



Sewage And Waste Water Pumps CAP

TECHNICAL SPECIFICATIONS :

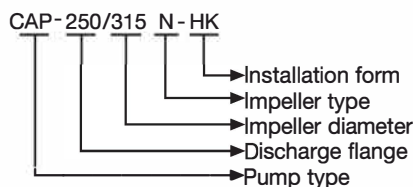
- Masflo CAP series consists of centrifugal sewage and waste water pumps. They are used for pumping muddy liquids like sewage and other solid – water mixtures, with high viscosity.
- For the vertical column pipe types 1500 mm and 1000 mm long standard pipes used. The required length can be adjusted between 1000 mm and 8000 mm by using standard parts.
- Axial thrust force is balanced by vanes located behind the impellers. In column pipe models thrust force impeller and shaft weight are balanced by oil or grease lubricated thrust bearing fitted on base plate.
- In dry installed models Teflon packing or mechanical seals suitable for pumped fluid can be used.
- Pump impellers are statically and dynamically balanced according to ISO 1940 class 6.3
- Direction of rotation of the pumps is clockwise seen from drive end..
- All pumps are tested according to ISO 9906
- CAP series pumps do not have suction ability, there must be positive pressure on suction side.

FIELDS OF APPLICATIONS :

- Domestic and industrial raw sewage water pumping
- Waste water handling plants
- Factory waste waters
- Pumping of fluid with high viscosity and suspensions.
- Pumping liquids in paint plants
- Pumping industrial and chemical waste water.
- Iron and steel industry
- Paper pulp cellulose plants
- Pumping of cooling water
- Draining, deterring

General details:

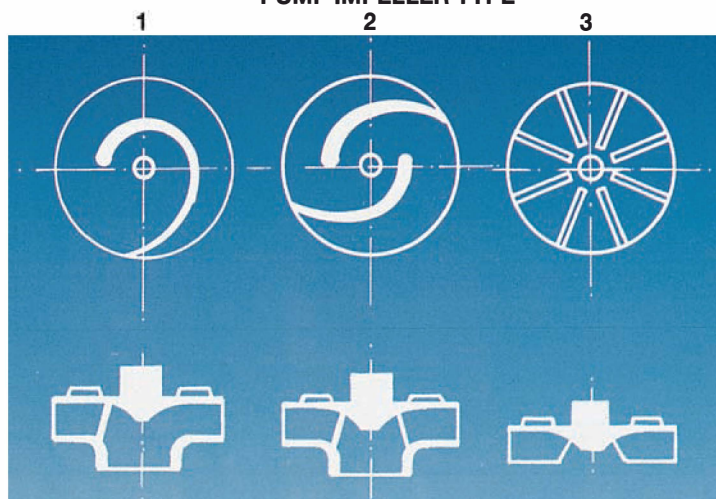
- Suction flange sizes : DN 50 – DN 600
- Discharge flange sizes : DN 50 – DN 600
- Capacity : 10 – 3000 m³/h
- Discharge head : 5 – 60 m
- Operating temperature : - 10°C - + 75°C



FLUID TYPES:

- Unscreened sewage and other waste water types with high solids concentration Pumps are designed to tolerate large solids (Ø 30 Ø - 200 mm diameter) without clogging.
- Water with sand content. Maximum grain size (20 - 30 mm). Liquid, sand ratio can be maximum % 6. For higher sand concentration preventive provisions must be taken against wear.
- Maximum allowed fluid temperature is 40 °C
- Maximum allowed medium density is 1,2 gr/cm³, maximum allowed medium viscosity is 1,5 x 10⁻⁶ m²/s. Measures must be taken to lower these values.

PUMP IMPELLER TYPE



MATERIALS

PART	MATERIALS	
	BRONZ FITTED	CAST IRON
Casing	Cast iron (G.JL 250) (EN-JL 1040)	Cast iron (G.JL 250) (EN-JL 1040)
Impeller	Bronze	Cast iron (G.JL 250) (EN-JL 1040)
Diffusor	Cast iron (G.JL 250) (EN-JL 1040)	Cast iron (G.JL 250) (EN-JL 1040)
Wear ring	Bronze	Cast iron (G.JL 250) (EN-JL 1040)
Shaft	Stainless steel (AISI 420) (1.4021)	Carbon steel (1.0501)
Shaft sleeve	Stainless steel (AISI 420) (1.4021)	Stainless steel (AISI 420) (1.4021)
Column pipes	(1.0120) welding construction	(1.0120) welding construction

NOTE: All pump components can be manufactured in different materials optionally according to the properties of the liquid to be pumped.

SB - SINGLE VANE (NON - CLOG) IMPELLERS

These types of impellers are designed to handle large solids. They do not overload the motor at low heads.

DB - DOUBLE VANE IMPELLERS

These types of impellers are usually used in large size pumps. Because of rotational symmetry they operate in balance and vibration free. They can pass solids as wide as impeller channels.

V - VORTEX IMPELLERS

These types of impellers do not have closed channels. The impeller is placed behind the volute. Due to the rotation of the mass of fluid by the impeller, free vortex motion occurs, providing the pumping effect. As a result of this special design they can easily pump long fibrous matter.

CAP SERIES SEWAGE PUMPS MOUNTING ARRANGEMENTS

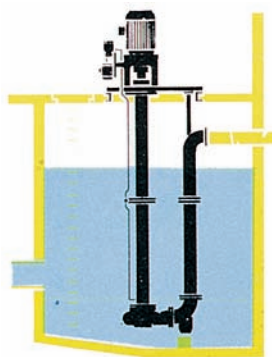
- 1) VY Vertical wet-pit sewage pump with suspension pipe
- 2) VK Vertical dry-pit sewage pump with suspension pipe
- 3) VS Vertical dry-pit sewage pump with universal joint shaft

- 4) VM Vertical dry-pit monoblock sewage pump
- 5) HK Horizontal dry-pit sewage pump

1) Form VY

Vertical wet-pit sewage pump with suspension pipe:

The pump bearings and intermediate bearings are designed and manufactured to run in a wet-pit. The pump is suspended by use of a support plate. The discharge pipe is also attached to the support plate. The discharge outlet can be either above or below the plate level. Lubrication of the bearings is below either carried out by a manual grease gun or by means of an automatic greaser. For VY type pump it is necessary to build a pump station over the pit as well as a crane system with lifting height of at least 3 metres. Form VY is manufactured for branch sizes up to 500 mm and for depths up to 8 metres.

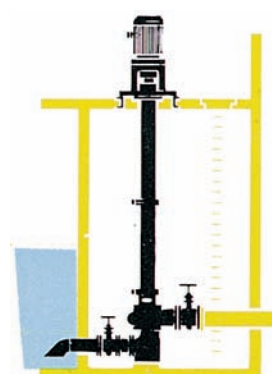


2) Form VK

Vertical dry-pit sewage pump with suspension pipe:

VK type pumps are manufactured to run in dry-pit. The pump bearings and intermediate bearings are grease lubricated ball bearings. The shaft can either be sealed off with mechanical seals or through a soft packed stuffing box. Form/Type VK permits inspection and maintenance without disturbing suction and discharge piping. Form VK is especially suitable for installation into dry-pits which may be subject to flooding. In this case, the level of the motor support plate must be above the flooding level.

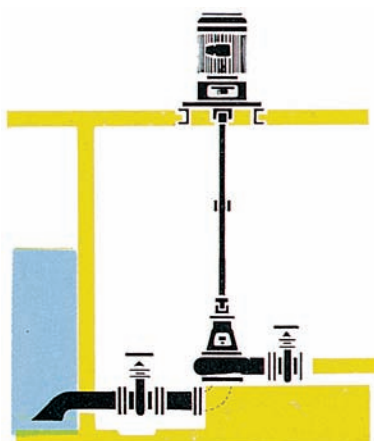
Form VK is manufactured for branch sizes up to 500 mm and for depths up to 10 metres.



3) Form VS

Vertical dry-pit sewage pump with universal joint shaft:

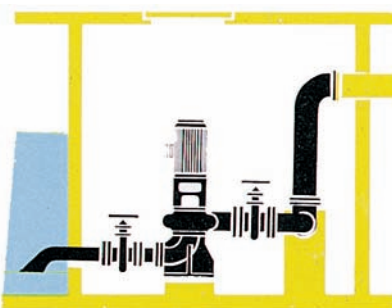
Form VS is especially suitable for installation into deep and dry-pits and for large discharge. The pump unit is supported by foot and is connected to the motor by an exposed vertical shaft. It has all the properties of form VK. Form VS is manufactured for branch sizes of 200 mm and over. Mounting lengths between the pump and the motor up to 10 meters is possible.



4) Form VM

Vertical dry-pit monoblock sewage pump:

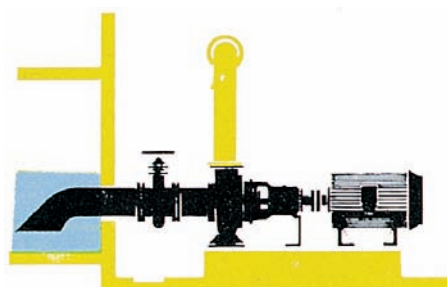
This pump is suitable for installation into dry-pits which are not subject to flooding and for installation on the ground level. Pump and motor form a compact unit. Form VM permits inspection and maintenance without disturbing suction and discharge piping and casing. The shaft can either be sealed off with mechanical seals or through a soft packed stuffing box and is supported by two grease lubricated ball bearings. VM form pumps are manufactured for all branch sizes shown in this booklet.

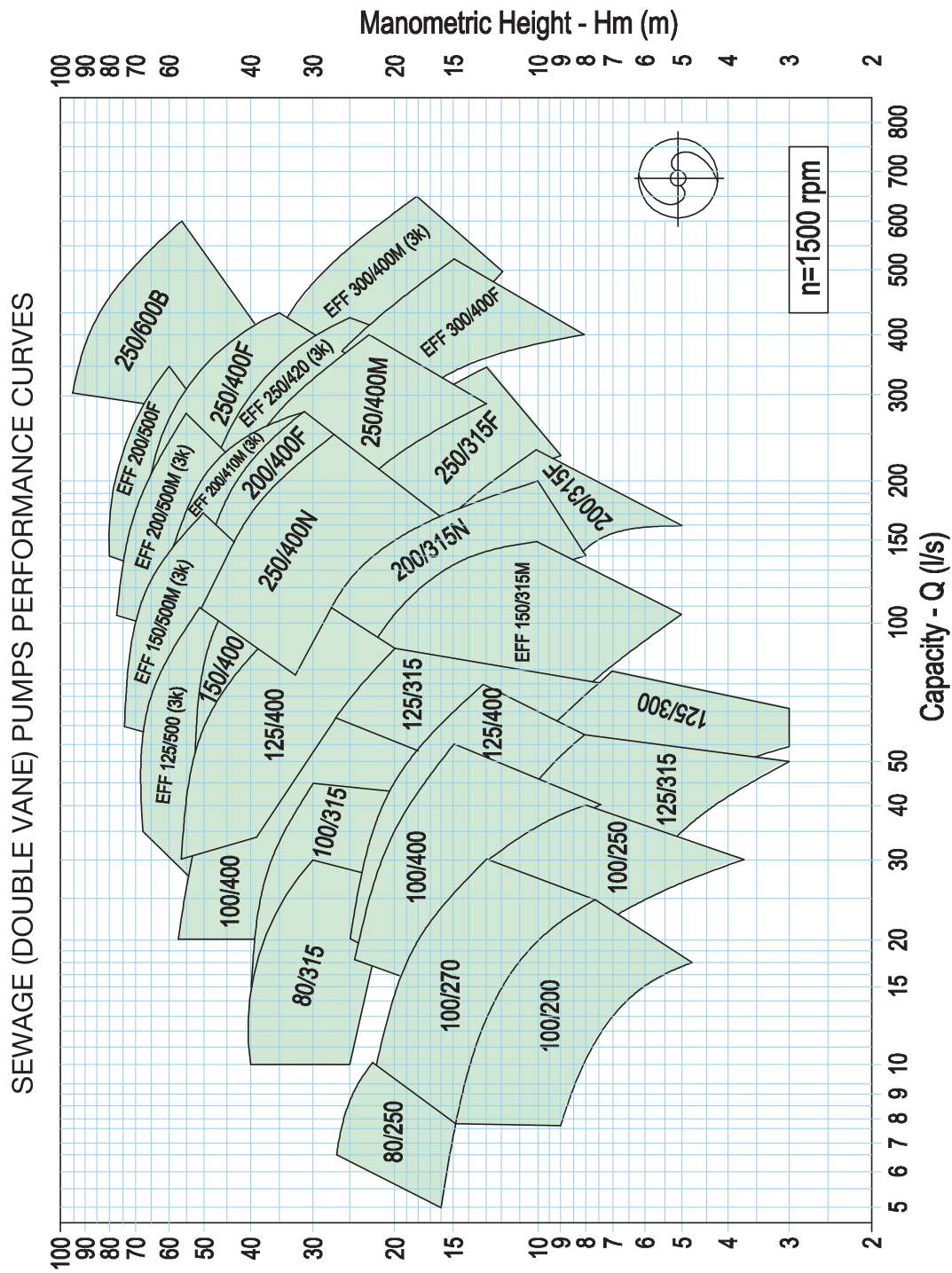


5) Form HK

Horizontal dry-pit sewage pump:

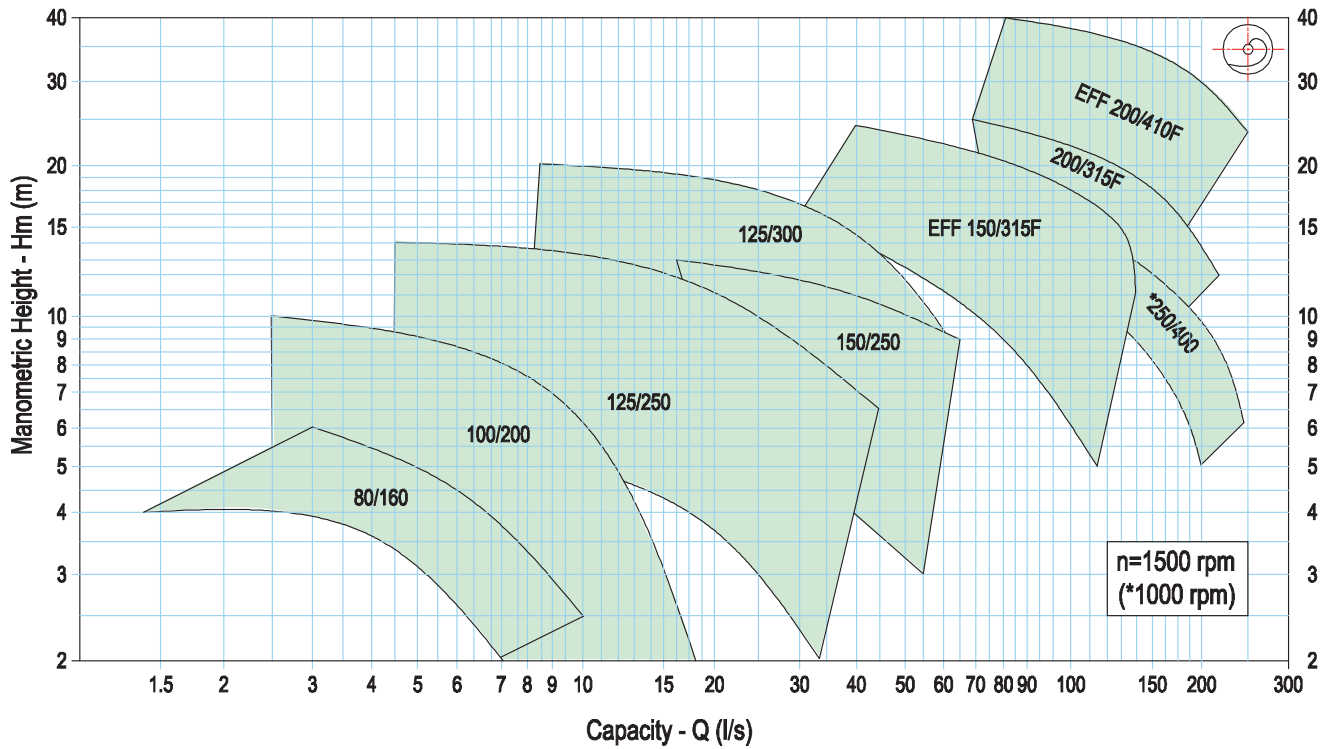
This pump is suitable for installation wherever there is no danger of flooding. It has all the properties of horizontal pumps. Pump and motor are mounted on a steel base plate and connected by a flexible coupling. The shaft can either be sealed off with mechanical seals or by means of a soft packed stuffing box to avoid water. The pump shaft is supported by two ball bearings with oil or grease lubrication. HK form pumps are manufactured for all branch sizes shown in this booklet.



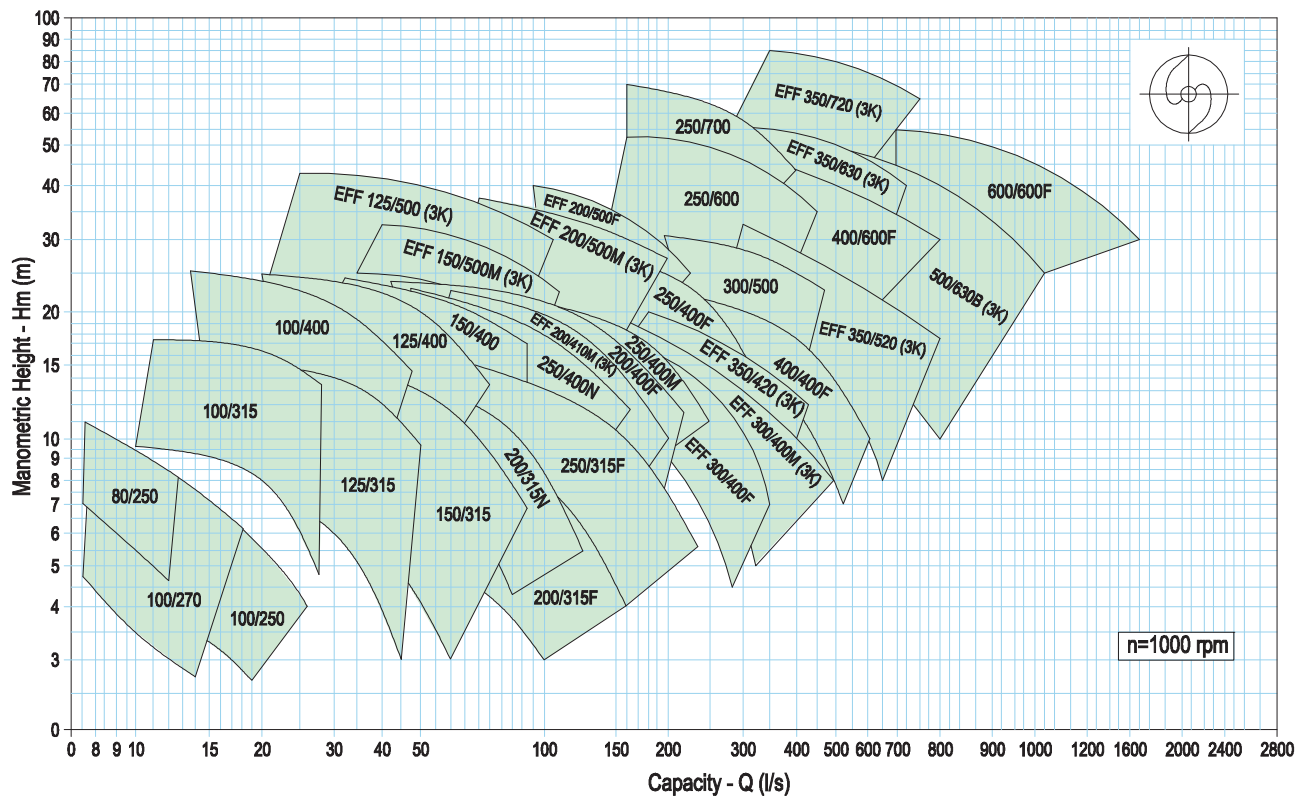


NOTE:
Group performance charts for 2 vane impellers. 3 vane impellers indicated with "3K"

SEWAGE (SINGLE VANE) PUMPS PERFORMANCE CURVES



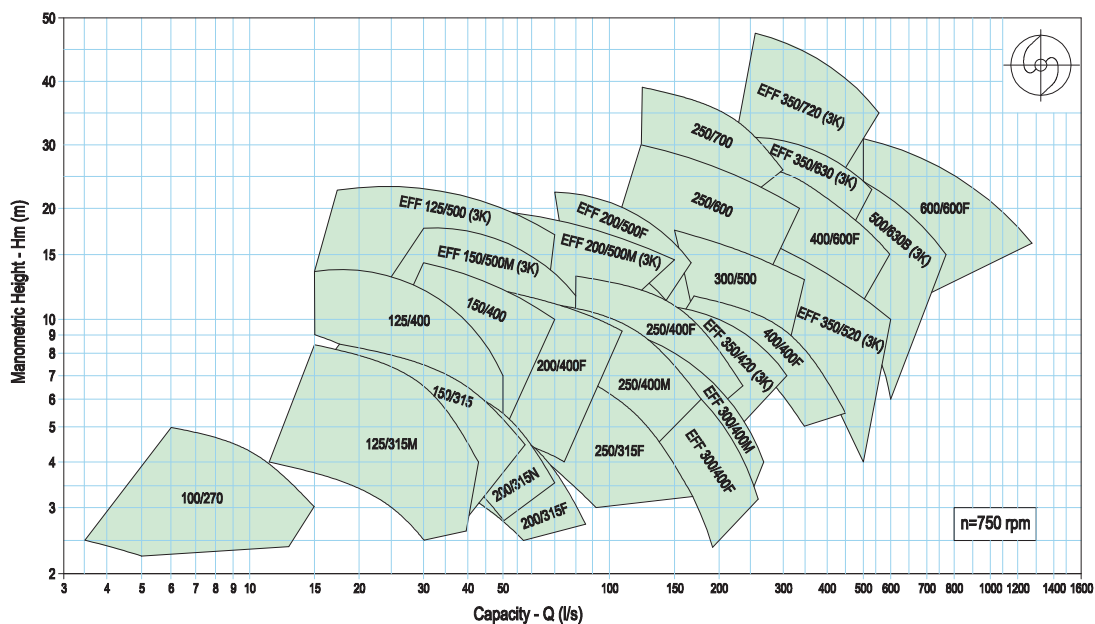
SEWAGE (DOUBLE VANE) PUMPS PERFORMANCE CURVES



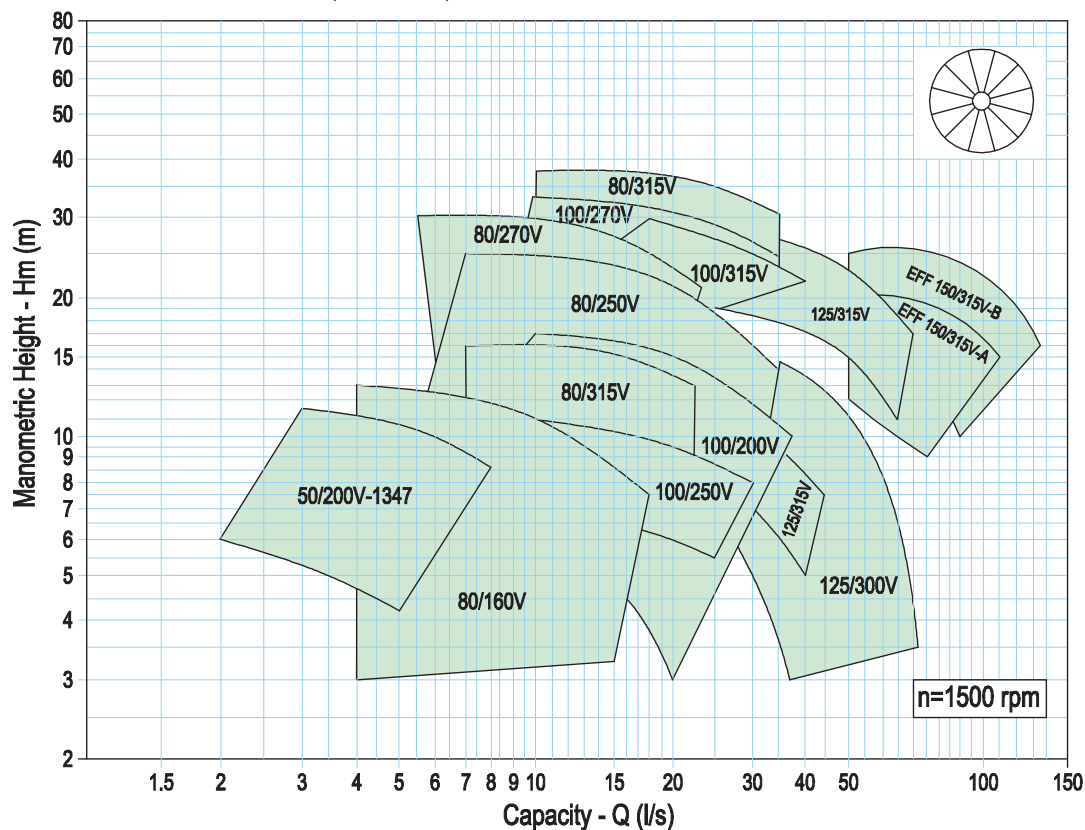
NOTE:

Group performance charts for 2 vane impellers, 3 vane impellers indicated with (3K).

SEWAGE (DOUBLE VANE) PUMPS PERFORMANCE CURVES

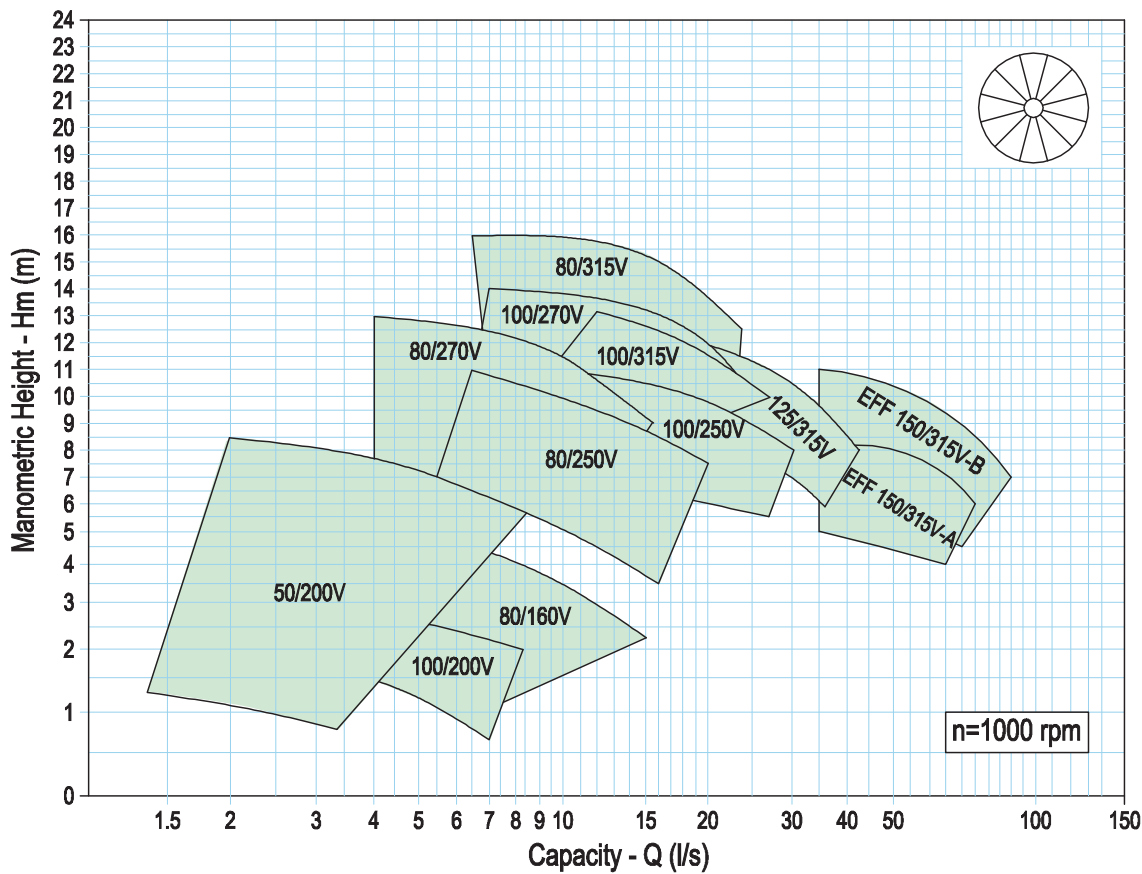


SEWAGE (VORTEX) PUMPS PERFORMANCE CURVES

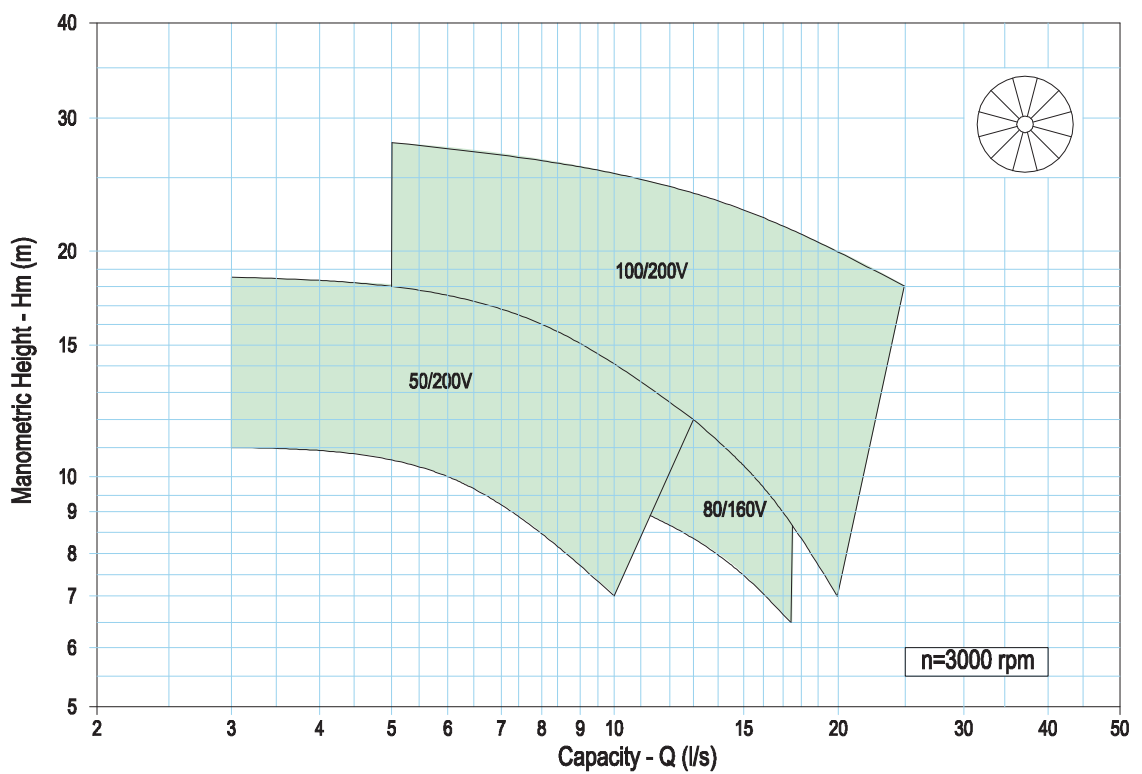


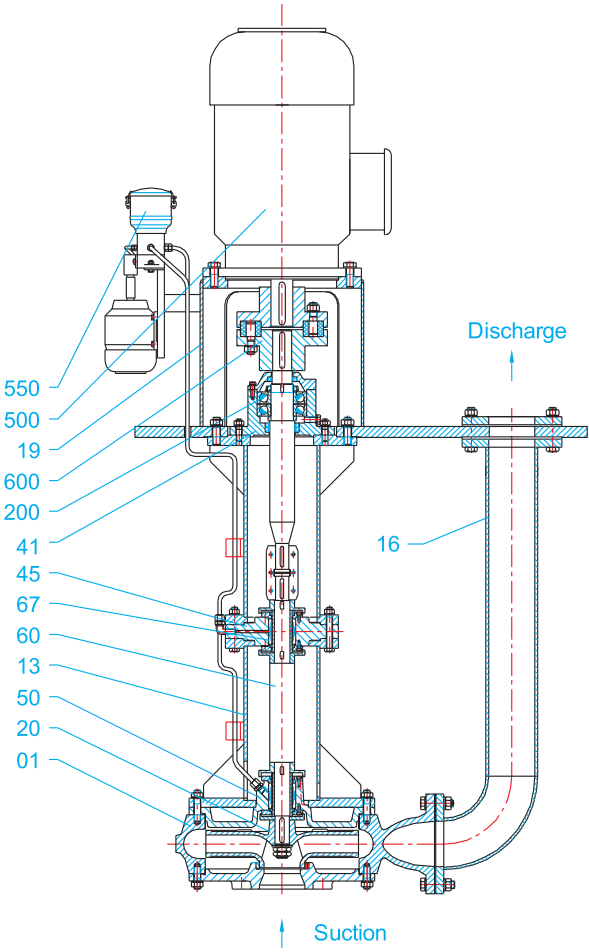
NOTE:
Group performance charts for 2 vane impellers. 3 vane impellers indicated with "3K"

SEWAGE (VORTEX) PUMPS PERFORMANCE CURVES (n=1000 rpm)

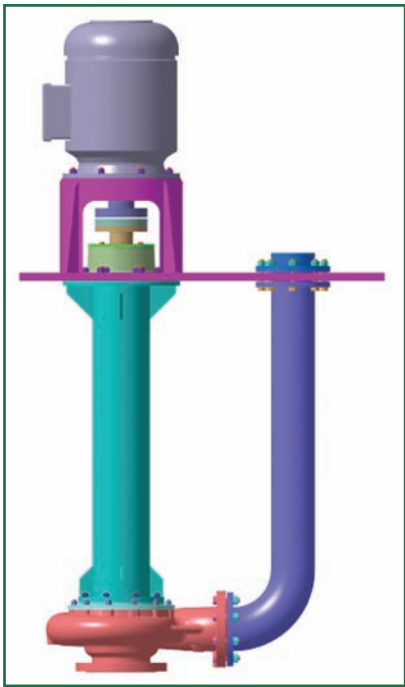


SEWAGE (VORTEX) PUMPS PERFORMANCE CURVES (n=3000 rpm)



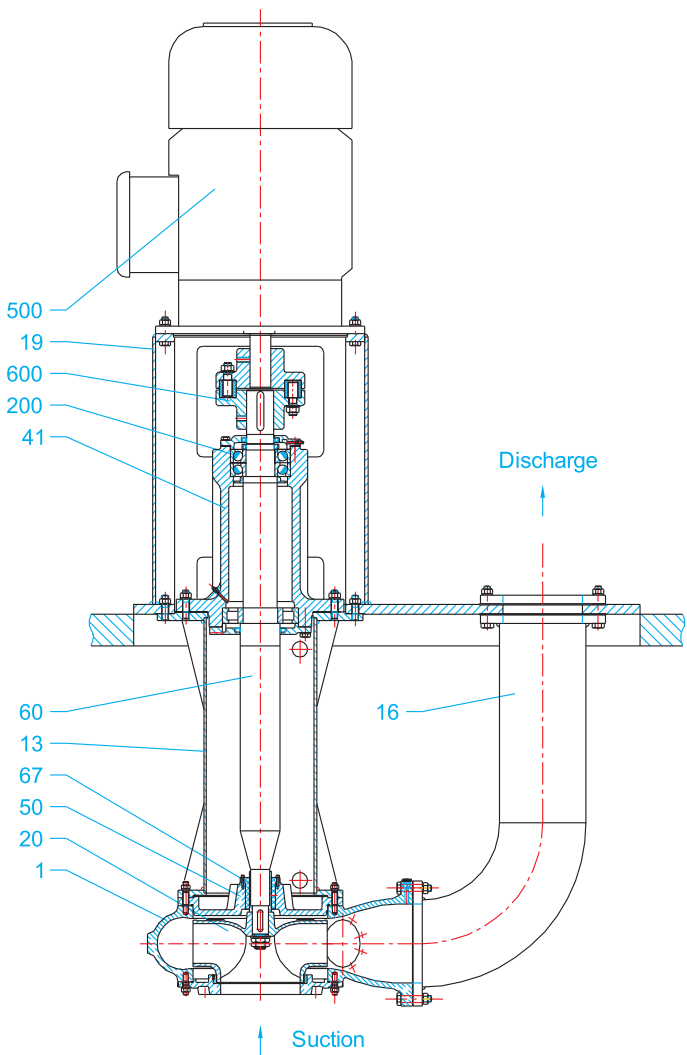


PUMP WITH GREASE LUBRICATED SLEEVE BEARING



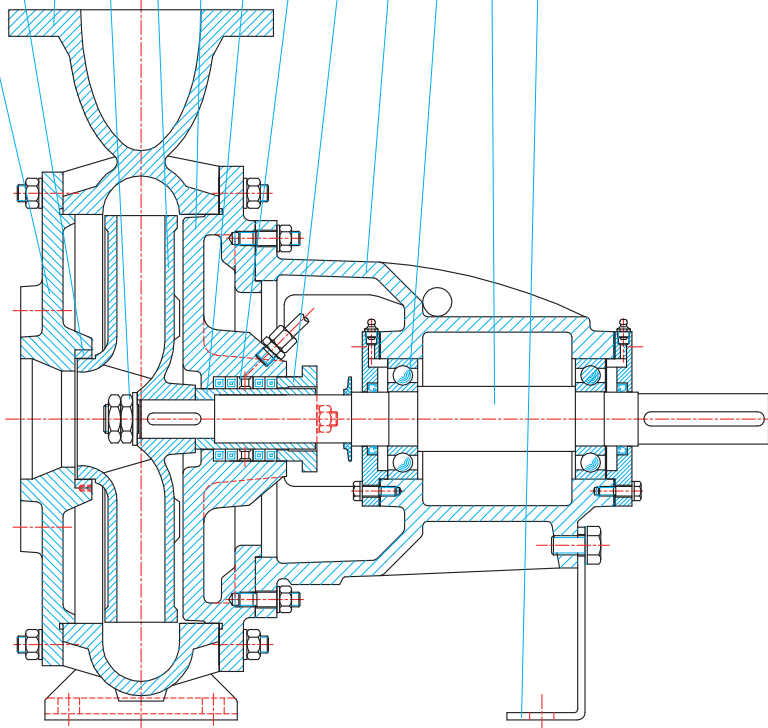
CAP-VY SERIES PUMP PARTS LIST

01	Volute
13	Column Pipe
16	Discharge Pipe
19	Motor Stool
20	Impeller
41	Thrust Bearing
45	Intermediate Bearing
50	Stuffing Box
60	Shaft
67	Bearing Sleeve
200	Bearing
500	Electrical Motor
550	Grease Pump
600	Coupling



PUMP WITH SELF LUBRICATED RUBBER SLEEVE BEARING

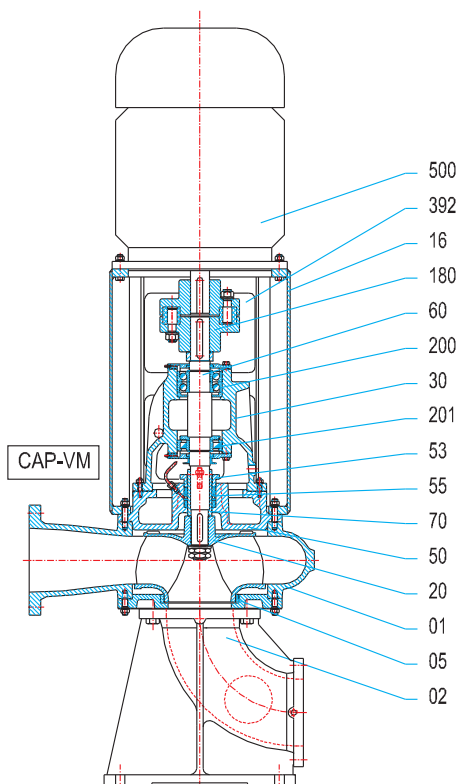
02 05 01 65 20 50 70 55 53 30 200 60 11



CAP-HK HORIZONTAL PUMP

CAP HK SERIES PARTS LIST

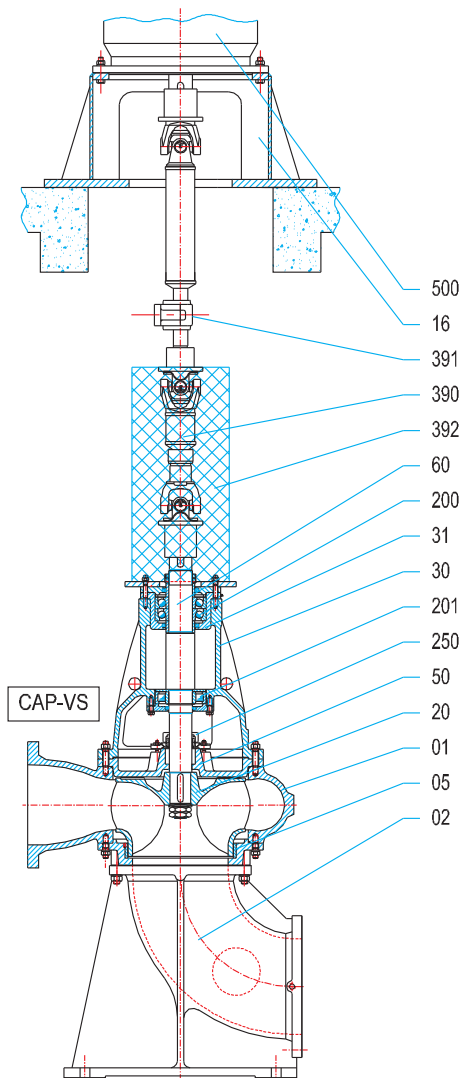
01	Volute
02	Suction Mouth
05	Wear Ring
11	Support Foot
20	Impeller
30	Bearing Housing
50	Stuffing Box
53	Gland
55	Lantern Ring
60	Shaft
65	Impeller Nut
70	Shaft Sleeve
200	Bearing



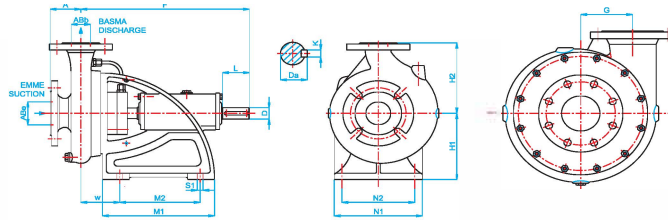
CAP-VM VERTICAL MONOBLOCK

CAP-VM & CAP-VS SERIES PUMP PARTS LIST

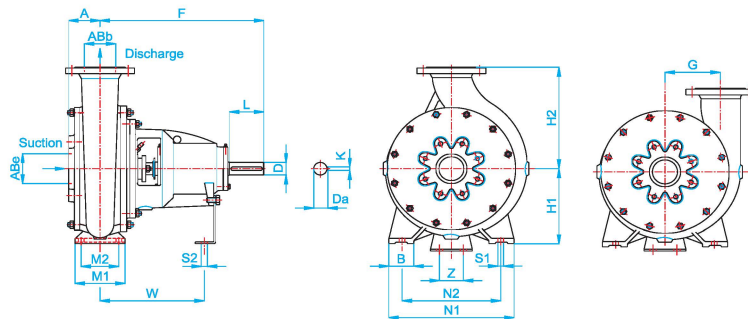
01	Volute
02	Suction Bendh
05	Wear Ring
16	Motor Stool
20	Impeller
30	Bearing Housing
31	Bearing Housing
50	Stuffing Box
53	Gland
55	Lantern Ring
60	Shaft
70	Shaft Sleeve
180	Coupling (CAP-VM)
200	Bearing (73....)
201	Bearing (NU....)
250	Mechanical Seal
390	Cardan Shaft (CAP-VS)
391	Intermediate Bearing (CAP-VS)
392	Safety Guard
500	Electric Motor



CAP-VS VERTICAL CARDAN SHAFT DRIVEN

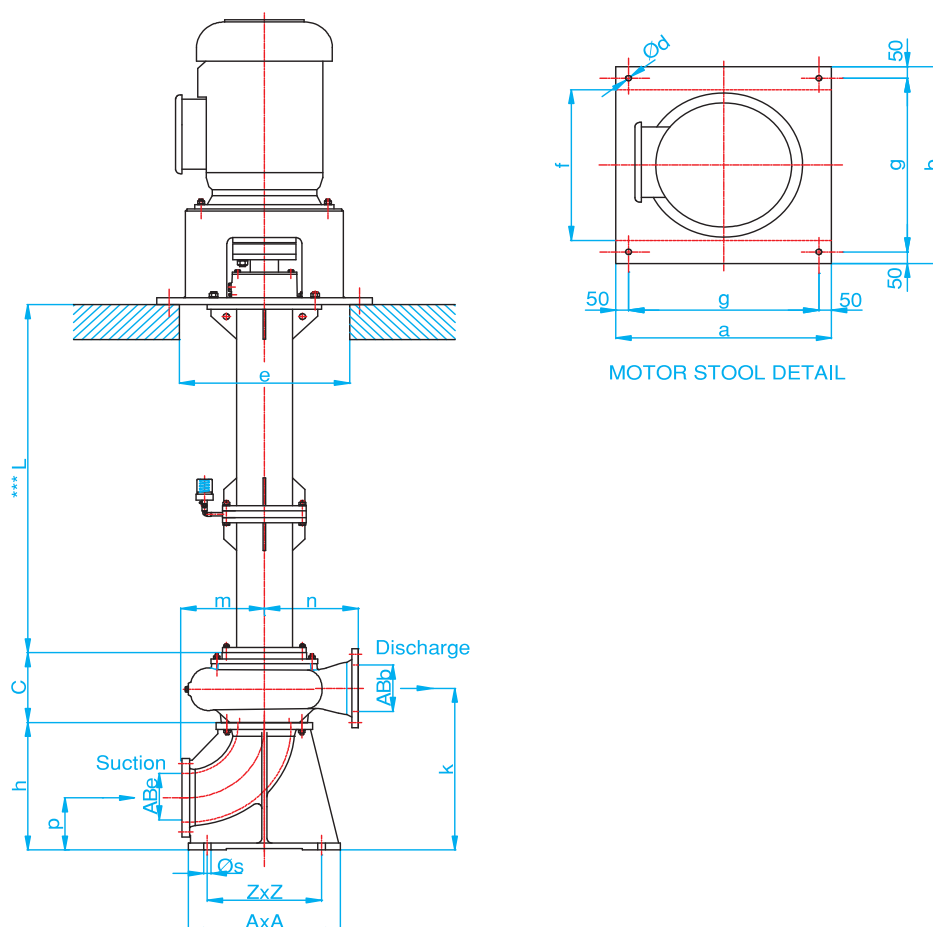


PUMP TYPE	Discharge ABb-PN10	Suction ABe-PN10	A	F	H1	H2	M1	M2	N1	N2	S1	D	Da	K	L	W	G
40 N	40		100	455		170										117	-
50 F		50	105	463		200		210								102	-
50 N			105	463		200		210								115	-
50 NA 250	50	65	80	455		225										128	-
50/200			80	455		200										102	-
80/160	80	80	65	463		200										115	-
80/270			61	445	188	235	295	230	190	15	32	35	10	70	97	135	
100/200			61	473		246										125	-
100/200(S)			90	508		300		220								160	-
100/250	100	100	90	468		235										120	-
100/270V			72	448												110	135
100/270M			164													110	



PUMP TYPE	Discharge ABb-PN10	Suction ABe-PN10	A	F	H1	H2	B	M1	M2	N1	N2	S1	D	Da	K	L	W	Z	S2	G										
80/250	80	80	80	487	200	280	80	125	85	360	280	M16	32	35	10	80	305	100	-	-										
EFF 80/260		125	125	555	250	160		100	400	315	M12	42	45	12	110	371	150	-	-											
80/270		80	61	472	225	235		125	85	400	320	32	35	10	80	312	-	-												
80/315		73	555	250	340	85	120	475	400	M16	42	45	12	110	370	-	-													
EFF 80/320		125	125	555	250	300	80	160	100	400	315	M12	42	45	12	110	370	100	M12	-	-									
100/250	100	78	493	225	300	32							35	10	80	330	-			-										
EFF 100/260	150	150	550	250	300	42							45	12	110	365	-			-										
100/315	100	100	523	340	333	-							-																	
EFF 100/320	150	140	580	275	200	42							45	12	110	395	150			M20	-	-								
100/400	100	104	553	315	367	120	200	150	550	400	M20	42	45	12	110	369	150	M20	-	-										
125/250	125	125	120	475	250	315	160	120	400	315	M16	32	35	10	80	335	100	M12	-	-										
125/300		116	529	288	335	200	500	400	398	150		-	-																	
125/315		83	557	280	315	42	45	12	110	369		-	-																	
125/400		107	559	315	370	373	-	-																						
EFF 125/500		150	160	720	355	450	100	250	550	450		M20	60	64	18	140	480	190	-	-										
150/250	150	200	159	577	280	355	200	150	500	400	M20	42	45	12	110	405	15	-	-											
150/315		118	569	255	380	385										100	-	-												
EFF 150/315		180	570	315	400	550										450	M16	52	56	16	420	150	-	-						
150/400		112	630	52	56	16										420	-	-												
EFF 150/500		180	715	380	500	130										250	180	560	450	M20	60	64	18	140	475	190	-	-		
200/315N	200	200	127	565	315	360	100	250	180	500	400	M20	42	45	12	110	381	150	M20	-	-									
200/315F		144	585	330	370	150	240	160	600	500	401						-	-												
EFF 200/320		250	200	565	375	500	100	220	140	550	450						380	-	-											
200/400		200	148	764	380	530	150	280	200	650	500						M24	60	64	18	515	-	-							
EFF 200/410		250	180	740	355	500	120	250	150	550	450						M20	490	-	-										
200/500	250	200	210	874		160	280	200	720	600	M27					630	-	-												
EFF 200/500		250	200	820	425	560	120	210	700	M20					575	190	-	-												
250/400N		200	140	850	380	480	140	250	180	600	500	M27	70	75	20	140	605	-	-											
250/400M		250	160																								-	-		
250/400F		300	295	855																								-	-	
EFF 250/420	250	210	720	400	600	130												170	800	670	M24	60	64	18	140	480	-	-		
250/600	300	280	1213	550	650	160	350											250	900	740		100	106	28	210	847	200	M24	-	-
250/700	300	300	321	1159	650	750	180	400	280	1100	940	M27	100	106	28	210	743	400	-	-										
EFF 300/400		350	170	860	500	600	350	250	800	650	605						-	-												
300/500		300	335	882		580	160										70	75	20	140	638	-	-							
EFF 350/420		350	200	836	580																592	-	-							
EFF 350/520			265	835	680		225	400	300	1080	860						M24				590	190	M20	-	-					
EFF 350/630	400	400	300	1275	670		800	150	350	270	800	660	M30 M27	70	75	20	116	915	M20	-	-									
400/400		243	850	580																								606	-	-
400/402		388	858	573	565																							613	-	-
EFF 400/500		300	1375	600	800	250												400		300	1000	750	M36	100	106	28	210	1010	-	-
400/600		417	1035	550		160														400	300	900	740	M27	80	85	22	150	900	240
400/700	500	500	350	1275	700	700	250	440	340	1250	1100	M36	100	106	28	210	915	200	M20	-	-									
500/600																				-	-									
500/630A																				-	-									
500/630B																				-	-									
600/600																				600	422	1202	800		325	500	400	1300	1000	

NOTE:
 1) Dimensions "mm". Masflo reserves right to make any changes in dimensions without giving prior notice.
 2) For flange dimensions refer to flange standards.
 3) (*) These pumps are on the project stage.

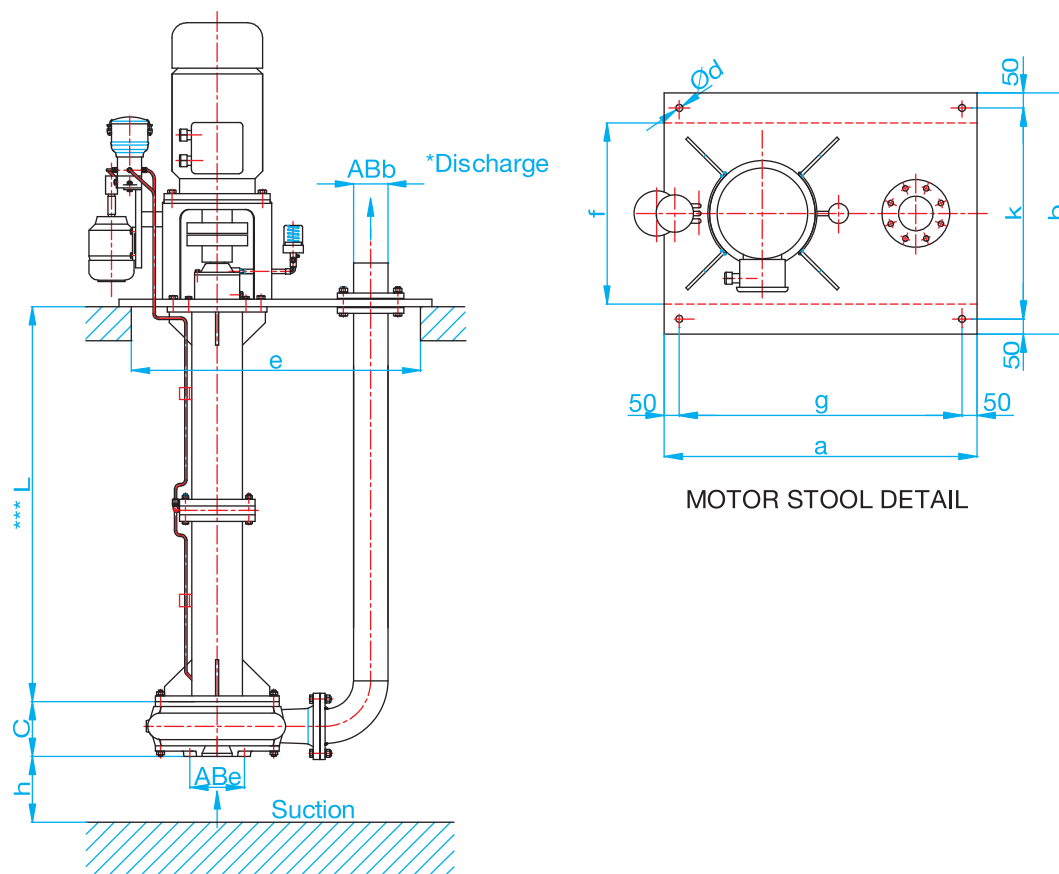


PUMP TYPE	Discharge ABb-PN10	Suction ABa-PN10	a	b	g	Ød	e	f	p	h	C	k	m	n	AXA	ZxZ	Øs	Anchor Bolt
50/200V	50	65	400	450	350	20	400	300	125	240	95	290	145	200	250x250	200x200	20	M18X200
80/160	80	80	700	700	600	23	450	500	150	340	135	405	190	280	350x350	250x250	23	M20x200
80/250							600				118	400		267				
80/270							500				128	410		340				
80/315							750				152	410		340				
100/250	100	100	700	700	600	28	600	550	195	375	170	465	200	300	400x400	300x300	23	M20x200
100/270							500				132	447		235				
100/315							600				195	475		340				
100/400							600				230	480		367				
125/250N-F	125	125	800	800	700	28	650	550	185	400	210	540	215	315	450x450	350x350	28	M24x250
125/315N-F											215	485		370				
125/400M											240	510		300				
150/315M											260	580		400				
150/400M	150	150	900	900	800	28	750	640	210	460	276	472	275	340	500x500	450x450	30	M27x300
200/315N											282	682		370				
200/315F											302	700		535				
200/400M											366	690		480				
250/400N	250	250	1000	1000	900	28	850	760	225	550	335	690	380	535	650x650	500x500	30	M27x300
250/400M											250	600		480				
250/400F											285	665		535				
250/400F											332	853		535				

1) Dimensions (mm) subject to change without prior notice!

2) For flange dimensions refer to flange standards.

L = Total column pipe length.

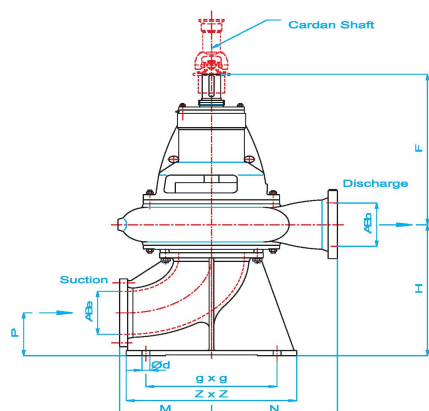


PUMP TYPE/	Discharge ABb-PN10	Suction ABe	C	h min .	e	a	g	b	k	f	Ød	Anchor Bolt
50/200V	50	65	95	150	600	600	500	450	350	300	20	M18x200
80/160V	80	80	135	200				500	400	350	23	M20x200
80/250			118		750	750	650	700	600	500		
80/270			128		900	900	800	750	650	550		
80/315			152		1000	1000	900	800	700	600		
100/250	100	100	170	250	800	800	700	700	600	500	28	M24x250
100/270			132									
100/315			195									
100/400			230									
125/250N-F	125	125	210	300	800	800	700	700	600	500		
125/315N-F			215									
125/400M			240									
150/315M	150	150	260	400	1250	1250	1150	800	700	600		
150/400M			276									
200/315N	200	200	282	450	1250	1250	1150	800	750	650		
200/315F			315									
200/400M			366									
250/400N	250	250	335	500	1400	1500	1400	1000	900	800		
250/400M			304									
250/400F			300									

1) Dimensions (mm) subject to change without prior notice!

2) For flange dimensions refer to flange standards.

L = Total column pipe length

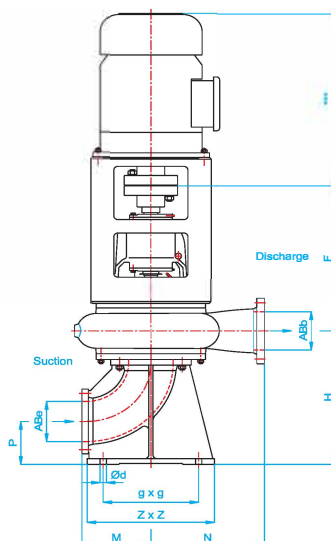


PUMP TYPE	Discharge ABb-PN10	Suction ABe-PN10	F	H	M	N	P	Z x Z	g x g	Ød	Anchor Bolt
50/200V	50	65	440	294	145	200	125	270X270	200X200	20	M18x200
80/160	80	80	480	408	190	280	150	350X350	250X250	23	M20x200
80/250		80	454	405			185	440X440	345X345		
* EFF 80/260		125	555	528			150	350X350	350X350		
80/270		80	454	405			185	440X440	345X345		
80/315		80	555	413			190	390X390	295X295		
* EFF 80/320	80	125	555	528	215	300	185	440X440	345X345	28	M24x250
100/200	100	100	498	435	195	300	190	390X390	295X295		
100/250		100	465	446			210	500X500	350X350		
* EFF 100/260		150	550	613			190	390X390	295X295		
100/270		100	448	440			210	500X500	350X350		
100/315		100	523	468			190	390X390	295X295	23	M20x200
* EFF 100/320	125	150	580	603	275	340	210	500X500	350X350	28	M24x250
100/400		100	553	472			190	390X390	295X295	23	M20x200
125/250		125	475	543			185	440X440	345X345	28	M24x250
125/300		150	529	589			210	500X500	350X350	30	M27x300
125/315		125	561	485			185	440X440	345X345	23	M20x200
125/400	150	150	559	510	275	400	210	500X500	350X350	28	M24x250
EFF 125/500		150	720	620			210	500X500	350X350	28	M24x250
150/250		200	577	712			225	600x 600	500x500	30	M27x300
150/315		150	570	581			210	500X500	350X350	28	M24x250
EFF 150/315		150	644	643			210	500X500	350X350	28	M24x250
150/400	200	200	715	733	325	370	225	600x 600	500x500	30	M27x300
EFF 150/500		200	565	680			225	600X600			
200/315N		200	585	697			250	650x650			
200/315F		200	779	703			225	600X600			
* EFF 200/320		250	565	803			250	650x650			
200/400	250	200	740	780	350	500	225	600X600	500x500	30	M27x300
EFF 200/410		200	874	763			225	600X600			
200/500		200	820	803			250	650x650			
EFF 200/500		250	702	784			250	650x650			
250/315F		200	757	770			285	730X705	600X600		
250/400N	300	250	875	763	350	480	250	650x650	500X500	30	M27x300
250/400M		300	882	850			250	650x650	500X500		
250/400F		250	720	813			285	730X705	600X600		
* EFF 250/420		300	1272	948			330	850X850	700x700		
250/600		350	1058	445			205	730X705	600x600		
250/600B	350	300	1159	853	380	750	205	730X705	600x600	30	M27x300
250/700		350	850	948			330	850X850	700X700		
EFF 300/400		300	882	1000			285	730X705	600X600		
300/500		350	836	978			330	850X850	700X700		
EFF 350/420		400	915	1180	510	800	380	1000x1000	800X800		
* EFF 350/520	400	400	858	1130			380	1000x1000	800X800		
400/400		400	1276	1403			470	1200X1200	1000X1000		
400/402		500	1259	1520			470	1200X1200	1000X1000		
* EFF 400/500		500	1275	1454			470	1200X1200	1000X1000		
400/600	500	500	1275	1454	960	700	470	1200X1200	1000X1000	30	M27x300
400/700		500	1275	1454			470	1200X1200	1000X1000		
500/600		500	1275	1454			470	1200X1200	1000X1000		
500/630B		600	1202	1850			470	1200X1200	1000X1000		
600/600	600	600	1202	1850			470	1200X1200	1000X1000		

1) Dimensions "mm". Masflo reserves right to make any changes in dimensions without giving prior notice.

2) For flange dimensions refer to flange standards.

3) (*) These pumps are on the project stage.



PUMP TYPE	Discharge ABb-PN10	Suction ABe-PN10	F	H	M	N	P	Z x Z	g x g	Ød	Anchor Bolt
50/200V	50	65	440	294	145	200	125	270X270	200X200	20	M18x200
80/160	80	80	480	408	190	280	150	350X350	250X250	23	M20x200
80/250		125	454	405	215		185	440X440	345X345		
EFF 80/260		80	454	405	190		150	350X350	350X350		
80/270		125	555	528	215		300	440X440	345X345		
80/315		100	465	446	195		190	390x390	295x295		
EFF 80/320	80	125	555	528	215	300	185	440X440	345X345	23	M20x200
100/200	100	100	498	435	195	246	190	390x390	295x295	23	M24x250
100/250		150	550	613	275	300	210	500x500	350X350		
EFF 100/260		100	448	440	195	315	190	390X390	295x295		
100/270		150	523	468	195	340	210	500X500	350X350		
100/315		100	553	472	195	340	190	390X390	295X295		
EFF 100/320	100	150	580	603	275	315	210	500X500	350X350	28	M24x250
125/250	125	125	475	543	215	315	185	440X440	345X345	23	M20x200
125/300		150	529	589	275	335	210	500x500	350X350		
125/315		125	561	485	215	315	185	440X440	345X345		
125/400		150	559	510	215	370	210	500x500	350X350		
EFF 125/500		200	720	620	275	450	210	500x500	350X350	28	M24x250
150/250	150	200	577	712	325	355	225	600x 600	500x500	30	M27x300
150/315		150	581	643	275	380	210	500x500	350X350	28	M24x250
EFF 150/315		200	644	575	325	400	225	600x600	500x500		
150/400		250	715	733	350	500	250	650x650	500x500		
EFF 150/500		200	565	680	325	370	225	600x 600	500x500		
200/315N	200	250	585	697	350	500	250	650x650	500x500	30	M27x300
200/315F		200	579	703	325	530	225	600X600	500x500		
EFF 200/320		250	740	780	350	500	250	650x650	500x500		
200/400		200	874	763	325	560	225	600X600	500x500		
EFF 200/410		250	820	803	350	560	250	650x650	500x500		
200/500	250	250	702	784	350	440	250	650x650	500x500	30	M27x300
EFF 200/500		200	757	770	325	480	285	730X705	600X600		
250/315F		250	882	850	380	580	250	650x650	500X500		
250/400N		300	875	763	350	480	285	730X705	600X600		
250/400F		300	1058	1058	445	650	330	850x850	700x700		
EFF 250/420	300	350	1159	853	380	750	205	730X705	600x600	30	M27x300
250/600		350	850	948	445	600	330	850X850	700X700		
250/600B		350	882	1000	380	585	285	730X705	600X600		
250/700		350	836	978	445	330	330	850X850	700X700		
EFF 300/400		400	880	1155	510	800	380	1000x1000	800X800		
300/500	350	400	915	1180	510	800	380	1000x1000	800X800	30	M27x300
EFF 350/420		500	1130	1276	635	700	470	1200X1200	1000X1000		
300/600		500	1375	1403	635	700	470	1200X1200	1000X1000		
300/700		600	1259	1520	635	700	470	1200X1200	1000X1000		
500/600		600	1275	1454	960	700	470	1850X1850	1650X1650		
500/630B	500	600	1202	1850	960	700	470	1850X1850	1650X1650	30	M27x300
600/600	600	600	1202	1850	960	700	470	1850X1850	1650X1650	30	M27x300

- 1) Dimensions "mm". Masflo reserves right to make any changes in dimensions without giving prior notice.
- 2) For flange dimensions refer to flange standards.
- 3) (*) These pumps are on the project stage.



INTERNATIONAL PUMPING SYSTEM - IPS PUMP

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