



## Vertical Multistage

**PSM-E Series**

**60HZ**



**PSM-E**



**PSMCF**

[www.flofab.com](http://www.flofab.com)

001-cat-2016-psm60

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## HISTORY

Flo Fab was established in 1981 by Denis Gauvreau who created and developed the products line and constantly being perfected by Marc Gauvreau, as well as by a team of professional engineers and designers. It's a combination of existing designs from several renowned products and the innovative ideas of a new generation professionals.

Through the years, Flo Fab has acquired several companies and service entities including : AQUA-PROFAB (ASME Tanks manufacturer), MÉNARD, LÉONARD ÉLECTRIQUE, PMA. , Furthermore Flo Fab purchased equipment, fabrication designs and patterns from IDEALCO, a manufacturer of shell and tube type heat exchangers.

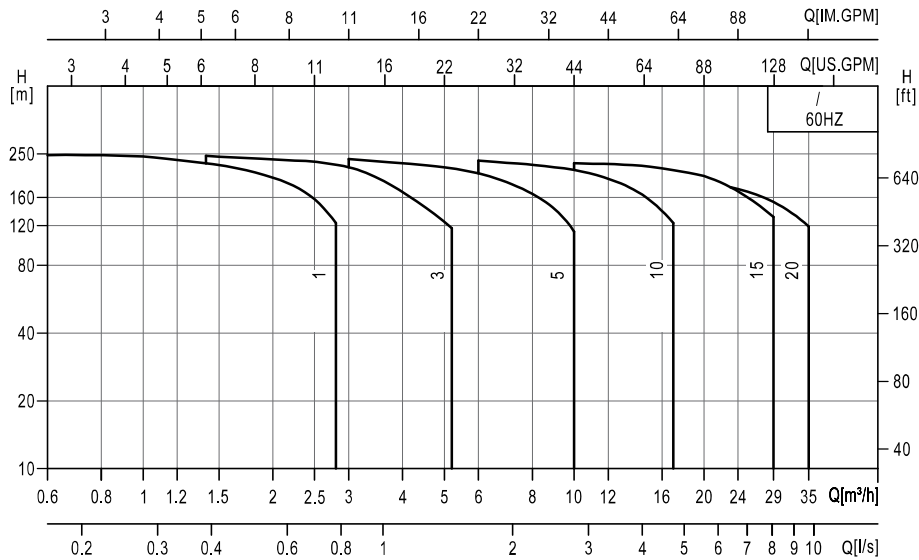
The after sales services, sales, engineering, R&D, production, quality control, accounting and administration departments of all the above companies share the same location.

In December 2014, Marc Gauvreau, son of the founder, acquired all shares of The company. Flo Fab and is constantly investing in new state of the art innovations new product like the XRI series and Prefab Skid for Hydronic Heating & cooling system, pumping systems. This has allowed Flo Fab to retain competent and experienced staff of professionals with varied and specialized abilities that constantly work on improving our existing products and add new engineered solutions that exceeding customer's expectations .

Flo Fab has grown quite rapidly and now proudly offers of a wide range of products available directly from one manufacturer. This includes pumps & pump packages, tanks, heat exchangers & hydronic accessories. This allows each project stakeholders to enjoy economical savings, peace of mind, best value for their investment and optimized total cost of ownership.



## Performance scope



## Product range

Description	PSM-E						
Rated flow [m³/h]	1	3	5	10	15	20	
Rated flow [l/s]	0.28	0.83	1.39	2.78	4.17	5.56	
Flow range [ m³/h]	0.6~2.8	1.4~5.2	3~10	6~17	10~29	13~35	
Flow range [l/s]	0.17~0.78	0.39~1.44	0.83~2.78	1.67~4.72	2.78~8.06	3.61~9.72	
Max. pressure [bar]	25	25	24	24	23	20	
Motor power [kW]	0.37~3	0.37~4	0.55~5.5	0.75~11	1.5~18.5	2.2~18.5	
Temp [°C]	-15 ~ +120						
Max. efficiency [%]	49	59	70	72	73	73	
Pipelines	ANSI flange	DN25	DN25	DN32	DN40	DN50	DN50

## Summary

**psm-e** pumps are new generation, high efficiency, non-self-priming vertical multistage centrifugal pumps (Abbr. as pumps). It referred to European standard, adopted entirely new industrial design, efficiency achieved  $MEI \geq 0.7$ . It is energy saving, low noise, environment friendly, compact design, beautiful shape, light weight, easy for service, high reliability.

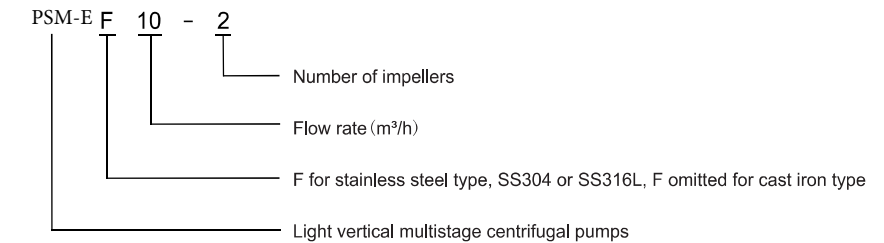
## Motor

Totally enclosed, fan cooled, 2 pole standard motor  
 IP class: IP55  
 Insulation class: F  
 Voltage: 60Hz: 3×200-230/346-400V  
           3×220-255/380-440V  
           3×220-277/380-480V

## Working conditions

Thin, clean, non-flammable, non-explosive, solid free, fiber free, physically and chemically water-like liquid.  
 Liquid temperature:  
 Normal temperature type: -15°C to 70°C  
 Hot water type: -15°C to 120°C  
 Ambient temperature: up to +40°C  
 Altitude: up to 1000m

## Model definition



## Applications

**psm-e** pumps are designed for a variety of applications from the pumping of potable water to the pumping of industrial liquids. Applied for liquids of different temperature, different rated flow, different pressure range. **psm-e** is suitable for non-corrosive liquid, **psm-e** is suitable for light corrosive liquid.

**Boosting:** Filtering and transferring water in water factories, delivering water in different zone, pressurizing for major pipelines, boosting for high buildings.

**Industrial boosting:** process water system, cleaning system, high pressure washing system, fire-fighting system.

**Industrial liquid conveying:** cooling and air conditioning systems, boiler feed and condensate systems, machine matching, acid and alkali.

**HVAC:** Air conditioning system

**Water treatment:** Ultrafiltration system, R/O system, distillation system, separator, swimming pool.

## Performance curve

Following conditions are suitable for the performance curves shown below.

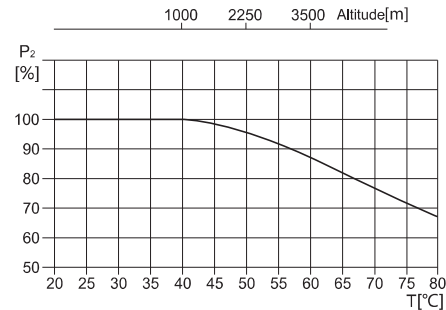
- All curves are based on the measured values of 60Hz: constant motor speed 3500rpm.
- Curve tolerance in conformity to ISO9906:2012 Grade 3B.
- Measurement is done with 20°C air-free water, kinematic viscosity of 1 mm²/sec.
- The operation of pump shall refer to the performance region indicated by the thickened curve to prevent overheating due to too small flow rate or overload of motor due to too large flow rate.

## Max. working pressure

Model	Max working(bar)
PSM-E 1,3,5,10,15,20 flange	25

## Max. ambient temperature, altitude above sea level

When pumps working in the condition of higher than 40°C or higher than 1000m altitude, because the air density lessened, cooling performance is reduced, motor output power  $P_2$  is reduced also. The motor power shall be enlarged in those working conditions.



## Min. inlet pressure

In case that the pressure in pump is lower than the steam pressure used to convey liquid, the cavitations will occur. To avoid cavitations, a minimum pressure at the inlet side of the pump shall be guaranteed. The maximum suction stroke can be calculated with following formula:

$$H = P_b \times 10.2 - NPSH - H_f - H_v - H_s$$

$P_b$  = Barometric pressure in bar.

(Barometric pressure can be set to 1 bar).

In a closed system,  $P_b$  means system pressure [bar].

NPSH = Net Positive Suction Head [m].

(It can be read from the point of possible max. flow rate shown on NPSH curve.)

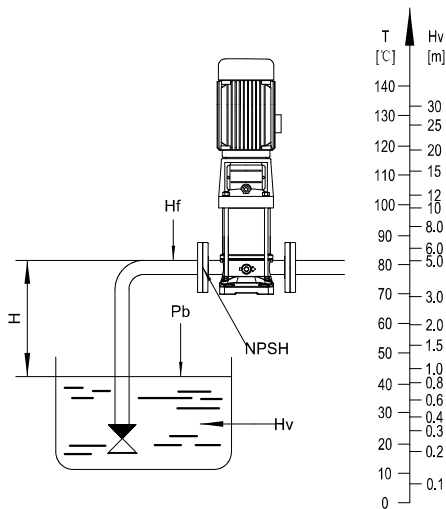
$H_f$  = Pipe friction loss at the inlet [m].

$H_v$  = Vapour pressure [m].

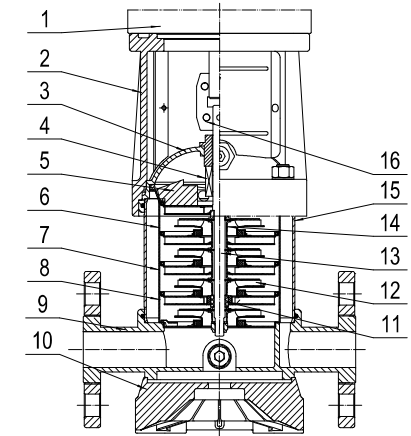
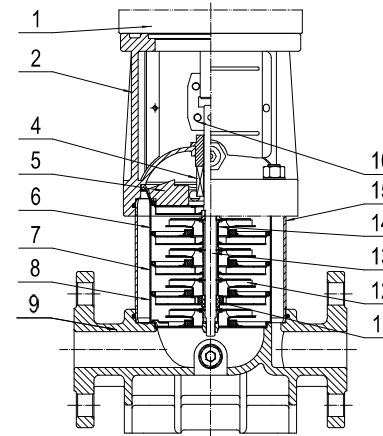
$H_s$  = Safety margin = minimum 0.5 meters head.

If the "H" calculated is positive, the pump may run under the max. suction stroke H.

If the "H" calculated is negative, A head of minimum inlet pressure H is required.



## 1,3,5 Sectional drawing



## 1,3,5 Material list

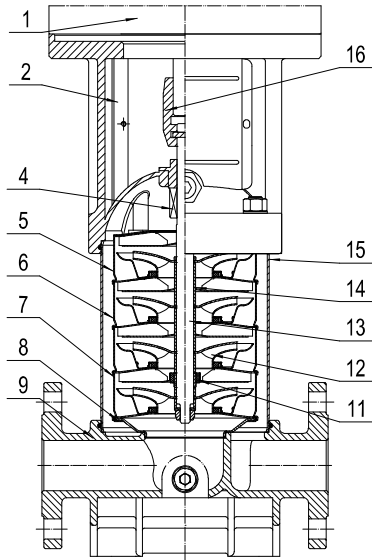
Pos.	Name	Materials	AISI/ASTM
1	Motor		
2	Pump head	Cast iron	ASTM25B
4	Mechanical seal	Tungsten carbide /Carbon	
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
9	Inlet & outlet chamber	Cast iron	ASTM25B
11	Bearing	Tungsten carbide	
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	Carbon steel/ Powder metallurgy	

Please check with us for other materials

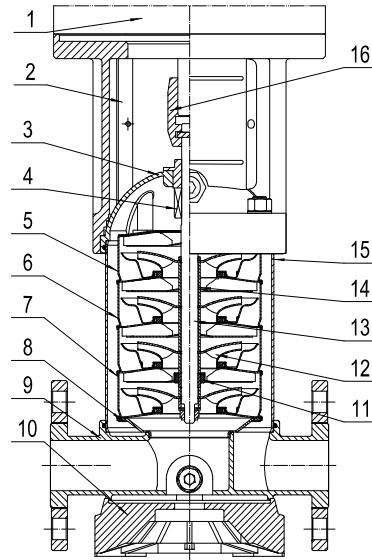
## 1,3,5 Material list

Pos.	Name	Materials	AISI/ASTM
1	Motor		
2	Pump head	Cast iron	ASTM25B
3	Lining	Stainless steel	AISI304
4	Mechanical seal	Tungsten carbide/ Carbon	
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
9	Inlet & outlet chamber	Stainless steel	AISI304
10	Base plate	Cast aluminum	
11	Bearing	Tungsten carbide	
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	Carbon steel/ Powder metallurgy	

### 10,15,20 Sectional drawing



CDM



CDMF

### 10,15,20 Material list

Pos.	Name	Materials	AISI/ASTM
1	Motor		
2	Pump head	Cast iron	ASTM25B
4	Mechanical seal	Tungsten carbide/Carbon	
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
9	Inlet & outlet chamber	Cast iron	ASTM25B
11	Bearing	Tungsten carbide	
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	Carbon steel/ Powder metallurgy	

Please check with us for other materials

### 10,15,20 Material list

Pos.	Name	Materials	AISI/ASTM
1	Motor		
2	Pump head	Cast iron	ASTM25B
3	Lining	Stainless steel	AISI304
4	Mechanical seal	Tungsten carbide/Carbon	
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
9	Inlet & outlet chamber	Stainless steel	AISI304
10	Base plate	Cast aluminum	
11	Bearing	Tungsten carbide	
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	Carbon steel/ Powder metallurgy	

### 1 Performance table

Model	Motor		Frame	Q (m³/h)	H (m)												
	(kW)	(hp)			0	0.6	0.8	1	1.2	1.4	1.6	1.8	2	2.4	2.8		
1-2	0.37	0.5	56C	17.5	17	16.8	16.6	16.4	16	15.4	14.6	13.7	11.3	8.4			
1-3	0.37	0.5	56C	26	25.5	25.3	25	24.6	24	23	22	20.5	17	12.5			
1-4	0.37	0.5	56C	34	33.8	33.5	33	32.5	31.5	30.5	29.3	27.5	22.5	16.8			
1-5	0.55	0.75	56C	43	42.5	42	41.5	41	40	38.6	36.6	34.4	28.3	21			
1-6	0.55	0.75	56C	51.5	51	50.6	50	49	47.5	46	44	41	34	25			
1-7	0.75	1	56C	60	59	58.5	58	57	56	54	51.5	48	39	29			
1-8	0.75	1	56C	68	67	66.5	66	65.5	64	62	59	55	45	33			
1-9	0.75	1	56C	77	76.5	76	75	74	72	69.5	66	62	51	38			
1-10	1.1	1.5	56C	85.5	84.5	84	83	82	80	77	73	68.5	56.5	42			
1-11	1.1	1.5	56C	94	93	92.5	91.5	90	88	85	80.5	75.5	62	46			
1-12	1.1	1.5	56C	103	102	101	100	98.5	96	92.5	88	82.5	68	50			
1-13	1.1	1.5	56C	112	111	110	109	107	105	101	96	90	74	55			
1-15	1.5	2	56C	129	128	127	126	124	121	117	111	104	86	64			
1-17	1.5	2	56C	146	144	143	142	140	137	132	125	118	97	72			
1-19	2.2	3	182TC	162	161	160	159	157	153	147	140	131	108	81			
1-21	2.2	3	182TC	180	179	178	177	175	170	164	155	145	120	90			
1-23	2.2	3	182TC	197	196	195	194	191	186	179	170	158	132	98			
1-25	2.2	3	182TC	215	214	213	211	208	203	195	184	172	143	107			
1-26	2.2	3	182TC	223	222	221	220	217	211	203	192	179	149	111			
1-27	3.7	5	184TC	232	231	230	228	225	219	210	199	186	155	115			
1-29	3.7	5	184TC	249	248	247	245	242	235	226	214	199	166	123			

### 3 Performance table

Model	Motor		Frame	Q (m³/h)	H (m)									
	(kW)	(hp)			0	1.4	1.8	2.4	2.8	3	3.6	4.2	4.8	5.2
3-2	0.37	0.5	56C	21.2	20.2	19.8	19	18.2	17.7	16	14	11.5	9.2	
3-3	0.55	0.75	56C	32	31	30.5	29.5	28.4	27.6	25.2	22	18	14.6	
3-4	0.75	1	56C	43	42	41.5	40	38	37	33.5	29.5	24.5	20	
3-5	1.1	1.5	56C	54	52	51	48.5	46.5	45.5	42	37.5	30.2	24.5	
3-6	1.1	1.5	56C	65	63	62	59	57	55.5	50.5	44.5	36	29.5	
3-7	1.1	1.5	56C	76	74	73	70	67	65.5	60	52	43.2	35	
3-8	1.5	2	56C	86	85	84	81	77	75	68	59.5	49	40	
3-9	1.5	2	56C	97	95	94	91	87.5	85	77	67	55	45	
3-10	2.2	3	182TC	108	106	105	101	96	93.5	85	74.5	60.5	50	
3-11	2.2	3	182TC	119	116	114	111	106	103	94	82	68	56	
3-12	2.2	3	182TC	130	127	125	120	115	112	103	88	72	60	
3-13	2.2	3	182TC	141	137	135	130	125	122	111	95.5	78	66	
3-14	2.2	3	182TC	152	148	146	141	135	131	119	102.5	83.5	70	
3-15	3.7	5	184TC	163	159	157	151	146	142	130	113	92	77	
3-16	3.7	5	184TC	174	170	168	161	156	152	138	121	99	82	
3-18	3.7	5	184TC	196	192	189	182	175	171	156	135	110	92	
3-19	3.7	5	184TC	206	202	199	190	183	179	164	143	118	97	
3-20	3.7	5	184TC	218	213	210	202	194	189	173	150	124	103	
3-21	3.7	5	184TC	228	224	220	212	204	199	181	158	130	108	
3-22	5.5	7.5	213TC	239	234	230	222	212	207	190	165	135	113	
3-23	5.5	7.5	213TC	250	245	241	232	223	218	199	172	140	117	

5 Performance table

Model	Motor		Frame	Q (m³/h)	H (m)								
	(kW)	(hp)			0	3	4	5	6	7	8	9	10
5-2	0.55	0.75	56C	H (m)	21.2	19.4	18.8	17.7	16	13.5	11	8.6	6.2
5-3	0.75	1	56C		31.8	30.2	29.3	27.6	25.2	22.3	18.8	15.2	11.5
5-4	1.1	1.5	56C		42.5	40.3	39	37	34.5	31	26.5	21.5	16.8
5-5	1.5	2	56C		53.3	50.4	49	47	44	39.8	35	29.5	23
5-6	1.5	2	56C		64	60.5	59.3	57	53.3	48.7	42	34.5	27.5
5-7	2.2	3	182TC		75	71	69	65.5	61.2	56.2	49	40.5	32
5-8	2.2	3	182TC		85	82	79.5	75.5	70.6	64.5	56	46	36.5
5-9	2.2	3	182TC		96.5	92.2	89.5	85.5	80	73	64	53	41
5-10	3.7	5	184TC		107	102	99	95	89.3	81	71	59	46
5-11	3.7	5	184TC		118	112	109	104	98	90	79	65	50.5
5-12	3.7	5	184TC		129	122	120	115	107	97.5	85	71	56
5-13	3.7	5	184TC		140	133	130	124	115	105	92	78	61
5-14	3.7	5	184TC		151	144	140	134	125	114	100	84.5	66
5-15	3.7	5	184TC		161	155	151	144	134	121	106	89	71
5-16	5.5	7.5	213TC		172	164	159	153	143	130	114	95	76
5-17	5.5	7.5	213TC		183	174	168	161	151	139	121	102	81
5-18	5.5	7.5	213TC		194	184	179	171	160	146	128	108	86
5-20	5.5	7.5	213TC		215	206	199	190	179	162	143	120	95
5-21	5.5	7.5	213TC		226	216	209	199	187	171	151	126	100
5-22	5.5	7.5	213TC		236	226	218	208	196	180	158	134	107
5-23	5.5	7.5	213TC	248	237	228	218	205	188	166	141	113	

10 Performance table

Model	Motor		Frame	Q (m³/h)	H (m)							
	(kW)	(hp)			0	6	8	10	12	14	16	17
10-1	0.75	1	56C	H (m)	15.8	14.9	14	13	12	10.5	8	6.5
10-2	1.5	2	56C		32	30.2	29	27	23.8	20.2	16	13.5
10-3	2.2	3	182TC		48	45.5	44	40.5	36.5	32.5	27	23
10-4	3.7	5	184TC		64	60.5	58	54	49	43.5	35.5	30.5
10-5	3.7	5	184TC		80	75	72	68	62	55	45.5	39
10-6	5.5	7.5	213TC		96.5	91.5	87.5	82	75	65.5	54	47.5
10-7	5.5	7.5	213TC		113	107	103	98	89	77.5	63	56
10-8	5.5	7.5	213TC		130	123	119	112	102	90	73	64.5
10-9	7.5	10	215TC		146	138	133.5	126.5	115	100	83	73
10-10	7.5	10	215TC		163	154	148.5	139.5	128	113	94	82
10-11	7.5	10	215TC		179	170	163	153	141	125	103	89
10-12	7.5	10	215TC		197	187	180	169	154	136	112	98
10-13	11	15	254TC		213	202	196	185	167	147	121	107
10-14	11	15	254TC		230	217	210	197	180	158	131	115
10-15	11	15	254TC		246	233	226	212	193	170	141	123

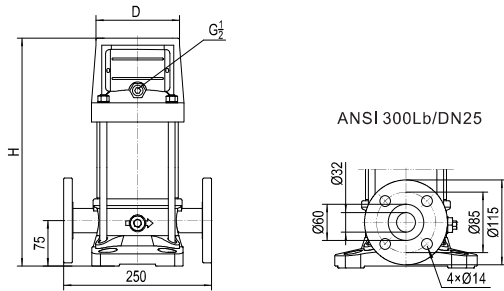
15 Performance table

Model	Motor		Frame	Q (m³/h)	H (m)													
	(kW)	(hp)			0	10	12	14	15	16	18	20	22	24	26	28	29	
15-1	1.5	2	56C	H (m)	18	17.5	17.3	17.1	16.9	16.7	16	15.2	14.3	13	11.5	10	9.2	
15-2	3.7	5	184TC		38	36.5	36	35.5	35	34.3	32.8	31	29	27	24.5	21.5	19.5	
15-3	5.5	7.5	213TC		57	54.5	54	53.5	53	52.5	51	49	46.5	43	38	33	30	
15-4	5.5	7.5	213TC		80	74.5	73.5	72	71	70	68	65	61	56	51	45	41	
15-5	7.5	10	215TC		100	93	91	89	88	87	84.5	81	76	70	63	56	52	
15-6	11	15	254TC		120	112	110	108	107	106	102	97	92	85	78	68	63	
15-7	11	15	254TC		141	132	130	128	126	124	119	114	108	100	91	80	74	
15-8	11	15	254TC		161	151	149	146	144	142	137	131	123	114	104	92	86	
15-9	15	20	256TC		183	172	169	166	164	162	156	148	139	129	117	104	97	
15-10	15	20	256TC		203	190	187	184	182	179	173	165	155	144	130	116	108	
15-11	15	20	256TC		222	208	205	202	200	198	191	181	169	157	143	127	119	
15-12	18.5	25	284TSC		239	227	224	221	219	216	209	199	187	172	156	139	131	

20 Performance table

Model	Motor		Frame	Q (m³/h)	H (m)										
	(kW)	(hp)			0	13	15	17	20	23	26	29	32	34	35
20-1	2.2	3	182TC	H (m)	19.5	18.3	18	17.7	17	16	15	13.7	12.3	11.3	10.7
20-2	3.7	5	184TC		40	38	37.5	37	35.5	34	32	29	25.5	23	21.5
20-3	5.5	7.5	213TC		60	57.5	57	56	54	51	48	44	39	35	33
20-4	7.5	10	215TC		80	77	76	75	73	70	65	59.5	52	47	44
20-5	11	15	254TC		100	95	94	93	91	87	81	74	65	59	56
20-6	11	15	254TC		121	115	114	113	110	105	98	90	81	74	70
20-7	15	20	256TC		141	135	134	132	128	122	115	106	96	88	84
20-8	15	20	256TC		163	155	153	151	147	140	132	121	109	100	96
20-9	18.5	25	284TSC		183	175	173	171	167	160	150	138	123	113	108
20-10	18.5	25	284TSC		203	194	192	190	186	178	167	153	137	125	119

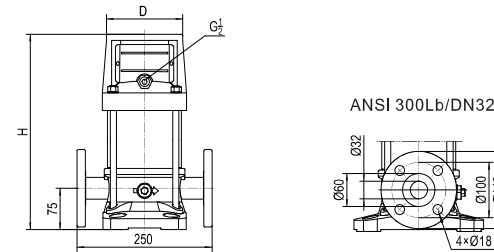
### 1 Installation sketch



### Dimensions and weights

Model	Dimension (mm)		Weight(kg)
	H	D	CDMF
1-2	290.5	165	14
1-3	310.5	165	14
1-4	330.5	165	15
1-5	350.5	165	15
1-6	370.5	165	15
1-7	390.5	165	16
1-8	410.5	165	16
1-9	430.5	165	17
1-10	450.5	165	17
1-11	470.5	165	18
1-12	490.5	165	18
1-13	520.5	165	18
1-15	550.5	165	20
1-17	590.5	165	21
1-19	644.5	225.5	24
1-21	684.5	225.5	24
1-23	724.5	225.5	25
1-25	764.5	225.5	26
1-26	784.5	225.5	27
1-27	804.5	225.5	28
1-29	844.5	225.5	29

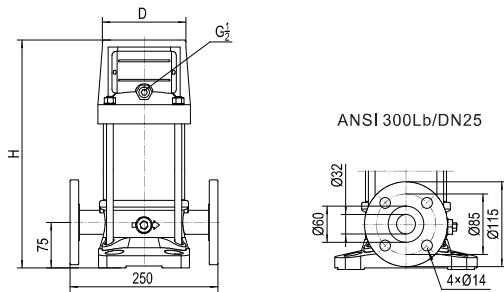
### 5 Installation sketch



### Dimensions and weights

Model	Dimension (mm)		Weight(kg)
	H	D	CDMF
5-2	304.5	165	14
5-3	331.5	165	14
5-4	358.5	165	15
5-5	385.5	165	17
5-6	412.5	165	17
5-7	453.5	225.5	20
5-8	480.5	225.5	20
5-9	507.5	225.5	21
5-10	534.5	225.5	21
5-11	561.5	225.5	22
5-12	588.5	225.5	22
5-13	615.5	225.5	23
5-14	642.5	225.5	24
5-15	669.5	225.5	24
5-16	709.5	225.5	24
5-17	736.5	225.5	26
5-18	763.5	225.5	26
5-20	817.5	225.5	27
5-21	844.5	225.5	28
5-22	871.5	225.5	28
5-23	898.5	225.5	29

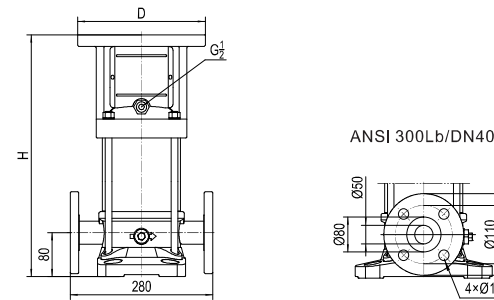
### 3 Installation sketch



### Dimensions and weights

Model	Dimension (mm)		Weight(kg)
	H	D	CDMF
3-2	290.5	165	15
3-3	310.5	165	15
3-4	330.5	165	15
3-5	350.5	165	16
3-6	370.5	165	16
3-7	390.5	165	17
3-8	410.5	165	18
3-9	430.5	165	18
3-10	464.5	225.5	21
3-11	484.5	225.5	21
3-12	504.5	225.5	22
3-13	524.5	225.5	22
3-14	544.5	225.5	23
3-15	564.5	225.5	23
3-16	584.5	225.5	24
3-18	624.5	225.5	25
3-19	644.5	225.5	25
3-20	664.5	225.5	26
3-21	684.5	225.5	26
3-22	717.5	225.5	26
3-23	737.5	225.5	26

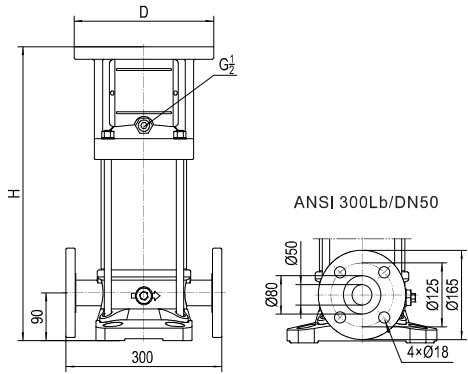
### 10 Installation sketch



### Dimensions and weights

Model	Dimension (mm)		Weight(kg)
	H	D	CDMF
10-1	367	165	20
10-2	367	165	22
10-3	408	225.5	25
10-4	438	225.5	26
10-5	468	225.5	29
10-6	510	225.5	30
10-7	540	225.5	32
10-8	570	225.5	33
10-9	600	225.5	29
10-10	630	225.5	30
10-11	660	225.5	31
10-12	690	225.5	32
10-13	797	225.5	39
10-14	827	225.5	40
10-15	857	225.5	41

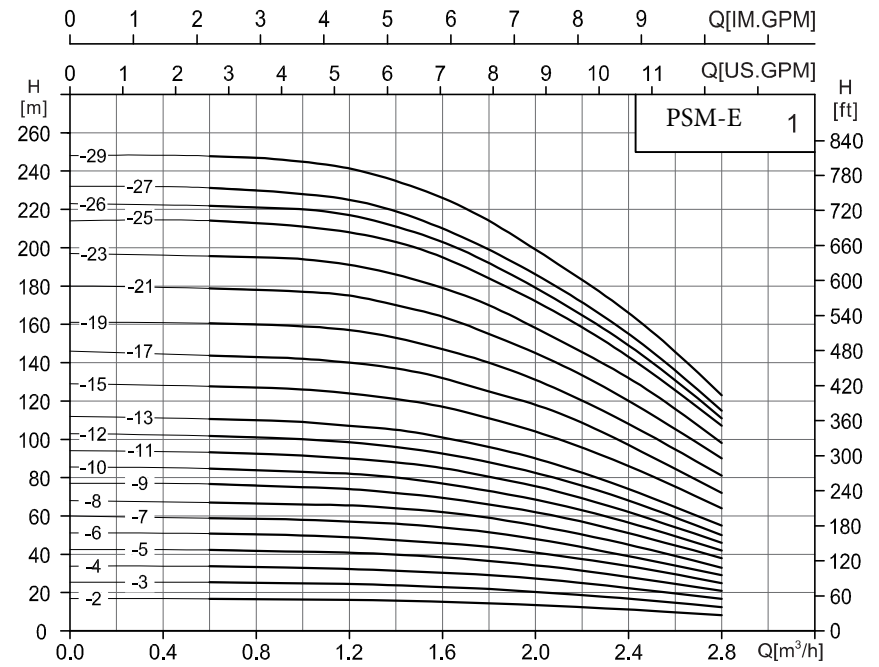
### 15 Installation sketch



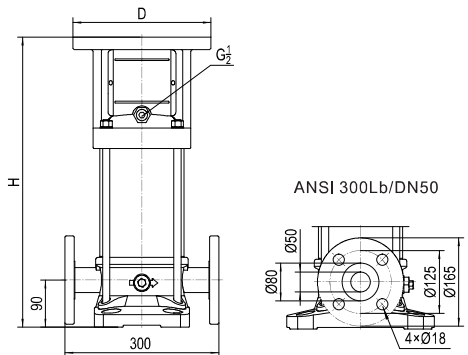
### Dimensions and weights

Model	Dimension (mm)		Weight(kg)
	H	D	CDMF
15-1	407	165	25
15-2	418	225.5	28
15-3	475	225.5	30
15-4	520	225.5	33
15-5	565	225.5	29
15-6	687	225.5	47
15-7	732	225.5	49
15-8	777	225.5	50
15-9	822	225.5	37
15-10	867	225.5	38
15-11	912	225.5	39
15-12	938	280	42

### Performance curve

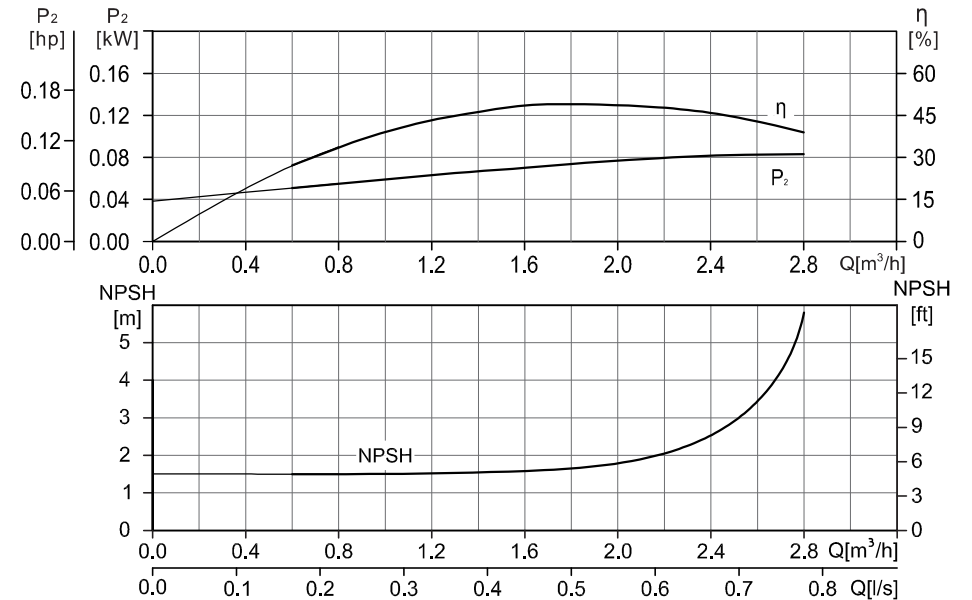


### 20 Installation sketch



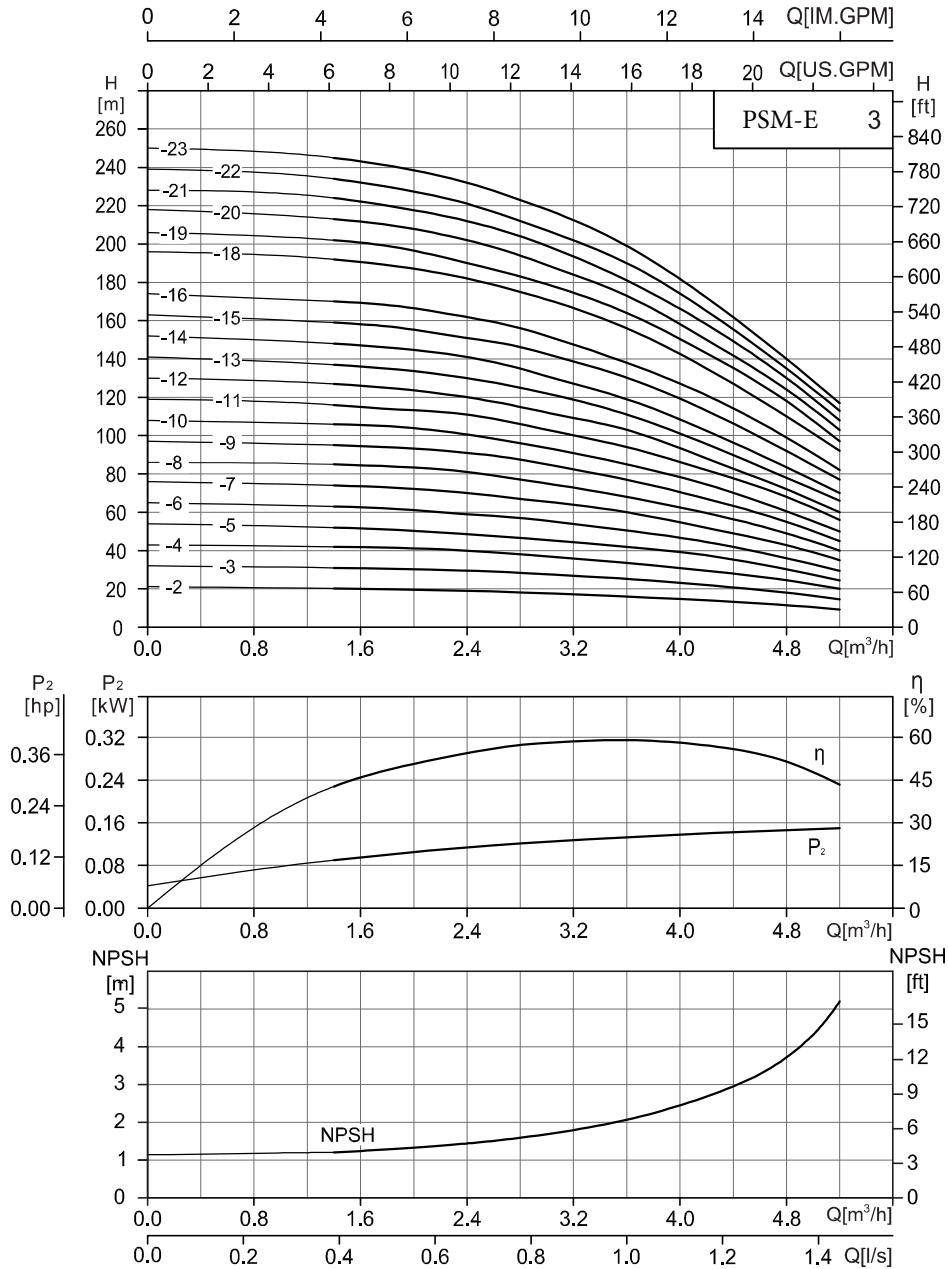
### Dimensions and weights

Model	Dimension (mm)		Weight(kg)
	H	D	CDMF
20-1	418	225.5	25
20-2	418	225.5	27
20-3	475	225.5	30
20-4	520	225.5	26
20-5	642	225.5	30
20-6	687	225.5	32
20-7	732	225.5	33
20-8	777	225.5	34
20-9	803	280	37
20-10	848	280	38

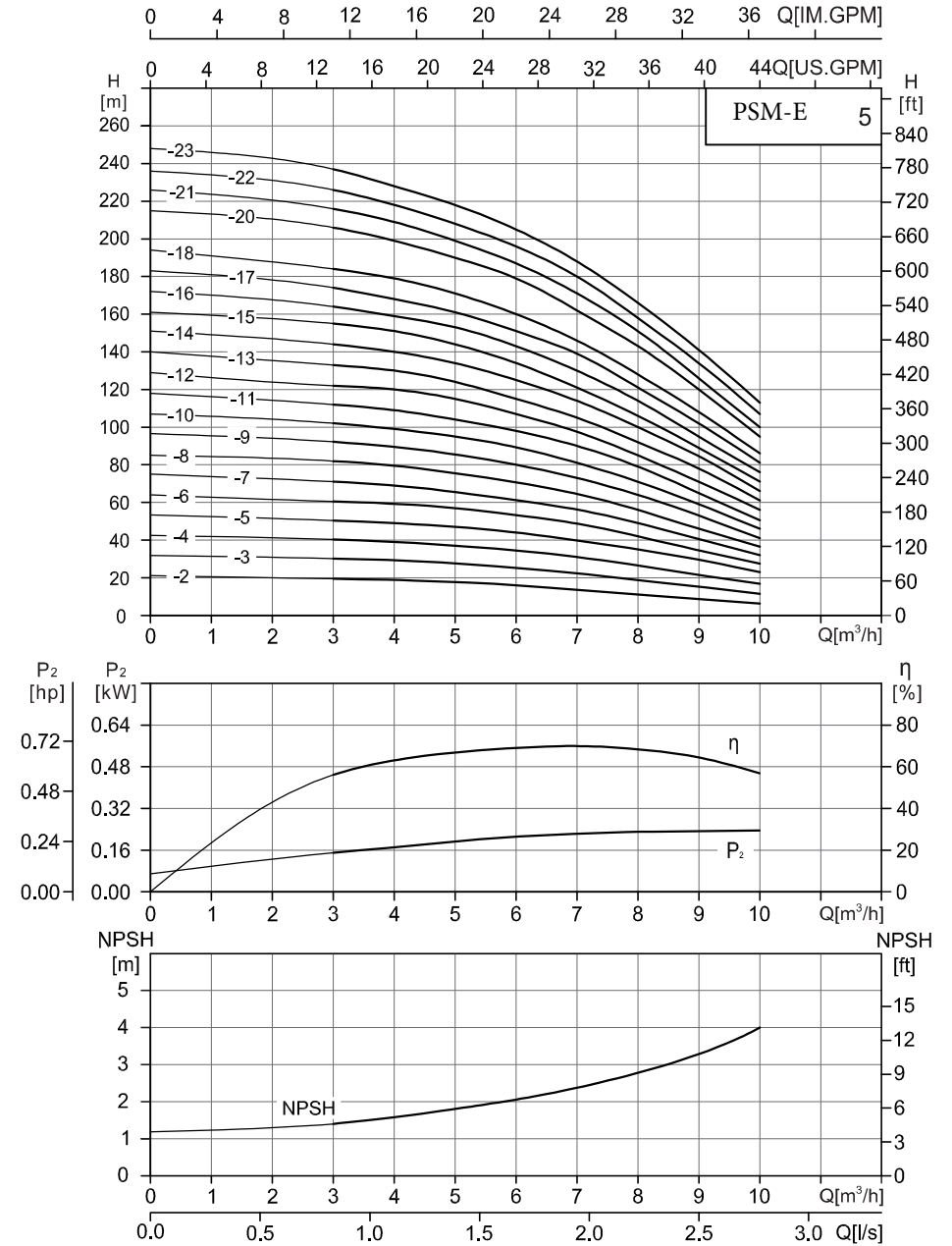




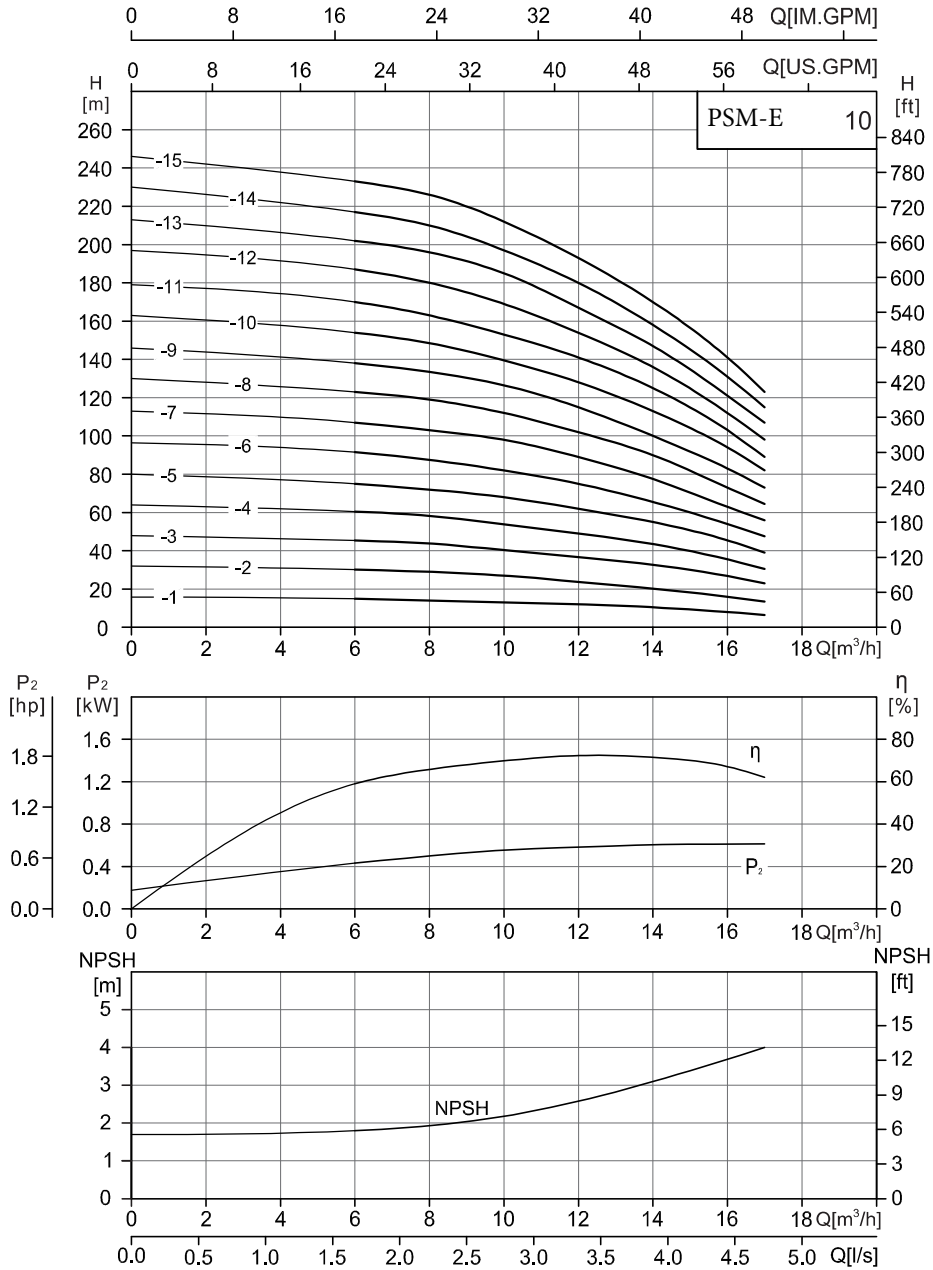
Performance curve



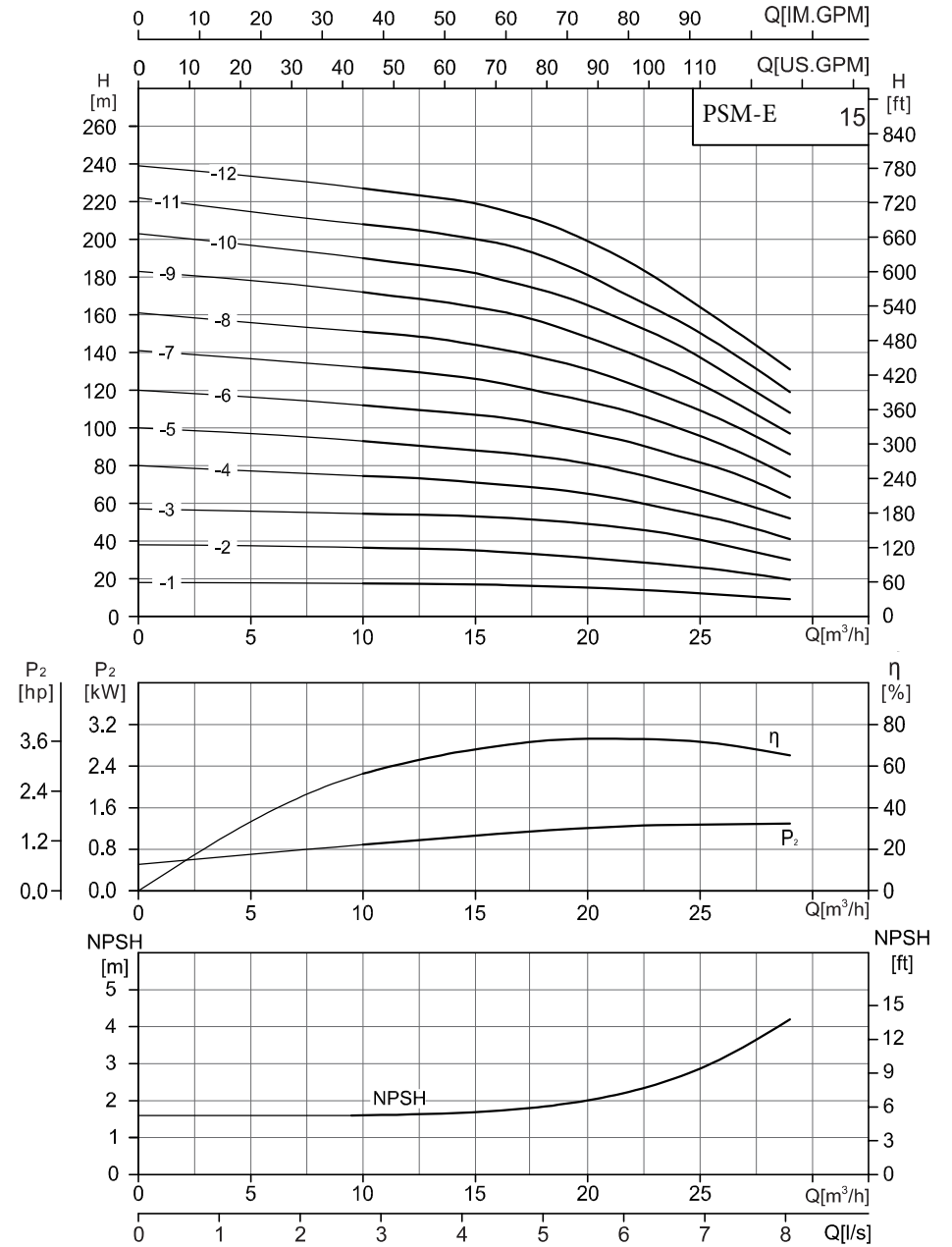
Performance curve



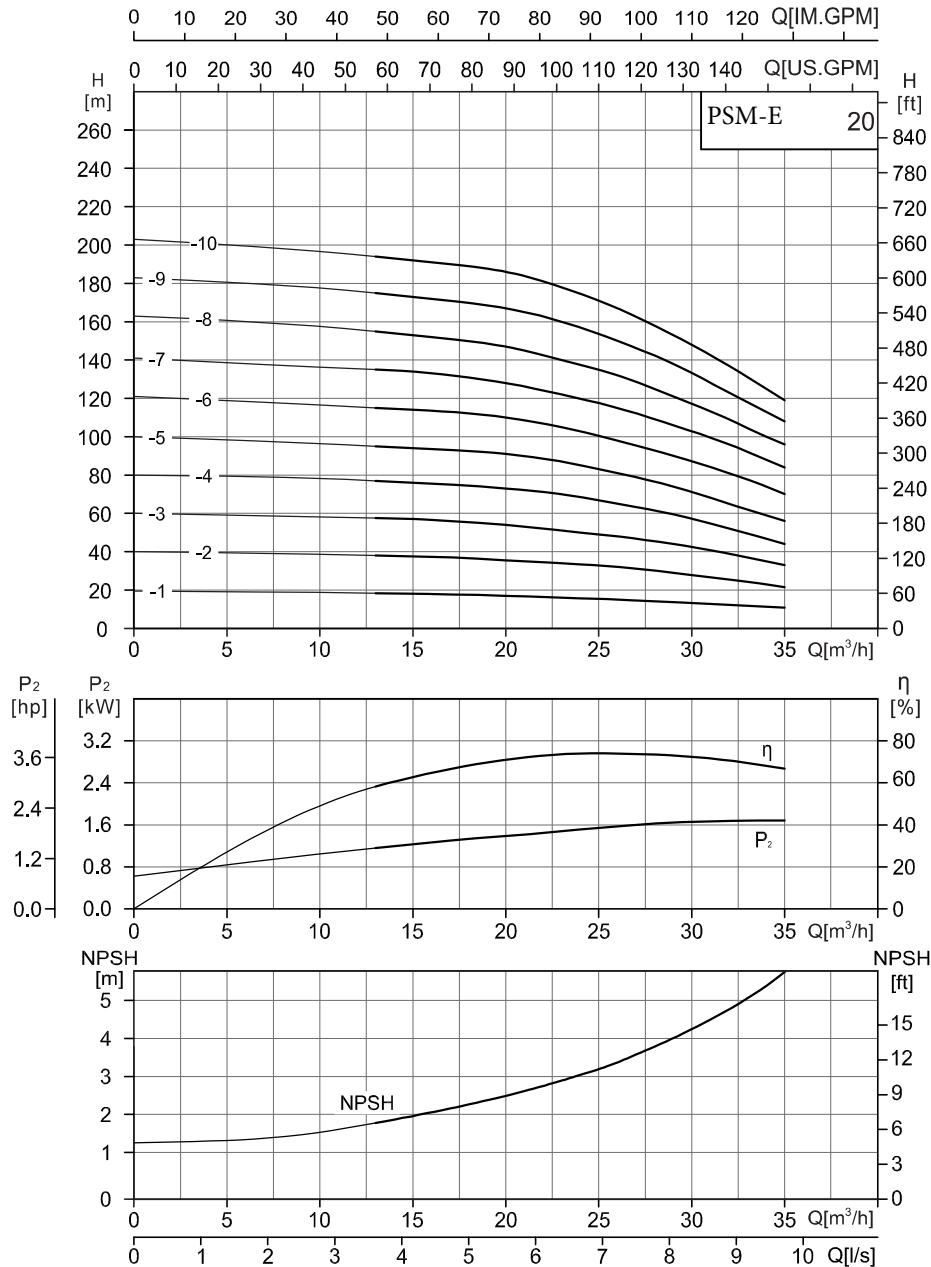
Performance curve



Performance curve



### Performance curve



### Material code

Pump material	Sealing rubber	Mechanical Seal
S : AISI304	N : NBR	B : Tungsten carbide/Graphite
L : AISI316L	E : EPDM	S : Tungsten carbide/Silicon carbide
P : ASTM25B	F : FPM	W : Tungsten Carbide/Tungsten Carbide

### Compatibility chart for materials

Pumped liquid	Chemical formula	Liquid concentration	Liquid temperature	Pump material	Sealing rubber	Machinery Seal
Sulphuric acid	H <sub>2</sub> SO <sub>4</sub>	1.0%	20°C	L	F	S
Nitric acid	HNO <sub>3</sub>	1.0%	20°C	L	F	S
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	20.0%	20°C	L	E	W
Chromic acid	H <sub>2</sub> CrO <sub>4</sub>	1.0%	20°C	L	F	S
Acetic acid	CH <sub>3</sub> COOH	5.0%	20°C	L	E	S
Formic acid	HCOOH	5.0%	20°C	L	E	S
Oxalic acid	(COOH) <sub>2</sub>	1.0%	20°C	L	E	S
Citric acid	HOC(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub> COOH	5.0%	40°C	L	E	W
Salicylic acid	C <sub>6</sub> H <sub>4</sub> (OH)COOH	0.1%	20°C	L	E	W
Benzoic acid	C <sub>6</sub> H <sub>5</sub> COOH	0.5%	20°C	L	F	W
Sodium hydroxide	NaOH	20.0%	50°C	L	E	W
Potassium hydroxide	KOH	20.0%	50°C	L	E	W
Potassium hydroxide	KOH	40.0%	80°C	L	E	W
Calcium hydroxide	Ca(OH) <sub>2</sub>	5.0%	50°C	P	F	W
Ammonia in water	NH <sub>4</sub> OH	20.0%	40°C	S	E	W
Copper sulphate	CuSO <sub>4</sub>	10.0%	50°C	L	F	W
Sodium carbonate	Na <sub>2</sub> CO <sub>3</sub>	10.0%	51°C	S	F	W
Sodium nitrate	NaNO <sub>3</sub>	10.0%	60°C	L	F	W
Sodium phosphate	Na <sub>3</sub> PO <sub>4</sub>	10.0%	60°C	L	F	W
Sodium bicarbonate	NaHCO <sub>3</sub>	10.0%	60°C	L	F	W
Ammonium bicarbonate	NH <sub>4</sub> HCO <sub>3</sub>	20.0%	40°C	L	F	W
Sodium sulphate	Na <sub>2</sub> SO <sub>4</sub>	10.0%	60°C	L	F	W
Potassium carbonate	K <sub>2</sub> CO <sub>3</sub>	20.0%	50°C	S	F	W
Potassium sulphate	K <sub>2</sub> SO <sub>4</sub>	20.0%	50°C	L	F	W
Potassium nitrate	KNO <sub>3</sub>	20.0%	50°C	L	F	W
Potassium permanganate	KMnO <sub>4</sub>	5.0%	20°C	L	E	W
Calcium acetate	C <sub>4</sub> H <sub>6</sub> CaO <sub>4</sub>	30.0%	50°C	L	F	W
Ethanol (ethyl alcohol)	C <sub>2</sub> H <sub>5</sub> OH	80.0%	100°C	S,P	F	B
Ethylene glycol	HOCH <sub>2</sub> CH <sub>2</sub> OH	50.0%	50°C	S,P	F	B
Propanol	C <sub>3</sub> H <sub>7</sub> OH	50.0%	100°C	S,P	F	B
Propylene glycol	CH <sub>3</sub> CH(OH)CH <sub>2</sub> OH	50.0%	70°C	S,P	F	B
Butanediol	HOCH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> OH	50.0%	25°C	S,P	F	B
formaldehyde	HCHO	10.0%	25°C	S	F	B
Acetaldehyde	CH <sub>3</sub> CHO	20.0%	25°C	S	F	B
Petrol			80°C	S	N	B
kerosene			80°C	S	N	B
Diesel oil			80°C	S	N	B
Pee			60°C	L	N	B
Hydrogen peroxide			45°C	S,P	E	S
Ozone water			50°C	S,P	E	S
Deionised water			100°C	S,P	N	B