



Pump • Fire Fighting Units • Booster Set

SMV

VERTICAL MIXED FLOW COLUMN TYPE PUMPS

SMV Rev.05.03.2024

Handled Liquids

Clean or contaminated lake waters, rivers, dam waters, untreated industrial waters and liquids with fibrous and solid substances.

Technical Data

Discharge Flange _____ DN 200....DN 1000 mm

Capacity _____ up to 5000 m³/h

Head _____ up to 250 m

Speed _____ up to 1800 rpm

Operating Temperature _____ up to +80 °C

Design Features

- Single or multi stage mixed flow pumps.
- It usually consists of group of stages, columns and discharge heads.
- Flow capacity is between 150 - 5000 m³/h and head is up to 250m. New design is needed for larger capacities.
- They are usually mounted vertically.
- There are no venting problems at first motion since stages are in contact with fluid.
- High efficiency and low operating costs.
- Mounting and demounting are easier with flanged column pipes.
- Enclosed or semi-open impeller is used.

Pump Designation

Pump Type _____

Diffuser Rated Diameter _____

Impeller Type _____

Number of Diffuser _____

B: Mixed Flow Closed Impeller; F: Mixed Flow Semi-Open Impeller
F: General's Single Stage



- It can be lubricated with handled liquids or grease. It also can be lubricated with clean water or oil by customer request.
- Discharge head can be placed above ground or underground.
- VHS or V1 electric motor can be used.
- Bronze or rubber intermediate bearing can be selected.

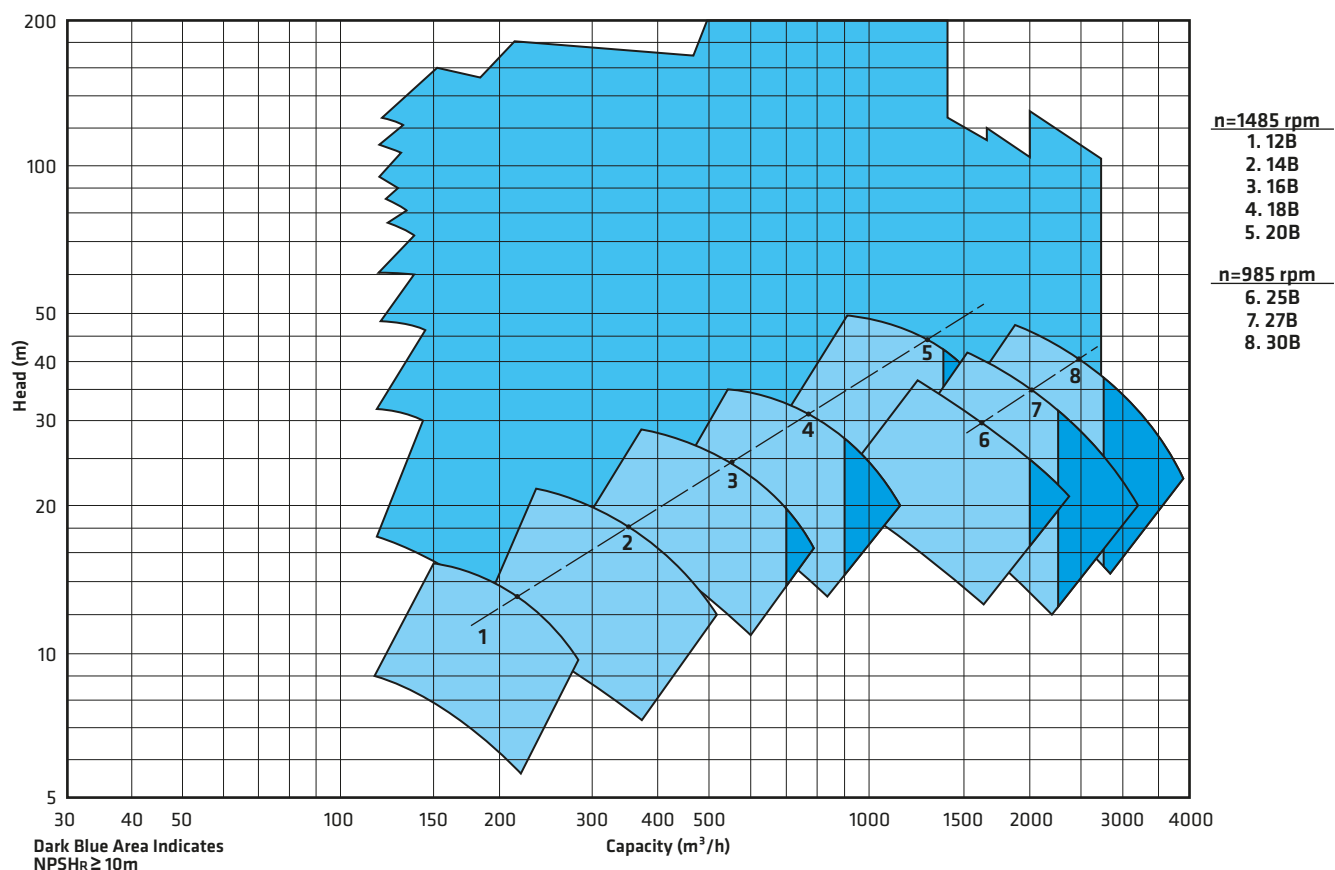
Shaft Sealing

Depending on type of the fluid and operating conditions, soft packing, single, double or cartridge type mechanical seal is used.

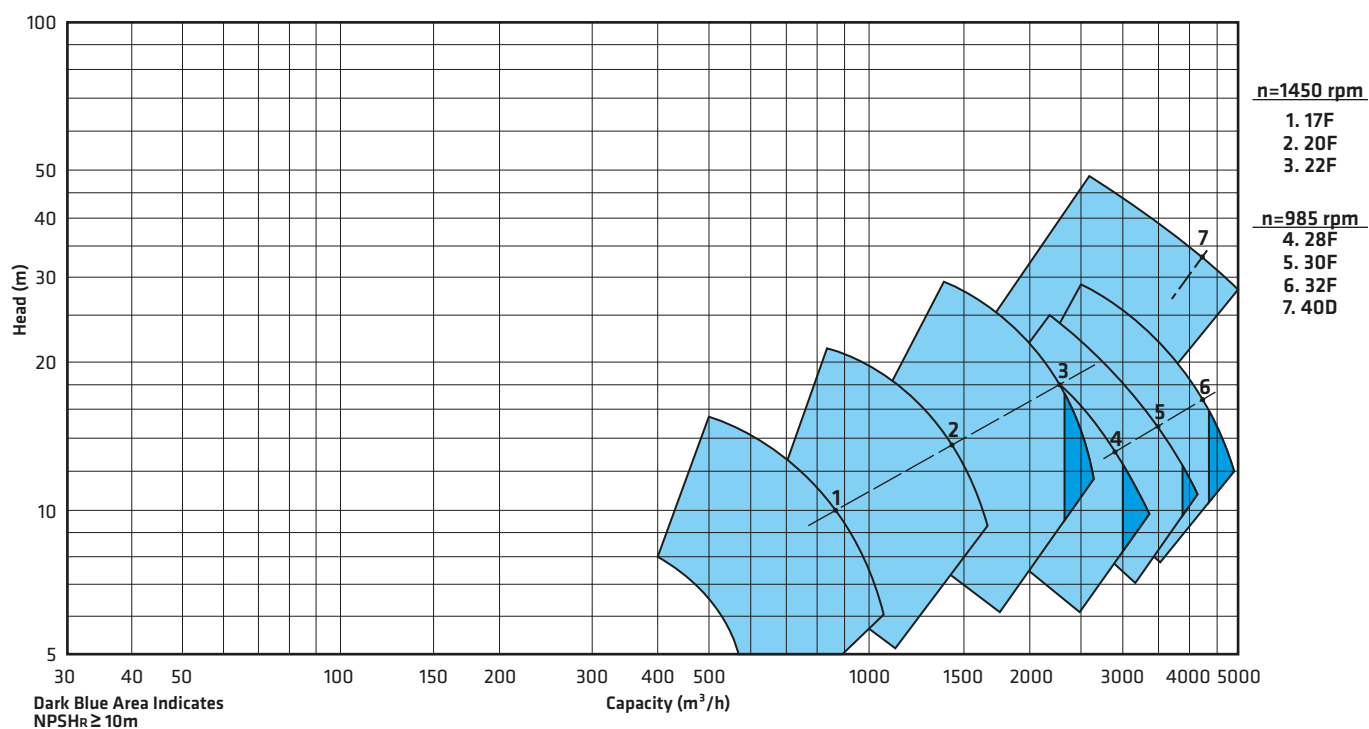
SMV 16 B - 3

Vertical Mixed Flow Column Type Pumps

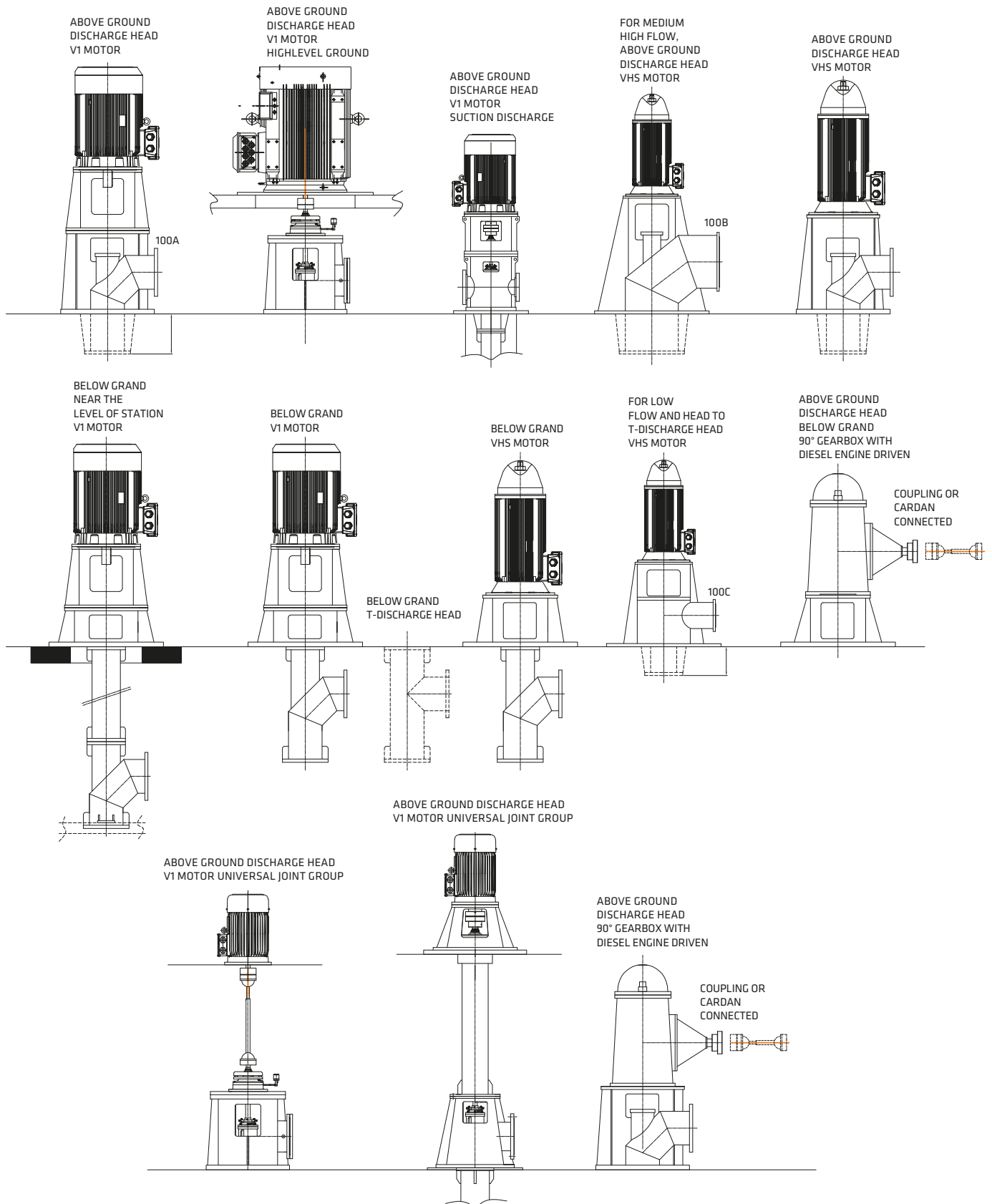
SMV-B



SMV-F

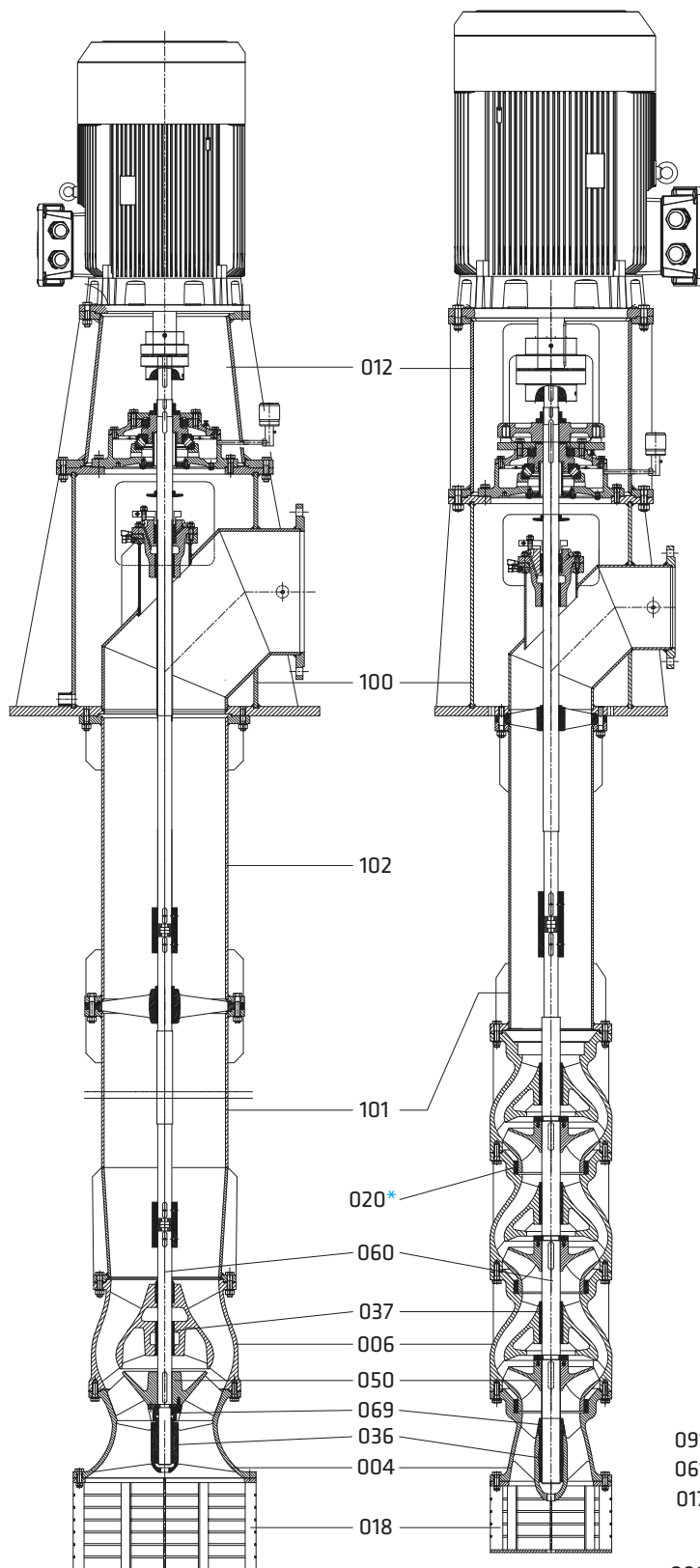


TYPE OF DISCHARGE HEAD AND DRIVERS OF SMV PUMPS

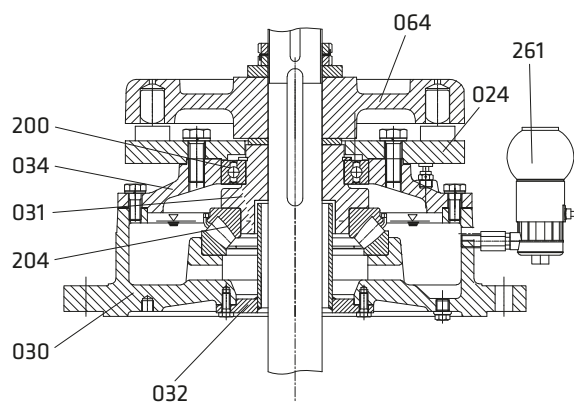


SMV-F / 01

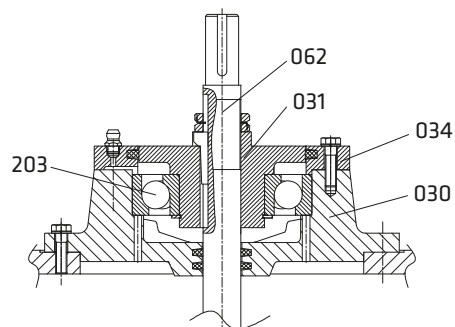
SMV-B / 03



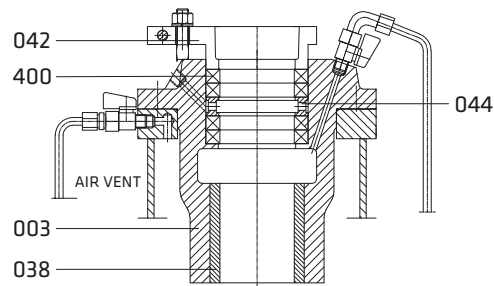
AXIAL THRUST BEARING GROUP



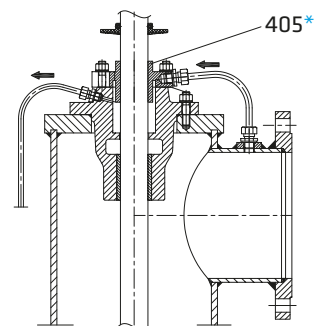
GREASE LUBRICATED BEARING GROUP



SOFT PACKING GROUP

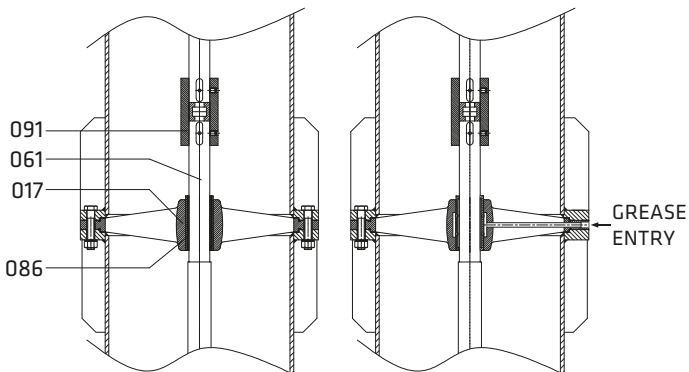


MECHANICAL SEAL GROUP



W/L WATER LUBRICATED BEARING RETAINER

G/L GREASE LUBRICATED BEARING RETAINER

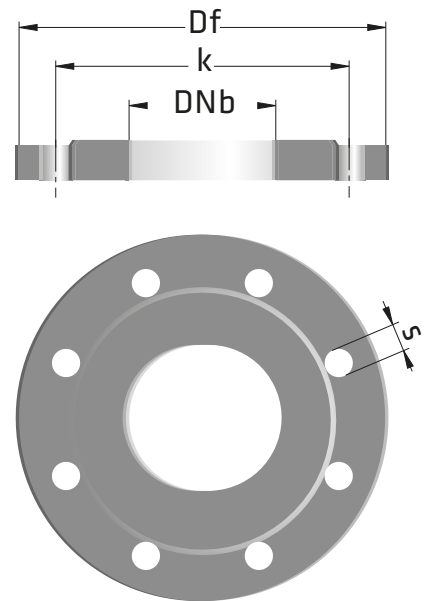


Part List

SMV

BOWL ASSEMBLY		DISCHARGE GROUP	
018	Filter	100	Dispensing Head
004	Suction Ball	003	Staffy Box
036	Suction Ball Bearing	038	Staffy Box Bearing
069	Sand Ring	042	Glend
050	Impeller	400	Soft Packing
006	Diffuser	044	Lantern Ring
037	Diffuser Bearing	MOTOR PEDESTAL GROUP	
020*	Wear Ring	012	Motor Pedestal
060	Pump Shaft	030	Axial Thrust Bearing House
091	Coupling	022	Grease trap
COLUMN GROUP		204	Thrust Bearing
101	Below Column Pipe	200	Radial Bearing
102	Column Pipe	034	Bearing House Cover
017	Bearing Holder	031	Motion Coupling
061	Column Shaft	024	Nail Plate
086	Column Shaft Bearing	064	Pin Carrier Ring
091	Coupling	261	Lubricator
		062	Discharge Head Shaft

(*) Optional



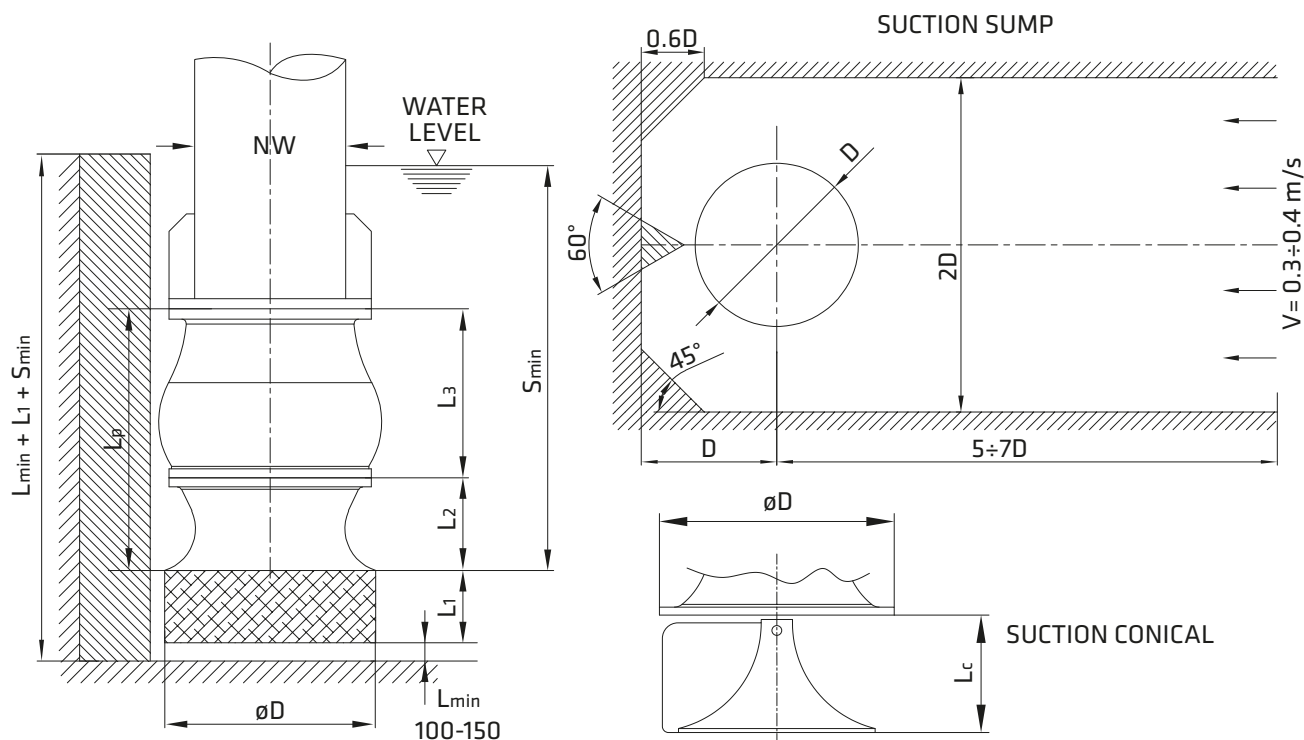
Flange Dimensions

TS EN 1092 - 1	DNb	Discharge (PN 6)				Discharge (PN 10)				Discharge (PN 16)				Discharge (PN 25)			
		Df	k	s	n	Df	k	s	n	Df	k	s	n	Df	k	s	n
	200	320	280	18	8	340	295	22	8	340	295	22	12	360	310	26	12
	250	375	335	18	12	395	350	22	12	405	355	26	12	425	370	30	12
	300	440	395	22	12	445	400	22	12	460	410	26	12	485	430	30	16
	350	490	445	22	12	505	460	22	16	520	470	26	16	555	490	33	16
	400	540	495	22	16	565	515	26	16	580	525	30	16	620	550	36	16
	500	645	600	22	20	670	620	26	20	715	650	34	20	730	660	36	20
	600	755	705	26	20	780	725	30	20	840	770	37	20	845	770	39	20
	700	860	810	26	24	895	840	30	24	910	840	37	24	960	875	42	24
	800	975	920	30	24	1015	950	33	24	1025	950	39	24				
	900	1075	1020	30	24	1115	1050	33	28	1125	1050	39	28				
	1000	1175	1120	30	28	1230	1160	36	28	1255	1170	42	28				

"n" number of holes

Material Equivalents

Description	DIN / EN		AISI / SAE / ASTM
Cast Iron	0.6025	EN-GJL-250 (GG25)	A48 Class 40B
Nodular Cast Iron	0.7040	EN-GJS-400-15 (GGG40)	A536 60-40-18
Nodular Cast Iron	0.7043	EN-GJS-400-18-LT (GGG40.3)	A536 60-40-18
Cast Steel	1.0619	GP240GHGS-C25	A216 WCB
Chrome Nickel Cast Steel	1.4308	GX5CrNi19-10	A351 CF8
Chrome Nickel Cast Steel (low carbon)	1.4309	GX2CrNi19-11	A351 CF3
Chrome Nickel Molybdenum Cast Steel	1.4408	GX5CrNiMo19-11-2	A351 CF8M
Chrome Nickel Molybdenum Cast Steel (low carbon)	1.4409	GX2CrNiMo19-11-2	A351 CF3M
Austenitic Cast Steel	1.4500	GX7NiCrMoCuNb25-20	A351 CN7M
Austenitic-Ferritic Cast Steel (duplex)	1.4517	GX2CrNiMoCuN25-6-3-3	A890 CD4MCuN
Austenitic-Ferritic Cast Steel (super duplex)	1.4469	GX2CrNiMoN26-7-4	A890 CE3MN
Martenzitic Stainless Cast Steel	1.4317	GX4CrNi13-4	A352 CA6NM
Martenzitic Stainless Cast Steel	1.4008	GX7CrNiMo12-1	A217 CA15
Cast Bronze (tin alloy)	2.1050.01	G-CuSn10	B427 C90700
Cast Bronze (nickel alloy)	2.0975.01	G-CuAl10Ni	B148 C95500
Cast Bronze (lead)	2.1096.01	G-CuSn5ZnPb	B584 C83600
Chrome Steel	1.4021	X20Cr13	A276 Type 420
Chrome Steel (heat treated)	1.4021	X20Cr13	A276 Type 420+QT
Chrome Nickel Steel	1.4301	X5CrNi18-10	A276 Type 304
Chrome Nickel Steel (low carbon)	1.4404	X2CrNiMo17-12-2	A276 Type 316L
Duplex (austenitic-ferritic) Steel	1.4460	X3CrNiMoN27-5-2	AISI 329
Duplex (austenitic-ferritic) Steel	1.4462	X2CrNiMoN22-5-3	UNS S32205



Pump Type	NW	øD	Smin	Lc	L1	L2	L3	BOWL ASSEMBLY (Lp = L2 + Z • L3)								
								1	2	3	4	5	6	7	8	9
12B	200	290	800	160	200	212	273	485	758	1031	1304	1577	1850	2123	2396	2669
14B	200 250	340	950	180	200	248	320	568	888	1208	1528	1848	2168	2488	2808	
16B	250 300	390	1000	220	230	290	385	675	1060	1445	1830	2215	2600	Z= Number of Diffuser		
18B	300 350	440	1200	220	250	325	420	745	1165	1585	2005	2425				
20B	300 350 400	520	1400	300	300	389	495	878	1373	1868	2363					
25B	400 450 500	650	1500	300	360	480	620	1100	1720	2340						
27B	450 500	700	1600	340	400	515	665	1180	1845	2510						
30B	500 550	750	1800	360	450	555	715	1270	1985	2700						
17F	300 350	520	1300	300	300	240	300	540								
20F	350 400 450	590	1500	300	300	280	350	630								
22F	450 500	620	1700	300	300	325	410	735								
28F	550 600	863	1900	370	400	410	515	925								
30F	600 700	925	2100	500	550	440	552	992								
32F	600 700	980	2200	500	550	465	585	1050								
40D	700 800	950	2300	500	550	490	710	1200								