
EBARA

CONTENTS

50 Hz

Rev. 0

SPECIFICATIONS 50 Hz

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PUMP			
	Max Temp.	[°C]	40°
	Max solids size	[mm]	6 up to 2.4 kW 7 3.2 kW and above
Submergence	Max	[m]	20
	Min	[m]	Refer to low water level (L.W.L.) and usage restriction in dimension
Construction	Impeller		Grinder
	Shaft seal type		Oil lubricated, single spring single mechanical seal + Lip Seal up to 2.4 kW Oil lubricated, single spring double mechanical seal 3.2 kW and above
Connection	Suction		Open
	Discharge	[mm]	40
Materials	Casing		Cast iron
	Impeller		Cast iron
	Suction Cover		Cast iron
	Shaft		Aisi 420B
	Motor frame		Cast iron
	Fasteners		Aisi 304
	Mechanical seal		SiC/SiC/NBR Impeller side Carbon/Ceramic/NBR Motor side (3.2 kW and above) Lubricant: AGIP ITE 360
Accessories	Optional		Screwed flange square type Discharge threaded elbow Quick Discharge Connector (QDC): PA type
Applicable standard of test			ISO 9906 Annex A

MOTOR				
Type			Single Phase	Three Phase
			Air filled dry submersible	
No. of Poles			2	
Rotation speed		[min^{-1}]	~ 2850	
Insulation Class			H	
Protection degree			IP 68	
Power Rating		[kW]	1.1 ÷ 1.8	1.4 ÷ 5
Frequency		[Hz]	50 -5 +3%	
Voltage		[V]	230 ±10%	400 ±10% 400/690 ±10%
Starting			DOL	DOL up to 3.2 kW Y/Δ 3.8 kW and above
Over load protection			Built in motor protector	Built in heat probe 4.1 kW and above
Humidity probe			-	Built in heat probe 4.1 kW and above
Floating switch			Up to 1.8 kW	-
Cable	material		H07RN-F	
	length	[m]	10	
Bearings			Permanently lubricated ball bearings	

SELECTION CHART

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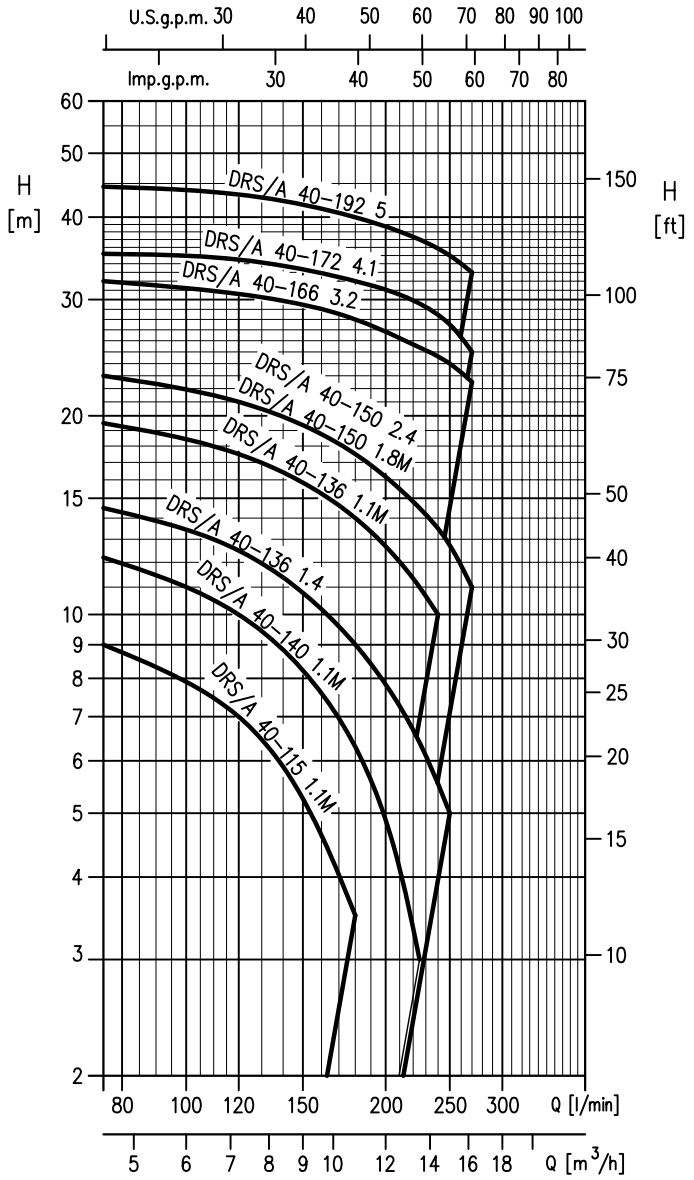
DRS/A



Pump Type	Power		Q=Capacity						
			l/min 0	75	120	180	225	240	270
	[kW]	[HP]	m³/h 0	5	7	11	14	14	16
			H=Total manometric head in meters						
DRS/A40-115-1.1 M	1.1	1.5	11,5	9	7	3,5	-	-	-
DRS/A40-140-1.1 M	1.1	1.5	15,5	12,2	10	6,3	3	-	-
DRS/A40-136-1.1 M	1.1	1.5	21	19,5	17,5	14	11	10	-
DRS/A40-150-1.8 M	1.8	2.5	25	23	21	17,5	14,5	13,5	11
DRS/A40-136-1.4	1.4	2	17	14,5	12,5	9	6,3	5	-
DRS/A40-150-2.4	2.4	3.2	25	23	21	17,5	15	13,9	11,5
DRS/A40-166-3.2	3.2	4.5	32,8	32	30,6	28	25,4	24,4	22,5
DRS/A40-172-4.1	4.1	5.5	35,8	35,2	34,5	32	29,6	28,1	25
DRS/A40-192-5,0	5	7	46,5	44,5	43,5	40	37	35,9	33

TYPE KEY AND CURVE SPECIFICATIONS 50 Hz

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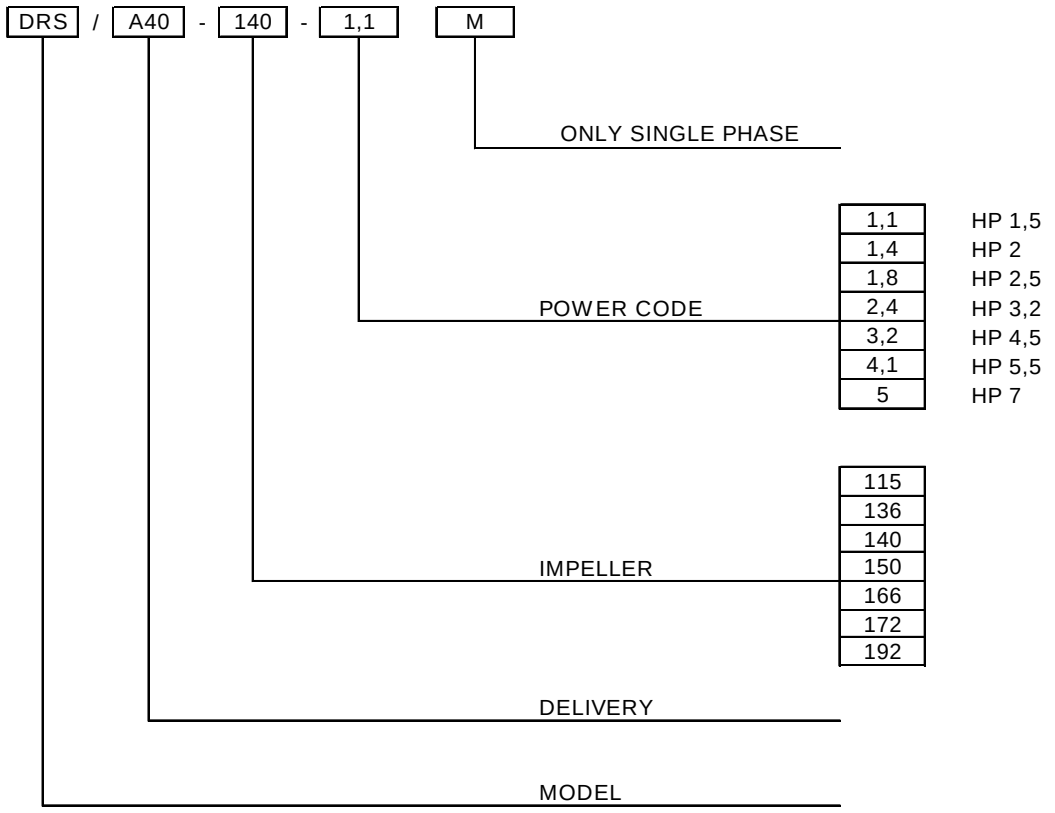
TYPE KEY



PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A
The curves refer to effective speed of asynchronous motors at 50 Hz
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1\ mm^2/s$ (1 cSt)
The continuous curves indicate the recommended working range. The dotted curve is only a guide.
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

- Q = volume flow rate
- H = total head
- P_2 = pump power input (shaft power)
- η = pump efficiency

PERFORMANCE CURVE

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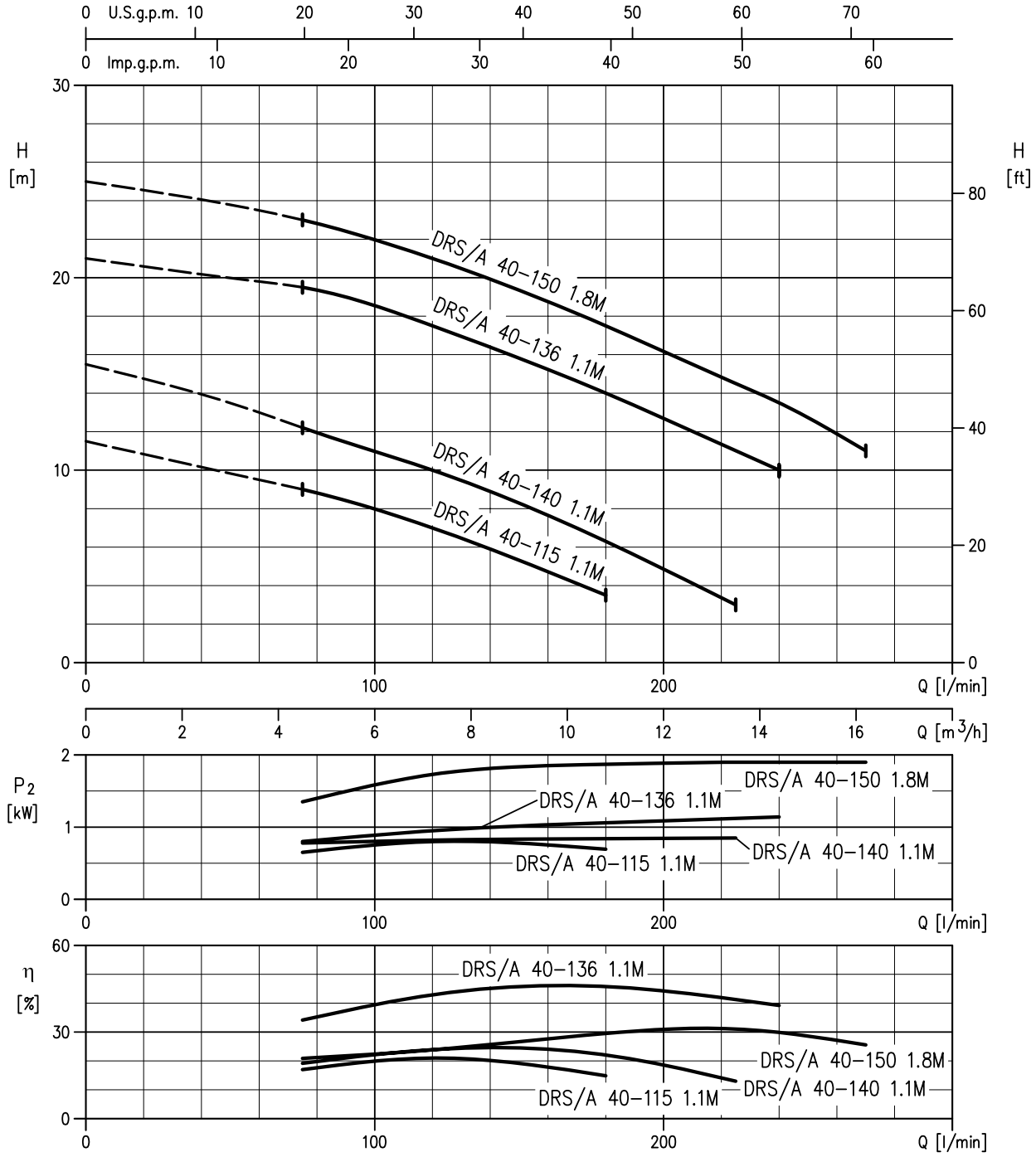
DRS/A40-115-1.1M (1.1 kW) – Impeller Diameter = 115 mm
DRS/A40-140-1.1M (1.1 kW) – Impeller Diameter = 140 mm
DRS/A40-136-1.1M (1.1 kW) – Impeller Diameter = 136 mm
DRS/A40-150-1.8M (1.8 kW) – Impeller Diameter = 150 mm



Rotation speed ≈ 2850 min^{-1}
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

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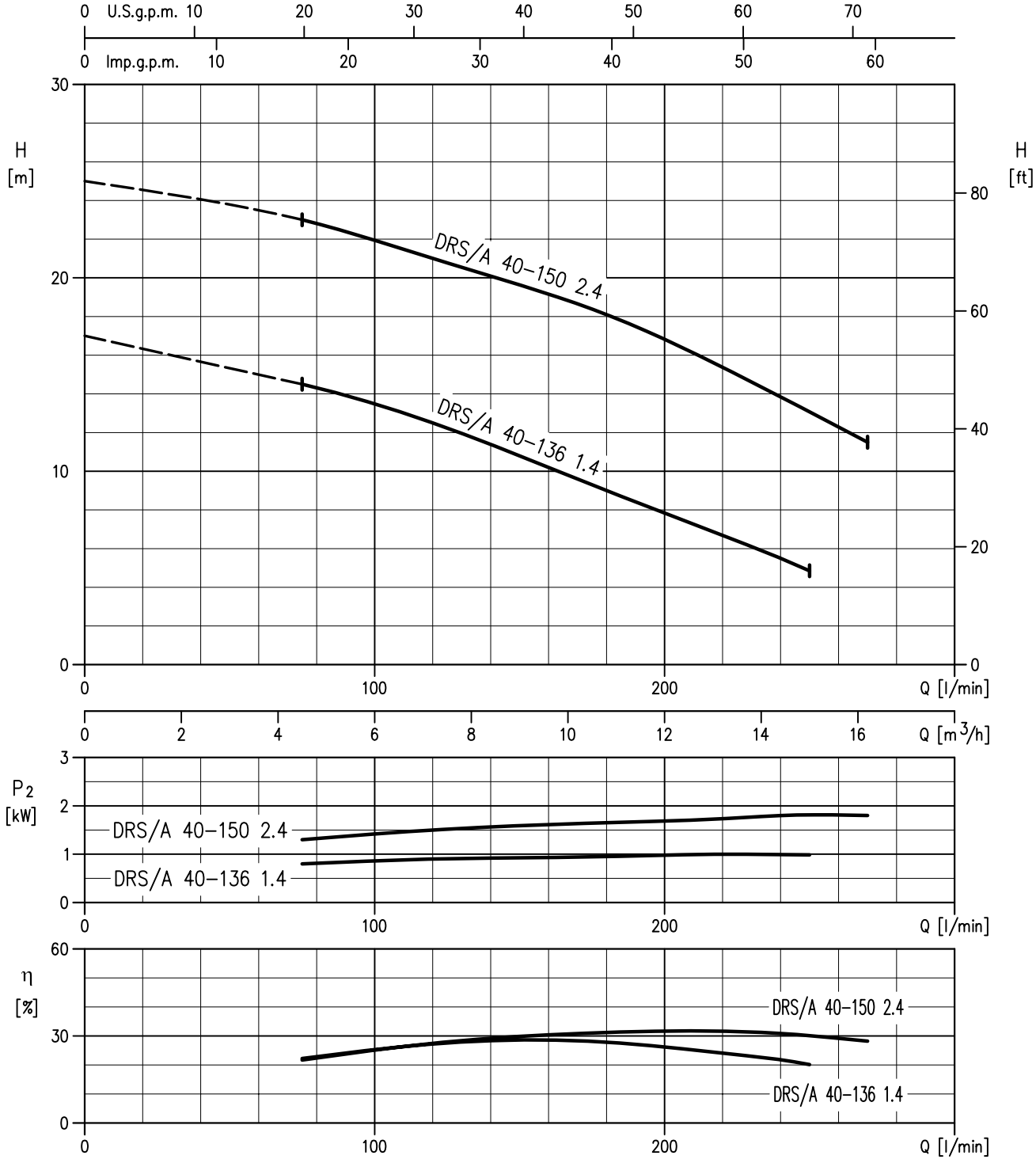
DRS/A40-136-1.4 (1.4 kW) – Impeller Diameter = 136 mm
DRS/A40-150-2.4 (2.4 kW) – Impeller Diameter = 150 mm



Rotation speed ≈ 2850 min^{-1}
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

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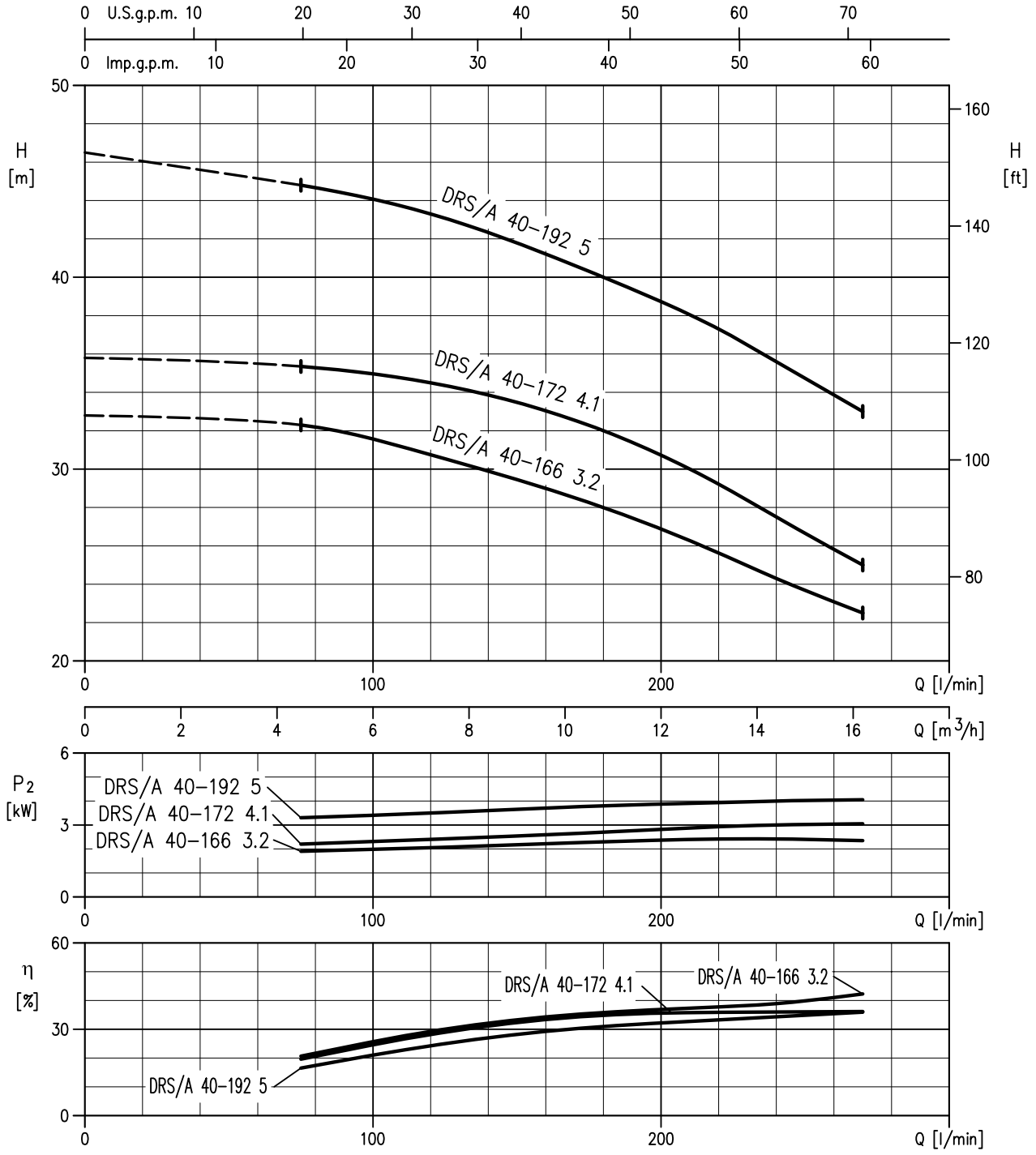
DRS/A40-166-3.2 (3.2 kW) - Impeller Diameter = 166 mm
DRS/A40-172-4.1 (4.1 kW) - Impeller Diameter = 172 mm
DRS/A40-192-5 (5.0 kW) - Impeller Diameter = 192 mm



Rotation speed ≈ 2850 min^{-1}
Test standard: ISO 9906 – Annex A

CONSTRUCTIONS

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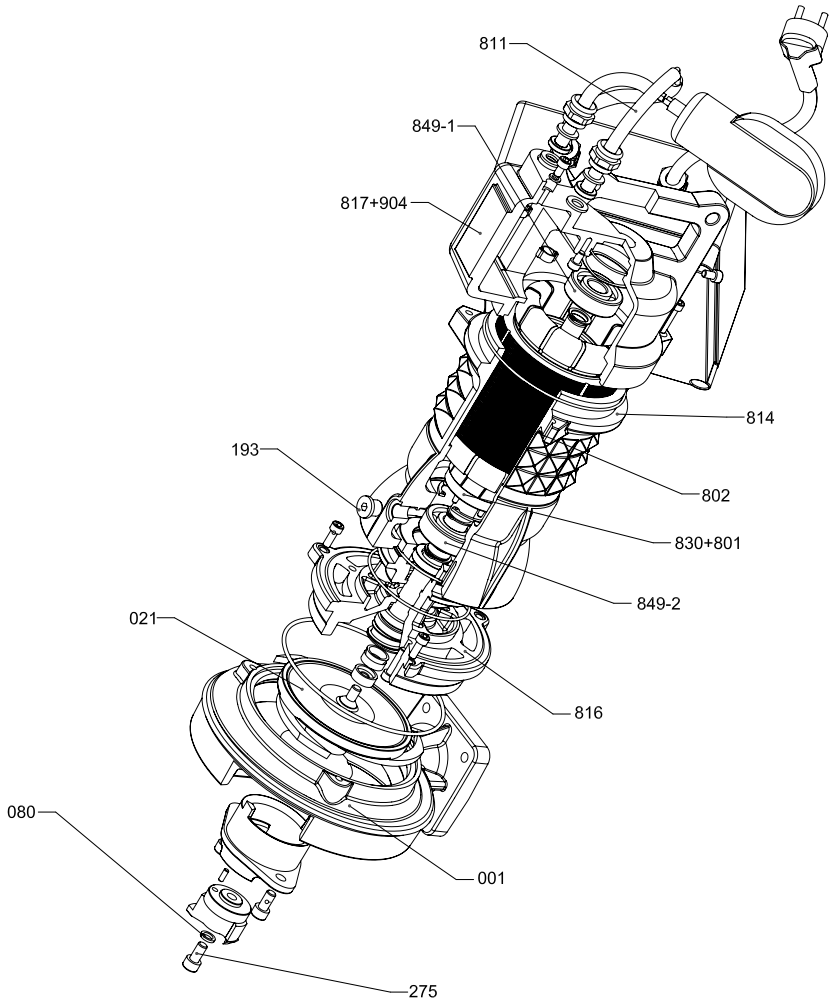
DRS/A40-115 (1.1 kW)
DRS/A40-140 (1.1 kW)



N°	PART NAME	MATERIAL	Q.TY
001	CASING	CAST IRON EN-GJL-250	1
021	IMPELLER	DUCTILE IRON GS400 UNI-EN1563	1
080	BUSHING	STEEL	1
193	OIL PLUG	NBR / STAINLESS STEEL	1
275	IMPELLER BOLT	CLASS A2 AISI 304	1
801	STATOR	-	1
802	ROTOR	-	1
811	SUBMERGIBLE CABLE	-	1
814	MOTOR FRAME	CAST IRON EN-GJL-250	1
816	POWER SIDE BRACKET	CAST IRON EN-GJL-250	1
817	OPPOSITE SIDE BRACKET	CAST IRON EN-GJL-250	1
830	SHAFT	AISI 420B	1
849-1	BALL BEARING	-	1
849-2	BALL BEARING	-	1
904	LIFTING HANGER	CAST IRON EN-GJL-250	1

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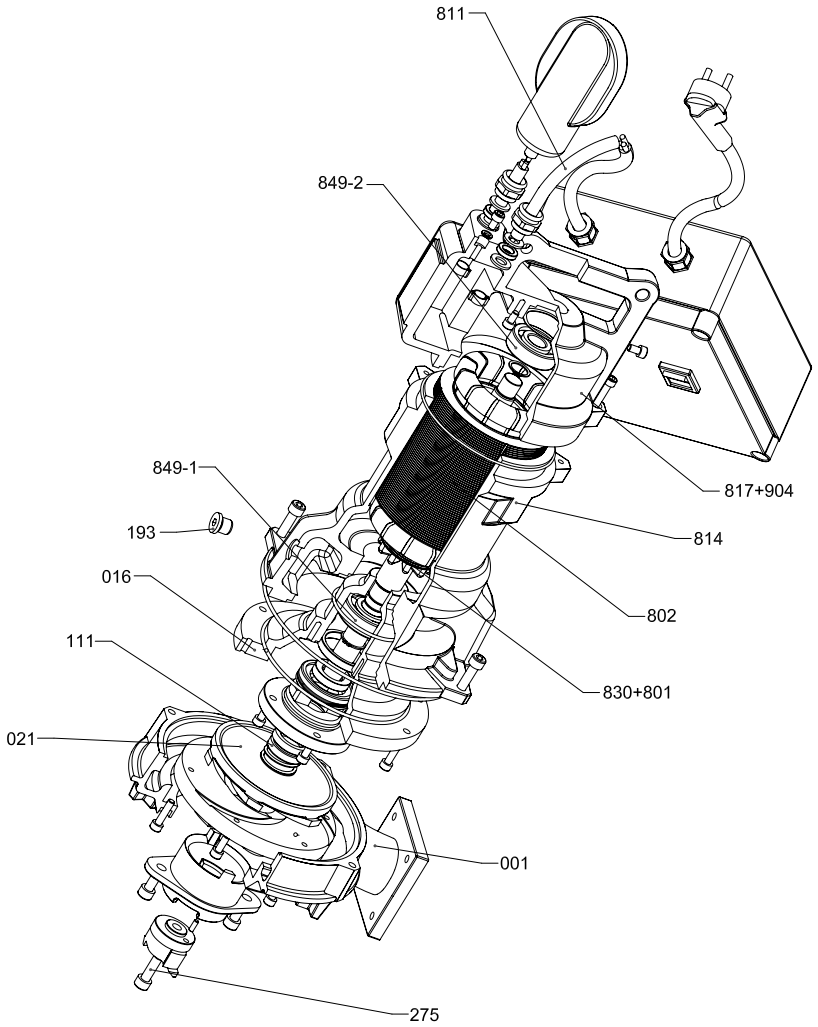
DRS/A 40-136 (1.1 kW)



N°	PART NAME	MATERIAL	Q.TY
001	CASING	CAST IRON EN-GJL-250	1
016	MECHANICAL SEAL COVER	CAST IRON EN-GJL-250	1
021	IMPELLER	DUCTILE IRON GS400 UNI-EN1563	1
111	MECHANICAL SEAL	-	1
193	OIL PLUG	NBR / STAINLESS STEEL	1
275	IMPELLER BOLT	CLASS A2 AISI 304	1
801	ROTOR	-	1
802	STATOR	-	1
811	SUBMERSIBLE CABLE	-	1
814	MOTOR FRAME	CAST IRON EN-GJL-250	1
817	OPPOSITE SIDE BRACKET	CAST IRON EN-GJL-250	1
830	SHAFT	AISI 420B	1
849-1	BALL BEARING	-	1
849-2	BALL BEARING	-	1
904	LIFTING HANGER	CAST IRON EN-GJL-250	1

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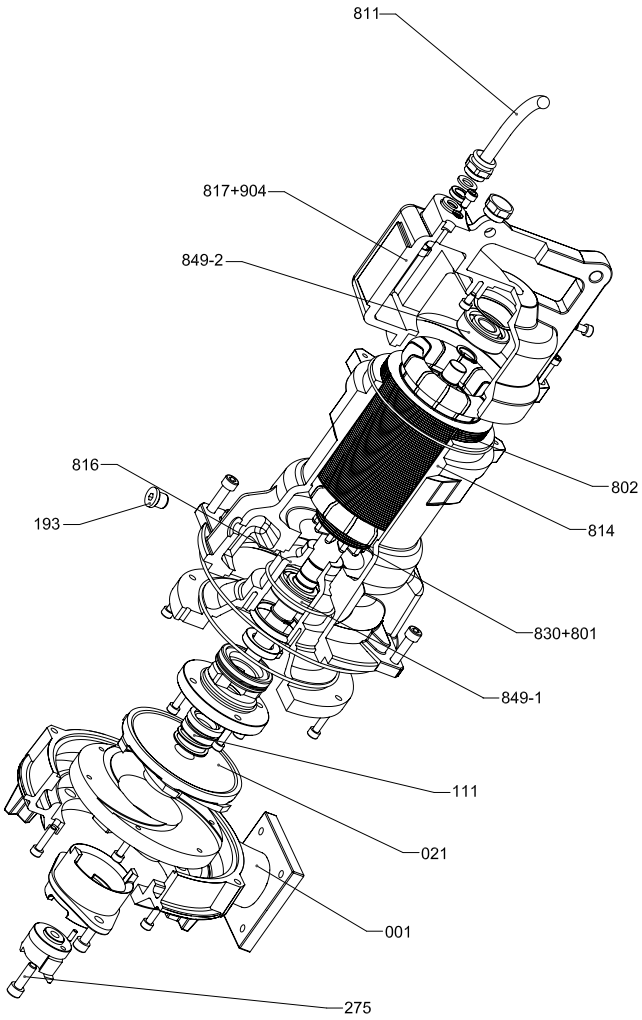
DRS/A 40-136 (1.4 kW)



N°	PART NAME	MATERIAL	Q.TY
001	CASING	CAST IRON EN-GJL-250	1
021	IMPELLER	DUCTILE IRON GS400 UNI-EN1563	1
111	MECHANICAL SEAL	-	1
193	OIL PLUG	NBR / STAINLESS STEEL	1
275	IMPELLER BOLT	CLASS A2 AISI 304	1
801	ROTOR	-	1
802	STATOR	-	1
811	SUBMERSIBLE CABLE	-	1
814	MOTOR FRAME	CAST IRON EN-GJL-250	1
816	POWER SIDE BRACKET	CAST IRON EN-GJL-250	1
817	OPPOSITE SIDE BRACKET	CAST IRON EN-GJL-250	1
830	SHAFT	AISI 420B	1
849-1	BALL BEARING	-	1
849-2	BALL BEARING	-	1
904	LIFTING HANGER	CAST IRON EN-GJL-250	1

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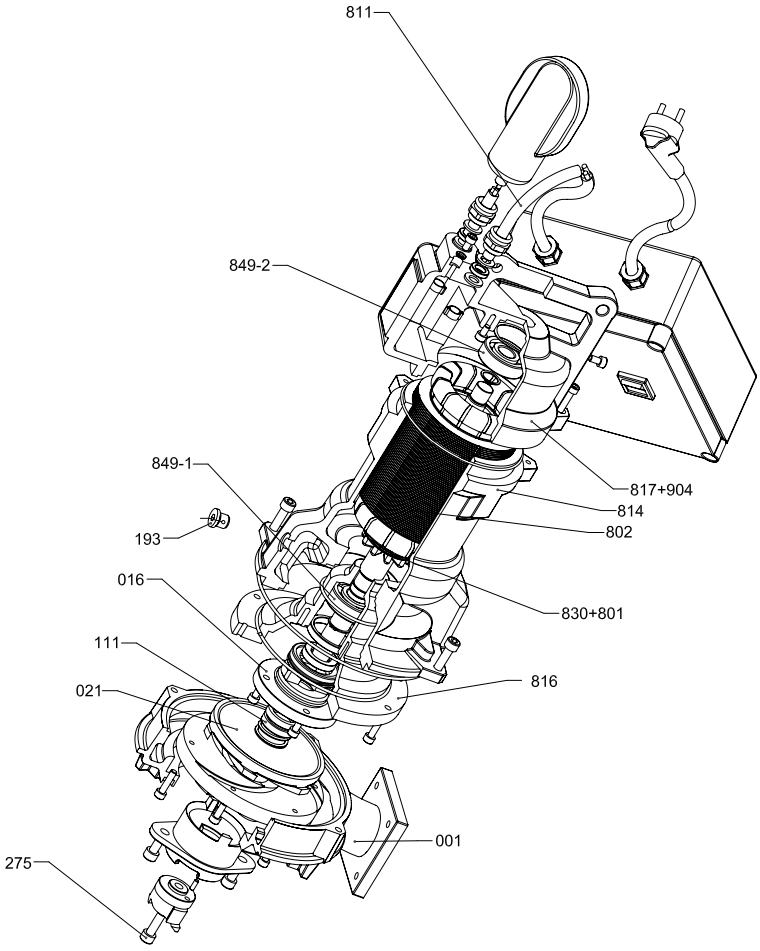
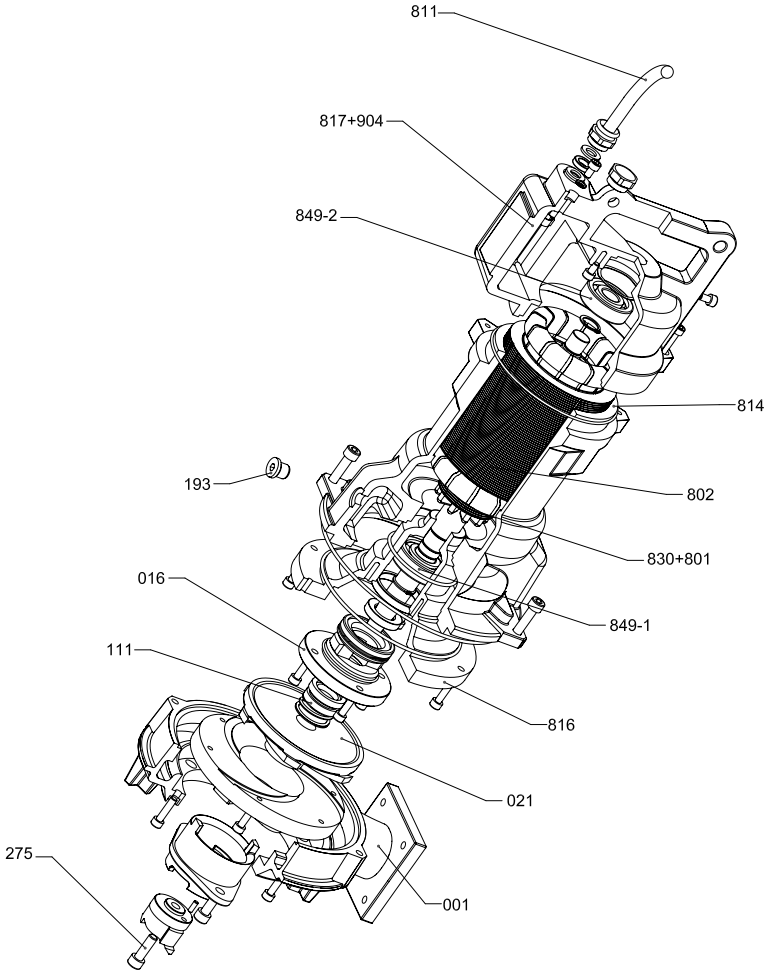
DRS/A 40-150 (1.8 kW)



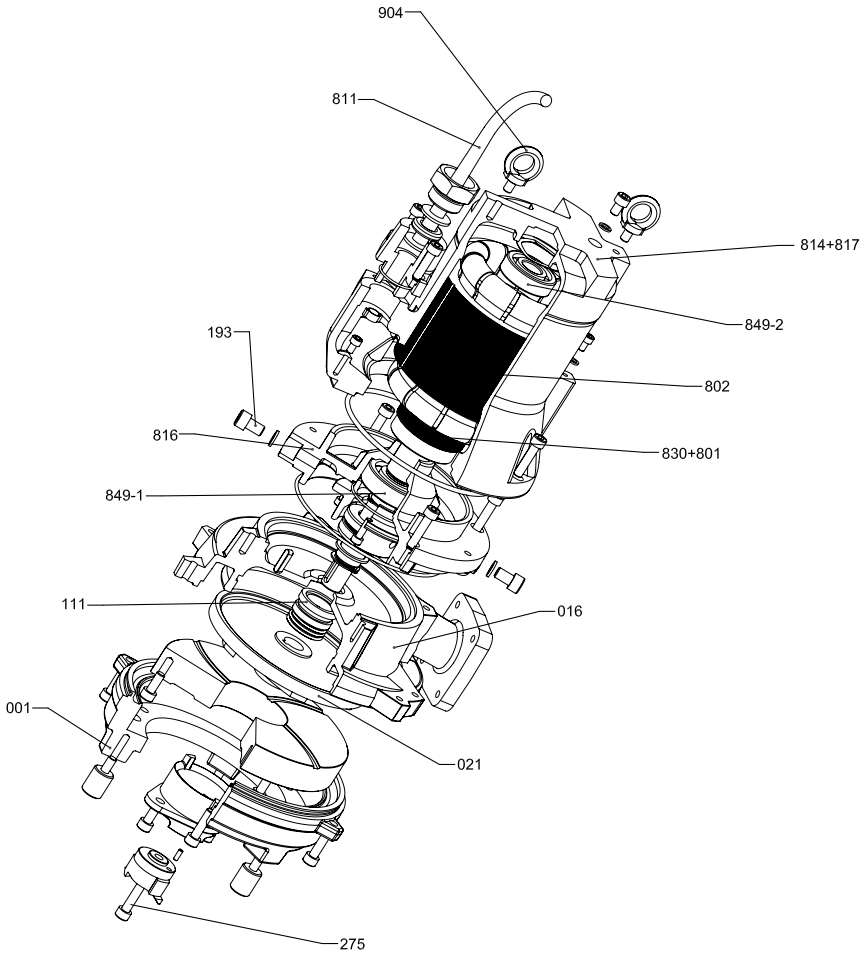
N°	PART NAME	MATERIAL	Q.TY
001	CASING	CAST IRON EN-GJL-250	1
016	MECHANICAL SEAL COVER	CAST IRON EN-GJL-250	1
021	IMPELLER	DUCTILE IRON GS400 UNI-EN1563	1
111	MECHANICAL SEAL	-	1
193	OIL PLUG	NBR / STAINLESS STEEL	1
275	IMPELLER BOLT	CLASS A2 AISI 304	1
801	ROTOR	-	1
802	STATOR	-	1
811	SUBMERGIBLE CABLE	-	1
814	MOTOR FRAME	CAST IRON EN-GJL-250	1
816	POWER SIDE BRACKET	CAST IRON EN-GJL-250	1
817	OPPOSITE SIDE BRACKET	CAST IRON EN-GJL-250	1
830	SHAFT	AISI 420B	1
849-1	BALL BEARING	-	1
849-2	BALL BEARING	-	1
904	LIFTING HANGER	CAST IRON EN-GJL-250	1

DRS/A 40-150 (2.4 kW)



N°	PART NAME	MATERIAL	Q.TY
001	CASING	CAST IRON EN-GJL-250	1
016	MECHANICAL SEAL COVER	CAST IRON EN-GJL-250	1
021	IMPELLER	DUCTILE IRON GS400 UNI-EN1563	1
111	MECHANICAL SEAL	-	1
193	OIL PLUG	NBR / STAINLESS STEEL	1
275	IMPELLER BOLT	CLASS A2 AISI 304	1
801	ROTOR	-	1
802	STATOR	-	1
811	SUBMERSIBLE CABLE	-	1
814	MOTOR FRAME	CAST IRON EN-GJL-250	1
816	POWER SIDE BRACKET	CAST IRON EN-GJL-250	1
817	OPPOSITE SIDE BRACKET	CAST IRON EN-GJL-250	1
830	SHAFT	AISI 420B	1
849-1	BALL BEARING	-	1
849-2	BALL BEARING	-	1
904	LIFTING HANGER	CAST IRON EN-GJL-250	1

DRS/A 40-166 (3.2 kW)



N°	PART NAME	MATERIAL	Q.TY
001	CASING	CAST IRON EN-GJL-250	1
016	MECHANICAL SEAL COVER	CAST IRON EN-GJL-250	1
021	IMPELLER	DUCTILE IRON GS400 UNI-EN1563	1
111	MECHANICAL SEAL	-	1
193	OIL PLUG	NBR / STAINLESS STEEL	2
275	IMPELLER BOLT	CLASS A2 AISI 304	1
801	ROTOR	-	1
802	STATOR	-	1
811	SUBMERSIBLE CABLE	-	1
814	MOTOR FRAME	CAST IRON EN-GJL-250	1
816	POWER SIDE BRACKET	CAST IRON EN-GJL-250	1
817	OPPOSITE SIDE BRACKER	CAST IRON EN-GJL-250	1
830	SHAFT	AISI 420B	1
849-1	BALL BEARING	-	1
849-2	BALL BEARING	-	1
904	LIFTING HANGER	STEEL	2