

SC

Specially Designed Waste Water & Sewage Pumps



Technical specifications

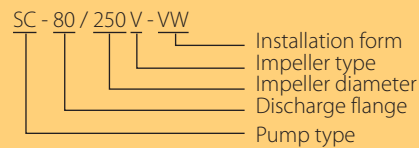
- Ebitt SC series consists of centrifugal sewage and waste water pumps. They are used for pumping muddy liquids like sewage and other solid - water mixtures, with high viscosity.
- For the vertical column pipe types 1500 mm and 1000 mm long standard pipes used. Required length can be adjusted between 1000 mm and 8000 mm by using standard parts.
- Axial thrust force balanced by vanes located behind the impellers. In column pipe models thrust force impeller and shaft weight 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 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 tested according to ISO 9906
- SC 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	Bronze Fitted	Cast Iron
Casing	Cast iron (GJL 250) (EN-JL 1040)	Cast iron (GJL 250) (EN-JL 1040)
Impeller	Bronze	Cast iron (GJL 250) (EN-JL 1040)
Diffusor	Cast iron (GJL 250) (EN-JL 1040)	Cast iron (GJL 250) (EN-JL 1040)
Wear ring	Bronze	Cast iron (GJL 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.

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SC SERIES SEWAGE PUMPS MOUNTING ARRANGEMENTS

- 1) VW Vertical wet-pit sewage pump with suspension pipe
- 2) VD Vertical dry-pit sewage pump with suspension pipe
- 3) VDS Vertical dry-pit sewage pump with universal joint shaft

- 4) VDM Vertical dry-pit monoblock sewage pump
- 5) HDS Horizontal dry-pit sewage pump

1) Form VW

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 either carried out by a manual grease gun or by means of an automatic greaser. For VW 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 VW is manufactured for branch sizes up to 500 mm and for depths up to 8 meters.



2) Form VD

Vertical dry-pit sewage pump with suspension pipe:

VD 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 VD permits inspection and maintenance without disturbing suction and discharge piping. Form VD 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 VD is manufactured for branch sizes up to 500 mm and for depths up to 10 meters.



3) Form VDS

Vertical dry-pit sewage pump with universal joint shaft:

Form VDS 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 VD. Form VDS 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 VDM

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 VDM 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. VDM form pumps are manufactured for all branch sizes shown in this booklet.



5) Form HDS

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. Form HDS can be equipped with a fly-wheel to avoid water hammer in the system. The pump shaft is supported by two ball bearings with oil or grease lubrication. HDS form pumps are manufactured for all branch sizes shown in this booklet.

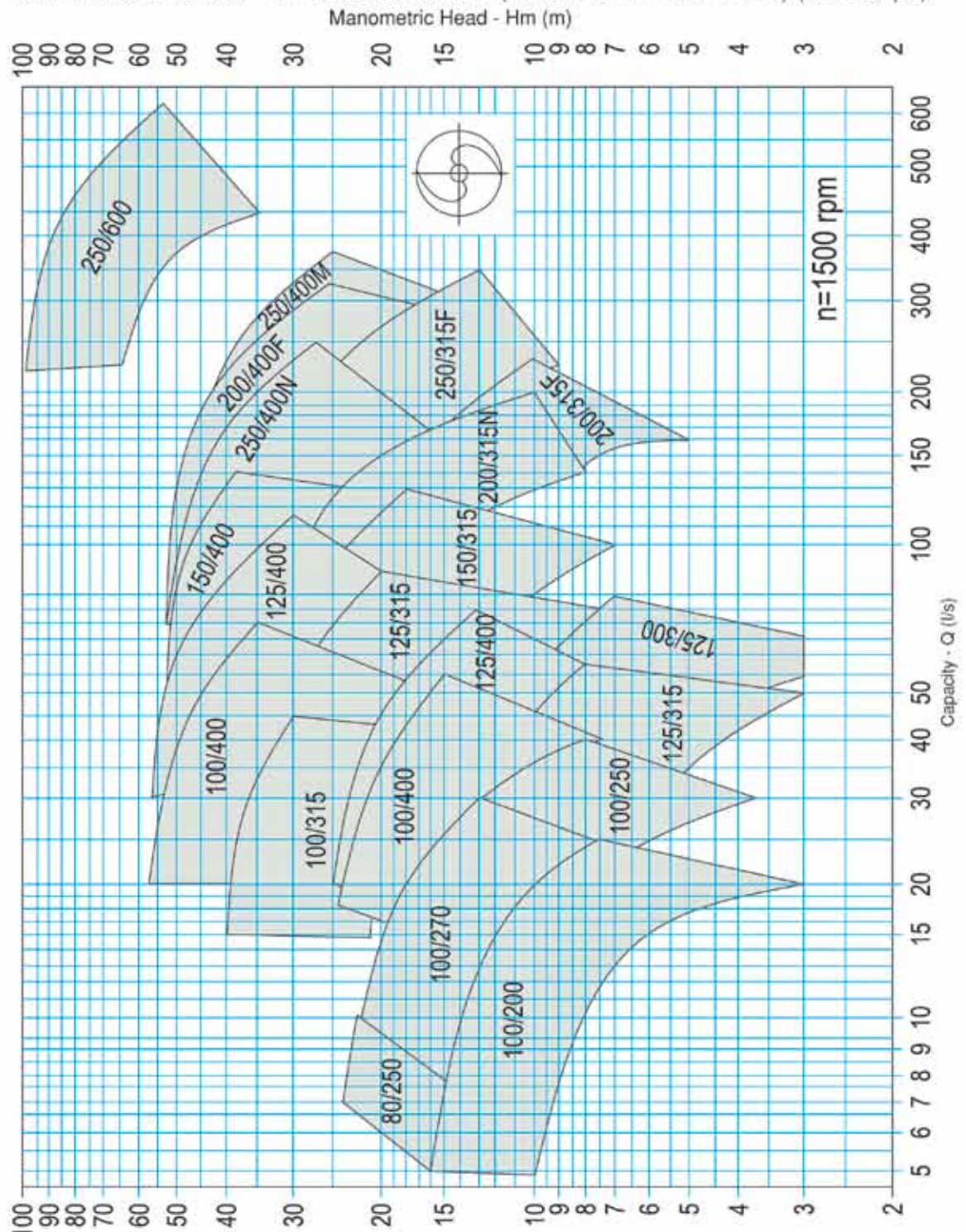


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SC Series Pumps Group Performance Curves

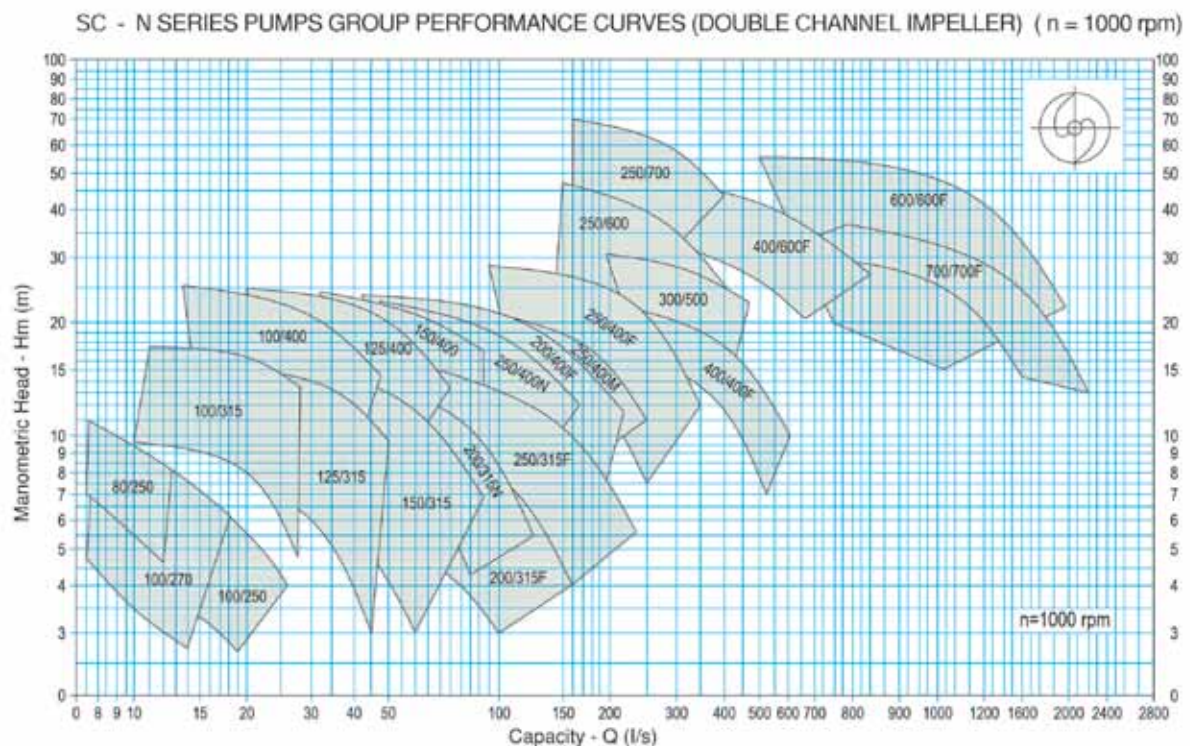
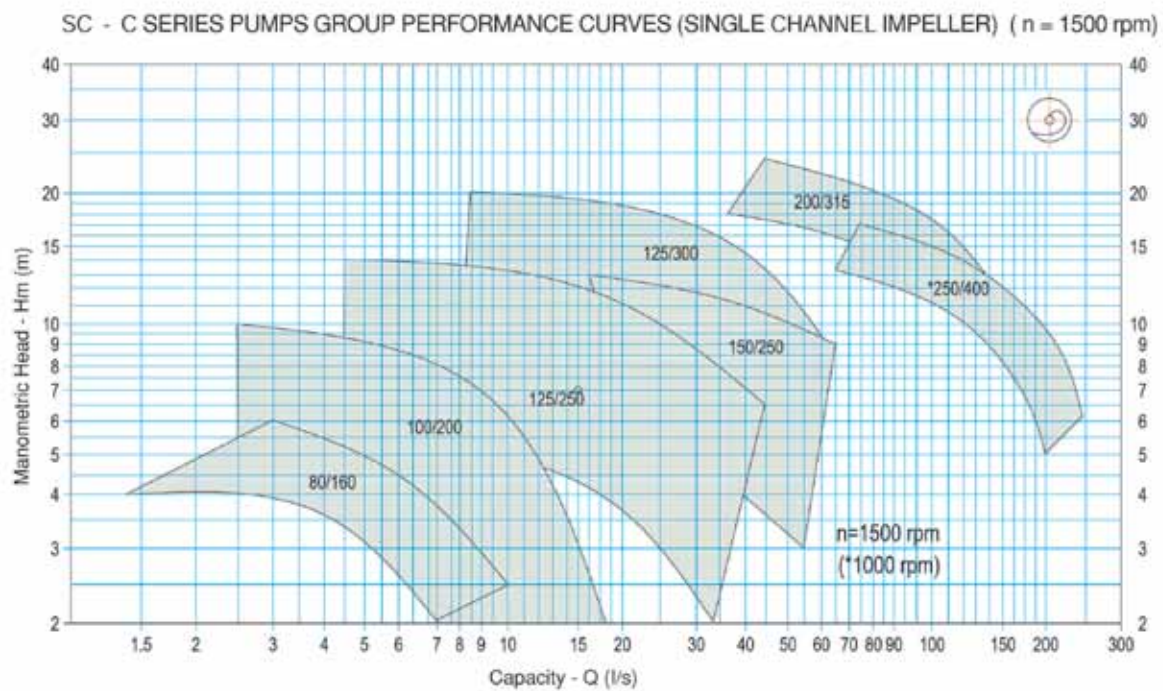
SC - N SERIES PUMPS GROUP PERFORMANCE CURVES (DOUBLE CHANNEL IMPELLER) (n = 1500 rpm)



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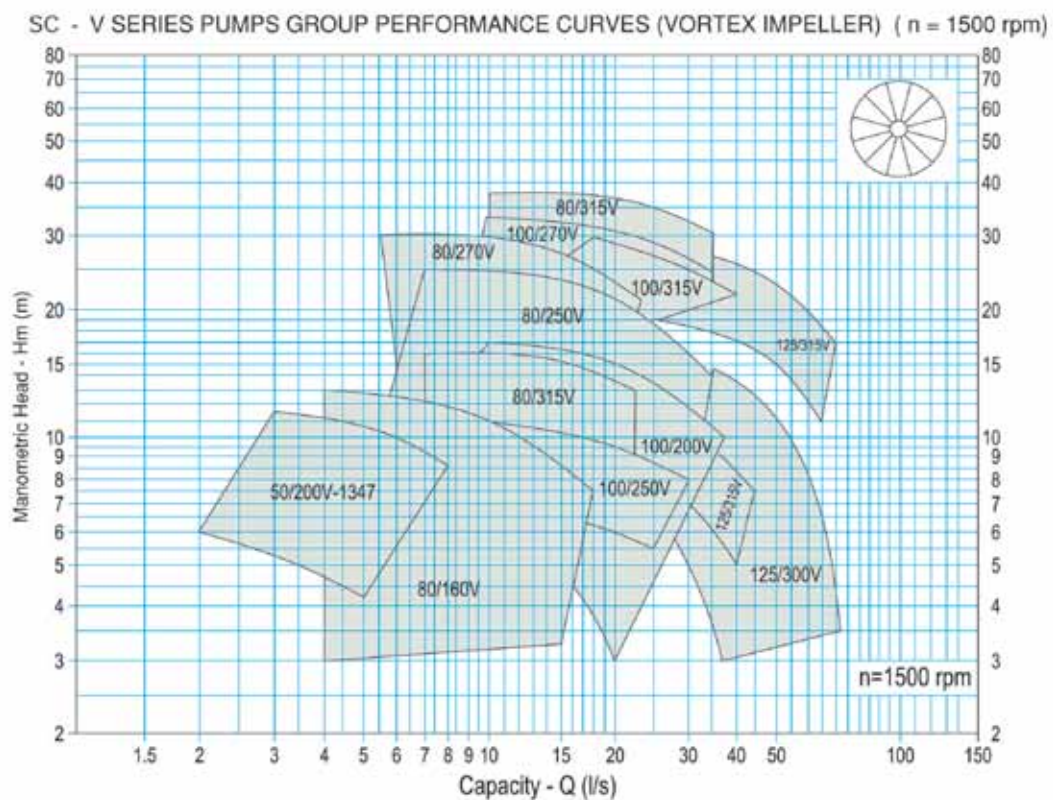
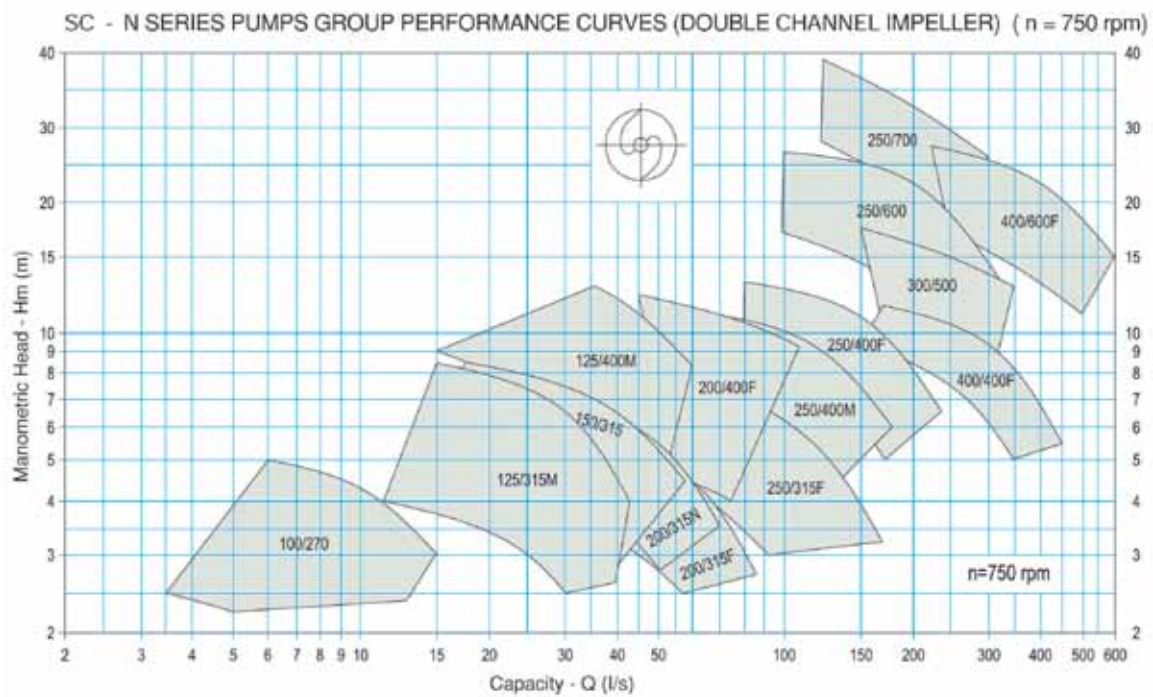
SC Series Pumps Group Performance Curves



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SC Series Pumps Group Performance Curves

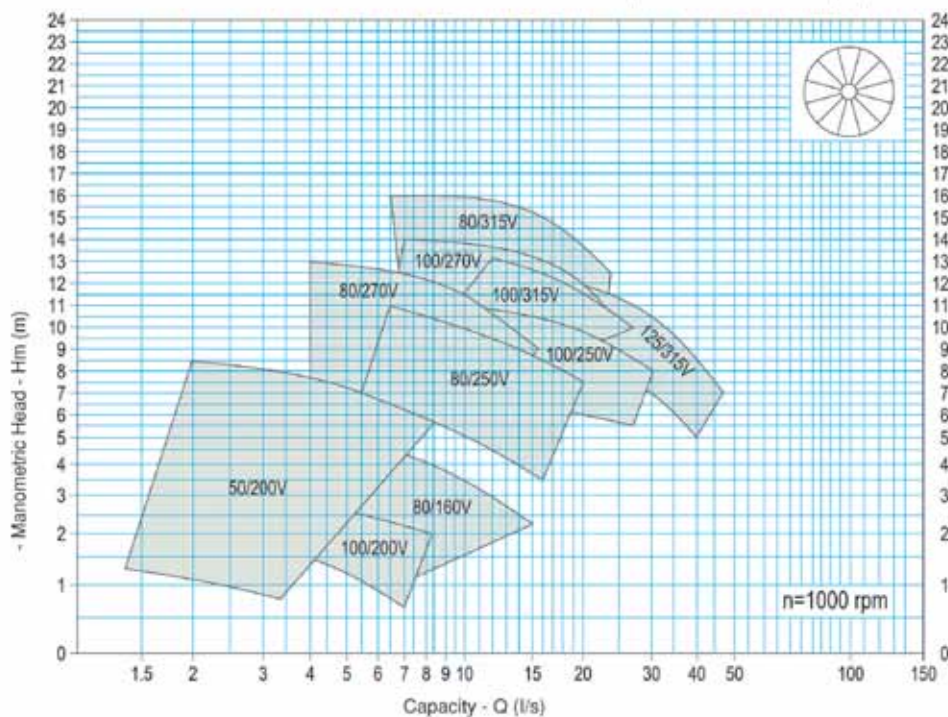


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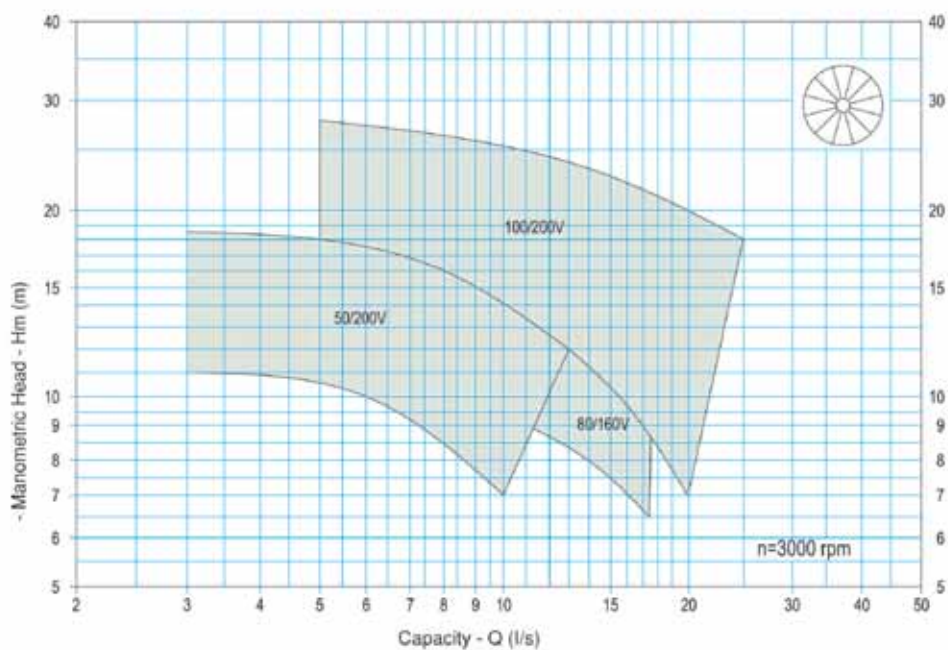
Specially Designed Waste Water & Sewage Pumps

SC Series Pumps Group Performance Curves

SC - V SERIES PUMPS GROUP PERFORMANCE CURVES (VORTEX IMPELLER) (n = 1000 rpm)



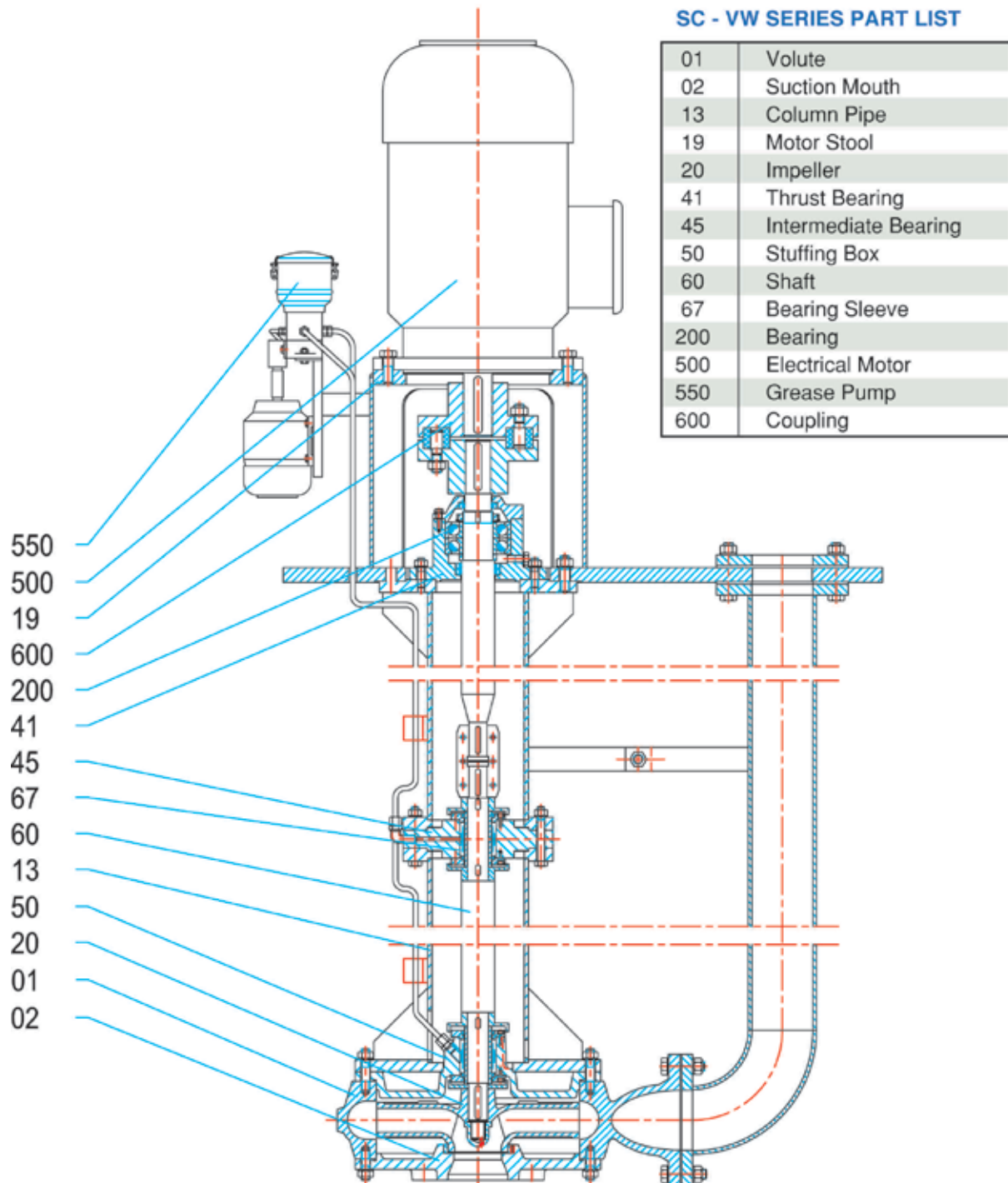
SC - V SERIES PUMPS GROUP PERFORMANCE CURVES (VORTEX IMPELLER) (n = 3000 rpm)



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SC-VW Series Pump Sectional Drawing and Parts List

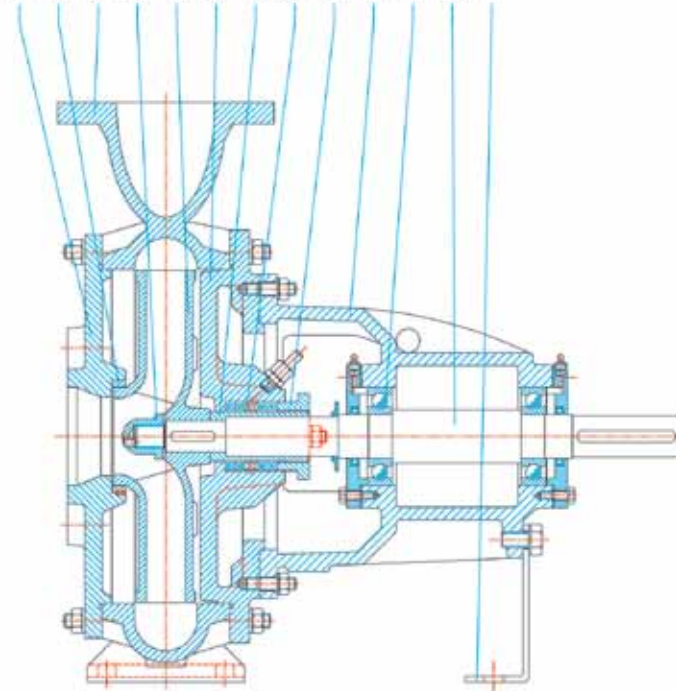


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Specially Designed Waste Water & Sewage Pumps

SC-HDS and VDM Series Pump Sectional Drawing and Parts List

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

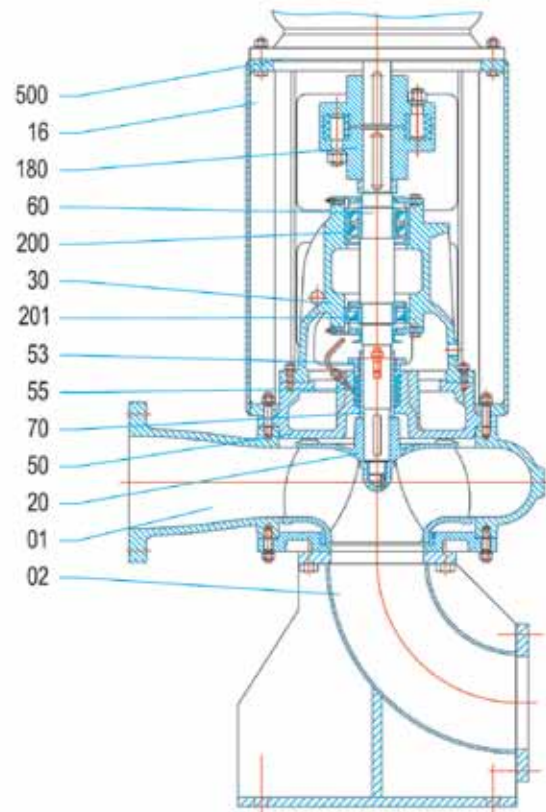


SC - HDS SERIES PARTS LIST

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

SC - VDM SERIES PARTS LIST

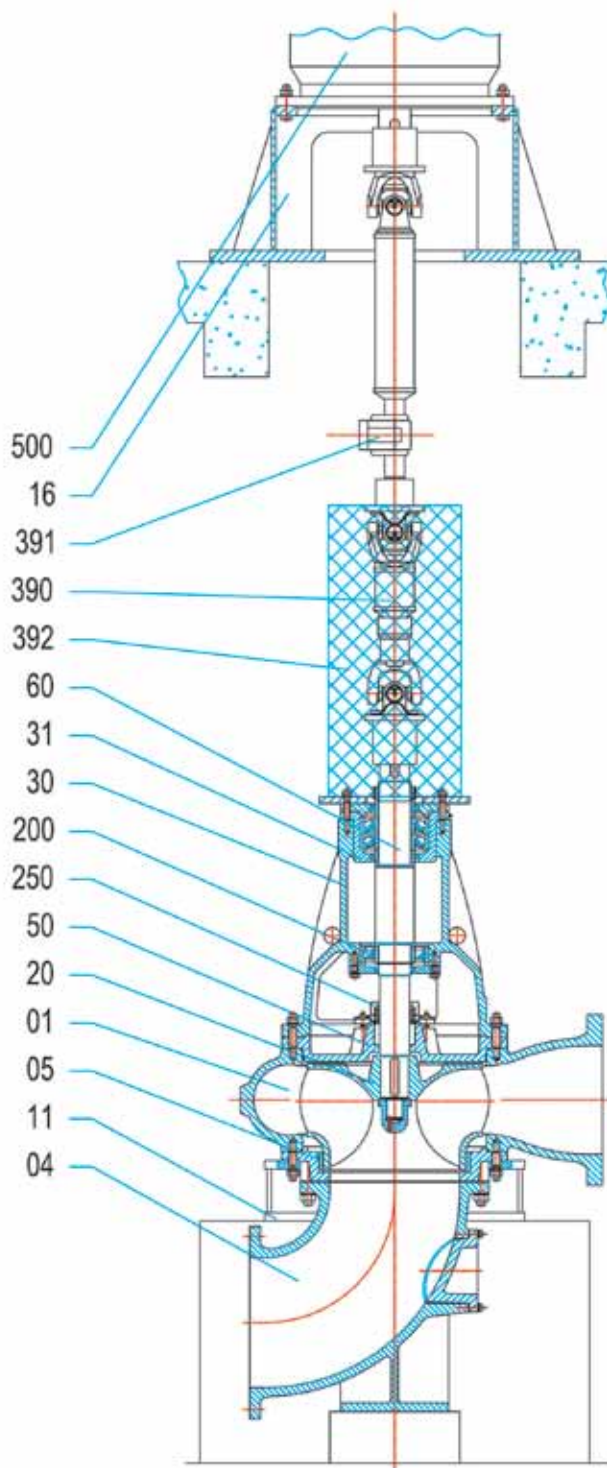
01	Volute
02	Suction Bend
16	Motor Stool
20	Impeller
30	Bearing Housing
50	Stuffing Box
53	Gland
55	Lantern Ring
60	Shaft
70	Shaft Sleeve
180	Coupling
200	Bearing
201	Bearing
500	Electric Motor



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SC-VDS Series Pump Sectional Drawing and Parts List



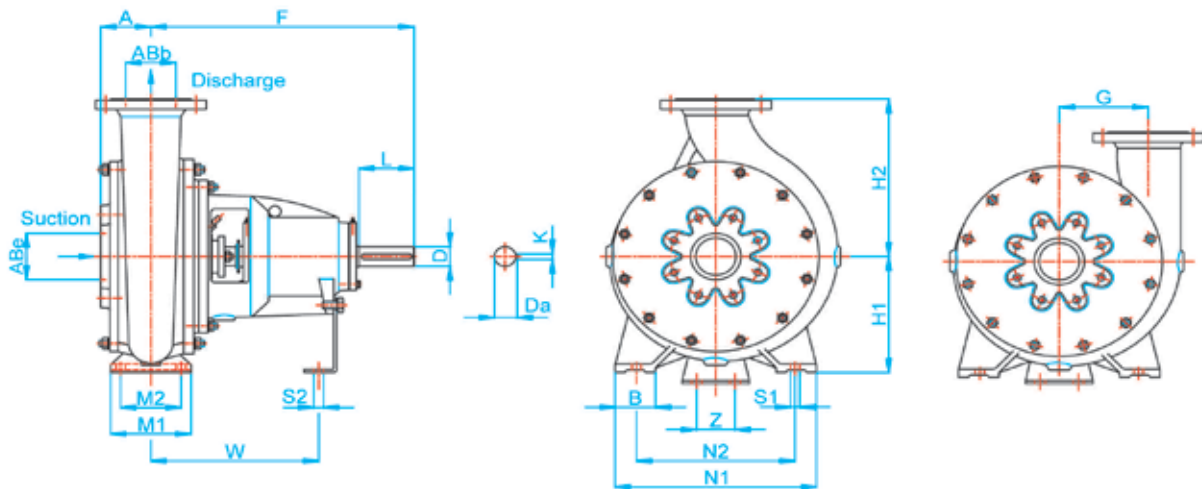
SC - VDS SERIES PUMPS PARTS LIST

01	Volute
04	Suction Bendh
05	Wear Ring
11	Support Foot
16	Motor Stool
20	Impeller
30	Bearing Housing
31	Bearing Housing
50	Stuffing Box
60	Shaft
200	Bearing
250	Mechanical Seal
390	Cardan Shaft
391	Intermediate Bearing
392	Safety Guard
500	Electric Motor

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Specially Designed Waste Water & Sewage Pumps

SC-HDS Series Horizontal Sewage Pumps Dimensions Table



PUMP TYPE	Discharge ABb-PN10	Suction ABc-PN10	A	F	H1	H2	B	M1	M2	N1	N2	S1	D	Da	K	L	W	Z	S2	G
50/200V	50	65	80	440	188	200	-	-	-	-	-	-					-	190	-	-
80/160			65	463			-	-	-	-	-	-	32	35	10	70	-		-	-
80/250	80	80	60	487	200	280	80	125	85	360	280					80	326			-
80/270			61	472	225	235				400	320	M16					312	100		135
80/315			70	555	250	340	85	160	120	175	400		42	45	12	110	365		M12	-
100/250			78	465		300	-	-	-	-	-	-					-			-
100/270V			72	448	188	235	-	-	-	-	-	-	32	35	10	70	-	190		135
100/270M	100	100	164				-	-	-	-	-	-					-			
100/315			100	523	250	340	80	160	120	400	315	M16	42	45	12	110	333	140		-
100/400			104	553	315	367	120	200	150	500	400	M20	32	35	10	70	369	150	M20	-
125/250			120	496	250		160	120		400	315						335	100	M12	-
125/315	125	125			280	315						M16				80	398			-
125/400			103	558	315	370	100	200	150	500	400		42	45	12		373			-
150/315			118	569	255	380											385	150		-
150/400	150	150	112	630		400				550	450	M20	52	56	16	110	420			-
					315												433			-
200/315N			127	617		360		250	180	500	400		42	45	12		445			-
200/315F	200	200	148	630	330	370	150	240	160	600										-
250/400N			140								500								M20	-
250/400M	250	250	160	864	380	480	140	280	200	650			60	64	18		619			-
250/400F			188									M27				140		190		-
250/600		300	280	741	550	650	160	350	250	800	660		70	75	20		665			-
300/500	300		211	886	500	585											778			-
400/400	400	400	243	850	580	800	150		270			M30				116	606			-
400/600		500	417	1035	550		160	400	300	900	740	M27	80	85	22	150	900	240		-
600/600	600	600	422	1202	800	700	325	500	400	1300	1000	M36	100	106	28	210	814	400	M24	500

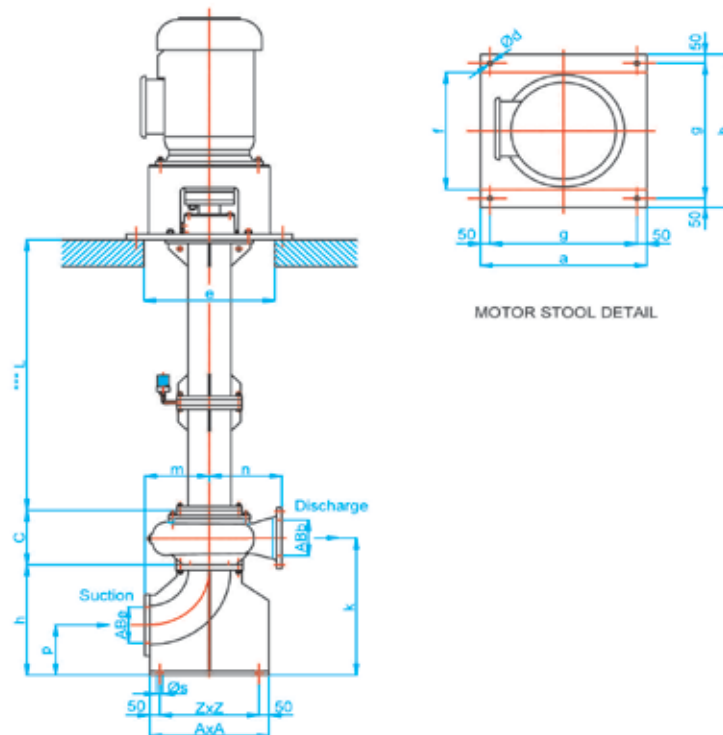
1) Dimensions (mm) subject to change without prior notice!
2) For flange dimensions refer to flange standards.

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SC-VD Series Vertical Suspension Pipe Sewage Pumps Dimensions Table

Dry Installation



PUMP TYPE	Discharge ABb-PN10	Suction ABe-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	291	143	200	250x250	200x200	20	M18X200
80/160	80	80	450	500	400	23	450	350	150	338	135	403	189	280	400x400	300x300	23	M20x200
80/250			700	700	600		600	500			118	398		267				
80/270			700	700	600		500	500			121	398		267				
80/315			750	750	650		600	550			145	468		340				
100/250	100	100	700	700	600	28	500	500	195	375	150	453	200	300	500x500	400x400	28	M24x250
100/270			700	700	600		500	500			132	447		235				
100/315			800	800	700		600	600			224	539		367				
100/400			800	800	700		600	600			206	456		367				
125/250N-F	125	125	800	800	700	28	650	450	185	400	210	540	217	315	500x500	400x400	28	M24x250
125/315N-F			800	800	700		650	450			215	510		370				
125/400M			800	800	700		650	450			215	510		370				
150/315M			800	800	700		650	450			215	510		370				
150/400M	150	150	900	900	800	28	750	640	210	460	262	535	275	400	600x600	500x500	28	M24x250
200/315N	200	200	900	900	800		750	640			282	682		340				
200/315F			900	900	800		750	640			315	700		370				
200/400M			900	900	800		750	640			315	700		370				
250/400N	250	250	1000	1000	900	28	850	760	250	1500	335	690	325	400	600x600	500x500	28	M24x250
250/400M			1000	1000	900		850	760			360	820		400				
250/400F			1000	1000	900		850	760			360	820		400				
250/400F			1000	1000	900		850	760			380	856		400				

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2) For flange dimensions refer to flange standards.

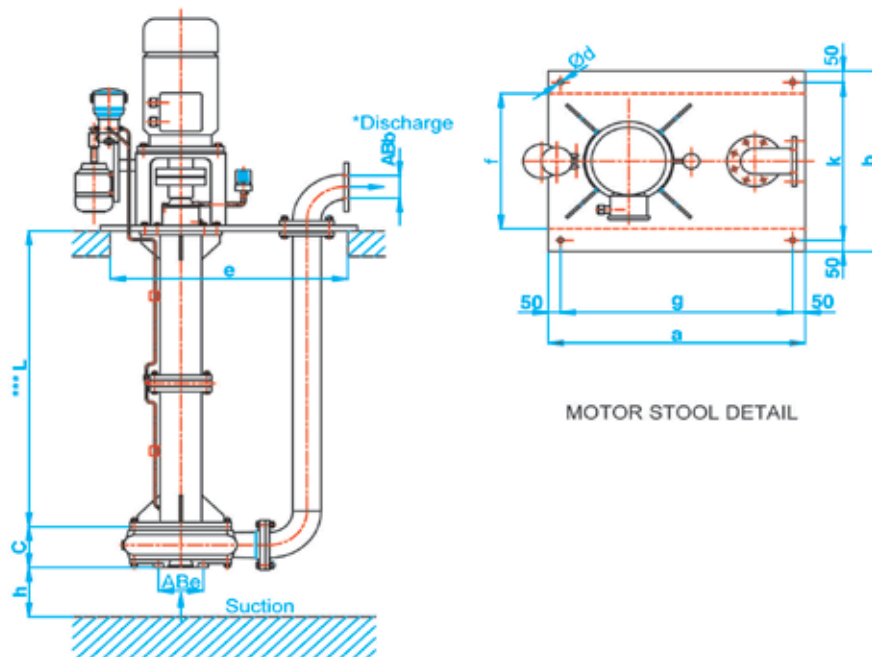
*** L = Total column pipe length

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Specially Designed Waste Water & Sewage Pumps

SC-VN Series Vertical Suspension Pipe Sewage Pumps Dimensions Table

Wet Installation



PUMP TYPE	Discharge ABb-PN10	Suction ABe	C	h min.	e	a	g	b	k	f	Od	Anchor Bolt
50/200V	50	65	95	150	600	600	500	450	350	300	20	M18x200
80/160V			135					500	400	350		
80/250	80	80	118	200	750	750	650	700	600	500	23	M20x200
80/270			121									
80/315			145		900	900	800	750	650	550		
100/250			150		800	800	700	700	600	500		
100/270	100	100	132	250								
100/315			224									
100/400			206		1000	1000	900	800	700	600		
125/250N-F			800		800	800	700	700	600	500		
125/315N-F	125	125	210	300								
125/400M			215									
150/315M			262	400	1000	1000	900		700	600	28	M24x250
150/400M	150	150						800				
200/315N			282	450	1100	1100	1000					
200/315F	200	200	315									
200/400M			335									
250/400N				500	1400	1500	1400	1000	900	800		
250/400M	250	250	360									
250/400F		300	380									

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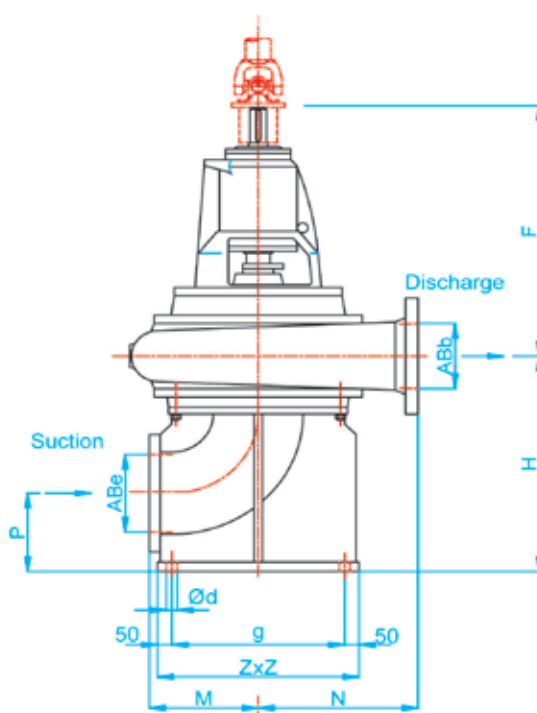
*** L = Total column pipe length

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Specially Designed Waste Water & Sewage Pumps

SC-VDS Series Vertical Sewage Pumps Dimensions Table

Dry Installation with Cardan Shaft Drive



PUMP TYPE	Discharge ABb-PN10	Suction ABe-PN10	F	H	M	N	P	ZxZ	g	Ød	Anchor Bolt
50/200V	50	65		290	143	200	125	250x250	150x150		
80/160			456	403	200	280				23	M20x200
80/250	80	80		350	194	235	150				
80/270				375		340					
80/315			465								
100/250			488	450	200	300		400*400	300*300		
100/270V	100	100		448		235	195				
100/315			550	450		340					
100/400						367					
125/315	125	125	527	510	265	315	185	500*500	400*400	28	M24x250
125/400			557	520		370					
150/315	150	150	551	580	275	380	210				
200/315N	200	200	565	680		360					
200/315F			585	690	326	370	225	600*600	500*500		
250/400N											
250/400M	250	250	741	790	400	480	250				
250/400F				960	478		300	700*700	600*600		
250/600	250	300		930	400	650	250	600*600	500*500		
300/500	300		886	835	365	585	300	700*700	600*600		
400/400	400	400	850	958	540	540	288	900*1200	800*1100	30	M27x300
400/600		500	1035	1132	540		300				
600/600	600	600	1202	1522	600	700	500	1200*1200	1100*1100		

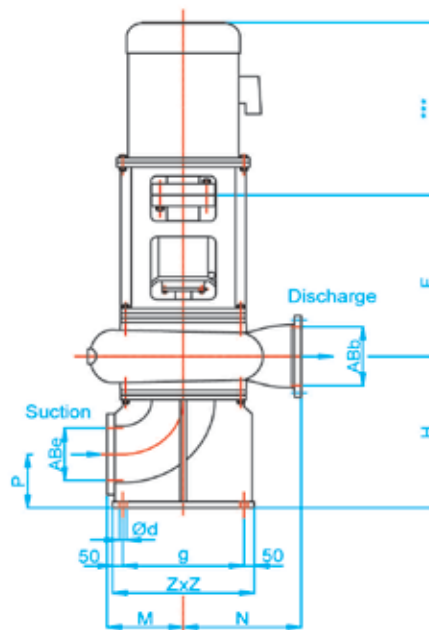
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Specially Designed Waste Water & Sewage Pumps

SC-VDM Series Vertical Monoblock Sewage Pumps Dimensions Table

Dry Installation



PUMP TYPE	Discharge ABb-PN10	Suction ABe-PN10	F	H	M	N	P	ZxZ	g	Ød	Anchor Bolt	
50/200V	50	65	473	290	143	200	125	250x250	150x150	23	M20x200	
80/160	80	80	485	403	200	280	150	400x400	300x300			
80/250			456	350	194	235						
80/270			465	375		340						
80/315			488	450		300						
100/250	100	100	448	448	200	235	195	400x400	300x300	28	M24x250	
100/270			550	450		340						
100/315						367						
100/400												
125/250	125	125	475	520	265	315	185	500x500	400x400			
125/315			527	510		370						
125/400				520								
150/315	150	150	551	580	275	300	210					
150/400			630	574		400						
200/315N	200	200	565	680	326	360	225	600x600	500x500			
200/315F			585	690		370						
200/400			768	700								
250/400N	250	250	741	690	480	250	700x700					600x600
250/400M				790		478						
250/400F				960		400	650	250	600X600	500X500		
250/600				930		400	650	250	600X600	500X500		
300/500	300		886	835	365	585		700x700	600x600	30	M27x300	
400/400	400	400	850	958	540	540	300	900*1200	800*1100			
400/600		500	1035	1132		700						
600/600		600	600	1202	1522	600	500	1200*1200	1100*1100			

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