

TECHNICAL DATA



• CONCEPT :

The Toyo DV range of vertical pumps with agitator has been specially designed to handle heavy and abrasive slurries.

These centrifugal pumps with semi-open or closed impeller are driven by a powerful electric motor with high torque. These pumps have been designed to function with a unique agitator which rotation lifts sediments into suspension, creating a slurry mixture. This enables continuous pumping of media with a high concentration of solids.

Robust construction, careful selection of materials and unique contour components, coupled with a low speed motor, have produced a pump with excellent abrasion resistance capable of handling the toughest of applications. 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 a mechanical seal or an assembly of special lip seals, operating in an oil bath, ensure tightness in the hardest of conditions. This assembly system permits sufficient shaft length even when heavy liquids with a high concentration of solids need to be handled.

The column mounted powerful electric motor and the coupling housing of the DV pumps are fixed onto a base plate and are easily accessible. The submerged part of the pump is firmly stowed onto the base plate by means of solid shaft casing.

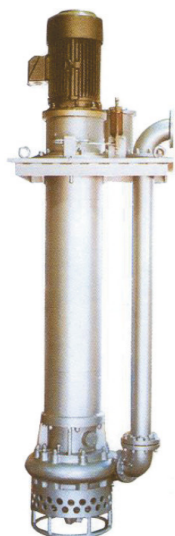
Servicing and maintaining the pumps to keep them in good working order is particularly easy on DV models. The pumps concept facilitates the inspection of shaft, bearings and seals as well as the oil in the oil chamber.

An oil reservoir and a grease pump are mounted onto the base plate of the pump (grease pump only from type DV15/B onwards).

One or two wear plates, depending on the pump type, one of which is adjustable allow simple adjustments to maintain optimal performance.

The DV pumps electric motor is air cooled and can be provided in an explosion proof version.

The wet parts of DV pumps are available in different metallurgies and notably in stainless steel for acid slurries pumping.



• OPERATING CONDITIONS :

DV pumps can handle particle sizes up to 120 mm and liquid temperatures up to 80°C with pH levels between 4 and 9,5. Special versions are available for liquid temperatures up to 100°C.

• ELECTRIC POWER REQUIREMENTS* :

Pump Type	Power kVA	Amp. 400 V
DV 3	10	4,6
DV 5	20	7,5
DV 7.5/B	30	11
DV 10/H	40	14.5
DV 15/B	35	21.5
DV 20/B/H	45	31
DV 30/B	65	46
DV 40B	85	58
DV 50/B/BL/H	105	75
DV 75B	160	116
DV 100B/BL	210	150
DV 150/L/B	310	215

*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
DV 3	4 x 6 mm ²	19	500
DV 5	4 x 6 mm ²	19	380
DV 7.5/B	4 x 10 mm ²	23	350
DV 10/H	4 x 10 mm ²	23	280
DV 15/B	4 x 10 mm ²	23	190
DV 20/B/H	4 x 10 mm ²	23	120
DV 30/B	4 x 16 mm ²	27	140
DV 40B	4 x 35 mm ²	37	260
DV 50/B/BL/H	4 x 35 mm ²	37	200
DV 75B	4 x 50 mm ²	43	180
DV 100B/BL	4 x 50 mm ²	43	130
DV 150/L/B	4 x 95 mm ²	58	170

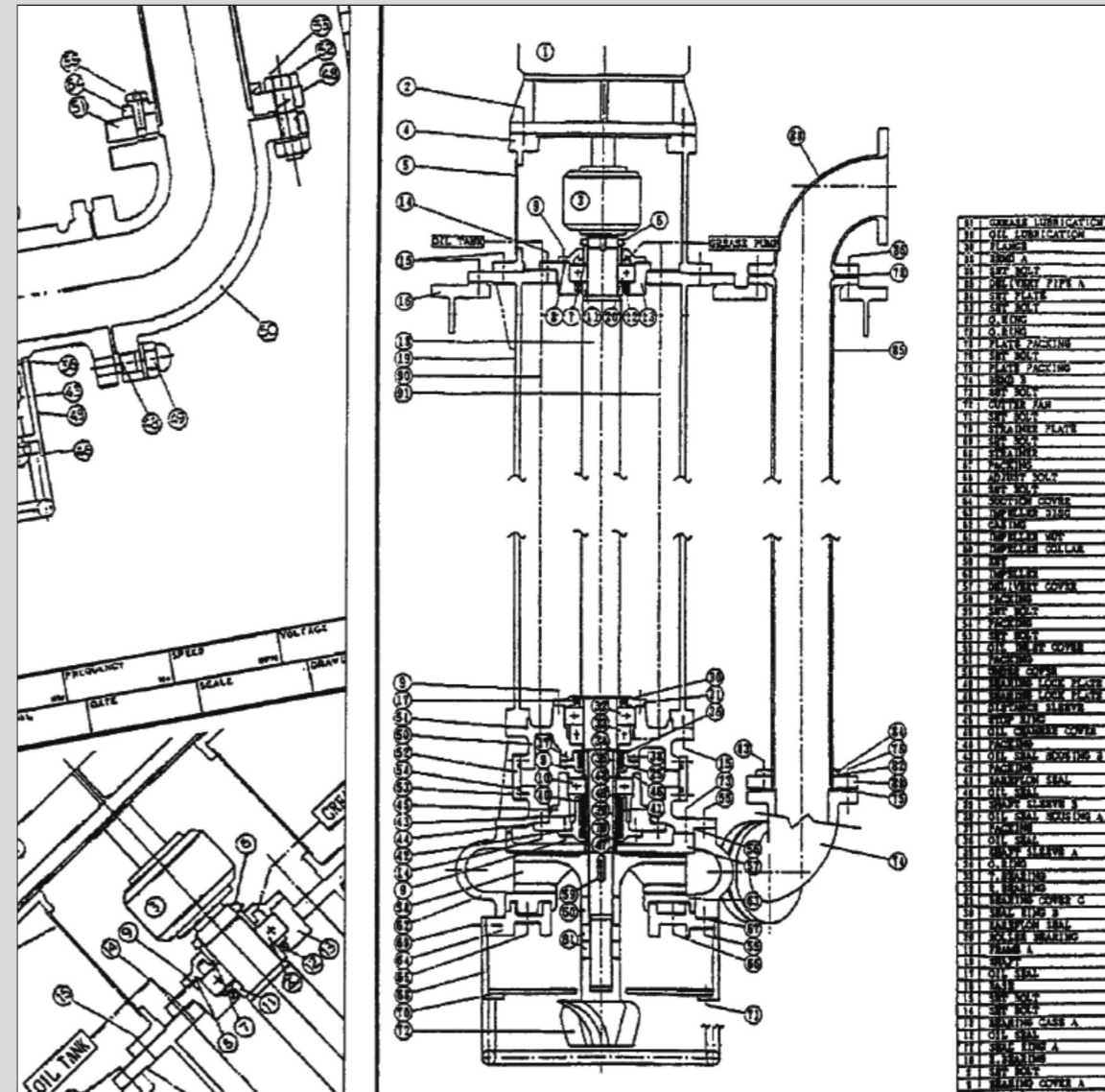
• CONTROL PANEL:

For 3 to 10 HP DV pumps, we recommend to use a Toyo control panel equipped with a direct starter.

From 15 HP DV pumps on, we recommend to use a Toyo control panel equipped with a statoric starter.

TOYO PUMPS EUROPE

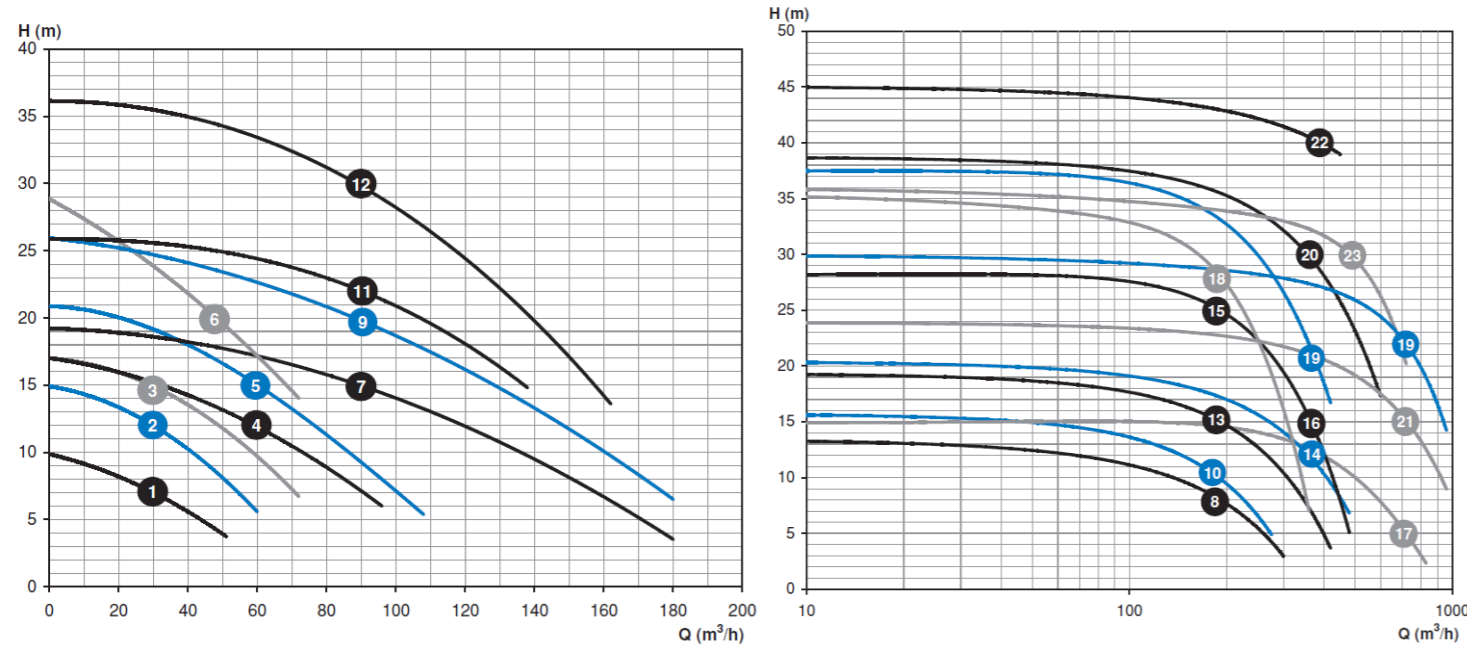
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Vertical electric pumps

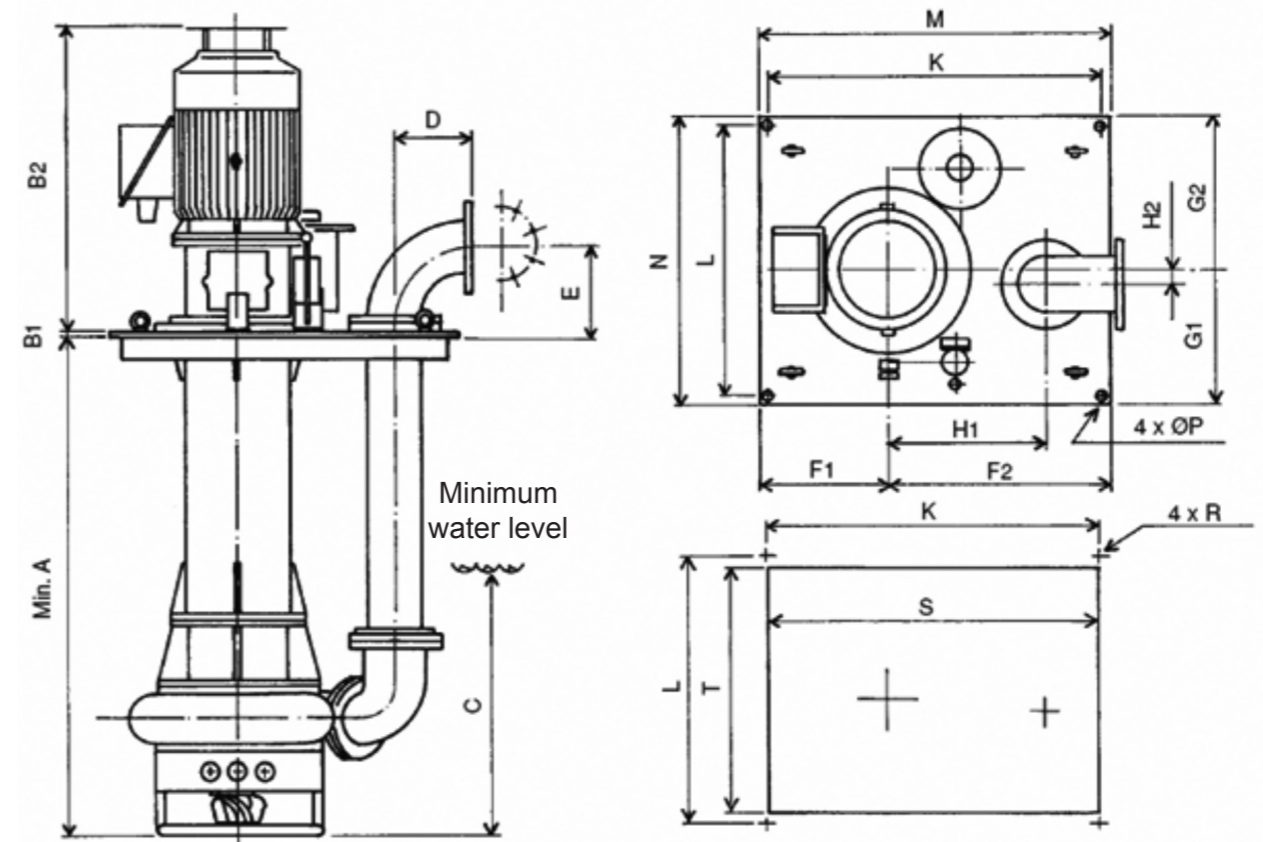
TECHNICAL SPECIFICATIONS DV PUMPS

Performance curves



Nr	Type	Outlet (inch) (mm)	Capacity (m³/h)	Manom. head (m)	Particle size (mm)	Power (kW)	Poles (P)	Revolution (1/min) 50Hz	Current (A) 400V	Electr. cable	Weight (kg)
1	DV 3	3 80	30	7	20	2.2	4	1430	4.6	4x6mm²	
2	DV 5	3 80	30	12	20	3.7	4	1430	7.5	4x6mm²	
3	DV 7.5	3 80	30	15	25	5.5	4	1445	11	4x10mm²	
4	DV 7.5B	4 100	60	12	25	5.5	4	1445	11	4x10mm²	
5	DV 10	4 100	60	15	25	7.5	4	1445	14.5	4x10mm²	
6	DV 10H	4 100	48	20	14	7.5	4	1445	14.5	4x10mm²	
7	DV 15	4 100	90	15	35	11	6	960	21.5	4x10mm²	
8	DV 15B	6 150	192	8	60	11	6	960	21.5	4x10mm²	
9	DV 20	4 100	90	20	35	15	6	960	30	4x10mm²	
10	DV 20B	6 150	192	10	60	15	6	960	30	4x10mm²	
11	DV 20H	4 100	90	22	15	15	6	960	30	4x10mm²	
12	DV 30	4 100	90	30	35	22	6	975	46	4x16mm²	
13	DV 30B	6 150	192	15	60	22	6	975	46	4x16mm²	
14	DV 40B	8 200	360	12	40	30	6	970	58	4x35mm²	
15	DV 50	6 150	192	25	60	37	6	980	75	4x35mm²	
16	DV 50B	8 200	360	15	60	37	6	980	75	4x35mm²	
17	DV 50BL	10 250	720	5	100	37	6	980	75	4x35mm²	
18	DV 50H	6 150	192	28	40	37	6	980	75	4x35mm²	
19	DV 75B	8 200	360	22	40	55	6	975	116	4x50mm²	
20	DV 100B	8 200	360	30	60	75	8	740	150	4x50mm²	
21	DV 100BL	10 250	720	15	100	75	8	740	150	4x50mm²	
22	DV 150	8 200	390	40	120	110	10	590	215	4x95mm²	
23	DV 150L	8 200	480	30	120	110	10	590	215	4x95mm²	
24	DV 150B	10 250	720	22	120	110	10	590	215	4x95mm²	

According to shaft length



DIMENSIONS (mm)		A	B1	B2	C	D	E	F1	F2	G1	G2	H1	H2	K	L	M	N	P	R	S	T
1	DV 3	600	19	540	400	120	200	220	510	250	270	363	-	680	470	730	520	24	M20	680	410
2	DV 5	600	19	590	400	120	200	220	510	250	270	363	-	680	470	730	520	24	M20	680	410
3	DV 7.5	700	19	666	450	120	200	250	520	275	295	373	-	720	520	770	570	24	M20	720	460
4	DV 7.5B	700	19	666	450	160	200	260	575	275	305	413	-	785	530	835	580	24	M20	785	470
5	DV 10	700	19	666	450	160	200	260	575	275	305	413	-	785	530	835	580	24	M20	785	470
6	DV 10H	700	19	704	450	160	200	290	605	310	340	443	-	845	600	895	650	24	M20	845	540
7	DV 15	1100	22	893	700	160	205	320	540	340	375	380	41	810	665	860	715	24	M20	810	595
8	DV 15B	1100	22	893	700	235	280	340	610	350	405	416	55	900	705	950	755	24	M20	900	635
9	DV 20	1100	22	921	700	160	205	360	580	380	415	419	23	890	745	940	795	24	M20	890	675
10	DV 20B	1100	22	921	700	235	280	340	610	350	405	416	55	900	705	950	755	24	M20	900	635
11	DV 20H	1100	22	921	700	160	205	360	580	380	415	419	23	890	745	940	795	24	M20	890	675
12	DV 30	1200	22	959	750	160	205	400	625	420	455	462	9	975	825	1025	875	24	M20	975	755
13	DV 30B	1200	22	959	750	235	280	395	670	405	460	476	37	1015	815	1065	865	24	M20	1015	745
14	DV 40B	1200	22	1094	750	310	355	395	755	405	460	497	59	1100	815	1150	865	24	M20	1100	745
15	DV 50	1300	25	1111	850	235	285	425	710	440	500	511	30	1075	880	1135	940	28	M24	1075	800
16	DV 50B	1300	25	1111	850	310	360	425	760	440	500	532	52	1125	880	1185	940	28	M24	1125	800
17	DV 50BL	1400	25	1111	900	385	435	500	950	485	575	688	179	1390	1100	1450	1060	28	M24	1390	920
18	DV 50H	1300	25	1111	850	235	285	450	760	470	515	561	66	1150	925	1210	985	28	M24	1150	845
19	DV 75B	1400	25	1247	850	310	360	450	810	470	515	582	87	1200	925	1260	985	28	M24	1200	845
20	DV 100B	1600	28	1441	950	310	365	560	940	580	640	702	94	1420	1140	1500	1220	28	M24	1420	1040
21	DV 100BL	1800	28	1441	1150	385	440	665	1120	670	755	851	59	1705	1345	1785	1425	28	M24	1705	1245
22	DV 150	2200	32	1764	1400	310	370	675	1070	695	755	835	57	1665	1370	1745	1450	28	M24	1370	1270
23	DV 150L	2200	32	1764	1400	310	370	675	1070	695	755	835	57	1665	1370	1745	1450	28	M24	1370	1270
24	DV 150B	2200	32	1764	1450	385	445	665	1155	675	775	886	136	1740	1350	1820	1430	28	M24	1350	1250