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DUKJI PUMPS

PRODUCT & SERVICE GUIDE

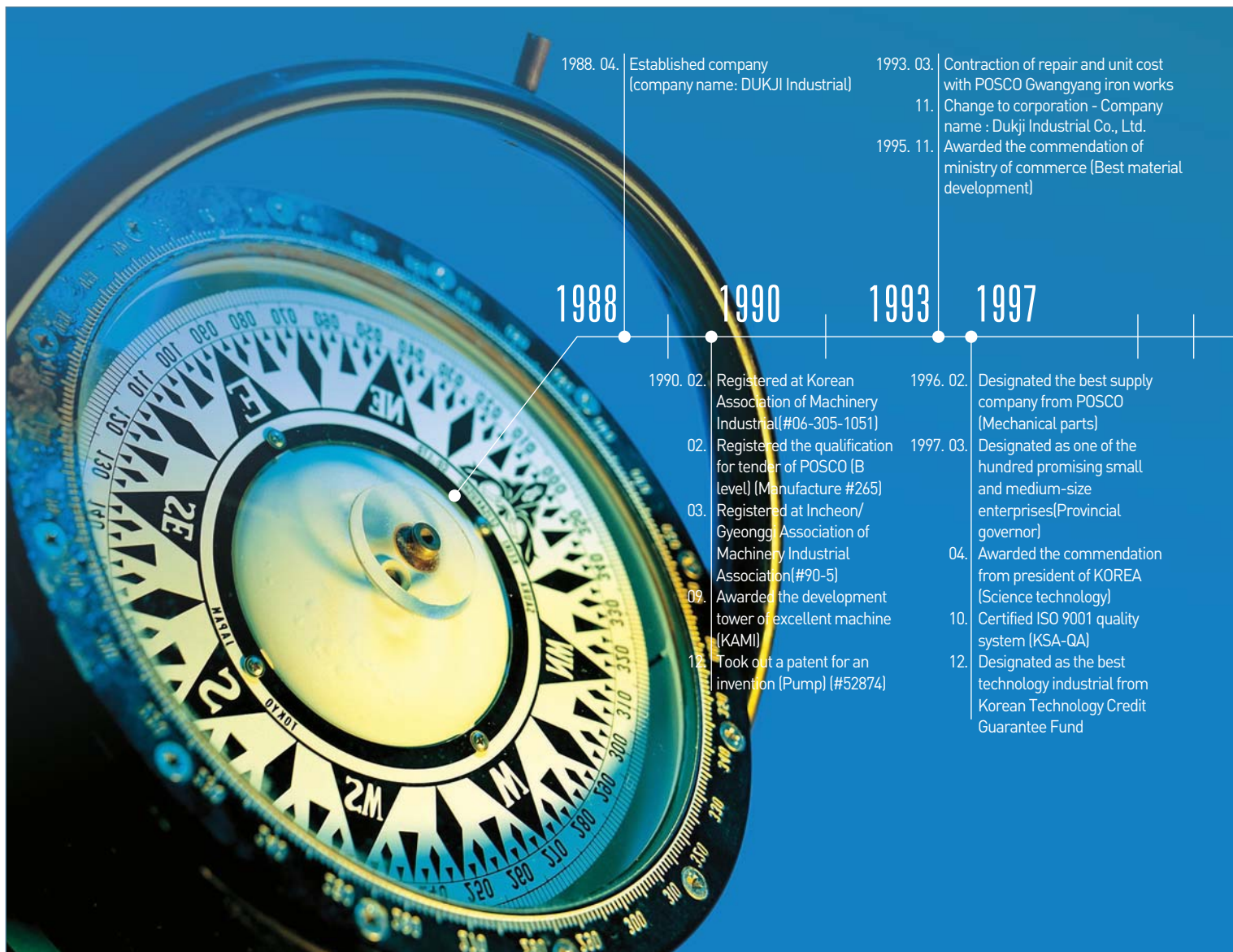
Forward to the Future & World with **DUKJI**



1 DUKJI 덕지산업(주)

DUKJI Industrial Co., Ltd.

- D** | Development(발전)
풍요로운 미래를 위한 끊임없는 발전의 정신
- U** | Unique(독창적)
독창적 기술로 연구 개발하는 정신
- K** | Kindness(친절)
고객을 감동케 하는 친절함 마음
- J** | Joyful(즐거움)
항상 즐거운 마음으로 일하는 정신
- I** | Innovation(개혁)
세계제일의 펌프를 도전하는 개혁의 정신



Greetings



I would like to express my heartfelt gratitude to the customers of Dukji Industrial's for being with us and encouraging us with care and love since the foundation in 1988.

Since inception, Dukji Industrial has localized many number of imported pumps and acquired valuable experiences over the course of researching, developing pumps and growing together with customers.

Today, we are proud to be the leader in both the domestic and global market with a stronger market presence of "Made in Korea" pumps. Our products are known for high quality, high efficiency, and huge energy savings, and free of noise and vibration.

Going forward, we promise to take full advantage of the operation speed, which is the key competitive edge of smaller companies, to expand ourselves beyond the domestic market and globalize the local pumps.

Dukji Industrial will continue to be at your side listening to your voices, however small, at all times and reflecting your demands at all times.

Your critical comments and opinions will never go unheard of and will be respected in every area of the business we commit to.

Thank you.

Representative Director **Kim Jong Soo**

1998. 09.	Awarded the commendation from the prime minister of KOREA(Best material development)	2002. 01.	Extending the building (1st and 2nd floor, 480m ²)	2007. 11.	Shift to New plant (Ground area : 16529m ² /Building : 6115m ³)
11.	Designated as strategical supplier of PUMP from POSCO	02.	Designated as strategical supplier of PUMP from POSCO	2009. 02.	1st Award for praiseworthy managers in the machine industry
1999. 01.	Designated as a venture(Patent technology development) - GGSMBA	10.	Research project with Korea Electric Power Research Institute and completed consigned	2009. 07.	Opened the Pohang sales branch
03.	Certified Korean Standard (KS) (Korea Standard Association) (#99-0495)	10.	Registered professional construction(Facility for water supply and drainage)	2011. 02.	Certified ISO 14001 Environment System (ICR)
2000. 02.	Designated the best competitive power for technology (SMBA)	12.	Designated INNO-BIZ (technology innovation) company (SMBA)		
10.	Accomplished disaster-free 5 times ('95.7.28 - '00.9.27) (KOSHA)				
12.	Contraction of inspection and repair with Samsung Electronics Giheung Semiconductor				
12.	Confirmed as a venture(development of patent technology) - GGSMBA				
2001. 06.	Designated best small and medium-size enterprises (GGSMBA)				
06.	Certified Korean Standard (KS) (Korea Standard Association) (#01-2072)				
11.	Awarded the commendation from president of KOREA(Best material development)				
2003. 01.		2003. 01.	Registered as certified supplier of selected items from Korea Western Power		
		04.	Acquisition of patent for new product (NPVP type)		
		12.	Awarded the excellent venture business (GGSMBA)		
		2005. 04.	Selected as company of excellent quality(POSCO)		
		05.	Awarded Service Medal (Ministry of Government Affairs and Home Affairs)		
		06.	Registered patent(Oil seal - #04997798)		
		09.	Certified NT(New Technology)(ATS)		
		12.	Certified EM(Excellent Machine Mechanism Material)(ATS)		
		2006. 01.	Certified NEP (NEW EXCELLENT PRODUCT)(REPUBLIC OF KOREA)		
		06.	Designated best small and medium-size enterprises (GGSMBA)		
		11.	Got Export Prize 1 Million-Dollar Top on the anniversary of Trade Day		

Head quarter-#1 Factory



ANSI B73.1M PROCESS PUMP

MODEL DAP



- Use** Chemical process, petrochemical industry, petroleum refineries, other chemical industries, etc.
- Specification**
 - Capacity : ~ 1000 m³/Hr
 - Head : ~ 230 m
 - Bore : $\varnothing 25 \sim \varnothing 250$
- Special feature**
 - Full compliance with ANSI B73.1M standard
 - High efficiency and low NPSHr with precise casting of open type impeller
 - Easy assembly with BACK PULL-OUT structure
 - Gap adjustment of impeller is possible by minutely control of bearing housing
 - Heavy Duty Design

API 610 PROCESS PUMP

MODEL DAPI



- Use**
 - Petroleum refining/ Petrochemical.
 - High temperature applications.
 - General industrial requiring high temperature or high pressures
- Specification**
 - Capacity : ~ 500 m³/Hr
 - Head : ~ 250 m
 - Temperature : ~ 350 °C

ISO 2858 GENERAL PUMP

MODEL DGP



- Use** Use Industrial process, chemical industry, water treatment, other manufacturing industry, etc.
- Specification**
 - Capacity : ~ 800 m³/hr
 - Head : ~ 100 m
 - Bore : $\varnothing 32 \sim \varnothing 250$
- Special feature**
 - Full compliance with ISO 2858 standard
 - High efficiency with close type impeller
 - Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

DOUBLE SUCTION VOLUTE PUMP

MODEL DSV



- Use** Industry process, water delivery and irrigation, utility and marine use.
- Specification**
 - Capacity : ~ 10,000 m³/hr
 - Head : ~ 200 m
 - Bore : $\varnothing 200 \sim \varnothing 1500$
- Special feature**
 - High suction capacity caused by double suction
 - High quantity transportation and high efficiency
 - Assure balance with symmetrical structure
 - Easy installation with horizontal split casing structure

MODEL DMS HIGH PRESSURE MULTI-TURBINE PUMP

- Use** Water supply for boiler, water service facilities, industrial water and normal pressure equipment, fire extinguishing and construction facilities.
- Specification**
 - Capacity : ~ 400 m³/hr
 - Head : ~ 1000 m
 - Bore : $\varnothing 32 \sim \varnothing 200$
- Special feature**
 - Suitable for high head of pump due to the multi stage of impeller
 - High efficiency with close type impeller
 - Prevention of shaft thrust by both sides supporting with shaft sealing system and bearing



MODEL DSPA ANSI SELF-PRIMING PROCESS PUMP

- Use** Process, general chemical industry, drainage and other various industries, etc.
- Specification**
 - Capacity : ~ 800 m³/hr
 - Head : ~ 100 m
 - Bore : $\varnothing 40 \sim \varnothing 200$
- Special feature**
 - Self-priming pump driving automatically
 - Easy assembly with BACK PULL-OUT structure
 - Heavy Duty Design



MODEL DSW NON-CLOG SCREW CENTRIFUGAL PUMP

- Use** Sewage disposal plant and wastewater treatment plant, transportation of fish and shellfish, pulp hides transportation, coal powered coal transportation, and high-density slurry transportation for various industries.
- Specification**
 - Capacity : ~ 2000 m³/hr
 - Head : ~ 40 m
 - Bore : $\varnothing 50 \sim \varnothing 450$
- Special feature**
 - Screw impeller structure can transfer every solid without blocking
 - In case of repair maintenance, it is possible to confirm inside of casing through inspection hole on the casing easy assembly with BACK PULL-OUT structure
 - Heavy Duty Design



MODEL DWM NON-CLOG ABRASIVE SLURRY PUMP

- Use** Facilities for desulfurization of thermoelectric power plant, Picking up sand and gravel, Slurry transportation for other industries.
- Specification**
 - Capacity : ~ 7200 m³/hr
 - Head : ~ 85m
 - Bore : $\varnothing 25 \sim \varnothing 800$
- Special feature**
 - It is possible to change liquid-end parts caused by abrasion
 - Impeller structure of Non-Clog type with strong anti-slurry characteristic
 - Heavy Duty Design
 - Double Casing Type



SLURRY SUMP PUMP

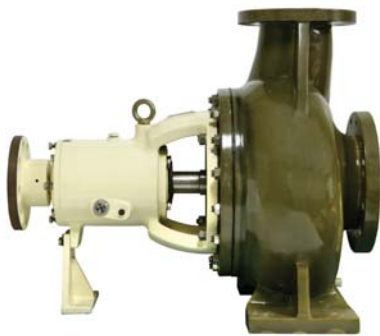
MODEL DVS-SM/SMR



- Use** Sump drainage / washdown, Floor drainage, Mill sumps, Carbon transfer
- Specification**
 - Capacity : ~ 500 m³/hr
 - Head : ~ 50 m
 - Bore : $\varnothing 40 \sim \varnothing 200$
- Special feature**
 - The DVS-SM and SMR designs, manufactured in popular metric sizes, provide a simple, yet rugged of sump pumps specially developed for : Large particle size, High slurry density

HI-DUPOLITE(FRP) CENTRIFUGAL PUMP

MODEL MSHF



- Use** Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), petrochemical industry, pharmaceutical industry and dyeing, food industry, wastewater treatment, other industry, etc.
- Specification**
 - Capacity : ~ 600 m³/hr
 - Head : ~ 60 m
 - Bore : $\varnothing 25 \sim \varnothing 250$
- Special feature**
 - Hi-Dupolite material makes high corrosion resistance and heat-resisting property
 - Complete standardization with precise forming of all parts
 - Easy assembly and maintenance with BACK PULL-OUT structure

HI-DUPOLITE(FRP) SELF-PRIMING PUMP

MODEL MSHS



- Use** Chemicals industry, transportation for PIT solution of general industry, wastewater treatment, other industry, etc.
- Specification**
 - Capacity : ~ 500 m³/hr
 - Head : ~ 50 m
 - Bore : $\varnothing 25 \sim \varnothing 250$
- Special feature**
 - Self-priming pump driving automatically
 - Hi-Dupolite material makes high corrosion resistance and heat-resisting property
 - Complete standardization with precise forming of all parts
 - Easy assembly and maintenance with BACK PULL-OUT structure

VERTICAL SUMP PIT PROCESS PUMP

MODEL DVS, MODEL NPVL



- Use** Chemical industry, general industry, water treatment and other industry, etc. Transportation of acidic, alkaline solutions, circulation pump for scrubber, spray pump for etching.
- Specification**
 - Capacity : ~ 600 m³/hr
 - Head : ~ 80 m
 - Bore : $\varnothing 25 \sim \varnothing 250$
- Special feature**
 - Simple design and easy handling by vertical type
 - Only casing and impeller are installed on lower part
 - Structure connected with motor of upper part through the column pipe
 - Hi-Dupolite material makes high corrosion resistance and heat-resisting property
 - Complete standardization with precise forming of all parts
 - Easy maintenance of pump with Non-Seal, No-Packing structure

MODEL DMNP, MODEL DMAP SEALESS MAGNETIC-DRIVE PUMP

- Use** Precision chemical industry, petrochemical industry, semiconductor industry, etc.
- Specification**
- Capacity : ~ 150 m³/hr
 - Head : ~ 50 m
 - Bore : Ø25 ~ Ø100
- Special feature**
- No leakage : Perfect sealing by strong magnet coupling
 - Saving cost for maintenance : Because there is no shaft sealing system, cost can be saved regarding sealing delivery and change
 - Easier maintenance : Back Pull-Out structure
 - Easier exchange of parts : It is easy to be delivered by localization and standardization of all parts



MODEL NPVO HI-DUPOLITE(FRP) VERTICAL NON-SEAL PUMP

- Use** Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), dust collector, circulation filtration etching for plating solution, acid washing and hides dye house.
- Specification**
- Capacity : ~ 450 m³/hr
 - Head : ~ 50 m
 - Bore : Ø25 ~ Ø250
- Special feature**
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
 - Complete standardization with precise forming of all parts
 - Easy maintenance of pump with Non-Seal, No-Packing structure



MODEL DVX VORTEX PUMP

- Use** Sludge transportation of sewage disposal plant and wastewater treatment plant, transportation for sewage water deposit of general industry, water treatment, etc
- Specification**
- Capacity : ~ 600 m³/hr
 - Head : ~ 50 m
 - Bore : Ø32 ~ Ø250
- Special feature**
- Basic principle making vortex by fluid flow in the casing
 - It is possible to drive normally in case of some sludge due to the enough flow passage of casing volute
 - Easy assembly with BACK PULL-OUT structure
 - Heavy Duty Design



MODEL DFV VERTICAL MIXED / AXIAL PUMP

- Use** Drainage and water service facilities with high flow rate, irrigation, water supply for other industry, etc.
- Specification**
- Capacity : ~ 18,000 m³/hr
 - Head : ~ 60 m
 - Bore : Ø250 ~ Ø1500
- Special feature**
- Casing with vertical pipe type separated to cylindrical direction
 - Easy installation due to small-occupied space
 - Automatic driving and remote control are possible with casing and impeller installed on lower part



VERTICAL MULTI-STAGE PUMP

MODEL DVSM / DFVM



Specification

- Capacity : ~ 900 m³/hr
- Head : ~ 300 m
- Depth : ~ 10 m

IN-LINE PUMP

MODEL DIL



Use

Feed Water, Booster, Cooling & Warming Water, Condensate system
Industrial, agricultural products service.

Specification

- Capacity : ~ 4.5 m³/hr
- Head : ~ 60 m

SUBMERGED PUMP

MODEL TSE / TWS



Use

- Industrial sewage or wastewater including effluent.
- Industrial drainage when pumping contains solid or stringy material
- Seawater & river intake to amusement park

Specification

- Capacity : 1,800m³/hr
- Head : 150m
- Bore : $\varnothing 50 \sim \varnothing 500$

Special feature

- Double mechanical seal with silicon carbide face
- Semi open & non clog solid handling impelle
- High efficient cooling water, copper wound motor with class F insulation.
- Double shield lubricate high temperature ball bearing
- Watertight cable entrance

WESTCO PUMP

MODEL DWC



Use

Lower flow, High pressure

Specification

- Capacity : ~ 16 m³/hr
- Head : ~ 200 m

MODEL NPVP PERMANENT PECULIAR SEAL PUMP

- Use** Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), wastewater treatment facilities, dust collector, circulation filtration etching for plating solution, acid washing and hides dye house.
- Specification**
- Capacity : ~ 450 m³/hr
 - Head : ~ 50 m
 - Bore : Ø25 ~ Ø250
- Special feature**
- Solving the installation problem by using special seal
 - Saving cost for maintenance due to permanent use of the mechanical seal
 - Special parts make no leakage during driving



MODEL MSHP ENGINEERING PLASTIC PUMP

- Use** Transport for various chemicals, Pulp, fiber Industries pharmaceutical Industry plastic, rubber industry Dyeing & leather Inderstry.
- Specification**
- Capacity : ~ 150 m³/hr
 - Head : ~ 60 m



MODEL **DAP** ANSI B73.1M PROCESS PUMP



APPLICATION

- Use of chemical process
- Petrochemical industry
- Petroleum refineries
- Other chemical industries

FEATURES

- Full compliance with ANSI B73.1M standard
- High efficiency and low NPSHr with precise casting of open type impeller
- Easy assembly with BACK PULL-OUT structure
- Gap adjustment of impeller is possible by minutely control of bearing housing
- Heavy Duty Design

MATERIAL

- Cast Iron
- Stainless Steel
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY, TITANIUM)



Achievement of high efficiency and low NPSHr due to accuracy casting of impeller

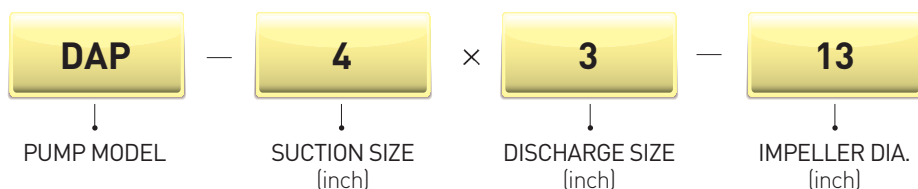


Labyrinth Oil-Seal

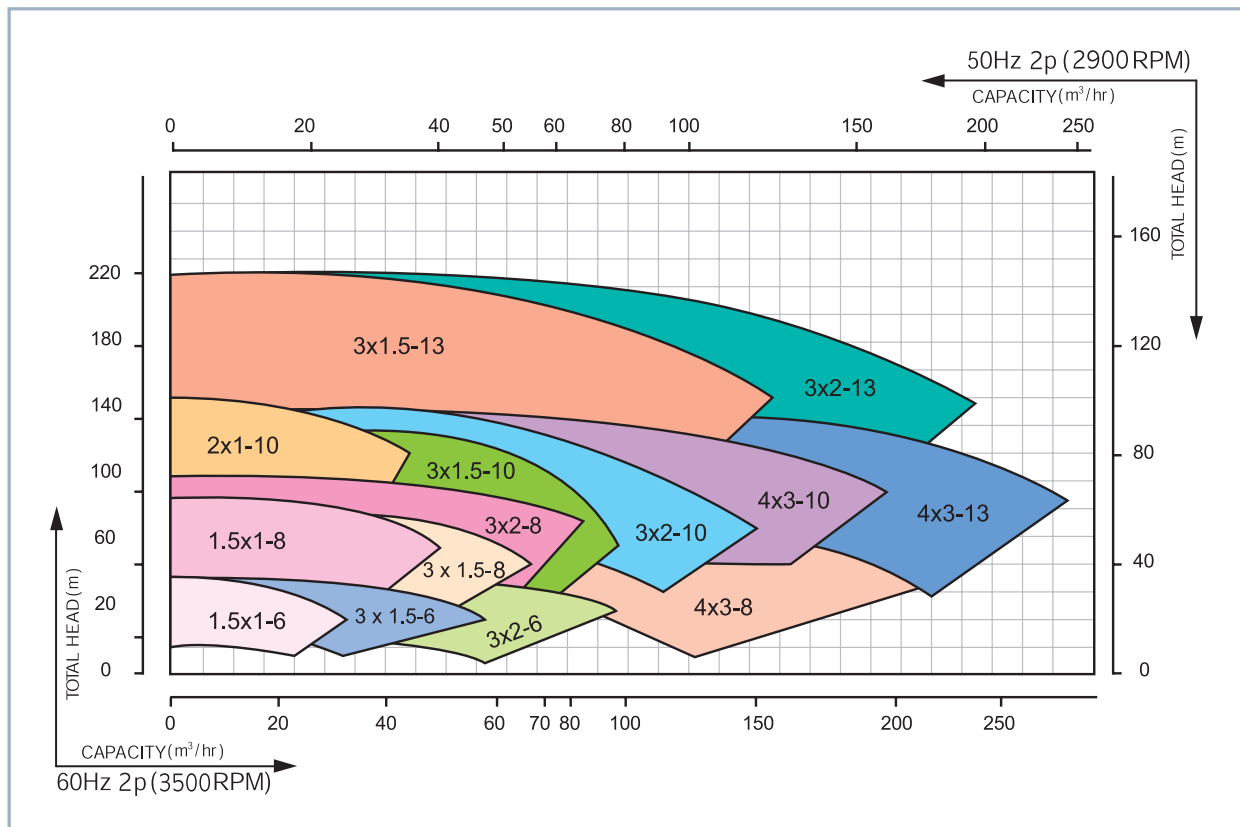
STANDARD SPECIFICATION

- Capacity : ~ 1000m³/hr
- Head : ~ 230 m
- Bore : Ø25 ~ Ø250
- Impeller type : Open (Precision casting)
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Mechanical seal & Gland packing
- Lubrication : Oil Bath Type
- Labyrinth Oil-seal type
- Sure-Flex Spacer Coupling (Urethane)

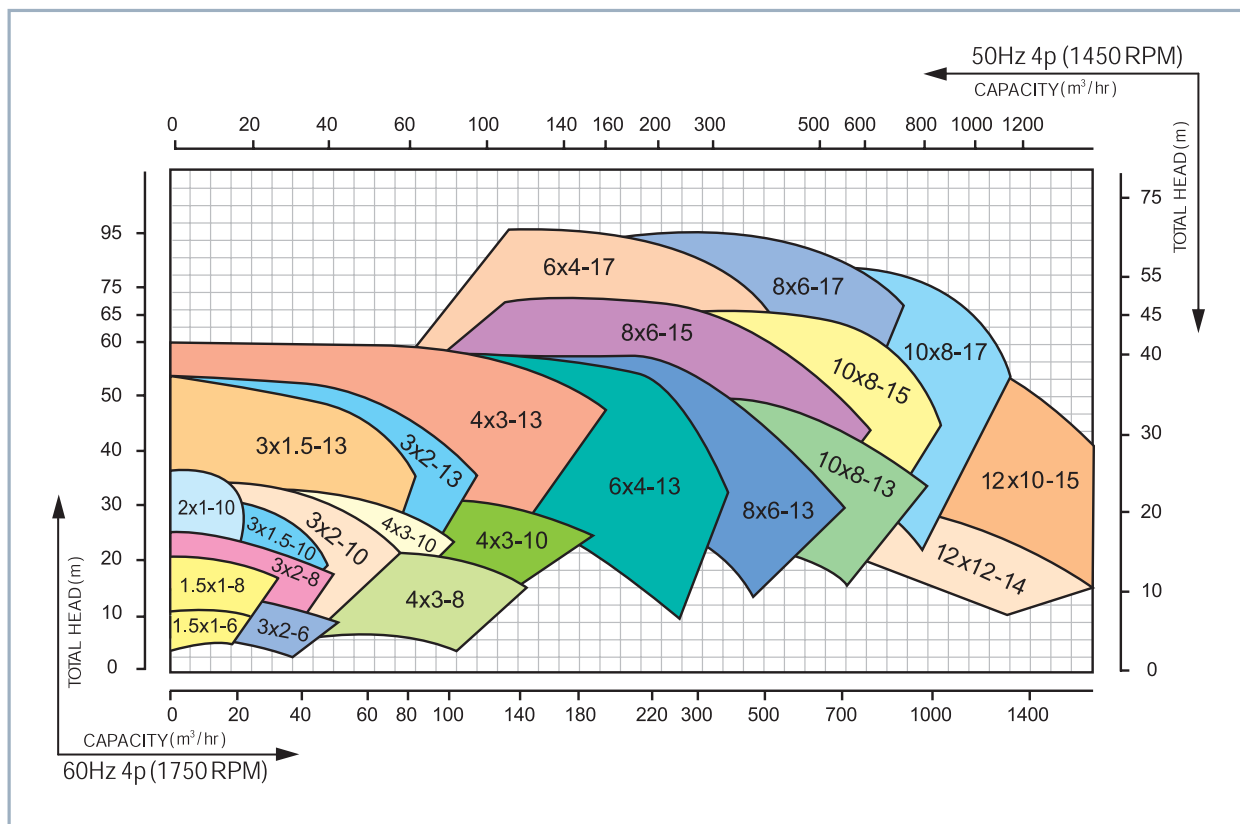
MODEL DESIGNATION



SELECTION CHART

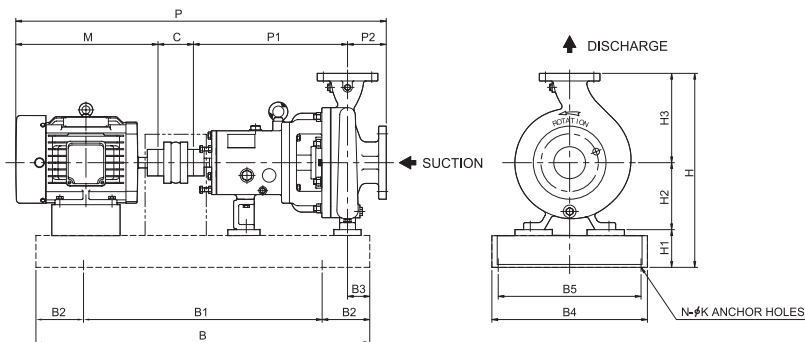


* Performance range shown on these chart are preliminary selection only



* Performance range shown on these chart are preliminary selection only

OUTLINE DIMENSION DRAWING (INDUSTRIAL & PLANT TYPE)

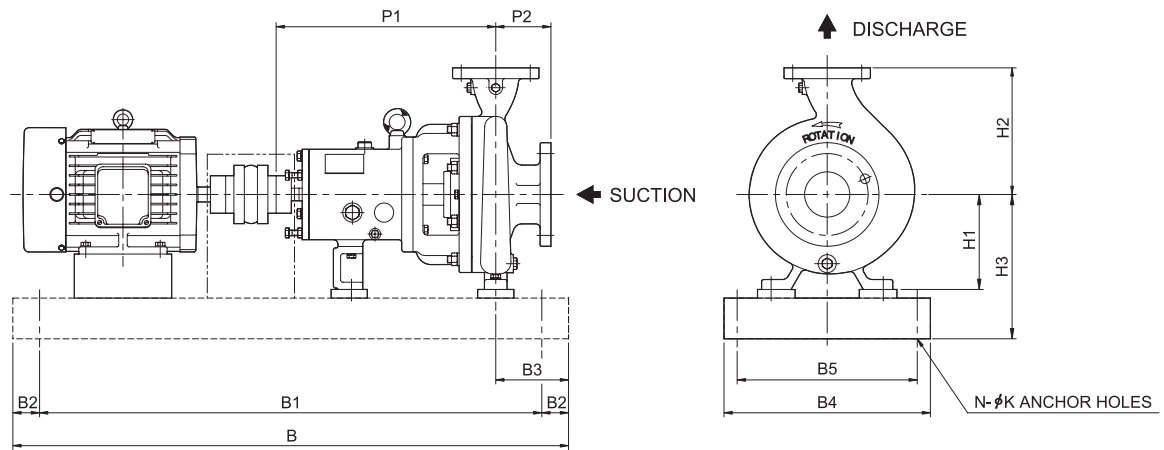


Baseplate Mounting



MODEL	BORE		POWER (kW)	PUMP & MOTOR					BASE PLATE							PUMP & BASE				WEIGHT(Kg)		
	SUC.	DIS.		P	P1	P2	C	M	B	B1	B2	B3	B4	B5	N-ØK	H	H1	H2	H3	PUMP & BASE	MOTOR	TOTAL
DAP1.5x1-6	40	25	0.75	812	343	102	89	278	750	450	150	70	390	360	4-15	398	100	133	165	75	18	93
			1.5	854	343	102	89	320	800	500	150	70	390	360	4-15	398	100	133	165	77	30	107
DAP1.5x1-8	40	25	2.2	902	343	102	89	368	800	500	150	70	390	360	4-15	418	120	133	165	82	34	116
			3.7	916	343	102	89	382	850	550	150	70	390	360	4-15	418	120	133	165	83	40	123
DAP3x1.5-6	80	40	0.75	812	343	102	89	278	750	450	150	70	390	360	4-15	418	120	133	165	80	11	91
			1.5	854	343	102	89	320	800	500	150	70	390	360	4-15	418	120	133	165	82	30	112
DAP3x1.5-8	80	40	3.7	916	343	102	89	382	850	550	150	70	390	360	4-15	398	100	133	165	88	40	128
			5.5	993	343	102	89	459	850	550	150	70	390	360	4-15	398	100	133	165	86	62	148
DAP2x1-10	50	25	3.7	1068	495	102	89	382	1000	700	150	70	490	450	4-19	536	110	210	216	134	40	174
			5.5	1145	495	102	89	459	1000	700	150	70	490	450	4-19	536	110	210	216	134	62	62
DAP3x1.5-10	80	40	5.5	1145	495	102	89	459	1000	700	150	70	490	450	4-19	536	110	210	216	144	62	206
			7.5	1183	495	102	89	497	1050	750	150	70	490	450	4-19	536	110	210	216	146	70	216
DAP3x1.5-13	80	40	5.5	1145	495	102	89	459	1000	700	150	70	490	450	4-19	630	110	254	266	154	62	216
			7.5	1183	495	102	89	497	1050	750	150	70	490	450	4-19	630	110	254	266	156	70	226
DAP3x2-8	80	50	5.5	1145	495	102	89	459	1000	700	150	70	490	450	4-19	562	110	210	242	144	62	206
			7.5	1183	495	102	89	497	1050	750	150	70	490	450	4-19	562	110	210	242	146	70	216
DAP3x2-10	80	50	5.5	1145	495	102	89	459	1000	700	150	70	490	450	4-19	562	110	210	242	149	62	211
			7.5	1183	495	102	89	497	1050	750	150	70	490	450	4-19	562	110	210	242	151	70	221
DAP3x2-13	80	50	11	1282	495	102	89	596	1200	900	150	70	490	450	4-19	656	110	254	292	197	102	299
			15	1326	495	102	89	640	1200	900	150	70	490	450	4-19	656	110	254	292	197	118	315
DAP4x3-8	100	80	15	1326	495	102	89	640	1200	900	150	70	490	450	4-19	600	110	210	280	174	118	292
			18.5/22	1345	495	102	89	659	1200	900	150	70	490	450	4-19	600	110	210	280	174	147	321
DAP4x3-10	100	80	7.5	1183	495	102	89	497	1050	750	150	70	490	450	4-19	600	110	210	280	166	70	236
			11	1282	495	102	89	596	1200	900	150	70	490	450	4-19	600	110	210	280	192	102	294
DAP4x3-13	100	80	18.5/22	1345	495	102	89	659	1200	900	150	70	490	450	4-19	682	110	254	318	222	147	369
			30	1383	495	102	89	697	1250	950	150	70	490	450	4-19	682	110	254	318	224	159	383
DAP6x4-10	150	100	30	1405	495	102	111	697	1250	950	150	70	490	450	4-19	707	110	254	343	214	159	373
			37/45	1509	495	102	111	801	1350	1050	150	70	500	460	6-19	737	140	254	343	250	297	547
DAP6x4-13	150	100	37/45	1509	495	102	111	801	1350	1050	150	70	500	460	6-19	767	170	254	343	292	297	589
			55	1562	495	102	111	854	1350	1050	150	70	500	460	6-19	767	170	254	343	292	350	642
DAP6x4-17	150	100	90	1970	709	152	152	957	1700	1400	150	100	600	540	6-24	944	170	368	406	427	530	957
			110	2115	709	152	152	1102	1850	1550	150	100	600	540	6-24	944	170	368	406	440	690	1130
DAP8x6-13	200	150	75	1970	709	152	152	957	1700	1400	150	100	600	540	6-24	944	170	368	406	386	500	886
			90	1970	709	152	152	957	1700	1400	150	100	600	540	6-24	944	170	368	406	386	530	916
DAP8x6-15	200	150	110	2115	709	152	152	1102	1850	1550	150	100	600	540	6-24	955	170	368	457	452	690	1142
			110	2115	709	152	152	1102	1850	1550	150	100	600	540	6-24	995	170	368	457	476	690	1166
DAP8x6-17	200	150	132	2115	709	152	152	1102	1850	1550	150	100	600	540	6-24	995	170	368	457	476	740	1216
			132	2115	709	152	152	1102	1850	1550	150	100	600	540	6-24	995	170	368	457	476	740	1216
DAP10x8-13	250	200	132	2141	709	152	178	1102	1850	1550	150	100	600	540	6-24	955	170	368	457	520	740	1260
DAP10x8-15	250	200	132	2141	709	152	178	1102	1850	1550	150	100	600	540	6-24	1021	170	368	483	530	740	1270
DAP10x8-17	250	200	160	2230	709	152	178	1191	2000	1700	150	100	600	540	6-24	1021	170	368	483	550	840	1390
DAP10x8-17H	250	200	200	2500	730	152	178	1440	2100	1800	150	100	700	640	6-24	1125	170	405	550	590	950	1540
DAP12x10-15	300	250	160	2230	750	250	178	1191	2050	1650	200	150	800	740	6-24	1180	170	460	550	600	840	1440
DAP12x12-14	300	300	160	2230	750	250	178	1191	2050	1650	200	150	800	740	6-24	1060	170	460	430	580	840	1420

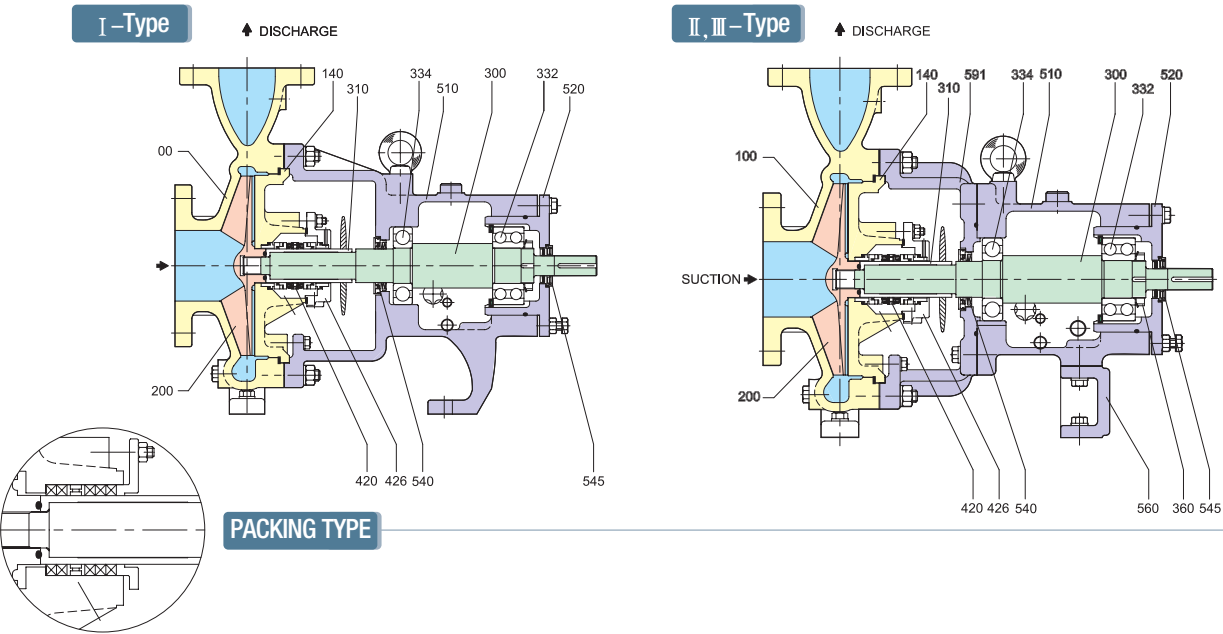
OUTLINE DIMENSION DRAWING (ANSI B 73.1M STANDARD)



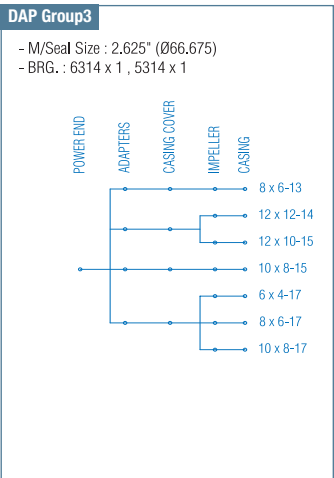
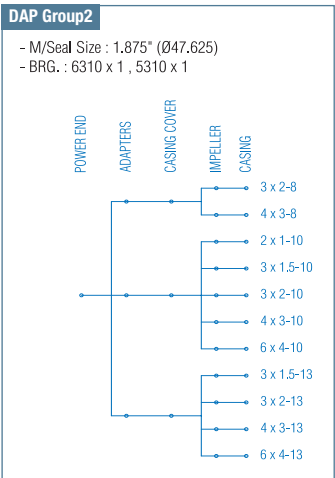
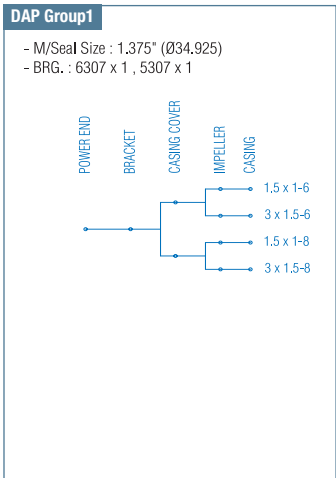
Group	Model	BORE		PUMP				WEIGHT(Kg)
		SUC.	DIS.	P1	P2	H1	H2	
1 GROUP	DAP 1.5 x 1-6	40	25	343	102	133	165	40
	DAP 1.5 x 1-8	40	25	343	102	133	165	45
	DAP 3 x 1.5-6	80	40	343	102	133	165	45
	DAP 3 x 1.5-8	80	40	343	102	133	165	50
	DAP 3 x 2-6	80	50	343	102	133	165	45
2 GROUP	DAP 2 x 1-10	50	25	495	102	210	216	90
	DAP 3 x 1.5-10	80	40	495	102	210	216	100
	DAP 3 x 1.5-13	80	40	495	102	254	266	110
	DAP 3 x 2-8	80	50	495	102	210	242	100
	DAP 3 x 2-10	80	50	495	102	210	242	105
	DAP 3 x 2-13	80	50	495	102	254	292	125
	DAP 4 x 3-8	100	80	495	102	210	280	100
	DAP 4 x 3-10	100	80	495	102	210	280	120
	DAP 4 x 3-13	100	80	495	102	254	318	150
	DAP 6 x 4-10	150	100	495	102	254	343	140
	DAP 6 x 4-13	150	100	495	102	254	243	185
3 GROUP	DAP 6 x 4-17	150	100	709	152	368	406	295
	DAP 8 x 6-13	200	150	709	152	368	406	255
	DAP 8 x 6-17	200	150	709	152	368	457	335
	DAP 10 x 8-13	250	200	709	152	368	457	365
	DAP 10 x 8-17	250	200	709	152	368	483	385

Group	Max. NEMA Frame	BASE PLATE											
		B	B1	B2	B3	B4	B5	H3				N-øK	WEIGHT(Kg)
								H1=133	H1=210	H1=254	H1=368		BASE
1 GROUP	184T (112M)	991	927	32	114	381	228	229	-	-	-	4-19	48
	256T (160L)	1219	1156	32	114	457	304	229	-	-	-	4-19	68
	326TS (200L)	1346	1283	32	114	533	382	229	-	-	-	4-19	86
2 GROUP	184T (112M)	1143	1080	32	114	381	228	-	305	349	-	4-19	58
	215T (132M)	1321	1257	32	114	457	304	-	314	359	-	4-19	83
	286T (180M)	1473	1410	32	114	533	382	-	330	375	-	4-25	106
	365T (225S)	1626	1562	32	114	533	382	-	353	"	-	4-25	143
	405TS (250S)	1727	1664	32	114	660	482	-	378	378	-	4-25	205
	449TS (280L)	2032	1969	32	114	660	482	-	403	403	-	4-25	274
3 GROUP	286T (180M)	1727	1664	32	165	660	482	-	-	-	489	4-25	205
	405T (250S)	2032	1969	32	165	660	482	-	-	-	489	4-25	274
	449T (280L)	2489	2426	32	165	660	482	-	-	-	489	4-25	323

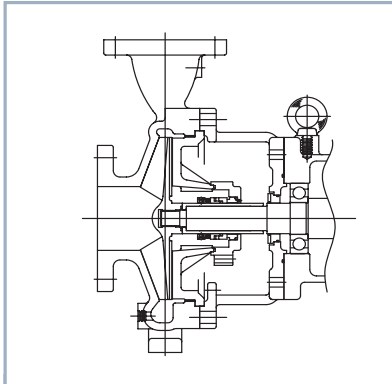
SECTIONAL DRAWING



No.	NAME OF PARTS	Q'TY	MATERIAL(ASTM)				MATERIAL(KS)			
			M1	M2	M3	M4	M1	M2	M3	M4
100	CASING	1	Ductile Iron	CF8	CF8M	CF3M	GCD450	SSC13	SSC14	SSC16
140	CASING COVER	1	Ductile Iron	CF8	CF8M	CF3M	GCD450	SSC13	SSC14	SSC16
200	IMPELLER	1	CF8	CF8	CF8M	CF3M	SSC13	SSC13	SSC14	SSC16
300	SHAFT	1	304	304	316	316L	STS304	STS304	STS316	STS316L
310	SLEEVE	1	CF8M	CF8M	CF8M	CF3M	SSC14	SSC14	SSC14	SSC16
332	BEARING (OUTBORD)	1	A485	A485	A485	A485	STB2	STB2	STB2	STB2
334	BEARING (INBORD)	1	A485	A485	A485	A485	STB2	STB2	STB2	STB2
420	MECH. SEAL	1 SET	-	-	-	-	-	-	-	-
426	SEAL GLAND	1	CF8	CF8	CF8M	CF3M	SSC13	SSC13	SSC14	SSC14
510	BRACKET	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200
520	BRG. HOUSING	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200
530	SNAP RING	1	A686	A686	A686	A686	STC5	STC5	STC5	STC5
540	OIL SEAL (ADAPTER)	1	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON
545	OIL SEAL (BRG. COVER)	1	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON
560	SUPPORT	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200
591	ADAPTER	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200

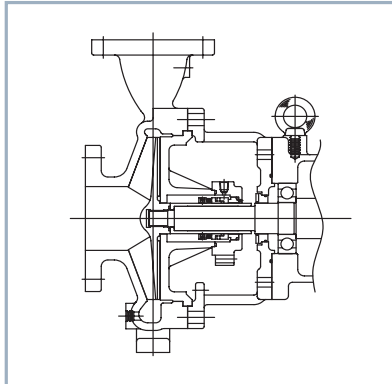


ANSI PROCESS PUMP SEAL CHAMBER (STUFFING BOX)

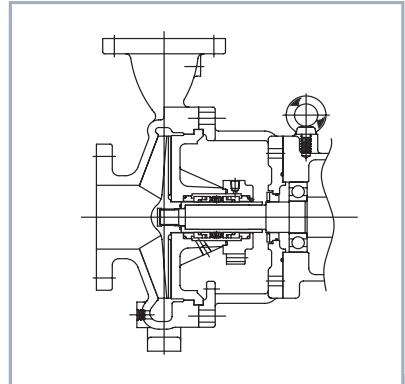


CHAMBER FOR PROJECTION RING
(ROTATING RING CHAMBER)

When built-in single seal without outer water supplying ANSI PLAN 7311, improve self circulation efficiency by rotating ring structure in seal chamber.



STANDARD CHAMBER FOR SINGLE SEAL (SINGLE SEAL STANDARD CHAMBER) When built-in single seal & packing, apply self-sealing and water inlet piping for facilities available. Shown on ANSI PLAN 7311, 7332

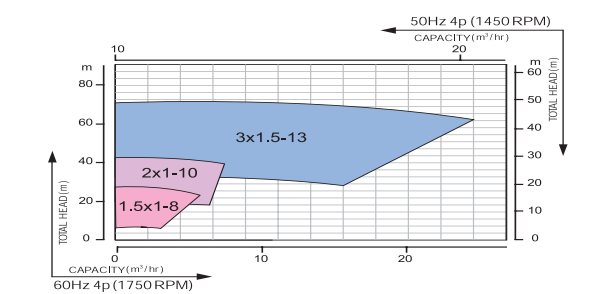
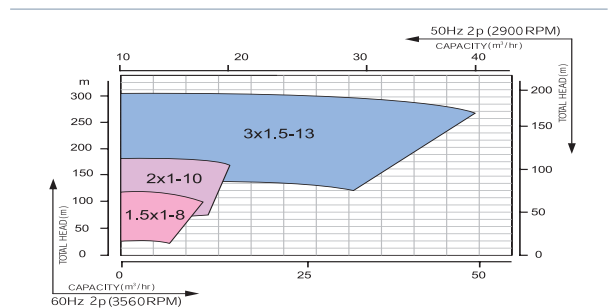


STANDARD CHAMBER FOR DOUBLE SEAL (DOUBLE SEAL STANDARD CHAMBER) When built-in double seal. Shown on ANSI PLAN 7352, 7353, 7354

DAPL (LOW FLOW PUMP)

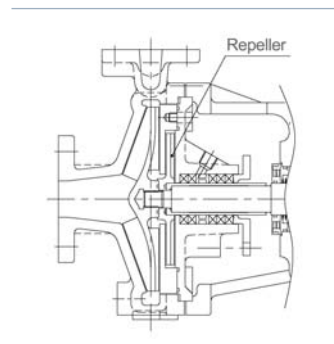
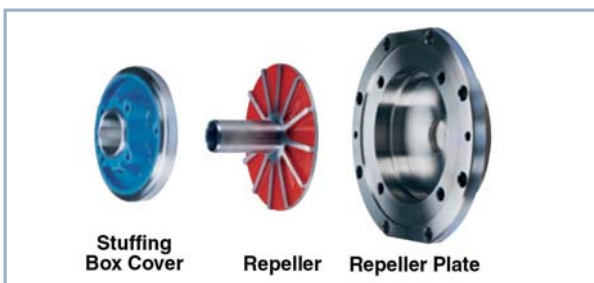


- Minimal thrust loads
- Reduced NPSH requirements
- Low seal chamber pressures
- Longer seal and bearing life



DAPX (EXPELLER TYPE PUMP)

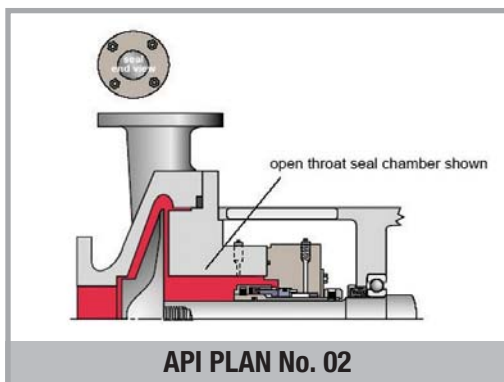
- Eliminate use of seal water
- Eliminate pumpage contamination and product dilution
- Reduce utility cost
- Eliminate need to treat seal water
- Considerably less expensive than a slurry mechanical seal



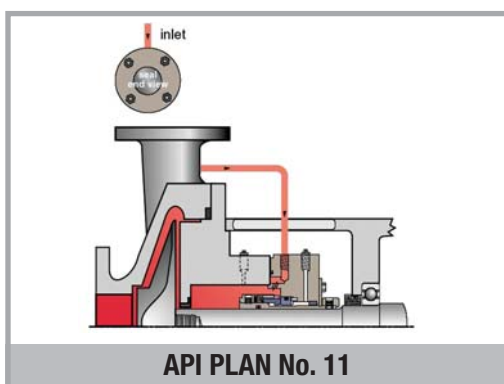
OPTION

- Jacketed Casing
- Centerline Mounting

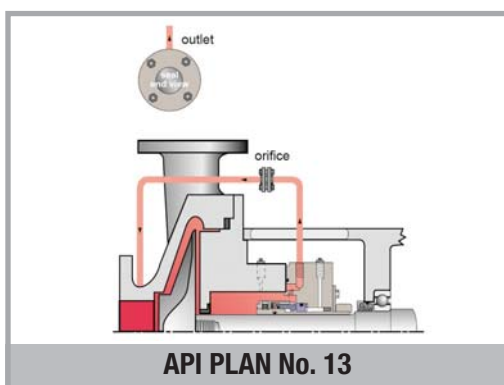
API PLAN



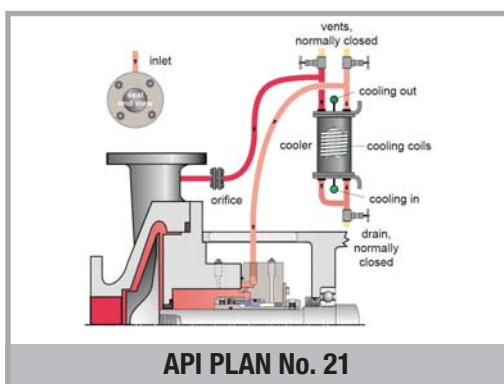
- What** Dead-ended seal chamber with no flush.
- Why** Simplicity-no environmental controls.
- Where** Large bore/open throat seal chambers in moderate temperature services.
Cooling jacket seal chambers in high temperature services.
Clean fluids.
Top-entry mixers/agitators with dry seal
- Preventative Maintenance**
Process must have adequate boiling point margin to avoid vaporization.
Cooling fluid in seal chamber jacket may be needed at all times in hot services.
Often used in combination with steam quench, Plan 62.



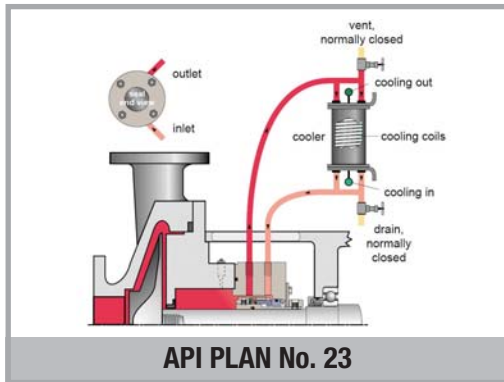
- What** Seal flush from pump discharge through orifice.
Default single seal flush plan.
- Why** Seal chamber heat removal.
Seal chamber venting on horizontal pumps.
Increase seal chamber pressure and fluid vapor margin.
- Where** General applications with clean fluids.
Clean, non-polymerizing fluids.
- Preventative Maintenance**
Use an orifice with a minimum 0.125" (3 mm) diameter.
Calculate flow rates to size orifice for adequate seal chamber flow.
Increase boiling point margin with proper orifice and throat bushing sizing.
Flush should be directed over seal faces with popong at 12 O'clock position.
Typical failure mode is a clogged orifice - check temperatures at pipe ends.



- What** Recirculation from seal chamber to pump suction through orifice.
Standard flush plan on vertical pumps.
- Why** Continuous seal chamber venting on vertical pumps.
Seal chamber heat removal.
- Where** Vertical pumps.
Seal chamber pressure is greater than suction pressure.
Moderate temperature fluids with moderate solids.
Non-polymerizing fluids.
- Preventative Maintenance**
Vent piping loop prior to starting vertical pumps.
Use an orifice with a minimum 0.125" (3mm) diameter.
Calculate flow rates to size orifice for adequate seal chamber flow.
Reduce seal chamber pressure with proper orifice and throat bushing sizing.
Typical failure mode is a clogged orifice - check temperatures at pipe ends.



- What** Seal flush from pump discharge through orifice and cooler.
Cooler in Plan 11 flush increases heat removal.
- Why** Seal cooling.
Reduce fluid temperature to increase fluid vapor margin.
Reduce coking.
- Where** High temperature service, typically less than 350 °F (177 °C).
Hot water over 180 °F (80 °C).
Clean, non-polymerizing fluids.
- Preventative Maintenance**
Seal cooler and piping must have air vents at highest elevation-vent before starting.
When using 682 Seal Cooler, pipe with series flow to maximize heat transfer.
Use an orifice with a minimum 1/8" (3mm) diameter.
Calculate flow rates to size orifice for adequate seal chamber flow.
Increase boiling point margin with proper orifice and throat bushing sizing.
Regularly monitor device inlet and outlet temperatures for signs of clogging or fouling.



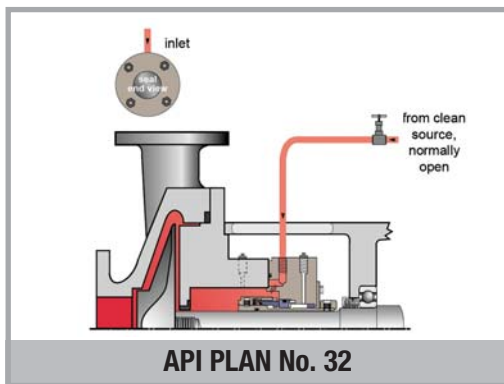
What Seal flush from internal pumping device through cooler.
Standard flush plan in hot water services.

Why Efficient seal cooling with low cooler duty.
Increase fluid vapor margin.
Improve water lubricity.

Where High temperature service, hot hydrocarbons.
Boiler feed water and hot water over 180 °F (80 °C).
Clean, non-polymerizing fluids.

Preventative Maintenance - Reference Appendix A

Seal cooler and piping must have air vents at highest elevation-vent before starting.
When using 682 Seal Cooler, pipe with parallel flow to minimize head loss.
Seal chamber requires close clearance throat bushing to isolate process fluid.
Tangential seal gland taps should enter at bottom and exit at top.
Regularly monitor cooler inlet and outlet temperatures for signs of plugging or fouling.
Process fluids with iron should flow through magnetic separator before cooler.



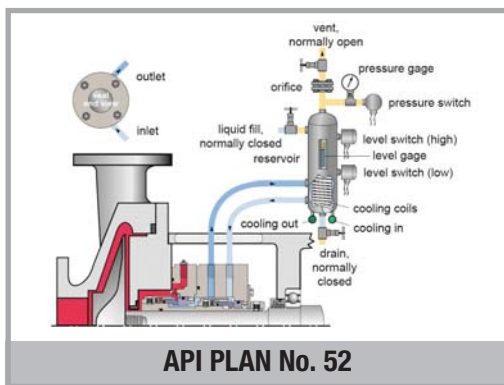
What Seal flush from an external clean source.

Why Seal chamber heat removal.
Process and solids removal from seal chamber.
Increase seal chamber pressure and fluid vapor margin.

Where Dirty or contaminated fluids, paper pulp.
High temperature service.
Polymerizing and/or oxidizing fluids.

Preventative Maintenance

Use throat bushing sized to hold pressure or maintain flow velocity.
To restrict dirty process fluid, regulate injection flow rate.
To increase fluid vapor margin, regulate injection pressure.
Injection fluid must be compatible with process fluid.
Regularly monitor control system for closed valves or signs of plugging



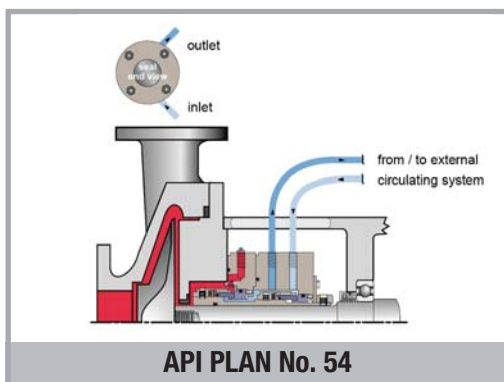
What Unpressurized buffer fluid circulation through reservoir.
Fluid is circulated by a pumping ring in the dual seal assembly.

Why Outboard seal acts as a safety backup to the primary seal.
Zero to very low process emissions.
No process contamination is allowed.

Where Used with dual unpressurized seals ("tandem")
High vapor pressure fluids, light hydrocarbons.
Hazardous/toxic fluids.
Heat transfer fluids.

Preventative Maintenance - Reference Appendix B

Piping loop must self-vent to vapor recovery/flare system near atmospheric pressure.
Process vapor pressure is generally greater than reservoir pressure.
Buffer fluid must be compatible with process leakage.
Primary seal leakage is indicated by increased vent pressure.
Reservoir level gage indicates outboard seal leakage.



What Pressurized barrier fluid circulation by external system.

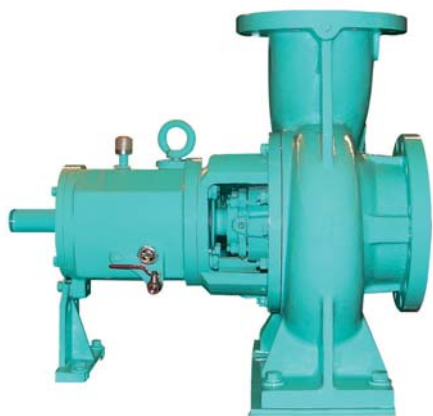
Why Isolate process fluid.
Zero process emissions.
Seal cannot induce circulation.

Where Used with dual pressurized seals ("double").
High vapor pressure fluids, light hydrocarbons.
Hazardous/toxic fluids.
Heat transfer fluids.
Dirty/abrasive or polymerizing fluids.
Mixers/agitators.

Preventative Maintenance

Piping loop must be fully vented before starting.
Circulating system must be pressurized and energized at all times.
Barrier fluid must be compatible with process.
Circulating system level gage indicates both inboard and outboard seal leakage.

MODEL **DGP** ISO 2858 GENERAL PUMP



APPLICATION

Industrial process, chemical industry, water treatment other manufacturing industry, etc

FEATURES

- Full compliance with ISO 2858 standard
- High efficiency with close type impeller
- Easy assembly with BACK PULL-OUT structure, spacer coupling (Optional)
- Heavy Duty Design

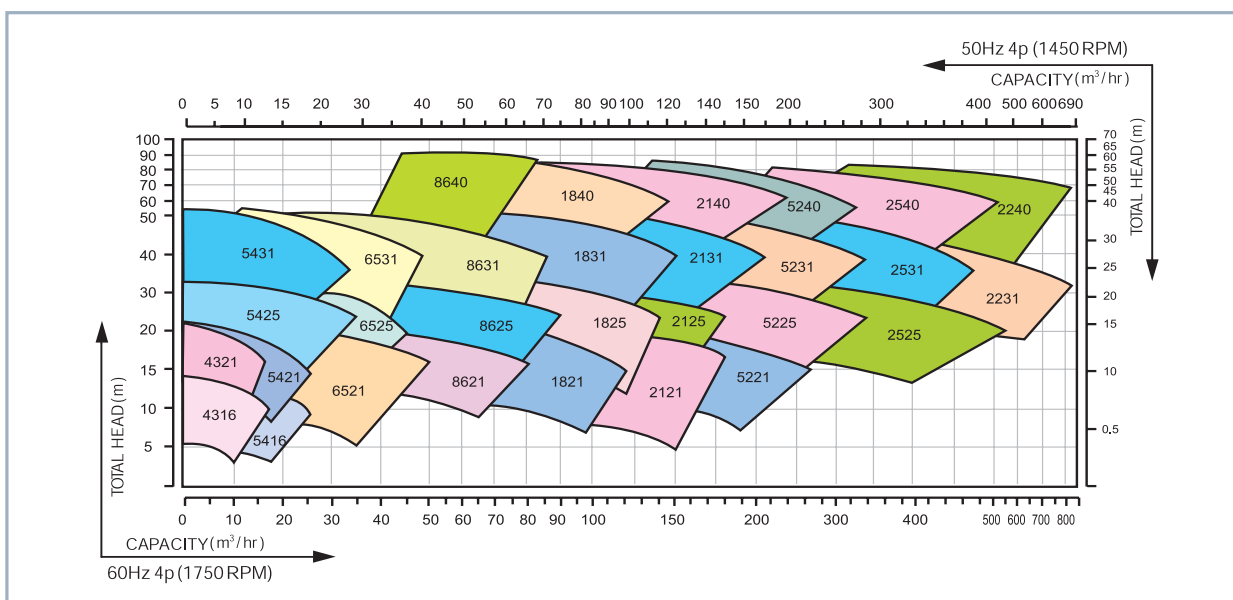
STANDARD SPECIFICATION

- Capacity : ~ 800 m³/hr
- Head : ~ 100 m
- Bore : $\varnothing 32 \sim \varnothing 250$
- Impeller Type : Close
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Mechanical seal & Gland packing
- Lubrication : Grease & Oil Bath Type

MATERIAL

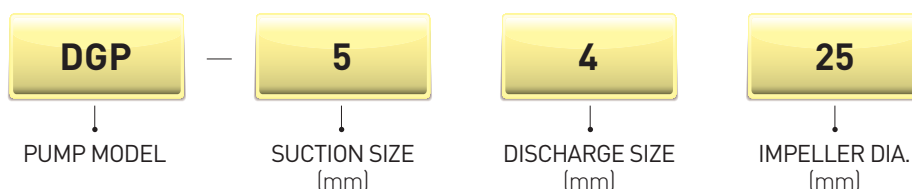
- Cast Iron
- Stainless Steel
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY, TITANIUM, Hi-Cr)

SELECTION CHART

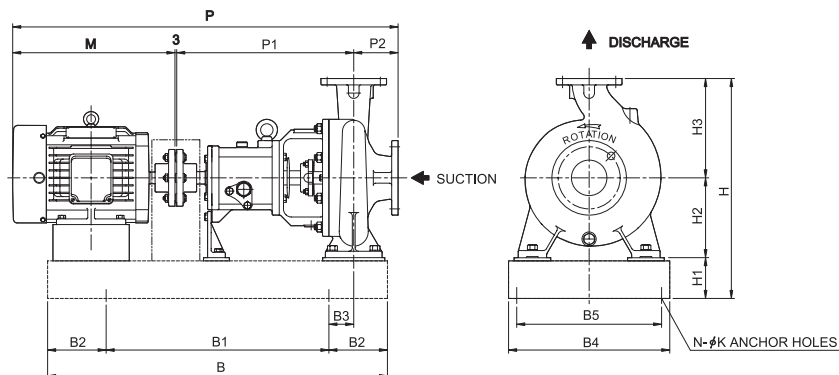


* Performance range shown on these chart are preliminary selection only

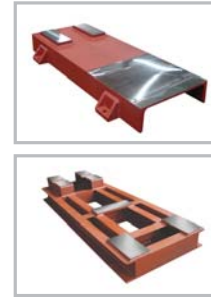
MODEL DESIGNATION



OUTLINE DIMENSION DRAWING



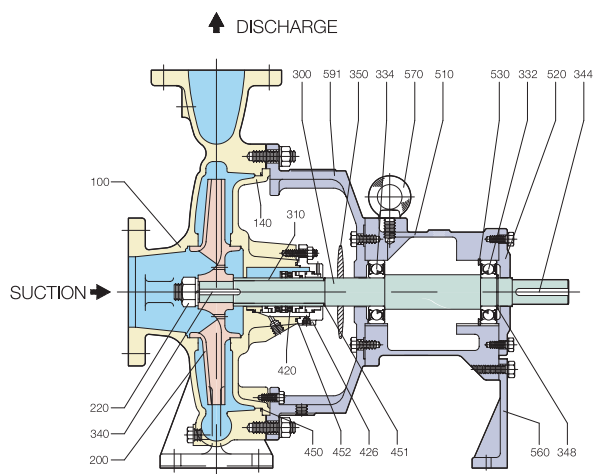
Baseplate Mounting



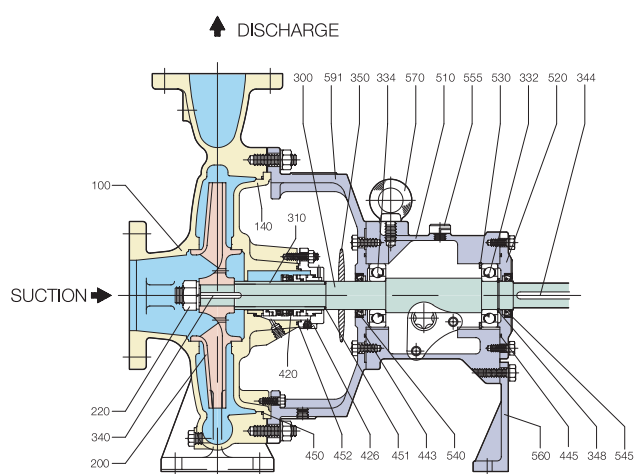
MODEL	BORE		POWER (kW)	PUMP & MOTOR				BASE PLATE							PUMP & BASE				WEIGHT(Kg)		
	SUC.	DIS.		P	P1	P2	M	B	B1	B2	B3	B4	B5	N-øK	H	H1	H2	H3	PUMP & BASE	MOTOR	TOTAL
DGP4316A	40	32	0.75	745	385	80	277	700	400	150	90	390	360	4-15	392	100	132	160	73	15	88
			1.5	805	385	80	337	750	450	150	90	390	360	4-15	392	100	132	160	76	24	100
DGP4321A	40	32	1.5	805	385	80	337	750	450	150	90	390	360	4-15	440	100	160	180	80	24	104
			2.2	844	385	80	376	750	450	150	90	390	360	4-15	440	100	160	180	83	30	113
DGP5416A	50	40	1.5	805	385	80	337	750	450	150	90	390	360	4-15	372	100	132	140	76	24	100
			2.2	844	385	80	376	750	450	150	90	390	360	4-15	372	100	132	140	79	30	109
DGP5421A	50	40	2.2	864	385	100	376	750	450	150	90	390	360	4-15	440	100	160	180	84	30	114
			3.7	866	385	100	378	750	450	150	90	390	360	4-15	440	100	160	180	84	39	123
DGP5425A	50	40	3.7	866	385	100	378	800	500	150	80	470	440	4-15	515	110	180	225	108	39	147
			5.5	930	385	100	442	800	500	150	80	470	440	4-15	515	110	180	225	108	56	164
DGP5431A	50	40	5.5	930	385	100	442	800	500	150	80	470	440	4-15	585	110	225	250	141	56	197
			7.5	969	385	100	481	850	550	150	80	470	440	4-15	585	110	225	250	145	70	215
DGP6521A	65	50	2.2	864	385	100	376	750	450	150	90	390	360	4-15	460	100	160	200	88	30	118
			3.7	866	385	100	378	750	450	150	90	390	360	4-15	460	100	160	200	88	39	127
DGP6525A	65	50	3.7	866	385	100	378	800	500	150	80	470	440	4-15	515	110	180	225	110	39	149
			5.5	930	385	100	442	800	500	150	80	470	440	4-15	515	110	180	225	110	56	166
DGP6531B	65	50	7.5	1109	500	125	481	1000	700	150	80	490	450	4-19	615	110	225	280	160	70	230
			11	1216	500	125	588	1050	750	150	80	490	450	4-19	615	110	225	280	165	109	274
DGP8621A	80	65	3.7	866	385	100	378	800	500	150	80	470	440	4-15	515	110	180	225	105	39	144
			5.5	930	385	100	442	800	500	150	80	470	440	4-15	515	110	180	225	105	56	161
DGP8625B	80	65	7.5	1084	500	100	481	1000	700	150	80	490	450	4-19	560	110	200	250	144	70	214
			11	1191	500	100	588	1050	750	150	80	490	450	4-19	560	110	200	250	149	109	258
DGP8631B	80	65	11	1216	500	125	588	1070	770	150	55	470	430	4-19	615	110	225	280	145	109	254
			15	1260	500	125	632	1120	820	150	55	470	430	4-19	615	110	225	280	147	136	283
DGP1821B	100	80	5.5	1070	500	125	442	950	650	150	80	490	450	4-19	540	110	180	250	127	56	183
			7.5	1109	500	125	481	1000	700	150	80	490	450	4-19	540	110	180	250	130	70	200
DGP1825B	100	80	11	1216	500	125	588	1070	770	150	55	470	430	4-19	615	110	225	280	132	109	241
			15	1260	500	125	632	1120	820	150	55	470	430	4-19	615	110	225	280	134	136	270
DGP1831B	100	80	18.5	1275	500	125	647	1120	820	150	55	470	430	4-19	675	110	250	315	150	161	311
			22	1275	500	125	647	1120	820	150	55	470	430	4-19	675	110	250	315	150	161	311
DGP8640C	80	65	18.5	1275	500	125	647	1120	820	150	55	470	430	4-19	675	110	250	315	150	161	311
			22	1275	500	125	647	1120	820	150	55	470	430	4-19	675	110	250	315	150	161	311
DGP1840C	100	80	30	1364	530	125	706	1190	890	150	55	570	530	4-19	745	110	280	355	198	182	380
			37	1449	530	125	791	1280	980	150	55	570	530	4-19	775	140	280	355	224	282	506
DGP2121B	125	100	11	1216	500	125	588	1100	800	150	60	490	450	4-19	590	110	200	280	150	109	259
			15	1260	500	125	632	1150	850	150	60	490	450	4-19	590	110	200	280	154	136	290
DGP2125B	125	100	15	1275	500	140	632	1120	820	150	55	470	430	4-19	615	110	225	280	146	136	282
			18.5	1290	500	140	647	1120	820	150	55	470	430	4-19	615	110	225	280	146	161	307
DGP2131C	125	100	22	1320	530	140	647	1160	860	150	55	470	430	4-19	675	110	250	315	159	161	320
			30	1379	530	140	706	1190	890	150	55	470	430	4-19	675	110	250	315	161	182	343
DGP2140C	125	100	45	1464	530	140	791	1280	980	150	55	570	530	6-19	775	140	280	355	240	282	522
			55	1490	530	140	817	1300	980	150	55	570	530	6-19	775	140	280	355	241	345	586
DGP5221B	150	125	11	1231	500	140	588	1070	770	150	55	470	430	4-19	675	110	250	315	147	109	256
			15	1275	500	140	632	1120	820	150	55	470	430	4-19	675	110	250	315	149	136	285
DGP5225C	150	125	22	1320	530	140	647	1160	860	150	55	470	430	4-19	715	110	250	355	164	161	325
			30	1379	530	140	706	1190	890	150	55	470	430	4-19	715	110	250	355	166	182	348
DGP5231C	150	125	37	1464	530	140	791	1280	980	150	35	570	530	4-19	775	140	280	355	221	282	503
			45	1464	530	140	791	1280	980	150	35	570	530	4-19	775	140	280	355	221	282	503
DGP5240C	150	125	55	1490	530	140	817	1310	1010	150	35	570	530	6-19	855	140	315	400	259	345	604
			75	1574	530	140	901	1380	1080	150	35	570	530	6-19	855	140	315	400	262	490	652
DGP2525C	200	150	37	1484	530	160	791	1280	980	150	35	570	530	4-19	795	140	280	375	258	282	540
			45	1484	530	160	791	1280	980	150	35	570	530	4-19	795	140	280	375	258	282	540
DGP2531D	200	150	45	1624	670	160	791	1430	1130	150	45	570	530	6-24	855	140	315	400	242	282	524
			75	1778	670	160	945	1500	1200	150	45	570	530	6-24	855	140	315	400	247	450	697
DGP2540D	200	150	75	1778	670	160	945	1500	1200	150	35	620	580	6-24	905	140	315	450	300	450	750
			110	1924	670	160	1091	1620	1320	150	35	620	580	6-24	935	170	315	450	333	615	948
DGP2231D	250	200	90	1792	670	180	939	1500	1200	150	35	670	620	6-24	995	170	375	450	349	550	899

SECTIONAL DRAWING

GREASE TYPE



OIL BATH TYPE

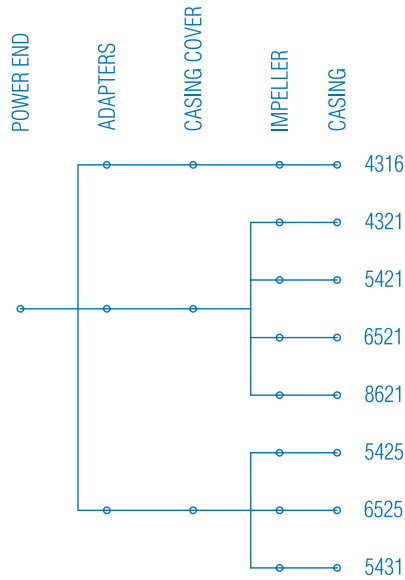


OPTION : LABYRINTH TYPE

No.	NAME OF PARTS	Q'Ty	MATERIAL			
			M1	M2	M3	M4
100	CASING	1	GC 200	SSC 13	SSC 14	SSC 16
140	CASING COVER	1	GC 200	SSC 13	SSC 14	SSC 16
200	IMPELLER	1	GC 200	SSC 13	SSC 14	SSC 16
220	IMPELLER NUT	1	SM 45C	STS 304	STS 316	STS 316L
300	SHAFT	1	SM 45C	STS 304	STS 316	STS 316L
310	SLEEVE	1	SM 45C	STS 304	STS 316	STS 316L
332	BEARING (OUTBORD)	2	STB 2	STB 2	STB 2	STB 2
334	BEARING (INBORD)	1	STB 2	STB 2	STB 2	STB 2
344	COUPLING KEY	1	SM 45C	SM 45C	SM 45C	SM 45C
348	BEARING LOCK N.W.	1	SM 45C	SM 45C	SM 45C	SM 45C
350	DEFLECTOR	1	NBR	NBR	NBR	NBR
420	MECH. SEAL	1SET	-	-	-	-
426	SEAL GLAND	1	SSC 13	SSC13	SSC14	SSC16
443	O-RING (ADAPTER)	1	NBR	NBR	NBR	NBR
445	O-RING (BRG. COVER)	1	NBR	NBR	NBR	NBR
450	O-RING (CASING)	1	NBR	NBR	NBR	NBR
451	O-RING (SLEEVE)	1	NBR	NBR	NBR	NBR
452	O-RING (SEAL GLAND)	1	NBR	NBR	NBR	NBR
510	BRG. HOUSING	1	GC 200	GC 200	GC 200	GC 200
520	BRG. COVER	1	GC 200	GC 200	GC 200	GC 200
530	SNAP RING (BRG. HOUSING)	1	STC 5	STC 5	STC 5	STC 5
540	OIL SEAL (ADAPTER)	1	NBR	NBR	NBR	NBR
545	OIL SEAL (BRG. COVER)	1	NBR	NBR	NBR	NBR
555	OIL CAP	1	PLASTIC	PLASTIC	PLASTIC	PLASTIC
560	SUPPORT	1	GC 200	GC 200	GC 200	GC 200
570	EYE BOLT	1	SM 25C	SM 25C	SM 25C	SM 25C
591	ADAPTER	1	GC 200	GC 200	GC 200	GC 200

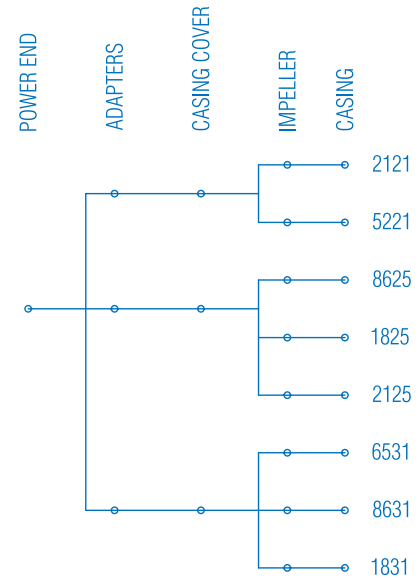
DGP Group A

- M/Seal Size : Ø30
- BRG. : 6306ZZ C3 x 1 , 6306ZZ C3 x 1 (GREASE)
- BRG. : 6306 C3 x 1 , 6306 C3 x 1 (OIL)



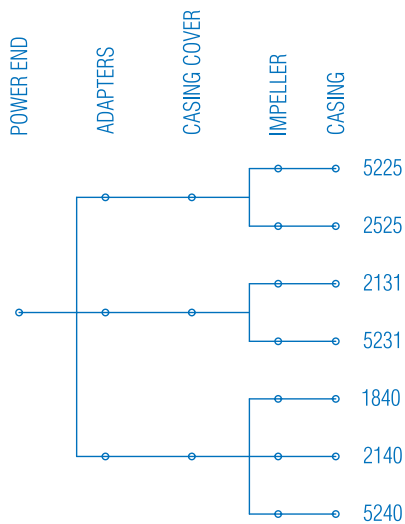
DGP Group B

- M/Seal Size : Ø40
- BRG. : 6308ZZ C3 x 1 , 6308ZZ C3 x 1 (GREASE)
- BRG. : 6308 C3 x 1 , 6308 C3 x 1 (OIL)



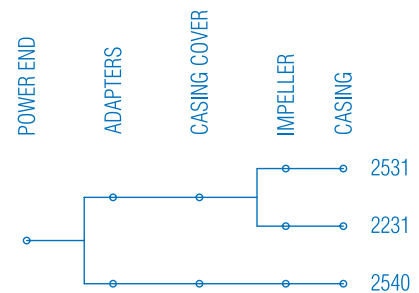
DGP Group C

- M/Seal Size : Ø50
- BRG. : 6310ZZ C3 x 1 , 5311ZZ C3 x 1 (GREASE)
- BRG. : 6310 C3 x 1 , 5311 C3 x 1 (OIL)



DGP Group D

- M/Seal Size : Ø70
- BRG. : 6314ZZ C3 x 1 , 6314ZZ C3 x 1 (GREASE)
- BRG. : 6314 C3 x 1 , 6314 C3 x 1 (OIL)



MODEL **DSV** DOUBLE SUCTION VOLUTE PUMP



APPLICATION

Industry process, water delivery and irrigation, utility and marine use

FEATURES

- High suction capacity is caused by double suction
- High quantity transportation and high efficiency
- Assure balance with symmetrical structure
- Easy installation with horizontal split casing structure

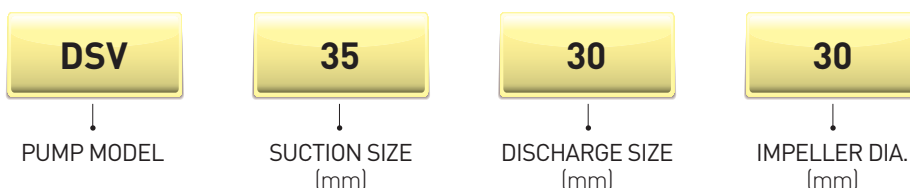
MATERIAL

- Cast Iron
- Stainless Steel (304, 316, 316L)
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY)

STANDARD SPECIFICATION

- Capacity : ~ 10,000 m³/hr
- Head : ~ 200 m
- Bore : Ø200 ~ Ø1500
- Impeller type : Close
- Rotation : C.W (Viewed from drive end.)
- Temperature : ~ 120°C
- Shaft sealing : Mechanical seal & Gland packing

MODEL DESIGNATION

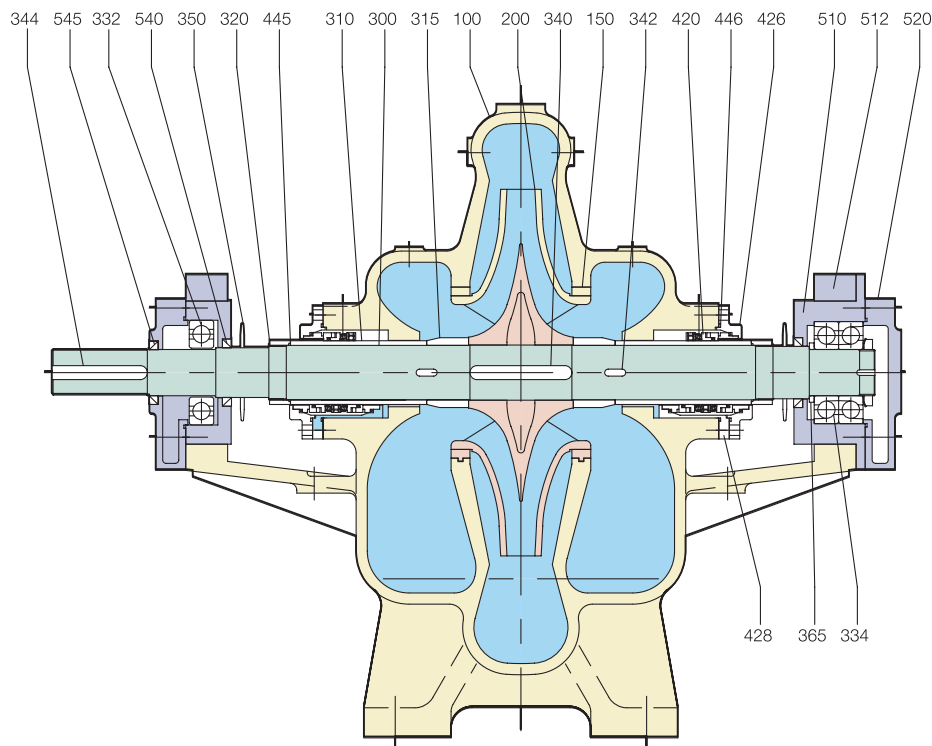


DSV MODEL

MODEL	BORE		M/seal	BRG.	
	SUC.	DIS.		Radial	Thrust
2015-40	Ø200	Ø150	Ø80	6312x1	6312x1
2015-45	Ø200	Ø150	Ø80	6312x1	6312x1
2520-40	Ø250	Ø200	Ø80	6312x1	6312x1
2520-50	Ø250	Ø200	Ø90	6314x1	6314x1
2520-70	Ø250	Ø200	Ø120	NU318x1	7318x2
3025-30	Ø300	Ø250	Ø80	6312x1	6312x1
3025-50	Ø300	Ø250	Ø100	6314x1	6314x1
3530-40	Ø350	Ø300	Ø80	6312x1	6312x1
3530-50	Ø350	Ø300	Ø110	6316x1	6316x1
4035-40	Ø400	Ø350	Ø100	6314x1	6314x1
5040-50	Ø500	Ø400	Ø110	6316x1	6316x1
5035-65	Ø500	Ø350	Ø130	NU320x1	6320x1
6050-50	Ø600	Ø500	Ø110	6316x1	6316x1
7060-80	Ø700	Ø600	Ø160	NU324x1	7324x2
7070-60	Ø700	Ø700	Ø120	6318x1	6318x1
7070-70	Ø700	Ø700	Ø150	NU322x1	7322x2
8070-80	Ø800	Ø700	Ø150	NU322x1	7322x2



SECTIONAL DRAWING



No.	NAME OF PARTS	Q'TY	MATERIAL	
			M1	M2
100	LOWER CASING	1	GC 200	SSC 13
101	UPPER CASING	1	GC 200	SSC 13
150	CASING WEARING	2	SSC 13	SSC 13
151	WEARING LOCK PIN	2	STS 304	STS 304
200	IMPELLER	1	SSC 13	SSC 13
210	IMPELLER WEARING	1	SSC 13	SSC 13
300	SHAFT	1	SM 45C	STS 304
310	SLEEVE	2	STS 304	STS 304
320	SLEEVE NUT	2	STS 304	STS 304
332	BALL BEARING	2	STB	STB
340	IMPELLER KEY	1	SM 45C	STS 304
342	SLEEVE KEY	2	SM 45C	STS 304
344	COUPLING KEY	1	SM 45C	SM 45C
350	DEFLECTORS	2	RUBBER	RUBBER
360	BEARING NUT	2	SM 45C	SM 45C
365	BEARING WASHER	2	SS 400	SS 400
370	COUPLING	1	GC 200	GC 200
420	MECH. SEAL	2SETS	-	-
426	SEAL GLAND	2	GC 200	SSC 13
445	O-RING (SLEEVE)	2	NBR	NBR
510	BRG. HOUSING	2	GC 200	GC 200
520	BRG. COVER	2	GC 200	GC 200
540	OIL SEAL (BRG. HOUSING)	2	NBR	NBR
545	OIL SEAL (BRG. COVER)	1	NBR	NBR

MODEL **DMS** HIGH PRESSURE MULTI-TURBINE PUMP



APPLICATION

- Boiler feed water
- Processing water
- City water and high pressure water in general

FEATURES

- High efficiency over a wide range
- Highly reliable components
- Simple construction permits easy maintenance
- Suitable for low NPSH operation
- Compact and inexpensive
- Short-term delivery

MATERIAL

- Cast Iron
- Stainless Steel (304, 316, 316L)
- Special alloy (CN7M, CW-6M)

STANDARD SPECIFICATION

- Capacity : ~ 400 m³/hr
- Head : ~ 1000 m
- Bore : Ø32 ~ Ø250
- Maximum allowable operation pressure :
To 110kgf/cm²
- Maximum allowable suction pressure :
To 25kgf/cm²
- Hydrostatic test pressure : To 150kgf/cm²
- Speed : 1750 or 3550 min⁻¹
- Rotation : C.W (Viewed from drive end.)
- Temperature : ~180℃
- Impeller type : Close
- Flange : Rating - Suction KS 10kgf/cm²,
Discharge KS 40kgf/cm²
other standards also available
- Location - Side Suction, Top Discharge,
Top Suction, Side Discharge
- Shaft sealing : Mechanical seal & Gland packing

MODEL DESIGNATION

DMS

PUMP MODEL

80

SUCTION SIZE
(mm)

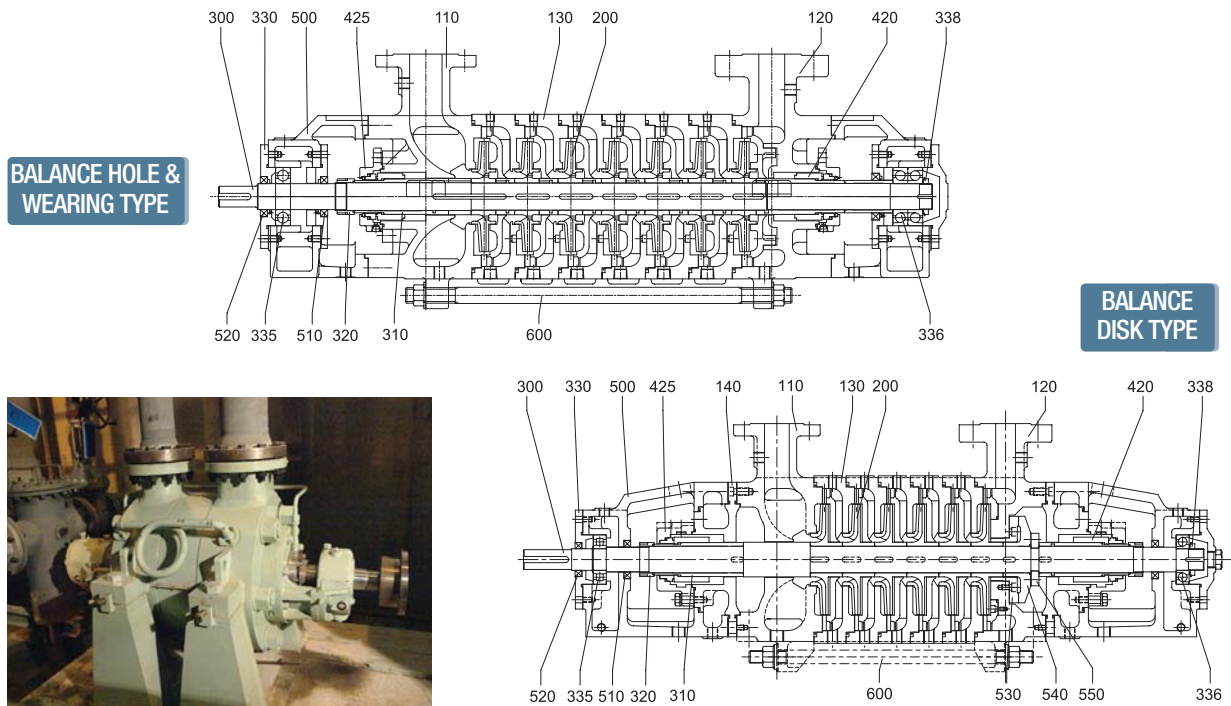
65

DISCHARGE SIZE
(mm)

5S

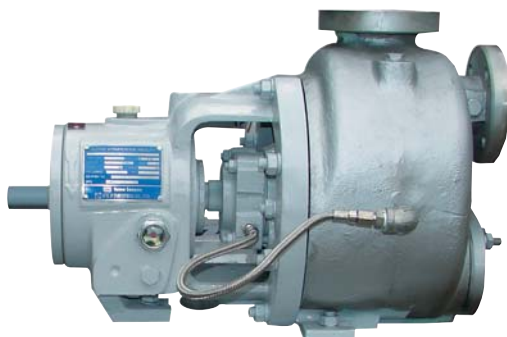
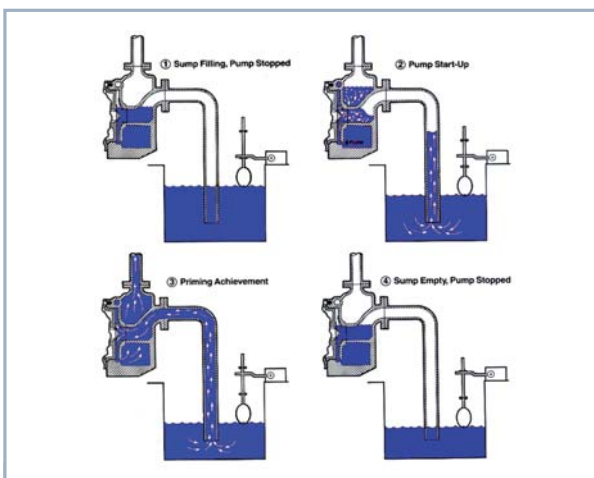
STAGE

SECTIONAL DRAWING



No.	NAME OF PARTS	Q'TY	MATERIAL(ASTM)	MATERIAL(KS)
110	SUCTION CASING	1	A216WCB	SCPH2
120	DISCHARGE CASING	1	A216WCB	SCPH2
130	STAGE CASING	5	A216WCB	SCPH2
140	CASING COVER	2	A216WCB	SCPH2
200	IMPELLER	6	A216WCB	SCPH2
300	SHAFT	1	A434 4140	SCM440
310	SLEEVE	2	A276-304	STS304
320	SLEEVE LOCK NUT	2	A276-304	STS304
330	BEARING COVER	2	A48CL30	GC200
335	BEARING (SUCTION)	1	A458	STB 2
336	BEARING (DISCHARGE)	1	A458	STB 2
338	BRG. LOCK NUT	1	A109-1045	SM45C
420	MECH. SEAL	2	-	-
425	SEAL GLAND	2	A743-CF8	SSC13
500	BRACKET	2	A48CL30	GC200
510	OIL SEAL(BRACKET)	2	VITON	VITON
520	OIL SEAL(BRG. COVER)	1	VITON	VITON
530	BALANCE DISK (STATIONARY)	1	A216WCB	SCPH2
540	BALANCE DISK ROTARY)	1	A216WCB	SCPH2
550	BALANCE DISK LOCK	1	A216WCB	SCPH2
600	TIGHTENING BOLTS	4	A109-1045	SM45C

* NO. 130, 200 : Each part's quantity depends on specification

MODEL DSPA**ANSI SELF-PRIMING PROCESS PUMP****PRIMING**

Dual volute design primes suction with only an initial charge of liquid in the casing. During priming cycle, the lower volute functions as an intake while upper volute discharges liquid and entrained air into separation chamber. Air is separated and expelled through pump discharge while liquid recirculates into lower volute. Once air is completely removed from suction and liquid fills impeller eye, pump is fully primed, and functions as a conventional centrifugal pump with both volutes performing as discharges.

The casing is designed so that an adequate volume of liquid for repriming is always retained in pump even if liquid is allowed to drain back to source of supply from discharge to suction.

APPLICATION

- Process, general chemical industry, drainage and other various industries, etc

FEATURES

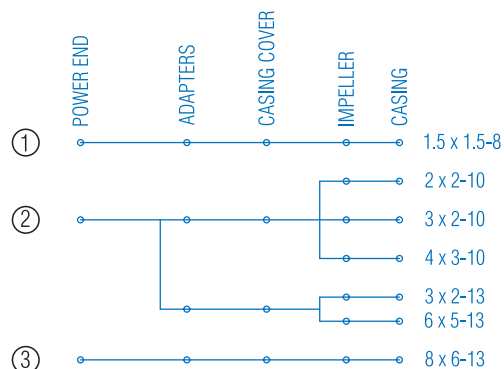
- Self-priming pump driving automatically
- Easy assembly with BACK PULL-OUT structure
- Heavy Duty Design

MATERIAL

- Cast Iron
- Stainless Steel
- Duplex, Super Duplex
- Special alloy (ALLOY-20, HASTELLOY, TITANIUM)

STANDARD SPECIFICATION

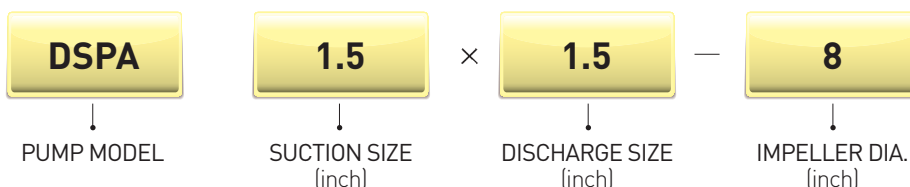
- Capacity : ~ 800 m³/hr
- Head : ~ 100 m
- Bore : Ø40 ~ Ø200
- Impeller type : Open (Precision casting)
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Mechanical seal
- Lubrication : Oil Bath Type
- Labyrinth Oil-seal type
- Spacer Coupling

DSPA Group

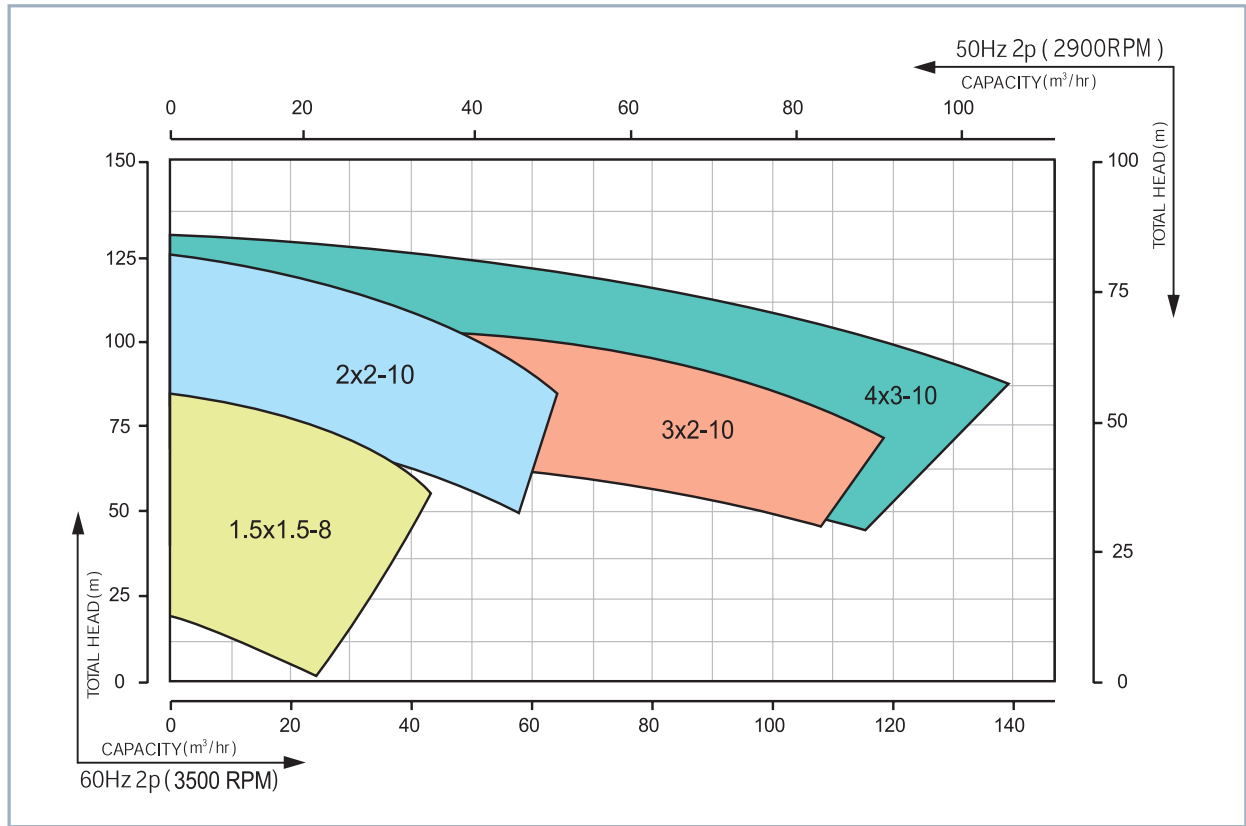
① - M/Seal Size : 1.375" (Ø34.925)
- BRG. : 6307 x 1 , 5307 x 1

② - M/Seal Size : 1.875" (Ø47.625)
- BRG. : 6310 x 1 , 5310 x 1

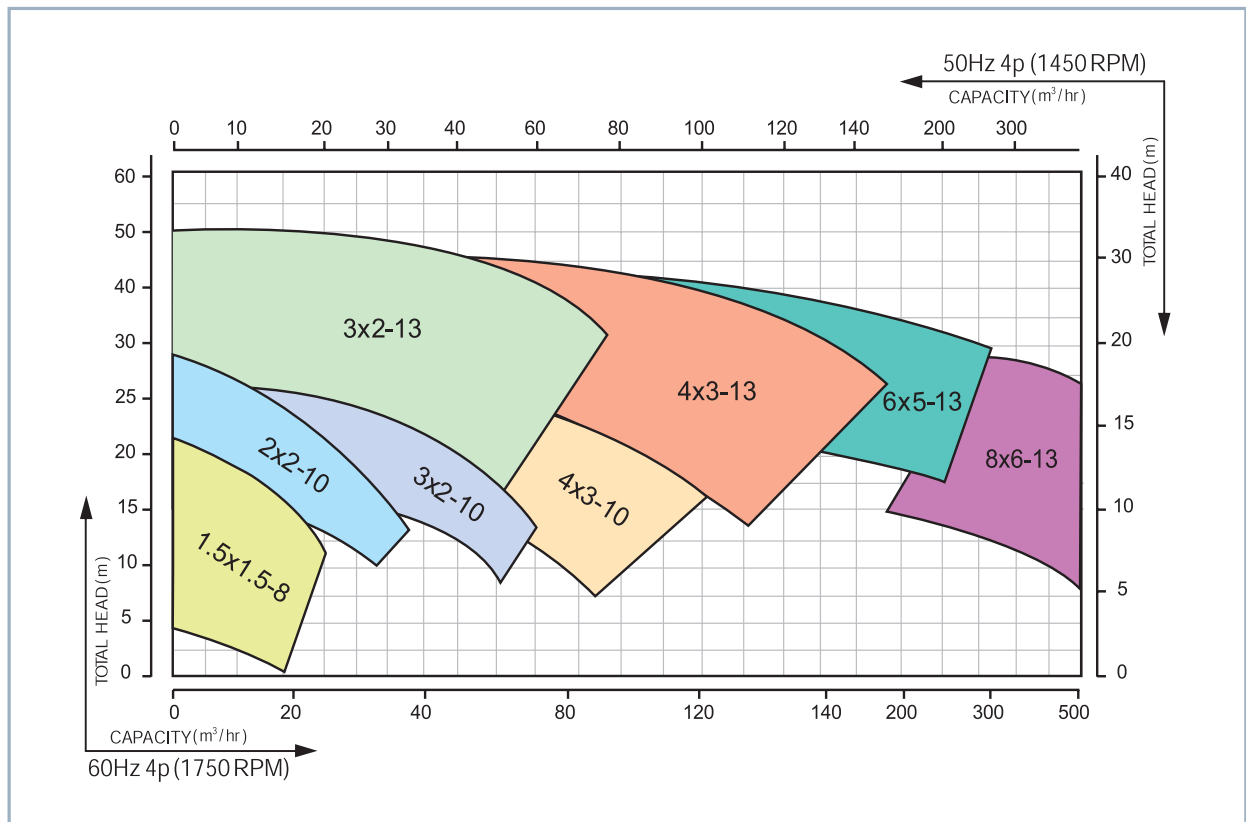
③ - M/Seal Size : 2.625" (Ø66.675)
- BRG. : 6314 x 1 , 5314 x 1

MODEL DESIGNATION

SELECTION CHART

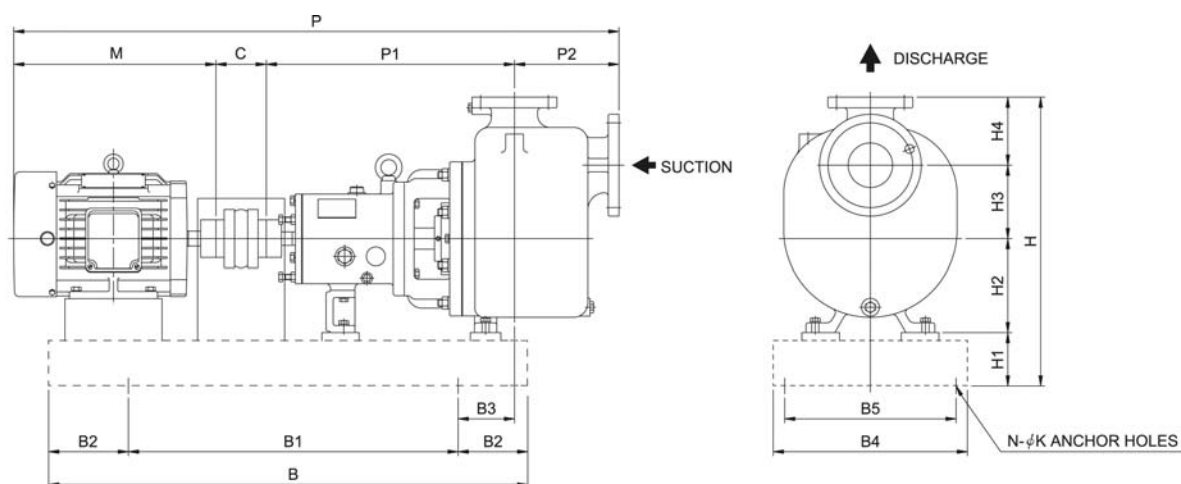


* Performance range shown on these chart are preliminary selection only

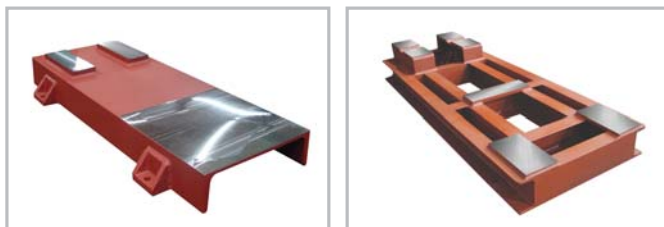


* Performance range shown on these chart are preliminary selection only

OUTLINE DIMENSION DRAWING

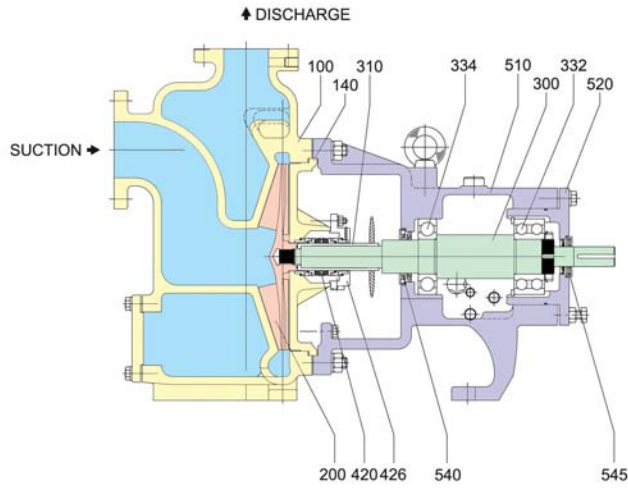
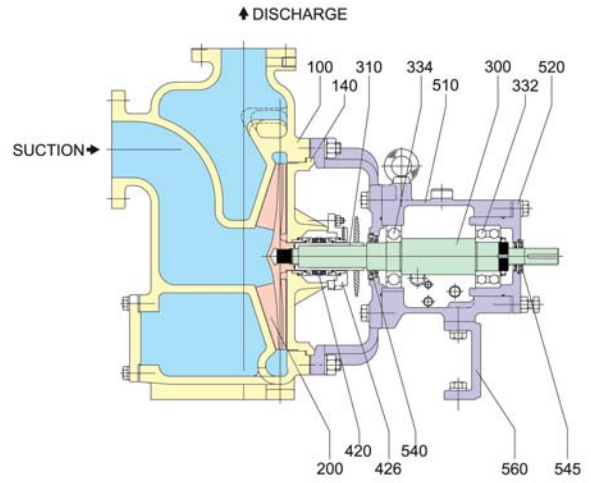


Baseplate Mounting



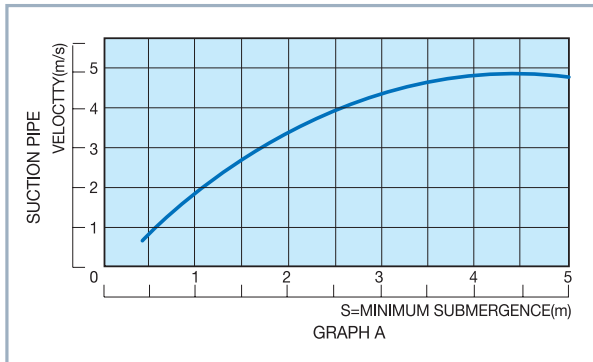
MODEL	BORE		POWER (kW)	PUMP & MOTOR					BASE PLATE							PUMP & BASE					WEIGHT(Kg)		
	SUC.	DIS.		P	P1	P2	C	M	B	B1	B2	B3	B4	B5	N- ØK	H	H1	H2	H3	H4	PUMP & BASE	MOTOR	TOTAL
DSPA 1.5x1.5-8	40	40	2.2	978	394	127	89	368	850	550	150	80	390	360	4-15	483	120	133	102	98	114	34	148
			3.7	992	394	127	89	382	900	600	150	80	390	360	4-15	483	120	133	102	98	115	40	155
DSPA 2x2-10	50	50	3.7	1196	560	165	89	382	1100	800	150	50	490	450	4-19	600	110	210	150	130	167	40	207
			5.5	1273	560	165	89	495	1100	800	150	50	490	450	4-19	600	110	210	150	130	167	62	229
DSPA 3x2-10	80	50	5.5	1293	570	175	89	495	1150	850	150	50	490	450	4-19	600	110	210	150	130	218	62	280
			7.5	1331	570	175	89	497	1150	850	150	50	490	450	4-19	600	110	210	150	130	218	70	288
DSPA 3x2-13	80	50	15	1474	570	175	89	640	1300	1000	150	50	490	450	4-19	694	110	254	190	140	254	118	372
			18.5/22	1493	570	175	89	659	1300	1000	150	50	490	450	4-19	694	110	254	190	140	254	147	401
DSPA 4x3-10	100	80	15	1474	560	235	89	640	1300	1000	150	50	490	450	4-19	638	110	210	165	153	240	118	358
			18.5/22	1493	560	235	89	659	1300	1000	150	50	490	450	4-19	638	110	210	165	153	240	147	387
DSPA 4x3-13	100	80	30	1581	560	235	89	697	1400	1100	150	0	490	450	4-19	814	110	254	190	180	288	147	435
			37	1685	560	235	89	801	1450	1150	150	0	450	410	6-19	734	140	254	190	180	289	297	586
DSPA 6x5-13	150	100	30	1628	590	230	111	697	1400	1100	150	120	490	450	6-19	814	110	254	265	185	388	159	547
			37	1732	590	230	111	801	1450	1150	150	120	450	410	6-19	844	140	254	265	185	389	297	686
DSPA 8x6-13	200	150	37	2140	789	372	178	801	1900	1600	150	25	550	510	6-24	1058	140	368	265	285	483	297	780
			55	2193	789	372	178	854	1900	1600	150	25	550	510	6-24	1058	140	368	265	285	515	325	840

SECTIONAL DRAWING

I-GROUP

II, III-GROUP


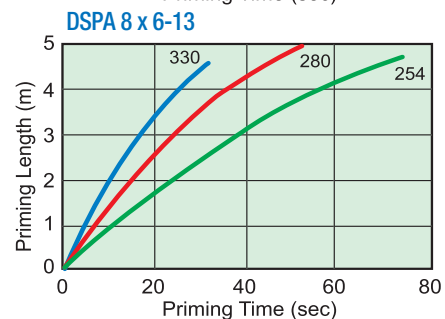
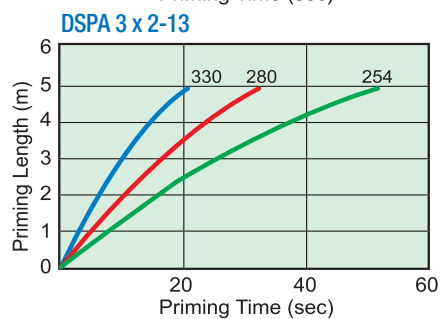
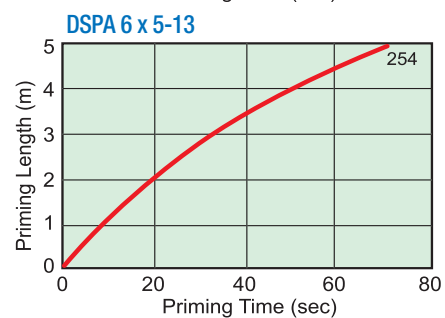
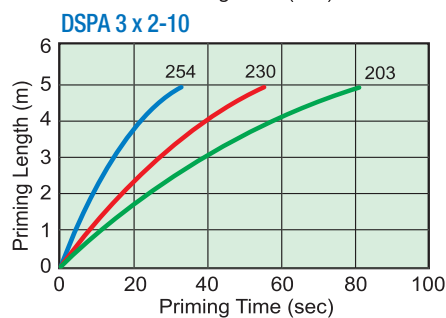
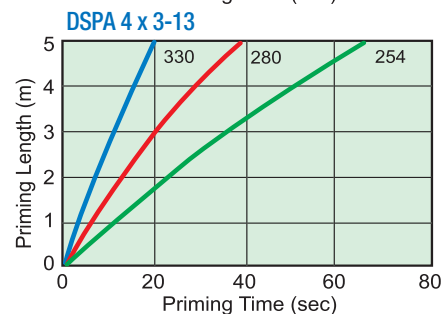
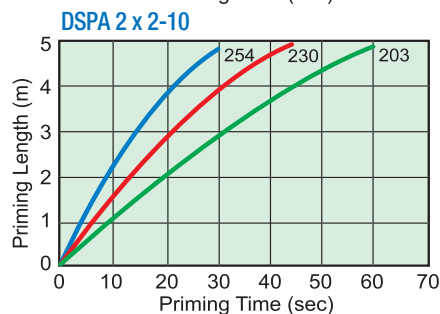
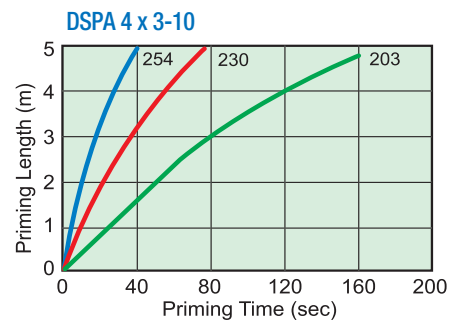
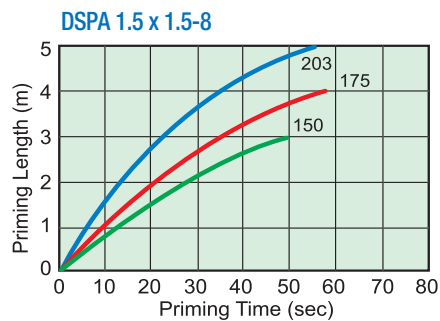
No.	NAME OF PARTS	Q'Ty	MATERIAL(ASTM)				MATERIAL(KS)			
			M1	M2	M3	M4	M1	M2	M3	M4
100	CASING	1	A27-60-30	CF8	CF8M	CF3M	SC410	SSC13	SSC14	SSC16
140	CASING COVER	1	A27-60-30	CF8	CF8M	CF3M	SC410	SSC13	SSC14	SSC16
200	IMPELLER	1	CF8	CF8	CF8M	CF3M	SSC13	SSC13	SSC14	SSC16
300	SHAFT	1	304	304	316	316L	STS304	STS304	STS316	STS316L
310	SLEEVE	1	CF8M	CF8M	CF8M	CF3M	SSC14	SSC14	SSC14	SSC16
332	BEARING (OUTBORD)	1	A485	A485	A485	A485	STB2	STB2	STB2	STB2
334	BEARING (INBORD)	1	A485	A485	A485	A485	STB2	STB2	STB2	STB2
420	MECH. SEAL	1 SET	-	-	-	-	-	-	-	-
426	SEAL GLAND	1	CF8	CF8	CF8M	CF3M	SSC13	SSC13	SSC14	SSC16
510	BRACKET	1	Cast Steel	Cast Steel	Cast Steel	Cast Steel	GC200	GC200	GC200	GC200
520	BRG. HOUSING	1	Cast Steel	Cast Steel	Cast Steel	Cast Steel	GC200	GC200	GC200	GC200
540	OIL SEAL (BRACKET)	1	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON
545	OIL SEAL (BRG. COVER)	1	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON	CARBON
560	SUPPORT	1	Cast Steel	Cast Steel	Cast Steel	Cast Steel	GC200	GC200	GC200	GC200

TECHNICAL DATA



- Installations as near the sources as possible
- Suction pipe size should equal with the suction flange of pumps
- Check the minimum submergence (GRAPH "A")

SELF PRIMMING TIME

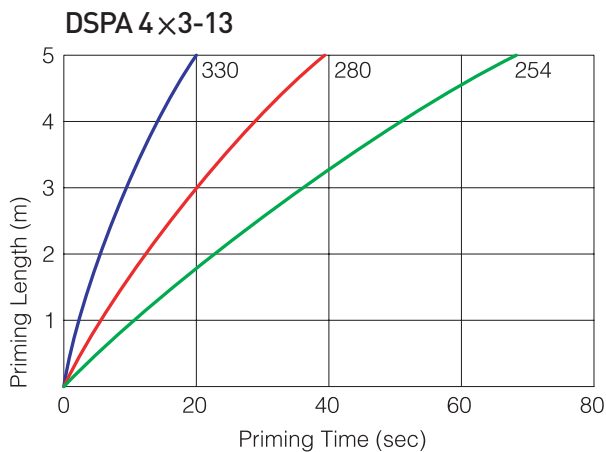


자흡식펌프 설치유의사항 (SELF-PRIMING PUMP INSTALLATION)

펌프의 유량, 양정 및 회전속도에 의해서 PUMP가 선정되면, 자흡시간을 예상할수 있으며, 펌프성능이 RPM과 임펠러 직경에 따라서 달라지는 것처럼 자흡시간이 달라 집니다. 자흡수직거리와 수평거리, 비중 또는 흡입배관 사이즈 등에 의하여 자흡시간이 결정됩니다.

According to the selected pump, we can expect it's self-priming time.

The priming time is decided by a vertical distance, a horizoantal distance, a specific gravity, and a pipe's size.



자흡수직거리(STATIC SUCTION LIFT)

흡입수직거리가 높을수록 흡입배관 속에 있는 배출해야 할 공기의 양이 많아지며 자흡시간이 길어집니다.

아래 GRAPH에서 보면 330mm 임펠러를 가진 DSPA 4X3-13 PUMP가 물을 3m 끌어 올리는데 15초가 소요되며, 5m 끌어 올리는데는 20초가 소요됩니다.

If the suction lift increases, the air in the suction pipe and the self-priming time increase.

In the graph, the curve shows the DSPA 4 ×3-13's self priming time

It takes 15 seconds to pump water up to 3m, and 20 seconds to 5m.

비 중(SPECIFIC GRAVITY)

비중이 커질수록 자흡시간이 길어집니다.

PUMP가 물(비중1.0)을 3m 끌어올리는 대신에 비중이 1.3인 액체를 PUMPING할 경우에는 LIFT가 1.3배가 되어 3.9m이며 따라서 자흡시간은 약20초가 소요됩니다. (비중이 1.0보다 작을 경우에는 1.0으로 간주)

SELF-PRMING PUMP는 가능한 자흡 수직길이가 6m정도가 한계이므로 비중이 1.0보다 큰 경우의 실제 LIFT의 한계는 6m를 비중으로 나누면 됩니다.

예) $6m \div 1.3 = 4.6m$ 가 한계치입니다.

The self- priming time becomes longer as the specific gravity increases.

The lift of pumping A(Sp.Gr.: 1.3) is 1.3 times longer than that of pumping water(Sp.Gr.: 1)

It takes about 15 seconds to prime water(Sp.Gr.:1) up to 3m

It takes about 20 seconds to prime liquid(Sp.Gr.:1.3) up to 3m

The max. suction lift of self-priming pump is to about 6m.

In case the specific gravity of liquid is bigger than 1, you can calculate the limit of lift by the example(Sp.Gr 1.3)

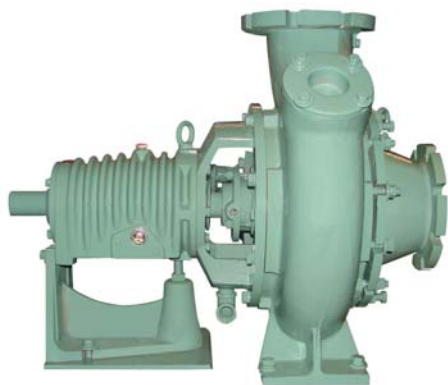
ex) $6m \div 1.3 = 4.6m$

설치상의 주의사항(INSTALLATION CAUTION)

- PUMP를 흡입 SOURCE에 최대한 가까이 설치할것
- 흡입배관의 총길이를 7.5m이내로 할것
- 흡입배관의 사이즈는 PUMP의 흡입 플랜지와 같은 사이즈로 할것
- 흡입배관상에 FOOT 밸브를 설치하지 말것
- 원활한 흡입을 위해 배관 끝은 바닥으로 부터 1.5D(D: 흡입배관구경)이상 유지할것
- 공기가 토출배관을 통해서 자유롭게 VENT 될수 없을 경우에는 토출배관에서 PUMP로 떨어지는 작은 사이즈의 공기 배출관을 설치할것

- Install the pump as close to suction source as possible
- Design the length of the suction pipe within 7.5m
- Design the size of the suction pipe as same as that of the suction flange.
- Don't install foot-valve on the suction pipe.
- Keep the end of the pipe more than 1.5 D(D: Suction Pipe Dia.) from ground level.
- In case the air has no free access from vent in the discharge pipe,
- Install the small air vent from the discharge pipe

MODEL **DSW** NON-CLOG SCREW CENTRIFUGAL PUMP



APPLICATION

Sewage disposal plant and wastewater treatment plant, transportation of fish and shellfish, pulp hides transportation, coal powered, coal transportation, and high-density slurry transportation for various industries

FEATURES

Screw impeller structure can transfer every solid without blocking

In case of repair maintenance, it is possible to confirm inside of casing through inspection hole on the casing

Easy assembly with BACK PULL-OUT structure

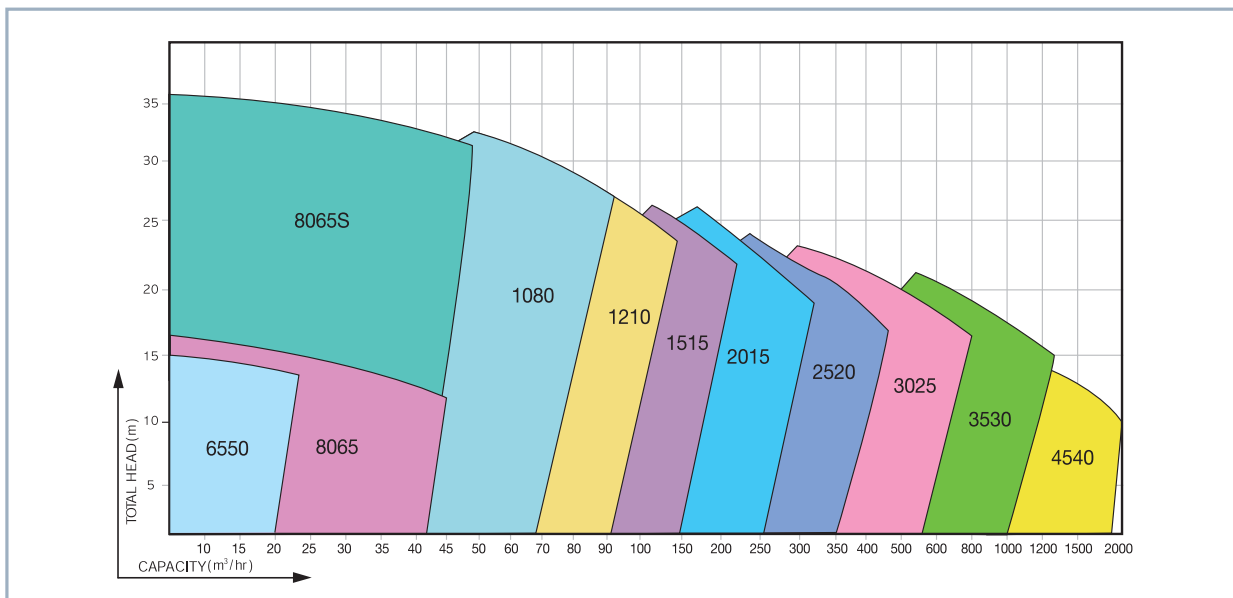
STANDARD SPECIFICATION

- Capacity : ~ 2000 m³/hr
- Head : ~ 40 m
- Bore : Ø50 ~ Ø450
- Impeller type : Non-Clog Screw
- Rotation : C.C.W (Viewed from drive end.)
- Driving by change of number of rotations (V-Belt Standrd)
- Shaft sealing : Mechanical seal & Gland packing
- Lubrication : Oil Bath Type

MATERIAL

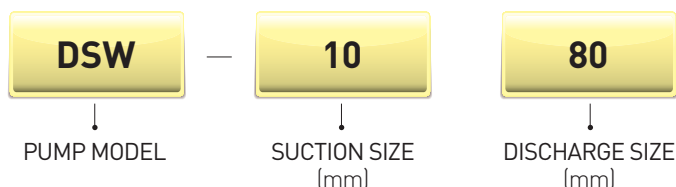
- Cast Iron
- Stainless Steel (304, 316, 316L)
- High chrome castiron (Hi-Cr)
- Special alloy (ALLOY-20, HASTELLOY)

SELECTION CHART



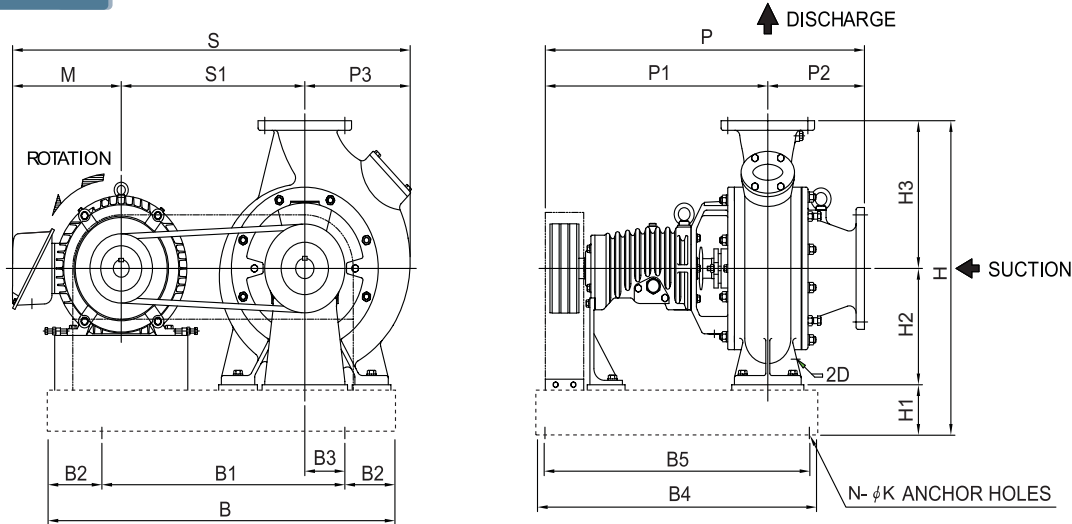
* Performance range shown on these chart are preliminary selection only

MODEL DESIGNATION

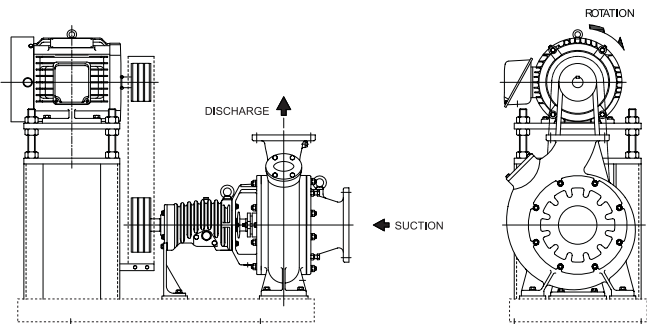


OUTLINE DIMENSION DRAWING

STANDARD

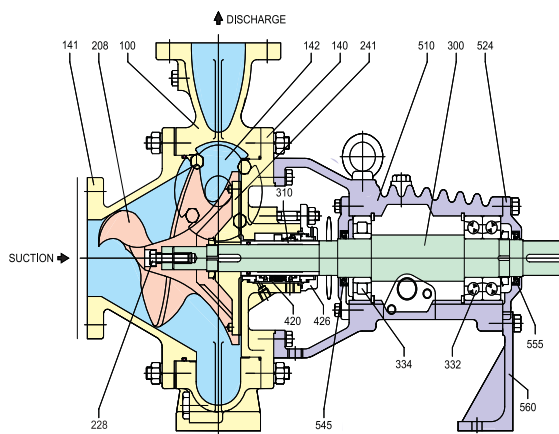


SPECIAL

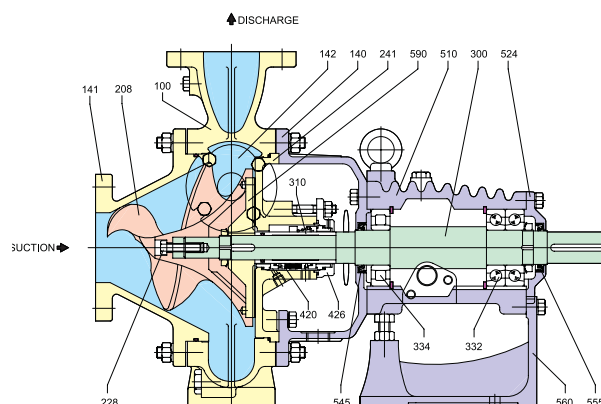
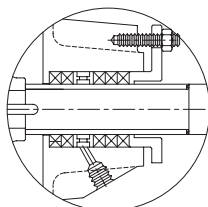


MODEL	BORE		POWER (kW)	BORE							BASE PLATE							BASE PLATE				WEIGHT(Kg)		
	SUC.	DIS.		P	P1	P2	P3	S	S1	M	B	B1	B2	B3	B4	B5	N-φK	H	H1	H2	H3	Pump & Base	MO- TOR	TOTAL
DSW 6550	65	50	1.5	610	460	650	160	725	400	165	750	450	150	30	690	660	4-15	480	100	180	200	175	30	205
DSW 8065	80	65	1.5	635	475	160	170	735	400	165	750	450	150	30	690	660	4-15	505	100	180	225	191	30	221
			2.2	635	475	160	170	757	400	187	750	450	150	30	690	660	4-15	505	100	180	225	191	34	225
DSW 8065S	80	65	5.5 & 7.5	735	535	200	215	879	450	214	900	600	150	45	710	670	4-19	595	90	225	280	251	70	321
			11 & 15	735	535	200	215	950	450	285	900	600	150	45	710	670	4-19	595	90	225	280	255	118	373
DSW 1080	100	80	5.5 & 7.5	735	535	200	215	879	450	214	900	600	150	45	710	670	4-19	595	90	225	280	251	70	321
			11 & 15	735	535	200	215	950	450	285	900	600	150	45	710	670	4-19	595	90	225	280	255	118	373
DSW 1210	125	100	5.5 & 7.5	755	535	220	215	879	450	214	900	600	150	45	710	670	4-19	595	90	225	280	265	70	355
			11 & 15	755	535	220	215	950	450	285	900	600	150	45	710	670	4-19	595	90	225	280	265	118	383
DSW 1515	150	150	11 & 15	930	630	300	330	1165	550	285	1100	800	150	120	870	830	6-19	815	100	315	400	455	118	573
			18.5 & 22	930	630	300	330	1179	550	299	1100	800	150	120	870	830	6-19	815	100	315	400	455	147	602
DSW 2015	200	150	5.5 & 7.5	930	630	300	330	1094	550	214	1100	800	150	120	870	830	6-19	815	100	315	400	465	70	535
			11 & 15	930	630	300	330	1165	550	285	1100	800	150	120	870	830	6-19	815	100	315	400	465	118	583
DSW 2520	250	200	18.5 & 22	1055	705	350	370	1269	600	299	1300	1000	150	210	950	890	6-24	940	140	350	450	617	147	764
			30	1055	705	350	370	1269	600	299	1300	1000	150	210	950	890	6-24	940	140	350	450	617	159	776
DSW 3025	300	250	30	1100	700	400	380	1329	650	299	1300	1000	150	210	890	830	6-24	940	140	350	450	632	159	791
			37 & 45	1100	700	400	380	1439	650	409	1300	1000	150	210	890	830	6-24	940	140	350	450	637	297	934
DSW 3530	350	300	37 & 45	1200	800	400	455	1564	700	409	1400	1100	150	210	950	890	6-24	1050	140	400	510	778	297	1075
			55 & 75	1200	800	400	455	1604	700	495	1400	1100	150	210	950	890	6-24	1050	140	400	510	784	500	1284
DSW 4540	450	400	75 & 90	1650	1100	550	800	2340	1000	540	2110	1710	200	500	1300	1220	8-24	1530	230	700	600	1010	530	1540

SECTION DRAWING



PACKING TYPE



DSW MODEL

MODEL	BORE		M/seal	BRG.	
	SUC.	DIS.		Radial	Thrust
6550	ø65	ø50	ø35	NU308 ×1	7308 ×2
8065	ø80	ø65	ø40		
8065S	ø80	ø65	ø45	NU310 ×1	7310 ×2
1080	ø100	ø80			
1210	ø125	ø100	ø55	NU312 ×1	7312 ×2
1515	ø150	ø150			
2015	ø200	ø150	ø70	NU314 ×1	7314 ×2
2520	ø250	ø200			
3025	ø300	ø250	ø100	NU320 ×1	7320 ×2
3530	ø353	ø300			
4540	ø450	ø400			

No.	NAME OF PARTS	Q'TY	MATERIAL(ASTM)				MATERIAL(KS)			
			M1	M2	M3	M4	M1	M2	M3	M4
100	CASING	1	Cast Iron	Ductile Iron	CF8	A532	GC200	GCD450	SSC13	24CrGC
140	CASING COVER	1	Cast Iron	Ductile Iron	CF8	A532	GC200	GCD450	SSC13	24CrGC
141	SUCTION COVER	1	Cast Iron	Ductile Iron	CF8	A532	GC200	GCD450	SSC13	24CrGC
142	HAND HOLE COVER	1	Cast Iron	Ductile Iron	CF8	A532	GC200	GCD450	SSC13	24CrGC
208	IMPELLER	1	A532	A532	A532	A532	24CrGC	24CrGC	24CrGC	24CrGC
228	IMPELLER LOCK BOLT	1	304	304	304	304	STS304	STS304	STS304	STS304
241	IMPELLER LOCK PLATE	1	Cast Iron	Ductile Iron	CF8	A532	GC200	GCD450	SSC13	24CrGC
300	SHAFT	1	304	304	304	304	STS304	STS304	STS304	STS304
310	SLEEVE	1	304	304	304	304	STS304	STS304	STS304	STS304
332	BEARING (OUTBORD)	2	A485	A485	A485	A485	STB2	STB2	STB2	STB2
334	BEARING (INBORD)	1	A485	A485	A485	A485	STB2	STB2	STB2	STB2
420	MECH. SEAL	1 SET	-	-	-	-	-	-	-	-
426	SEAL GLAND	1	CF8	CF8	CF8	CF8	SSC13	SSC13	SSC13	SSC13
510	BEARING HOUSING	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200
524	BEARING COVER	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200
545	OIL SEAL (ADAPTER)	1	NBR	NBR	NBR	NBR	NBR	NBR	NBR	NBR
555	OIL SEAL (BRG. COVER)	1	NBR	NBR	NBR	NBR	NBR	NBR	NBR	NBR
560	SUPPORT	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200
590	ADAPTER	1	Cast Iron	Cast Iron	Cast Iron	Cast Iron	GC200	GC200	GC200	GC200

MODEL DWM NON-CLOG ABRASIVE SLURRY PUMP



APPLICATION

Power Plant, Chemical Process, Heavy Minerals
Paper and pulp, Mill Discharge, Bottom Boiler Fly
Ash Cyclone Feed, Slag Granulation, Suction Hopper
Dredging, Barge Loading, Mill Discharge, Sand
Reclamation

STANDARD SPECIFICATION

- Capacity : ~ 7200 m³/hr
- Head : ~ 85 m
- Bore : Ø25 ~ Ø800
- Impeller type : Non-clog (Open & Close)
- Rotation : C.W (Viewed from drive end.)
- Driving by change of number of rotations (V-Belt Standrd)
- Shaft sealing : Mechanical seal & Gland packing

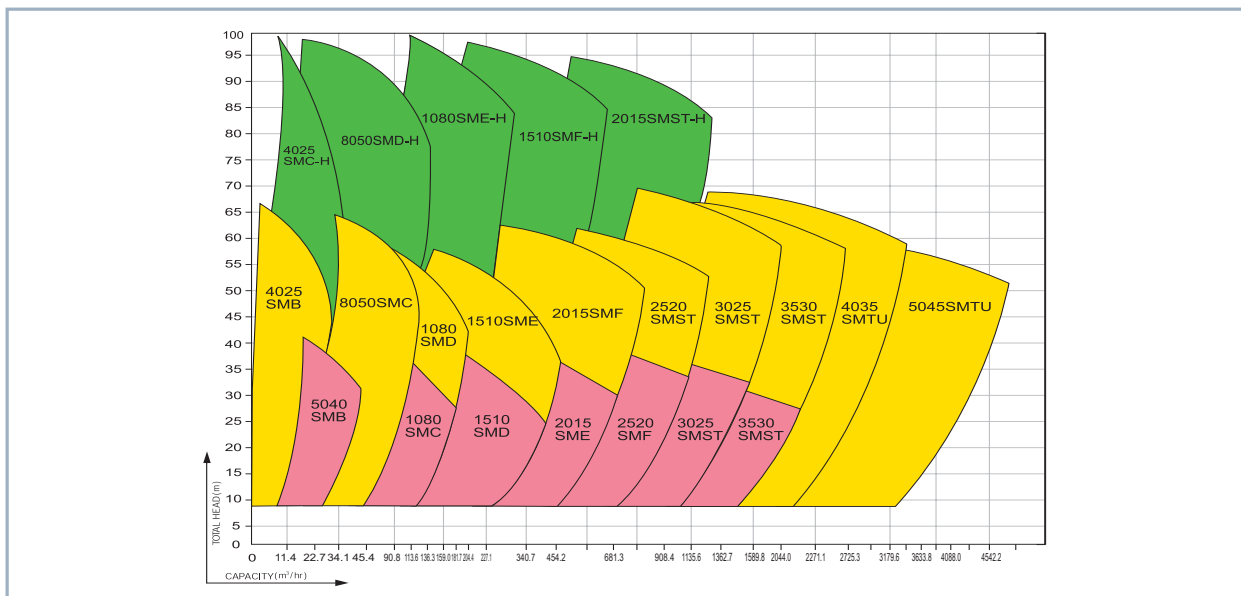
FEATURES

- DUKJI heavy duty pumps display total interchangeability between hard metal and elastomer lined pumps. Designed for a wide range of slurry and process Applications.

MATERIAL

- High Chrome Alloy, Natural Rubber

SELECTION CHART



MODEL DESIGNATION

DWM

PUMP MODEL

80

SUCTION SIZE
(mm)

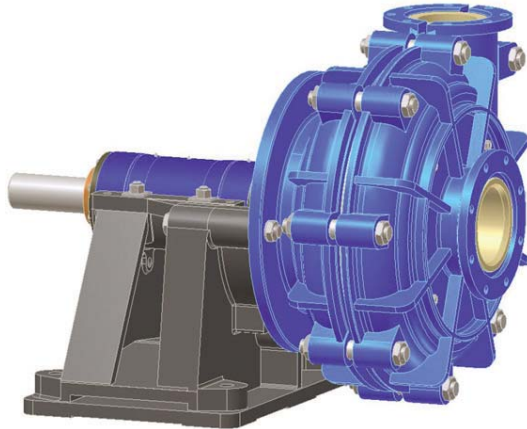
50

DISCHARGE SIZE
(mm)

SM

- SM : METAL LINER
- SMR : RUBER LINER

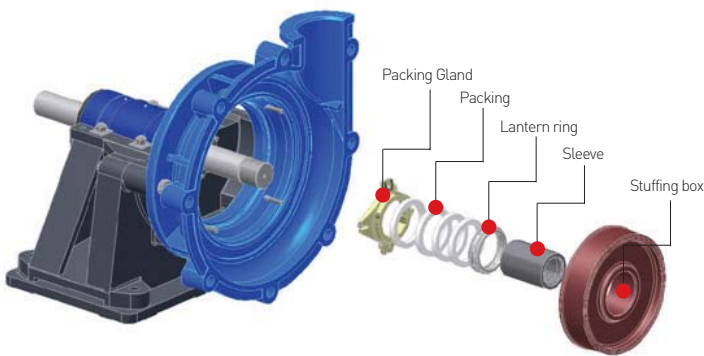
DUKJI SLURRY PUMP



What is a Slurry Pump??

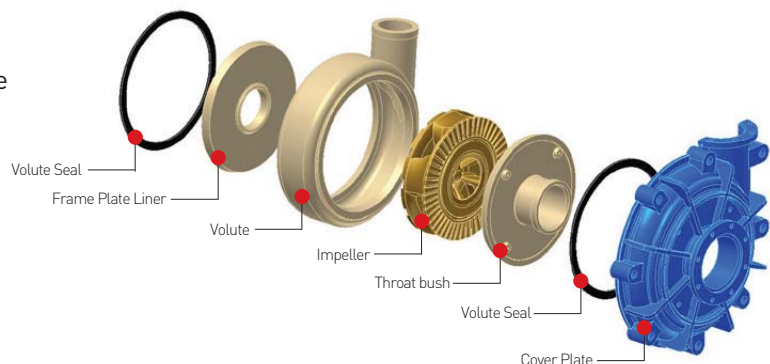
There are a number of different pump types used in the pumping of slurries. Positive displacement and special effect types such as venturi eductors are used but by far the most common type of slurry pump is the centrifugal pump. The centrifugal slurry pump utilizes the centrifugal force generated by a rotating impeller to impart kinetic energy to the slurry in the same manner as clear liquid type centrifugal pumps. However, this is where the similarities end. The selection process for centrifugal slurry pumps needs to include consideration for impeller size and design for solids passage, appropriate shaft seal possibilities and optimum, long life material selections. These basics need to be considered by the application engineer who will select the liquid end parts to withstand wear caused by the abrasive, erosive and/or corrosive attack on the wetted materials. To achieve lower operating speeds, slurry pumps are also generally larger in size than comparable clear liquid pumps in order to reduce velocity thereby minimizing the rate of wear. Bearings and shafts also need to be much more rugged and rigid.

Dukji -Slurry Pump design features

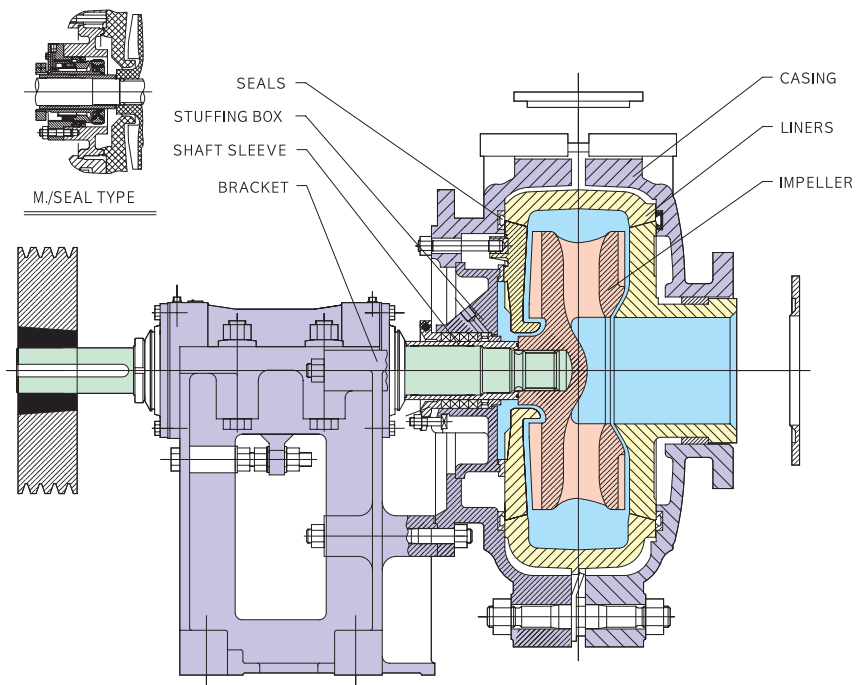


- **Bearing assembly** - A large diameter shaft with short overhang minimizes deflection and contributes to long bearing life. Only four through bolts are required to hold the cartridge type housing in the frame.
- **Throatbush** - Wear is reduced and maintenance simplified by the use of tapered mating faces to allow positive accurate alignment during assembly and simple removal.

- **Liners** - Easily replaceable liners are bolted, not glued, to the casing for positive attachment and ease of maintenance. Hard metal liners are completely interchangeable with pressure molded elastomers. Elastomer seal rings back all liner joints.
- **Impeller** - Front and rear shrouds have pump out vanes that reduce recirculation and seal contamination. Hard metal and molded elastomer impellers are completely interchangeable. Cast in impeller threads require no inserts or nuts. High efficiency and high head designs are also available.

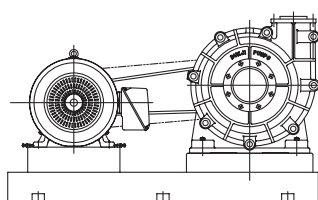


■ FULLY INTERCHANGEABLE PUMP

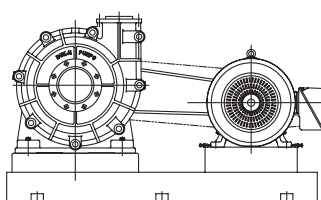


	LINERS	IMPELLER	CASING	BRACKET	STUFFING BOX	SHAFT SLEEVE	SEALS
Standard	Chrome Alloy Natrual Rubber	Chrome Alloy Natrual Rubber	SG Iron	SG Iron	Chrome Alloy of SG Iron	CD4MCu	Natrual Rubber
Options	Hastelloy C 316SS	Hastelloy C 316SS	Fabricated Cast Iron	Fabricated Cast Iron	Hastelloy C 316SS	Titanium Hastelloy C 316SS STS420J2	

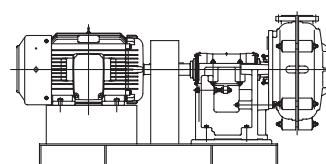
■ OUTLINE DIMENSION DRAWING



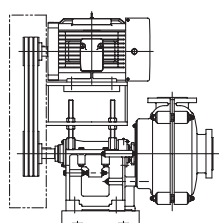
HORIZONTAL V-BELT DRIVE
(HR)



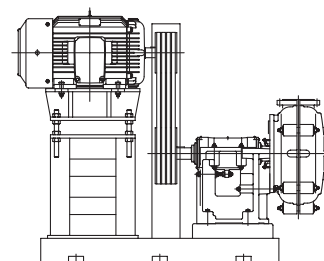
HORIZONTAL V-BELT DRIVE
(HL)



DIRECT COUPLED MOTOR DRIVE
(DC)

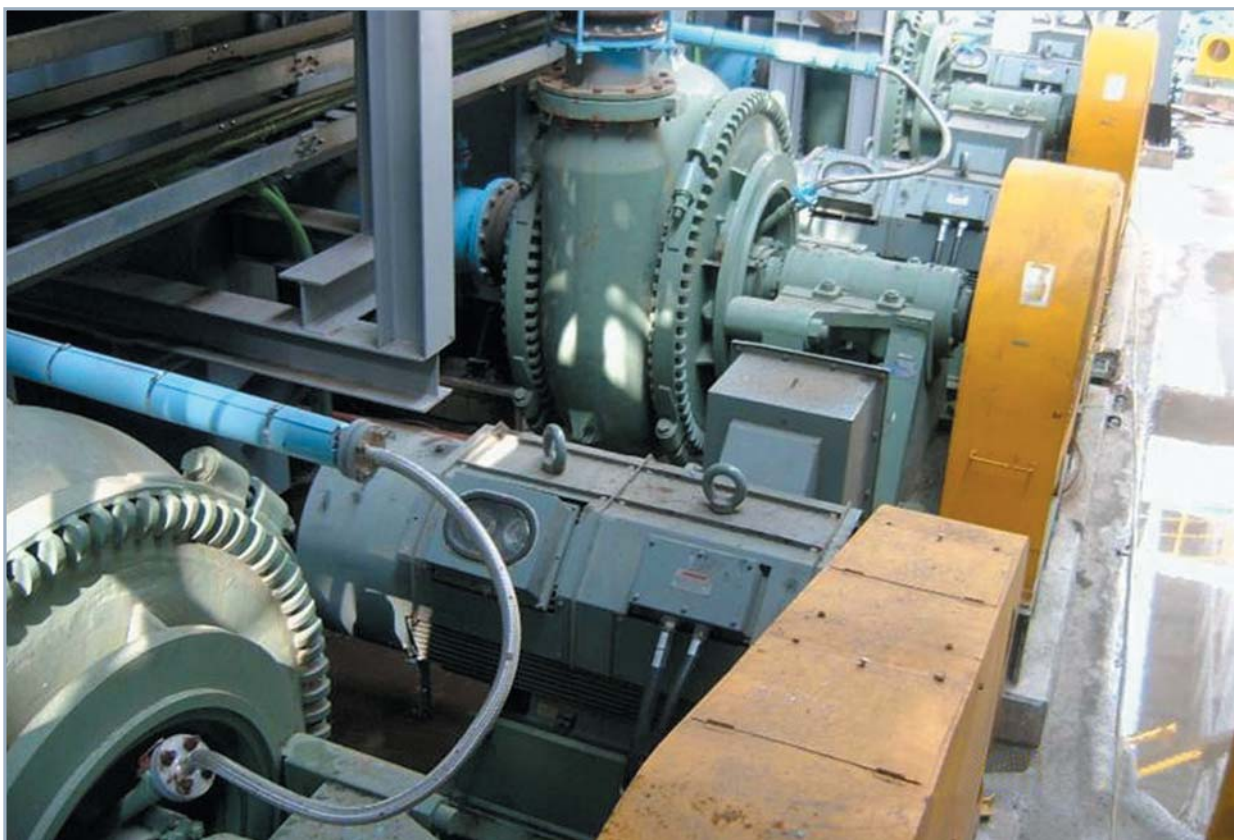


OVERHEAD MOUNTED MOTOR V-BELT DRIVE
(TO)



REVERSE OVERHEAD MOUNTED MOTOR V-BELT DRIVE
(TR)

■ INSTALLATION PICTURES



MODEL **DVS-SM/SMR** **SLURRY SUMP PUMP**



APPLICATION

- Sump drainage / washdown
- Floor drainage
- Mill sumps
- Carbon transfer

FEATURES

- The DVS-SM and SMR designs, manufactured in popular metric sizes, provide a simple, yet rugged of sump pumps specially developed for : Large particle size, High slurry densities

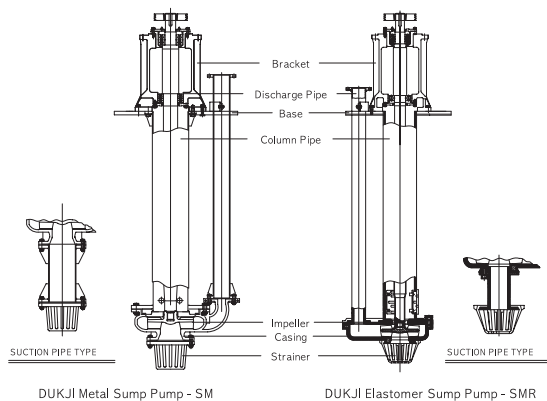
MATERIAL

- High Chrome Alloy, Natural Rubber
- Mild Steel, Rubber Liner Steel

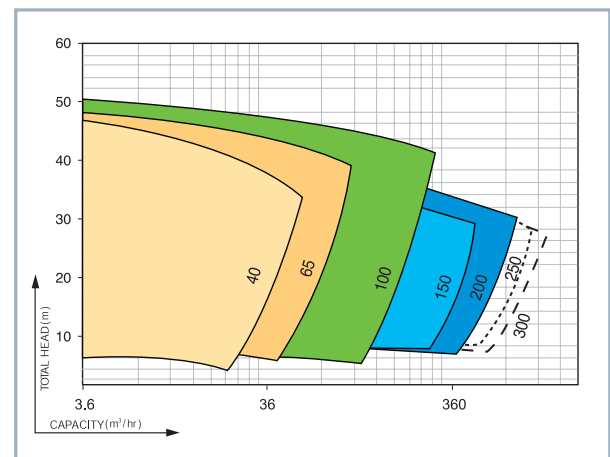
STANDARD SPECIFICATION

- Capacity : ~ 500 m³/hr
- Head : ~ 50 m
- Bore : Ø40 ~ Ø200

SELECTIONAL ATTANGEMENT (Options-Rubber or Metal)



SELECTION CHART



MODEL DESIGNATION

DVS

PUMP MODEL

65

DISCHARGE SIZE
(mm)

SM/SMR

- SM : METAL LINER
- SMR : RUBER LINER

MODEL **MSHF** HI-DUPOLITE(FRP) CENTRIFUGAL PUMP



STANDARD SPECIFICATION

- Capacity : ~ 600 m³/hr
- Head : ~ 60 m
- Bore : Ø25 ~ Ø250
- Impeller type : Open or Close
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing system : Mechanical Seal
- Lubrication : Oil Bath Type

APPLICATION

Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), petrochemical industry, pharmaceutical industry and dyeing, food industry, wastewater treatment, other industry, etc.

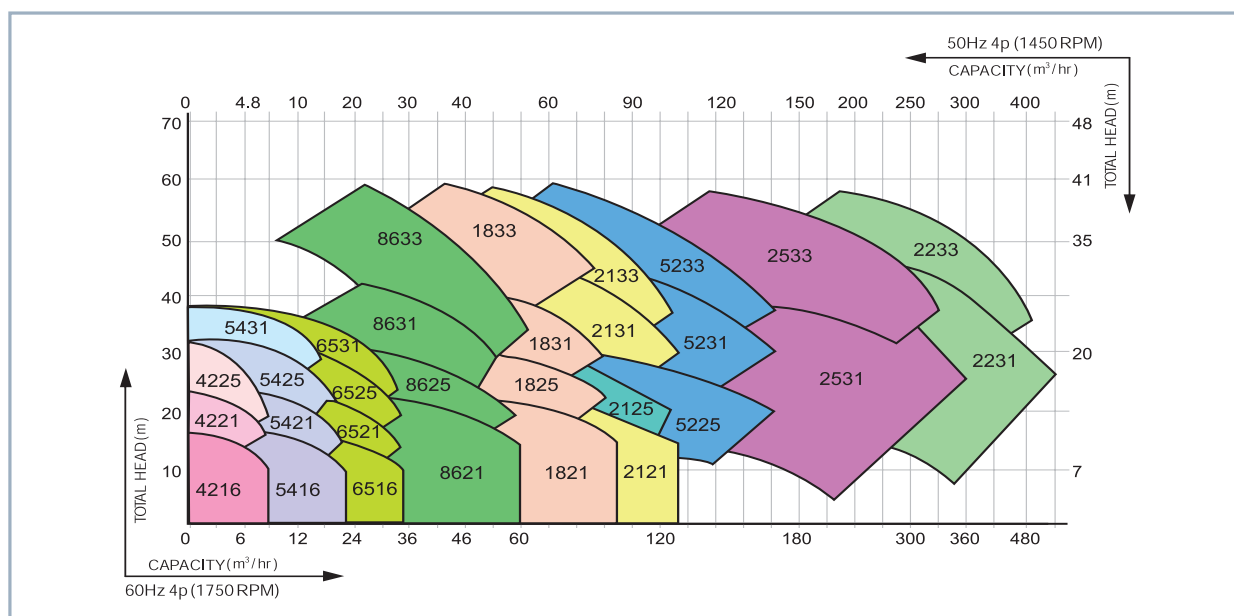
FEATURES

- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy assembly and maintenance with BACK PULL-OUT structure

MATERIAL

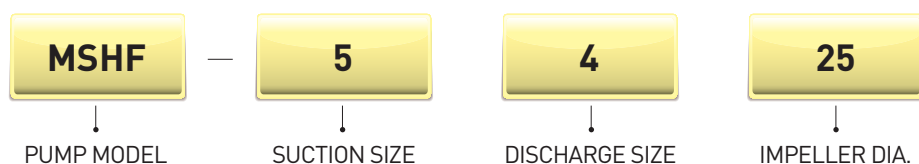
Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

SELECTION CHART

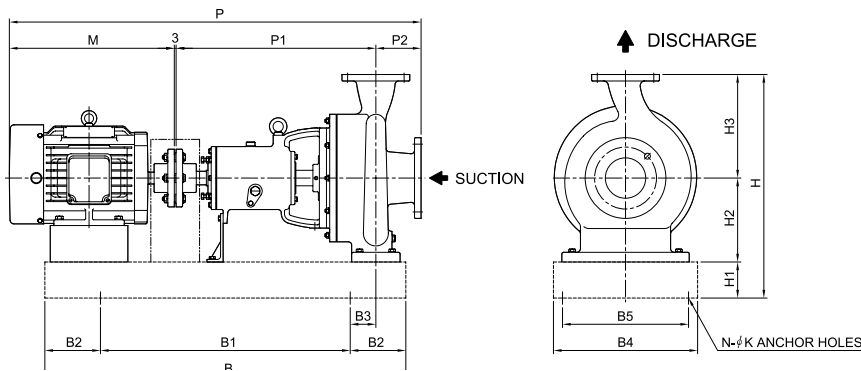


* Performance range shown on these chart are preliminary selection only

MODEL DESIGNATION



OUTLINE DIMENSION DRAWING

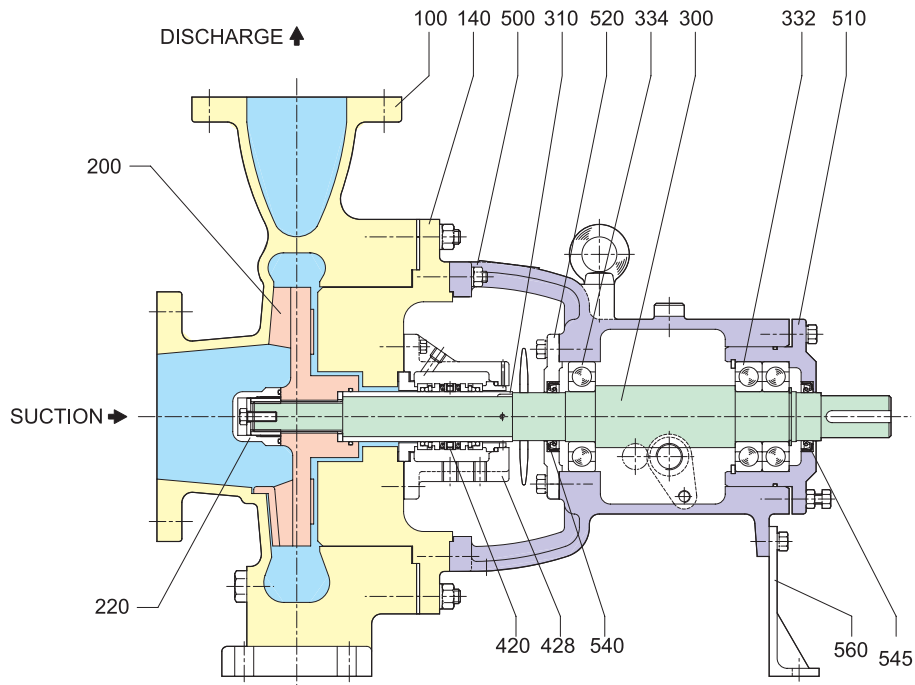


Baseplate Mounting



MODEL	BORE		BRG.			POWER (kW)	PUMP & MOTOR				BASE PLATE							PUMP & BASE				WEIGHT(Kg)		
	SUC.	DIS.	M/Seal	Radial	Thrust		P	P1	P2	M	B	B1	B2	B3	B4	B5	N-ØK	H	H1	H2	H3	PUMP & BASE	MOTOR	TOTAL
MSHF4216	40	25	ø30	6306 x 1	6306 x 2	2.2	909	455	80	371	840	540	150	70	390	360	4-15	530	90	200	240	91	30	121
						3.7	911	455	80	373	850	550	150	70	390	360	4-15	530	90	200	240	92	39	131
						3.7	936	480	80	373	870	570	150	70	390	360	4-15	530	90	200	240	98	39	137
MSHF4221	40	25	ø35	6307 x 1	6307 x 2	5.5	1001	480	80	438	910	610	150	70	390	360	4-15	530	90	200	240	99	56	155
						3.7	1041	565	100	373	970	670	150	60	470	440	4-15	600	100	220	280	135	39	174
						5.5	1106	565	100	438	1010	710	150	60	470	440	4-15	600	100	220	280	137	56	193
MSHF5416	50	40	ø35	6307 x 1	6307 x 2	3.7	956	480	100	373	870	570	150	70	390	360	4-15	530	90	200	240	95	39	134
						5.5	1021	480	100	438	910	610	150	70	390	360	4-15	530	90	200	240	96	56	152
						2.2	954	480	100	371	870	570	150	70	390	360	4-15	530	90	200	240	100	30	130
MSHF5421	50	40	ø35	6307 x 1	6307 x 2	3.7	956	480	100	373	870	570	150	70	390	360	4-15	530	90	200	240	100	39	139
						3.7	1041	565	100	373	970	670	150	60	470	440	4-15	600	100	220	280	137	39	176
						5.5	1106	565	100	438	1010	710	150	60	470	440	4-15	600	100	220	280	139	56	195
MSHF5431	50	40	ø45	6309 x 1	6309 x 2	7.5	1169	565	125	476	1040	740	150	60	470	440	4-15	680	100	260	320	148	70	218
						11	1276	565	125	583	1130	830	150	60	470	440	4-15	680	100	260	320	156	109	265
						3.7	956	480	100	373	870	570	150	70	390	360	4-15	530	90	200	240	96	39	135
MSHF6516	65	50	ø35	6307 x 1	6307 x 2	5.5	1021	480	100	438	910	610	150	70	390	360	4-15	530	90	200	240	97	56	153
						3.7	956	480	100	373	870	570	150	70	390	360	4-15	530	90	200	240	105	39	144
						5.5	1106	565	100	438	1010	710	150	60	470	440	4-15	600	100	220	280	142	56	198
MSHF6521	65	50	ø35	6307 x 1	6307 x 2	7.5	1144	565	100	476	1040	740	150	60	470	440	4-15	600	100	220	280	143	70	213
						11	1276	565	125	583	1130	830	150	60	490	450	4-19	680	100	260	320	161	109	270
						15	1320	565	125	627	1170	870	150	60	490	450	4-19	680	100	260	320	166	136	302
MSHF8621	80	65	ø45	6309 x 1	6309 x 2	7.5	1169	565	125	476	1040	740	150	60	490	450	4-19	600	100	220	280	145	70	215
						11	1276	565	125	583	1130	830	150	60	490	450	4-19	600	100	220	280	153	109	262
						7.5	1169	565	125	476	1040	740	150	60	490	450	4-19	600	100	220	280	150	70	220
MSHF8625	80	65	ø45	6309 x 1	6309 x 2	11	1276	565	125	583	1130	830	150	60	490	450	4-19	600	100	220	280	158	109	267
						11	1306	595	125	583	1190	890	150	30	450	410	4-19	690	110	260	320	157	109	266
						15	1350	595	125	627	1230	930	150	30	450	410	4-19	690	110	260	320	160	136	296
MSHF8631	80	65	ø50	6310 x 1	6310 x 2	7.5	1169	565	125	476	1040	740	150	60	490	450	4-19	600	100	220	280	148	70	218
						11	1276	565	125	583	1130	830	150	60	490	450	4-19	600	100	220	280	156	109	265
						11	1306	595	125	583	1190	890	150	30	450	410	4-19	690	110	260	320	150	109	259
MSHF1821	100	80	ø45	6309 x 1	6309 x 2	15	1350	595	125	627	1230	930	150	30	450	410	4-19	690	110	260	320	153	136	289
						15	1350	595	125	627	1230	930	150	30	450	410	4-19	690	110	260	320	165	136	301
						18.5	1391	595	125	668	1240	940	150	30	450	410	4-19	690	110	260	320	166	166	332
MSHF2121	125	100	ø45	6309 x 1	6309 x 2	11	1276	565	125	583	1130	830	150	60	490	450	4-19	600	100	220	280	158	109	267
						15	1320	565	125	627	1170	870	150	60	490	450	4-19	600	100	220	280	163	136	299
						15	1365	595	140	627	1230	930	150	30	450	410	4-19	690	110	260	320	160	136	296
MSHF2125	125	100	ø50	6310 x 1	6310 x 2	18.5	1406	595	140	668	1240	940	150	30	450	410	4-19	690	110	260	320	161	166	327
						30	1444	595	140	706	1280	980	150	30	450	410	4-19	690	110	260	320	173	182	355
						37	1529	595	140	791	1360	1060	150	30	450	410	4-19	720	140	260	320	198	282	480
MSHF5225	150	125	ø50	6310 x 1	6310 x 2	22	1406	595	140	668	1240	940	150	30	450	410	4-19	690	110	260	320	166	166	332
						30	1444	595	140	706	1280	980	150	30	450	410	4-19	690	110	260	320	168	182	350
						37	1529	595	140	791	1360	1060	150	30	450	410	4-19	720	140	260	320	203	297	500
MSHF5231	150	125	ø50	6310 x 1	6310 x 2	55	1555	595	140	817	1400	1100	150	30	450	410	4-19	720	140	260	320	210	345	555

SECTION DRAWING



No.	DESCRIPTION	Q'TY	MATERIAL(KS)	
			M1	M2
100	CASING	1	FRP	CFRP
140	CASING COVER	1	FRP	CFRP
200	IMPELLER	1	FRP	CFRP
220	IMPELLER NUT	1	P.P+SM45C	P.P+SM45C
300	SHAFT	1	STS304	STS304
310	SLEEVE	1	FRP	HAST-C
332	BEARING (OUTBORD)	2	STB2	STB2
334	BEARING (INBORD)	1	STB2	STB2
420	MECH. SEAL	1 SET	-	-
428	SEAL BOX	1	SSC13	SSC13
500	BRACKET	1	GC200	GC200
510	BRG. HOUSING	1	GC200	GC200
520	BRG. COVER	1	GC200	GC200
540	OIL SEAL(ADAPTER)	1	NBR	NBR
545	OIL SEAL(BRG. HOUSING)	1	NBR	NBR
560	SUPPORT	1	GC200	GC200



■ INSTALLATION PICTURES



MODEL **MSHS**

HI-DUPOLITE(FRP) SELF-PRIMING PUMP



APPLICATION

Chemicals industry, transportation for PIT solution of general industry, wastewater treatment, other industry, etc

FEATURES

- Self-priming pump driving automatically
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy assembly and maintenance with BACK PULL-OUT structure

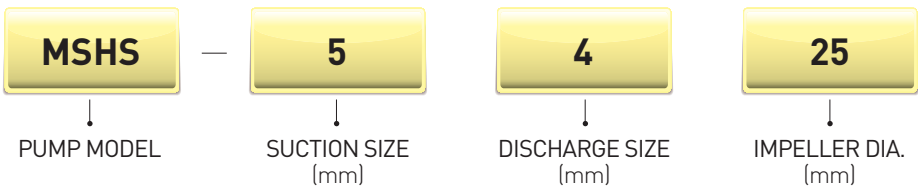
MATERIAL

Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

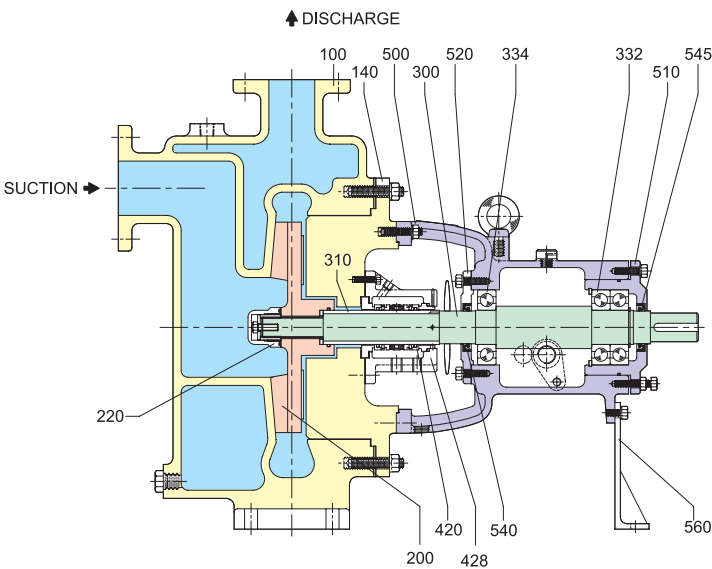
STANDARD SPECIFICATION

- Capacity : ~ 500 m³/hr
- Head : ~ 50 m
- Bore : Ø25 ~ Ø250
- Impeller type : Open
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing system : Mechanical Seal
- Lubrication : Oil Bath Type

MODEL DESIGNATION

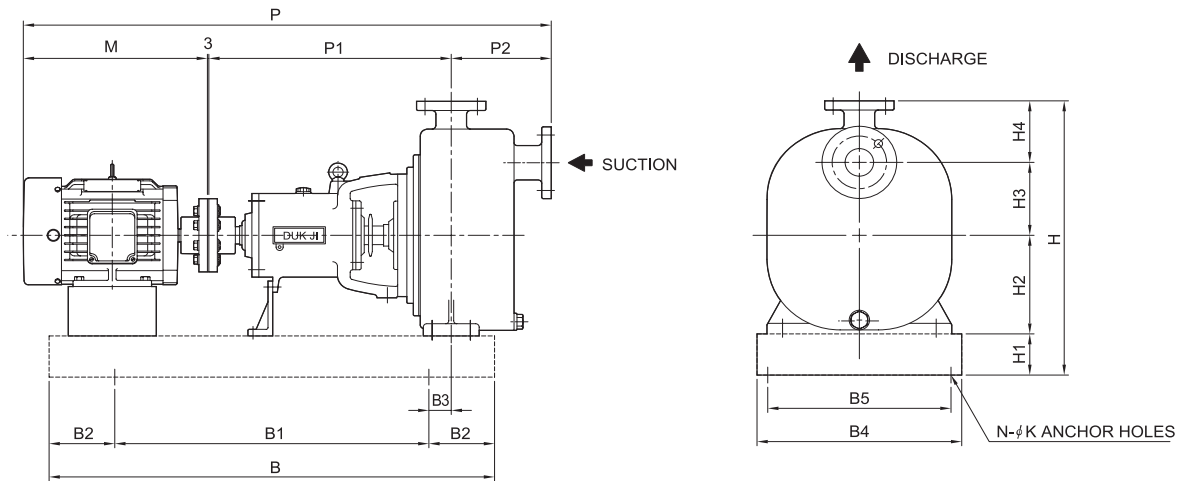


SECTIONAL DRAWING

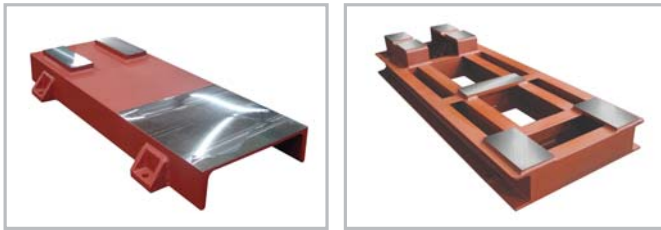


No.	NAME OF PARTS	Q'TY
100	CASING	1
140	CASING COVER	1
200	IMPELLER	1
220	IMPELLER NUT	1
300	SHAFT	1
310	SLEEVE	1
332	BEARING (OUTBORD)	2
334	BEARING (INBORD)	1
420	MECH. SEAL	1SET
428	SEAL BOX	1
500	BRACKET	1
510	BRG. HOUSING	1
520	BRG. COVER	1
540	OIL SEAL (ADAPTER)	1
545	OIL SEAL (BRG. HOUSING)	1
560	SUPPORT	1

OUTLINE DIMENSION DRAWING



Baseplate Mounting



MODEL	BORE		BRG.			POWER (kW)	PUMP & MOTOR					BASE PLATE							PUMP & BASE						WEIGHT(Kg)		
	SUC.	DIS.	MSeal	Radial	Thrust		P	P1	P2	M	B	B1	B2	B3	B4	B5	N-øK	H	H1	H2	H3	H4	PUMP & BASE	MOTOR	TOTAL		
MSHS4216	40	25	ø30	6306x1	6306x2	2.2	1119	480	260	376	900	600	150	40	470	440	4 - 15	670	100	220	180	170	137	34	171		
MSHS4221	40	25	ø35	6307x1	6307x2	3.7	1125	480	260	382	910	610	150	40	470	440	4-15	670	100	220	180	170	147	40	187		
MSHS4225	40	25	ø45	6309 x1	6309x2	5.5	1306	565	300	438	1050	750	150	30	450	410	4 - 19	750	110	260	200	180	203	62	265		
MSHS5425	50	40	ø45	6309x1	6309x2	5.5	1310	565	300	442	1050	750	150	30	450	410	4 - 19	750	110	260	200	180	206	62	268		
						7.5	1349	565	300	481	1080	780	150	30	450	410	4 - 19	750	110	260	200	180	209	70	279		
MSHS5431	50	40	ø45	6309x1	6309x2	7.5	1349	565	300	481	1100	800	150	30	450	410	4 - 19	770	110	280	200	180	222	70	292		
						11	1456	565	300	588	1180	880	150	30	450	410	4 - 19	770	110	280	200	180	234	102	336		
MSHS6521	65	50	ø35	6307x1	6307x2	3.7	1125	480	260	382	910	610	150	40	470	440	4 - 15	670	100	220	180	170	158	40	198		
MSHS6525	65	50	ø45	6309x1	6309x2	5.5	1310	565	300	442	1050	750	150	30	450	410	4 - 19	750	110	260	200	180	213	62	275		
MSHS6531	65	50	ø45	6309x1	6309x2	7.5	1349	565	300	481	1080	780	150	30	450	410	4 - 19	770	110	280	200	180	242	70	312		
MSHS8625	80	65	ø45	6309x1	6309x2	5.5	1310	565	300	442	1050	750	150	30	450	410	4 - 19	750	110	260	200	180	218	62	280		
						7.5	1349	565	300	481	1080	780	150	30	450	410	4 - 19	750	110	260	200	180	225	70	295		
						11	1456	565	300	588	1250	880	150	30	450	410	4 - 19	750	110	260	200	180	237	102	339		
MSHS8631	80	65	ø50	6310x1	6310x2	15	1550	595	320	632	1250	950	150	30	450	410	4 - 19	790	110	280	200	200	240	118	358		
MSHS1831	100	80	ø60	6310x1	6310x2	18.5	1565	595	320	647	1260	960	150	30	450	410	4 - 19	791	110	280	200	200	249	147	396		
MSHS2131	125	100	ø60	6310x1	6310x2	15,18,5,22	1580	595	350	632	1250	950	150	30	520	480	4 - 19	870	110	300	230	230	260	147	407		

MODEL **DVS/NPVL** VERTICAL SUMP PIT PROCESS PUMP



APPLICATION

- Chemical industry, general industry, water treatment and other industry, etc
- Transportation of acidic, alkaline solutions, circulation pump for scrubber, spray pump for etching

FEATURES

- Simple design and easy handling by casing of vertical type and impeller is installed on lower part
- Structure connected with motor of upper part through the column pipe
- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy maintenance of pump with Non-Seal, No-Packing structure

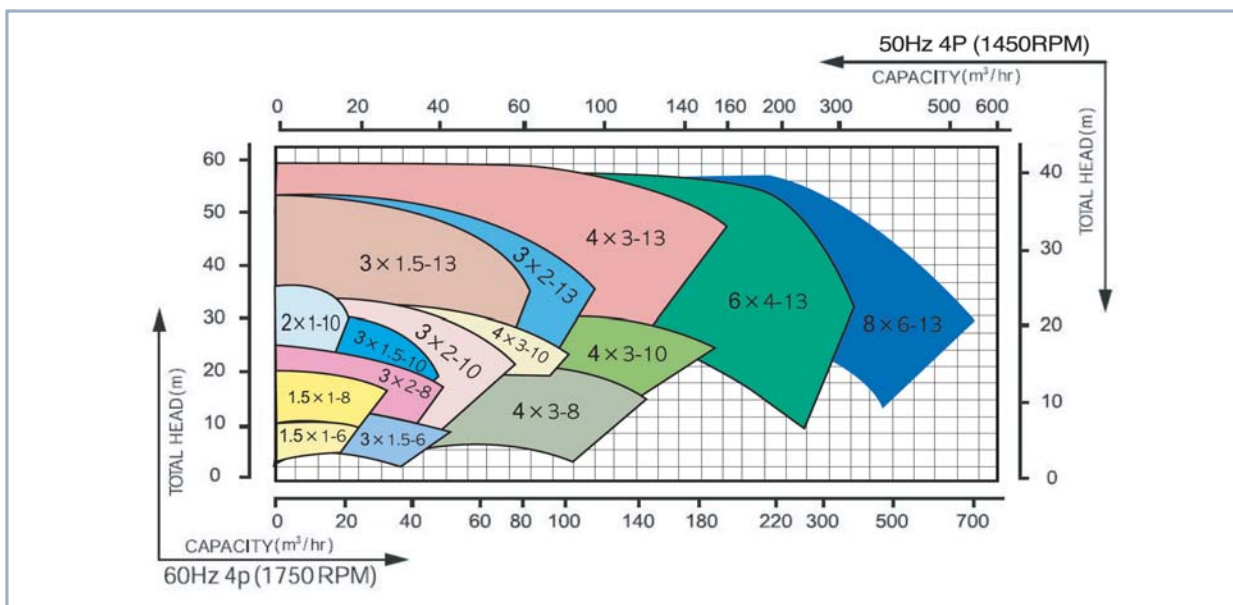
STANDARD SPECIFICATION

- Capacity : ~ 600 m³/hr
- Head : ~ 80 m
- Bore : $\varnothing 25 \sim \varnothing 250$
- Impeller type : Open
- Rotation : C.W (Viewed from drive end.)
- Shaft sealing : Non-Seal, No-Packing type

MATERIAL

- | | |
|-------------|--|
| DVS | <ul style="list-style-type: none"> • Cast Iron • Stainless Steel (304, 316, 316L) • Special alloy (ALLOY-20, HASTELLOY) |
| NPVL | <ul style="list-style-type: none"> • Hi-Dupolite material with high corrosion • Resistance and heat-resisting property (FRP, CFRP) |

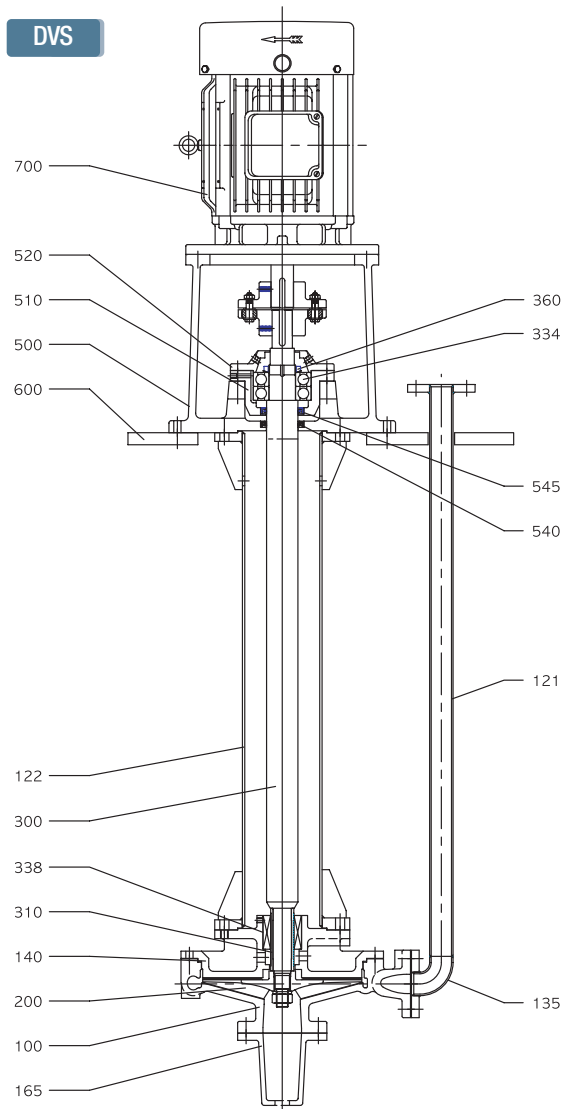
SELECTION CHART



MODEL DESIGNATION

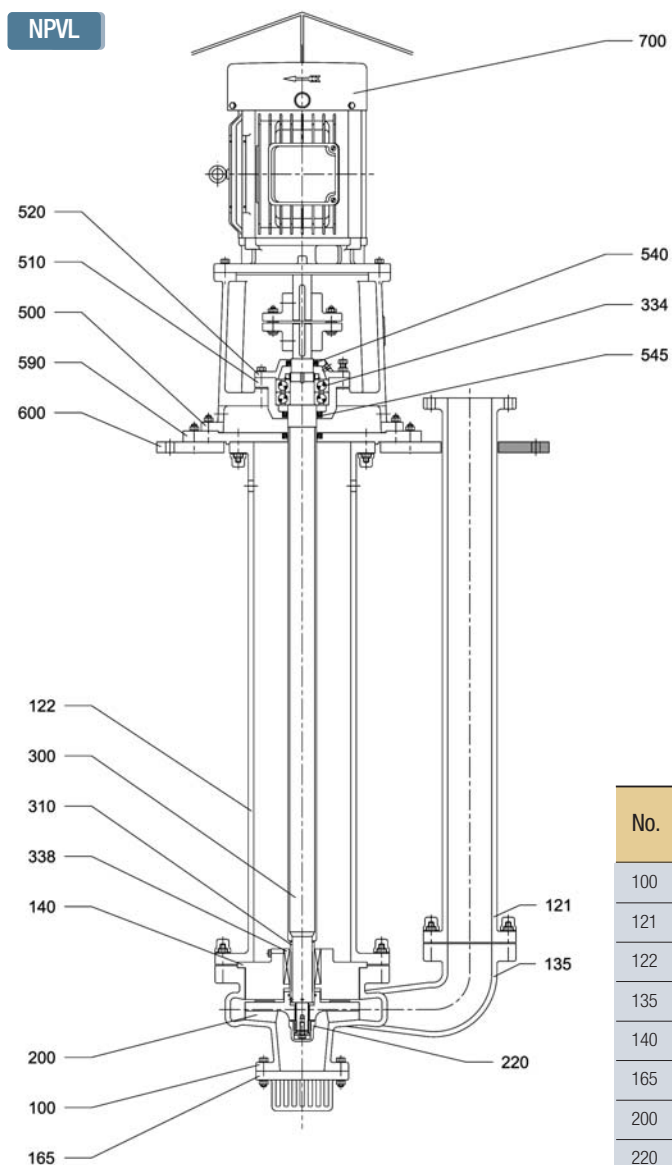


SECTIONAL DRAWING



No.	DESCRIPTION	Q'TY	MATERIAL	
			M1	M2
100	CASING COVER	1	GC200	SSC13
121	DISCHARGE PIPE	1	SGP	STS304
122	COLUMN PIPE	1	SGP	STS304
135	DISCHARGE ELBOW	1	SGP	STS304
140	CASING COVER	1	GC200	SSC13
165	STRAINER	1	GC200	SSC13
200	IMPELLER	1	GC200	SSC13
300	SHAFT	1	SM45C	STS304
310	SLEEVE	1	STS304	STS304
334	BEARING	2	STB2	STB2
338	METAL BUSH	1	CARBON	CARBON
360	BEARING NUT	1	SM25C	SM25C
500	BRACKET	1	GC200	GC200
510	BRG. HOUSING	1	GC200	GC200
520	BRG. COVER	1	GC200	GC200
540	OIL SEAL (BRACKET)	1	NBR	NBR
545	OIL SEAL (BRG. HOUSING)	1	NBR	NBR
600	BASE	1	SS400	SS400
700	MOTOR	1	-	-

SECTIONAL DRAWING



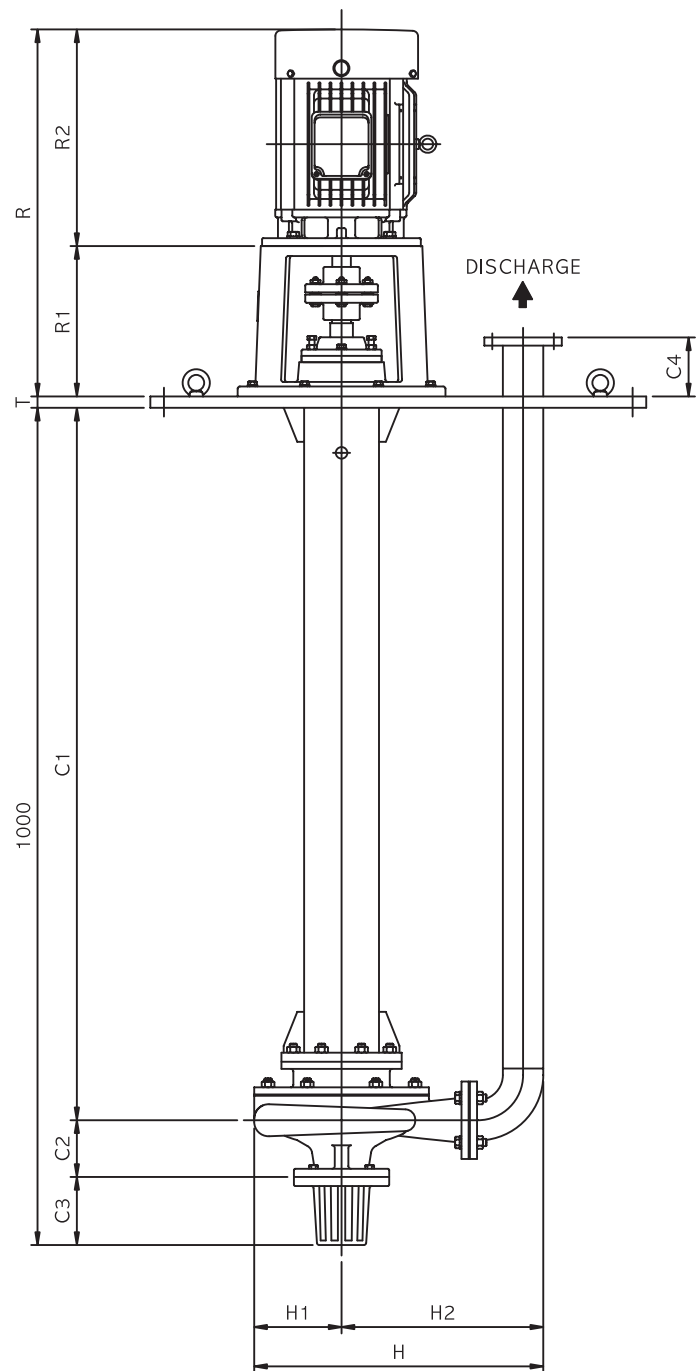
No.	NAME OF PARTS	Q'TY	MATERIAL	
100	CASING	1	FRP	CFRP
121	DISCHARGE PIPE	1	FRP	CFRP
122	COLUMN PIPE	1	FRP	CFRP
135	DISCHARGE ELBOW	1	FRP	CFRP
140	CASING COVER	1	FRP	CFRP
165	STRAINER	1	FRP	CFRP
200	IMPELLER	1	FRP	CFRP
220	IMPELLER NUT	1	P.P+SM45C	P.P+SM45C
300	SHAFT	1	STS304+FRP	STS304+FRP
310	SLEEVE	1	ALLOY-20	ALLOY-20
334	BEARING	2	STB2	STB2
338	METAL BUSH	1	CARBON	CARBON
500	BRACKET	1	GC200	GC200
510	BRG. HOUSING	1	GC200	GC200
520	BRG. COVER	1	GC200	GC200
540	OIL SEAL (BRG. COVER)	1	NBR	NBR
545	OIL SEAL (BRG. HOUSING)	1	NBR	NBR
590	BASE FLANGE	1	SS400+FRP	SS400+FRP
600	BASE	1	SS400+FRP	SS400+FRP
700	MOTER	1	-	-

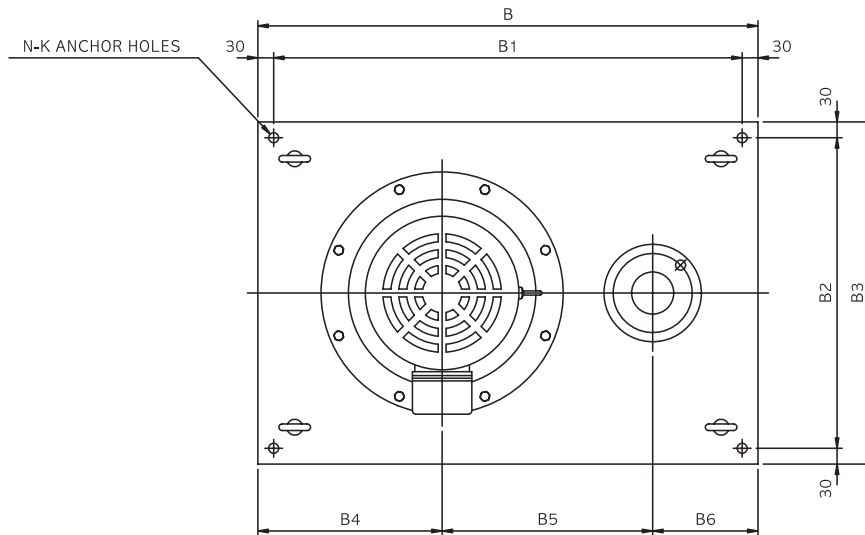
■ INSTALLATION PICTURES



OUTLINE DIMENSION DRAWING

DVS

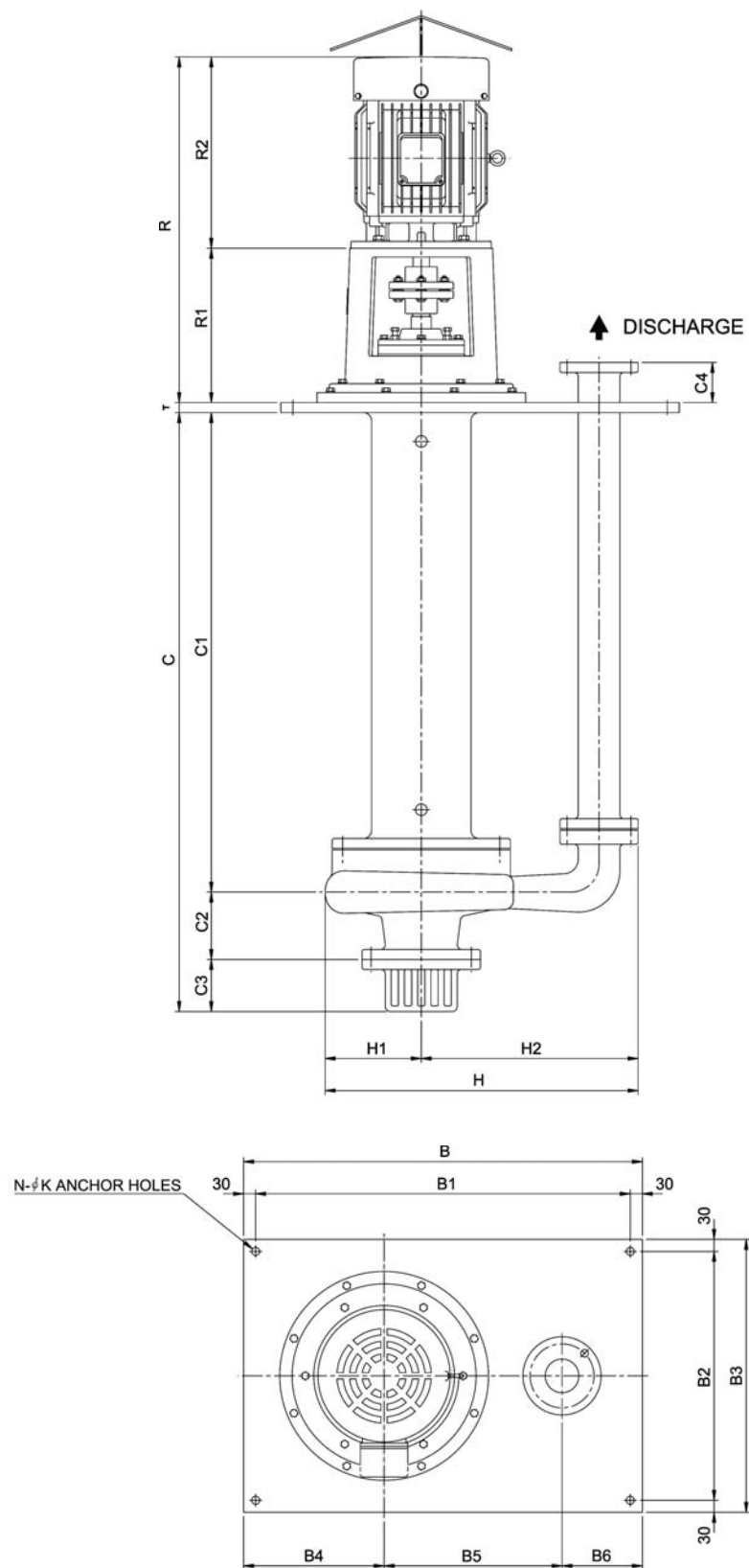




MODEL	BORE		POWER (kW)	PUMP & MOTOR											BASE PLATE									
	SUC.	DIS.		C1	C2	C3	C4	C	H1	H2	H	R1	R2	R	B	B1	B2	B3	B4	B5	B6	T	N- ØK	
DVS 1.5X1-6	-	25	1.5	750	100	150	150	1000	125	300	425	350	300	650	590	440	500	250	270	130	650	25	4-Ø15	
			2.2	750	100	150	150	1000	125	300	425	350	310	660	590	440	500	250	270	130	650	25	4-Ø15	
DVS 1.5X1-8	-	25	2.2	750	100	150	150	1000	140	310	450	350	310	660	640	490	550	260	280	160	700	25	4-Ø15	
			3.7	750	100	150	150	1000	140	310	450	350	330	680	640	490	550	260	280	160	700	25	4-Ø15	
DVS 3X1.5-6	-	40	2.2	750	100	150	150	1000	125	300	425	350	310	660	590	440	500	250	270	130	650	25	4-Ø15	
			3.7	750	100	150	150	1000	125	300	425	350	330	680	590	440	500	250	270	130	650	25	4-Ø15	
DVS 3X1.5-8	-	40	3.7	750	100	150	150	1000	140	310	450	350	330	680	640	490	550	260	280	160	700	25	4-Ø15	
			5.5	750	100	150	150	1000	140	310	450	350	390	740	640	490	550	260	280	160	700	25	4-Ø15	
DVS 2X1-10	-	25	5.5	750	100	150	150	1000	180	350	530	350	390	740	690	540	600	290	310	150	750	25	4-Ø15	
			7.5	750	100	150	150	1000	180	350	530	350	420	770	690	540	600	290	310	150	750	25	4-Ø15	
DVS 3X1.5-10	-	40	5.5	750	100	150	150	1000	180	350	530	350	390	740	690	540	600	290	310	150	750	25	4-Ø15	
			7.5	750	100	150	150	1000	180	350	530	350	420	770	690	540	600	290	310	150	750	25	4-Ø15	
DVS 3X1.5-13	-	40	11	750	100	150	150	1000	230	380	610	370	500	870	740	590	650	320	330	150	800	25	4-Ø15	
			15	750	100	150	150	1000	230	380	610	370	530	900	740	590	650	320	330	150	800	25	4-Ø15	
DVS 3X2-10	-	50	11	750	100	150	150	1000	200	380	580	380	500	570	790	640	700	310	330	210	850	25	4-Ø15	
			15	750	100	150	150	1000	200	380	580	380	530	900	790	640	700	310	330	210	850	25	4-Ø15	
DVS 3X2-13	-	50	15	750	100	150	150	1000	230	430	660	370	530	900	890	640	700	360	380	210	950	25	4-Ø19	
			18.5	750	100	150	150	1000	230	430	660	370	550	920	890	640	700	360	380	210	950	25	4-Ø19	
DVS 4X3-10	-	80	15	750	100	150	150	1000	200	440	640	370	530	900	840	590	650	330	370	200	900	25	4-Ø19	
			18.5	750	100	150	150	1000	200	440	640	370	550	920	840	590	650	330	370	200	900	25	4-Ø19	
DVS 4X3-13	-	80	18.5	750	100	150	150	1000	250	510	760	370	550	920	940	640	700	350	440	210	1000	25	6-Ø19	
			22	750	100	150	150	1000	250	510	760	370	560	930	940	640	700	350	440	210	1000	25	6-Ø19	
DVS 6X4-10	-	100	18.5	700	100	200	150	1000	250	590	840	370	550	920	990	670	750	355	505	190	1050	25	6-Ø19	
			22	700	100	200	150	1000	250	590	840	370	560	930	990	670	750	355	505	190	1050	25	6-Ø19	
DVS 6X4-13	-	100	30	700	100	200	150	1000	260	590	850	370	600	970	1040	740	800	375	505	190	1050	25	6-Ø19	
			37	700	100	200	150	1000	260	590	850	450	650	1100	1040	740	800	375	505	190	1050	25	6-Ø19	
DVS 8X6-13	-	150	45	650	150	200	150	1000	300	750	1050	450	650	1100	1290	840	900	420	650	250	1350	25	6-Ø19	
			55	650	150	200	150	1000	300	750	1050	450	780	1230	1290	840	900	420	650	250	1350	25	6-Ø19	

OUTLINE DIMENSION DRAWING

NPVL



MODEL	BORE		POWER (kW)	PUMP & MOTOR												BASE PLATE									
	SUC.	DIS.		C	C1	C2	C3	C4	H	H1	H2	R	R1	R2	B	B1	B2	B3	B4	B5	B6	T	N-ØK		
NPVL 2516	-	25	1.5	1000	800	100	100	100	580	200	380	645	330	315	750	690	490	550	280	300	170	24	4- Ø15		
			2.2	1000	800	100	100	100	580	200	380	676	330	346	750	690	490	550	280	300	170	24	4- Ø15		
NPVL 2525	-	25	3.7	1000	800	100	100	100	600	200	400	660	330	330	800	740	540	600	300	330	170	24	4- Ø15		
			5.5	1000	800	100	100	100	600	200	400	709	330	379	800	740	540	600	300	330	170	24	4- Ø15		
NPVL 4021	-	40	2.2	1000	800	100	100	100	580	200	380	676	330	346	750	690	490	550	280	300	170	24	4- Ø15		
			3.7	1000	800	100	100	100	580	200	380	660	330	330	750	690	490	550	280	300	170	24	4- Ø15		
NPVL 4025	-	40	3.7	1000	800	100	100	100	600	200	400	660	330	330	800	740	540	600	300	330	170	24	4- Ø15		
			5.5	1000	800	100	100	100	600	200	400	709	330	379	800	740	540	600	300	330	170	24	4- Ø15		
NPVL 4031	-	40	7.5	1000	800	100	100	100	680	230	450	747	330	417	900	840	590	650	340	360	200	24	4- Ø19		
			11	1000	800	100	100	100	680	230	450	864	390	474	900	840	590	650	340	360	200	24	4- Ø19		
NPVL 5021	-	50	2.2	1000	800	100	100	100	590	200	390	676	330	346	750	690	490	550	280	300	170	24	4- Ø15		
			3.7	1000	800	100	100	100	590	200	390	660	330	330	750	690	490	550	280	300	170	24	4- Ø15		
NPVL 5025	-	50	3.7	1000	800	100	100	100	610	200	410	660	330	330	800	740	540	600	300	330	170	24	4- Ø15		
			5.5	1000	800	100	100	100	610	200	410	709	330	379	800	740	540	600	300	330	170	24	4- Ø15		
NPVL 5031	-	50	7.5	1000	800	100	100	100	690	230	460	747	330	417	900	840	590	650	340	360	200	24	4- Ø19		
			11	1000	800	100	100	100	690	230	460	864	390	474	900	840	590	650	340	360	200	24	4- Ø19		
NPVL 6521	-	65	5.5	1000	800	100	100	100	620	200	420	709	330	379	800	740	540	600	300	330	170	24	4- Ø19		
			7.5	1000	800	100	100	100	620	200	420	747	330	417	800	740	540	600	300	330	170	24	4- Ø19		
NPVL 6525	-	65	7.5	1000	800	100	100	100	660	200	460	747	330	417	900	840	590	650	340	360	200	24	4- Ø19		
			11	1000	800	100	100	100	660	200	460	864	390	474	900	840	590	650	340	360	200	24	4- Ø19		
NPVL 6531	-	65	11	1000	780	120	100	100	700	230	470	864	390	474	900	840	590	650	340	360	200	24	4- Ø19		
			15	1000	780	120	100	100	700	230	470	908	390	518	900	840	590	650	340	360	200	24	4- Ø19		
NPVL 8025	-	80	7.5	1000	775	125	100	100	670	200	470	747	330	417	900	840	590	650	340	360	200	24	4- Ø19		
			11	1000	775	125	100	100	670	200	470	864	390	474	900	840	590	650	340	360	200	24	4- Ø19		
NPVL 8031	-	80	15	1000	770	130	100	100	700	230	470	908	390	518	950	890	640	700	350	380	220	24	4- Ø19		
			18.5	1000	770	130	100	100	700	230	470	927	390	537	950	890	640	700	350	380	220	24	4- Ø19		
NPVL 10025	-	100	11	1000	760	140	100	100	760	230	530	864	390	474	950	890	640	700	330	400	220	24	4- Ø19		
			15	1000	760	140	100	100	760	230	530	908	390	518	950	890	640	700	330	400	220	24	4- Ø19		
NPVL 10031	-	100	18.5/22	1000	760	140	100	100	720	230	490	927	390	537	1000	940	640	700	350	400	250	24	4- Ø19		
NPVL 12525	-	125	15	1000	720	140	140	100	830	230	600	908	390	518	1000	940	640	700	320	450	230	24	4- Ø19		
			18.5	1000	720	140	140	100	830	230	600	927	390	537	1000	940	640	700	320	450	230	24	4- Ø19		
NPVL 12531	-	125	22	1000	720	140	140	100	860	260	600	927	390	537	1100	1040	690	750	400	450	250	24	4- Ø19		
			30	1000	720	140	140	100	860	260	600	986	390	596	1100	1040	690	750	400	450	250	24	4- Ø19		
NPVL 15025	-	150	22	1000	700	160	140	100	910	260	650	927	390	537	1100	1040	690	750	350	500	250	24	4- Ø19		
			30	1000	700	160	140	100	910	260	650	986	390	596	1100	1040	690	750	350	500	250	24	4- Ø19		
NPVL 15030	-	150	30	1000	700	160	140	100	910	260	650	986	390	596	1100	1040	690	750	350	500	250	24	4- Ø19		
			37/45	1000	700	160	140	100	910	260	650	1096	445	651	1100	1040	690	750	350	500	250	24	4- Ø19		
NPVL 20030	-	200	45	1000	660	200	140	100	980	280	700	1096	445	651	1200	570	740	800	400	500	300	24	6- Ø19		
			55	1000	660	200	140	100	980	280	700	1117	445	672	1200	570	740	800	400	500	300	24	6- Ø19		

MODEL **DMN(A)P** SEALESS MAGNETIC-DRIVE PUMP



APPLICATION

Precision chemical industry, petrochemical industry, semi-conductor industry, etc

FEATURES

- No leakage : Perfect sealing by strong magnet coupling
- Saving cost for maintenance : Because there is no shaft sealing system the cost can be saved regarding sealing delivery and change
- Easier maintenance : Back Pull-Out structure
- Easier exchange of parts : It is easy to be delivered by localization and standardization of all parts

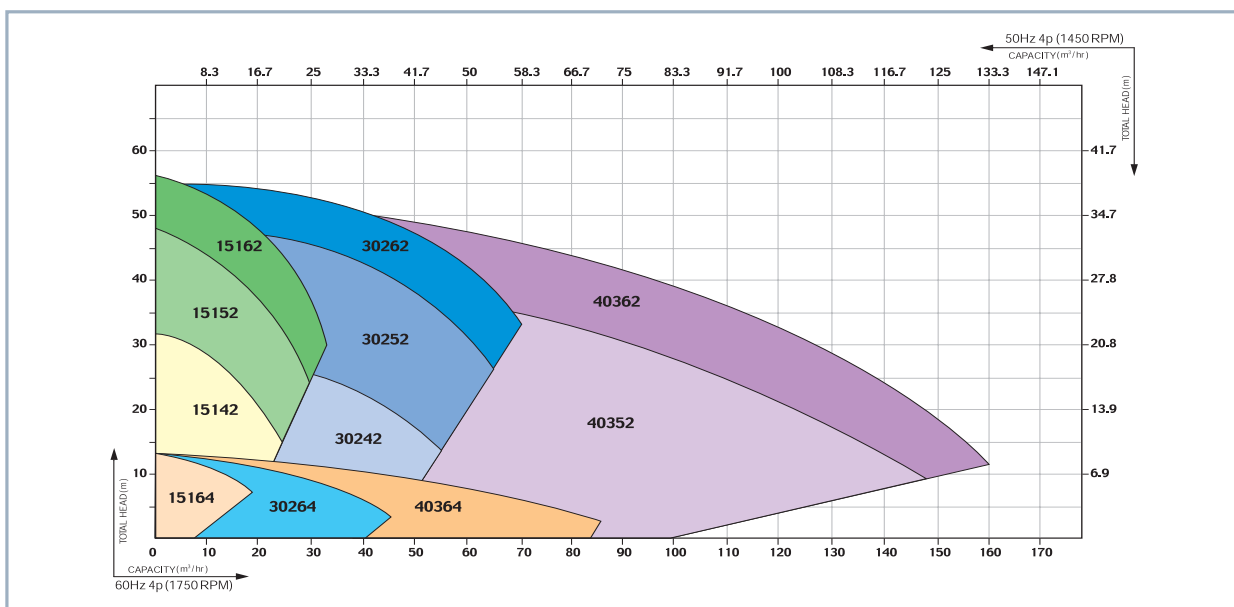
STANDARD SPECIFICATION

- Capacity : ~ 150 m³/hr
- Head : ~ 50 m
- Bore : Ø25 ~ Ø100
- Impeller type : Close
- Rotation : C.W (Viewed from drive end.)

MATERIAL

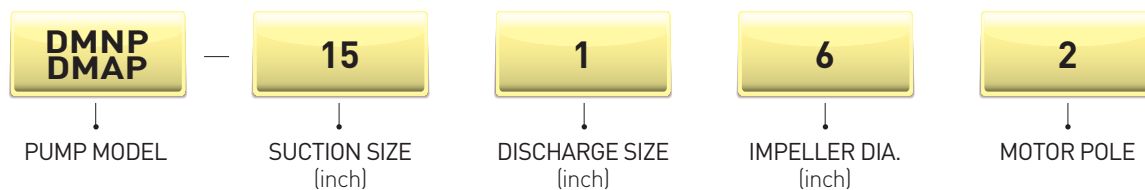
- Stainless Steel (304, 316, 316L)
- Special alloy (alloy-20, HASTELLOY, T : Titanium, etc)
- Engineering plastic (PVDF, ETFE, PP, etc)

SELECTION CHART



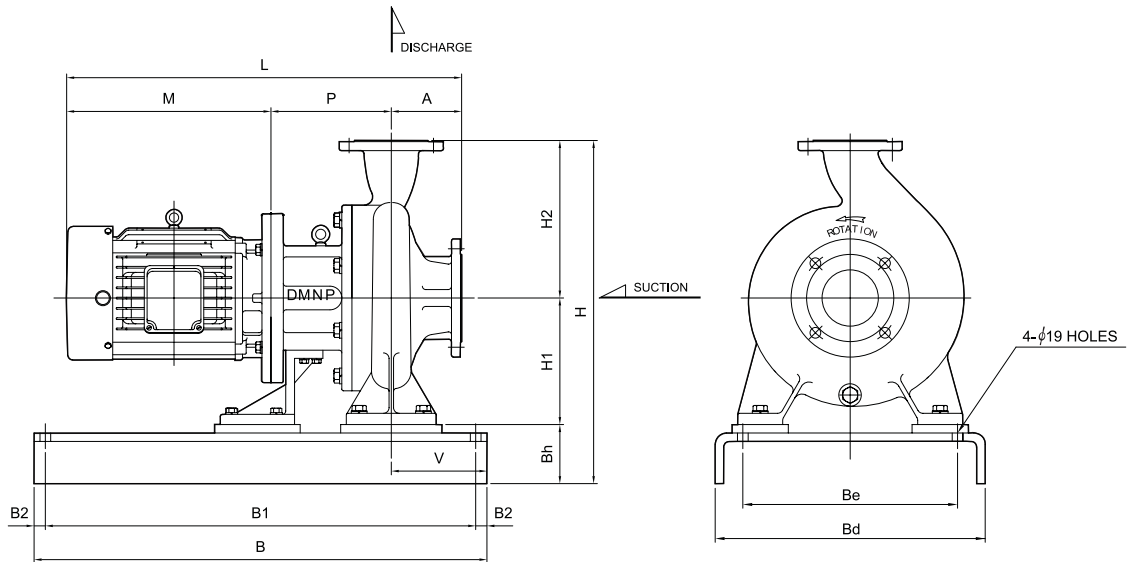
* Performance range shown on these chart are preliminary selection only

MODEL DESIGNATION



- DMNP : Non-metal PUMP
- DMAP : Metal PUMP

OUTLINE DIMENSION DRAWING



MODEL	BORE		MOTOR		PUMP & MOTOR DIMENSION							BASE PLATE DIMENSION						WEIGHT(Kg)						
	SUC.	DIS.	Kw	Pole	A	R	M	W	V	U	T	Ba	Bb	Bc	Bd	Be	Bh	PUMP	BASE	MOTOR				
DMNP-1514 -1515 -1516	40	25	0.75	4	100	180	259	539	120	240	404	550	510	20		250	180	105	45	24	30			
			1.5				310	590				600	560							26	32			
			2.2				190	330				620	650							610	28	52		
			3.7	2		210	382	692				700	660		300	230								
			5.5																				30	80
			7.5																					
DMNP-3024 -3025 -3026	80	50	1.5	4	100	180	310	590	120	325	535	600	560	20	380	300	115	65	37	32				
			2.2			190	345	635				650	6610						40	48				
			5.5	2		210	382	692				700	660						43	80				
			7.5			240	474	814				800	760						49	138				
			11																					
DMNP-4035 -4036	100	80	1.5	4	100	180	310	590	120	325	535	600	560	20	380	300	115	80	37	32				
			2.2			190	345	635				650	610						40	48				
			7.5	2		210	382	692				700	660						43	80				
			11			240	474	814				800	760						49	138				
			15				518	858				850	810						52	146				
			18.5																					

MODEL **NPVO** HI-DUPOLITE(FRP) VERTICAL NON-SEAL PUMP



APPLICATION

Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), dust collector, circulation · filtration · etching for plating solution, acid washing and hides dye house

FEATURES

- Hi-Dupolite material makes high corrosion resistance and heat-resisting property
- Complete standardization with precise forming of all parts
- Easy maintenance of pump with Non-Seal, No-Packing structure

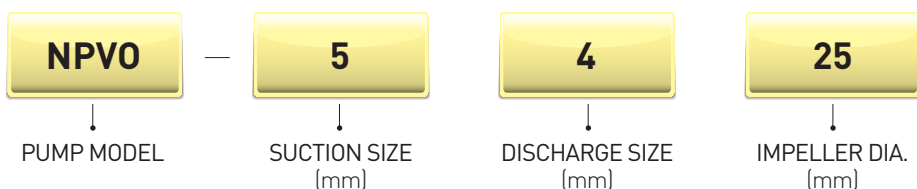
MATERIAL

Hi-Dupolite material with high corrosion resistance and heat-resisting property (FRP, CFRP)

STANDARD SPECIFICATION

- Capacity : ~ 450 m³/hr
- Head : ~ 50 m
- Bore : Ø25 ~ Ø250
- Impeller type : Open
- Rotation : C.W (Viewed from drive end.)

MODEL DESIGNATION



OUTLINE DIMENSION DRAWING

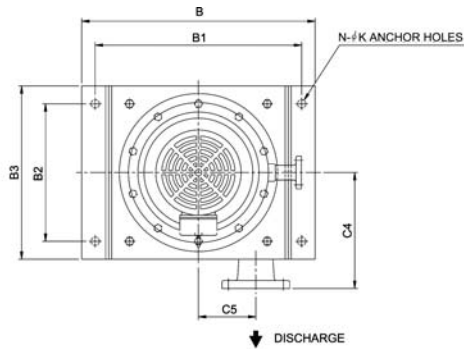


FIGURE I

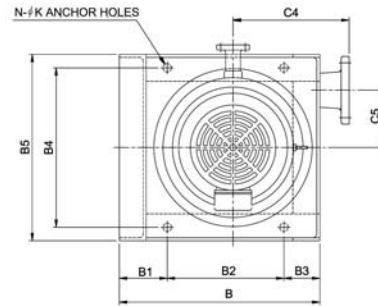
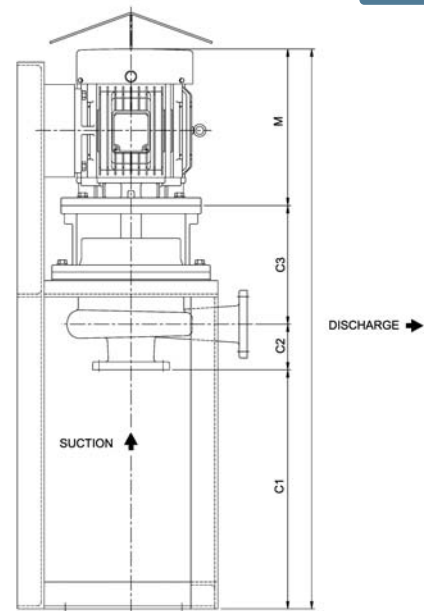
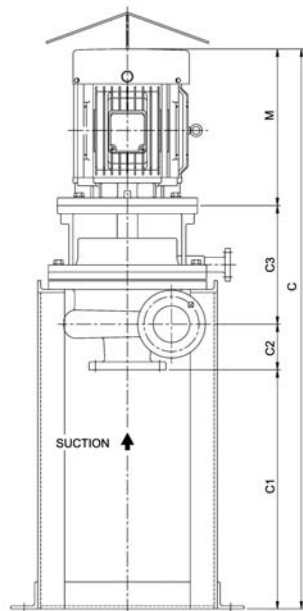
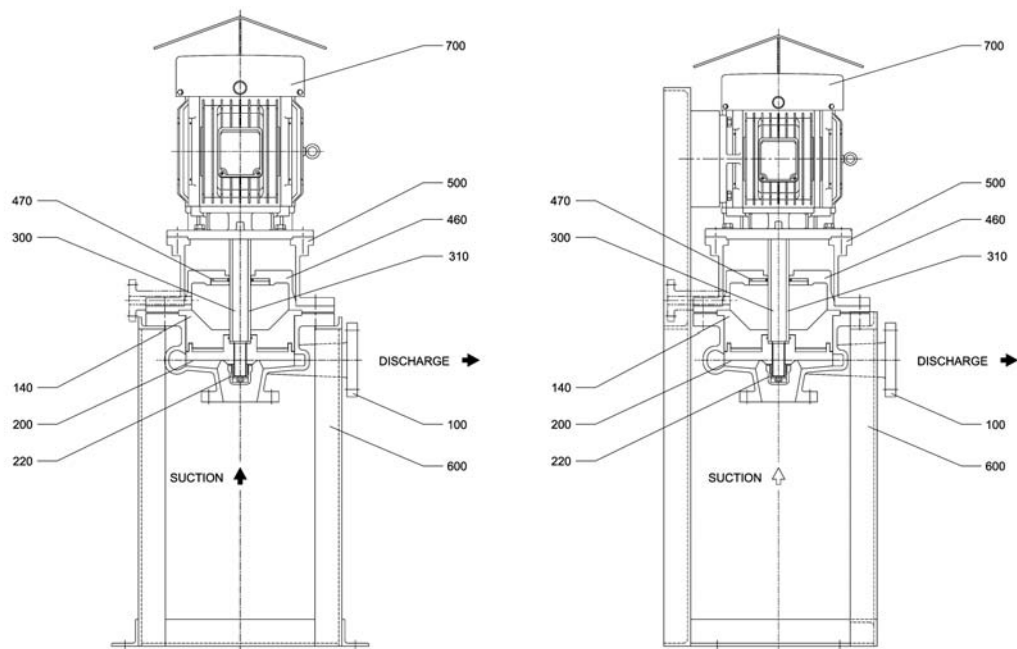


FIGURE II



MODEL	BORE		POWER (kW)	PUMP & MOTOR							BASE PLATE							비고
	SUC.	DIS.		C	C1	C2	C3	C4	C5	M	B	B1	B2	B3	B4	B5	N-ØK	
NPV04216	40	25	0.75	SPEC	SPEC	80	234	240	115	259	470	430	250	350	-	-	4-15	FIGURE 1
NPV04221	40	25	1.5	SPEC	SPEC	80	226	240	125	313	470	430	250	350	-	-	4-15	FIGURE 1
NPV04225	40	25	3.7	SPEC	SPEC	100	295	280	155	415	520	480	380	420	-	-	4-15	FIGURE 1
NPV05416	50	40	2.2	SPEC	SPEC	90	227	240	115	315	470	430	250	350	-	-	4-15	FIGURE 1
NPV05421	50	40	3.7	SPEC	SPEC	90	232	240	125	340	470	430	250	350	-	-	4-15	FIGURE 1
NPV05425	50	40	5.5	SPEC	SPEC	100	295	280	155	415	520	480	380	420	-	-	4-15	FIGURE 1
NPV06516	65	50	2.2	SPEC	SPEC	100	227	240	115	315	470	430	250	350	-	-	4-15	FIGURE 1
NPV06521	65	50	3.7	SPEC	SPEC	100	295	280	155	453	520	480	380	420	-	-	4-15	FIGURE 1
NPV06525	65	50	5.5	SPEC	SPEC	100	295	280	155	382	520	480	380	420	-	-	4-15	FIGURE 1
NPV08621	80	65	5.5	SPEC	SPEC	100	295	280	155	382	520	480	380	420	-	-	4-15	FIGURE 1
NPV08625	80	65	7.5	SPEC	SPEC	100	295	280	155	382	520	480	380	420	-	-	4-15	FIGURE 1
NPV01825	100	80	11	SPEC	SPEC	125	290	280	155	550	495	115	280	100	360	420	4-19	FIGURE 2
NPV02125	125	100	15	SPEC	SPEC	140	280	280	155	536	495	115	280	100	360	420	4-19	FIGURE 2
NPV05221	150	125	18.5	SPEC	SPEC	140	292	280	155	536	495	115	280	100	360	420	4-19	FIGURE 2

SECTIONAL DRAWING



No.	NAME OF PARTS	Q'TY	MATERIAL	
			M1	M2
100	CASING	1	FRP	CFRP
140	CASING COVER	1	FRP	CFRP
200	IMPELLER	1	FRP	CFRP
220	IMPELLER NUT	1	PP+SM45C	PP+SM45C
300	SHAFT	1	STS304	STS304
310	SLEEVE	1	FRP	CFRP
460	CHAMBER	1	FRP	CFRP
470	EXPELLER	1	FRP	FRP
500	BRACKET	1	SS400	SS400
600	BASE	1	SS400	SS400
700	MOTOR	1	-	-

MODEL NPVP PERMANENT PECULIAR SEAL PUMP



APPLICATION

Transportation of various chemicals (Hydrochloric acid, sulphuric acid, ferric Chloride, chromate, Hydrofluoric acid and alkaline solutions, etc), wastewater treatment facilities, dust collector, circulation filtration etching for plating solution, acid washing and hides dye house

FEATURES

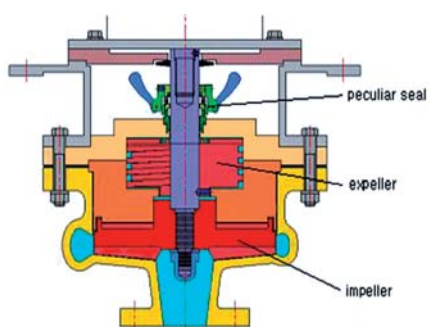
- Solving the installation problem by using special seal
- Saving cost for maintenance due to permanent use of the mechanical seal
- Special parts make no leakage during driving structure

MATERIAL

- Hi-Dupolite material with high corrosion resistance and high heat-resisting property (FRP, CFRP)
- Stainless Steel (304, 316, 316L)

STANDARD SPECIFICATION

- Capacity : ~ 300 m³/hr
- Head : ~ 50 m
- Bore : Ø25 ~ Ø150
- Impeller type : Open
- Rotation : C.W (Viewed from drive end.)
- Expeller & Peculiar Seal : Patent of invention

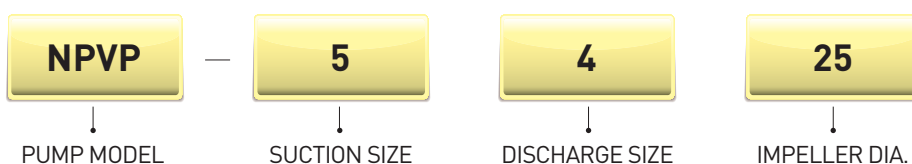


Peculiar Seal



Expeller

MODEL DESIGNATION





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