

TECHNICAL DATA



CONCEPT :

The Toyo VH amphibious pumps have been specially designed to handle very heavy and abrasive slurries in surface applications or in applications where the pump may be partially or totally submerged.

These centrifugal pumps with semi-open impeller, feature a unique agitator design. This agitator lifts sediments into suspension and create a homogeneous mixture. This enables continuous pumping of media with a high concentration of solids.

Robust construction, careful selection of materials and unique contour components have produced a pump with excellent abrasion resistance. These characteristics ensure long service life and economical operation.

The impeller, the wear plate(s) and the agitator are manufactured in cast chrome iron (24 to 28% Cr).

A strong short shaft, supported by a series of carefully selected bearings and the double mechanical seal operating in an oil bath, ensure perfect tightness in the hardest of conditions.

The design of the pump associated with a powerful SP electric motor (F class) allows the pump to be both air and water cooled.

Models VH2 to VH10 have one adjustable wear plate and the models VH15 to VH40 have two wear plates of which the bottom one is adjustable. This allows simple adjustment to maintain long lasting high performance, even in the case of wear of impeller and wear plates.

VH pumps can be used in horizontal or vertical position.

The horizontal models are supplied fixed on a frame (compact sledge version available) with strainer or fixing cone, with or without agitator.

They are available in different metallurgies and notably in stainless steel for acid slurries pumping.

OPERATING CONDITIONS :

- slurries with solid content of up to 60% by weight
- particle sizes up to 80 mm
- liquid temperatures up to 60°C
- pH levels between 4 and 14

Special versions are available for liquid temperatures up to 80°C. The maximum operating depth is 30 m.

ELECTRIC POWER REQUIREMENTS* :

Pump type	Power kVA	Amp. 400 V
VH 2	5	3
VH 3	6	4.4
VH 5	12	7.3
VH 7.5	15	11.1
VH 10/H	20	14.5
VH 15/B/H	30	22
VH 20/B/H	40	28
VH 30/B/H	50	40.5
VH 40	65	53
VH 40/100	65	53

*These figures are given as an indication.

ELECTRIC CABLE :

The standard cable type to be used for connecting the pump is HO7RN-F and its specifications should correspond to the following:

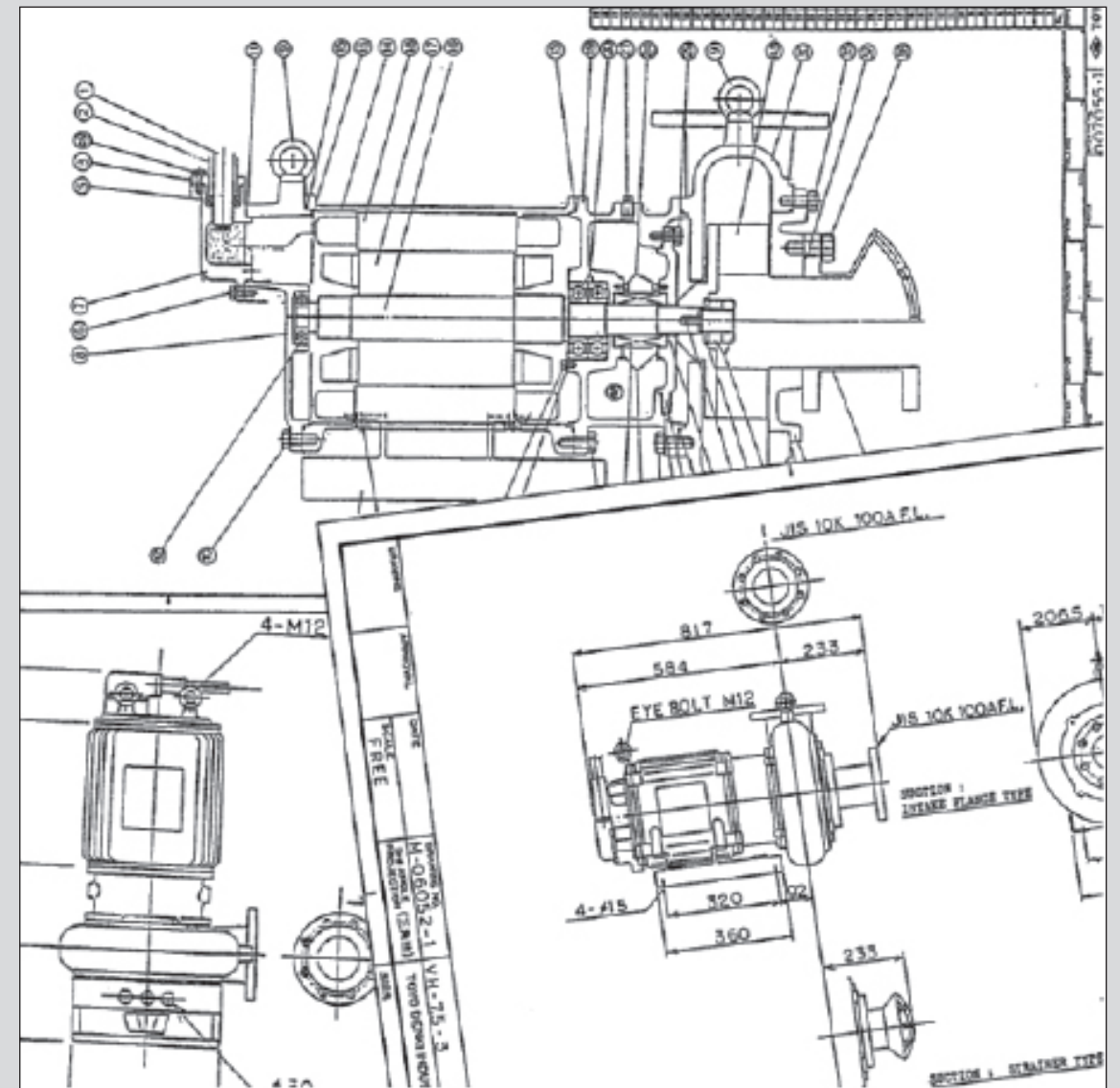
Pump type	Section	Outer diam. mm	Max. length m / 400V
VH 2	4 x 6 mm ²	19	800
VH 3	4 x 6 mm ²	19	500
VH 5	4 x 6 mm ²	19	380
VH 7.5	4 x 10 mm ²	23	350
VH 10/H	4 x 10 mm ²	23	280
VH 15/B/H	4 x 10 mm ²	23	190
VH 20/B/H	4 x 10 mm ²	23	130
VH 30/B/H	4 x 16 mm ²	27	180
VH 40	4 x 35 mm ²	37	280
VH 40/100	4 x 35 mm ²	37	280

CONTROL PANEL :

For 2 to 10 HP VH pumps, we recommend to use a Toyo control panel equipped with a direct starter. From 15 HP VH pumps on, we recommend to use a Toyo control panel equipped with a statoric starter

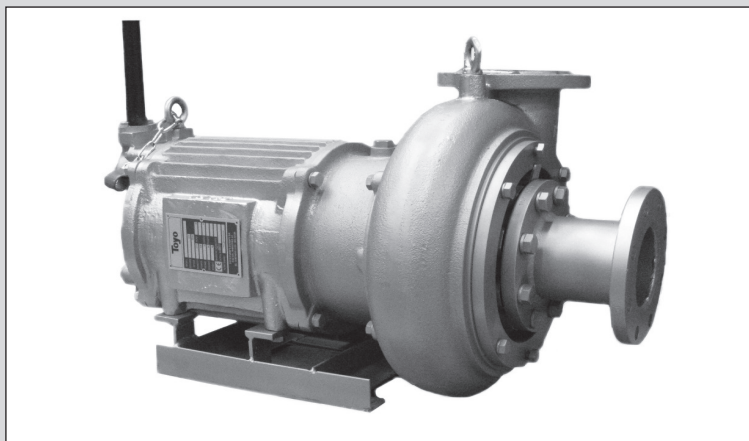
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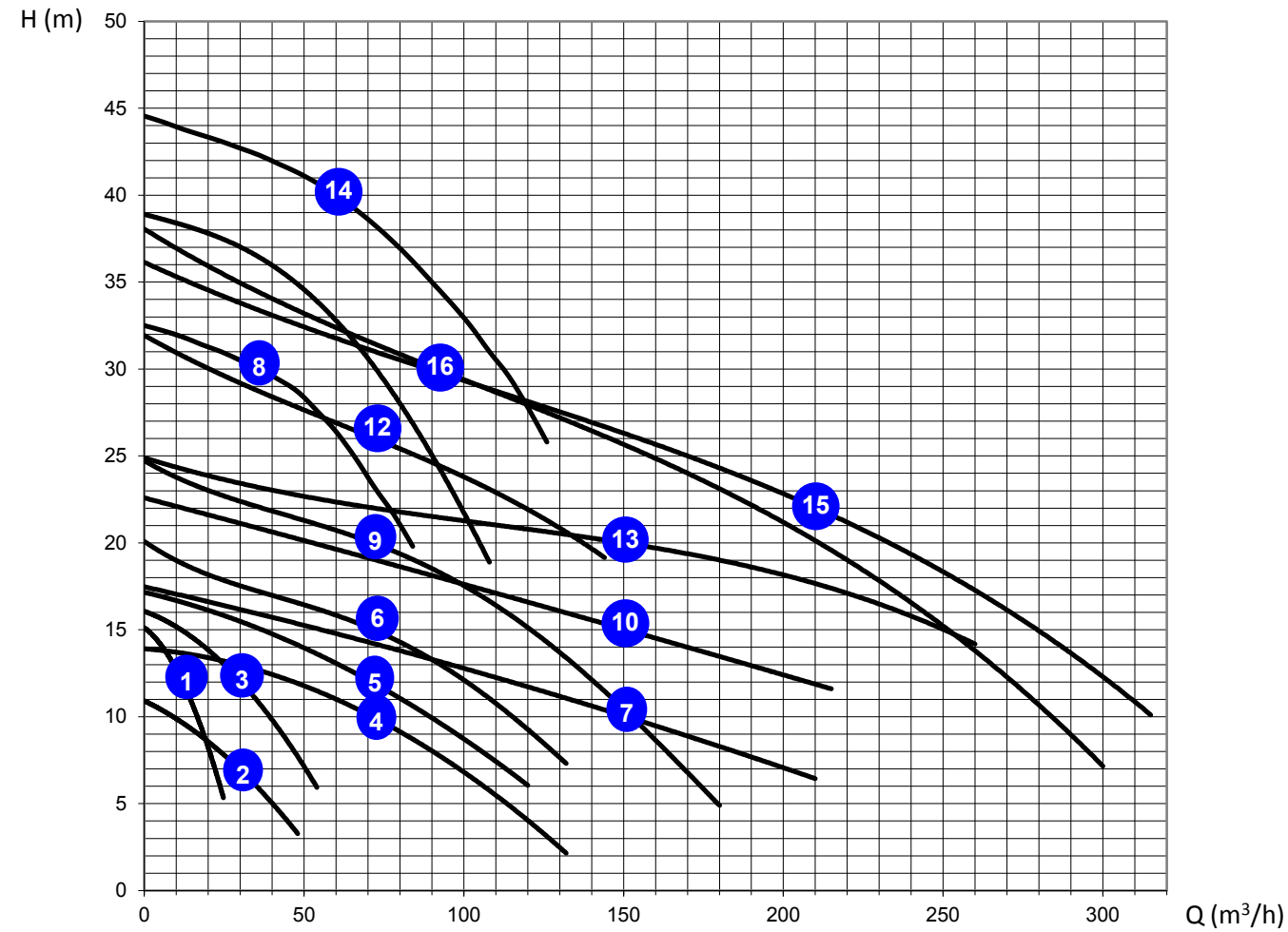


Heavy slurry pumps

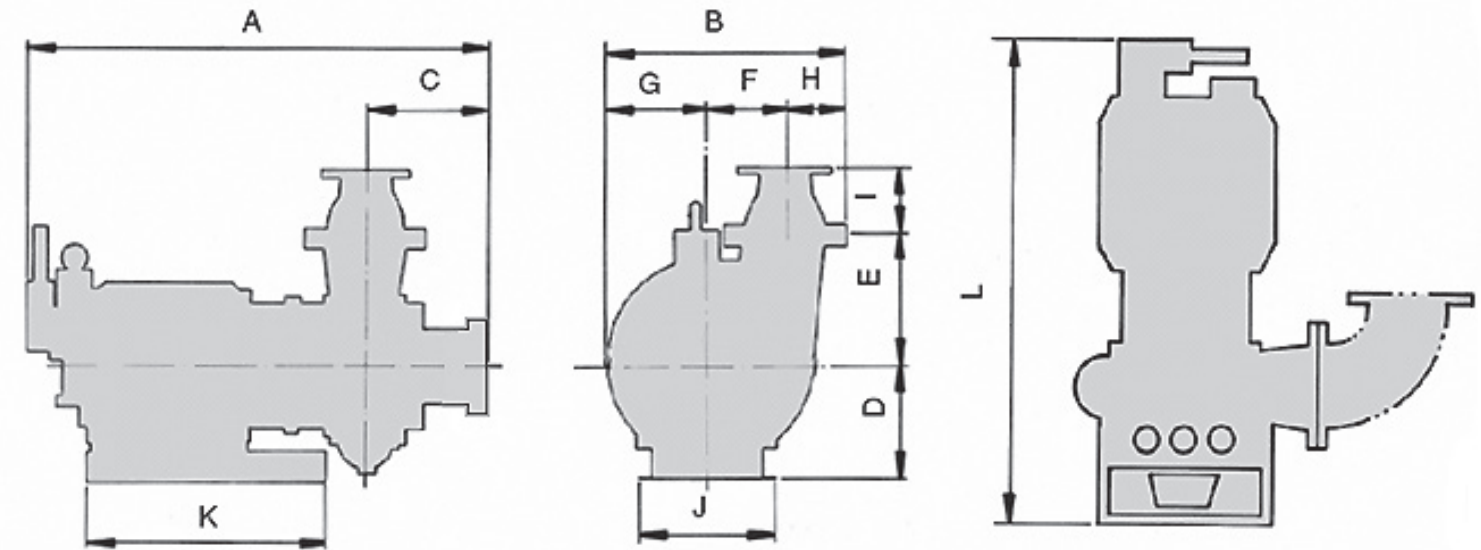
**TECHNICAL SPECIFICATIONS
 VH PUMPS**



Performance curves



Nr	Type	Outlet		Capacity (m³/h)	Manom. head (m)	Particle size (mm)		Power (kW)	Poles (P)	Revolution (1/min) 50Hz	Current (A) 400V	Electr. cable	Weight (kg)
		(inch)	(mm)			Horiz.	Vert.						
1	VH 2	2	50	12	12	20	16	1.5	4	1400	3	4 x 6 mm²	110
2	VH 3	3	80	30	7	30	25	2.2	4	1465	4.4	4 x 6 mm²	120
3	VH 5	3	80	30	12	30	25	3.7	4	1460	7.3	4 x 6 mm²	130
4	VH 7.5	4	100	72	10	60	30	5.5	4	1480	11	4 x 10 mm²	165
5	VH 10	4	100	72	12	60	30	7.5	4	1450	14.5	4 x 10 mm²	180
6	VH 15	4	100	72	15	60	45	11	4	1480	22	4 x 10 mm²	320
7	VH 15B	6	150	150	10	60	45	11	4	1480	22	4 x 10 mm²	320
8	VH 15H	3	80	36	30	25	20	11	4	1480	22	4 x 10 mm²	300
9	VH 20	4	100	72	20	60	45	15	4	1480	28	4 x 10 mm²	340
10	VH 20B	6	150	150	15	60	45	15	4	1480	28	4 x 10 mm²	330
11	VH 20H	3	80	48	35	25	20	15	4	1480	28	4 x 10 mm²	320
12	VH 30	4	100	72	26	70	45	22	4	1470	40.5	4 x 16 mm²	440
13	VH 30B	6	150	150	20	80	45	22	4	1470	40.5	4 x 16 mm²	420
14	VH 30H	4	100	60	40	25	25	22	4	1470	40.5	4 x 16 mm²	400
15	VH 40	6	150	210	22	70	45	30	4	1470	53	4 x 35 mm²	650
16	VH 40/100	4	100	90	30	60	45	30	4	1460	53	4 x 35 mm²	900



DIMENSIONS (mm)		A	B	C	D	E	F	G	H	I	J	K	L
1	VH 2	661	351.5	209	180	180	130	144	77.5	-	270	260	594
2	VH 3	700	394.5	205.5	215	205	135	167	92.5	-	250	360	676
3	VH 5	720	394.5	205.5	215	205	135	167	92.5	-	250	360	696
4	VH 7.5	817	457	233	215	250	145	207	105	-	275	360	792
5	VH 10	871	457	233	215	250	145	207	105	-	275	360	846
6	VH 15	1040	538	280	264	280	175	223	140	153	310	540	995
7	VH 15B	1040	538	280	264	280	175	223	140	-	310	540	995
8	VH 15H	968	505.5	233	264	260	185	228	92.5	-	310	540	935
9	VH 20	1109	538	280	264	280	175	223	140	153	310	540	1064
10	VH 20B	1109	538	280	264	280	175	223	140	-	310	540	1064
11	VH 20H	1037	505.5	233	264	260	185	228	92.5	-	310	540	1004
12	VH 30	1218	596	281.5	304	330	180	276	140	153	330	550	1252
13	VH 30B	1218	596	281.5	304	330	180	276	140	-	330	550	1252
14	VH 30H	1122	518	233	304	260	185	228	105	110	330	550	1089
15	VH 40	1515	682	264	355	310	250	292	140	-	400	840	1549
16	VH 40/100	1539	682	264	355	310	250	292	140	150	400	840	1549