Contents

Norm, Multistage and Split Case Pumps

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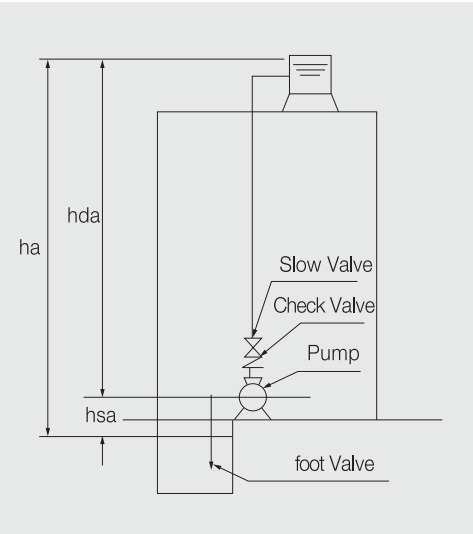
1. Total head selection

Total head(H) is calculated by summing up the required pressure for delivering the fluid from suction side to discharge side and kinetic energy and loss.



H=ha+hp+hv+hf+hx

H=Total Head
ha:Actual height
hda:Actual height of discharge side
hsa:Actual height of suction side(for input pressure, it becomes negative value)
hp:Pressure head (For open tank, it becomes zero as it is an at mospheric pressure)
hf:Head of friction loss at pipes
hx:Head of loss at valves, connecting pipes, suction pipe.

After calculating the total head by above method and converting it into pressure(kgf/cm^2), the value dividing the total head by 10 becomes an approximate pressure. (e.g: 100m = 10kgf/cm^2 approximately)

2. Checking capacity

Capacity(Q) is an amount of volume of fluid delivered in unit time, and generally speaking, head increases when capacity is low, and vice versa.

3. Please refer to the catalogue for a suitable model after checking total head and capacity.

4. Pump efficiency

WILO pump efficiency(η) is around 0.69 in average, but there is a small deviation due to each model's features. So, we recommend you to refer to our data sheet and performance curve.(η 〈1)

5. Shaft power(kW) =

$$\frac{0.163 \times \text{Capacity}(m^3/min) \times \text{Head}(m) \times \text{Specific Gravity}(S.G)}{\text{Pump efficiency}(\eta)}$$

※ *If there is viscosity in the fluid, efficiency decreases and shaft power increases.

Model/Power Selection when number of rotation changes. (Change in number of poles, and frequency)

Capacity is proportional to the number of rotation(N) $= \left(\frac{N_2}{N_1}\right) Q1$

Head is proportional to rotation number squared $= \left(\frac{N_2}{N_1}\right)^2 H1$

Shaft power is proportional to rotation number cubed BHP2 $= \left(\frac{N_2}{N_1}\right)^3 BHP1$

Model Selection

Calculation of impeller's tip diameter

e.g. : Assume that Capacity is 0.8m³/min, Head is 97m, Power is 22kW, and it is a multi-stage turbine pump

- Select PMT-6507 as a basic model from catalogue.
- Checking the capacity and head by choosing cutting size of impeller tip diameter.

$$Q = Q1 \times t \frac{D2}{D1} u^2$$

$$Q2 = 0.94 \times t \frac{195}{204} u^2 = 0.86$$

$$Q3 = 0.7 \times t \frac{195}{204} u^2 = 0.64$$

$$H = H \times t \frac{D2}{D1} u^2$$

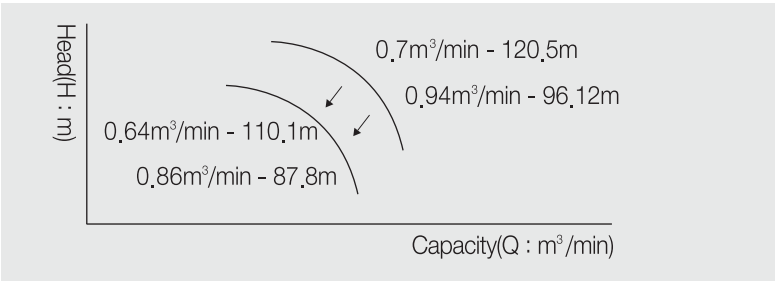
$$H2 = 96.12 \times t \frac{195}{204} u^2 = 87.8$$

$$H3 = 120.5 \times t \frac{195}{204} u^2 = 110.1$$

① Estimate the capacity and head value from test report. -> IMPELLER D2 204mm(d1: Data value)

② Need a cutting of impeller tip diameter as 30kW is needed when impeller tip diameter is 204mm.

③ Assuming that D2 is 195mm when impeller tip diameter is 204mm, we calculate capacity(Q) and head(H).



④ If we calculate the head by interpolation when order SPEC capacity is 0.8 m³/min,

$$\frac{(110.0-87.8)m \times (0.86-.8)m^3/min}{(0.86-0.64)m^3/min} + 87.8m = 93.8m$$

※ As head becomes 93.8m when IMPELLER D2 is 195mm, it is an incorrect selection.

⑤ If we assume that IMPELLER D2 is 198mm, capacity is 0.8m³/min, and head is 99m, which fulfills the USER SPEC.

※ Allow 3~6% tolerance for the head, fixing the capacity value.

- Shaft Power (BHP) Calculation

Pump efficiency(η):65%

Fluid specific gravity(s.g): 1, on a basis of clean water.

$$BHP(kW) = \frac{0.163 \times \text{flow rate}(Q : m^3/min) \times \text{head} \times s.g}{\text{PUMP efficiency}(\eta)}$$

$$\frac{0.163 \times 0.8\ m^3/min \times 99m \times 1}{0.65} = 19.86kW \rightarrow 22kW$$

※ Need 10% margin for power. 19.86*1.1=21.8kW, so there is no problem of using 22kW power.

End Suction Pump

PSV Series

Product Introduction

Design and structural features

1. 3D impeller for efficient flow of water
2. Dimension of stuffing box complying with KS B 7501 (ISO3069) makes easy installation and maintenance of mechanical seal
3. Excellent inter-changeability: single products covers wide ranges
4. Back pull-out design for easy maintenance.
5. Top center line discharge: balanced piping
6. Less vibration and noise by optimized design

Strengths of WILO PSV End Suction Pump

- High efficiency design
- Improved endurance (higher grade of bearing than competitors)
- Constructed as per KS standard (Good interchangeability)
- As 10kgf/cm² is applied, it is firm and covers wide range.
- Sleeve is installed at the shaft to lengthen the shaft life time.
- As waterway of the impeller applied shell core, it reduces flow loss inside the waterway.
- Flexible material of construction (Ductile Iron, Bronze, SS, etc)

Application

Clean water
Industrial plant
Commercial building, Water treatment
Irrigation
HVAC, Fire fighting

End Suction Pump

PSV Series

Product Information

1. Applicable liquid (clean water within 0~100°C, ph6-8)

In case of pumping liquid other than water, please contact us for technical clearance.

2. Suction Head

Please refer to the table below for minimum suction pressure.

Allowed value of total suction head

Fluid temperature	Inlet Size	Total suction pressure
0℃~40℃	50 80mm	Less than -6m
	100 125mm	Less than -5.5m

Correction value of total suction head (from above table)

Temperature	Correction value
40℃~50℃	+1
50℃~60℃	+2
60℃~70℃	+3.5
70℃~80℃	+5
80℃~90℃	+7
90℃~95℃	+9
95℃~100℃	+11

Allowed value of Standard suction pressure

Suction pressure must be less than 4kgf/cm^2 and within [10 - Pump shut-off head Total head / 10] kgf/cm^2. Also, make sure that the suction pressure does not change instantaneously. Please contact us for other conditions.

3. Important operating condition

In case of very frequent operation by automatic controller, material of impeller shall be bronze or above (such as stainless steel). And please make sure that number of operation shall not exceed 12times an hour. Please minimize friction loss at inlet piping to avoid water hammer

Impeller

Closed type with swept back clearing vanes to balance axial thrust. Hydraulically and dynamically balanced.

Fluid flows in swirl.
Previous impellers

Fluid flows constantly
3D Impeller

*Semi-Open Type Impeller is also available. (in stainless steel)

Standards

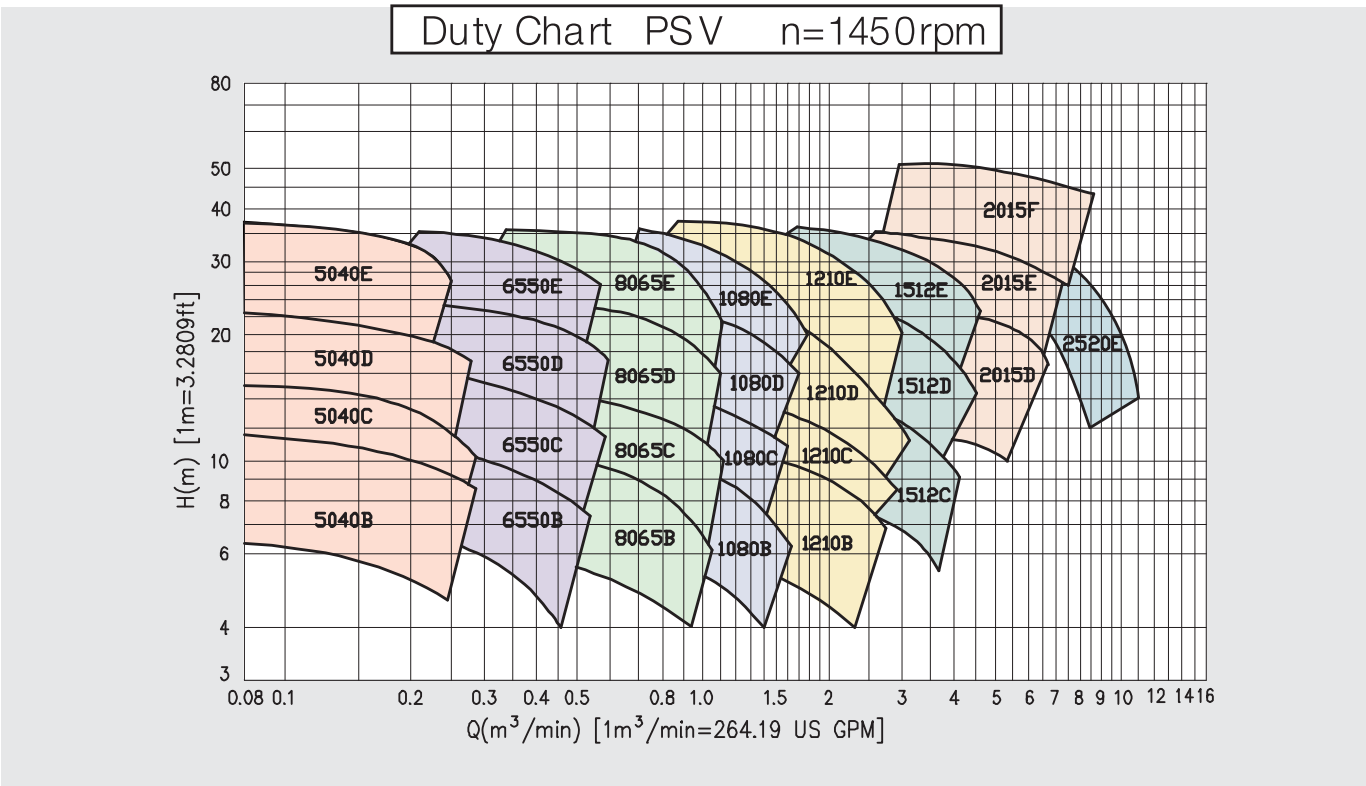
KS B 7501
ISO 2858
JIS B 8313

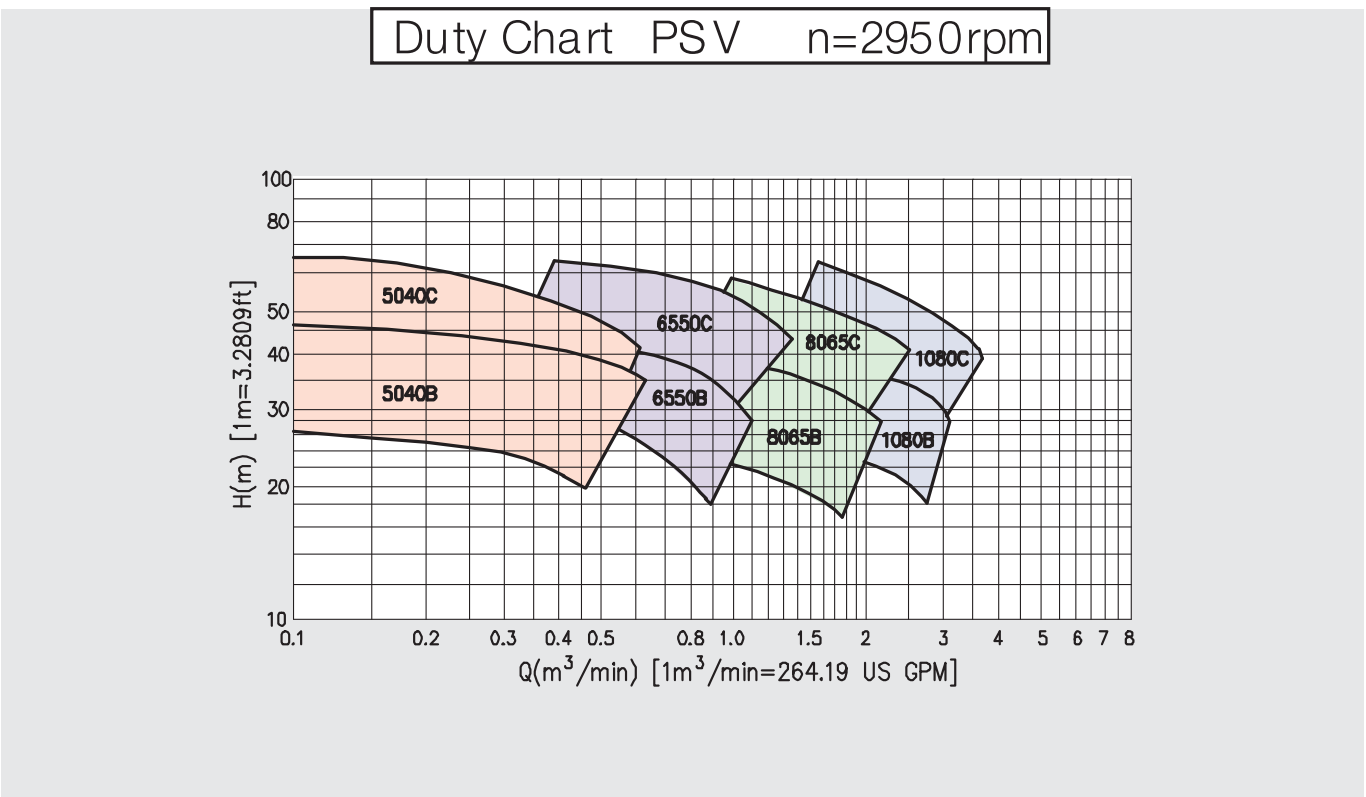
Structures and functions of single stage volute pumps are designed to meet above regulations.

Options

Mechanical seal, Bearing Oil lubrication, Material of construction for Hydrauliccomponents

Selection Chart



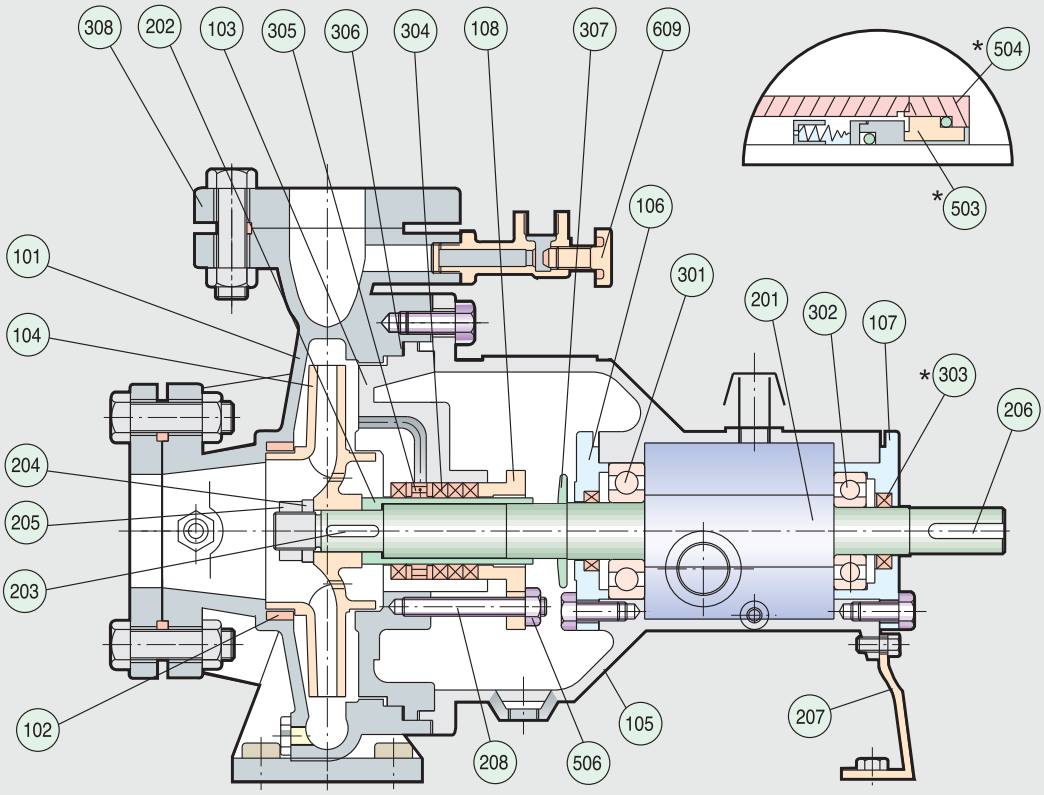


End Suction Pump

PSV Series

Sectional Drawing

Sectional Drawing



*: Option Parts
#: Recommended Spare Parts

No.	Parts	Standard material	Qty
101	CASING	GC200	1
# 102	CASING RING	GC200	1
103	CASING COVER	GC200	1
# 104	IMPELLER	GC200	1
105	BEARING HOUSING	GC200	1
106	BEARING COVER(A)	GC200	1
107	BEARING COVER(B)	GC200	1
108	GLAND	GC200	1
201	SHAFT	SM45C	1
# 202	SLEEVE	STS304	1
# 203	IMPELLER KEY	SM45C	1
204	IMPELLER WASHER	STS304	1
205	IMPELLER NUT	SS400	1
206	COUPLING KEY	SM45C	1

No.	Parts	Standard material	Qty
207	SUPPORT	SCP1	1
208	GLAND BOLT	STS304	2/4
# 301	BALL BEARING(A)	STB2	1
# 302	BALL BEARING(B)	STB2	1
R303	OIL SEAL	NBR	1
# 304	GLAND PACKING	TEFLON	4
305	LANTERN RING	NORYL/BC6	1
# 306	CASING GASKET	NBR	1
307	DEFLECTOR	NR610	1
R 503	MECHANICAL SEAL		1
R 504	M/SEAL COVER	SM45C	1
506	HEX NUT	C3602BD	2/4
609	PRIMING PIPE	HBsC1	1

Casing&Impeller Dimension

Unit : mm

Pump Size (Model)	Suc. Bore. (mm)	Dis. Bore. (mm)	Max. Working Pressure (kgf/cm²)	Casing Thickness (mm)	Impeller				
					Max.Dia (mm)	Min.Dia. (mm)	Eye.Dia (mm)	Width (mm)	No.of Vane (EA)
PSV-5040B	50	40	10	6	180	150	65	8	5
PSV-5040C	50	40	10	6	210	180	65	7	5
PSV-5040D	50	40	10	6	225	210	65	6	5
PSV-5040E	50	40	10	6	330	270	65	6	5
PSV-6550B	65	50	10	6	177	147	80	12	5
PSV-6550C	65	50	10	6	215	185	80	10	5
PSV-6550D	65	50	10	8	270	225	80	7	6
PSV-6550E	65	50	10	8	334	274	80	6	4
PSV-8065B	80	65	10	6	177	147	100	1	6
PSV-8065C	80	65	10	8	215	185	100	16	5
PSV-8065D	80	65	10	8	267	222	100	11	5
PSV-8065E	80	65	10	8	334	274	100	8	4
PSV-1080B	100	80	10	8	177	147	120	30	6
PSV-1080C	100	80	10	8	220	190	120	22	5
PSV-1080D	100	80	10	8	265	235	120	17	5
PSV-1080E	100	80	10	10	334	274	120	11	4
PSV-1210B	125	100	10	8	190	170	150	40	6
PSV-1210C	125	100	10	8	220	190	150	32	6
PSV-1210D	125	100	10	8	268	223	150	24	5
PSV-1210E	125	100	10	10	334	274	150	17	5
PSV-1512C	150	125	10	9	223	193	170	45	6
PSV-1512D	150	125	10	8	270	225	170	35	5
PSV-1512E	150	125	10	10	334	274	170	25	5
PSV-1512F	150	125	12.5	12	405	340	160	21	6
PSV-2015D	200	150	10	11	285	240	210	53	6
PSV-2015E	200	150	10	11	340	280	210	42	6
PSV-2015F	200	150	12.5	13	430	370	210	32	6
PSV-2520E	250	200	10	14	325	270	230	64	6

Packing Box Dimension

Unit : mm

Model	Stuffing Box		Outer Dia. of Sleeve	Gland Packing Size(W×H×L)	Number of Gland Packing
	Inner Dia.	Depth			
PSV - 5040B	ø51	51	ø35	8×8×143	4
PSV - 6550B					
PSV - 8065B					
PSV -1080B					
PSV - 5040C		50			
PSV - 6550C					
PSV - 8065C					
PSV - 5040D					
PSV - 6550D					
PSV -1080C	ø65	62	ø45	10×10×184	
PSV -1210C					
PSV -1512C					
PSV -1210B					
PSV - 8065D					
PSV -1080D					
PSV -1210D					
PSV -1512D					
PSV - 5040E					
PSV - 6550E					
PSV - 8065E					
PSV -1080E					
PSV -1210E					
PSV -1512E	ø75		ø55	10×10×215	
PSV -1512F					
PSV -2015D					
PSV -2015E					
PSV -2015F	ø90	75	ø65	12.5×12.5×255	
PSV -2520E					

Shaft & bearing

Unit : mm

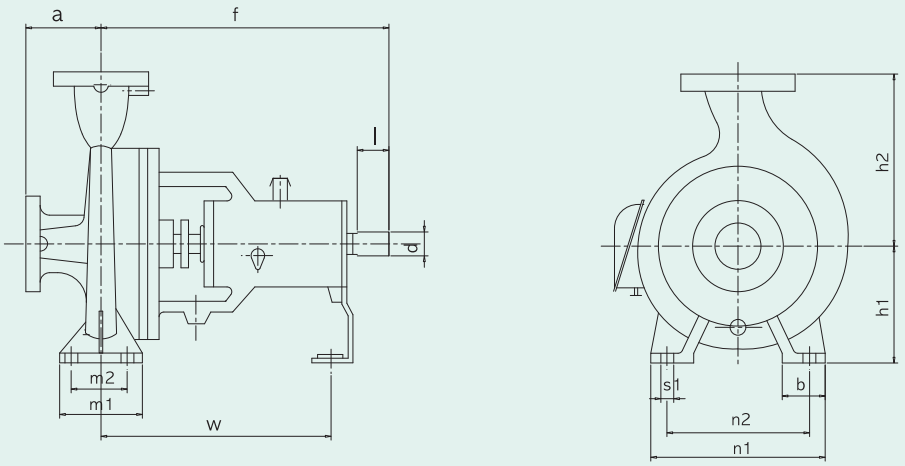
Model	Shaft Diameter				Size of Key At Coupling	Span between		Bearing NO.
	At Impeller	At Stuff. Box	Between Bearing	At Coupling		Trust, Bearing & Impeller.	Bearings	
PSV-5040B	ø22	ø29	ø38	ø24	8×7×36	157	118	Thrust:6306zzC3 Radial:6305zzC3
PSV-6550B						160		
PSV-8065B						165		
PSV-1080B						170		
PSV-5040C						158		
PSV-6550C						159		
PSV-8065C						167		
PSV-5040D						158		
PSV-6550D						160		
PSV-1080C	ø30	ø38	ø49	ø32	10×8×50	195	162	Thrust:6308zzC3 Radial:6307zzC3
PSV-1210C						201		
PSV-1512C						208		
PSV-1210B						209		
PSV-8065D						197		
PSV-1080D						204		
PSV-1210D						207		
PSV-1512D						212		
PSV-5040E						196		
PSV-6550E						197		
PSV-8065E								
PSV-1080E								
PSV-1210E						202		
PSV-1512E	ø42	ø47	ø59	ø42	12×8×50	209	175	Thrust:6410zzC3 Radial:6409zzC3
PSV-1512F						223		
PSV-2015D						223		
PSV-2015E						218		
PSV-2015F	ø50	ø55	ø73	ø48	14×9×80	224	167.5	Thrust:6412zzC3 Radial:6312zzC3
PSV-2520E						253		

End Suction Pump

PSV Series

Standard construction data

Outline Drawing

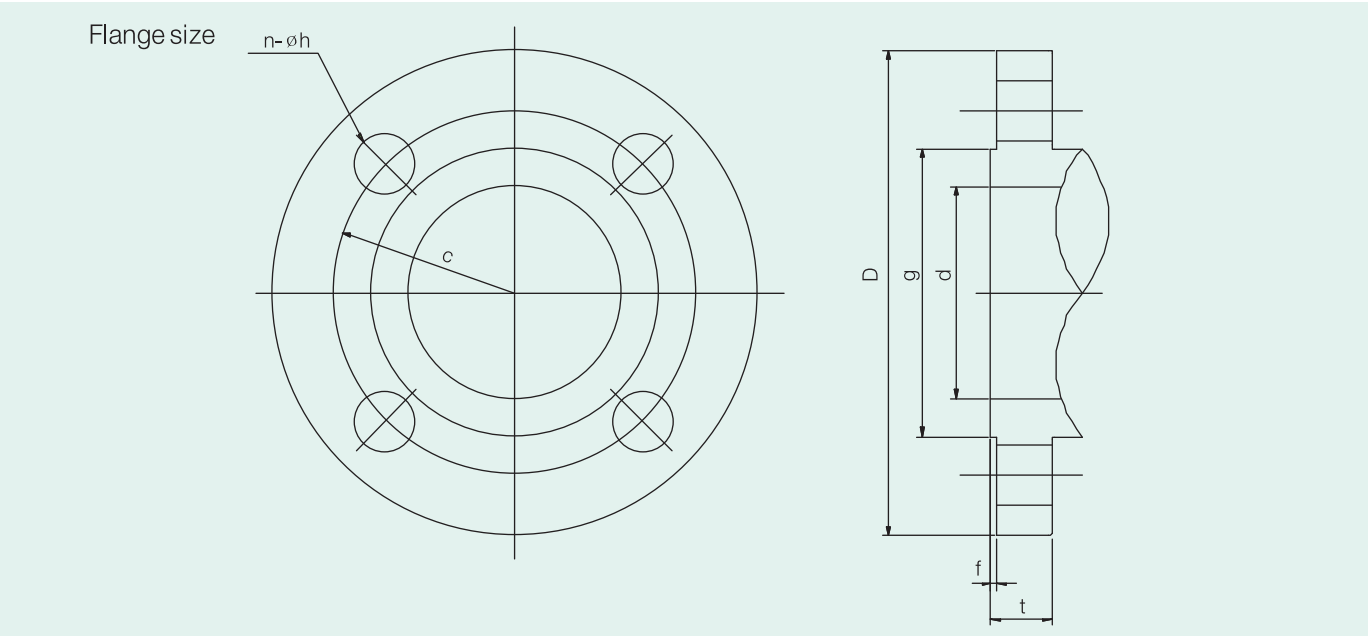


Dimension

Unit : mm

Pump Type	Bore(mm)		Pump Size(mm)													Wgt.
	Suc.	Dis.	a	f	h_1	h_2	b	m_1	m_2	n_1	n_2	w	s_1	d	l	kgf
PSV-5040B	50	40	80	360	132	160	50	100	70	240	190	285	15	24	50	32
PSV-5040C			100	360	160	180	50	100	70	265	212	285	15	24	50	39
PSV-5040D			100	360	180	225	65	125	95	320	250	285	15	24	50	48
PSV-5040E			125	470	225	250	65	125	95	345	280	370	15	32	80	80
PSV-6550B	65	50	100	360	160	180	50	100	70	265	212	285	15	24	50	35
PSV-6550C			100	360	160	200	50	100	70	265	212	285	15	24	50	40
PSV-6550D			100	360	180	225	65	125	95	320	250	285	15	24	50	52
PSV-6550E			125	470	225	280	65	125	95	345	280	370	15	32	80	82
PSV-8065B	80	65	100	360	160	200	65	125	95	280	212	285	15	24	50	41
PSV-8065C			100	360	180	225	65	125	95	320	250	285	15	24	50	46
PSV-8065D			100	470	200	250	80	160	120	360	280	370	19	32	80	68
PSV-8065E			125	470	225	280	80	160	120	400	315	370	19	32	80	88
PSV-1080B	100	80	125	360	180	225	65	125	95	320	250	285	15	24	50	47
PSV-1080C			125	470	180	250	65	125	95	345	280	370	15	32	80	56
PSV-1080D			125	470	200	280	80	160	120	400	315	370	19	32	80	71
PSV-1080E			125	470	250	315	80	160	120	400	315	370	19	32	80	92
PSV-1210B	125	100	125	470	200	280	80	160	120	360	280	370	19	32	80	65
PSV-1210C			125	470	200	280	80	160	120	360	280	370	19	32	80	70
PSV-1210D			140	470	225	280	80	160	120	400	315	370	19	32	80	81
PSV-1210E			140	470	250	315	80	160	120	400	315	370	19	32	80	100
PSV-1512C	150	125	140	470	250	315	80	160	120	400	315	370	19	32	80	90
PSV-1512D			140	470	250	355	80	160	120	400	315	370	19	32	80	94
PSV-1512E			140	530	280	355	100	200	150	500	400	370	23	42	110	130
PSV-1512F			140	530	315	405	100	200	150	500	400	370	23	42	110	180
PSV-2015D	200	150	160	530	280	375	100	200	150	500	400	370	23	42	110	128
PSV-2015E			160	530	315	400	100	200	150	550	450	370	23	42	110	156
PSV-2015F			160	530	315	450	100	200	150	550	450	370	23	48	110	200
PSV-2520E	250	200	200	556	350	430	100	200	150	550	450	370	23	48	110	256

Flange size



KS-B-1511(10kgf/cm^2)

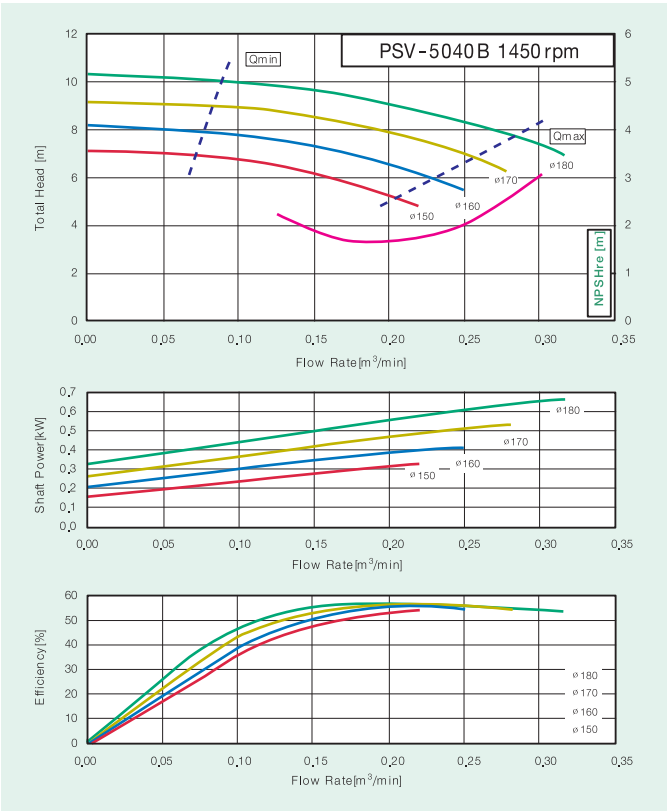
(Unit:mm)

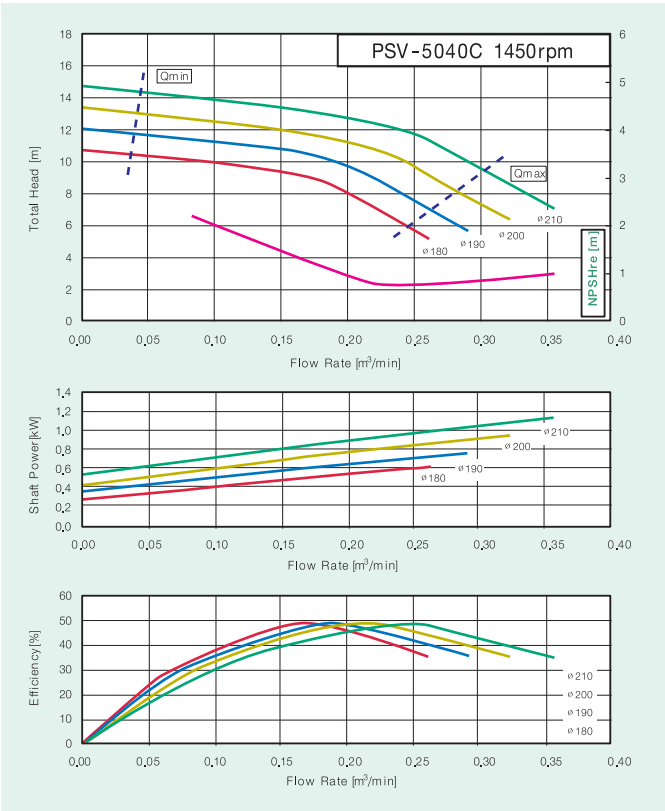
Bore Dia	Outer Dia. Of pipe	D	t	f	g	C	n	h	Bolt Size
10	17.3	90	14	1	46	65	4	15	M12
15	21.7	95	16		51	70			
20	27.2	100	18		56	75			
25	34	125			67	90		19	M16
32	42.7	135	20	2	76	100			
40	48.6	140			81	105			
50	60.5	155			96	120			
65	76.3	175	22		116	140			
80	89.1	185			126	150	8		
(90)	101.6	195			136	160			
100	114.3	210	24		151	175			
125	139.8	250			182	210		23	M20
150	165.2	280	26		212	240			
(175)	190.7	305			237	265	12		
200	216.3	330			262	290			
(225)	241.8	350	28		282	310			
250	267.4	400	30		324	355		25	M22
300	318.5	445	32	3	368	400	16		
350	355.6	490	34		413	445			
400	406.4	560	36		475	510		27	M24
450	457.2	620	38		530	565	20		
500	508	675	40		585	620			

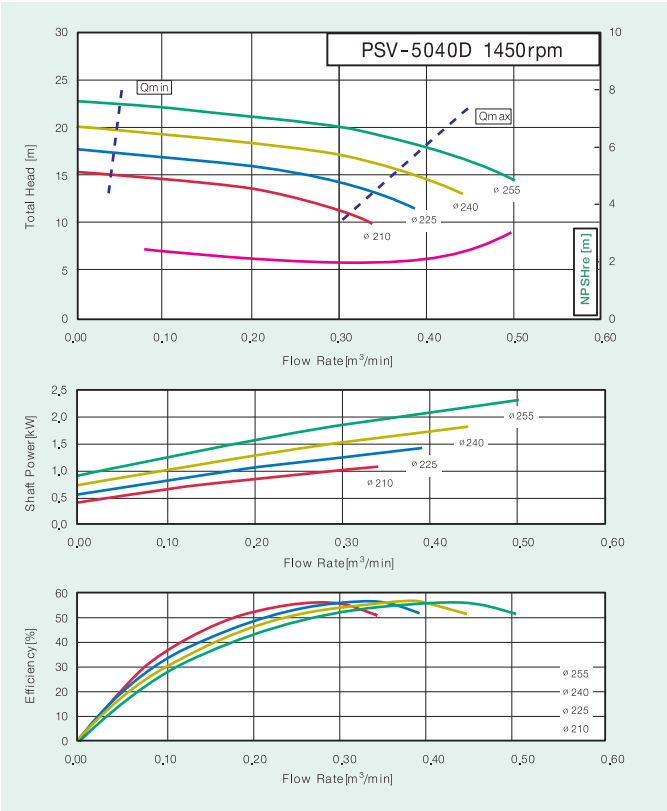
End Suction Pump

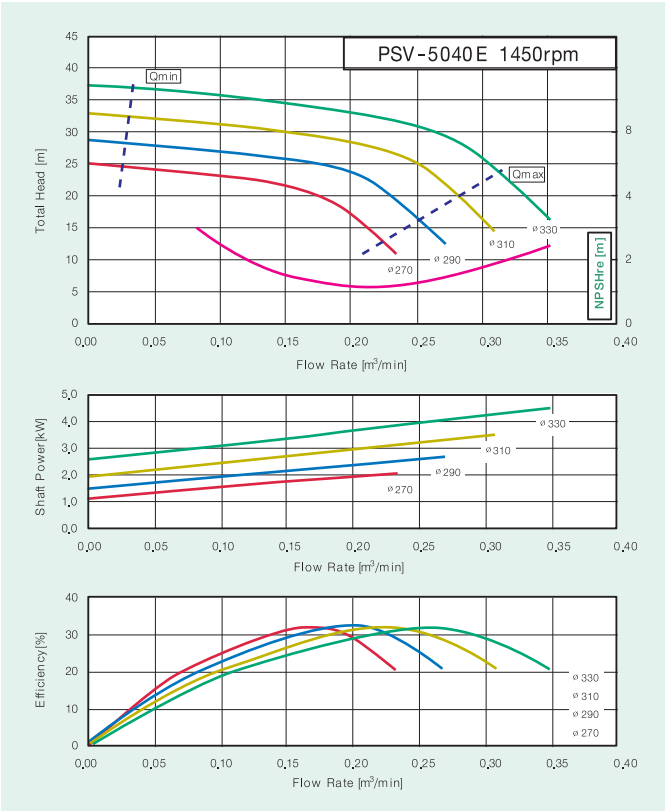
PSV Series

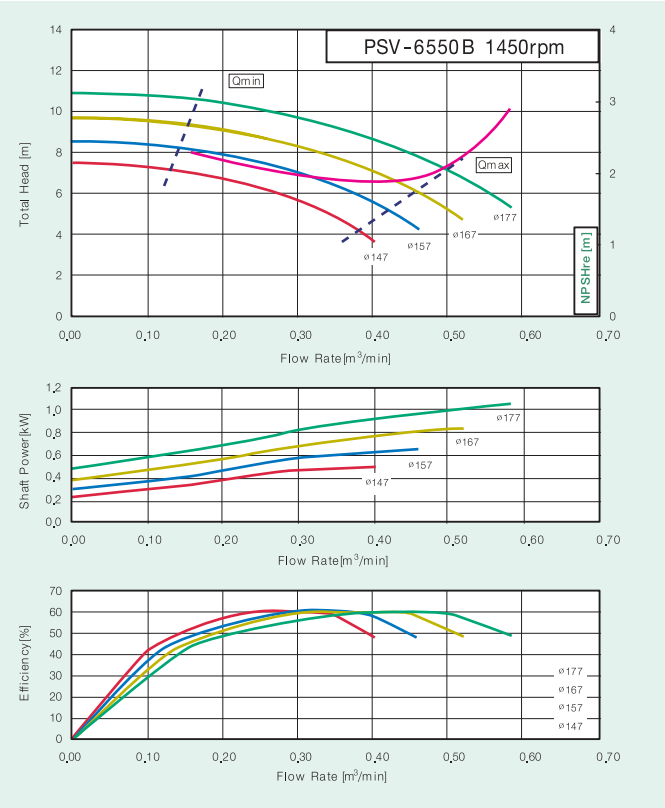
Duty Charts

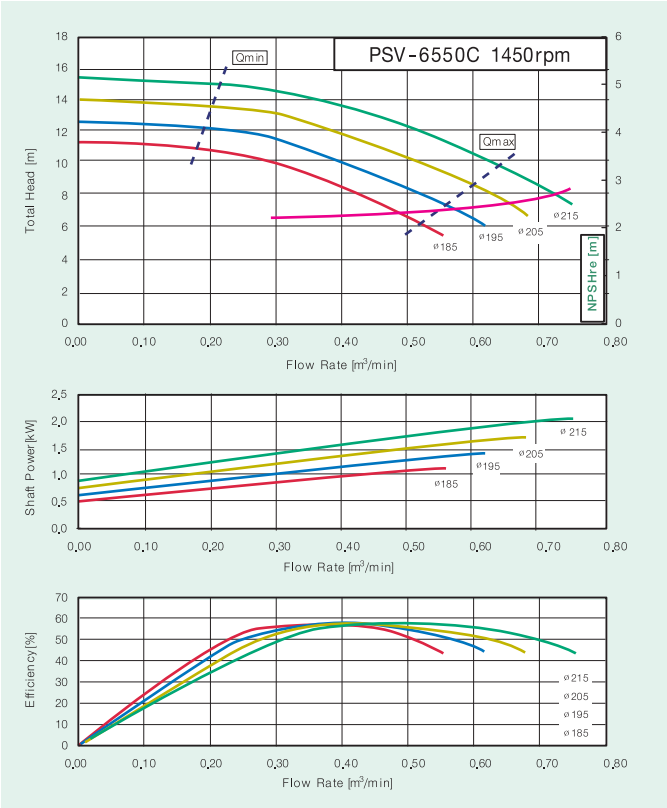


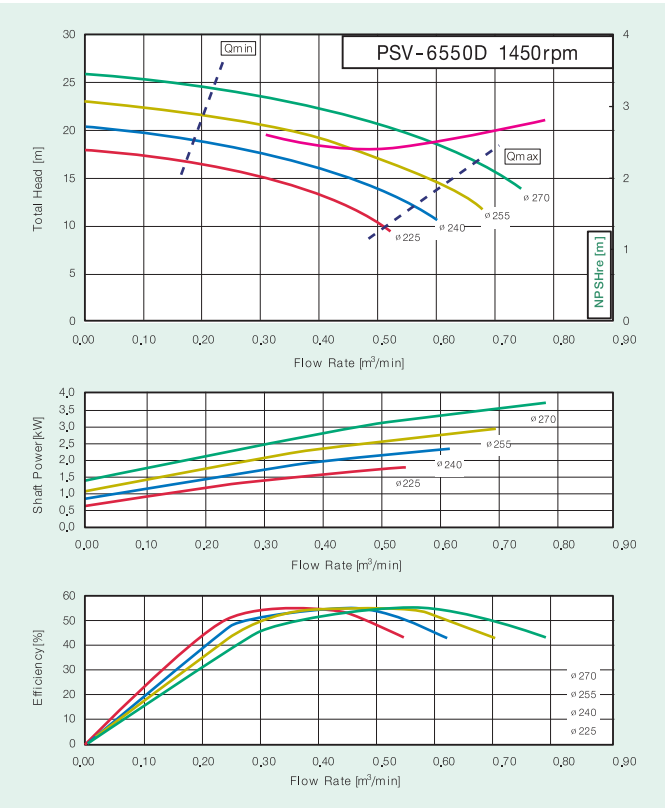


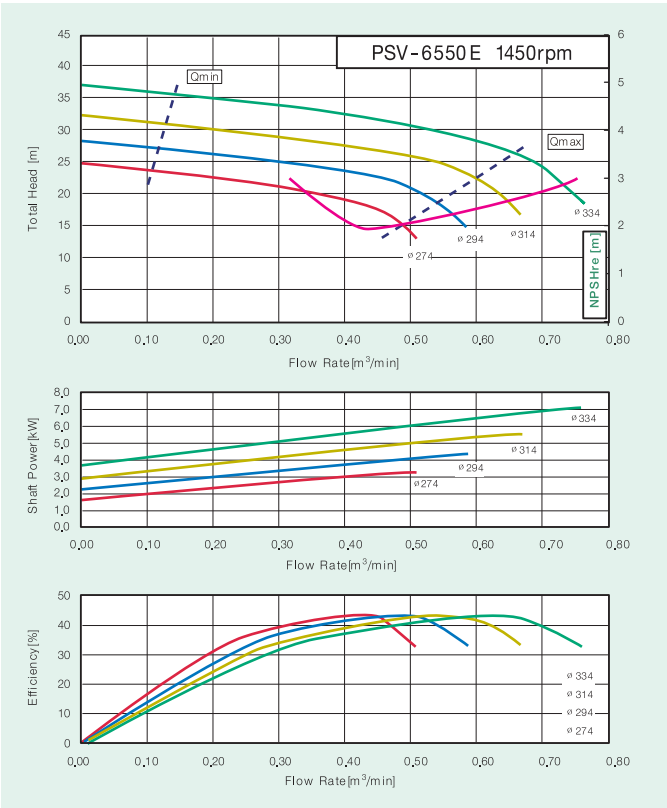





PSV-6550B 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø147
ø157
ø167
ø177
Shaft Power [kW]
Efficiency [%]


PSV-6550C 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø185
ø195
ø205
ø215
Shaft Power [kW]
Efficiency [%]

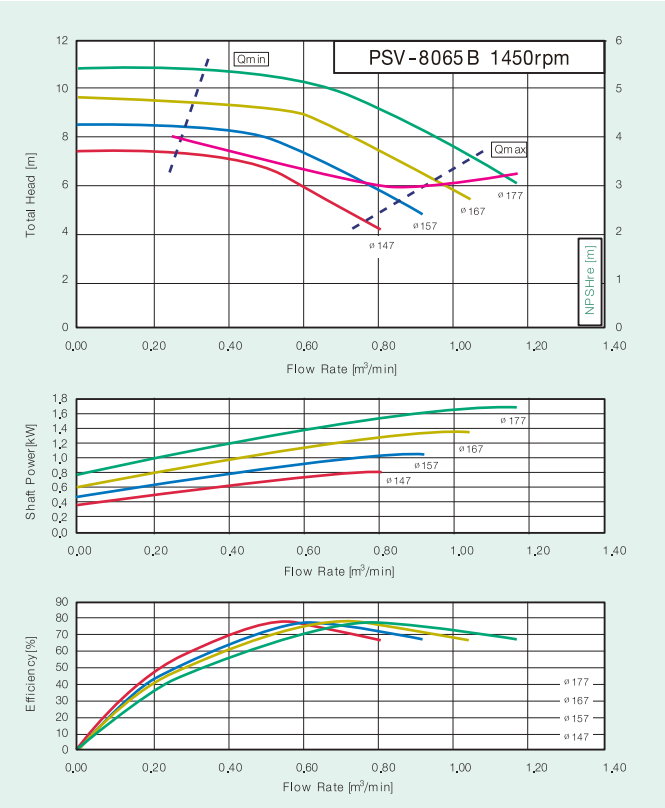

PSV-6550D 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø225
ø240
ø255
ø270
Shaft Power [kW]
Efficiency [%]

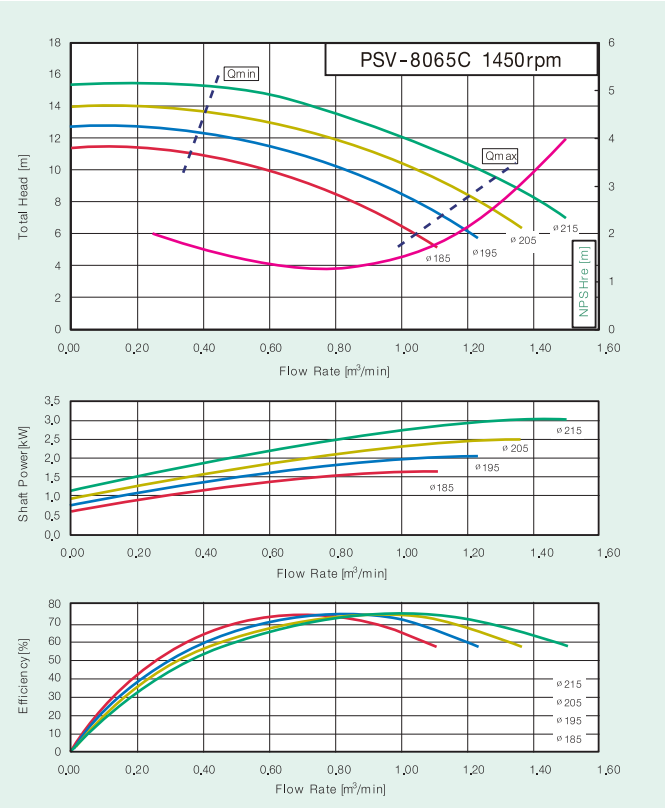

PSV-6550E 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø274
ø294
ø314
ø334
Shaft Power [kW]
Efficiency [%]

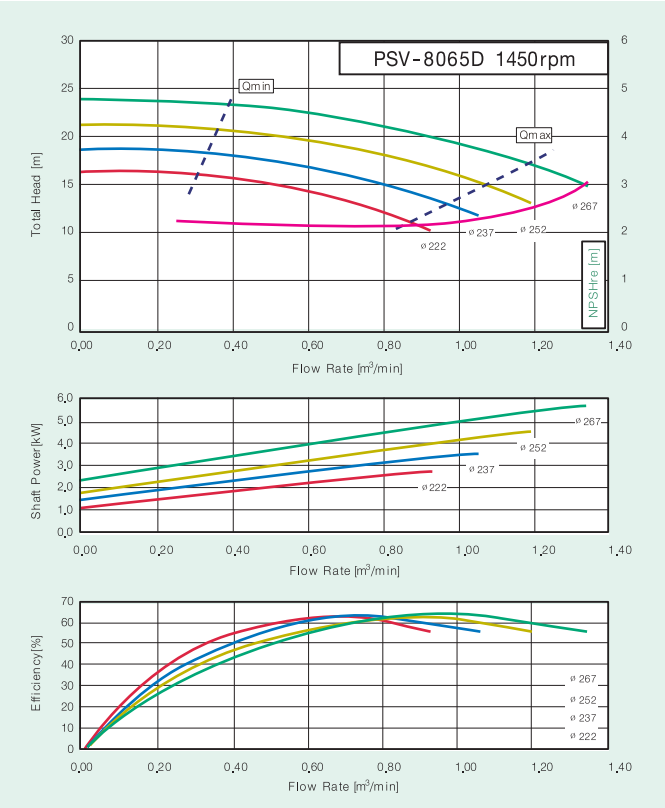
Norm Pumps

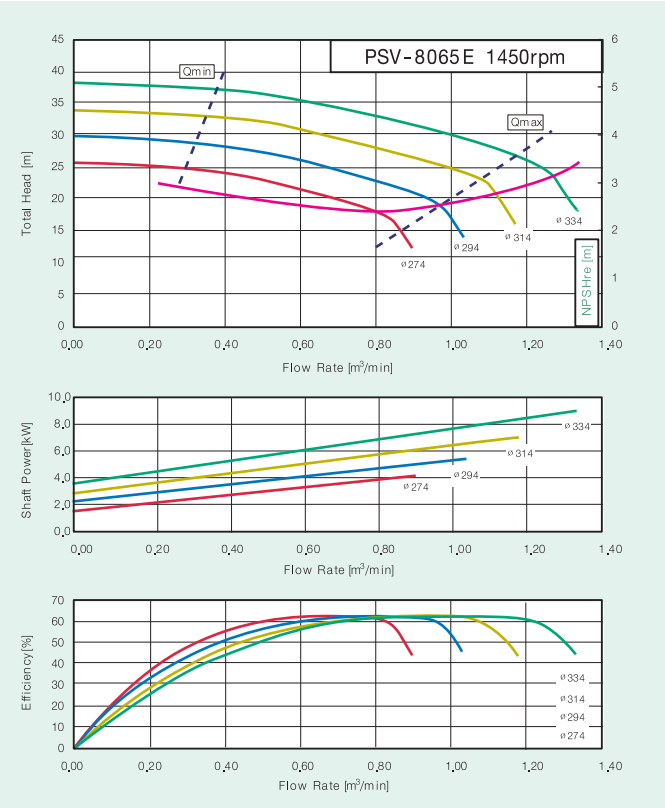
PSV Series(50Hz)-End Suction Pumps

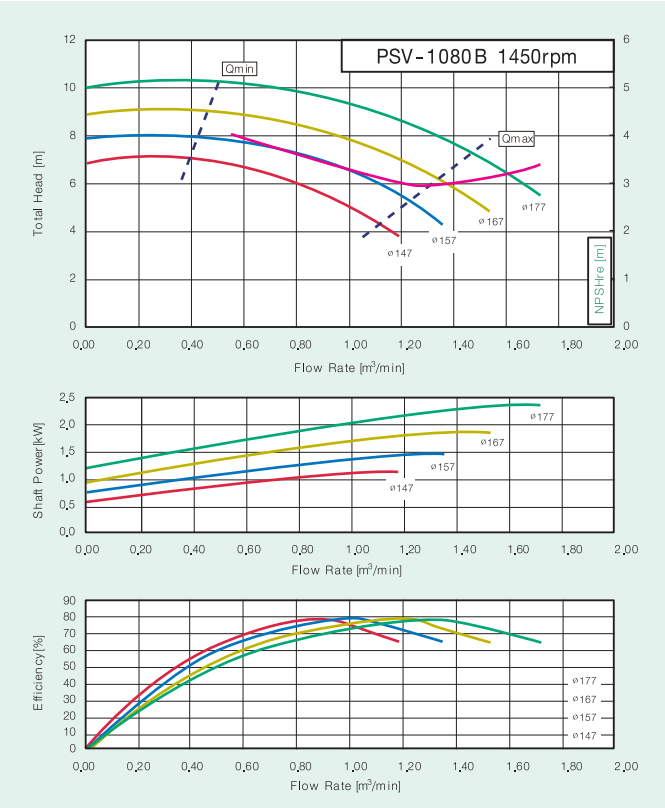
Duty Charts

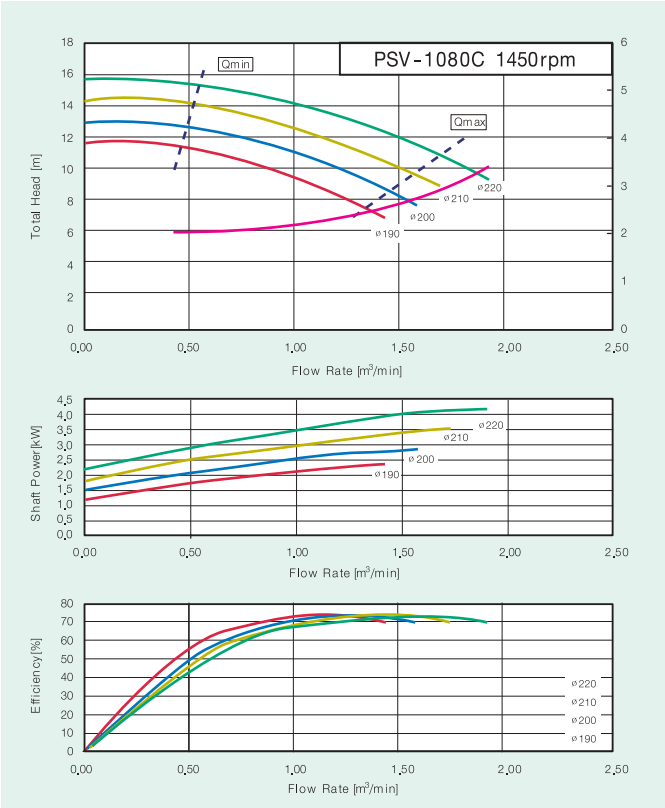


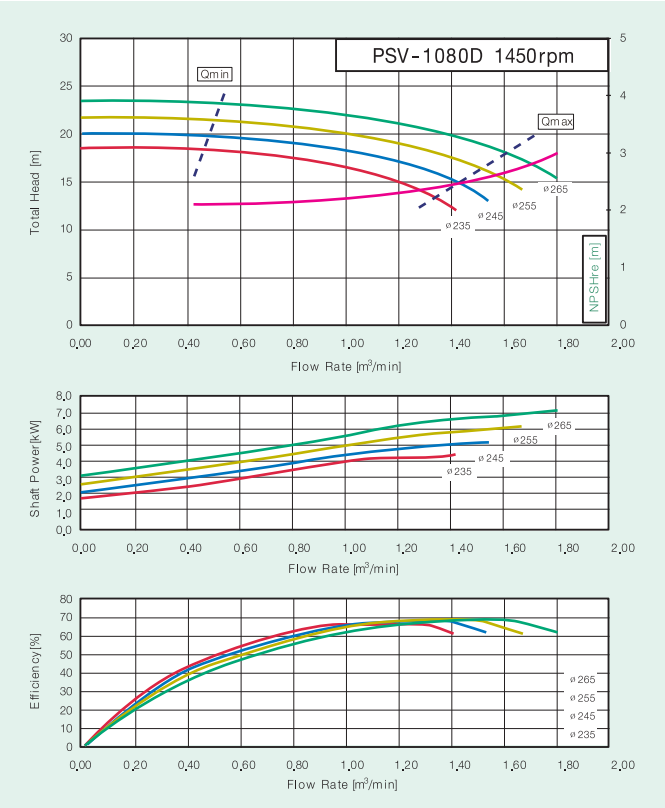


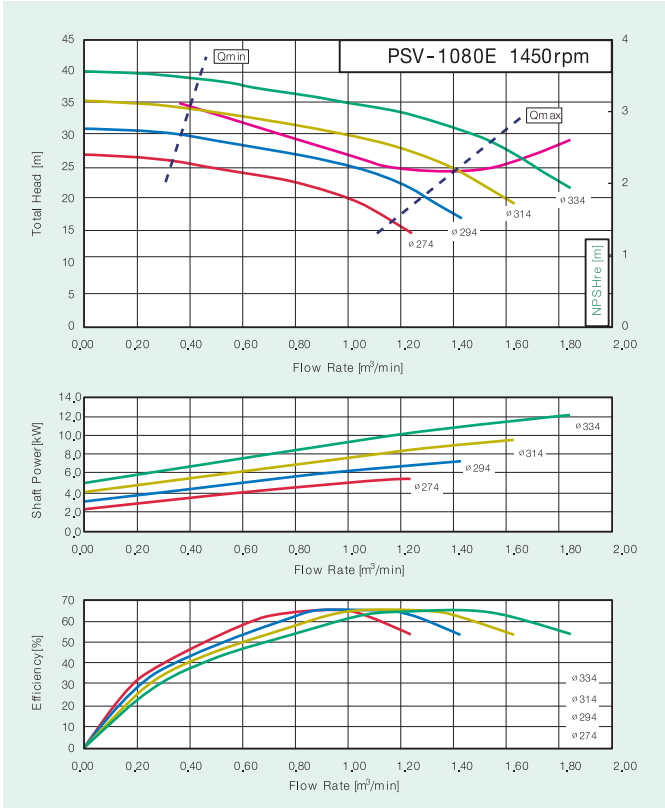




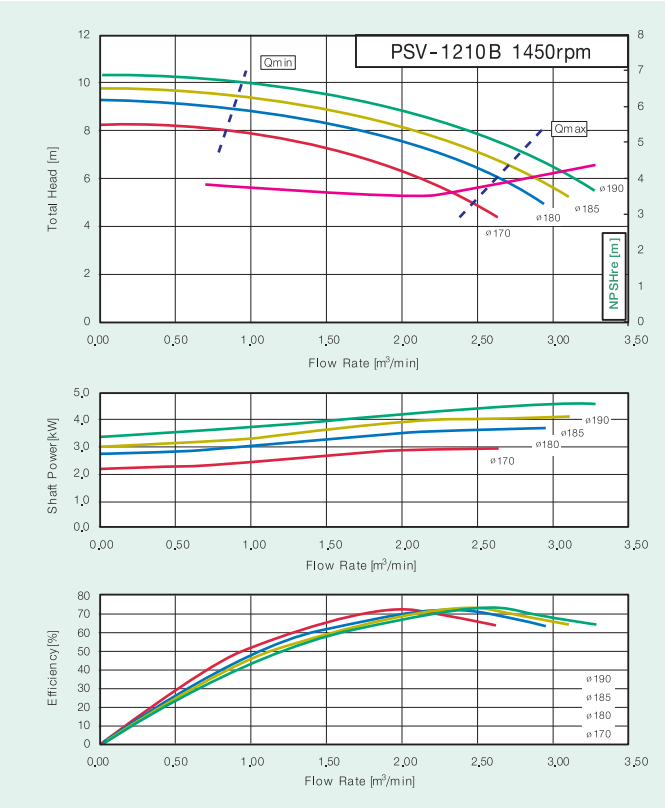

PSV-1080B 1450rpm
Qmin
Qmax
ø147
ø157
ø167
ø177
NPSHre [m]
Total Head [m]
Shaft Power [kW]
Efficiency [%]
Flow Rate [m³/min]

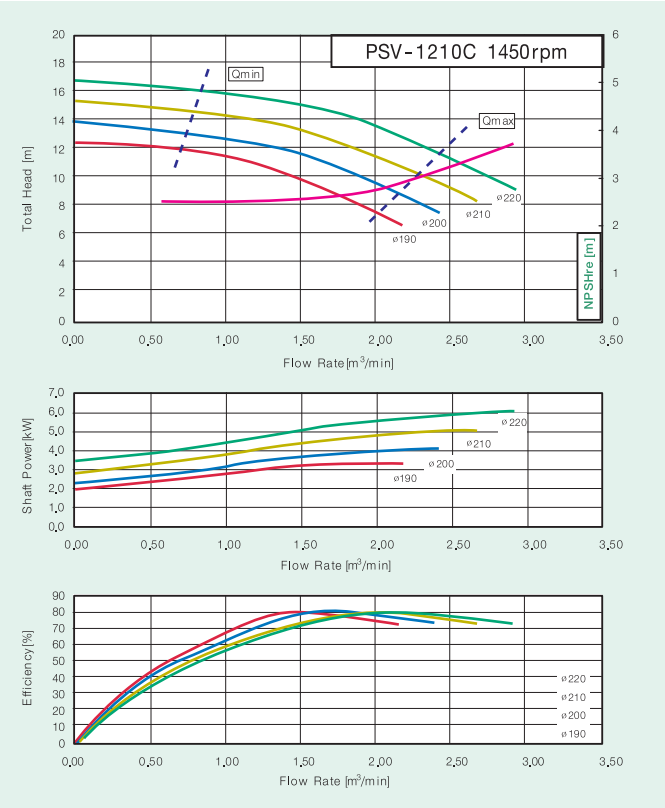

PSV-1080C 1450rpm
Qmin
Qmax
ø190
ø200
ø210
ø220
Total Head [m]
Shaft Power [kW]
Efficiency [%]
Flow Rate [m³/min]

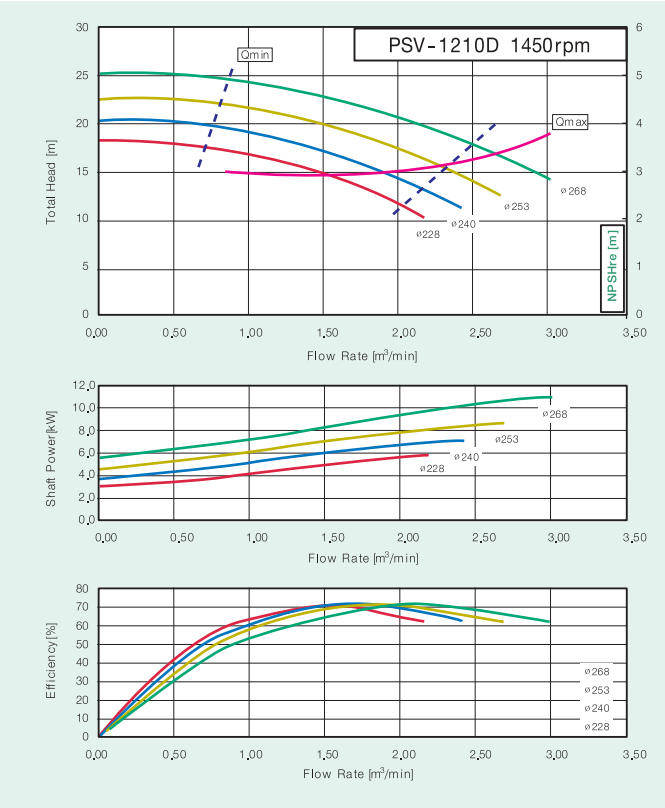

PSV-1080D 1450rpm
Qmin
Qmax
ø235
ø245
ø255
ø265
NPSHre [m]
Total Head [m]
Shaft Power [kW]
Efficiency [%]
Flow Rate [m³/min]

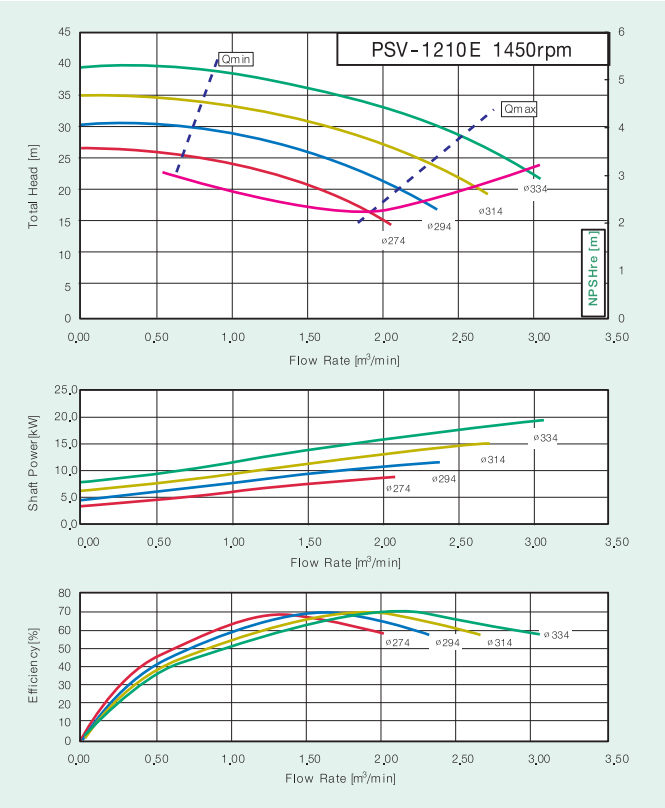

PSV-1080E 1450rpm
Qmin
Qmax
ø274
ø294
ø314
ø334
NPSHre [m]
Total Head [m]
Shaft Power [kW]
Efficiency [%]
Flow Rate [m³/min]

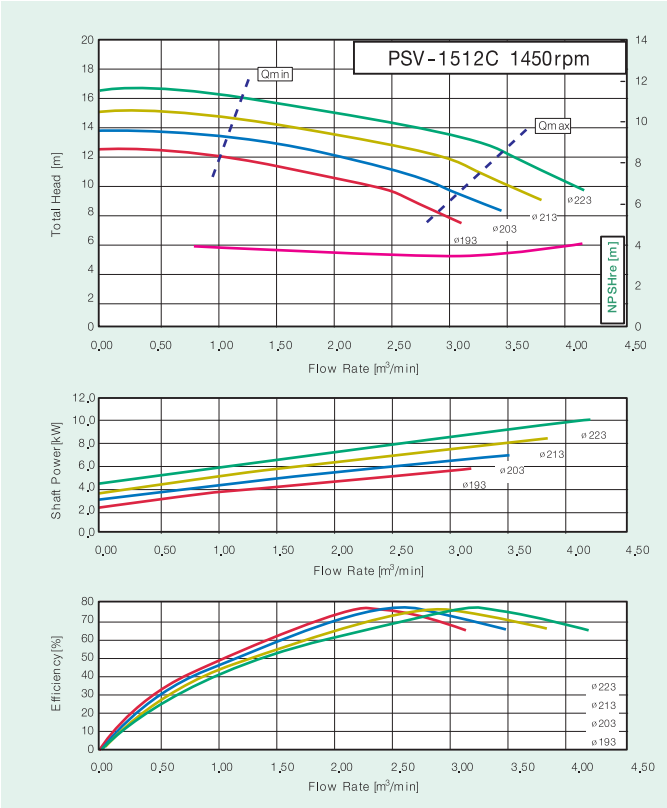
Duty Charts

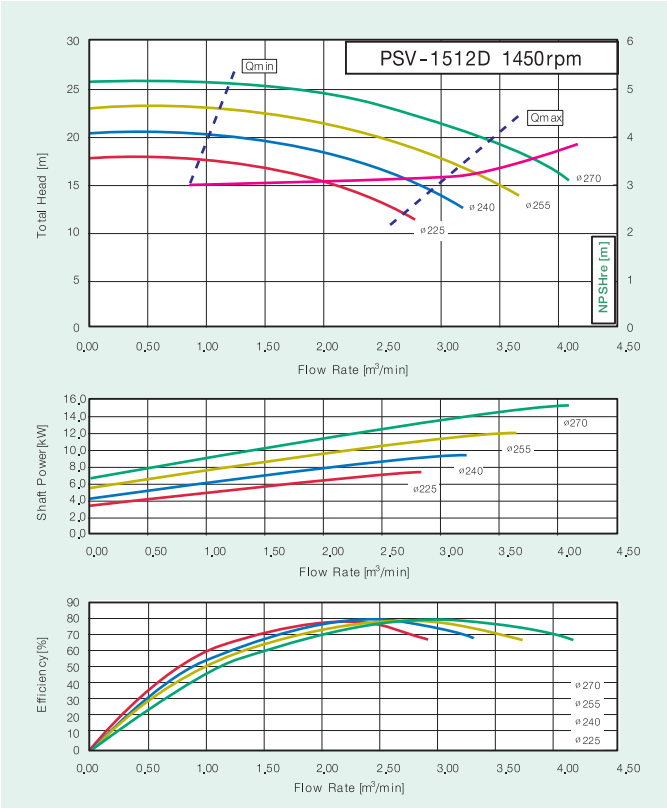

PSV-1210B 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø170
ø180
ø185
ø190
Shaft Power [kW]
Efficiency [%]

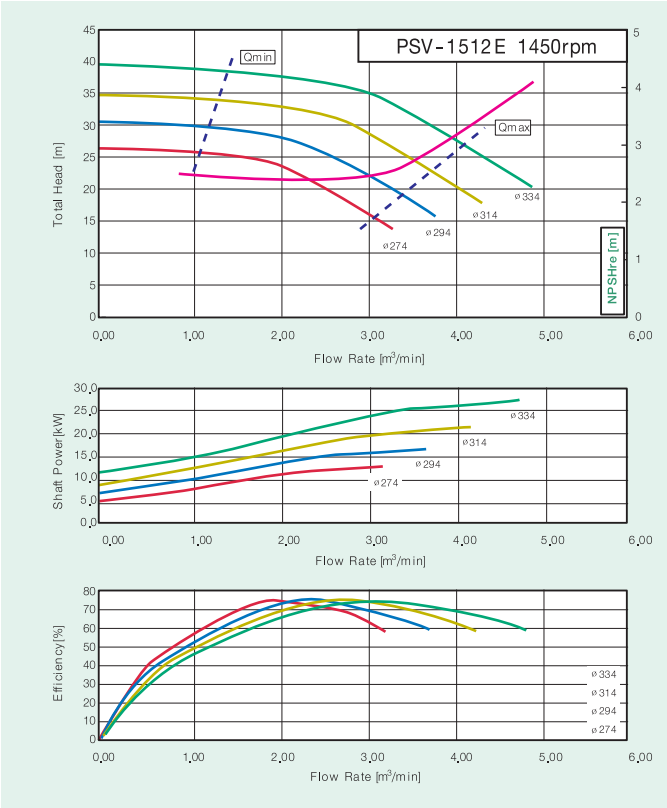

PSV-1210C 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø190
ø200
ø210
ø220
Shaft Power [kW]
Efficiency [%]

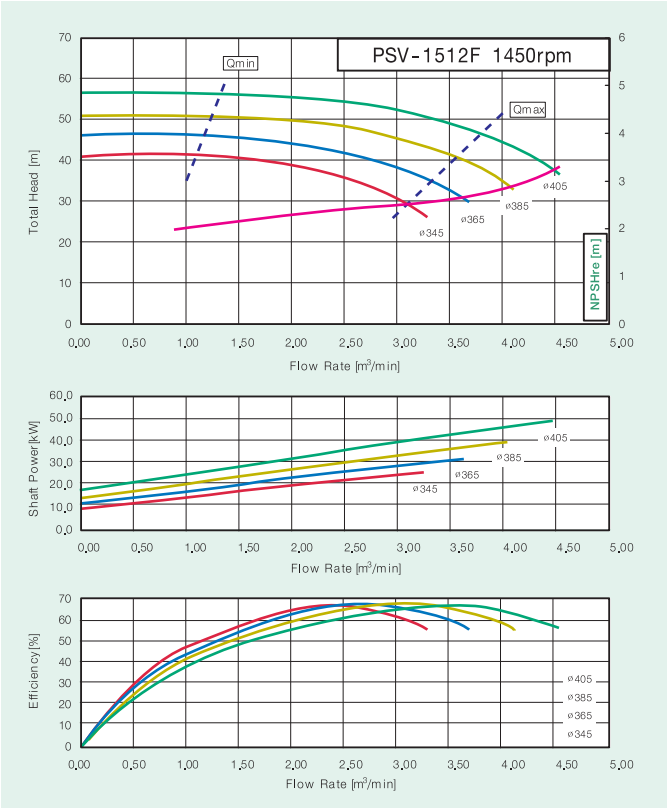

PSV-1210D 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø228
ø240
ø253
ø268
Shaft Power [kW]
Efficiency [%]


PSV-1210E 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø274
ø294
ø314
ø334
Shaft Power [kW]
Efficiency [%]


PSV-1512C 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø223
ø213
ø203
ø193
Shaft Power[kW]
Efficiency[%]


PSV-1512D 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø270
ø255
ø240
ø225
Shaft Power[kW]
Efficiency[%]

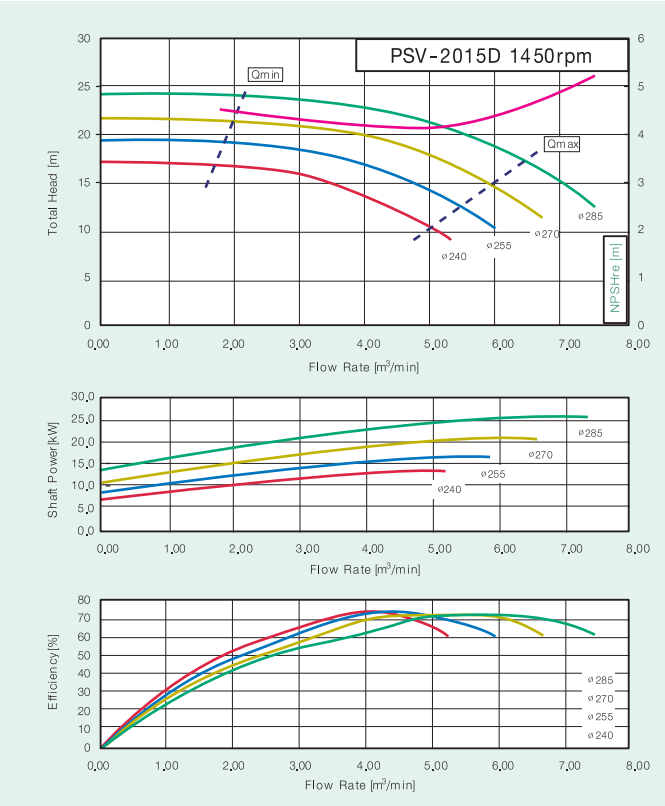

PSV-1512E 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø334
ø314
ø294
ø274
Shaft Power[kW]
Efficiency[%]

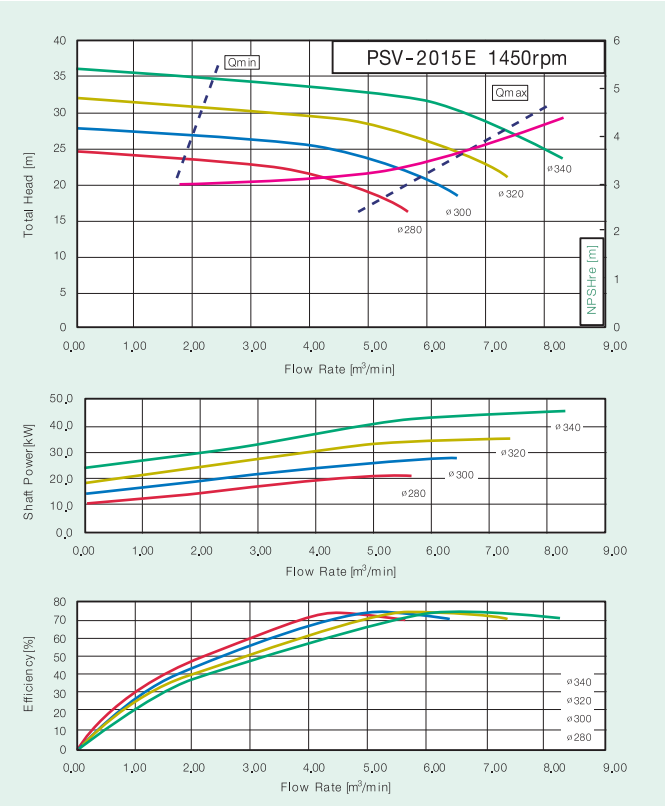

PSV-1512F 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø405
ø385
ø365
ø345
Shaft Power[kW]
Efficiency[%]

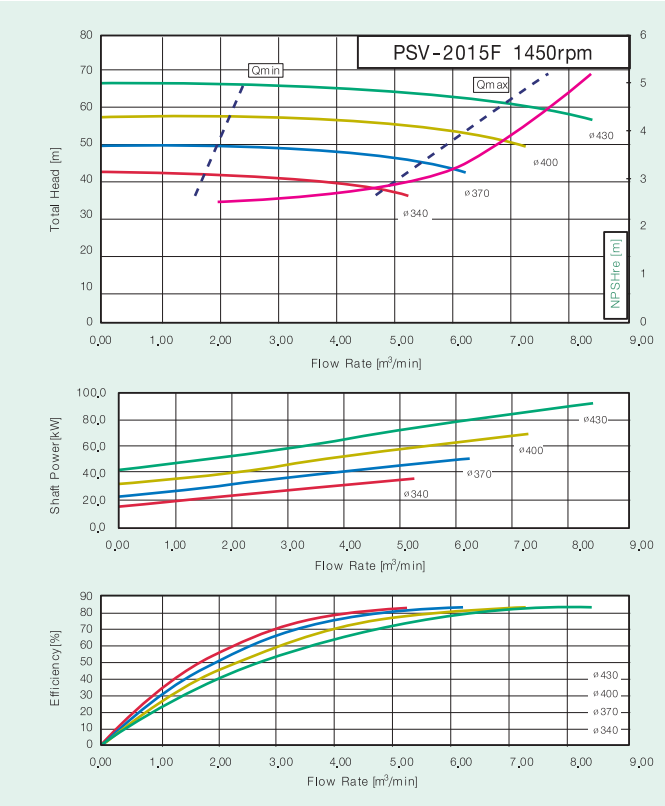
Norm Pumps

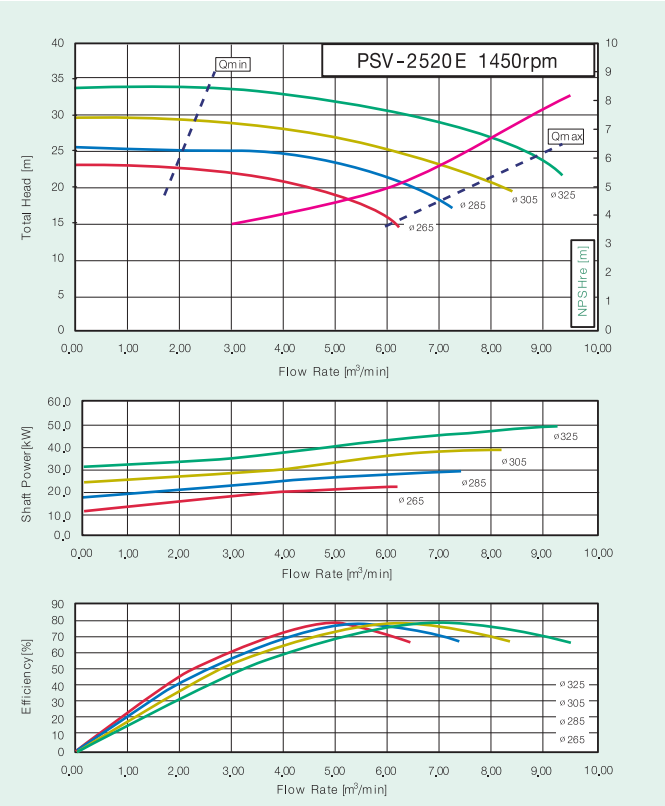
PSV Series(50Hz)-End Suction Pumps

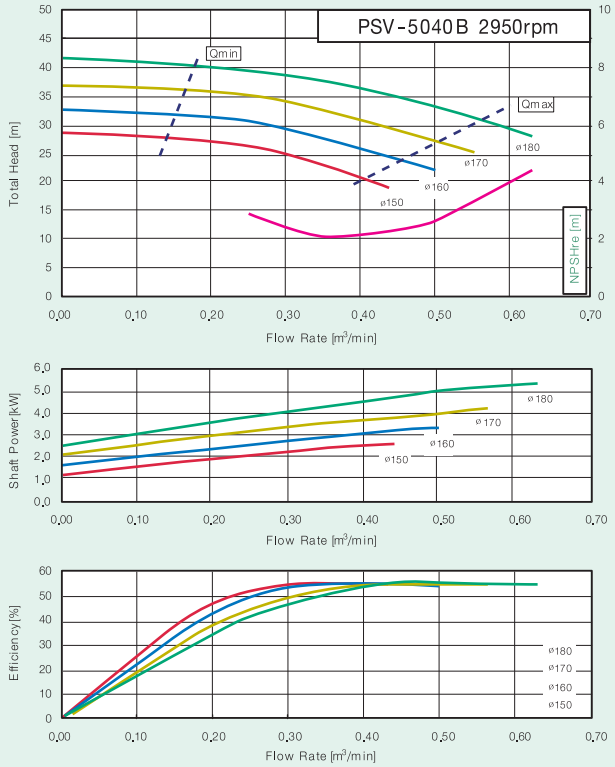
Duty Charts

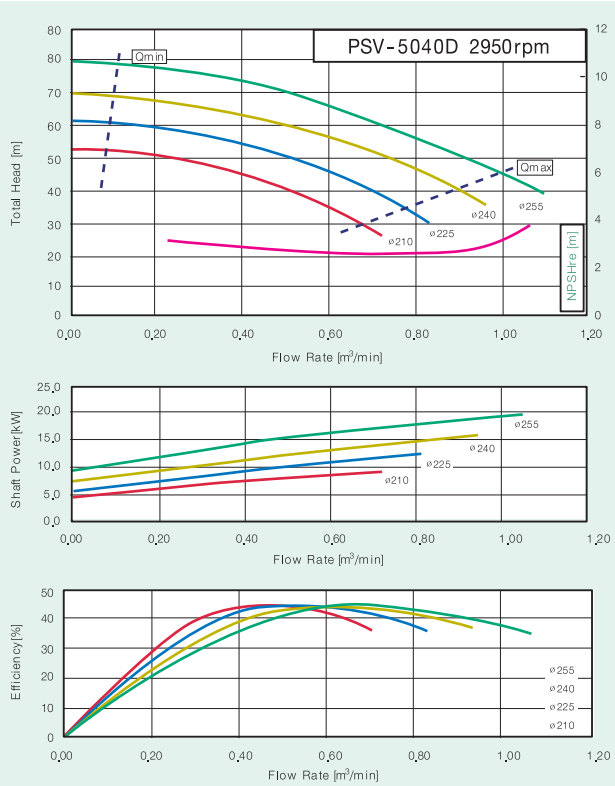









PSV-5040B 2950rpm
Qmin
Qmax
ø150
ø160
ø170
ø180
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]


PSV-5040C 2950rpm
Qmin
Qmax
ø180
ø190
ø200
ø210
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]

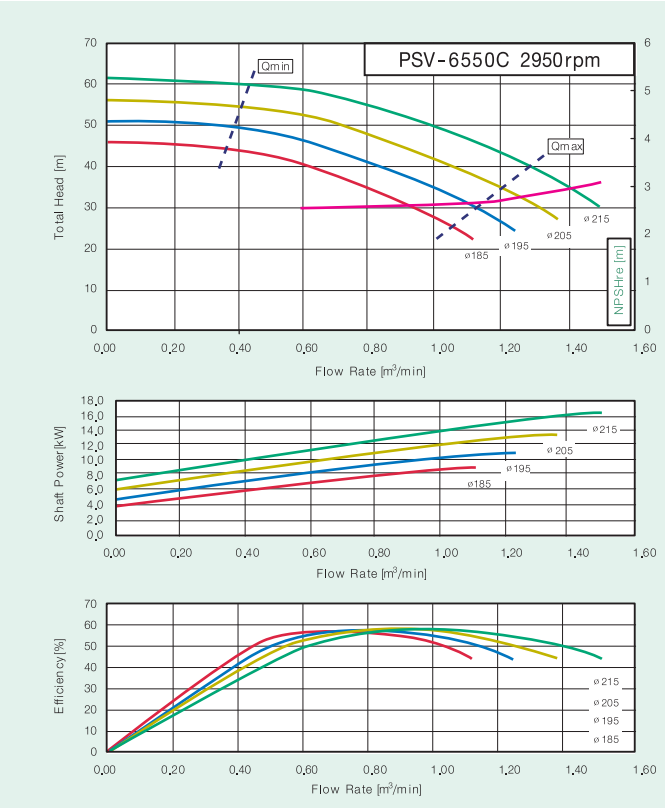
PSV-5040D 2950rpm
Qmin
Qmax
ø210
ø225
ø240
ø255
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]

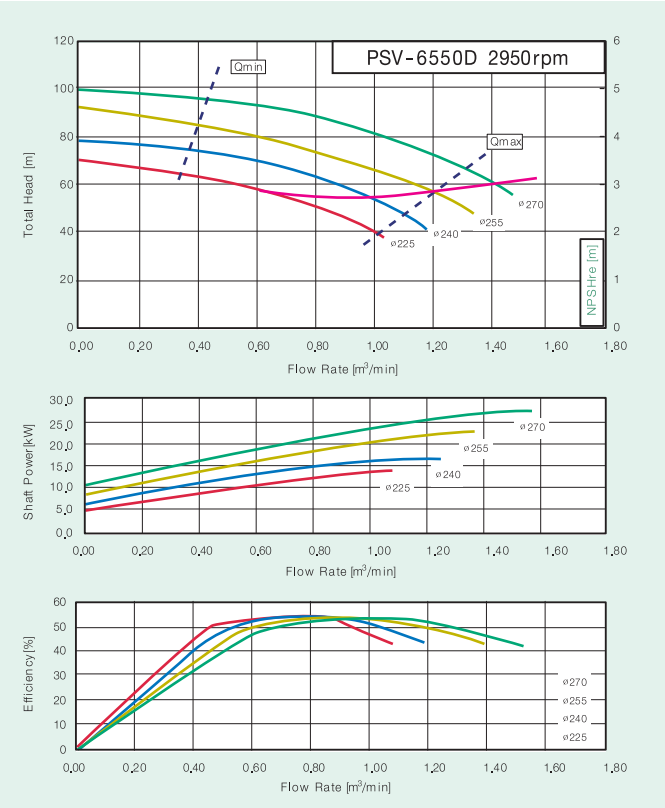
PSV-6550B 2950rpm
Qmin
Qmax
ø147
ø157
ø167
ø177
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]

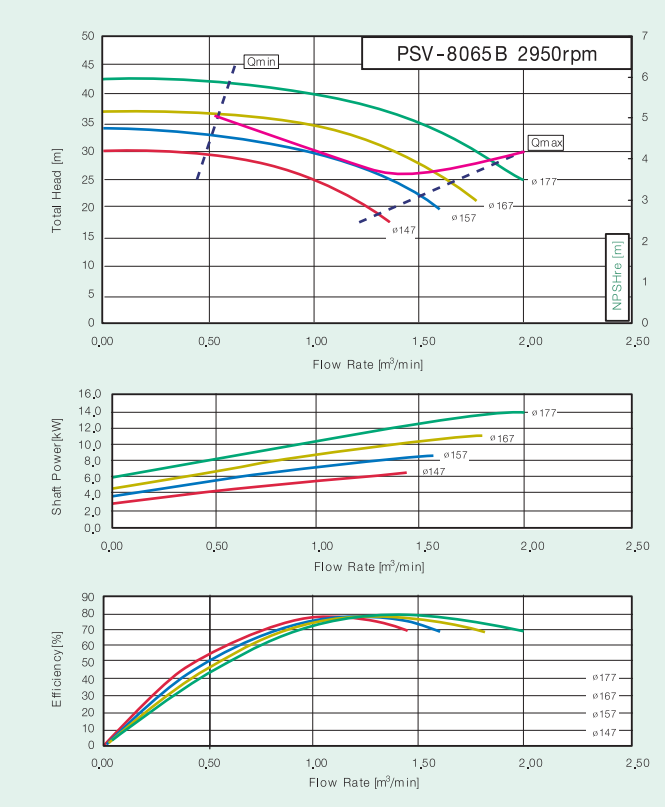
Norm Pumps

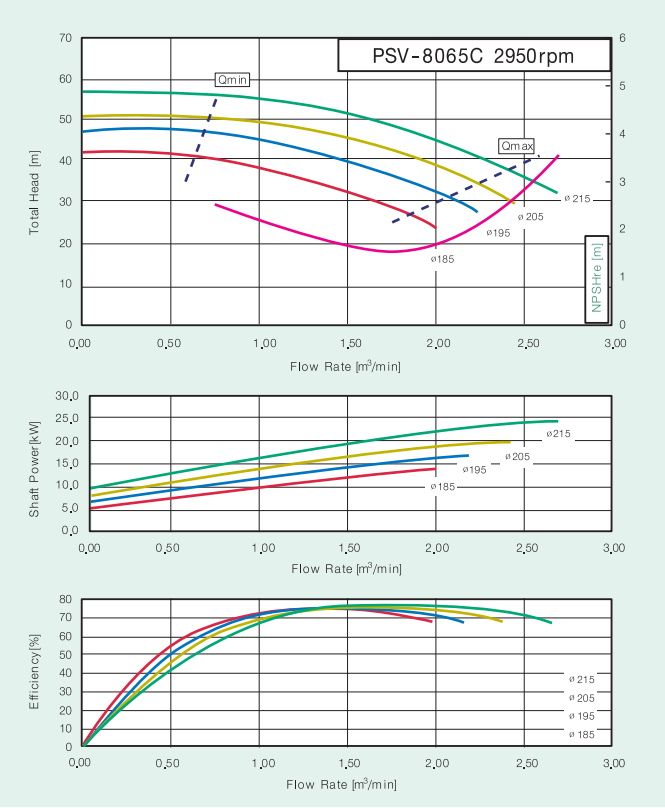
PSV Series(50Hz)-End Suction Pumps

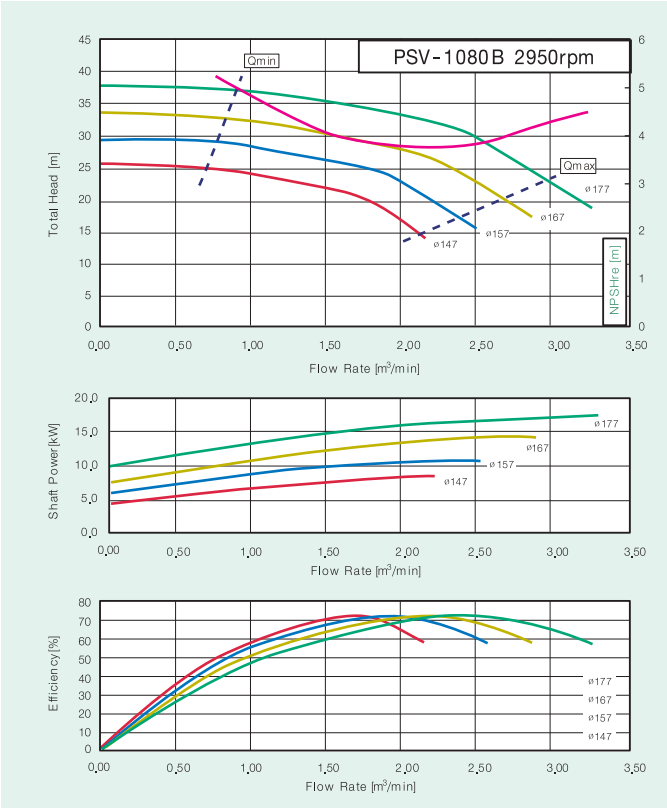
Duty Charts

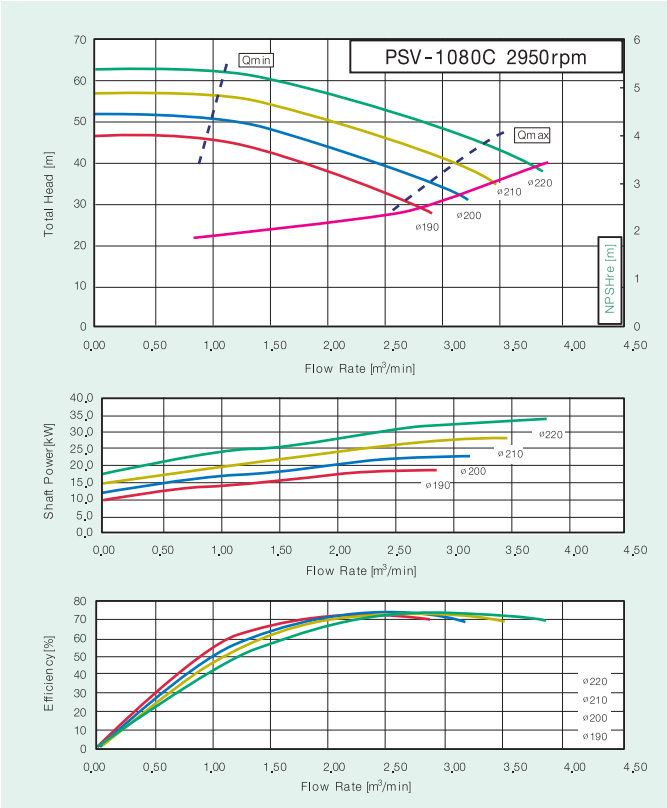








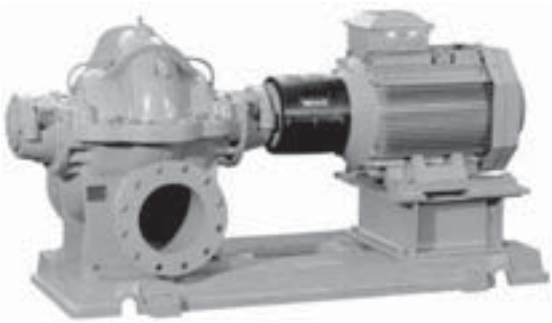

PSV-1080B 2950rpm
Qmin
Qmax
ø147
ø157
ø167
ø177
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power[kW]
Efficiency[%]


PSV-1080C 2950rpm
Qmin
Qmax
ø190
ø200
ø210
ø220
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power[kW]
Efficiency[%]

Norm Pumps

ASP Series(50Hz) -Split Case Pumps

Product Introduction



ASP

Foot mounted split case pumps (DN50~DN400)

Identification Code

e.g.:ASP 200B-75/4

ASP	Axially split case pump
200	Discharge nominal diameter
B	Nominal impeller size from A to E: Single stage pump from G to H: Two stage pump
S	Other impeller design
T	T:Compact construction Ø:Standard construction
75/	Motor power rating P_2(kw)
4	No.of poles

Application

ASP series pumps are suitable to handle clean or slightly soiled water(max. 20ppm) without solid matter for circulating, transfer and booster duties.

- Industries & water works
- Air-conditioning plant
- Irrigation, sprinkler system
- Community & commercial water supply
- Hot & cold water circulation
- Fire fighting

Design Features

-Double suction design
-Gland packing (option) Mechanical seal(standard)
-Vertical Version(option)

Technical Data

Approved Fluids:

- Domestic hot and cold water
- Chilled/condenser water
- Water/glycol mixtures
- Other fluids on request (option)

Performance:

Speed	1450rpm
Connection size	200~400mm(discharge)
Max. working pressure	(from 16 to 25(depending on model))
Max. suction pressure	

Fluid temperature range:
0℃ to +105℃ with gland packing / -8℃ to 120℃ with mechanical seal

Minimum Capacity: Qmin=0.15 Q n

Scope of Supply

- Prime cock
- Drain & air-venting plug
- Coupling guard
- Common base
- Coupling
- Companion flange(option)

Notes

Motor:
Motor drive will have surplus power at the rated pump shaft power. Therefore, the motor rating power should be selected with surplus power as follows:

≤18.5kW : 125%
22kW ~ 55kW : 115%
≤75kW : 110%

NPSHre:
The "NPSH" values given in the perfomance curve sheets are minimum values which correspond to the inception of cavitation. It is therefore necessary for safety reasons to increase the values shown on the curves by 0.5m(1.6ft) head of liquid at least, for practical application.

Perfomance characteristics:
The total heads and the perfomance characteristics refer to mediums compressed with specific weight=1.0kgf/liter and the kinematic viscosity to 20cst.
If the specific weight amounts to≠1.0, the perfomance charateristics are to be multiplied by specific weight.
For stainless steel impeller, the following reductions are necessary for technical reasons in the casting process.

1.Total head & flow rate :
decreased by 5~10%.
2.Efficiencies :
decreased by 3%.

Material

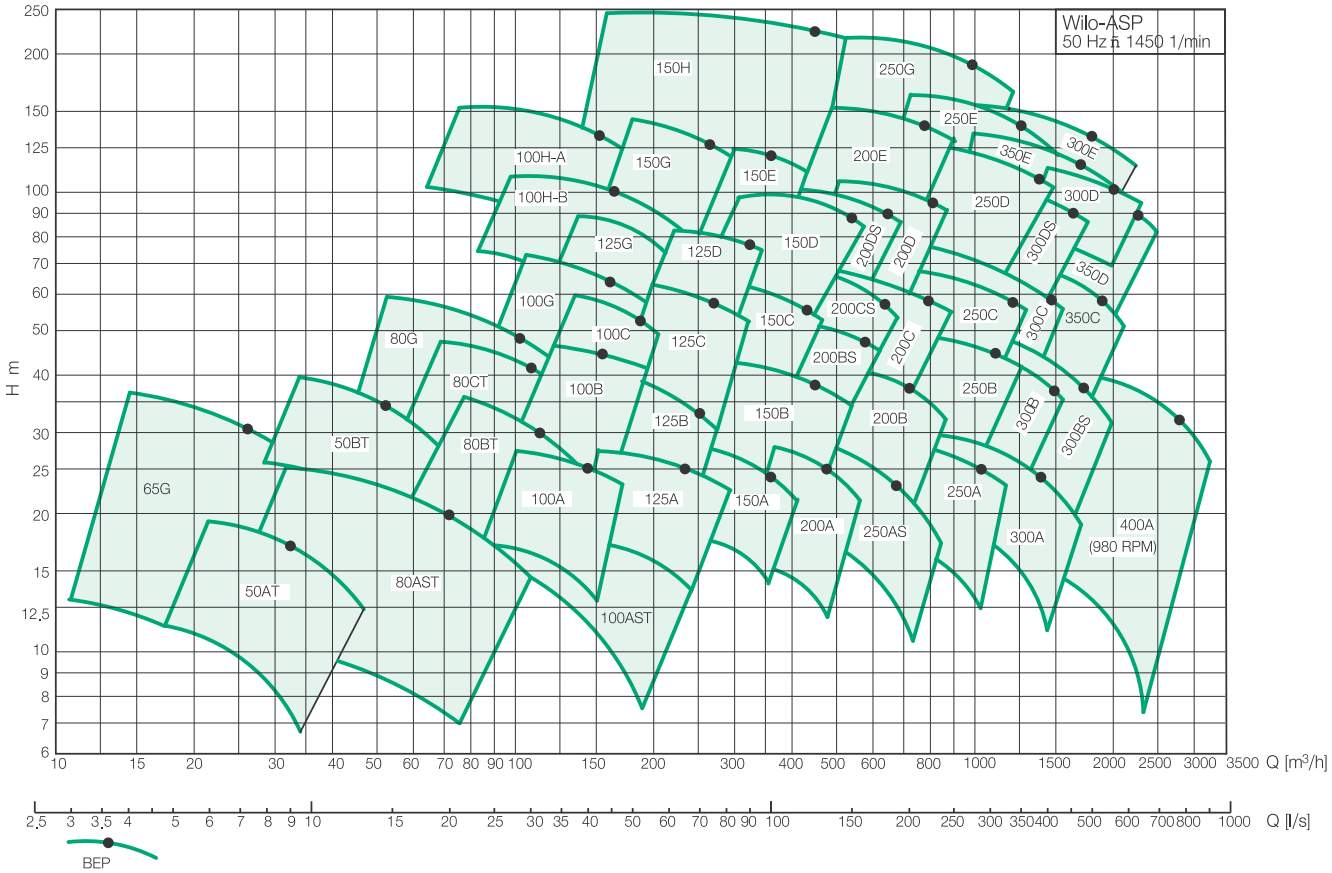
Part Name	Standard
Casing	Cast Iron
Impeller	Bronze
Shaft	Stainless steel
Casing Ring	Bronze

- Non standard materials on request

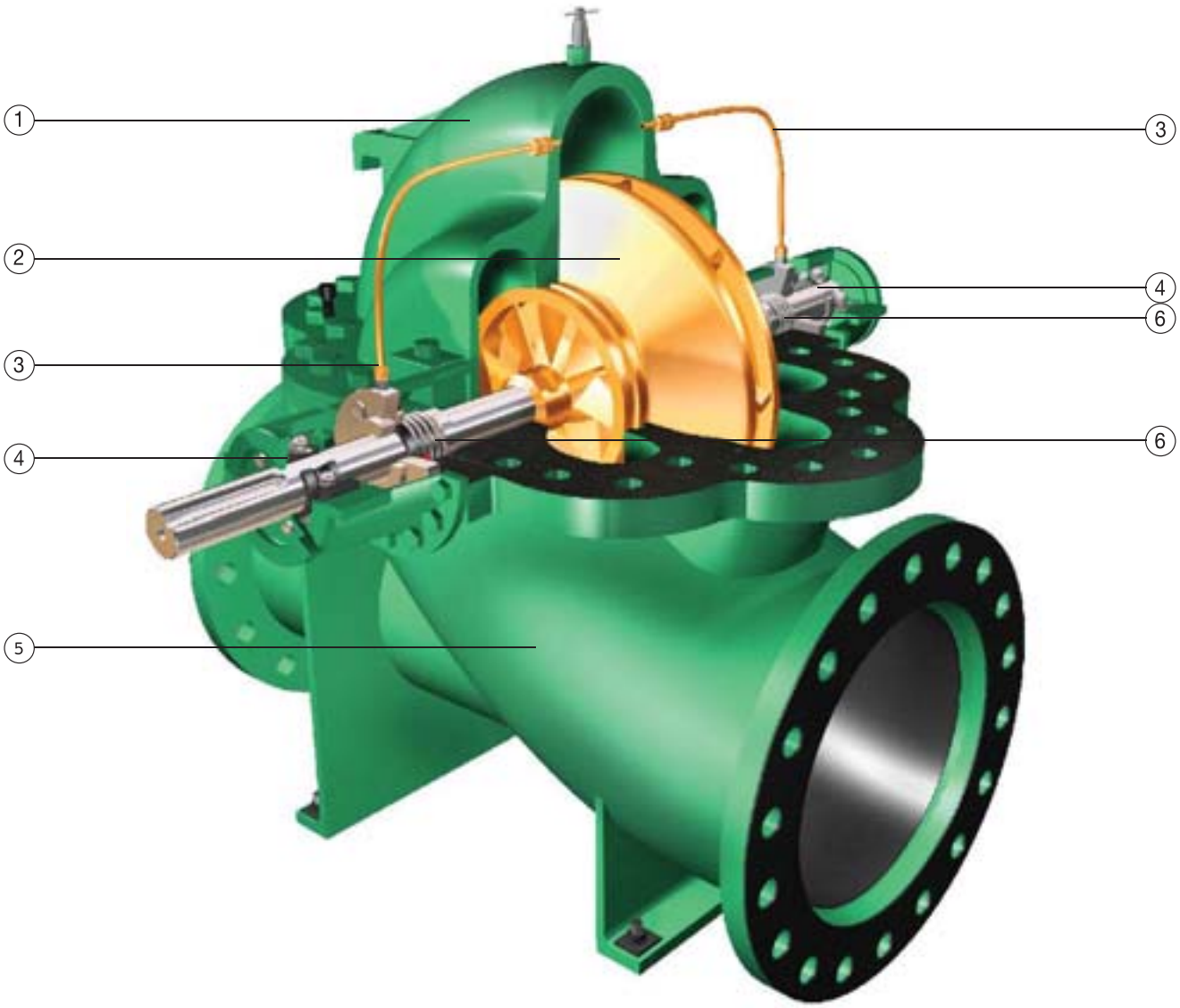
Norm Pumps

ASP Series(50Hz) -Split Case Pumps

Duty charts



Sectional drawing (single stage pump)



1 Top half casing
- Removable (reduces maintenance downtime)
- Standard construction cast iron (alternative materials available on request)

2 Impeller
- Double suction (hydraulically balanced)
- Minimise the axial thrust
- Standard construction bronze (others construction available)

3 Seal return pipes
- Seals flushing
- Cyclone separator available as option

4 Bearings
- Between bearings (minimises shaft deflection)
- Sealed for life bearings

5 Bottom half casing
- Standard construction cast iron (alternative materials available on request)

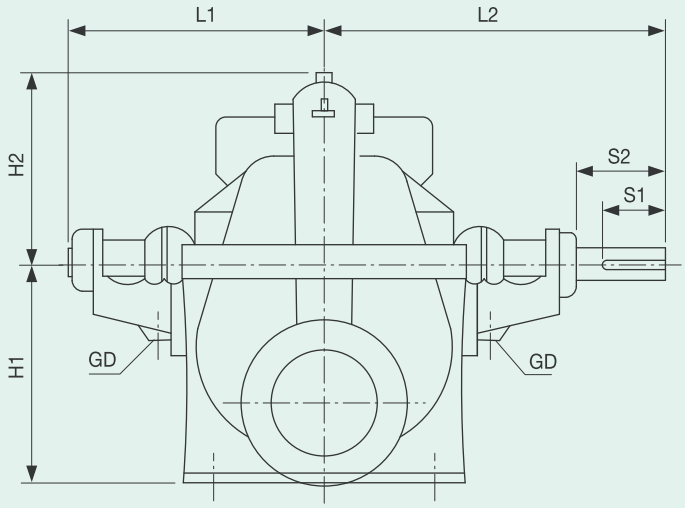
6 Mechanical seals
- Packed glands also available

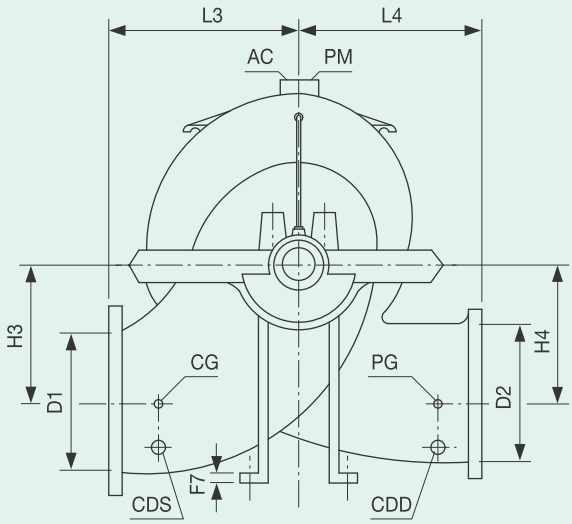
ASP pump types

Pump	Type
50AT	Compact construction
50BT	Compact construction
65G	Two stage
80AST	Compact construction
80BT	Compact construction
80CT	Compact construction
80G	Two stage
100A	Standard single stage
100AST	Compact construction
100B	Standard single stage
100C	Standard single stage
100G	Two stage
100H-A	Two stage
100H-B	Two stage
125A	Standard single stage
125B	Standard single stage
125C	Standard single stage
125D	Standard single stage
125G	Two stage
150A	Standard single stage
150B	Standard single stage
150C	Standard single stage
150D	Standard single stage
150E	Standard single stage
150G	Two stage
150H	Two stage

Pump	Type
200A	Standard single stage
200B	Standard single stage
200BS	Standard single stage
200C	Standard single stage
200CS	Standard single stage
200D	Standard single stage
200DS	Standard single stage
200E	Standard single stage
250A	Standard single stage
250AS	Standard single stage
250B	Standard single stage
250C	Standard single stage
250D	Standard single stage
250E	Standard single stage
250G	Two stage
300A	Standard single stage
300B	Standard single stage
300BS	Standard single stage
300C	Standard single stage
300D	Standard single stage
300DS	Standard single stage
300E	Standard single stage
350C	Standard single stage
350D	Standard single stage
350E	Standard single stage
400A	Standard single stage

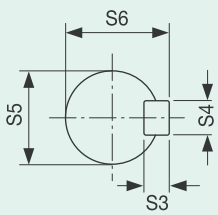
Outline Drawing - Bare shaft pump (single stage version)



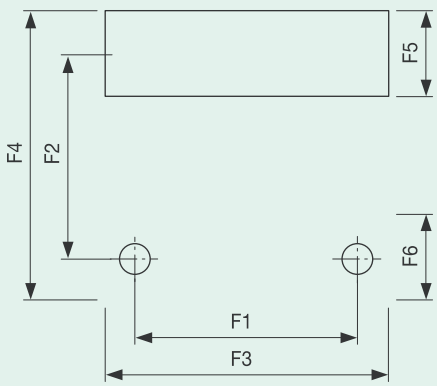


GD	Gland drain	PM	Priming
CG	Comp. gauge for suction	CDS	Casing drain (suction side)
PG	Pr. gauge for delivery	CDD	Casing drain (delivery side)
AC	Air cock		

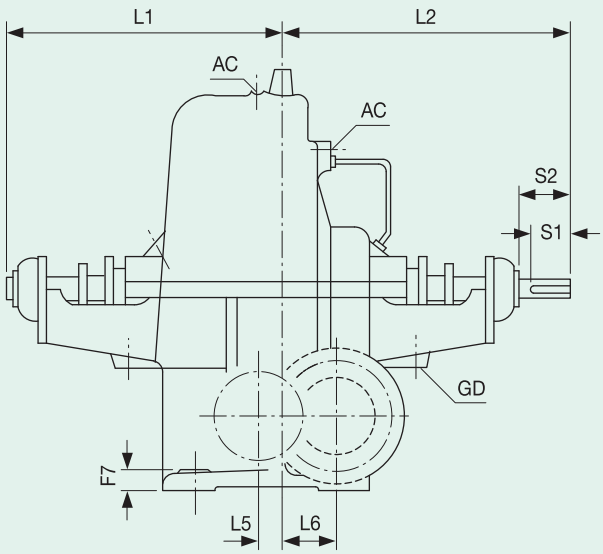
Shaft details - Bare shaft pump (single stage version)

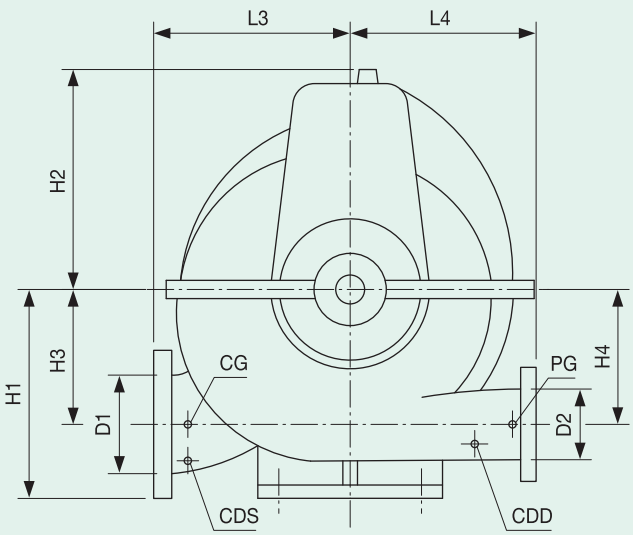


Plan of pump feet - Bare shaft pump (single stage version)



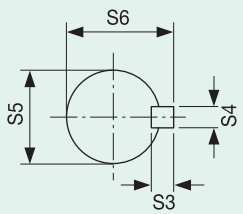
Outline Drawing - Bare shaft pump (two stage version)



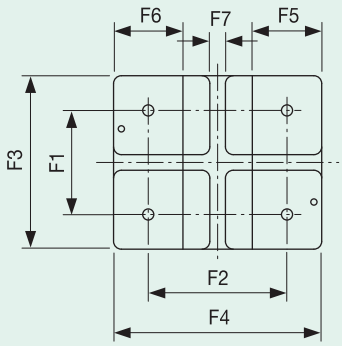


GD	Gland drain	PM	Priming
CG	Comp. gauge for suction	CDS	Casing drain (suction side)
PG	Pr. gauge for delivery	CDD	Casing drain (delivery side)
AC	Air cock		

Shaft details - Bare shaft pump (two stage version)



Plan of pump feet - Bare shaft pump (two stage version)



Norm Pumps

ASP Series(50Hz)-Split Case Pumps

Standard construction data

Dimension, weight - Bare shaft pumps

Pump Type ASP ...	Flanges				Pump										Fixing tab								Shaft end						Shaft group	Weight (Pump)
	D1	PN_1 (suction)	D2	PN_2 (delivery)	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	F1	F2	F3	F4	F5	F6	F7	DF	S1	S2	S3	S4	S5	S6	-	-
	[mm]																													[kg]
50AT	65	16	50	16	185	160	90	90	162	263	230	230	-	-	180	220	220	305	50	50	-	18	50	101	7	8	24	27	1T	80
50BT	65	16	50	16	220	146	125	125	162	263	255	255	-	-	180	260	220	305	50	50	-	18	50	101	7	8	24	27	1T	100
65G	80	16	65	16	285	248	145	145	347	419	230	200	22,5	60	150	200	250	300	100	100	20	16	70	77	7	8	24	27	0S	245
80AST	100	16	80	16	203	140	114	114	162	263	235	210	-	-	180	260	222	305	62,5	62,5	-	18	50	101	7	8	24	27	1T	90
80BT	100	16	80	16	310	220	200	200	180	281	300	250	-	-	220	285	280	350	82,5	82,5	-	18	50	101	7	8	24	27	1T	125
80CT	100	16	80	16	270	208	150	150	225	311	300	300	-	-	250	250	300	305	60	60	-	18	50	90	8	12	39	43	2T	175
80G	100	16	80	16	290	315	180	180	349,5	469	270	250	33	43	250	250	300	300	50	50	20	24	80	90	7	8	29	32	1S	285
100A	125	16	100	16	310	215	195	195	372	459,5	270	220	-	-	250	285	310	350	82,5	82,5	16	18	80	98,5	7	8	29	32	1	190
100AST	125	16	100	16	270	200	135	135	225	311	305	305	-	-	250	260	300	305	60	60	-	18	50	90	8	12	39	43	2T	190
100B	125	16	100	16	330	260	230	230	372	459,5	370	300	-	-	285	285	350	350	82,5	82,5	16	18	80	89,5	7	8	29	32	1	210
100C	125	16	100	16	345	275	245	245	372	459,5	385	315	-	-	315	315	370	410	82,5	82,5	16	18	80	89,5	7	8	29	32	1	250
100G	125	16	100	16	335	345	202	202	379	469	318	295	36,5	49	290	290	340	340	50	50	20	24	80	90	7	8	29	32	1S	312
100H	150	16	100	25	455	740	270	270	508	636	400	360	45	95	330	330	400	400	90	90	32	34	110	134	10	16	54	58	3S	750
125A	150	16	125	16	330	245	210	210	372	459,5	330	265	-	-	280	285	340	350	82,5	82,5	25	18	80	89,5	7	8	29	32	1	235
125B	150	16	125	16	330	240	213	213	372	459,5	350	280	-	-	285	285	340	350	70	70	25	18	80	89,5	7	8	29	32	1	270
125C	150	16	125	16	390	300	270	270	372	459,5	420	305	-	-	330	285	400	350	82,5	82,5	16	18	80	89,5	7	8	29	32	1	275
125D	150	16	125	16	415	318	295	295	452	552	420	400	-	-	360	360	420	425	82,5	82,5	25	22	95	100	8	12	39	42	2	500
125G	150	16	125	16	335	390	200	200	432	532	350	325	41	78	290	290	340	340	50	50	24	34	95	100	8	12	39	42	2S	475
150A	200	16	150	16	380	255	220	220	372	459,5	350	265	-	-	280	285	340	350	82,5	82,5	16	18	80	89,5	7	8	29	32	1	285
150B	200	16	150	16	400	290	250	250	452	552	390	320	-	-	360	360	420	425	82,5	82,5	20	22	95	100	8	12	39	42	2	415
150C	200	16	150	16	410	315	270	270	452	552	410	360	-	-	360	360	420	425	82,5	82,5	20	22	95	100	8	12	39	42	2	450
150D	200	16	150	25	460	365	320	320	480	605	440	430	-	-	400	360	460	425	82,5	82,5	25	26	110	125	10	16	54	58	3	600
150E	200	16	150	25	500	390	360	360	480	605	500	400	-	-	440	360	500	425	82,5	82,5	25	26	110	125	10	16	54	58	3	650
150G	200	16	150	25	455	430	280	280	490	615	510	370	41,3	141,3	330	330	400	400	70	70	34	110	110	125	10	16	54	58	3S	820
150H [1]	200	16	150	40	510	880	345	345	685	850	510	445	52	152	430	880	526	990	160	160	32	340	130	160	12	20	69	73,5	4S	1600
200A	200	16	200	16	410	290	250	250	452	552	400	320	-	-	360	360	420	425	82,5	82,5	20	22	95	100	8	12	39	42	2	370
200B	250	16	200	16	465	330	285	285	452	552	440	350	-	-	440	360	500	425	82,5	82,5	20	22	95	100	8	12	39	42	2	520
200BS	200	16	200	16	430	330	270	270	452	552	420	350	-	-	360	360	420	425	82,5	82,5	20	22	95	100	8	12	39	42	2	475
200C	250	16	200	16	490	340	295	295	480	605	450	365	-	-	440	360	500	425	82,5	82,5	25	26	110	125	10	16	54	58	3	615
200CS	200	16	200	16	500	345	300	300	480	605	450	400	-	-	440	360	500	425	82,5	82,5	30	26	110	125	10	16	54	58	3	615
200D	250	16	200	25	550	395	360	360	550	685	520	400	-	-	455	500	520	570	100	100	28	28	130	147,5	12	20	69	74	4	900
200DS	200	16	200	25	555	385	360	360	480	605	500	400	-	-	440	360	500	425	82,5	82,5	30	26	110	125	10	16	54	58	3	840
200E	250	16	200	25	615	450	430	430	550	685	580	480	-	-	455	500	520	570	100	100	28	28	130	147,5	12	20	69	74	4	1240
250A	300	16	250	16	520	340	295	295	480	605	500	365	-	-	470	360	530	425	82,5	82,5	25	26	110	125	10	16	54	58	3	575
250AS	250	16	250	16	505	323	275	275	452	552	475	380	-	-	470	360	530	425	100	100	25	26	95	100	8	12	39	42	2	630
250B	300	16	250	16	520	355	320	320	480	605	500	400	-	-	440	360	500	425	82,5	82,5	25	26	110	125	10	16	54	58	3	715
250C	300	16	250	16	540	375	335	335	480	605	500	400	-	-	470	360	530	425	82,5	82,5	25	26	110	125	10	16	54	58	3	890
250D	300	16	250	25	555	410	355	355	550	685	584	492	-	-	470	500	530	570	100	100	25	28	130	147,5	12	20	69	74	4	875
250E	300	16	250	25	650	470	407	407	618	753	640	560	-	-	400	620	500	750	175	175	30	28	115	135	14	22	79	85	5	1600
250G	300	16	250	25	610	675	350	350	765	920,5	600	600	70	250	540	540	700	700	160	160	35	36	170	200	14	22	84	84	5S	2000
300A	350	16	300	16	550	355	305	305	505	630	545	400	-	-	470	470	530	535	82,5	82,5	25	26	110	125	10	16	54	58	3	800
300B	350	16	300	16	575	375	335	335	480	605	550	365	-	-	470	470	530	535	82,5	82,5	25	26	110	125	10	16	54	58	3	740
300BS	400	16	300	16	610	385	350	350	530	665	550	350	-	-	470	500	530	570	100	100	25	28	110	130	10	16	54	58	3	900
300C	350	16	300	16	600	380	345	345	550	685	575	475	-	-	455	640	520	720	125	125	28	28	130	147,5	12	20	69	74	4	1195
300D	350	16	300	25	700	466	470	470	760	950	750	650	-	-	650	600	800	700	150	150	36	30	150	190	14	25	94	99	7	1800
300DS	350	16	300	25	635	450	378	378	550	685	630	550	-	-	455	640	520	720	125	125	28	28	130	147,5	12	20	69	74	4	1350
300E	350	16	300	25	725	465	445	445	656	861	660	610	-	-	400	620	530	750	175	175	30	28	120	211	14	25	89	94	6	1540
350C	400	16	350	16	660	445	380	380	569	704	650	547	-	-	555	550	620	620	100	100	25	28	130	147,5	12	20	69	74	4	1100
350D	450	16	350	25	750	548	410	410	760	950	700	560	-	-	600	700	700	820	185	185	30	28	150	190	14	25	94	99	7	2700
350E	400	16	350	25	750	490	450	450	618	753	710	655	-	-	500	500	630	630	175	175	30	28	115	135	14	22	79	85	5	1600
400A [1]	500	16	400	16	440	490	428	428	620	770	635	432	-	-	930	380	1040	540	125	125	30	32	130	150,5	12	20	69	74	4	1400

[1] Note: The flanges bottom are below the feet.

Plug connection details - Bare shaft pumps

Item	Description	Single stage pumps							Two stage pumps						Compact construction	
		Shaft group							Shaft group						Shaft group	
		1	2	3	4	5	6	7	0S	1S	2S	3S	4S	5S	1T	2T
GD	Gland drain	1/2	1/2	1/2	1/2	1/2	1	1	1/2	1/2	1/2	3/4	1/2	1	-	-
CG	Compound gauge	3/8	3/8	3/8	3/8	3/8	3/4	1/2	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
PG	Pressure gauge	3/8	3/8	3/8	3/8	3/8	3/4	1/2	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
AC	Air cock	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/4	3/8	3/8	3/8	3/8	3/8	1/4	3/8
PM	Priming	3/4	3/4	1	1 1/2	1	1	1	1/2	1/2	3/4	1	1	1	3/4	3/4
CDS	Casing drain(suction side)	1/2	3/4	3/4	1	1	1	1	1/2	1/2	1/2	1/2	1/2	1	1/2	1/2
CDD	Casing drain (delivery side)	1/2	3/4	3/4	1	1	1	1	1/2	1/2	1/2	1/2	1/2	1	1/2	1/2

*All taps are NPT standard.

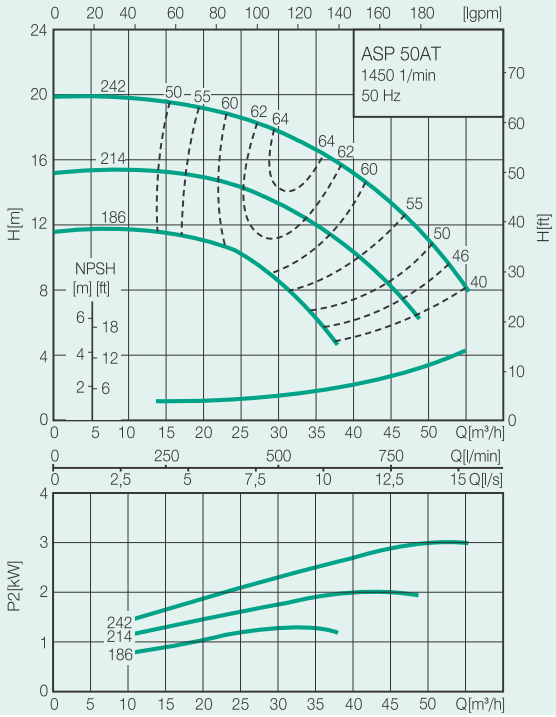
Norm Pumps

ASP Series(50Hz)-Split Case Pumps

Duty Charts

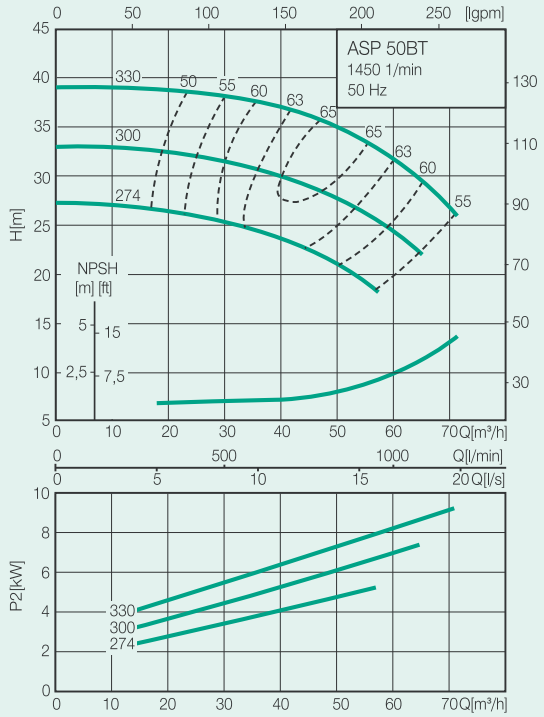
ASP 50AT

Speed 1450 1/min



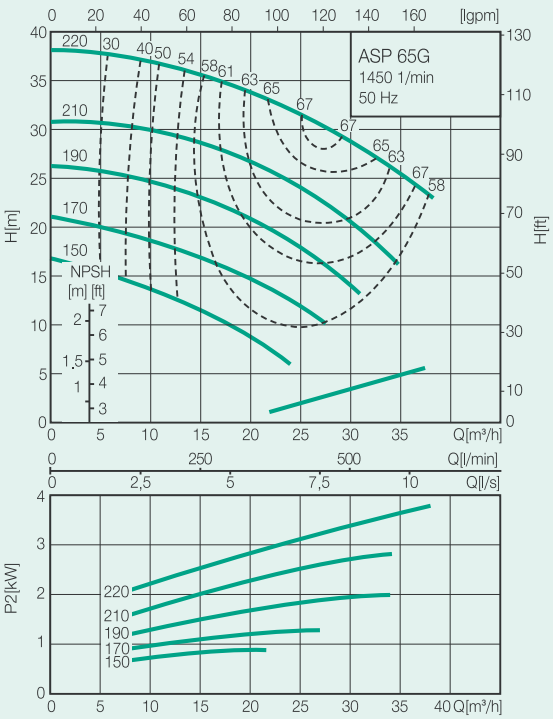
ASP 50BT

Speed 1450 1/min



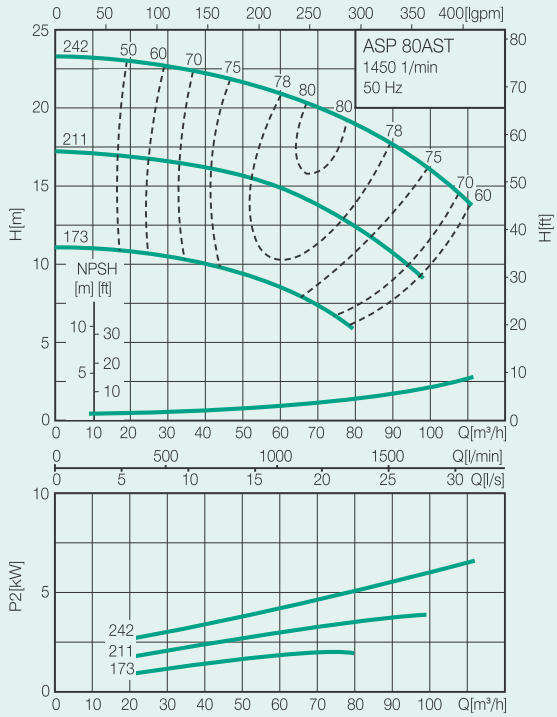
ASP 65G

Speed 1450 1/min



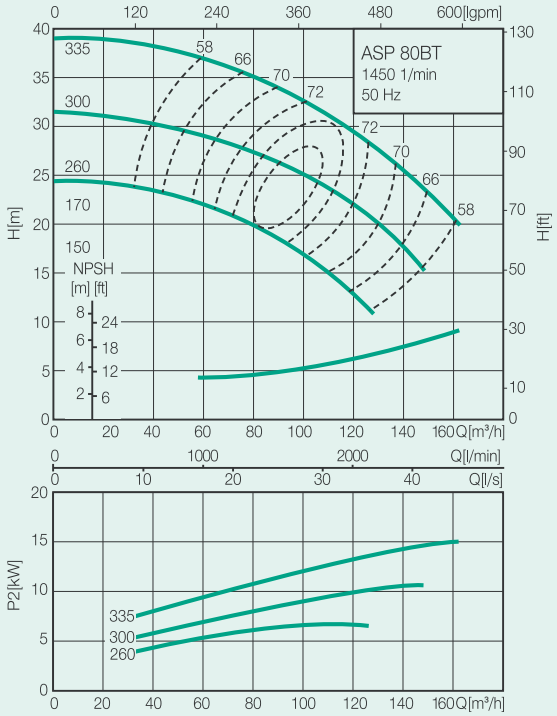
ASP 80AST

Speed 1450 1/min



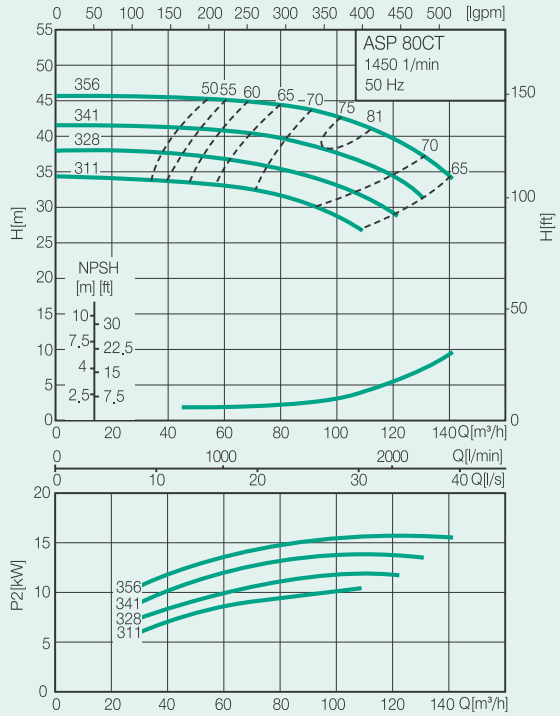
ASP 80BT

Speed 1450 1/min



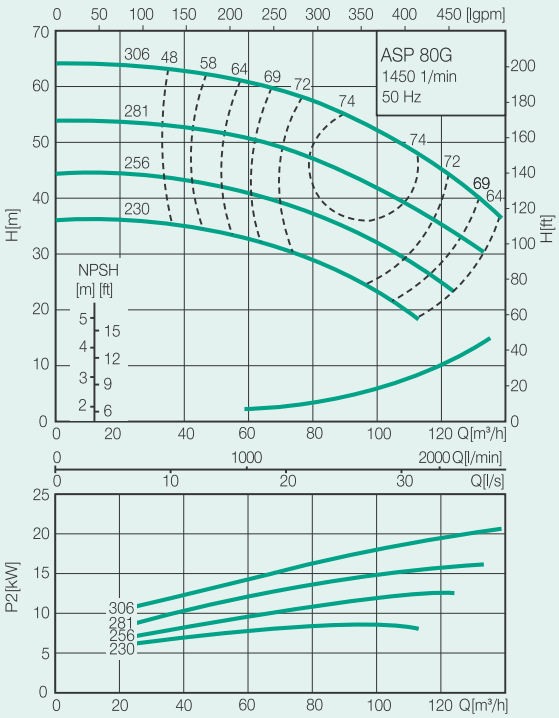
ASP 80CT

Speed 1450 1/min



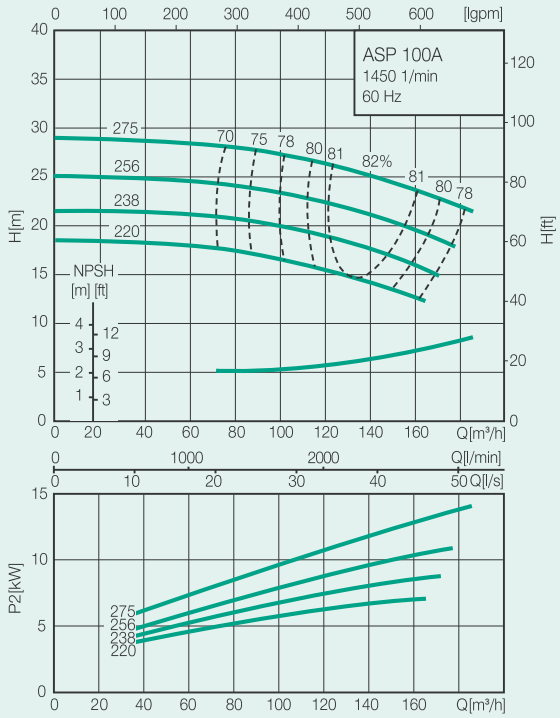
ASP 80G

Speed 1450 1/min



ASP 100A

Speed 1450 1/min



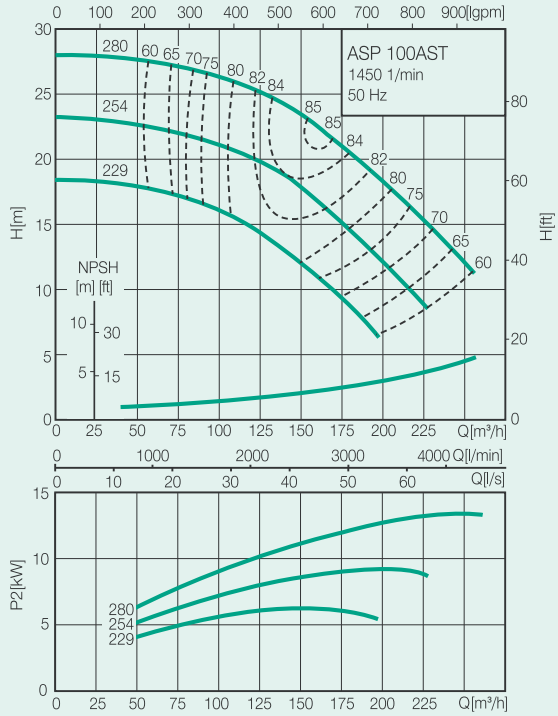
Norm Pumps

ASP Series(50Hz)-Split Case Pumps

Duty Charts

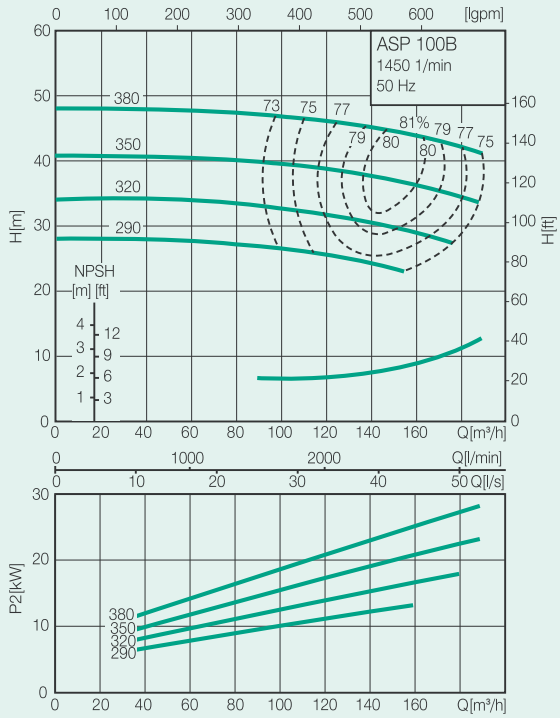
ASP 100AST

Speed 1450 1/min



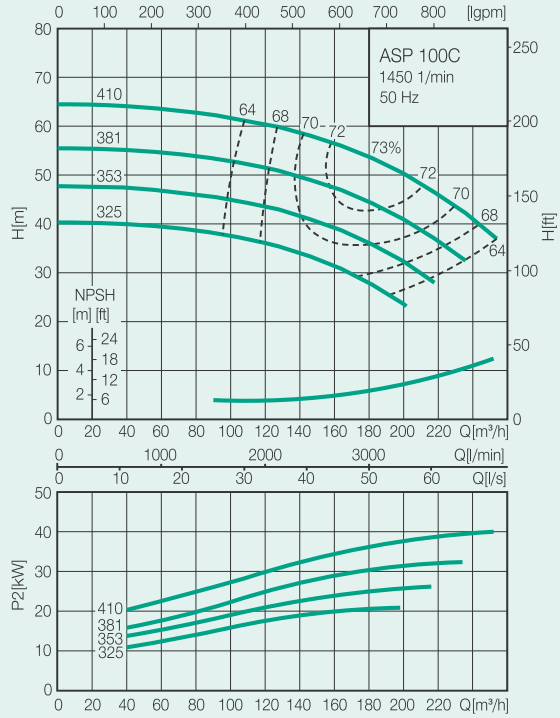
ASP 100B

Speed 1450 1/min



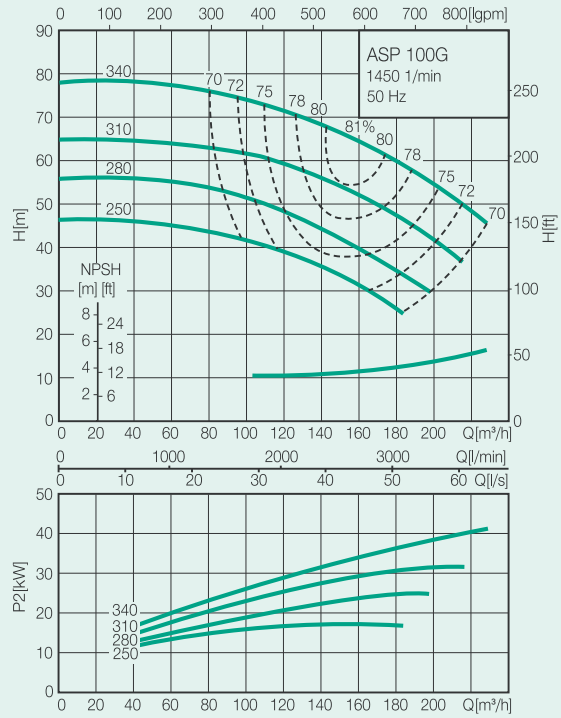
ASP 100C

Speed 1450 1/min



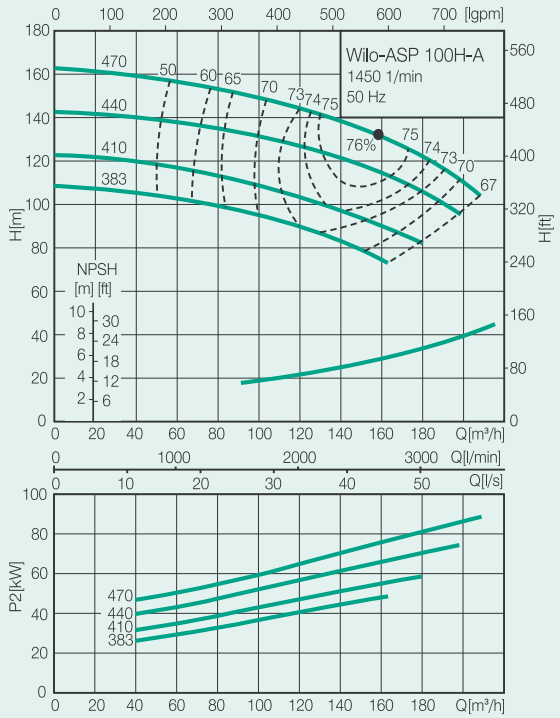
ASP 100G

Speed 1450 1/min



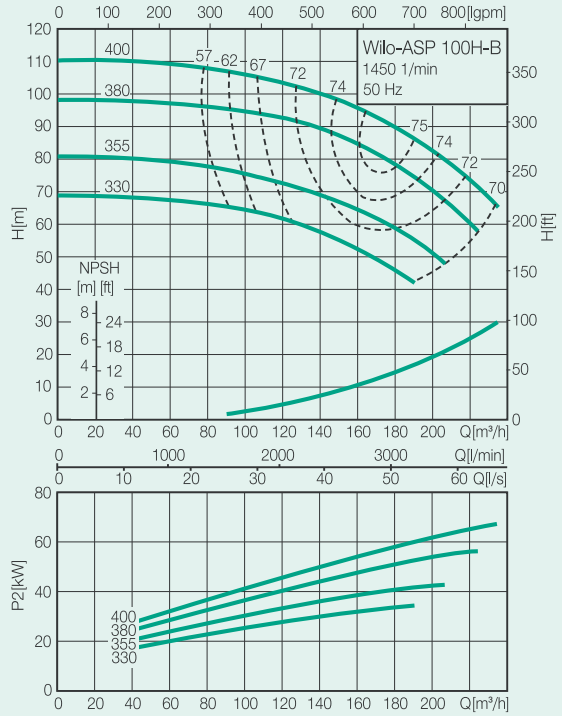
ASP 100H- A

Speed 1450 1/min



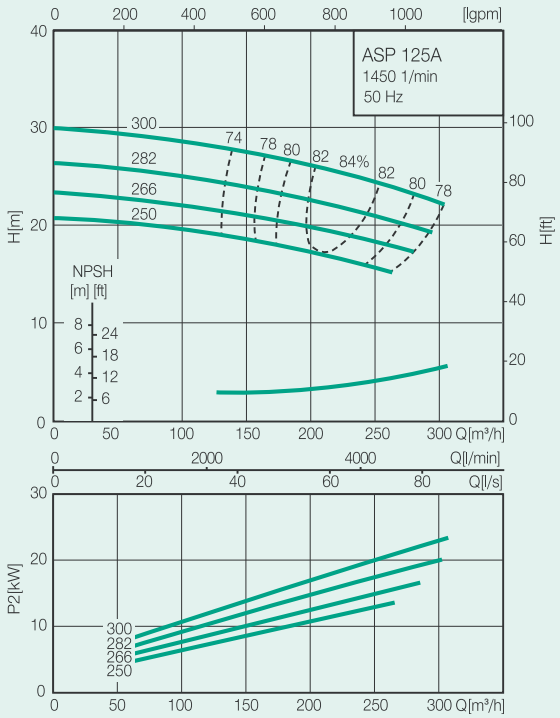
ASP 100H-B

Speed 1450 1/min



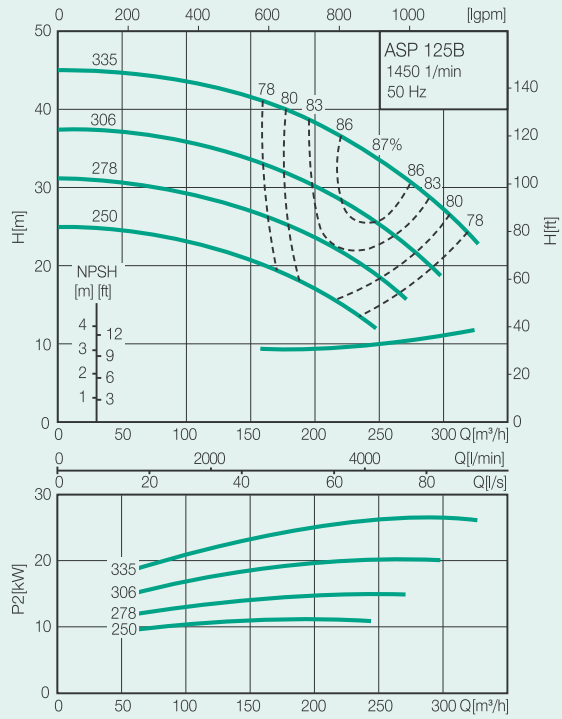
ASP 125A

Speed 1450 1/min



ASP 125B

Speed 1450 1/min



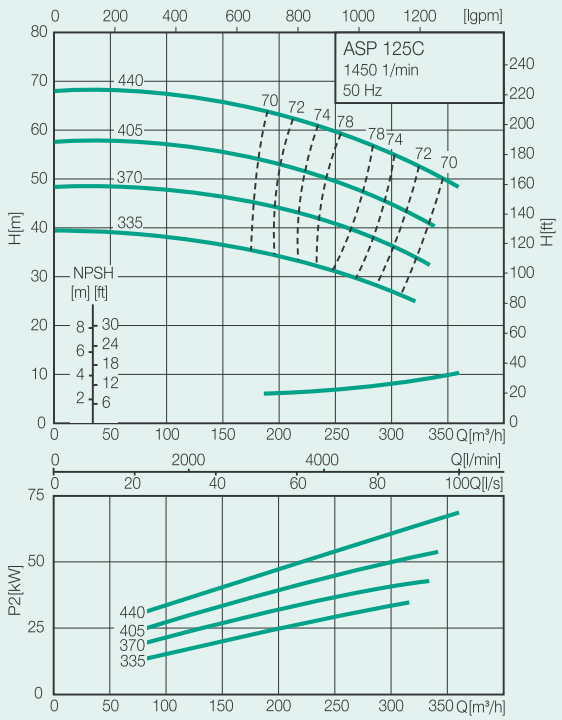
Norm Pumps

ASP Series(50Hz) -Split Case Pumps

Duty Charts

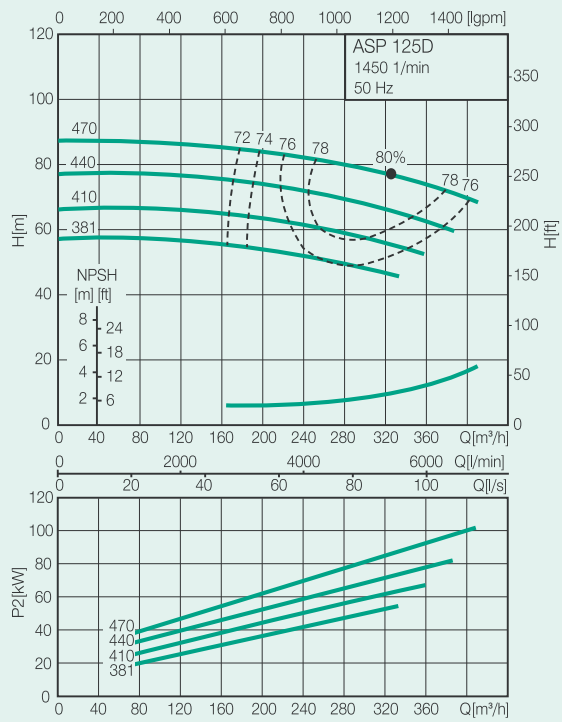
ASP 125C

Speed 1450 1/min



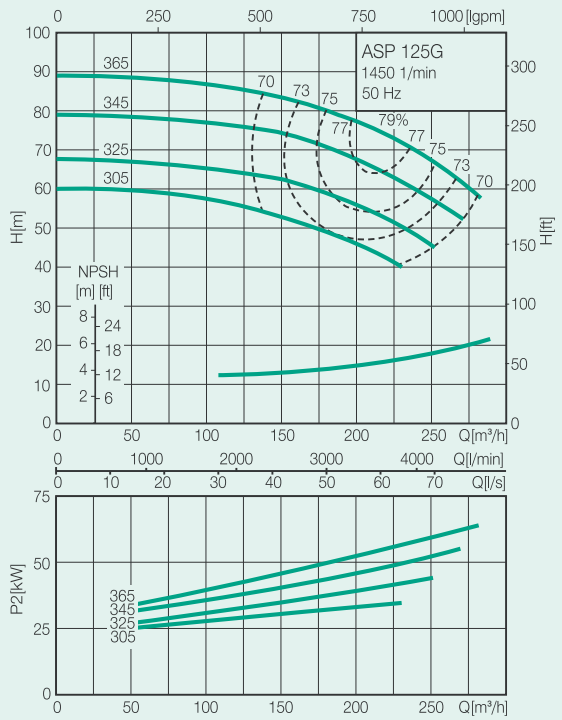
ASP 125D

Speed 1450 1/min



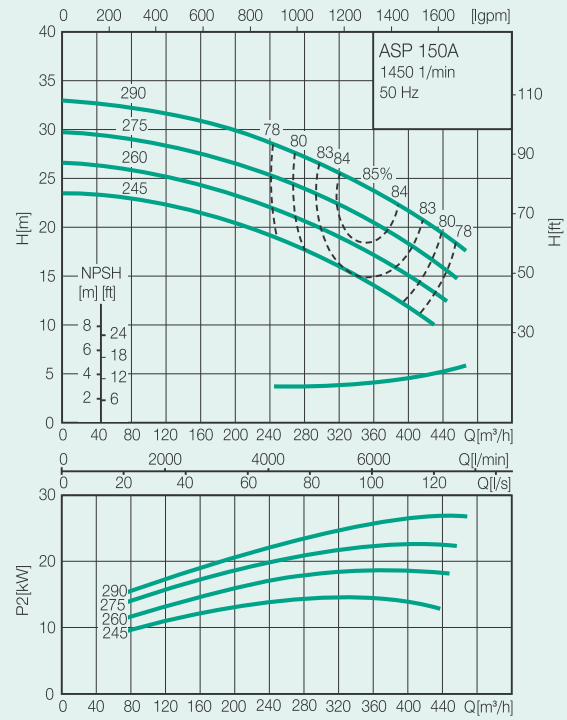
ASP 125G

Speed 1450 1/min



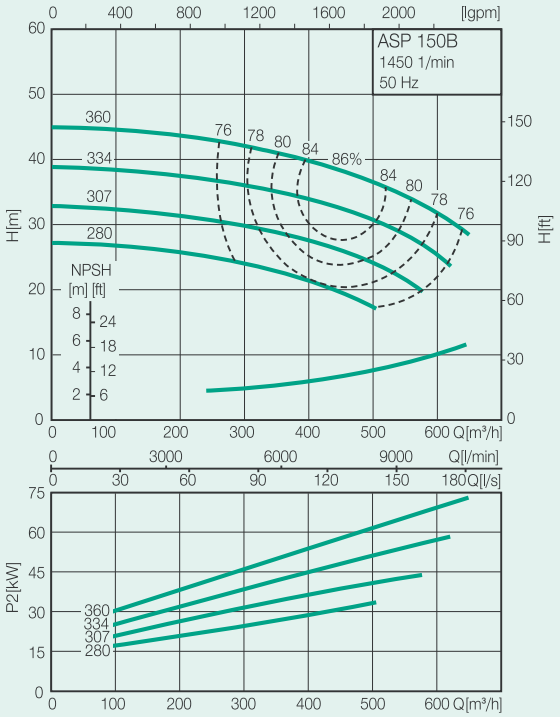
ASP 150A

Speed 1450 1/min



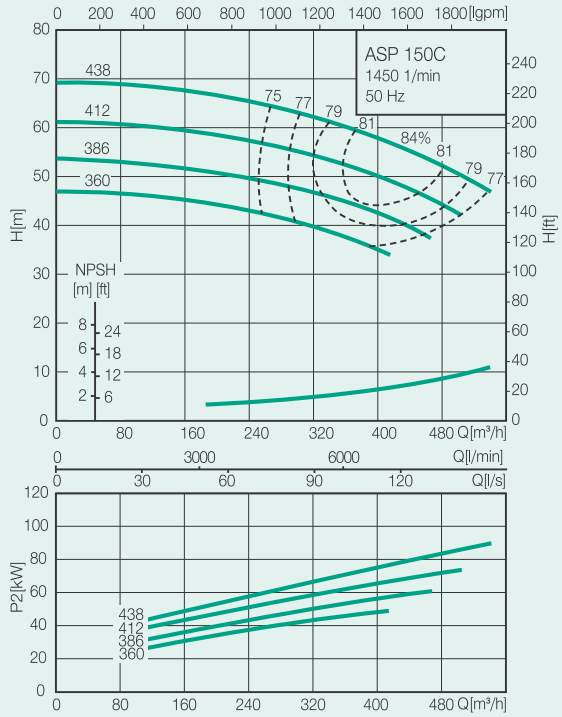
ASP 150B

Speed 1450 1/min



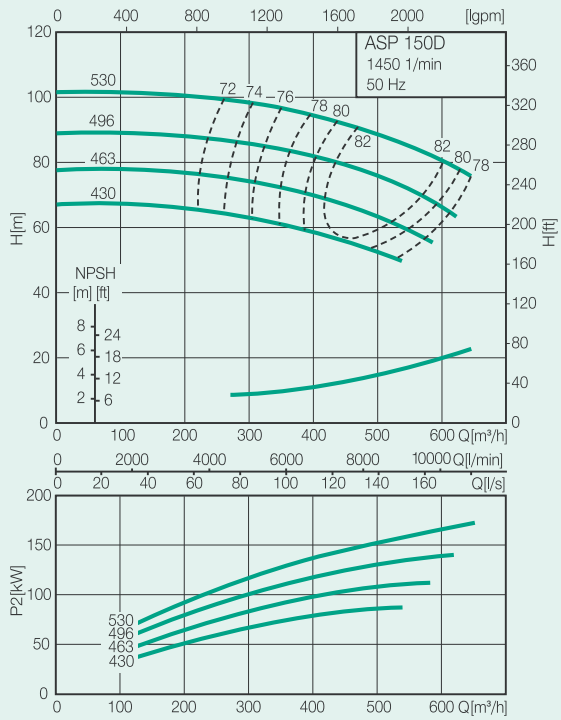
ASP 150C

Speed 1450 1/min



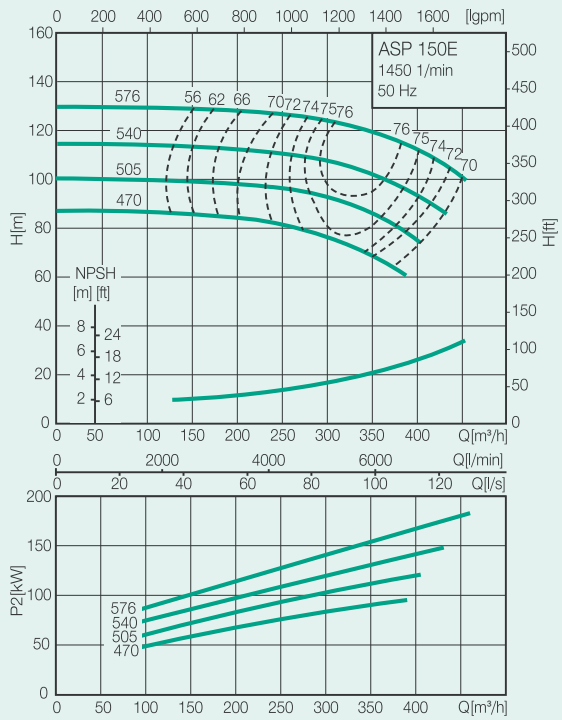
ASP 150D

Speed 1450 1/min



ASP 150E

Speed 1450 1/min



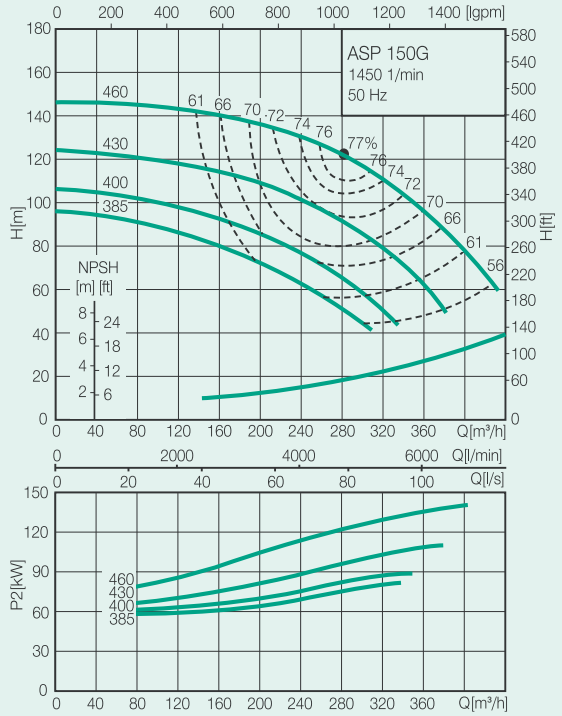
Norm Pumps

ASP Series(50Hz) -Split Case Pumps

Duty Charts

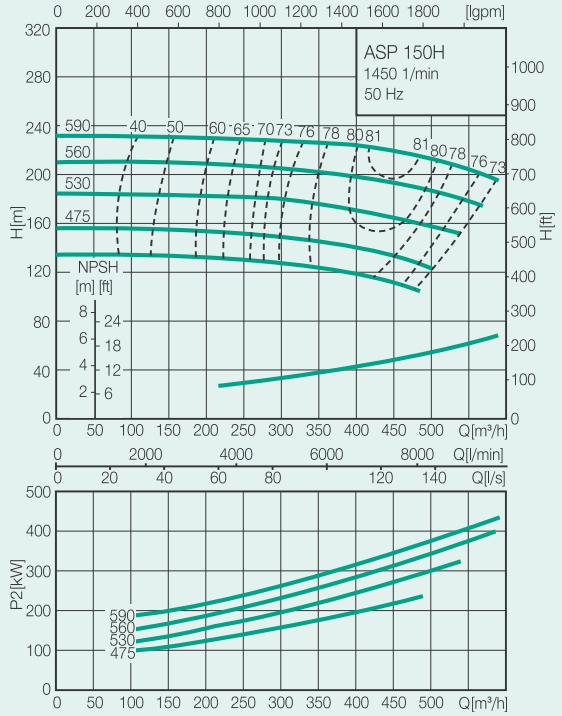
ASP 150G

Speed 1450 1/min



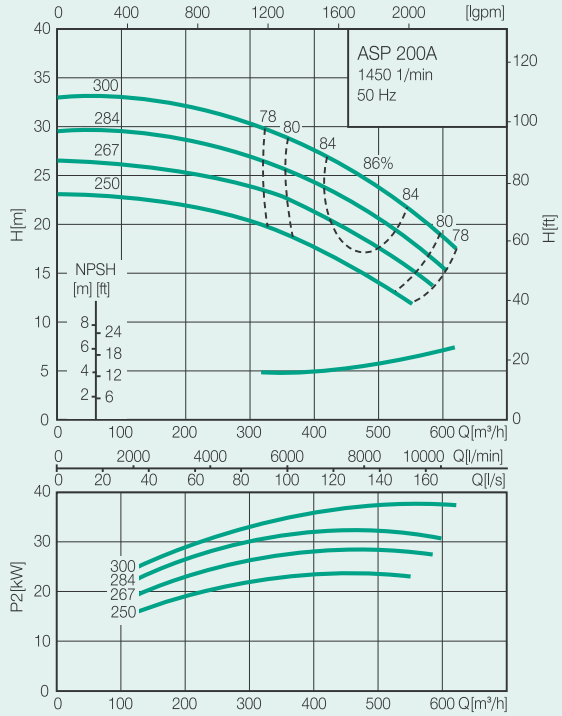
ASP 150H

Speed 1450 1/min



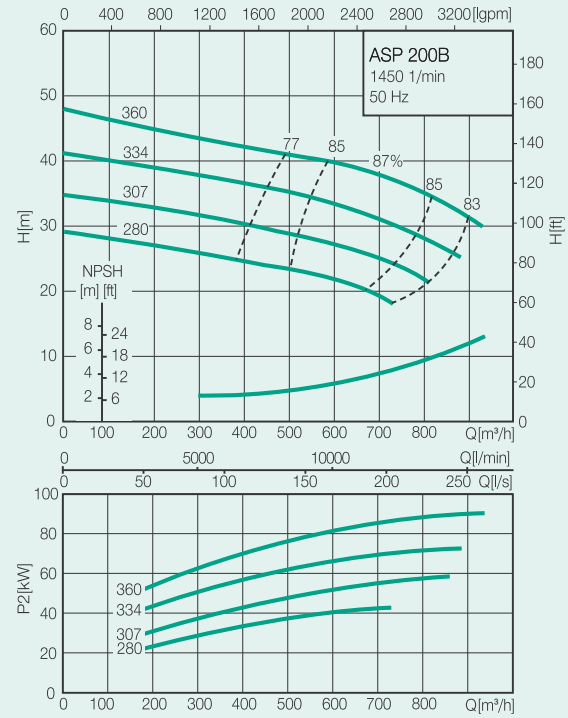
ASP 200A

Speed 1450 1/min



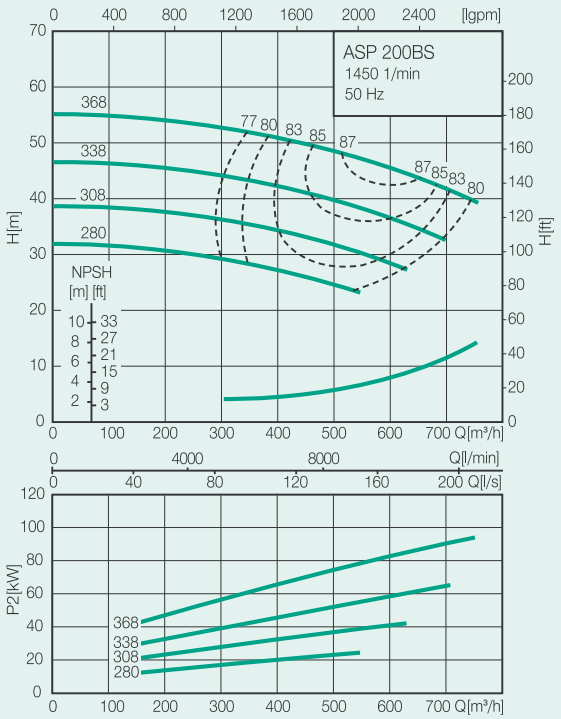
ASP 200B

Speed 1450 1/min



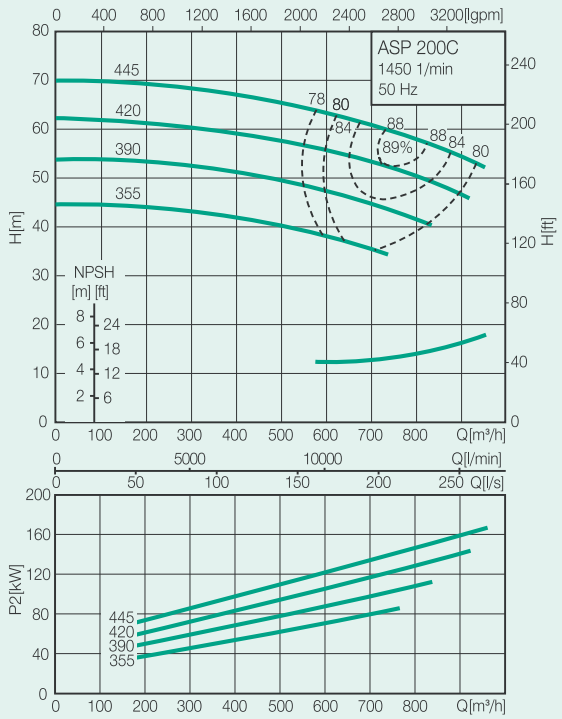
ASP 200BS

Speed 1450 1/min



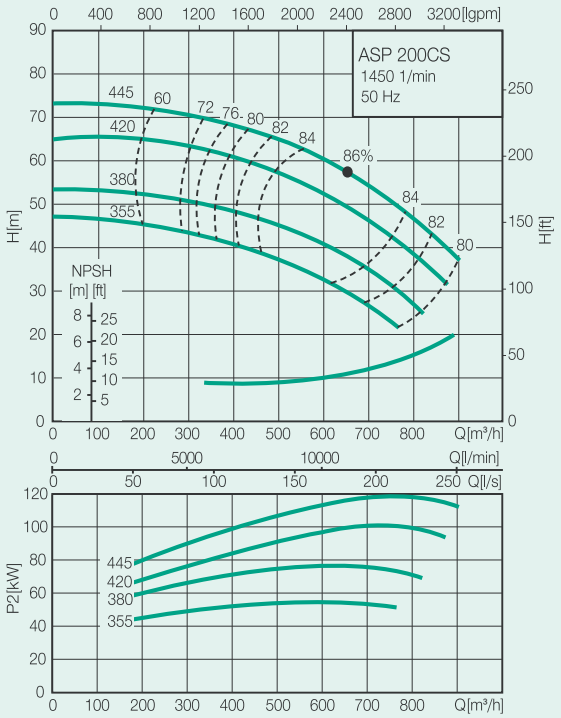
ASP 200C

Speed 1450 1/min



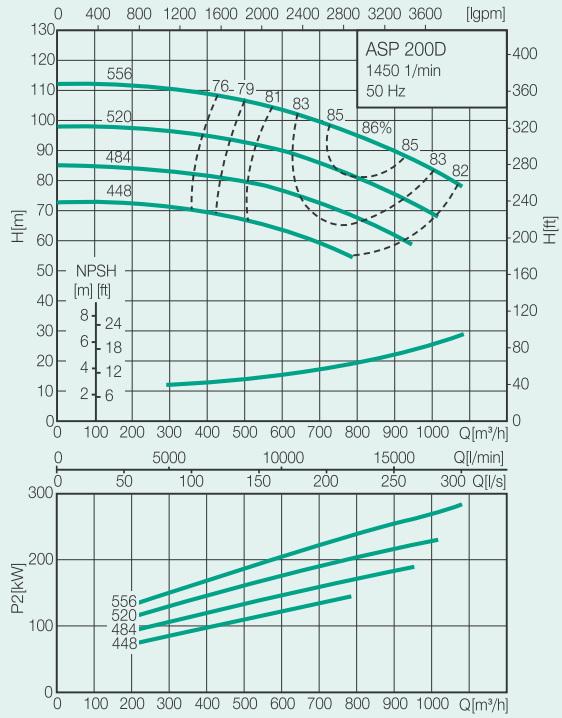
ASP 200CS

Speed 1450 1/min



ASP 200D

Speed 1450 1/min



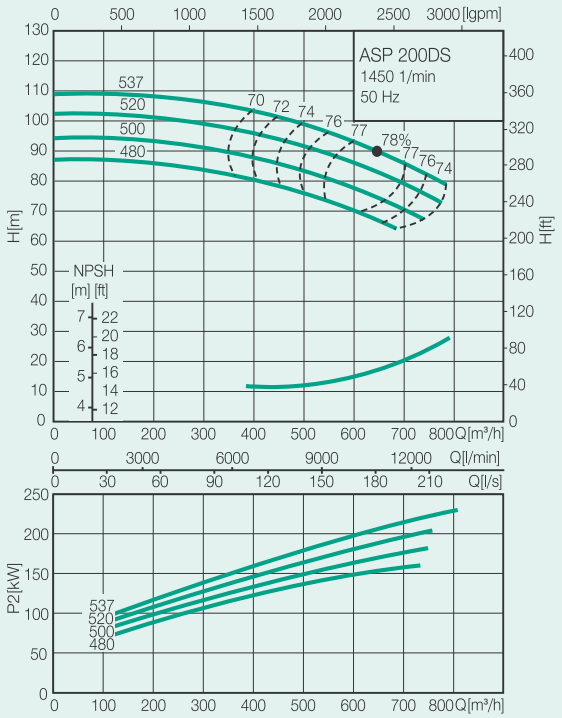
Norm Pumps

ASP Series(50Hz)-Split Case Pumps

Duty Charts

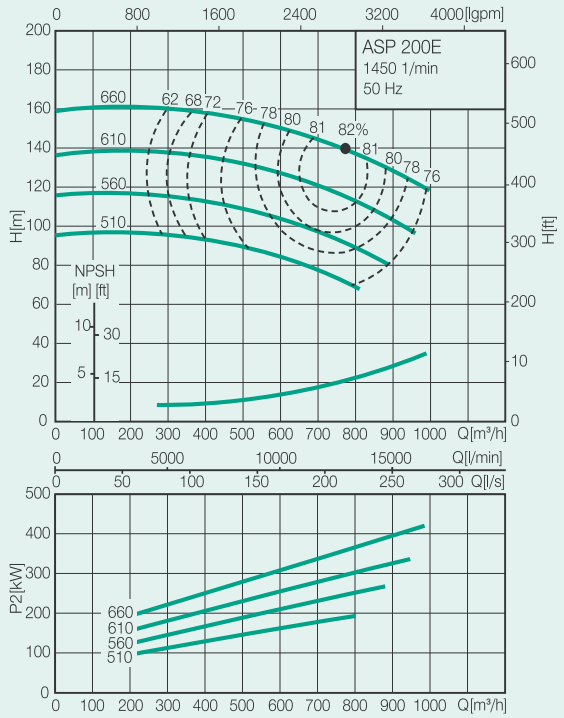
ASP 200DS

Speed 1450 1/min



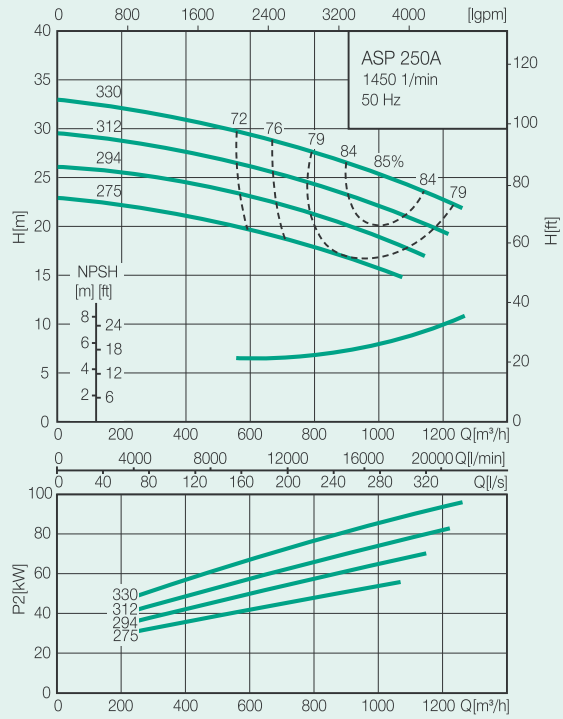
ASP 200E

Speed 1450 1/min



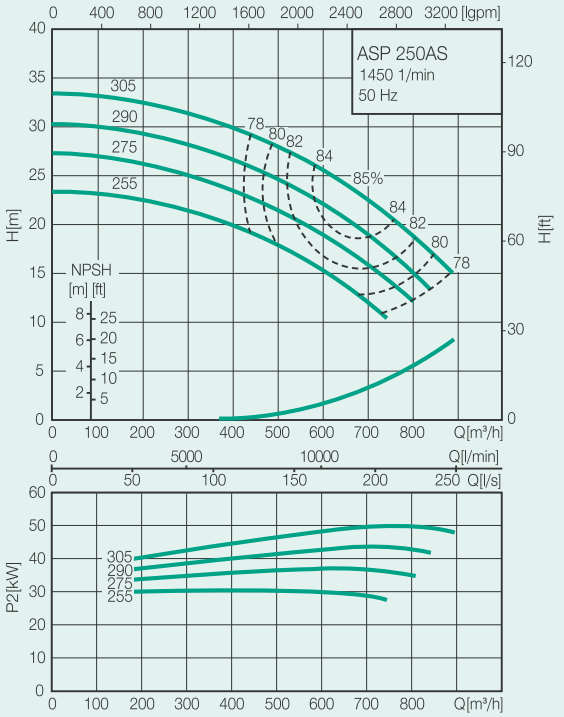
ASP 250A

Speed 1450 1/min



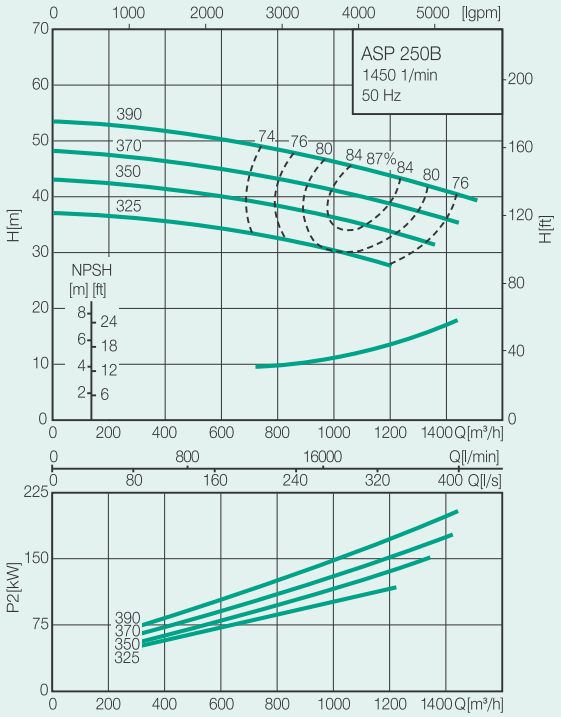
ASP 250A S

Speed 1450 1/min



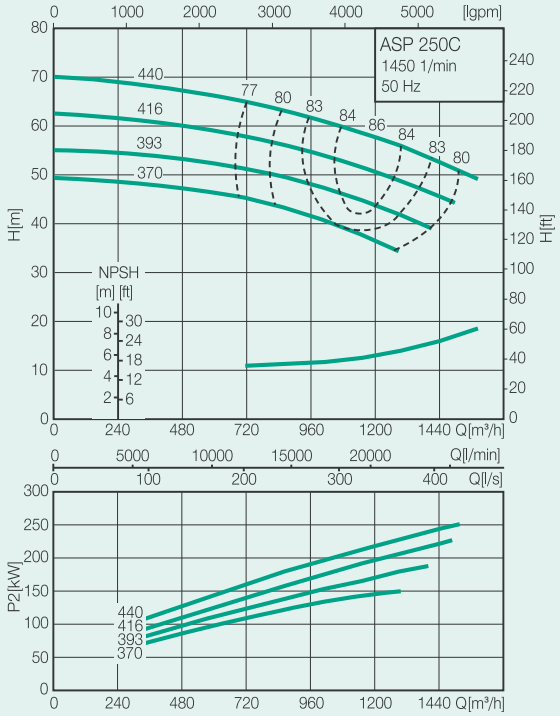
ASP 250B

Speed 1450 1/min



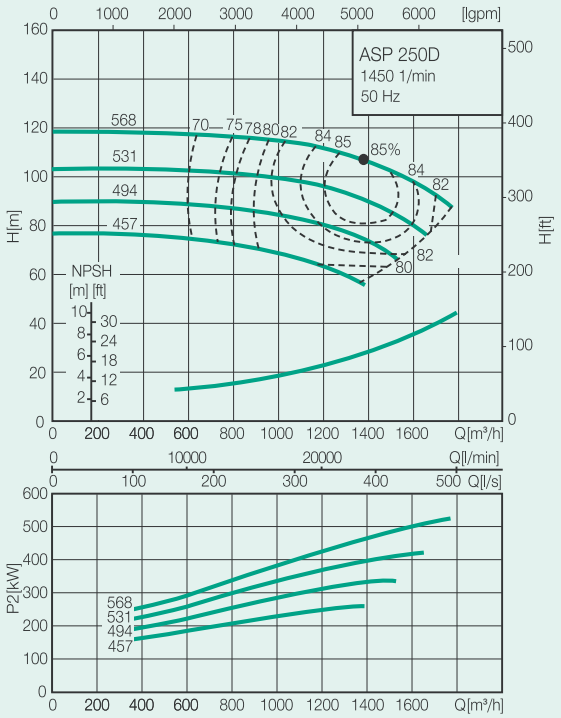
ASP 250C

Speed 1450 1/min



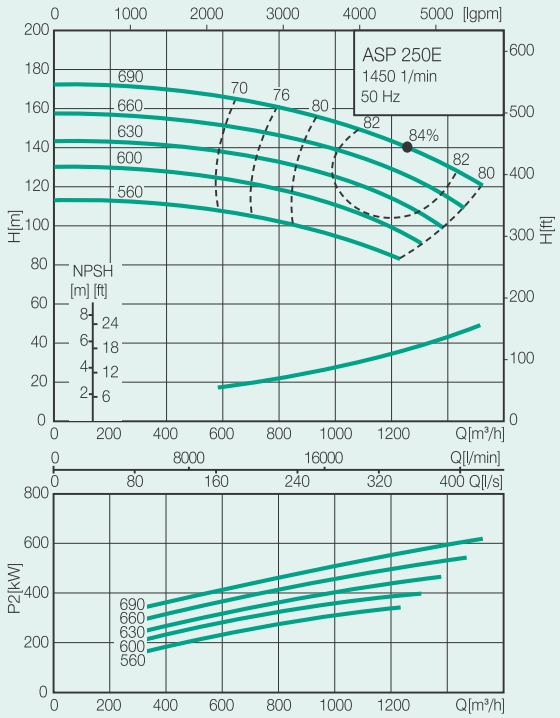
ASP 250D

Speed 1450 1/min



ASP 250E

Speed 1450 1/min



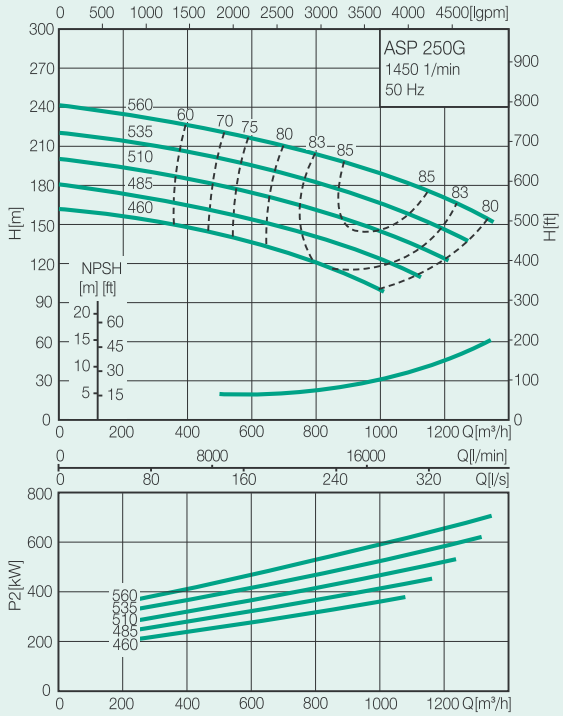
Norm Pumps

ASP Series(50Hz) -Split Case Pumps

Duty Charts

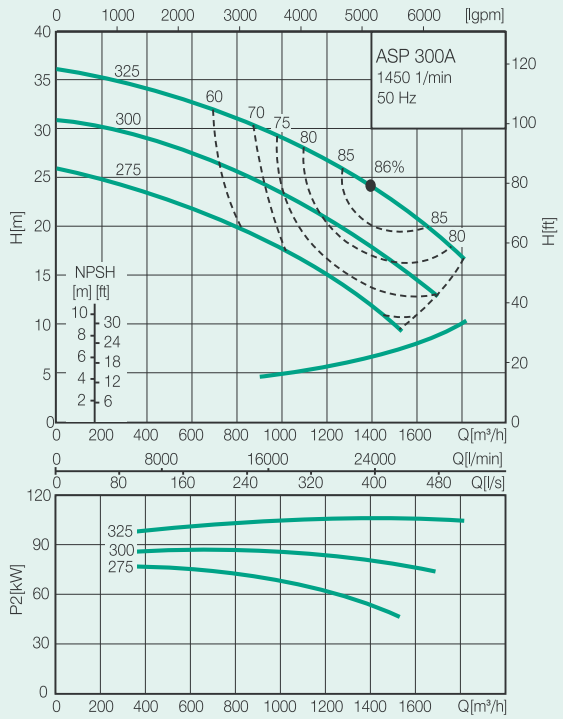
ASP 250G

Speed 1450 1/min



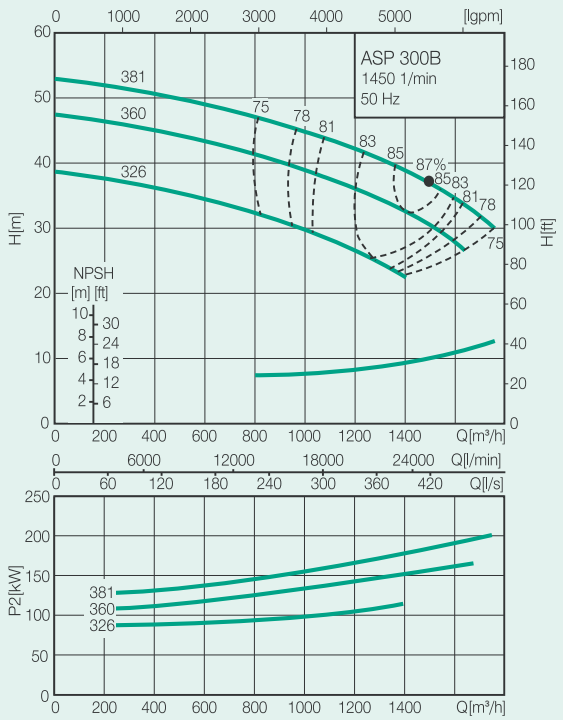
ASP 300A

Speed 1450 1/min



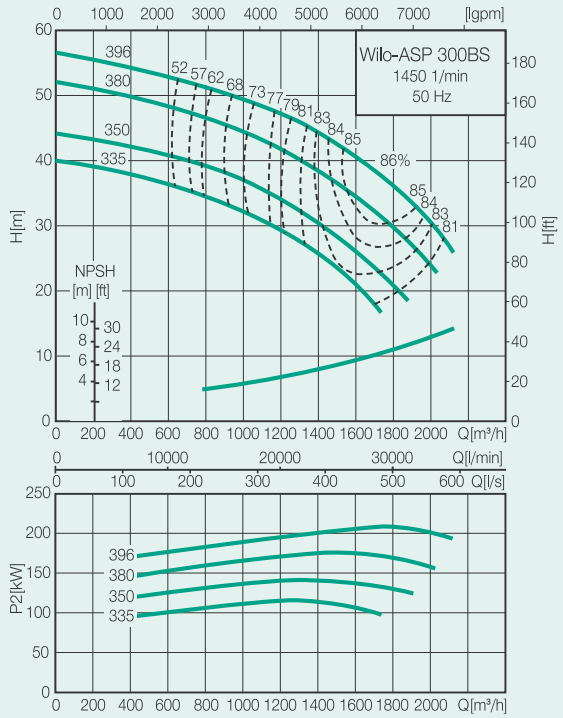
ASP 300B

Speed 1450 1/min



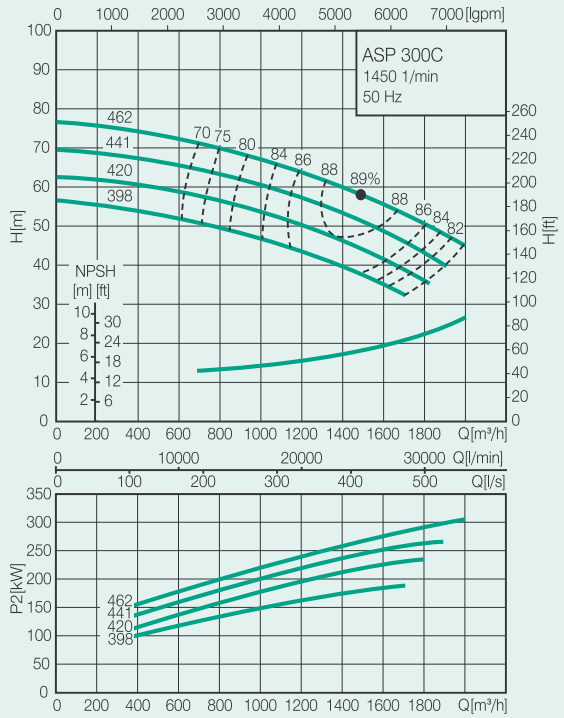
ASP 300BS

Speed 1450 1/min



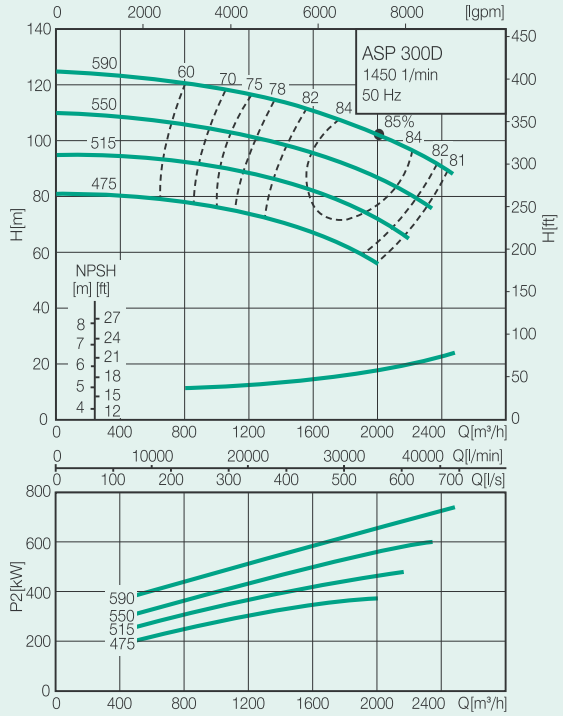
ASP 300C

Speed 1450 1/min



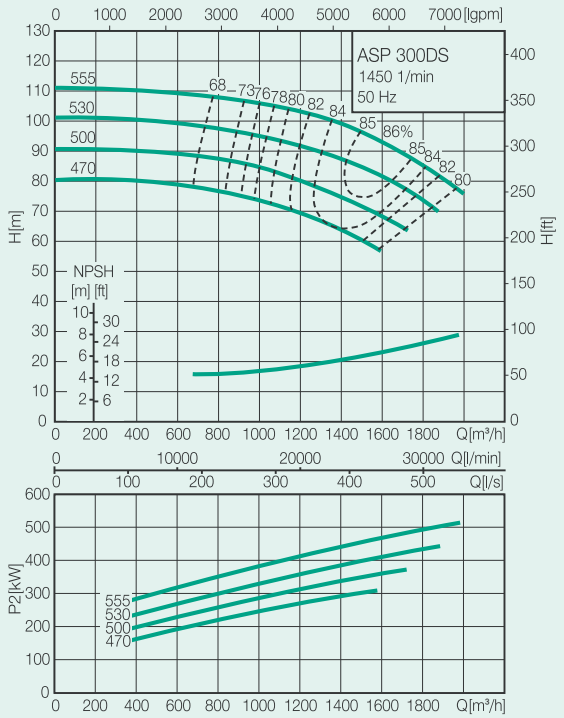
ASP 300D

Speed 1450 1/min



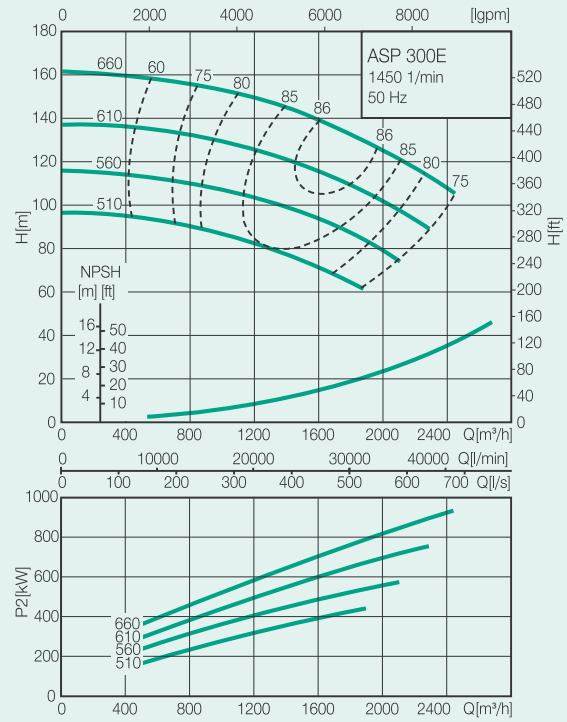
ASP 300DS

Speed 1450 1/min



ASP 300E

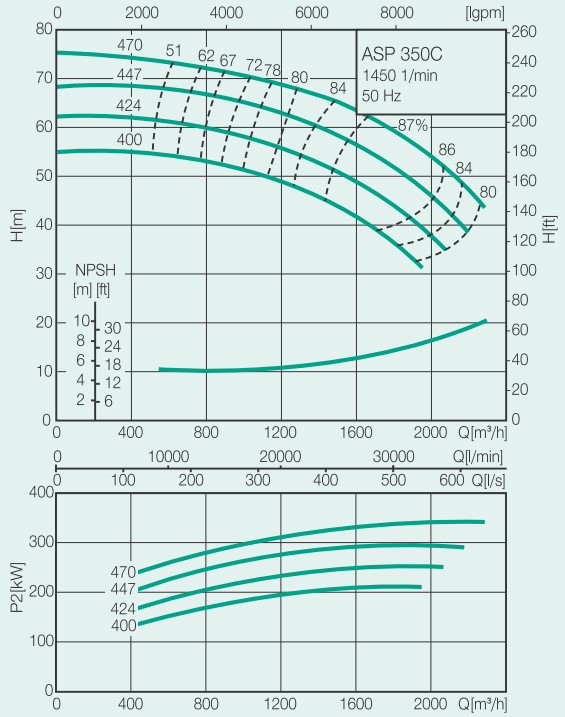
Speed 1450 1/min



Duty Charts

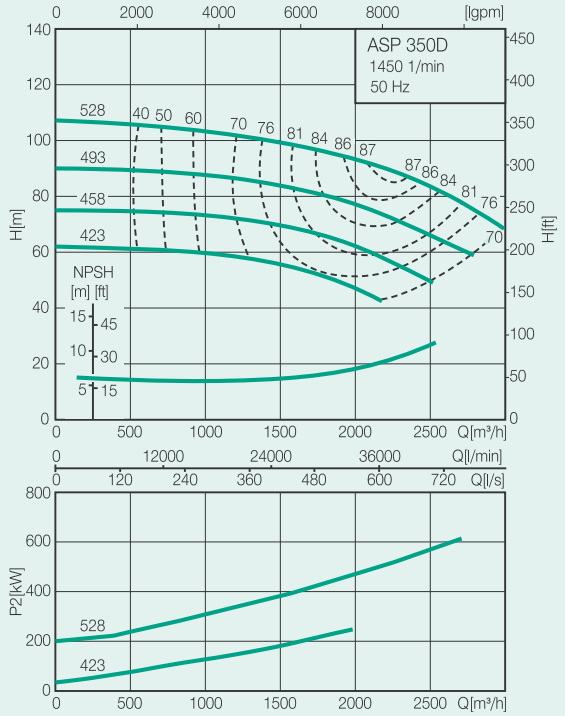
ASP 350C

Speed 1450 1/min



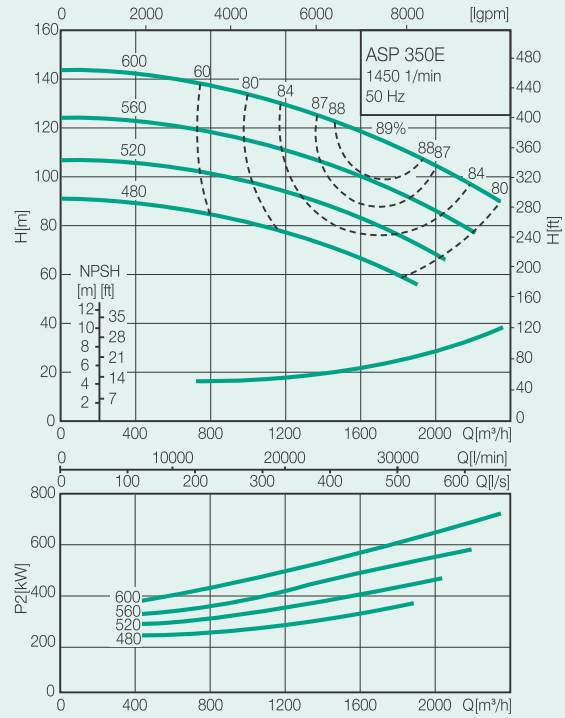
ASP 350D

Speed 1450 1/min



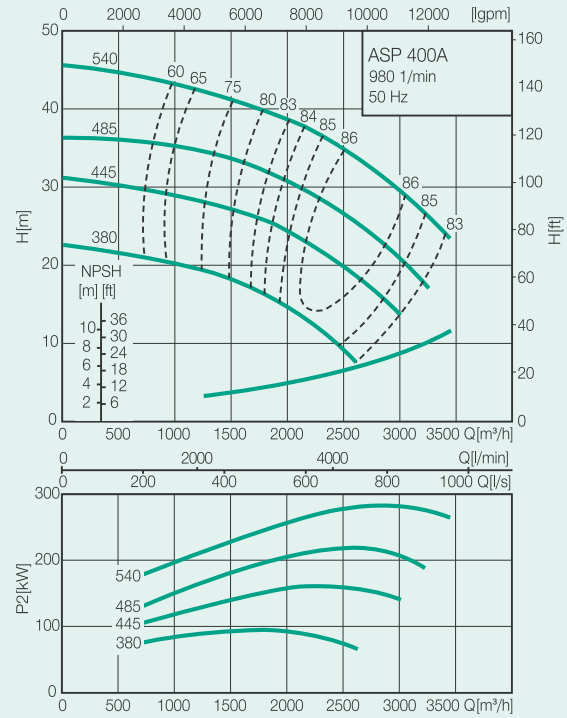
ASP 350E

Speed 1450 1/min



ASP 400A

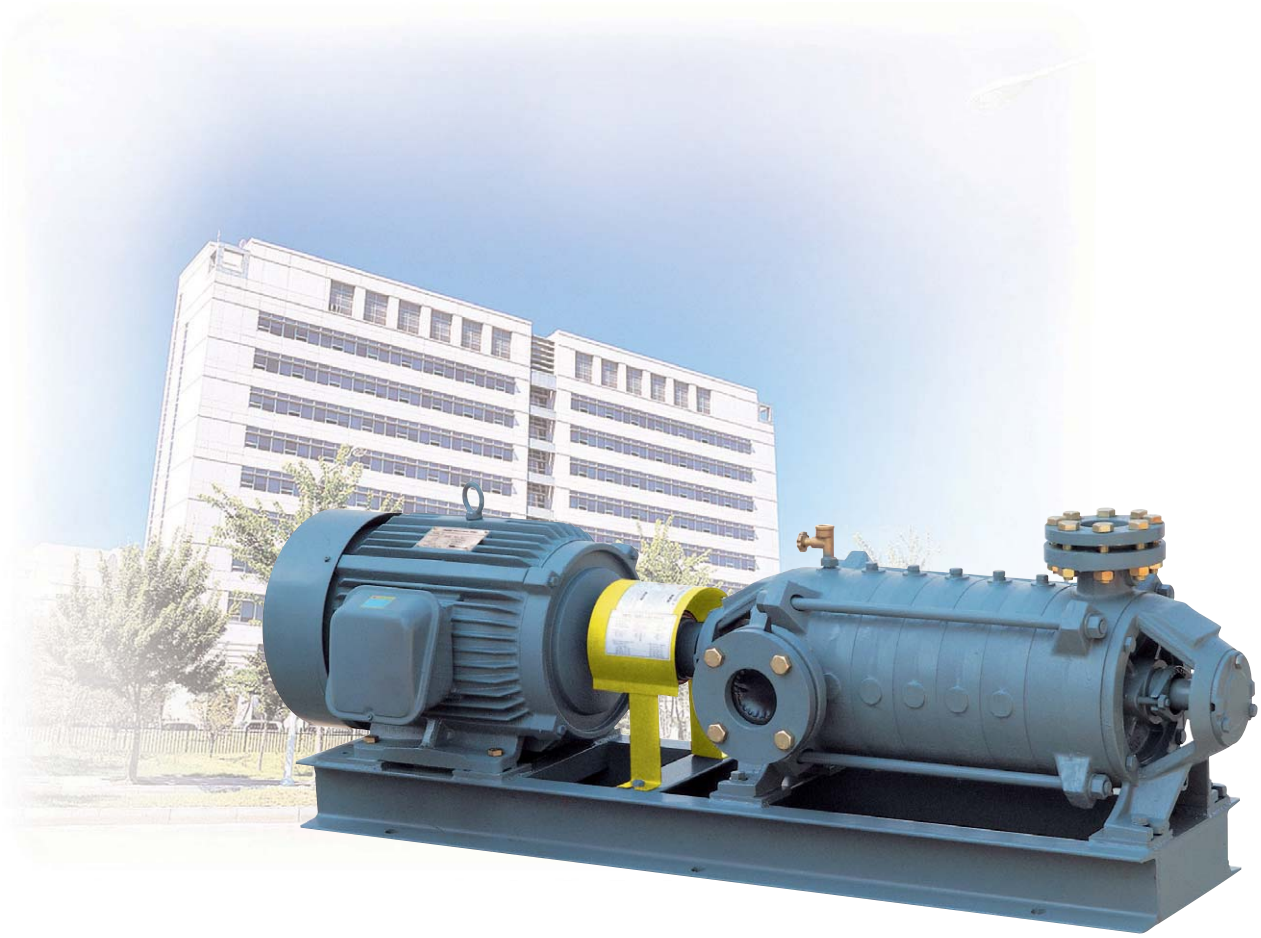
Speed 980 1/min



Ring Section Pump

Multi-Stage Pumps (⌀40~ ⌀65)

Product Introduction



Design and structural features

1.Material of construction for casing is GC250 for high pressure and each casing is sealed with o-rings.

2.Combination of impellers covers wide range of duty.

3.Balancing hole is applied at impeller to minimize axial thrust

Strength of PMT Ring section pump

- Compact, high performance design ensures low installation cost and energy saving.
- Flexible position of inlet/outlet for handy piping
- Gland packing as standard and mechanical seal as options

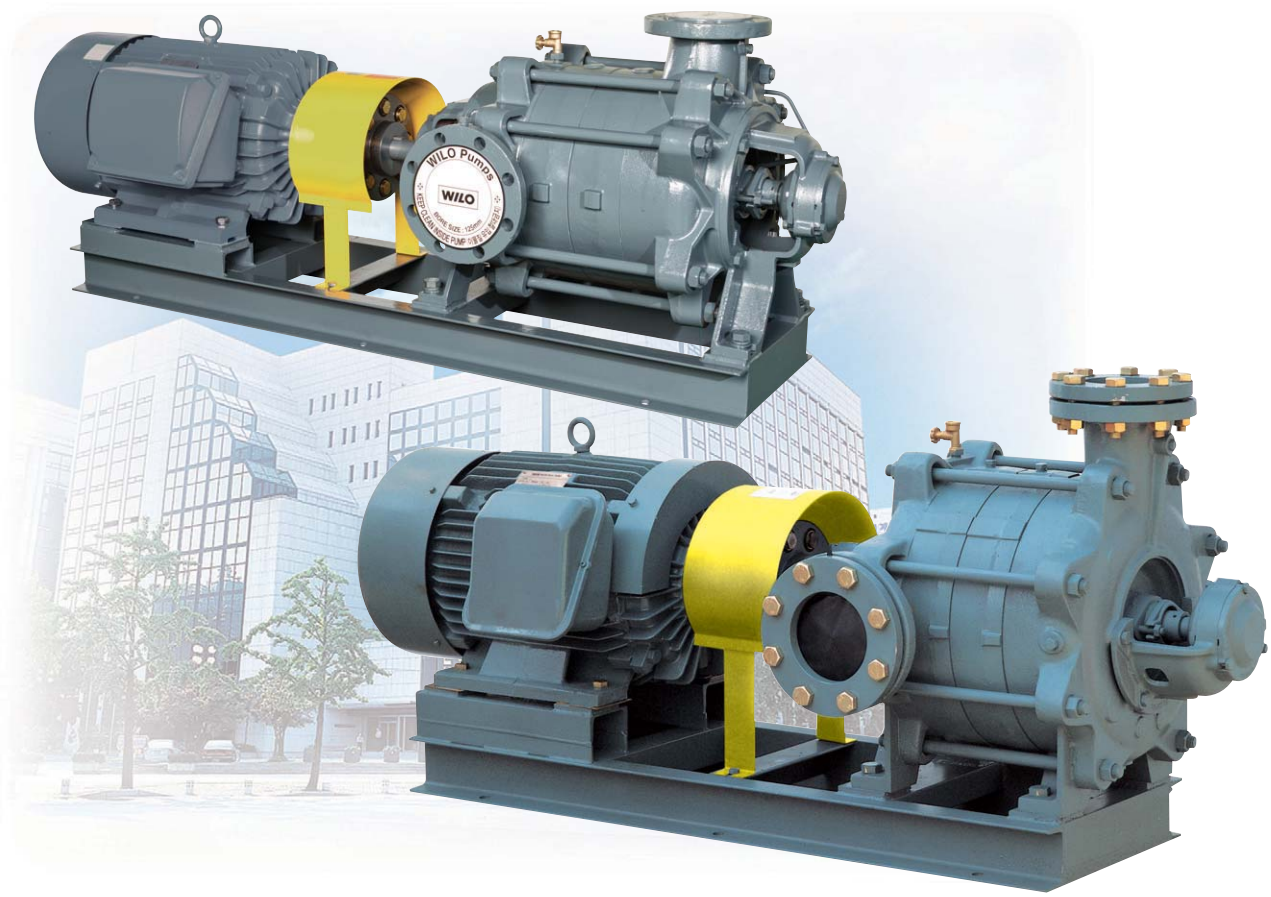
Application

- Industrial plant
- Building service
- fire fighting

Ring Section Pump

Multi-Stage Pumps (⌀80~ ⌀150)

Product Introduction



Design and structural features

1. Ball bearing for long lifecycle
2. Depressure piping
3. RF type flange

Strength of PMV Ring Section Pump

- Designed to cover wide range
- Enables stable inlet flow of water at the entrance of impeller for improved suction
- Reinforced bearing arrangement ensures low vibration and noise
- Ball bearing ensures to endure axial thrust and constant lubrication

Usage and Application

- Industrial plant
- Building service
- fire fighting

1. Applicable fluids (clean water within 0~80°C)

In case of pumping liquid other than water, please contact us for technical clearance.

2. Suction condition

Please keep the total suction head or input pressure as table below.

Allowed value of total suction head

Fluid temperature	Inlet Size	Total suction pressure
0℃~40℃	40~100mm	Less than -6m
	100~150mm	Less than -5.5m

3. Important Operating condition

In case of very frequent operation by automatic controller, material of impeller shall be bronze or above (such as stainless steel). And please make sure that number of operation shall not exceed 12times an hour.
Please minimize friction loss at inlet piping to avoid water hammer

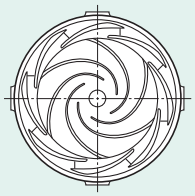
Options

1. Sealing: G/P or M/Seal

2. Material : Shaft - STS304
Impeller - BC6

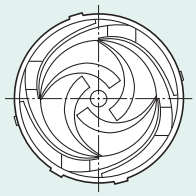
Structure of casing

Separate Guide Vane



Ø 40 ~ Ø 65

Intergrated Guide Vane

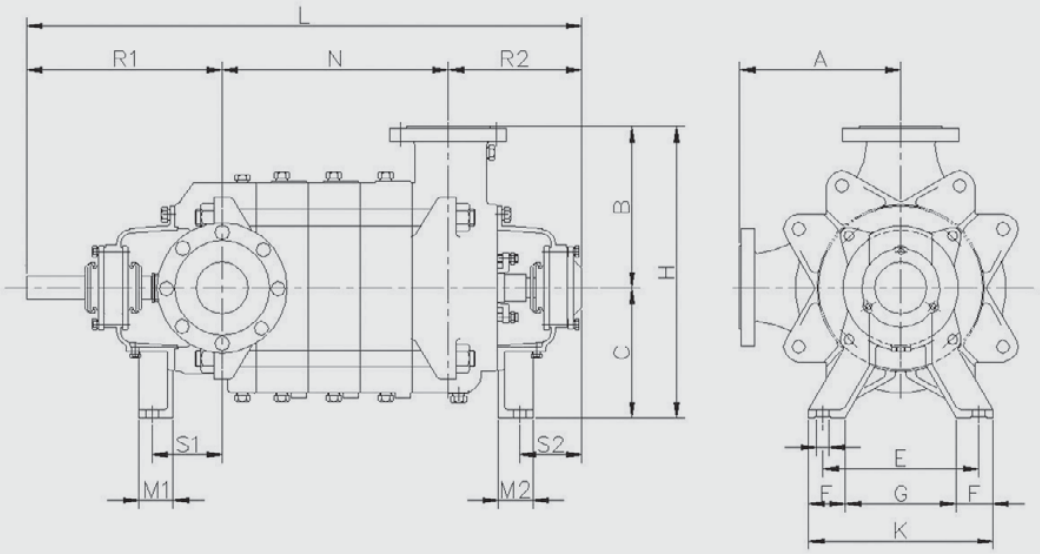


Ø 80 ~ Ø 150

Model designation

Pump Type		Discharge Bore(mm)		No. of Stage
MULTI STAGE PUMP		15:150 12:125 10:100 80:80 65:65 50:50 40:40		2STAGE 3STAGE • • • •
PMT/PMV	-	50		03

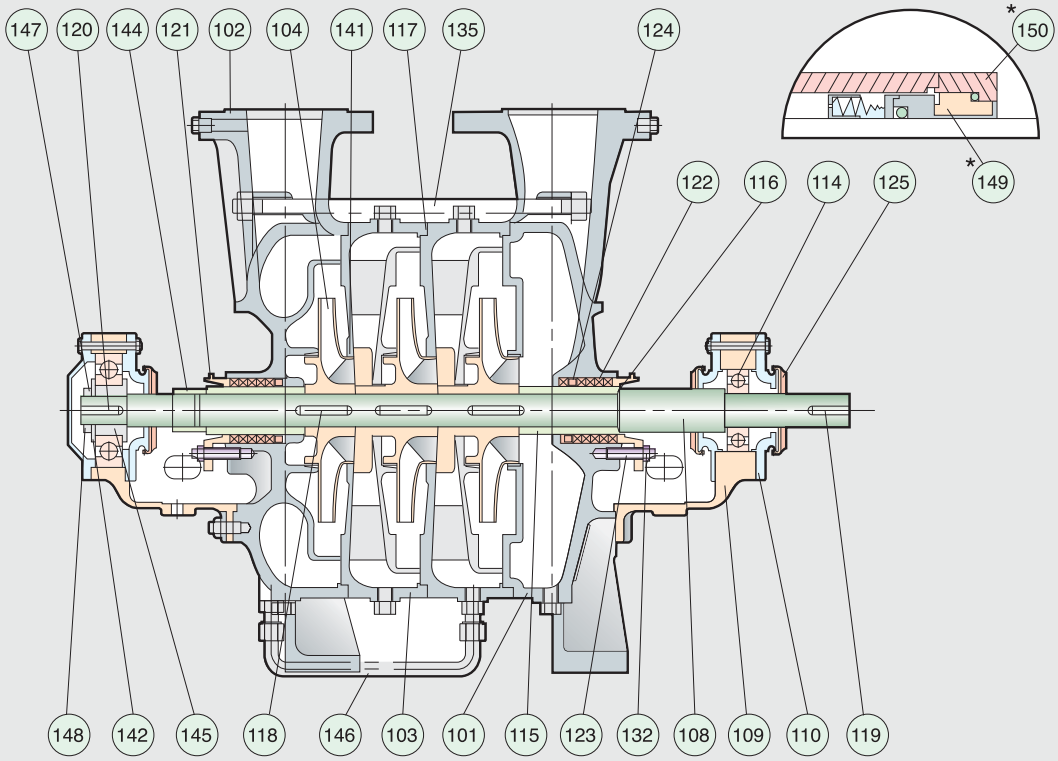
Sectional Drawing - PMT Series (except PMT-10 series)



(Unit:mm)

Model	구경		Pump Size(mm)																	중량
	흡입	토출	R1	N	R2	L	B	C	H	M1	M2	S1	S2	A	E	F	G	K	D	(kg)
PMT-8002				210		807														175
PMT-8003				297		894														210
PMT-8004				384		986														245
PMT-8005				471		1068														280
PMT-8006	100	80	360	558	237	1155	275	250	525	66	66	132.5	123	265	300	71	213	355	24	315
PMT-8007				645		1242														350
PMT-8008				732		1329														385
PMT-8010				906		1503														455
PMT-8012				1080		1677														525
PMT-1002				235		868														180
PMT-1003				335		968														230
PMT-1004				435		1068														280
PMT-1005	125	100	376	535	257	1168	310	250	250	66	66	140	114	300	300	71	213	355	24	330
PMT-1006				635		1268														380
PMT-1007				735		1368														430
PMT-1008				835		1468														480

Sectional Drawing - PMV Series



★ : Option Parts

S: no of stage

No.	Part name	material	Qty
101	SUCTION CASING	GC200	1
102	DISCHARGE CASING	GC200	1
103	MIDDLE CASING	GC200	S-1
104	IMPELLER	GC200	S
108	SHAFT	SM45C	1
109	BEARING HOUSING	GC200	2
110	BEARING COVER	GC200	4
114	BALL BEARING	STB2	2
115	SLEEVE	STS304	2
116	SLEEVE O-RING	NBR	1
117	CASING O-RING	NBR	S
118	IMPELLER KEY	SM45C	S
119	COUPLING KEY	SM45C	1
120	ADAPTER KEY	SM45C	1
121	GLAND	GC200	2

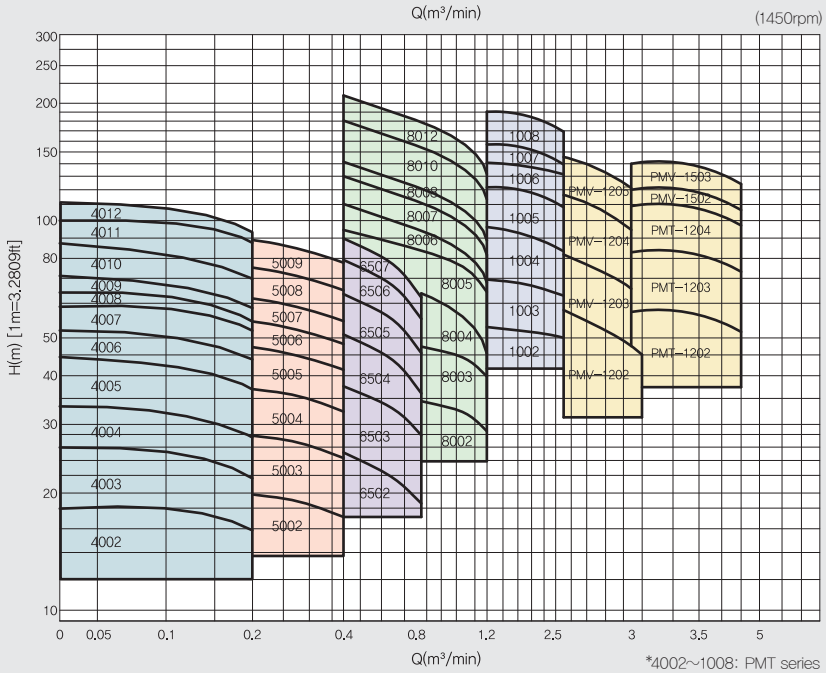
No.	Part name	material	Qty
122	GLAND PACKING	TEFOLN	8
123	GLAND BOLT	STS304	4
124	LANTERN RING	BC6	2
125	DEFLECTOR	NBR	3
132	HEX NUT	C3602BD	4
135	TIE BOLT	SM45C	8
141	CASING RING	BC6	2+(S-1)×2
142	GREASE COLLAR	SS400	1
144	SHAFT NUT	BC6	1
145	ADAPTER	SM45C	1
146	REDUCING PIPE	C1100T	1
147	LOCK WASHER	SS400	1
148	LOCK NUT	SM30C	1
★149	MECHANICAL SEAL		2
★150	M/SEAL COVER	SM45C	2

Ring Section Pump

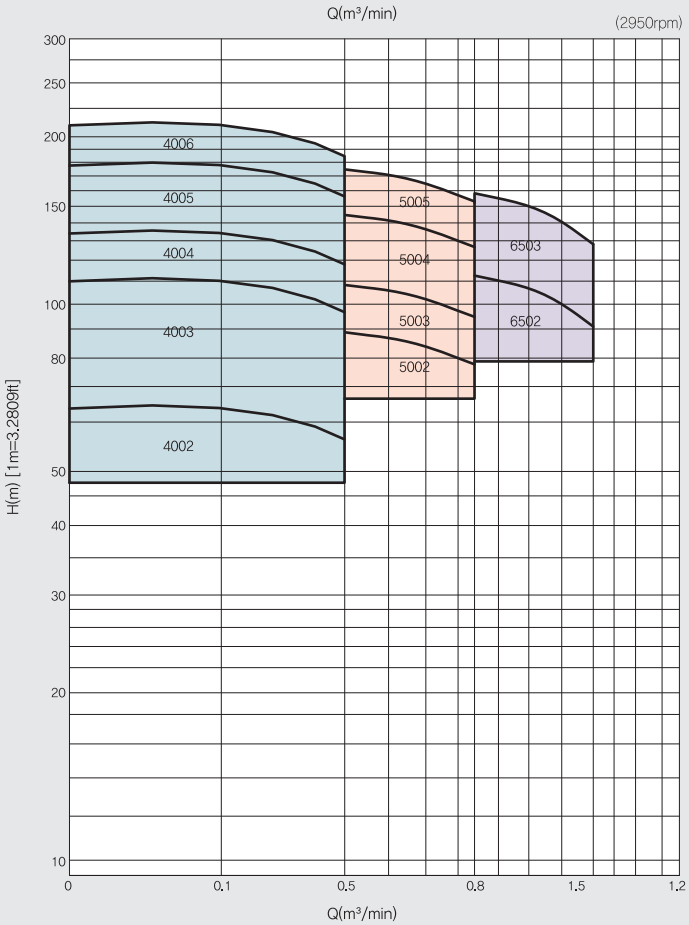
PMT/PMV Series(50Hz) -Multi-Stage Pumps

Duty Chart

Duty Chart PMT/PMV n = 1450rpm



Duty Chart PMT n = 2950rpm



General data

Model	Suc. Size	Dic. Size	Max Working Pressure	Casing Thickness	Wearing Ring	
					Inpeller Ring	Casing Ring
PMT-40	50	40	28kgf/㎠	8	NO	NO
PMT-50	65	50	28kgf/㎠	8	NO	NO
PMT-65	80	65	28kgf/㎠	8	NO	NO
PMT-80	100	80	25(28)kgf/㎠	14	NO	2EA X Number of stage
PMT-10	125	100	25(228)kgf/㎠	16	NO	2EA X Number of stage
PMT-12	150	125	18(24)kgf/㎠	16	NO	2EA X Number of stage
PMV-80	100	80	18(25)kgf/㎠	14	NO	2EA X Number of stage
PMV-10	125	100	18(24)kgf/㎠	14	NO	2EA X Number of stage
PMV-12	150	125	18(21)kgf/㎠	14	NO	2EA X Number of stage
PMV-15	200	150	18(24)kgf/㎠	16	NO	2EA X Number of stage

Impeller data

Model	Max. Dia.	Min. Dia.	Eye. Dia.	No of Vane	Max Stage	
					4Pole	2Pole
PMT-40	161	130	70	6	12	11
PMT-50	181	155	80	6	9	9
PMT-65	206	165	100	6	7	7
PMT-80	225	180	112	7	12	3
PMT-10	269	200	138	7	8	2
PMT-12	320	260	165	5	5	-
PMV-80	266	206	102	5	6	-
PMV-10	286	246	120	5	6	-
PMV-12	310	280	152	5	4	-
PMV-15	400	320	180	5	4	-

Stuffing box & bearing housing data

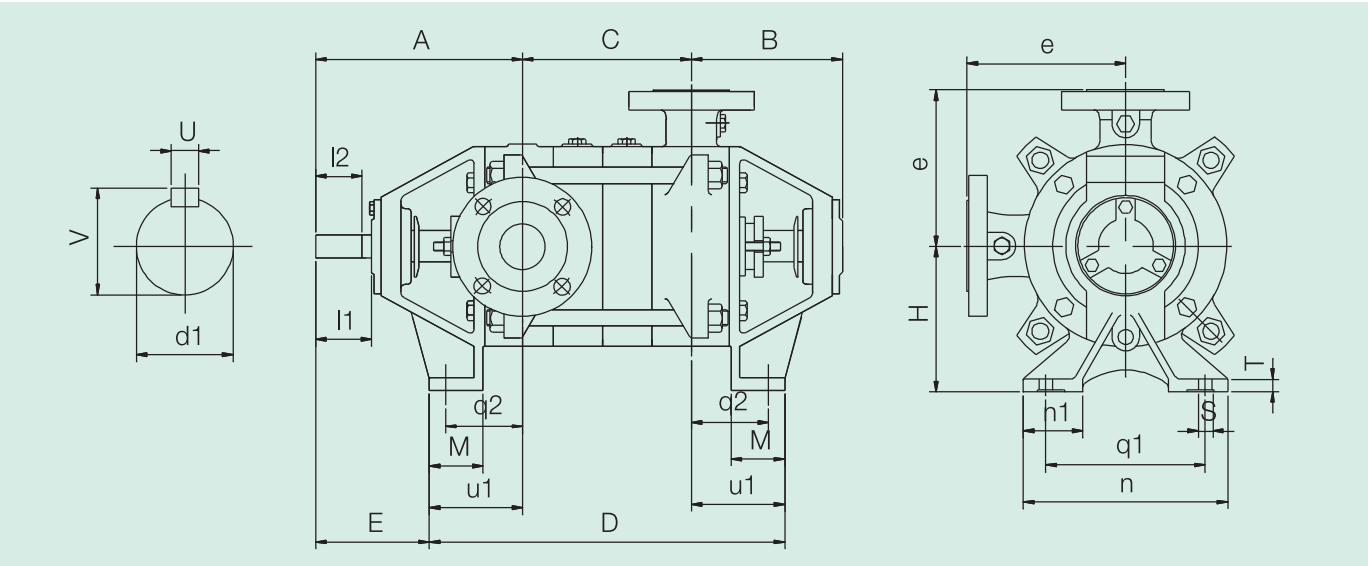
Model	Stuffling Box Size (Bore×Length)	O.D of Shaft Sleeve(PTO)	Packing Size (W×H×L)	Bearing No.	Size of Key at Coupling	Shaft Diameter			
						At Impeller	At Stuff.Box	At Coupling	At Bearing
PMT-40	ø 51 X 45	ø 35(40)	8×8×143	6305zzC3	8×7×36	ø 25	ø 25	ø 24	ø 25
PMT-50	ø 56 X 55	ø 40(45)	8×8×167	6306zzC3	8×7×37	ø 30.5	ø 30.5	ø 29	ø 30
PMT-65	ø 65 X 55	ø 45(50)	10×10×184	6307zzC3	10×8×45	ø 35.5	ø 35.5	ø 34	ø 35
PMT-80	ø 70 X 60	ø 50(55)	10×10×199	Drive:6308zzC3 End:6311zz C3	12×8×68	ø 40	ø 40	ø 40	Drive: ø 40 End: ø 30
PMT-10	ø 75 X 62	ø 55(60)	10×10×215	Drive:6310zzC3 End:6311zzC3	14×9×68	ø 45	ø 45	ø 45	Drive: ø 45 End: ø 30
PMT-12	ø 85 X 80	ø 60(65)	12.5×12.5×227	Drive:6311zzC3 End:5311zzC3	16×10×92	ø 50	ø 50	ø 54	Drive: ø 55 End: ø 41
PMV-80	ø 70 X62	ø 50(55)	10×10×199	Drive:6308zzC3	10×8×50	ø 37	ø 37	ø 38	Drive: ø 40
PMV-10	ø 70 X62	ø 50(55)	10×10×199	End:6311zzC3	10×8×50	ø 37	ø 37	ø 38	End: ø 30
PMV-12	ø 75 X62	ø 55(60)	10×10×215	Drive:6310zzC3 End:6311zzC3	14×9×68	ø 45	ø 45	ø 45	Drive: ø 50 End: ø 30
PMV-1205	ø 75 X62	ø 55(60)	10×10×215	Drive:6310zzC3 End:5311zzC3	14×9×68	ø 45	ø 45	ø 49	Drive: ø 50 End: ø 37
PMV-15	ø 95 X80	ø 70(75)	12.5×12.5×260	Drive:6313zzC3 End:7313DB(2)	18×11×91	ø 55	ø 55	ø 64	Drive: ø 65 End: ø 42

Ring Section Pump

PMT/PMV Series(50Hz)-Multi-Stage Pumps

Outline Drawing & Dimension

Outline Drawing (PMT bareshaft)



Dimension

(Unit:mm)

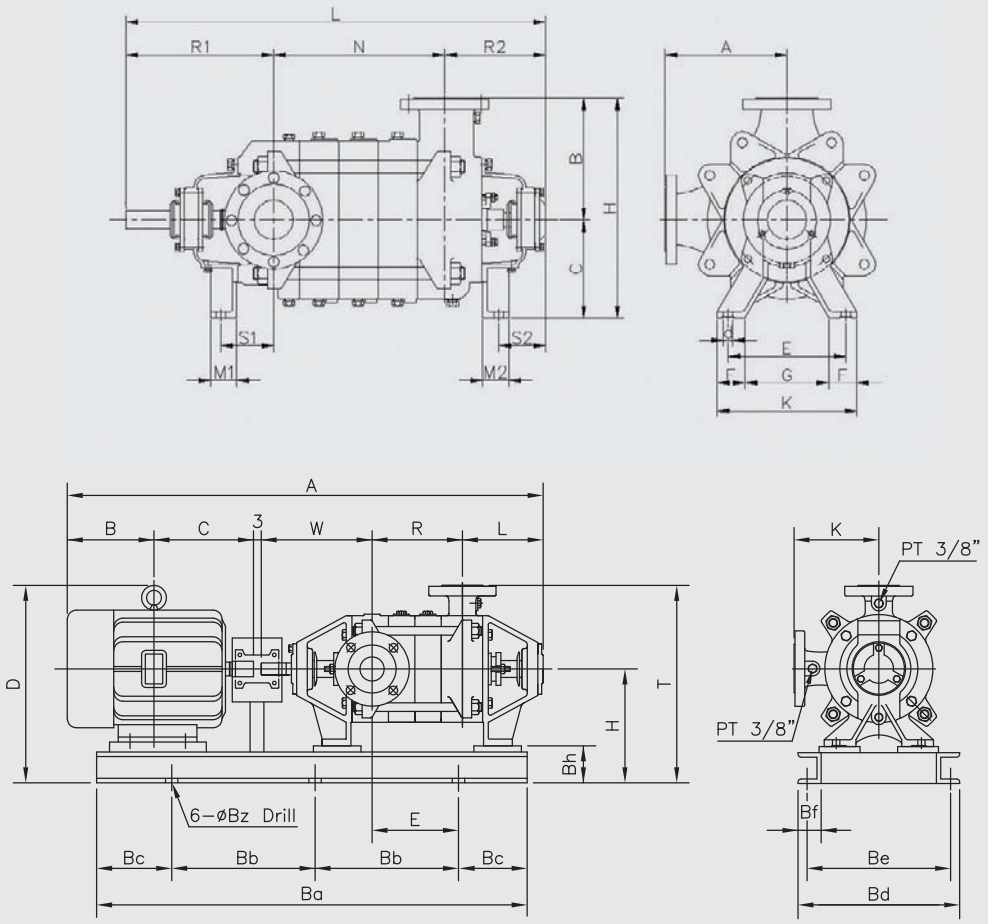
Model	Pump size															Shaft				
	A	B	C	D	E	e	h	m	n	n_1	q_1	q_2	s	t	u_1	d_1	l_1	l_2	V	U
PMT-40	231	168	78+55(S-1)	286+55(S-1)	127	174	160	60	224	65	175	79	15	14	104	24	63	52	27	8
PMT-50	240	180	89+62(S-1)	313+62(S-1)	128	190	160	60	250	65	200	87	15	16	112	29	60	62	32	8
PMT-65	257	195	195+71(S-1)	345+71(S-1)	139	215	160	60	290	75	240	93	15	16	118	34	62	52	37	10

Dimension

(Unit:mm)

Model	Bore Dia.		Dimension "C" determined by the number of stages											
	SUC.	DIS.	1	2	3	4	5	6	7	8	9	10	11	12
PMT-40	50	40	78	133	188	243	298	353	408	463	518	573	628	683
PMT-50	65	50	89	151	213	275	337	399	461	523	585	-	-	-
PMT-65	80	65	109	180	251	322	393	464	535	-	-	-	-	-

Outline dimensions - PMT 10/80 Series Bare Shaft



Dimension

(Unit:mm)

MODEL	Bore		PUMP SIZE(mm)																	WEIGHT
	inlet	outlet	R1	N	R2	L	B	C	H	M1	M2	S1	S2	A	E	F	G	K	d	(kg)
PMT-8002	100	80	360	210	237	807	275	250	525	66	66	132.5	123	265	300	71	213	355	24	175
PMT-8003				297		894														210
PMT-8004				384		981														245
PMT-8005				471		1068														280
PMT-8006				558		1155														315
PMT-8007				645		1242														350
PMT-8008				732		1329														385
PMT-8010				906		1503														455
PMT-8012				1080		1677														525
PMT-1002	125	100	376	235	257	868	310	250	560	66	66	140	114	300	300	71	213	355	24	180
PMT-1003				335		968														230
PMT-1004				435		1068														280
PMT-1005				535		1168														330
PMT-1006				635		1268														380
PMT-1007				735		1368														430
PMT-1008				835		1468														480

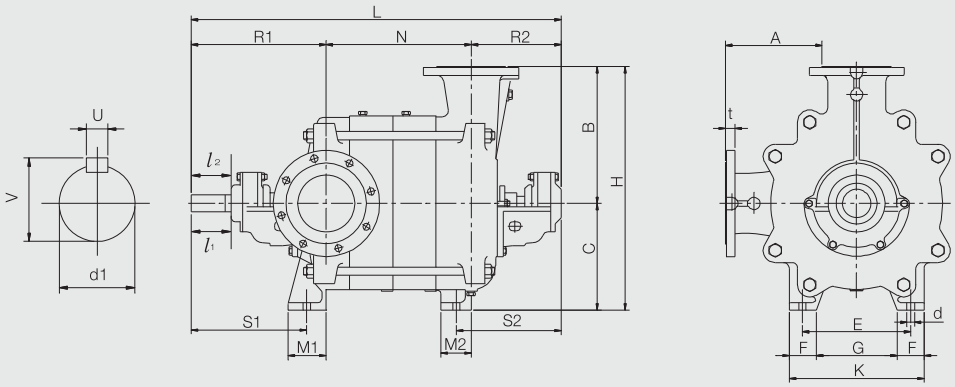
Ring Section Pump

PMT/PMV Series

Outline Drawing & Dimension

Outline Drawing (PMV bareshaft)

Model	Shaft				
	l_1	l_2	d_1	U	V
PMV-80	70	57	38	10	41
PMV-10	70	57	38	10	41
PMV-12	90	75	45	14	49
PMT-12	120	100	54	16	58
PMV-15	140	100	64	18	69



Dimension

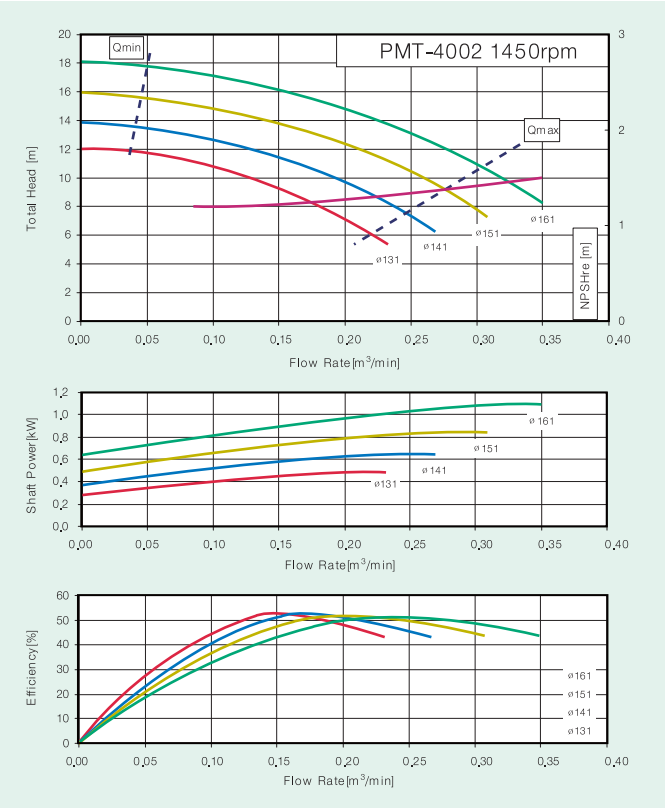
(Unit:mm)

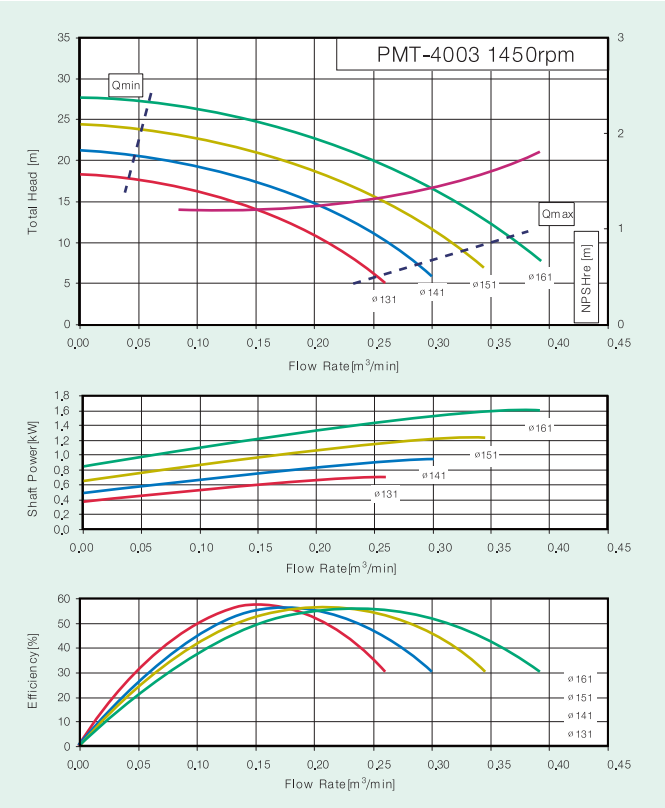
Model	Bore Dia.		R1	N	R2	L	B	C	H	M1/M2	S1	S2	t	A	E	F	G	K	d	Wgt. (kg)
	suc.	dis.																		
PMV-8002	100	80	319	197	232	743	320	280	600	80	264	287	24	270	300	71	213	355	24	140
PMV-8003	100	80	319	284	232	835	320	280	600	80	264	287	24	270	300	71	213	355	24	190
PMV-8004	100	80	328	371	232	931	320	280	600	80	273	287	24	270	300	71	213	355	24	240
PMV-8005	100	80	328	458	232	1018	320	280	600	80	273	287	24	270	300	71	213	355	24	290
PMV-8006	100	80	328	545	232	1105	320	280	600	80	273	287	24	270	300	71	213	355	24	340
PMV-1002	125	100	314	220	232	766	355	280	635	80	259	287	24	330	300	71	213	355	24	160
PMV-1003	125	100	322	314	232	868	355	280	635	80	267	287	24	330	300	71	213	355	24	220
PMV-1004	125	100	341	406	232	981	355	280	635	80	286	287	24	330	300	71	213	355	24	280
PMV-1005	125	100	341	502	232	1085	355	280	635	80	296	287	24	330	300	71	213	355	24	340
PMV-1006	125	100	351	596	232	1179	355	280	635	80	296	287	24	330	300	71	213	355	24	400
PMV-1202	150	125	356	267	241	864	360	280	640	80/100	285	296	26	340	300	71	213	355	24	280
PMV-1203	150	125	356	381	241	978	360	280	640	80/100	285	296	26	340	300	71	213	355	24	360
PMV-1204	150	125	356	495	241	1092	360	280	640	80/100	285	296	26	340	300	71	213	355	24	440
PMT-1202	150	125	391	283	272	946	375	310	685	100	90	306	26	375	380	95	270	460	24	290
PMT-1203	150	125	391	398	272	1061	375	310	685	100	90	306	26	375	380	95	270	460	24	375
PMT-1204	150	125	391	513	272	1176	375	310	685	100	90	306	26	375	380	95	270	460	24	460
PMV-1502	200	150	431	350	297	1078	425	375	800	120	361	367	26	425	400	100	300	500	24	480
PMV-1503	200	150	431	495	297	1223	425	375	800	120	361	367	26	425	400	100	300	500	24	620

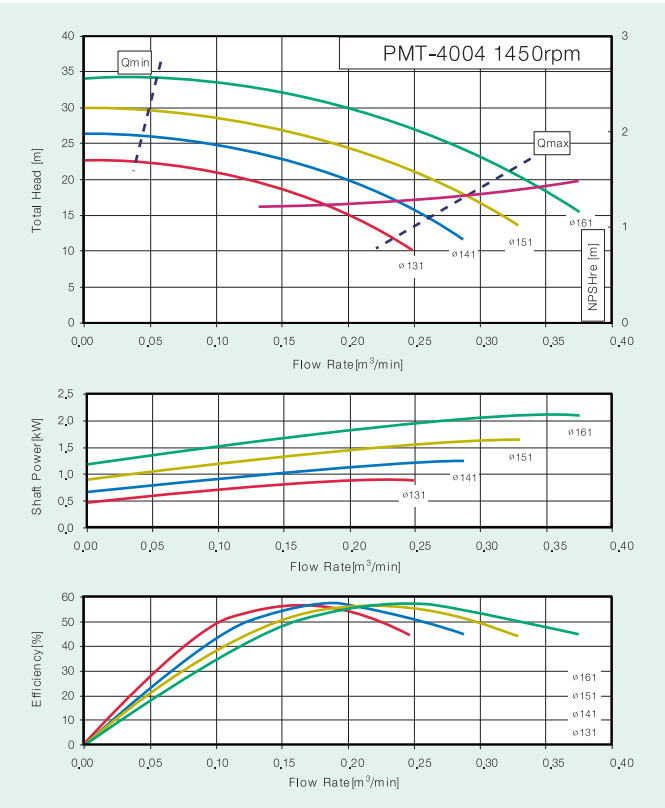
Ring Section Pump

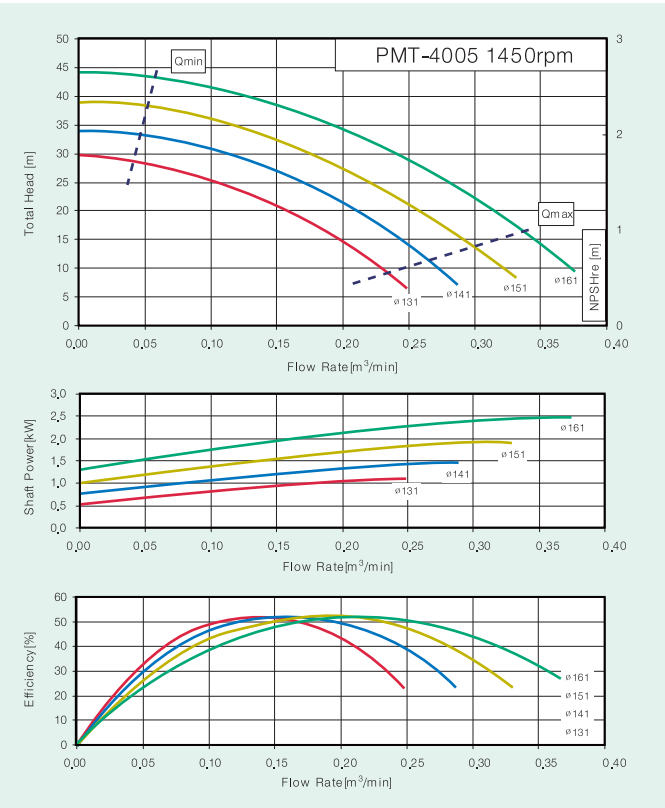
PMT/PMV Series(50Hz)-Multi-Stage Pumps

Duty Charts





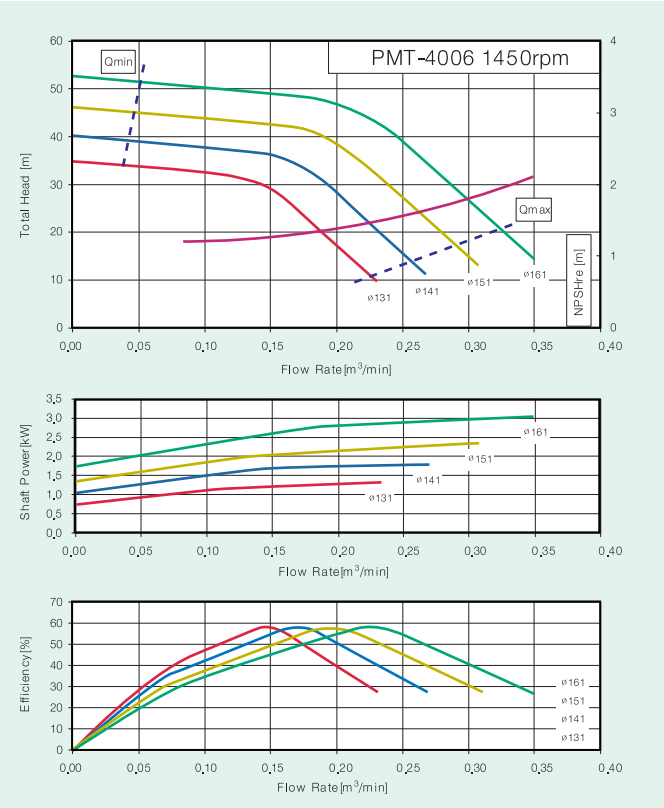


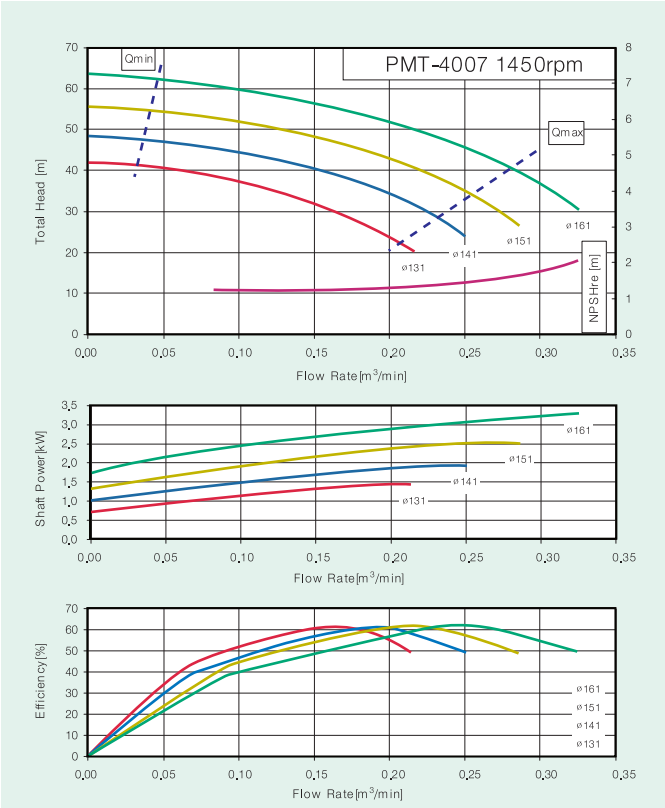


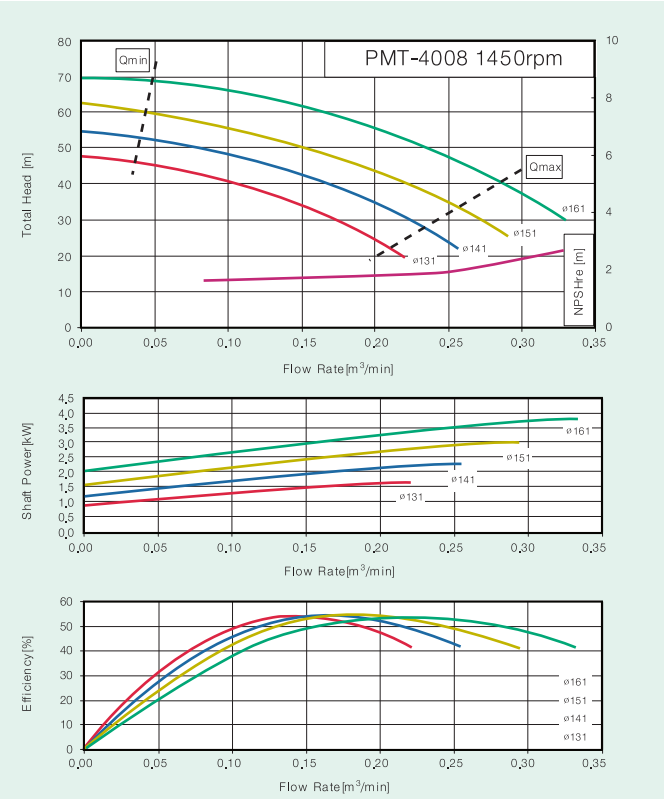
Ring Section Pump

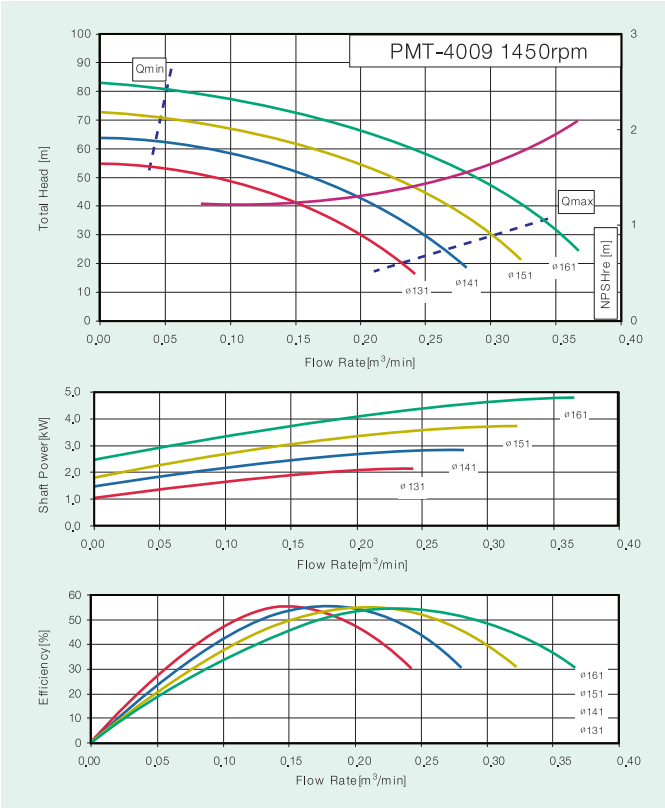
PMT/PMV Series(50Hz) -Multi-Stage Pumps

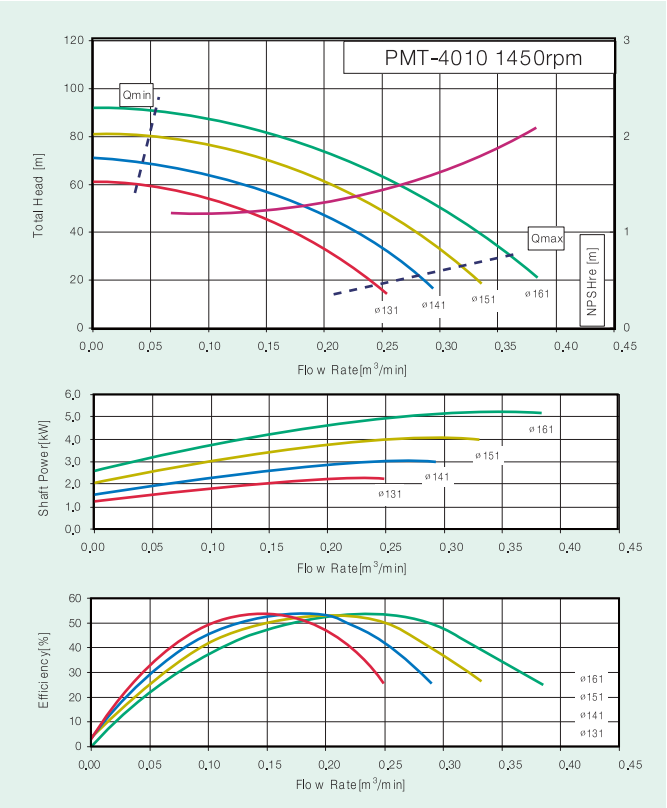
Duty Charts

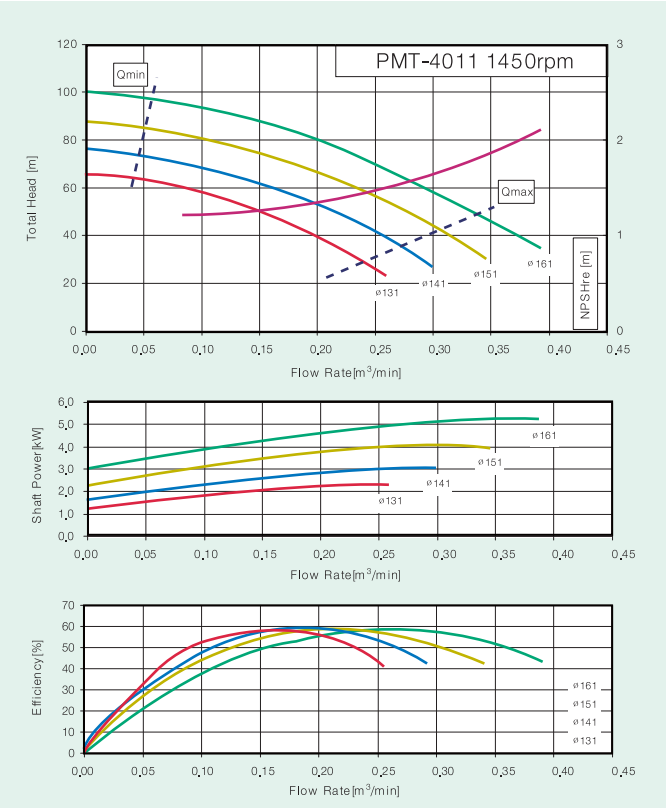


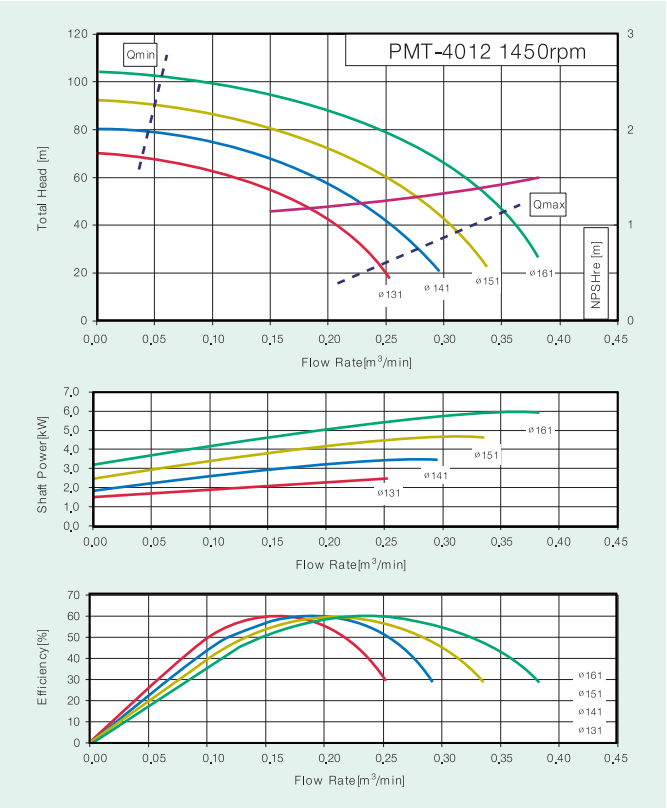


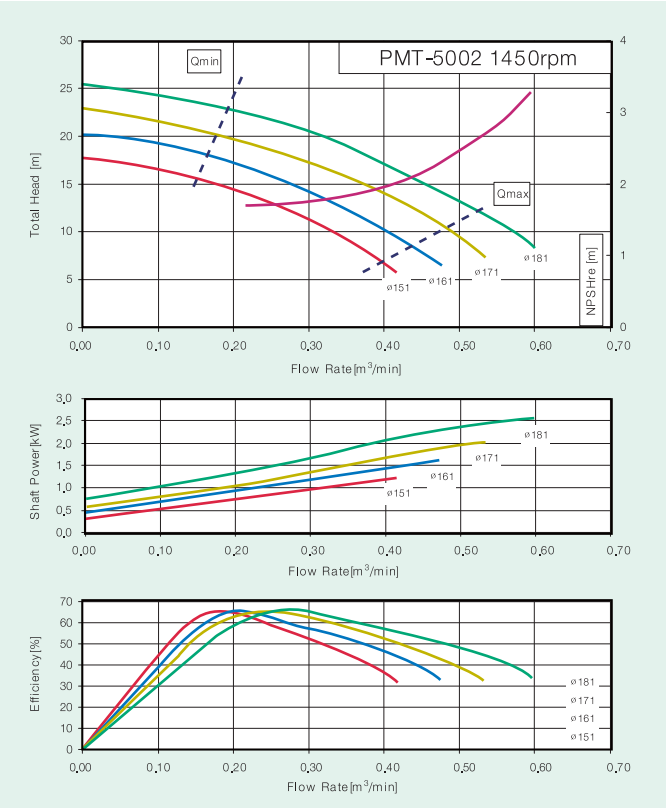





PMT-4010 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø131
ø141
ø151
ø161
Shaft Power[kW]
Efficiency[%]


PMT-4011 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø131
ø141
ø151
ø161
Shaft Power[kW]
Efficiency[%]

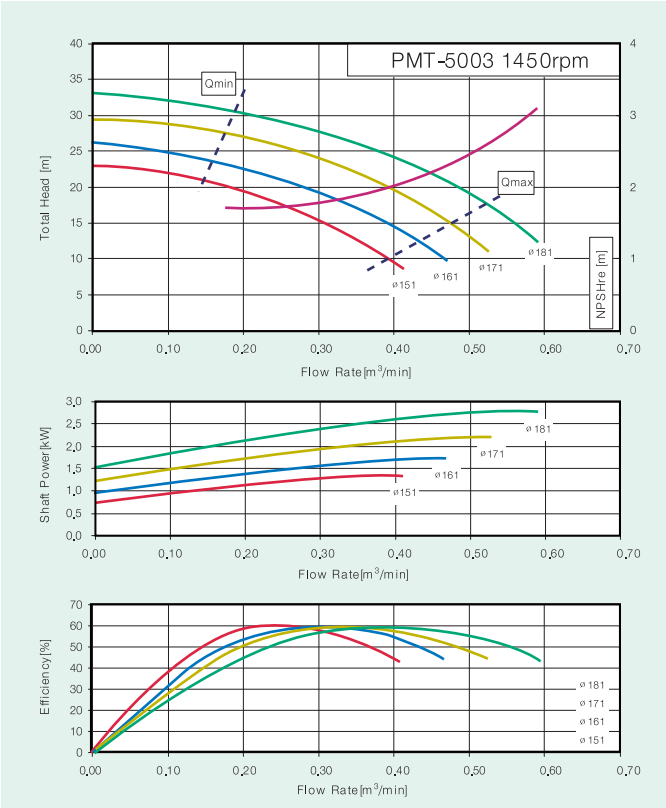

PMT-4012 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø131
ø141
ø151
ø161
Shaft Power[kW]
Efficiency[%]

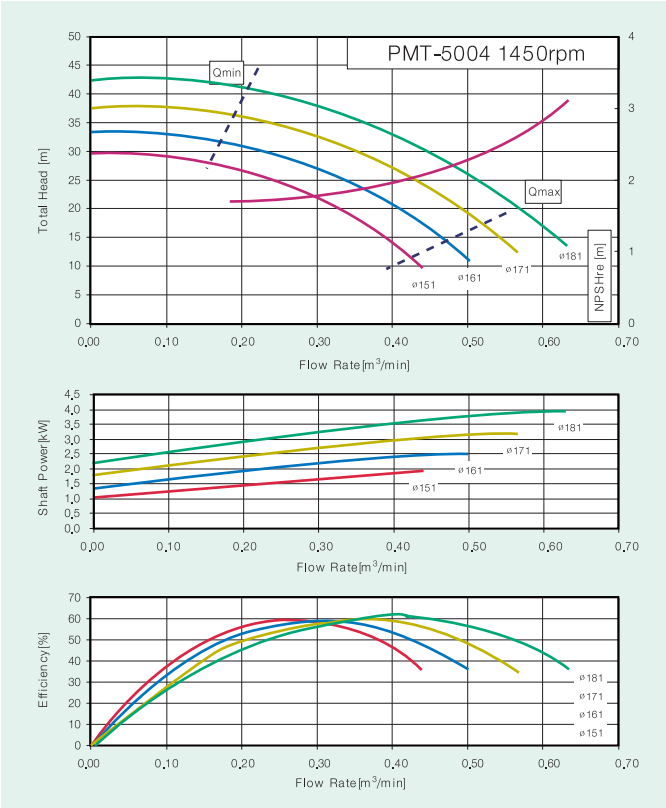

PMT-5002 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø151
ø161
ø171
ø181
Shaft Power[kW]
Efficiency[%]

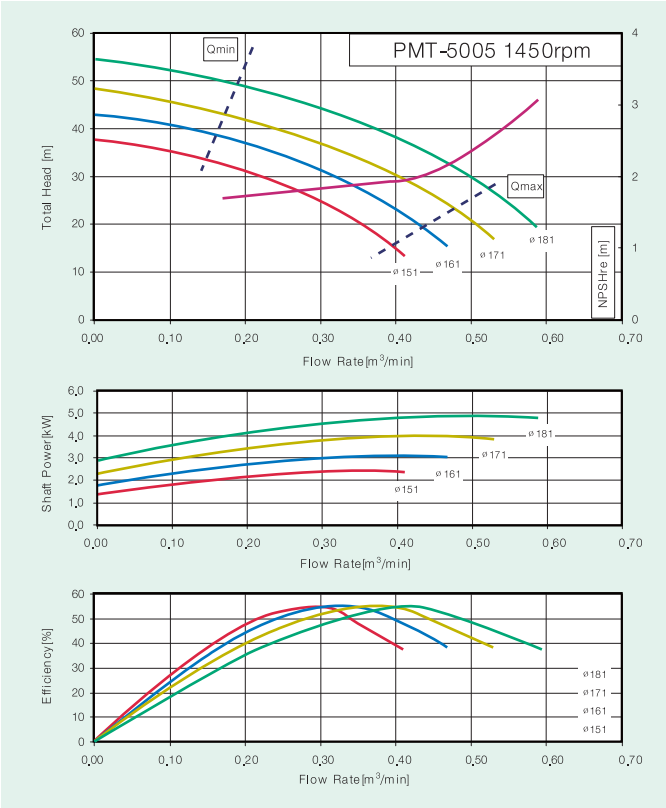
Ring Section Pump

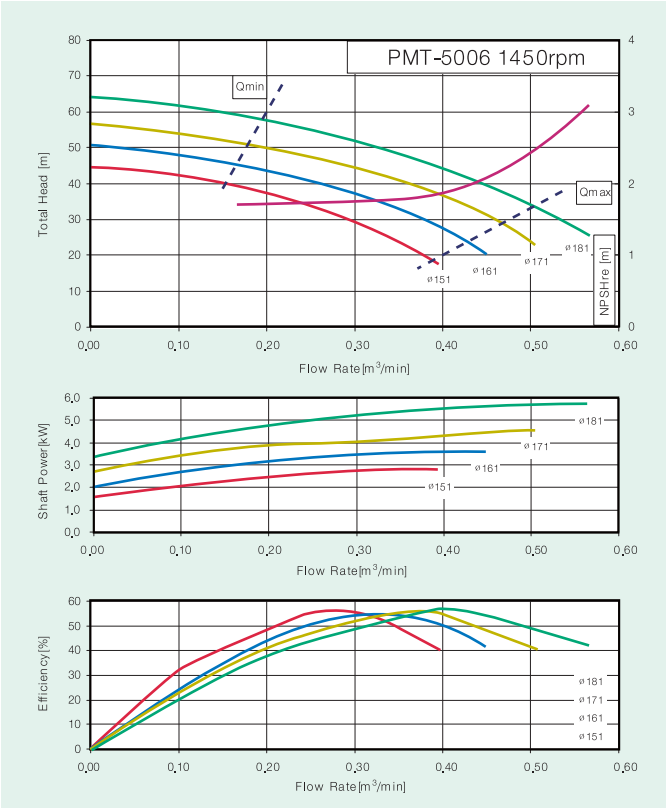
PMT/PMV Series(50Hz) -Multi-Stage Pumps

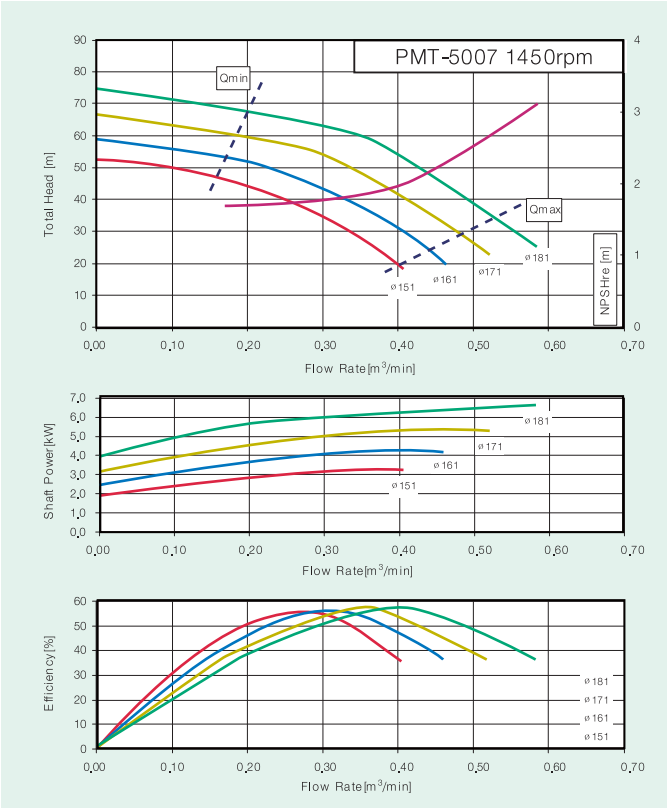
Duty Charts

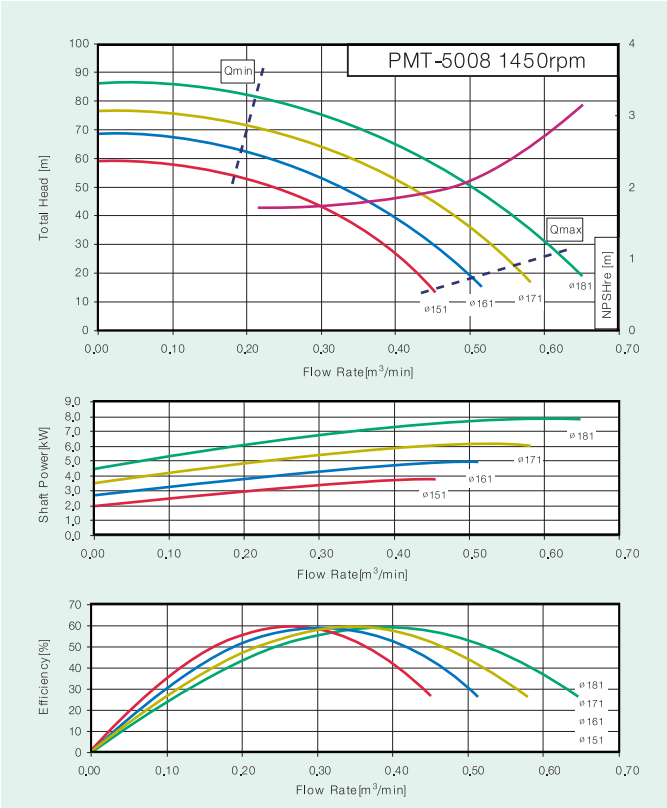


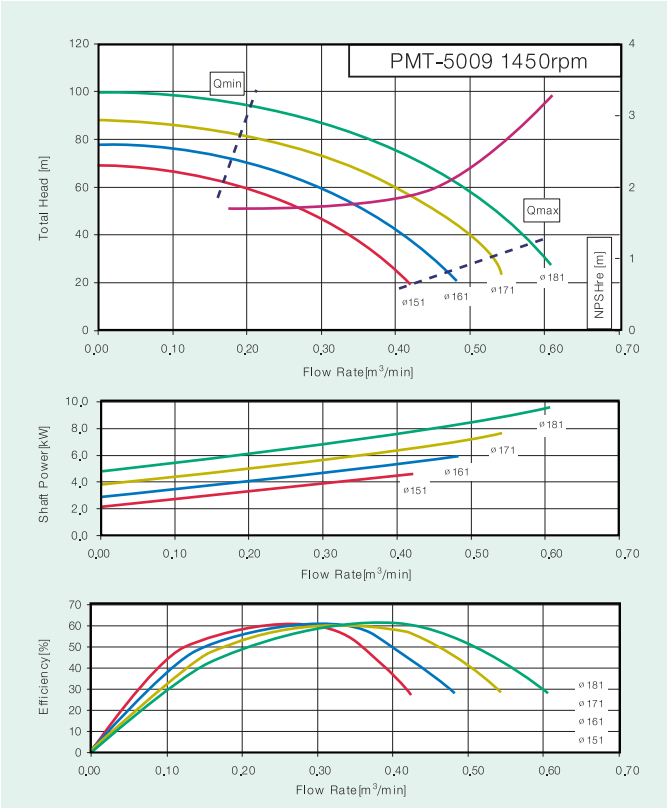


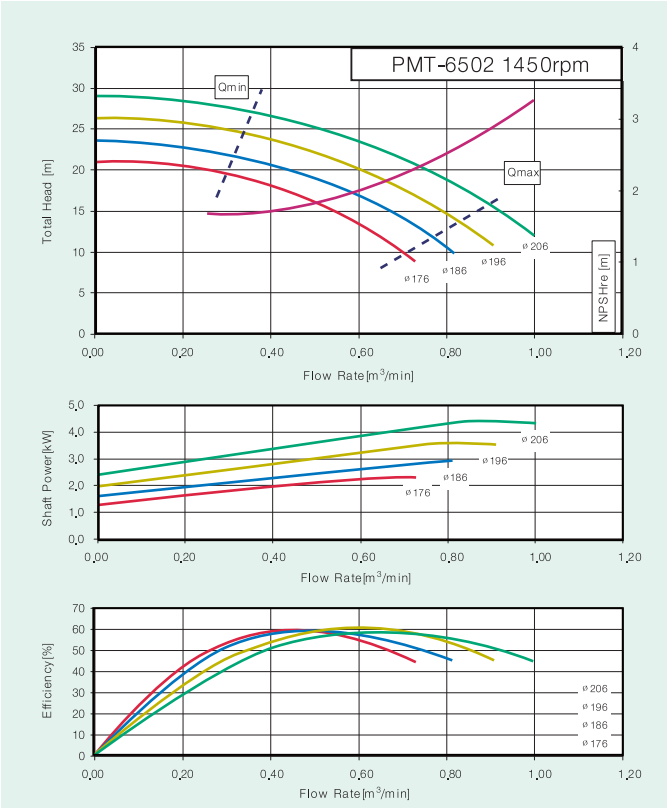





PMT-5007 1450rpm
Qmin
Qmax
ø151
ø161
ø171
ø181
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]


PMT-5008 1450rpm
Qmin
Qmax
ø151
ø161
ø171
ø181
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]

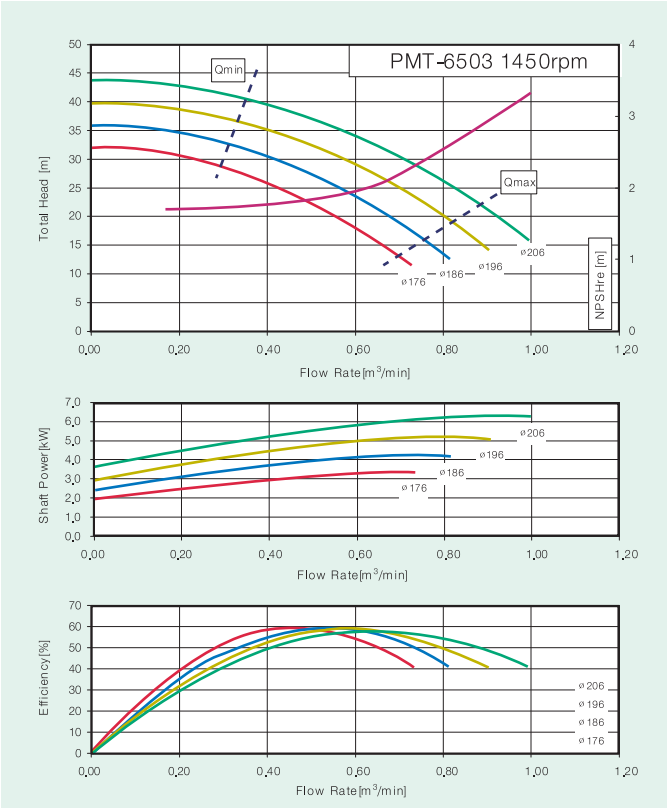

PMT-5009 1450rpm
Qmin
Qmax
ø151
ø161
ø171
ø181
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]

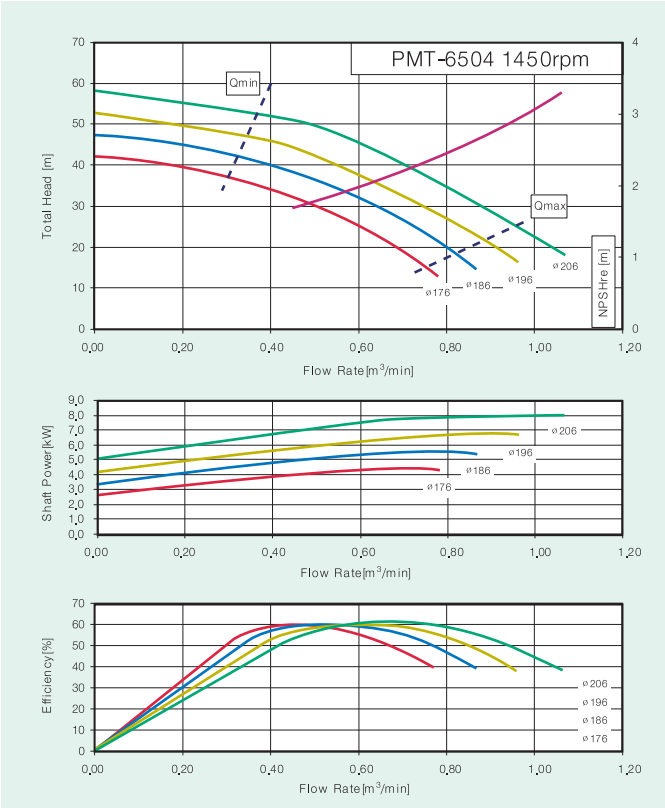

PMT-6502 1450rpm
Qmin
Qmax
ø176
ø186
ø196
ø206
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]

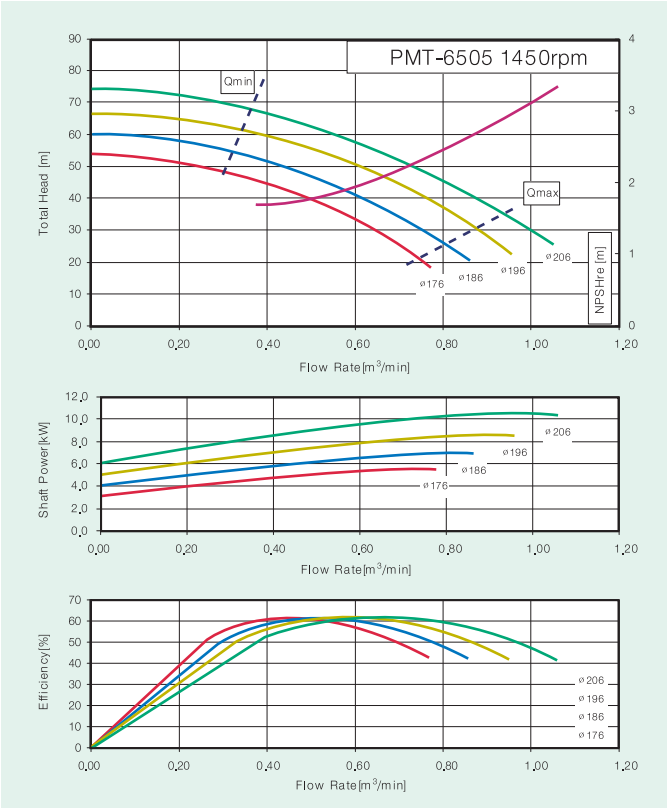
Ring Section Pump

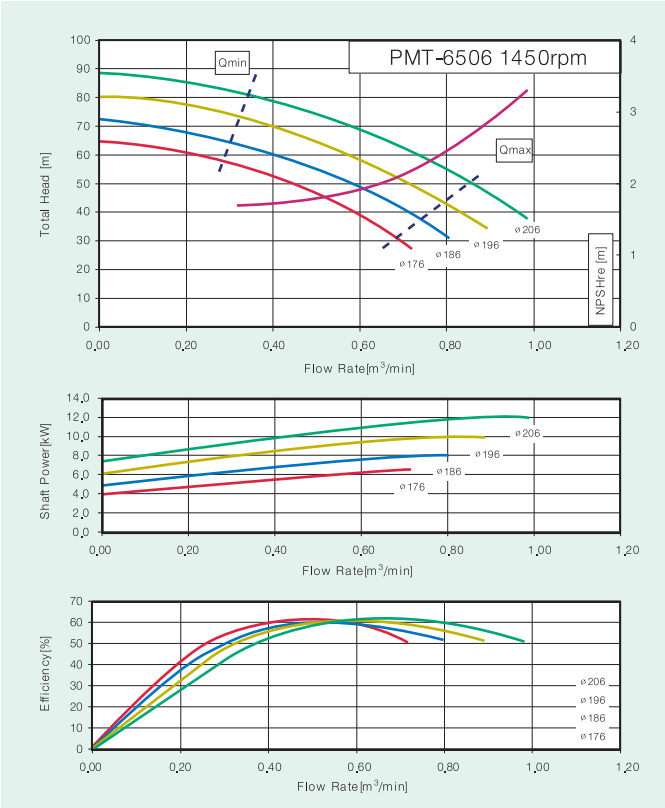
PMT/PMV Series(50Hz)-Multi-Stage Pumps

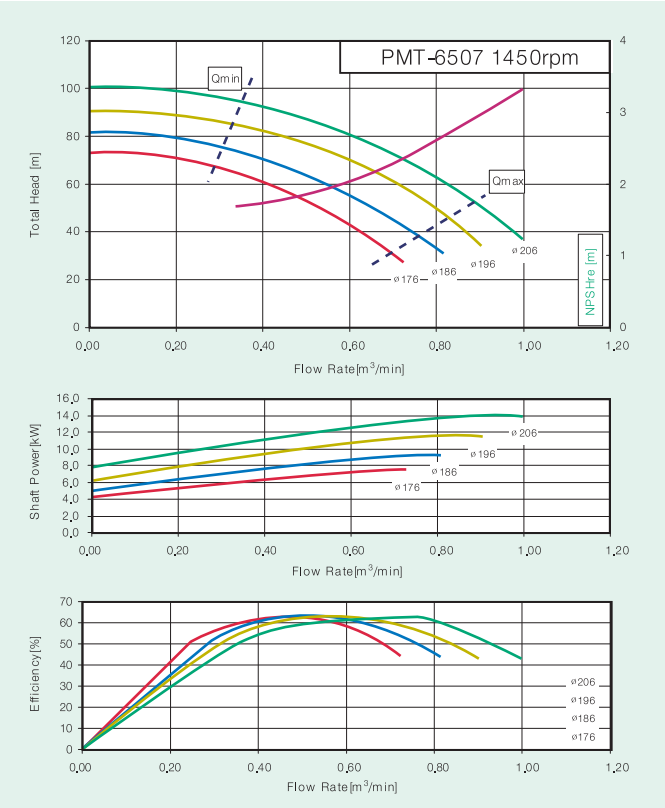
Duty Charts

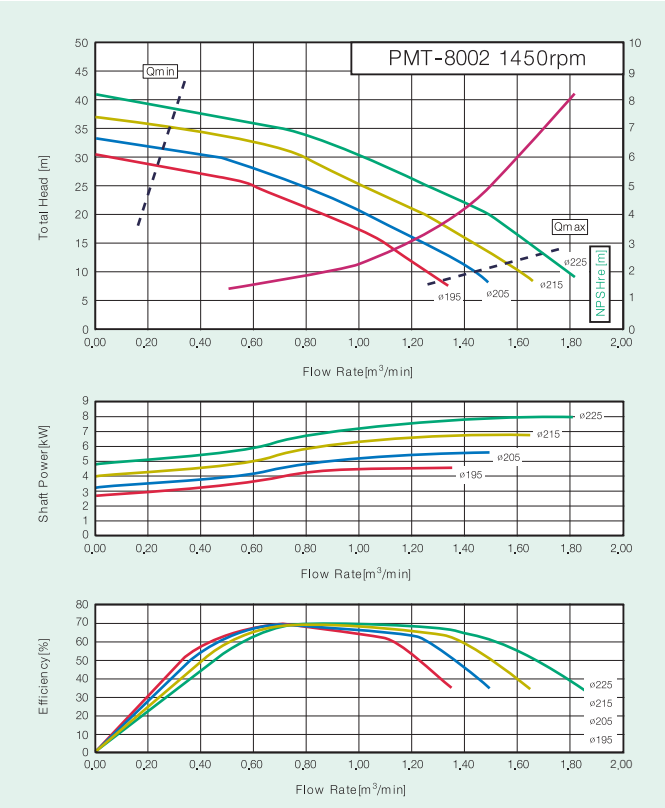


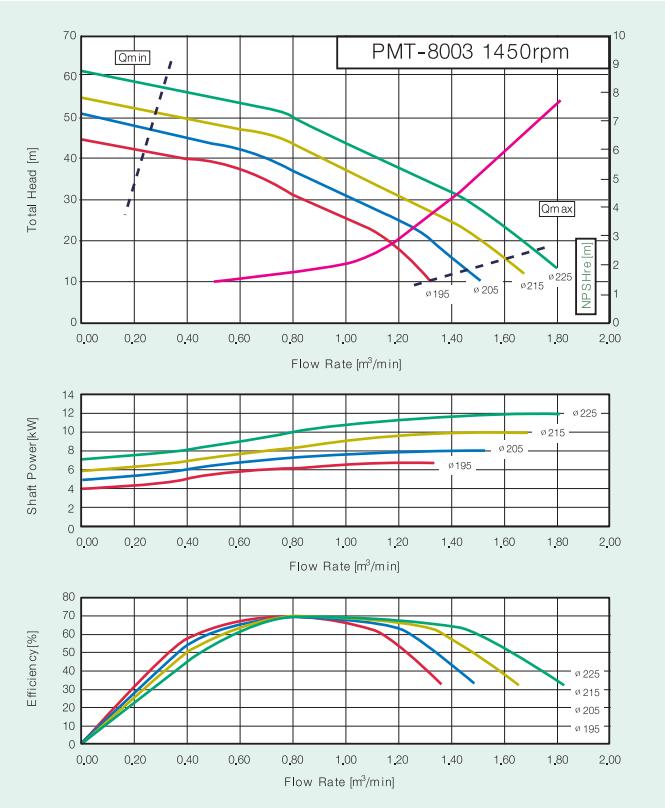


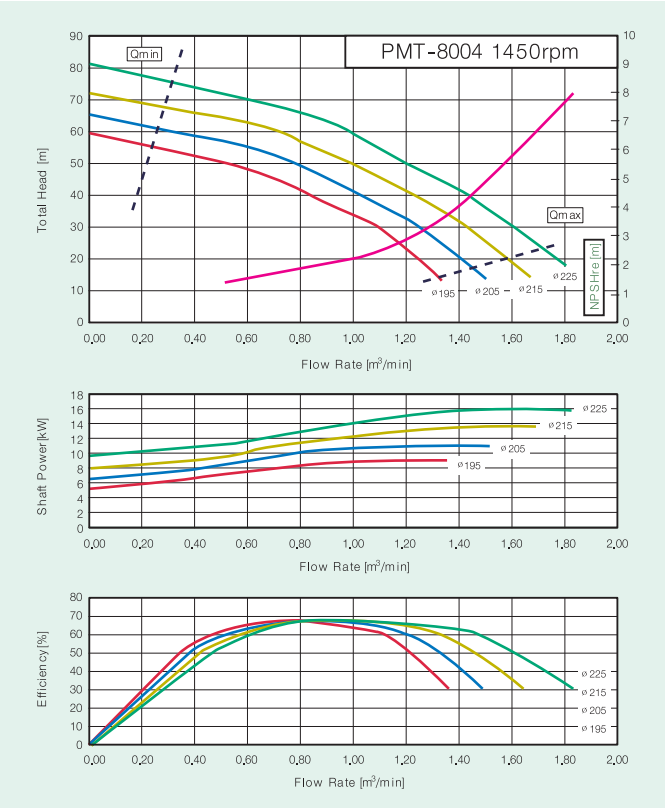





PMT-6507 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø176
ø186
ø196
ø206
Shaft Power[kW]
Efficiency[%]


PMT-8002 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø195
ø205
ø215
ø225
Shaft Power[kW]
Efficiency[%]

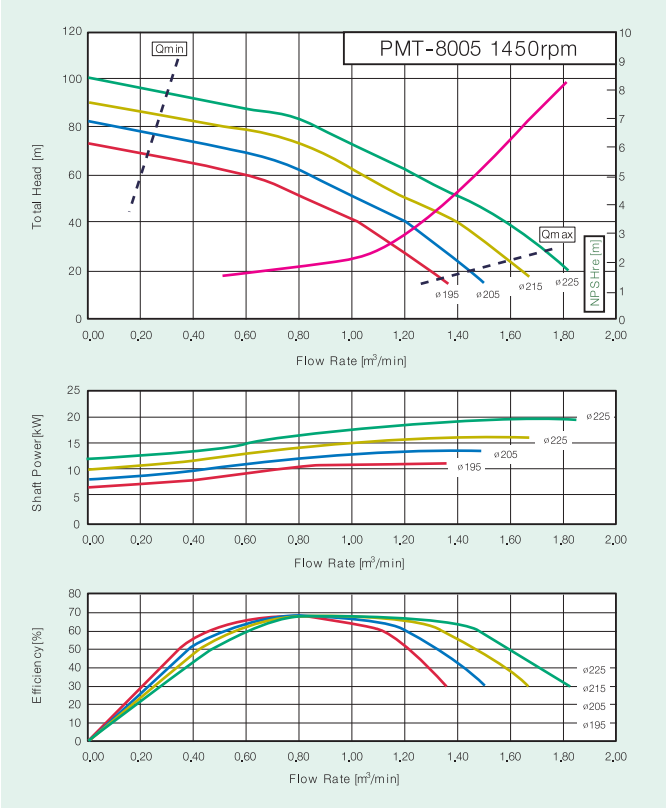

PMT-8003 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø195
ø205
ø215
ø225
Shaft Power[kW]
Efficiency[%]

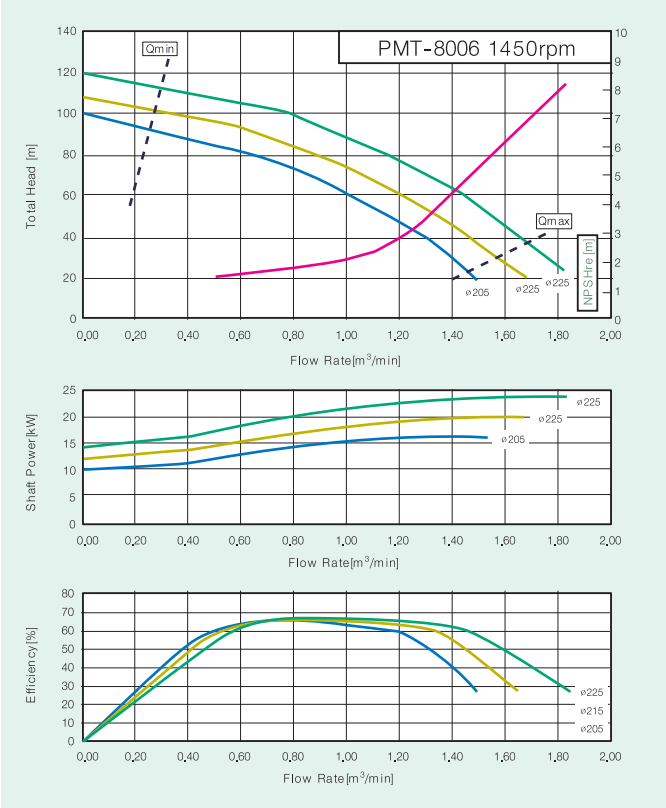

PMT-8004 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø195
ø205
ø215
ø225
Shaft Power[kW]
Efficiency[%]

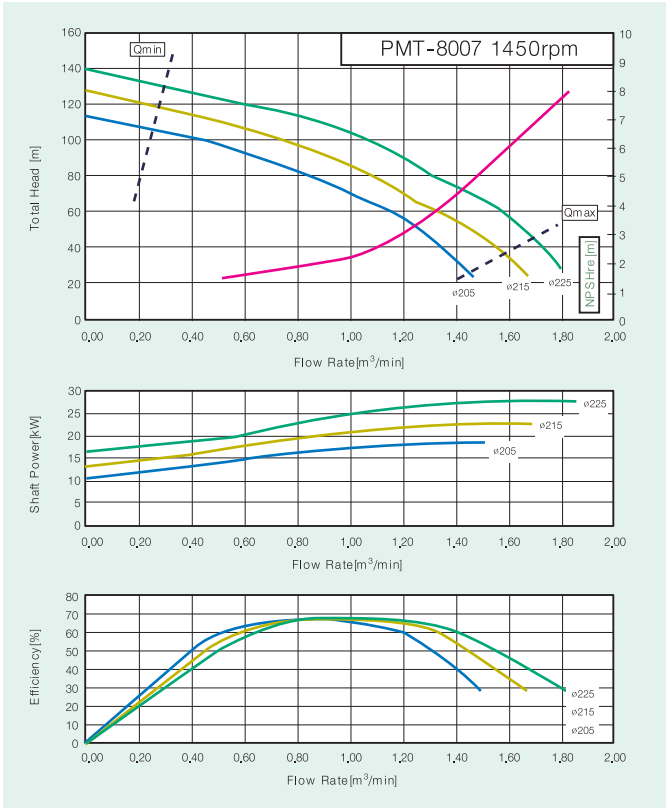
Ring Section Pump

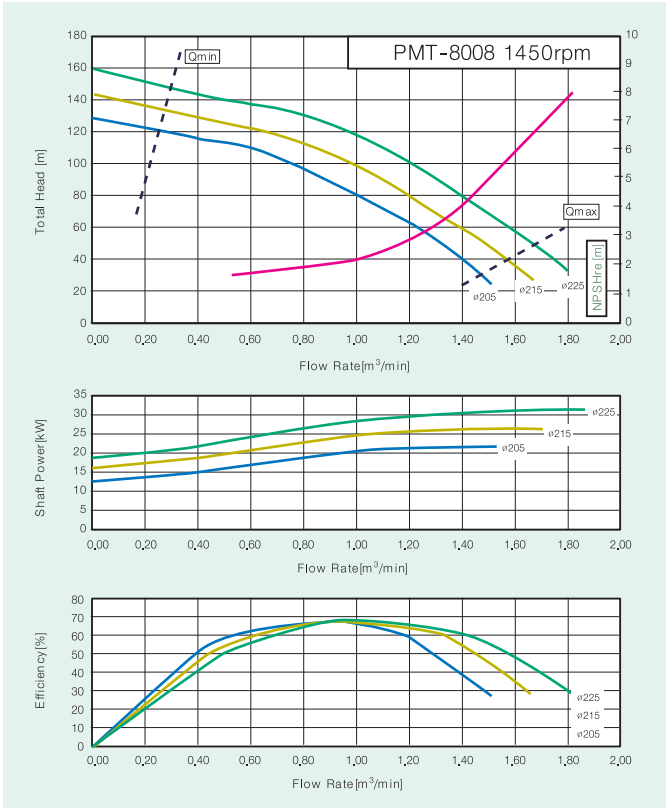
PMT/PMV Series(50Hz) -Multi-Stage Pumps

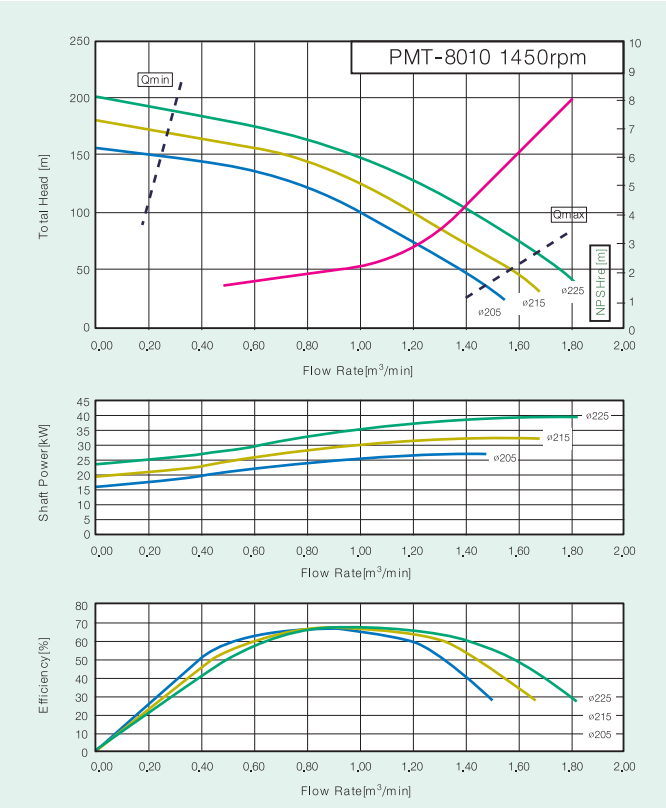
Duty Charts

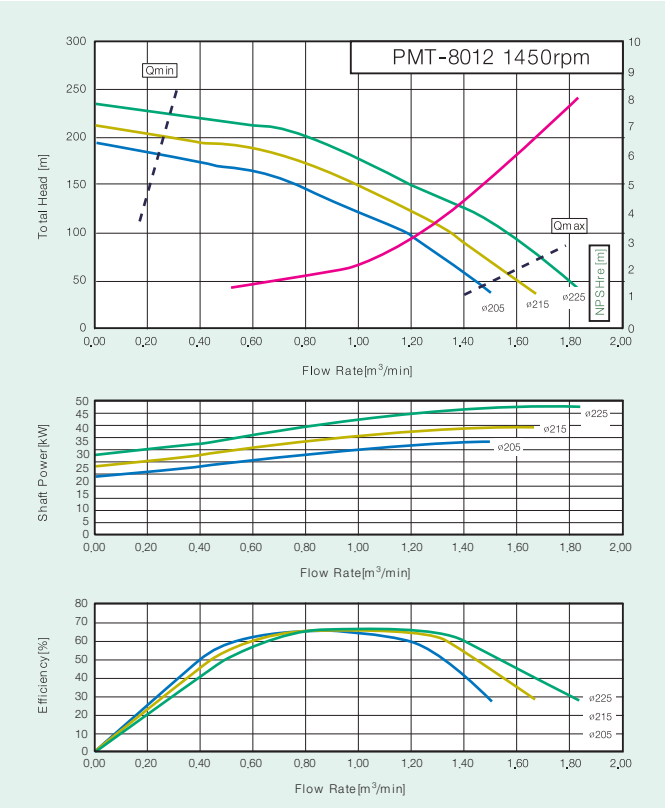


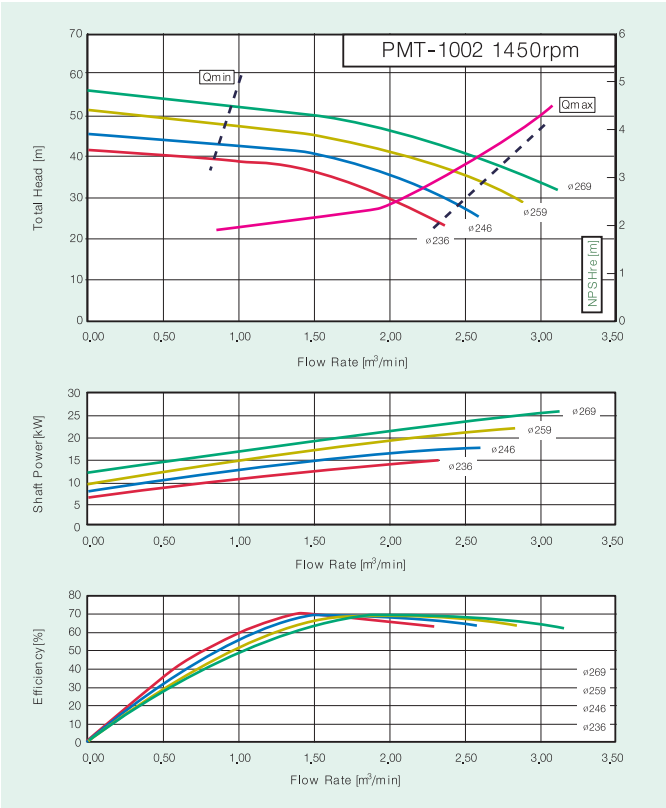


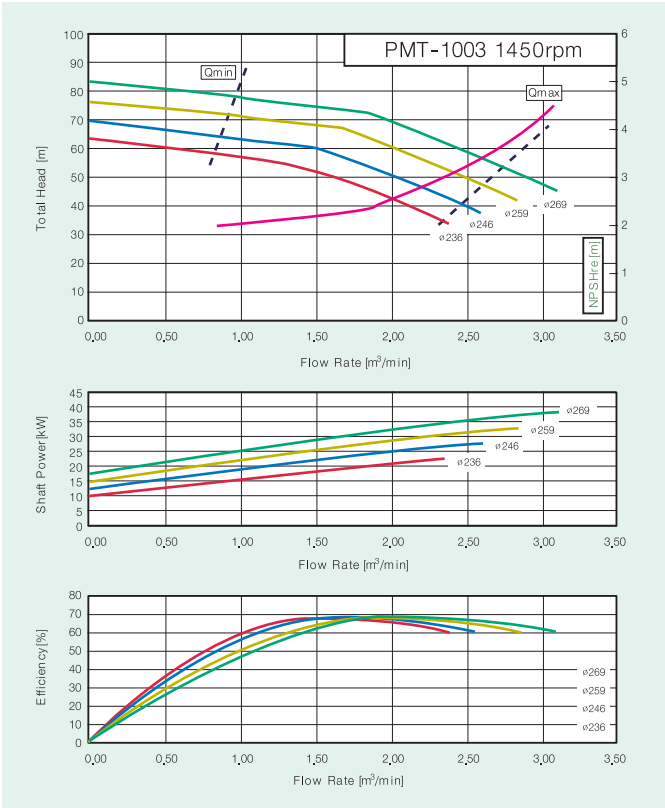





PMT-8010 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
ø205
ø215
ø225
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]


PMT-8012 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
ø205
ø215
ø225
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]

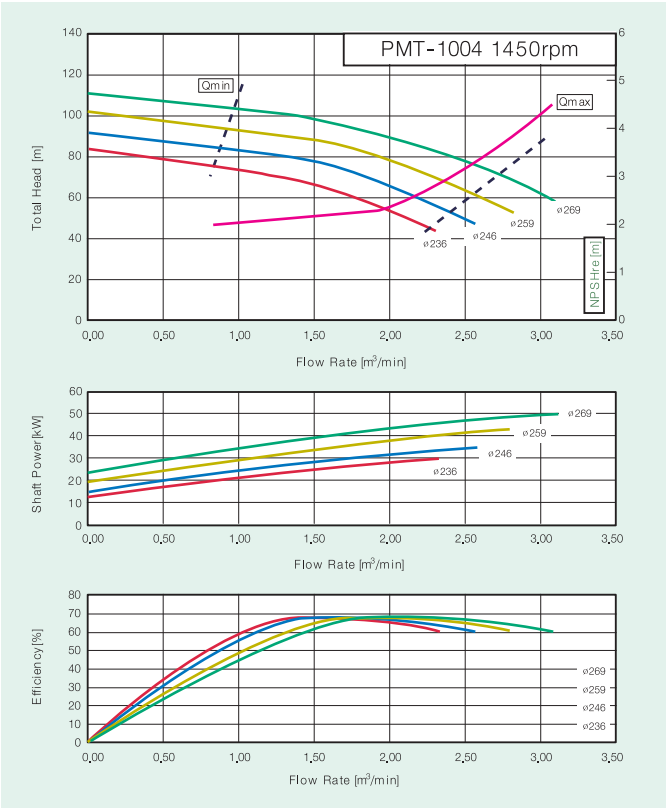

PMT-1002 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
ø236
ø246
ø259
ø269
Flow Rate [m³/min]
Shaft Power[kW]
Efficiency[%]

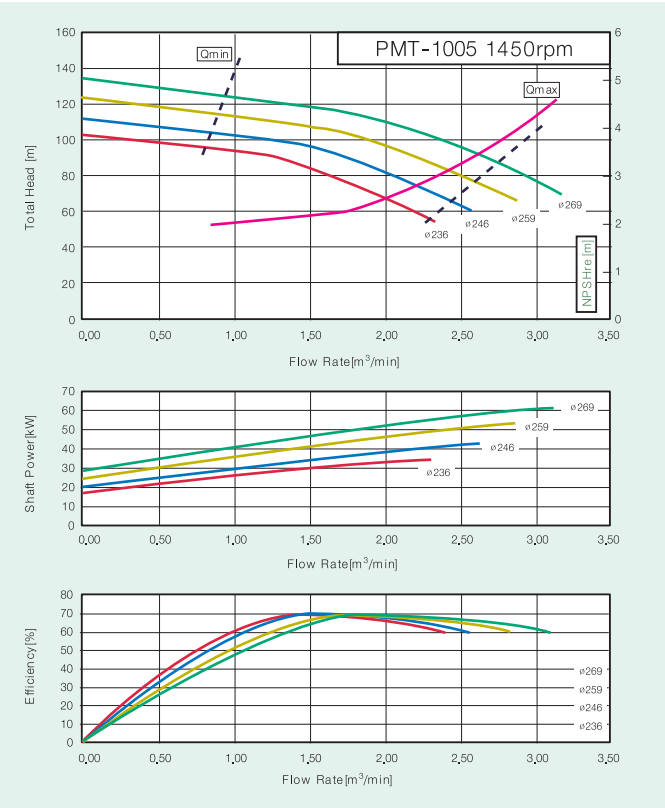

PMT-1003 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
ø236
ø246
ø259
ø269
Flow Rate [m³/min]
Shaft Power[kW]
Efficiency[%]

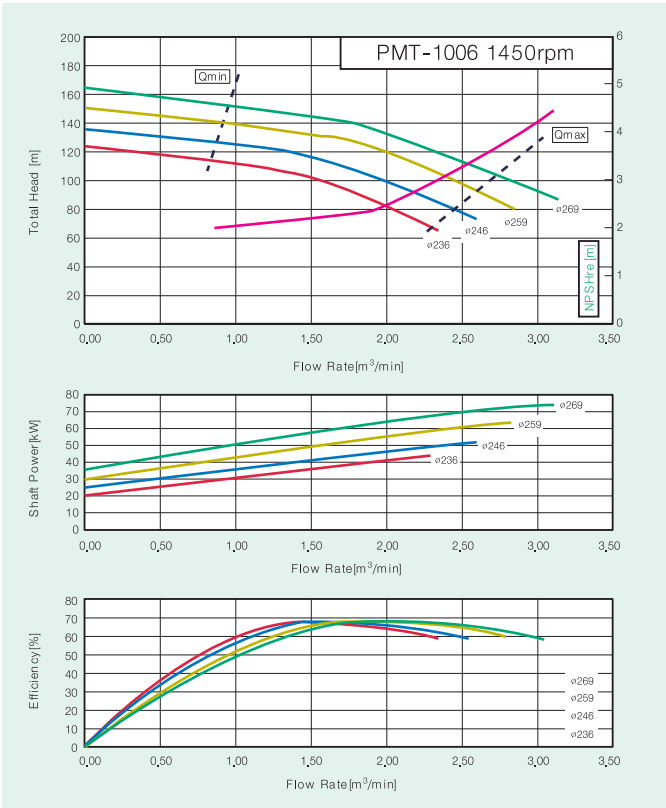
Ring Section Pump

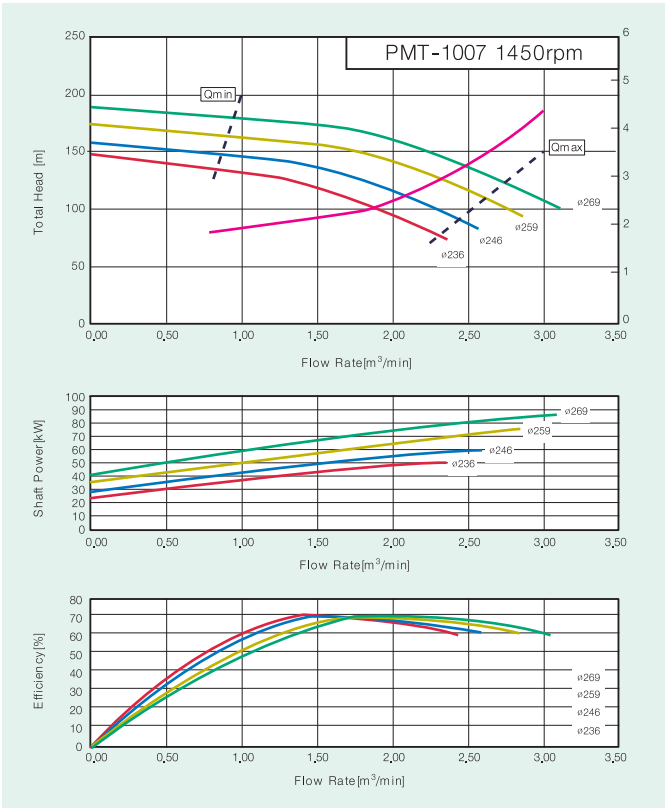
PMT/PMV Series

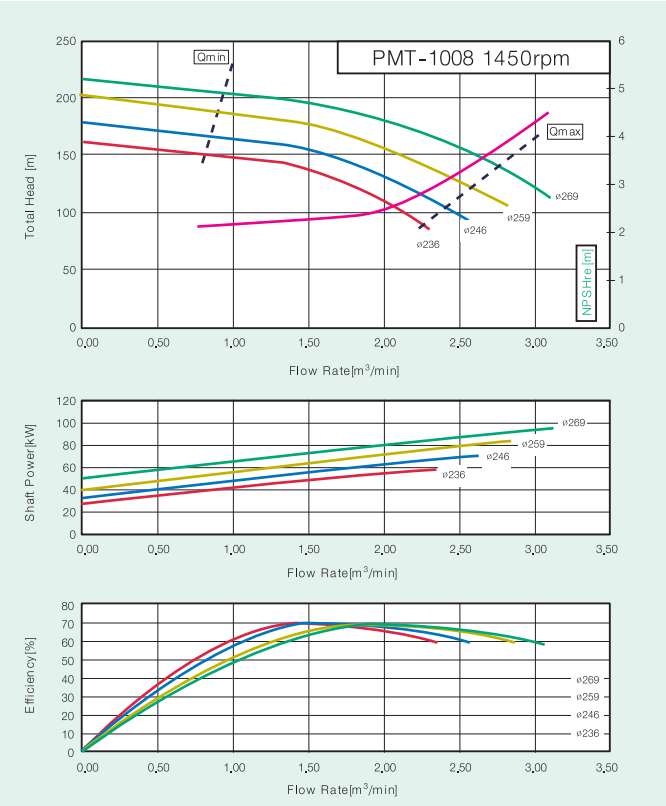
Duty Charts

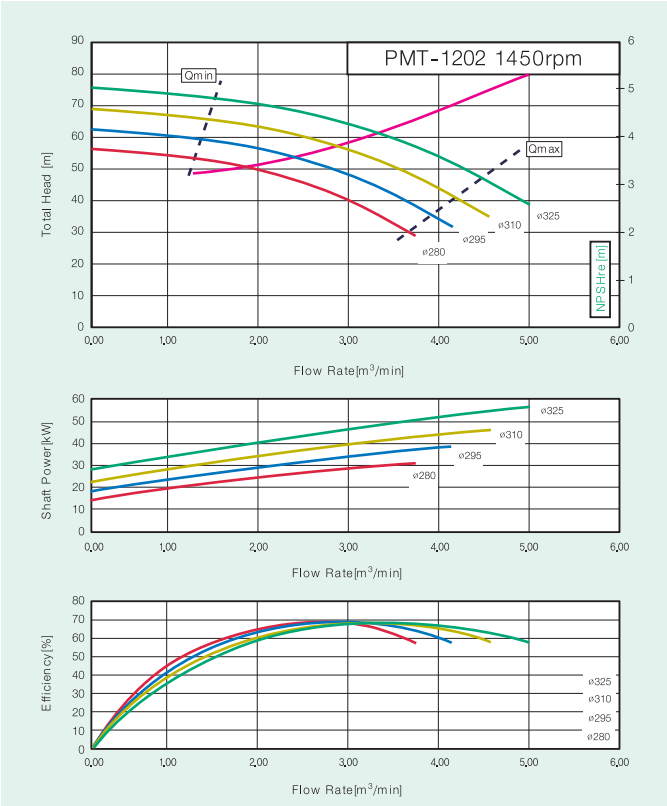


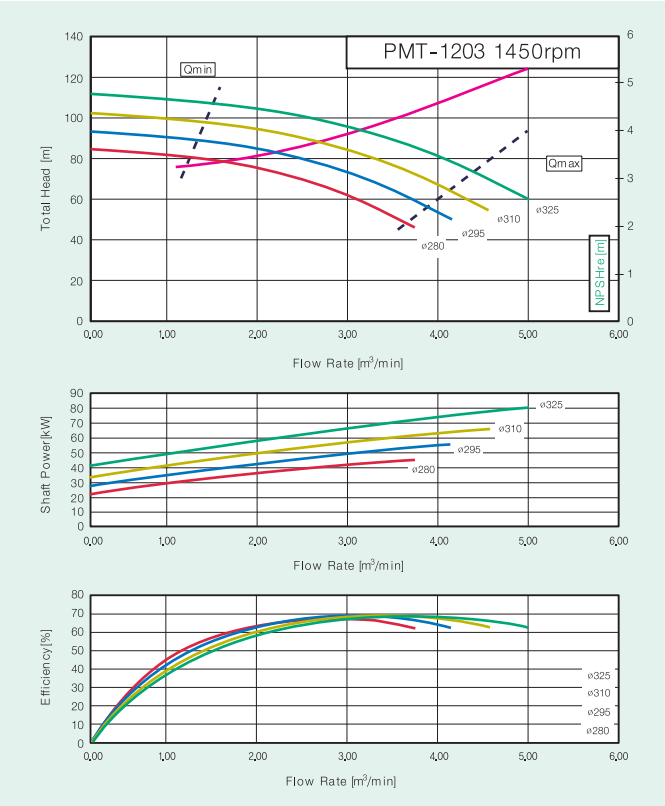


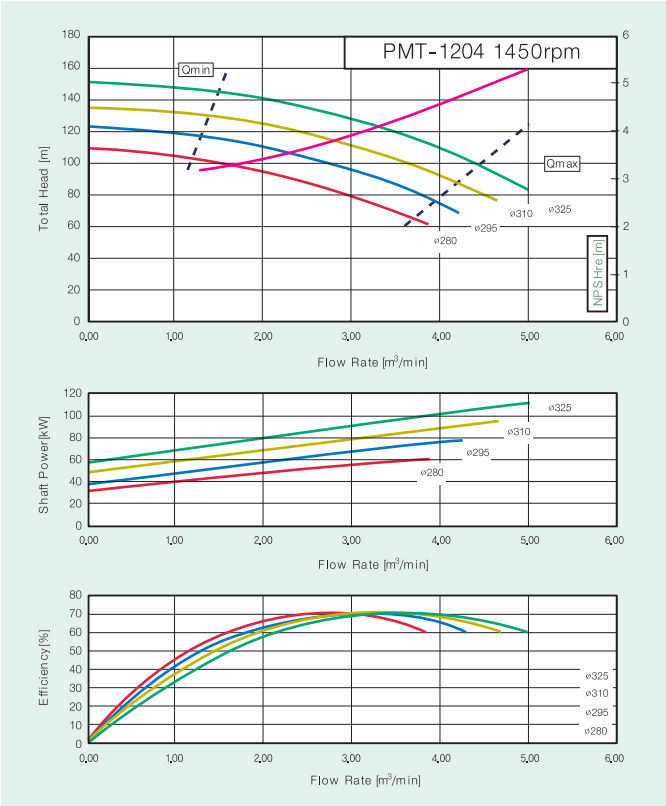





PMT-1008 1450rpm
Qmin
Qmax
ø269
ø259
ø246
ø236
NPSHre [m]
Total Head [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]


PMT-1202 1450rpm
Qmin
Qmax
ø325
ø310
ø295
ø280
NPSHre [m]
Total Head [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]

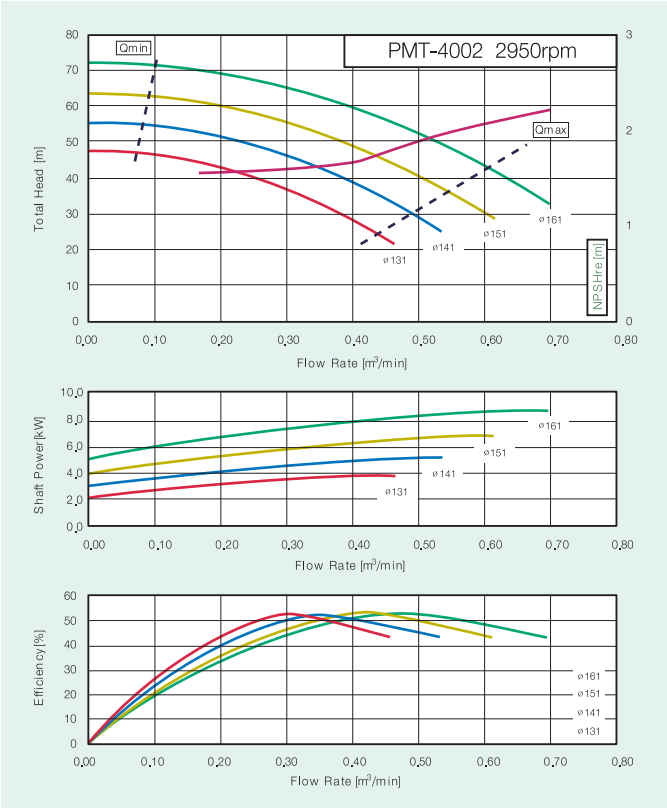

PMT-1203 1450rpm
Qmin
Qmax
ø325
ø310
ø295
ø280
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power[kW]
Efficiency[%]

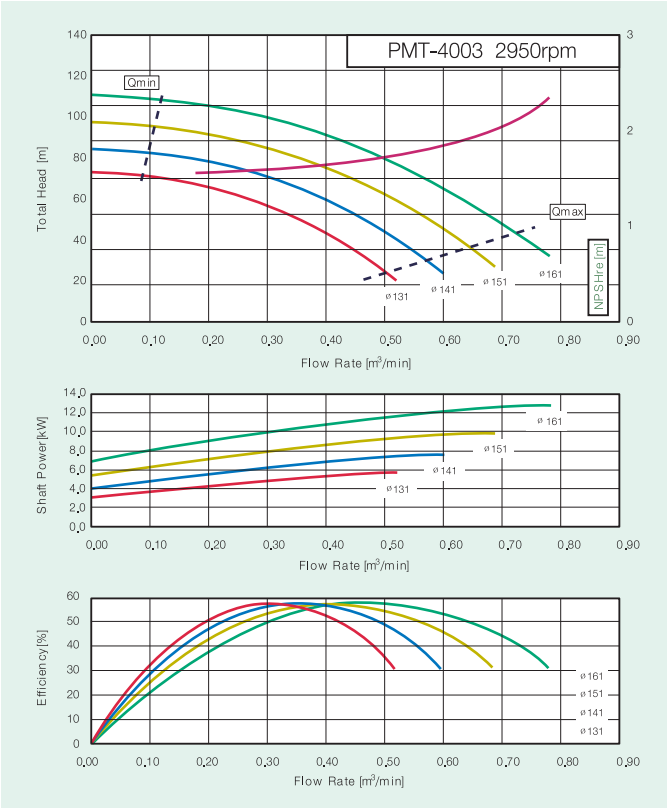

PMT-1204 1450rpm
Qmin
Qmax
ø325
ø310
ø295
ø280
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power[kW]
Efficiency[%]

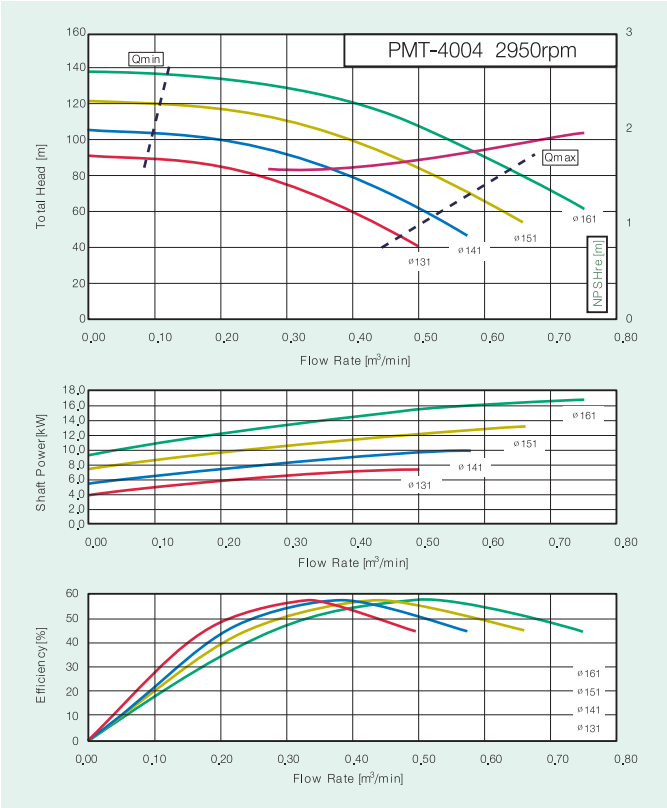
Norm Pumps

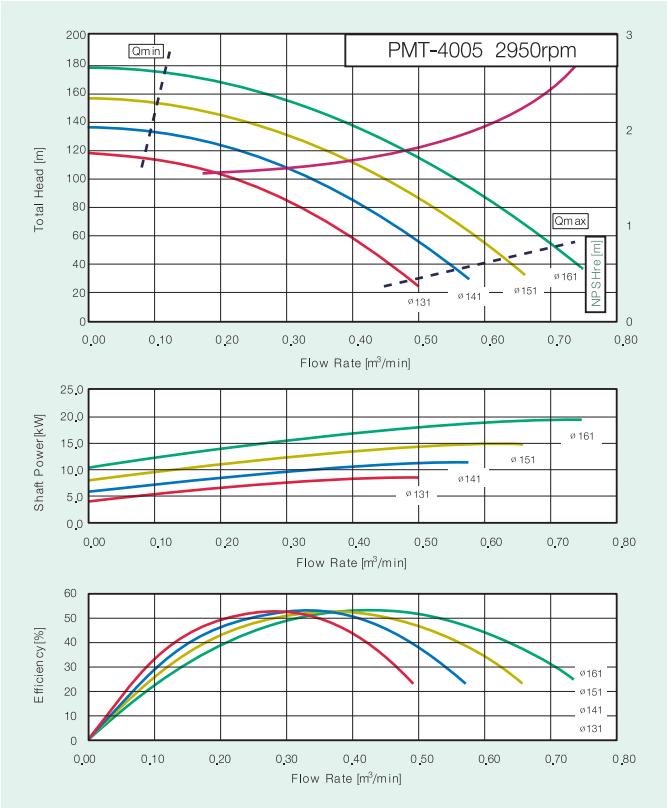
PMT/PMV Series(50Hz)-Multi-Stage Pumps

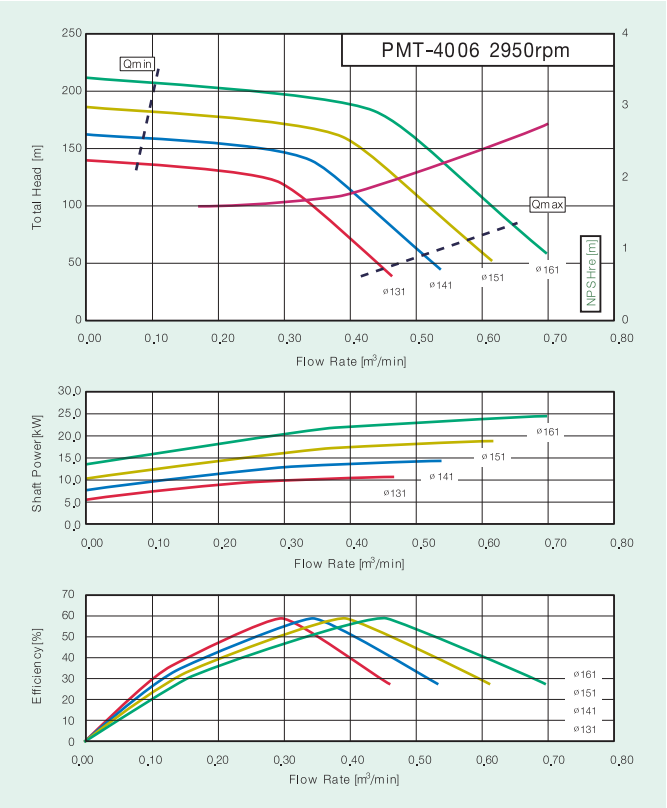
Duty Charts

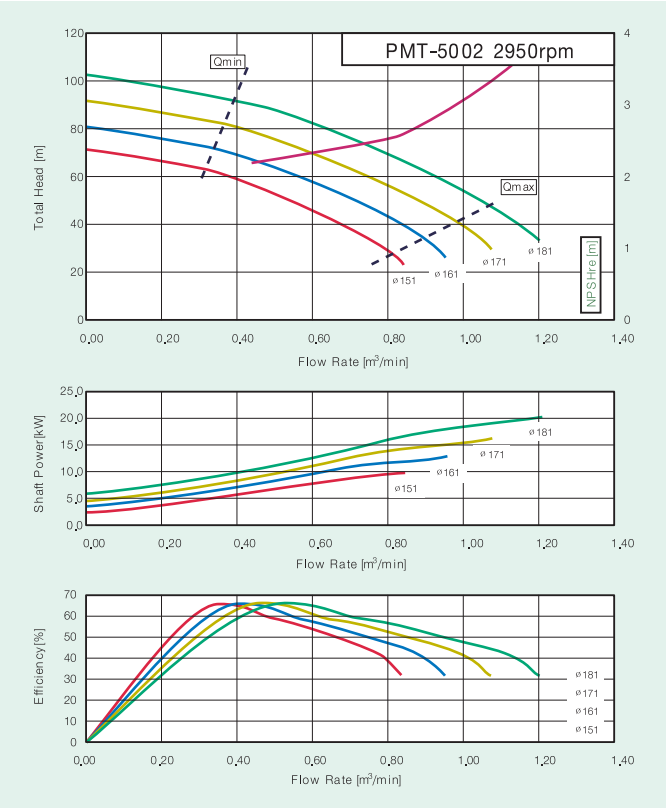


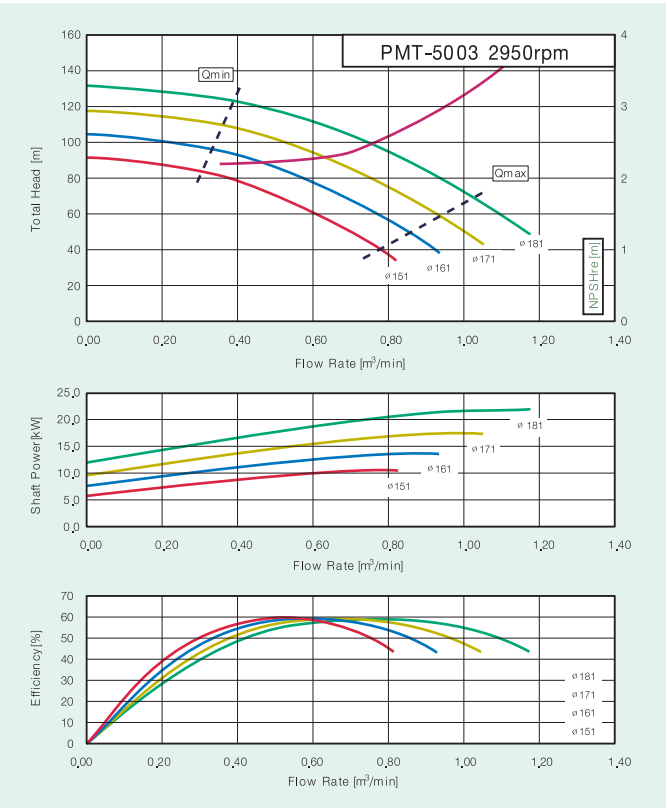


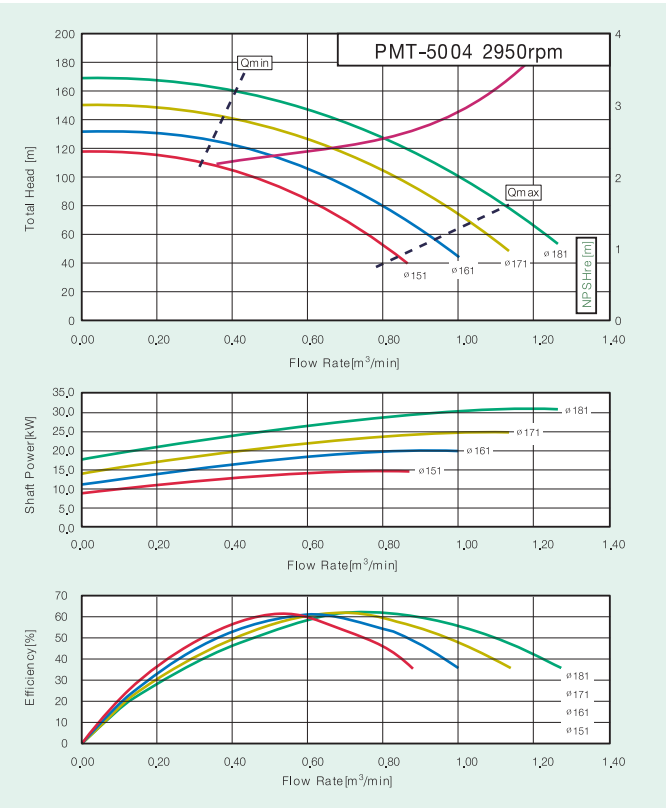




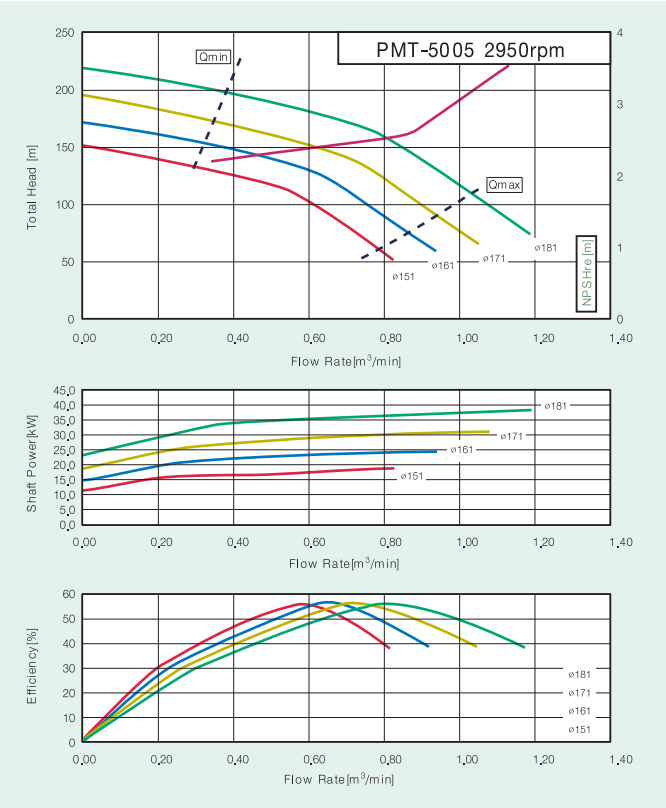

PMT-4006 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø131
ø141
ø151
ø161
Shaft Power [kW]
Efficiency [%]

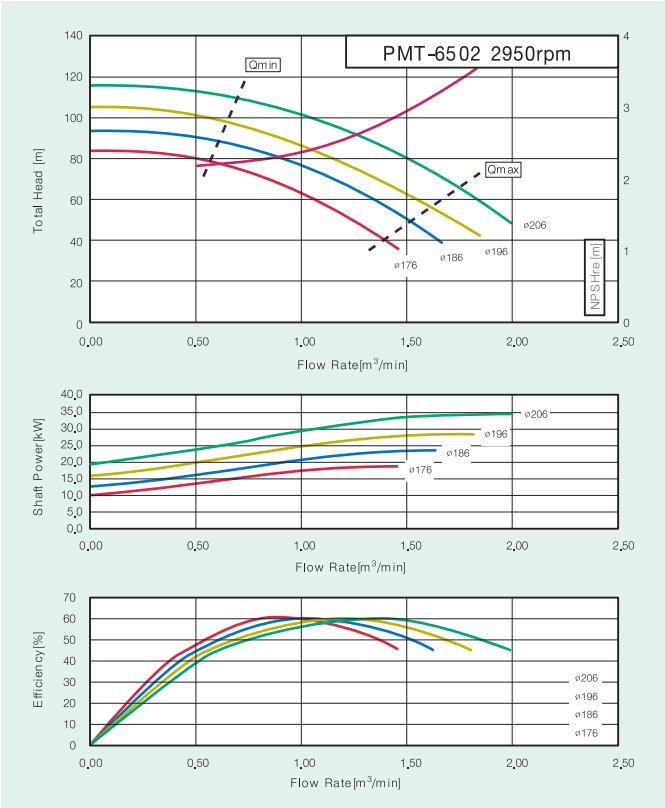

PMT-5002 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø151
ø161
ø171
ø181
Shaft Power [kW]
Efficiency [%]

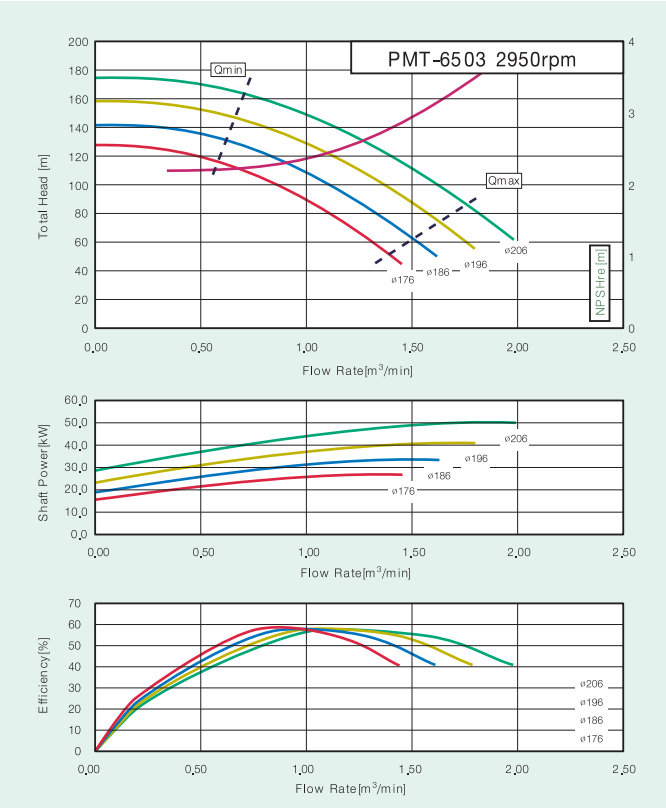

PMT-5003 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø151
ø161
ø171
ø181
Shaft Power [kW]
Efficiency [%]

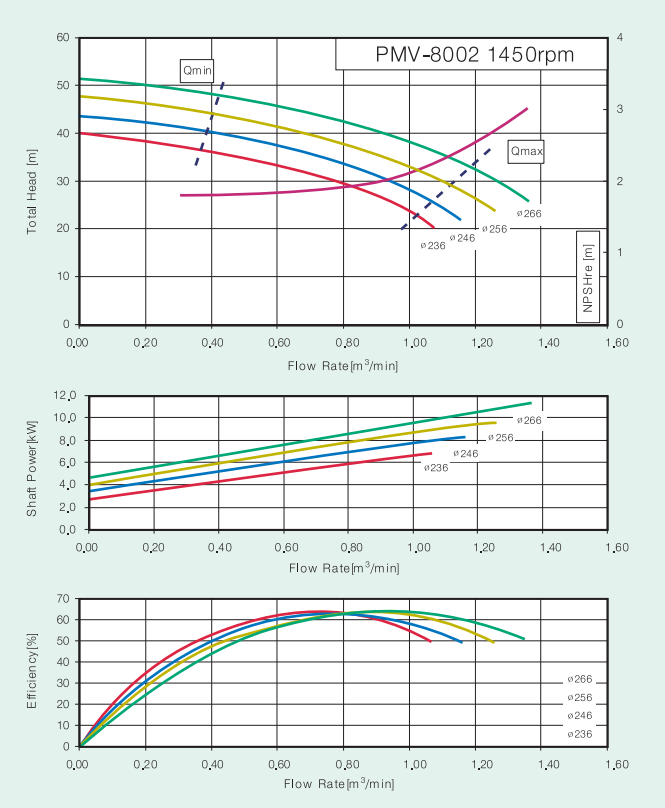

PMT-5004 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
ø151
ø161
ø171
ø181
Shaft Power [kW]
Efficiency [%]

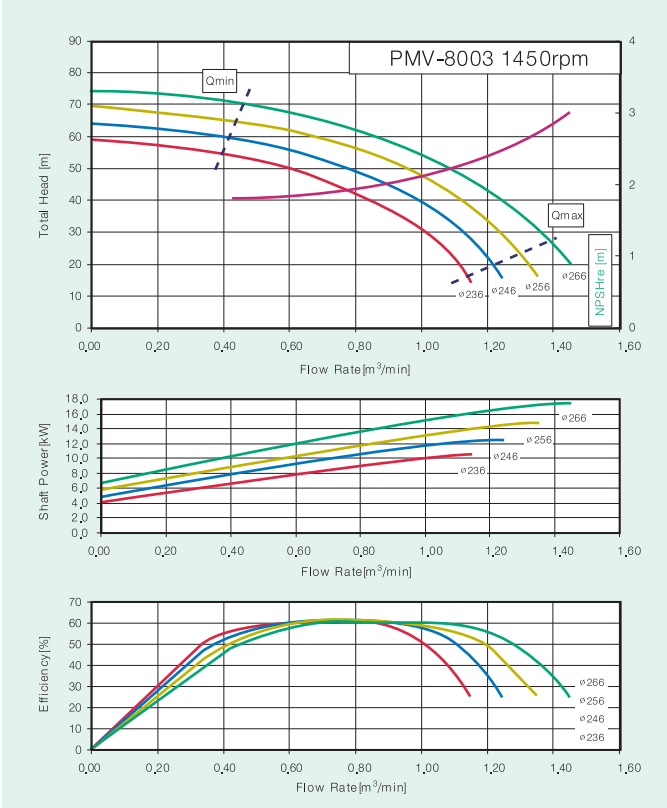
Duty Charts

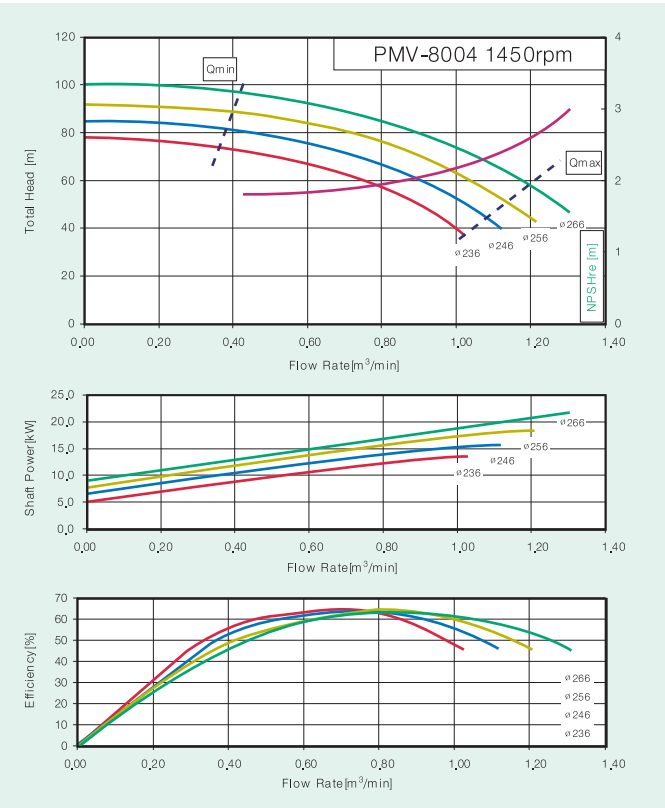

PMT-5005 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø151
ø161
ø171
ø181
Shaft Power[kW]
Efficiency[%]

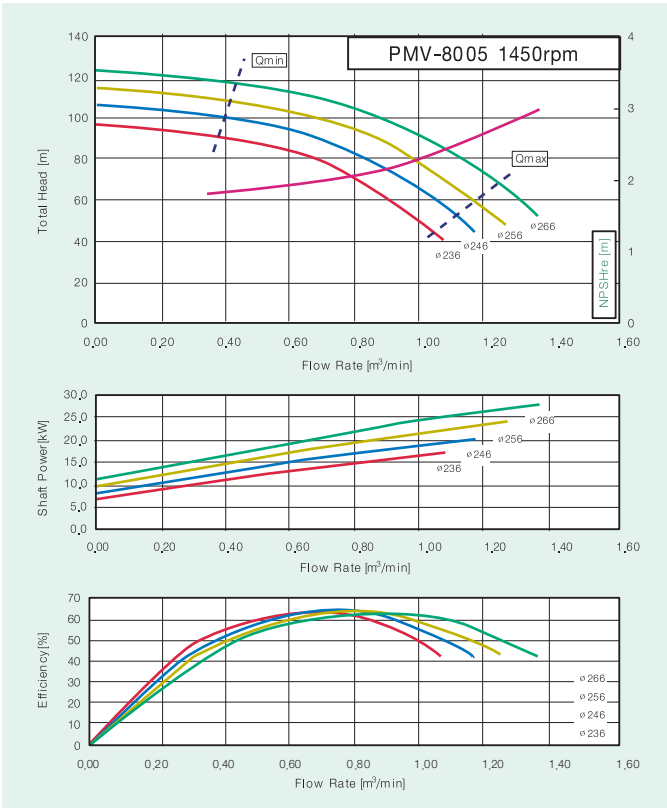

PMT-6502 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø176
ø186
ø196
ø206
Shaft Power[kW]
Efficiency[%]


PMT-6503 2950rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate[m³/min]
ø176
ø186
ø196
ø206
Shaft Power[kW]
Efficiency[%]


PMV-8002 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]
ø236
ø246
ø256
ø266


PMV-8003 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]
ø236
ø246
ø256
ø266

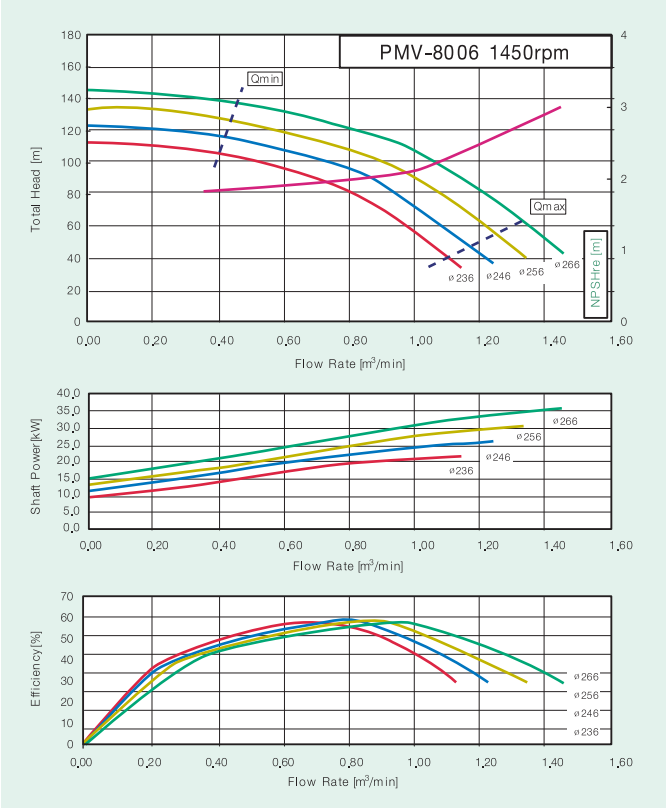

PMV-8004 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]
ø236
ø246
ø256
ø266

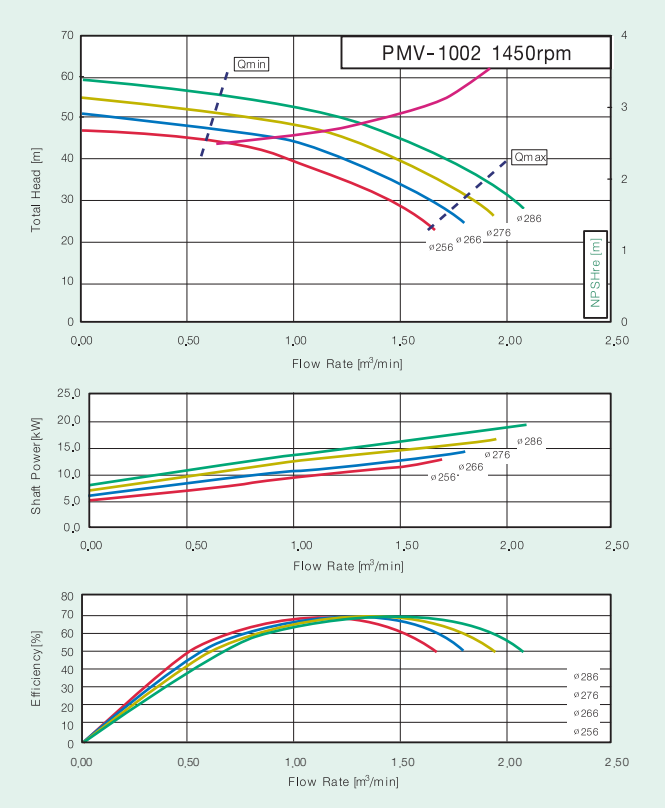

PMV-8005 1450rpm
Qmin
Qmax
Total Head [m]
NPSHre [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]
ø236
ø246
ø256
ø266

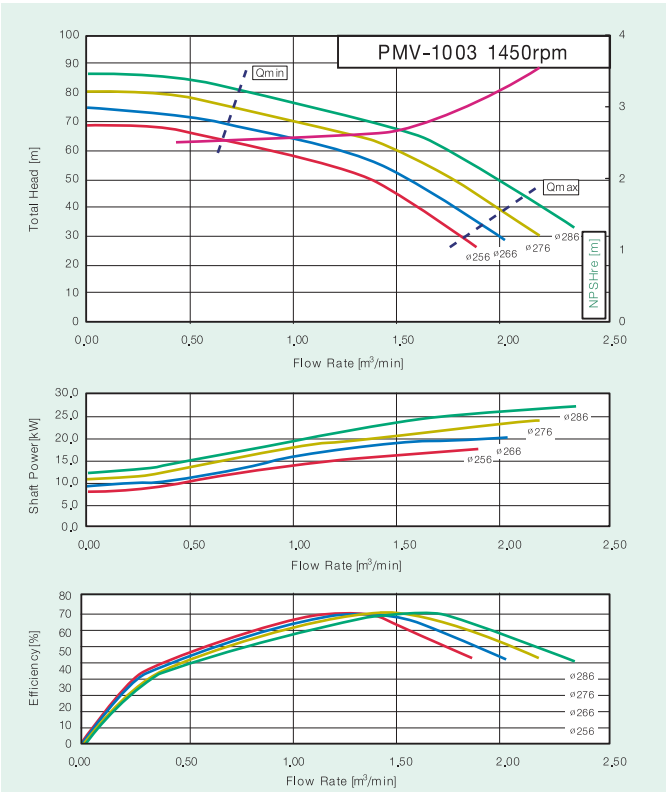
Ring Section Pump

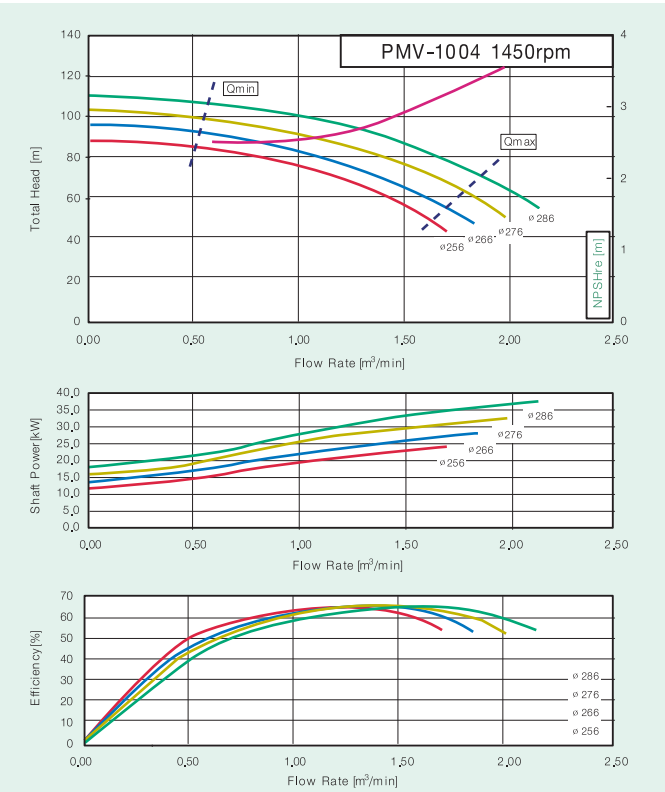
PMT/PMV Series

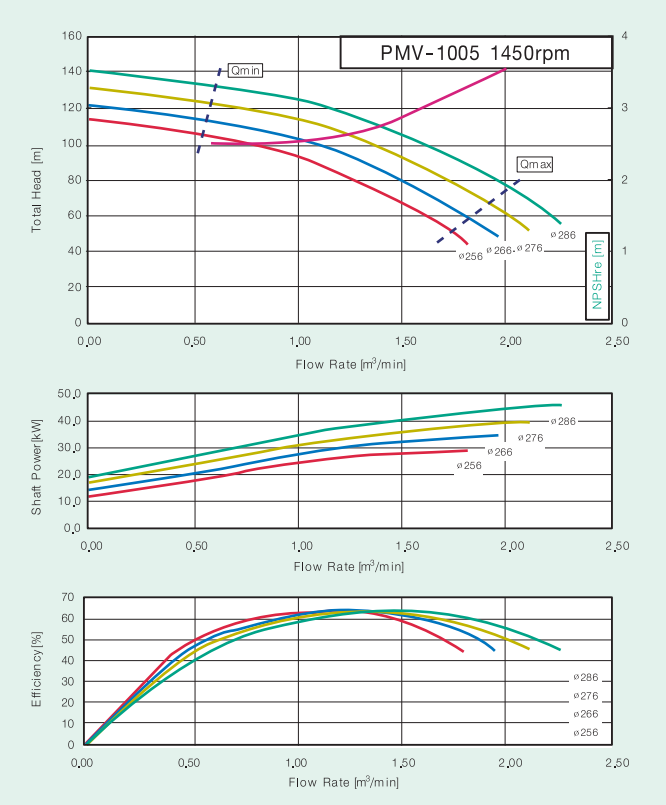
Duty Charts

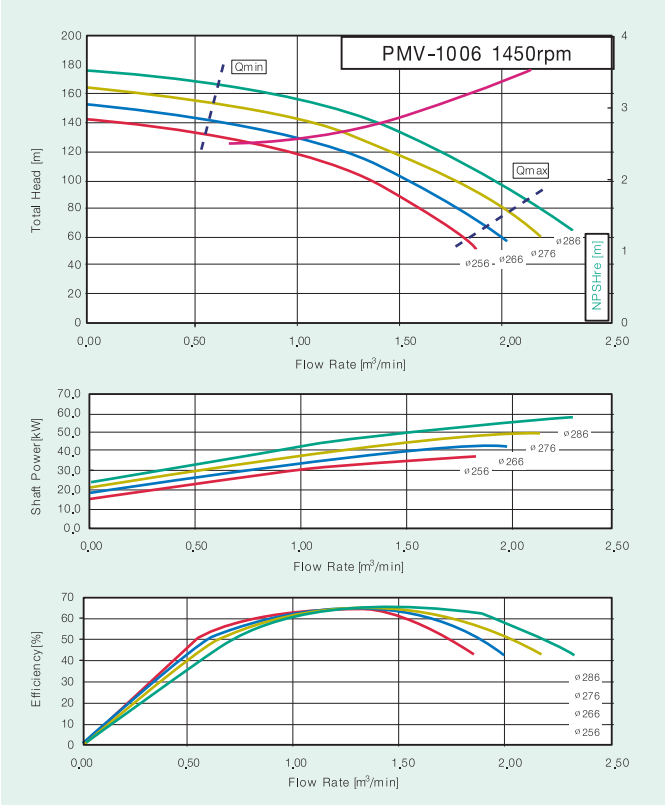


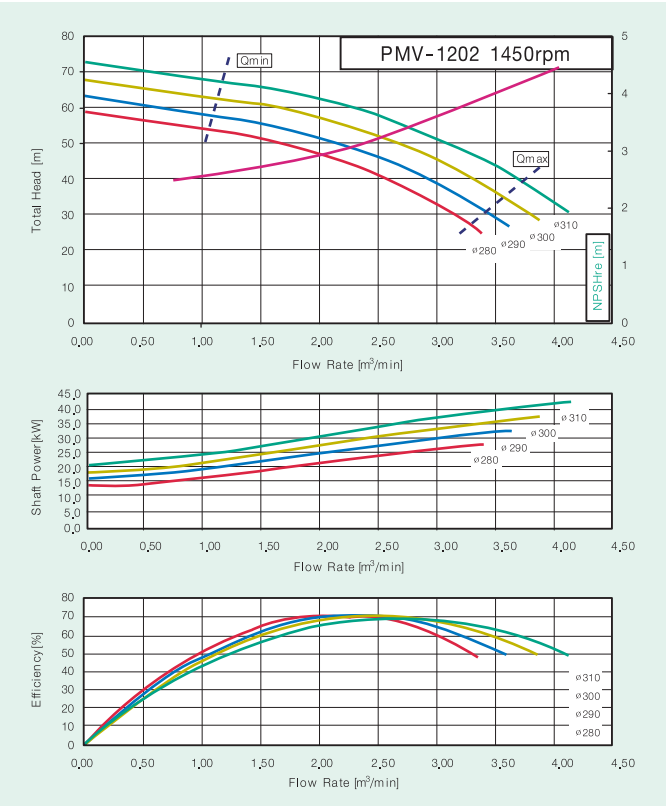


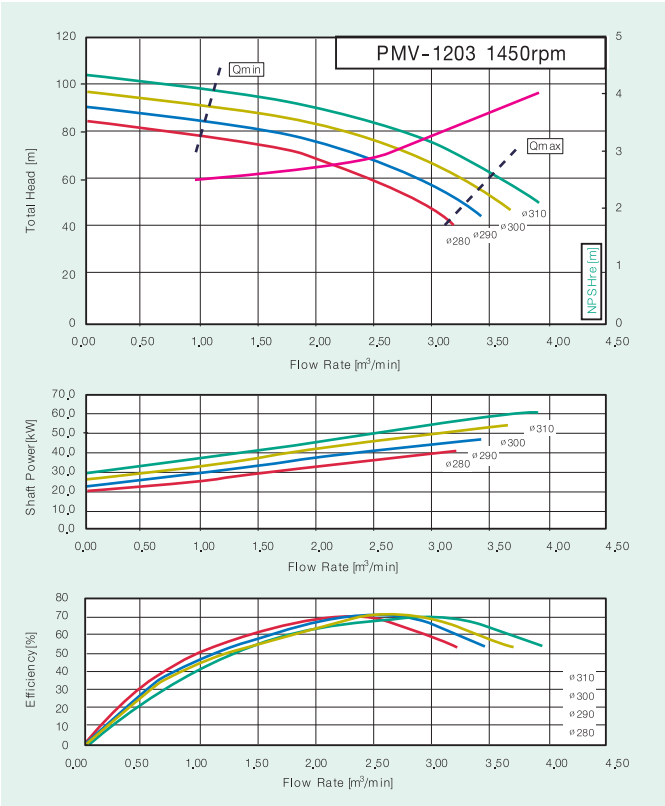





PMV-1005 1450rpm
Qmin
Qmax
ø286
ø276
ø266
ø256
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]


PMV-1006 1450rpm
Qmin
Qmax
ø286
ø276
ø266
ø256
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]

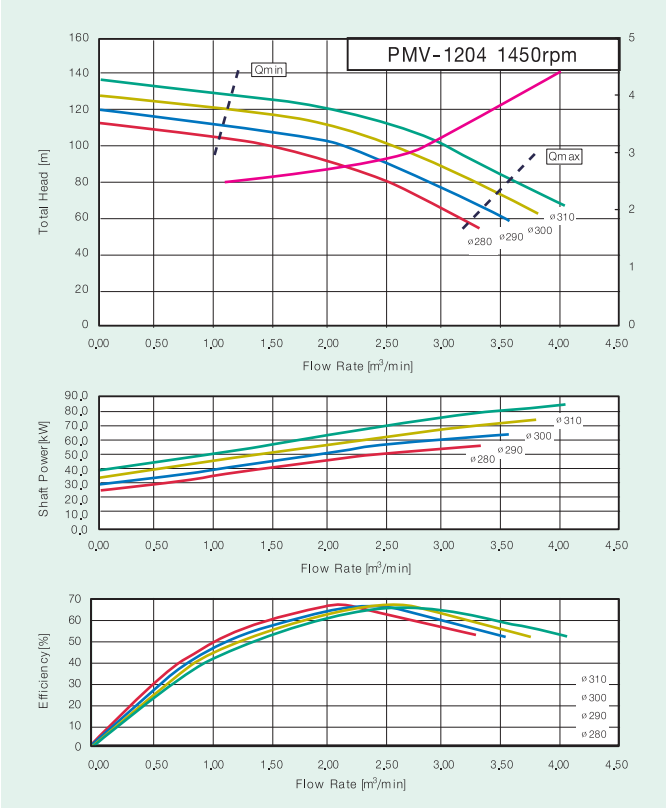

PMV-1202 1450rpm
Qmin
Qmax
ø310
ø300
ø290
ø280
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]

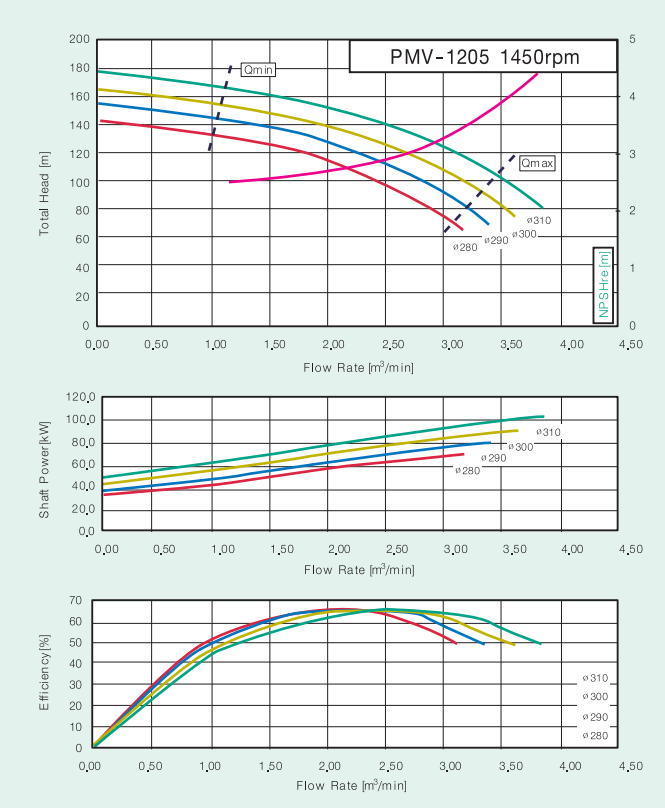

PMV-1203 1450rpm
Qmin
Qmax
ø310
ø300
ø290
ø280
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Efficiency [%]

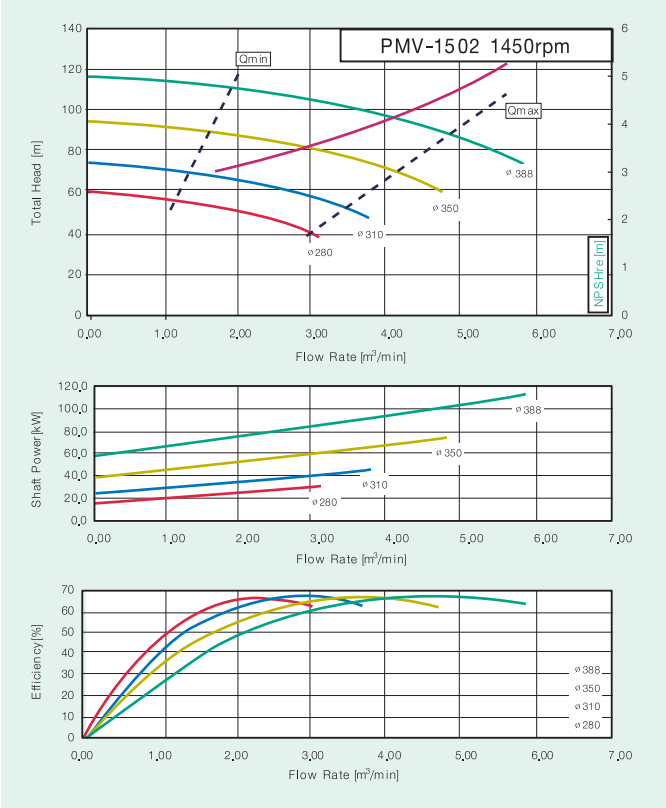
Ring Section Pump

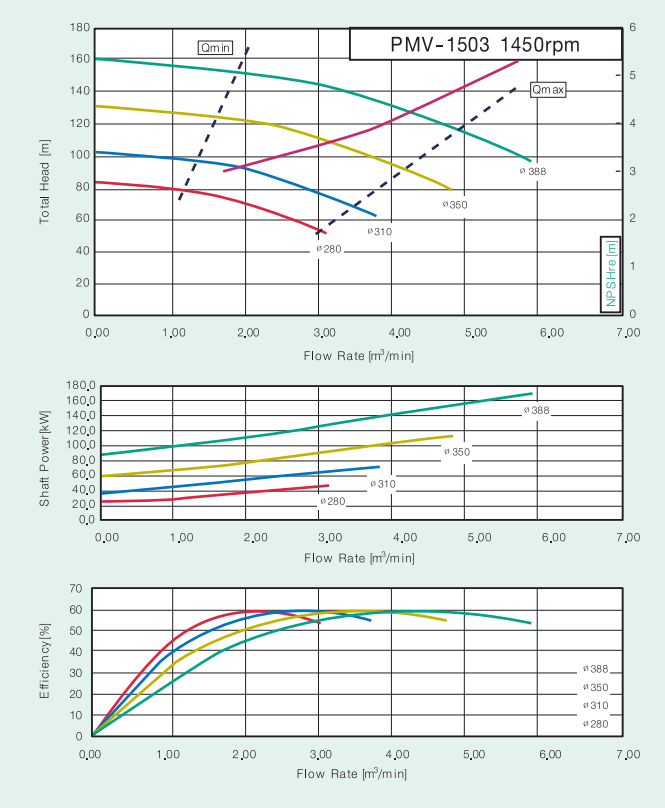
PMT/PMV Series

Duty Charts



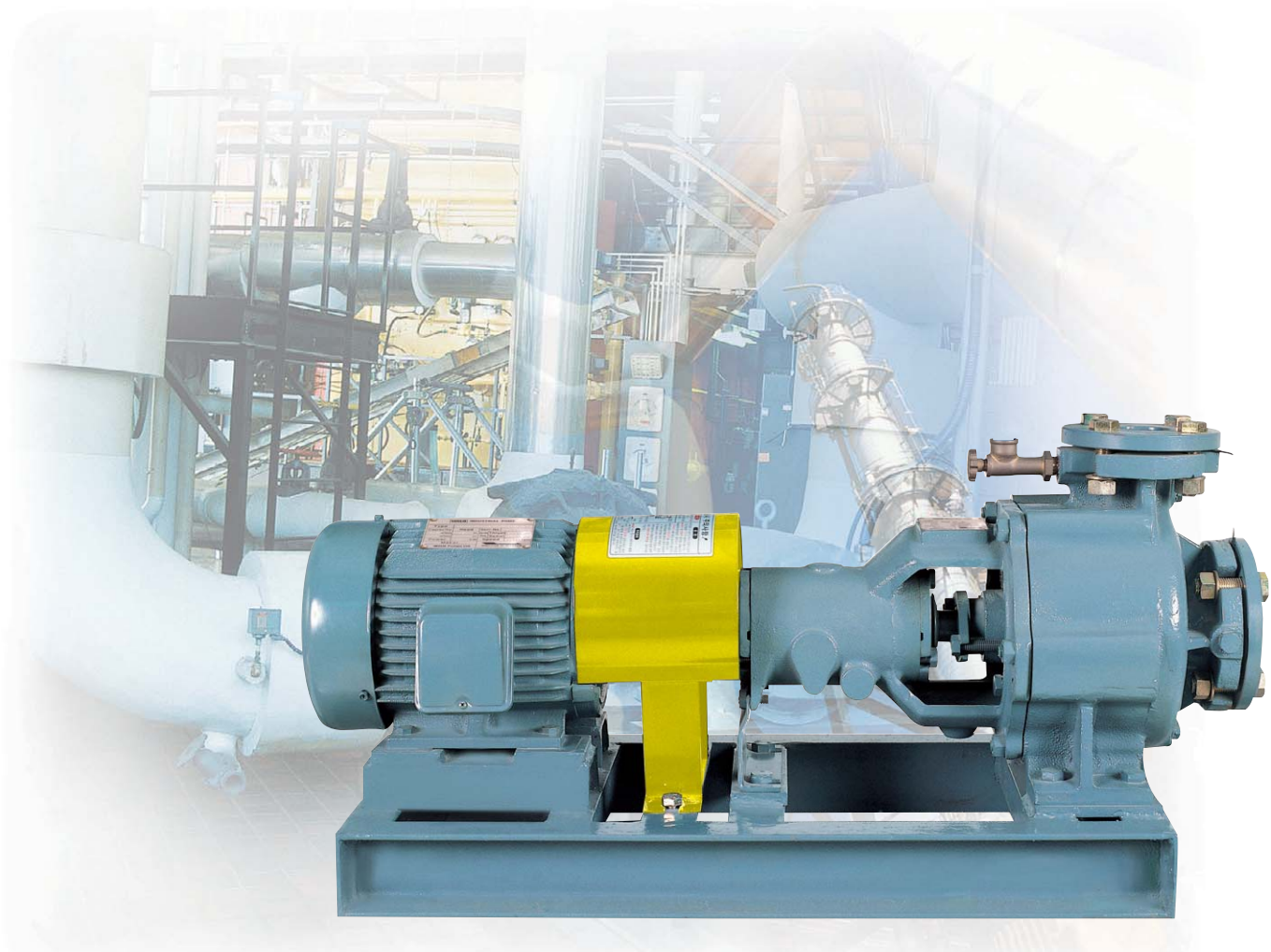






Vortex Pump

PVH Series



Design and Structural Features

1. Back pull-out for easy maintenance
2. Volute casing avoids possible friction at minimum
3. Top center line discharge: balanced piping
4. Back vaned impeller minimizes axial thrust.

Strength of PVH Vortex Pump

- Deliver sewage/solid containing liquid
- Possible to pump negative suction
- Vortex flow will minimize damage on solid
- Good lifecycle
- Shaft sleeve protects shaft for longer lifecycle
- Teflon Gland Packing ensures a long lifecycle

Application

- Pulp, Sludge, Sanitation, Sewage

Vortex Pump

PVH Series

Condition & Technical Data

Condition

1. Applicable fluids (Waste water within 0~80°C)

In case of pumping liquid other than water, please contact us for technical clearance.

2. Suction condition

Please keep the total suction head or pressure as table below.

Allowed value of total suction head

Fluid temperature	Size of Inlet	Total suction head
0°C~40°C	50 ~ 80mm	Less than -6m
	100 ~ 125mm	Less than -5.5m

Allowed value of Standard suction pressure

Suction pressure must be less than 4kgf/cm^2 and within [10 - Pump shut-off head Total head / 10] kgf/cm^2. Also, make sure that the suction pressure does not change instantaneously. Please refer to our office for other conditions.

3. Important operating condition

In case of very frequent operation by automatic controller, material of impeller shall be bronze or above (such as stainless steel). And please make sure that number of operation shall not exceed 12times an hour. Please minimize friction loss at inlet piping to avoid water hammer

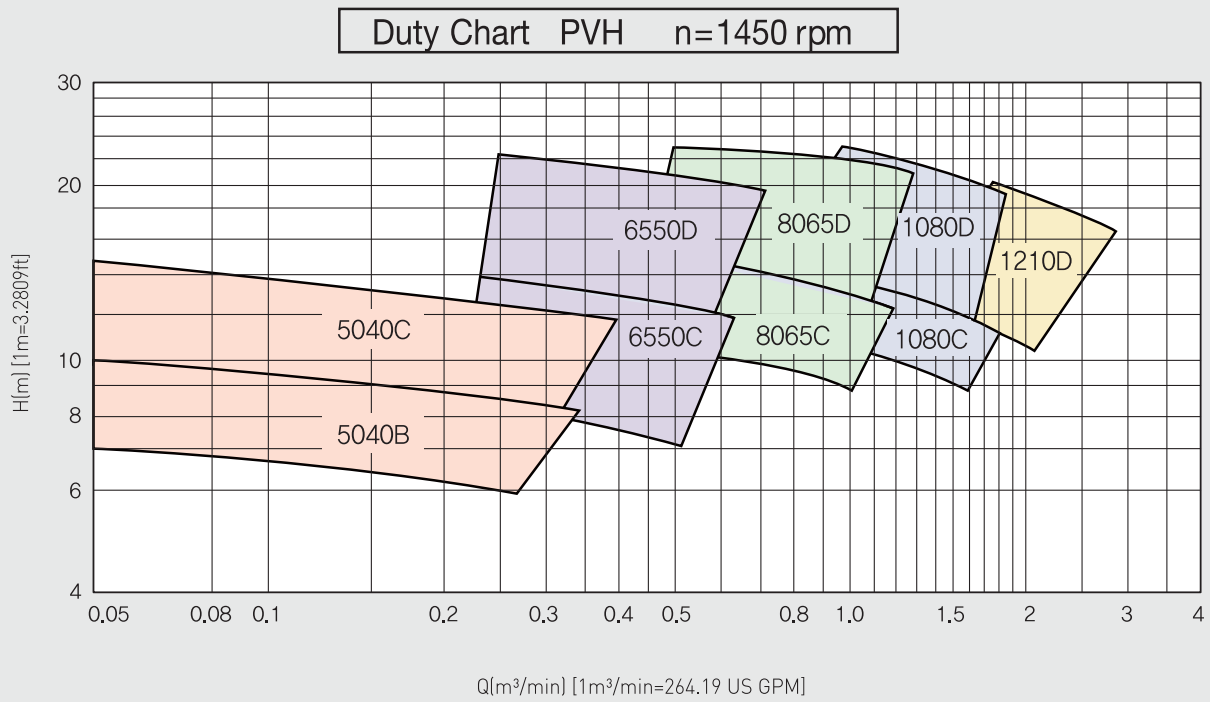
Options

1. Sealing: G/P or M/Seal
2. Lubrication of bearing
3. Material of construction: Cast Iron / Bronze / Stainless Steel

Standard Specification

Classification		PVH (horizontal vortex)
Pumping Liquid	Type	Domestic sewage, waste water
	Size	80% of Outlet size
	Temperature	0~80°C
Max. Operating pressure		10kgf/cm^2
Minimum flow rate		15% of Best efficiency point
Structure	Impeller	Semi-Open
	Stuffing Box	Gland Packing
	Bearing	Shielded Ball Bearing
	Flange	10kgf/cm^2, FF Type
	Nozzel Position	End Suction, Top Discharge
Accessories		Priming Cock, Common Base, Coupling, Coupling Guard, Drain & Air-Vent Plug

Duty Charts



Standard construction data

(Unit:mm)

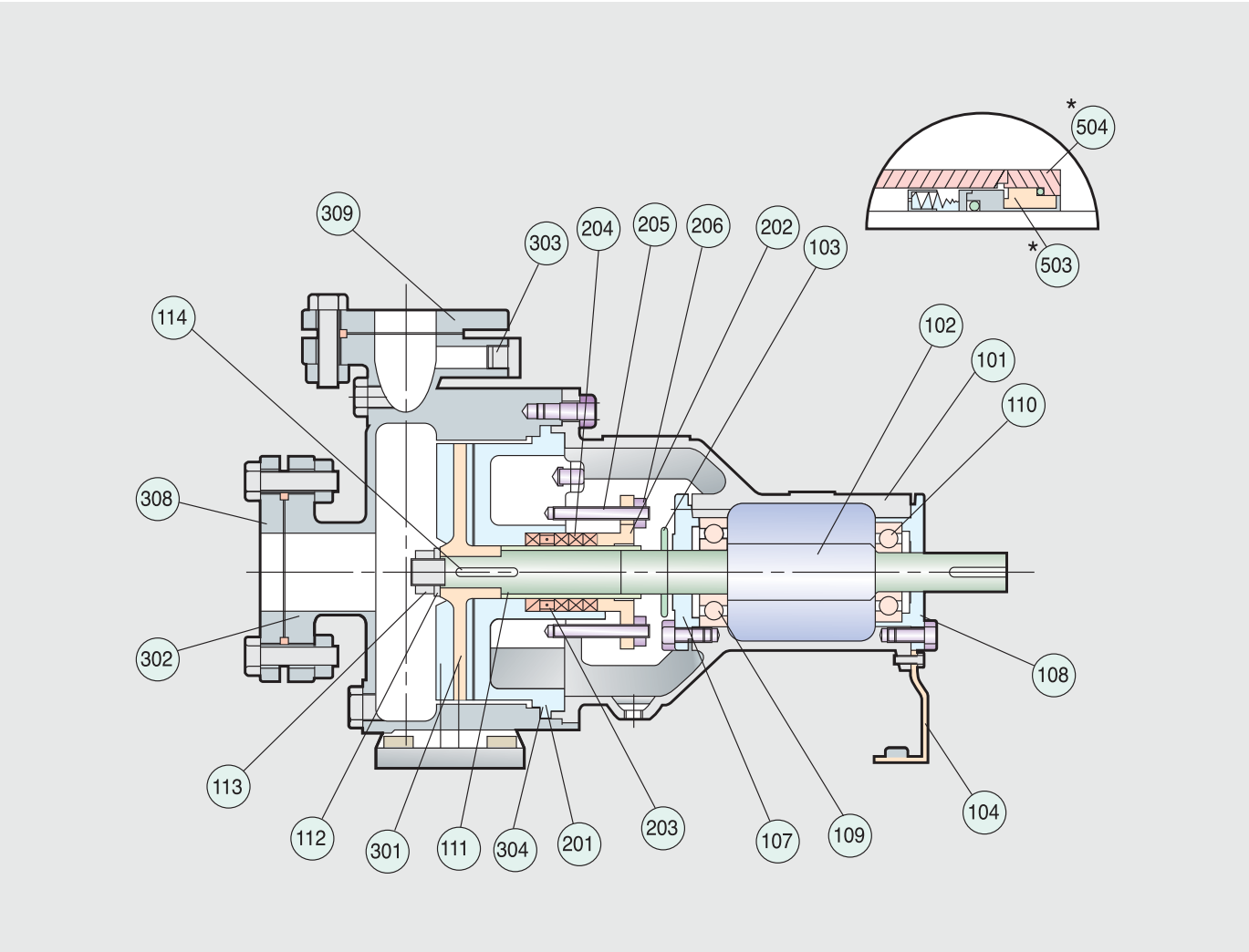
Suc. Bore. (mm)	Dis. Bore. (mm)	Max. Working Pressure (kg/cm²)	Casing Thickness (mm)	Impeller				Stuffing Box	
				Min. Dia. (mm)	Max. Dia. (mm)	No. of Back vane	Gap of Back vane	O.D×I.D×L	Gland Packing Size(W×H×L)
50	40	10	7	ø130	ø175	5	0.3~1	ø51× ø35×95	8×8×143
50	40	10	7	ø175	ø215	6	"	ø51× ø35×95	"
65	50	10	7	ø175	ø215	5	"	ø51× ø35×95	"
65	50	10	8	ø220	ø265	6	"	ø51× ø35×95	"
80	65	10	8	ø175	ø215	5	0.4~1.2	ø51× ø35×95	"
80	65	10	8	ø220	ø265	6	"	ø65× ø45×100	8×8×184
100	80	10	8	ø175	ø215	5	"	ø65× ø45×100	"
100	80	10	8	ø220	ø265	6	"	ø65× ø45×100	"
125	100	10	8	ø220	ø265	10	0.5~1.5	ø65× ø45×100	"

Vortex Pump

PVH Series

Sectional Drawing

Sectional Drawing



* : Option Parts

No.	Parts name	material	Qty
101	B/R HOUSING)	GC200	1
102	SHAFT)	SM45C	1
103	DEFLECTOR)	NBR	1
104	SUPPORT)	SS400	1
107	BEARING COVER(A)	GC200	1
108	BEARING COVER(B)	GC200	1
109	BALL BEARING(A)	STB2	1
110	BALL BEARING(B)	STB2	1
111	SLEEVE	STS304	1
112	IMPELLER WASHER	STS304	1
113	IMPELLER NUT	SS400	1
114	IMPELLER KEY	SM45C	1
201	CASING COVER	GC200	1

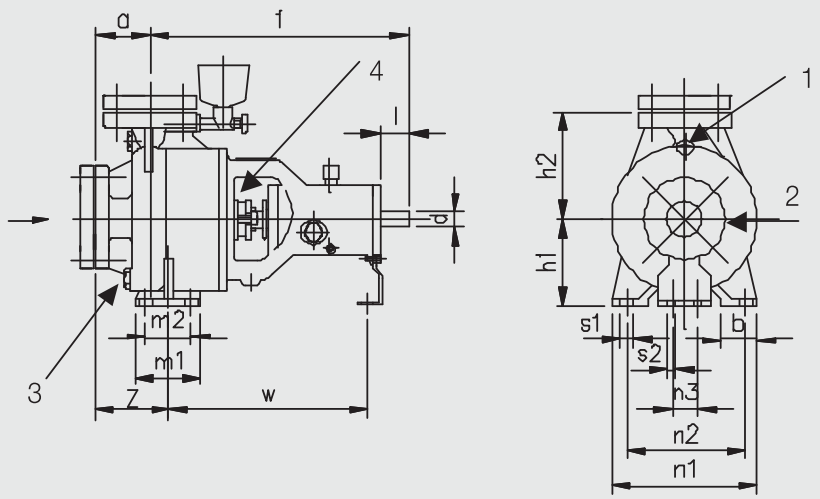
No.	Parts name	material	Qty
202	GLAND	GC200	1
203	LANTERN RING	NORYL/BC6	1
204	GLAND PACKING	TEFLON	4
205	GLAND BOLT	STS304	2
206	HEX NUT	C3602BD	2
301	IMPELLER	GC200	1
302	CASING	GC200	1
303	PLUG	SS400	1
304	CASING GASKET	NBR	1
308	FLANGE	SS400	1
309	FLANGE	SS400	1
*503	MECHANICAL SEAL		1
*504	M/SEAL COVER	SM45C	1

Shaft & Bearing

(Unit : mm)

Pump Type	Shaft Diameter				Size of Keyway At Coupling	Bearing Span	Bearing No.
	At Impeller	At Stuff. Box	At Coupling	Between Bearing			
PVH-5040B PVH-5040C PVH-6550C PVH-6550D PVH-8065C	ø22	ø29	ø24	ø38	8×4×10	118	Thrust:6306ZZC3 Radial:6305ZZC3
PVH-8065D PVH-1080C PVH-1080D PVH-1210D	ø30	ø38	ø32	ø49	10×5×56	162	Thrust:6308ZZC3 Radial:6307ZZC3

Outline Drawing



No.	Size	Purpose
1	PT3/8	Discharge Gauge
2	PT3/8	Suction Gauge
3	PT3/8	Casing Drain
4	PT3/8	Lantern Ring Flush

Dimension

(Unit : mm)

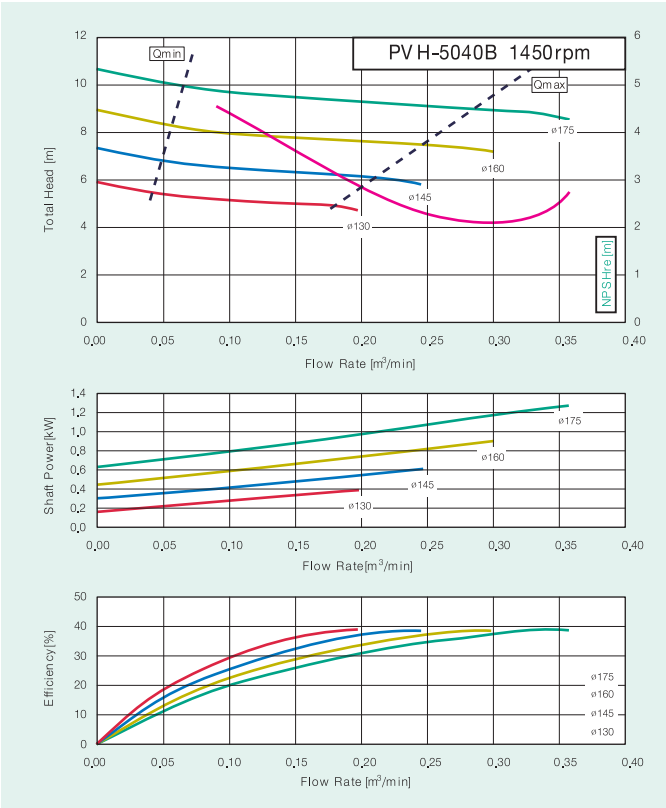
Pump Type	a	f	h1	h2	b	m1	m2	n1	n2	n3	w	s1	s2	d	l	Weight(kg)
PVH-5040B	80	410	132	160	50	100	70	240	190	110	285	15	14	24	50	45
PVH-5040C	80	410	160	180	50	100	70	265	212	110	285	15	15	24	50	47
PVH-6550C	100	420	160	200	50	100	70	265	212	110	285	15	15	24	50	50
PVH-6550D	100	419	180	225	65	125	95	320	250	110	292.5	15	14	24	50	62
PVH-8065C	100	430	180	225	65	125	95	320	250	110	285	15	14	24	50	56
PVH-8065D	100	553	200	250	80	160	120	360	280	110	370	19	15	32	80	82
PVH-1080C	125	557	180	250	65	125	95	345	280	110	387	15	15	32	80	72
PVH-1080D	125	568	200	280	80	160	120	400	315	110	377	19	15	32	80	92
PVH-1210D	140	568	225	280	80	160	120	400	315	110	379	19	15	32	80	95

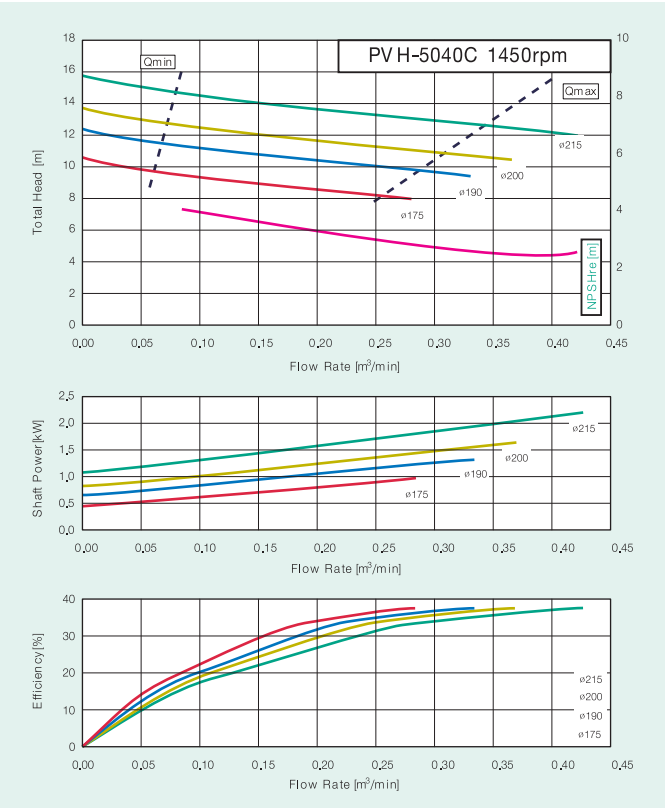
cf. The sizes of shaft parts are equivalent to those of PSV series

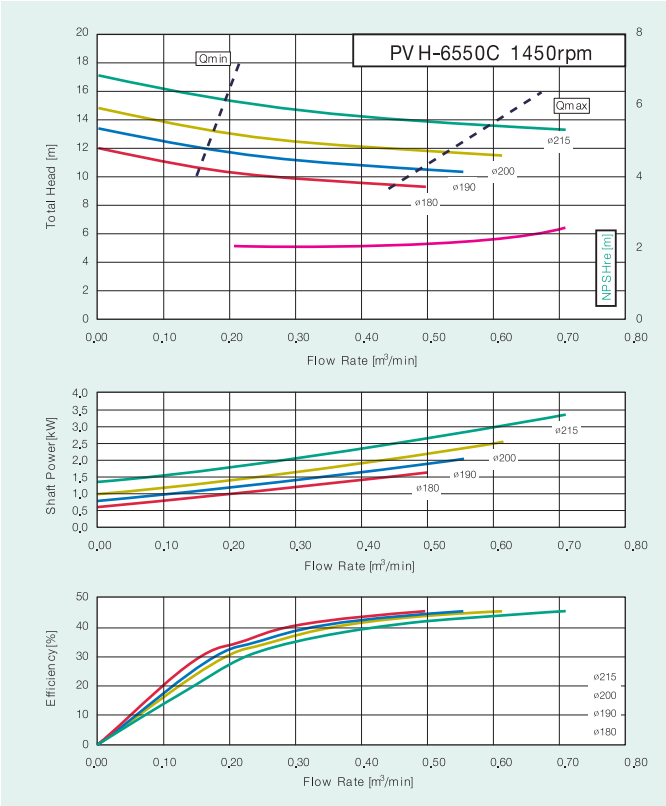
Vortex Pump

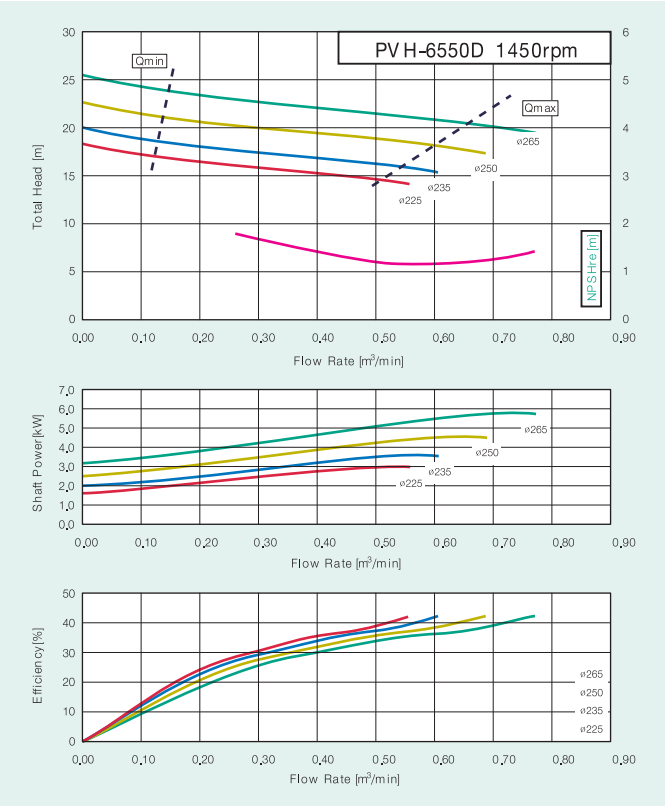
PVH Series

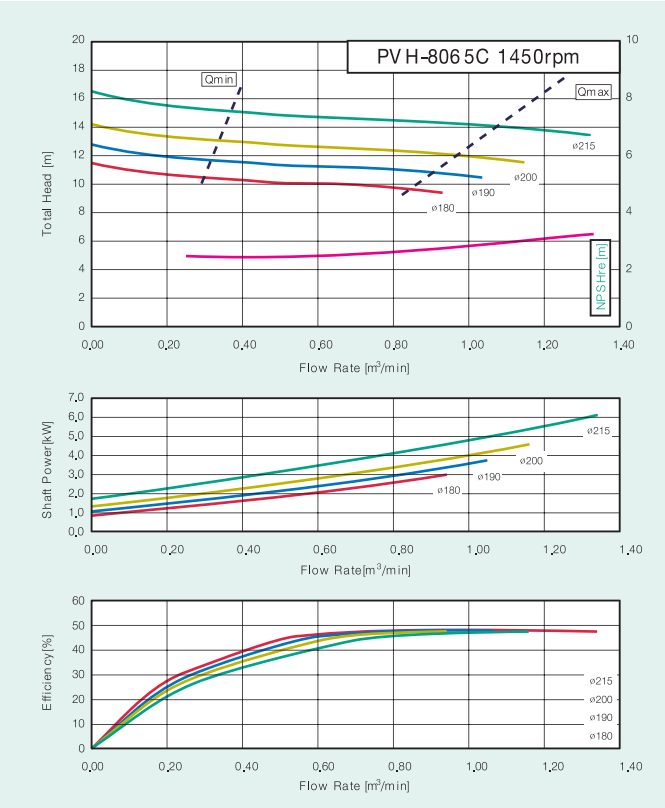
Duty Charts

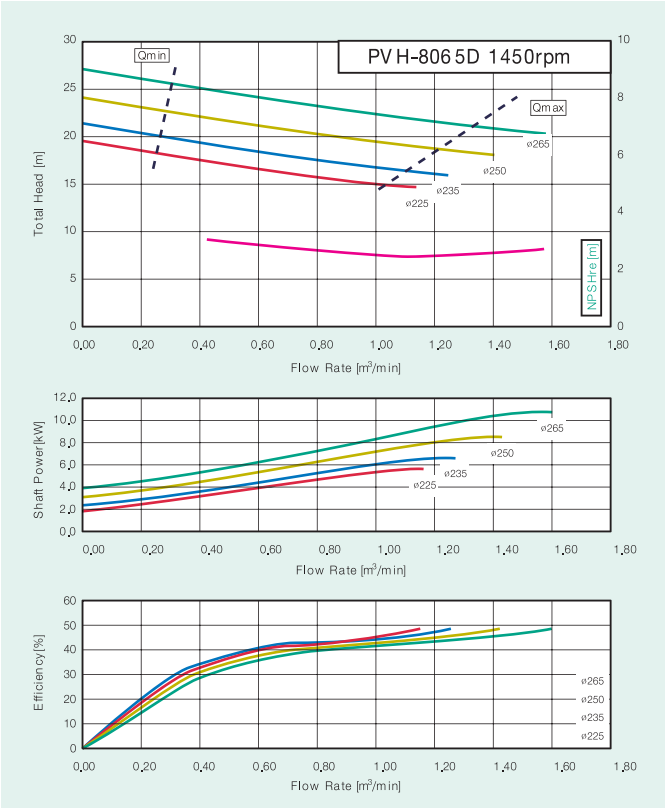


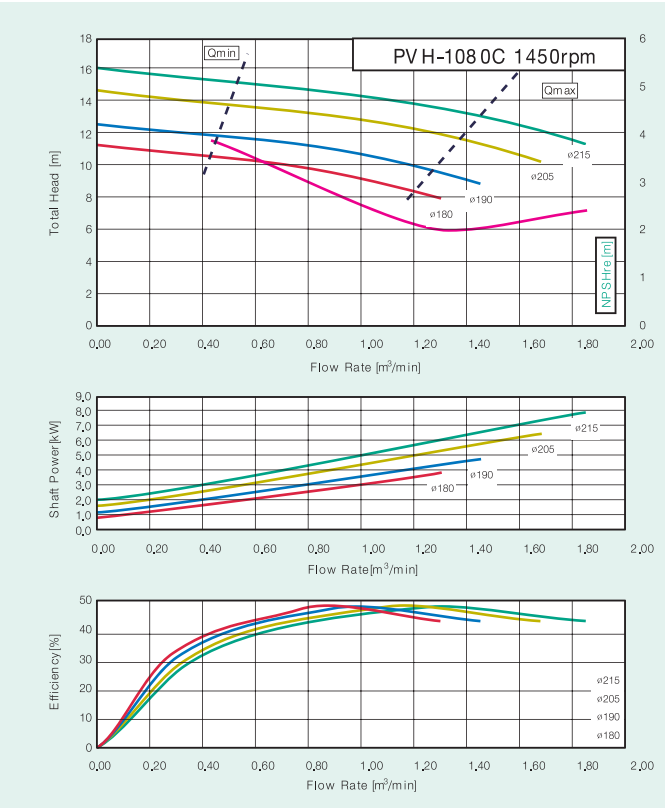


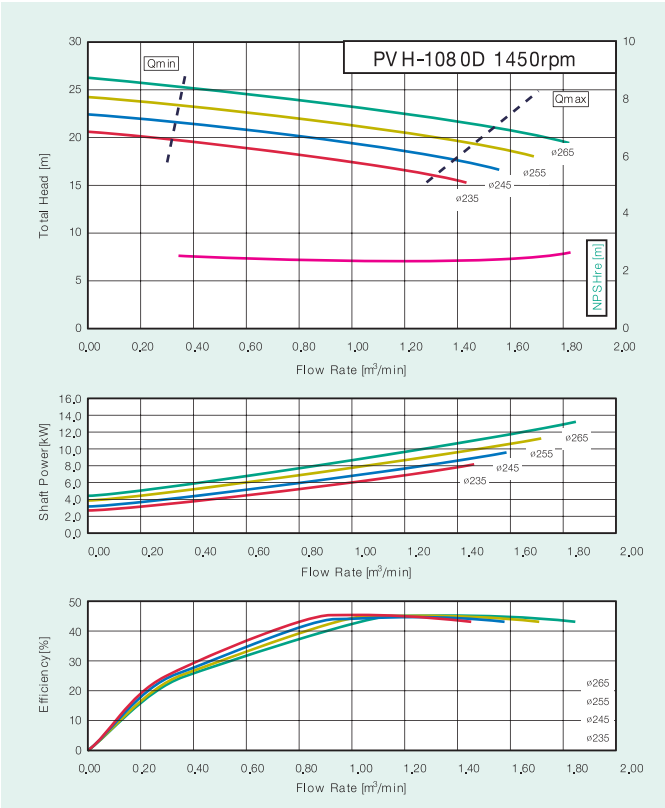





PV H-806 5C 1450rpm
Qmin
Qmax
ø215
ø200
ø190
ø180
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Flow Rate [m³/min]
Efficiency [%]
ø215
ø200
ø190
ø180
Flow Rate [m³/min]


PV H-806 5D 1450rpm
Qmin
Qmax
ø265
ø250
ø235
ø225
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Flow Rate [m³/min]
Efficiency [%]
ø265
ø250
ø235
ø225
Flow Rate [m³/min]

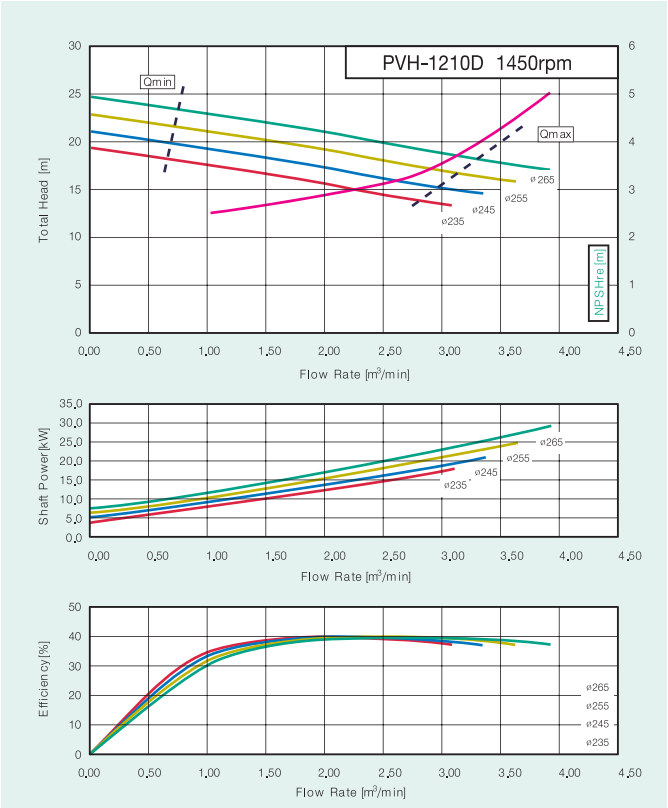

PV H-108 0C 1450rpm
Qmin
Qmax
ø215
ø205
ø190
ø180
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Flow Rate [m³/min]
Efficiency [%]
ø215
ø205
ø190
ø180
Flow Rate [m³/min]


PV H-108 0D 1450rpm
Qmin
Qmax
ø265
ø255
ø245
ø235
NPSHre [m]
Total Head [m]
Flow Rate [m³/min]
Shaft Power [kW]
Flow Rate [m³/min]
Efficiency [%]
ø265
ø255
ø245
ø235
Flow Rate [m³/min]

Vortex Pump

PVH Series

Duty Charts



Westco Pump

PSW Series

Product Introduction

Design and structural features

1. Compact Design

2. Excellent endurance and long life time
   Less abrasion of impeller by reduced axial thrust.
   Stainless steel shaft for long lifetime
   Ball bearings for constant lubrication

3. Easy maintenance/service and no lubrication is necessary for ball bearing.

Application

- Boiler feed water
- Sprinkler
- Jockey Pump
- General water supply in all application

Fluid

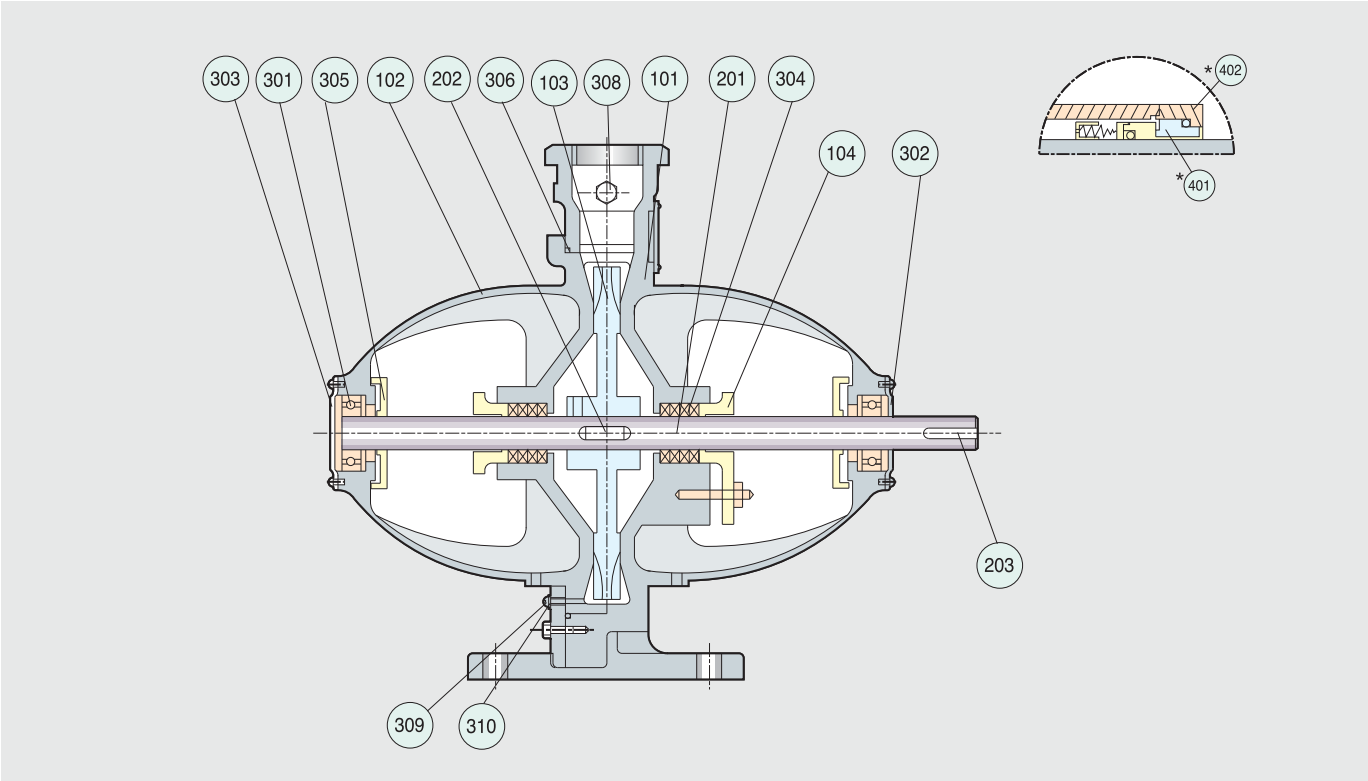
clean water within 0~60° C, ph6-8

Westco Pump

PSW Series

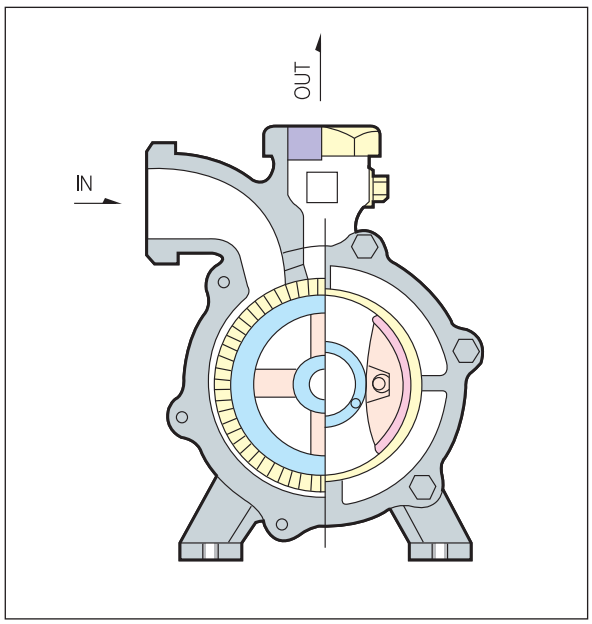
Sectional Drawing

Sectional Drawing



*: Option Parts

No.	Part name	material	Qty
101	CASING	GC200	1
102	CASING COVER	GC200	1
103	IMPELLER	C3771BD	1
104	GLAND	GC200	2
201	SHAFT	STS410	1
202	SHAFT KEY	SM45C	1
203	COUPLING KEY	SM45C	1
301	BALL BEARING)	STB2	2
302	BEARING COVER(A)	SCP1	1
303	BEARING COVER(B)	SCP1	1
304	GLAND PACKING	TEFLON	2SET
305	DEFLECTOR	NR	2
306	CASING "O" RING	NBR	1
308	PLUG	C3602BD	1
309	DRAIN SCREW	NSWR3	1
310	DRAIN PACKING	NBR	1
*401	MECHANICAL SEAL		2
*402	M/SEAL COVER	SM45C	2



General Data

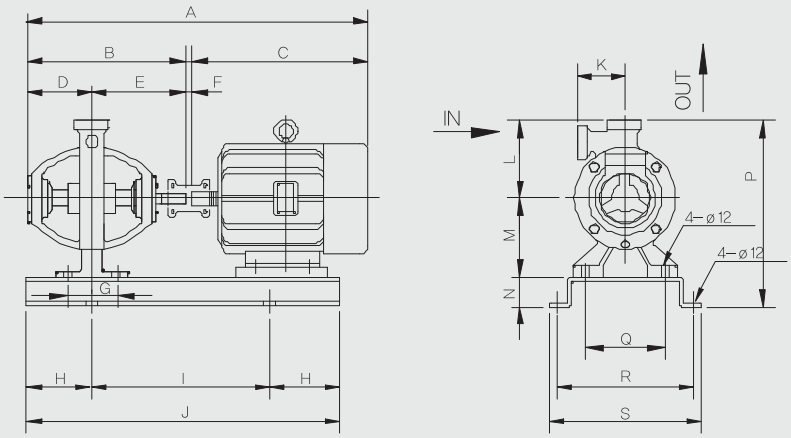
(Unit : mm)

Model	Bore(mm)		Power (hP)	Capacity (m^3/min)	Head (m)	Weight (kg)
	Suction	Discharge				
PSW-4003	40 (11/2")	40 (11/2")	3	0.06	55	60
PSW-4005			5	0.02	80	68
PSW-5005	50 (2")	50 (2")	5	0.06	55	80
PSW-5008			7.5	0.04	90	102
PSW-5010			10	0.02	100	112

(Unit : mm)

Model	Shaft Diameter				Size of Key At Coupling	between Bearing Span	Bearing No.
	At Impeller	At Stuff. Box	At Bearing	At Coupling			
PSW-4003	ø20	ø20	ø20	ø20	5 X5 X37	230	Thrust:6204ZZC3 Radial:6204ZZC3
PSW-4005							
PSW-5005	ø25	ø25	ø25	ø25	6 X6 X30	259	Thrust:6205ZZC3 Radial:6205ZZC3
PSW-5008							
PSW-5010							

Outline Drawing



Dimension

(Unit : mm)

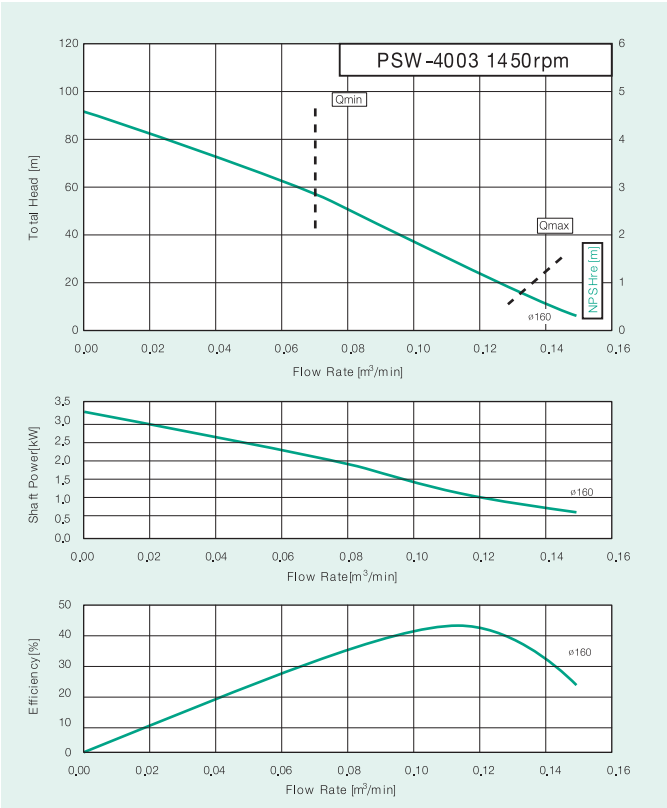
MODEL	A	B	C	D	E	F	G	H	I
PSW-4003	667	319	348	128	191	3	90	100	450
PSW-4005	692		373						
PSW-5005	707	334	373	143					
PSW-5008	777		443						
PSW-5010	818		484						

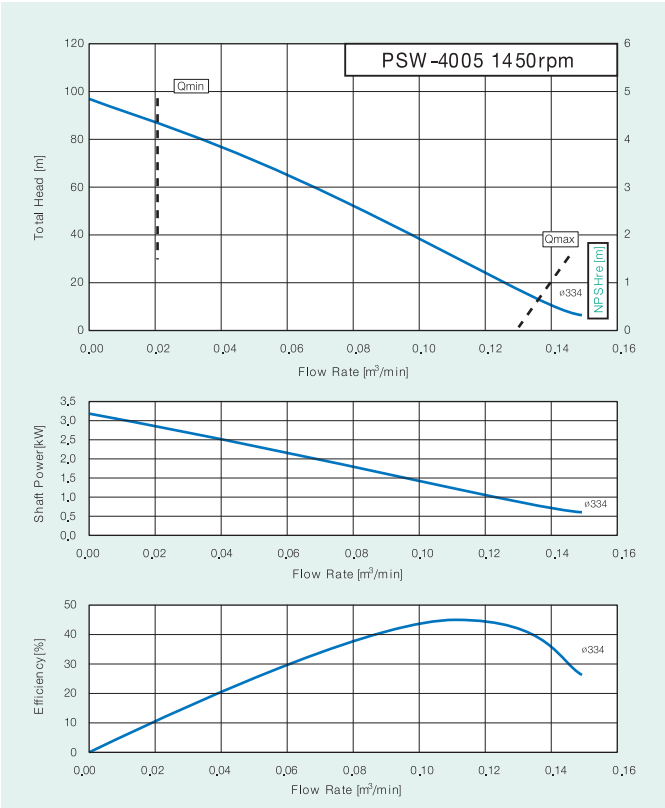
MODEL	J	K	L	M	N	P	Q	R	S
PSW-4003	650	125	125	112	40	325	190	320	360
PSW-4005									
PSW-5005				132		345			
PSW-5008		140	138			370			
PSW-5010									

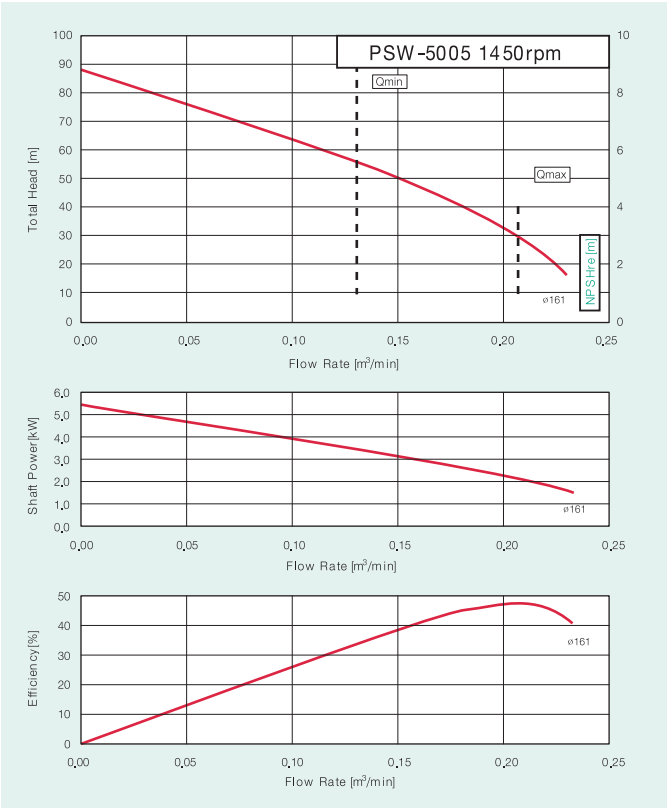
Westco Pump

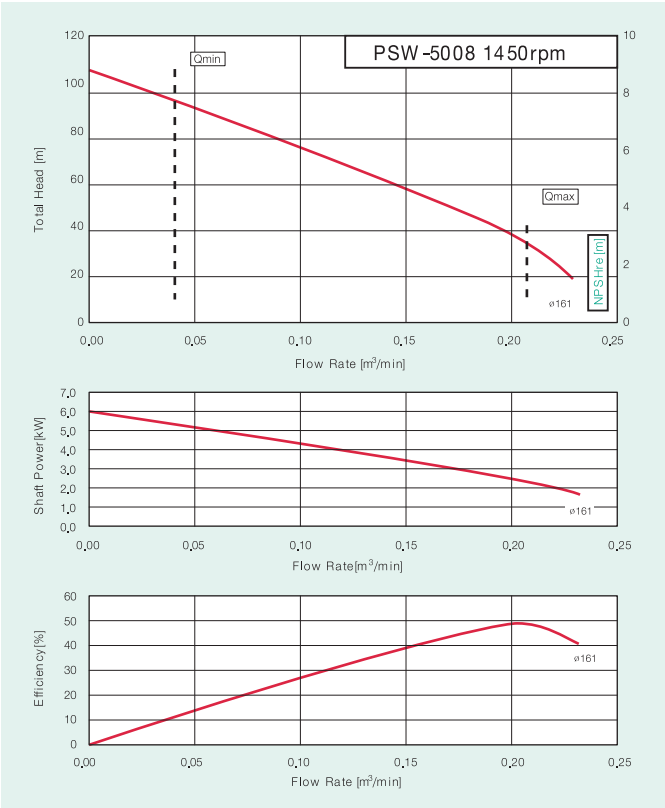
PSW Series

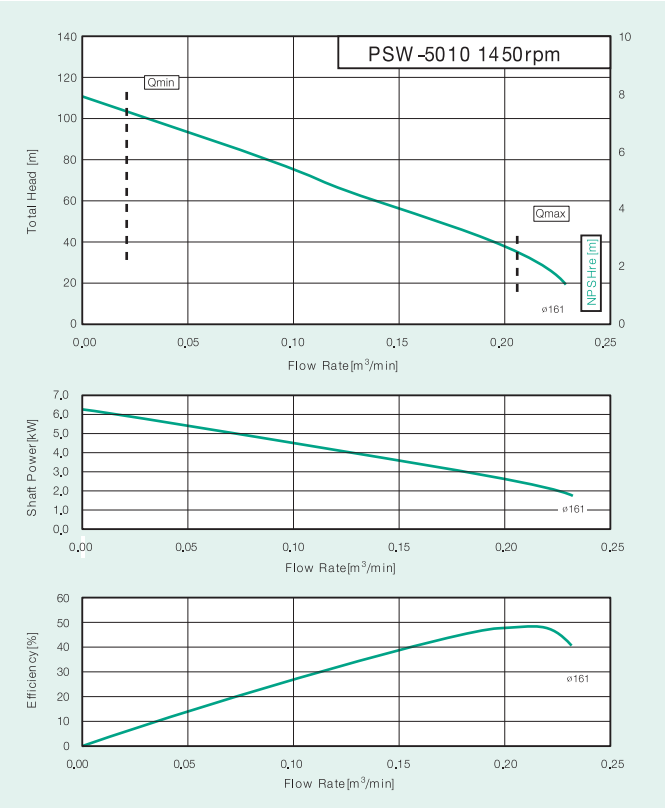
Duty Charts










PSW -5010 1450rpm
Qmin
Qmax
NPSHre [m]
ø161
Total Head [m]
Flow Rate[m³/min]
Shaft Power[kW]
Efficiency[%]

Contents

High-Pressure Multistage Centrifugal Pumps

■ Multi-stage Vertical Pump(Helix V/MVI) 2
■ Multi-stage Horizontal Pump(MHI) 14

High-Pressure Multistage Centrifugal Pumps

Helix V Series

Product Introduction

Application

Water supply, pressurized facility, fire extinguishments facility, boiler water supply, industrial circular pump, coolant pump, assembling facility, high pressured washer, drinking water manufacturing facility, R/O Filtering equipment, Sprinkler etc.

Applicable fluids

Fluids that do not contain fibrous materials, or any materials which might cause abrasion, such as drinking water, cold/hot water, condensed water, glycol mixed water (Max 40%)

Motor spec.

IEC-Standard crop triple phase motor
Motor type : TEFC
Protection class : IP 54(IP55 as an option)
Insulation class : F class
Flange type : 0.55kW ~ 5.5kW, then V18
Above 7.5kW, then V1
Power Source : 0.37kW ~ 5.5kW, 220/380V, 50Hz
7.5kW ~ 37kW, 380V, 50Hz
(Different voltage and high efficient motor are optional)

Structures

It is a non self-priming inline vertical multistage pump and there are 2 types of pump, 16 bar type and 25 bar type. Impeller, diffuser, and pump case are composed of Stainless steel 304 and products which are composed of stainless steel 316L will be supplied when optional ordered. Motor shaft and pump shaft under IEC-standard are assembled firmly by flexible coupling, and oversized bearing is additionally installed in the motor support to compensate the thrust load(above 7.5kw). Replacement of motor is possible for V1-typed motor flange or V18-typed motor flange and they are coated with bi-directional cartrigemechanical seal, enabling a maintenance and repair. All materials can be applied to drinking water and are approved by KTW, Germany and WRC, England.

Pump material spec.

Impeller	Stainless Steel
Diffuser	Stainless Steel
Pump Casing	Stainless Steel or Gray Cast Iron + Cataphoresis Coating
Shaft	Stainless Steel
Gasket	EPDM/VITON*
Mechanical seal	SiC/Carbon, Tungsten carbide/Carbon

STS316L*, VITON* are optional.

High-Pressure Multistage Centrifugal Pumps

Helix V Series

Product Introduction

Duty Charts

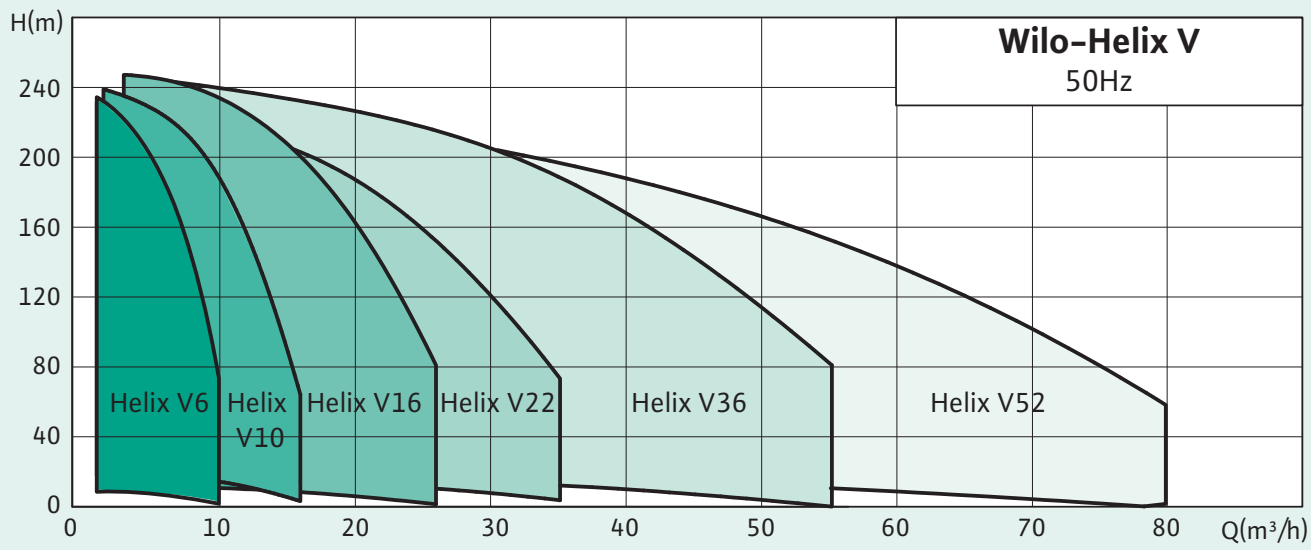


Table for function data

Data	Helix V6	Helix V10	Helix V16	Helix V22	Helix V36	Helix V52
Max Flow(m³/h)	10	16	26	35	55	80
Max Head(m)	235	240	245	230	245	235
Allowed fluid temperature(℃)	-15~ +120℃					
Ambient temperature(℃)	Max 40℃					
Max Allowed pressure(bar)	16bar, 25bar					

※ Please contact us if fluid temperature is above 80℃

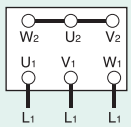
Identification code (e.g : Helix V1605)

Helix	High Efficiency Vertical Multistage Stainless Centrifugal pump. Pump composed of STS 304 as standard (Option: STS 316L)
16	Norminal operating rate of flow (m³/h)
05	Number of stage of impeller

Wiring diagram

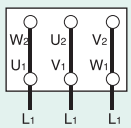
3 phase

Up to 5.5kW
Y connection



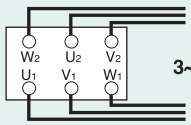
3~380V

△ connection



3~220V

from 7.5kW
Y-△ starting

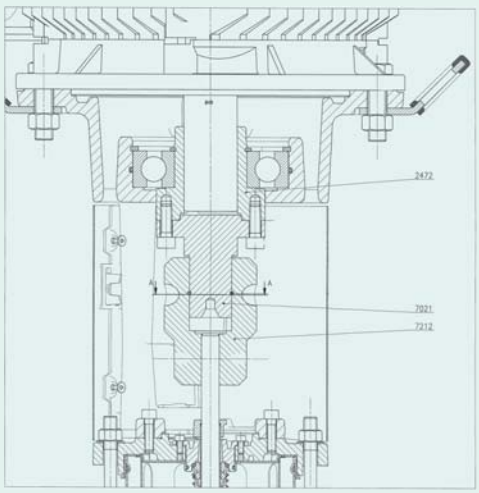


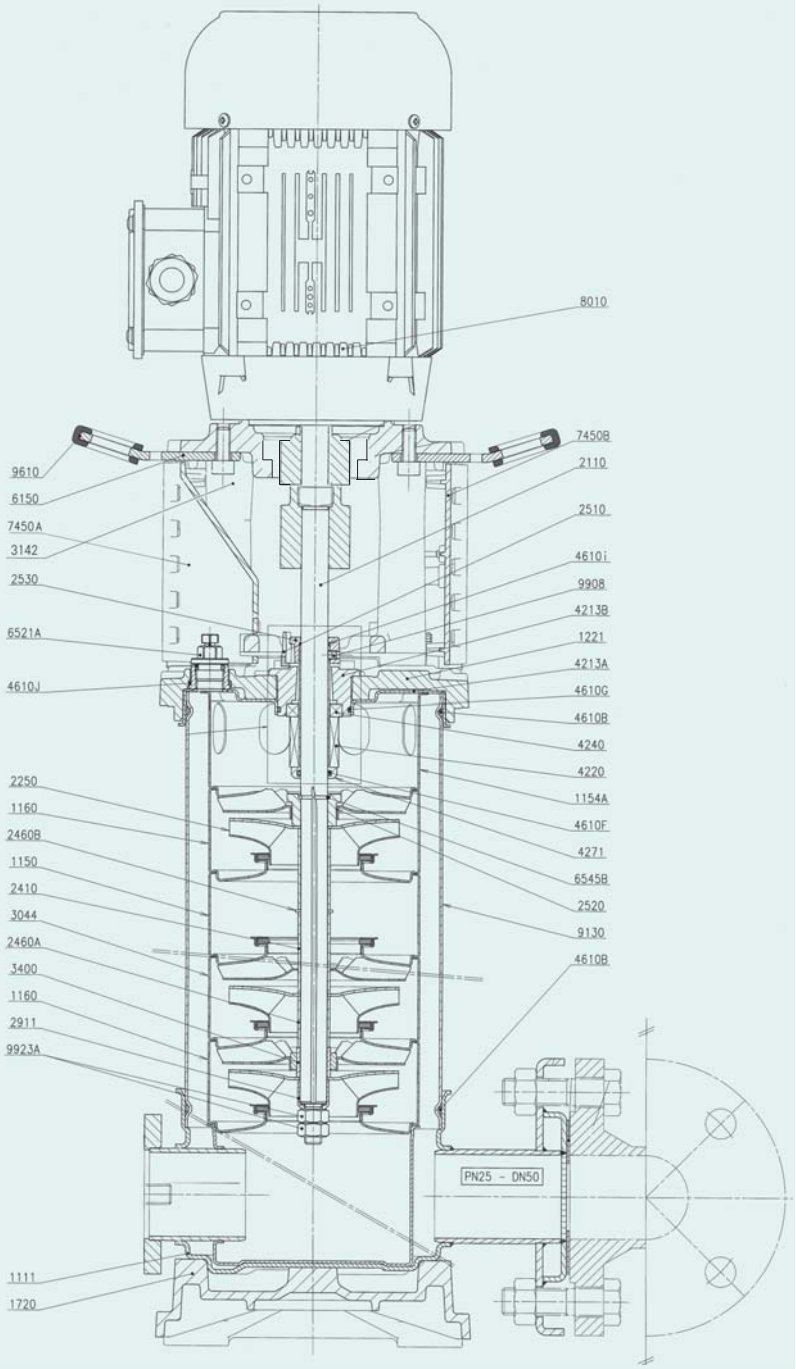
3~380V

Helix V6/10/16 Series 16/25bar Sectional Drawing

Parts List

1111	Pump Housing
1150	Stage Casing (Guide Vane)
1154A	Discharge chamber
1160	Stage casing
1221	End shield
1720	Base
2110	Shaft
2250	Impeller
2410	Sleeve spacer
2460A	Sleeve spacer
2460B	Washer
2472	Herb
2510	Wedge
2520	Impeller stop ring
2530	Drive ring
2911	Shaft end washer
3044	Stage casing (Bearing)
3142	Lantern
3400	Sleeve (Tungsten carbide)
4213	Ring cover
4213B	Ring Holder (Mechanical seal)
4220+4240	Mechanical seal
4271	Mechanical seal sleeve
4610B	O-ring (tube)
4610F	O-ring (seal sleeve)
4610G	O-ring (seal cover)
4610I	O-ring (seal drive ring)
4610J	O-ring (plug)
6150	Handle for Moving
6521	Filling plug
6545B	Stop rush
7021	Space (Coupling)
7212	Coupling
7450A	Coupling Guard
7450B	Coupling guard supporting
8010	Motor
9130	Tube
9610	Protector ring of handle
9908	Screw
9923A	Impeller nut

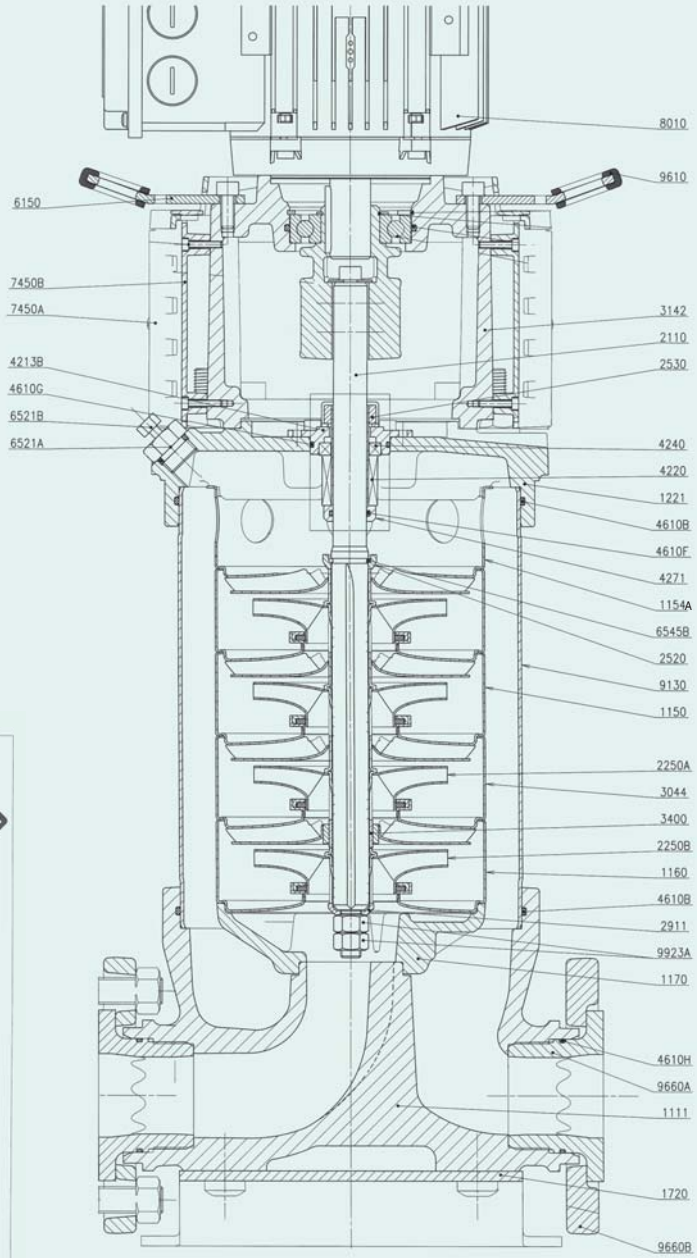


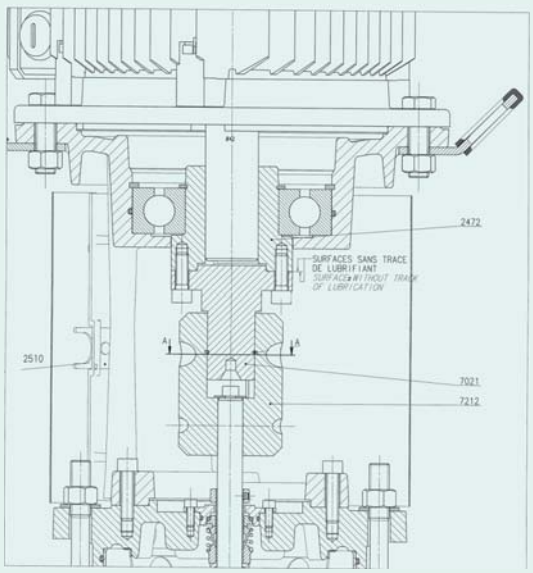


Helix V22/36/52 Series 16/25bar Sectional Drawing

Parts List

1111	Pump Housing
1150	Stage Casing (Guide Vane)
1154A	Discharge chamber
1160	Stage casing
1170	Hydro support
1221	End shield
1720	Base
2110	Shaft
2250A/B	Impeller
2472	Herb
2510	Wedge
2520	Impeller stop ring
2530	Drive ring
2911	Shaft end washer
3044	Stage casing (Bearing)
3142	Lantern
3400	Sleeve (Tungsten carbide)
4213B	Ring Holder (Mechanical seal)
4220+4240	Mechanical seal
4271	Mechanical seal sleeve
4610B	O-ring (tube)
4610F	O-ring (seal sleeve)
4610G	O-ring (seal cover)
4610H	O-ring (Gasket holder)
6150	Handle for Moving
6521A/B	Filling plug
6545B	Stop rush
7021	Coupling Guard
7212	Coupling guard supporting
7450A	Space (Coupling)
7450B	Coupling
8010	Motor
9130	Tube
9610	Protector ring of handle
9923A	Impeller nut
9660A	Gasket holder
9660B	Flange





High-Pressure Multistage Centrifugal Pumps

MVI Series

Product Introduction

Application

Water supply, pressurized facility, fire extinguishments facility, boiler water supply, industrial circular pump, coolant pump, assembling facility, high pressured washer, drinking water manufacturing facility, R/O Filtering equipment, Sprinkler etc.

Applicable fluids

Fluids that do not contain fibrous materials, or any materials which might cause abrasion, such as drinking water, cold/hot water, condensed water, glycol mixed water (Max 40%)

Motor spec.

IEC-Standard crop triple phase motor
Motor type : TEFC
Protection class : IP 54(IP55 as an option)
Insulation class : F class
Flange type : 0.55kW ~ 5.5kW, then V18
Above 7.5kW, then V1
Power Source : 0.37kW ~ 5.5kW, 220/380V, 50Hz
7.5kW ~ 45kW, 380V, 50Hz
(different voltage and high efficient motor are optional)

Structures

It is a non self-priming inline vertical multistage pump and there are 2 types of pump, 16 bar type and 25 bar type. Impeller, diffuser, and pump case are composed of Stainless steel 304 and products which are composed of stainless steel 316L will be supplied when optional ordered. Motor shaft and pump shaft under IEC-standard are assembled firmly by ligid coupling, and oversized bearing is additionally installed in the motor support to compensate the thrust load. Replacement of motor is possible for V1-typed motor flange or V18-typed motor flange and they are coated with bi-directional mechanical seal, enabling a maintenance and repair. All materials can be applied to drinking water and are approved by KTW, Germany and WRC, England.

Pump material spec.

Impeller	STS 304 / STS 316L*
Diffuser	STS 304 / STS 316L*
Pump Case	Stainless Steel or Gray Cast Iron + Cataphoresis Coating
Shaft	STS 304
Gasket	EPDM/VITON*
Mechanical seal	SiC/carbon, Tungsten carbide/carbon

STS316L*, VITON* are optional.

High-Pressure Multistage Centrifugal Pumps

MVI Series

Product Introduction

Duty Charts

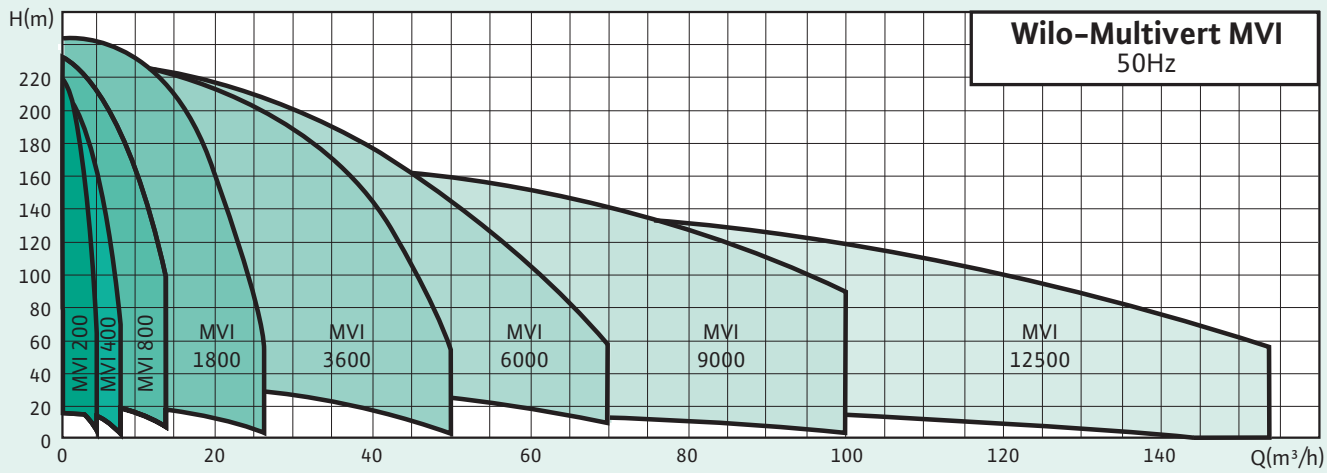


Table for function data

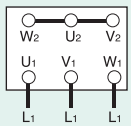
Data	MVI 200	MVI 400	MVI 800	MVI 1800	MVI 3600	MVI 6000	MVI 9000	MVI 12500
Max Flow(m³/h)	5	8	14	25	50	70	100	140
Max Head(m)	230	210	230	240	220	180	172	150
Allowed fluid temperature(℃)	-15~ +120℃							
Ambient temperature(℃)	Max 40℃							
Max Allowed pressure(bar)	16bar, 25bar							

※ Please contact us if fluid temperature is above 80℃

Wiring diagram

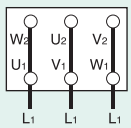
3 phase

Up to 5.5kW
Y connection



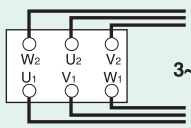
3~380V

△ connection



3~220V

from 7.5kW
Y-△ starting



3~380V

Identification code(e.g : MVI 405)

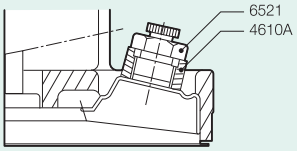
MVI	Vertical Multistage Stainless Centrifugal pump. Pump composed of STS 304 as standard (Option: STS316L)
04	Nominal operating rate of flow (m³/h)
05	Number of stage of impeller

High-Pressure Multistage Centrifugal Pumps

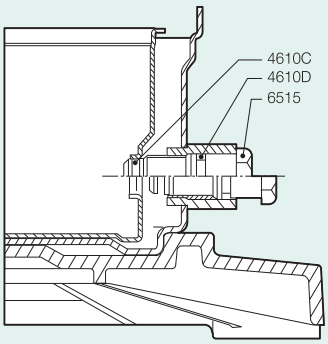
MVI Series

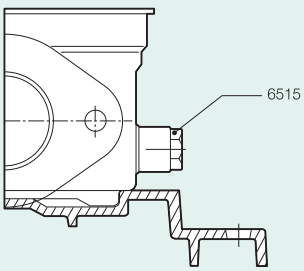
MVI 200/400/800 Series PN16bar Sectional Drawing

VENTING & FILLING PLUG



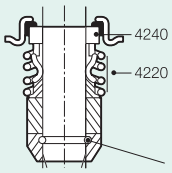
PRIMING AND DRAIN PLUG



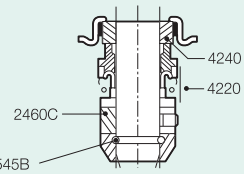


MECHANICAL SEAL

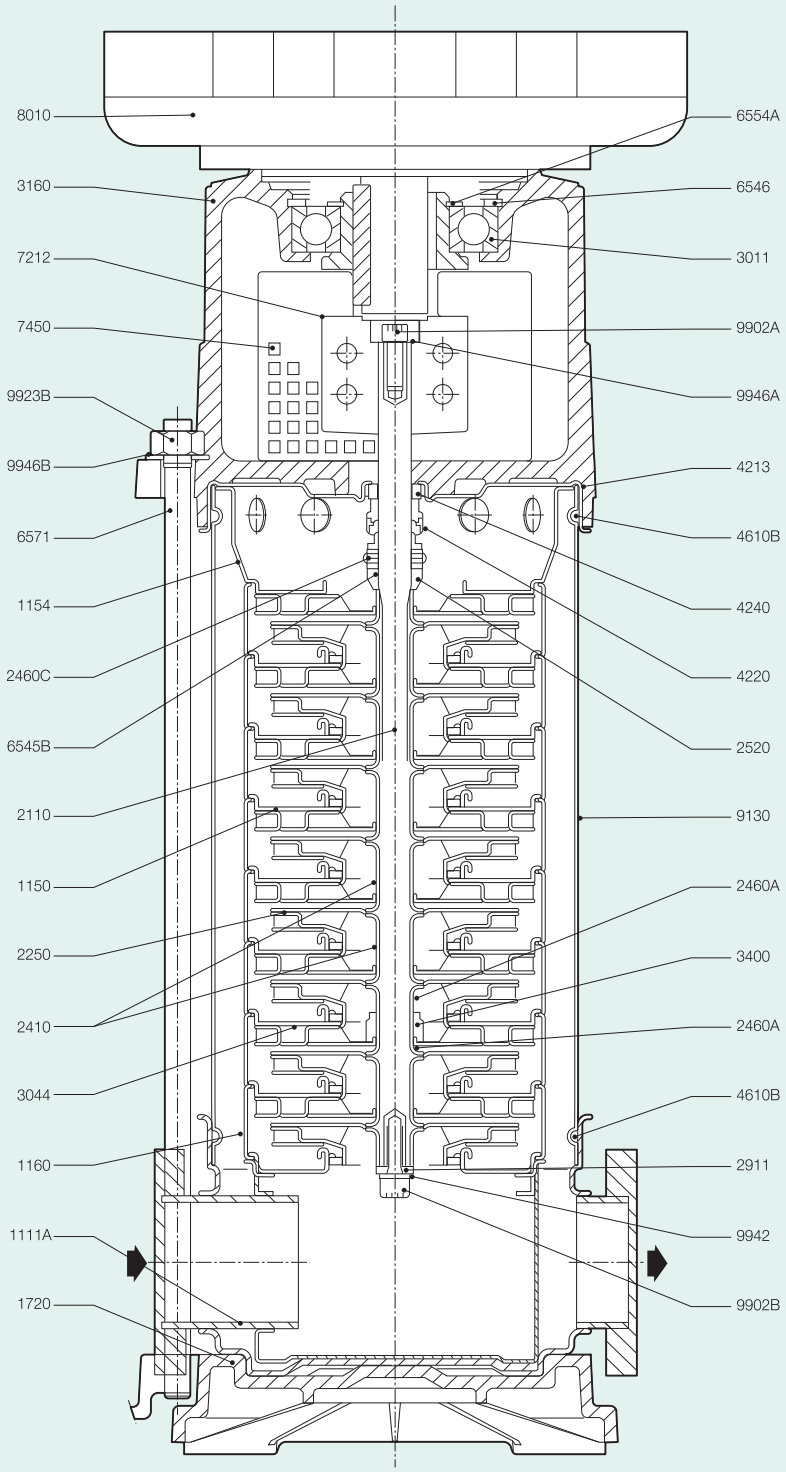
MVI PN 16
16 bars / ≤ + 120°C



MVI PN 25
25 bars / ≤ + 120°C



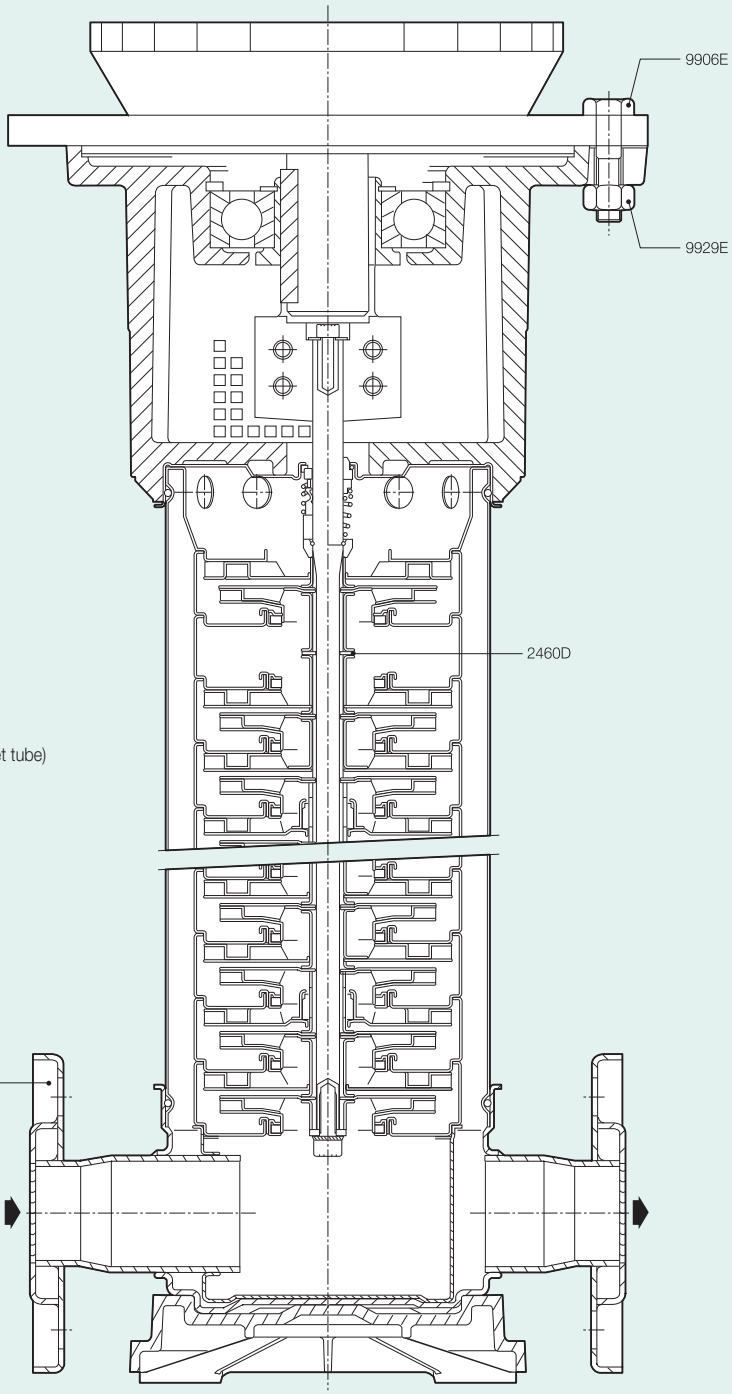
Stationary part (4240):silicon carbide
Rotary part (4220):carbon-resin
Keeper ring (2460C):316L stainless steel

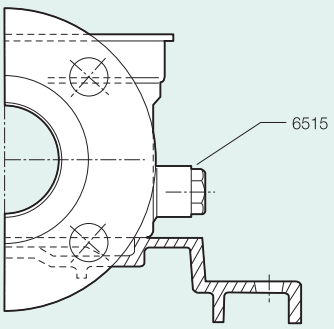


MVI 200/400/800 Series PN25bar Sectional Drawing

Parts List

	1111A	PN16 pump casing with oval flanges
	1111B	PN25 pump casing with round flanges
	1150	Stage casing with return channel
	1154	Stage centering device
	1160	Stage casing without return channel
	1720	Base
•	2110	Pump shaft
•	2250	impeller
	2410	impeller spacer
	2460A	Shaft sleeve adjustment spacer
	2460C	Mechanical seal keeper ring
	2460D	Spacing washer
	2520	Back-up ring (or thrust ring)
	2911	Bottom shaft end washer
•	3011	Lantern ball bearing
	3044	Stage casing with intermediate bearing
	3160	Motor support
•	3400	Sleeve (or shaft jacket)
	4213	Stationary ring holder (or ring casing cover)
•	4220	Rotating part - mechanical seal
•	4240	Stationary part - mechanical seal
•	4610A	Round section joint ring (filling & venting plug)
•	4610B	Round section joint ring (exterior sleeve tube)
•	4610C	Round section joint ring (draining)
•	4610D	Round section joint ring (priming)
	6515	Draining and priming plug
	6521	Filling and venting plug
•	6545A	Circlip (lantern ball bearing)
	6545B	Half keeper (thrust ring)
•	6546	Circlip (lantern ball bearing)
	6571	Tie bolt
	7212	Coupling
	7450	Coupling guard
•	8010	Electric flange motor
	9130	leaktight exterior sleeve tube (or outer sealing jacket tube)
	9902A	Shaft end upper screw
	9902B	Shaft end lower screw
	9906E	Motor fastening screw
	9923B	Installation tie rod nut
	9929E	Motor fastening nut
	9942	Fan-type lock washer under 9902B screw
	9946A	Washer under 9902A screw
	9946B	Washer under 9902B screw

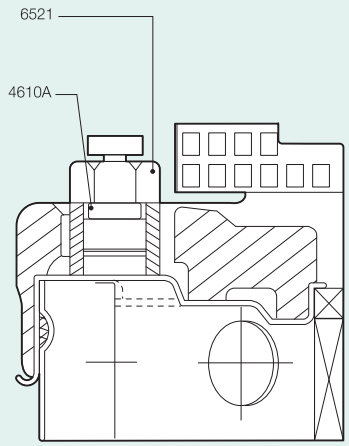




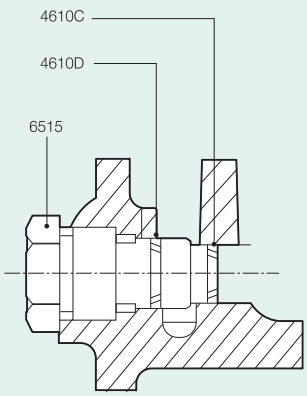
• Recommended Spare Parts

MVI 1800/3600 Series PN16bar Sectional Drawing

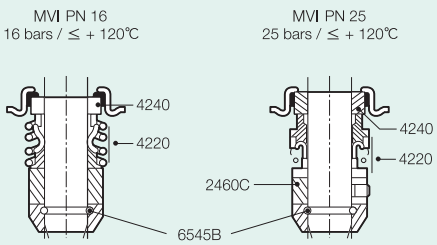
FILLING & VENTING PLUG



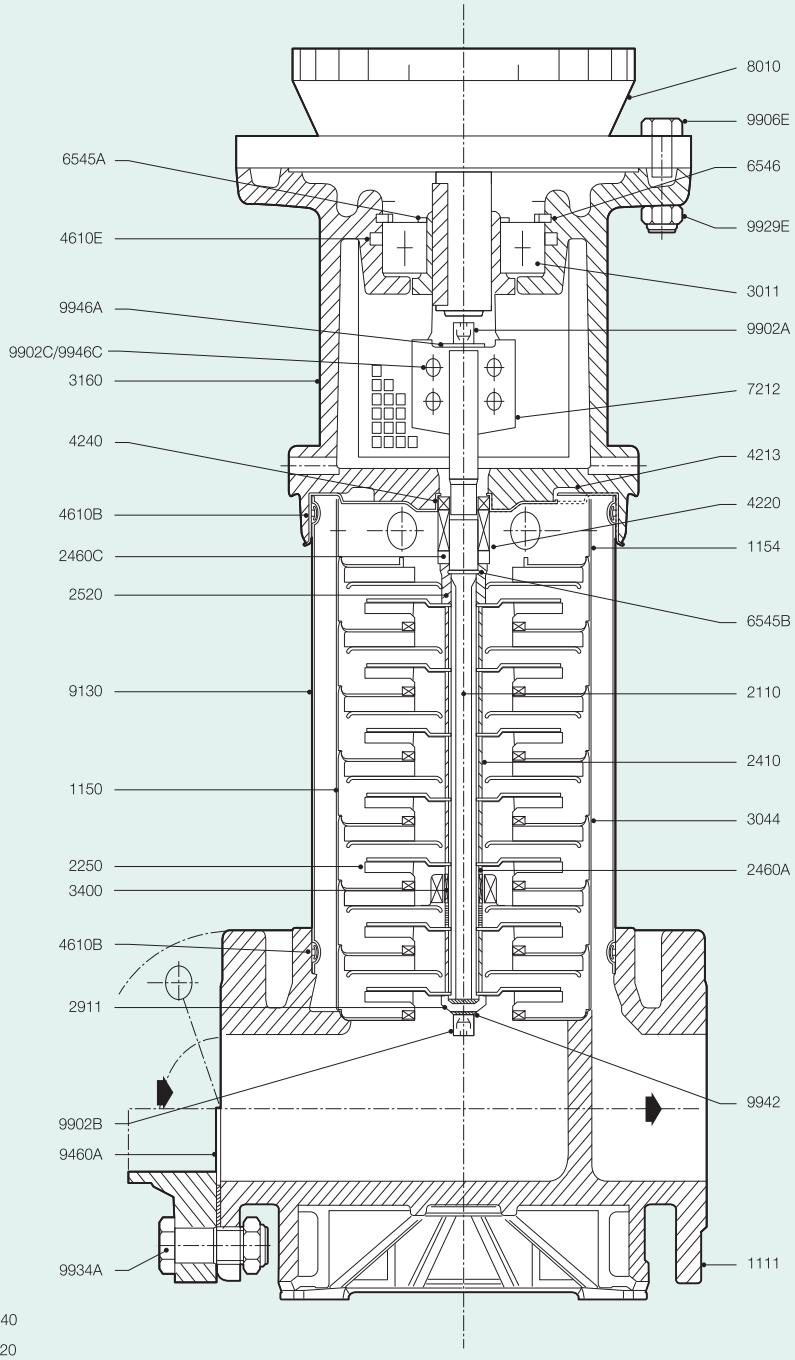
PRIMING AND DRAIN PLUG



MECHANICAL SEAL



Stationary part (4240):silicon carbide
Rotary part (4220):carbon-resin
Keeper ring (2460C):316L stainless steel

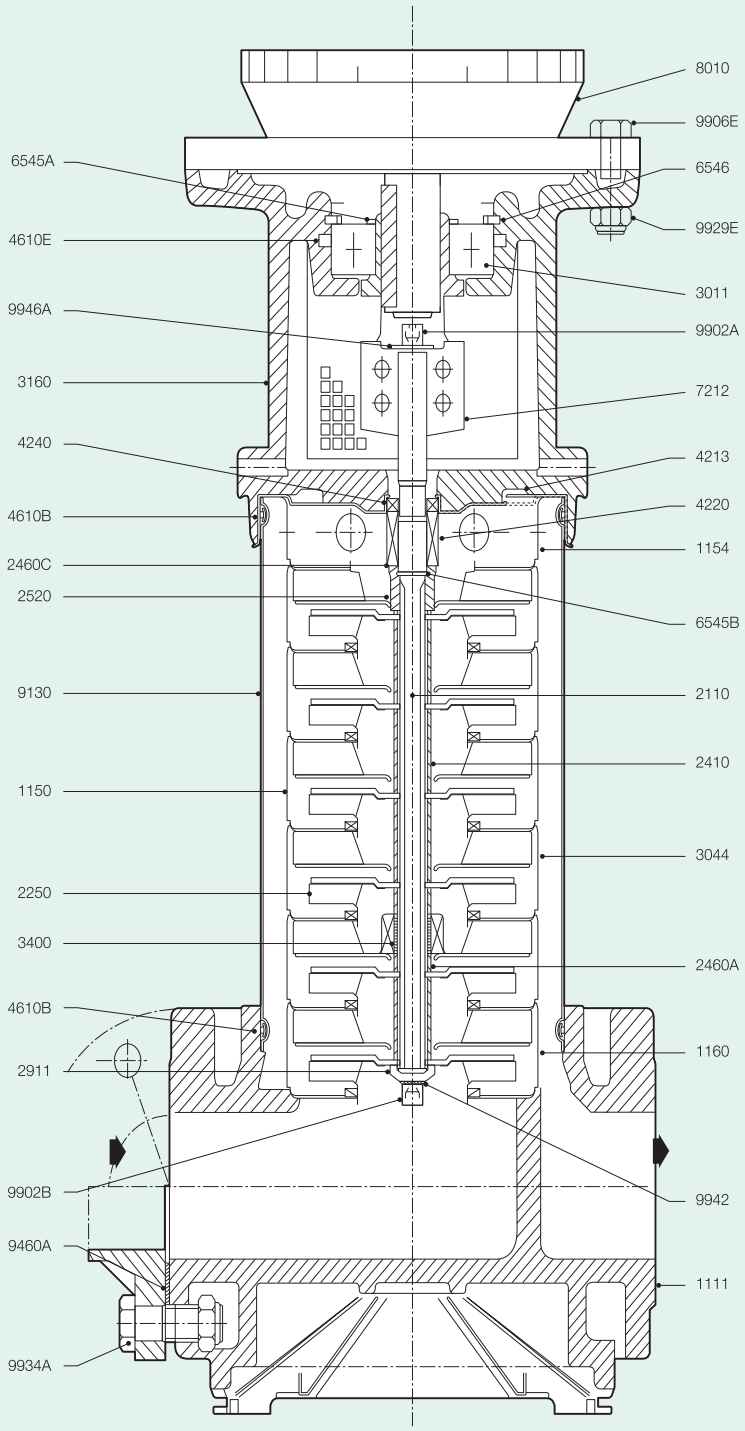


MVI 1800/3600 Series PN25bar Sectional Drawing

Parts List

	1111	Pump casing
	1150	Stage casing with return channel
	1154	Stage centering device
	1160	Stage casing without return channel
•	2110	Pump shaft
•	2250	impeller
	2410	impeller spacer
	2460A	Shaft sleeve adjustment spacer
	2460C	Mechanical seal keeper ring
	2460D	Spacing washer
	2520	Back-up ring (or Thrust ring)
	2911	Bottom shaft end washer
•	3011	Lantern ball bearing
	3044	Stage casing with intermediate bearing
	3160	Motor support
•	3400	Sleeve (or Shaft jacket)
	4213	Stationary ring holder (or Ring casing cover)
•	4220	Rotating part - mechanical seal
•	4240	Stationary part - mechanical seal
•	4610A	O-ring (filling & venting plug)
•	4610B	O-ring (exterior sleeve tube)
•	4610C	O-ring (draining)
•	4610D	O-ring (priming)
	4610E	O-ring (ball bearing)
	6515	Draining and priming plug
	6521	Filling and venting plug
•	6545A	Circlip (lantern ball bearing)
	6545B	Half keeper (thrust ring)
•	6546	Circlip (lantern ball bearing)
	6571	Tie bolt
	7212	Coupling
	7450	Coupling guard
•	8010	Electric flange motor
	9130	leaktight exterior sleeve tube (or outer sealing jacket tube)
	9460A	Round gasket (option part)
	9902A	Shaft end upper screw
	9902B	Shaft end lower screw
	9906E	Motr fastening csrew
	9923B	Installation tie rod nut
	9929E	Motor fastening nut
	9934A	Counter flange bolt
	9942	Fan-type lock washer under 9902B screw
	9946A	Washer under 9902A screw

• Recommended Spare Parts

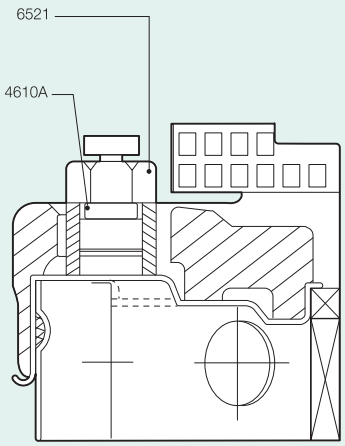


High-Pressure Multistage Centrifugal Pumps

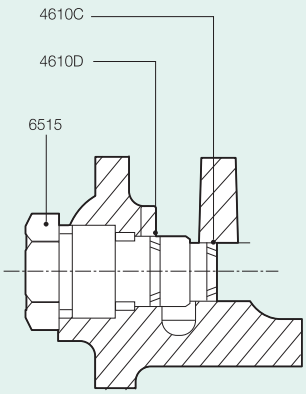
MVI Series

MVI 6000 Series Sectional Drawing

FILLING & VENTING PLUG



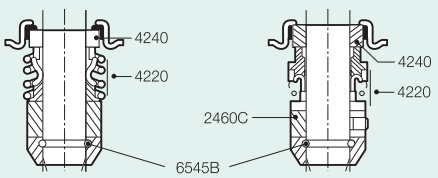
PRIMING AND DRAIN PLUG



MECHANICAL SEAL

MVI PN 16
16 bars / ≤ + 120°C

MVI PN 25
25 bars / ≤ + 120°C

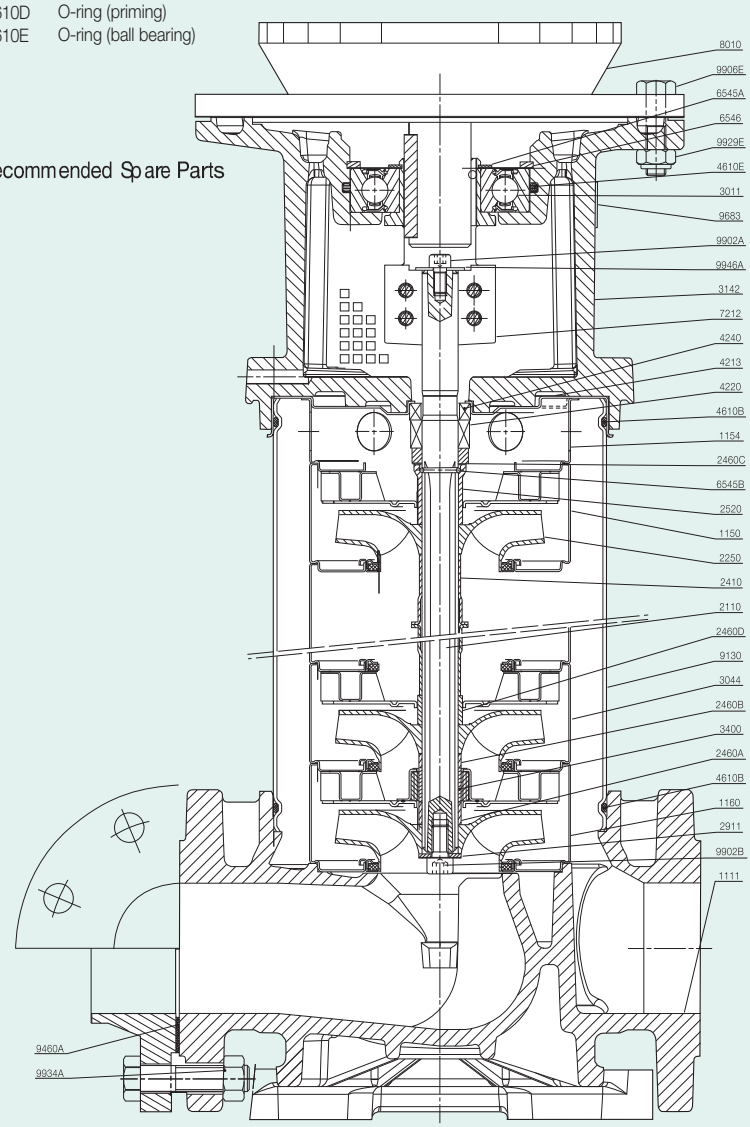


Stationary part (4240):silicon carbide
Rotary part (4220):carbon-resin
Keeper ring (2460C):316L stainless steel

Parts List

	1111	Pump casing
	1150	Stage casing with return channel
	1154	Stage centering device
	1160	Stage casing without return channel
•	2110	Pump shaft
•	2250	impeller
	2410	impeller spacer
	2460A	Shaft sleeve adjustment spacer
	2460C	Mechanical seal keeper ring
	2460D	Spacing washer
	2520	Back-up ring (or Thrust ring)
	2911	Bottom shaft end washer
•	3011	Lantern ball bearing
	3044	Stage casing with intermediate bearing
	3160	Motor support
•	3400	Sleeve (or Shaft jacket)
	4213	Stationary ring holder (or Ring casing cover)
•	4220	Rotating part - mechanical seal
•	4240	Stationary part - mechanical seal
•	4610A	O-ring (filling & venting plug)
•	4610B	O-ring (exterior sleeve tube)
•	4610C	O-ring (draining)
•	4610D	O-ring (priming)
	4610E	O-ring (ball bearing)
	6515	Draining and priming plug
	6521	Filling and venting plug
•	6545A	Circlip (lantern ball bearing)
	6545B	Half keeper (thrust ring)
•	6546	Circlip (lantern ball bearing)
	6571	Tie bolt
	7212	Coupling
	7450	Coupling guard
•	8010	Electric flange motor
	9130	leaktight exterior sleeve tube (or outer sealing jacket tube)
	9460A	Round gasket (option part)
	9902A	Shaft end upper screw
	9902B	Shaft end lower screw
	9906E	Motr fastening csrew
	9923B	Installation tie rod nut
	9929E	Motor fastening nut
	9934A	Counter flange bolt
	9942	Fan-type lock washer under 9902B screw
	9946A	Washer under 9902A screw

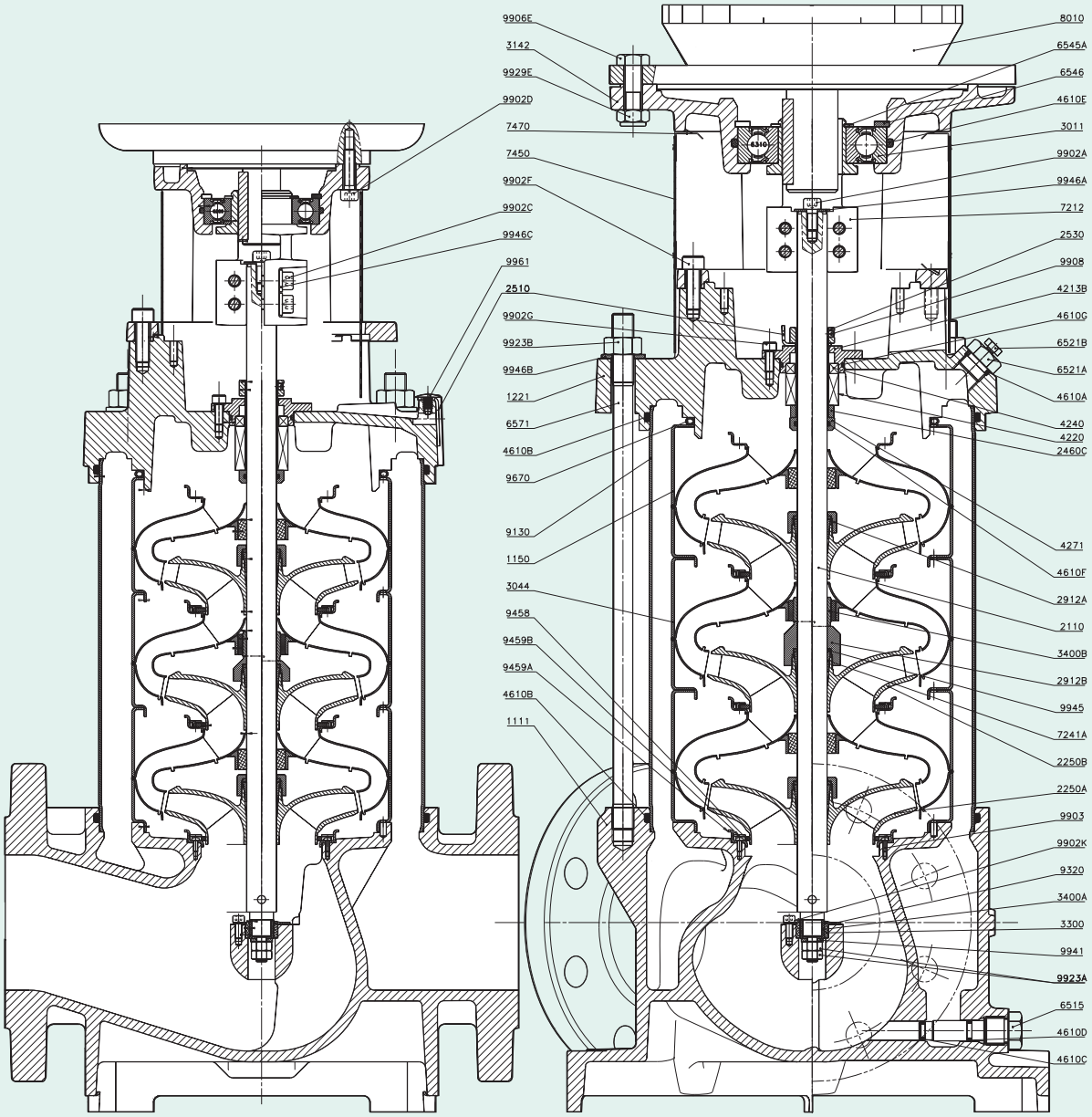
• Recommended Spare Parts



High-Pressure Multistage Centrifugal Pumps

MVI Series

MVI 9000/12500 Series Sectional Drawing



Part List	Part Name	Part List	Part Name	Part List	Part Name
1111	Pump Housing	4271	Shaft sleeve	9458	Suction side ring
1150	Stage casing (Guide Vane)	4610B	O-ring (exterior sleeve tube)	9459A	Suction side ring cap
1221	End shield	4610A	O-ring (filling & venting plug)	9459B	Suction side ring supporter
2110	Shaft	4610C	O-ring (draining)	9670	Tube ring
2250A	Impeller	4610D	O-ring (priming)	9902A	Shaft end upper screw
2250B	Cutter impeller	4610E	O-ring (ball bearing)	9902F	Lantern fixing screw
2460C	Mechanical seal keeper ring	4610F	O-ring (Mechanical seal sleeve)	9902G	Seal cover fixing screw
2510	Wedge	4610G	O-ring (Mechanical seal cover)	9902K	Bush bearing fixing screw
2530	Drive ring	6515	Draining and priming plug	9903	Suction side ring fixing screw
2912A	Impeller fixing nut	6521	Filling and venting plug	9906E	Motor fixing screw
2912B	Impeller fixing nut	6545A	Round clip (ball bearing)	9908	Seal fixing screw
3011	Ball bearing	6546	Round clip (ball bearing)	9923A	Bush bearing fixing nut
3142	Lantern	6571	Tie bolt	9923B	Tie rod nut
3300	Bush bearing	7212	Coupling	9929E	Motor fixing nut
3400A	Bearing sleeve	7241A	Impeller conical ring	9941	Washer
3400B	Bearing sleeve	7450	Coupling guard	9961	Cramp
4213B	Ring holder (Mechanical seal)	8010	Motor		
4220	Rotation part - Mechanical seal	9130	Tube		
4240	Stationary part - Mechanical seal	9320	Bush bearing clamp		

High-Pressure Multistage Centrifugal Pumps

MHI Series

Product Introduction

Application

Common water supply and pressurized facility (booster pump), agricultural water, irrigation water, coolant circular water, etc

Applicable fluids

Drinking water, boiler water, tap water, heavy water, sewage water, condensed water, glycol mixture(max. density 44%), any fluid mixture which does not contain a piece of dirt, etc (Please contact us for other fluid mixture)

Motor spec.

- Motor type: TEFC
- Protection class: IPX4
- Insulation class: B
- Power Source: 3 phase 220V (A wiring), 380V (Y wiring), 50Hz
  Single phase 220V, 50Hz
- Voltage tolerance: ±10%

Structure

-Non-self priming horizontal multistage centrifugal pump, PN10Bar.
-End suction and top discharge
-Hydraulic material : SS304 (approved by German KTW and WRC)
-Close coupled
-Priming nozzle intergrated
-Low noise

Pump Material spec.

Impeller	STS 304 / STS 316L*
Diffuser	STS 304 / STS 316L*
Frazer case	STS 304 / STS 316L*
Shaft	STS 304 / STS 316L*
Gasket	EPDM
Mechanical seal	SiC / Carbon

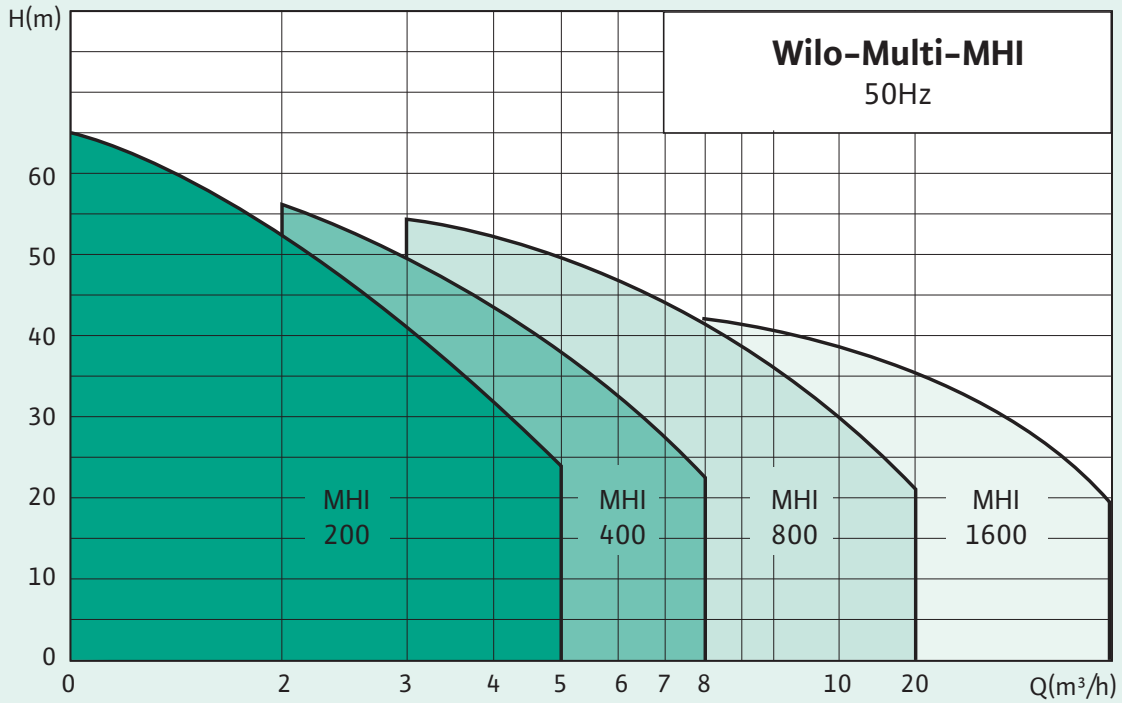
STS316L on request

High-Pressure Multistage Centrifugal Pumps

MHI Series

Product Introduction

Duty Charts



Pump spec.

Data	MHI 200	MHI 400	MHI 800	MHI 1600
Max Flow(m³/h)	5	8	13	25
Max Head(m)	70	68	67	47
Allowed fluid temperature(℃)	-15 ~ +110℃			
Ambient temperature(℃)	Max 40℃			
Max Allowed pressure(bar)	Max 10bar			

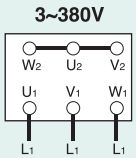
Identification code (e.g: MHI 405 E)

MHI	Horizontal multistage centrifugal pump (STS304)
4	Nominal flow rate (m³/h)
05	Number of stage of impeller
E	Single phase (E) / 3phase (Q)

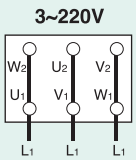
Wiring Diagram

3 phase

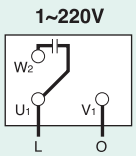
Y connection



△ connection



Single phase



WILO

Pumpen Intelligenz.

Contents

Pressure Boosting Systems

■ PUZeN Series 2
■ KF Series 12
■ MHiKE-(D) Series 15

Pressure Boosting Systems

PUZeN Series

Product Information

Max.8 inverters & 8 pumps installation in a system and multi inverter controlling system by PCU807 micro processer controller

Application

Suitable for places where variation of head and capacity is required, such as building, apartment, factory in water supply, fire fighting and pressure feeding application.

Fluids

Beverage, drinking water, coolant, etc and fire extinguishments use and all sorts of fluids that do not harm any materials of the pump chemically or mechanically and fluids that do not include wearing, or long fibroid material particles.

Technical Information data

- Max flow : 1200 m^3/hr
- Max head : 250 m
- Number of available pump : 2~8
- Max. Fluid temp. : 70℃
- Max. Ambient temp : 40℃
- Main power source : 3 phase 220V/50Hz
  3 phase 380V/50Hz
- Voltage tolerance : ±10%

Identification Code

Wilo PZM /ZC4 Helix V2206 -4

PZ(PUZeN Booster Systems)
M : Multi-PUZeN
C : Combi-PUZeN
U : Uni-PUZeN
S : Solo-PUZeN
H : Hybrid-PUZeN
V : Vario-PUZeN

Number of Pump
PUZeN Controller, 4 Pumps

Pump option & System option

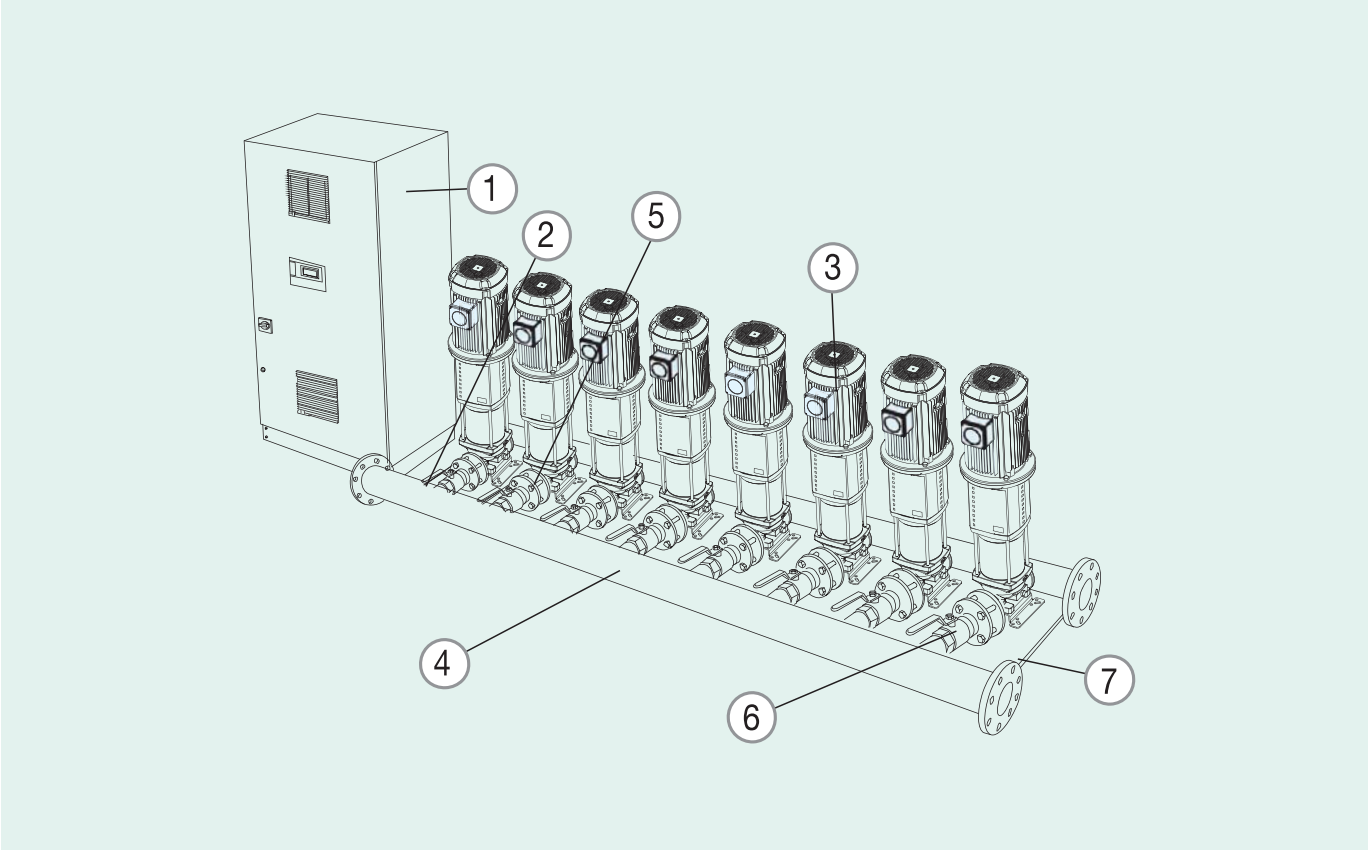
Number of Inverter

Pressure Boosting Systems

PUZeN Series

Feature

Booster System-PUZeN Series



❶ Control Panel with excellent control functions and protection functions

Electric control equipment which manages system functions
- various operation / protection functions
- various options
- module design for each part
- motor protection equipment

❷ Semiconductor pressure transmitter

It enables a parallel operation setup, smooth operation and water supply without any difference from operation pressure.

❸ High quality, high performance vertical multistage pump

❹ Manifold

Compact design

Pipe support (above Helix V36, MVI36)

❺ Check Valve - corrosion resistant

❻ Isolating Valve - corrosion resistant

❼ Bed

Features of PUZeN series

	PUZeN Series	Features
Feature	Various protections & VFD control	Accurate & flexible control
Pump	Vertical multistage	Saving installation space, High efficient and stainless steel construction
Pressure sensing	Non contacting pressure transmitter	
	Functions	**Explanation**
Detailed Functions	Main/Stand by	Pre-set stand by pump shall only work when main pumps breakdown.
	Sequential Operation	Pump with least operating hours shall start first and stop last to give equal load to each pump
	Avoiding frequent operation	It shall delay (in sec) the operation to prevent pressure hunting and frequent operation
	Low flow detection (Pressure setting for deactivation)	It shall regularly check the flow by changing RPM of main pump to receive a signal for low flow (or no flow) by pressure switch or pressure sensor or flow sensor
	Max Pressure setting	It shall alarm or stop the system in case of unexpected high pressure and start after pressure at discharge is lowered to preset value.
	Min Pressure setting	It shall ararm or stop the system in case of reading unexpected low system pressure due to leakage from piping or pump.
	Alarm for abnormal low pressure	When discharge pressure is not reaching switch-on pressure, it shall alarm or stop the operation to prevent from leakage in discharge piping or dry running
	Inverter acceleration/deceleration	Accelerating time & decelerating time of inverter shall be adjustable to prevent motor and to keep pressure constant
	Starting frequency setting	Required speed (frequency) can be reached rapidly
	Controlling Sequential operation	It enables to set duration of time whenever secondary pump is activated or deactivated.
	Trial run	When a certain pump has not been operated for a certain period of time, it will try to run the pump to prevent corrosion, sticking and possible damage due to air
	Manual operation	Able to switch from automatic operation to manual operation for each pump
	Skipping	When a certain pump breakdowns, it will be excluded in operation logic
	Automatic activation	After power cut and back, the system will automatically start (or manually if set)
	Dry running protection	Pressure switch or sensors will give signal to stop the system. It will stop when dry running is detected more than 5 times.
	Menu lock	Password can be set for security
	Reverse proportional operation	By means of PID control, it controls number of operating pumps and frequency if operating parameters are different from pre-set parameters
	External control	It shall be able to stop/start the system as well as to change parameters (by internet, RS485, Fieldbus etc)
	Primary/Secondary Sensors	2 Pressure sensors shall be installed in discharge side, so that secondary sensor replaces in case of breakdown of primary sensor. It alarms when 2 sensors read different pressures.
	Compensation of friction loss	Pressure drop due to friction loss and activation of secondary pumps will be compensated automatically
	Differential pressure control & Differential temperature control	HVAC application can be covered. (Option)
	Schedule operation	Able to set operation parameters for each day of a week.
	number of start per hour	Able to set minimum oepration hours or number of start per hour
	Constant Flow control	Able to keep flow by flow meter (Option)
	Power saving	In case of electrical power shortage, system will not operate at 100% load (Option)
	Help Library	Brief guide for installation will be displayed
	Remote control	Able to set various parameters by remote controller (Option)
	SMS Text	In case of breakdown, It will send a SMS text message with log
	Super Operation	In case of breakdown of inverter, it will automatically switch to pressure controlling from frequency controlling (Option for PZM & PZC series)

Pressure Boosting Systems

PUZeN Series

Feature

Features and functions

Control type	By inverter(up to 8)
Pump	Vertical multistage pump
Power source	3 phase 380v 50hz(Options available) (controller : single phase 220v, 60hz)
Pressure detection	Non-contact pressure sensor
Applicable fluid	Clean water(0℃~70℃)
Number of controllable pump	2~8

Installation condition	• Location : inside • Operating temperature :0℃~40℃ • Ambient temperature : -10℃~50℃ • Humidity : Max RH 85%
Control panel	• Automatic/manual mode operation • Protection • Emergency operation • Indication of all sorts of status • Built-in output terminal in the event of fault • Inverter selection

Booster system identification

1 2 3 / 4 5 6 - 7 8 9 10 11 12 13 / 14 15 / 16 / 17 - 18

① Type identification ② Number of pumps ③ Pump type ④ Nominal Flowrate ⑤ Number of impeller ⑥ Power source ⑦ Motor option ⑧ Control part option ⑨ Structure part option ⑩ Number of inverter

Type identification

Identification	Type	Remark
PZU/ZC	High performance single inverter	Speed Control
PZC/ZC	High performance mixed inverter	Speed Control
PZM/ZC	High performance multi inverter	Speed Control
PZS/ZC	High performance single individual inverter	Speed Control
PZH/ZC	High performance mixed individual inverter	Speed Control
PZV/ZC	High performance multi individual inverter	Speed Control

Number of impeller

Idenfication	Number of stage	Idenfication	Number of stage	Idenfication	Number of stage
1	1	6	6	11	11
2	2	7	7	12	12
3	3	8	8	13	13
4	4	9	9	14	14
5	5	10	10		

Power Source

No.	Power	No.	Power
2	220V, 60Hz	B	220V, 50Hz
3	380V, 60Hz	C	380V, 50Hz
4	440V, 60Hz	D	440V, 50Hz
5	460V, 60Hz	E	460V, 50Hz
6	480V, 60Hz	F	480V, 50Hz

Number of pump

Identification	Number of pump	Identification	Number of pump
1	1 Set	5	5 Set
2	2 Set	6	6 Set
3	3 Set	7	7 Set
4	4 Set	8	8 Set

Nominal Flowrate

· It distinguishes pump series

Motor option

Identification	Motor opion
H	High efficiency
G	Explosion proof

Pump type

Identification	Pump type
Helix V	Helix V Series
MVI	MVI Series

Control part option

Identification	Option
S	Stainless steel panel
L	ELCB for each
R	EOCR(Electronic Over Current Relay)
W	External Wired Control Module
7	Touch Screen
F	Noise Filter
SP	Super operation

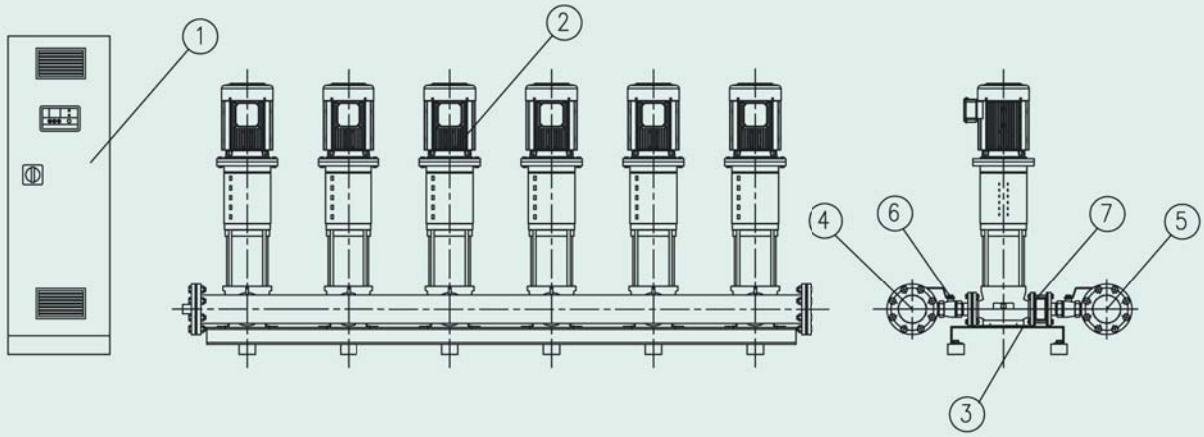
Structure part option

Identification	Option
1	Expansion of suction manifold
2	Expansion of discharge manifold
3	Bed
I	Insulated Bolt, nut
K	Forging Counter Range (STS30 with KS Mark)
O	Removal of 1 stage of impeller
T	SS Bed (For below MVI 18 & Helix V22)

Number of inverter

Identification	Option
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Outline drawing



Part name

① Control Unit
② Vertical Multi-Stage Pump
③ Bed
④ Manifold-Suction
⑤ Manifold-Discharge
⑥ Isolating Valve
⑦ Check Valve

※ Outline drawing & location of parts could be changed by Models

Number of Pump

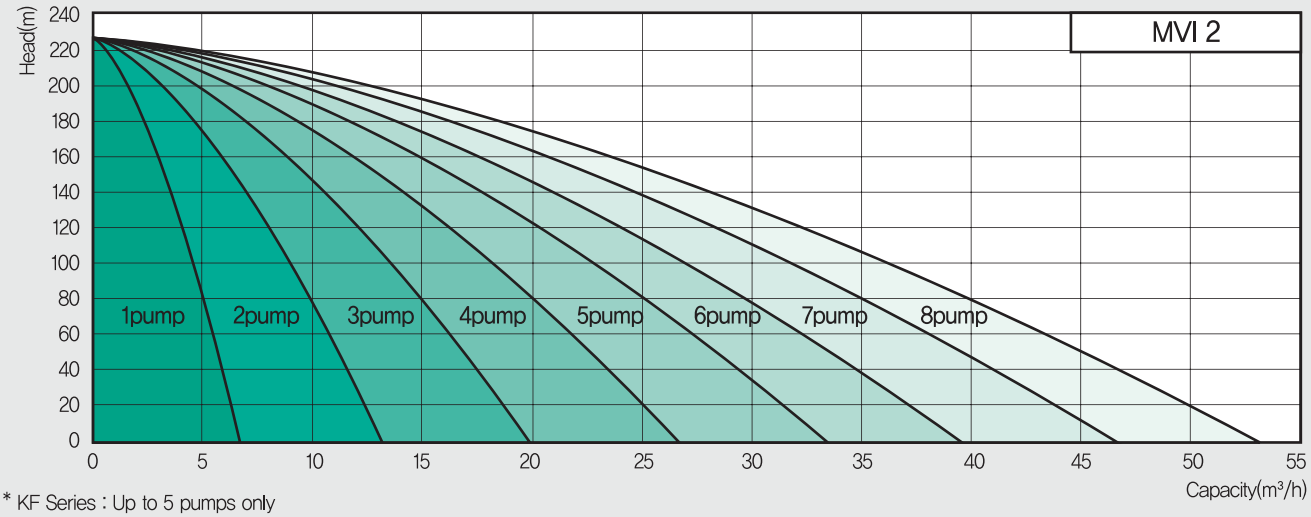
Pump type	MVI2 Series					MVI4 Series					MVI8 Series				
Pump Bore	DN25					DN32					DN40				
No. Pump	2Pump	3Pump	4Pump	5Pump	6Pump	2Pump	3Pump	4Pump	5Pump	6Pump	2Pump	3Pump	4Pump	5Pump	6Pump
Bore of manifold-suction & Discharge	50A		65A		80A	50A	65A	80A	100A		80A		100A		

Pump type	Helix V16 / MVI18 Series					Helix V22 Series					Helix V36 / MVI36 Series				
Pump Bore	DN50					DN50					DN65				
No. Pump	2Pump	3Pump	4Pump	5Pump	6Pump	2Pump	3Pump	4Pump	5Pump	6Pump	2Pump	3Pump	4Pump	5Pump	6Pump
Bore of manifold-suction & Discharge	80A	100A	125A		150A	125A	150A		200A		150A		200A		

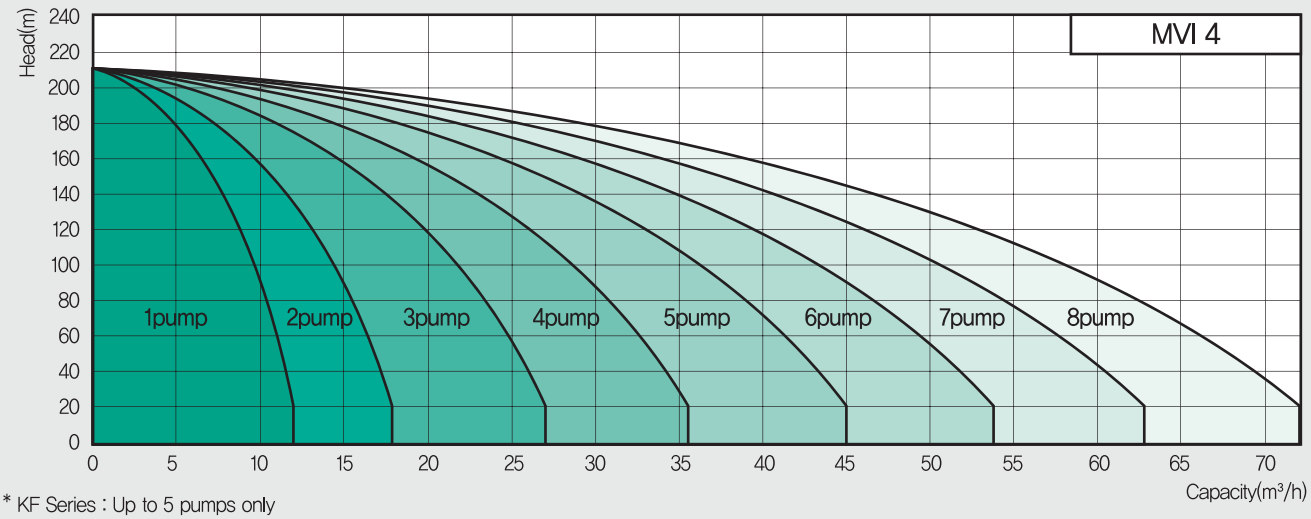
Pump type	Helix V52 / MVI60 Series					MVI90 Series					MVI125 Series				
Pump Bore	DN80					DN100					DN100				
No. Pump	2Pump	3Pump	4Pump	5Pump	6Pump	2Pump	3Pump	4Pump	5Pump	6Pump	2Pump	3Pump	4Pump	5Pump	6Pump
Bore of manifold-suction & Discharge	150A	200A	250A			200A	250A	300A			250A	300A		350A	

※ If there is a big loss in the suction side (in the case of long or bent pipe.) and a huge change in flow rate, we suggest you to choose a bigger pipe than suction manifold.
※ KF series could be supplied max. 5 pumps.

Performance Curve for PUZeN & KF series



* KF Series : Up to 5 pumps only



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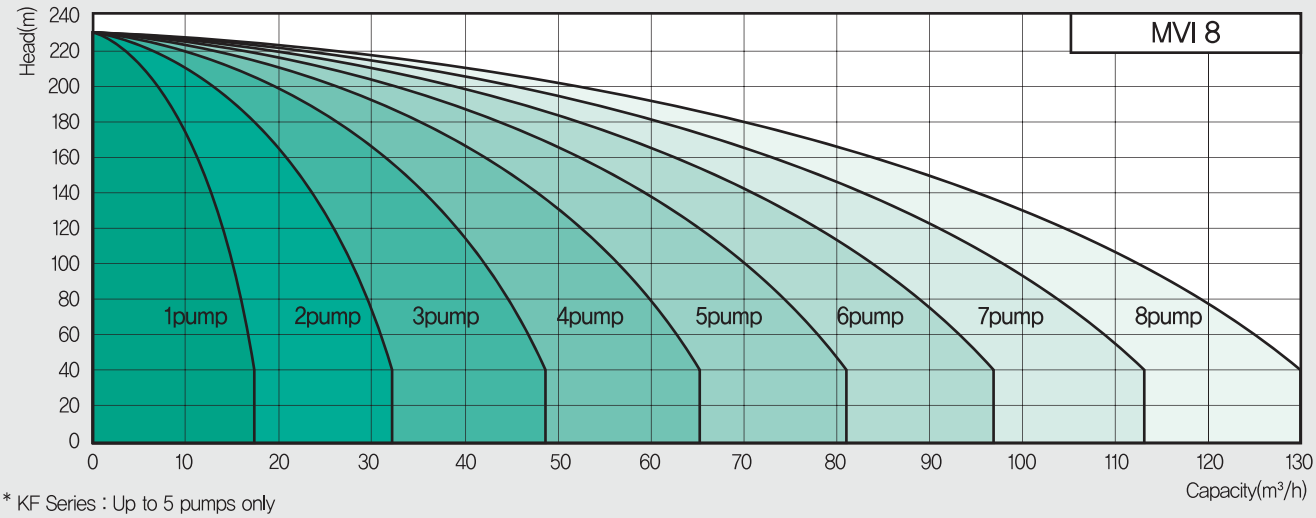

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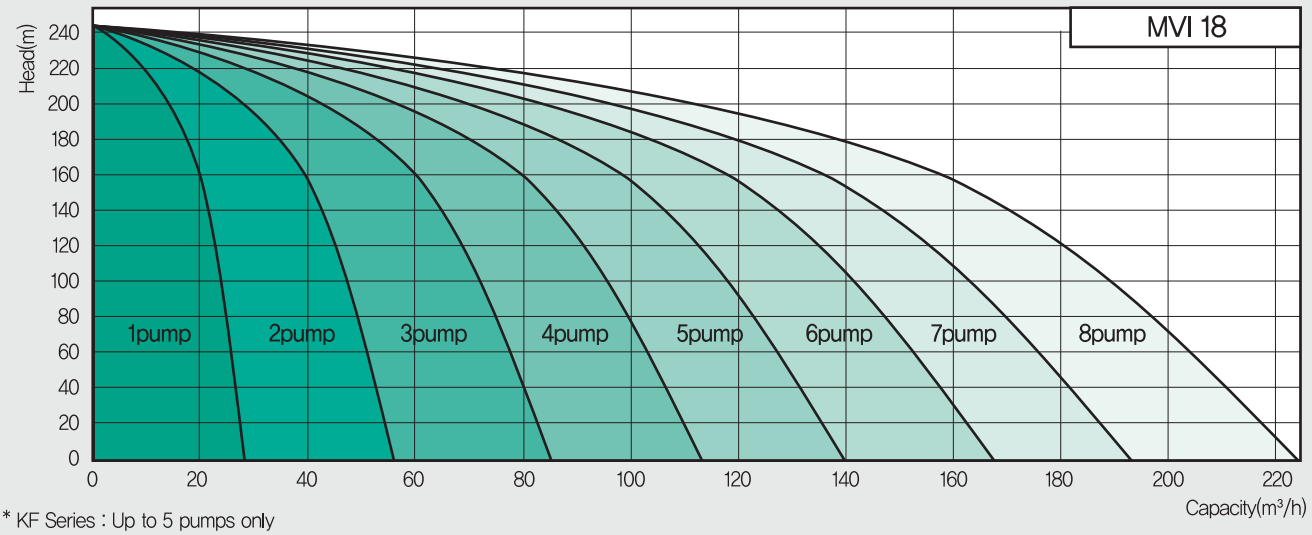
Performance Curve for PUZeN & KF series



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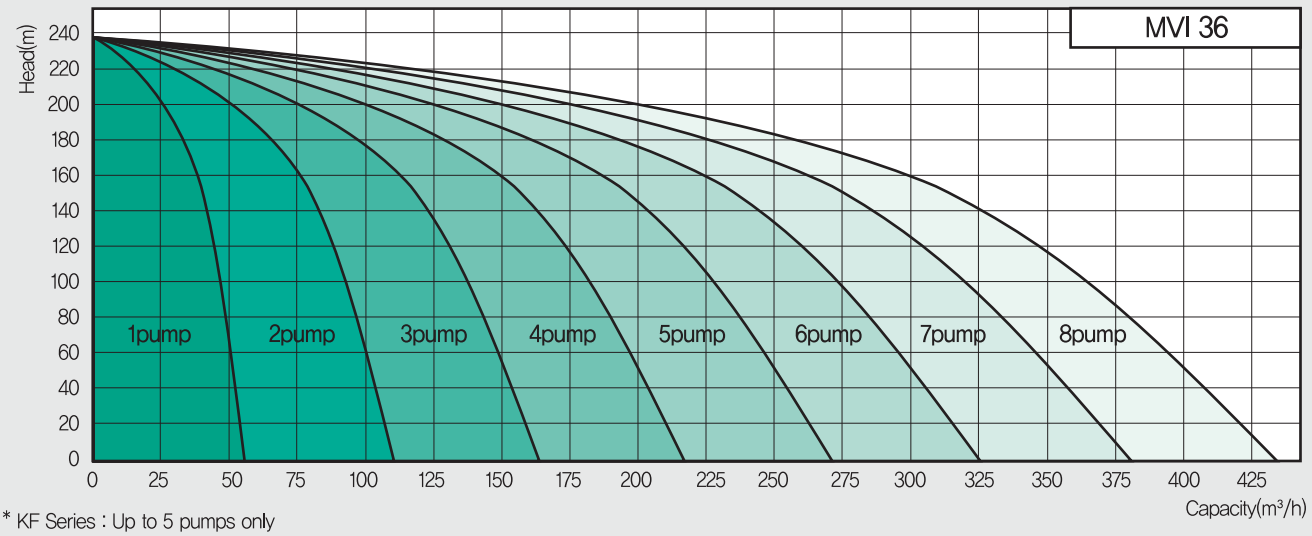

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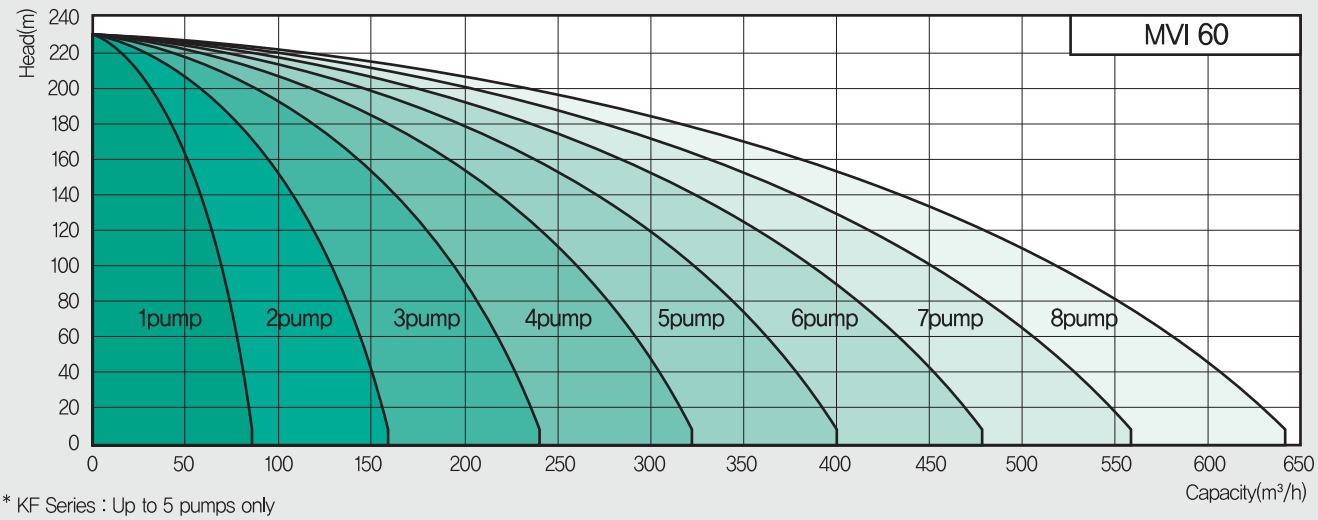

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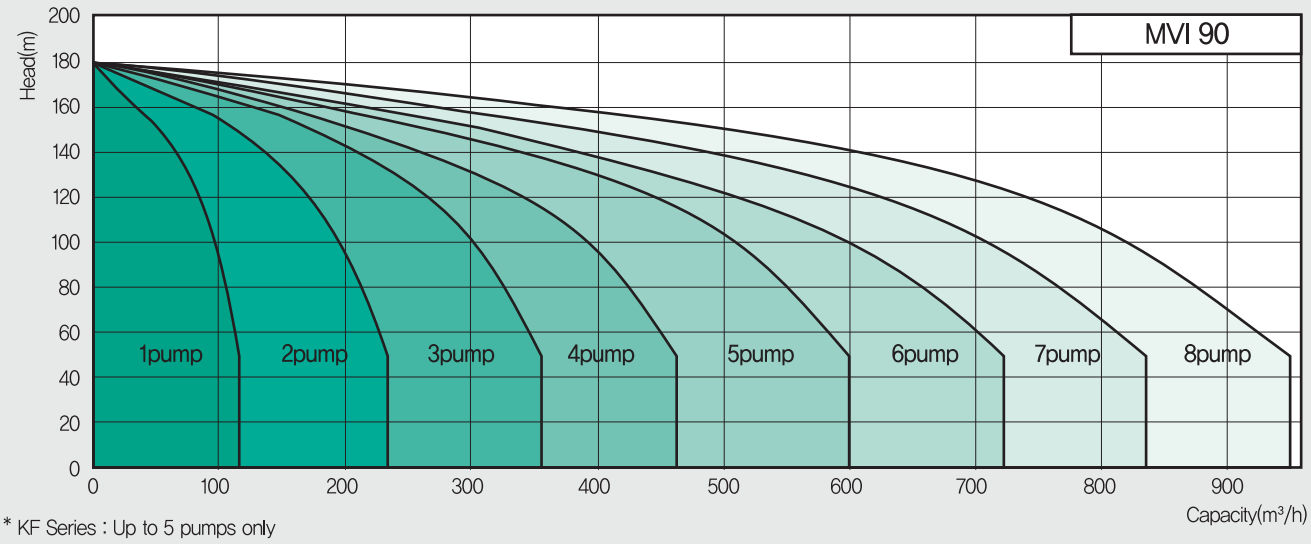
Performance Curve for PUZeN & KF series



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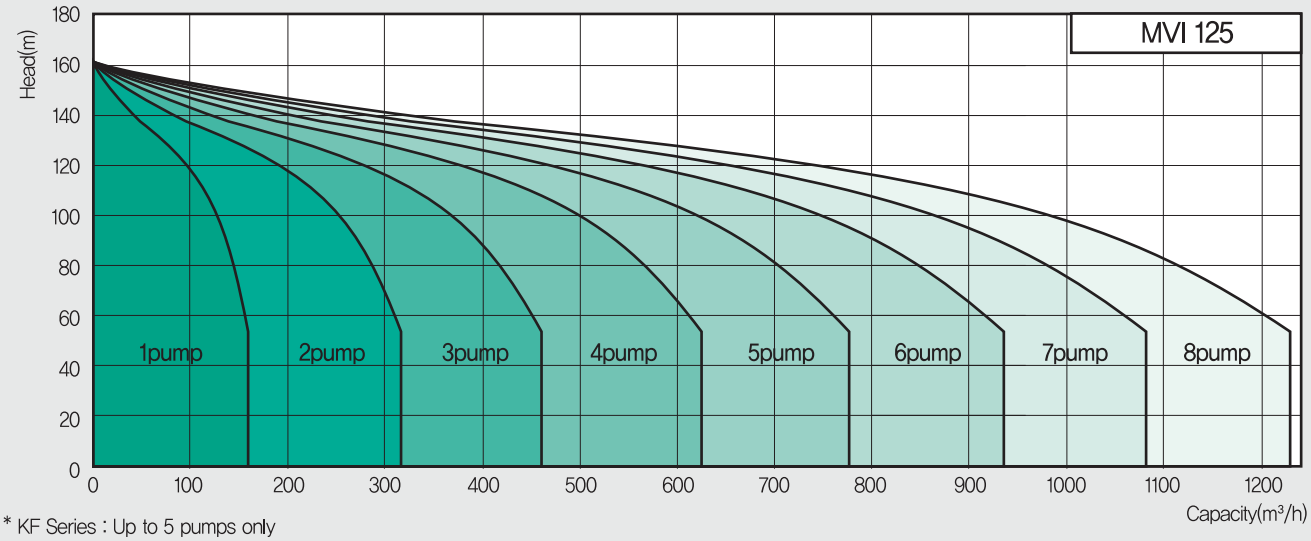

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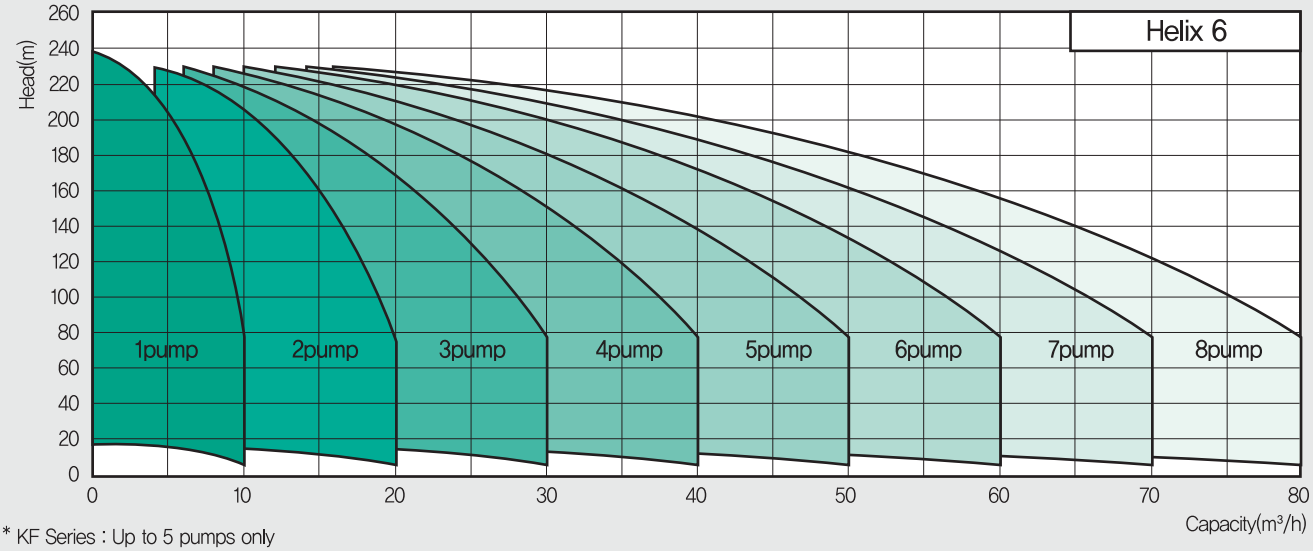
Performance Curve for PUZeN & KF series



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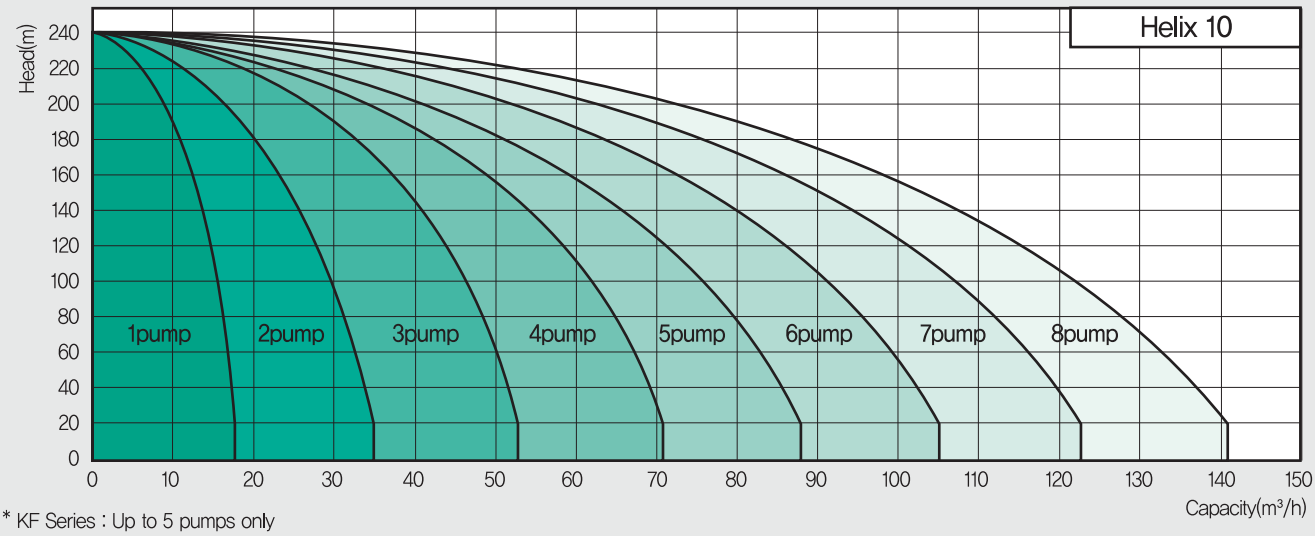

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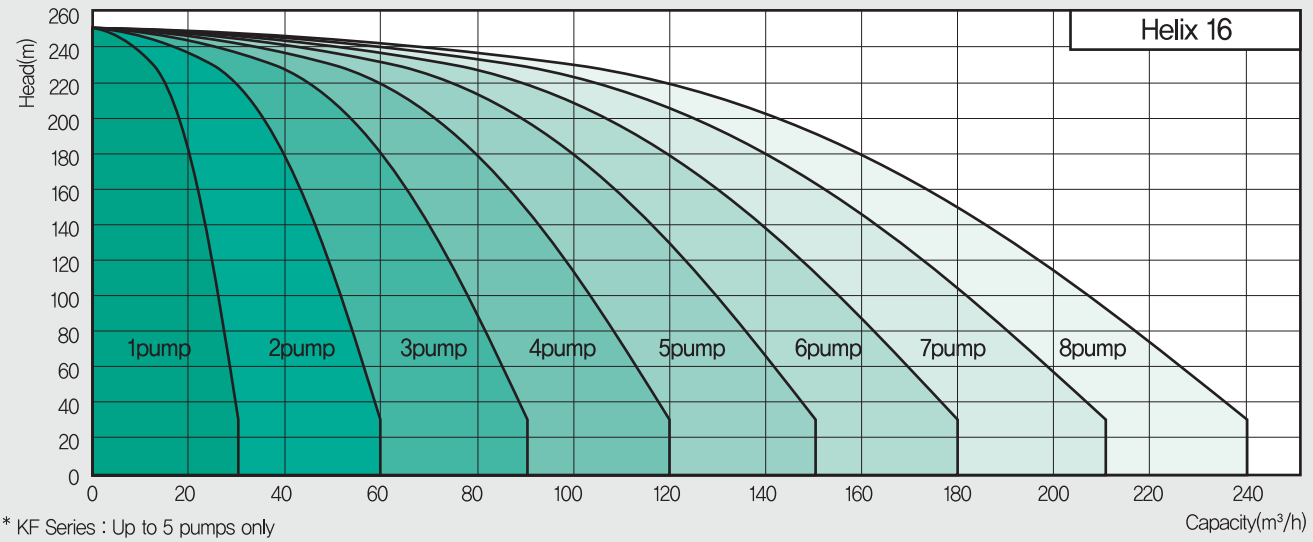

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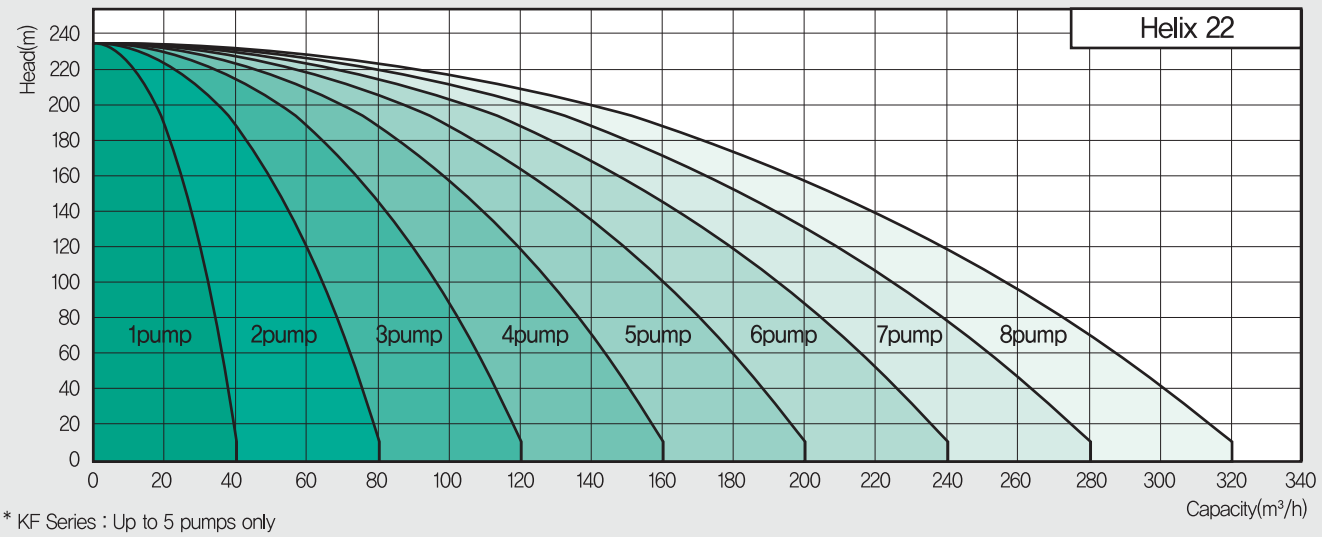
Performance Curve for PUZeN & KF series



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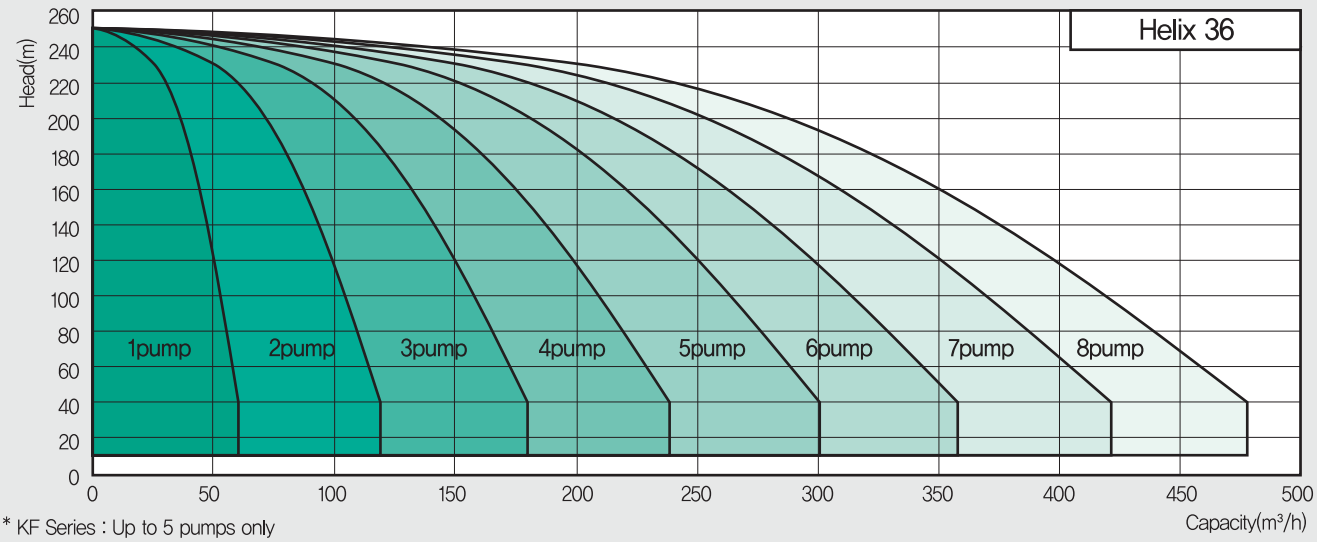

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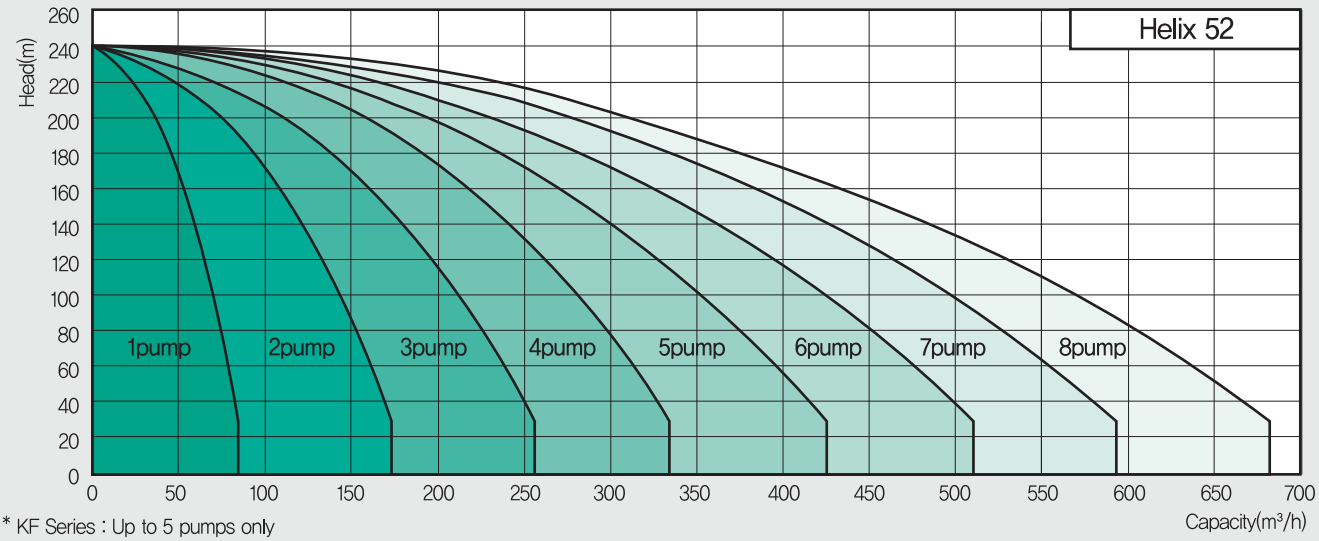


* KF Series : Up to 5 pumps only

Pressure Boosting Systems

KF Series

※ Supplied pump may look different.

Application

Suitable for places where variation of head and capacity is required, such as building, apartment, factory in water supply, fire fighting and pressure feeding application.

Standard spec.

Control type	By inverter
Power source	3 phases, 380V, 50Hz (Others on request)
Pump	Vertical multistage pump
Pressure detection	Non contacting pressure sensor
Fluids	Cleanwater(0~70℃)

Installation requirement

Location	Indoor
Ambient temperature	0 ~ 40℃
Storage temperature	-10 ~ 50℃
Humidity	Max. RH 85%

Pressure Boosting Systems

KF Series

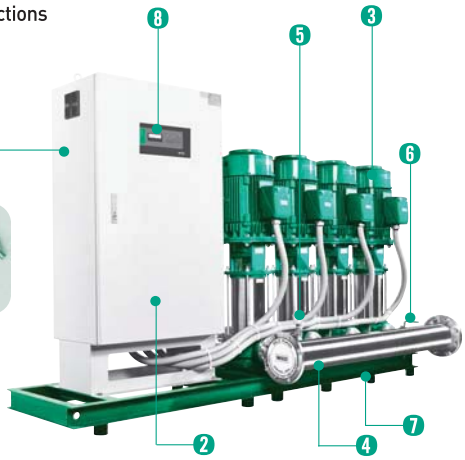
Feature

Booster System-KF Series

❶ **Control Panel with excellent control and protection functions**
- Various operation / protections
- Various options
- Module design for each part
- Motor protection

❷ **Selection of semiconductor pressure transmitter**
It enables a parallel operation setup, smooth operation and water supply without any difference from operation pressure

❸ **High quality, high performance vertical multistage pump**
Minimizing the loss of fluid by high class stainless steel material



❹ **Manifold**
Compact design
Pipe support construction
(above MVI 18 & Helix V16)

❺ **Check Valve**
Corrosion resistant material

❻ **Isolating Valve**
Corrosion resistant material

❼ **Bed**
Steel bed for bigger model

❽ **LCD display in English**

KF Series that has various functions such as power-saving, excellent self-inspection, remote control.

	KF Series	Features
Features	Multi function Inverter Control	High function, High class Micro Computer control, plenty functions and accurate control
Pump	Vertical Multistage pump	Saving installation space, High efficient and stainless steel construction
Pressure Detection	Non-contacting pressure transmitter	Non-contacting type, high reliability, and long lifetime

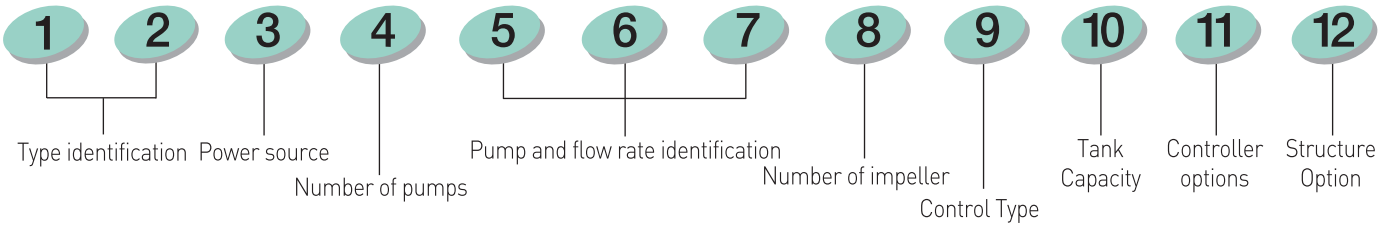
Main Function	Restart after power cut	Able to select automatic re-start or manual re-start. In case of automatic re-start, it prevents fluctuation of pressure in discharge side.
	Sequential Operation	Pump with least operating hours shall start first and stop last to give equal load to each pumps
	Automatic emergency mode	Able to use common power source even controller breakdowns
	Skipping	When a certain pump breakdowns, it will be excluded in operation logic
	Pressure setting for activation, deactivation, Max and Shut-off	Easy to set and prevent any possible error. It prevents pumps from higher pressure than pre-set max pressure
	Avoiding frequent operation	It shall delay (in sec) the operation to prevent pressure hunting and frequent operation
	Compensation of friction loss	Pressure drop due to friction loss and activation of secondary pumps will be compensated automatically
	Status display	It shall display various operating parameters and error log
	Data back-up	Even after power cut, operating parameters will be saved
	PID Control	It keeps discharge pressure constant by fast responding PID control, in case of frequency control.
	Spare circuit board (Option)	It can be installed as a spare board
	Max output setting for inverter	Maximum output of inverter can be set lower than rated
Main Protection	Motor protection	It prevent from overload, open phase, overcurrent
	Monitoring pressure transmitter	It monitors status of pressure transmitter.
	Dry running protection	In case of water shortage in suction side, it will prevent from dry running and shall be able to delay response time
	Prevention of high temperature and damage due to freezing(Option)	Temperature sensor is installed to prevent from freezing and operation at shut off pressure
	Super Operation	In case of breakdown of inverter, it will automatically switch to pressure controlling (Diaphragm expansion tank shall be installed in discharge side to protect the system and piping)
	Main/Stand by	Pre-set stand by pump shall only work when main pumps breakdown.
	Schedule operation	Able to set operation parameters for each day of a week.
	Displaying Operation hours	It shall display operation hours of each pump
	Displaying error log	It shall display timely / daily / monthly / yearly.

Features and Functions

Control type	Inverter control
Pump	Vertical multistage pump
Power source	3 phase 380V 50Hz(Others : Option) (Controller : single phase 220v, 60hz)
Pressure detection	Non-contact pressure sensor
Applicable fluid	Clean water(0℃~70℃)
Number of controllable pump	2~5

Installation condition	• Location : indoor • Ambient temperature : 0℃~40℃ • Storage temperature : -10℃~50℃ • Humidity : Max RH 85%
Control panel	• Automatic/manual mode operation • Protection • Emergency operation • Indication of all sorts of status • Built-in output terminal in the event of fault • Inverter selection (Limited to the speed control)

Booster System Identification



Type Identification

Identification	Type	Remark
KF	Booster System	Speed Control

Power Source

Identification	Power	Identification	Power
2	220V, 60Hz	B	220V, 50Hz
3	380V, 60Hz	C	380V, 50Hz
4	440V, 60Hz	D	440V, 50Hz

No. of pump

Identification	Number of Pump	Identification	Number of Pump
2	2 Set	4	4 Set
3	3 Set	5	5 Set

Water flow rate

· Pump Series

Pump type

Identification	Option
H	HELIX V Series
E	High efficiency MVI Series
W	Standard MVI Series

Number of Impeller

Identification	Number of impeller	Identification	Number of impeller
2	2 stages	9	9 stages
3	3 stages	A	10 stages
4	4 stages	B	11 stages
5	5 stages	C	12 stages
6	6 stages	D	13 stages
7	7 stages	E	14 stages
8	8 stages		

Control type

Identification	Option
S	Standard
E	ELCB
H	Half System

Tank Capacity

Identification	Option
1	100 ℓ Pressure Tank
2	200 ℓ Pressure Tank
3	310 ℓ Pressure Tank
5	450 ℓ Pressure Tank

Controller Options

Identification	Option
S	Stainless steel Panel
L	ELCB For Each
F	Noise Filter
D	Stand Alone Panel
R	EOCR

Structure Options

Identification	Option
1	Expansion of suction manifold
2	Expansion of discharge manifold
3	STS 304 Bed
I	insulated bolt / Nut
T	SSbed(below MVI 18 & Helix V16)

Pressure Boosting Systems

MHIKE-(D) Series

Product Introduction

Horizontal multistage inverter pump

Application

- Pressurizing, water supply (pressurizing the low water pressure in upper level of buildings)
- Residential areas, motels, holiday houses, etc
- Small sprinkler, water management facility which requires a fixed pressure
- Fire extinguisher pump, industrial circulating system
- Boiler water supply, coolant system, etc

Features and Strengths

- ▶ **Excellent energy saving efficiency.** It is very economic in terms of reduced power rate as it provides efficient power saving by inverter control.
- ▶ **Able to set various operation mode.** It enables various operation modes such as operation at fixed speed, operation at fixed pressure, external control etc.
- ▶ **Various pump protection functions.** Various protection functions such as Water-hammering protection, Ticking over protection, over voltage /under voltage, and over current protection, enable a reduced number of faults and long life time.
- ▶ **Able to set RPM/Operating pressure.** It is able to set RPM/Operating pressure in a preferable way.
- ▶ **Easy and handy control.** Anyone can handle it as pressure set is handy and it re-operates after fault.
- **Fixed pressure control** : It does a perfect operation at fixed pressure by inverter with PID Controller and Sensor value.
- **Low noise, Low vibration**: Low noise and low vibration prevent accidents.
- **Stainless steel pump** : STS304 hydraulics to supply clean water all the time.
- **Energy saving:** It brings epochal energy saving by hybrid control inverter.
- **Handy installation and maintenance** : It enables a handy installation and maintenance by packaging accessory such as pipes.
- **light weight:** Easy to move and install
- **Excellent design** : Use of plastic case for the inverter comes in neat streamline external shape.
- **Prevention of water hammer** : Controlling the number of rotation of the inverter prevents water hammer

Pump spec.

- Products: MHI-Series (Stainless Steel Pump)
- Power source: single phase 220V 50/60Hz
- Applicable fluid: clean water and hot water (~80℃)
- Max Working Pressure: 10bar
- Max Suction Pressure: 6bar
- Operating condition: ambient temperature (0~40℃), humidity (under 90%)
- Mechanical seal: Sic/Carbon

Motor spec.

- Motor type: TEFC
- Cooling type: Air-coolant type (cooling by fan)
- Protection class: IPX4
- Insulation class: F
- number of poles: 2
- Range of number of rotation: 1,440~3,600rpm
- Voltage tolerance: ±15%

Inverter spec.

- Power source: single phase 220V 50/60Hz
- Output frequency: max. 60Hz
- Control type: Vector + WVF
- Protection class: IPX4
- Operating condition: ambient temperature (0~40℃), humidity (under 90%)

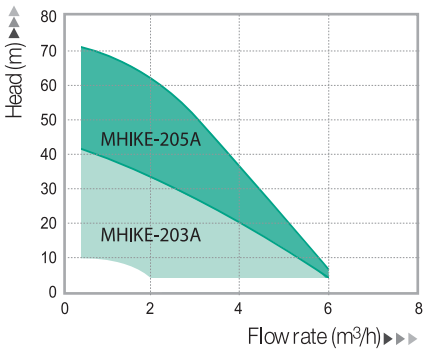
Main functions of the inverter

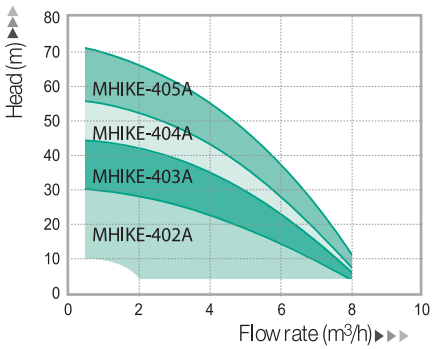
- Operating pressure set • Prevention of unusual excessive pressurizing
- Automatic restoration after power cut • Automatic restart after fault
- Prevention of dry running
- Setting the operating mode: automatic mode(pressure control), manual mode(operation at fixed speed), external control mode
- Automatic tuning with optimized efficiency by DSP, algorithm which controls the operating pressure with optimized efficiency in real time
- Indication of various information and warning by handy FND screen
- Continuous operation without a separate control panel

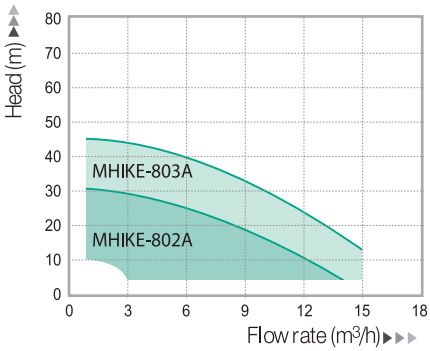
Specification

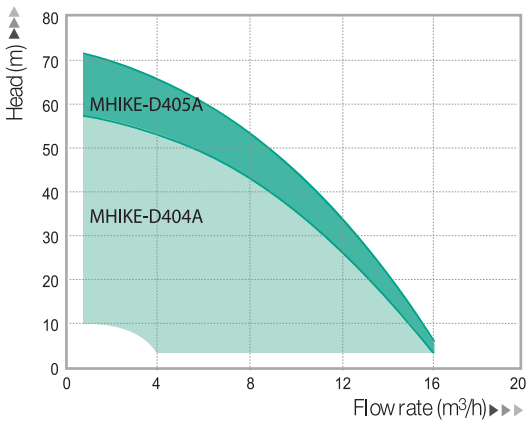
Model	Power (output)	Voltage	Inverter		Pipe diameter	
			Output rating	Capacity rating	Suc.	Dis.
MHIKE-203A	0.75kW	Single Phase 220V 50&60Hz	0.75kW	2.6kVA	25A	25A
MHIKE-402A					30A	25A
MHIKE-205A	1.1kW		1.5kW	3.3kVA	25A	25A
MHIKE-403A					30A	25A
MHIKE-404A	1.5kW				30A	25A
MHIKE-802A					40A	30A
MHIKE-405A	1.85kW		2.2kW	4.4kVA	30A	25A
MHIKE-803A					40A	30A
MHIKE-D404A	1.5kW x 2		1.5kW x 2	3.3kVA x 2	50A	50A
MHIKE-D802A					65A	65A
MHIKE-D405A	1.85kW x 2		2.2kW x 2	4.4kVA x 2	50A	50A
MHIKE-D803A					65A	65A

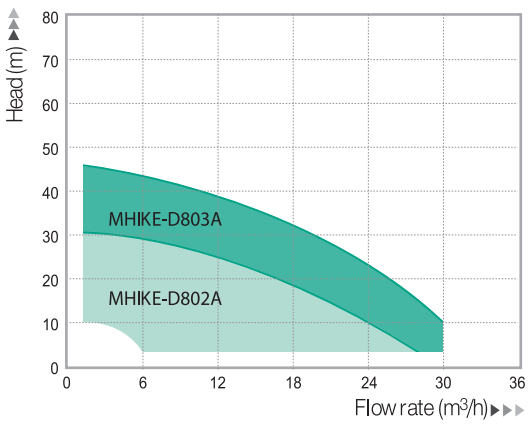
Performance Curve





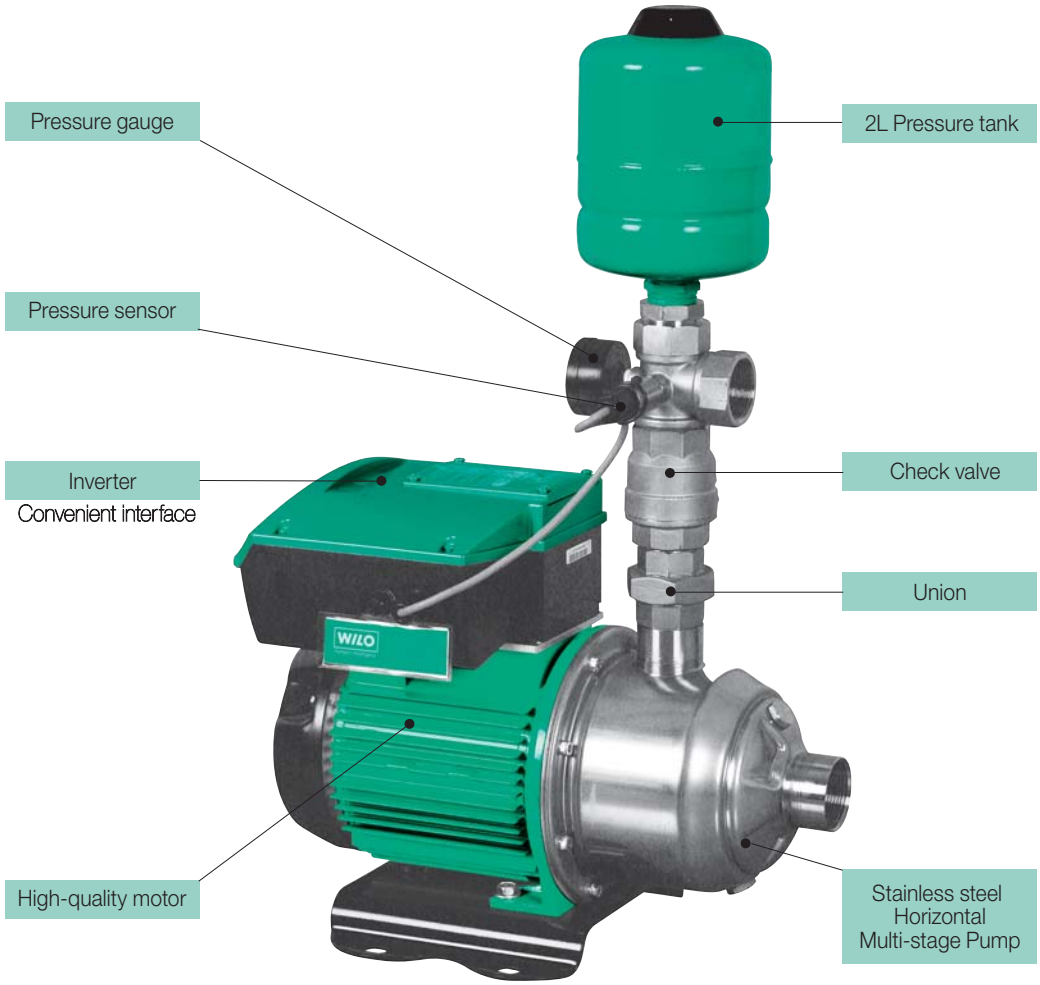






Scope of supply for MHiKE series

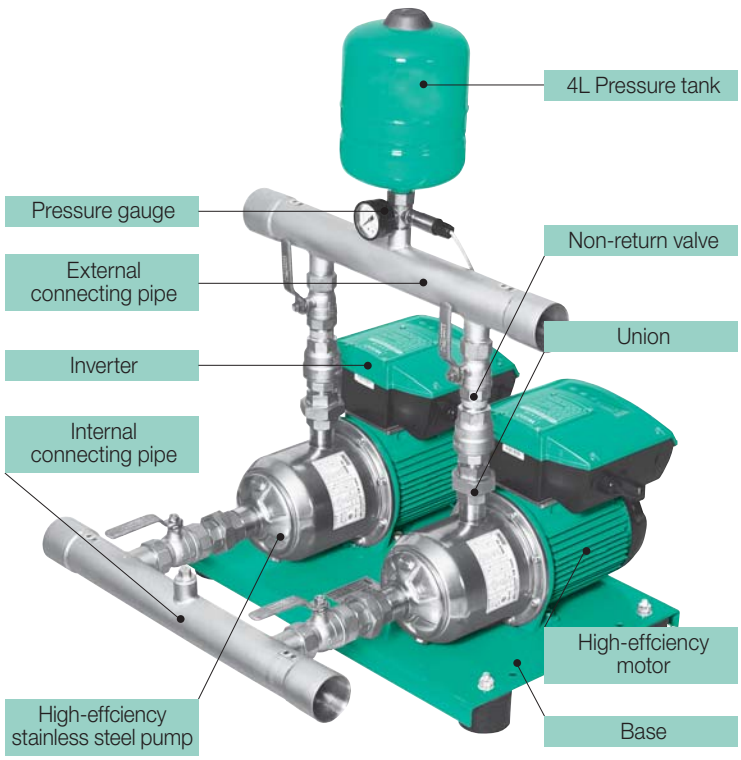
It protects the pumps safely by installing various protection functions
and enabling to do the multi-direction pipe work adjustable for the installation circumstances.



MHIKE-D Series External design and Functions

Double performance & product lifetime, super-excellent safety, and available for the sufficient water supply with the efficient energy saving by utilizing the two-pump system in case the required water demand is over the capacity of one-pump system

- **Dual Multi-System**
  - Rotation control by two inverters
  - Expand the product lifetime
  - Electrical safety by the independent power system
  - Double performance
- **Energy saving**
  - "Low-noise and Energy-saving mode"
- **Environment-friendly Product**
  - Applied STS304 materials in all hydraulic parts
- **All in One**
  - Easy installation by connecting the pipe and plugging in the power



WILO

Pumpen Intelligenz.

WILO

Pumpen Intelligenz.

Contents

Submersible Pump

- Drainage / Dewatering 2
- Sewage / Wastewater 7
- General Contractor's 13
- Auto Coupling Device 17

50W~750W - VOLUTE TYPE

PD-G050E(EA)

Clean Water Drainage

PD-G series

Feature:
Automatic operation by Float switch (EA series only)
Rust-Proof
Light
Portable using lifting handle
Top Discharge (Saving Installation Space)
Easily removable strainer for cleaning dirt, particles.
Dewatering very low water level

Application:
all clean water drainage application

PD-200E(EA)/PD-350E(EA)

Clean Water Drainage

PD-200/350E(EA)

Feature:
Removable strainer and pad ensures no remaining water
Water Jacket Cooling
Body, Casing, Terminal Cover: Engineering Plastic (mPPO)
Hose Coupling
Light and Handy
Automatic Operation by Float switches (EA series only)

Application:
Fountain, all clean water drainage application

PD-A401E(EA)/A751E(EA)/751Q

Clean Water Drainage

PD-A401E/EA/Q, PD-A751E/EA/Q

Feature:
Rust Proof Hydraulic Material
Portable using lifting handle
Automatic operation by float switch (EA series only)

Application:
Fountain, all clean water drainage application

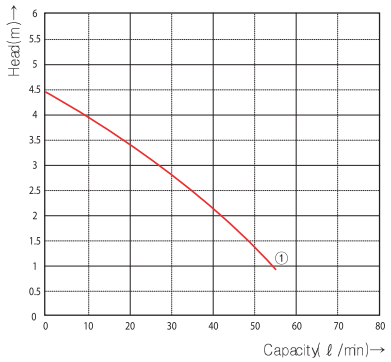
Specification

Model	Power Source		Power (kW)		Head (m)		Rated Flow rate		Max. Flow rate		Weight (kg)	
	Voltage(V)	Frequency(Hz)	Input(p1)	Output(p2)	Total Head	Discharge Head	ℓ/min	At Ht	ℓ/min	m³ / hr	Net	Gross
PD-G050E	220	50	0.12	0.05	3.5	3.5	35	3.0	45	2.7	4.3	5.1
PD-G050EA	220	50	0.12	0.05	3.5	3.5	35	2.0	45	2.7	5.0	6.0
PD-200E	220	50	260	130	5.5	5.5	50	3	110	6.6	4.5	5
PD-200EA	220	50	260	130	5.5	5.5	50	3	110	6.6	4.7	5.2
PD-350E	220	50	460	300	7.5	7.5	145	3	200	12	4.5	5
PD-350EA	220	50	460	300	7.5	7.5	145	3	200	12	4.7	5.2
PD-A401E	220	50	0.50	0.40	10.0	10.0	30	5.0	225	13.5	12	13
PD-A401EA	220	50	0.50	0.40	10.0	10.0	150	5.0	225	13.5	11	12
PD-A401H	3∅, 220	50	0.55	0.40	10.0	10.0	30	5.0	225	13.5	12	13
PD-A401Q	3∅, 400	50	0.55	0.40	10.0	10.0	30	5.0	225	13.5	12	13
PD-A751E	220	50	1.00	0.75	14.0	14.0	12	20.0	300	18.0	14	15
PD-A751H	3∅, 220	50	1.00	0.75	14.0	14.0	12	20.0	300	18.0	14	15
PD-A751Q	3∅, 400	50	1.00	0.75	14.0	14.0	12	20.0	300	18.0	14	15

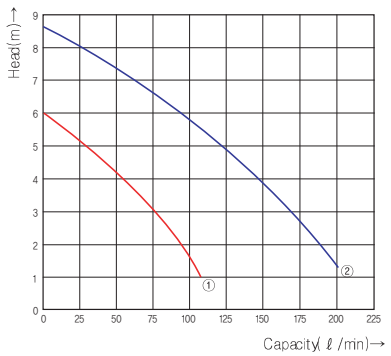
Drainage / Dewatering

50W~750W - VOLUTE TYPE

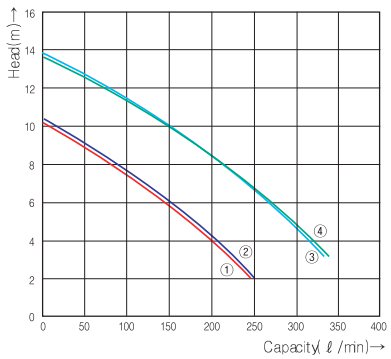
Performance Curve



① PD-G050E(EA)



① PD-200E(EA) ② PD-350E(EA)

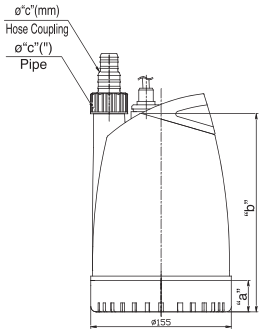


① PD-A401E(EA) ② PD-A401Q
③ PD-A751E(EA) ④ PD-A751Q

Outline Drawing

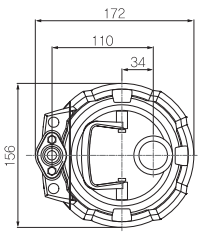
PD-G Series

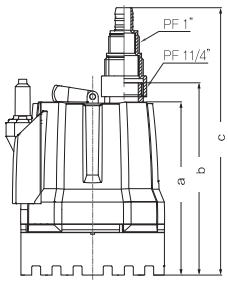
Model	a	b	c
PD-G050EA	34.5	200	20,25(Hose)



PD-200E(EA)/350E(EA)

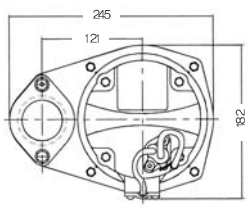
Model	a	b	c
PD-200E(EA)	180	201	282
PD-350E(EA)	180	201	282

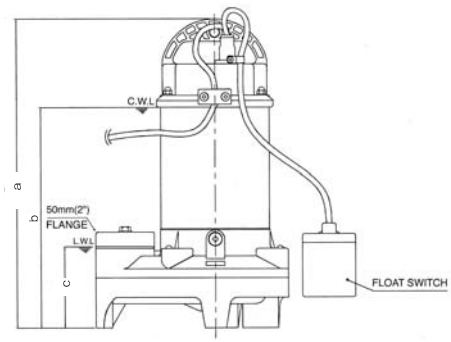




PD-A401E(EA)/A751E(EA)/A751Q

Model	a	b	c
PD-A401E/H/Q	390	273	86
PD-A751E/H/Q	407	290	86





50W~750W - VOLUTE TYPE

PD-S300E(EA)/S550E(EA)

Clean Water Drainage

PD-S Series

Feature:

Stainless Steel Material
Vertical Discharge - Save up installation space
Automatic Operation by float switches (For EA MODEL only)
CE certificate

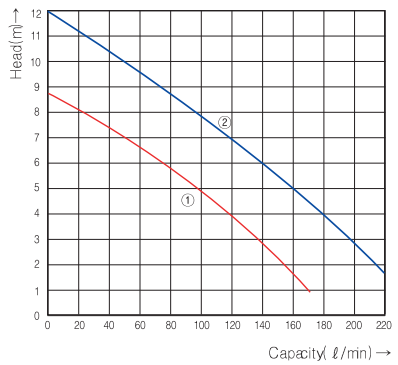
Application:

clean water drainage

Specification

Model	Power Source		Power (kW)		Head (m)		Rated Flow rate		Max. Flow rate		Weight (kg)	
	Voltage(V)	Frequency(Hz)	Input(p1)	Output(p2)	Total Head	Discharge Head	ℓ/min	At Ht	ℓ/min	m³/hr	Net	Gross
PD-S300E	220	50	0.55	0.30	8.5	8.5	80	5.0	183	11.0	6.2	6.7
PD-S550E	220	50	0.90	0.60	11.6	11.6	130	5.0	217	13.01	7.3	8.2
PD-S300EA	220	50	0.55	0.30	8.6	8.6	80	5.0	183	1.0	6.7	7.1
PD-S550EA	220	50	0.90	0.60	11.6	11.6	130	5.0	217	13.0	7.8	8.7

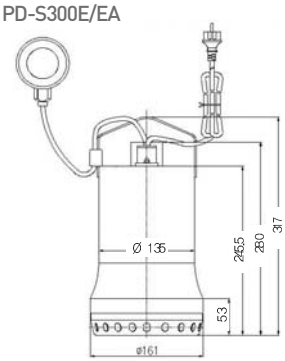
Performance Curve



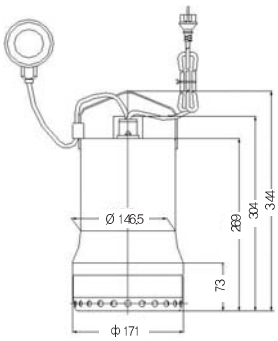
① PD-S300E/EA ② PD-S550E/EA

Outline Drawing

PD-S300E/EA



PD-S550E/EA

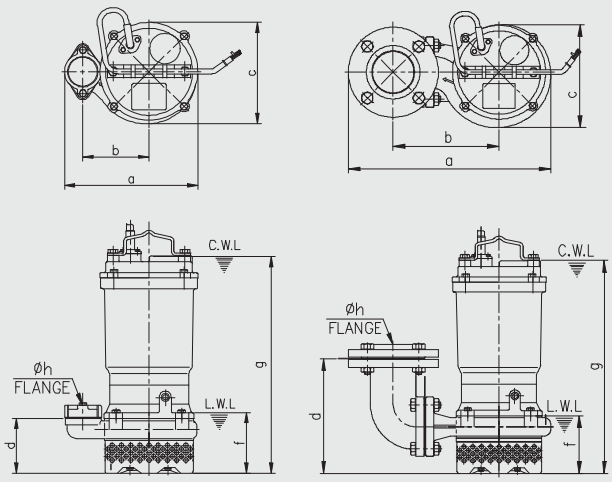


Drainage / Dewatering

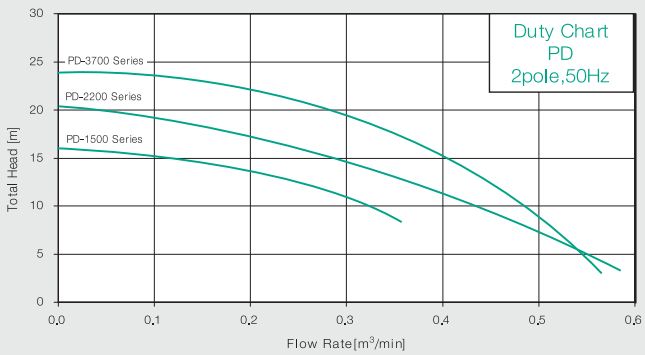
1.5~15kW - VOLUTE TYPE

Outline Drawing PD - 2pole motor

▶ PD-1500 Series ▶ PD-2200/3700 Series



PD-1500 Series PD-2200/3700 Series



Dimension

Model	a	b	c	d	f	g	h
PD-1500 Series	262	130	199	108	108	427	50
PD-2200 Series	417	218	212	236	119	438	80
PD-3700 Series	504	286	262	276	178	528	

Type

Submersible drainage pumps with 2pole, 3phased motor

Identification Code

e.g.:PD-1500Q

PD Submersible drainage Pump with semi-open impeller

1500 Motor rating P2[W]
Q=3Phase,380V,50Hz

Technical Data - Construction Materials

PD Series		PD-1500	PD-2200	PD-3700
Technical Data				
Motor rating	P2(kW)	1.5	2.2	3.7
Max. fluid temperature	(℃)	40		
Max. free passage	(mm)	8.5	8.5	8.5
Cable nominal area	(mm²)	1.25	1.25	2.0
Starting method		D.O.L(Direct On Line)		
Windings insulation class		F		
Weight	(kg)	40	50	68
Construction Materials				
Pump housing		KS GC200		
Impeller		KS GC200		
Motor shaft		KS STS410		

Application

- Factory and building basement drainage
- Raw water supply from rivers or lakes
- General purpose drainage

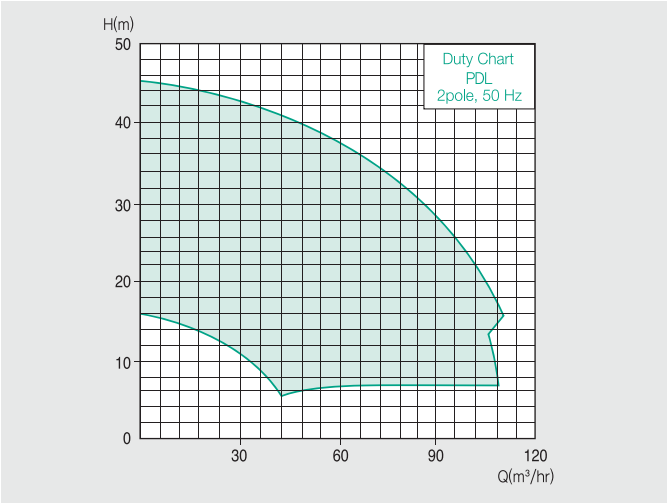
Scope of supply

Packaged pump with 8m power cable with free end, counter flange (PF tapped) and O&M manual.
Auto coupling device as an option

1.5~15kW - VOLUTE TYPE

PDL Series

Duty Chart



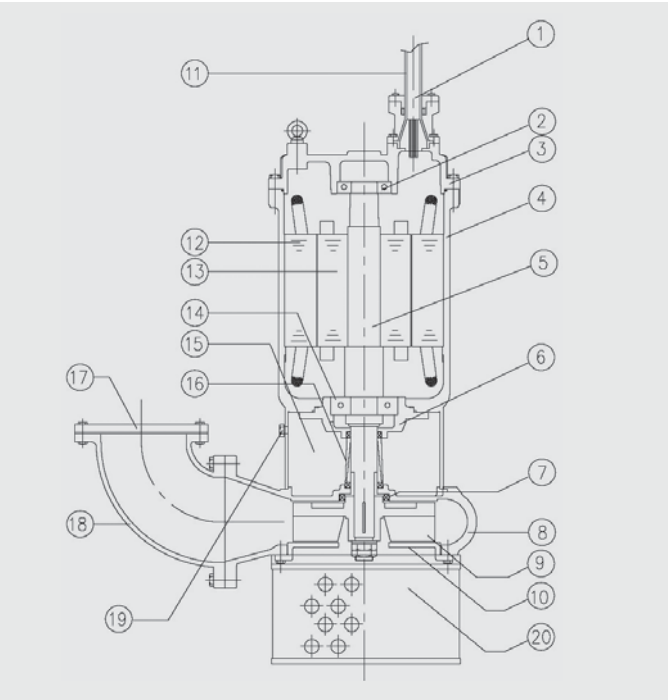
Specification

Flange: 50 ~ 100mm
No of Pole: 2 Pole only
P2: 1.5 ~ 15kW
Free Passage: upto 16mm (depends on type)
Operating Temperature: 0 ~ 40℃
Insulation: B (F as an option)
Double mechanical Seal
Cable: 10m (longer cable as an option)
Chain: 5m (longer chain as an option)

Scope of Supply

Pump, 10m cable, 5m chain
Auto-coupling device as an option
Monitoring Unit as an option
Winding Temperature Sensor as an option
Bearing Temperature Sensor as an option
Seal Leakage Sensor as an option

Typical Cross Sectional Drawing



No.	Part Name	Spec or Material	Option	Q'ty
1	Cable Ass'y	PNCT/10m	longer	10m
2	Upper Bearing	-	-	1
3	Bracket	GC200	SS	1
4	Frame	GC200	SS	1
5	Shaft	SCM440	SS	1
6	Bearing Housing	GC200	SS	1
7	Oil Seal	NBR	-	1
8	Casing	GC200	DI, SS	1
9	Impeller	GCD450	Bronze, SS	1
10	Suction Cover	GCD450	SS	1
11	Cable Bushing	NBR	-	1
12	Stator Ass'y	-	-	1
13	Rotor Ass'y	-	-	1
14	Lower Bearing	-	-	1
15	Oil	T-#46	-	-
16	Mechanical Seal	SiC+SiC/Ceramic+Carbon	-	1
17	Flange	SS400	SS	1
18	Elbow	GC200	SS	1
19	Bolt	SS400	SS	-
20	Strainer	SS400	SS	1

400W~750W - Vortex Type

PDV-S600E(EA)/S750E(EA)

Vortex

PDV-S Series

Feature:

Cast Iron Pump housing (Rust proof Material for rest of hydraulic components)
Vertical Discharge - Save up installation space
Thermal Motor Protection (restarts after motor cools)
Vortex Impellers
Free Passage: 40mm
Automatic Operation by float switches (For EA MODEL only)
CE certificate (except 600E, 750E)

Application:

Sewage

PDV-A400E(EA)/750E(EA)

PDV-750E(EA)

Vortex

PDV-A series

Feature:

Vortex Impeller
Automatic operation by Float switch (EA series only)
Rust Proof Material

Application:

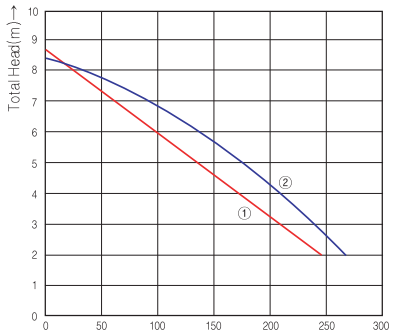
Sewage

Specification

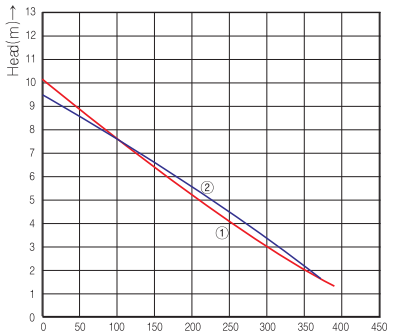
Model	Power Source		Power (kW)		Head (m)		Rated Flow rate		Max. Flow rate		Weight (kg)	
	Voltage(V)	Frequency(Hz)	Input(p1)	Output(p2)	Total Head	Discharge Head	ℓ/min	At Ht	ℓ/min	m³/hr	Net	Gross
PDV-A400EA	220	50	0.50	0.40	7.0	7.0	150	4.0	233	14.0	12.5	13.5
PDV-S400EA	220	50	0.50	0.40	7.0	7.0	150	4.0	233	14.0	13.5	14.5
PDV-S600EA	220	50	0.83	0.60	8.0	8.0	240	2.0	283	17.0	20	21
PDV-750EA	220	50	1.00	0.75	8.0	8.0	150	6.0	310	18.6	24.5	25.5
PDV-S750EA	220	50	1.00	0.75	10.0	10.0	270	3.0	317	19.0	20	21
PDV-A400E	220	50	0.50	0.40	7.0	7.0	150	4.0	233	14.0	12	13
PDV-S400E	220	50	0.50	0.40	7.0	7.0	150	4.0	233	14.0	13	14
PDV-S600E	220	50	0.83	0.60	8.0	8.0	240	2.0	283	17.0	20	21
PDV-S600Q	3 Φ, 400	50	0.78	0.60	8.0	8.0	240	2.0	283	17.0	20	21
PDV-750E	220	50	1.00	0.75	8.0	8.0	150	6.0	310	18.6	24.0	25.0
PDV-A750E	220	50	1.00	0.75	10.0	10.0	220	6.0	310	18.6	20	21
PDV-S750E	220	50	1.00	0.75	10.0	10.0	270	3.0	317	19.0	20	21
PDV-S750Q	3 Φ, 400	50	0.92	0.75	10.0	10.0	270	3.0	317	19.0	20	21

400W~750W - Vortex Type

Performance Curve



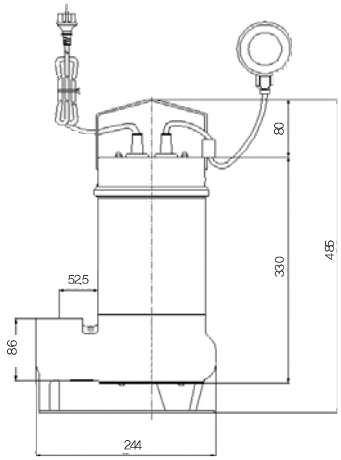
① PDV-A400 Series
PDV-S400 Series
② PDV-S600 Series



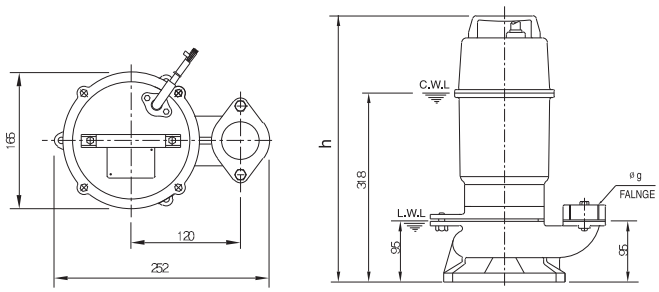
① PDV-A750 Series
PDV-S750 Series
② PDV-750 Series

Outline Drawing

PDV-S600E(EA)/S750E(EA)

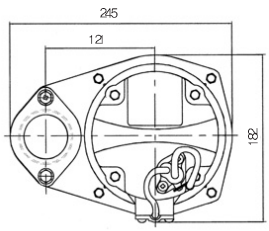


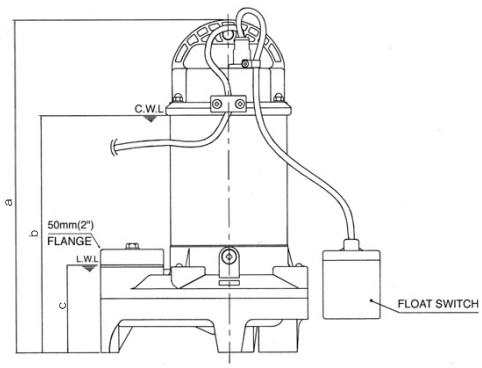
PDV-750E(EA)



PDV-A400E(EA)/A750E(EA)

Model	a	b	c
PDV-A400Series	411	293	106
PDV-A750Series	428	310	106



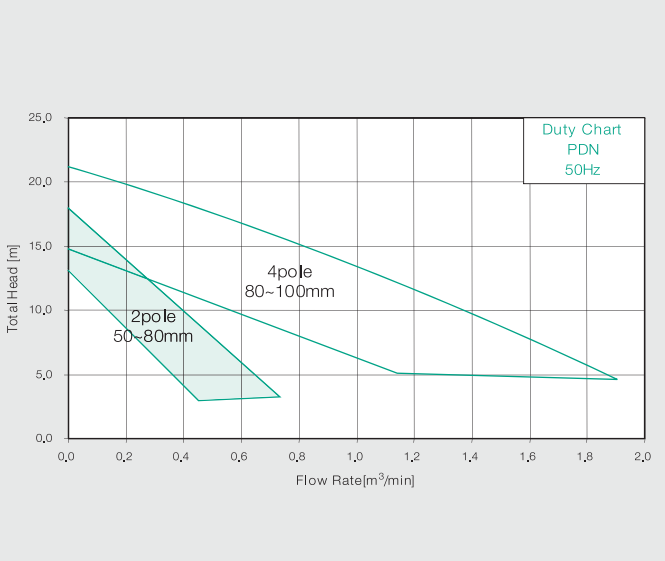


PDN Series - 2 or 4pole motor

PDN Series

▶ PDN-1500 Series

Duty Chart



PDN

Submersible drainage pumps
with single channel impeller

Identification Code

e.g.: PDN-1500Q

PDN	Submersible drainage Pump with single channel impeller
1500	Motor rating P2[W]
	Q=3Phase,380V,50Hz

Design & Equipment

Hydraulics:
Single channel impeller is characteristics of preventing internal clogging by solids in the pumped liquid.
Free Passage: Max 50mm

Motor:
Three phase induction motor,IPx8,insulation class F.
Overload protection(optional specification):
A snap - action bi-metal device actuates when current of Motor surpasses allowed current.

Bearings:
Motor shaft running in permanently greased and maintenance-free roller bearings

Shaft seal:
Pump-end bi-directional mechanical seal and motor-end shaft seal. Intermediate oil chamber for cooling and lubrication.

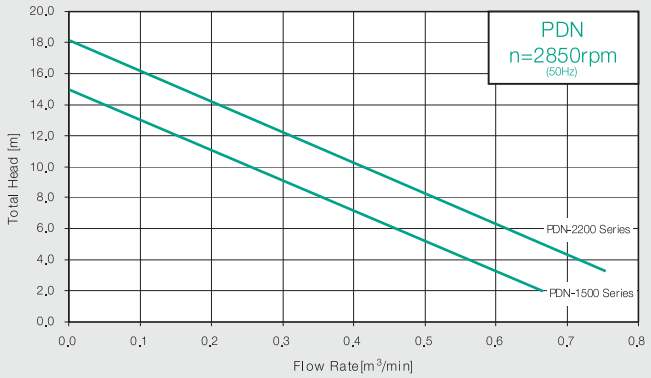
Application

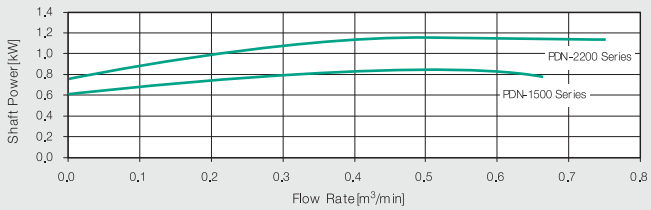
- Factory and building basement drainage
- Raw water supply from rivers or lakes
- General purpose drainage

Scope of supply

Packaged pump with 8m power cable with free end, counter flange (PF tapped) and O&M manual.
Auto-coupling device as an option

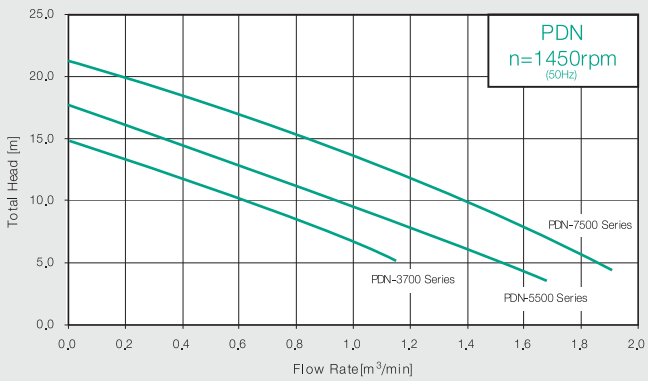
Duty charts PDN - 2pole motor

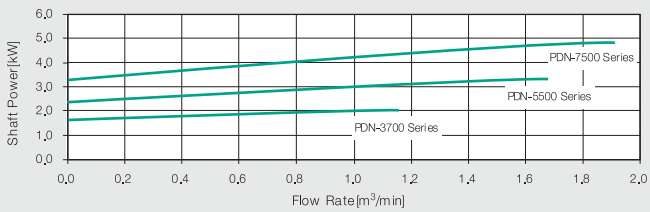




All curves are based on fluid density r = 1 kg/dm3

Duty charts PDN - 4pole motor

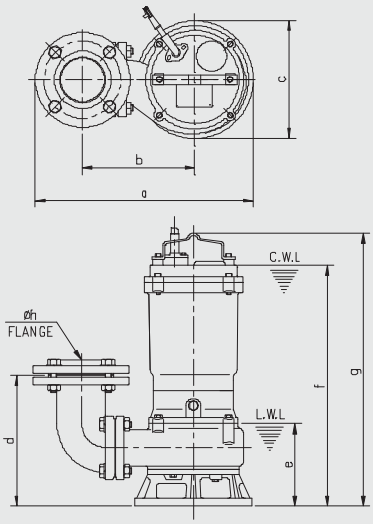




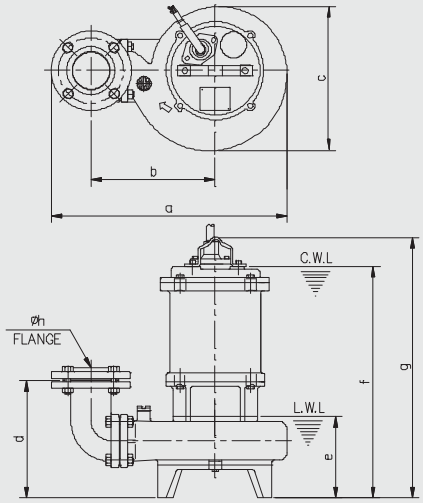
All curves are based on fluid density r = 1 kg/dm3

PDN Series - 2 or 4pole motor

Outline Drawing PDN - 2 or 4pole motor



PDN-1500/2200 Series



PDN-3700/5500/7500 Series

Dimension PDN - 2 or 4 pole motor

Model	a	b	c	d	e	f	g	h
PDN -1500 /2200 Series	426	219	228	254	160	468	80	530
PDN -3700 Series	546	278	332	270	187	534	80	601
PDN -5500 Series	636	337	388	271	189	654	100	710
PDN -7500 Series	636	337	388	271	189	654	100	710

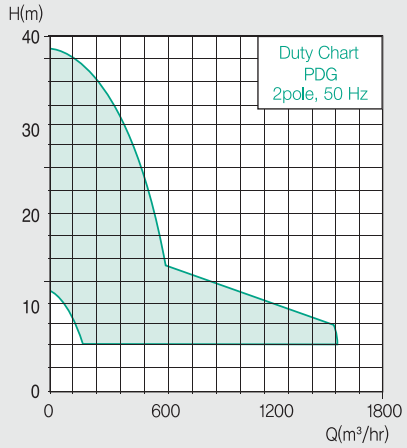
Technical Data - Construction Materials

PDN Series		PDN-1500	PDN-2200	PDN-3700	PDN-5500	PDN-7500
Technical Data						
Motor rating	P2(kW)	1.5	2.2	3.7	5.5	7.5
Max. fluid temperature	(℃)	40				
Free Passage	(mm)	24	24	48	50	50
Cable nominal area	(mm^2)	1.25	1.25	2.0	5.5	5.5
Starting method		D.O.L(Direct On Line)				
Windings insulation class			F			
Weight	(kg)	50	55	100	132	135
Construction Materials						
Pump housing		KS GC200				
Impeller		KS GC200(Option:KS BC6)				
Motor shaft		KS STS410				

750W~75kW Vortex & Non-Clog Type

PDG Series

Duty Chart



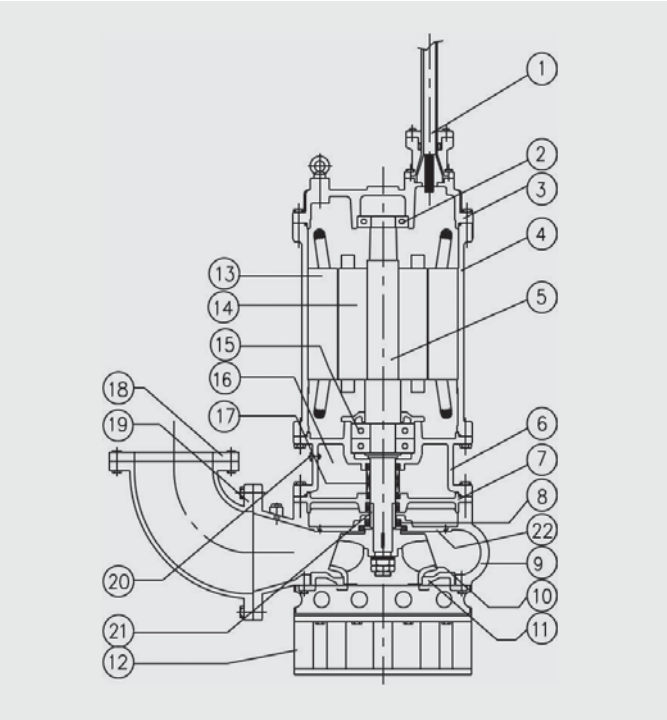
Specification

Flange: 50 ~ 500mm
No of Pole: 4,6,8
P2: 0.75 ~ 75kW
Free Passage: upto 100mm (depends on type)
Operating Temperature: 0 ~ 40℃
Insulation: B (F as an option)
Double mechanical Seal
Cable: 10m (longer cable as an option)
Chain: 5m (longer chain as an option)

Scope of Supply

Pump, 10m cable, 5m chain
Auto-coupling device as an option
Monitoring Unit as an option
Winding Temperature Sensor as an option
Bearing Temperature Sensor as an option
Seal Leakage Sensor as an option

Typical Cross Sectional Drawing



No.	Part Name	Material	Option	Q'ty
1	Cable Ass'y	PNCT	longer	10m
2	Upper Bearing	-	-	1
3	Bracket	GC200	SS	1
4	Frame	GC200	SS	1
5	Shaft	SCM440	SS	1
6	Water Chamber	GC200	SS	1
7	Bearing Housing	GC200	SS	1
8	Oil Seal	NBR	-	-
9	Casing	GC200	DI, SS	1
10	Impeller	GCD450	Bronze, SS	1
11	Suction Cover	GCD450	SS	1
12	Stand	SS400	SS	1
13	Stator Ass'y	-	-	1
14	Rotor Ass'y	-	-	1
15	Lower Bearing	-	-	2
16	Oil	T-#46	-	-
17	Mechanical Seal	SiC+SiC/Ceramic+Carbon	-	1
18	Flange	SS400	SS	1
19	Elbow	GC200	SS	1
20	Oil Bolt	SS400	SS	1
21	Sleeve	SCM440	SS	1
22	Casing Cover	GC200	SS	N/A

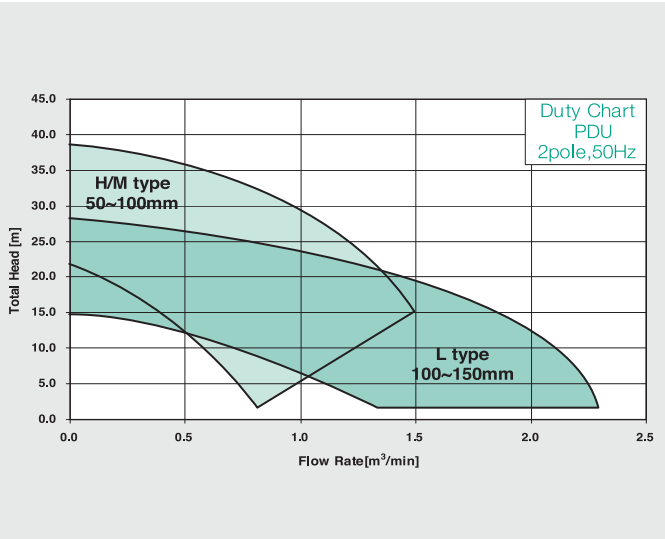
General Contractor's

3.7~15kW - Light Duty Contractor' s Pumps (PDU Series)

PDU Series

▶ **PDU-371 Series**

Duty Chart



PDU

Submersible drainage pumps
for general construction site

Application

PDU submersible pumps are suitable
to displace drainage water of general construction site.
-Drainage & sewage for construction site
-Drainage at tunnel, subway, engineering works
-General purpose drainage

Identification Code

e.g.: **PDU-371QHF**

	Submersible drainage Pump for general construction site
371	Motor rating P2[kW] 〈11kW : Motor rating[W]/10 ≥11kW: Motor rating[kW]+K
Q	Q=3Phase,380V,50Hz
H	H=3Phase,220V,50Hz H=**high head type** M=middle head type L=low head type
F	F=flange connection type blank=hose connection type

Design & Equipment

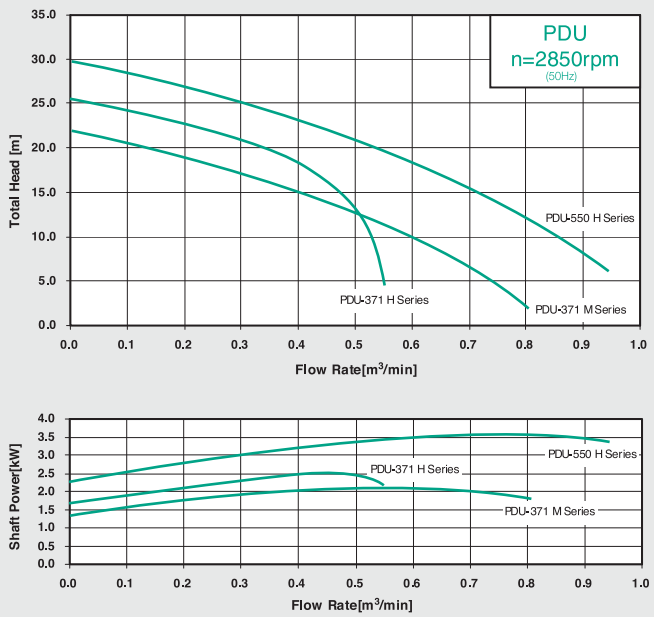
Top discharge(side flow):
Pumped water cools motor. Motor can be cooled even when pumping a small amount of water. The top discharge arrangement allows access into areas with space limitations.

Motor:
Three phase induction motor,IPx8,insulation class F.
Overload protection(optional specification):
A snap - action bi-metal device actuates when current of Motor surpasses allowed current.

Scope of supply

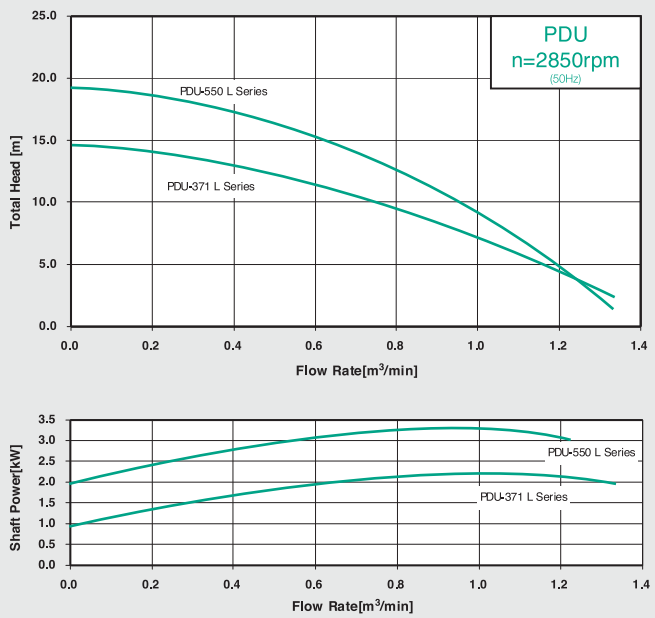
Packaged pump with 8m power cable with free end,
Hose type : hose coupling
Flange type : counter flange

Duty charts PDU - H/M type(3.7~5.5kW)

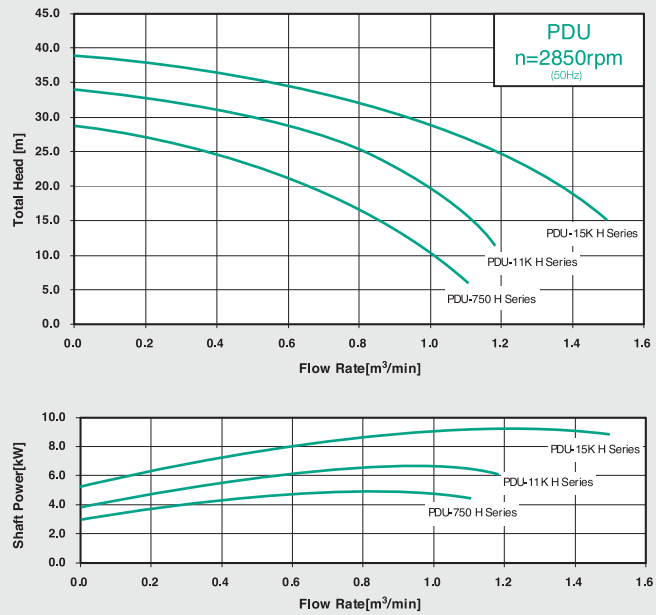


All curves are based on fluid density r = 1 kg/dm3

Duty charts PDU - L type(3.7~5.5kW)

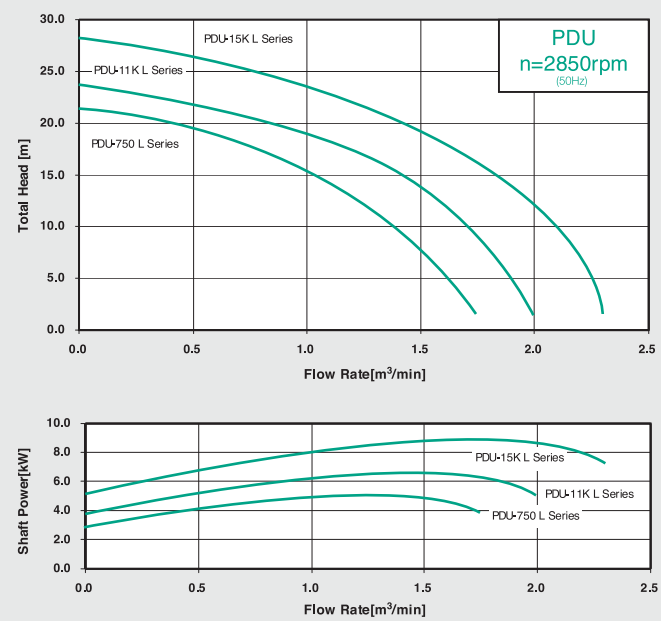


Duty charts PDU - H type(7.5~15kW)



All curves are based on fluid density r = 1 kg/dm3

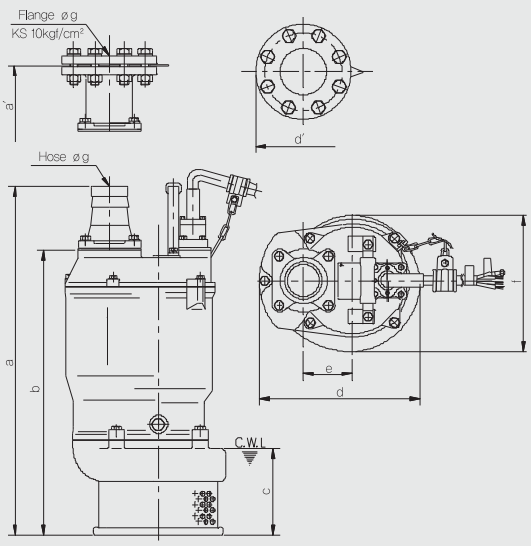
Duty charts PDU - L type(7.5~15kW)



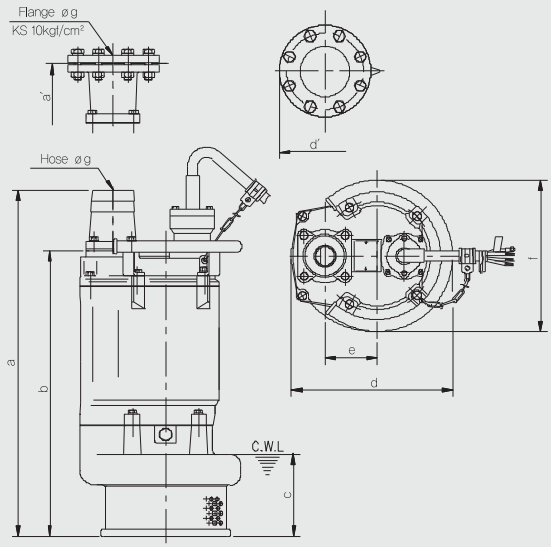
General Contractor's

3.7~15kW - Light Duty Contractor' s Pumps (PDU Series)

Outline Drawing PDU - 2pole motor



PDU-371/550 Series



PDU-750/11K/15K Series

Dimension PDU - 2 pole motor

Model	a	a'	b	c	d	d'	e	f	g
PDU-371 H type	667	667	543	160	301	301	219	253	50
PDU-371 M type	667	669	543	160	301	301	219	253	80
PDU-371 L type	667	680	543	160	301	324	219	253	100
PDU-550 H type	672	674	549	160	310	317	224	261	80
PDU-550 L type	686	685	549	160	310	330	224	261	100
PDU-750 H type	749	748	612	190	339	358	253	315	100
PDU-750 L type	784	784	612	190	339	393	253	315	150
PDU-11K H type	791	790	653	190	369	398	293	346	100
PDU-11K L type	826	826	653	190	369	433	293	346	150
PDU-15K H type	841	840	703	190	369	398	293	346	100
PDU-15K L type	876	876	703	190	369	433	293	346	150

Technical Data

PDU H/M Series		PDU- 371 H	PDU- 371 M	PDU-550	PDU-750	PDU-11K	PDU-15K
Motor rating	P2(kW)	3.7	3.7	5.5	7.5	11	15
Max. fluid temperature	(℃)	40					
Max. particle size	(mm)	8.5	8.5	8.5	8.5	8.5	8.5
Cable nominal area	(mm2)	2.0	2.0	3.5	5.5	8.0	8.0
Starting method		D.O.L(Direct On Line)					Y-△
Windings insulation class		F					
Weight	(kg)	68	69	85	110	165	175

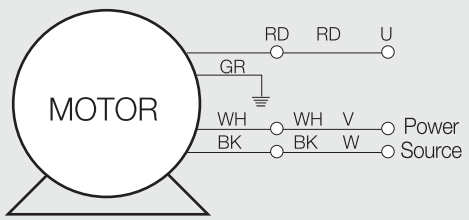
PDU L Series		PDU - 371	PDU - 550	PDU - 750	PDU -11K	PDU -15K
Motor rating	P2(kW)	3.7	5.5	7.5	11	15
Max. fluid temperature	(℃)	40				
Max. particle size	(mm)	8.5	8.5	20	20	20
Cable nominal area	(mm2)	2.0	3.5	5.5	8.0	8.0
Starting method		D.O.L(Direct On Line)				Y-△
Windings insulation class		F				
Weight	(kg)	71	88	115	170	180

Construction Materials

Part	Material
Pump housing	KS GC200
Impeller	KS GCD700
Motor shaft	KS STS410
Counter flange	KS SS400
Hose coupling	KS GC200

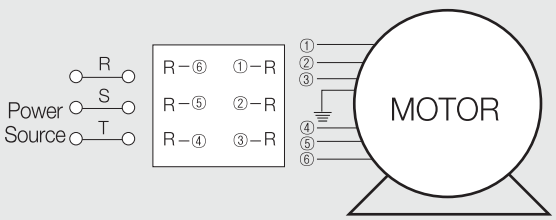
Wiring Diagram

Three phase motor



≤11kW

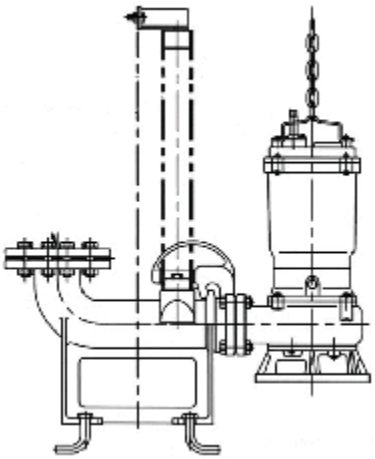
Three phase motor



15kW

Auto Coupling Device

Auto Coupling Device (∅50~100mm) - for PD & PDN Series



AD－65 with PDN－1500

AD

Auto lifting system for submersible drainage pumps(PD,PDN Model)

Identification Code

e.g.:AD-80

AD: Auto coupling Device

80: Discharge bore size[mm]

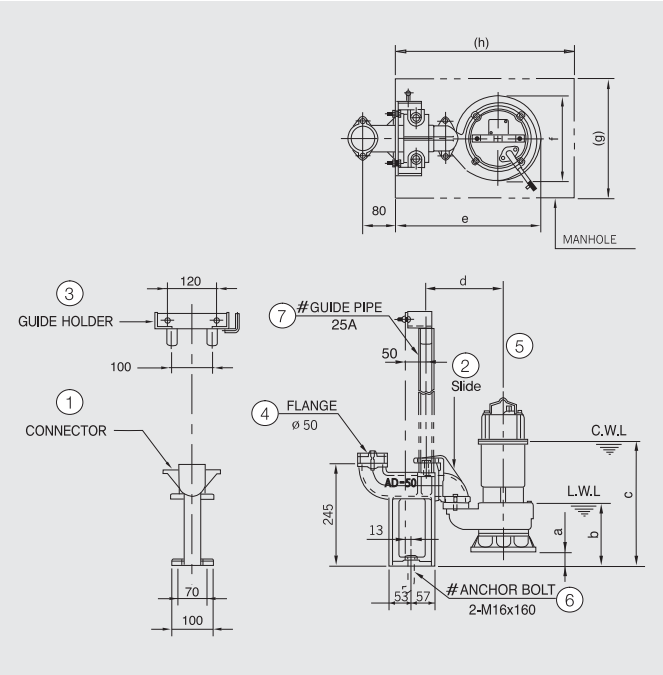
Scope of supply

Packaged in carton box
-Duck foot pedestal(Elbow base)
-Slide(Guide bracket)
-Guide holder
-5m Chain
-Counter flange(KS 10K)
-Bolts and nuts for connection to pump

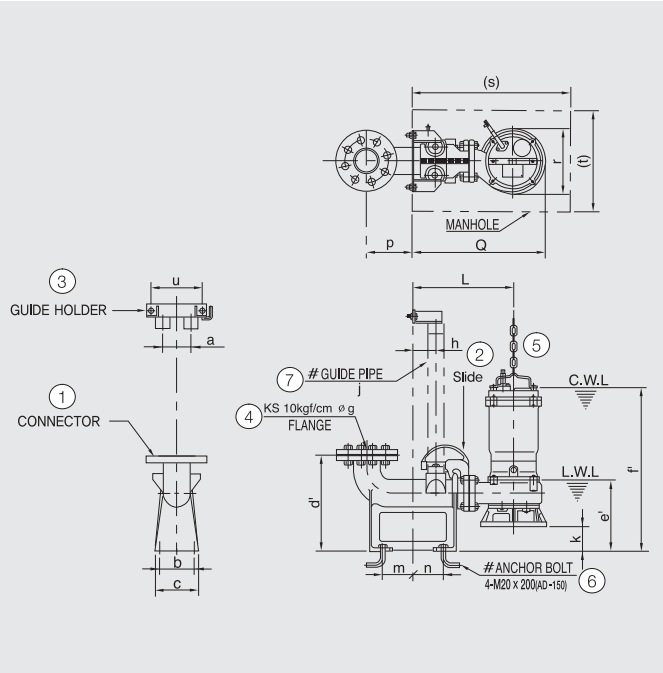
Construction Materials

Item	Name	Material
1	Duck foot pedestal(Elbow base)	KS-GC200
2	Slide(Guide bracket)	KS-GC200
3	Guide holder	KS-SS400
4	Counter flange	KS-GCD450
5	Chain(5m)	KS-SS400
6	Anchor bolts	not supplied
7	Guide pipe	not supplied
-	Bolts & nuts	KS-STS304

Outline Drawing AD-50 for PD-1500 Series



Outline Drawing AD-65/80/100 for PD/PDN Series



Auto Coupling Device

Auto Coupling Device (∅50~100mm) - for PD & PDN Series

Dimension AD- 50 for PD-1500

Model	a	b	c	d	e	f	(g)	(h)
PD-1500 Series	44	152	471	201	347	199	290	420

Dimension AD- 65/80/100 for PD/PDN series

Applicable pump type	AD Series	a	d'	e'	f'	g	h	j	k
PD-2200 series	AD-65	80	220	183	205	65	50	32	64
	AD-80	100	330	223	542	80	80	50	104
PD-3700 series	AD-65	80	220	203	553	65	50	32	25
	AD-80	100	330	242	592	80	80	50	64
PDN-1500 series	AD-65	80	220	207	526	65	50	32	47
PDN-2200 series	AD-80	100	330	246	565	80	80	50	86
PDN-3700 series	AD-65	80	220	217	564	65	50	32	30
	AD-80	100	330	256	603	80	80	50	70
PDN-5500 series	AD-80	100	330	258	723	80	80	50	69
PDN-7500 series	AD-100	100	330	258	723	100	80	50	69

Applicable pump type	AD Series	L	m	n	p	Q	r	(s)	(t)	u
PD-2200 series	AD-65	307	95	65	145	413	212	510	350	140
	AD-80	350	105	105	160	456	212	550	350	180
PD-3700 series	AD-65	374	95	65	145	506	262	560	450	140
	AD-80	417	105	105	160	548	262	600	450	180
PDN-1500 series	AD-65	307	95	65	145	421	228	510	350	140
PDN-2200 series	AD-80	350	105	105	160	464	228	550	350	180
PDN-3700 series	AD-65	375	95	65	145	541	332	630	500	140
	AD-80	418	105	105	160	584	332	670	500	180
PDN-5500 series	AD-80	468	105	105	160	661	388	710	570	180
PDN-7500 series	AD-100	468	114	115	160	661	388	710	570	180

WILO

Pumpen Intelligenz.

WILO

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Contents

In-Line Pumps

- IL 2
- PIL 6

In-Line Pumps

IL Series

Product Introduction

Wilo - IL

New Range In-Line pump

Model number

E.g) IL 250/420-110/4
- IL : New Range In-Line pump
- 250/ : bores for suction/discharge side
- 420 : nominal impeller outer diameter(mm)
- 110/ : Motor rating (kW)
- 4 : number of pole (4 pole motor)

Features and strengths

- **Structure**
  - -back pull out structure for easy maintenance of the mechanical seal and motor (IL250 Series)
  - -Coupling connection
- **Casing**
  - -In-Line pump casing that bores for suction and discharge side are the same
  - -Use of external Rib ensures high safety even in high temperature above operating pressure (Big sized model)
- **Impeller**
  - -Optimized design by 3D flow analysis
  - -Minimizing friction to bring high efficiency
- **Motor**
  - -Use of IEC standard motor to bring high compatibility
- **Mechanical seal**
  - -Use of cartridge seal (IL 250 Series)
  - -Use of standard mechanical seal

Application

- Circulation of cold/hot water in the building
- Circulation of hot water in townhouses
- Circulation of hot water
- Cooling tower
- Pressurizing, condensed water system

Technical information

- **Applicable fluids**

Hot water, cold water, coolant, glycol mixture(under 40%), heat exchanging water that meet VDI 2035

- **Working range**

Max. flow rate : 850 m^3/h
Max. Head : 90m

- **Allowed working pressure**

In case of 13bar, up to +140℃
In case of 16bar, up to +120℃

- **Fluid Temperature**

-20℃~+140℃

- **Ambient temperature**

Max. +40℃

- **Sealing**

Mechanical seal (for IL250, cartridge seal is used)

- **Flange**

PN 16(EN 1092-2)
1/8" Gauge taping

- **Motor**

IEC Standard motor
3 phase, IP55, F

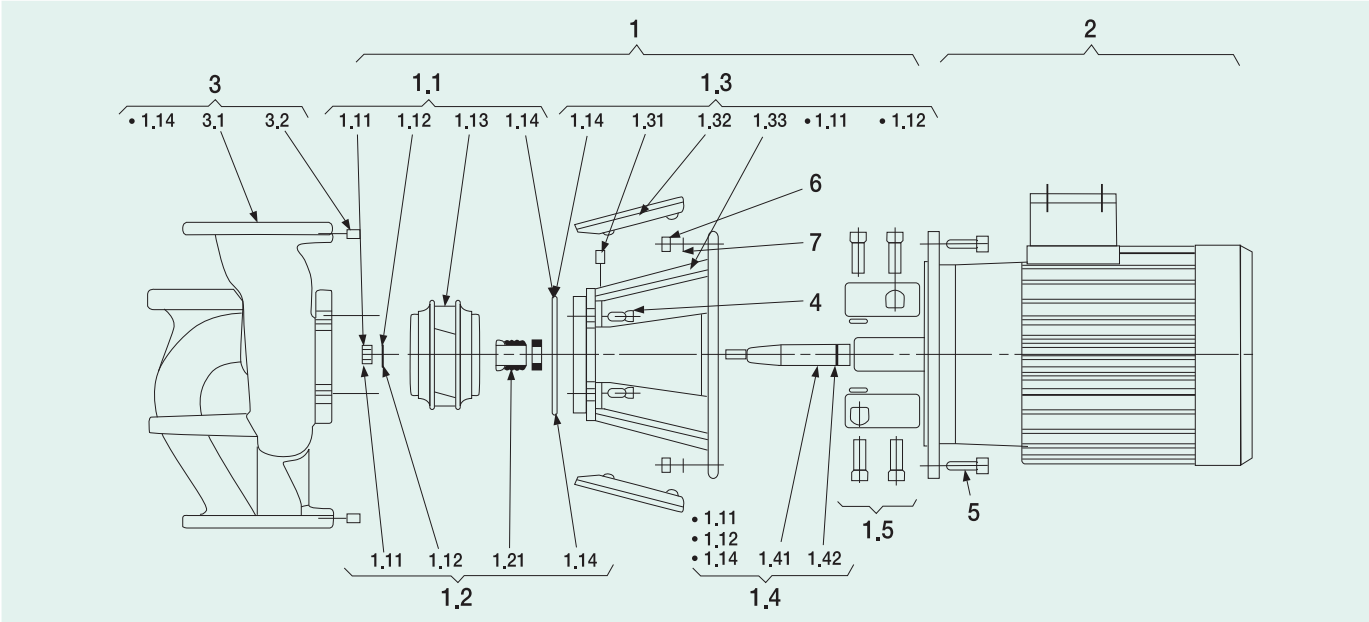
- **Materials**

Casing	Gray Cast Iron + Cataphoresis Coating
Impeller	Gray Cast Iron + Cataphoresis Coating
Shaft	Stainless steel
Lantern	Gray Cast Iron + Cataphoresis Coating
Mechanical Seal	AQ_1EGG

In-Line Pumps

IL Series

Sectional Drawing



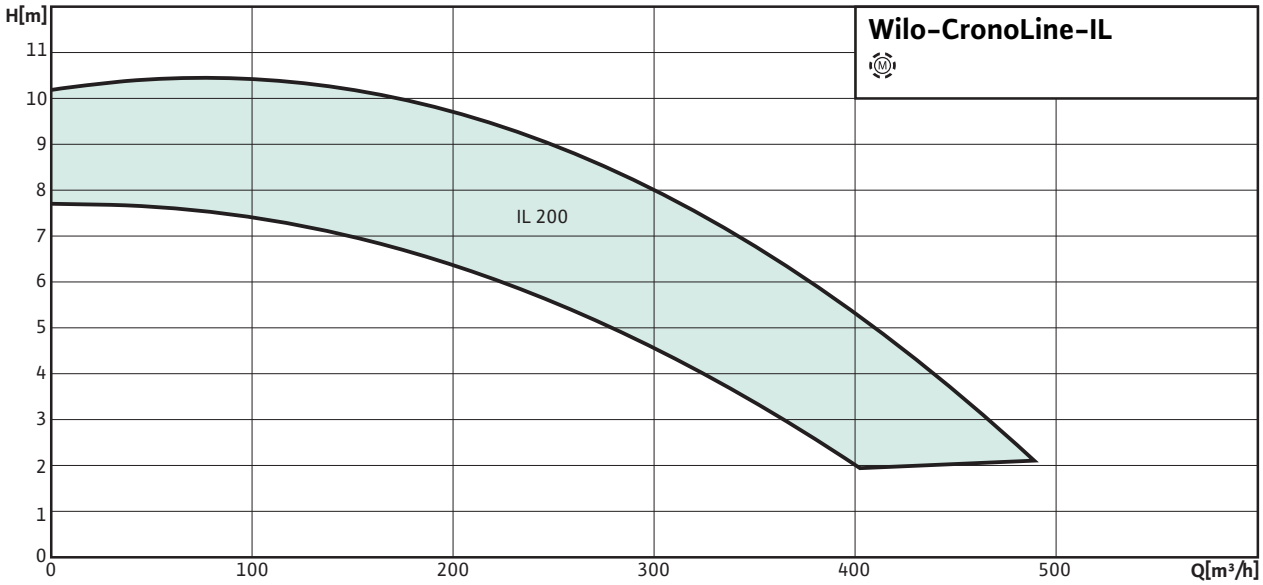
Note : IL 250 series excluded

Description and Part Name			Standards
1 Exchange set complete	1.1 Set impeller with	1.11 Nut	DIN934 A2
		1.12 Plain washer	DIN125 A2
		1.13 Impeller	EN-GJL200
		1.14 O-ring	EPDM
	1.2 Set mechanical seal with	1.11 Nut	DIN934 A2
		1.12 Plain washer	DIN125 A2
		1.14 O-ring	EPDM
		1.21 Mechanical seal complete	AQ1EGG
	1.3 Set lantern with	1.1 Nut	DIN934 A2
		1.12 Plain washer	DIN125 A2
		1.14 O-ring	EPDM
		1.31 Vent screw	CuZn39Pb2
		1.32 Coupling protection cap	PA66
		1.33 Lantern	EN-GJL250
	1.4 Set shaft with	1.11 Nut	DIN934 A2
		1.12 Plain washer	DIN125 A2
		1.14 O-ring	EPDM
		1.41 Shaft	1.4122
		1.42 Snap ring	DIN7993 A2
	1.5 Coupling complete		-
2 Motor			-
3 Pumphousing complete with		1.14 O-ring	EPDM
		3.1 Pump housing	EN-GJL250
		3.2 Gauge plug	DIN906 8.8
4 Fixing-screws lantern / pumphousing			DIN912 8.8
5 Fixing-screws motor / lantern			DIN912 8.8
6 Fixing-nut motor / lantern			DIN934 8
7 Plain washer motor / lantern			DIN125 ST

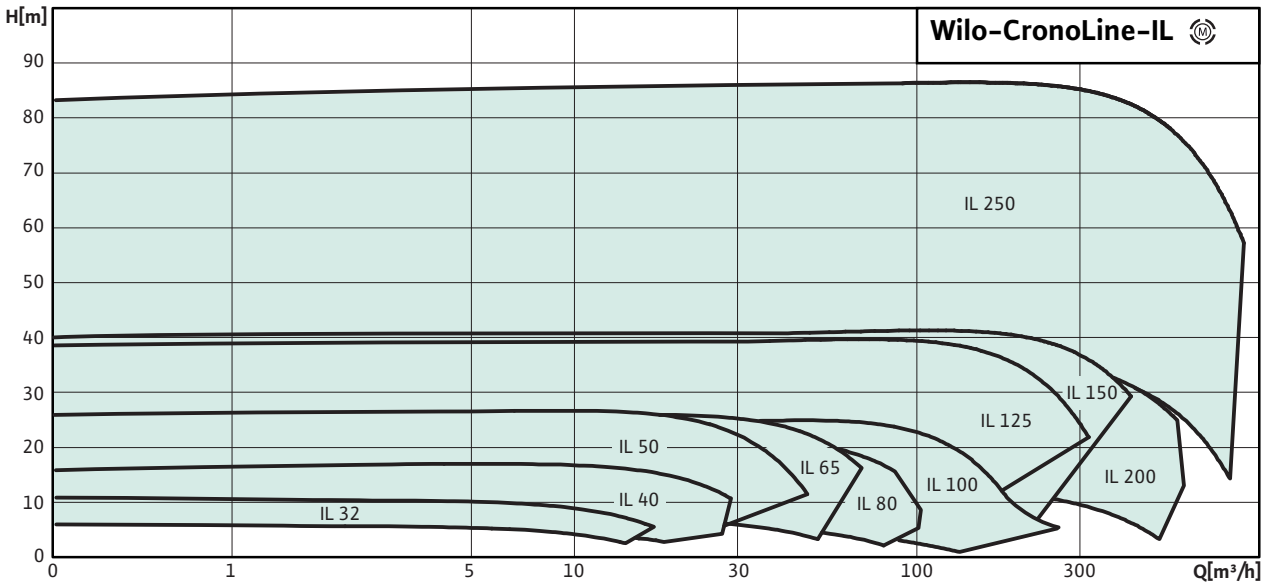
※ Above data can be different per model

Series description Wilo-CronoLine-IL

Wilo-CronoLine-IL (6-pole)



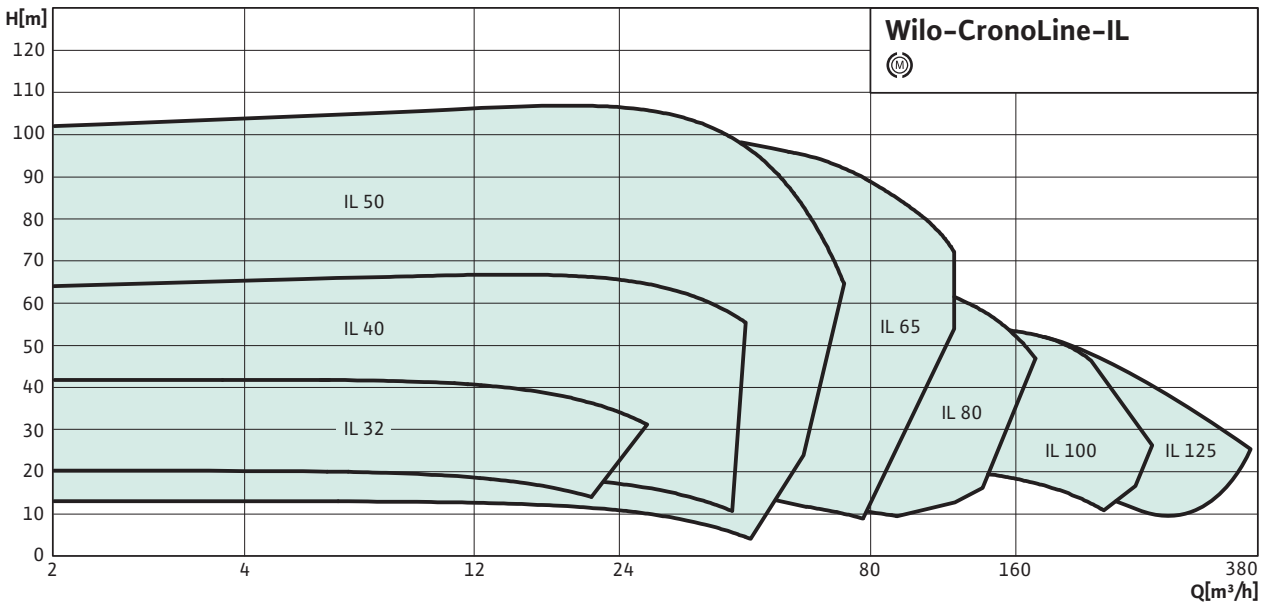
Wilo-CronoLine-IL (4-pole)



Performance curve

Series description Wilo-CronoLine-IL

Wilo-CronoLine-IL (2-pole)



Product Advantage

1. It is easy to install within pipes and possible to change the mechanical seal without disassembling the pump casing from pipes
2. Pump and motor shaft are in one unit so that it prevents bad alignment
3. Mechanical seal that is lubricated by internal fluids in pump is installed for sealing
4. It brings compactness and lightness by using aluminium framed motor. (Note that it will be cast iron framed if motor rating is above 15HP)

Application

- Cold/Hot water circulation of buildings
- Hot water circulation of townhouse, hot bath circulation
- Agricultural fluid delivery equipment

Standard Specification

Applicable fluids		0℃~120℃ Clean water(pH6-8)
Working range	Flow rate	3~480m³/h
	Head	5~55m
	Motor power	1~100HP
Maximum working pressure		10kgf/cm² (16kgf/cm² is optional)
Structure	Impeller	Closed Type
	Sealing	Mechanical Seal
Flange		KS 10kgf/cm² RF(16kgf/cm² RF is optional)
Motor	Phase,Poles	Three phase, 4 pole
	Voltage	Below 10HP, then 220/380V Above 15HP, then 380V(Y-D)
	Frequency	50Hz
	Insulation class	F
	Protection class	IP44 (IP54 is optional)
	Type	TEFC
Installation site		Indoor

※ In case of using hot, special fluids, please contact us as mechanical seal, pump body, motor's anti-abrasion, corrosion-proof might change remarkably due to the working condition and features(temp, load, density, amount of solid material of the fluid.

Minimum suction total head

Temperature of fluid	bore for suction	suction total head
0℃ ~ 40℃	40~80mm	Less than -6m
	100~125mm	Less than -5.5m

Compensation factor on temperature

Temperature	Extra head(m)
40℃~50℃	+1
50℃~60℃	+2
60℃~70℃	+3.5
70℃~80℃	+5
80℃~90℃	+7
90℃~95℃	+9
95℃~100℃	+11

Options

- Base plate
- Use of different materia for hydraulic components
- Use of different material for mechanical seal
- Counter flange
- Change of motor type, structure, power, frequency, voltage

In-Line Pumps

PIL Series

Model

Standard Model

P I L — 4 0 0 2 C

Type	Dia.No.	Power	Impeller Dia.
Single Stage Volute (Inline Pump)	40:40A 50:50A 65:65A 80:80A 10:100A 12:125A 15:150A 20:200A	01:1HP 20:20HP 02:2HP 25:25HP 03:3HP 30:30HP 05:5HP 40:40HP 08:7.5HP 50:50HP 10:10HP 60:60HP 15:15HP 75:75HP 100:100HP	B:160mm C:200mm D:250mm E:315mm

Detailed designation

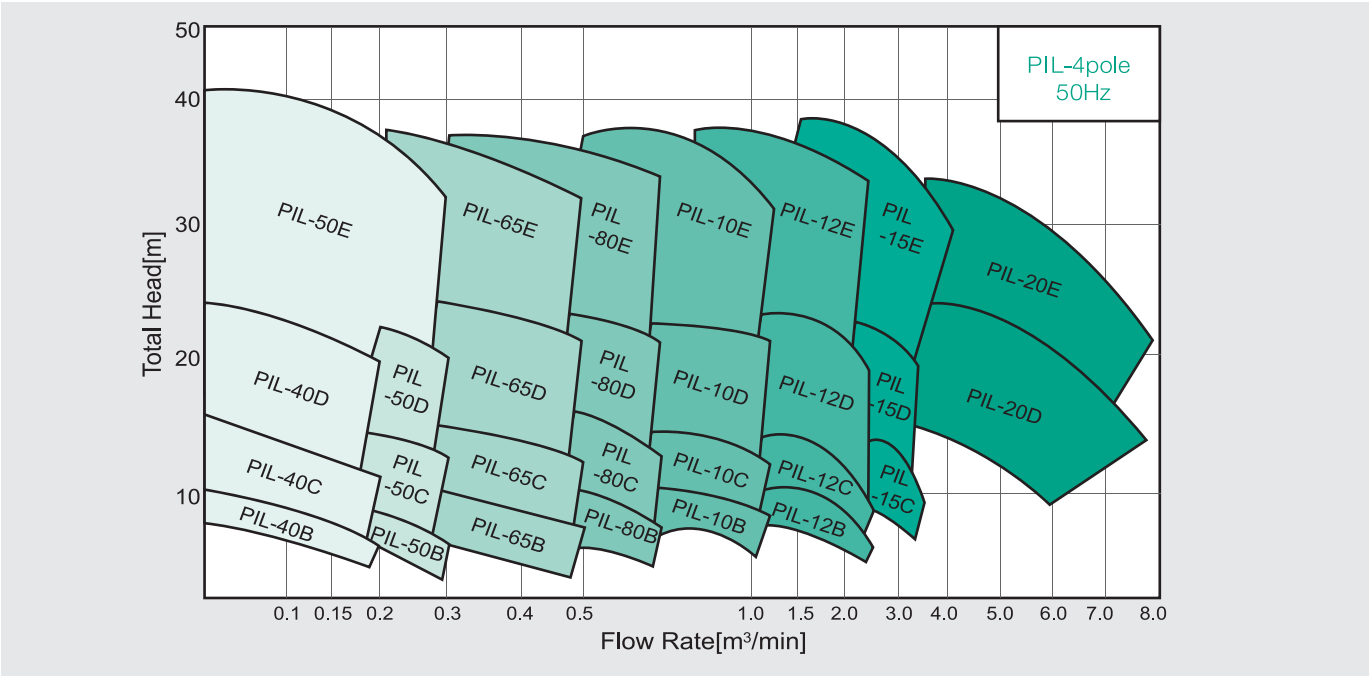
P I L 2 C 0 2 4 4 A A

Type	Dia.No.	Impeller Dia.	Power	Pole/Hz/Power	Motor class/Suncover	PLATE / FLANGE
Single Stage Volute (Inline Pump)	Z:40A 1:50A 2:65A 3:80A 4:100A 5:125A 6:150A 7:200A	B:160mm C:200mm D:250mm E:315mm	01 1HP 02 2HP 03 3HP 05 5HP 08 7.5HP 10 10HP 15 15HP 20 20HP 25 25HP 30 30HP 40 40HP 50 50HP 60 60HP 75 75HP 100 100HP	4:4P,60Hz,220/380V 2:2P,60Hz,220/380V A:4P,50Hz,220/380V B:2P,50Hz,220/380V	4:IP44/X 5:IP54/X 6:IP55/X A:IP44/O B:IP54/O C:IP55/O	A WOOD/X/10K B WOOD/O/10K C BED/X/10K D BED/O/10K

Material		
A IMPELLER : Gray Cast iron	CASING : Gray Cast iron	SHAFT : Stainless steel
B IMPELLER : Bronze	CASING : Gray Cast iron	SHAFT : Stainless steel
C IMPELLER : Stainless steel	CASING : Gray Cast iron	SHAFT : Stainless steel

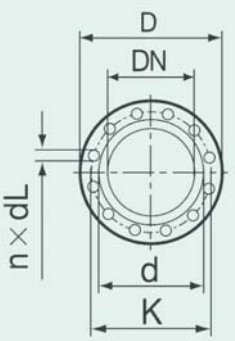
* Detailed designation may be changed for other options.

Selection Chart



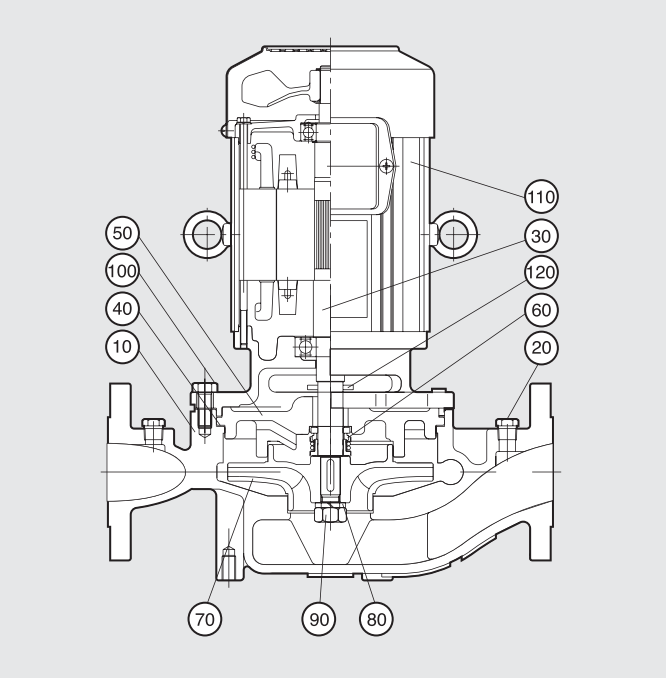
Flange Dimension

KS Flange



Rating	Bore(DN)	D	d	K	n	dL	Bolt
10kgf/cm²	32	135	76	100	4	19	M16
	40	140	81	105	4	19	M16
	50	155	96	120	4	19	M16
	65	175	116	140	4	19	M16
	80	185	126	150	8	19	M16
	100	210	151	175	8	19	M16
	125	250	182	210	8	23	M20
	150	280	212	240	8	23	M20
	200	330	262	290	12	23	M20
	250	400	324	355	12	25	M22
	300	445	368	400	16	25	M22
16kgf/cm²	32	135	76	100	4	19	M16
	40	140	81	105	4	19	M16
	50	155	96	120	8	19	M16
	65	175	116	140	8	19	M16
	80	200	132	160	8	23	M20
	100	225	160	185	8	23	M20
	125	270	195	225	8	25	M22
	150	305	230	260	12	25	M22
	200	350	275	305	12	25	M22
	250	430	345	380	12	27	M24
	300	480	395	430	16	27	M24
20kgf/cm²	32	135	76	100	4	19	M16
	40	140	81	105	4	19	M16
	50	155	96	120	8	19	M16
	65	175	116	140	8	19	M16
	80	200	132	160	8	23	M20
	100	225	160	185	8	23	M20
	125	270	195	225	8	25	M22
	150	305	230	260	12	25	M22
	200	350	275	305	12	25	M22
	250	430	345	380	12	27	M24
	300	480	395	430	16	27	M24

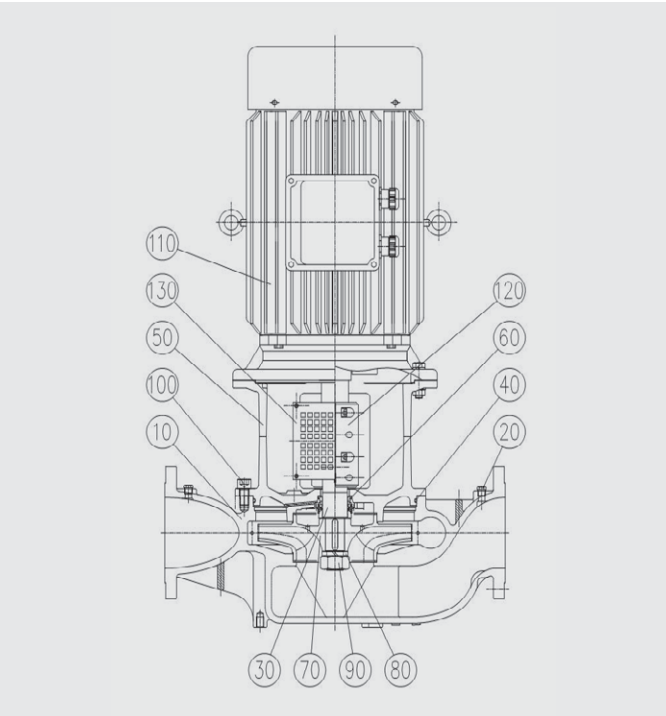
SECTIONAL DRAWING(40B ~ 15D)



	Parts	Standard material
10	Casing	Gray Cast Iron
20	Plug	Steel
30	Shaft	Stainless Steel
40	Casing Gasket	Rubber
50	Casing Cover	Gray Cast Iron
60	M/Seal	SiC/Carbon
70	Impeller	Gray Cast Iron ★ (Bronze, Stainless Casting)
80	Washer	STS304
90	Nut	Steel
100	Bolt	Steel
110	Motor	-
120	Deflector	Rubber

※ ★Optional.
※ Please contact us for motor option.

SECTIONAL DRAWING(15E ~ 20E)



	Parts	Standard material
10	Casing	Gray Cast Iron
20	Plug	Steel
30	Shaft	Stainless Steel
40	Casing O-ring	Rubber
50	Lantern)	Gray Cast Iron
60	M/Seal	SiC/Carbon
70	Impeller	Gray Cast Iron ★ (Bronze, Stainless Casting)
80	Impeller Washer	STS304
90	Impeller Nut	Steel
100	Socket Bolt	Steel
110	Motor	-
120	Coupling	Steel
130	Coupling Guard	Steel

Advantages

1. Casing

-Rectification panel is installed at suction side to improve its suction, and it reduces vortex and cavitations of circulating water.
-Able to apply pressure at 16kgf/cm^{2}as an option. Note that we do not guarantee for water hammer.
-Plug(3/8", 1 /4") for pressure guage at suction and discharge side.
-Tap is installed to enable installation on the ground
-Drain plug(3/8") is installed for long term storage.

2. Impeller

-Minimized friction loss by shell core casting
-It brings excellent pumping by 3D engineering vane.
-Impeller washer made of STS304 is corrosion resistant.

3. Mechanical seal

-Carbon/SiC as standard
-Max temp of liquid : 120℃
-Glycol up to 20%(40% as an option)
-No leakage even in temporary back lashing.
-Flushing hole integrated for lubrication and cooling.
-Mono bloc pump for easy maintenance

4. Motor

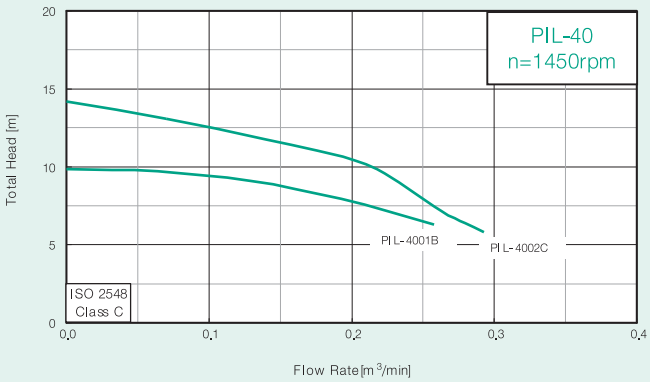
-Aluminum frame (under 10HP) is supplied.
-Able to provide an optional model which enables an operation at 16kgf/cm^2 and is using closed ball bearings.
-STS410 for the shaft

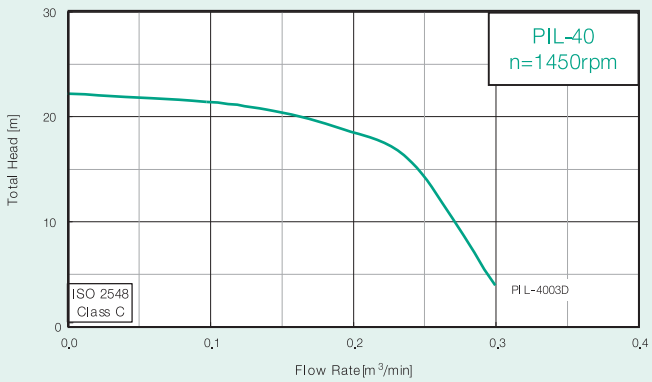
In-Line Pumps

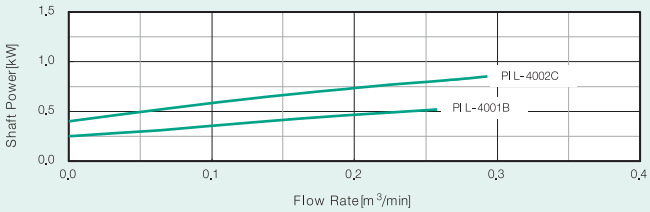
PIL Series

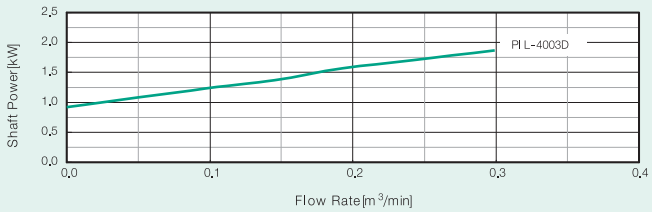
Duty Charts

PIL-4001B~PIL-4003D



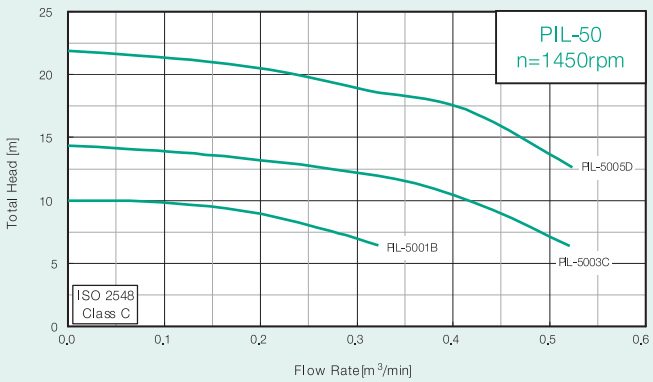


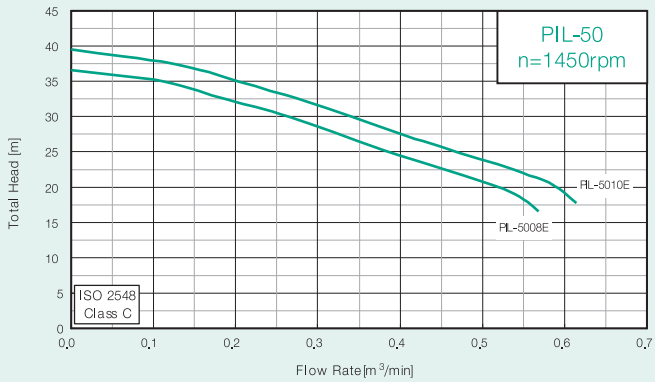


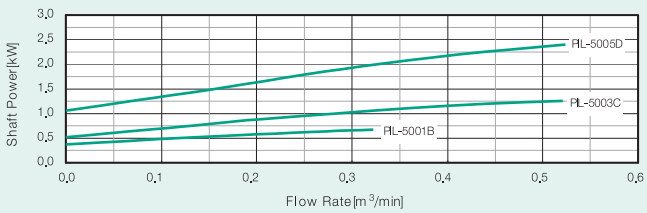


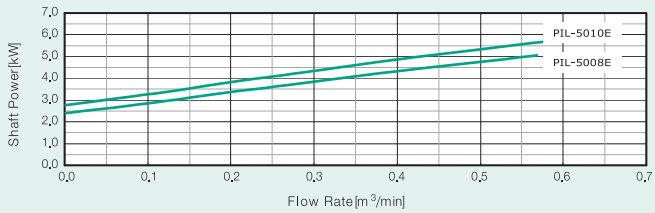
All curves are based on fluid density r = 1 kg/dm3

PIL-5001B~PIL-5010E









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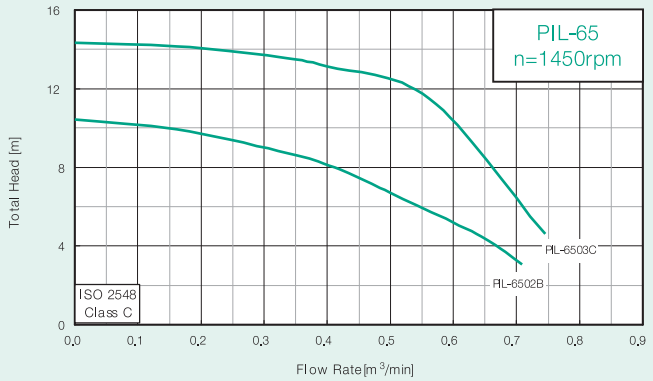
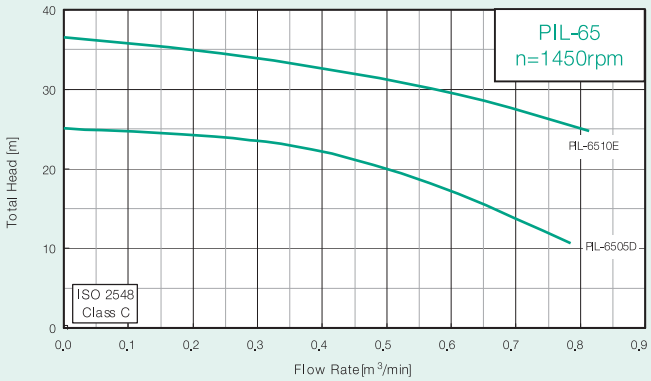
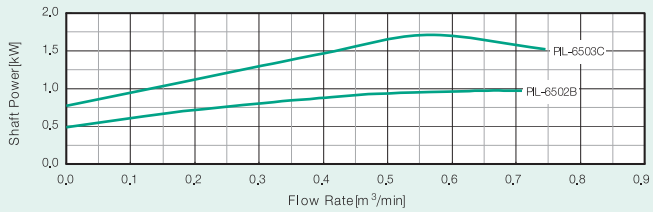
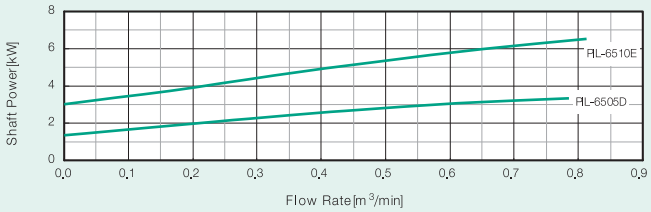
PIL-6502B~PIL-6510E



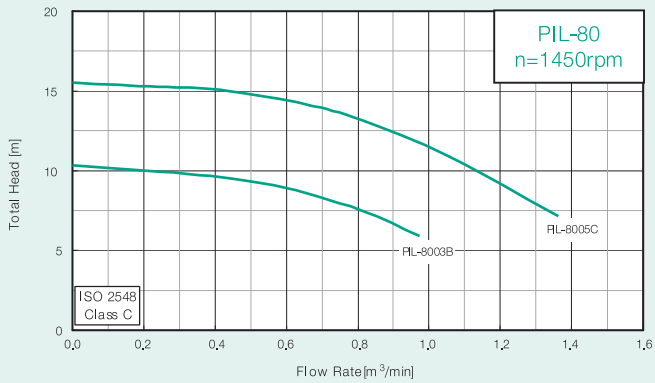


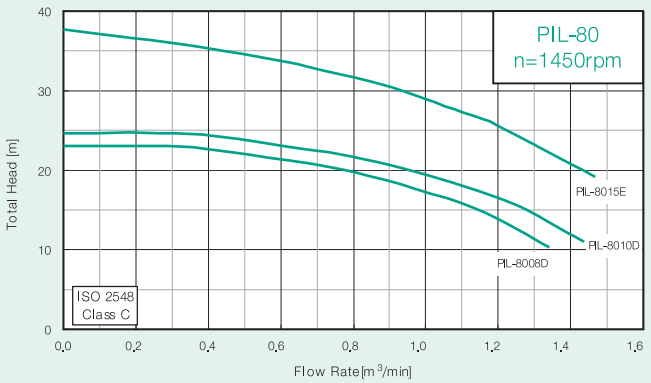


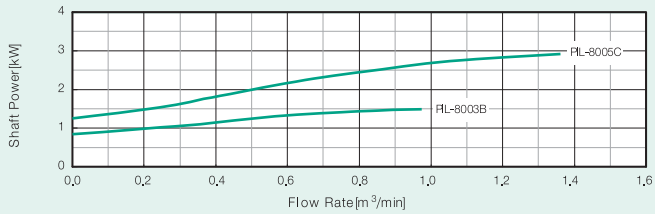


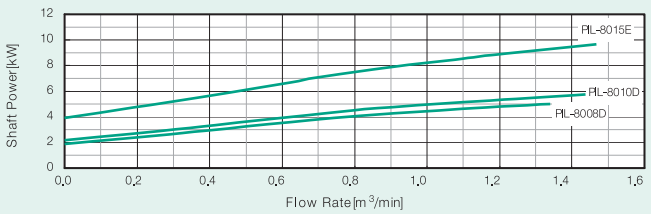
All curves are based on fluid density r = 1 kg/dm3

PIL-8003B~PIL-8015E





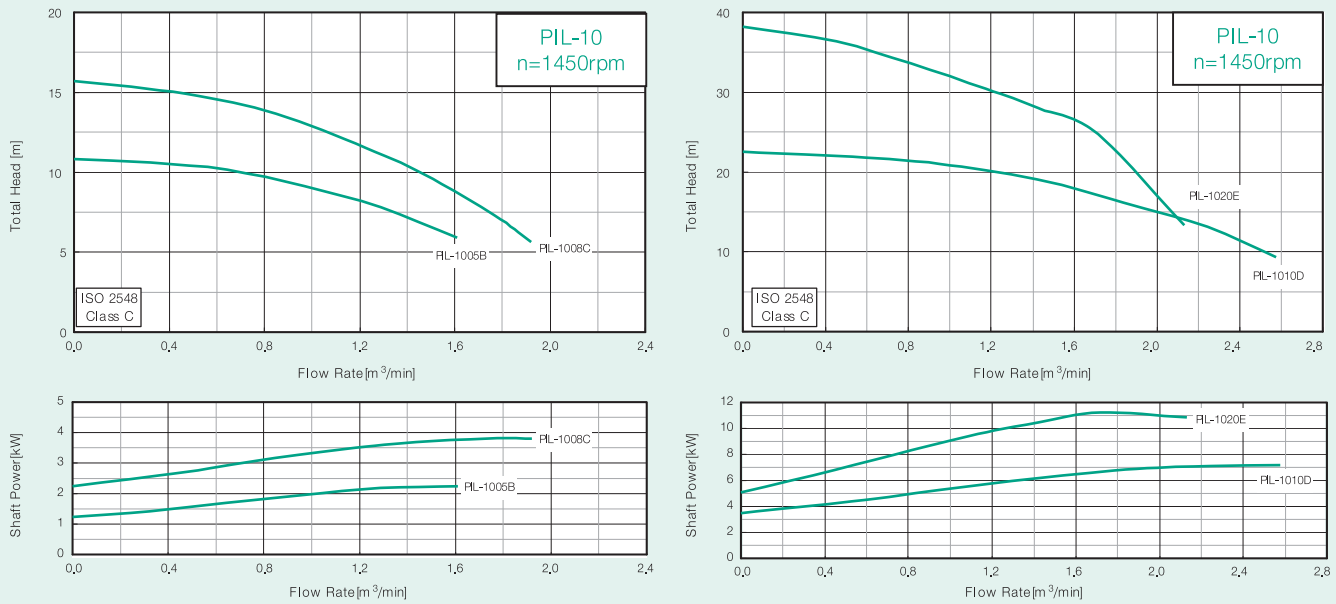




All curves are based on fluid density r = 1 kg/dm3

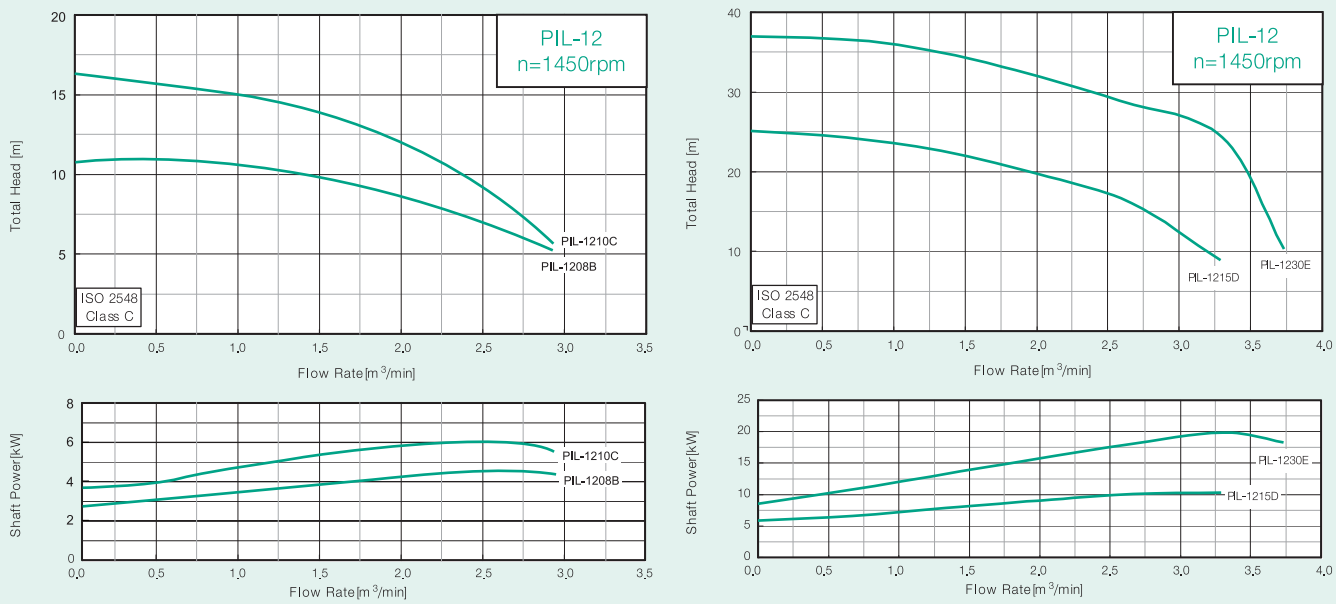
Duty Charts

PIL-1005B~PIL-1020E



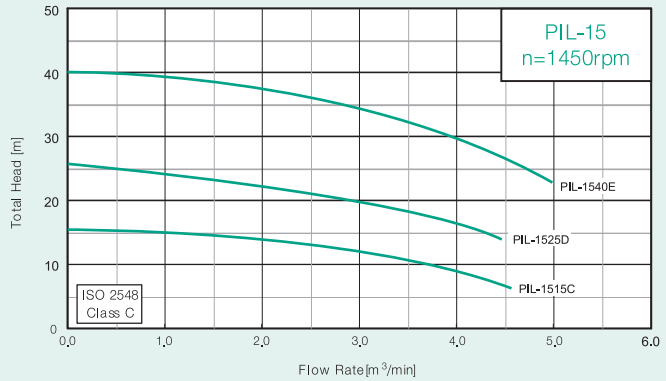
All curves are based on fluid density r = 1 kg/dm3

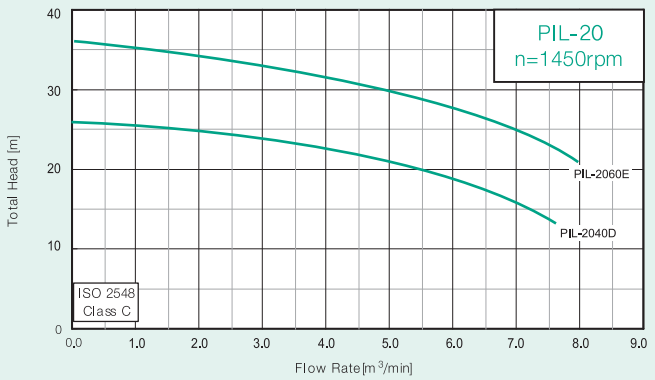
PIL-1208B ~PIL- 1230E

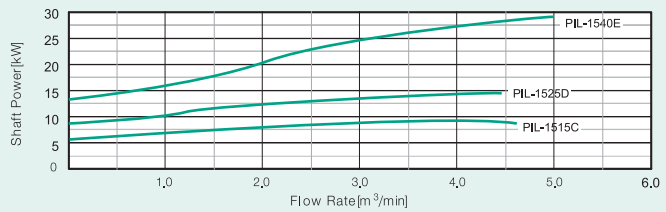


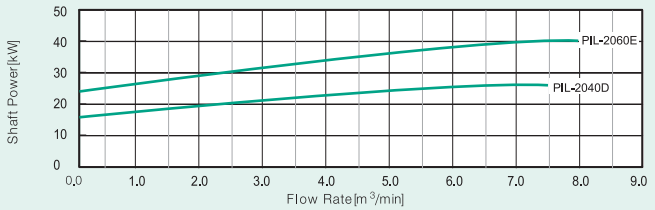
All curves are based on fluid density r = 1 kg/dm3

PIL-1515C~PIL-2060E



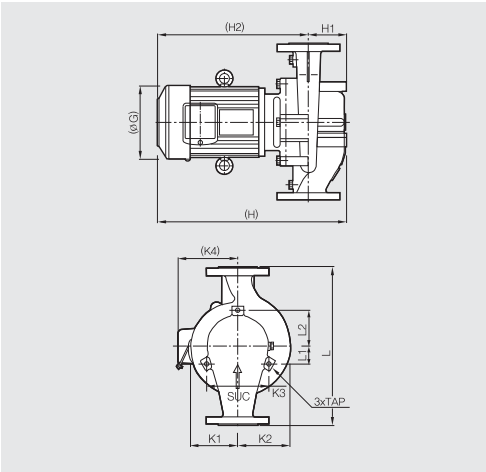




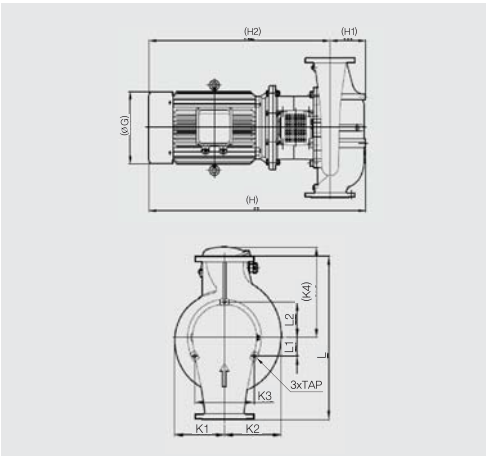


All curves are based on fluid density r = 1 kg/dm3

Out line Drawing



〈1〉



〈2〉

Dimension PIL-4 pole motor

Model	H	H1	K1	K2	K3	K4	L	L1	L2	ØG	TAP	Wt.(kg)	Pic
PIL-4001B	435	90	123	123	139	148	390	40	80	182	M12	52	1
PIL-5001B	440	95	123	130	154	148	440	44.5	89	182	M12	53	1
PIL-6502B	497	110	123	138	154	148	474	44.5	89	182	M12	60	1
PIL-8003B	522	130	131	155	170	164	524	49	95	213	M12	66	1
PIL-1005B	577	150	137	170.5	195	164	574	55	110	213	M12	102	1
PIL-1208B	645	185	167	211	250	224	652	72	144	248	M16	125	1
PIL-4002C	430	90	145	146	130	150	390	30	0	174	M12	53	1
PIL-5003C	461	100	145	149	154	167	440	60	85	218	M12	65	1
PIL-6503C	477	110	149	167	154	167	475	60	85	218	M12	71	1
PIL-8005C	540	130	156	180	170	167	500	65	90	218	M12	89	1
PIL-1008C	609	150	154	184	195	185	550	55	110	248	M12	99	1
PIL-1210C	642	165	168	207	250	224	652	72	144	248	M12	130	1
PIL-1515C	739	185	184	234	286	265	750	82.5	165	317	M16	210	1
PIL-4003D	455	90	176	176	154	167	474	44.5	89	218	M12	72	1
PIL-5005D	496	100	176	186	154	167	474	44.5	89	218	M12	76	1
PIL-6505D	512	115	176	176	195	167	524	55	110	218	M12	88	1
PIL-8008D	600	130	176	194	195	185	550	55	110	248	M12	105	1
PIL-8010D	613	130	176	194	195	185	550	55	110	248	M12	110	1
PIL-1010D	637	140	185	212	225	185	620	65	130	248	M12	120	1
PIL-1215D	754	165	182	212	250	265	700	72	144	317	M16	187	1
PIL-1230D	754	165	182	212	250	299	700	72	144	358	M16	261	1
PIL-1525D	794	200	197	240	286	265	750	82.5	165	317	M16	262	1
PIL-5008E	550	110	203	203	195	185	524	55	110	248	M12	98	1
PIL-5010E	580	110	203	203	195	185	524	55	110	248	M12	100	1
PIL-6510E	601	130	202	212	195	185	600	55	110	248	M12	102	1
PIL-8015E	695	150	203	218	195	265	650	55	110	317	M12	200	1
PIL-1020E	744	165	205	222	225	299	700	65	130	358	M12	230	1
PIL-1230E	769	185	220	245	250	299	700	72	144	358	M16	274	1
PIL-1540E	1088	200	237	273	286	300	750	82.5	165	365	M16	410	2
PIL-2040D	1141	240	250	308	395	300	905	114	228	365	M16	450	2
PIL-2060E	1280	240	300	360	395	360	905	114	228	384	M16	575	2

WILO

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