



P U M P S & M O T O R S



STAINLESS STEEL CENTRIFUGAL PUMPS
STAINLESS STEEL HORIZONTAL MULTISTAGE PUMPS

ALSO AVAILABLE





APPLICATIONS

Spray Irrigation systems, hydro pneumatic sets & industrial installations.

GENERAL INTRODUCTION

HMX Horizontal Stainless Steel centrifugal pump, manufactured by adopted advanced Denmark technology. The pump uses advanced design, for high efficiency and to save power. Pump works smoothly with low noise levels. The quality of this product is dependable, good appearance, light, and easy for transport and install. It's an ideal pump of green and environment protection.

MATERIAL

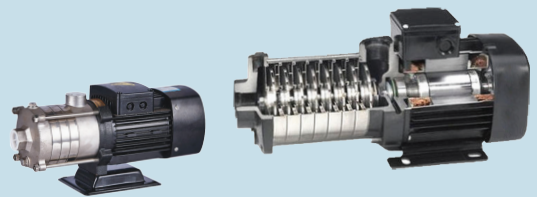
- Pump body, external casing, casing covers, impeller, diffusers, bearing sleeve, coupling guard, bolts and nuts in contact with liquid will be SS 304 for HMX models.
- Pump body, external casing, casing covers, impeller, diffusers, bearing sleeve, coupling guard, bolts and nuts in contact with liquid will be SS 316 for HMX L models.
- Tie rod, nuts bolts which is not in contact will be in zinc coated steel.
- Shaft in SS 316
- Bracket and base in CI

TYPICAL APPLICATION

- Urban water supply and water boosting
- Industrial circulating system and processing system
- Water supply for boiler/ condensate systems
- Environmental protection water treatment and in filtration systems
- Agriculture irrigation and dewatering
- Industrial building cleaning and other washing applications
- Other Industrial and domestic applications

HMX

Close-coupled complete pump with special motor, Ip55 protection, F class insulation.



SCOPE OF APPLICATION

- Common type is applicable for liquid conveying, circulation and boosting of hot and cold clean water, soft water.
- Stainless steel type is also used for water with tiny content of alkali, mineral, distilled water, water for swimming pool and solution with chloride, but the allowed temperature of the liquid need to be reduced.

WORKING CONDITIONS

- Hot and cold clean, non-flammable, non-explosive liquid, without solid grain and fiber.
- Liquid temperature: ambient temperature – $15^{\circ}\text{C}\sim+70^{\circ}\text{C}$, hot-water $+70^{\circ}\text{C}\sim+120^{\circ}\text{C}$ (On request)
- Highest environmental temperature : $+40^{\circ}\text{C}$
- Min inlet pressure:- According to NPSH curve +min safe delivery 0.5m water head

EXPLANATION TO PERFORMANCE CURVE AND TABLE

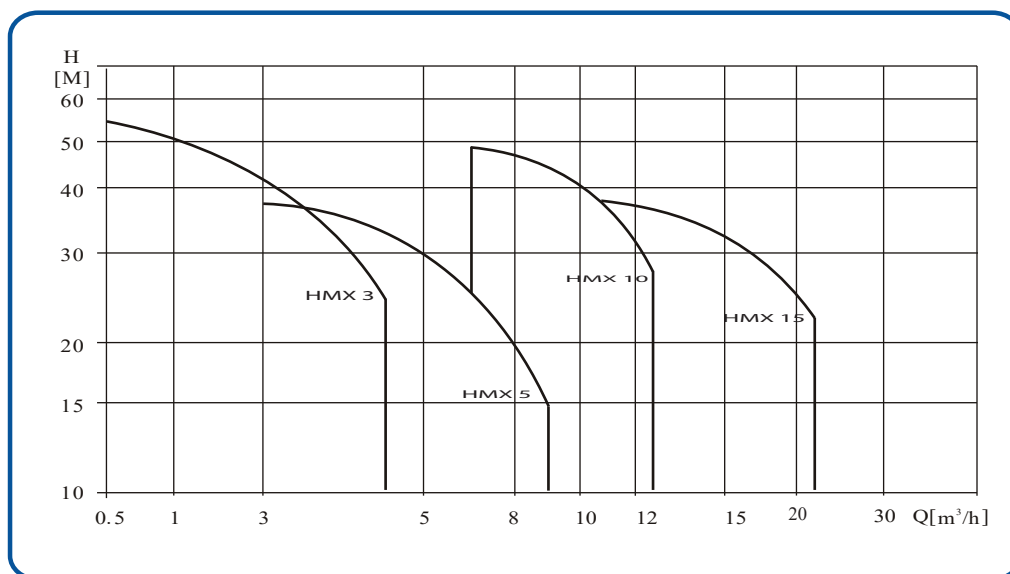
- All the performance curves are based on the measured values of the motor 3x 380, 50 Hz under constant speed of 2900 r/min. The motor is VFD compatible
- Measurement is done on the basis of : 20°C water in free air, dynamic viscosity $\mu=1 \text{ mm}^2/\text{sec}$; tolerance refers to attachment B of ISO 2584.

HMX SERIES

- HMX 3
- HMX 5
- HMX 10
- HMX15



GENERAL PERFORMANCE



CURVE CONDITIONS

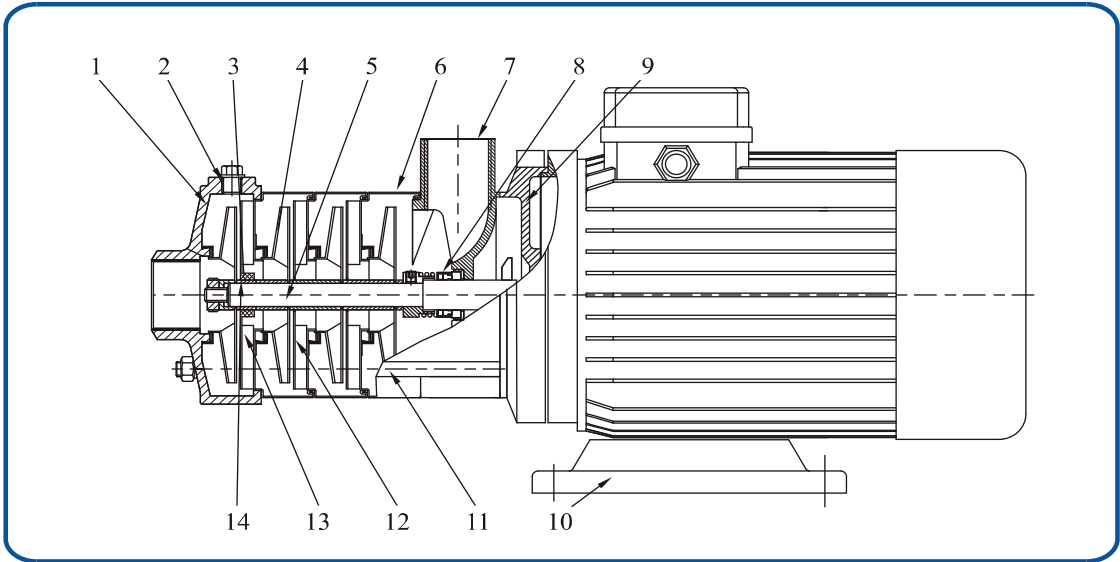
Following conditions are suitable for the performance curve shown above

- All the performance curves are based on the measured value of a motor at a constant speed of 2900 r/m
- Curve tolerance in conformity with ISO 9906, appendix A
- Measurement is done with 20°C air-free water, kinematic viscosity of 1mm²/sec.
- The operation of pump shall refer to the performance region described by thickened curve to prevent overheating due to too small flow rate or overload of motor due to too large flow rate.

PERFORMANCE RANGE

Type	HMX 3	HMX 5	HMX 10	HMX 15
Rated flow(m³/h)	3	5	10	15
Flow range(m³/h)	1~3.5	1.5~8	5~12	8~22
Max.pressure(bar)	5.5	4	5	4
Motor power(kW)	0.37~0.75	0.37~0.75	0.75~2.2	2.2~3
Temperature range(°C)	-15°C~+110°C			
Max.efficiency(%)	46	59	64	70

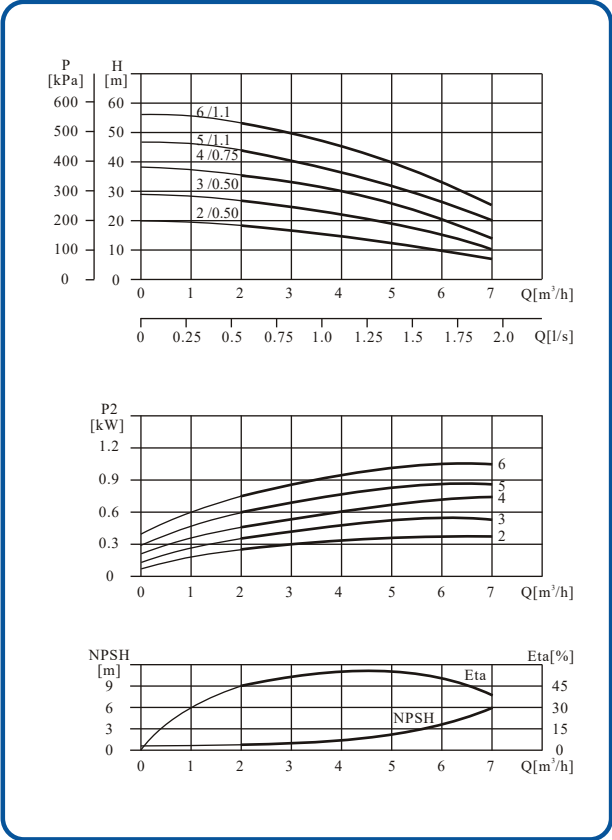
SECTION DIAGRAM OF HMX



MATERIAL OF HMX

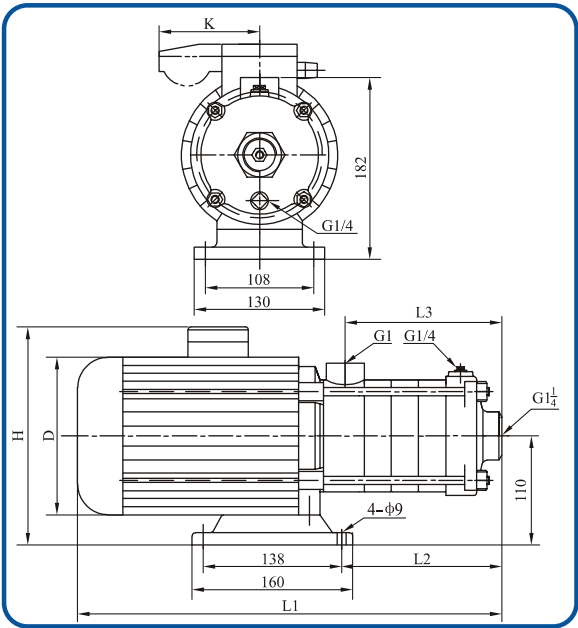
NO.	Name	Material	AISI/ASTM
2	Gag	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
6	Water-out guide vane	Stainless steel	AISI304
8	Mechanical seal		
9	Motor end cover	Aluminum alloy	
10	Base frame	Cast iron	ASTM25B
11	Pull-rod	Stainless steel	AISI304
12	Guide vane	Stainless steel	AISI304
13	Support guide vane	Stainless steel	AISI304
14	Impeller separating sleeve	Stainless steel	AISI304
1	Water-in body	Stainless steel	AISI304
7	Water-out body	Stainless steel	AISI304
1	Water-out body	Cast iron	ASTM25B
7	Water-out body	Cast iron	ASTM25B

Performance curve



HMX 5

Installation sketch



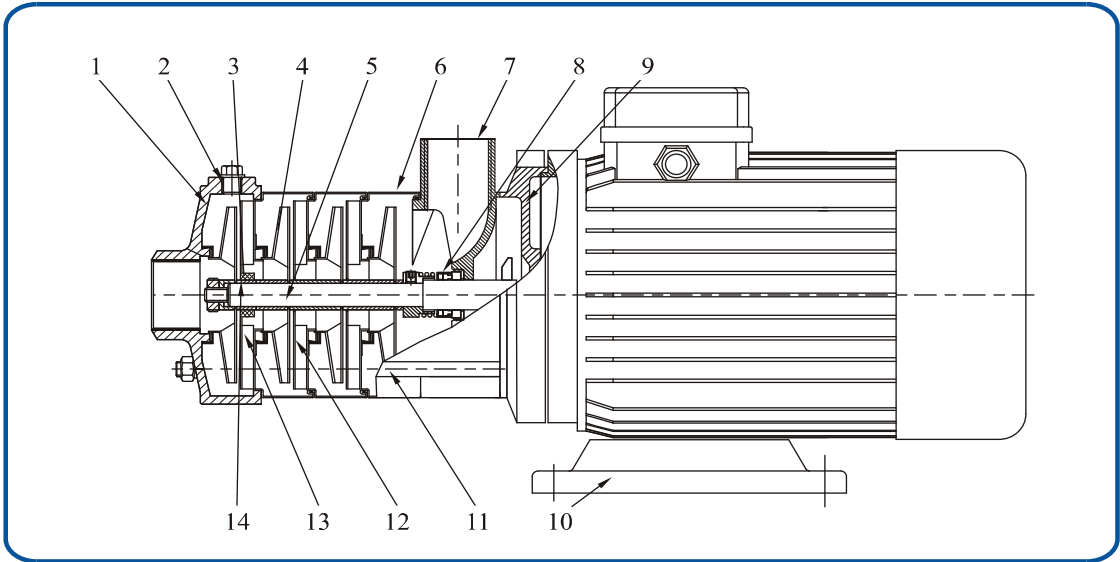
Size and weight

Motor	Model	L1(mm)	L2(mm)	L3(mm)	D(mm)	H(mm)	K(mm)	Weight (kg)
Three-phase/ single-phase	HMX 5-2	329	105	102	145	215/230	/96	15
	HMX 5-3	356	132	129	145	215/230	/96	15
	HMX 5-4	416	162	156	170	225/245	/100	17
	HMX 5-5	455	188	183	170	225/245	/100	17
	HMX 5-6	482	213	210	170	225/245	/100	17

Performance table

Model	Motor	Q(m³/h)	1	2	3	4	5	6	7
HMX 5-2	0.55	H (m)	19	18	16	15	13	10	7
HMX 5-3	0.55		28	27	24	22	19	15	10
HMX 5-4	0.75		38	36	32	30	26	20	14
HMX 5-5	1.1		46	44	41	38	32	26	20
HMX 5-6	1.1		55	53	50	45	37	31	26

SECTION DIAGRAM OF HMX

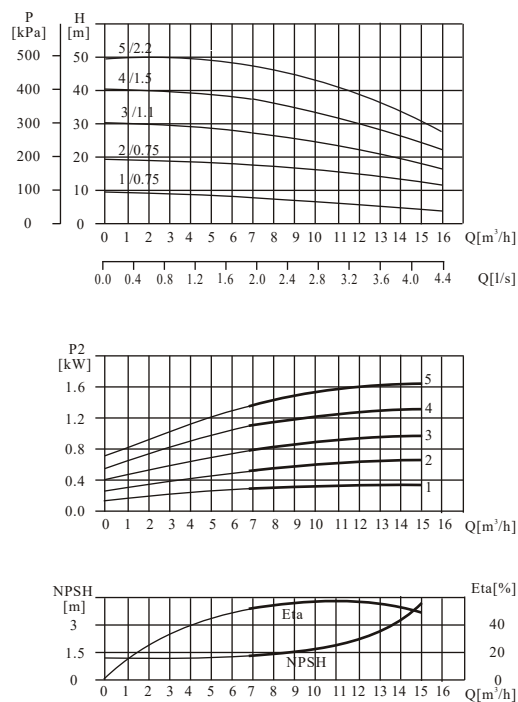


MATERIAL OF HMX

NO.	Name	Material	AISI/ASTM
2	Gag	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
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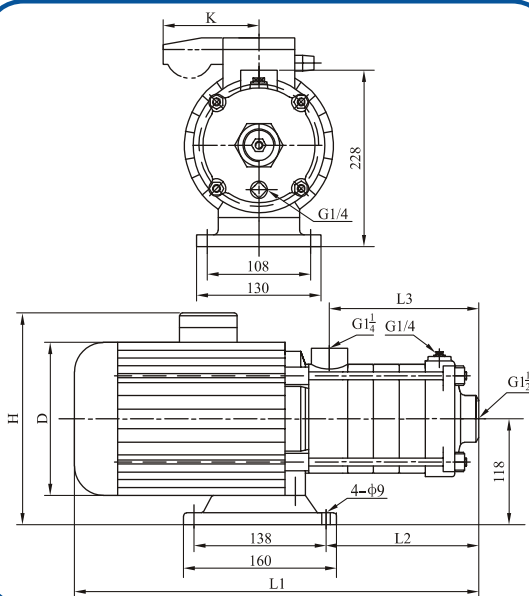


Performance curve



HMX 10

Installation sketch



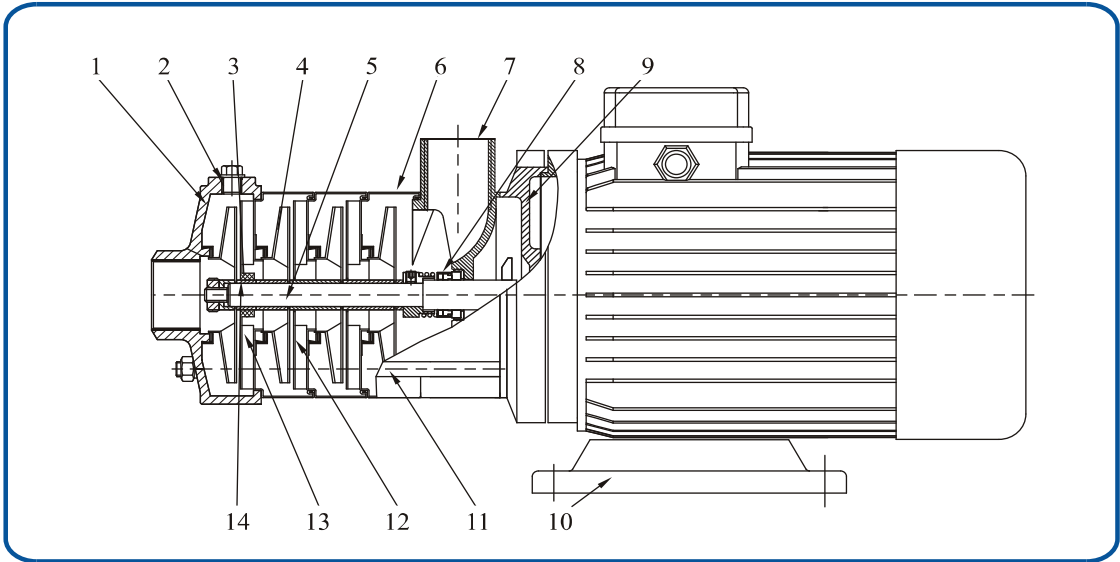
Size and weight

Motor	Model	L1(mm)	L2(mm)	L3(mm)	D(mm)	H(mm)	K(mm)	Weight (kg)
Three-phase/ single-phase	HMX10-1	395	126	108	170	230/252	/100	20
	HMX10-2	395	126	108	170	230/252	/100	20
	HMX10-3	425	156	138	170	230/252	/100	25
	HMX10-4	490	186	168	180	240/260	/100	28
	HMX10-5	520	216	198	180	240/260	/100	30

Performance table

Model	Motor	Q(m ³ /h)	4	6	8	10	12	14	16
HMX10-1	0.75	H (m)	9.5	9.3	9	8.5	7.5	6.5	5.5
HMX10-2	0.75		19	18.5	18	17	15	13	11
HMX10-3	1.1		29	28	27	25.5	22.5	20	17.5
HMX10-4	1.5		39	38	36	34	30	26.5	22.5
HMX10-5	2.2		49	47	45	42.5	38	33.5	28

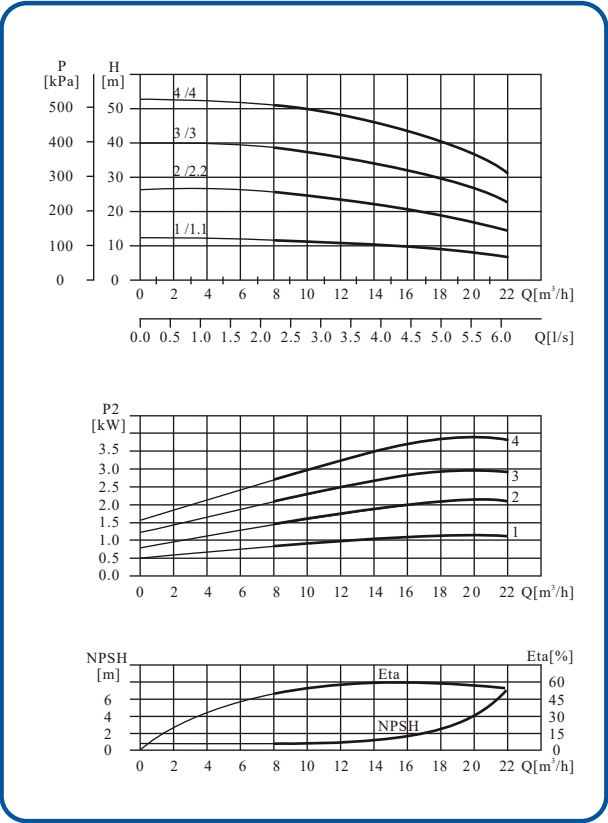
SECTION DIAGRAM OF HMX



MATERIAL OF HMX

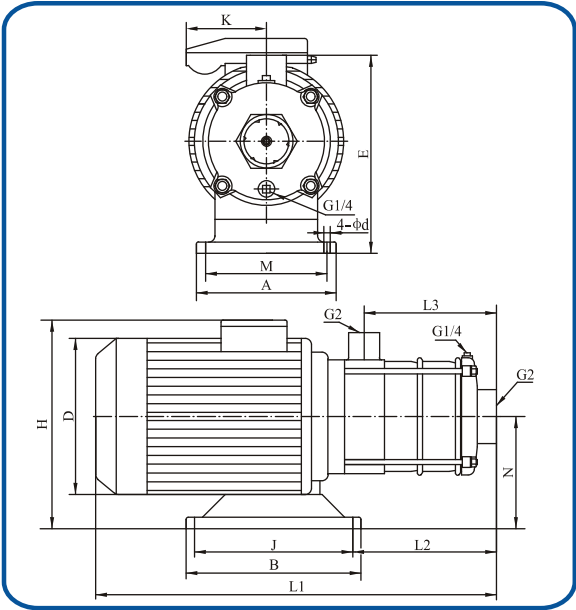
NO.	Name	Material	AISI/ASTM
2	Gag	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
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1	Water-out body	Cast iron	ASTM25B
7	Water-out body	Cast iron	ASTM25B

Performance curve



HMX 15

Installation sketch



Size and weight

Motor	Model	Size(mm)													Weight (kg)
		L1	L2	L3	H	D	E	N	A	M	B	J	d	K	
Three-phase/ single-phase	HMX 15-1	423	151	126	230/265	180	227	117	130	108	160	138	9	/100	17.5
	HMX 15-2	455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	HMX 15-3	561	196	171	270/	195	240	130	130	108	160	138	9		33
	HMX 15-4	621	339	216	270/	220	230	120	230	190	190	140	12		41

Performance table

Model	Motor	Q(m³/h)	8	10	12	14	16	18	20	22
HMX 15-1	1.1	H (m)	12.5	12	11.5	10.5	10	9	7.5	6.5
HMX 15-2	2.2		25.5	24	23	22	21	19	17	14.5
HMX 15-3	3		38.5	37	36	34	32	30	27	23
HMX 15-4	4		51.5	50.5	49	46	43	40.5	36	31.5



LOAD LOSSES TABLE

LOAD LOSSES (PC) IN METERS (COLUMN OF WATER) FLOW RATE (V M/S)

Capacity		Internal diameter in mm																											
		25	32	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400	450	500	600	700	800	900	1000		
3	Pc% Vm/s	17 1.70	6 1.03	1.6 0.67	0.54 0.43	0.25 0.22	0.13 0.16	0.06 0.13	0.03 0.13	0.02 0.10																			
6	Pc% Vm/s		24 2.06	6 1.34	2 0.85	0.9 0.58	0.43 0.44	0.21 0.32	0.13 0.26	0.08 0.20	0.026 0.13																		
9	Pc% Vm/s			12.5 2.08	4.3 1.32	1.8 0.89	0.9 0.65	0.46 0.5	0.25 0.39	0.15 0.32	0.06 0.20																		
12	Pc% Vm/s			20 2.76	7 0.76	32 1.19	1.5 0.88	0.75 0.67	0.44 0.53	0.25 0.43	0.09 0.27	0.03 0.18																	
15	Pc% Vm/s				12 2.2	5.2 1.49	2.4 1.1	1.25 0.87	0.7 0.66	0.42 0.54	0.15 0.34	0.06 0.24																	
18	Pc% Vm/s				17 2.64	7 1.78	3.5 1.3	1.7 1	1 0.78	0.6 0.64	0.2 0.4	0.08 0.28																	
21	Pc% Vm/s				22 3.35	8.8 2.08	4.2 1.54	2.2 1.17	1.3 0.93	0.75 0.75	0.26 0.48	0.1 0.32	0.05 0.24																
24	Pc% Vm/s					12 2.38	5.7 1.76	3 1.34	1.7 1.06	1 0.86	0.36 0.54	0.14 0.36	0.07 0.28																
27	Pc% Vm/s					14 2.7	7 1.97	3.5 1.45	2 1.17	1.25 0.96	0.42 0.6	0.17 0.42	0.08 0.31																
30	Pc% Vm/s					17 2.98	8.2 2.2	4.2 1.74	2.5 1.32	1.5 1.08	0.5 0.68	0.2 0.48	0.09 0.34																
36	Pc% Vm/s					25 3.58	12 2.63	6.3 2	3.5 1.58	2 1.28	0.75 0.52	0.3 0.57	0.14 0.42	0.07 0.32															
42	Pc% Vm/s						16 3.07	8.5 2.34	4.5 1.85	2.7 1.5	0.85 0.96	0.33 0.66	0.18 0.48	0.08 0.37															
48	Pc% Vm/s						21 3.51	10 2.68	6 2.12	3.6 1.75	1.2 1.08	0.45 0.72	0.22 0.56	0.12 0.43	0.06 0.37														
54	Pc% Vm/s						25 3.94	13.5 3	7.6 2.34	4.5 1.92	1.5 1.2	0.55 0.84	0.28 0.63	0.14 0.48	0.08 0.38														
60	Pc% Vm/s							16 3.32	9 2.64	5.5 2.16	1.8 1.36	0.7 0.96	0.33 0.68	0.17 0.53	0.1 0.42														
75	Pc% Vm/s							24 4.17	14 3.31	8 2.68	2.76 1.72	1 1.18	0.48 0.87	0.24 0.67	0.14 0.53	0.08 0.43													
90	Pc% Vm/s								20 3.97	12.5 3.24	3.8 2.04	1.45 1.44	0.74 1.02	0.36 0.8	0.2 0.63	0.14 0.51	0.08 0.42												
105	Pc% Vm/s								26 4.6	16.5 3.74	5.3 2.41	1.95 1.66	0.9 1.22	0.47 0.93	0.27 0.74	0.16 0.59	0.1 0.49												
120	Pc% Vm/s								21.5 4.31	6.9 4.72	2.6 1.93	1.2 1.35	0.61 1.06	0.36 0.84	0.2 0.68	0.14 0.56	0.08 0.47												
135	Pc% Vm/s								26 4.81	9 1.07	3.3 2.43	1.5 1.56	0.76 1.19	0.45 0.95	0.25 0.76	0.17 0.63	0.1 0.53												
150	Pc% Vm/s									11 3.44	4 2.36	1.9 1.74	0.95 1.34	0.55 1.05	0.3 0.86	0.21 0.70	0.12 0.59	0.06 0.43											
165	Pc% Vm/s									13 3.75	4.7 2.61	2.2 1.94	1.13 1.46	0.65 1.15	0.37 0.94	0.24 0.77	0.15 0.65	0.08 0.48											
180	Pc% Vm/s									15.2 4.09	5.5 2.83	2.6 2.08	1.3 1.59	0.76 1.26	0.43 1.02	0.29 0.84	0.18 0.71	0.09 0.52											
210	Pc% Vm/s									21 4.70	7.4 3.32	3.5 2.43	1.8 1.86	1.1 1.49	0.6 1.19	0.37 0.98	0.24 0.82	0.12 0.61	0.06 0.47										
240	Pc% Vm/s										9.4 3.78	4.3 2.77	2.3 2.12	1.3 1.68	0.75 1.36	0.48 1.12	0.3 0.95	0.15 0.69	0.08 0.53										
270	Pc% Vm/s										12 4.26	5.5 3.13	2.8 2.39	1.62 1.90	0.9 1.53	0.58 1.26	0.35 1.07	0.18 0.59	0.09 0.59										
300	Pc% Vm/s										14 4.75	7.5 3.47	3.4 2.66	2 2.10	1.1 1.71	0.74 1.40	0.46 0.18	0.22 0.86	0.11 0.67	0.07 0.53									
360	Pc% Vm/s											9 4.15	4.7 3.17	2.8 2.53	1.6 2.04	1 1.68	0.65 1.41	0.32 1.04	0.16 0.79	0.09 0.63	0.05 0.51								
420	Pc% Vm/s											11.6 4.86	6.2 3.72	3.5 2.94	2 2.37	1.3 1.96	0.82 1.64	0.41 1.22	0.21 0.94	0.12 0.76	0.07 0.59	0.03 0.41							
480	Pc% Vm/s												8.5 4.24	4.9 3.36	2.9 2.72	1.9 2.24	1.2 1.90	0.6 1.36	0.3 1.06	0.17 0.84	0.09 0.69	0.04 0.47							
540	Pc% Vm/s												14 4.78	6.5 3.80	3.7 3.06	2.35 2.52	1.52 2.13	0.75 1.56	0.38 1.19	0.22 0.94	0.12 0.76	0.05 0.53							
600	Pc% Vm/s												12.2 5.30	7.4 4.20	4.3 3.40	2.7 2.81	1.7 2.36	0.9 1.73	0.45 1.34	0.25 1.06	0.13 0.86	0.055 0.61	0.024 0.44						
660	Pc% Vm/s													9 4.61	5.2 3.76	3.3 3.07	2.1 2.59	1.1 1.89	0.54 1.46	0.3 0.15	0.16 0.93	0.06 0.65	0.03 0.48						
720	Pc% Vm/s													10 5.05	6 4.08	3.8 3.37	2.5 2.84	1.3 2.08	0.62 1.65	0.35 1.26	0.19 1.02	0.075 0.71	0.035 0.52						
780	Pc% Vm/s														7.3 4.43	4.5 3.65	3 3.08	1.5 2.26	0.75 1.73	0.42 1.36	0.23 1.11	0.08 0.77	0.04 0.56						
840	Pc% Vm/s															8 4.76	5.4 3.95	3.4 3.31	1.7 2.43	0.85 1.86	0.48 1.47	0.26 1.19	0.1 0.83	0.047 0.61					
900	Pc% Vm/s																9 5.1	5.8 4.22	3.75 3.54	1.9 2.60	0.96 2.00	0.53 1.57	0.29 1.27	0.11 0.88	0.053 0.65				
960	Pc% Vm/s																	6.5 4.49	4.3 3.78	2.1 2.77	2.13 2.13	0.6 1.68	0.32 1.36	0.12 0.95	0.06 0.70				
1020	Pc% Vm/s																	7.2 4.6	4.6 4.01	2.45 2.94	2.12 2.26	0.67 1.78	0.35 1.44	0.14 1.00	0.073 0.77	0.033 0.54			
1080	Pc% Vm/s																		5.4 4.26	2.8 3.12	1.4 2.38	0.78 1.86	0.43 1.53	0.16 1.06	0.073 0.78	0.037 0.57			
1140	Pc% Vm/s																		6 4.49	3.2 3.29	1.53 2.53	0.86 1.99	0.45 1.65	0.175 1.12	0.08 0.84	0.043 0.61	0.037 0.52		
1200	Pc% Vm/s																		6.5 4.72	3.4 3.45	1.7 2.12	0.93 1.72	0.5 0.63	0.19 0.98	0.09 0.98	0.046 0.63	0.04 0.54	0.025 0.4	

Discharge diameter
Suction diameter diameter

NOTES



NOVAX PUMPS & MOTORS INDUSTRIES

Part of Nema Group

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