML53.7	492	75	90	125	195	300	175	230	279	7	75	90	15	155	LM80	17,0

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SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

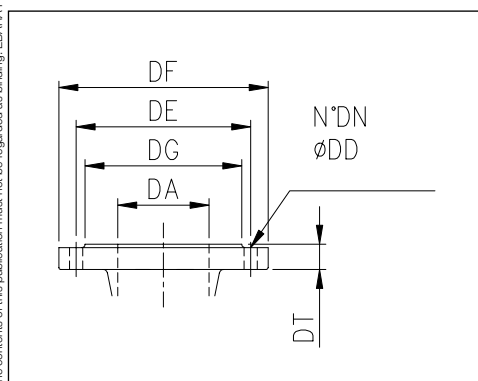
DIMENSIONS QDC (quick discharge connector) LL 100 (for model 100 (150) DML)



DIMENSIONS TABLE QDC (quick discharge connector)

Model	A	P1	P2	G1	G2	F	H1	H2	Dimensions [mm]						BW	DM	I	D1	E1	Coupling foot	Weight [kg]
									L1	L6	BN1	BN2	BM	BY1							
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

DIMENSIONS FLANGES



DISCHARGE 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

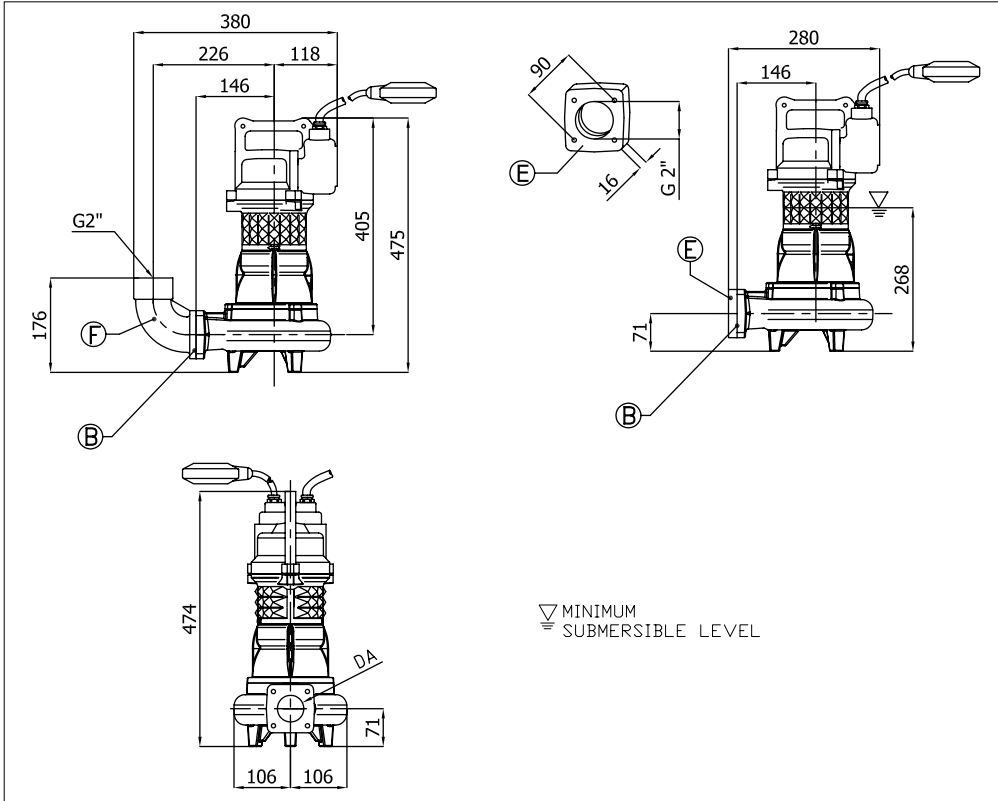
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DML - DMLF

SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

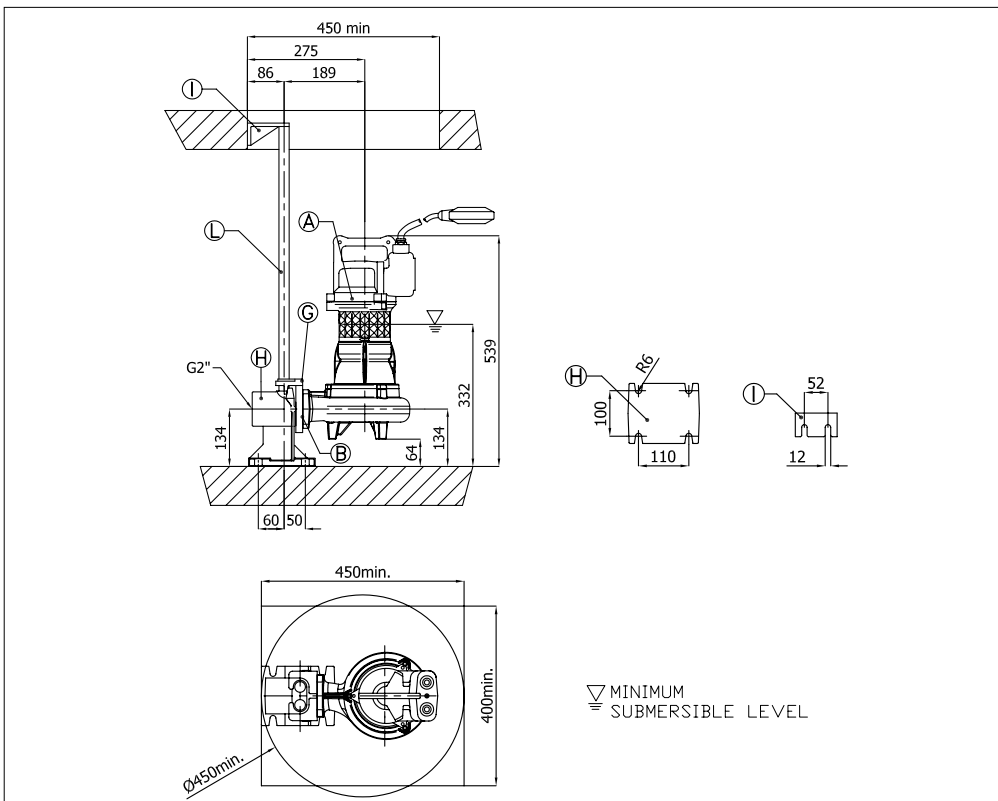
in cast iron

DIMENSIONS 50DMLF (1.1 kW)



DIMENSIONS TABLE 50DMLF (1.1 kW)

DA	Model	[kW]	Weight [kg]
50	50DMLF51.1M (120)	1.1	31



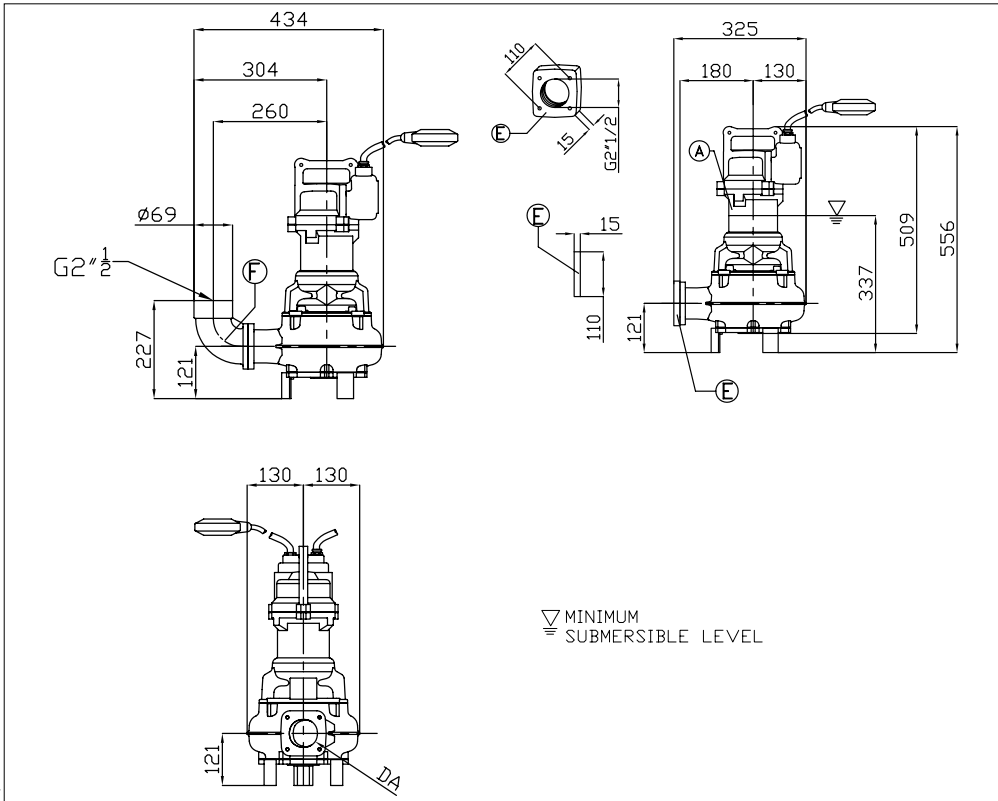
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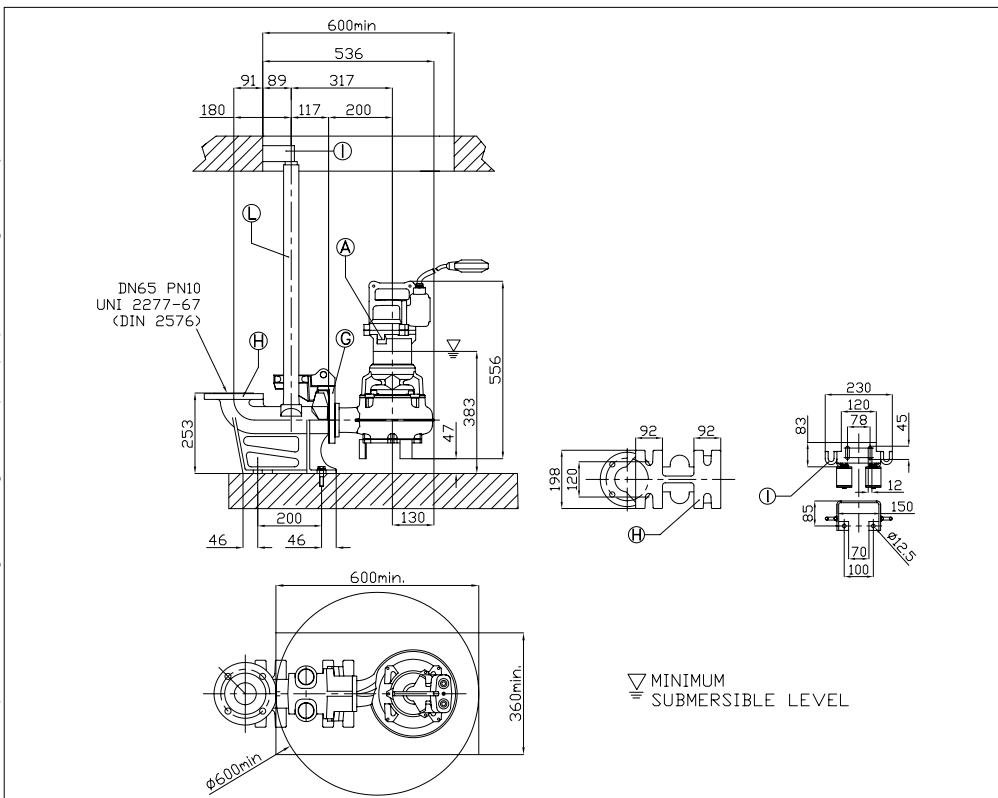
in cast iron

DIMENSIONS 65DMLF (1.1÷1.8 kW)



DIMENSIONS TABLE 65DMLF (1.1÷1.8 kW)

DA	Model	[kW]	Weight [kg]
65	65DMLF51.1M (135)	1.1	42
	65DMLF51.8M (125)	1.8	45



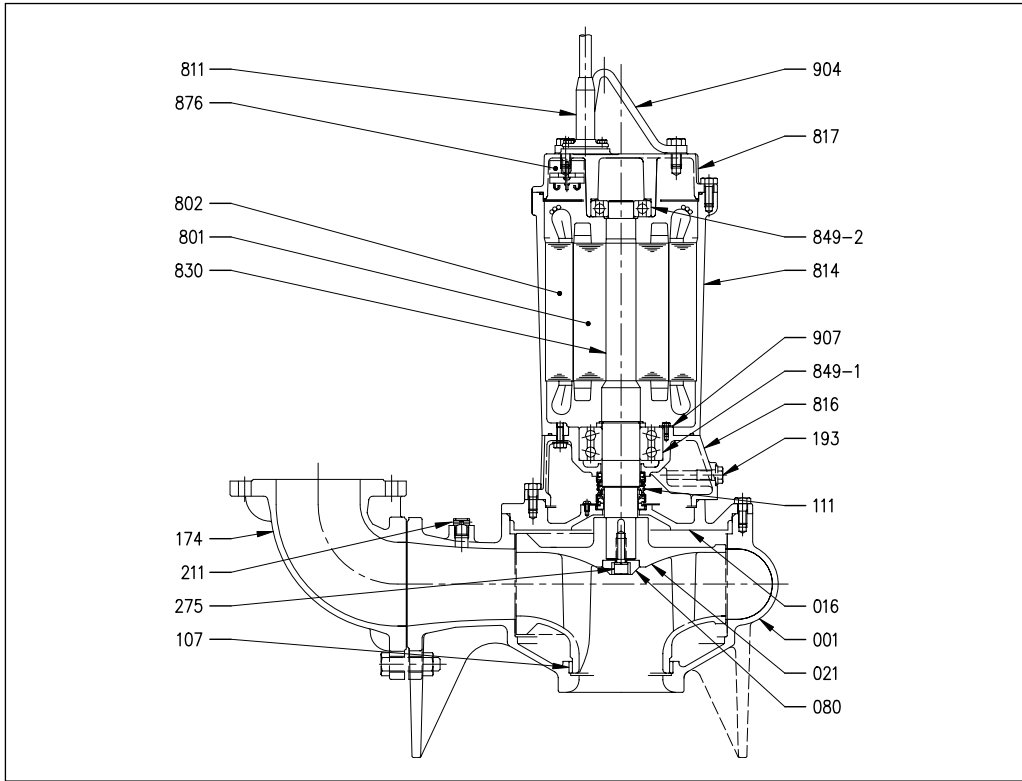
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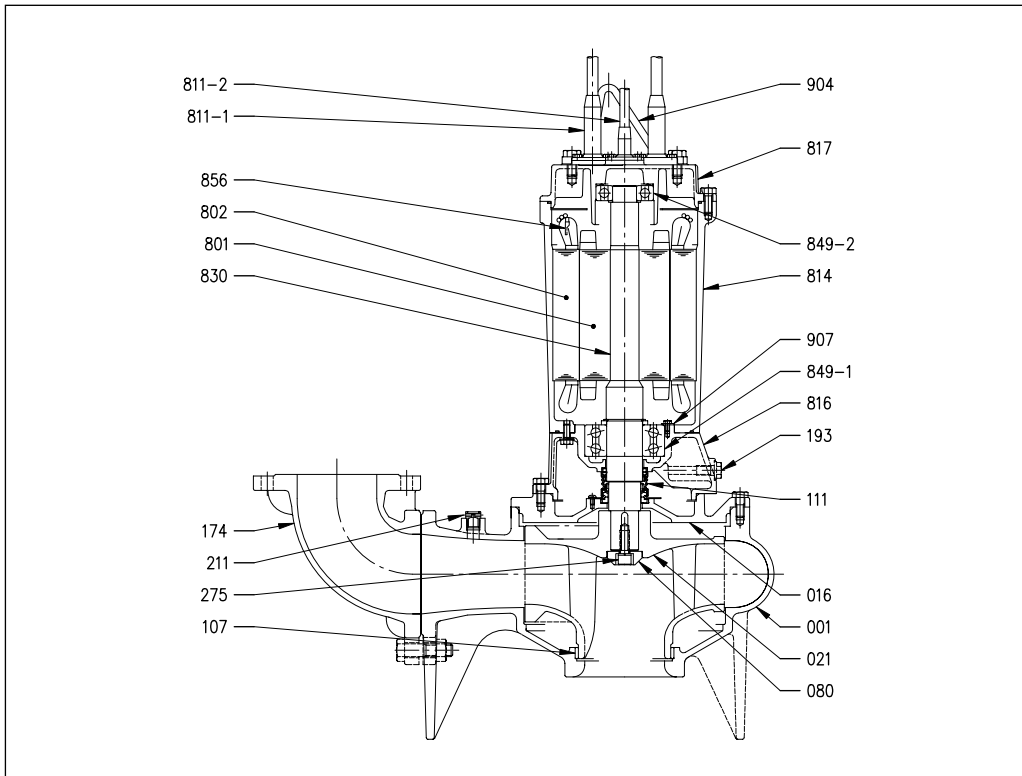
SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

SECTIONAL VIEW 80DML 52.2



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

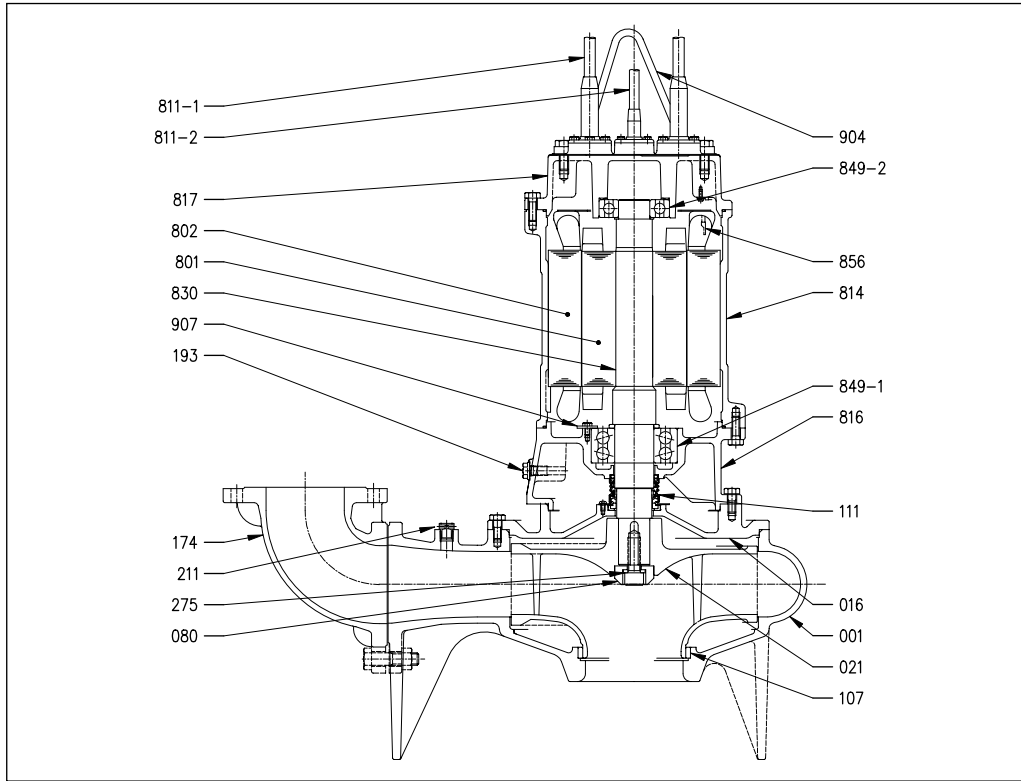


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SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

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



MATERIALS TABLE DML

Ref.	Name	Material	Ref.	Name	Material
001	Pump body	CAST IRON EN-GHJL-200 - EN 1561	811-1	Cable (alimentazione)	-
016	Mechanical seal cover	CAST IRON EN-GHJL-200 - EN 1561	811-2	Cable (segnale)	-
021	Impeller	CAST IRON EN-GHJL-200 - EN 1561	814	Motor case	CAST IRON EN-GHJL-200 - EN 1561
080	Bushing	STEEL	816	Power side bracket	CAST IRON EN-GHJL-200 - EN 1561
107	Wearing ring	BRONZE	817	Opposite side bracket	CAST IRON EN-GHJL-200 - EN 1561
111	Mechanical seal	-	830	Shaft	EN 1.4006 (AISI403)
174	Discharge bend	CAST IRON EN-GHJL-200 - EN 1561	849-1	Ball bearing	-
193	Oil plug	NBR/STEEL INOX	849-2	Ball bearing	-
211	Airvent valve	BRASS	856	Thermal Protector	-
275	Screw (Impeller)	STEEL INOX A2-70 CLASS ISO 3506/1	876	Protector	-
801	Rotor	-	904	Lifting hanger	STEEL
802	Stator	-	907	Cover	STEEL
811	Cable	-			

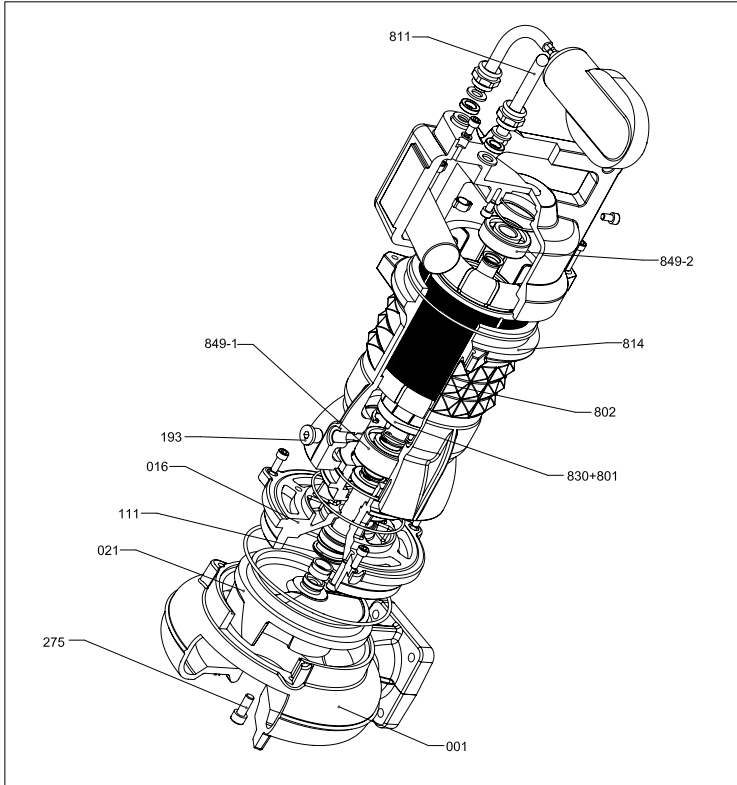
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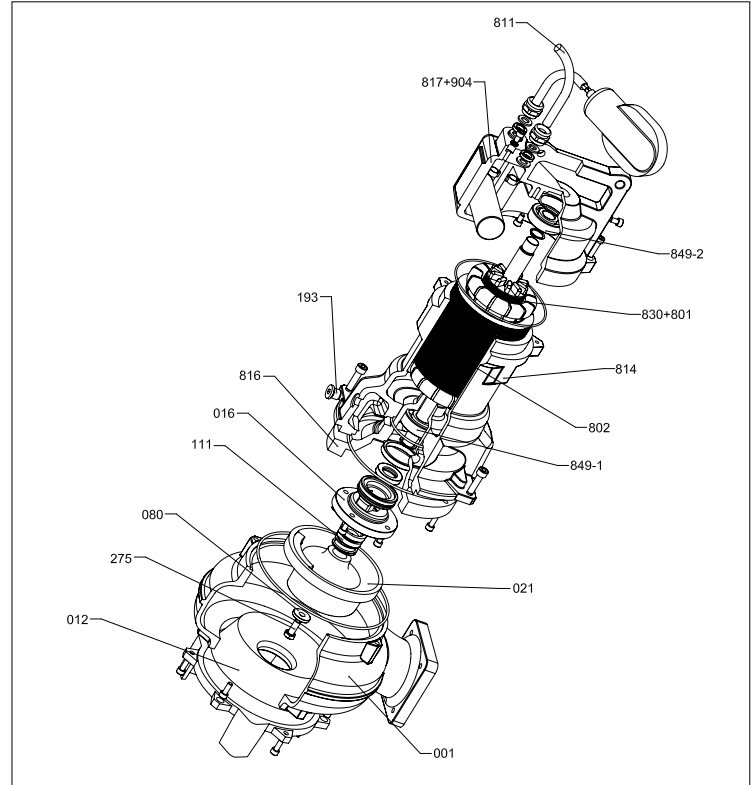
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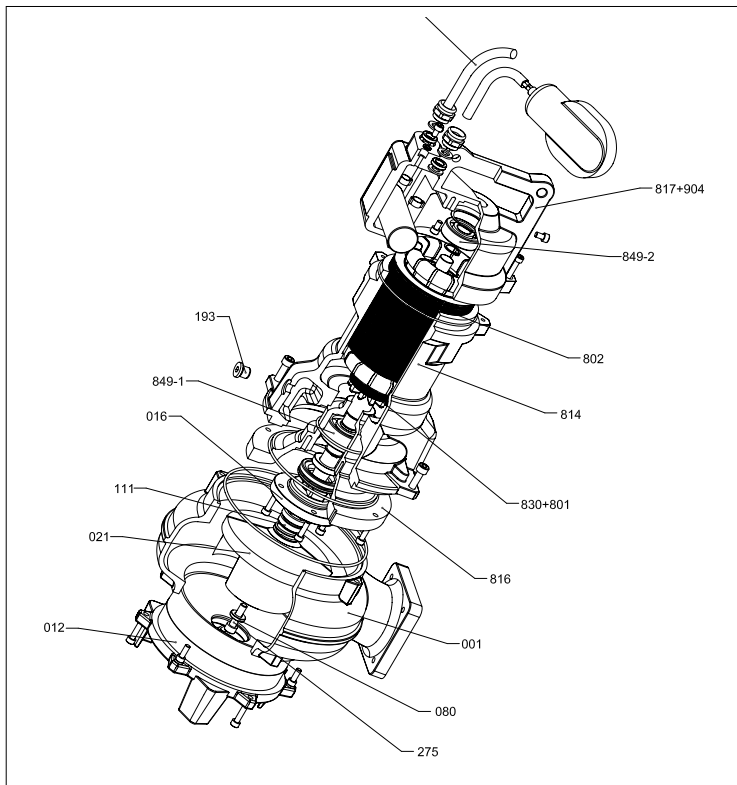
SECTIONAL VIEW 50DMLF (1.1 kW)



SECTIONAL VIEW 65DMLF (1.1 kW)



SECTIONAL VIEW 65DMLF (1.8 kW)



MATERIALS TABLE DMLF

Ref.	Name	Material
001	Pump body	CAST IRON EN-GJL-250
012	Suction side lid	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 plug	NBR/STAINLESS STEEL
275	Impeller nut	AISI304 CLASSE A2
801	Rotor	-
802	Stator	-
811	Cable	-
814	Motor case	CAST IRON EN-GJL-250
816	Power side bracket	CAST IRON EN-GJL-250
817	Opposite side bracket	CAST IRON EN-GJL-250
830	Shaft	AISI 420B
849-1	Ball bearing	-
849-2	Ball bearing	-
904	Lifting hanger	CAST IRON EN-GJL-250

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DML - DMLF

SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

DML(V) (2.2÷3.7 kW) MOTOR DATA

[P2]	[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		
Load	0%	Current	[A]	2.13	2.52	2.81	3.29	3.88	4.45
		Power	[W]	450	480	580	620	780	840
	75%	Current	[A]	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%	Speed	[min ⁻¹]	1428	1437	1442	1439	1443	1447
		Current	[A]	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
	Speed	[min ⁻¹]	1400	1411	1421	1416	1422	1428	
	Locked Rotor Torque	[%]	182	204	221	203	226	244	
	Start Current	[A]	24.30	25.70	26.70	45.50	48.10	50.00	
Poles		4							
Phase		3							
Frequency	[Hz]	50							
No. starts per hour		10							
Voltage Tolerance	[%]	-10 +6%			±10%				
Frequency Tolerance	[%]	±1%							
Insulation Class		F							
Model		ZDMEU							

DML(V) (5.5÷11 kW) MOTOR DATA

[P2]	[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		
Load	0%	Current	[A]	5.56	6.67	7.64	6.93	8.41	9.70	8.49	10.15	11.85
		Power	[W]	900	1200	1330	1200	1300	1600	1100	1450	1800
	75%	Current	[A]	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%	Speed	[min ⁻¹]	1454	1456	1460	1461	1460	1466	1462	1461	1465
		Current	[A]	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
	Speed	[min ⁻¹]	1437	1440	1445	1445	1447	1455	1447	1446	1451	
	Locked Rotor Torque	[%]	227	252	272	231	256	278	154	170	184	
	Start Current	[A]	78.00	82.60	87.80	110.20	116.50	121.70	128.20	136.00	141.90	
Poles		4										
Phase		3										
Frequency	[Hz]	50										
No. starts per hour		10						7				
Voltage Tolerance	[%]	±10%						±1%				
Frequency Tolerance	[%]	±1%										
Insulation Class		F										
Model		ZDMEU										

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DML - DMLF

SUBMERSIBLE SEWAGE PUMPS (SINGLE-CHANNEL)

in cast iron

DML(V) (15÷22 kW) MOTOR DATA

[P2]	[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		
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
	100%	Speed	[min ⁻¹]	1465	1464	1467	1473	1475	1474
		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
	Speed	[min ⁻¹]	1449	1451	1455	1462	1466	1466	
Locked Rotor Torque	[%]	176	195	211	155	172	185		
Start Current	[A]	199.80	211.90	220.90	299.80	318.50	332.70		
No. starts per hour		7							
Model		ZDMEU							

DMLF (1.1÷1.8 kW) MOTOR DATA

[P2]	[kW]	1,1 (DMLF50)	1,1 (DMLF65)	1,8		
Resistance at 20°C	[Ω]	2,83/6,48	1,97/4,38	1,9/4,3		
GD ²	[kg•m ²]	0,000430	0,000520	0,000520		
Voltage	[V]	230	230	230		
Load	0%	Current	[A]	3,3	2,31	2,5
		Power	[W]	560	415	420
	75%	Current	[A]	5,5	5,4	7,6
		Efficiency	[%]	67	67	80
		Power factor	[%]	0,95	0,96	0,98
	100%	Speed	[min ⁻¹]	2820	2868	2795
		Current	[A]	7,5	7,5	10
		Efficiency	[%]	68	68	80,5
		Power factor	[%]	0,98	0,98	0,99
	Speed	[min ⁻¹]	2750	2750	2710	
Locked Rotor Torque	[%]	20	20	30		
Start Current	[A]	21	21	35		
No. starts per hour		15				
Model		M272ML- 9108-394- 9756	M271M/M- 2282-3028- 3534-6437	M271M/L- 3026-3536- 5432-5372- 6436		