

DRS

SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS)

in cast iron



SINGLE-PHASE



THREE-PHASE



Submersible pumps in cast iron with open impeller and suction grinder

APPLICATIONS

- Evacuation of civil and industrial waste water
- Handling water loaded with fibrous matter and paper
- Draining cesspits
- Draining infiltration water

TECHNICAL FEATURES

- Open impeller with grinder

TECHNICAL DATA

- Maximum fluid temperature: 40°C
- Maximum solid dimensions: 6 - 7 mm (DRS 40); 8 - 10 (DRS 65)
- Single/three phase asynchronous motor
- Versions available: 2 pole
- Insulation class: H
- Protection rating IP 68
- Single phase voltage 230V ±10%, 50Hz
three-phase voltage 400/690 ±10%, 50Hz
- Flanges DN 40-65
- Power up to 25.1 kW

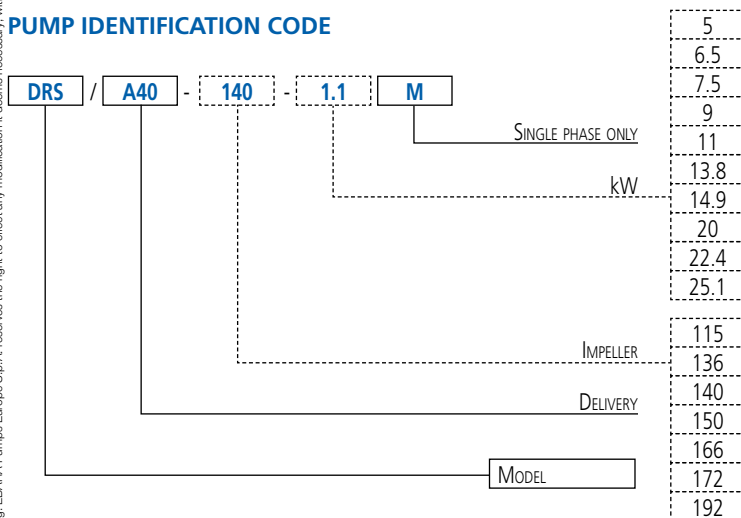
MATERIALS

- Pump body, impeller, motor casing, volute base, upper cover in cast iron
- Grinder in AISI 304 stainless steel
- Shaft made of AISI 420B
- Mechanical seal: SiC/SiC/NBR (pump side)
Carbon/Ceramic/NBR (motor side)

ACCESSORIES (on request)

For accessories, see page 151 onwards

PUMP IDENTIFICATION CODE

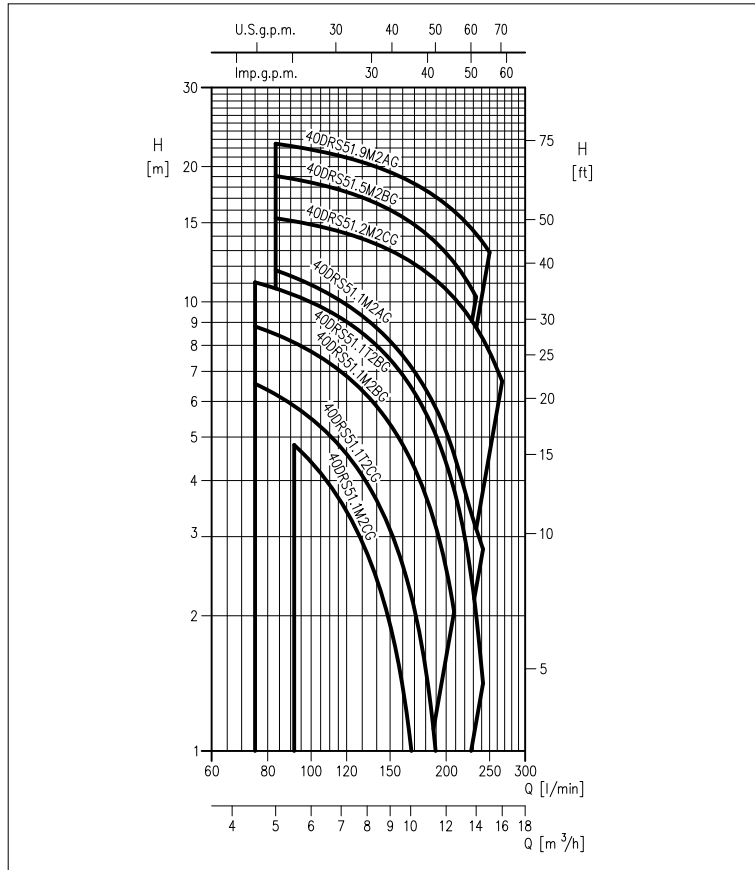


5
6.5
7.5
9
11
13.8
14.9
20
22.4
25.1
115
136
140
150
166
172
192

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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

PERFORMANCE RANGE 40 DRS (per ISO 9906 Annex A)



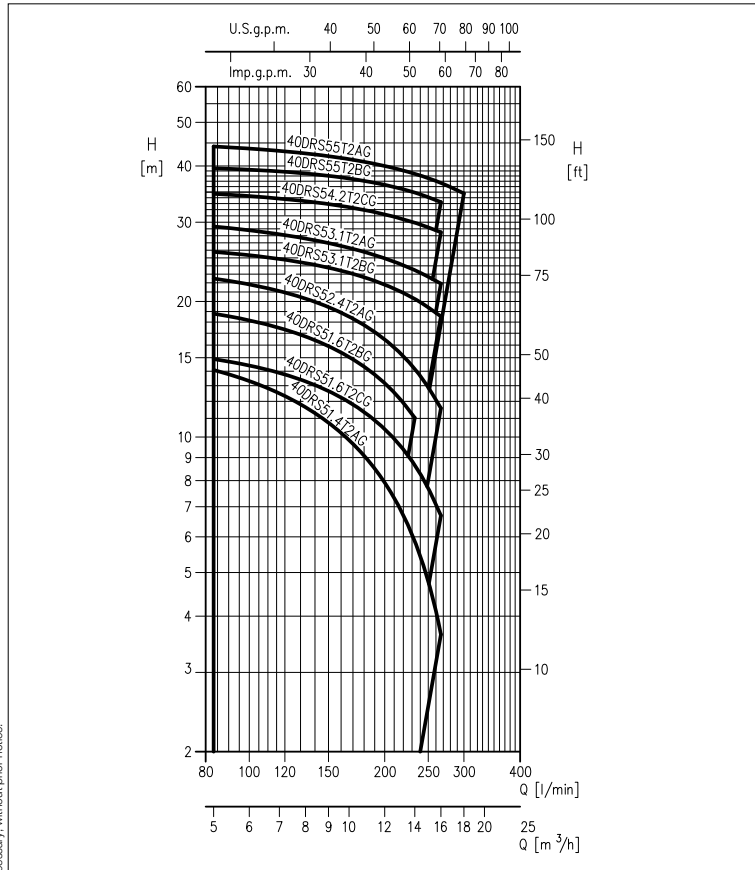
PERFORMANCE TABLE

Model	P ₂		Q=Flow rate										
	[HP]	[kW]	l/min 75 m ³ /h 4.5	83 5.0	92 5.5	150 9.0	175 10.5	200 12.0	208 12.5	233 14.0	242 14.5	250 15.0	267 16.0
			H=Head [m]										
40DRS51.1M2CG	1.5	1.1	-	-	4.8	1.9	0.6	-	-	-	-	-	-
40DRS51.1M2BG	1.5	1.1	8.8	8.5	8.1	5.3	4	2.5	2	-	-	-	-
40DRS51.1M2AG	1.5	1.1	-	11.8	11.3	8.2	6.7	5.1	4.6	3	2.4	-	-
40DRS51.2M2CG	1.6	1.2	-	15.3	15.1	13	11.9	10.6	10.2	8.8	8.3	7.7	6.6
40DRS51.5M2BG	2	1.5	-	19.1	18.7	16	14.5	12.8	12.2	10.3	-	-	-
40DRS51.9M2AG	2.5	1.9	-	22.5	21.2	19.4	18	16.5	15.9	14.2	13.5	12.9	-
40DRS51.1T2CG	1.5	1.1	6.6	6.2	5.9	3.1	1.8	0.4	-	-	-	-	-
40DRS51.1T2BG	1.5	1.1	11	10.7	10.3	7.4	6	4.4	3.8	2	1.4	-	-

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PERFORMANCE RANGE 40 DRS (per ISO 9906 Annex A)



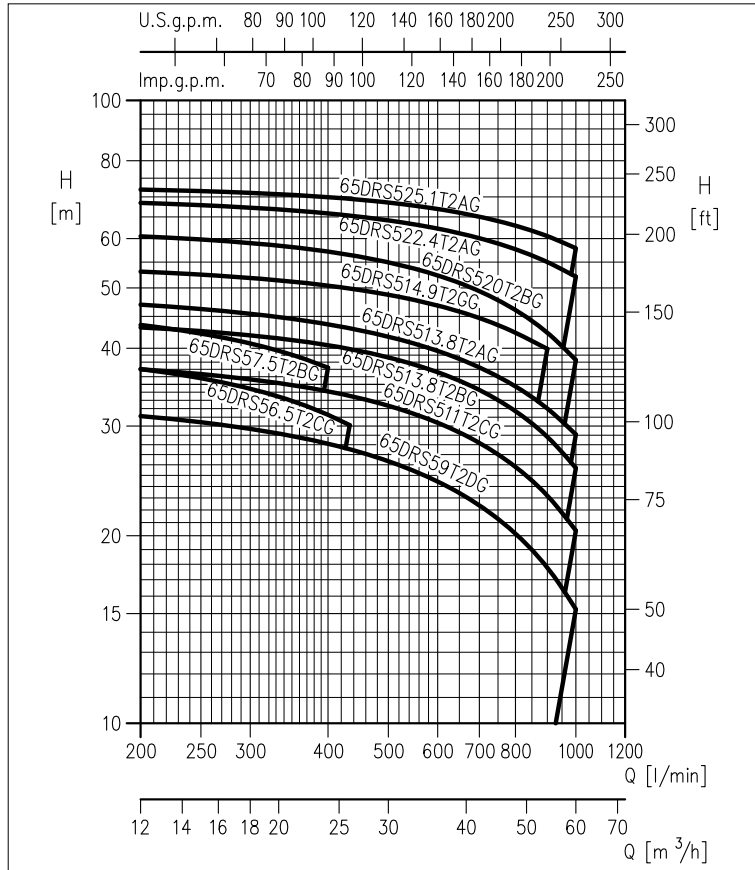
PERFORMANCE TABLE

Model	P ₂		Q=Flow rate					
	[HP]	[kW]	l/min 83 m³/h 5.0	150 9.0	200 12.0	233 14.0	267 16.0	300 18.0
			H=Head [m]					
40DRS51.4T2AG	1.9	1.4	14.1	10.8	7.9	5.9	3.7	-
40DRS51.6T2CG	2.1	1.6	14.9	12.6	10.4	8.7	6.7	-
40DRS51.6T2BG	2.1	1.6	18.8	15.9	13.2	11	-	-
40DRS52.4T2AG	3.2	2.4	22.5	19.4	16.5	14.2	11.6	-
40DRS53.1T2BG	4.2	3.1	25.8	23.8	21.8	20.3	18.5	-
40DRS53.1T2AG	4.2	3.1	29.3	27	24.9	23.5	21.9	-
40DRS54.2T2CG	5.6	4.2	34.7	32.9	31.2	29.9	28.5	-
40DRS55T2BG	6.7	5	39.5	38	36.3	34.9	33.3	-
40DRS55T2AG	6.7	5	44	42	40	38.4	36.7	34.8

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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

PERFORMANCE RANGE 65 DRS (per ISO 9906 Annex A)



PERFORMANCE TABLE

Model	P ₂		Q=Flow rate					
	[HP]	[kW]	l/min 200 m ³ /h 12.0	400 24.0	433 26.0	667 40.0	900 54.0	1000 60.0
			H=Head [m]					
65DRS56.5T2CG	8.7	6.5	37	31.3	30.1	-	-	-
65DRS57.5T2BG	10.1	7.5	43.5	37.2	-	-	-	-
65DRS59T2DG	12.1	9	31.1	28.1	27.5	23.1	17.8	15.2
65DRS511T2CG	14.8	11	37	34.1	33.5	28.9	23.2	20.4
65DRS513.8T2BG	18.5	13.8	43	40.5	39.9	35.1	28.8	25.7
65DRS513.8T2AG	18.5	13.8	47	43.5	43	38.1	32	29.1
65DRS514.9T2GG	20.0	14.9	53	50.5	50	45.5	39.8	-
65DRS520T2BG	26.8	20	60.5	57	56.5	50.5	42.5	38.3
65DRS522.4T2AG	30.0	22.4	68.5	66	65.5	61	55	52
65DRS525.1T2AG	33.7	25.1	72	70	69.5	65.5	60.5	58

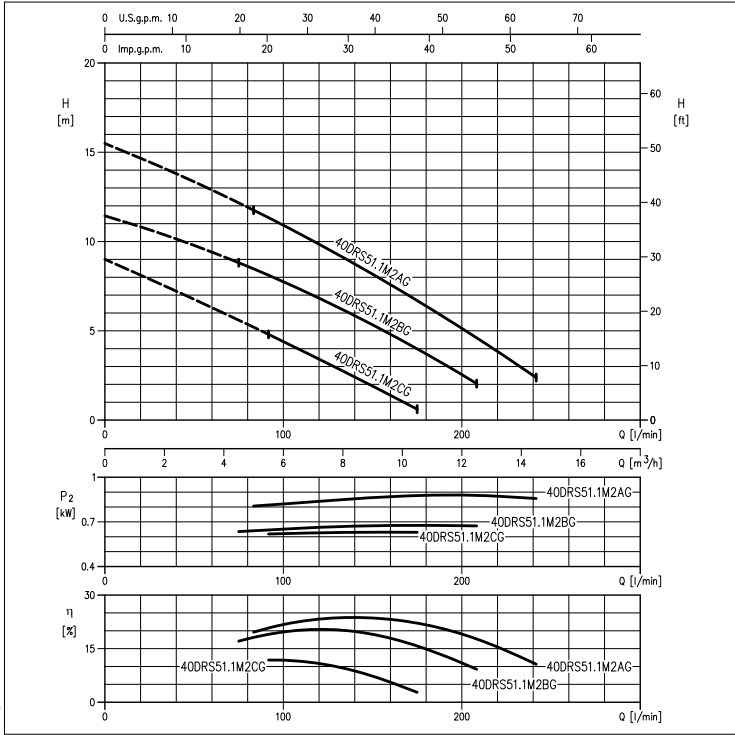
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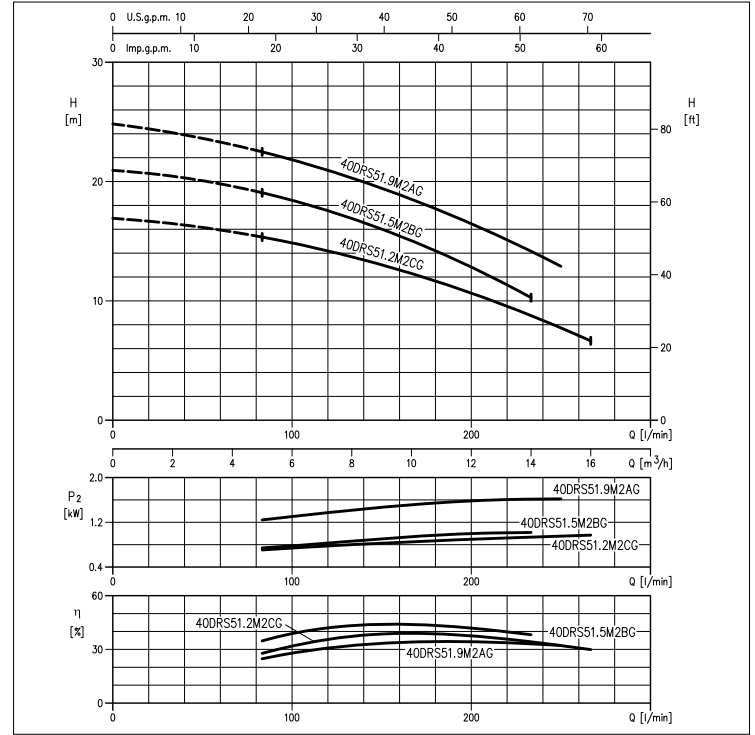
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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

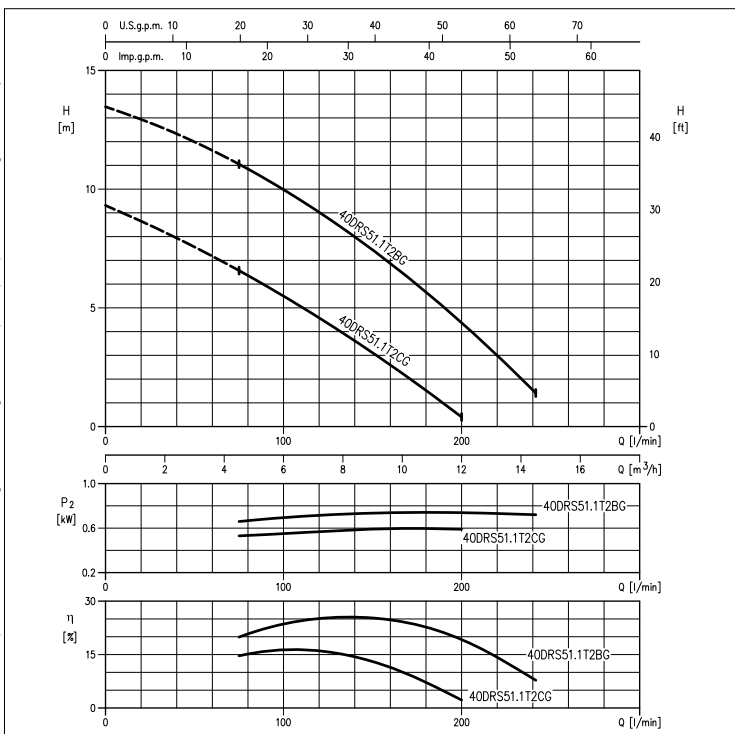
PERFORMANCE CURVES (per ISO 9906 Annex A)
40DRS51.1M2CG (1.1 kW)
40DRS51.1M2BG (1.1 kW)
40DRS51.1M2AG (1.1 kW)



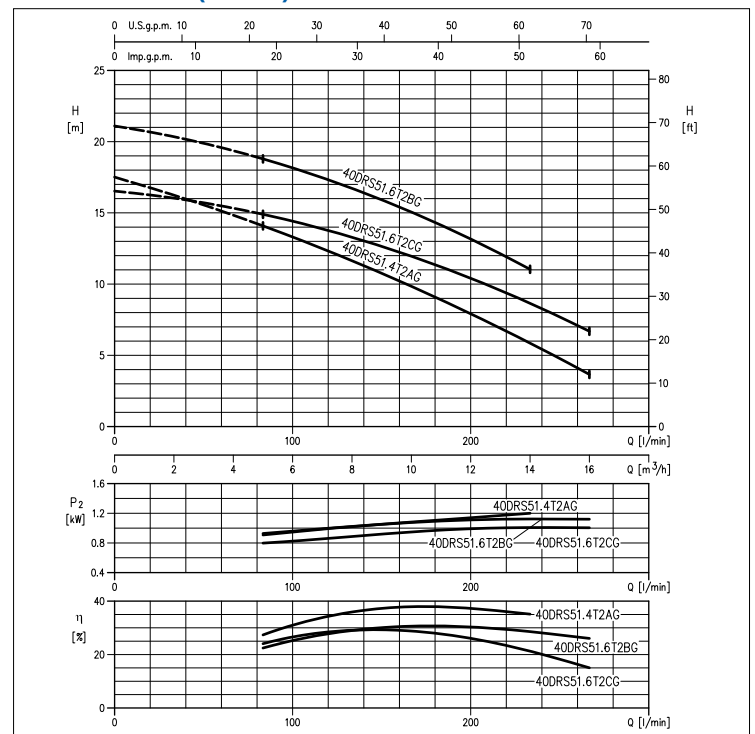
PERFORMANCE CURVES (per ISO 9906 Annex A)
40DRS51.2M2CG (1.2 kW)
40DRS51.5M2BG (1.5 kW)
40DRS51.9M2AG (1.9 kW)



PERFORMANCE CURVES (per ISO 9906 Annex A)
40DRS51.1T2CG (1.1 kW)
40DRS51.1T2BG (1.1 kW)



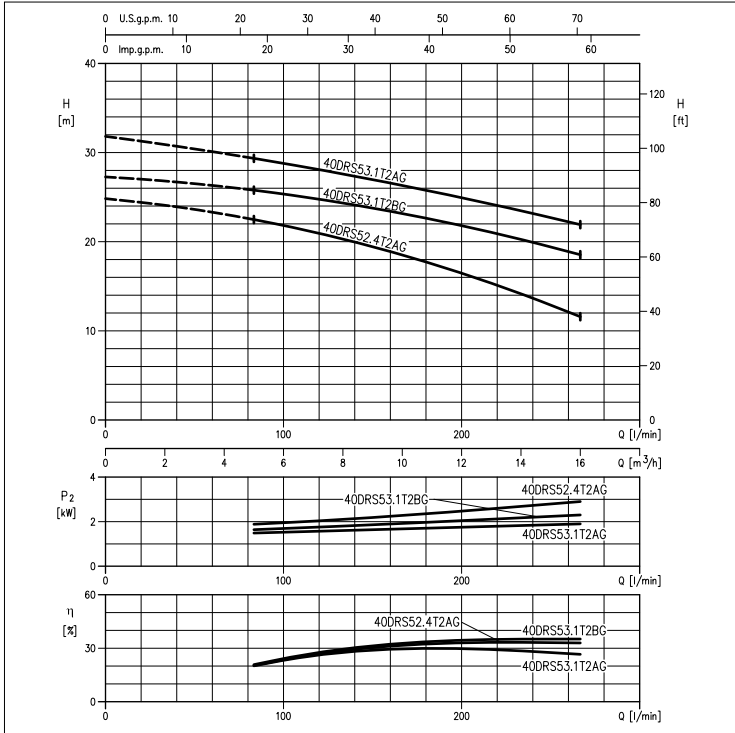
PERFORMANCE CURVES (per ISO 9906 Annex A)
40DRS51.4T2AG (1.4 kW)
40DRS51.6T2CG (1.6 kW)
40DRS51.6T2BG (1.6 kW)



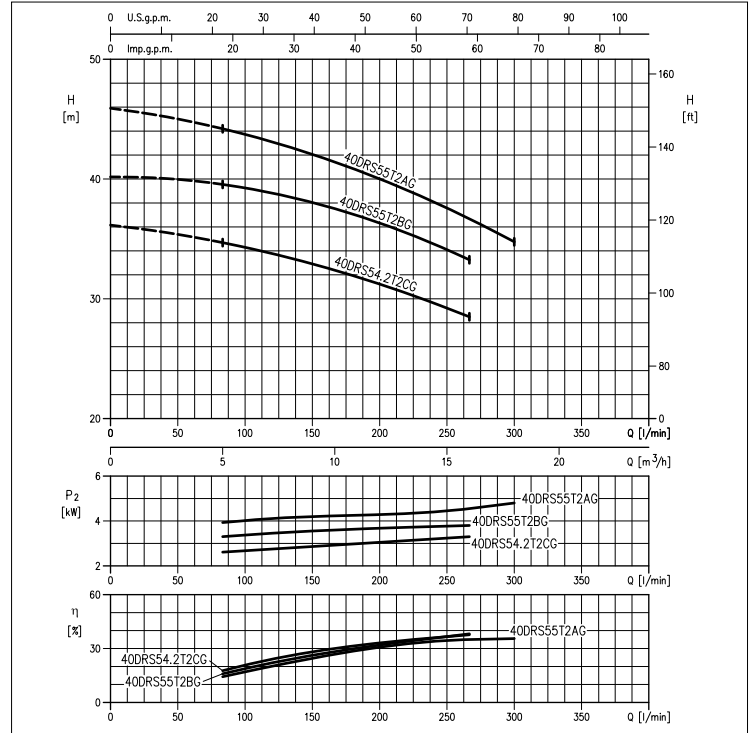
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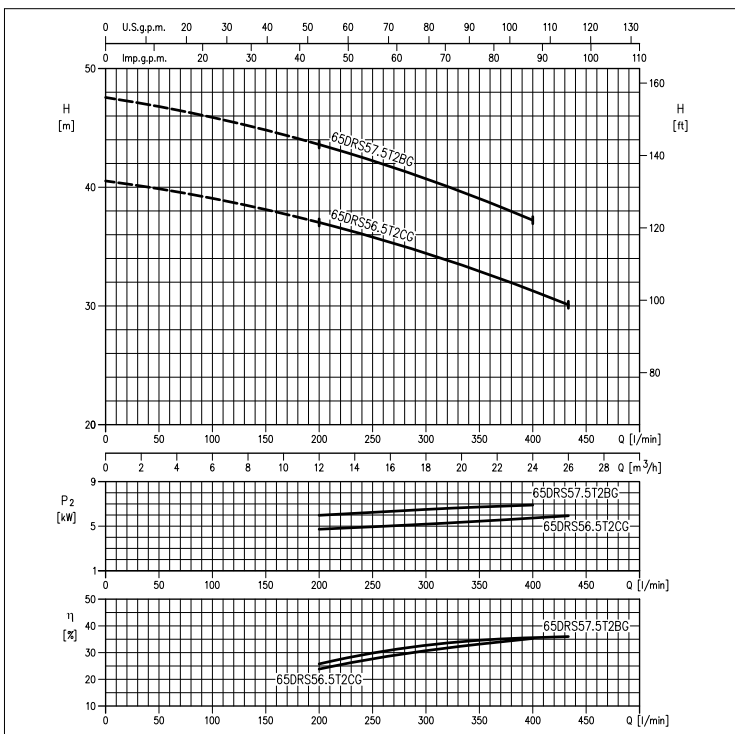
PERFORMANCE CURVES (per ISO 9906 Annex A)
40DRS52.4T2AG (2.4 kW)
40DRS53.1T2BG (3.1 kW)
40DRS53.1T2AG (3.1 kW)



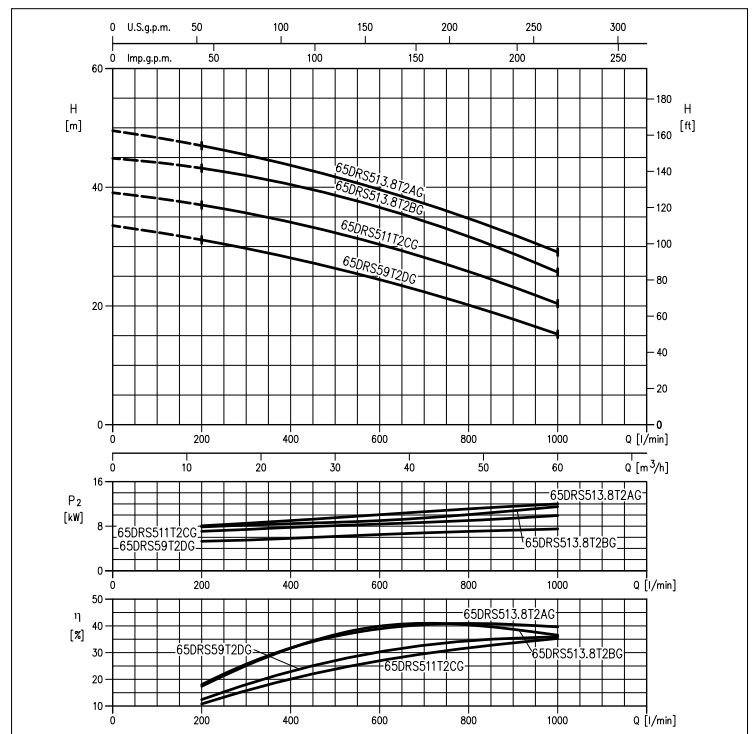
PERFORMANCE CURVES (per ISO 9906 Annex A)
40DRS54.2T2CG (4.2 kW)
40DRS55.2T2BG (5.0 kW)
40DRS55.2T2AG (5.0 kW)



PERFORMANCE CURVES (per ISO 9906 Annex A)
65DRS57.5T2BG (7.5 kW)
65DRS56.5T2CG (6.5 kW)



PERFORMANCE CURVES (per ISO 9906 Annex A)
65DRS59T2DG (9.0 kW) - 65DRS511T2CG (11 kW)
65DRS513.8T2BG (13.8 kW) - 65DRS513.8T2AG (13.8 kW)



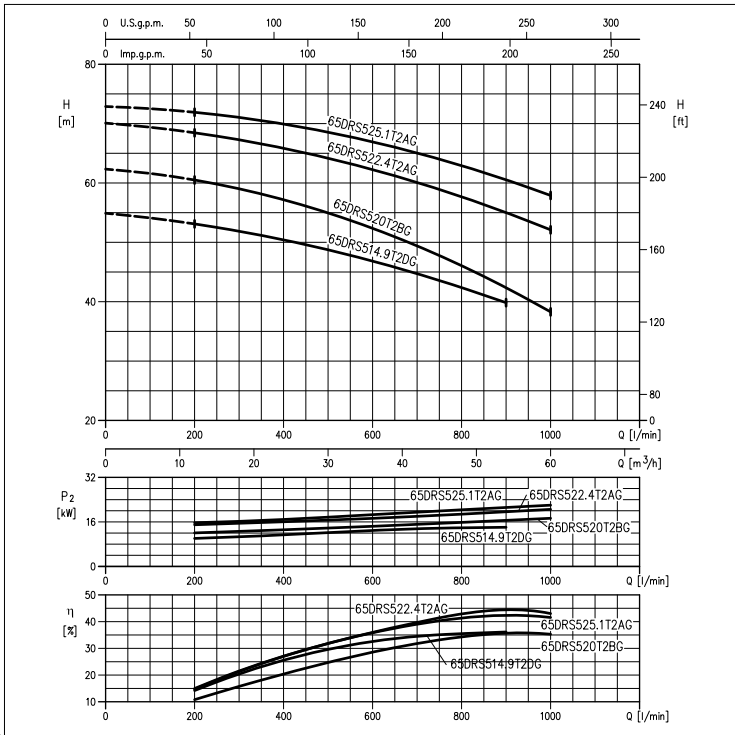
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PERFORMANCE CURVES (per ISO 9906 Annex A)
65DRS514.9T2GG (14.9 kW) - 65DRS520T2BG (20 kW)
65DRS522.4T2AG (22.4 kW) - 65DRS525.1T2AG (25.1 kW)

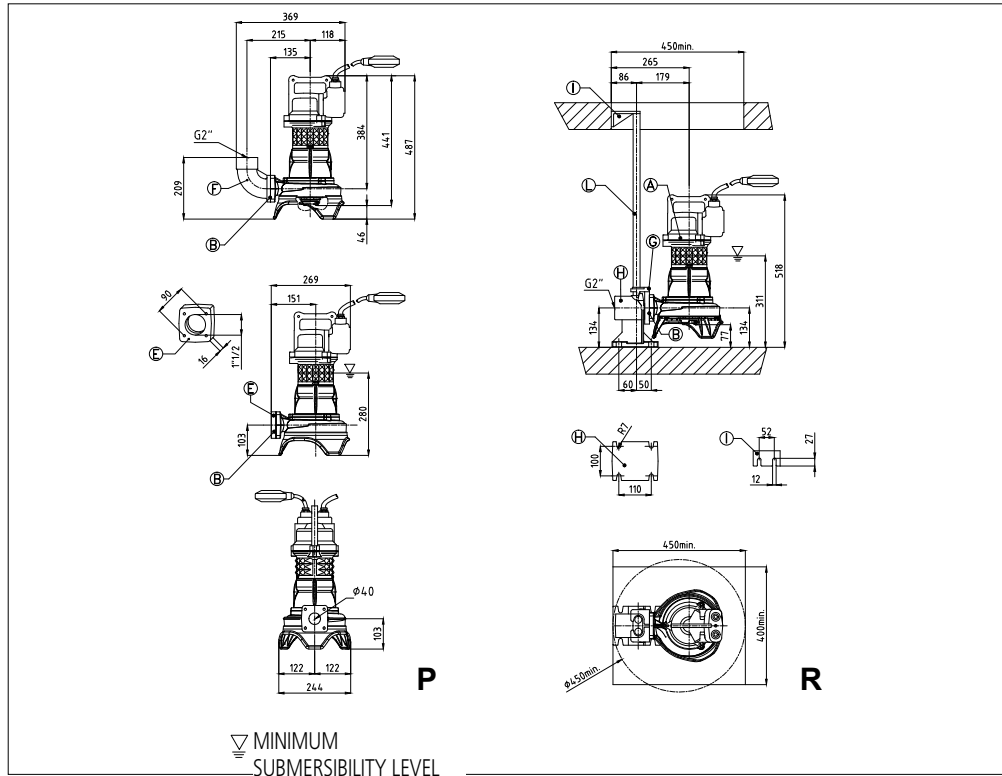


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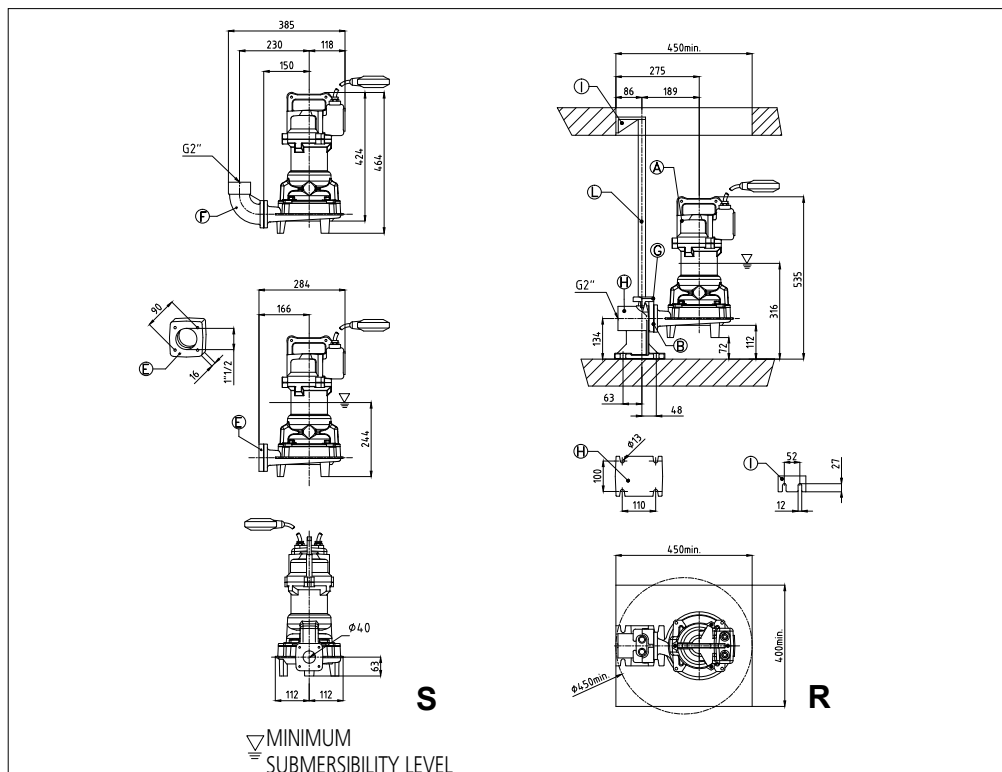
DIMENSIONS 40DRS/40DRS with QDC (1.1 kW)



DIMENSIONS CHART 40DRS/40DRS with QDC (1.1 kW)

DA	Model	[kW]	Weight [kg]
40	40DRS51.1M2CG	1.1	30
	40DRS51.1M2BG	1.1	30
	40DRS51.1M2AG	1.1	30

DIMENSIONS 40DRS/40DRS with QDC (1.1 - 1.9 kW)

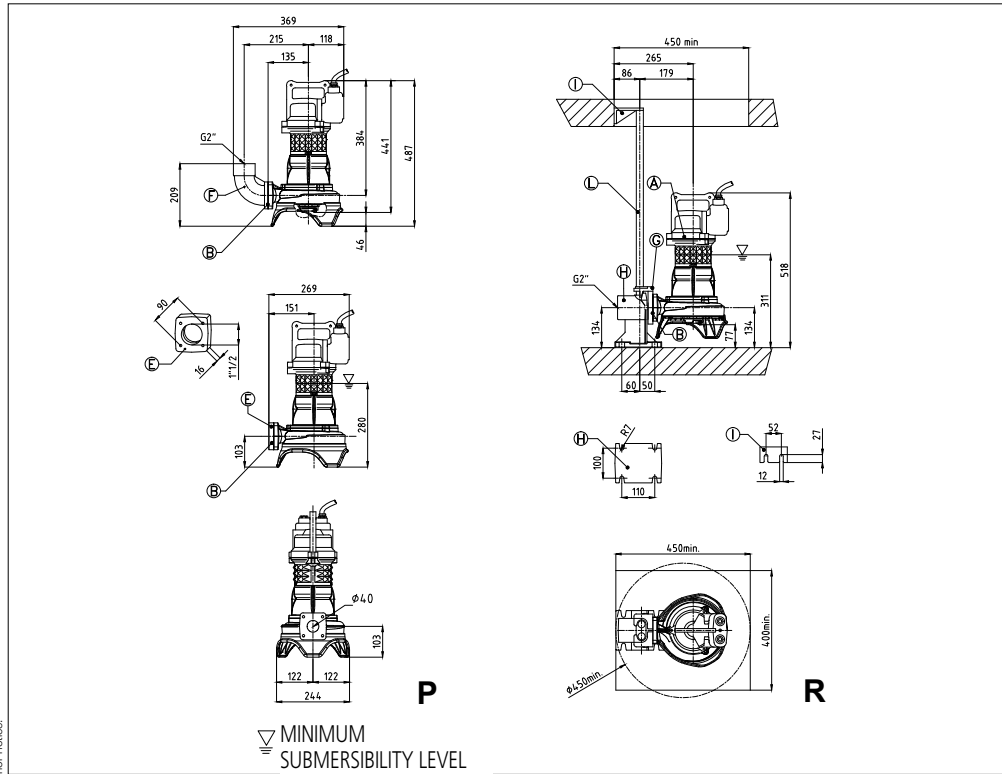


DIMENSIONS CHART 40DRS/40DRS with QDC (1.1 - 1.9 kW)

DA	Model	[kW]	Weight [kg]
40	40DRS51.2M2CG	1.1	40
	40DRS51.5M2BG	1.5	40
	40DRS51.9M2AG	1.9	40

SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

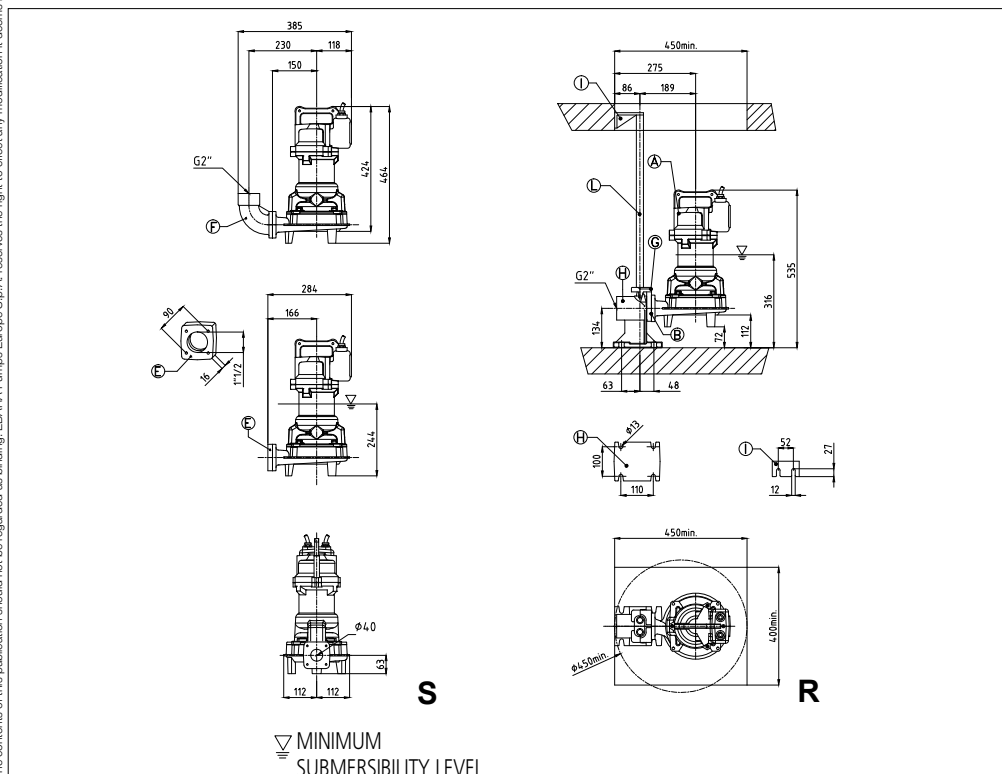
DIMENSIONS 40DRS/40DRS with QDC (1.1 - 1.4 kW)



DIMENSIONS CHART
40DRS/40DRS with QDC (1.1 - 1.4 kW)

DA	Model	[kW]	Weight [kg]
40	40DRS51.1T2CG	1.1	30
	40DRS51.1T2BG	1.1	30
	40DRS51.4T2AG	1.4	30

DIMENSIONS 40DRS/40DRS with QDC (1.6 - 2.4 kW)



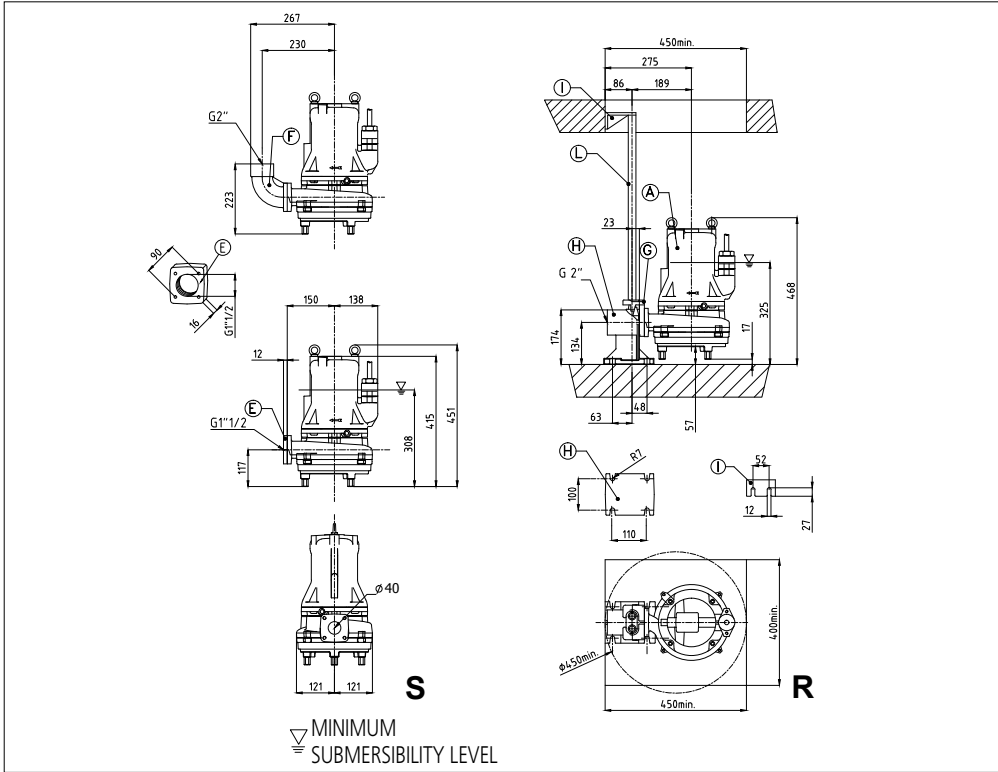
DIMENSIONS CHART
40DRS/40DRS with QDC (1.6 - 2.4 kW)

DA	Model	[kW]	Weight [kg]
40	40DRS51.6T2CG	1.6	40
	40DRS51.6T2BG	1.6	40
	40DRS52.4T2AG	2.4	40

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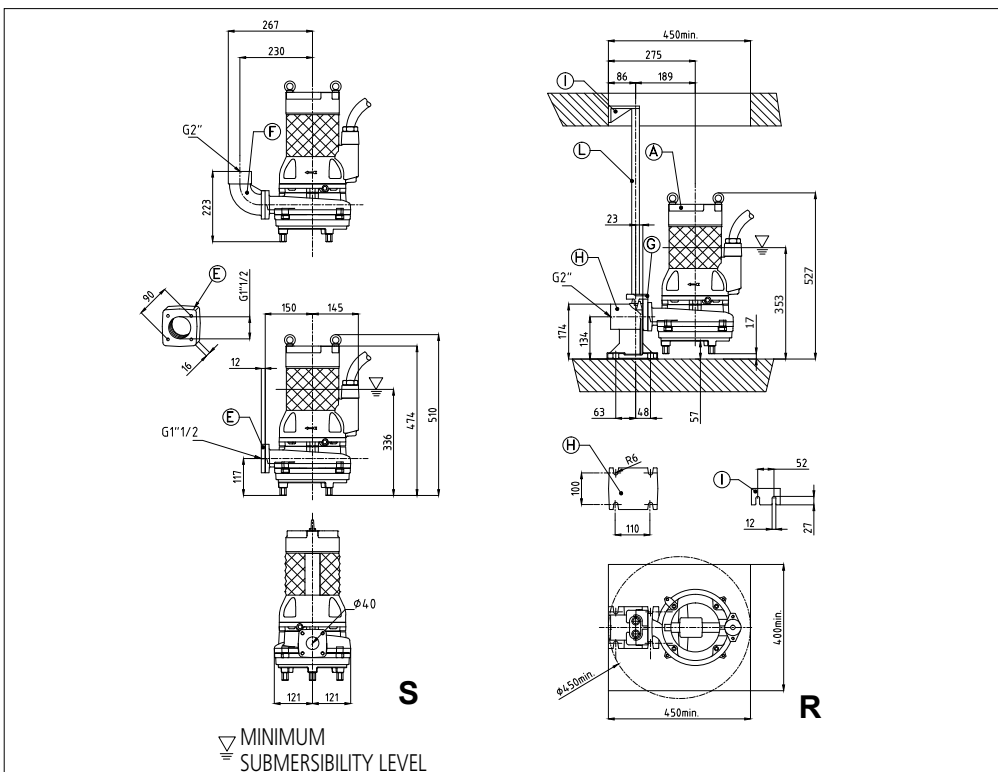
DIMENSIONS 40DRS/40DRS with QDC (3.1 kW)



DIMENSIONS CHART
40DRS/40DRS with QDC (3.1 kW)

DA	Model	[kW]	Weight [kg]
40	40DRS53.1T2BG	3.1	52
	40DRS53.1T2AG	3.1	52

DIMENSIONS 40DRS/40DRS with QDC (4.2 - 5.0 kW)

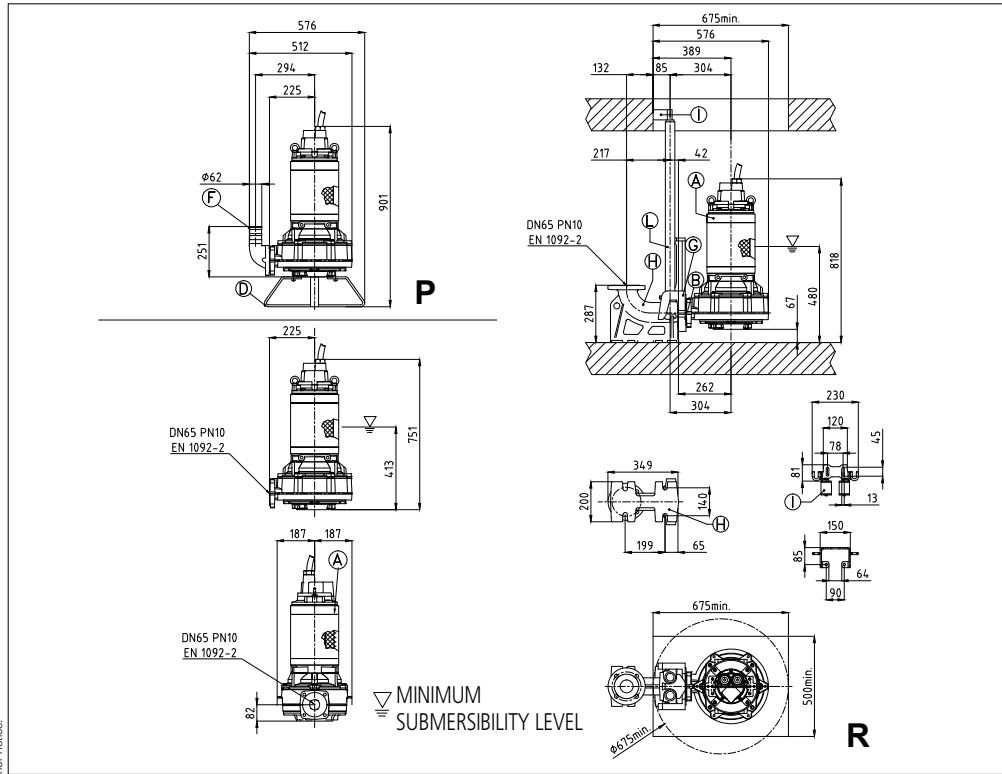


DIMENSIONS CHART
40DRS/40DRS with QDC (4.2 - 5.0 kW)

DA	Model	[kW]	Weight [kg]
40	40DRS54.2T2CG	4.2	67
	40DRS55T2BG	5.0	67
	40DRS55T2AG	5.0	67

SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

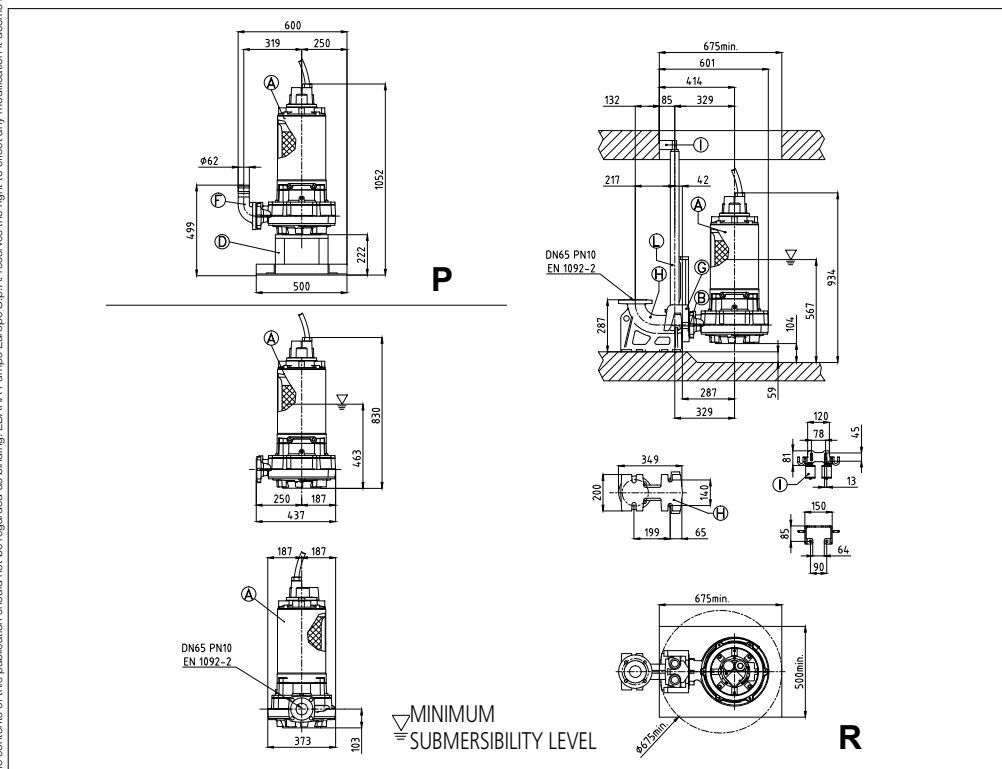
DIMENSIONS 65DRS/65DRS with QDC (6.5 - 7.5 kW)



DIMENSIONS CHART 65DRS/65DRS with QDC (6.5 - 7.5 kW)

DA	Model	[kW]	Weight [kg]
DN65 EN 1092-2	65DRS56.5T2CG 6.5 178	6.5	178
	65DRS57.5T2BG 7.5 178	7.5	178

DIMENSIONS 65DRS/65DRS with QDC (9.0 - 14.9 kW)



DIMENSIONS CHART 65DRS/65DRS with QDC (9.0 - 14.9 kW)

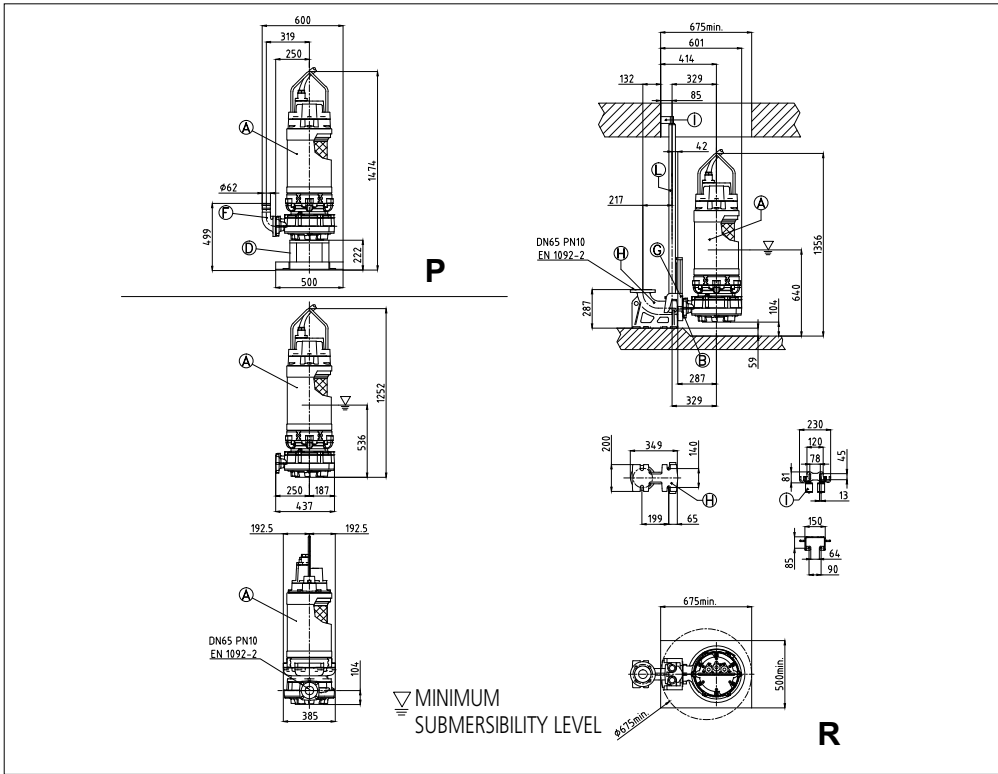
DA	Model	[kW]	Weight [kg]
DN65 EN 1092-2	65DRS59T2DG	9.0	200
	65DRS511T2CG	11.0	200
	65DRS513.8T2BG	13.8	200
	65DRS513.8T2AG	13.8	200
	65DRS514.9T2GG	14.9	200

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SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

DIMENSIONS 65DRS/65DRS with QDC (20.0 - 25.1 kW)

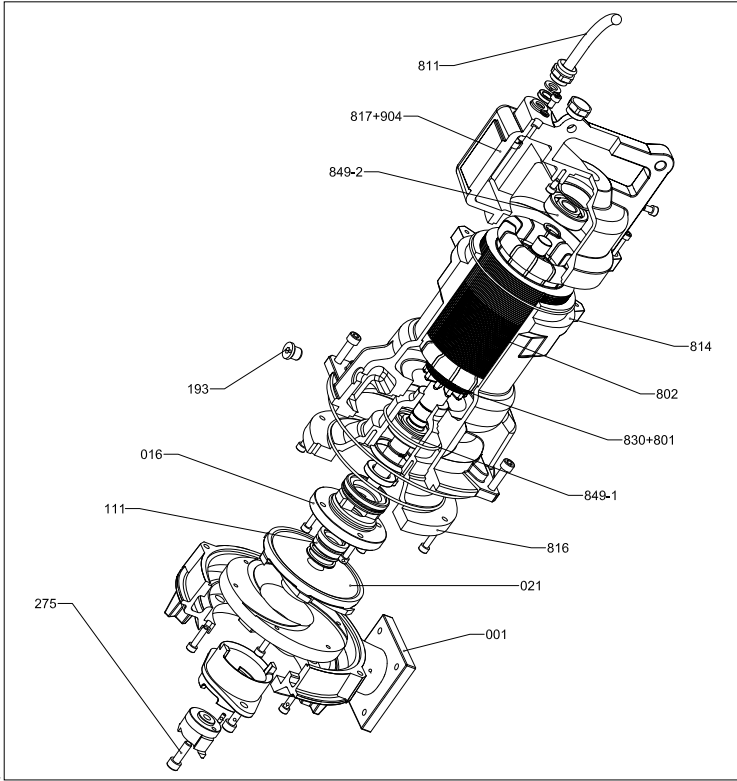


DIMENSIONS CHART 65DRS/65DRS with QDC (20.0 - 25.1 kW)

DA	Model	[kW]	Weight [kg]
DN65 EN 1092-2	65DRS520T2BG	20.0	340
	65DRS522.4T2AG	22.4	340
	65DRS525.1T2AG	25.1	340

SUBMERSIBLE ELECTRIC PUMPS FOR FOUL WASTE WATER (GRINDERS) in cast iron

SECTIONAL VIEW 40 DRS (1.1 - 5.0 kW)



SECTIONAL VIEW 65 DRS (6.5 - 25.1 kW)

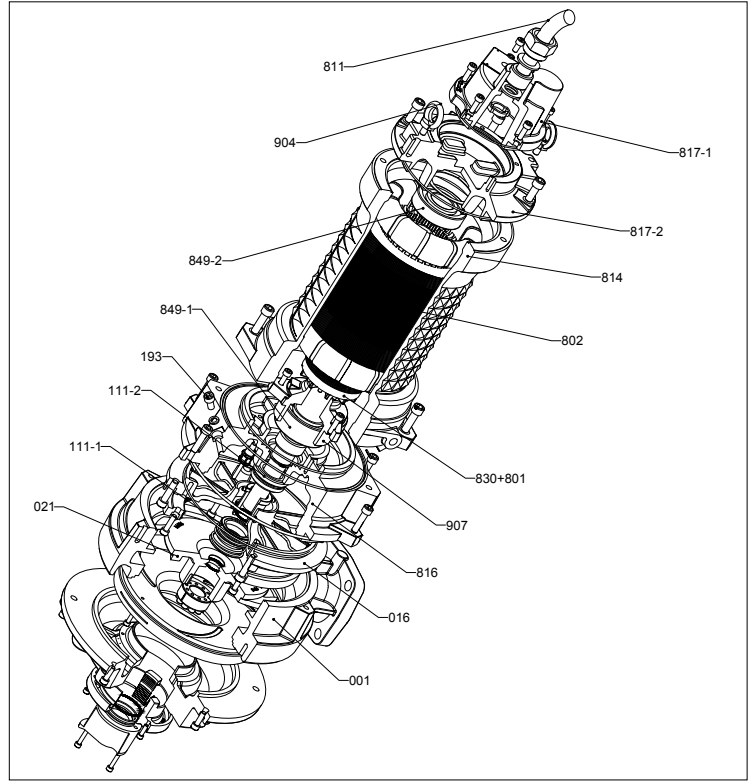


TABLE OF MATERIALS DRS

Ref.	Name	Material	Ref.	Name	Material
001	Pump body	Cast iron EN-GJL-250	814	Motor casing	Cast iron EN-GJL-250
016	Mechanical seal cover	Cast iron EN-GJL-250	816	Upper mount	Cast iron EN-GJL-250
021	Impeller	Ductile cast iron GS400 UNI-EN1563	817	Motor cover	Cast iron EN-GJL-250
111-1	Mechanical seal	-	817-1	Motor cover	Cast iron EN-GJL-250
11-2	Mechanical seal	-	817-2	Motor cover	Cast iron EN-GJL-250
193	Oil cap	NBR/stainless steel	830	Shaft	AISI 420B
275	Impeller nut	AISI304 class A2	849-1	Ball bearing	-
801	Rotor	-	849-2	Ball bearing	-
802	Stator	-	904	Lifting hook	Steel
811	Cable	-	907	Bearing cover	Cast iron

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ELECTRICAL DATA TABLE DRS (1.1 - 25.1 kW)

[P ₂]	[kW]	1.1	1.1	1.1	1.1	1.5	1.9	1.1	1.1	1.4	1.6	1.6	2.4	3.1*	4.2	5.0	5.0	6.5	7.5	9.0	11.0	13.8*	14.9	20	22.4	25.1																																			
Resistance at 20°C	[Ω]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																			
GD ²	[kg/m ²]	0.0019	0.0020	0.0021	0.0005	0.0021	0.0025	0.0026	0.0027	0.0035	0.0034	0.0035	0.0050	0.0042	0.0055	0.0090	0.0150	0.0090	0.0170	0.0170	0.0230	0.0430	0.0430	0.0510	0.0890	0.0890																																			
Voltage	[V]	230	230	230	230	230	230	400	400	400	400	400	400	400	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690	400/690																																			
Full load	0%	Current	[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																			
		Power	[W]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
		rpm	[min ⁻¹]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
	75%	Current	[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
		Efficiency	[%]	72	72	72	72	72	73	76	76	84	84	84	86	87	88	89	89	89	90	90	91	92	92	92	93																																		
		Power factor	[%]	0.97	0.97	0.97	0.97	0.97	0.97	0.83	0.83	0.82	0.82	0.82	0.82	0.86	0.84	0.84	0.84	0.84	0.84	0.84	0.82	0.82	0.82	0.92	0.87																																		
	100%	rpm	[min ⁻¹]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
		Current	[A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
		Efficiency	[%]	73	73	73	73	73	73	84	84	86	86	86	87	88	89	90	90	90	91	91	92	92	92	93	93																																		
	Power factor	[%]	0.99	0.99	0.99	0.99	0.99	0.99	0.8	0.8	0.87	0.87	0.87	0.89	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.87	0.87	0.87	0.87	0.89																																			
	rpm	[min ⁻¹]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
	Torque with rotor locked	[%]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																																		
Starting current	[A]	24.4	21	35	35	42.8	124.2	148.5	193.8	283.2	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4	384.4																																			
Phase		2											3																																																
Starts per hour		1											3																																																
Model		M272M-1.1-230/50NY-IE			M271M-1.1-230/50NY-IE			M271M-1.5-230/50NY-IE			M271M-1.9-230/50NY-IE			M272T-1.1-400/50NN-IE3			M272T-1.4-400/50NN-IE3			M271T-1.6-400/50NN-IE3			M271T-2.4-400/50NN-IE3			M209T-3.1-400/50NN-IE3			M210T-4.2-400/50YY-IE3			M210T-5-400/50YY-IE3			M211T-6.5-400/50YY-IE3			M211T-7.5-400/50YY-IE3			M213T-9-400/50YY-IE3			M213T-11-400/50YY-IE3			M213T-13.8-400/50YY-IE3			M213T-14.9-400/50YY-IE3			M216T-20-400/50YY-IE3			M216T-22.4-400/50YY-IE3			M216T-25.1-400/50YY-IE3		
Type of pump		40DRS1.1M2CG	40DRS51.1M2BG	40DRS51.1M2AG	40DRS51.2M2CG	40DRS51.5M2BG	40DRS51.9M2AG	40DRS51.1T2CG	40DRS51.1T2BG	40DRS51.4T2AG	40DRS51.6T2CG	40DRS51.6T2BG	40DRS52.4T2AG	40DRS53.1T2BG	40DRS54.2T2CG	40DRS55T2BG	40DRS55T2AG	65DRS56.5T2CG	65DRS57.5T2BG	65DRS59T2DG	65DRS511T2CG	65DRS513.8T2AG	65DRS514.9T2GG	65DRS520T2BG	65DRS522.4T2AG	65DRS525.1T2AG																																			