CONTENTS

**= Product certified TIFQ conforming with DM 174, pump compatible with the characteristics of water for human consumption.*

SB3

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 3"

in AISI 304 stainless steel

Centrifugal electric borehole pumps, 3", in AISI 304.

APPLICATIONS

- Handling clear water in wells
- Pressurising clean water for agricultural, domestic and industrial applications
- Irrigation and water handling in general

TECHNICAL FEATURES

- Silent running
- Can work horizontally

PUMP TECHNICAL DATA

- Maximum immersion: 60 m
- Maximum fluid temperature: 30°C
- Maximum amount of sand: 50 ppm
- Delivery connection: G1

MOTOR TECHNICAL DATA

- Insulation class F
- Protection degree IP 58
- Single phase voltage 230V (+6 -10%) 50 Hz, Three phase voltage 400V (+6 -10%) 50 Hz
- Integrated check valve
- For dimensioning the cables, see page 54 or refer to our Data Book on www.ebaraeurope.com

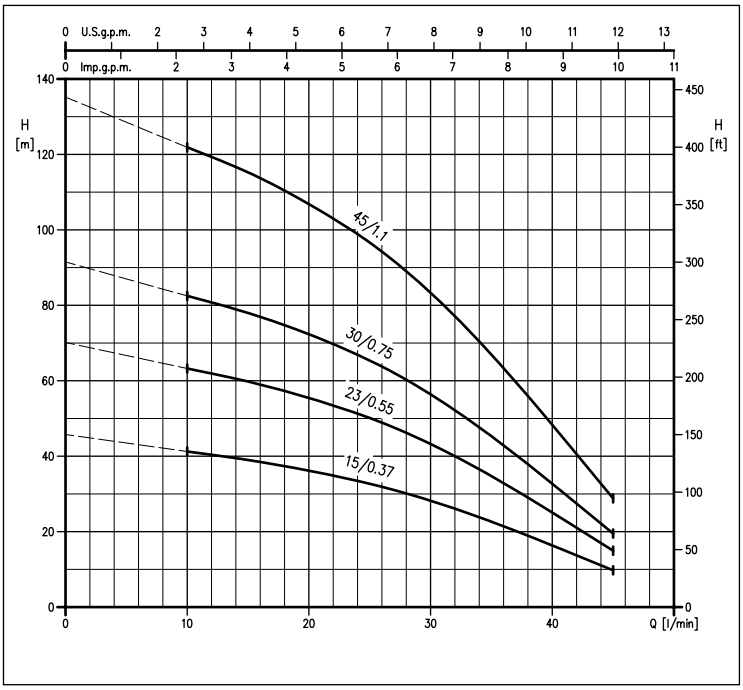
MATERIALS

- Casing, delivery port and motor mount in AISI 304
- Diffuser in polyacetyl POM
- Impeller in polypropylene reinforced with fibreglass

ACCESSORIES (on request)

- Couplings
- Floats
- Capacitors

PERFORMANCE RANGE (per ISO 9906 Annex A)



IDENTIFICATION CODE - PUMP WITHOUT MOTOR

SB	3	23
Model	For 3" wells	N. impellers

IDENTIFICATION CODE - PUMP WITH MOTOR

SB3-23	/	0.55	M
Model		Power [kW]	Single phase

Power [kW]
1.1
0.37
0.55
0.75

SB3

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 3"

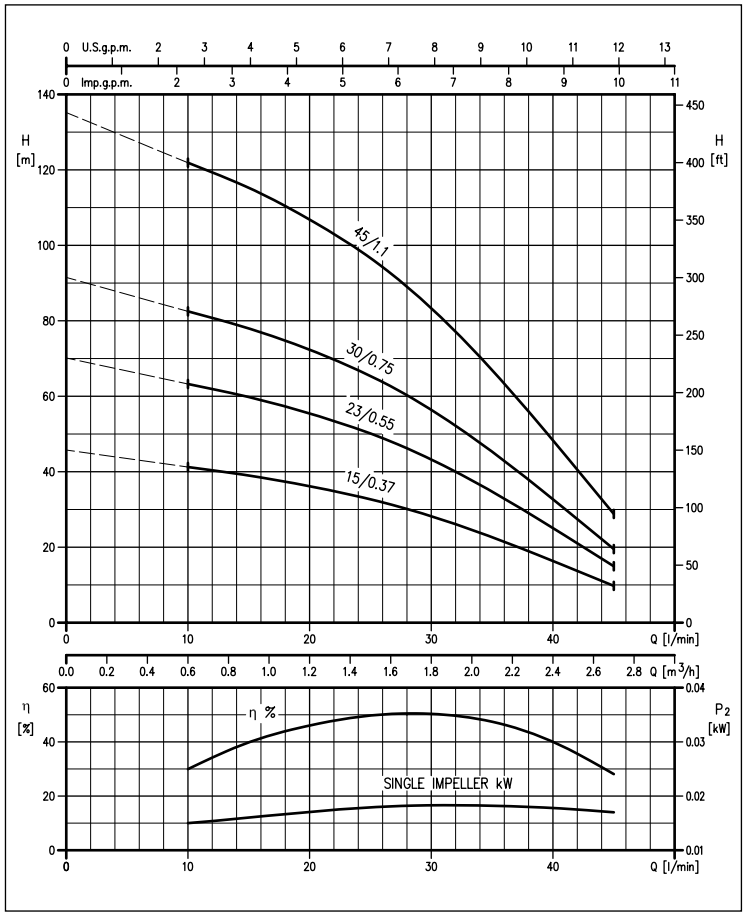
in AISI 304 stainless steel

PERFORMANCE TABLE

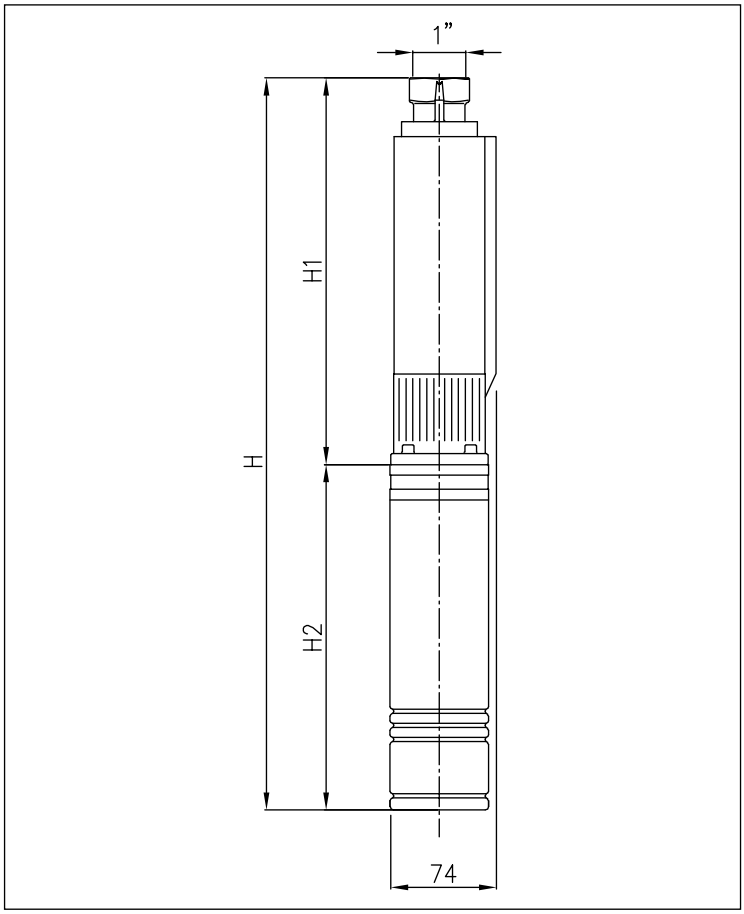
Model	Motor size	P_2 [HP]	P_2 [kW]	Q=Flow rate l/min	10	15	20	25	30	35	40	45
				m^3/h	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
				H=Head [m]								
SB3-15	3"	0.5	0.37		41.5	39.0	36.2	32.7	28.2	22.7	16.5	9.8
SB3-23	3"	0.75	0.55		63.5	60.0	55.5	50.0	43.5	34.7	25.1	15.0
SB3-30	3"	1	0.75		82.5	78.0	72.5	65.5	56.5	45.5	32.7	19.5
SB3-45	3"	1.5	1.1		122.0	115.0	107.0	96.6	83.5	67.0	48.5	28.8

PERFORMANCE CURVES

(per ISO 9906 Annex A)



DIMENSIONS



DIMENSIONAL TABLE

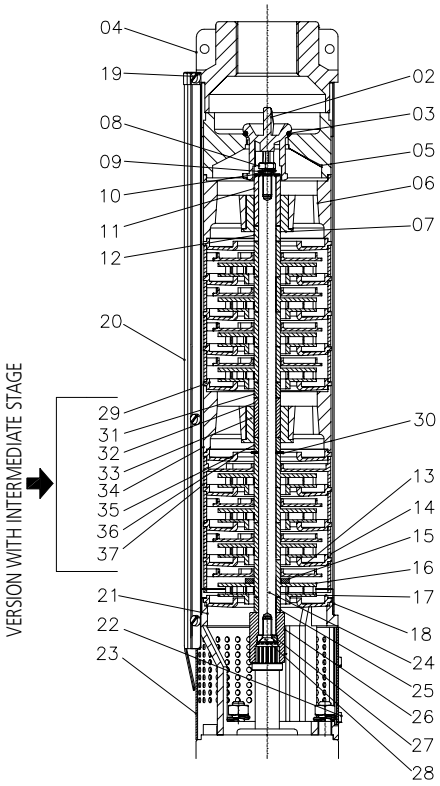
Model	P_2 [HP]	P_2 [kW]	Pump without motor H1 [mm]	DNM	Pump + single phase motor H2 [mm]	Pump + single phase motor H [mm]	Pump + three phase motor H2 [mm]	Pump + three phase motor H [mm]	Weight of pump [kg]	Weight of pump + motor single phase [kg]	Weight of pump + motor three phase [kg]
SB3-15	0.5	0.37	580	G1	377	957	-	-	3.3	9.3	-
SB3-23	0.75	0.55	780	G1	397	1177	377	1157	4.4	10.8	10.5
SB3-30	1	0.75	1000	G1	416	4116	397	1397	5.6	12.4	12
SB3-45	1.5	1.1	1380	G1	-	-	416	1796	7.6	-	14.4

SB3

CENTRIFUGAL BOREHOLE PUMPS, 3”

in AISI 304 stainless steel

SECTIONAL VIEW



MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
2	Valve	Polyacetyl POM	20	Cable cover	EN 1.4016 (AISI 430)
3	O-ring	NBR	21	Suction port	EN 1.4301 (AISI 304)
4	Delivery port	EN 1.4301 (AISI 304)	22	Screw	EN 1.4301 (AISI 304)
5	Valve seat	PPO mod. + G.F.	23	Filter	EN 1.4016 (AISI 430)
6	Bearing seat	PPO mod. + G.F.	24	Shaft	EN 1.4105 (AISI 430F)
7	Bearing	PUR polyurethane	25	Spacer	PPO mod. + G.F.
8	Screw	EN 1.4301 (AISI 304)	26	Coupling	EN 1.4401 (AISI 316)
9	Washer	EN 1.4301 (AISI 304)	27	Washer	EN 1.4401 (AISI 316)
10	Washer	EN 1.4401 (AISI 316)	28	Screw	EN 1.4301 (AISI 304)
11	Shaft casing (bearing)	EN 1.4401 (AISI 316)	29	Diffuser disk	Polyacetyl POM
12	Spacer	PPO mod. + G.F.	30	Compensation ring	EN 1.4301 (AISI 304)
13	Diffuser disk	Polyacetyl POM	31	Spacer	PPO mod. + G.F.
14	Diffuser	Polyacetyl POM	32	Shaft casing (bearing)	EN 1.4401 (AISI 316)
15	Washer	EN 1.4301 (AISI 304)	33	Bearing	PUR polyurethane
16	Impeller	PPO mod. + G.F.	34	Bearing seat	PPO mod. + G.F.
17	Diffuser disk	Polyacetyl POM	35	Spacer	PPO mod. + G.F.
18	External casing	EN 1.4301 (AISI 304)	36	Diffuser disk	Polyacetyl POM
19	Screw	EN 1.4301 (AISI 304)	37	Diffuser	Polyacetyl POM

ELECTRICAL DATA TABLE

P_2		Hight thrust	Single phase 230 V				Three phase 400 V			
[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
0.5	0.37	1200	0.72	3.75	8.8	0.96	0.72	2.0	8.0	0.71
0.75	0.55	1200	1	4.5	12.2	0.98	0.98	2.1	9.1	0.75
1	0.75	1200	1.31	5.85	14.5	0.98	1.19	2.5	11.7	0.75
1.5	1.1	1200	-	-	-	-	1.75	3.2	14.0	0.75

WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

Centrifugal electric borehole pumps, 4", in AISI 304 with floating impellers and front wear ring.

APPLICATIONS

- Handling clear water in wells
- Pressurising clean water for agricultural, domestic and industrial applications
- Irrigation
- Handling water in general

TECHNICAL FEATURES

- The front wear ring and floating impellers provide outstanding resistance to abrasion
- Easy to install
- Vertical or horizontal installation

PUMP TECHNICAL DATA

- Maximum fluid temperature: 40°C (depends on maximum motor temperature)
- Maximum amount of sand: 50 ppm
- Maximum amount of chlorine: 500 ppm
- Delivery connection:
  - G1¼ for models 4N1 - 4N2 - 4N4
  - G2 for models 4N7 - 4N10 - 4N15
- MEI > 0.4

  For further information, refer to our Data Book on www.ebaraeurope.com

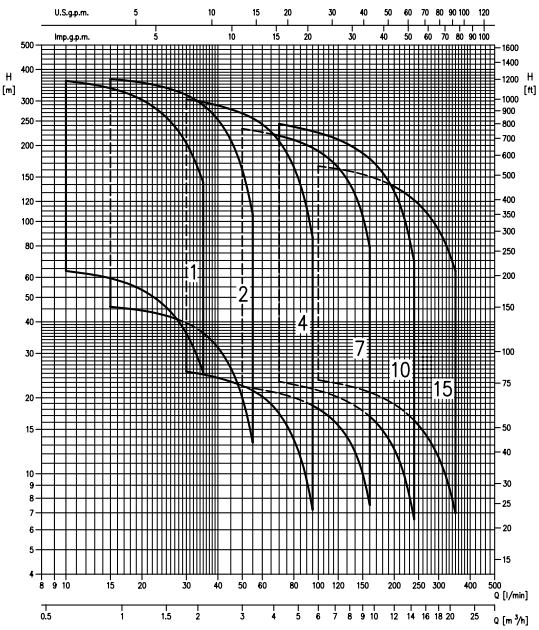
MOTOR TECHNICAL DATA

- Single phase voltage 230V (±10%) 50Hz (OYM), three phase voltage 380-415V (±10%) 50Hz (OY)
- Single phase voltage 230V (-10%+6%) 50Hz (WYM), three phase voltage 380-415V (-10%+6%) 50Hz (WY)
- For dimensioning the cables, see page 54 or refer to our Data Book on www.ebaraeurope.com

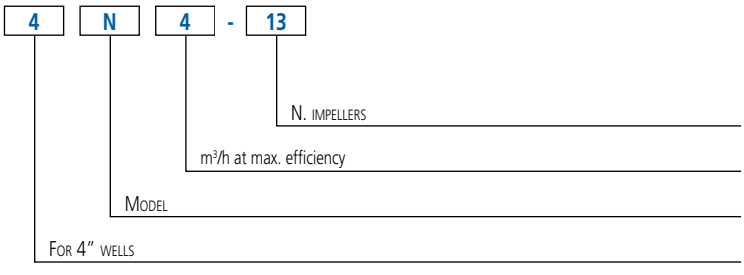
MATERIALS

- External casing, shaft and valve in AISI 304
- Delivery port in EN 1.4308 (ASTM CF8)
- Impeller in:- Ixef® for models 4N1 - 4N2 - 4N4 - 4N7
  - Glass fibre reinforced polycarbonate for models 4N10, 4N15
- Diffuser in PPE + PS reinforced with fibreglass

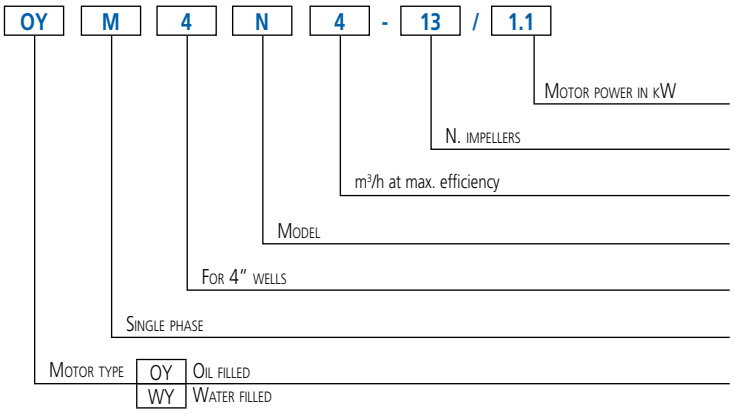
PERFORMANCE RANGE (per ISO 9906 Annex A)



IDENTIFICATION CODE - Pump without motor



IDENTIFICATION CODE - Pump with motor



WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

PERFORMANCE TABLES

Model	P_2		Q=Flow rate									
			l/min	10	15	20	25	30	35	45	55	75	95
	[HP]	[kW]	m^3/h	0.6	0.9	1.2	1.5	1.8	2.1	2.7	3.3	4.5	5.7
			H=Head [m]										
WINNER 4N1- 12	0.5	0.37		63.5	59.5	53.5	45.5	36.0	25.2	-	-	-	-
WINNER 4N1- 18	0.7	0.55		95.5	89.5	80.5	68.5	54.0	37.8	-	-	-	-
WINNER 4N1- 24	1	0.75		127.0	119.0	107.0	91.0	72.0	50.5	-	-	-	-
WINNER 4N1- 34	1.5	1.1		180.0	169.0	152.0	129.0	102.0	71.5	-	-	-	-
WINNER 4N1- 48	2	1.5		254.0	238.0	214.0	182.0	144.0	101.0	-	-	-	-
WINNER 4N1- 68	3	2.2		360.0	337.0	303.0	258.0	204.0	142.0	-	-	-	-
WINNER 4N2- 7	0.5	0.37		-	46.0	44.5	42.5	39.6	36.1	26.2	13.3	-	-
WINNER 4N2- 10	0.7	0.55		-	65.5	63.5	60.5	56.5	51.5	37.5	19.0	-	-
WINNER 4N2- 14	1	0.75		-	91.5	89.0	84.5	79.0	72.0	52.5	26.6	-	-
WINNER 4N2- 20	1.5	1.1		-	131.0	127.0	121.0	113.0	103.0	75.0	38.0	-	-
WINNER 4N2- 28	2	1.5		-	183.0	178.0	169.0	158.0	144.0	105.0	53.0	-	-
WINNER 4N2- 40	3	2.2		-	262.0	254.0	242.0	226.0	206.0	150.0	76.0	-	-
WINNER 4N2- 56	4	3		-	367.0	355.0	338.0	317.0	289.0	210.0	106.0	-	-
WINNER 4N4- 4	0.5	0.37		-	-	-	-	25.4	24.8	23.2	21.4	15.5	7.2
WINNER 4N4- 7	0.7	0.55		-	-	-	-	44.45	43.33	40.6	37.38	27.23	12.6
WINNER 4N4- 9	1	0.75		-	-	-	-	57.0	55.5	52.0	48.0	35.0	16.2
WINNER 4N4- 13	1.5	1.1		-	-	-	-	82.5	80.5	75.5	69.5	50.5	23.4
WINNER 4N4- 18	2	1.5		-	-	-	-	114.0	111.0	104.0	96.0	70.0	32.4
WINNER 4N4- 27	3	2.2		-	-	-	-	171.0	167.0	157.0	144.0	105.0	48.5
WINNER 4N4- 36	4	3		-	-	-	-	229.0	223.0	209.0	192.0	140.0	65.0
WINNER 4N4- 48	5.5	4		-	-	-	-	305.0	297.0	278.0	256.0	187.0	86.5

Model	P_2		Q=Flow rate									
			l/min	50	70	100	130	160	200	240	280	320	350
	[HP]	[kW]	m^3/h	3	4.2	6	7.8	9.6	12	14.4	16.8	19.2	21
			H=Head [m]										
WINNER 4N7- 4	0.75	0.55		22.2	20.8	18.1	14.0	7.5	-	-	-	-	-
WINNER 4N7- 6	1	0.75		33.3	31.2	27.1	21.0	11.3	-	-	-	-	-
WINNER 4N7- 8	1.5	1.1		44.5	41.5	36.2	28.0	15.0	-	-	-	-	-
WINNER 4N7- 12	2	1.5		66.5	62.5	54.5	42.0	22.6	-	-	-	-	-
WINNER 4N7- 17	3	2.2		94.5	88.5	77.0	59.5	32.0	-	-	-	-	-
WINNER 4N7- 23	4	3		128.0	120.0	104.0	80.5	43.5	-	-	-	-	-
WINNER 4N7- 30	5.5	4		166.0	156.0	136.0	105.0	56.5	-	-	-	-	-
WINNER 4N7- 42	7.5	5.5		233.0	219.0	190.0	147.0	79.0	-	-	-	-	-
WINNER 4N10- 4	1	0.75		-	23.1	21.2	18.8	16.0	11.5	6.2	-	-	-
WINNER 4N10- 6	1.5	1.1		-	34.6	31.8	28.2	24.0	17.3	9.4	-	-	-
WINNER 4N10- 8	2	1.5		-	46.2	42.5	37.7	32.0	23.1	12.5	-	-	-
WINNER 4N10- 13	3	2.2		-	75.0	69.0	61.0	52.0	37.5	20.3	-	-	-
WINNER 4N10- 17	4	3		-	98.0	90.0	80.0	68.0	49.0	26.5	-	-	-
WINNER 4N10- 23	5.5	4		-	133.0	122.0	108.0	92.0	66.5	35.8	-	-	-
WINNER 4N10- 32	7.5	5.5		-	185.0	170.0	151.0	128.0	92.0	50.0	-	-	-
WINNER 4N10- 44	10	7.5		-	254.0	233.0	207.0	176.0	127	68.5	-	-	-
WINNER 4N15- 4	1.5	1.1		-	-	23.5	22.4	21.0	18.9	16.3	13.3	9.8	7.0
WINNER 4N15- 6	2	1.5		-	-	35.3	33.6	31.5	28.3	24.4	19.9	14.7	10.5
WINNER 4N15- 8	3	2.2		-	-	47.0	45.0	42.0	37.7	32.5	26.5	19.6	14.0
WINNER 4N15- 11	4	3		-	-	67.5	65.0	61.5	56.0	49.5	41.9	33.2	25.9
WINNER 4N15- 14	5.5	4		-	-	86.0	82.5	78.0	71.5	63.0	53.5	42.0	33.0
WINNER 4N15- 20	7.5	5.5		-	-	123.0	118.0	112.0	102.0	90.0	76.0	60.5	47.0
WINNER 4N15- 27	10	7.5		-	-	166.0	159.0	151.0	137.0	121.0	103.0	81.5	63.5

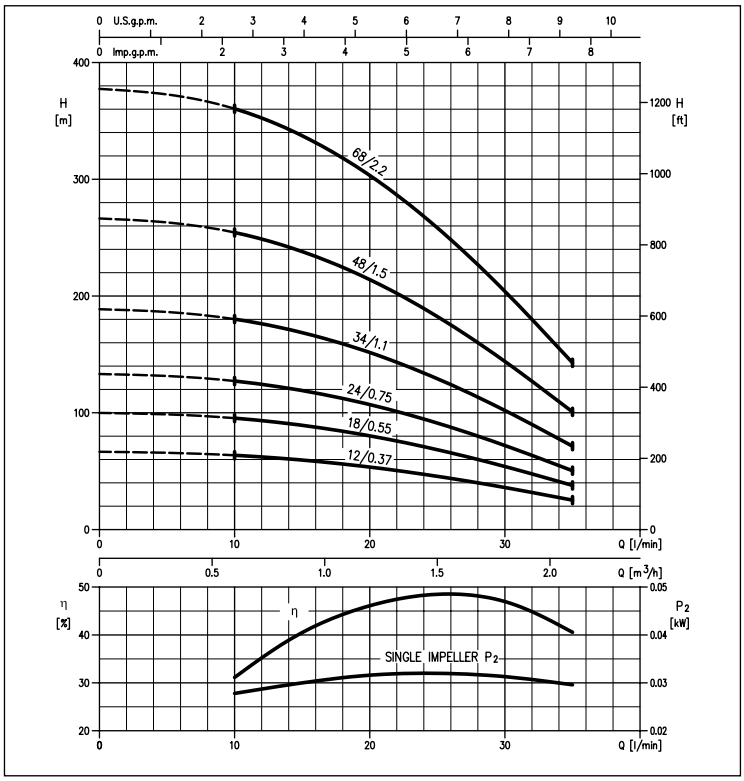
WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

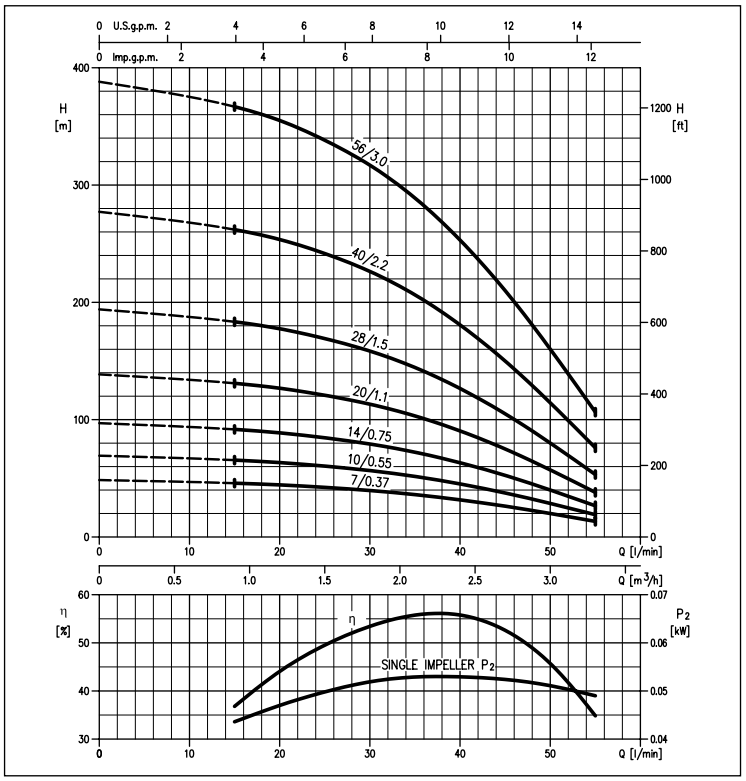
PERFORMANCE CURVES WINNER 4N1

(per ISO 9906 Annex A) - Impeller dia.: 67.6 mm



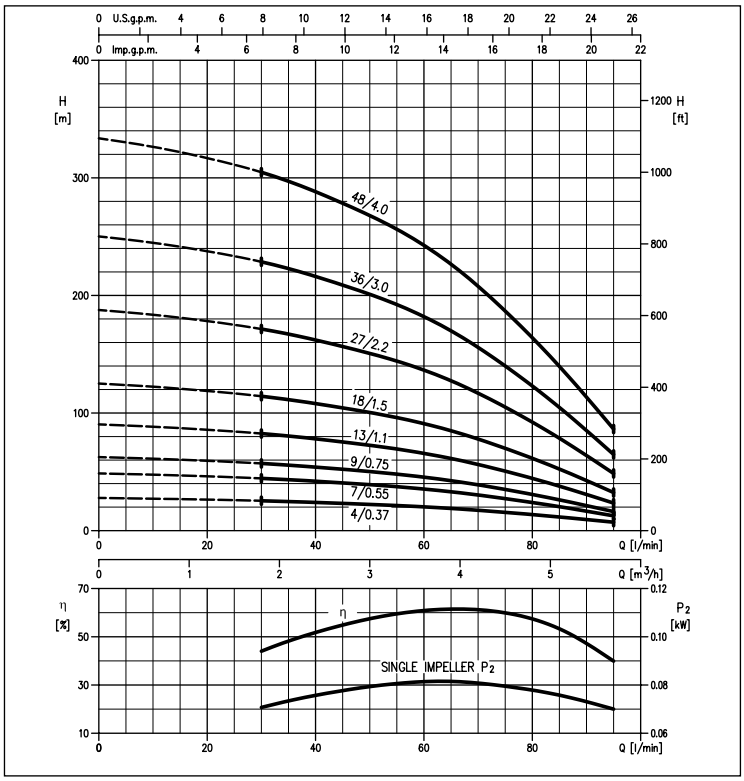
PERFORMANCE CURVES WINNER 4N2

(per ISO 9906 Annex A) - Impeller dia.: 76 mm



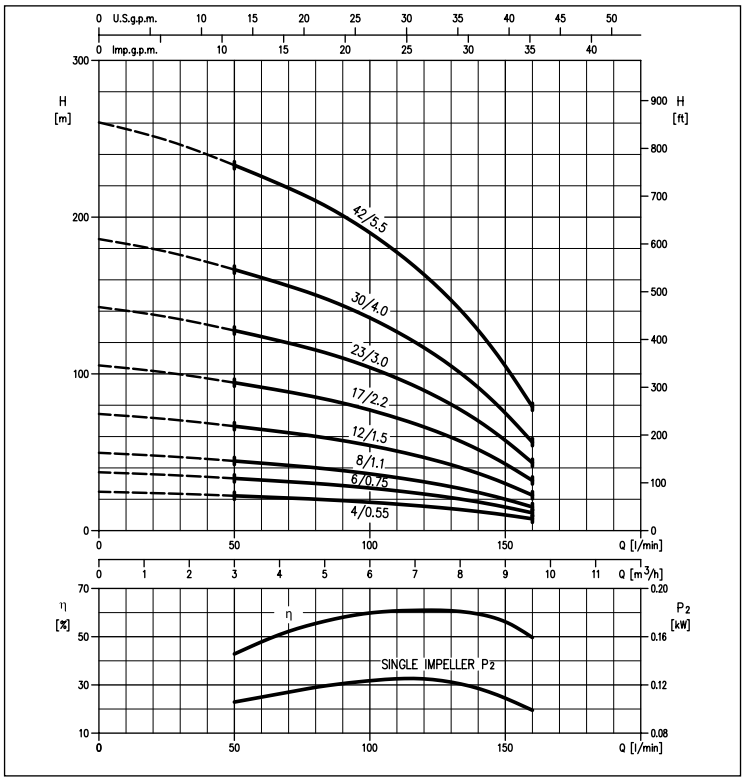
PERFORMANCE CURVES WINNER 4N4

(per ISO 9906 Annex A) - Impeller dia.: 76 mm



PERFORMANCE CURVES WINNER 4N7

(per ISO 9906 Annex A) - Impeller dia.: 74.2 mm



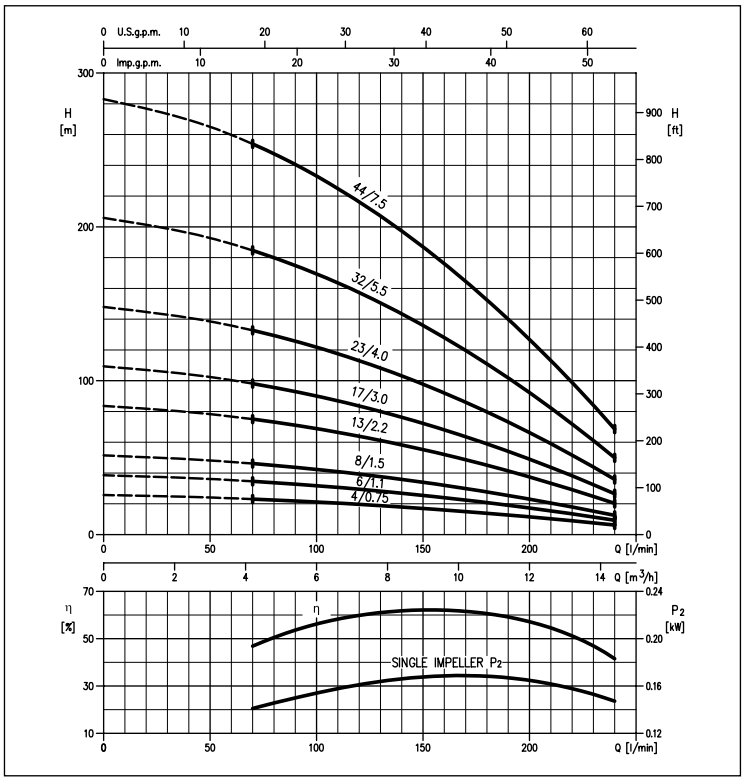
WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

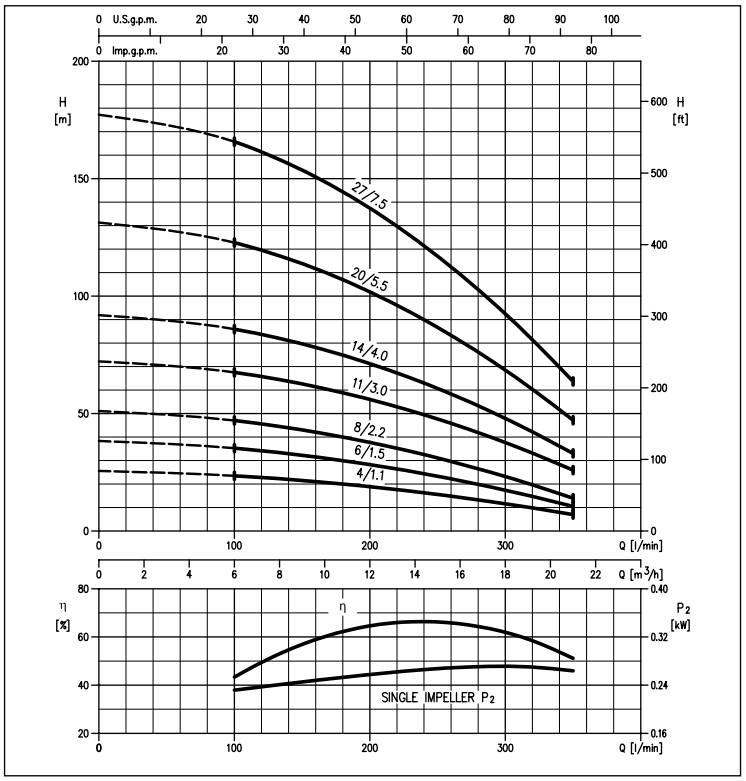
PERFORMANCE CURVES WINNER 4N10

(per ISO 9906 Annex A) - Impeller dia.: 76.4 mm

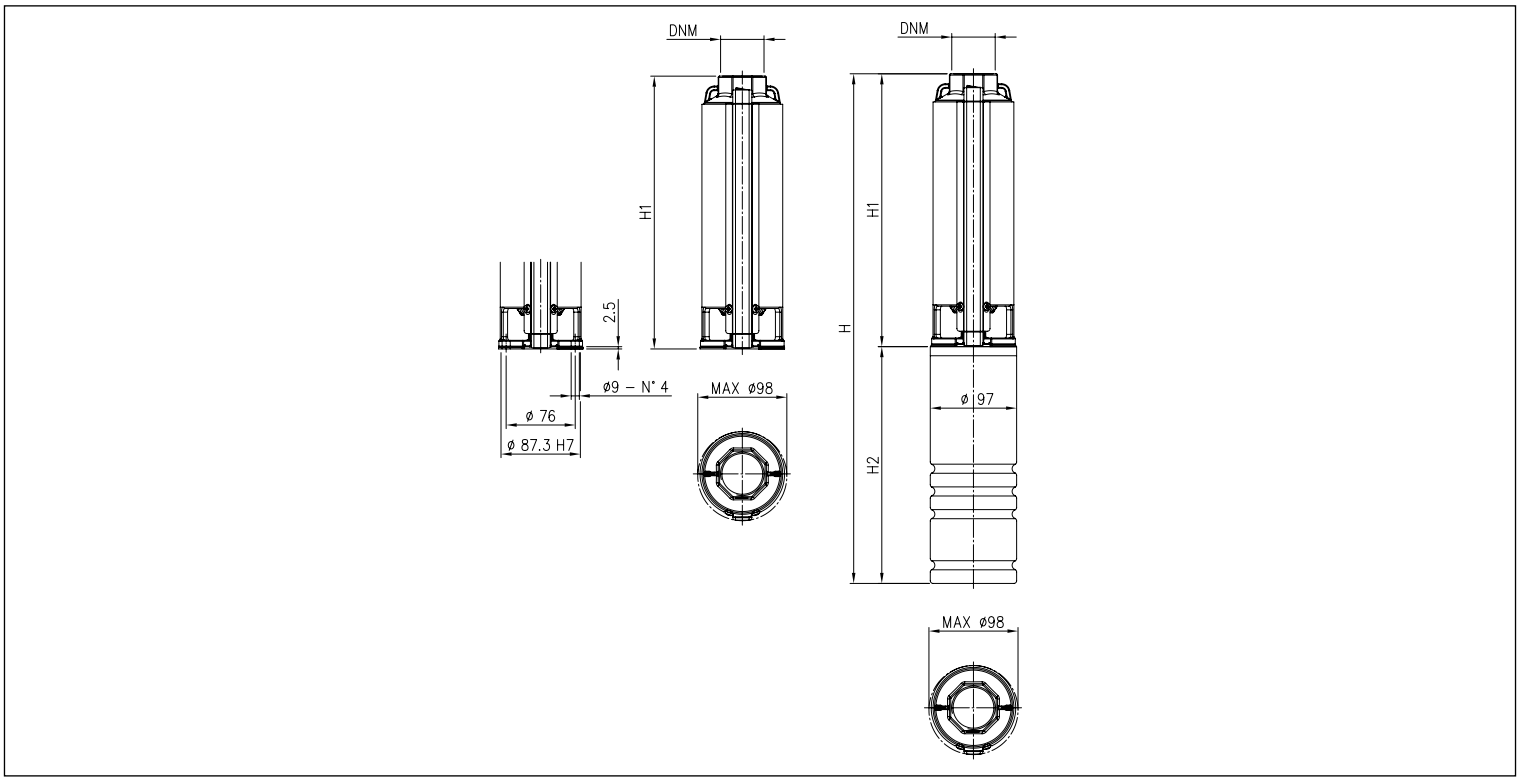


PERFORMANCE CURVES WINNER 4N15

(per ISO 9906 Annex A) - Impeller dia.: 78 mm



DIMENSIONS



WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

DIMENSIONAL TABLE

Model	P_2		Pump without motor		Pump with oil filled motor				Pump with water filled motor			
					single phase		three phase		single phase		three phase	
	[HP]	[kW]	H1 [mm]	DNM	H2 [mm]	H [mm]	H2 [mm]	H [mm]	H2 [mm]	H [mm]	H2 [mm]	H [mm]
WINNER 4N1- 12	0.5	0.37	353	G 1¼	325	678	304	657	228	581	214	567
WINNER 4N1- 18	0.75	0.55	458	G1¼	325	783	325	783	253	711	228	686
WINNER 4N1- 24	1	0.75	563	G1¼	350	913	325	888	283	846	248	811
WINNER 4N1- 34	1.5	1.1	738	G1¼	385	1123	350	1088	307	1045	283	1021
WINNER 4N1- 48	2	1.5	1049	G1¼	420	1469	385	1434	339	1388	307	1356
WINNER 4N1- 68	3	2.2	1399	G1¼	470	1869	420	1819	437	1836	339	1738
WINNER 4N2- 7	0.5	0.37	265	G1¼	325	590	304	569	228	493	214	479
WINNER 4N2- 10	0.75	0.55	318	G1¼	325	643	325	643	253	571	228	546
WINNER 4N2- 14	1	0.75	388	G1¼	350	738	325	713	283	671	248	636
WINNER 4N2- 20	1.5	1.1	493	G1¼	385	878	350	843	307	800	283	776
WINNER 4N2- 28	2	1.5	633	G1¼	420	1053	385	1018	339	972	307	940
WINNER 4N2- 40	3	2.2	909	G1¼	470	1379	420	1329	437	1346	339	1248
WINNER 4N2- 56	4	3	1189	G1¼	-	-	544	1733	-	-	394	1583
WINNER 4N4- 4	0.5	0.37	229	G1¼	325	554	304	533	228	457	214	443
WINNER 4N4- 7	0.75	0.55	293	G1¼	325	618	325	618	253	546	228	521
WINNER 4N4- 9	1	0.75	336	G1¼	350	686	325	661	283	619	248	584
WINNER 4N4- 13	1.5	1.1	422	G1¼	385	807	350	772	307	729	283	705
WINNER 4N4- 18	2	1.5	530	G1¼	420	950	385	915	339	869	307	837
WINNER 4N4- 27	3	2.2	723	G1¼	470	1193	420	1143	437	1160	339	1062
WINNER 4N4- 36	4	3	983	G1¼	-	-	544	1527	-	-	394	1377
WINNER 4N4- 48	5.5	4	1241	G1¼	-	-	574	1815	-	-	543	1784
WINNER 4N7- 4	0.75	0.55	285	G2	325	610	325	610	253	538	228	513
WINNER 4N7- 6	1	0.75	356	G2	350	706	325	681	283	639	248	604
WINNER 4N7- 8	1.5	1.1	427	G2	385	812	350	777	307	734	283	710
WINNER 4N7- 12	2	1.5	569	G2	420	989	385	954	339	908	307	876
WINNER 4N7- 17	3	2.2	746	G2	470	1216	420	1166	437	1183	339	1085
WINNER 4N7- 23	4	3	959	G2	-	-	544	1503	-	-	477	1436
WINNER 4N7- 30	5.5	4	1274	G2	-	-	574	1848	-	-	543	1817
WINNER 4N7- 42	7.5	5.5	1700	G2	-	-	644	2344	-	-	653	2353
WINNER 4N10- 4	1	0.75	325	G2	350	675	325	650	283	608	248	573
WINNER 4N10- 6	1.5	1.1	412	G2	385	797	350	762	307	719	283	695
WINNER 4N10- 8	2	1.5	500	G2	420	920	385	885	339	839	307	807
WINNER 4N10- 13	3	2.2	722	G2	470	1192	420	1142	437	1159	339	1060
WINNER 4N10- 17	4	3	900	G2	-	-	544	1444	-	-	477	1377
WINNER 4N10- 23	5.5	4	1165	G2	-	-	574	1739	-	-	543	1708
WINNER 4N10- 32	7.5	5.5	1675	G2	-	-	644	2319	-	-	653	2328
WINNER 4N10- 44	10	7.5	2250	G2	-	-	805	3055	-	-	731	2981
WINNER 4N15- 4	1.5	1.1	425	G2	385	810	350	775	307	732	283	708
WINNER 4N15- 6	2	1.5	562	G2	420	982	385	947	339	901	307	869
WINNER 4N15- 8	3	2.2	702	G2	470	1172	420	1122	437	1139	339	1041
WINNER 4N15- 11	4	3	908	G2	-	-	544	1452	-	-	477	1385
WINNER 4N15- 14	5.5	4	1120	G2	-	-	574	1694	-	-	543	1663
WINNER 4N15- 20	7.5	5.5	1600	G2	-	-	644	2244	-	-	653	2253
WINNER 4N15- 27	10	7.5	2158	G2	-	-	805	2963	-	-	731	2889

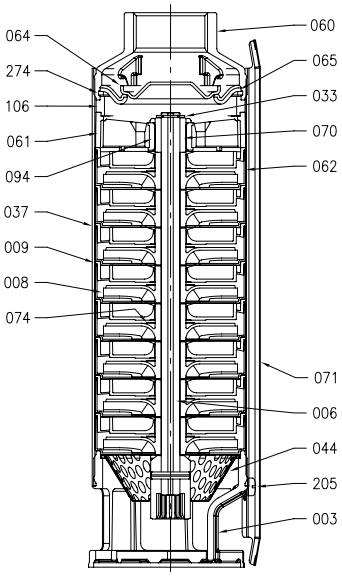
WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

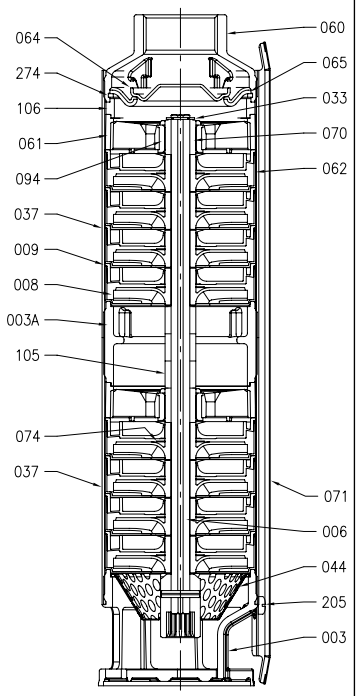
in AISI 304 stainless steel

SECTIONAL VIEW WINNER 4N1-4N2-4N4

Single pump casing

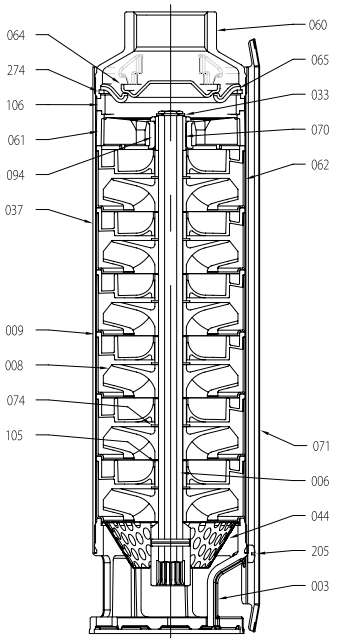


Double pump casing

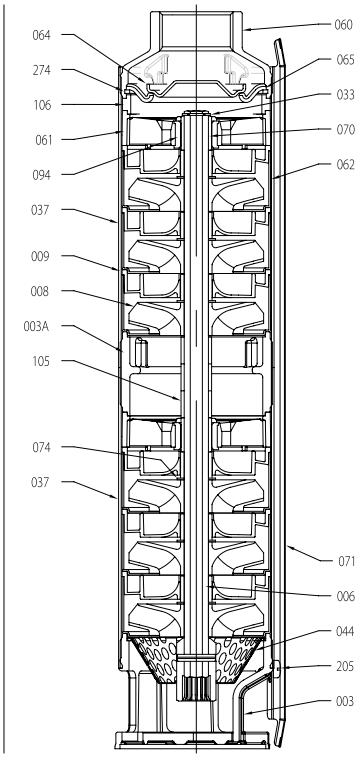


SECTIONAL VIEW WINNER 4N7

Single pump casing

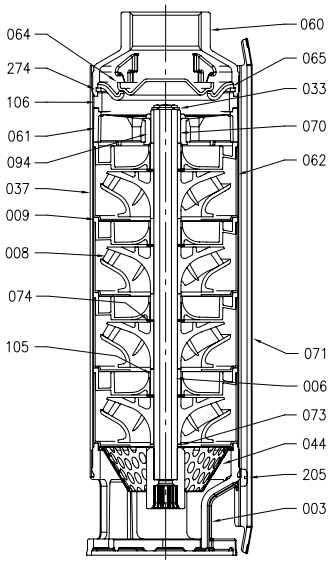


Double pump casing

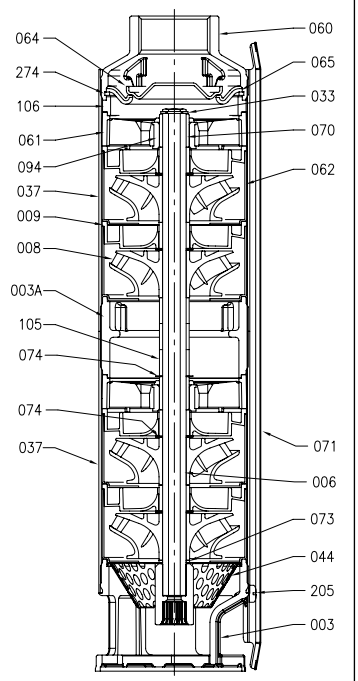


SECTIONAL VIEW WINNER 4N10

Single pump casing

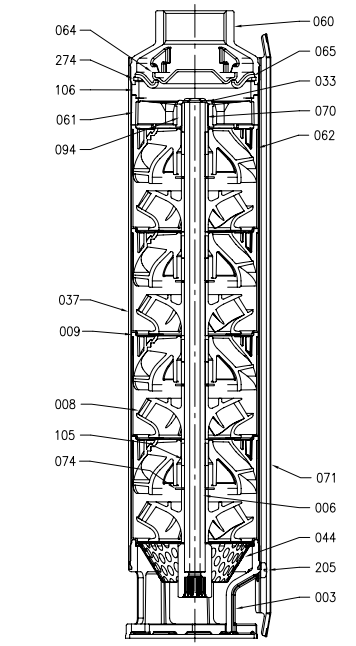


Double pump casing

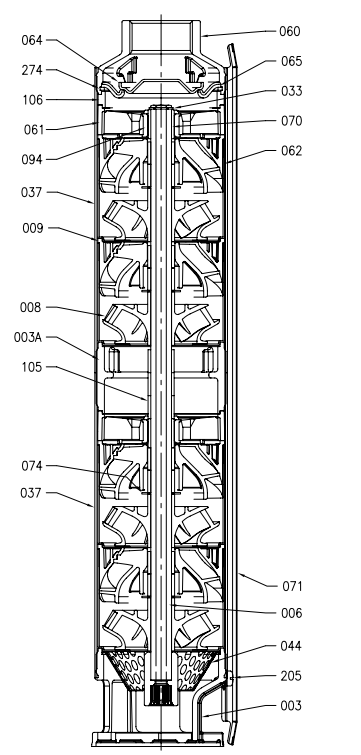


SECTIONAL VIEW WINNER 4N15

Single pump casing



Double pump casing



WINNER 4N

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
003	Bracket	EN 1.4308 (ASTM CF8)	064	Valve	EN 1.4301 (AISI 304)
003A	Connecting ring	EN 1.4308 (ASTM CF8)	065	Valve seat	1.4301 (AISI 304) + EPDM rubber
006	Shaft w/ coupling	EN 1.4301 (AISI 304)	070	Friction bearing	Alumina (Ceramic)
008	Impeller	Ixef® (4N1, 4N2, 4N4, 4N7)	071	Cable cover	EN 1.4301 (AISI 304)
		Glass fibre reinforced polycarbonate PC (4N10, 4N15)	073	First impeller anti-friction washer	EN 1.4301 (AISI 304)
009	Diffuser	PPE + PS reinforced with fibreglass	074	Anti-friction washer	EN 1.4301 (AISI 304)
033	Circlip	EN 1.4301 (AISI 304)	094	Bearing	EPDM rubber
037	External casing	EN 1.4301 (AISI 304)	105	Spacer	PPE + PS reinforced with fibreglass
044	Filter	EN 1.4301 (AISI 304)	106	Spacer	NORYL+GF20%
060	Delivery port	EN 1.4308 (ASTM CF8)	205	Screws (M4 x 6 UNI 7687)	EN 1.4301 (AISI 304)
061	Upper/intermediate bracket	PPE + PS reinforced with fibreglass	274	Circlip	EN 1.4310 (AISI 302)
062	Stage bracket	EN 1.4301 (AISI 304)			

ELECTRICAL DATA TABLE WINNER 4N WITH OIL FILLED MOTOR (SUMOTO MOTORS)

P_2		Thrust	single phase 230V				three phase 380V				three phase 415V			
[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
0.5	0.37	1500	0.78	3.6	10.2	0.94	0.66	1.4	5.0	0.72	0.83	1.6	5.0	0.72
0.75	0.55	1500	0.97	4.5	13.6	0.94	0.94	1.9	7.0	0.75	1.08	2.0	7.0	0.75
1	0.75	1500	1.32	6.0	18.5	0.96	1.17	2.4	10.0	0.74	1.38	2.6	10.0	0.74
1.5	1.1	1500	1.83	8.2	26.0	0.97	1.56	3.2	14.0	0.74	1.81	3.4	14.0	0.74
2	1.5	1500	2.48	11.0	34.0	0.98	2.09	4.4	17.0	0.72	2.38	4.6	17.0	0.72
3	2.2	4400	3.27	14.8	48.0	0.96	-	-	-	-	-	-	-	-
3	2.2	1500	-	-	-	-	3.00	6.0	24.0	0.76	3.39	6.2	24.0	0.76
3	2.2	5000	-	-	-	-	3.02	5.6	23.0	0.82	3.42	5.8	23.0	0.82
4	3	5000	-	-	-	-	4.05	7.7	30.0	0.80	4.49	7.8	30.0	0.80
5.5	4	5000	-	-	-	-	5.24	9.7	45.0	0.82	5.78	9.8	45.0	0.82
7.5	5.5	5000	-	-	-	-	7.37	13.5	55.0	0.83	8.23	13.8	55.0	0.83
10	7.5	4400	-	-	-	-	9.75	19.0	72.0	0.78	10.93	19.5	72.0	0.78

ELECTRICAL DATA TABLE WINNER 4N WITH WATER FILLED MOTOR (FRANKLIN MOTORS)

P_2		Thrust	single phase 230V				three phase 380V				three phase 415V			
[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
0.5	0.37	3000	0.69	3.3	12.6	0.91	0.57	1.1	5.1	0.79	0.58	1.14	5.61	0.71
0.75	0.55	3000	0.93	4.3	17.7	0.94	0.83	1.6	7.0	0.79	0.86	1.7	7.7	0.70
1	0.75	3000	1.28	5.7	22.7	0.98	1.07	2.0	10.1	0.81	1.10	2.1	10.9	0.73
1.5	1.1	3000	1.78	8.4	33.9	0.92	1.51	2.8	15.3	0.82	1.54	2.9	16.7	0.74
2	1.5	3000	2.34	10.7	41.7	0.95	2.13	3.9	19.7	0.83	2.10	4.0	21.5	0.73
3	2.2	4000	3.28	14.7	61.8	0.97	2.91	5.4	28.3	0.82	3.00	5.8	30.9	0.72
4	3	4000	-	-	-	-	3.99	7.4	39.9	0.82	4.09	7.9	43.6	0.72
5.5	4	6500	-	-	-	-	5.24	9.7	54.1	0.82	5.38	10.4	59.1	0.72
7.5	5.5	6500	-	-	-	-	7.05	12.6	73.3	0.85	7.08	12.8	80.1	0.77
10	7.5	6500	-	-	-	-	9.74	17.2	94.3	0.86	9.74	17.6	103	0.77

4BHS

CENTRIFUGAL BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

Borehole centrifugal pumps, 4", in AISI 304 throughout.
Suitable for coupling to 4" motors, NEMA compliant.

APPLICATIONS

- Domestic, agricultural and industrial water supply systems
- Pressurisation and fire systems
- Irrigation
- Washing
- Handling clear water in general

TECHNICAL FEATURES

- Reliable, robust
- Corrosion resistant
- Exceptional efficiency due to smooth surface impellers and diffusers

PUMP TECHNICAL DATA

- Maximum immersion:
  - 350 m (with motor in water bath)
  - 150 m (with motor in oil bath)
- Maximum fluid temperature: 30°C
- Maximum amount of sand: 50 ppm
- Maximum amount of chlorine: 500 ppm
- Delivery connection G1¼ (4BHS 2), G1½ (4BHS 4), G2 (4BHS 7-4BHS 15)
- The pumps can be supplied as follows:
  - 4BHS pump plus OY motor in oil bath
  - 4BHS pump plus WY motor in water bath
- MEI > 0,4 (4BHS 2 - 4BHS 4 - 4BHS 7)
  For further information, refer to our Data Book on www.ebaraeurope.com
- 4BHS 15 currently not conforming with EuP Directive (available only for countries outside the EU or for assembly in fire kits/units)

The pump and motor are supplied separately.

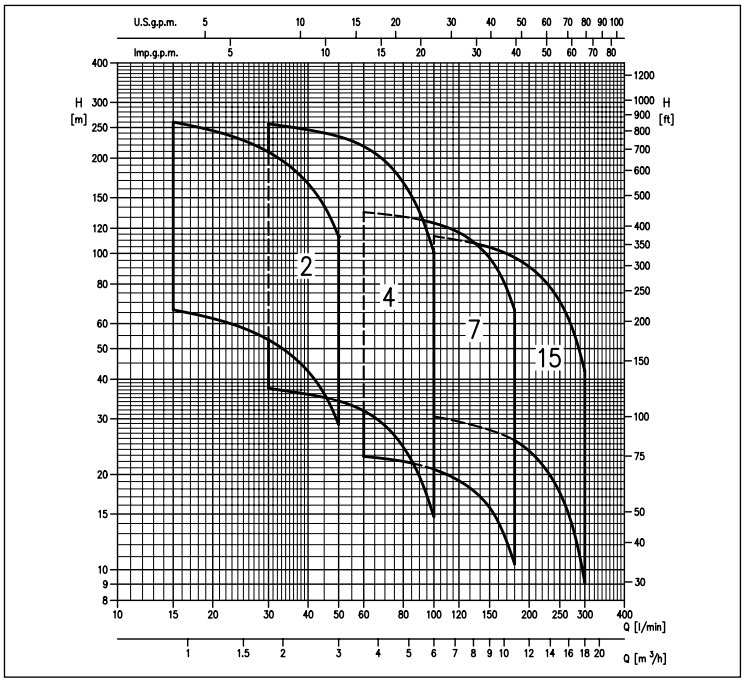
MOTOR TECHNICAL DATA

- 2 pole motor in oil bath (OY), or water bath (WY)
- Max. starts per hour: 30 (OY) - 20 (WY)
- Power cable snap connection
- Insulation class F (OY) - B (WY)
- Protection degree IP58 (OY) - IP68 (WY)
- Single phase voltage 230V (±10%) 50Hz (OYM),
  Three phase voltage 380-415V (±10%) 50Hz (OY)
- Single phase voltage 230V (-10%+6%) 50Hz (WYM),
  Three phase voltage 380-415V (-10%+6%) 50Hz (WY)
- For dimensioning the cables, see page 54 or refer to our Data Book on www.ebaraeurope.com

MATERIALS

- Delivery pipe and motor mount in moulded stainless steel
- Bracket, ports, coupling, impeller, diffuser, valve, stages, linkages and cable cover in EN 1.4301 (AISI 304)
- Clearance ring in EN 1.4301 (AISI 304) + EPDM
- Shaft in EN 1.4401 (AISI 316)
- Radial bearings, axial bearings and thrust bearing in tungsten carbide

PERFORMANCE RANGE (per ISO 9906 Annex A)



N.B. Models 4BHS 15 are not available for purchase inside the EU

IDENTIFICATION CODE

OY | 4 | BHS | 4 | 29 | / | 22 | M

- M — Single phase
- 22 — Motor power in kW x 10
- 29 — N. impellers
- 4 — m³/h at max. efficiency
- BHS — Model
- 4 — For 4" wells
- OY — Motor type: Oil filled
- WY — Motor type: Water filled

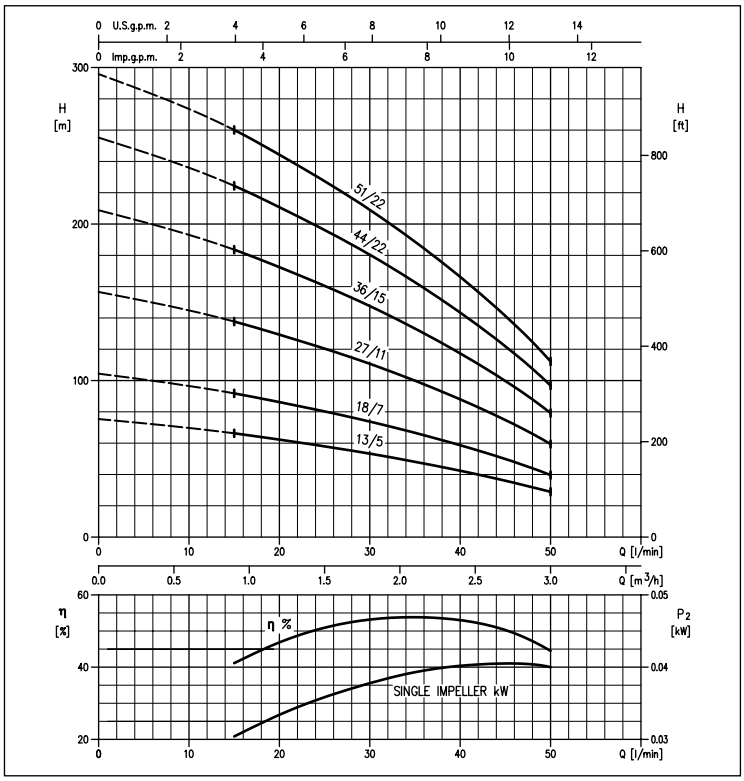
4BHS

CENTRIFUGAL BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

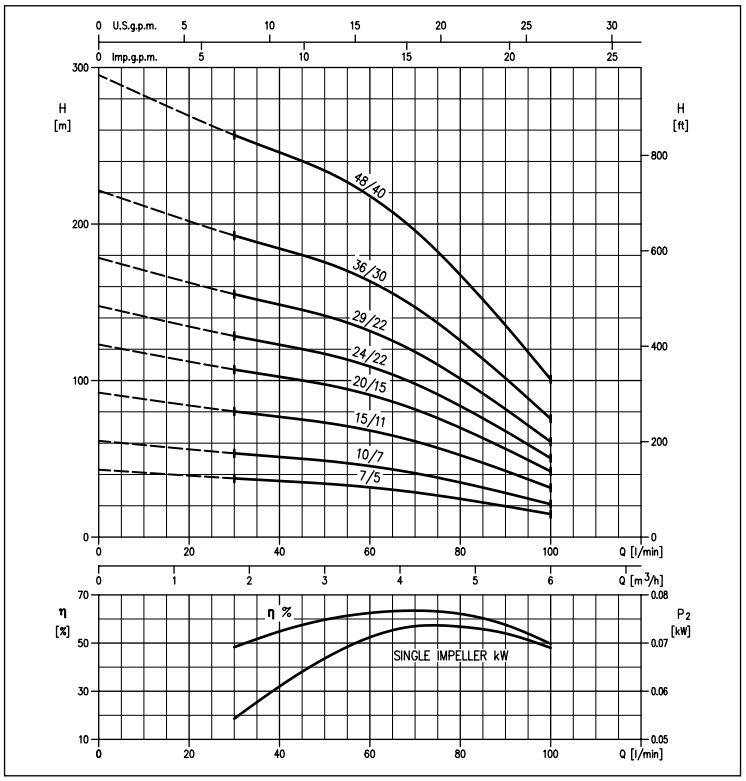
PERFORMANCE CURVES series 4BHS 2

(per ISO 9906 Annex A) - Impeller dia.: 70.5 mm



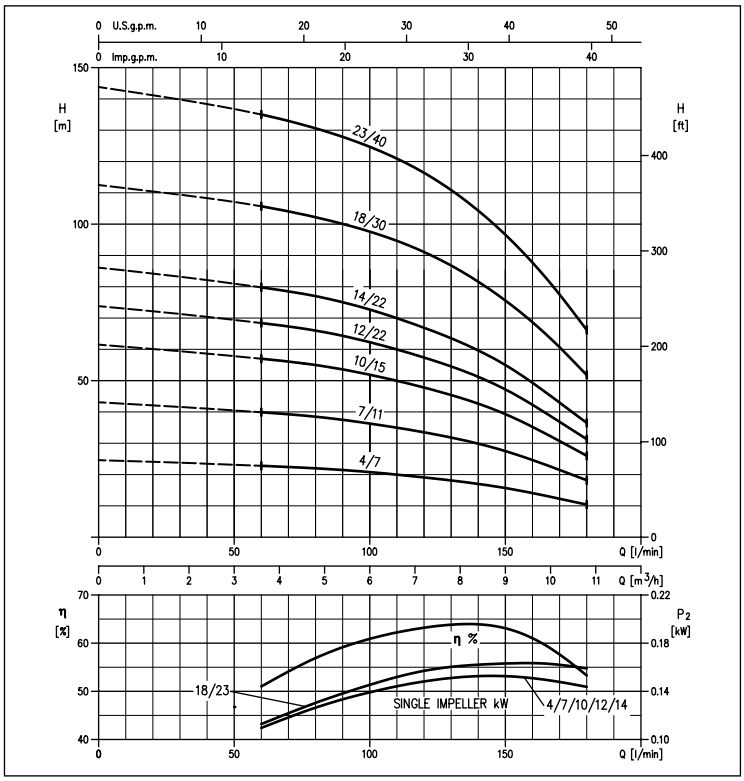
PERFORMANCE CURVES series 4BHS 4

(per ISO 9906 Annex A) - Impeller dia.: 72 mm



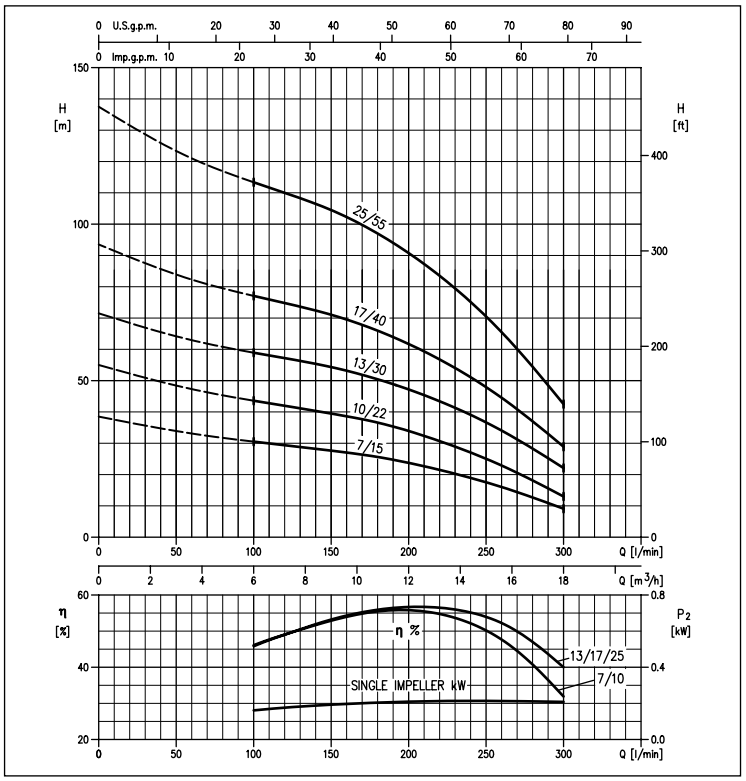
PERFORMANCE CURVES series 4BHS 7

(per ISO 9906 Annex A) - Impeller dia.: 74 mm



PERFORMANCE CURVES series 4BHS 15

(per ISO 9906 Annex A) - Impeller dia.: 72 mm



N.B. Models 4BHS 15 are not available for purchase inside the EU

4BHS

CENTRIFUGAL BOREHOLE PUMPS, 4"

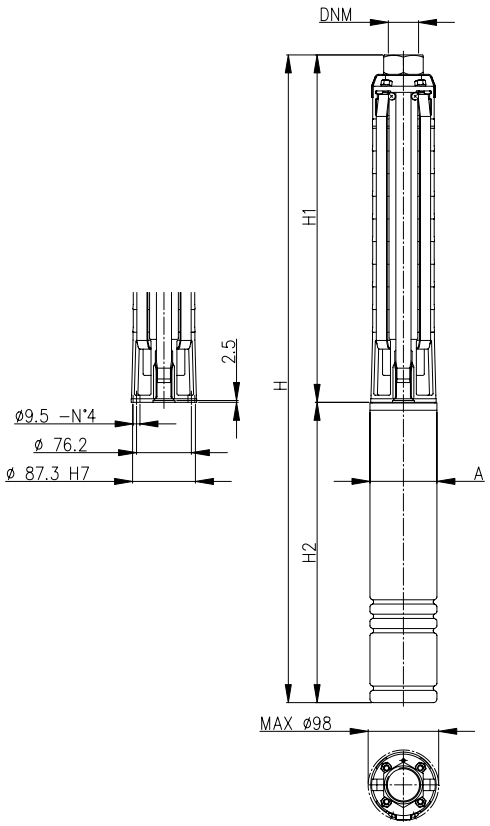
in AISI 304 stainless steel

PERFORMANCE TABLE

Model single phase	Model three phase	P_2 [HP]	P_2 [kW]	Q=Flow rate l/min	15	20	30	40	50	60	80	100	120	150	180	220	260	300
				m^3/h	0.9	1.2	1.8	2.4	3	3.6	4.8	6	7.2	9	10.8	13.2	15.6	18
				H=Head [m]														
4BHS 2-13/5M	4BHS 2-13/5	0.75	0.55		66.5	62.5	53.5	42.5	28.6	-	-	-	-	-	-	-	-	-
4BHS 2-18/7M	4BHS 2-18/7	1.0	0.75		92.0	86.0	74.0	58.5	39.6	-	-	-	-	-	-	-	-	-
4BHS 2-27/11M	4BHS 2-27/11	1.5	1.1		138.0	129.0	111.0	88.0	59.5	-	-	-	-	-	-	-	-	-
4BHS 2-36/15M	4BHS 2-36/15	2.0	1.5		184.0	172.0	148.0	117.0	79.0	-	-	-	-	-	-	-	-	-
4BHS 2-44/22M	4BHS 2-44/22	3.0	2.2		224.0	211.0	180.0	143.0	97.0	-	-	-	-	-	-	-	-	-
4BHS 2-51/22M	4BHS 2-51/22	3.0	2.2		260.0	244.0	209.0	166.0	112.0	-	-	-	-	-	-	-	-	-
4BHS 4-7/5M	4BHS 4-7/5	0.75	0.55		-	-	37.5	35.8	34.2	31.8	24.4	14.7	-	-	-	-	-	-
4BHS 4-10/7M	4BHS 4-10/7	1.0	0.75		-	-	53.5	51.0	49.0	45.5	34.9	21.0	-	-	-	-	-	-
4BHS 4-15/11M	4BHS 4-15/11	1.5	1.1		-	-	80.5	77.0	73.0	68.0	52.5	31.5	-	-	-	-	-	-
4BHS 4-20/15M	4BHS 4-20/15	2.0	1.5		-	-	107.0	102.0	97.5	91.0	70.0	42.0	-	-	-	-	-	-
4BHS 4-24/22M	4BHS 4-24/22	3.0	2.2		-	-	128.0	123.0	117.0	109.0	84.0	50.5	-	-	-	-	-	-
4BHS 4-29/22M	4BHS 4-29/22	3.0	2.2		-	-	155.0	148.0	142.0	132.0	101.0	61.0	-	-	-	-	-	-
	4BHS 4-36/30	4.0	3.0		-	-	193.0	184.0	176.0	163.0	126.0	75.5	-	-	-	-	-	-
	4BHS 4-48/40	5.5	4.0		-	-	257.0	246.0	234.0	218.0	168.0	101.0	-	-	-	-	-	-
4BHS 7-4/7M	4BHS 7-4/7	1.0	0.75		-	-	-	-	-	22.8	22.0	20.8	19.1	15.7	10.4	-	-	-
4BHS 7-7/11M	4BHS 7-7/11	1.5	1.1		-	-	-	-	-	39.9	38.5	36.3	33.5	27.5	18.2	-	-	-
4BHS 7-10/15M	4BHS 7-10/15	2.0	1.5		-	-	-	-	-	57.0	55.0	52.0	48.0	39.3	26.0	-	-	-
4BHS 7-12/22M	4BHS 7-12/22	3.0	2.2		-	-	-	-	-	68.5	66.0	62.5	57.5	47.0	31.3	-	-	-
4BHS 7-14/22M	4BHS 7-14/22	3.0	2.2		-	-	-	-	-	80.0	77.0	72.5	67.0	55.0	36.5	-	-	-
	4BHS 7-18/30	4.0	3.0		-	-	-	-	-	106.0	102.0	97.5	91.0	75.5	52.0	-	-	-
	4BHS 7-23/40	5.5	4.0		-	-	-	-	-	135.0	131.0	125.0	116.0	96.5	66.0	-	-	-
4BHS 15-7/15M *	4BHS 15-7/15 *	2.0	1.5		-	-	-	-	-	-	-	30.5	29.3	27.7	25.6	21.5	16.0	9.1
4BHS 15-10/22M *	4BHS 15-10/22 *	3.0	2.2		-	-	-	-	-	-	-	43.5	42.0	39.5	36.6	30.7	22.9	13.0
	4BHS 15-13/30 *	4.0	3.0		-	-	-	-	-	-	-	59.0	57.5	54.5	50.5	43.5	34.1	22.1
	4BHS 15-17/40 *	5.5	4.0		-	-	-	-	-	-	-	77.0	75.0	71.0	66.0	57.0	44.5	28.9
	4BHS 15-25/55 *	7.5	5.5		-	-	-	-	-	-	-	114.0	110.0	105.0	97.0	83.5	65.5	42.5

* Models 4BHS 15 are not available for purchase inside the EU

DIMENSIONS



4BHS

CENTRIFUGAL BOREHOLE PUMPS, 4"

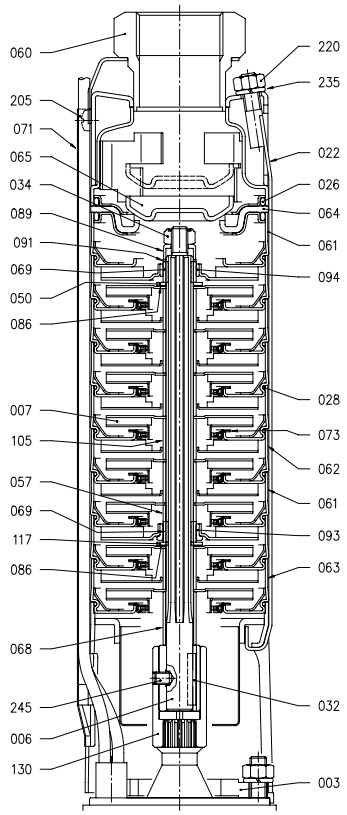
in AISI 304 stainless steel

DIMENSIONAL TABLE

Model	P2		Pump without motor			Pump with oil filled motor								Pump with water filled motor							
						single phase				three phase				single phase				three phase			
	[HP]	[kW]	H1 [mm]	DNM	Weight [kg]	A [mm]	H2 [mm]	H [mm]	Weight [kg]	A [mm]	H2 [mm]	H [mm]	Weight [kg]	A [mm]	H2 [mm]	H [mm]	Weight [kg]	A [mm]	H2 [mm]	H [mm]	Weight [kg]
4BHS 2-13/5	0.75	0.55	489	G1¼	6.6	97	325	814	14.2	97	325	814	13.6	91	248	737	15.1	91	228	717	14.4
4BHS 2-18/7	1.0	0.75	594	G1¼	8.3	97	350	944	17.0	97	325	919	15.9	91	283	877	18.3	91	248	842	16.9
4BHS 2-27/11	1.5	1.1	783	G1¼	11.0	97	385	1168	21.3	97	350	1133	19.7	91	339	1122	22.8	91	283	1066	20.5
4BHS 2-36/15	2.0	1.5	972	G1¼	13.8	97	420	1392	25.8	97	385	1357	24.2	91	350	1322	27.5	91	307	1279	24.9
4BHS 2-44/22	3.0	2.2	1140	G1¼	16.5	97	470	1610	32.0	97	420	1560	30.7	91	437	1577	32.9	91	339	1479	30.3
4BHS 2-51/22	3.0	2.2	1287	G1¼	18.7	97	470	1757	34.2	97	420	1707	32.9	91	437	1724	35.1	91	339	1626	32.5
4BHS 4-7/5	0.75	0.55	368	G1½	4.4	97	325	693	12.0	97	325	693	11.4	91	248	616	12.9	91	228	596	12.2
4BHS 4-10/7	1.0	0.75	431	G1½	5.5	97	350	781	14.2	97	325	756	13.1	91	283	714	15.5	91	248	679	14.1
4BHS 4-15/11	1.5	1.1	536	G1½	7.2	97	385	921	17.5	97	350	886	15.9	91	339	875	19.0	91	283	819	16.7
4BHS 4-20/15	2.0	1.5	641	G1½	8.3	97	420	1061	20.3	97	385	1026	18.7	91	350	991	22.0	91	307	948	19.4
4BHS 4-24/22	3.0	2.2	725	G1½	9.9	97	470	1195	25.4	97	420	1145	24.1	91	437	1162	26.3	91	339	1064	23.7
4BHS 4-29/22	3.0	2.2	830	G1½	11.5	97	470	1300	27.0	97	420	1250	25.7	91	437	1267	27.9	91	339	1169	25.3
4BHS 4-36/30	4.0	3.0	977	G1½	14.3	97	-	-	-	97	544	1521	33.3	91	-	-	-	91	394	1371	31.6
4BHS 4-48/40	5.5	4.0	1229	G1½	17.6	97	-	-	-	97	574	1803	37.6	91	-	-	-	91	543	1772	38.8
4BHS 7-4/7	1.0	0.75	373	G 2	4.2	97	350	723	12.9	97	325	698	11.8	91	283	656	14.2	91	248	621	12.8
4BHS 7-7/11	1.5	1.1	468	G 2	5.0	97	385	853	15.3	97	350	818	13.7	91	339	807	16.8	91	283	751	14.5
4BHS 7-10/15	2.0	1.5	562	G 2	6.6	97	420	982	18.6	97	385	947	17.0	91	350	912	20.3	91	307	869	17.7
4BHS 7-12/22	3.0	2.2	625	G 2	7.7	97	470	1095	23.2	97	420	1045	21.9	91	437	1062	24.1	91	339	964	21.5
4BHS 7-14/22	3.0	2.2	688	G 2	8.3	97	470	1158	23.8	97	420	1108	22.5	91	437	1125	24.7	91	339	1027	22.1
4BHS 7-18/30	4.0	3.0	814	G 2	9.9	97	-	-	-	97	544	1358	28.9	91	-	-	-	91	394	1208	27.2
4BHS 7-23/40	5.5	4.0	972	G 2	11.5	97	-	-	-	97	574	1546	31.5	91	-	-	-	91	543	1515	32.7
4BHS 15-7/15 *	2.0	1.5	552	G 2	5.8	97	420	972	17.8	97	385	937	16.2	91	350	902	19.5	91	307	859	16.9
4BHS 15-10/22 *	3.0	2.2	678	G 2	7.3	97	470	1148	22.8	97	420	1098	21.5	91	437	1115	23.7	91	339	1017	21.1
4BHS 15-13/30 *	4.0	3.0	804	G 2	8.7	97	-	-	-	97	544	1348	27.7	91	-	-	-	91	394	1198	26.0
4BHS 15-17/40 *	5.5	4.0	972	G 2	10.7	97	-	-	-	97	574	1546	30.7	91	-	-	-	91	543	1515	31.9
4BHS 15-25/55 *	7.5	5.5	1308	G 2	14.4	97	-	-	-	97	644	1952	36.8	91	-	-	-	91	653	1961	40.6

* Models 4BHS 15 are not available for purchase inside the EU

SECTIONAL VIEW



4BHS

CENTRIFUGAL BOREHOLE PUMPS, 4"

in AISI 304 stainless steel

MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
003	Bracket	EN 1.4301 (AISI 304)	068	Spacer	EN 1.4301 (AISI 304)
006	Shaft	EN 1.4401 (AISI 316)	069	Shaft casing	Tungsten carbide
007	Impeller	EN 1.4301 (AISI 304)	071	Cable cover	EN 1.4301 (AISI 304)
022	Linkage	EN 1.4301 (AISI 304)	073	Clearance ring	EN 1.4301 (AISI 304) + EPDM
026	O-ring	NBR	086	Spacer	EN 1.4301 (AISI 304)
028	O-ring	NBR	089	Shaft washer	EN 1.4301 (AISI 304)
032	Key	EN 1.4401 (AISI 316)	091	Spacer	EN 1.4301 (AISI 304)
034	Impeller nut	EN 1.4301 (AISI 304)	093	Axial bearing	Tungsten carbide
050	Bearing washer	EN 1.4301 (AISI 304)	094	Radial bearing	Tungsten carbide
057	Spacer	EN 1.4301 (AISI 304)	105	Spacer	EN 1.4301 (AISI 304)
060	Delivery port	EN 1.4301 (AISI 304)	117	Anti-friction washer	Tungsten carbide
061	Support stage	EN 1.4301 (AISI 304)	130	Coupling	EN 1.4301 (AISI 304)
062	Intermediate stage	EN 1.4301 (AISI 304)	205	Screw	EN 1.4301 (AISI 304)
063	Suction stage	EN 1.4301 (AISI 304)	220	Nut	EN 1.4301 (AISI 304)
064	Valve seat	EN 1.4301 (AISI 304) + NBR	235	Grower washer	EN 1.4301 (AISI 304)
065	Valve	EN 1.4301 (AISI 304)	245	Set of screws	EN 1.4301 (AISI 304)

ELECTRICAL DATA TABLE 4BHS WITH MOTOR IN OIL BATH (EBARA MOTORS)

P_2		Thrust	single phase 230V				three phase 380V				three phase 415V			
[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
0.75	0.55	1500	0.97	4.5	13.6	0.94	0.94	1.9	7.0	0.75	1.08	2.0	7.0	0.75
1	0.75	1500	1.32	6.0	18.5	0.96	1.17	2.4	10.0	0.74	1.38	2.6	10.0	0.74
1.5	1.1	1500	1.83	8.2	26.0	0.97	1.56	3.2	14.0	0.74	1.81	3.4	14.0	0.74
2	1.5	1500	2.48	11.0	34.0	0.98	2.09	4.4	17.0	0.72	2.38	4.6	17.0	0.72
3	2.2	4400	3.27	14.8	48.0	0.96	-	-	-	-	-	-	-	-
3	2.2	1500	-	-	-	-	3.00	6.0	24.0	0.76	3.39	6.2	24.0	0.76
3	2.2	5000	-	-	-	-	3.02	5.6	23.0	0.82	3.42	5.8	23.0	0.82
4	3	5000	-	-	-	-	4.05	7.7	30.0	0.80	4.49	7.8	30.0	0.80
5.5	4	5000	-	-	-	-	5.24	9.7	45.0	0.82	5.78	9.8	45.0	0.82
7.5	5.5	5000	-	-	-	-	7.37	13.5	55.0	0.83	8.23	13.8	55.0	0.83

ELECTRICAL DATA TABLE 4BHS WITH MOTOR IN WATER BATH (FRANKLIN MOTORS)

P_2		Thrust	single phase 230V				three phase 380V				three phase 415V			
[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
0.75	0.55	3000	0.93	4.3	17.7	0.94	0.83	1.6	7.0	0.79	0.86	1.7	7.7	0.7
1	0.75	3000	1.28	5.7	22.7	0.98	1.07	2.0	10.1	0.81	1.10	2.1	10.9	0.73
1.5	1.1	3000	1.78	8.4	33.9	0.92	1.51	2.8	15.3	0.82	1.54	2.9	16.7	0.74
2	1.5	3000	2.34	10.7	41.7	0.95	2.13	3.9	19.7	0.83	2.10	4.0	21.5	0.73
3	2.2	4000	3.28	14.7	61.8	0.97	2.91	5.4	28.3	0.82	3.00	5.8	30.9	0.72
4	3	4000	-	-	-	-	3.99	7.4	39.9	0.82	4.09	7.9	43.6	0.72
5.5	4	6500	-	-	-	-	5.24	9.7	54.1	0.82	5.38	10.4	59.1	0.72
7.5	5.5	6500	-	-	-	-	7.05	12.6	73.3	0.85	7.08	12.8	80.1	0.77

IDROGO

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 5"

in AISI 304 stainless steel

Multistage submersible centrifugal electric pumps, 5", in AISI 304.

APPLICATIONS

- Handling clear water from wells, cisterns and first collection tanks
- Pressurising domestic systems
- Small irrigation systems
- Washing vehicles
- Increasing pressure in general

TECHNICAL FEATURES

- Fitted with double mechanical seals with interposing oil chamber
- Supplied with 20 m power cord, type H07RN-F (5 m for IDROGO 40/06 M)
- Single phase version with float available on request (version "A")
- Available in the three phase 230V ±10% 50Hz version
- Installation: horizontal or vertical

PUMP TECHNICAL DATA

- Maximum operating pressure: 10 bar
- Maximum fluid temperature: 40°C
- Maximum immersion: 2 m (with 5 m cable)
  10 m (version "A" with 20 m cable)
  17 m (with 20 m cable)
- Maximum solid dimensions: 2.5 mm
- Delivery connection G1¼

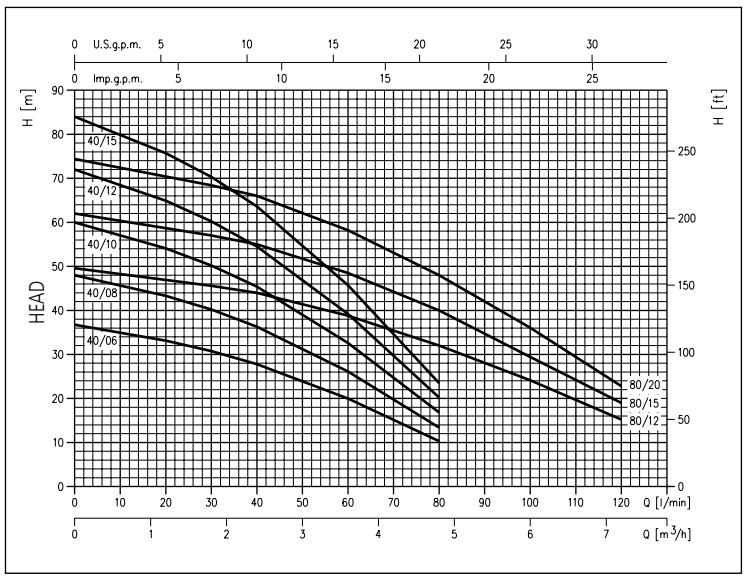
MOTOR TECHNICAL DATA

- 2 pole asynchronous self-ventilating motor cooled by the process fluid
- Insulation class F
- Protection degree IP68
- Single phase voltage 230V ±10% 50Hz,
  three phase voltage 230/400V ±10%, 50Hz
- Permanently active condenser and integrated automatic re-arming thermal cutout for the single phase motor
- Protection must be supplied by the user for the three phase version

MATERIALS

- External casing, motor cover, seal disk, filter and closing ring in AISI 304
- Impeller, diffuser and spacer in PPE + PS reinforced with fibreglass
- Shaft made of AISI 431 steel
- Upper mechanical seal (motor side) in Carbon/Ceramic/NBR and lower seal (pump side) in SiC/Carbon/NBR

PERFORMANCE CURVES (per ISO 9906 Annex A)



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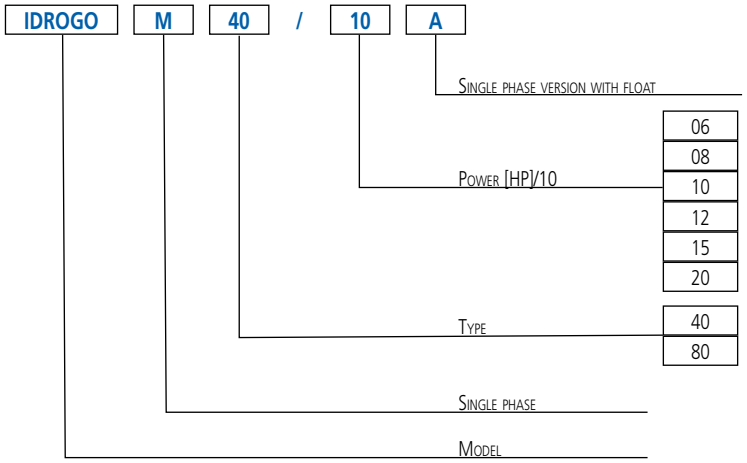


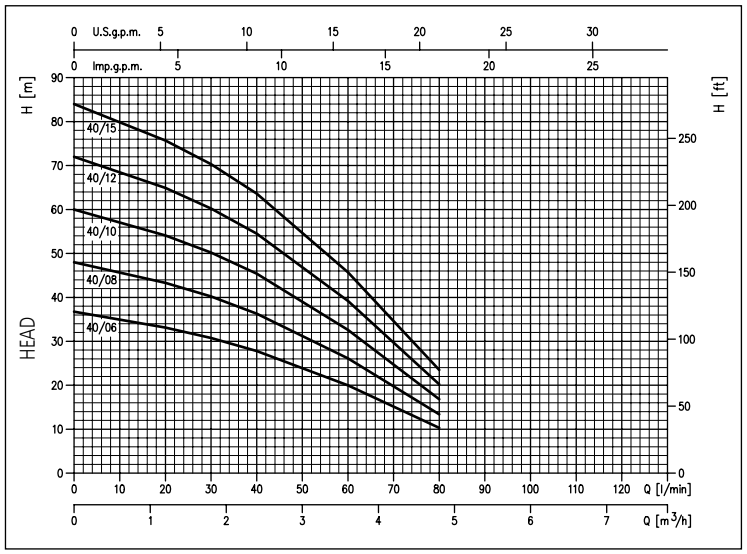
IDROGO

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 5"

in AISI 304 stainless steel

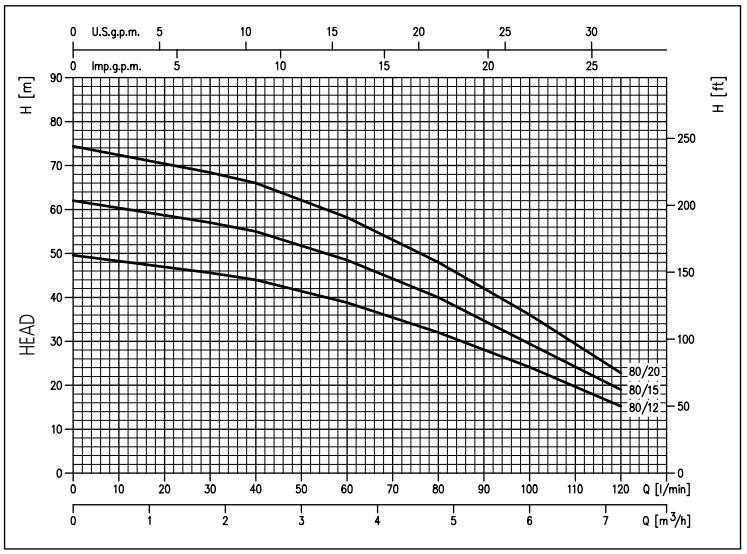
PERFORMANCE CURVES series IDROGO 40

(per ISO 9906 Annex A) - Impeller dia.: 104 mm



PERFORMANCE CURVES series IDROGO 80

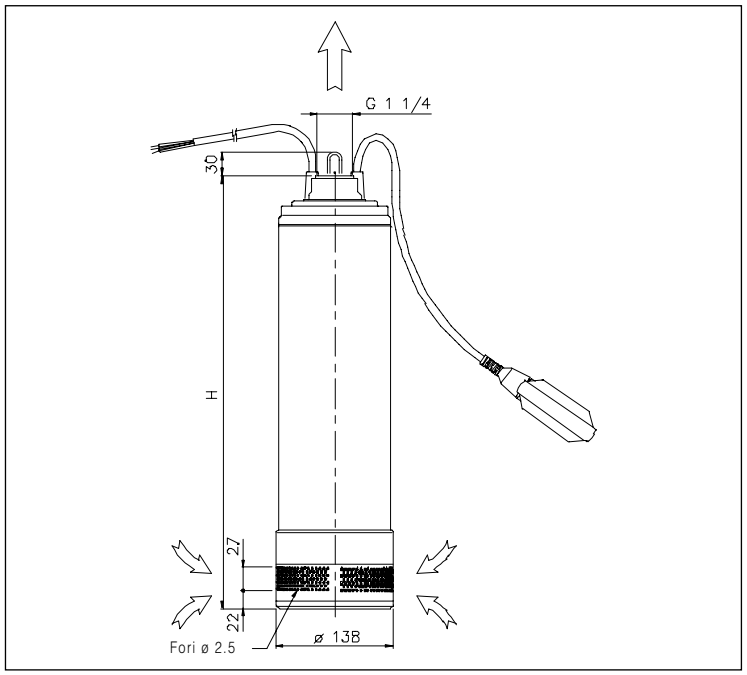
(per ISO 9906 Annex A) - Impeller dia.: 102 mm



PERFORMANCE TABLE

Model		P_2		Q=Flow rate						
single phase 230V	three phase 230V - 400V	[HP]	[kW]	l/min	20	30	40	60	80	100	120
				m³/h	1.2	1.8	2.4	3.6	4.8	6	7.2
				H=Head [m]							
IDROGO M 40/06	-	0.6	0.44		33.1	30.8	27.8	20.0	10.3	-	-
IDROGO M 40/08	IDROGO 40/08	0.8	0.6		43.3	40.2	36.3	26.1	13.4	-	-
IDROGO M 40/10	IDROGO 40/10	1	0.75		54.1	50.2	45.4	32.6	16.8	-	-
IDROGO M 40/12	IDROGO 40/12	1.2	0.9		64.9	60.2	54.5	39.2	20.2	-	-
IDROGO M 40/15	IDROGO 40/15	1.5	1.1		75.7	70.3	63.6	45.7	23.5	-	-
IDROGO M 80/12	IDROGO 80/12	1.2	0.9		-	45.6	44.0	38.8	32.0	23.2	15.2
IDROGO M 80/15	IDROGO 80/15	1.5	1.1		-	57.0	55.0	48.5	40.0	28.0	19.0
-	IDROGO 80/20	2	1.5		-	68.4	66.0	58.2	48.0	34.8	22.8

DIMENSIONS



DIMENSIONAL TABLE

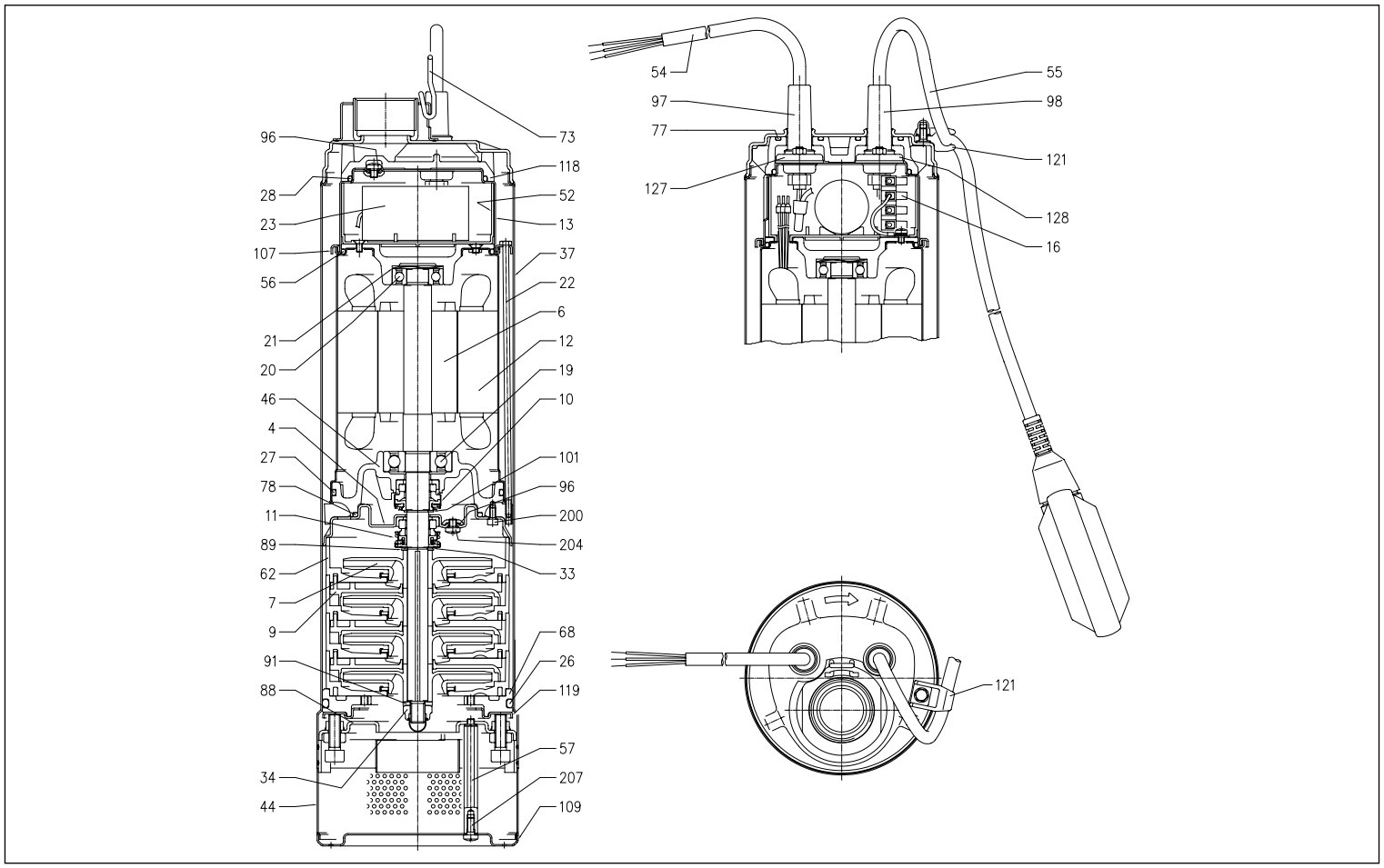
Model	H [mm]	Weight [kg]	
		single phase	three phase
IDROGO 40/06	513	13.0	-
IDROGO 40/08	513	14.6	14.8
IDROGO 40/10	539	16.0	16.1
IDROGO 40/12	590	17.2	17.4
IDROGO 40/15	616	18.3	18.3
IDROGO 80/12	540	16.5	16.4
IDROGO 80/15	564	17.7	17.4
IDROGO 80/20	590	-	18.0

IDROGO

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 5”

in AISI 304 stainless steel

SECTIONAL VIEW



MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
4	Gasket disk	EN 1.4301 (AISI 304)	55	Float [2]	-
6	Shaft	EN 1.4057 (AISI 431)	56	O-ring	NBR
7	Impeller	PPE + PS reinforced with fibreglass	57	Filter spacer	EN 1.4305 (AISI 303)
9	Diffuser	PPE + PS reinforced with fibreglass	62	Stage bracket	PPE + PS reinforced with fibreglass
10	Motor side mechanical seal	Carbon/Ceramic/NBR	68	Lower spacer	PPE + PS reinforced with fibreglass
11	Pump side mechanical seal	SiC/Carbon/NBR	73	Borehole hook	EN 1.4301 (AISI 304)
12	Motor casing	-	77	O-ring	NBR
13	Motor cover	EN 1.4301 (AISI 304)	78	O-ring	NBR
16	Terminal block	-	88	Mounting flange	EN 1.4301 (AISI 304)
19	Bearing (pump side)	-	89	Washer	EN 1.4301 (AISI 304)
20	Bearing (motor side)	-	91	Washer	EN 1.4301 (AISI 304)
21	Compensator ring	C70 steel	96	O-ring	NBR
22	Linkage	EN 1.4305 (AISI 303)	97	Cable gland (power)	NBR
23	Capacitor [1]	-	98	Cable gland (float) [2]	NBR
26	O-ring	NBR	101	Circlip	EN 1.4021 (AISI 420)
27	O-ring	NBR	107	Locking ring	EN 1.4301 (AISI 304)
28	O-ring	NBR	109	Filter base	EN 1.4301 (AISI 304)
33	Circlip	EN 1.4301 (AISI 304)	118	Upper spacer	PPE + PS reinforced with fibreglass
34	Impeller nut	EN 1.4301 (AISI 304)	119	Flange for lower spacer	EN 1.4301 (AISI 304)
37	Jacket	EN 1.4301 (AISI 304)	121	Float mount [2]	PPE + PS reinforced with fibreglass
44	Filter	EN 1.4301 (AISI 304)	127	Cable gland connector (power)	EN 1.4301 (AISI 304)
46	Bearing mount support	Brass	128	Cable gland connector (float)	EN 1.4301 (AISI 304)
52	Capacitor mount box	PA66 reinforced with fibreglass	200	Screw	Stainless steel A2 UNI 7323
54	Power cable	-	204-207	Screw	Stainless steel A2 UNI 7323

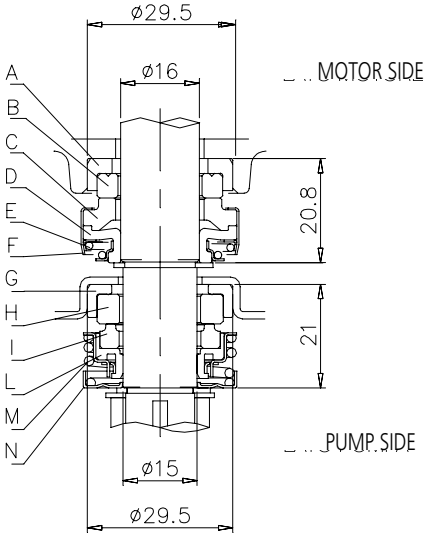
[1]= Single phase only
[2]= Single phase with float only

IDROGO

CENTRIFUGAL ELECTRIC BOREHOLE PUMPS, 5”

in AISI 304 stainless steel

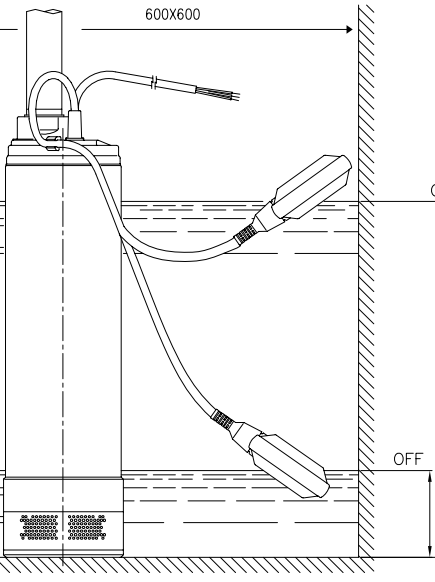
MECHANICAL SEAL



MATERIALS TABLE

Ref.	Name	Material
A	Fixed gasket	NBR
B	Fixed seal ring	Ceramic
C	Rotating seal ring	Carbon
D	Rotating gasket	NBR
E	Spring	AISI 304
F	Structure/frame	AISI 304
G	Fixed gasket	NBR
H	Fixed seal ring	SiC
I	Rotating seal ring	Carbon
L	Rotating gasket	NBR
M	Spring	AISI 304
N	Structure/frame	AISI 304

INSTALLATION



INSTALLATION TABLE

Model	Dimensions [mm]	
	ON	OFF
IDROGO 40/06	560	180
IDROGO 40/08	560	180
IDROGO 40/10	590	190
IDROGO 40/12	660	220
IDROGO 40/15	730	240
IDROGO 80/12	590	190
IDROGO 80/15	640	210

ELECTRICAL DATA TABLE

Model		P_2		Capacitor single phase		P_1		Absorbed current [A]		
single phase 230V	three phase 230V - 400V	[HP]	[kW]	µF	V_c	single phase [kW]	three phase [kW]	single phase 230V	three phase 230V	three phase 400V
IDROGO M 40/06	-	0.6	0.44	16	450	0.82	-	3.8	-	-
IDROGO M 40/08	IDROGO 40/08	0.8	0.6	16	450	1	0.95	4.3	3.3	1.9
IDROGO M 40/10	IDROGO 40/10	1	0.75	20	450	1.25	1.18	5.7	3.8	2.2
IDROGO M 40/12	IDROGO 40/12	1.2	0.9	20	450	1.42	1.33	6.8	4.2	2.4
IDROGO M 40/15	IDROGO 40/15	1.5	1.1	31.5	450	1.6	1.55	7.3	5.2	3.0
IDROGO M 80/12	IDROGO 80/12	1.2	0.9	20	450	1.33	1.22	6.4	4.0	2.3
IDROGO M 80/15	IDROGO 80/15	1.5	1.1	31.5	450	1.62	1.52	7.5	5.4	3.1
-	IDROGO 80/20	2	1.5	-	-	-	1.9	-	6.1	3.5

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

Borehole pumps for deep wells, 6", in AISI 304 (6BHE) and AISI 316 (6BHEL).

APPLICATIONS

- Water supply from deep wells
- Water distribution and pressurisation
- Irrigation systems
- Water treatment, filtering and reverse osmosis
- Industrial cooling systems
- Fountains and fire systems

TECHNICAL FEATURES

- Highly corrosion resistant
- Reliable
- Compact
- Can also operate horizontally

PUMP TECHNICAL DATA

- Maximum operating pressure: 7 bar
- Maximum immersion:
  - 350 m (with motor in water bath)
  - 150 m (with motor in oil bath)
- Maximum amount of sand: 100 gr/m^3
- Fluid temperature: -5°C to +60°C
- Adapter kit for mounting to 4" motors
- Delivery connection: Rp 2"½ 6BHE(L) 13-20, Rp 3" 6BHE(L) 32-48-64
- MEI > 0.4 for all models except for 6BHE(L) 13
  For further information, refer to our Data Book on www.ebaraeurope.com
- Models 6BHE(L) 13 are currently not conforming with the EuP Directive. Available only for countries outside the EU or for assembly to fire kits/units

The pump and motor are supplied separately.

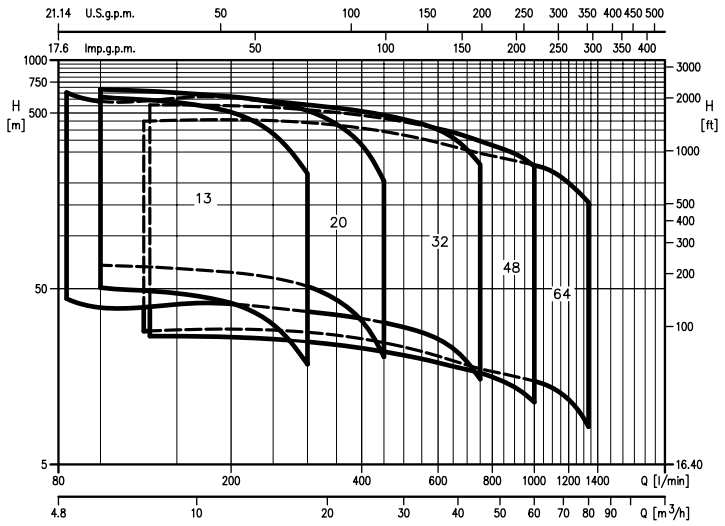
MOTOR TECHNICAL DATA

- 2 pole motor in oil bath (OY),
  in water bath (WY)
- Protection degree: IP58 (OY), IP68 (WY)
- Insulation class: F (4"-6" version OY)
  (6"-8" version WY)
  B (4" version WY)
- Three phase voltage 380-415V (±10%) 50 Hz (OY),
  three phase voltage 380-415V (-10%+6%) 50 Hz (WY)
- For dimensioning the cables, see page 54 or refer to our Data Book on www.ebaraeurope.com

MATERIALS

- Delivery port, impeller, stages, mount and diffuser in AISI 304 (6BHE) and AISI 316 (6BHEL)
- Shaft in AISI 431 (6BHE) and AISI 316+AISI 329 (6BHEL)

PERFORMANCE RANGE (per ISO 9906 Annex A)



IDENTIFICATION CODE

6 BHE L 64 - 20

- 20: N. IMPELLERS
- 64: m^3/h AT MAX. EFFICIENCY
- L: VERSION IN AISI 316
- BHE: MODEL
- 6: FOR 6" WELLS

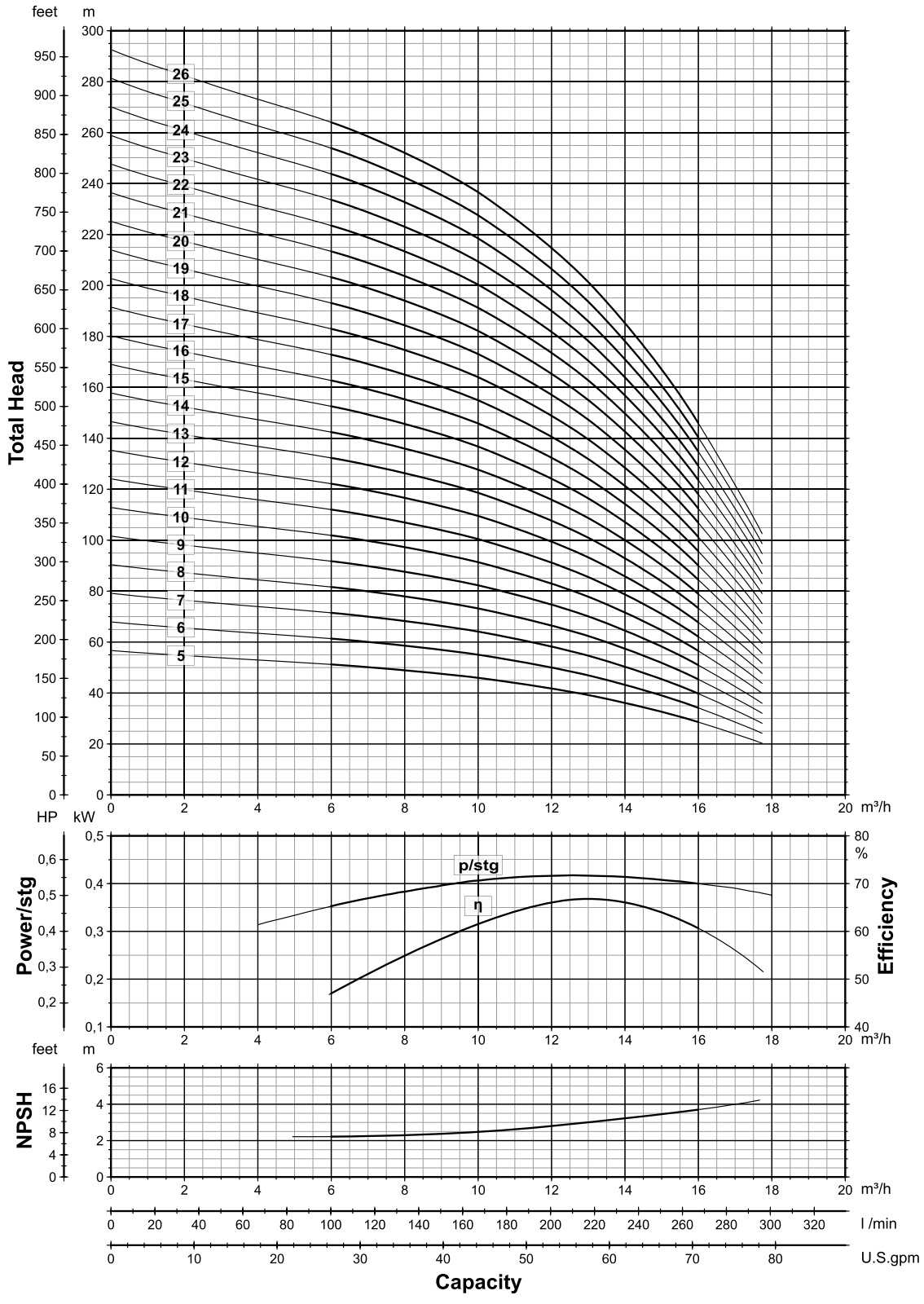
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 13

(per ISO 9906 Annex A)



Models currently not conforming with the EuP Directive. Available only for countries outside the EU or for assembly to fire kits/units

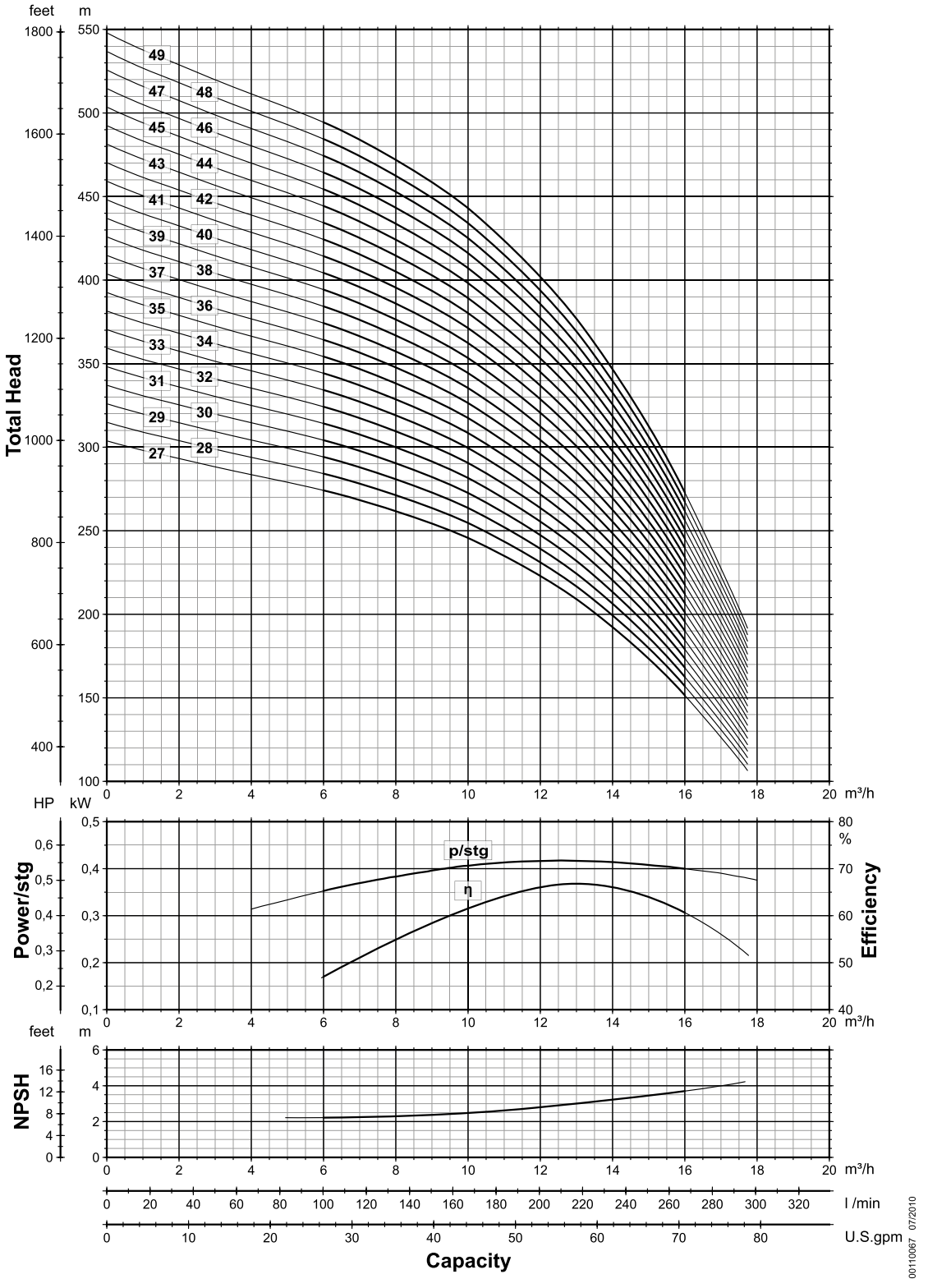
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 13

(per ISO 9906 Annex A)



Models currently not conforming with the EuP Directive. Available only for countries outside the EU or for assembly to fire kits/units

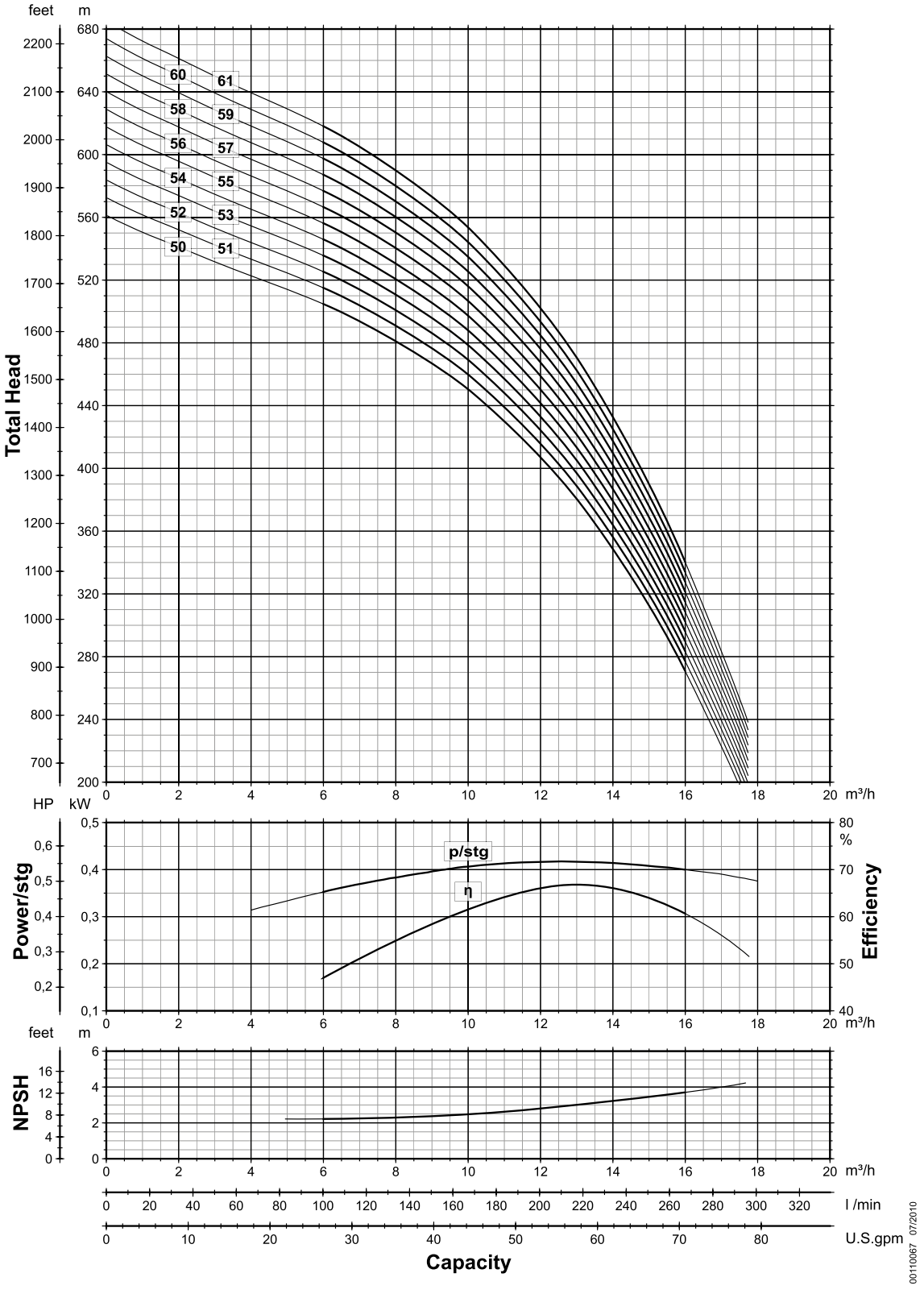
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 13

(per ISO 9906 Annex A)



Models currently not conforming with the EuP Directive. Available only for countries outside the EU or for assembly to fire kits/units

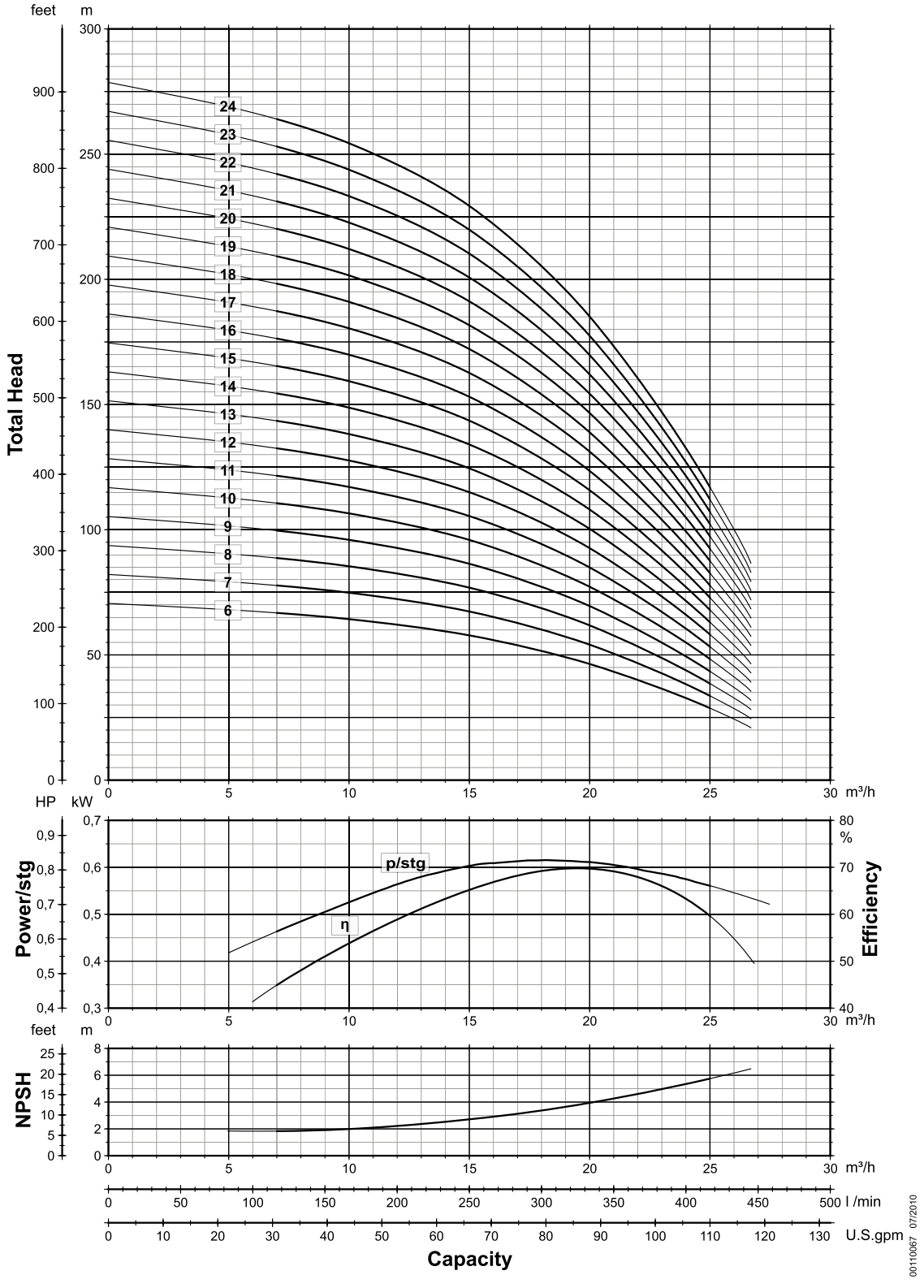
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 20

(per ISO 9906 Annex A)



00110067 07/2010

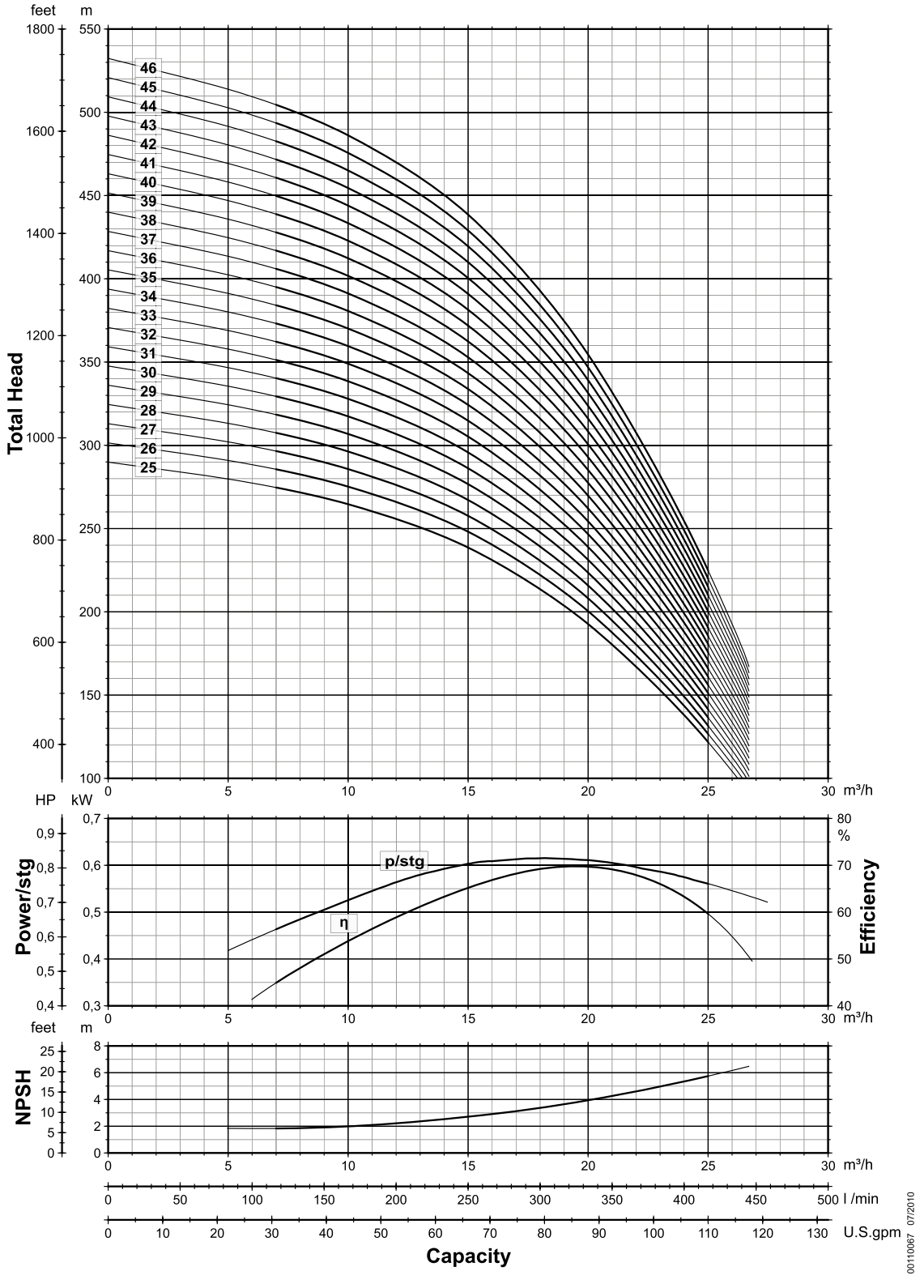
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 20

(per ISO 9906 Annex A)



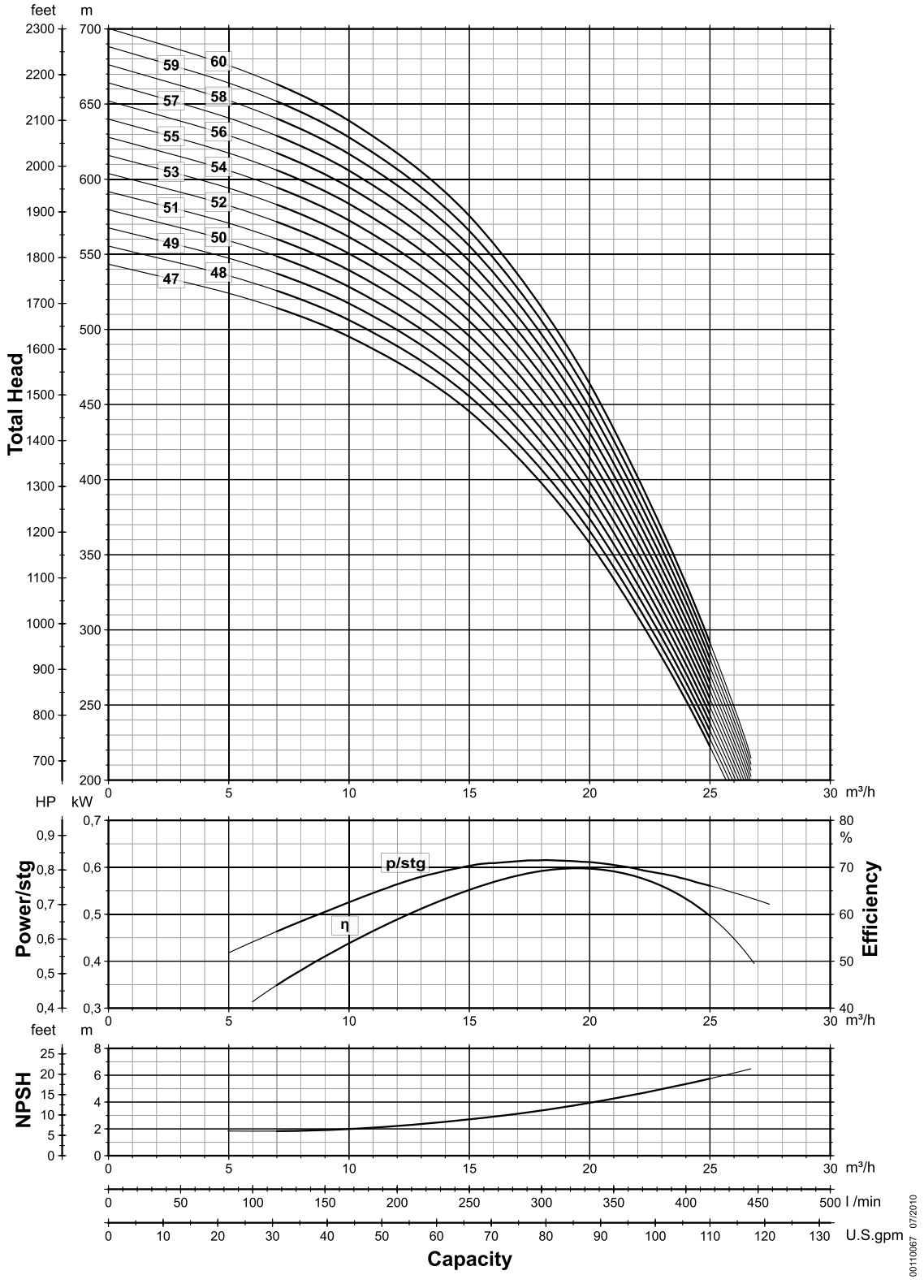
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 20

(per ISO 9906 Annex A)



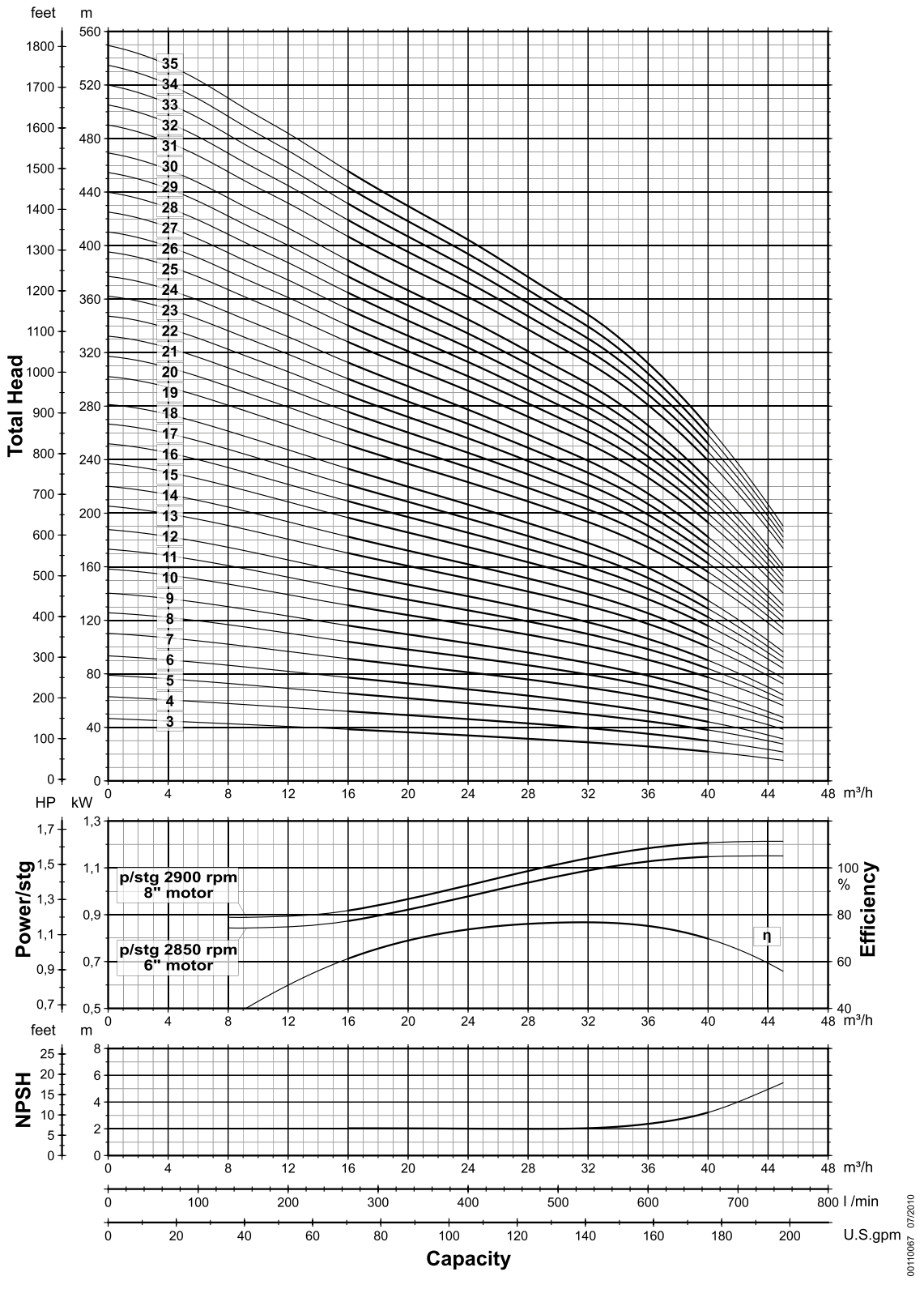
00110067 07/2010

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 32

(per ISO 9906 Annex A)

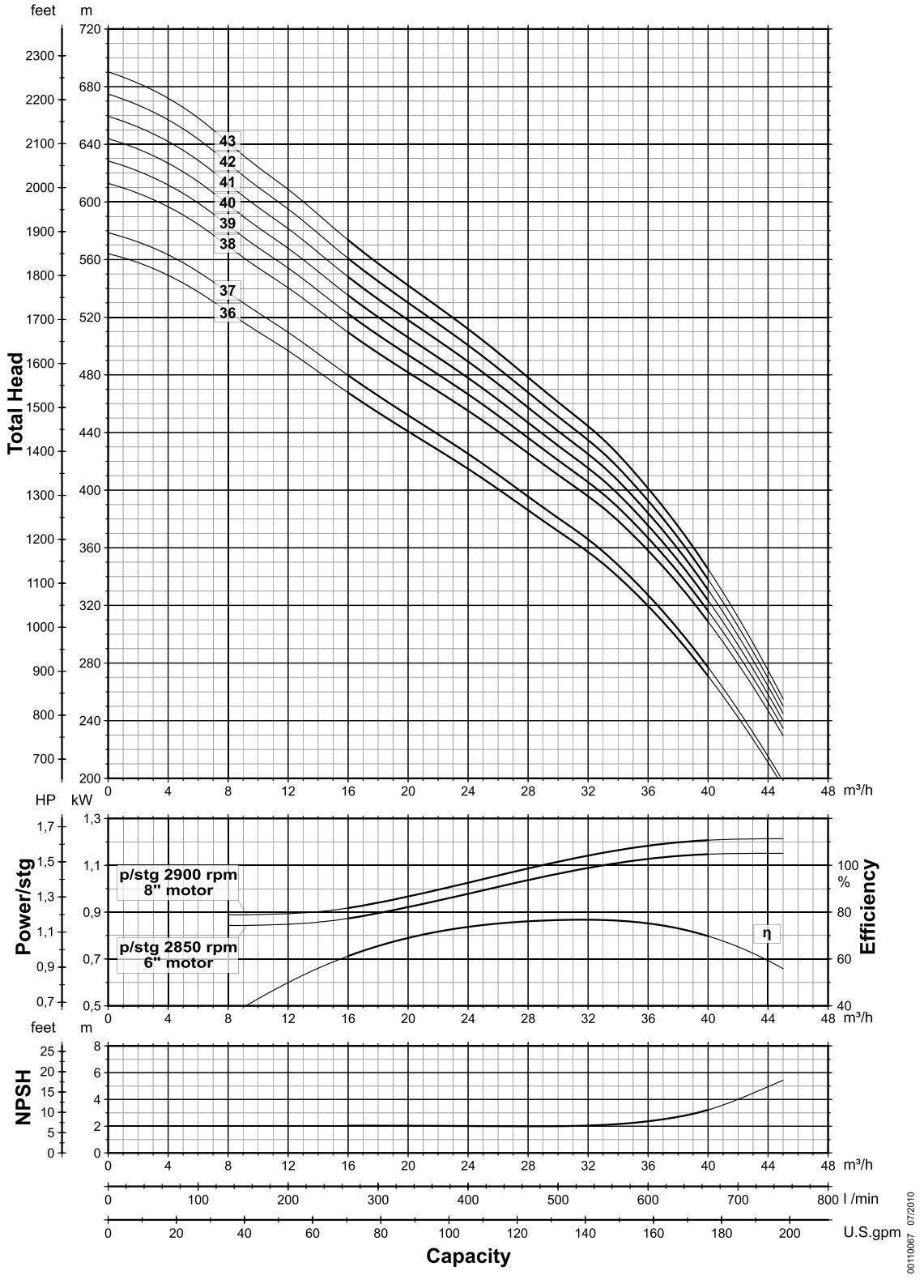


CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 32

(per ISO 9906 Annex A)



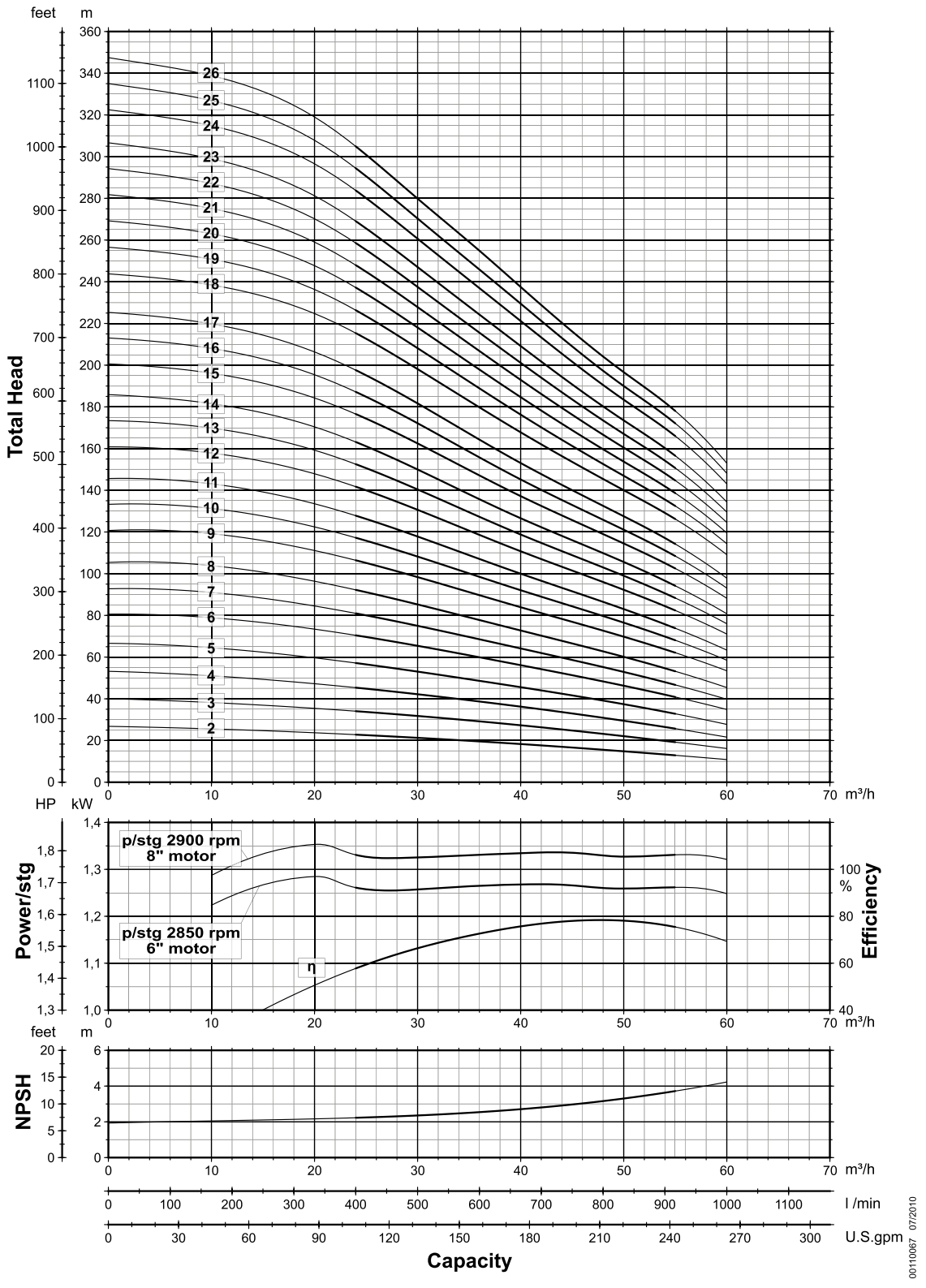
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 48

(per ISO 9906 Annex A)

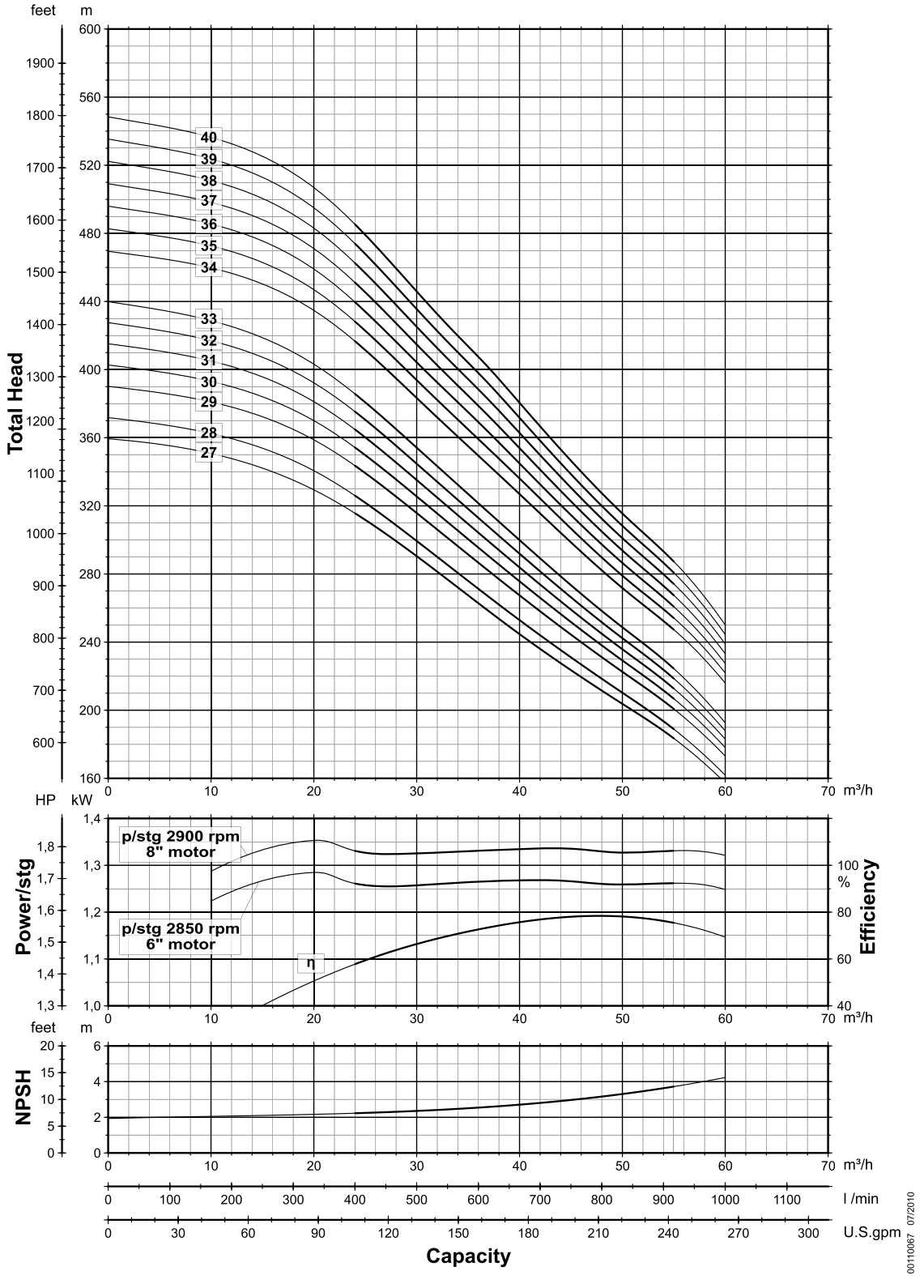


CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 48

(per ISO 9906 Annex A)



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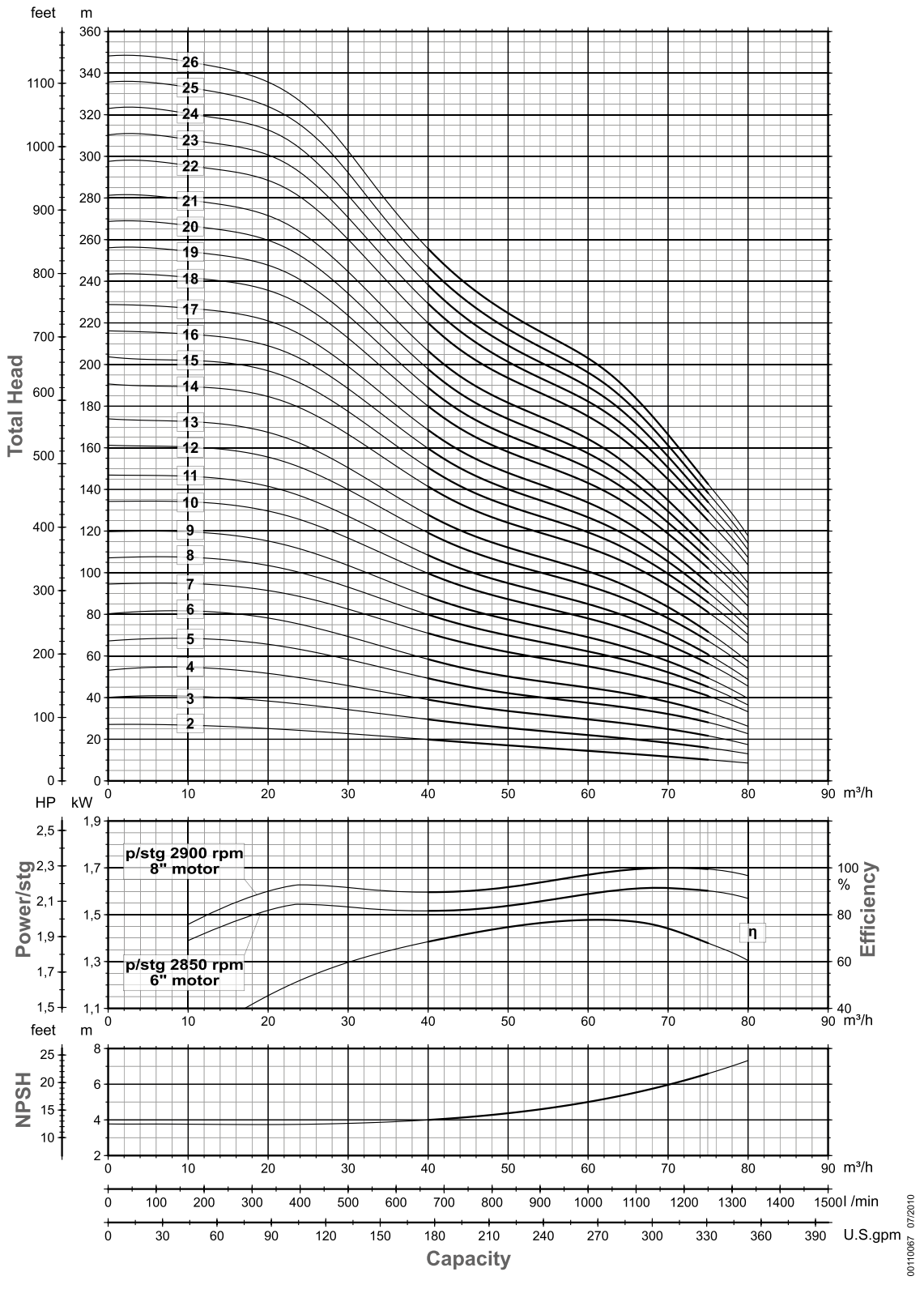
CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 64

(per ISO 9906 Annex A)



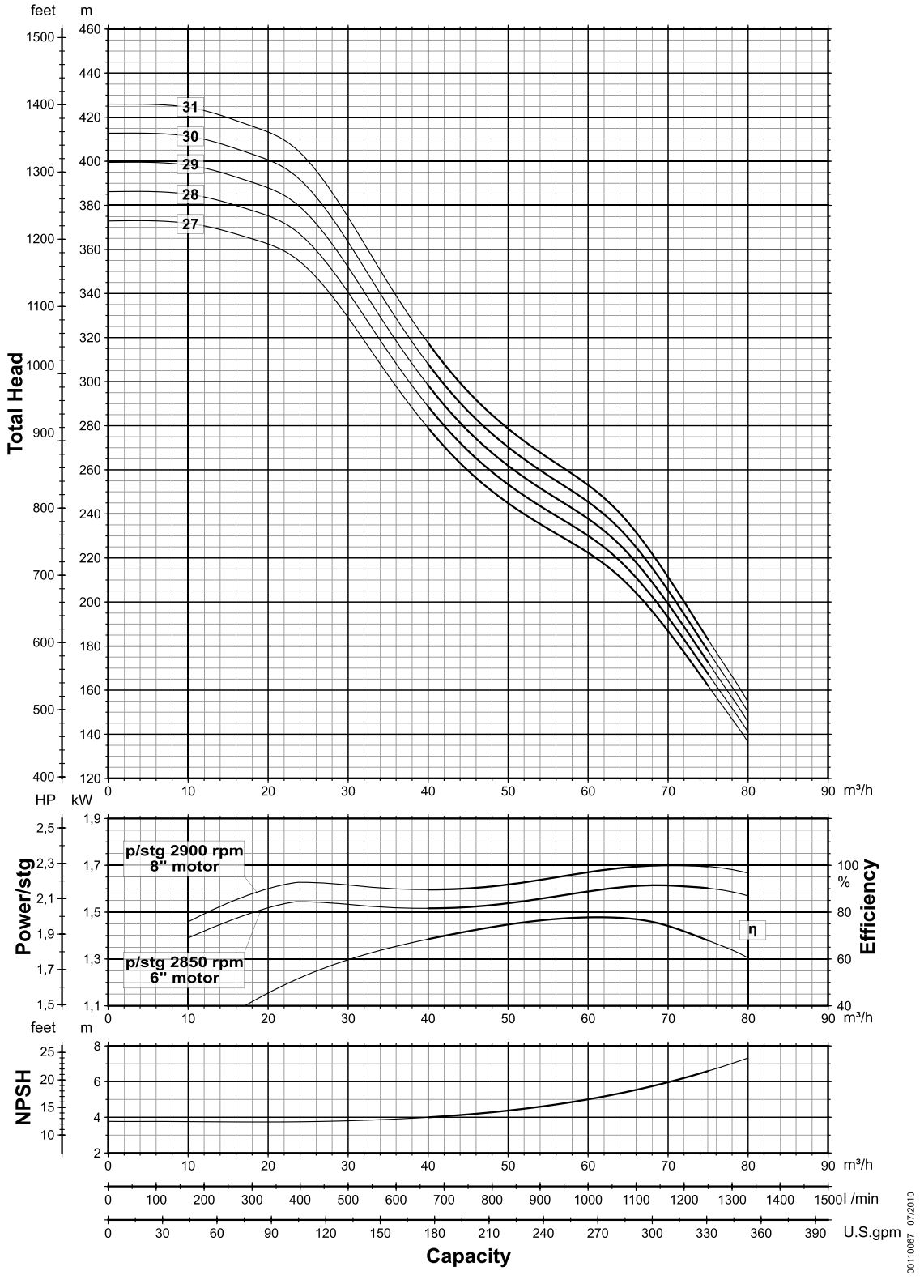
6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 6BHE(L) 64

(per ISO 9906 Annex A)



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6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE TABLE 6BHE(L) 13

Model	Motor size	P_2		Q=Flow rate					
				l/min	100	133	167	200	250	300
		[HP]	[kW]	m^3/h	6	8	10	12	15	18
				H=Head [m]						
6BHE(L) 13-5 *	6"	5.5	4		50.7	48.4	45.4	41.4	31.3	18.6
6BHE(L) 13-6 *	6"	5.5	4		60.8	58.1	54.5	49.7	37.5	22.3
6BHE(L) 13-7 *	6"	5.5	4		71.0	67.8	63.6	58.0	43.8	26.0
6BHE(L) 13-8 *	6"	5.5	4		81.1	77.5	72.7	66.3	50.0	29.7
6BHE(L) 13-9 *	6"	7.5	5.5		91.2	87.2	81.8	74.6	56.3	33.4
6BHE(L) 13-10 *	6"	7.5	5.5		101.4	96.9	90.9	82.9	62.5	37.1
6BHE(L) 13-11 *	6"	7.5	5.5		111.5	106.6	100.0	91.2	68.8	40.8
6BHE(L) 13-12 *	6"	7.5	5.5		121.7	116.3	109.1	99.5	75.0	44.6
6BHE(L) 13-13 *	6"	7.5	5.5		131.8	125.9	118.1	107.7	81.3	48.3
6BHE(L) 13-14 *	6"	10	7.5		141.9	135.6	127.2	116.0	87.5	52.0
6BHE(L) 13-15 *	6"	10	7.5		152.1	145.3	136.3	124.3	93.8	55.7
6BHE(L) 13-16 *	6"	10	7.5		162.2	155.0	145.4	132.6	100.0	59.4
6BHE(L) 13-17 *	6"	10	7.5		172.3	164.7	154.5	140.9	106.3	63.1
6BHE(L) 13-18	6"	12.5	9.3		182.5	174.4	163.6	149.2	112.5	66.8
6BHE(L) 13-19	6"	12.5	9.3		192.6	184.1	172.7	157.5	118.8	70.5
6BHE(L) 13-20	6"	12.5	9.3		202.8	193.8	181.8	165.8	125.0	74.3
6BHE(L) 13-21	6"	12.5	9.3		212.9	203.4	190.8	174.0	131.3	78.0
6BHE(L) 13-22	6"	12.5	9.3		223.0	213.1	199.9	182.3	137.5	81.7
6BHE(L) 13-23	6"	15	11		233.2	222.8	209.0	190.6	143.8	85.4
6BHE(L) 13-24	6"	15	11		243.3	232.5	218.1	198.9	150.0	89.1
6BHE(L) 13-25	6"	15	11		253.4	242.2	227.2	207.2	156.3	92.8
6BHE(L) 13-26	6"	15	11		263.6	251.9	236.3	215.5	162.5	96.5
6BHE(L) 13-27	6"	20	15		273.7	261.6	245.4	223.8	168.8	100.2
6BHE(L) 13-28	6"	20	15		283.9	271.3	254.5	232.1	175.0	104.0
6BHE(L) 13-29	6"	20	15		294.0	280.9	263.5	240.3	181.3	107.7
6BHE(L) 13-30	6"	20	15		304.1	290.6	272.6	248.6	187.5	111.4
6BHE(L) 13-31	6"	20	15		314.3	300.3	281.7	256.9	193.8	115.1
6BHE(L) 13-32	6"	20	15		324.4	310.0	290.8	265.2	200.0	118.8
6BHE(L) 13-33	6"	20	15		334.5	319.7	299.9	273.5	206.3	122.5
6BHE(L) 13-34	6"	20	15		344.7	329.4	309.0	281.8	212.5	126.2
6BHE(L) 13-35	6"	20	15		354.8	339.1	318.1	290.1	218.8	129.9
6BHE(L) 13-36	6"	20	15		365.0	348.8	327.2	298.4	225.0	133.7
6BHE(L) 13-37	6"	25	18.5		375.1	358.4	336.2	306.6	231.3	137.4
6BHE(L) 13-38	6"	25	18.5		385.2	368.1	345.3	314.9	237.5	141.1
6BHE(L) 13-39	6"	25	18.5		395.4	377.8	354.4	323.2	243.8	144.8
6BHE(L) 13-40	6"	25	18.5		405.5	387.5	363.5	331.5	250.0	148.5
6BHE(L) 13-41	6"	25	18.5		415.6	397.2	372.6	339.8	256.3	152.2
6BHE(L) 13-42	6"	25	18.5		425.8	406.9	381.7	348.1	262.5	155.9
6BHE(L) 13-43	6"	25	18.5		435.9	416.6	390.8	356.4	268.8	159.6
6BHE(L) 13-44	6"	25	18.5		446.1	426.3	399.9	364.7	275.0	163.4
6BHE(L) 13-45	6"	30	22		456.2	435.9	408.9	372.9	281.3	167.1
6BHE(L) 13-46	6"	30	22		466.3	445.6	418.0	381.2	287.5	170.8
6BHE(L) 13-47	6"	30	22		476.5	455.3	427.1	389.5	293.8	174.5
6BHE(L) 13-48	6"	30	22		486.6	465.0	436.2	397.8	300.0	178.2
6BHE(L) 13-49	6"	30	22		496.7	474.7	445.3	406.1	306.3	181.9
6BHE(L) 13-50	6"	30	22		506.9	484.4	454.4	414.4	312.5	185.6
6BHE(L) 13-51	6"	30	22		517.0	494.1	463.5	422.7	318.8	189.3
6BHE(L) 13-52	6"	30	22		527.2	503.8	472.6	431.0	325.0	193.1
6BHE(L) 13-53	6"	40	30		537.3	513.4	481.6	439.2	331.3	196.8
6BHE(L) 13-54	6"	40	30		547.4	523.1	490.7	447.5	337.5	200.5
6BHE(L) 13-55	6"	40	30		557.6	532.8	499.8	455.8	343.8	204.2
6BHE(L) 13-56	6"	40	30		567.7	542.5	508.9	464.1	350.0	207.9
6BHE(L) 13-57	6"	40	30		577.8	552.2	518.0	472.4	356.3	211.6
6BHE(L) 13-58	6"	40	30		588.0	561.9	527.1	480.7	362.5	215.3
6BHE(L) 13-59	6"	40	30		598.1	571.6	536.2	489.0	368.8	219.0
6BHE(L) 13-60	6"	40	30		608.3	581.3	545.3	497.3	375.0	222.8
6BHE(L) 13-61	6"	40	30		618.4	590.9	554.3	505.5	381.3	226.5

Models currently not conforming with the EuP Directive. Available only for countries outside the EU or for assembly to fire kits/units

*= Adapter kit available for mounting to 4" motors

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE TABLE 6BHE(L) 20

Model	Motor size	P_2 [HP]	P_2 [kW]	Q=Flow rate l/min	100	133	167	200	250	300	350	400	450
				m^3/h	6	8	10	12	15	18	21	24	27
									H=Head [m]				
6BHE(L) 20-6 *	6"	5.5	4		68.0	66.4	64.0	62.0	57.6	51.6	43.2	32.9	20.5
6BHE(L) 20-7 *	6"	7.5	5.5		79.0	77.5	74.7	72.3	67.2	60.2	50.4	38.4	23.9
6BHE(L) 20-8 *	6"	7.5	5.5		90.9	88.5	85.3	82.7	76.8	68.8	57.6	43.9	27.4
6BHE(L) 20-9 *	6"	7.5	5.5		102.0	99.6	96.0	93.0	86.4	77.4	64.8	49.4	30.8
6BHE(L) 20-10 *	6"	10	7.5		113.7	110.7	106.7	103.3	96.0	86.0	72.0	54.9	34.2
6BHE(L) 20-11 *	6"	10	7.5		125.0	121.7	117.3	113.7	105.6	94.6	79.2	60.4	37.6
6BHE(L) 20-12 *	6"	10	7.5		136.0	132.8	128.0	124.0	115.2	103.2	86.4	65.8	41.0
6BHE(L) 20-13	6"	12.5	9.3		147.1	143.9	138.7	134.3	124.8	111.8	93.6	71.3	44.5
6BHE(L) 20-14	6"	12.5	9.3		157.0	154.9	149.3	144.7	134.4	120.4	100.8	76.8	47.9
6BHE(L) 20-15	6"	12.5	9.3		170.5	166.0	160.0	155.0	144.0	129.0	108.0	82.3	51.3
6BHE(L) 20-16	6"	15	11		181.9	177.1	170.7	165.3	153.6	137.6	115.2	87.8	54.7
6BHE(L) 20-17	6"	15	11		193.2	118.1	181.3	175.7	163.2	146.2	122.4	93.3	58.1
6BHE(L) 20-18	6"	15	11		204.6	199.2	192.0	186.0	172.8	154.8	129.6	98.8	61.6
6BHE(L) 20-19	6"	20	15		216.0	210.3	202.7	196.3	182.4	163.4	136.8	104.2	65.0
6BHE(L) 20-20	6"	20	15		227.3	221.3	213.3	206.7	192.0	172.0	144.0	109.7	68.4
6BHE(L) 20-21	6"	20	15		238.7	232.4	224.0	217.0	201.6	180.6	151.2	115.2	71.8
6BHE(L) 20-22	6"	20	15		250.0	243.5	234.7	227.3	211.2	189.2	158.4	120.7	75.2
6BHE(L) 20-23	6"	20	15		261.4	254.5	245.3	237.7	220.8	197.8	165.6	126.2	78.7
6BHE(L) 20-24	6"	20	15		272.8	265.6	256.0	248.0	230.4	206.4	172.8	131.7	82.1
6BHE(L) 20-25	6"	25	18.5		284.2	276.7	266.7	258.3	240.0	215.0	180.0	137.2	85.5
6BHE(L) 20-26	6"	25	18.5		295.5	287.7	277.3	268.7	249.6	223.6	187.2	142.7	88.9
6BHE(L) 20-27	6"	25	18.5		306.0	298.8	288.0	279.0	259.2	232.2	194.4	148.1	92.3
6BHE(L) 20-28	6"	25	18.5		318.3	309.9	298.7	289.3	268.8	240.8	201.6	153.6	95.8
6BHE(L) 20-29	6"	25	18.5		329.6	320.9	309.3	299.7	278.4	249.4	208.8	159.1	99.2
6BHE(L) 20-30	6"	25	18.5		341.0	332.0	320.0	310.0	288.0	258.0	216.0	164.6	102.6
6BHE(L) 20-31	6"	30	22		352.4	343.1	330.7	320.3	297.6	266.6	223.2	170.1	106.0
6BHE(L) 20-32	6"	30	22		363.7	354.1	341.3	330.7	307.2	275.2	230.4	175.6	109.4
6BHE(L) 20-33	6"	30	22		375.1	365.2	352.0	341.0	316.8	283.8	237.6	181.1	112.9
6BHE(L) 20-34	6"	30	22		386.5	376.3	362.7	351.3	326.4	292.4	244.8	186.5	116.3
6BHE(L) 20-35	6"	30	22		397.8	387.3	373.3	361.7	336.0	301.0	252.0	192.0	119.7
6BHE(L) 20-36	6"	30	22		409.2	398.4	384.0	372.0	345.6	309.6	259.2	197.5	123.1
6BHE(L) 20-37	6"	40	30		420.6	409.5	394.7	382.3	355.2	318.2	266.4	203.0	126.5
6BHE(L) 20-38	6"	40	30		431.9	420.5	405.3	392.7	364.8	326.8	273.6	208.5	130.0
6BHE(L) 20-39	6"	40	30		443.0	431.6	416.0	403.0	374.4	335.4	280.8	214.0	133.4
6BHE(L) 20-40	6"	40	30		455.0	442.7	426.7	413.3	384.0	344.0	288.0	219.5	136.8
6BHE(L) 20-41	6"	40	30		466.0	453.7	437.3	423.7	393.6	352.6	295.2	225.0	140.2
6BHE(L) 20-42	6"	40	30		477.0	464.8	448.0	434.0	403.2	361.2	302.4	230.4	143.6
6BHE(L) 20-43	6"	40	30		489.0	475.9	458.7	444.3	412.8	369.8	309.6	235.9	147.1
6BHE(L) 20-44	6"	40	30		500.0	486.9	469.3	454.7	422.4	378.4	316.8	241.4	150.5
6BHE(L) 20-45	6"	40	30		511.5	498.0	480.0	465.0	432.0	387.0	324.0	246.9	153.9
6BHE(L) 20-46	6"	40	30		523.0	509.1	490.7	475.3	441.6	395.6	331.2	252.4	157.3
6BHE(L) 20-47	6"	40	30		534.2	520.1	501.3	485.7	451.2	404.2	338.4	257.9	160.7
6BHE(L) 20-48	6"	40	30		545.6	531.2	512.0	496.0	460.8	412.8	345.6	263.4	164.2
6BHE(L) 20-49	6"	40	30		557.0	542.3	522.7	506.3	470.4	421.4	352.8	268.8	167.6
6BHE(L) 20-50	6"	50	37		568.3	553.3	533.3	516.7	480.0	430.0	360.0	274.3	171.0
6BHE(L) 20-51	6"	50	37		579.7	564.4	544.0	527.0	489.6	438.6	367.2	279.8	174.4
6BHE(L) 20-52	6"	50	37		591.1	575.5	554.7	537.3	499.2	447.2	374.4	285.3	177.8
6BHE(L) 20-53	6"	50	37		602.4	586.5	565.3	547.7	508.8	455.8	381.6	290.8	181.3
6BHE(L) 20-54	6"	50	37		613.8	597.6	576.0	558.0	518.4	464.4	388.8	296.3	184.7
6BHE(L) 20-55	6"	50	37		625.2	608.7	586.7	568.3	528.0	473.0	396.0	301.8	188.1
6BHE(L) 20-56	6"	50	37		636.5	619.7	597.3	578.7	537.6	481.6	403.2	307.3	191.5
6BHE(L) 20-57	6"	50	37		647.9	630.8	608.0	589.0	547.2	490.2	410.4	312.7	194.9
6BHE(L) 20-58	6"	50	37		659.3	641.9	618.7	599.3	556.8	498.8	417.6	318.2	198.4
6BHE(L) 20-59	6"	50	37		670.6	652.9	629.3	609.7	566.4	507.4	424.8	323.7	201.8
6BHE(L) 20-60	6"	50	37		682.0	664.0	640.0	620.0	576.0	516.0	432.0	329.2	205.2

*= Adapter kit available for mounting to 4" motors

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE TABLE 6BHE(L) 32

Model	Motor size	P_2		Q=Flow rate								
				l/min 83.5	166.5	250	333.5	416.5	500	583.5	666.5	750
		[HP]	[kW]	m^3/h 5	10	15	20	25	30	35	40	45
								H=Head [m]				
6BHE(L) 32-3 *	6"	5	3.7	43.9	41.4	38.9	36.0	33.3	30.2	26.7	21.7	15.3
6BHE(L) 32-4 *	6"	7.5	5.5	59.5	56.0	52.6	48.8	45.2	41.1	36.5	30.0	21.4
6BHE(L) 32-5 *	6"	10	7.5	74.2	70.2	66.2	61.5	56.9	51.8	46.1	38.0	27.4
6BHE(L) 32-6 *	6"	10	7.5	88.4	83.4	78.4	72.6	67.1	61.0	54.0	44.1	31.2
6BHE(L) 32-7	6"	12.5	9.3	104.2	98.4	92.6	86.0	79.7	72.6	64.6	53.3	38.4
6BHE(L) 32-8	6"	15	11	119.4	113.3	105.7	98.1	90.9	82.7	73.6	60.5	43.5
6BHE(L) 32-9	6"	15	11	132.7	125.3	117.9	109.3	101.1	91.8	81.4	66.6	47.3
6BHE(L) 32-10	6"	20	15	149.9	141.6	133.3	123.8	114.9	104.7	93.5	77.3	56.1
6BHE(L) 32-11	6"	20	15	163.9	154.8	145.7	135.3	125.4	114.1	101.7	83.8	60.4
6BHE(L) 32-12	6"	20	15	177.8	167.9	158.0	146.6	135.7	123.4	109.6	90.0	64.4
6BHE(L) 32-13	6"	25	18.5	194.0	183.7	172.9	160.6	148.9	135.7	121.1	100.0	72.4
6BHE(L) 32-14	6"	25	18.5	208.5	196.9	185.3	172.1	159.4	145.1	129.2	106.5	76.7
6BHE(L) 32-15	6"	30	22	224.6	212.2	199.7	185.5	172.1	156.8	140.0	115.7	84.0
6BHE(L) 32-16	6"	30	22	238.7	225.5	212.2	197.1	182.6	166.3	148.3	122.3	88.3
6BHE(L) 32-17	6"	30	22	252.6	238.5	224.5	208.4	193.0	175.7	156.4	128.7	92.5
6BHE(L) 32-18	6"	30	22	226.8	251.8	236.8	219.7	203.3	185.0	164.3	134.9	96.5
6BHE(L) 32-19	6"	40	30	286.0	270.5	254.7	236.8	219.9	200.7	179.7	149.2	109.1
6BHE(L) 32-20	6"	40	30	300.6	284.0	267.4	248.6	230.7	210.5	188.2	156.0	113.8
6BHE(L) 32-21	6"	40	30	315.0	297.4	280.0	260.2	241.5	220.1	196.7	162.8	118.3
6BHE(L) 32-22	6"	40	30	329.1	310.9	292.6	271.8	252.1	229.7	205.0	169.4	122.7
6BHE(L) 32-23	6"	40	30	343.2	324.1	305.1	283.4	262.6	239.2	213.2	175.9	127.0
6BHE(L) 32-24	6"	40	30	357.2	337.3	317.5	294.8	273.1	248.6	221.4	182.2	131.2
6BHE(L) 32-25	6"	50	37	374.5	353.8	333.0	309.4	287.0	261.5	233.5	193.1	140.1
6BHE(L) 32-26	6"	50	37	388.1	367.0	345.5	320.9	297.5	271.1	241.8	199.7	144.5
6BHE(L) 32-27	6"	50	37	402.6	380.3	357.9	332.4	308.1	280.5	250.0	206.1	148.8
6BHE(L) 32-28	6"	50	37	416.7	393.5	370.3	343.8	318.5	289.9	258.1	212.5	152.9
6BHE(L) 32-29	6"	50	37	430.5	406.5	382.6	355.2	328.9	299.2	266.2	218.8	157.0
6BHE(L) 32-30	6"	50	37	436.0	420.0	394.9	366.4	339.1	308.5	274.1	224.9	160.9
6BHE(L) 32-31	6"	60	45	464.3	438.6	412.9	383.6	355.8	324.2	289.4	239.3	173.6
6BHE(L) 32-32	6"	60	45	478.5	451.9	425.4	395.2	366.4	333.7	297.7	245.8	177.9
6BHE(L) 32-33	6"	60	45	492.5	465.2	437.9	406.7	376.9	343.2	305.9	252.2	182.1
6BHE(L) 32-34	6"	60	45	513.0	491.5	450.3	418.1	387.3	352.6	314.0	258.6	186.2
6BHE(L) 32-35	6"	60	45	520.5	491.5	462.6	429.5	397.7	361.9	322.0	264.8	190.2
6BHE(L) 32-36	6"	60	45	534.5	504.9	474.9	440.8	408.0	371.1	329.9	270.9	194.2
6BHE(L) 32-37	6"	60	45	548.1	517.6	487.1	452.0	418.2	380.3	337.7	277.0	198.0
6BHE(L) 32-38	6"	75	55	581.2	549.2	517.4	481.6	448.2	409.8	368.6	308.6	229.2
6BHE(L) 32-39	6"	75	55	595.8	563.1	530.5	493.7	459.4	420.0	377.6	315.9	234.4
6BHE(L) 32-40	6"	75	55	610.5	577.0	543.5	505.8	470.6	430.1	386.6	323.2	239.6
6BHE(L) 32-41	6"	75	55	625.2	590.9	556.6	517.9	481.7	440.2	395.6	330.5	244.7
6BHE(L) 32-42	6"	75	55	639.8	604.7	569.5	529.9	492.8	450.3	404.5	337.7	249.8
6BHE(L) 32-43	6"	75	55	654.4	618.5	582.5	542.0	503.9	460.3	413.3	344.9	254.8

*= Adapter kit available for mounting to 4" motors

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE TABLE 6BHE(L) 48

Model	Motor size	P_2		Q=Flow rate							
		[HP]	[kW]	l/min 416.5	500	583.5	666.5	750	833.5	916.5	1000
				m^3/h 25	30	35	40	45	50	55	60
				H=Head [m]							
6BHE(L) 48-2 *	6"	4	3	22.6	20.9	19.3	17.8	16.6	15.1	13.4	11.3
6BHE(L) 48-3 *	6"	5.5	4	33.8	31.2	28.8	26.6	24.7	22.5	19.9	16.8
6BHE(L) 48-4 *	6"	7.5	5.5	45.0	41.5	38.3	35.5	32.9	29.9	26.5	22.3
6BHE(L) 48-5 *	6"	10	7.5	56.8	52.3	48.3	44.7	41.5	37.8	33.6	28.4
6BHE(L) 48-6	6"	12.5	9.3	70.0	65.2	60.4	55.5	50.3	46.0	41.6	35.7
6BHE(L) 48-7	6"	12.5	9.3	80.4	74.8	69.3	63.5	57.6	52.7	47.5	40.5
6BHE(L) 48-8	6"	15	11	91.6	85.1	78.9	72.2	65.5	59.9	54.0	46.0
6BHE(L) 48-9	6"	20	15	105.5	98.2	91.0	83.7	75.9	69.5	62.9	54.1
6BHE(L) 48-10	6"	20	15	116.1	108	100.1	91.9	83.3	76.2	68.9	59.0
6BHE(L) 48-11	6"	20	15	126.5	117.6	109.0	99.9	90.5	82.8	74.7	63.7
6BHE(L) 48-12	6"	25	18.5	140.0	130.3	120.8	110.9	100.6	92.0	83.3	71.4
6BHE(L) 48-13	6"	25	18.5	150.5	140.0	129.8	119.0	107.9	98.7	89.2	76.3
6BHE(L) 48-14	6"	25	18.5	160.9	149.5	138.7	127.0	115.1	105.3	95.0	81.0
6BHE(L) 48-15	6"	30	22	174.1	161.9	150.1	137.7	124.9	114.3	103.3	88.4
6BHE(L) 48-16	6"	30	22	184.5	171.5	159.1	145.8	132.2	120.9	109.1	93.2
6BHE(L) 48-17	6"	30	22	194.7	181.0	167.8	153.6	139.3	127.3	114.8	97.8
6BHE(L) 48-18	6"	40	30	212.3	197.6	183.1	168.6	152.9	139.9	126.8	109.2
6BHE(L) 48-19	6"	40	30	223.1	207.7	192.5	177.0	160.5	146.9	133.0	114.4
6BHE(L) 48-20	6"	40	30	233.8	217.6	201.7	185.3	168.1	153.7	139.1	119.5
6BHE(L) 48-21	6"	40	30	244.4	227.4	210.8	193.5	175.5	160.5	145.2	124.4
6BHE(L) 48-22	6"	40	30	254.9	237.0	219.8	201.6	182.8	167.2	151.1	129.3
6BHE(L) 48-23	6"	40	30	265.2	246.6	228.6	209.5	190.0	173.8	156.9	134.0
6BHE(L) 48-24	6"	50	37	279.8	260.3	241.3	221.6	200.9	183.8	166.3	142.6
6BHE(L) 48-25	6"	50	37	290.3	270.0	250.3	229.7	208.3	190.6	172.2	147.5
6BHE(L) 48-26	6"	50	37	300.7	279.6	259.3	237.8	215.6	197.2	178.1	152.3
6BHE(L) 48-27	6"	50	37	311.1	289.2	268.2	245.7	222.8	203.7	183.9	157.0
6BHE(L) 48-28	6"	50	37	321.3	298.6	276.9	253.6	229.9	210.2	189.6	161.7
6BHE(L) 48-29	6"	60	45	338.7	315.1	292.1	268.3	243.3	222.6	201.4	172.9
6BHE(L) 48-30	6"	60	45	349.2	324.9	301.1	276.5	250.7	229.4	207.4	177.8
6BHE(L) 48-31	6"	60	45	359.6	334.5	310.1	284.5	258.0	236.0	213.3	182.6
6BHE(L) 48-32	6"	60	45	370.0	344.1	319.0	292.5	265.2	242.6	219.1	187.4
6BHE(L) 48-33	6"	60	45	380.3	353.5	327.8	300.4	272.3	249.1	224.8	192.0
6BHE(L) 48-34	8"	75	55	410.9	383.1	354.8	328.0	297.6	271.9	248.1	215.7
6BHE(L) 48-35	8"	75	55	422.3	393.7	364.6	337.0	305.8	279.4	254.8	221.4
6BHE(L) 48-36	8"	75	55	433.7	404.3	374.4	345.9	313.9	286.8	261.4	227.0
6BHE(L) 48-37	8"	75	55	445.0	414.8	384.1	354.8	321.9	294.2	268.1	233.6
6BHE(L) 48-38	8"	75	55	456.3	425.3	393.8	363.7	330.0	301.6	274.7	238.2
6BHE(L) 48-39	8"	75	55	467.5	435.7	403.5	372.5	337.9	308.9	281.2	243.8
6BHE(L) 48-40	8"	75	55	478.7	446.1	413.1	381.3	345.9	316.2	287.8	249.3

*= Adapter kit available for mounting to 4" motors

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

PERFORMANCE TABLE 6BHE(L) 64

Model	Motor size	P_2 [HP]	P_2 [kW]	Q=Flow rate l/min	666.5	750	833.5	916.5	1000	1083.5	1166.5	1250
				m^3/h	40	45	50	55	60	65	70	75
				H=Head [m]								
6BHE(L) 64-2 *	6"	5	3.7		21.1	19.0	17.3	16.5	15.7	14.9	13.9	12.4
6BHE(L) 64-3 *	6"	7.5	5.5		31.8	28.8	26.2	24.9	23.7	22.5	21.0	18.9
6BHE(L) 64-4 *	6"	10	7.5		42.5	38.4	35.0	33.2	31.6	30.1	28.0	25.2
6BHE(L) 64-5	6"	12.5	9.3		53.8	48.7	44.3	41.9	40.1	38.2	35.6	32.2
6BHE(L) 64-6	6"	15	11		64.0	57.9	52.7	50.0	47.7	45.3	42.3	38.1
6BHE(L) 64-7	6"	20	15		76.2	70.1	65.2	61.7	58.6	55.7	52.1	46.1
6BHE(L) 64-8	6"	20	15		86.0	79.1	73.5	69.7	66.1	62.8	58.5	51.6
6BHE(L) 64-9	6"	20	15		95.5	87.8	81.5	77.4	73.4	69.6	64.6	56.8
6BHE(L) 64-10	6"	25	18.5		107.6	99.0	91.9	87.2	82.7	78.5	73.2	64.6
6BHE(L) 64-11	6"	25	18.5		117.2	107.8	100.1	95.0	90.0	85.4	79.4	69.8
6BHE(L) 64-12	6"	30	22		128.9	118.5	110.1	104.4	99.1	94.1	87.6	77.3
6BHE(L) 64-13	6"	30	22		138.5	127.3	118.2	112.2	106.4	101.0	93.8	82.5
6BHE(L) 64-14	6"	40	30		153.3	141.0	131.1	124.0	118.0	112.0	104.9	93.0
6BHE(L) 64-15	6"	40	30		163.4	150.2	139.6	132.2	125.7	119.3	111.5	98.7
6BHE(L) 64-16	6"	40	30		173.3	159.3	148.0	140.3	133.2	126.5	118.1	104.3
6BHE(L) 64-17	6"	40	30		183.0	168.3	156.3	148.2	140.7	133.5	124.4	109.8
6BHE(L) 64-18	6"	50	37		195.5	179.8	167.0	158.2	150.3	142.7	133.3	117.9
6BHE(L) 64-19	6"	50	37		205.3	188.8	175.4	166.2	157.9	149.9	139.8	123.5
6BHE(L) 64-20	6"	50	37		215.0	197.7	183.7	174.1	165.3	156.9	146.2	128.9
6BHE(L) 64-21	6"	50	37		224.6	206.5	191.8	182.0	172.6	163.8	152.4	134.2
6BHE(L) 64-22	6"	60	45		239.2	219.9	204.4	193.6	183.9	174.6	163.2	144.3
6BHE(L) 64-23	6"	60	45		249.0	229.0	212.7	201.6	191.4	181.7	169.6	149.8
6BHE(L) 64-24	6"	60	45		258.7	237.9	221.0	209.5	198.9	188.8	176.0	155.3
6BHE(L) 64-25	6"	60	45		268.4	246.7	229.2	217.3	206.2	195.7	182.2	160.6
6BHE(L) 64-26	6"	60	45		277.9	255.5	237.3	225.1	213.5	202.5	188.3	165.8
6BHE(L) 64-27	8"	75	55		303.0	278.8	259.3	244.7	233.4	221.6	208.5	186.4
6BHE(L) 64-28	8"	75	55		313.5	288.5	268.3	253.3	241.5	229.3	215.7	192.6
6BHE(L) 64-29	8"	75	55		324.0	298.1	277.2	261.8	249.5	237.0	222.8	198.8
6BHE(L) 64-30	8"	75	55		334.5	307.7	286.1	270.3	257.6	244.6	229.8	204.9
6BHE(L) 64-31	8"	75	55		344.9	317.3	295.0	278.7	265.5	252.2	236.8	211.0

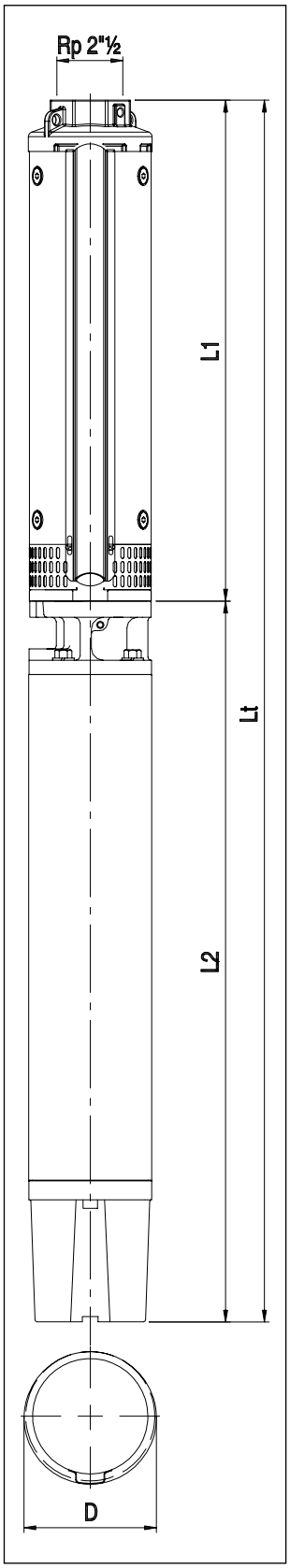
*= Adapter kit available for mounting to 4" motors

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

DIMENSIONS 6BHE(L) 13



DIMENSIONAL TABLE

Model	Motor size	P_2		Dimensions [mm]					Weight
				L1	L2	Lt	D		
		[HP]	[kW]				1 cable	2 cables	[kg]
6BHE(L) 13-5	4"	3	2.2	413.5	422	835.5	142.5	-	26.5
6BHE(L) 13-6	4"	5	3.7	443.5	520	963.5	142.5	-	32.0
6BHE(L) 13-7	4"	5	3.7	473.5	520	993.5	142.5	-	32.0
6BHE(L) 13-8	4"	5	3.7	503.5	520	1023.5	142.5	-	33.0
6BHE(L) 13-9	4"	7.5	5.5	533.5	652.5	1186	142.5	-	41.0
6BHE(L) 13-10	4"	7.5	5.5	563.5	652.5	1216	142.5	-	41.5
6BHE(L) 13-11	4"	7.5	5.5	593.5	652.5	1246	142.5	-	42.5
6BHE(L) 13-12	4"	7.5	5.5	623.5	652.5	1276	142.5	-	43.5
6BHE(L) 13-13	4"	7.5	5.5	653.5	652.5	1306	142.5	-	44.0
6BHE(L) 13-14	4"	10	7.5	683.5	730.5	1414	142.5	-	49.0
6BHE(L) 13-15	4"	10	7.5	713.5	730.5	1444	142.5	-	49.5
6BHE(L) 13-16	4"	10	7.5	743.5	730.5	1474	142.5	-	50.5
6BHE(L) 13-17	4"	10	7.5	773.5	730.5	1504	142.5	-	51.0
6BHE(L) 13-5	6"	5.5	4	411	581	992	143	144.5	49.0
6BHE(L) 13-6	6"	5.5	4	441	581	1022	143	144.5	50.0
6BHE(L) 13-7	6"	5.5	4	471	581	1052	143	144.5	50.5
6BHE(L) 13-8	6"	5.5	4	501	581	1082	143	144.5	51.5
6BHE(L) 13-9	6"	7.5	5.5	531	614.5	1145.5	143	144.5	55.5
6BHE(L) 13-10	6"	7.5	5.5	561	614.5	1175.5	143	144.5	56.0
6BHE(L) 13-11	6"	7.5	5.5	591	614.5	1205.5	143	144.5	57.0
6BHE(L) 13-12	6"	7.5	5.5	621	614.5	1235.5	143	144.5	58.0
6BHE(L) 13-13	6"	7.5	5.5	651	614.5	1265.5	143	144.5	58.5
6BHE(L) 13-14	6"	10	7.5	681	646.0	1327	143	144.5	63.5
6BHE(L) 13-15	6"	10	7.5	711	646.0	1357	143	144.5	64.0
6BHE(L) 13-16	6"	10	7.5	741	646.0	1387	143	144.5	65.0
6BHE(L) 13-17	6"	10	7.5	771	646.0	1417	143	144.5	65.5
6BHE(L) 13-18	4"	12.5	9.3	801	678.5	1479.5	143	144.5	69.0
6BHE(L) 13-19	4"	12.5	9.3	831	678.5	1509.5	143	144.5	69.5
6BHE(L) 13-20	6"	12.5	9.3	861	678.5	1539.5	143	144.5	70.5
6BHE(L) 13-21	4"	12.5	9.3	891	678.5	1569.5	143	144.5	71.0
6BHE(L) 13-22	6"	12.5	9.3	921	678.5	1599.5	143	144.5	71.5
6BHE(L) 13-23	6"	15	11	951	711	1662	143	144.5	76.0
6BHE(L) 13-24	6"	15	11	981	711	1692	143	144.5	76.5
6BHE(L) 13-25	6"	15	11	1011	711	1722	143	144.5	77.5
6BHE(L) 13-26	6"	15	11	1041	711	1752	143	144.5	78.0
6BHE(L) 13-27	6"	20	15	1071	776	1847	143	144.5	85.5
6BHE(L) 13-28	6"	20	15	1101	776	1877	143	144.5	85.5
6BHE(L) 13-29	6"	20	15	1131	776	1907	143	144.5	87.0
6BHE(L) 13-30	6"	20	15	1161	776	1937	143	144.5	87.5
6BHE(L) 13-31	6"	20	15	1191	776	1967	143	144.5	87.5
6BHE(L) 13-32	4"	20	15	1220.5	776	1996.5	143	144.5	88.0
6BHE(L) 13-33	4"	20	15	1250.5	776	2026.5	143	144.5	89.0
6BHE(L) 13-34	6"	20	15	1280.5	776	2056.5	143	144.5	90.0
6BHE(L) 13-35	6"	20	15	1310.5	776	2086.5	143	144.5	90.5
6BHE(L) 13-36	6"	20	15	1340.5	776	2116.5	143	144.5	91.0
6BHE(L) 13-37	6"	25	18.5	1370.5	841.5	2212	143	144.5	99.0
6BHE(L) 13-38	6"	25	18.5	1400.5	841.5	2242	143	144.5	99.5
6BHE(L) 13-39	6"	25	18.5	1430.5	841.5	2272	143	144.5	101.0
6BHE(L) 13-40	6"	25	18.5	1460.5	841.5	2302	143	144.5	102.0
6BHE(L) 13-41	6"	25	18.5	1490.5	841.5	2332	143	144.5	102.5
6BHE(L) 13-42	6"	25	18.5	1520.5	841.5	2362	143	144.5	102.5
6BHE(L) 13-43	6"	25	18.5	1550.5	841.5	2392	143	144.5	103.5
6BHE(L) 13-44	6"	25	18.5	1580.5	841.5	2422	143	144.5	104.0
6BHE(L) 13-45	4"	30	22	1610.5	906.5	2517	143	144.5	111.0
6BHE(L) 13-46	4"	30	22	1640.5	906.5	2547	143	144.5	111.5
6BHE(L) 13-47	6"	30	22	1670.5	906.5	2947	143	144.5	112.5
6BHE(L) 13-48	6"	30	22	1700.0	906.5	2606.5	143	144.5	113.5
6BHE(L) 13-49	6"	30	22	1730.5	906.5	2637	143	144.5	114.5
6BHE(L) 13-50	6"	30	22	1760.5	906.5	2667	145	146.5	115.5
6BHE(L) 13-51	6"	30	22	1790.5	906.5	2697	145	146.5	116.5
6BHE(L) 13-52	6"	30	22	1820.5	906.5	2727	145	146.5	117.5
6BHE(L) 13-53	6"	40	30	1850.5	1036.5	2887	145	146.5	133.0
6BHE(L) 13-54	6"	40	30	1880.5	1036.5	2917	145	146.5	133.5
6BHE(L) 13-55	6"	40	30	1910.5	1036.5	2917	145	146.5	134.5
6BHE(L) 13-56	6"	40	30	1940.5	1036.5	2977	145	146.5	135.5
6BHE(L) 13-57	6"	40	30	1970.5	1036.5	3007	145	146.5	136.0
6BHE(L) 13-58	6"	40	30	2000	1036.5	3036.5	145	146.5	137.0
6BHE(L) 13-59	6"	40	30	2030	1036.5	3066.5	145	146.5	138.0
6BHE(L) 13-60	6"	40	30	2060	1036.5	3096.5	145	146.5	139.0
6BHE(L) 13-61	6"	40	30	2090	1036.5	3126.5	145	146.5	140.0

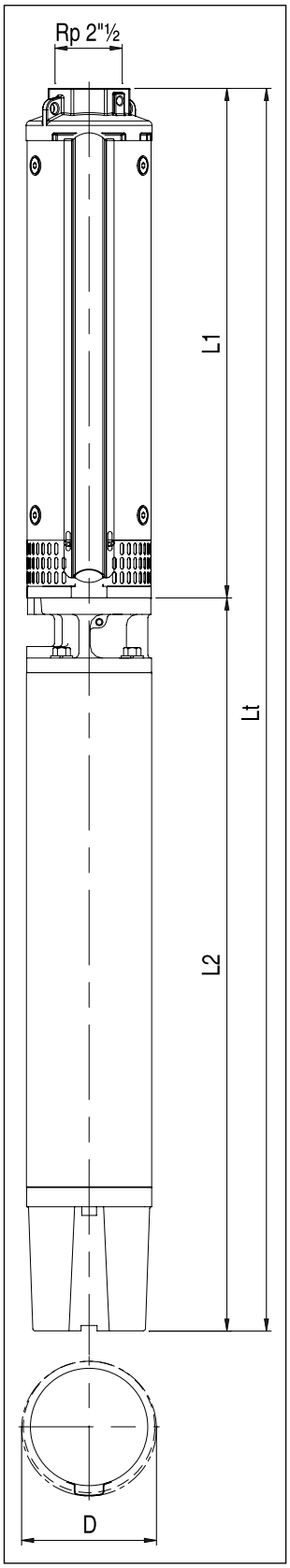
Models currently not conforming with the EuP Directive. Available only for countries outside the EU or for assembly to fire kits/units

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

DIMENSIONS 6BHE(L) 20



DIMENSIONAL TABLE

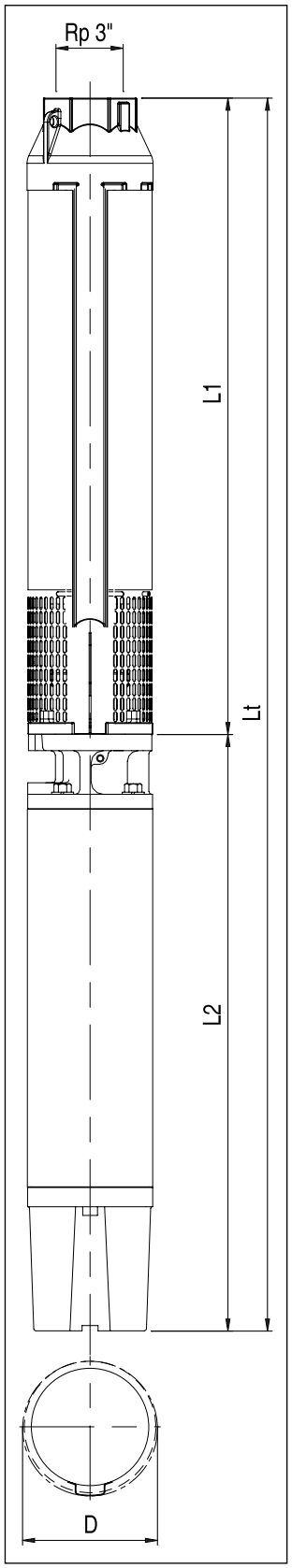
Model	Motor size	P_2		Dimensions [mm]					Weight
				L1	L2	Lt	D		
		[HP]	[kW]				1 cable	2 cables	[kg]
6BHE(L) 20-6	4"	5	3.7	497.5	520	1017.5	142.5	-	31.5
6BHE(L) 20-7	4"	7.5	5.5	535	652.5	1187.5	142.5	-	40.0
6BHE(L) 20-8	4"	7.5	5.5	572.5	652.5	1225	142.5	-	41.0
6BHE(L) 20-9	4"	7.5	5.5	610	652.5	1262.5	142.5	-	41.5
6BHE(L) 20-10	4"	10	7.5	647.5	730.5	1378	142.5	-	46.5
6BHE(L) 20-11	4"	10	7.5	685	730.5	1415.5	142.5	-	47.5
6BHE(L) 20-12	4"	10	7.5	722.5	730.5	1453	142.5	-	48.0
6BHE(L) 20-6	6"	5.5	4	495	581	1076	143	144.5	50.0
6BHE(L) 20-7	6"	7.5	5.5	532.5	614.5	1147	143	144.5	54.5
6BHE(L) 20-8	6"	7.5	5.5	570	614.5	1184.5	143	144.5	55.5
6BHE(L) 20-9	6"	7.5	5.5	607.5	614.5	1222	143	144.5	56.0
6BHE(L) 20-10	6"	10	7.5	645	646	1291	143	144.5	61.0
6BHE(L) 20-11	6"	10	7.5	682.5	646	1328.5	143	144.5	62.0
6BHE(L) 20-12	6"	10	7.5	720	646	1366	143	144.5	62.5
6BHE(L) 20-13	6"	12.5	9.3	757.5	678.5	1436	143	144.5	66.0
6BHE(L) 20-14	6"	12.5	9.3	795	678.5	1473.5	143	144.5	67.0
6BHE(L) 20-15	6"	12.5	9.3	832.5	678.5	1511	143	144.5	67.5
6BHE(L) 20-16	6"	15	11	870	711	1581	143	144.5	72.0
6BHE(L) 20-17	6"	15	11	907.5	711	1618.5	143	144.5	73.0
6BHE(L) 20-18	6"	15	11	945	711	1656	143	144.5	73.5
6BHE(L) 20-19	6"	20	15	982.5	776	1758.5	143	144.5	80.0
6BHE(L) 20-20	6"	20	15	1020	776	1796	143	144.5	80.5
6BHE(L) 20-21	6"	20	15	1057.5	776	1833.5	143	144.5	81.5
6BHE(L) 20-22	6"	20	15	1095	776	1871	143	144.5	82.5
6BHE(L) 20-23	6"	20	15	1132.5	776	1908.5	143	144.5	83.0
6BHE(L) 20-24	6"	20	15	1170	776	1946	143	144.5	84.0
6BHE(L) 20-25	6"	25	18.5	1207.5	841.5	2049	143	144.5	92.0
6BHE(L) 20-26	6"	25	18.5	1245	841.5	2086.5	143	144.5	92.5
6BHE(L) 20-27	6"	25	18.5	1282.5	841.5	2124	143	144.5	94.5
6BHE(L) 20-28	6"	25	18.5	1319.5	841.5	2161	143	144.5	94.5
6BHE(L) 20-29	6"	25	18.5	1357	841.5	2198.5	143	144.5	95.0
6BHE(L) 20-30	6"	25	18.5	1394.5	841.5	2236	143	144.5	96.0
6BHE(L) 20-31	6"	30	22	1432	906.5	2338.5	143	144.5	103.0
6BHE(L) 20-32	6"	30	22	1469.5	906.5	2376	143	144.5	103.5
6BHE(L) 20-33	6"	30	22	1507	906.5	2413.5	143	144.5	104.5
6BHE(L) 20-34	6"	30	22	1544.5	906.5	2451	143	144.5	105.0
6BHE(L) 20-35	6"	30	22	1582	906.5	2488.5	143	144.5	106.0
6BHE(L) 20-36	6"	30	22	1619.5	906.5	2526	143	144.5	106.5
6BHE(L) 20-37	6"	40	30	1657	1036.5	2693.5	143	144.5	122.5
6BHE(L) 20-38	6"	40	30	1694.5	1036.5	2731	143	144.5	124.0
6BHE(L) 20-39	6"	40	30	1732	1036.5	2768.5	143	144.5	124.0
6BHE(L) 20-40	6"	40	30	1769.5	1036.5	2806	143	144.5	124.5
6BHE(L) 20-41	6"	40	30	1807	1036.5	2843.5	143	144.5	126.0
6BHE(L) 20-42	6"	40	30	1844.5	1036.5	2881	143	144.5	127.0
6BHE(L) 20-43	6"	40	30	1882	1036.5	2918.5	143	144.5	128.0
6BHE(L) 20-44	6"	40	30	1919.5	1036.5	2956	143	144.5	129.0
6BHE(L) 20-45	6"	40	30	1957	1036.5	2993.5	143	144.5	130.0
6BHE(L) 20-46	6"	40	30	1994	1036.5	3030.5	143	144.5	131.0
6BHE(L) 20-47	6"	40	30	2031.5	1036.5	3068	145	146.5	131.5
6BHE(L) 20-48	6"	40	30	2069	1036.5	3105.5	145	146.5	132.0
6BHE(L) 20-49	6"	40	30	2106.5	1036.5	3143	145	146.5	134.0
6BHE(L) 20-50	6"	50	37	2144	1421.5	3565.5	145	146.5	189.0
6BHE(L) 20-51	6"	50	37	2181.5	1421.5	3603	145	146.5	190.0
6BHE(L) 20-52	6"	50	37	2219	1421.5	3640.5	145	146.5	191.0
6BHE(L) 20-53	6"	50	37	2256.5	1421.5	3678	145	146.5	192.0
6BHE(L) 20-54	6"	50	37	2294	1421.5	3715.5	145	146.5	193.0
6BHE(L) 20-55	6"	50	37	2331.5	1421.5	3753	145	146.5	194.0
6BHE(L) 20-56	6"	50	37	2369	1421.5	3790.5	145	146.5	195.0
6BHE(L) 20-57	6"	50	37	2406.5	1421.5	3828	145	146.5	196.0
6BHE(L) 20-58	6"	50	37	2444	1421.5	3865.5	145	146.5	197.0
6BHE(L) 20-59	6"	50	37	2481.5	1421.5	3903	145	146.5	198.0
6BHE(L) 20-60	6"	50	37	2519	1421.5	3940.5	145	146.5	199.0

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

DIMENSIONS 6BHE(L) 32



DIMENSIONAL TABLE

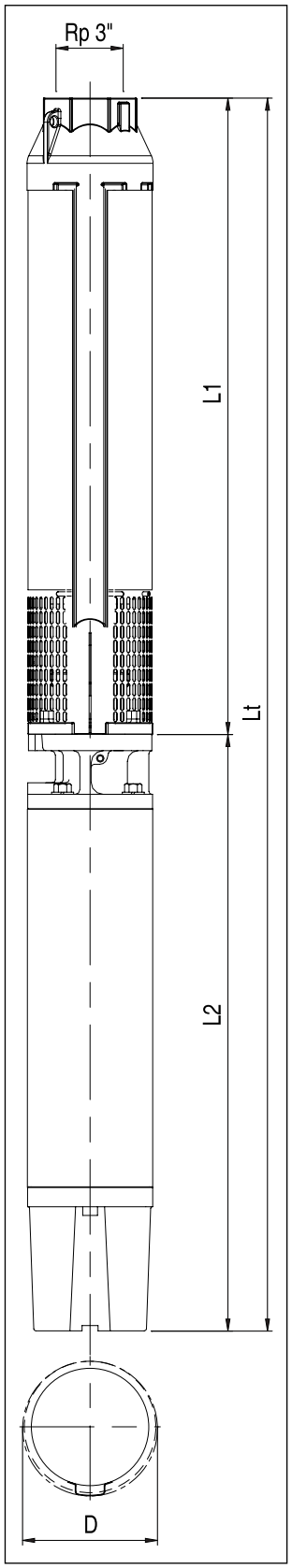
Model	Motor size	P_2		Dimensions [mm]					Weight
				L1	L2	Lt	D		
		[HP]	[kW]				1 cable	2 cables	[kg]
6BHE(L) 32-3	4"	5	3.7	622	520	1142	142.5	-	34.0
6BHE(L) 32-4	4"	7.5	5.5	707.5	652.5	1360	142.5	-	43.5
6BHE(L) 32-5	4"	10	7.5	793	730.5	1523.5	142.5	-	50.0
6BHE(L) 32-6	4"	10	7.5	878.5	730.5	1609	142.5	-	52.0
6BHE(L) 32-3	6"	5.5	4	620	581	1201	143	144.5	52.0
6BHE(L) 32-4	6"	7.5	5.5	705.5	614.5	1320	143	144.5	58.0
6BHE(L) 32-5	6"	10	7.5	790.5	646	1436.5	143	144.5	64.0
6BHE(L) 32-6	6"	10	7.5	876	646	1522	143	144.5	66.0
6BHE(L) 32-7	6"	12.5	9.3	961.5	678.5	1640	143	144.5	70.5
6BHE(L) 32-8	6"	15	11	1047	711	1758	143	144.5	76.5
6BHE(L) 32-9	6"	15	11	1132.5	711	1843.5	143	144.5	78.5
6BHE(L) 32-10	6"	20	15	1218	776	1994	143	144.5	86.0
6BHE(L) 32-11	6"	20	15	1303.5	776	2079.5	143	144.5	88.0
6BHE(L) 32-12	6"	20	15	1389	776	2165	143	144.5	90.0
6BHE(L) 32-13	6"	25	18.5	1474.5	841.5	2316	143	144.5	99.0
6BHE(L) 32-14	6"	25	18.5	1560	841.5	2401.5	143	144.5	101.5
6BHE(L) 32-15	6"	30	22	1645.5	906.5	2552	143	144.5	109.5
6BHE(L) 32-16	6"	30	22	1730.5	906.5	2637	143	144.5	111.5
6BHE(L) 32-17	6"	30	22	1816	906.5	2722.5	143	144.5	113.5
6BHE(L) 32-18	6"	30	22	1901.5	906.5	2808	143	144.5	115.5
6BHE(L) 32-19	6"	40	30	1987	1036.5	3023.5	143	144.5	132.0
6BHE(L) 32-20	6"	40	30	2072.5	1036.5	3109	143	144.5	134.5
6BHE(L) 32-21	6"	40	30	2157.5	1036.5	3194	143	144.5	136.5
6BHE(L) 32-22	6"	40	30	2243	1036.5	3279.5	143	144.5	138.5
6BHE(L) 32-23	6"	40	30	2328.5	1036.5	3365	143	144.5	140.5
6BHE(L) 32-24	6"	40	30	2414	1036.5	3450.5	143	144.5	142.5
6BHE(L) 32-25	6"	50	37	2499	1421.5	3920.5	143	144.5	199.0
6BHE(L) 32-26	6"	50	37	2584.5	1421.5	4006	143	144.5	201.0
6BHE(L) 32-27	6"	50	37	2670	1421.5	4091.5	143	144.5	203.0
6BHE(L) 32-28	6"	50	37	2755	1421.5	4176.5	143	144.5	205.0
6BHE(L) 32-29	6"	50	37	2840.5	1421.5	4262	143	144.5	207.0
6BHE(L) 32-30	6"	50	37	2926	1421.5	4347.5	143	144.5	209.5
6BHE(L) 32-31	6"	60	45	3011	1574	4585	143	144.5	224.5
6BHE(L) 32-32	6"	60	45	3096.5	1574	4670.5	143	144.5	227.5
6BHE(L) 32-33	6"	60	45	3182	1574	4756	143	144.5	229.5
6BHE(L) 32-34	6"	60	45	3267.5	1574	4841.5	143	144.5	231.5
6BHE(L) 32-35	6"	60	45	3352.5	1574	4926.5	143	144.5	234.0
6BHE(L) 32-36	6"	60	45	3438	1574	5012	145	146.5	237.0
6BHE(L) 32-37	6"	60	45	3523.5	1574	5097.5	145	146.5	239.0
6BHE(L) 32-38	8"	75	55	3709	1204	4913	190.5	190.5	270.5
6BHE(L) 32-39	8"	75	55	3794	1204	4998	190.5	190.5	272.5
6BHE(L) 32-40	8"	75	55	3879.5	1204	5083.5	190.5	190.5	275.0
6BHE(L) 32-41	8"	75	55	3965	1204	5169	190.5	190.5	276.0
6BHE(L) 32-42	8"	75	55	4050.5	1204	5254.5	190.5	190.5	277.0
6BHE(L) 32-43	8"	75	55	4135.5	1204	5339.5	190.5	190.5	278.0

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

DIMENSIONS 6BHE(L) 48



DIMENSIONAL TABLE

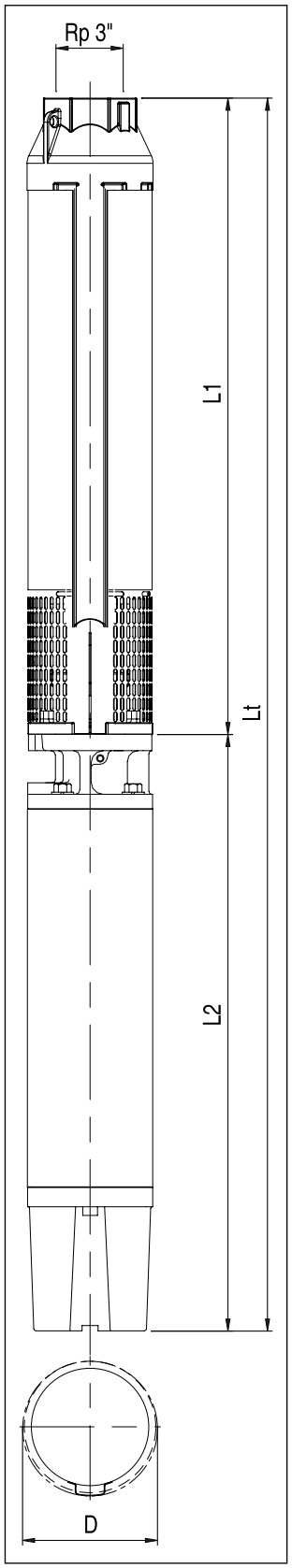
Model	Motor size	P_2		Dimensions [mm]					Weight
				L1	L2	Lt	D		
		[HP]	[kW]				1 cable	2 cables	[kg]
6BHE(L) 48-2	4"	4	3	593.5	477	1070.5	142.5	-	31.0
6BHE(L) 48-3	4"	5.5	4	707.5	543	1250.5	142.5	-	36.5
6BHE(L) 48-4	4"	7.5	5.5	821.5	652.5	1474	142.5	-	45.5
6BHE(L) 48-5	4"	10	7.5	935.5	730.5	1666	142.5	-	52.5
6BHE(L) 48-2	6"	5.5	4	591.5	581	1172.5	143	144.5	51.0
6BHE(L) 48-3	6"	5.5	4	705.5	581	1286.5	143	144.5	53.5
6BHE(L) 48-4	6"	7.5	5.5	819.5	614.5	1434	143	144.5	60.0
6BHE(L) 48-5	6"	10	7.5	933.5	646	1579.5	143	144.5	66.5
6BHE(L) 48-6	6"	12.5	9.3	1047	678.5	1725.5	143	144.5	71.5
6BHE(L) 48-7	6"	12.5	9.3	1161	678.5	1839.5	143	144.5	74.0
6BHE(L) 48-8	6"	15	11	1275	711	1986	143	144.5	80.0
6BHE(L) 48-9	6"	20	15	1389	776	2165	143	144.5	88.5
6BHE(L) 48-10	6"	20	15	1503	776	2279	143	144.5	91.0
6BHE(L) 48-11	6"	20	15	1617	776	2393	143	144.5	93.5
6BHE(L) 48-12	6"	25	18.5	1730.5	841.5	2572	143	144.5	103.0
6BHE(L) 48-13	6"	25	18.5	1844.5	841.5	2686	143	144.5	105.5
6BHE(L) 48-14	6"	25	18.5	1958.5	841.5	2800	143	144.5	108.5
6BHE(L) 48-15	6"	30	22	2072.5	906.5	2979	143	144.5	117.0
6BHE(L) 48-16	6"	30	22	2186	906.5	3092.5	143	144.5	119.5
6BHE(L) 48-17	6"	30	22	2300	906.5	3206.5	143	144.5	122.0
6BHE(L) 48-18	6"	40	30	2414	1036.5	3450.5	143	144.5	139.5
6BHE(L) 48-19	6"	40	30	2527.5	1036.5	3564	143	144.5	142.0
6BHE(L) 48-20	6"	40	30	2641.5	1036.5	3678	143	144.5	144.5
6BHE(L) 48-21	6"	40	30	2755	1036.5	3791.5	143	144.5	147.0
6BHE(L) 48-22	6"	40	30	2869	1036.5	3905.5	143	144.5	149.5
6BHE(L) 48-23	6"	40	30	2983	1036.5	4019.5	143	144.5	152.5
6BHE(L) 48-24	6"	50	37	3096.5	1421.5	4518	143	144.5	209.0
6BHE(L) 48-25	6"	50	37	3210.5	1421.5	4632	143	144.5	211.5
6BHE(L) 48-26	6"	50	37	3324	1421.5	4745.5	143	144.5	214.0
6BHE(L) 48-27	6"	50	37	3438	1421.5	4859.5	145	146.5	217.5
6BHE(L) 48-28	6"	50	37	3552	1421.5	4973.5	145	146.5	220.0
6BHE(L) 48-29	6"	60	45	3665.5	1574	5239.5	145	146.5	236.5
6BHE(L) 48-30	6"	60	45	3779.5	1574	5353.5	145	146.5	239.0
6BHE(L) 48-31	6"	60	45	3893.5	1574	5467.5	145	146.5	242.0
6BHE(L) 48-32	6"	60	45	4007	1574	5581	145	146.5	244.5
6BHE(L) 48-33	6"	60	45	4121	1574	5695	145	146.5	247.0
6BHE(L) 48-34	8"	75	55	4335	1204	5539	190.5	190.5	279.0
6BHE(L) 48-35	8"	75	55	4449	1204	5653	190.5	190.5	281.5
6BHE(L) 48-36	8"	75	55	4562.5	1204	5766.5	190.5	190.5	284.5
6BHE(L) 48-37	8"	75	55	4676.5	1204	5880.5	190.5	190.5	287.0
6BHE(L) 48-38	8"	75	55	4790.5	1204	5994.5	190.5	190.5	289.5
6BHE(L) 48-39	8"	75	55	4904.5	1204	6108.5	190.5	190.5	292.0
6BHE(L) 48-40	8"	75	55	5018.5	1204	6222.5	190.5	190.5	295.0

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

DIMENSIONS 6BHE(L) 64



DIMENSIONAL TABLE

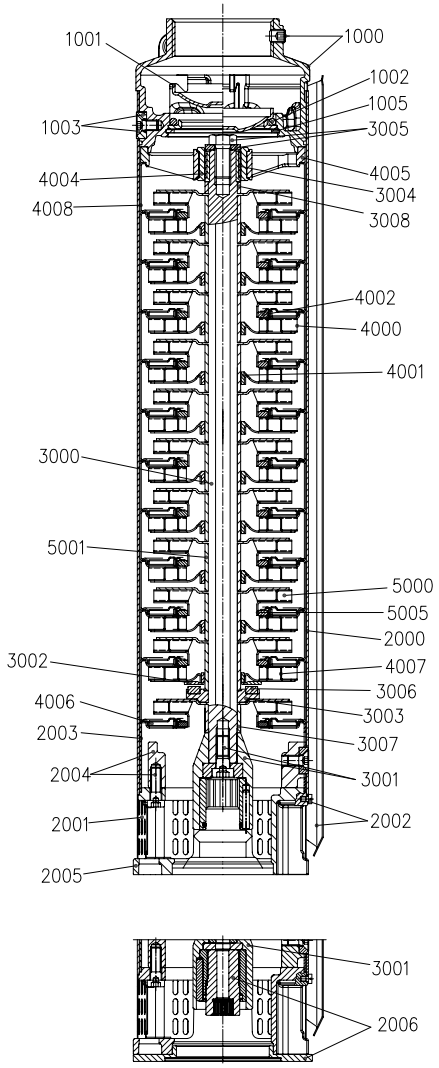
Model	Motor size	P_2		Dimensions [mm]					Weight
				L1	L2	Lt	D		
		[HP]	[kW]				1 cable	2 cables	[kg]
6BHE(L) 64-2	4"	5	3.7	593.5	520	1113.5	142.5	-	33.0
6BHE(L) 64-3	4"	7.5	5.5	707.5	652.5	1360	142.5	-	43.0
6BHE(L) 64-4	4"	10	7.5	821.5	730.5	1552	142.5	-	49.5
6BHE(L) 64-2	6"	5.5	4	591.5	581	1172.5	143	144.5	51.0
6BHE(L) 64-3	6"	7.5	5.5	705.5	614.5	1320	143	144.5	57.0
6BHE(L) 64-4	6"	10	7.5	819.5	646	1465.5	143	144.5	64.0
6BHE(L) 64-5	6"	12.5	9.3	933.5	678.5	1612	143	144.5	69.0
6BHE(L) 64-6	6"	15	11	1047	711	1758	143	144.5	75.0
6BHE(L) 64-7	6"	20	15	1161	776	1937	143	144.5	83.0
6BHE(L) 64-8	6"	20	15	1275	776	2051	143	144.5	86.0
6BHE(L) 64-9	6"	20	15	1389	776	2165	143	144.5	88.5
6BHE(L) 64-10	6"	25	18.5	1503	841.5	2344.5	143	144.5	98.0
6BHE(L) 64-11	6"	25	18.5	1617	841.5	2458.5	143	144.5	100.5
6BHE(L) 64-12	6"	30	22	1730.5	906.5	2637	143	144.5	109.0
6BHE(L) 64-13	6"	30	22	1844.5	906.5	2751	143	144.5	112.0
6BHE(L) 64-14	6"	40	30	1958.5	1036.5	2995	143	144.5	129.0
6BHE(L) 64-15	6"	40	30	2072.5	1036.5	3109	143	144.5	131.5
6BHE(L) 64-16	6"	40	30	2186	1036.5	3222.5	143	144.5	134.0
6BHE(L) 64-17	6"	40	30	2300	1036.5	3336.5	143	144.5	137.0
6BHE(L) 64-18	6"	50	37	2414	1421.5	3835.5	143	144.5	193.5
6BHE(L) 64-19	6"	50	37	2527.5	1421.5	3949	143	144.5	196.0
6BHE(L) 64-20	6"	50	37	2641.5	1421.5	4063	143	144.5	198.5
6BHE(L) 64-21	6"	50	37	2755	1421.5	4176.5	143	144.5	201.5
6BHE(L) 64-22	6"	60	45	2869	1574	4443	143	144.5	218.0
6BHE(L) 64-23	6"	60	45	2983	1574	4557	143	144.5	220.5
6BHE(L) 64-24	6"	60	45	3096.5	1574	4670.5	143	144.5	223.0
6BHE(L) 64-25	6"	60	45	3210.5	1574	4784.5	143	144.5	225.5
6BHE(L) 64-26	6"	60	45	3324	1574	4898	143	144.5	228.5
6BHE(L) 64-27	8"	75	55	3538	1204	4742	190.5	190.5	261.0
6BHE(L) 64-28	8"	75	55	3652	1204	4856	190.5	190.5	263.5
6BHE(L) 64-29	8"	75	55	3765.5	1204	4969.5	190.5	190.5	266.0
6BHE(L) 64-30	8"	75	55	3879.5	1204	5083.5	190.5	190.5	268.5
6BHE(L) 64-31	8"	75	55	3993.5	1204	5197.5	190.5	190.5	271.5

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

SECTIONAL VIEW 6BHE(L) 13-20



MATERIALS TABLE

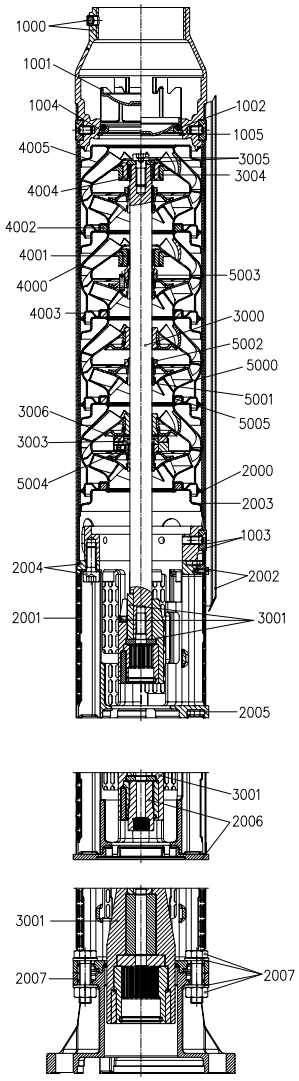
Ref.	Name	Material 6BHE	Material 6BHEL	Ref.	Name	Material 6BHE	Material 6BHEL
1000	Delivery connection and screw	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	3004	Upper bearing	EN 1.4460 (AISI 329) + ceramic coating	
1001	Valve	EN 1.4401 (AISI 316)		3005	Screw and washer	EN 1.4401 (AISI 316)	
1002	O-ring	Nitrile rubber (NBR)		3006	Thrust ring	PTFE	
1003	External casing mounting screws and nuts	EN 1.4401 (AISI 316)		3007	Upper spacer	EN 1.4401 (AISI 316)	
1004	Valve mount	EN 1.4401 (AISI 316)		3008	Lower spacer	EN 1.4401 (AISI 316)	
1005	Circlip	EN 1.4401 (AISI 316)		4000	Diffusers	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
2000	External casing	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	4001	Intermediate bushing	Nitrile rubber (NBR)	
2001	Suction filter	EN 1.4401 (AISI 316)		4002	Clearance ring	PTFE	
2002	Cable cover and screws	EN 1.4401 (AISI 316)		4004	Bearing	Nitrile rubber (NBR)	
2003	Initial spacer	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	4005	Upper bearing	EN 1.4401 (AISI 316)	
2004	Flange and screws	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	4006	First diffuser	EN 1.4401 (AISI 316)	
2005	Motor adapter	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	4007	Diffuser with upper thrust washer	EN 1.4401 (AISI 316)	
2006	4" motor flange / adapter coupling	-		4008	End diffuser	EN 1.4401 (AISI 316)	
3000	Shaft	EN 1.4057 (AISI 431)	EN 1.4401 (AISI 316)+ EN 1.4460 (AISI 329)	5000	Impeller	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
3001	Coupling	EN 1.4057 (AISI 431)+ EN 1.4460 (AISI 329)	EN 1.4401 (AISI 316)+ EN 1.4460 (AISI 329)	5001	Intermediate bearing	EN 1.4401 (AISI 316)	
3002	Upper thrust washer	EN 1.4401 (AISI 316)		5005	Clearance ring	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
3003	Lower thrust washer	EN 1.4401 (AISI 316)					

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

SECTIONAL VIEW 6BHE(L) 32-45-64



MATERIALS TABLE

Ref.	Name	Material 6BHE	Material 6BHEL	Ref.	Name	Material 6BHE	Material 6BHEL
1000	Delivery connection and screw	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	3003	Lower thrust washer	EN 1.4401 (AISI 316)	
1001	Valve	EN 1.4401 (AISI 316)		3004	Upper bearing	EN 1.4460 (AISI 329) + ceramic coating	
1002	O-ring	Nitrile rubber (NBR)		3005	Screw and washer	EN 1.4401 (AISI 316)	
1003	External casing mounting screws and nuts	EN 1.4401 (AISI 316)		3006	Thrust ring	PTFE	
1004	Valve mount	EN 1.4401 (AISI 316)		4000	Diffusers	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
1005	Circlip	EN 1.4401 (AISI 316)		4001	Intermediate bushing	Nitrile rubber (NBR)	
2000	External casing	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	4002	Clearance ring	PTFE	
2001	Suction filter	EN 1.4401 (AISI 316)		4003	Bearing	Nitrile rubber (NBR)	
2002	Cable cover and screws	EN 1.4401 (AISI 316)		4004	Intermediate / end diffuser	EN 1.4401 (AISI 316)	
2003	Initial spacer	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	4005	Impeller	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
2004	Flange and screws	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	5000	Drive collar	EN 1.4401 (AISI 316)	
2005	Motor adapter	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	5001	Drive collar nut	EN 1.4401 (AISI 316)	
2006	4" motor flange / adapter coupling	-	-	5002	Drive collar intermediate nut	EN 1.4401 (AISI 316)	
2007	8" motor adapter / screws and washer	EN 1.4057 (AISI 431)		5003	Drive collar upper nut	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
3000	Shaft	EN 1.4057 (AISI 431)	EN 1.4401 (AISI 316)+ EN 1.4460 (AISI 329)	5004	Clearance ring	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
3001	Coupling	EN 1.4057 (AISI 431)+ EN 1.4460 (AISI 329)	EN 1.4401 (AISI 316)+ EN 1.4460 (AISI 329)	5005			

6BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 6"

in AISI 304 and AISI 316

ELECTRICAL DATA TABLE 6BHE(L) WITH MOTOR IN OIL BATH

Motor size	Motor P_2		Thrust	three phase 380V				three phase 415V			
	[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
4"	3	2.2	1500	3.0	6.0	24.0	0.76	3.39	6.2	24.0	0.76
	3	2.2	5000	3.02	5.6	23.0	0.82	3.42	5.8	23.0	0.82
	4	3	5000	4.05	7.7	30.0	0.80	4.49	7.8	30.0	0.80
	5.5	4	5000	5.24	9.7	45.0	0.82	5.78	9.8	45.0	0.82
	7.5	5.5	5000	7.37	13.5	55.0	0.83	8.23	13.8	55.0	0.83
	10	7.5	4400	9.75	19.0	72.0	0.78	10.93	19.5	72.0	0.78
6"	5.5	4	5000/10000	4.81	8.7	45.0	0.84	5.12	8.9	45.0	0.8
	7.5	5.5	5000/10000	6.97	12.6	64.0	0.84	7.13	12.4	64.0	0.8
	10	7.5	10000	9.62	17.2	78.0	0.85	9.73	16.5	78.0	0.82
	15	11	10000	13.32	24.1	121.0	0.84	13.74	23.9	121.0	0.8
	20	15	10000	17.77	31.4	160.0	0.86	17.93	29.7	160.0	0.84
	25	18.5	10000	23.49	41.5	225.0	0.86	21.57	36.6	225.0	0.82
	30	22	10000	26.32	46.5	250.0	0.86	26.87	44.5	250.0	0.84
	40	30	20000	34.83	63.0	330.0	0.84	36.69	58.0	330.0	0.88

ELECTRICAL DATA TABLE 6BHE(L) WITH MOTOR IN WATER BATH

Motor size	Motor P_2		Thrust	three phase 380V				three phase 415V			
	[HP]	[kW]	[N]	P_1 [kW]	I_N [A]	I_A [A]	Power factor	P_1 [kW]	I_N [A]	I_A [A]	Power factor
4"	3	2.2	4000	2.91	5.4	28.3	0.82	3.00	5.8	30.9	0.72
	4	3	4000	3.99	7.4	39.9	0.82	4.09	7.9	43.6	0.72
	5.5	4	6500	5.24	9.7	54.1	0.82	5.38	10.4	59.1	0.72
	7.5	5.5	6500	7.05	12.6	73.3	0.85	7.08	12.8	80.1	0.77
	10	7.5	6500	9.74	17.2	94.3	0.86	9.74	17.6	103.0	0.77
6"	5.5	4	15500	5.31	9.5	42.0	0.85	5.21	9.3	46.0	0.78
	7.5	5.5	15500	7.16	12.8	60.0	0.85	7.18	12.8	66.0	0.78
	10	7.5	15500	9.33	16.3	83.0	0.87	9.43	16.2	91.0	0.81
	15	11	15500	13.74	24.0	126.0	0.87	14.03	24.1	136.0	0.81
	20	15	15500	18.11	32.0	164.0	0.86	18.49	31.0	179.0	0.83
	25	18.5	15500	22.9	40.0	220.0	0.87	23.0	38.5	240.0	0.83
	30	22	15500	27.22	47.0	255.0	0.88	27.17	45.0	278.0	0.84
	40	30	27500	35.86	64.1	373.0	0.85	37.55	64.5	407.0	0.81
	50	37	27500	45.87	80.1	387.0	0.87	45.92	77.9	423.0	0.82

8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8”

in AISI 304 and AISI 316

Semi-axial flow submersible electric pumps in AISI 304 (8BHE) and AISI 316 (8BHEL) for deep wells, 8” and greater.
This series of submersible pumps has been developed specifically for high flow rate pumping applications.

APPLICATIONS

- Water supply from deep wells
- Water distribution and pressurisation
- Irrigation systems
- Water treatment, filtering and reverse osmosis
- Industrial cooling systems
- Fountains
- Fire systems

TECHNICAL FEATURES

- Corrosion resistant
- Robust
- Reliable
- Compact
- Can also operate horizontally

PUMP TECHNICAL DATA

- Maximum operating pressure: 7 bar
- Maximum immersion:
  - 350 m (with motor in water bath)
  - 150 m (with motor in oil bath)
- Maximum amount of sand: 100 gr/m^3
- Fluid temperature: -5°C to +60°C
- Adapter kit for mounting to 6” motors
- Delivery connection: Rp 5”

The pump and motor are supplied separately.

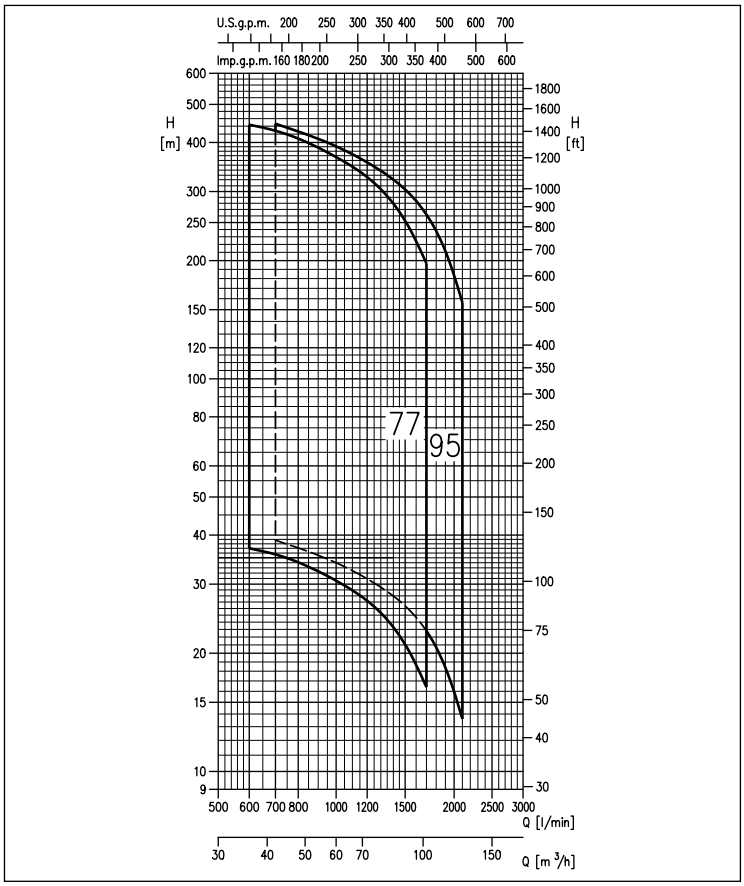
MOTOR TECHNICAL DATA

- 2 pole motor in oil bath (OY), or water bath (WY)
- Max. starts per hour: 30 (OY) - 20 (WY)
- Insulation class F (6” version OY)
  (8” version WY)
  F (6” version WY)
- Protection degree IP58 (OY), IP68 (WY)
- Three phase voltage 380-415V (±10%) 50 Hz (OY),
- Three phase voltage 380-415V (-10%+6%) 50 Hz (WY)
- NEMA compliant coupling and motor flange
- For dimensioning the cables, see page 54 or refer to our Data Book on www.ebaraeurope.com

MATERIALS

- Delivery port, stages and mount in AISI 304 (8BHE) and AISI 316 (8BHEL)
- Shaft made of AISI 329 steel
- Impeller made of AISI 316 steel

PERFORMANCE RANGE (per ISO 9906 Annex A)



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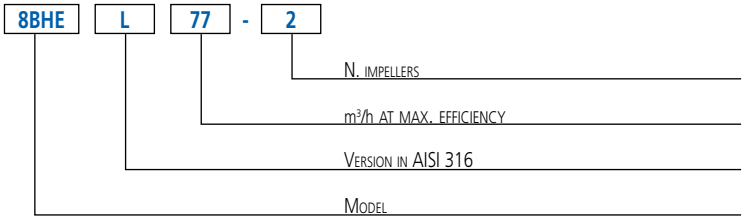


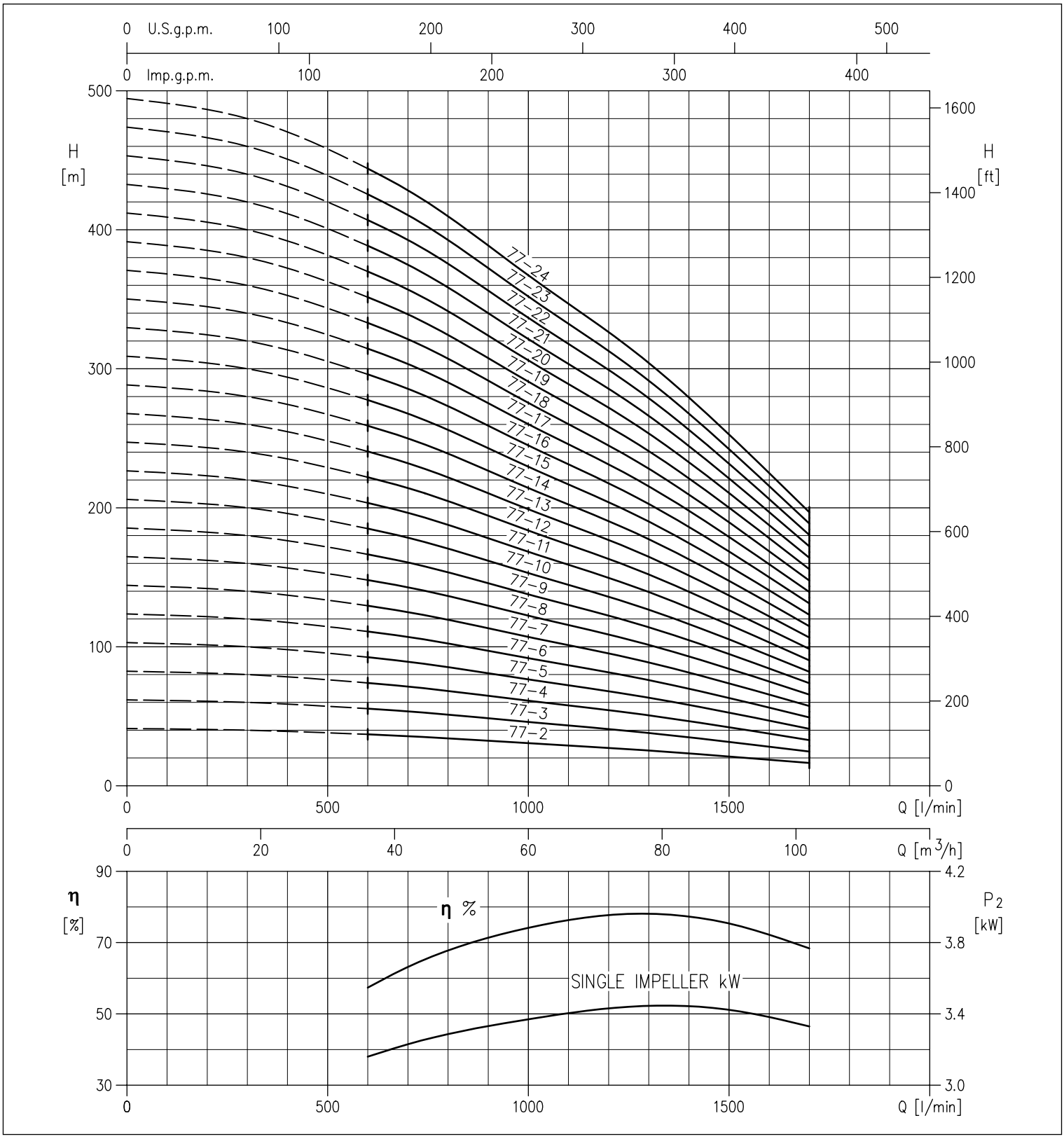
8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 8BHE(L) 77

(per ISO 9906 Annex A)



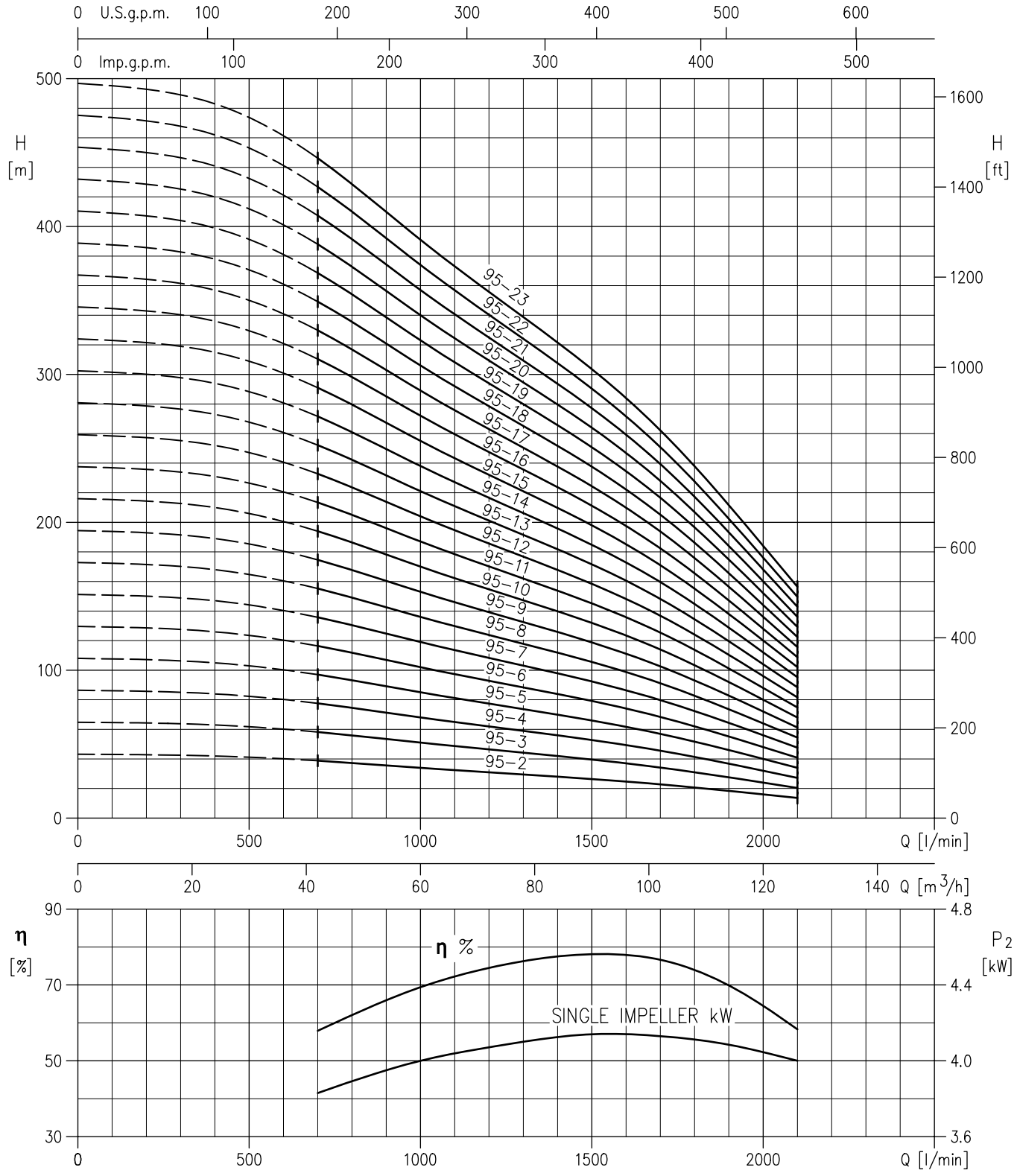
8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8"

in AISI 304 and AISI 316

PERFORMANCE CURVES series 8BHE(L) 95

(per ISO 9906 Annex A)



8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8"

in AISI 304 and AISI 316

PERFORMANCE TABLE

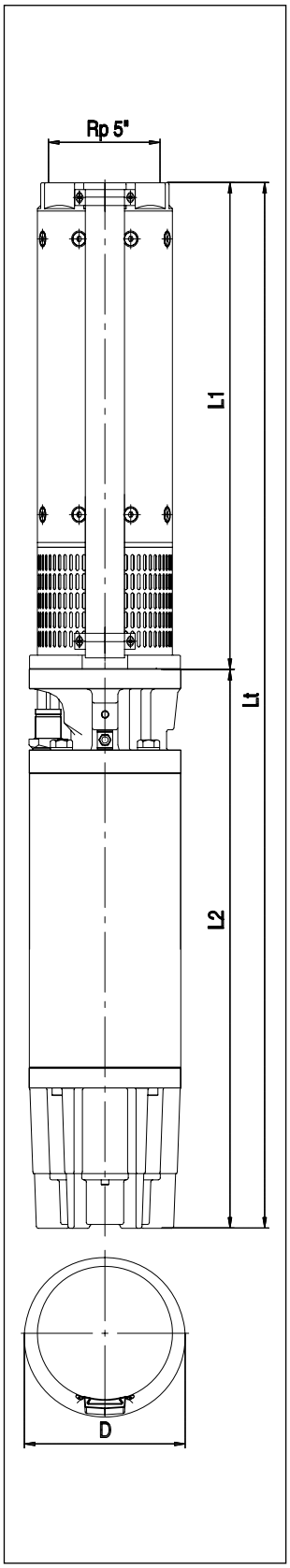
Model	Motor size	P_2		Q=Flow rate							
				l/min	600	700	1000	1250	1500	1700	1900	2100
		[HP]	[kW]	m^3/h	36	42	60	75	90	102	114	126
				H=Head [m]								
86BHE(L) 77-2	6"	10	7.5	37.0	35.7	30.6	26.3	21.1	16.4	-	-
86BHE(L) 77-3	6"	15	11	55.5	53.5	46.0	39.5	31.6	24.6	-	-
86BHE(L) 77-4	6"	20	15	74.0	71.5	61.0	52.5	42.0	32.8	-	-
86BHE(L) 77-5	6"	25	18.5	92.5	89.5	76.5	66.0	52.5	41.0	-	-
86BHE(L) 77-6	6"	30	22	111.0	107.0	92.0	79.0	63.0	49.0	-	-
86BHE(L) 77-7	6"	40	30	130.0	125.0	107.0	92.0	73.5	57.5	-	-
86BHE(L) 77-8	6"	40	30	148.0	143.0	122.0	105.0	84.0	65.5	-	-
86BHE(L) 77-9	6"	40	30	167.0	161.0	138.0	118.0	95.0	74.0	-	-
86BHE(L) 77-10	6"	50	37	185.0	179.0	153.0	132.0	105.0	82.0	-	-
86BHE(L) 77-11	6"	50	37	204.0	196.0	168.0	145.0	116.0	90.0	-	-
8BHE(L) 77-12	8"	60	45	222.0	214.0	184.0	158.0	126.0	98.5	-	-
8BHE(L) 77-13	8"	75	55	241.0	232.0	199.0	171.0	137.0	107.0	-	-
8BHE(L) 77-14	8"	75	55	259.0	250.0	214.0	184.0	147.0	115.0	-	-
8BHE(L) 77-15	8"	75	55	278.0	268.0	230.0	197.0	158.0	123.0	-	-
8BHE(L) 77-16	8"	100	75	296.0	286.0	245.0	210.0	168.0	131.0	-	-
8BHE(L) 77-17	8"	100	75	315.0	303.0	260.0	224.0	179.0	139.0	-	-
8BHE(L) 77-18	8"	100	75	333.0	321.0	275.0	237.0	190.0	148.0	-	-
8BHE(L) 77-19	8"	100	75	352.0	339.0	291.0	250.0	200.0	156.0	-	-
8BHE(L) 77-20	8"	100	75	370.0	357.0	306.0	263.0	211.0	164.0	-	-
8BHE(L) 77-21	8"	100	75	389.0	375.0	321.0	276.0	221.0	172.0	-	-
8BHE(L) 77-22	8"	125	93	407.0	393.0	337.0	289.0	232.0	180.0	-	-
8BHE(L) 77-23	8"	125	93	426.0	411.0	352.0	302.0	242.0	189.0	-	-
8BHE(L) 77-24	8"	125	93	444.0	428.0	367.0	316.0	253.0	197.0	-	-
86BHE(L) 95-2	6"	12.5	9.2	-	38.8	34.0	30.2	26.4	22.8	18.4	13.6
86BHE(L) 95-3	6"	20	15	-	58.0	51.0	45.5	39.6	34.2	27.6	20.4
86BHE(L) 95-4	6"	25	18.5	-	77.5	68.0	60.5	53.0	45.5	36.8	27.2
86BHE(L) 95-5	6"	30	22	-	97.0	85.0	75.5	66.0	57.0	46.0	34.0
86BHE(L) 95-6	6"	40	30	-	116.0	102.0	90.5	79.0	68.5	55.0	41.0
86BHE(L) 95-7	6"	40	30	-	136.0	119.0	106.0	92.5	80.0	64.5	47.5
86BHE(L) 95-8	6"	50	37	-	155.0	136.0	121.0	106.0	91.0	73.5	54.5
86BHE(L) 95-9	6"	50	37	-	175.0	153.0	136.0	119.0	103.0	83.0	61.0
8BHE(L) 95-10	8"	60	45	-	194.0	170.0	151.0	132.0	114.0	92.0	68.0
8BHE(L) 95-11	8"	75	55	-	213.0	187.0	166.0	145.0	125.0	101.0	75.0
8BHE(L) 95-12	8"	75	55	-	233.0	204.0	181.0	158.0	137.0	110.0	81.5
8BHE(L) 95-13	8"	75	55	-	252.0	221.0	196.0	172.0	148.0	120.0	88.5
8BHE(L) 95-14	8"	100	75	-	272.0	238.0	211.0	185.0	160.0	129.0	95.0
8BHE(L) 95-15	8"	100	75	-	291.0	255.0	227.0	198.0	171.0	138.0	102.0
8BHE(L) 95-16	8"	100	75	-	310.4	272.0	242.0	211.0	182.0	147.0	109.0
8BHE(L) 95-17	8"	100	75	-	330.0	289.0	257.0	224.0	194.0	156.0	116.0
8BHE(L) 95-18	8"	125	93	-	349.0	306.0	272.0	238.0	205.0	166.0	122.0
8BHE(L) 95-19	8"	125	93	-	369.0	323.0	287.0	251.0	217.0	175.0	129.0
8BHE(L) 95-20	8"	125	93	-	388.0	340.0	302.0	264.0	228.0	184.0	136.0
8BHE(L) 95-21	8"	125	93	-	407.0	357.0	317.0	277.0	239.0	193.0	143.0
8BHE(L) 95-22	8"	150	110	-	427.0	374.0	332.0	290.0	251.0	202.0	150.0
8BHE(L) 95-23	8"	150	110	-	446.0	391.0	347.0	304.0	262.0	212.0	156.0

8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8”

in AISI 304 and AISI 316

DIMENSIONS 8BHE(L)



DIMENSIONAL TABLE

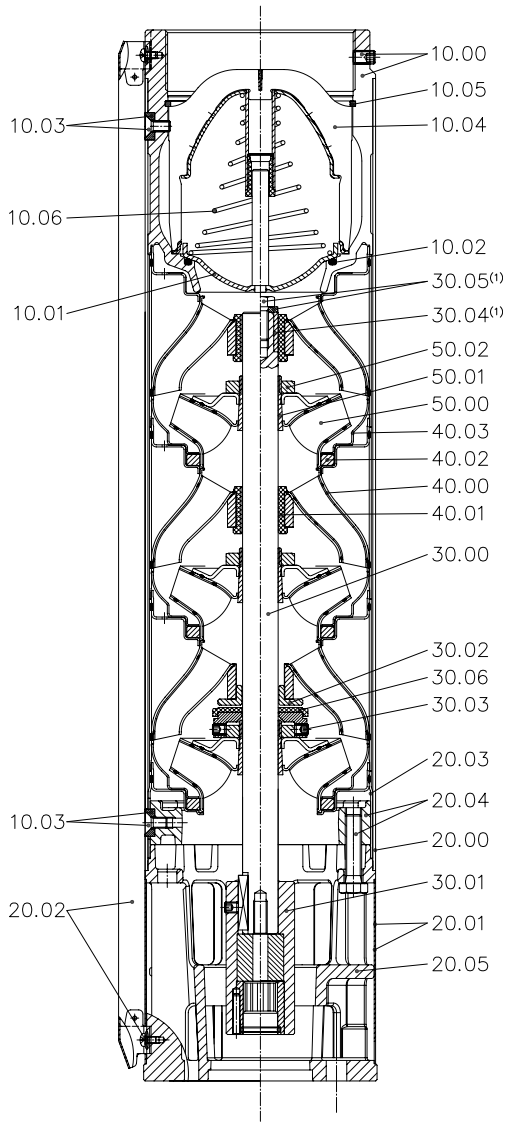
Model	Motor size	P_2		Dimensions [mm]					Weight
				L1	L2	Lt	D		
		[HP]	[kW]				1 cable	2 cables	[kg]
86BHE(L) 77-2	6”	10	7.5	644	646	1290	188	194	77.0
86BHE(L) 77-3	6”	15	11	770	711	1481	188	194	87.0
86BHE(L) 77-4	6”	20	15	896	776	1672	188	194	57.0
86BHE(L) 77-5	6”	25	18.5	1022	841.5	1863.5	188	194	109.0
86BHE(L) 77-6	6”	30	22	1148	906.5	2054.5	188	194	120.0
86BHE(L) 77-7	6”	40	30	1274	1036.5	2310.5	188	194	140.0
86BHE(L) 77-8	6”	40	30	1400	1036.5	2436.5	188	194	145.0
86BHE(L) 77-9	6”	40	30	1526	1036.5	2562.5	188	194	150.0
86BHE(L) 77-10	6”	50	37	1652	1405	3057	188	194	206.0
86BHE(L) 77-11	6”	50	37	1778	1405	3183	188	194	211.0
8BHE(L) 77-12	8”	60	45	1909	1077	2986	200	202	254.0
8BHE(L) 77-13	8”	75	55	2035	1394	3429	200	202	259.0
8BHE(L) 77-14	8”	75	55	2161	1394	3555	200	202	294.0
8BHE(L) 77-15	8”	75	55	2287	1394	3681	200	202	299.0
8BHE(L) 77-16	8”	100	75	2413	1496	3909	200	202	342.0
8BHE(L) 77-17	8”	100	75	2539	1496	4035	200	202	347.0
8BHE(L) 77-18	8”	100	75	2665	1496	4161	200	202	352.0
8BHE(L) 77-19	8”	100	75	2791	1496	4287	200	202	357.0
8BHE(L) 77-20	8”	100	75	2917	1496	4413	200	202	361.0
8BHE(L) 77-21	8”	100	75	3043	1496	4539	200	202	366.0
8BHE(L) 77-22	8”	125	93	3169	1748	4917	200	202	449.0
8BHE(L) 77-23	8”	125	93	3295	1748	5043	200	202	454.0
8BHE(L) 77-24	8”	125	93	3421	1748	5169	200	202	459.0
86BHE(L) 95-2	6”	12.5	9.2	644	678.5	1322.5	188	194	79.0
86BHE(L) 95-3	6”	20	15	770	776	1546	188	194	93.0
86BHE(L) 95-4	6”	25	18.5	896	841.5	1737.5	188	194	105.0
86BHE(L) 95-5	6”	30	22	1022	906.5	1928.5	188	194	115.5
86BHE(L) 95-6	6”	40	30	1148	1036.5	2184.5	188	194	135.0
86BHE(L) 95-7	6”	40	30	1274	1036.5	2310.5	188	194	140.0
86BHE(L) 95-8	6”	50	37	1400	1405	2805	188	194	196.0
86BHE(L) 95-9	6”	50	37	1526	1405	2931	188	194	201.0
8BHE(L) 95-10	8”	60	45	1657	1077	2734	200	202	244.0
8BHE(L) 95-11	8”	75	55	1783	1394	3177	200	202	279.0
8BHE(L) 95-12	8”	75	55	1909	1394	3303	200	202	284.0
8BHE(L) 95-13	8”	75	55	2035	1394	3429	200	202	289.0
8BHE(L) 95-14	8”	100	75	2161	1496	3657	200	202	332.0
8BHE(L) 95-15	8”	100	75	2287	1496	3783	200	202	337.0
8BHE(L) 95-16	8”	100	75	2413	1496	3909	200	202	342.0
8BHE(L) 95-17	8”	100	75	2539	1496	4035	200	202	346.5
8BHE(L) 95-18	8”	125	93	2665	1748	4413	200	202	429.5
8BHE(L) 95-19	8”	125	93	2791	1748	4539	200	202	434.5
8BHE(L) 95-20	8”	125	93	2917	1748	4665	200	202	439.0
8BHE(L) 95-21	8”	125	93	3043	1748	4791	200	202	444.0
8BHE(L) 95-22	8”	150	110	3169	1976	5145	200	202	512.0
8BHE(L) 95-23	8”	150	110	3295	1976	5271	200	202	517.0

8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8”

in AISI 304 and AISI 316

SECTIONAL VIEW



MATERIALS TABLE

Ref.	Name	Material		Ref.	Name	Material	
10.00	Delivery connection 5”	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	30.01	Motor coupling	EN 1.4057 (AISI 431)+ EN 1.4460 (AISI 329)	EN 1.4401 (AISI 316)+ EN 1.4460 (AISI 329)
10.01	Valve	EN 1.4401 (AISI 316)		30.02	Upper thrust washer	EN 1.4460 (AISI 329)	
10.02	O-ring	Nitrile rubber (NBR)		30.03	Lower thrust washer	EN 1.4460 (AISI 329)	
10.03	Bracket and screws	EN 1.4401 (AISI 316)		30.04	Upper bearing [1]	Stainless steel with ceramic coating	
10.04	Valve seat	EN 1.4401 (AISI 316)		30.05	Screw and washer [1]	EN 1.4401 (AISI 316)	
10.05	Circlip	EN 1.4401 (AISI 316)		30.06	Thrust bearing	PTFE	
10.06	Spring	EN 1.4401 (AISI 316)		40.00	Stage	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)
20.00	External casing	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	40.01	Intermediate bushing	Nitrile rubber (NBR)	
20.01	Filter	EN 1.4401 (AISI 316)		40.02	Clearance ring	PTFE	
20.02	Cable cover	EN 1.4401 (AISI 316)		40.03	Flange	EN 1.4401 (AISI 316)	
20.03	Spacer	EN 1.4401 (AISI 316)		50.00	Impeller	EN 1.4401 (AISI 316)	
20.04	Flange and screw	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	50.01	Taper ring	EN 1.4401 (AISI 316)	
20.05	Motor mount	EN 1.4301 (AISI 304)	EN 1.4401 (AISI 316)	50.02	Mounting ring	EN 1.4401 (AISI 316)	
30.00	Shaft	EN 1.4460 (AISI 329)					

[1]= Models with more than 8 stages only

8BHE(L)

CENTRIFUGAL BOREHOLE PUMPS, 8"

in AISI 304 and AISI 316

ELECTRICAL DATA TABLE 8BHE(L) WITH MOTOR IN OIL BATH

Motor size	Motor P_2 [HP]	Motor P_2 [kW]	Thrust [N]	three phase 380V P_1 [kW]	three phase 380V I_N [A]	three phase 380V I_A [A]	three phase 380V Power factor	three phase 415V P_1 [kW]	three phase 415V I_N [A]	three phase 415V I_A [A]	three phase 415V Power factor
6"	10	7.5	10000	9.62	17.2	78.0	0.85	9.73	16.5	78.0	0.82
	15	11	10000	13.32	24.1	121.0	0.84	13.74	23.9	121.0	0.8
	20	15	10000	17.77	31.4	160.0	0.86	17.93	29.7	160.0	0.84
	25	18.5	10000	23.49	41.5	225.0	0.86	21.57	36.6	225.0	0.82
	30	22	10000	26.32	46.5	250.0	0.86	26.87	44.5	250.0	0.84
	40	30	20000	34.83	63.0	330.0	0.84	36.69	58.0	330.0	0.88

ELECTRICAL DATA TABLE 8BHE(L) WITH MOTOR IN WATER BATH

Motor size	Motor P_2 [HP]	Motor P_2 [kW]	Thrust [N]	three phase 380V P_1 [kW]	three phase 380V I_N [A]	three phase 380V I_A [A]	three phase 380V Power factor	three phase 415V P_1 [kW]	three phase 415V I_N [A]	three phase 415V I_A [A]	three phase 415V Power factor
6"	10	7.5	15500	9.33	16.3	83.0	0.87	9.43	16.2	91.0	0.81
	15	11	15500	13.74	24.0	126.0	0.87	14.03	24.1	136.0	0.81
	20	15	15500	18.11	32.0	164.0	0.86	18.49	31.0	179.0	0.83
	25	18.5	15500	22.9	40.0	220.0	0.87	23.0	38.5	240.0	0.83
	30	22	15500	27.22	47.0	255.0	0.88	27.17	45.0	278.0	0.84
	40	30	27500	35.86	64.1	373.0	0.85	37.55	64.5	407.0	0.81
	50	37	27500	45.87	80.1	387.0	0.87	45.92	77.9	423.0	0.82
8"	60	45	45000	52.13	89.0	612.0	0.89	52.46	89.0	669.0	0.82
	75	55	45000	65.02	111.0	819.0	0.89	65.21	108.0	895.0	0.84
	100	75	45000	86.7	148.0	1099.0	0.89	87.55	145.0	1200.0	0.84
	125	93	45000	109.81	194.0	1265.0	0.86	109.83	191.0	1382.0	0.8
	150	110	45000	129.41	226.0	1517.0	0.87	129.84	223.0	1657.0	0.81

DIMENSIONING THE CABLES

DIMENSIONING THE CABLES FOR MOTORS IN OIL BATH, 3”

SELECTING THE CABLE

example: Motor 0.75 kW - 230V single phase - cable length 70 m → 4x2.5 mm²

Motor	HP	kW	Type of cable								
			3x1.5	3x2.5	3x4	3x6	4x1	4x1.5	4x2.5	4x4	4x6
Type 3”	0.5	0.37	-	-	-	-	50	75	125	-	-
	0.75	0.55	-	-	-	-	38	57	95	152	-
single phase 230V - 50 Hz	0.8	0.6	70	120	180	270	-	-	-	-	-
	1	0.75	-	-	-	-	30	45	75	120	174
	1.2	0.9	60	85	125	190	-	-	-	-	-
	2.0	1.5	55	75	90	140	-	-	-	-	-
Type 3” three phase 400V - 50 Hz	0.5	0.37	-	-	-	-	240	-	-	-	-
	0.75	0.55	-	-	-	-	164	246	-	-	-
	1	0.75	-	-	-	-	133	200	233	-	-
	1.5	1.1	-	-	-	-	97	146	244	390	-

DIMENSIONING THE CABLES FOR MOTORS IN OIL BATH, 4" - 6”

SELECTING THE CABLE

example: Motor 1.1 kW - 230V single phase - cable length 53 m → 4x2.5 mm²

Motor	HP	kW	Type of cable								
			4x1	4x1.5	4x2.5	4x4	4x6	4x10	4x16	4x25	4x35
Type 4” single phase 230V - 50 Hz	0.5	0.37	50	75	125	-	-	-	-	-	-
	0.75	0.55	38	57	95	152	-	-	-	-	-
	1	0.75	30	45	75	120	174	-	-	-	-
	1.5	1.1	22	33	53	85	127	210	-	-	-
	2	1.5	-	23	38	63	92	154	246	-	-
	3	2.2	-	-	28	45	67	112	180	-	-
Type 4” three phase 400V - 50 Hz	0.5	0.37	240	-	-	-	-	-	-	-	-
	0.75	0.55	164	246	-	-	-	-	-	-	-
	1	0.75	133	200	333	-	-	-	-	-	-
	1.5	1.1	97	146	244	390	-	-	-	-	-
	2	1.5	72	109	180	290	435	-	-	-	-
	3	2.2	51	78	130	207	310	516	-	-	-
	4	3	41	62	104	167	250	416	-	-	-
	5.5	4	31	46	77	124	186	310	496	-	-
	7.5	5.5	-	33	56	90	135	225	360	-	-
	10	7.5	-	-	-	66	100	165	270	-	-
Type 6” three phase 400V - 50 Hz	5.5	4	-	-	110	160	250	400	-	-	-
	7.5	5.5	-	-	68	108	161	265	415	-	-
	10	7.5	-	-	53	84	126	207	325	-	-
	12.5	9.2	-	-	44	70	104	171	267	413	-
	15	11	-	-	-	59	87	144	223	347	548
	20	15	-	-	-	-	65	107	167	258	350
	25	18.5	-	-	-	-	-	87	136	210	295
	30	22	-	-	-	-	-	75	117	181	246
	40	30	-	-	-	-	-	-	110	180	235

DIMENSIONING THE CABLES

DIMENSIONING THE CABLES FOR MOTORS IN WATER BATH, 4" - 6" - 8"

SELECTING THE CABLE (motors in water bath - WY)

example: Motor 0.75 kW - 230V single phase - cable length 73 m → 4x2.5 mm²

Motor	HP	kW	Type of cable																	
			4x1	4x1.5	4x2.5	4x4	4x6	4x10	4x16	4x25	4x35	4x50	4x70	4x95	4x120	4x150	4x185	4x240	4x300	4x400
Type 4"	0.5	0.37	50	76	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.75	0.55	39	58	97	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	0.75	29	44	73	117	175	-	-	-	-	-	-	-	-	-	-	-	-	-
Single phase 230V - 50 Hz	1.5	1.1	20	30	50	79	119	198	-	-	-	-	-	-	-	-	-	-	-	-
	2	1.5	-	23	39	62	93	156	249	-	-	-	-	-	-	-	-	-	-	-
	3	2.2	-	-	28	45	68	113	181	-	-	-	-	-	-	-	-	-	-	-
Type 4" three phase 400V - 50 Hz	0.5	0.37	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	0.75	0.55	223	335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	0.75	167	251	418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1.5	1.1	120	179	299	478	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	1.5	86	129	215	343	515	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	2.2	61	91	152	243	365	609	-	-	-	-	-	-	-	-	-	-	-	-
	4	3	45	67	112	179	268	446	-	-	-	-	-	-	-	-	-	-	-	-
	5.5	4	34	51	85	135	203	338	541	-	-	-	-	-	-	-	-	-	-	-
	7.5	5.5	-	40	66	106	159	266	425	-	-	-	-	-	-	-	-	-	-	-
	10	7.5	-	-	-	78	117	196	313	-	-	-	-	-	-	-	-	-	-	-
Type 6" three phase 400V - 50Hz	5.5	4	40	60	100	161	242	404	646	-	-	-	-	-	-	-	-	-	-	-
	7.5	5.5	-	45	75	120	180	300	481	-	-	-	-	-	-	-	-	-	-	-
	10	7.5	-	-	60	96	138	228	354	-	-	-	-	-	-	-	-	-	-	-
	12.5	9.2	-	-	48	77	120	192	306	468	-	-	-	-	-	-	-	-	-	-
	15	11	-	-	-	66	102	162	258	396	525	-	-	-	-	-	-	-	-	-
	20	15	-	-	-	-	72	126	192	294	402	546	-	-	-	-	-	-	-	-
	25	18.5	-	-	-	-	60	102	156	240	330	438	576	-	-	-	-	-	-	-
	30	22	-	-	-	-	-	84	132	204	276	372	489	-	-	-	-	-	-	-
	40	30	-	-	-	-	-	-	102	156	210	288	380	490	580	-	-	-	-	-
	50	37	-	-	-	-	-	-	-	123	169	230	310	390	460	550	890	-	-	-
Type 8" three phase 400V - 50Hz	60	45	-	-	-	-	-	-	-	105	142	200	255	330	387	453	516	800	-	-
	75	55	-	-	-	-	-	-	-	-	117	164	229	270	324	380	435	510	573	-
	100	75	-	-	-	-	-	-	-	-	-	-	160	205	240	290	324	381	429	600
	125	93	-	-	-	-	-	-	-	-	-	-	-	160	190	225	255	300	330	380
	150	110	-	-	-	-	-	-	-	-	-	-	-	-	160	180	183	240	270	400

Q SERIES

ELECTRICAL CONTROL PANELS FOR ELECTRIC BOREHOLE PUMPS

Protection and control panel for a single phase electric borehole pump.

The enclosure is composed of an ABS housing rated IP54 and enables control of a single phase electric motor.
A thermal cutout shuts the motor down in case of overcurrent.

TECHNICAL FEATURES

- Electric pump control via two-position lamp switch
- Motor protected by thermal circuit breaker with manual reset
- Capacitor as standard supply

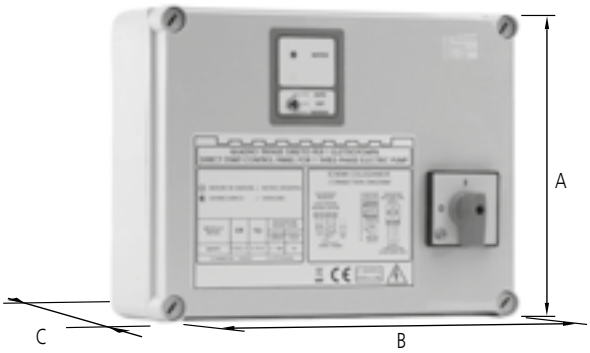
ELECTRICAL DATA TABLE

Model Single phase 230V +10-15% - 50Hz	[HP]	[kW]	[A] max	Capacitor on [µF]	[V]
Q 0.50 M 16	0.5	0.37	4	16	450
Q 0.50 M 20	0.5	0.37	4	20	450
Q 0.75 M 20	0.75	0.55	6	20	450
Q 0.75 M 25	0.75	0.55	6	25	450
Q 1.00 M 35	1	0.75	7	35	450
Q 1.50 M 40	1.5	1.1	9	40	450
Q 2.00 M 50	2	1.5	12	50	450
Q 2.00 M 60	2	1.5	12	60	450
Q 3.00 M 70	3	2.2	18	70	450
Q 3.00 M 80	3	2.2	18	80	450

Enclosures Q are equipped with a capacitor

QME1 SERIES

ELECTRICAL CONTROL PANELS AND STARTERS FOR 1 SINGLE PHASE ELECTRIC PUMP 230V WITH AMPEROMETRIC PROTECTION AND LEVEL CONTROL



Enclosure with electronic components.

TECHNICAL DATA

- Power supply 1~ 50/60Hz 230V ±10%
- Very low voltage inputs for external control by pressure switch or float switch
- Very low voltage input for sensors, pressure/minimum level float switch to prevent dry running and overflow
- Selector for pressure switch or minimum level float switch (NC or NO) or for FILLING OR EMPTYING sensors
- Indicator lamp: motor running (on) motor thermal cutout tripped (flashing)
- Switch for automatic-off-manual operation (the latter is return-to-centre)
- Current adjustable electronic protection
- Protection trip delay of around 3 s
- Motor fuse
- Master power switch with door interlock
- Thermoplastic housing
- Protection degree IP 50

SERVICE CONDITIONS:

- Ambient temperature -5/+40°C
- Relative humidity 50% with max. temperature 40°C

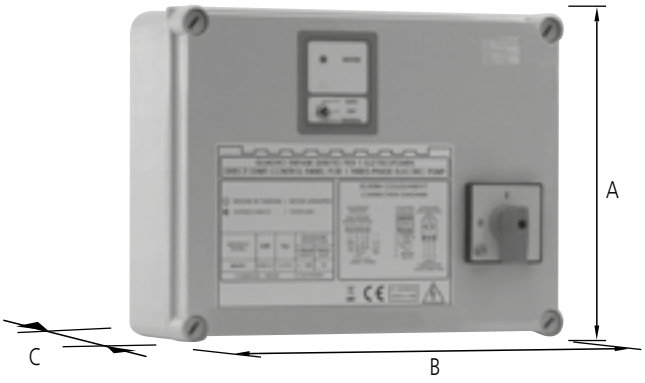
ELECTRICAL DATA TABLE

Model Single phase 230V +10-15% - 50Hz	HP	kW	Nominal current [A]	Protection range [A]	Dimensions [mm] A	B	C	Weight [kg]
AA/50B *	0.55+3	0.37+2.2	2 - 18	2 - 18	220	255	115	1.5
QA/50B	0.55+3	0.37+2.2	2 - 18	2 - 18	220	255	130	1.5

* Without master switch door interlock

QA/60C SERIES

ELECTRICAL CONTROL PANELS AND STARTERS FOR 1 DIRECT STARTING THRE-PHASE ELECTRIC PUMP WITH AMPEROMETRIC PROTECTION AND LEVEL CONTROL



GENERAL CHARACTERISTICS

- Electronic enclosure
- Power supply 3~ 50/60Hz 400V ±10%
- Very low voltage input for external control by pressure switch or float switch
- Very low voltage input for sensors, pressure/minimum level float switch to prevent dry running and overflow
- Selector for level sensor (NC contact for EMPTYING or NO contact for FILLING)
- Selectors for sensor trip threshold trimmer full range (2-20k; 10-100K)
- Sensor trip threshold trimmer
- Overload amperometric protection trip threshold trimmer: the trip delay is around 3 s
- Switch for AUTOMATIC-OFF-MANUAL operation (the latter is return-to-centre)
- Indicator lamp: motor running (on) motor thermal cutout tripped (flashing)
- Motor fuses

CONFIGURED FOR THE INSTALLATION OF:

- MIC/1E-..V-2U in 3 versions:
  interface module for control by external equipment with power 12V~ / 24V~ / 230V~ no voltage contact output.
  Requires a change of housing for models QA/60C and QA/61C.
  NOTE: in place of the sensors, 2 flat switches (1 OFF and 1 ON) can be used
- Control circuit fuses
- Master power switch with door interlock
- Thermoplastic housing
- Protection degree IP50

SERVICE CONDITIONS:

- Ambient temperature -5/+40°C
- Relative humidity 50% with max. temperature 40°C

ELECTRICAL DATA TABLE

Model	kW	Hp	Operating current		Dimensions [mm]			Weight [kg]
			[A] min	[A] max	A	B	C	
QA/60C	0.55 - 3.7	0.75 - 5	2	8	200	255	130	1.8
QA/61C	0.55 - 5	0.75 - 7	2	11	200	255	130	1.9
QA/62C	0.55 - 7	0.75 - 9.5	2	16	240	315	160	2.7
QA/63C	7.5 - 10	10 - 14	16	22	240	315	160	2.8
QA/64C	7.5 - 13.5	10 - 18	16	29	240	315	160	2.8
QA/65C	7.5 - 16	10 - 11	16	34	400	315	165	4

1EPBH

ELECTRONIC CONTROL PANELS FOR ELECTRIC BOREHOLE AND SURFACE PUMPS

Protection and control panels for a direct starting electric borehole or surface pump. The enclosure is configured to control the electric pump manually or automatically. In automatic mode, the pump is controlled by the pressure switch, the float switch or the enable signals from the sensors or floats.

TECHNICAL FEATURES

- Protection against dry running (electric sensor) with auto re-arm when water is restored
- Tank filling level control with two electric sensors or float switches
- Tank emptying level control with two electric sensors or float switches
- Optional cosϕ module for preventing dry running without the use of electric sensors
- Motor protection against overload and phase failure with auto re-arm for 3 trip cycles, manual re-arm on fourth cycle
- Pump protection against too frequent starting
- Motor and logic line protected against short circuit by fuses
- Remote signalling with NC-NO voltage contact when protection equipment is tripped or the alarm float switch is actuated
- Terminals or hooking up a single phase motor starting capacitor
- Pressure switch contacts
- Terminals for hooking up an alarm float switch

TECHNICAL DATA

- Power supply 230V +10-15% 50/60 Hz (single phase)
  400V +10-15% 50/60 Hz (three phase + N)
- Temperature: -10°C to +40°C
- Protection degree IP55
- Reference standards: EN 60204-1, EN 60439-1, EN 61000-6-2, EN 61000-6-4 (for civil and light industrial use)

ELECTRICAL DATA TABLE BOREHOLE MOTORS 4" SINGLE-PHASE

Model Single phase 230V +10-15% - 50Hz	[HP]	[kW]	[A] max		Capacitor recommended µF		[V]
			[OY]	[WY]	[OY]	[WY]	
1EPBH 0.37 M	0.5	0.37	3.6	4	20	16	450
1EPBH 0.55 M	0.75	0.55	4.5	5.9	25	20	450
1EPBH 0.75 M	1	0.75	6	7.3	35	35	450
1EPBH 1.1 M	1.5	1.1	8.2	8.6	40	40	450
1EPBH 1.5 M	2	1.5	11	10.4	60	50	450
1EPBH 2.2 M	3	2.2	14.8	15.3	80	70	450

Enclosures without capacitors

ELECTRICAL DATA TABLE BOREHOLE MOTORS 4" THREE-PHASE

Model Three phase 400V +10-15% - 50Hz	[HP]	[kW]	[A] max	
			[OY]	[WY]
1EPBH 0.37 - 1.1 T	0.5 - 1.5	0.37 - 1.1	1.6 - 3.4	1.03 - 2.8
1EPBH 0.37 - 1.5 T	2	1.5	4.6	3.9
1EPBH 0.37 - 2.2 T	3	2.2	6.2	5.5
1EPBH 0.37 - 3 T	4	3	8	7.5
1EPBH 0.37 - 4 T	5.5	4	10.2	9.9
1EPBH 0.37 - 5.5 T	7.5	5.5	14.4	12.6
1EPBH 0.37 - 7.5 T	10	7.5	19.5	17.1

1EPBH

ELECTRONIC CONTROL PANELS FOR ELECTRIC BOREHOLE AND SURFACE PUMPS

ELECTRICAL DATA TABLE BOREHOLE MOTORS 6" THREE-PHASE

Model Three phase 400V +10-15% - 50Hz	[HP]	[kW]	[A] max [OY]	[A] max [WY]
1EPBH 0.37 - 4 T	5.5	4	8.9	9.3
1EPBH 0.37 - 5.5 T	7.5	5.5	12.4	12.5
1EPBH 0.37 - 7.5 T	10	7.5	17.2	16
1EPBH 9.2 - 11 T AVSE 2E*	12.5 - 15	9.2 - 11	22 - 23.9	20.7 - 23.3
1EPBH 15 T AVSE 2E*	20	15	31.4	31.3
1EPBH 18.5 T AVSE 2E*	25	18.5	41.5	38.5
1EPBH 22 T AVSE 2E*	30	22	46.5	45.3
1EPBH 30 T AVSE 2E*	40	30	63	63.5
1EPBH 37 T AVSE 2E*	50	37	79.2	73
1EPBH 45 T AVSE 2E*	60	45	-	89.5

*= Starting with reactance -2 excluders

ELECTRICAL DATA TABLE BOREHOLE MOTORS 8" THREE-PHASE

Model Three phase 400V +10-15% - 50Hz	[HP]	[kW]	[A] max [WY]
1EPBH 30 T AVSE 2E*	40	30	61
1EPBH 37 T AVSE 2E*	50	37	74
1EPBH 45 T AVSE 2E*	60	45	89
1EPBH 55 T AVSE 2E*	75	55	108
1EPBH 75 T AVSE 2E*	100	75	145
1EPBH 93 T AVSE 2E*	125	93	190
1EPBH 110 T AVSE 2E*	150	110	222

*= Starting with reactance -2 excluders

E-*drive*

FREQUENCY VARIATOR FOR ELECTRIC PUMPS

E-*drive* is an electronic device designed to control and protect pumping system by varying the power frequency.
E-*drive* can be connected to any commercially available surface electric pump, and enables a given physical parameter to be held constant (pressure, flow rate, fluid temperature, etc.) as the conditions vary. This means that the pump is only operated when necessary, and gives considerable energy savings while improving reliability.

APPLICATIONS

- Domestic and industrial water supply
- Irrigation
- Heating and air conditioning
- Filtering and pressure washing

TECHNICAL FEATURES

- Energy and cost savings
- Easy installation and lower overall cost
- Extended system service life
- Improved reliability

TECHNICAL DATA

- Mains power frequency: 50~-60 Hz [A]
- Max. ambient temperature at nominal load: 40°C (104 °F)
- Max. altitude at nominal load: 1000 m
- Protection degree: IP55 (NEMA 4)
- Configurable digital outputs (NO/NC):
  1. motor running signal
  2. alarm signal
  3. pump control DOL 1
  4. pump control DOL 2
- Analogue inputs (10 or 15 V DC):
  1. 4-20 mA
  2. 4-20 mA
  3. 4-20 mA / 0 - 10 V DC (configurable)
  4. 4-20 mA / 0 - 10 V DC (configurable)
- 4 Digital inputs, configurable as NO or NC, for starting and stopping the motor
- Serial RS485

ELECTRICAL DATA TABLE

Model	V_{in} +/- 15% [V]	Max. V_{out} [V]	I_{out} [A]	P_2 typical motor [kW]	Dimensions [mm]
E-*drive* 1500	1 x 230	1 x 230	9	1.1	181x181x228
		3 x 230	7	1.5	
E-*drive* 3000	1 x 230	1 x 230	9	1.1	
		3 x 230	11	3	
E-*drive* 2200	3 x 400	3 x 400	6	2.2	
E-*drive* 4000	3 x 400	3 x 400	9	4	
E-*drive* 5500	3 x 400	3 x 400	14	5.5	260x260x180
E-*drive* 7500	3 x 400	3 x 400	18	7.5	
E-*drive* 11000	3 x 400	3 x 400	25	11	
E-*drive* 15000	3 x 400	3 x 400	30	15	
E-*drive* 18500*	3 x 400	3 x 400	38	18.5	680x410x260
E-*drive* 22000*	3 x 400	3 x 400	48	22	
E-*drive* 30000*	3 x 400	3 x 400	65	30	
E-*drive* 37000*	3 x 400	3 x 400	75	37	
E-*drive* 45000*	3 x 400	3 x 400	85	45	

PRESSCOMFORT

PRESSURE REGULATOR

PRESSCOMFORT is an automatic electronic device, which regulates the operation of electric pumps with the use of autoclave tanks. It automatically starts and stops the pump when a tap or valve connected to the system is opened or closed. When the pump is started, it runs so long as any service remains open, delivering the requested flow to the circuit. If water is lacking at the suction, the pump stops automatically.
PRESSCOMFORT enables:
- manual re-arm (RESET button)
- automatic re-arm after 1, 6, 12 or 24 hours.
If the suction water pressure is restored to higher than the value set for the pump to start, PRESSCOMFORT re-arms automatically.

TECHNICAL FEATURES

- Replaces the conventional system with tank, sensor and float
- Available in versions with/without cable
- Automatic regulation
- Adjustable starting pressure
- Integrated check valve
- Operating lamp
- Cable connecting to pump terminal block (cabled version only)
- Power cable (1.5 m) with normalised connector (cabled version only)

TECHNICAL DATA

- Maximum water temperature: 60° C
- Maximum flow rate: 10,000 l/h
- Starting pressure: 1.5 - 2.5 bar
- Maximum operating pressure: 10 bar ±10%
- Power supply: 220V - 50/60 Hz
- Maximum current: 10A
- Protection degree IP65
- G1 connections (pump and delivery side)
- Weight: 0.6 kg

* Wall mounting kit included as standard supply

E-POWER

VARIABLE SPEED CONTROL SYSTEM

METAL PIPE WITHOUT VALVES

Water flow based electronic device for controlling electric pumps with inverter technology. Starts and stops the pump and modulates motor speed in relation to system demand, holding the preset working pressure constant. Provides exceptional comfort for the final user, significant energy savings and extends the circuit's service life, typical benefits of inverter autoclave system, including protection against dry running

TECHNICAL FEATURES

- Mounts to metal pipe without valves:
  - optimal cooling
  - no pressure drop
- Master/slave operation for groups of up to 2 pumps
- Very few commissioning parameters (pressure setting, pump current)
- ON/OFF input for minimum level float switch or remote switch
- Output relay for alarm signal or second pump control
- Simple, user friendly display interface
- Soft starts and stops (reduced hammering)
- Numerous protections with programmable auto re-arm

TECHNICAL DATA

- Installation: to the pipe
- Mounting position: any
- Connections: 1"¼ M
- Power supply: single phase 230V
- Output voltage (pump): three phase 230V
- Phase current: max 10 A
- Maximum pump power: 2.2 kW
- Output frequency: 5 - 60Hz
- Display: 2 digit alphanumeric
- Protection degree: IP 65
- Operating temperature 5 - 40 °C
- Pressure setpoint: 0.3 - 8 bar
- Maximum overpressure: 12 bar
- Electrical safety: EN60730
- EMC: EN61000 (standards specified in CE Declaration)
- Protections:
  - Dry running
  - Over/under voltage
  - Short circuit
  - Overcurrent
  - Overheating
  - Insufficient pressure
  - Sensor failure
- Pressurisation groups: up to two pumps
- Weight: 2 kg

Pressure Drop Table

Press drop (Pc) in metres of water column per 100 m new cast iron pipe. Fluid speed in pipe in m/s.

Flow rate [m³/h]		ID [mm]																										
		25	32	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400	450	500	600	700	800	900	1000
3	Pc %	17	6	1.6	0.54	0.25	0.13	0.06	0.03	0.02																	
	Vm/s	1.70	1.03	0.67	0.43	0.29	0.22	0.16	0.13	0.10																	
6	Pc %		24	6	2	0.9	0.43	0.21	0.13	0.08	0.026																
	Vm/s		2.06	1.34	0.85	0.58	0.44	0.32	0.26	0.20	0.13																
9	Pc %			12.5	4.3	1.8	0.9	0.46	0.25	0.15	0.06																
	Vm/s			2.08	1.32	0.89	0.65	0.5	0.39	0.32	0.20																
12	Pc %			20	7	3.2	1.5	0.75	0.44	0.25	0.09	0.03															
	Vm/s			2.76	1.76	1.19	0.88	0.67	0.53	0.43	0.27	0.18															
15	Pc %				12	5.2	2.4	1.25	0.7	0.42	0.15	0.06															
	Vm/s				2.2	1.49	1.1	0.87	0.66	0.54	0.34	0.24															
18	Pc %				17	7	3.5	1.7	1	0.6	0.2	0.08															
	Vm/s				2.64	1.78	1.3	1	0.78	0.64	0.4	0.28															
21	Pc %				22	8.8	4.2	2.2	1.3	0.75	0.26	0.1	0.05														
	Vm/s				3.35	2.08	1.54	1.17	0.93	0.75	0.48	0.32	0.24														
24	Pc %					12	5.7	3	1.7	1	0.36	0.14	0.07														
	Vm/s					2.38	1.76	1.34	1.06	0.86	0.54	0.36	0.28														
27	Pc %					14	7	3.5	2	1.25	0.42	0.17	0.08														
	Vm/s					2.7	1.97	1.45	1.17	0.96	0.6	0.42	0.31														
30	Pc %					17	8.2	4.2	2.5	1.5	0.5	0.2	0.09														
	Vm/s					2.98	2.2	1.74	1.32	1.08	0.68	0.48	0.34														
36	Pc %					25	12	6.3	3.5	2	0.75	0.3	0.14	0.07													
	Vm/s					3.58	2.63	2	1.58	1.28	0.82	0.57	0.42	0.32													
42	Pc %						16	8.5	4.5	2.7	0.85	0.33	0.18	0.08													
	Vm/s						3.07	2.34	1.85	1.5	0.96	0.66	0.48	0.37													
48	Pc %						21	10	6	3.6	1.2	0.45	0.22	0.12	0.06												
	Vm/s						3.51	2.68	2.12	1.72	1.08	0.72	0.56	0.43	0.34												
54	Pc %						25	13.5	7.6	4.5	1.5	0.55	0.28	0.14	0.08												
	Vm/s						3.94	3	2.34	1.92	1.2	0.84	0.63	0.48	0.38												
60	Pc %							16	9	5.5	1.8	0.7	0.33	0.17	0.1												
	Vm/s							3.32	2.64	2.16	1.36	0.96	0.68	0.53	0.42												
75	Pc %							24	14	8	2.76	1	0.49	0.24	0.14	0.08											
	Vm/s							4.17	3.31	2.68	1.72	1.18	0.87	0.67	0.53	0.43											
90	Pc %								20	12.5	3.8	1.45	0.74	0.36	0.2	0.14	0.08										
	Vm/s								3.97	3.24	2.04	1.44	1.02	0.8	0.63	0.51	0.42										
105	Pc %								26	16.5	5.3	1.95	0.9	0.47	0.27	0.16	0.1										
	Vm/s								4.6	3.74	2.41	1.66	1.22	0.93	0.74	0.59	0.49										
120	Pc %									21.5	6.9	2.6	1.2	0.61	0.36	0.2	0.14	0.08									
	Vm/s									4.31	2.72	1.93	1.35	1.06	0.84	0.68	0.56	0.47									
135	Pc %									26	9	3.3	1.5	0.76	0.45	0.25	0.17	0.1									
	Vm/s									4.81	3.07	2.13	1.56	1.19	0.95	0.76	0.63	0.53									
150	Pc %										11	4	1.9	0.95	0.55	0.3	0.21	0.12	0.06								
	Vm/s										3.44	2.36	1.74	1.34	1.05	0.86	0.70	0.59	0.43								
165	Pc %										13	4.7	2.2	1.13	0.65	0.37	0.24	0.15	0.08								
	Vm/s										3.75	2.61	1.91	1.46	1.15	0.94	0.77	0.65	0.48								
180	Pc %										15.2	5.5	2.6	1.3	0.76	0.43	0.29	0.18	0.09								
	Vm/s										4.09	2.83	2.08	1.59	1.26	1.02	0.84	0.71	0.52								
210	Pc %										21	7.4	3.5	1.8	1.1	0.6	0.37	0.24	0.12	0.06							
	Vm/s										4.70	3.32	2.43	1.86	1.49	1.19	0.98	0.82	0.61	0.47							
240	Pc %											9.4	4.3	2.3	1.3	0.75	0.48	0.3	0.15	0.08							
	Vm/s											3.78	2.77	2.12	1.68	1.36	1.12	0.95	0.69	0.53							
270	Pc %											12	5.5	2.8	1.62	0.9	0.58	0.35	0.18	0.09							
	Vm/s											4.26	3.13	2.39	1.90	1.53	1.26	1.07	0.78	0.59							
300	Pc %											14	7.5	3.4	2	1.1	0.74	0.46	0.22	0.11	0.07						
	Vm/s											4.75	3.47	2.66	2.10	1.71	1.40	1.18	0.86	0.67	0.53						
360	Pc %												9	4.7	2.8	1.6	1	0.65	0.32	0.16	0.09	0.05					
	Vm/s												4.15	3.17	2.53	2.04	1.68	1.41	1.04	0.79	0.63	0.51					
420	Pc %												11.6	6.2	3.5	2	1.3	0.82	0.41	0.21	0.12	0.07	0.03				
	Vm/s												4.86	3.72	2.94	2.37	1.96	1.64	1.22	0.94	0.76	0.59	0.41				
480	Pc %													8.5	4.9	2.9	1.9	1.2	0.6	0.3	0.17	0.09	0.04				
	Vm/s													4.24	3.36	2.72	2.24	1.90	1.38	1.06	0.84	0.69	0.47				
540	Pc %													11	6.5	3.7	2.35	1.52	0.75	0.38	0.22	0.12	0.05				
	Vm/s													4.78	3.80	3.06	2.52	2.13	1.56	1.19	0.94	0.76	0.53				
600	Pc %													12.2	7.4	4.3	2.7	1.7	0.9	0.45	0.25	0.13	0.055	0.024			
	Vm/s													5.30	4.20	3.40	2.81	2.36	1.73	1.34	1.06	0.86	0.61	0.44			
660	Pc %														9	5.2	3.3	2.1	1.1	0.54	0.3	0.16	0.06	0.03			
	Vm/s														4.61	3.76	3.07	2.59	1.89	1.46	0.15	0.93	0.65	0.48			
720	Pc %														10	6	3.8	2.5	1.3	0.52	0.35	0.19	0.075	0.035			
	Vm/s														5.05	4.08	3.37	2.84	2.08	1.65	1.26	1.02	0.71	0.52			
780	Pc %															7.3	4.5	3	1.5	0.75	0.42	0.23	0.08	0.04			
	Vm/s															4.43	3.65	3.08	2.26	1.73	1.36	1.11	0.77	0.56			
840	Pc %															8	5.4	3.4	1.7	0.85	0.48	0.26	0.1	0.047			
	Vm/s															4.76	3.95	3.31	2.43	1.86	1.47	1.19	0.83	0.61			
900	Pc %															9	5.8	3.75	1.9	0.96	0.53	0.29	0.11	0.053			
	Vm/s															5.1	4.22	3.54	2.60	2.00	1.57	1.27	0.88	0.65			
960	Pc %																6.5	4.3	2.1	1.1	0.6	0.32	0.12	0.06			
	Vm/s																4.49	3.78	2.77	2.13	1.68	1.36	0.95	0.70			
1020	Pc %																7.2	4.6	2.45	1.2	0.67	0.35	0.14	0.065	0.033		
	Vm/s																4.76	4.01	2.94	2.26	1.78	1.44	1.00	0.77	0.54		
1080	Pc %																	5.4	2.8	1.4	0.78	0.43	0.16	0.073	0.037		
	Vm/s																	4.26	3.12	2.38	1.86	1.53	1.06	0.78	0.57		
1140	Pc %																	6	3.2	1.53	0.86	0.46	0.175	0.08	0.043	0.037	
	Vm/s																	4.49	3.29	2.53	1.99	1.65	1.12	0.84	0.61	0.52	
1200	Pc %																	6.5	3.4	1.7	0.93	0.5	0.19	0.09	0.046	0.04	0.025
	Vm/s																	4.72	3.45	2.68	2.12	1.72	1.23	0.88	0.63	0.54	0.4

The pressure drops due to the accessory equipment can be approximated with the following comparisons:

- Base valve: equivalent to 15 m of pipe
- Check valve: equivalent to 10 m of pipe
- Shutter: equivalent to 5 m of pipe
- Bends and elbows: equivalent to 5 m of pipe

For other than new cast iron pipe, multiply the table data by the following coefficients:

- stainless steel 0.8
- PVC 0.7
- ceramic 1.17
- rolled steel 0.8
- galvanised steel 0.8
- slightly rusty pipe 1.25
- heavily encrusted rusty pipe 2.1

Recommended delivery diameter

Recommended suction diameter

PERFORMANCE SPECIFICATIONS

The specifications given refer to the curves provided in our catalogues and Data Book (see www.ebaraeurope.com).
All performance curves are calculated in accordance with ISO 9906 Annex A.

Tolerances in accordance with ISO 9906 Annex A.
The curves refer to an effective asynchronous motor speed at 50 Hz.
The measurements were taken at a water temperature of 20°C and a kinematic viscosity of ν= 1 mm²/s (1 cSt).
The NPSH curve is a mean curve obtained in the same conditions as the performance curves.
The continuous lines indicate the recommended working range. The hyphenated line is a guideline only.
In order to avoid the risk of overheating, the pumps should not be used at a flow rate below 10% of the maximum flow rate.

During pump selection, one should apply a safety margin of at least 1 m.

Symbols:
- Q = Flow rate [m³/h]
- H = Head [m]
- P_1 = Power uptake from electrical line
- P_2 = Power delivered at motor shaft (power uptake of pump)
- η = Pump efficiency
- NPSH = Net positive suction head required by the pump
- MEI = Minimum Efficiency Index

The MEI measures the quality of a pump in relation to its efficiency.
The MEI is based on the hydraulic performance at the point of maximum efficiency.

The efficiency of a pump with a lathed impeller is generally lower than of a pump with a full impeller diameter.
Lathing the impeller adapts the pump to a fixed working point, and thus reduced power consumption.
The MEI is based on the maximum impeller diameter.

The operation of a water pump with variable working points may be more efficient and economical if controlled by a variable speed motor which adapts the pump's operation to the system.

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Si certifica che il sistema di gestione di/This is to certify that the management system of

EBARA PUMPS EUROPE S.p.A.

Via Pacinotti, 32 - 36040 Brendola (VI) - Italy

È conforme ai requisiti della norma per il Sistema di Gestione Qualità/ has been found to conform to the Quality Management System standard:

UNI EN ISO 9001:2008 (ISO 9001:2008)

Questa certificazione è valida per il seguente campo applicativo:

Progettazione, produzione, vendita e commercializzazione di pompe e sistemi di pompaggio

(Settore EA: 18 - 17 - 14)

This certificate is valid for the following scope:

Design, manufacture, sales and trade of pumps and pumping systems

(EA Sector: 18 - 17 - 14)

ACCREDIA

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