

4" SUBMERSED CENTRIFUGAL PUMPS

in AISI 304



4" submersed centrifugal pumps built entirely in AISI 304 stainless steel. Suitable for coupling to 4" motors in compliance with NEMA Standards.

APPLICATIONS

- Domestic, agricultural and industrial water supply systems
- Pressure boosting, fire-fighting plants
- Irrigation
- Washing
- Moving clear water in general

TECHNICAL DETAILS

- Reliable and strong
- Corrosion-proof
- Exceptional efficiency due to the smooth surfaces of the impellers and nozzles

TECHNICAL DATA

- Maximum immersion: 150 m
- Maximum temperature of the liquid: 30°C
- Maximum sand content: 50 ppm
- The pumps can be supplied as follows:
 - 4BHS pump plus OY motor in bath of liquid refrigerant
 - 4BHS pump plus WY motor in waterbath

The pump and the motor are supplied separately.

Both motors have the following features:

- 2 pole motor in bath of liquid refrigerant (OY) or in water bath (WY)
- Max start-ups per hour: 30
- Quick coupling for power supply cable
- Class of insulation F (OY version) or B (WY version)
- IPX58 Protection rating
- 230V (+6 -10%) 50 Hz single phase voltage (OYM version), 400V (+6 -10%) 50 Hz three phase voltage (OY version)
- 230V ± 6% 50 Hz single phase voltage (WYM version), 400V ± 6% 50 Hz three phase voltage (WY version)
- G1 ¼ discharge connection (4BHS 2), G1 ½ (4BHS 4), G2 (4BHS 7-4BHS 15)
- For cable dimensioning (see page 41)

MATERIALS

- Motor discharge and support sleeve in moulded stainless steel
- Support, inlets, joint, impeller, nozzle, valve, stages, tie-rod and isolating cover in AISI 304
- Wear rings in EPDM/AISI 304 and shaft in AISI 316
- Radial bearings, axial bearings and friction ring in tungsten carbide

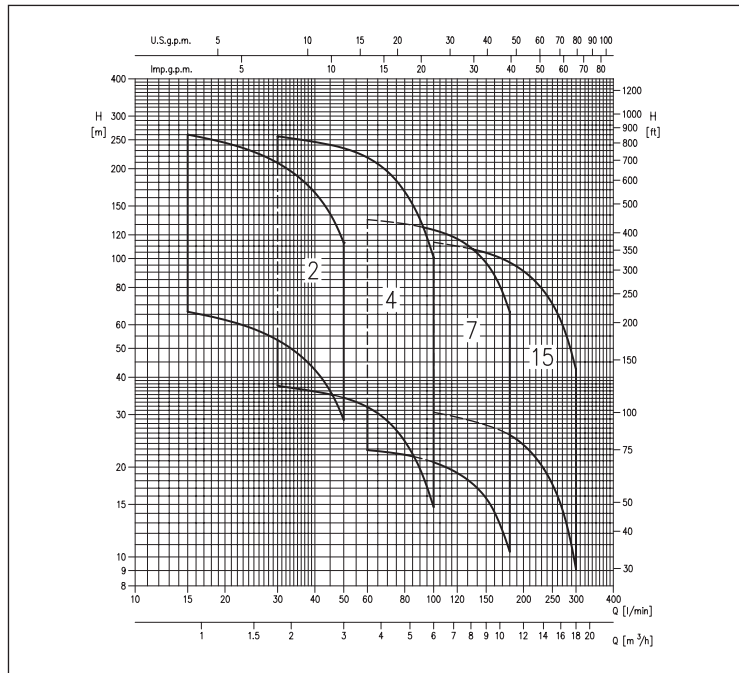
CONTROL PANELS

- Q Series (see page 42)
- 1EPBH (see page 43)

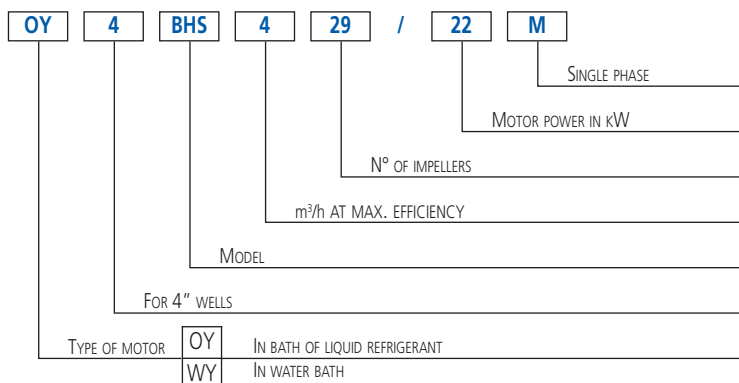
ACCESSORIES (on request)

- Flat cable 4x2.5 for motor 4" OY - from 10 m, 20 m, 30 m or 40 m
- Cable with junction 4x2.5 for motor 4" OY - 40 m
- Cable with junction 4x2.5 for motor 4" OY - 60 m
- Cable with junction 4x4 for motor 4" OY - 60 m
- Junction for cable GPS-1 (for 4x1.5 and 4x2.5 cables)
- Casting resin cable junction 92A1 (section 1.5÷10 mm²)
- PVC 5m key float with counter-weight
- PVC 10 m key float with counter-weight
- PVC 20 m key float with counter-weight
- Capacitor MF 20,450V L=150
- Capacitor MF 25,450V L=150
- Capacitor MF 35,450V L=150
- Capacitor MF 40,450V L=150
- Capacitor MF 50,450V L=150
- Capacitor MF 60,450V L=150
- Capacitor MF 70,450V L=150
- Capacitor MF 80,450V L=150

PERFORMANCE RANGE (according to ISO 9906 Attachment A)



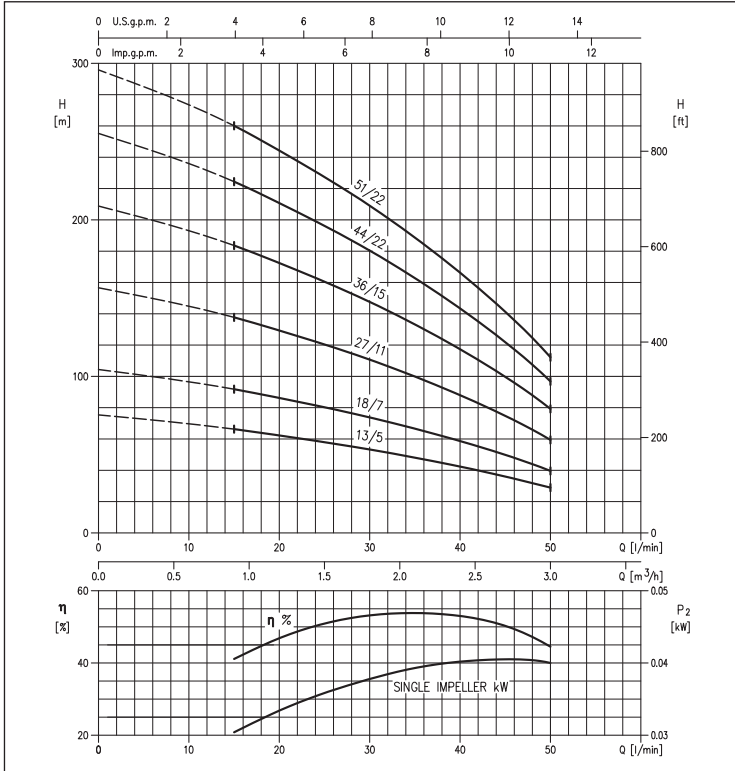
IDENTIFICATION CODE



4" SUBMERSED CENTRIFUGAL PUMPS in AISI 304

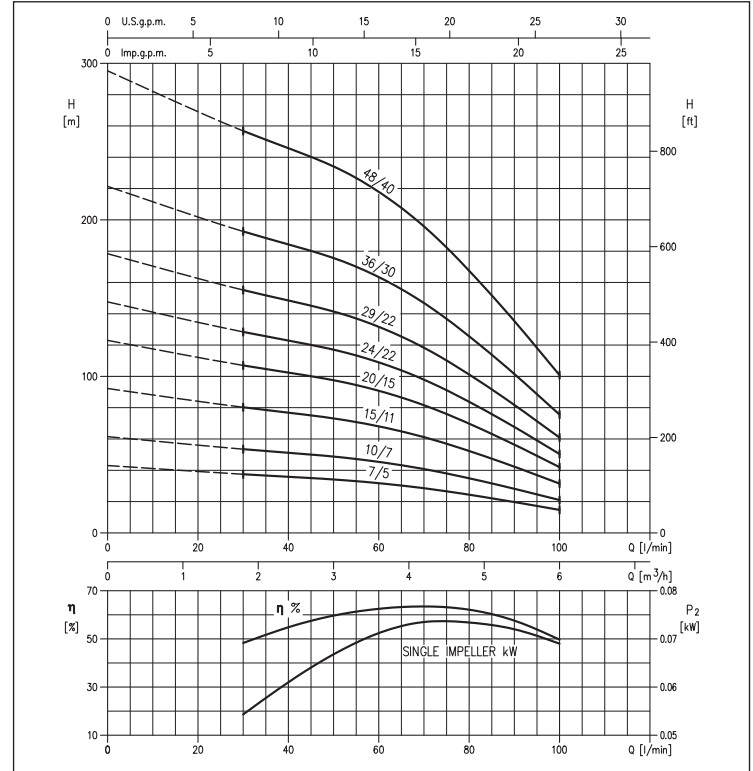
4BHS 2 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 70.5 mm



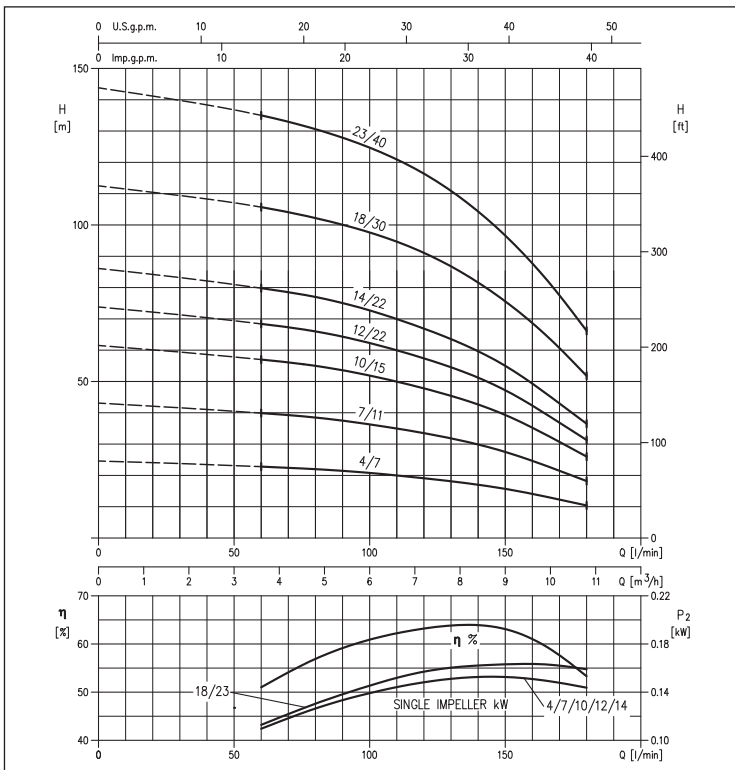
4BHS 4 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 72 mm



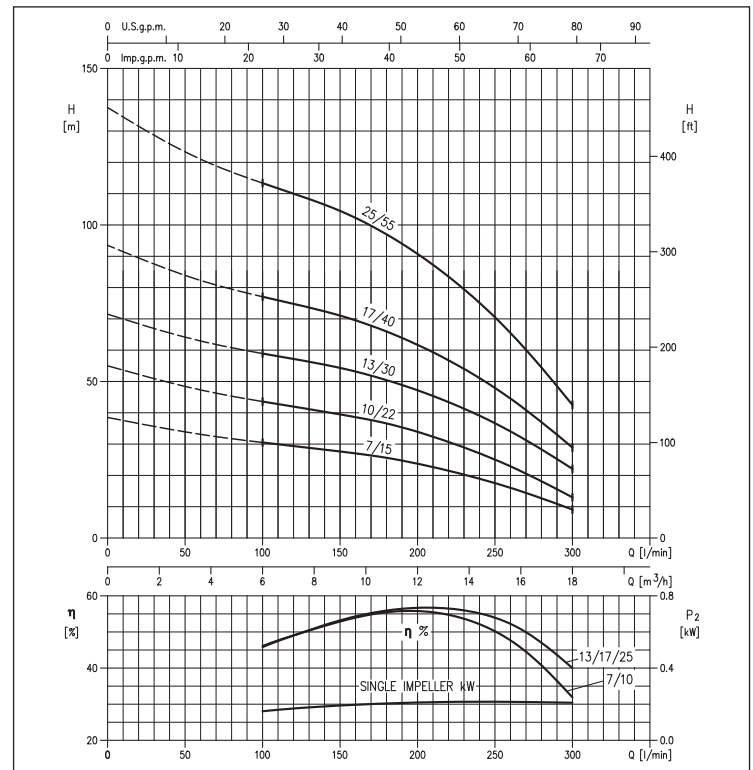
4BHS 7 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 74 mm



4BHS 15 range PERFORMANCE CURVES

(according to ISO 9906 Attachment A) IMPELLER DIAMETER: 72 mm



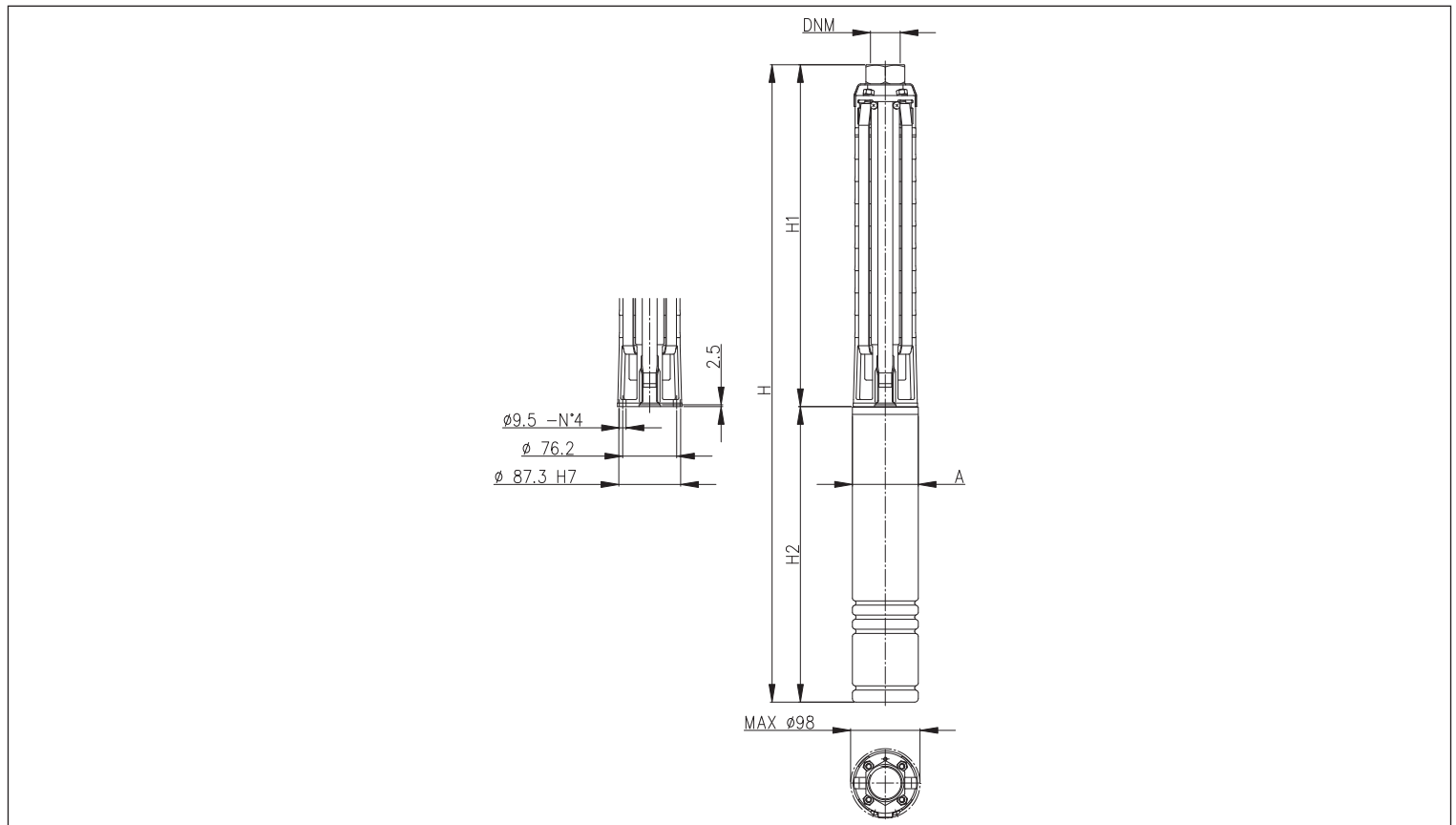
4" SUBMERSED CENTRIFUGAL PUMPS

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PERFORMANCE TABLE

Model		P ₂		Q=Flow rate															
Single phase	Three phase	[HP]	[kW]	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]															
4BHS2 13/5M	4BHS2 13/5	0,75	0,55	66,5	62,5	53,5	42,5	28,6	-	-	-	-	-	-	-	-	-	-	-
4BHS2 18/7M	4BHS2 18/7	1,0	0,75	92,0	86,0	74,0	58,5	39,6	-	-	-	-	-	-	-	-	-	-	-
4BHS2 27/11M	4BHS2 27/11	1,5	1,1	138,0	129,0	111,0	88,0	59,5	-	-	-	-	-	-	-	-	-	-	-
4BHS2 36/15M	4BHS2 36/15	2,0	1,5	184,0	172,0	148,0	117,0	79,0	-	-	-	-	-	-	-	-	-	-	-
4BHS2 44/22M	4BHS2 44/22	3,0	2,2	224,0	211,0	180,0	143,0	97,0	-	-	-	-	-	-	-	-	-	-	-
4BHS2 51/22M	4BHS2 51/22	3,0	2,2	260,0	244,0	209,0	166,0	112,0	-	-	-	-	-	-	-	-	-	-	-
4BHS4 7/5M	4BHS4 7/5	0,75	0,55	-	-	37,5	35,8	34,2	31,8	24,4	14,7	-	-	-	-	-	-	-	-
4BHS4 10/7M	4BHS4 10/7	1,0	0,75	-	-	53,5	51,0	49,0	45,5	34,9	21,0	-	-	-	-	-	-	-	-
4BHS4 15/11M	4BHS4 15/11	1,5	1,1	-	-	80,5	77,0	73,0	68,0	52,5	31,5	-	-	-	-	-	-	-	-
4BHS4 20/15M	4BHS4 20/15	2,0	1,5	-	-	107,0	102,0	97,5	91,0	70,0	42,0	-	-	-	-	-	-	-	-
4BHS4 24/22M	4BHS4 24/22	3,0	2,2	-	-	128,0	123,0	117,0	109,0	84,0	50,5	-	-	-	-	-	-	-	-
4BHS4 29/22M	4BHS4 29/22	3,0	2,2	-	-	155,0	148,0	142,0	132,0	101,0	61,0	-	-	-	-	-	-	-	-
	4BHS4 36/30	4,0	3,0	-	-	193,0	184,0	176,0	163,0	126,0	75,5	-	-	-	-	-	-	-	-
	4BHS4 48/40	5,5	4,0	-	-	257,0	246,0	234,0	218,0	168,0	101,0	-	-	-	-	-	-	-	-
4BHS7 4/7M	4BHS7 4/7	1,0	0,75	-	-	-	-	-	22,8	22,0	20,8	19,1	15,7	10,4	-	-	-	-	-
4BHS7 7/11M	4BHS7 7/11	1,5	1,1	-	-	-	-	-	39,9	38,5	36,3	33,5	27,5	18,2	-	-	-	-	-
4BHS7 10/15M	4BHS7 10/15	2,0	1,5	-	-	-	-	-	57,0	55,0	52,0	48,0	39,3	26,0	-	-	-	-	-
4BHS7 12/22M	4BHS7 12/22	3,0	2,2	-	-	-	-	-	68,5	66,0	62,5	57,5	47,0	31,3	-	-	-	-	-
4BHS7 14/22M	4BHS7 14/22	3,0	2,2	-	-	-	-	-	80,0	77,0	72,5	67,0	55,0	36,5	-	-	-	-	-
	4BHS7 18/30	4,0	3,0	-	-	-	-	-	106,0	102,0	97,5	91,0	75,5	52,0	-	-	-	-	-
	4BHS7 23/40	5,5	4,0	-	-	-	-	-	135,0	131,0	125,0	116,0	96,5	66,0	-	-	-	-	-
4BHS15 7/15M	4BHS15 7/15	2,0	1,5	-	-	-	-	-	-	-	30,5	29,3	27,7	25,6	21,5	16,0	9,1	-	-
4BHS15 10/22M	4BHS15 10/22	3,0	2,2	-	-	-	-	-	-	-	43,5	42,0	39,5	36,6	30,7	22,9	13,0	-	-
	4BHS15 13/30	4,0	3,0	-	-	-	-	-	-	-	59,0	57,5	54,5	50,5	43,5	34,1	22,1	-	-
	4BHS15 17/40	5,5	4,0	-	-	-	-	-	-	-	77,0	75,0	71,0	66,0	57,0	44,5	28,9	-	-
	4BHS15 25/55	7,5	5,5	-	-	-	-	-	-	-	114,0	110,0	105,0	97,0	83,5	65,5	42,5	-	-

DIMENSIONS



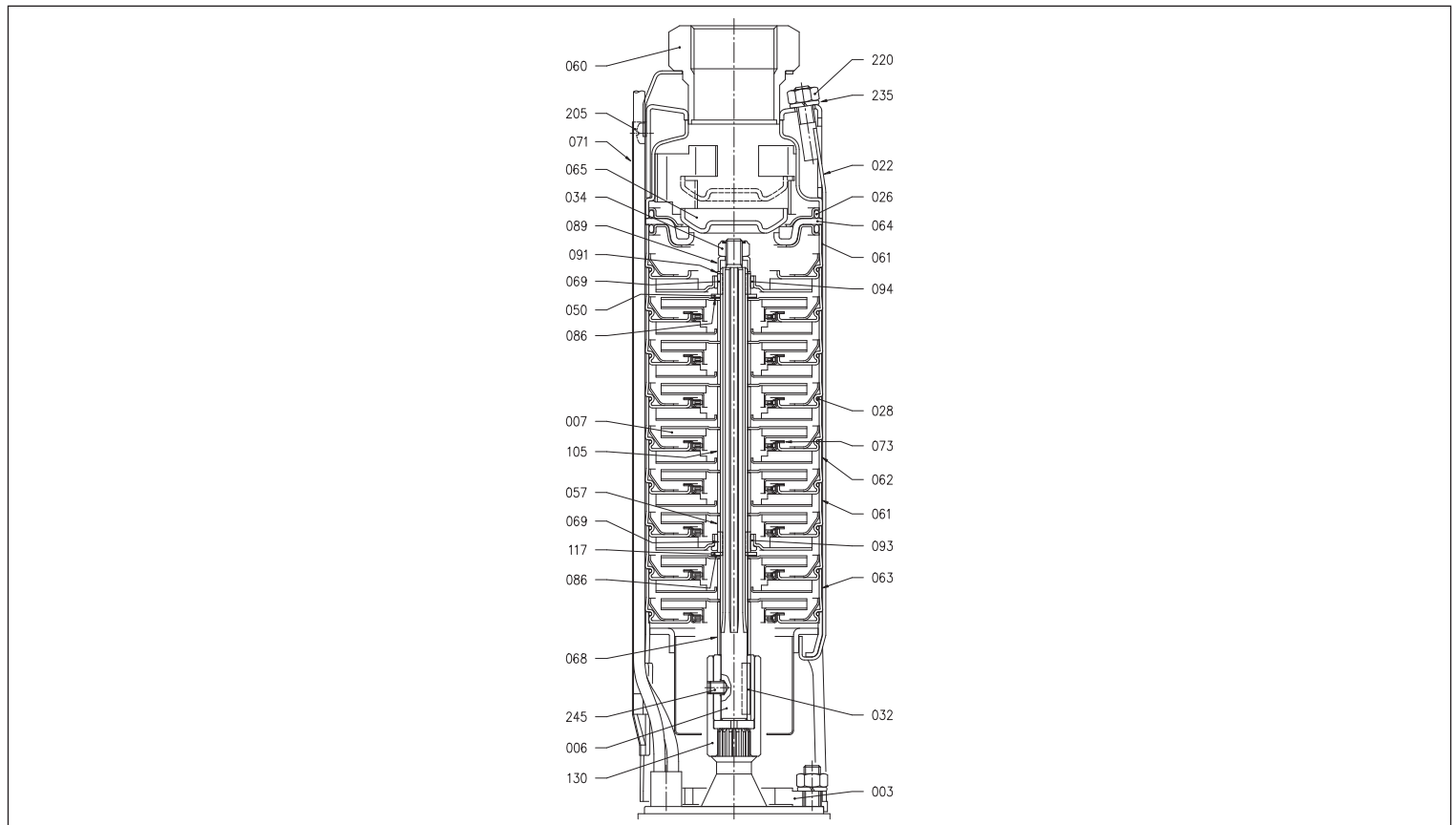
4" SUBMERSED CENTRIFUGAL PUMPS

in AISI 304

DIMENSIONS TABLE

Model	P ₂		Pump without motor		Pump with motor in bath of liquid refrigerant						Pump with motor in water bath					
	[HP]	[kW]	H1 [mm]	DNM	Single phase			Three phase			Single phase			Three phase		
					A [mm]	H2 [mm]	H [mm]	A [mm]	H2 [mm]	H [mm]	A [mm]	H2 [mm]	H [mm]	A [mm]	H2 [mm]	H [mm]
4BHS2 13/5	0,75	0,55	489	G 1 ¼	97	325	814	97	325	814	91	296	785	91	276	765
4BHS2 18/7	1,0	0,75	594	G 1 ¼	97	350	944	97	325	919	91	326	920	91	296	890
4BHS2 27/11	1,5	1,1	783	G 1 ¼	97	385	1168	97	350	1133	91	360	1143	91	326	1109
4BHS2 36/15	2,0	1,5	972	G 1 ¼	97	420	1392	97	385	1357	91	411	1383	91	360	1332
4BHS2 44/22	3,0	2,2	1140	G 1 ¼	97	520	1660	97	466	1606	91	486	1626	91	411	1551
4BHS2 51/22	3,0	2,2	1287	G 1 ¼	97	520	1807	97	466	1753	91	486	1773	91	411	1698
4BHS4 7/5	0,75	0,55	368	G 1 ½	97	325	693	97	325	693	91	296	664	91	276	644
4BHS4 10/7	1,0	0,75	431	G 1 ½	97	350	781	97	325	756	91	326	757	91	296	727
4BHS4 15/11	1,5	1,1	536	G 1 ½	97	385	921	97	350	886	91	360	896	91	326	862
4BHS4 20/15	2,0	1,5	641	G 1 ½	97	420	1061	97	385	1026	91	411	1052	91	360	1001
4BHS4 24/22	3,0	2,2	725	G 1 ½	97	520	1245	97	466	1191	91	486	1211	91	411	1136
4BHS4 29/22	3,0	2,2	830	G 1 ½	97	520	1350	97	466	1296	91	486	1316	91	411	1241
4BHS4 36/30	4,0	3,0	977	G 1 ½	97	-	-	97	544	1521	91	-	-	91	516	1493
4BHS4 48/40	5,5	4,0	1229	G 1 ½	97	-	-	97	574	1803	91	-	-	91	556	1785
4BHS7 4/7	1,0	0,75	373	G 2	97	350	723	97	325	698	91	326	699	91	296	669
4BHS7 7/11	1,5	1,1	468	G 2	97	385	853	97	350	818	91	360	828	91	326	794
4BHS7 10/15	2,0	1,5	562	G 2	97	420	982	97	385	947	91	411	973	91	360	922
4BHS7 12/22	3,0	2,2	625	G 2	97	520	1145	97	466	1091	91	486	1111	91	411	1036
4BHS7 14/22	3,0	2,2	688	G 2	97	520	1208	97	466	1154	91	486	1174	91	411	1099
4BHS7 18/30	4,0	3,0	814	G 2	97	-	-	97	544	1358	91	-	-	91	516	1330
4BHS7 23/40	5,5	4,0	972	G 2	97	-	-	97	574	1546	91	-	-	91	556	1528
4BHS15 7/15	2,0	1,5	552	G 2	97	420	972	97	385	937	91	411	963	91	360	912
4BHS15 10/22	3,0	2,2	678	G 2	97	520	1198	97	466	1144	91	486	1164	91	411	1089
4BHS15 13/30	4,0	3,0	804	G 2	97	-	-	97	544	1348	91	-	-	91	516	1320
4BHS15 17/40	5,5	4,0	972	G 2	97	-	-	97	574	1546	91	-	-	91	556	1528
4BHS15 25/55	7,5	5,5	1308	G 2	97	-	-	97	644	1952	91	-	-	91	676	1984

SECTIONAL VIEW



4" SUBMERSED CENTRIFUGAL PUMPS

in AISI 304

MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
003	Lower support	EN 1.4301 (AISI 304)	068	Spacer	EN 1.4301 (AISI 304)
006	Complete shaft	EN 1.4401 (AISI 316)	069	Shaft casing	Tungsten Carbide
007	Impeller	EN 1.4301 (AISI 304)	071	Isolating cover	EN 1.4301 (AISI 304)
022	Tie-rod	EN 1.4301 (AISI 304)	073	Wear 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	Discharge inlet	EN 1.4301 (AISI 304)	117	Anti-friction washer	Tungsten Carbide
061	Support stage	EN 1.4301 (AISI 304)	130	Joint	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	Washer grower	EN 1.4301 (AISI 304)
065	Valve	EN 1.4301 (AISI 304)	245	Set of screws	EN 1.4301 (AISI 304)

ELECTRIC DATA TABLE 4BHS WITH MOTOR IN BATH OF LIQUID REFRIGERANT

P ₂		P ₁	Voltage	Single phase		Efficiency	Power factor	P ₁	Voltage	Three phase		Efficiency	Power factor
[HP]	[kW]	[kW]	[V]	I _N	I _A					[A]	[A]		
0,75	0,55	0,90	230V	4,5	13,6	61	0,94	0,89	400V	2	7	62	0,75
1	0,75	0,19	230V	6	18,5	63	0,96	1,12	400V	2,6	10	67	0,74
1,5	1,1	1,64	230V	8,2	26	67	0,97	1,64	400V	3,4	14	67	0,74
2	1,5	2,31	230V	11	34	65	0,98	2,21	400V	4,6	17	68	0,72
3	2,2	3,24	230V	14,8	48	68	0,96	2,97	400V	6,2	24	74	0,76
4	3	-	230V	-	-	-	-	4,00	400V	8	34	75	0,78
5,5	4	-	230V	-	-	-	-	5,33	400V	10,2	47	75	0,78
7,5	5,5	-	230V	-	-	-	-	7,24	400V	14,4	58	76	0,79

ELECTRIC DATA TABLE 4BHS WITH MOTOR IN WATERBATH

P ₂		P ₁	Voltage	Single phase		Efficiency	Power factor	P ₁	Voltage	Three phase		Efficiency	Power factor
[HP]	[kW]	[kW]	[V]	I	I _A					[A]	[A]		
0,75	0,55	1,00	230V	4,8	13,4	55	0,92	0,96	400V	1,9	7,7	57	0,76
1	0,75	1,21	230V	5,6	17,1	62	0,99	1,25	400V	2,4	11,2	60	0,77
1,5	1,1	1,90	230V	9,7	30,1	58	0,94	1,62	400V	3,2	15,8	68	0,77
2	1,5	2,38	230V	12	38,5	63	0,96	2,31	400V	4,3	21,3	65	0,80
3	2,2	3,33	230V	16,6	55,6	66	0,97	2,93	400V	5,8	32,8	75	0,74
4	3	-	230V	-	-	-	-	4,05	400V	7,7	44,5	74	0,77
5,5	4	-	230V	-	-	-	-	5,33	400V	10,1	51	75	0,77
7,5	5,5	-	230V	-	-	-	-	7,64	400V	13,8	66,9	72	0,80