

# NORDIK PUMPS

# SMC

Horizontal Single-Stage  
Centrifugal Pump



SMC 50,60,85,100

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

**Introduction**

SMD, SMC is a stainless steel horizontal single-stage centrifugal pump, which conveys the liquid by rotating the impeller with the centrifugal force. It mainly consists of spindle, impeller, diffuser, pump casing, mechanical seal combined into the pump body and motor connection. SMD, SMC series use stainless steel plate technology such as stamping, bulging and welding and pull-back design, for impeller, coupling and motor to be pulled out without connecting pump body and pipeline system. The SMD series is a one-piece design with an extended shaft connection for the motor while the SMC series is a rigid connection design for the standard motor.

**Pump material**

Stainless steel : AISI 304 · AISI 316

**Pump operating conditions**

Pumping liquids which are thin, clean, non-flammable, non-combustible or non-explosive liquids, not containing solid particles or fibers.

Maximum ambient temperature: +40 °C  
Maximum altitude above sea level: 1000 m

**Motor**

- SMD: with non-standard special motor
- SMC: with totally enclosed, fan-cooled, 2-pole standard motors
- Enclosure class: IP55
- Insulation class: F
- Voltage: 3x220-240/380-415V  
1x220-240V
- Available with single-phase motors(0.37kW-2.2kW)

**Liquid temperature °C**

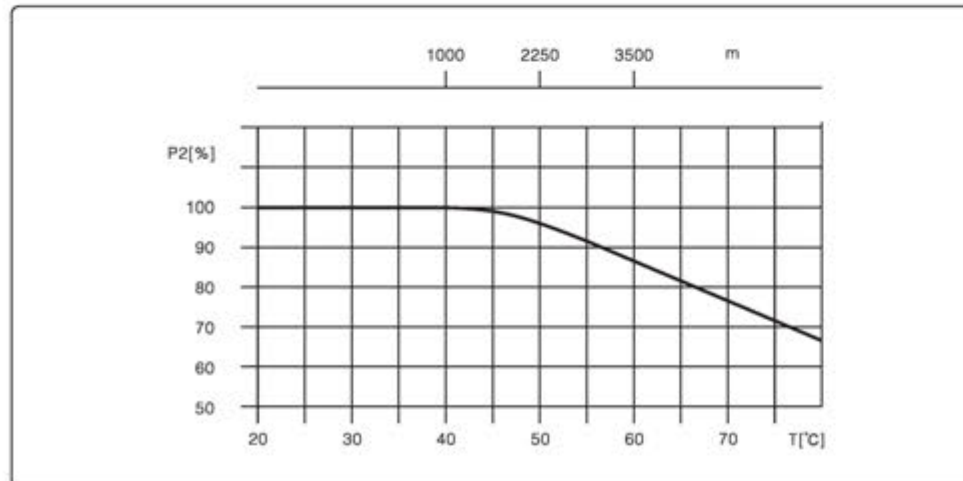
- Normal temperature pump: -15°C to +70°C
- Hot temperature pump: -15°C to +100°C

**Performance curves**

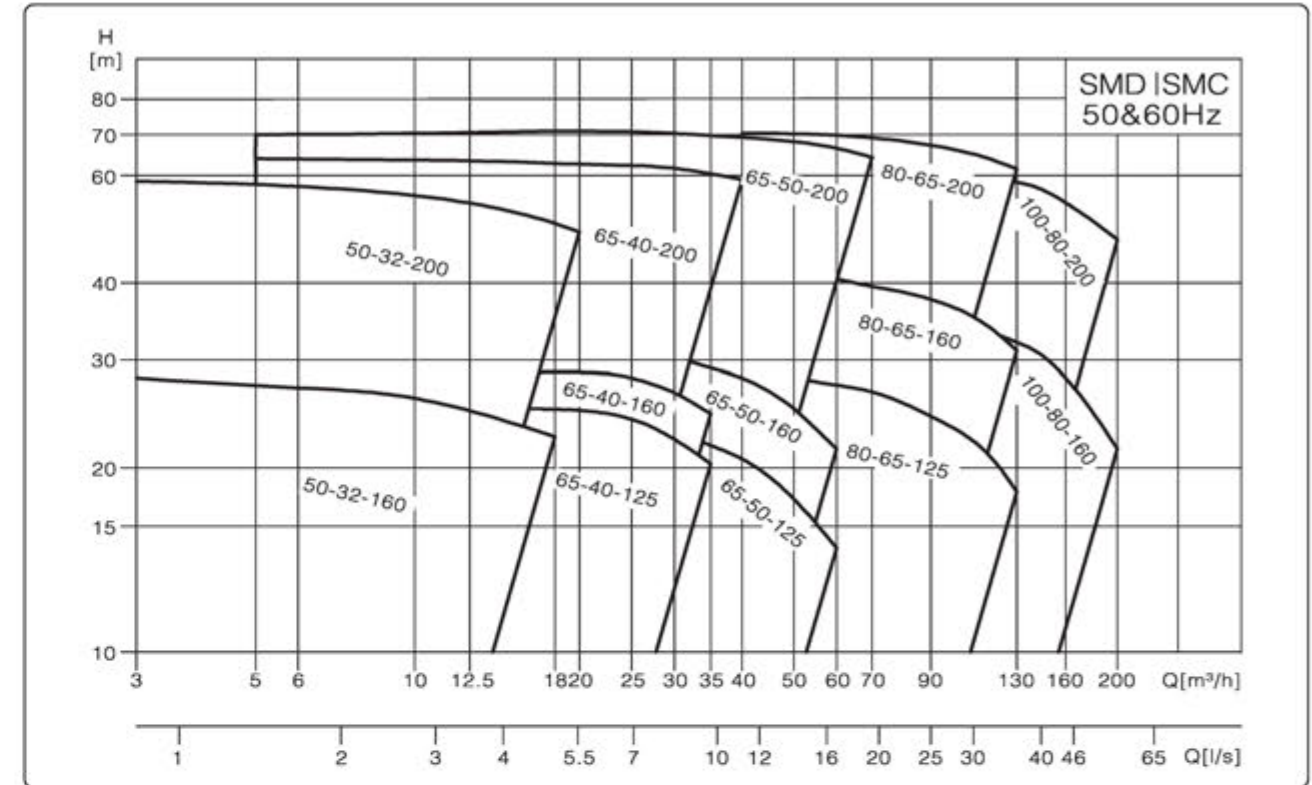
- The motors used for the measurements are based on 2900rpm or 2950 rpm
- Tolerances to ISO 9906
- Measurements have been made with airless water at a temperature of 20 °C
- The curves apply to the following kinematic viscosity: = 1 mm<sup>2</sup>/s
- Select a best efficiency of the pump which is operating within the bold curve of the pump performance.

**Ambient temperature**

If the ambient temperature exceeds the 40 °C or the pump is installed at an altitude exceeding 1000 m, the motor output power P2 will decrease. In such cases, it necessary to use a motor with a higher rated output.



**Pump performance range**

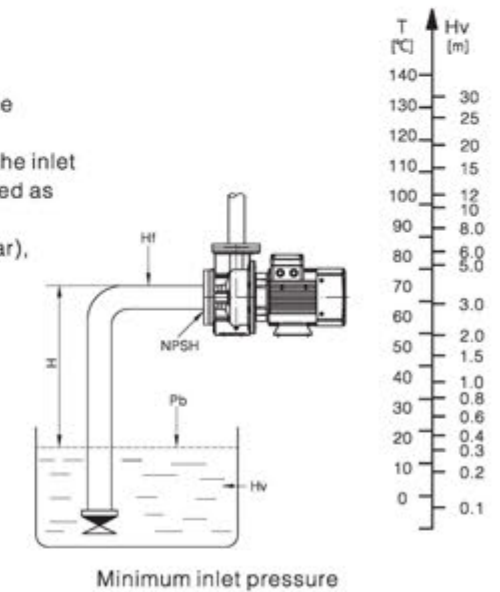


**Minimum inlet pressure, NPSH**

Cavitation may occur if the following conditions exist during the operation of the water pump:

- The water tank or pool is lower than the water pump inlet;
- High liquid temperature;
- Actual flow significantly greater the rated flow;
- Pressure in the pump lower than the vaporization pressure of the conveying liquid.
- To avoid cavitation, make sure there is a minimum pressure on the inlet side of the pump. The maximum suction range H (m) can be calculated as follows:

$P_b$  = Atmospheric pressure (atmospheric pressure can be set to 1bar), in closed system,  $P_b$  is system pressure  
 $H_f$  = Net positive suction head (can be read from the maximum possible flow rate of the pump on the NPSH curve)  
 $H_f$  = Pipeline loss at inlet  
 $H_v$  = Vaporization pressure  
 $H_s$  = Safety margin = Minimum 0.5m head  
 If the calculated value of H is positive, the pump can be operated at the maximum suction range H.  
 If the calculated H is negative, there must be a head with minimum inlet pressure H.



Minimum inlet pressure

## Model specification

## Applications

### Water supply

- Water filter
- Supercharging
- Pressurization of hotels
- Industrial pressurization

### Industrial boosting

- Cleaning system
- High pressure flushing system
- Firefighting system
- Car cleaning equipment

### Industrial liquid transport

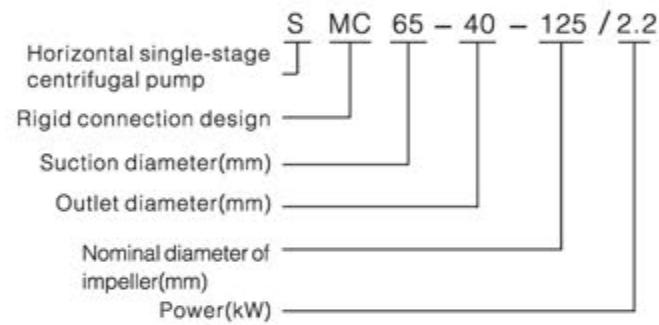
- Cooling air conditioning system
- Boiler feed water
- Condensing system and cooling tower
- Machine tool cooling lubrication system

### Water treatment

- Ultrafiltration system
- Reverse osmosis system
- Distillation system
- Separator
- Swimming pool

### Irrigation

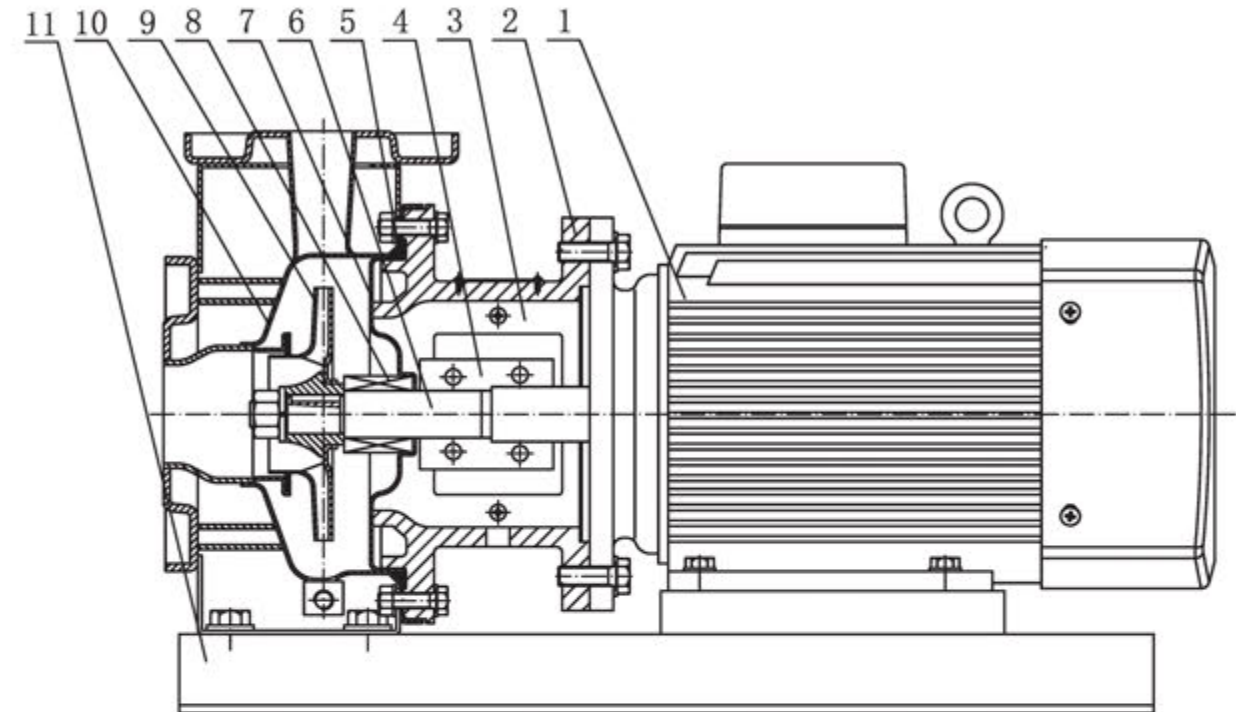
- Regional irrigation
- Sprinkler irrigation
- Drip irrigation
- Greenhouse irrigation



## Parameter

No.	Model	Q [m³/h]	H [m]	n [r/min]	Voltage	
					1×220V	3×380V
					P[kW]	P[kW]
1	SMD/SMC50-32-160/1.1	6.3	18	2900	1.1	1.1
2	SMD/SMC50-32-160/1.5	12.5	20		1.5	1.5
3	SMD/SMC50-32-160/2.2	12.5	25		2.2	2.2
4	SMD/SMC50-32-200/3	12.5	32			3
5	SMD/SMC50-32-200/4	12.5	42			4
6	SMD/SMC50-32-200/5.5	12.5	54			5.5
7	SMD/SMC65-40-125/1.5	25	13		1.5	1.5
8	SMD/SMC65-40-125/2.2	25	18		2.2	2.2
9	SMD/SMC65-40-125/3	25	24			3
10	SMD/SMC65-40-160/4	25	28			4
11	SMD/SMC65-40-200/5.5	25	36			5.5
12	SMD/SMC65-40-200/7.5	25	46			7.5
13	SMD/SMC65-40-200/9.2	25	56			9.2
14	SMD/SMC65-40-200/11	25	62	2950		11
15	SMD/SMC65-50-125/3	50	13	2900		3
16	SMD/SMC65-50-125/4	50	18			4
17	SMD/SMC65-50-160/5.5	50	25			5.5
18	SMD/SMC65-50-200/7.5	50	32			7.5
19	SMD/SMC65-50-200/9.2	50	40			9.2
20	SMD/SMC65-50-200/11	50	48	2950		11
21	SMD/SMC65-50-200/15	50	58			15
22	SMD/SMC65-50-200/18.5	50	68			18.5
23	SMD/SMC80-65-125/5.5	100	13	2900		5.5
24	SMD/SMC80-65-125/7.5	100	18			7.5
25	SMD/SMC80-65-125/9.2	100	23			9.2
26	SMD/SMC80-65-160/11	100	27	2950		11
27	SMD/SMC80-65-160/15	100	36			15
28	SMD/SMC80-65-200/18.5	100	45			18.5
29	SMD/SMC80-65-200/22	100	53			22
30	SMD/SMC80-65-200/30	100	66			30
31	SMD/SMC100-80-160/11	160	15			11
32	SMD/SMC100-80-160/15	160	22			15
33	SMD/SMC100-80-160/18.5	160	28			18.5
34	SMD/SMC100-80-200/22	160	33			22
35	SMD/SMC100-80-200/30	160	45			30
36	SMD/SMC100-80-200/37	160	54		37	

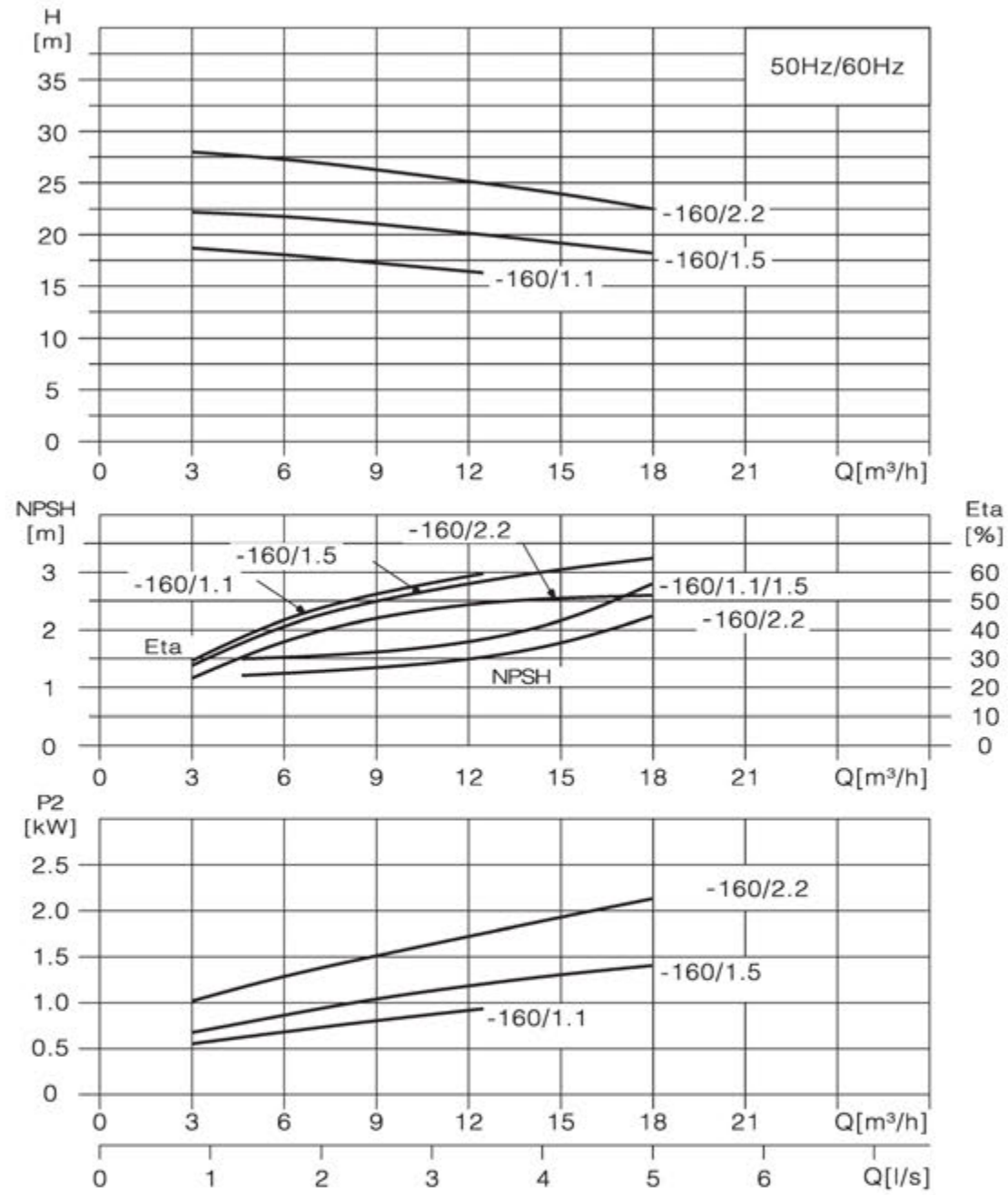
**Structure SMC2,4,8,12,16,20**



**Materials SMC2,4,8,12,16,20**

No.	Spare parts	Material	GB	EN/DIN	AISI/ASTM
1	Motor	/	/	/	/
2	Pump bracket	Cast iron	GB/T9439-HT200	EN1561-GJL-200	ASTM-A84 25B
3	Coupling guard	Stainless steel	GB/T20878-06Cr19Ni10	EN10088-1.1301	AISI304
4	Coupling	Cast iron	GB/T1348-QT500-7	EN1563-GJS-500-7	ASTMA53665-45-12
5	O ring	NBR	/	/	/
6	Pump shaft	Stainless steel	GB/T20878-06Cr19Ni10	EN10088-1.1301	AISI304
7	Seal seat	/	GB/T20878-06Cr19Ni10	EN10088-1.1301	AISI304
8	Mechanical seal	/	/	/	/
9	Impeller	Stainless steel	GB/T20878-06Cr19Ni10	EN10088-1.1301	AISI304
10	Pump casing	Stainless steel	GB/T20878-06Cr19Ni10	EN10088-1.1301	AISI304
11	Bottom seat	Steel	GB/T700-Q235	EN10025-S235JR	ASTM A283GRC

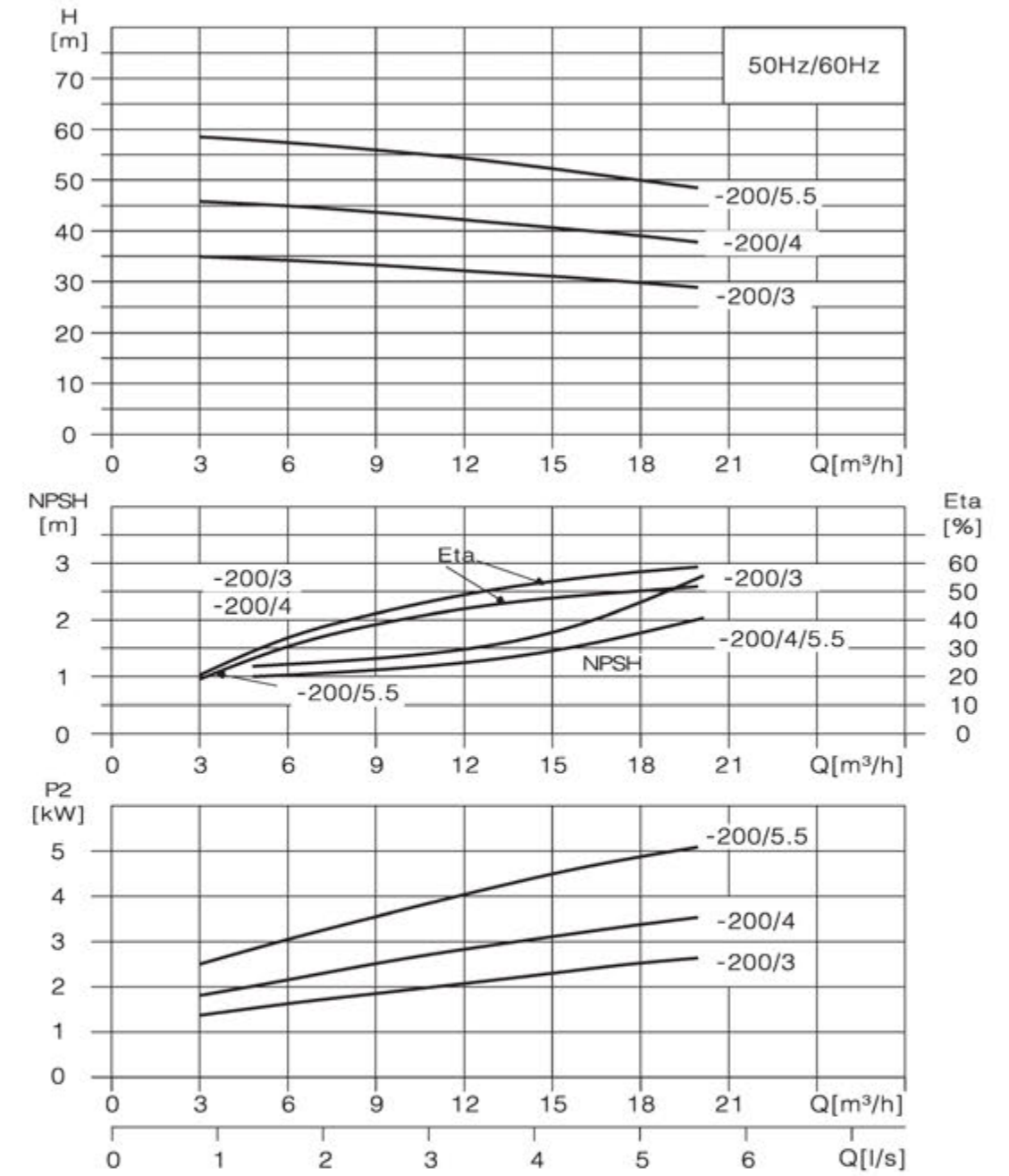
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	3	6.3	9	12.5	15	18
	(kW)	(HP)							
SMD,SMC50-32-160/1.1	1.1	1.5	H (m)	18.7	18	17.2	16.2		
SMD,SMC50-32-160/1.5	1.5	2		22.5	22	21	20	19	17.8
SMD,SMC50-32-160/2.2	2.2	3		28	27	26.3	25	24	22.2

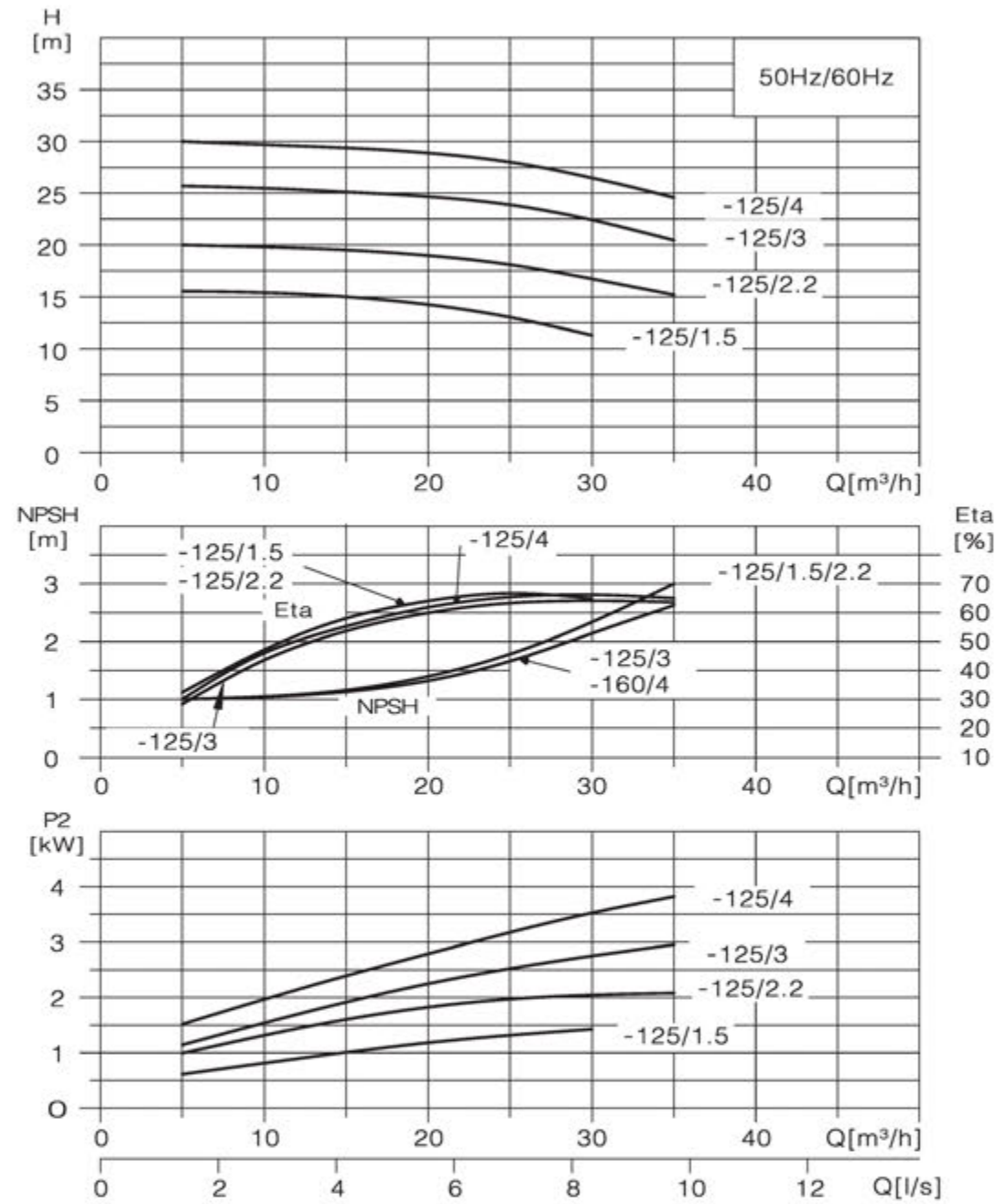
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	3	6.3	9	12.5	15	18	20
	(kW)	(HP)								
SMD,SMC50-32-200/3	3	4	H (m)	34.9	34.1	33.3	32	30.9	29.6	28.7
SMD,SMC50-32-200/4	4	5.5		45.7	44.8	43.7	42	40.6	38.8	37.5
SMD,SMC50-32-200/5.5	5.5	7.5		58.5	57.2	56	54	52.4	49.8	48.3

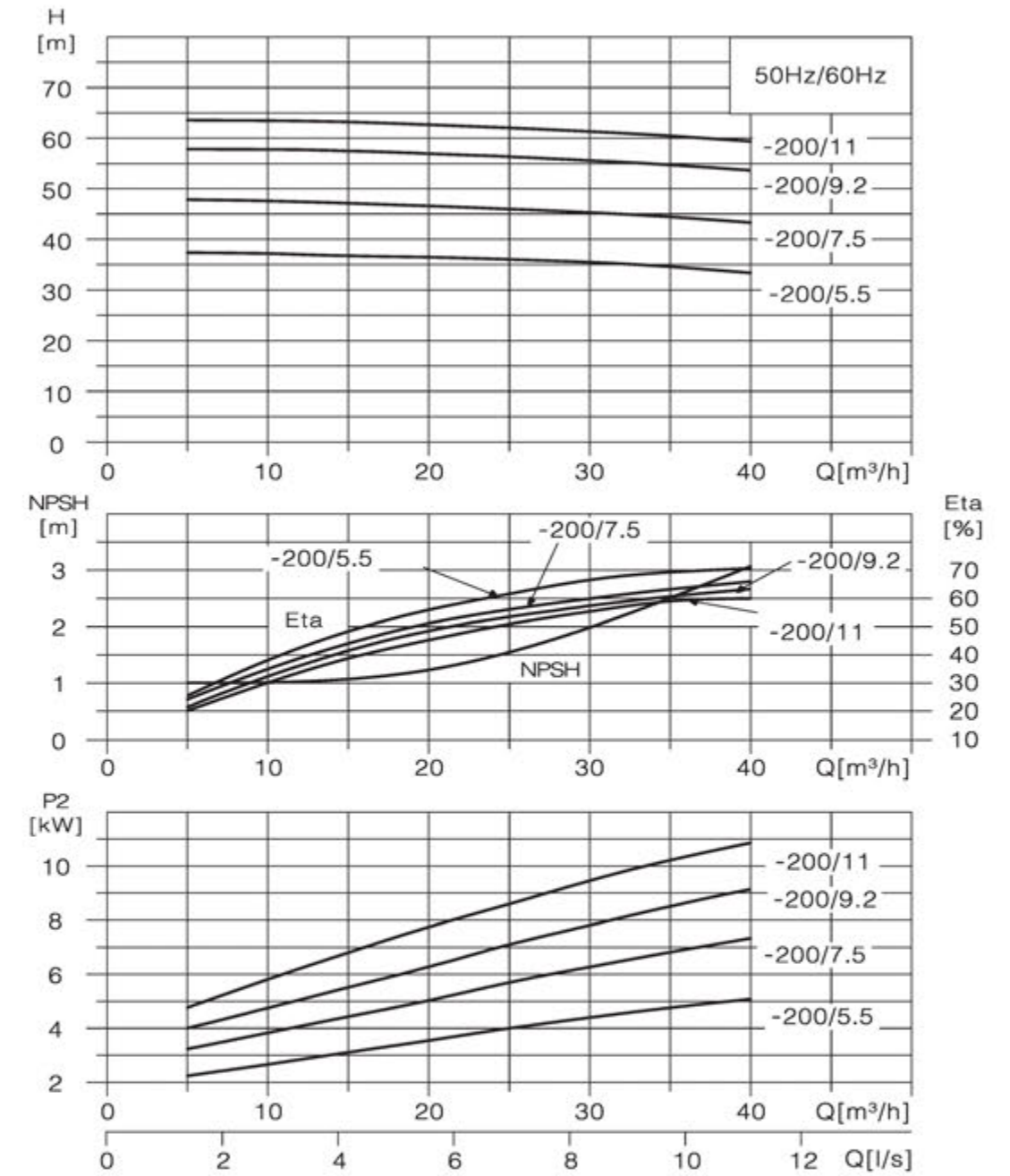
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	5	10	15	20	25	30	35
	(kW)	(HP)								
SMD,SMC65-40-125/1.5	1.5	2	H (m)	15.6	15.4	15	14.4	13	11.1	
SMD,SMC65-40-125/2.2	2.2	3		20.1	19.7	19.5	19	18	16.5	15
SMD,SMC65-40-125/3	3	4		25.8	25.3	25.1	24.8	24	22.1	20.1
SMD,SMC65-40-125/4	4	5.5		30.1	29.7	29.3	28.9	28	26.3	24.3

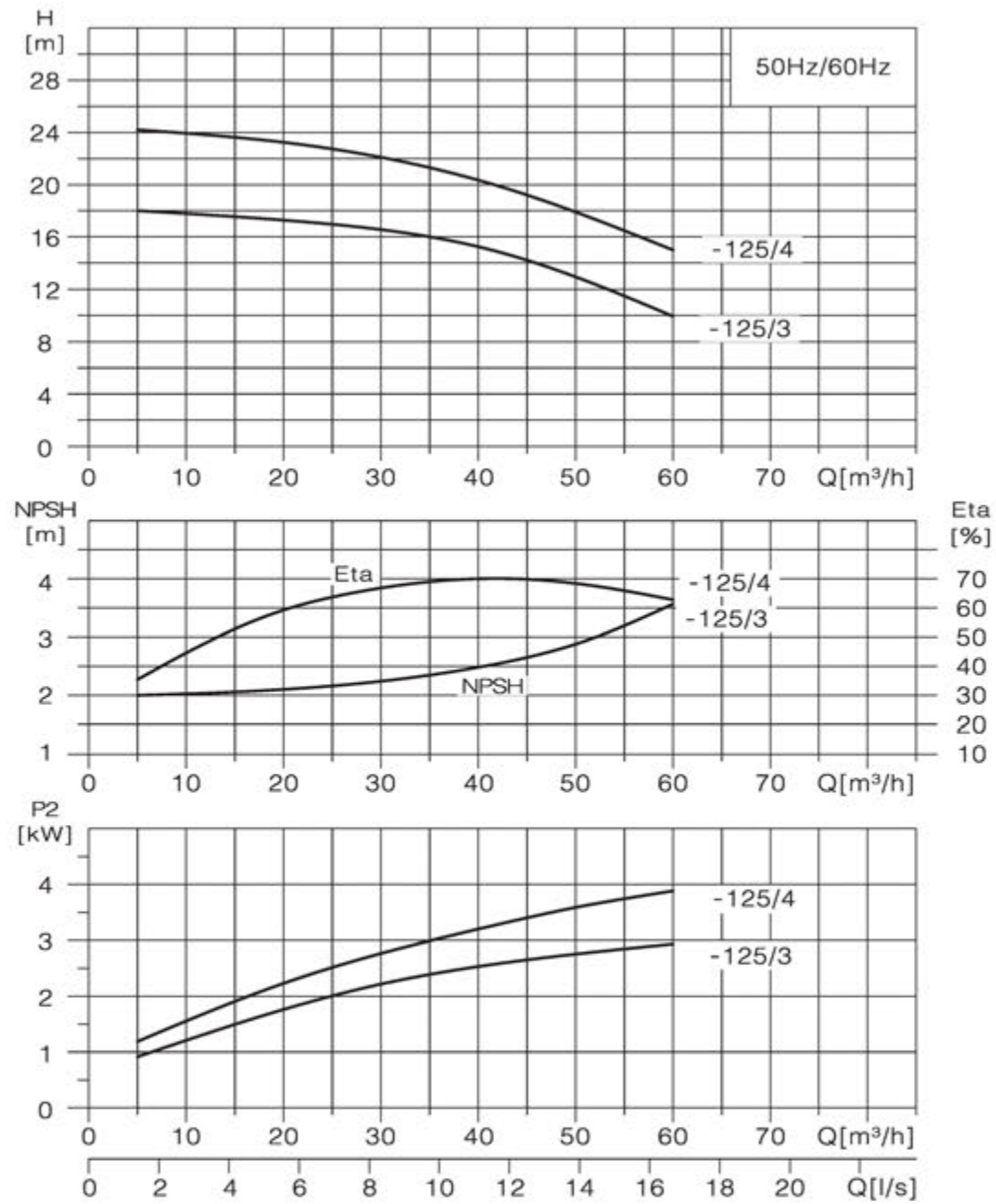
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	5	10	15	20	25	30	35	40
	(kW)	(HP)									
SMD,SMC65-40-200/5.5	5.5	7.5	H (m)	37.5	37.2	36.7	36.4	36	35.5	34.5	33.1
SMD,SMC65-40-200/7.5	7.5	10		48.1	47.5	47	46.6	46	45.2	44.4	43.1
SMD,SMC65-40-200/9.2	9.2	12.5		57.9	57.5	57	56.5	56	55.3	54.2	52.8
SMD,SMC65-40-200/11	11	15		64.1	63.5	63	62.5	62	61.5	60.4	58.8

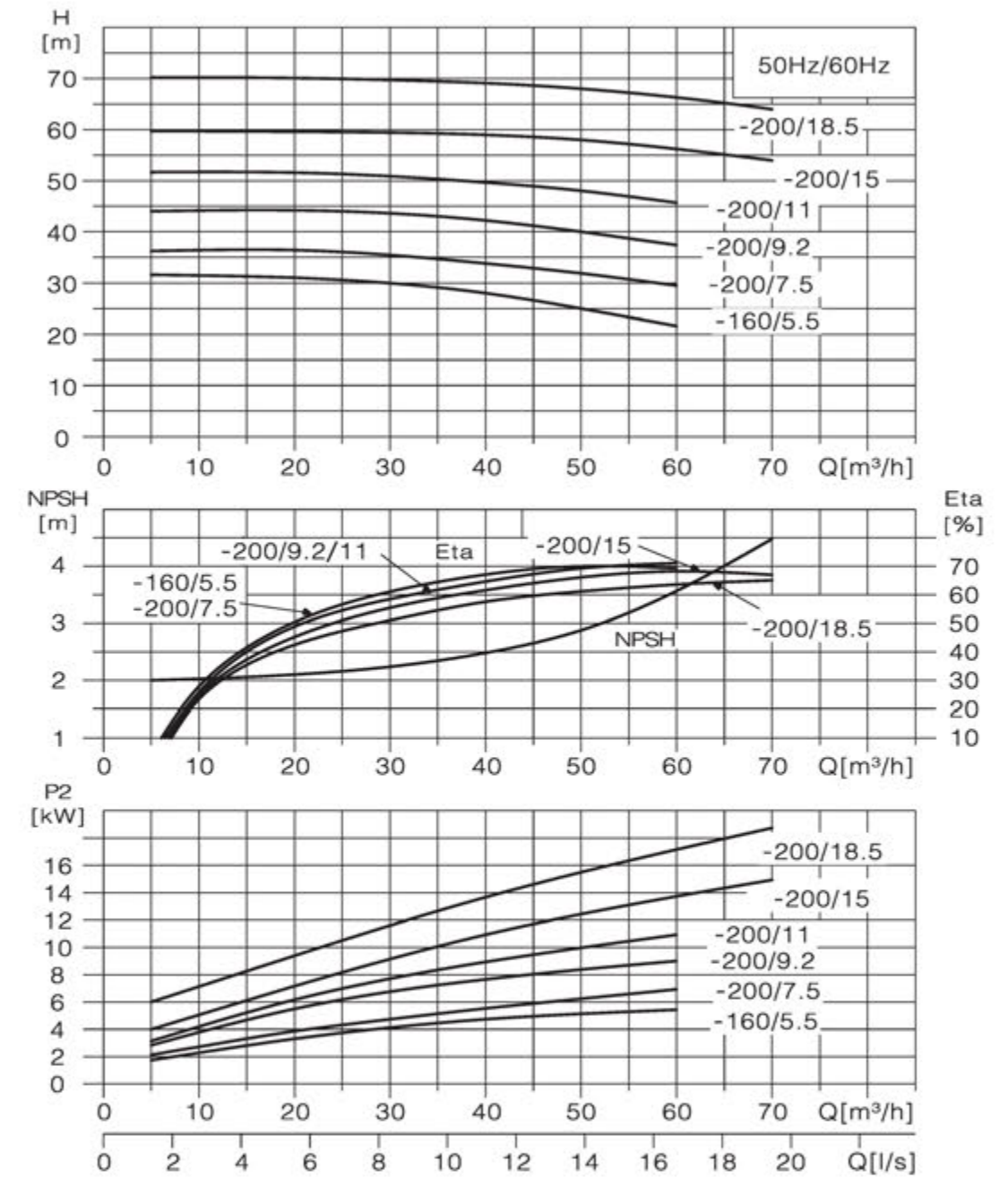
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	5	10	20	30	40	50	60
	(kW)	(HP)								
SMD,SMC65-50-125/3	3	4	H	18.1	17.9	17.2	16.4	15.1	13	9.9
SMD,SMC65-50-125/4	4	5.5	(m)	24.3	24.3	23.6	22.6	20.7	18	14.7

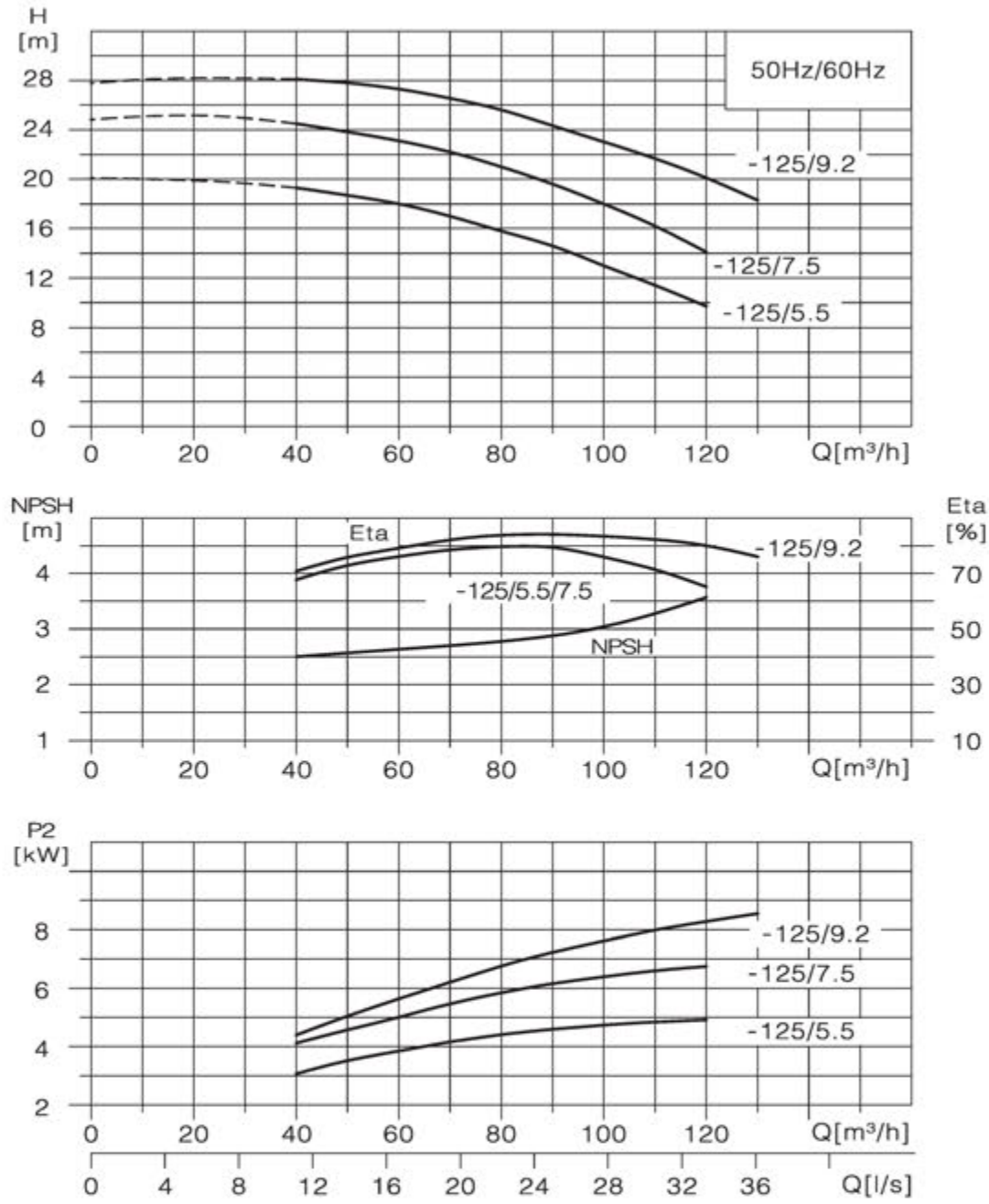
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	5	10	20	30	40	50	60	70
	(kW)	(HP)									
SMD,SMC65-50-160/5.5	5.5	7.5	H (m)	31.7	31.6	31	30	28	25	21.3	
SMD,SMC65-50-200/7.5	7.5	10		36.4	36.7	36.4	35.6	34.1	32	29.4	
SMD,SMC65-50-200/9.2	9.2	12.5		43.6	43.6	43.5	43	42	40	37.3	
SMD,SMC65-50-200/11	11	15		51.6	51.6	51	50	49.3	48	45.4	
SMD,SMC65-50-200/15	15	20		59.8	59.8	59.6	59.5	59	58	56	52.8
SMD,SMC65-50-200/18.5	18.5	25		70.3	70.3	70.1	70	69.1	68	66.2	63.8

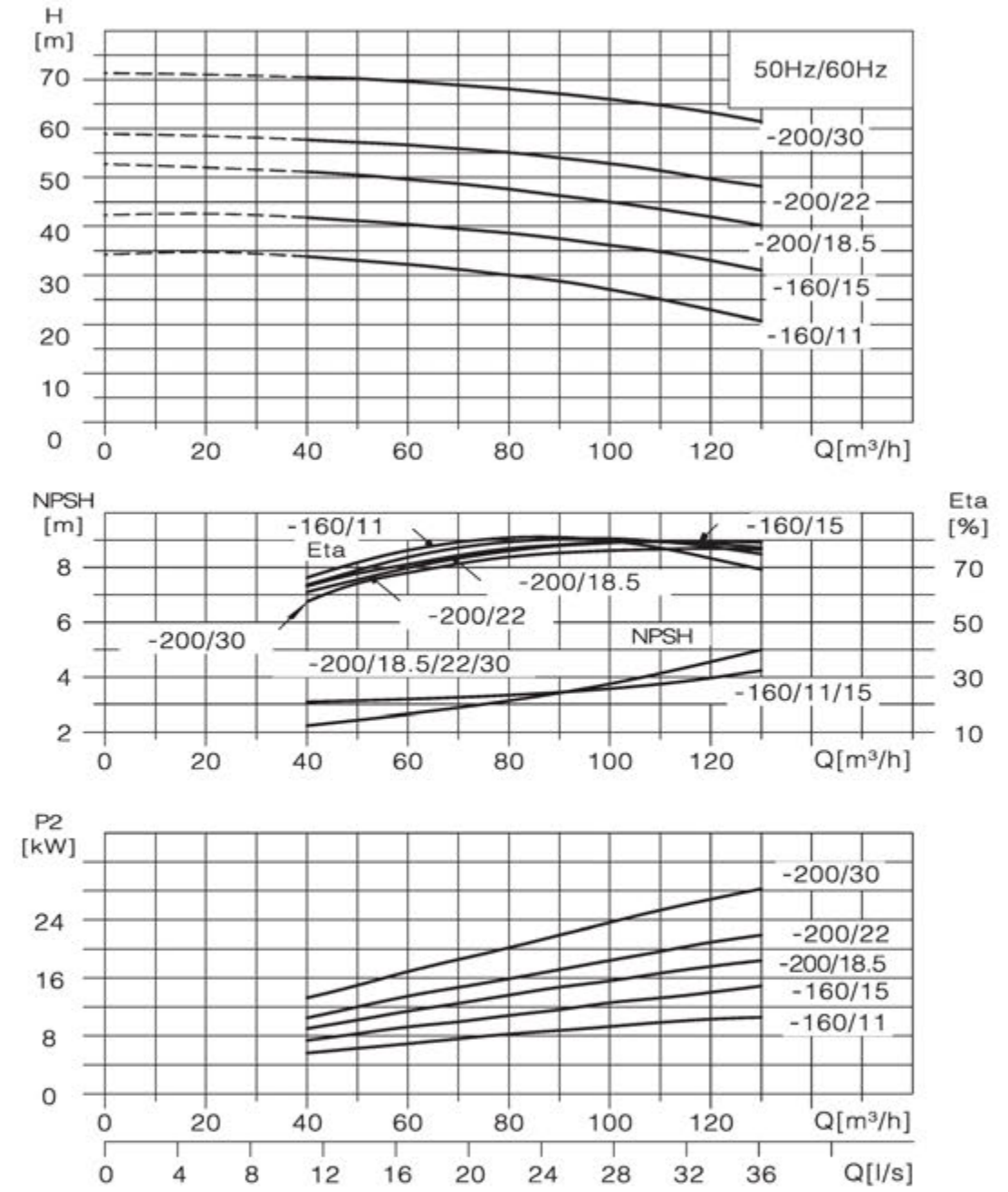
Performance cruve



Performance date

Pump model	Power		Q (m³/h)	40	50	60	70	80	90	100	110	120	130
	(kW)	(HP)											
SMD,SMC80-65-125/5.5	5.5	7.5	H (m)	19.4	18.8	18	17	15.8	14.8	13	11.4	9.5	
SMD,SMC80-65-125/7.5	7.5	10		24.6	23.9	23.1	22.2	21	19.6	18	16.2	13.9	
SMD,SMC80-65-125/9.2	9.2	12.5		28.2	27.9	27.3	26.6	25.7	24.3	23	21.8	19.9	18.1

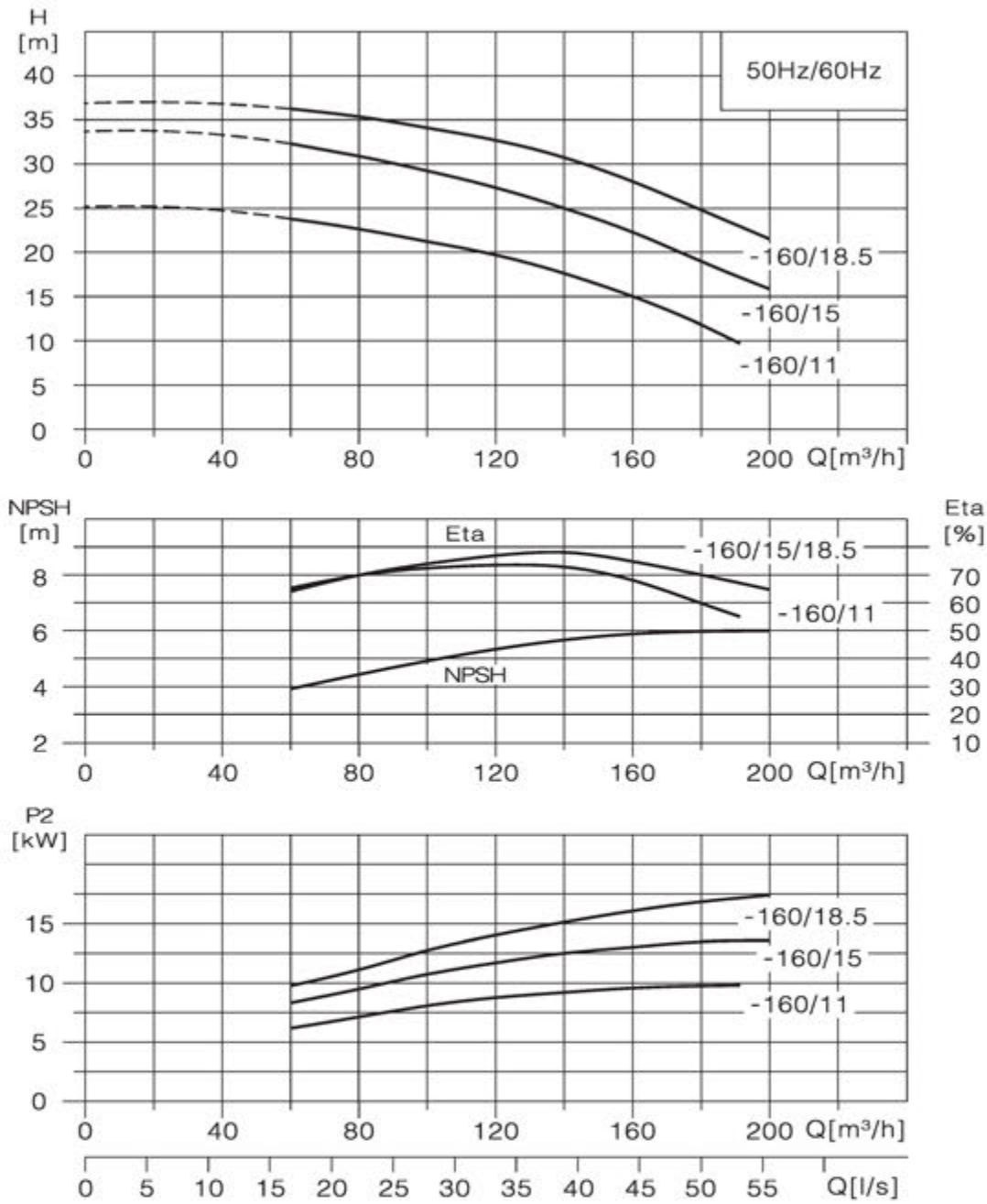
Performance cruve



Performance date

Pump model	Power		Q (m³/h)	40	50	60	70	80	90	100	110	120	130
	(kW)	(HP)											
SMD,SMC80-65-160/11	11	15	H (m)	34	33.1	32.2	31.3	29.9	28.8	27	25.1	22.7	20.5
SMD,SMC80-65-160/15	15	20		41.9	41.2	40.4	39.5	38.6	37.6	36	34.8	32.8	30.8
SMD,SMC80-65-200/18.5	18.5	25		51.1	50.6	49.6	48.7	47.6	46.3	45	43.5	42	40
SMD,SMC80-65-200/22	22	30		57.8	57.3	56.8	55.9	55.1	54	53	51.6	49.5	48
SMD,SMC80-65-200/30	30	40		70.3	70.3	69.6	68.9	68.2	67.1	66	64.6	63.1	61.2

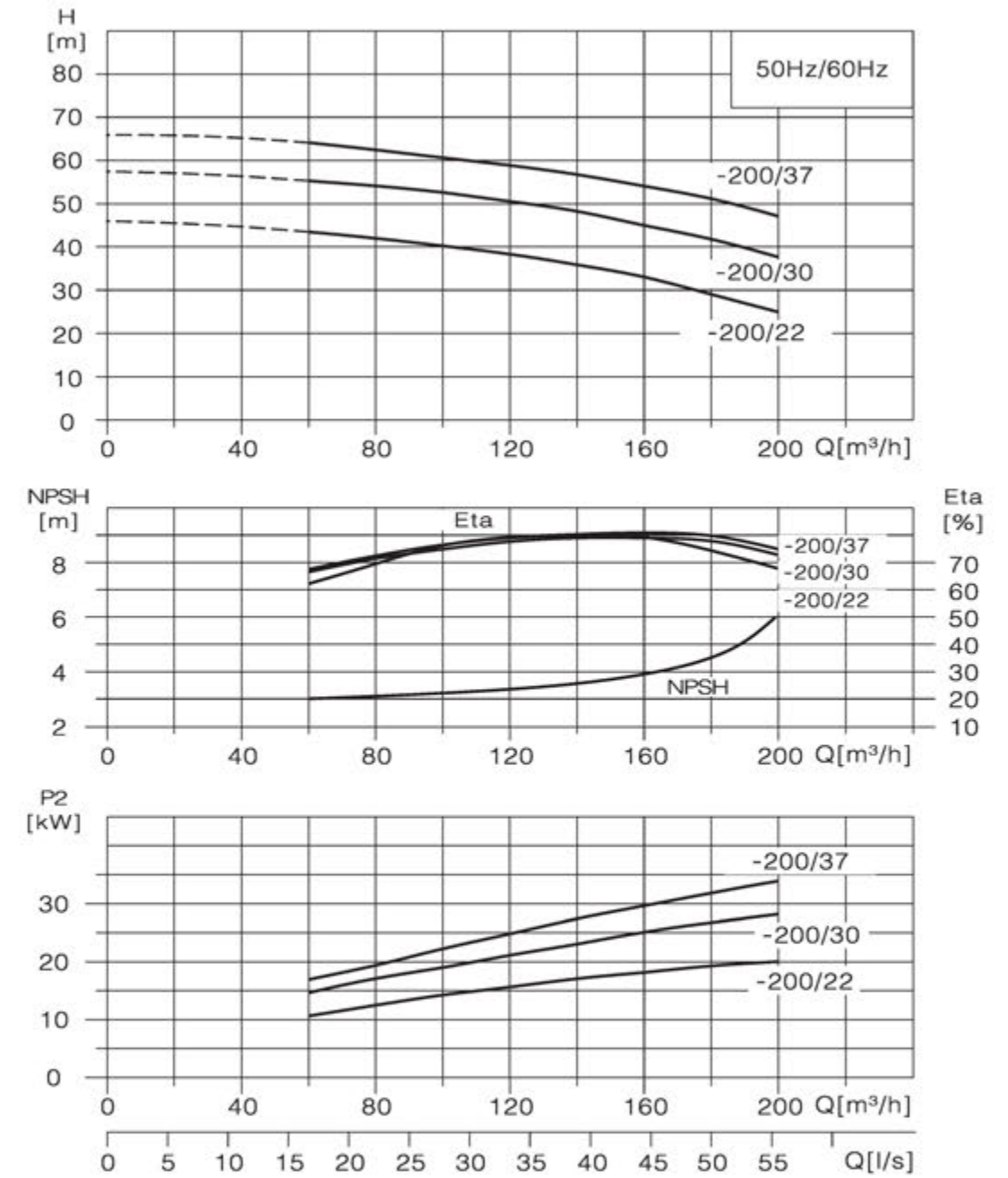
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	60	80	100	120	140	160	180	192	200
	(kW)	(HP)										
SMD,SMC100-80-160/11	11	15	H (m)	23.9	22.8	21.1	19.7	17.6	15	11.8	9.5	
SMD,SMC100-80-160/15	15	20		32.4	30.9	29.1	27.2	25.1	22	18.8		16
SMD,SMC100-80-160/18.5	18.5	25		36.3	35.3	33.8	32.7	31	28	24.8		21.4

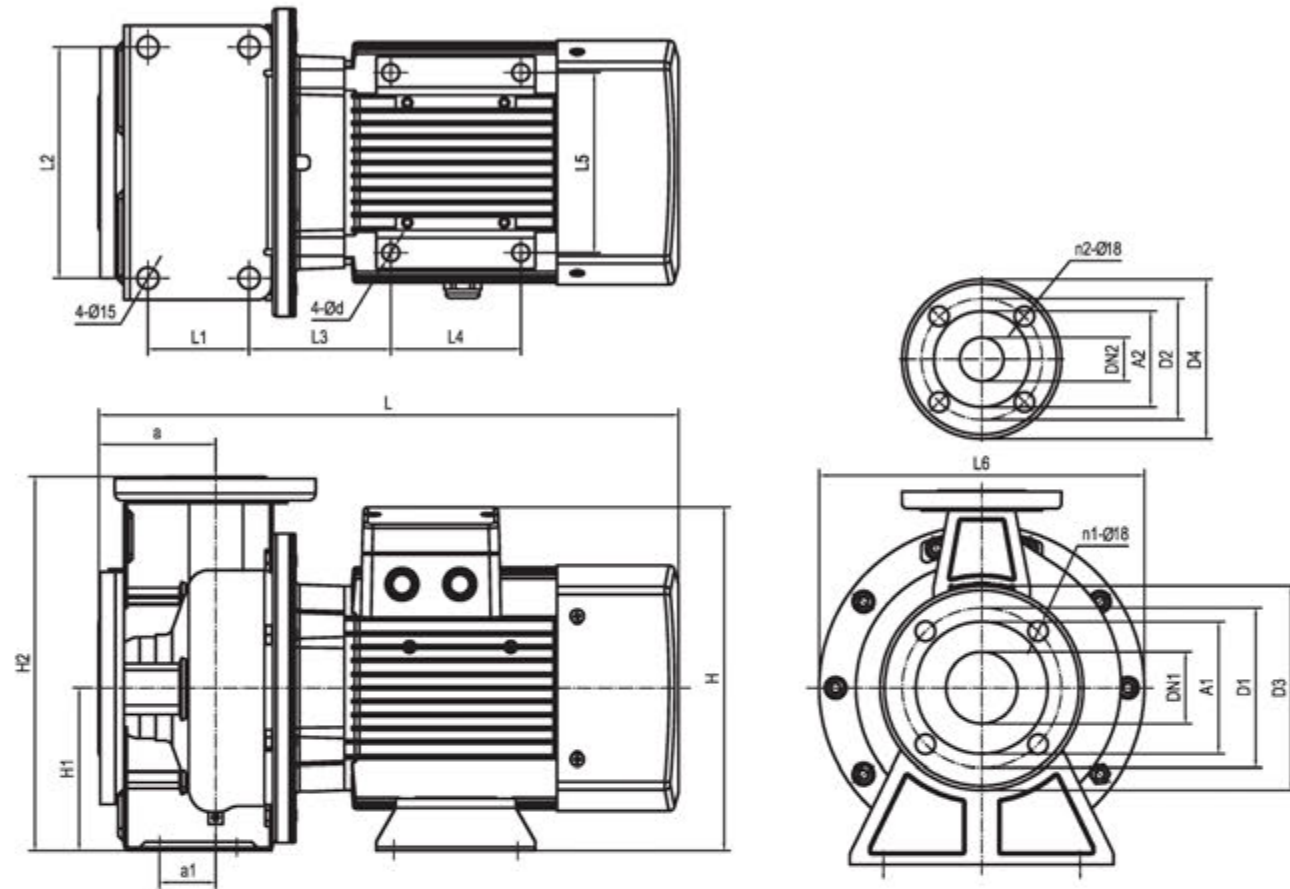
**Performance cruve**



**Performance date**

Pump model	Power		Q (m³/h)	60	80	100	120	140	160	180	200
	(kW)	(HP)									
SMD,SMC100-80-200/22	22	30	H (m)	43.6	42.1	39.7	38.3	35.9	33	29	24.8
SMD,SMC100-80-200/30	30	40		55.5	54.2	52.6	50.5	48.2	45	41.9	37.5
SMD,SMC100-80-200/37	37	50		64.2	62.6	61	59	57.4	54	51.2	47

Installation dimensions and weight



Model	Dimension ( mm )																Weight ( kg )							
	DN1	DN2	A1	A2	D1	D2	D3	D4	n1	n2	a	a1	d	H	H1	H2		L	L1	L2	L3	L4	L5	L6
SMC50-32-160/1.1	50	32	98	75	125	100	160	139	4	4	80	/	12	250	112	256	377	/	/	84	90	125	210	22
SMC50-32-160/1.5	50	32	98	75	125	100	160	139	4	4	80	/	12	267	112	256	401	/	/	100	90	125	210	26
SMC50-32-160/2.2	50	32	98	75	125	100	160	139	4	4	80	/	12	267	112	256	401	/	/	106	100	158	210	28
SMC50-32-200/3	50	32	98	75	125	100	160	139	4	4	84	/	12	330	160	346	464	/	/	120	100	158	300	38
SMC50-32-200/4	50	32	98	75	125	100	160	139	4	4	84	/	12	353	160	346	464	/	/	115	100	158	300	42
SMC50-32-200/5.5	50	32	98	75	125	100	160	139	4	4	84	35	15	373	160	346	504	70	212	110	140	195	300	55
SMC65-40-125/1.5	65	40	118	84	145	110	185	145	4	4	80	/	12	267	112	254	401	/	/	102	90	125	210	23
SMC65-40-125/2.2	65	40	118	84	145	110	185	145	4	4	80	/	12	267	112	254	401	/	/	108	100	158	210	25
SMC65-40-125/3	65	40	118	84	145	110	185	145	4	4	80	/	12	282	112	254	464	/	/	129	100	158	250	26
SMC65-40-160/4	65	40	118	84	145	110	185	145	4	4	80	/	12	305	112	254	464	/	/	118	100	158	250	29

SMC Installation dimension and weight

Model	Dimension ( mm )																Weight ( kg )							
	DN1	DN2	A1	A2	D1	D2	D3	D4	n1	n2	a	a1	d	H	H1	H2		L	L1	L2	L3	L4	L5	L6
SMC65-40-200/5.5	65	40	118	84	145	110	185	145	4	4	100	35	15	373	160	340	529	70	212	122	140	195	300	43
SMC65-40-200/7.5	65	40	118	84	145	110	185	145	4	4	100	35	15	373	160	340	529	70	212	123	140	195	300	45
SMC65-40-200/9.2	65	40	118	84	145	110	185	145	4	4	100	35	15	373	160	340	567	70	212	143	140	195	300	52
SMC65-40-200/11	65	40	118	84	145	110	185	145	4	4	100	35	15	416	160	340	618	70	212	122	210	254	350	100
SMC65-50-125/3	65	50	118	98	145	125	185	160	4	4	86	/	12	302	132	298	481	/	/	126	100	158	250	35
SMC65-50-125/4	65	50	118	98	145	125	185	160	4	4	86	/	12	325	132	298	481	/	/	130	100	158	250	39
SMC65-50-160/5.5	65	50	118	98	145	125	185	160	4	4	100	35	15	373	160	340	529	70	212	124	140	195	300	55
SMC65-50-200/7.5	65	50	118	98	145	125	185	160	4	4	100	35	15	373	160	340	529	70	212	124	140	195	300	58
SMC65-50-200/9.2	65	50	118	98	145	125	185	160	4	4	100	35	15	373	160	340	567	70	212	144	140	195	300	65
SMC65-50-200/11	65	50	118	98	145	125	185	160	4	4	100	35	15	416	160	340	618	70	212	122	210	254	350	99
SMC65-50-200/15	65	50	118	98	145	125	185	160	4	4	100	35	15	416	160	340	618	70	212	122	210	254	350	113
SMC65-50-200/18.5	65	50	118	98	145	125	185	160	4	4	100	35	15	416	160	340	662	70	212	122	254	254	350	126
SMC80-65-125/5.5	80	65	130	118	160	145	200	185	8	4	100	48	15	373	160	340	541	95	212	103	140	195	300	61
SMC80-65-125/7.5	80	65	130	118	160	145	200	185	8	4	100	48	15	373	160	340	541	95	212	103	140	195	300	63
SMC80-65-125/9.2	80	65	130	118	160	145	200	185	8	4	100	48	15	373	160	340	579	95	212	122	140	195	300	69
SMC80-65-160/11	80	65	130	118	160	145	200	185	8	4	100	48	15	416	160	360	625	95	212	100	210	254	350	101
SMC80-65-160/15	80	65	130	118	160	145	200	185	8	4	100	48	15	416	160	360	625	95	212	100	210	254	350	113
SMC80-65-200/18.5	80	65	130	118	160	145	200	185	8	4	100	48	15	436	180	405	669	95	250	91	254	254	350	129
SMC80-65-200/22	80	65	130	118	160	145	200	185	8	4	100	48	15	460	180	405	669	95	250	102	254	254	350	139
SMC80-65-200/30	80	65	130	118	160	145	200	185	8	4	100	48	15	495	180	405	827	95	250	141	305	318	350	255
SMC100-80-160/11	100	80	150	130	180	160	220	200	8	8	125	48	15	436	180	405	675	95	250	103	210	254	350	100
SMC100-80-160/15	100	80	150	130	180	160	220	200	8	8	125	48	15	436	180	405	675	95	250	103	210	254	350	113
SMC100-80-160/18.5	100	80	150	130	180	160	220	200	8	8	125	48	15	436	180	405	719	95	250	103	254	254	350	129
SMC100-80-200/22	100	80	150	130	180	160	220	200	8	8	125	55	15	460	180	430	719	95	280	100	254	254	350	140
SMC100-80-200/30	100	80	150	130	180	160	220	200	8	8	125	55	15	495	180	430	860	95	280	158	305	318	350	258
SMC100-80-200/37	100	80	150	130	180	160	220	200	8	8	125	55	15	495	180	430	860	95	280	158	305	318	350	293