

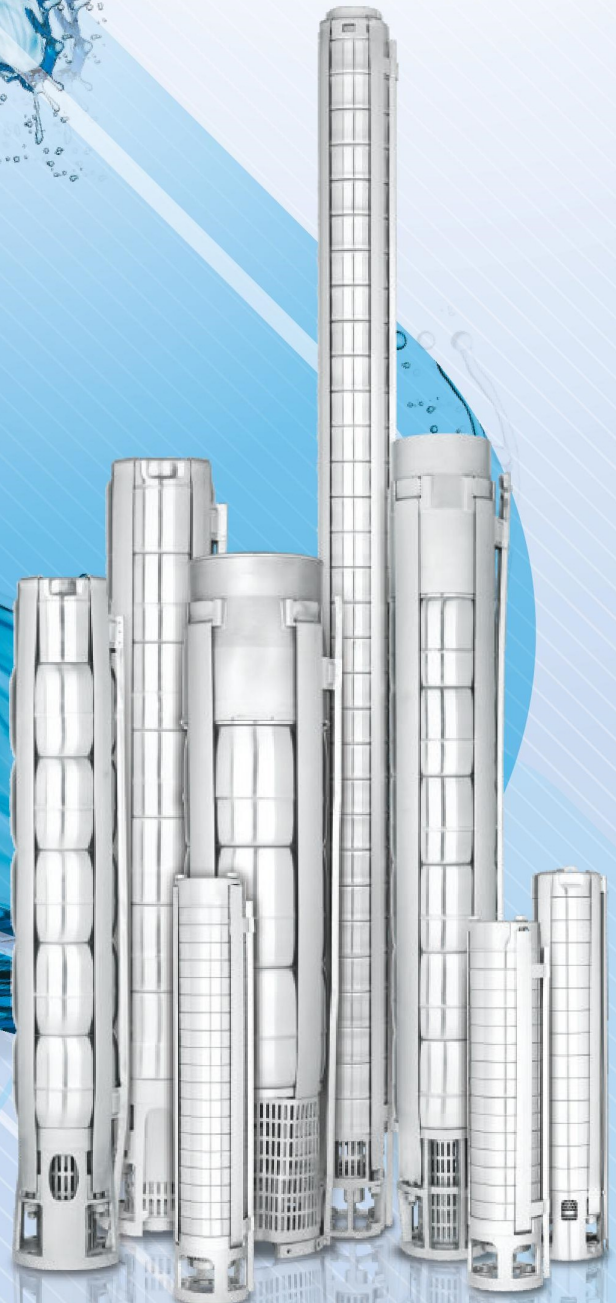
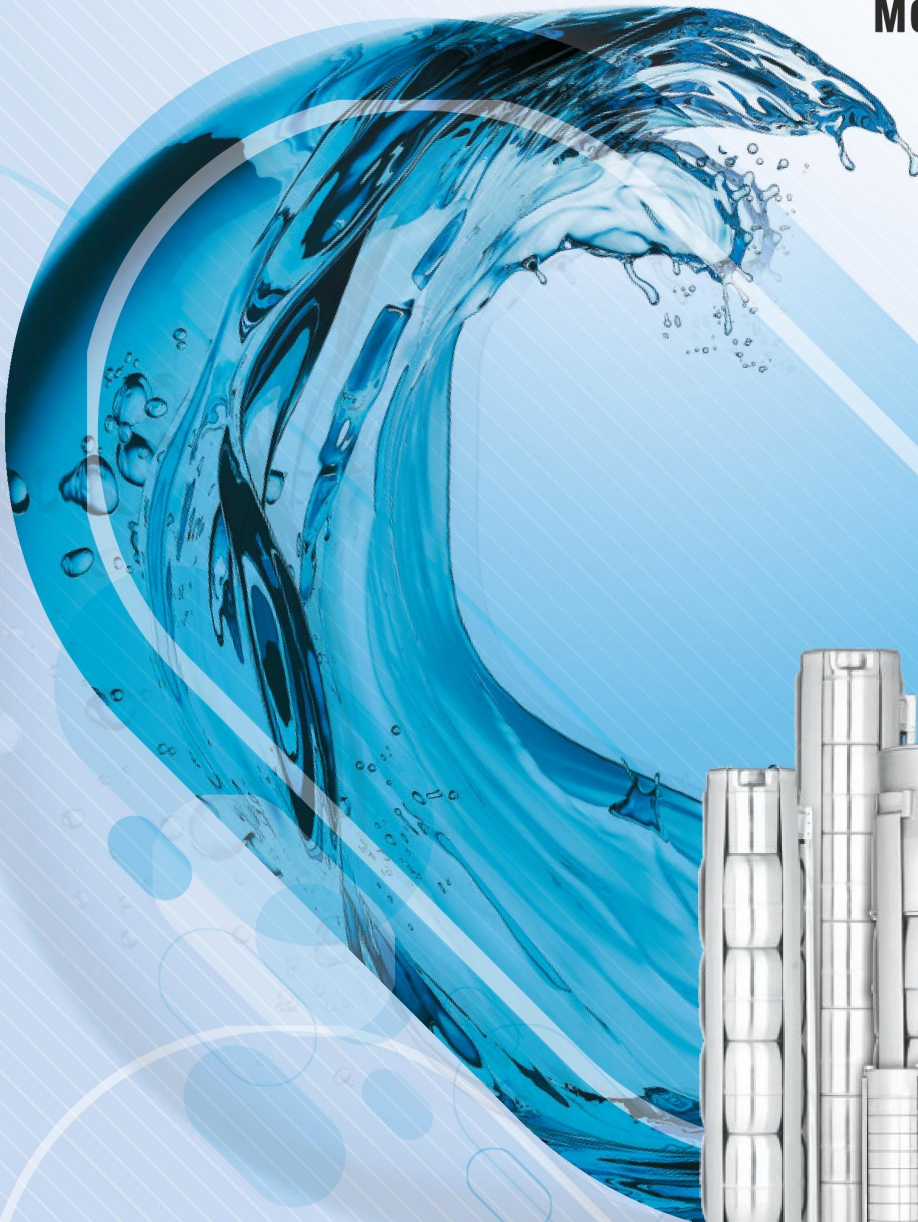


Since 1969

Unnati[®]

MOTORS | PUMPS

50 Hz



TOGETHER WE CAN DO IT
TOGETHER WE HAVE ALWAYS DONE IT



QUALITY POLICY

"UNNATI" aims to meet customer requirements and expectations by supply quality product on schedule time and continually improve the effectiveness of the quality management system".

QUALITY OBJECTIVES

The quality objective of unnati management is to supply only that product, which meets customer requirements as per international standards of quality, performance, reliability, specified by him. And only those items will be submitted to him for acceptance, which fully meet the inherent requirements of product.

Also every step is taken to establish and maintain an effective and efficient quality program planned and developed in conjunction with other management functions by first time right principles.



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Introduction

Submersible bore well pumps for 4" wells (DN 100mm), 6" (DN 150mm), 8" (DN 200mm), 10" (DN 250mm) are constructed out of stainless steel AISI 304 (stainless steel AISI 316 material available on request)

Size for connection to the motor according NEMA standards up to 8" motor joining.

Delivery casing with built-in non-return valve.

Impellers:

Radial flow impellers

- 4" : USP2, USP3, USP5
Mixed flow impellers
- 4" : USP8, USP14
- 6" : USP12, USP14A, USP17, USP30, USP46, USP60
- 8" : USP77, USP95
- 10" : USP125, USP160, USP215

Connection:

Screwed pipe connection with BSP thread as standard.

BSP thread pipe connection are available on request.

Operating conditions

- Flow range : Max. 282 m³/h
- Head range : Max. 750 m
- Liquid temperature : 0°C to +45°C
- Max. sand content into the water : 50 g/m³

Nomenclature:

Example	USP	46	-5	-A	B	N
Type range (USP)						
Pump type						
Number of impellers						
First impeller with reduced diameter (A, B or C)						
Second impeller with reduced diameter (A, B or C)						
Stainless steel parts of material						
= AISI 304 (DIN W.-Nr. 1.4301) (Standard construction)						
N = AISI 316 (DIN W.-Nr. 1.4401)						

Liquid suitable for pumping:

These pumps are designed for liquids which are thin, clean, non-aggressive, non-explosive, not containing solid particles or fibres.

Special versions made of stainless steel AISI 316 are available for applications involving aggressive liquids.

Curve conditions

The conditions below apply to the curves shown the following pages.

General

- Tolerances in accordance with ISO 9906.
- The motors used for the measurement are standard motors.
- Test results with clean cold water, without gas content. Measurements have been made with airless water at a temperature of 20°C.
- Head and power values valid for liquids with density = 1.0 kg/dm³ and kinematic viscosity $\nu = \max 1 \text{ mm}^2/\text{s}$ (1 cSt).
- When pumping liquids with a density higher than that of water, motors with correspondingly higher outputs must be used.
- The QH curves apply to a rated motor speed of 2900 min⁻¹.
- The performance curves are inclusive of possible losses such as non-return valve losses.
- A safety margin of + 2 feet is recommend for the NPSH value.

4" curves

- QH: The curves are inclusive of valve and inlet losses at the actual speed.
- Power curve: The power curve shows pump power input at the actual speed for one stage.
- Efficiency curve: p% shows pump stage efficiency.

6", 8" & 10" curves

- QH: The curves are inclusive of valve and inlet losses at the actual speed. Operation without non-return valve will increase the actual head at nominal performance by 0.5 to 1m.
- NPSH: The curve is inclusive of suction interconnector and shows required inlet pressure.
- Power curve: The power curve shows pump power input at the actual speed for one stage.
- Efficiency curve: p% show pump stage efficiency.



Performance Range

Stainless steel submersible bore well pumps

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Model	Borewell Dia.	Discharge Range (m ³ /h)	Head Range (Mtrs)	Del. (BSP)
USP2	4"	0-2.7	10-547	1 ¼"
USP3	4"	0-4.3	10-434	1 ¼"
USP5	4"	0-6.7	9-542	1 ¼"
USP8	4"	0-11.4	11-434	2"
USP14	4"	0-18.8	12-164	2"
USP12	6"	0-18.33	4-460	3"
USP14A	6"	0-18	6-462	3"
USP17	6"	0-22.1	4-671	3"
USP30	6"	0-39	3-565	3"
USP46	6"	0-60	0-508	3¾"
USP60	6"	0-79	0-323	3¾"
USP77	8"	0-100	7-403	5"
USP95	8"	0-123.8	6-423	5"
USP125	10"	0-162.5	5-495	6"
USP160	10"	0-217	4-161	6"
USP215	10"	0-280	3-195	6"



Product Range

Stainless steel submersible bore well pumps

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**USP2, USP3
& USP5**



USP8



USP14



**USP12,
14A, 17**



USP30



USP46 & USP60



USP77 & USP95



**USP125
& USP160**



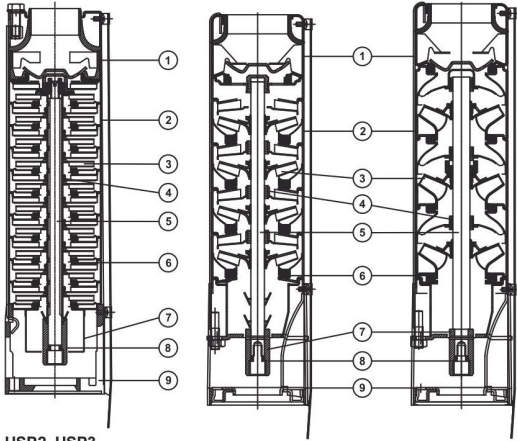
USP215





Sectional drawing & Materials

4" Stainless steel submersible bore well pumps



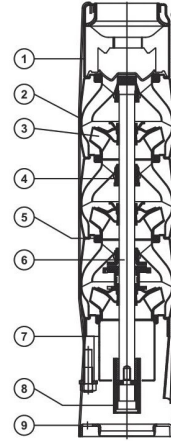
USP2, USP3,
USP5

USP8

USP14

Pos.	Component	Material
01	Delivery casing	Stainless steel AISI 304 / Cf8
02	Diffuser	Stainless steel AISI 304
03	Impeller	Stainless steel AISI 304
04	Bearing	NBR
05	Pump shaft	Stainless steel AISI 410 / 304
06	Neck ring	NBR
07	Strainer	Stainless steel AISI 304
08	Coupling	Stainless steel AISI 304
09	Suction inter connector	Stainless steel AISI 304

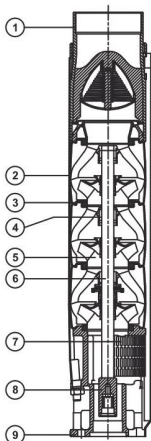
6" Stainless steel submersible bore well pumps



USP12, USP14A, USP17, USP30, USP46, USP60

Pos.	Component	Material
01	Delivery casing	Stainless steel AISI 304
02	Diffuser	Stainless steel AISI 304
03	Impeller	Stainless steel AISI 304
04	Bearing	NBR
05	Neck ring	NBR
06	Pump shaft	Stainless steel AISI 431
07	Strainer	Stainless steel AISI 304
08	Coupling	Stainless steel AISI 304
09	Suction inter connector	Stainless steel AISI 304
10	Upper Thrust	Stainless steel AISI 304 / NR

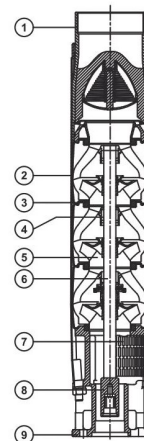
8" Stainless steel submersible bore well pumps



USP77, USP95

Pos.	Component	Material
01	Delivery casing	Stainless steel AISI 304 / CF8
02	Diffuser	AISI 304
03	Neck ring	NBR
04	Bearing	NBR
05	Impeller	AISI 304
06	Pump shaft	AISI 431
07	Strainer	Stainless steel AISI 304
08	Coupling	AISI 304
09	Suction inter connector	Stainless steel AISI 304 / CF8

10" Stainless steel submersible bore well pumps



USP125, USP160, USP215

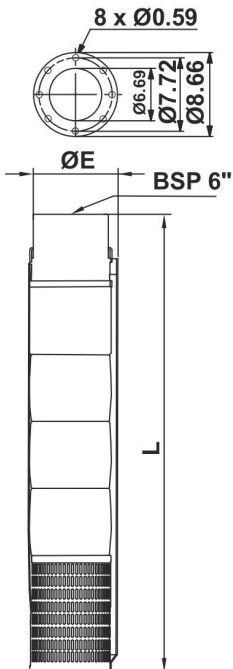
Pos.	Component	Material
01	Delivery casing	Stainless steel AISI 304 / Cf8
02	Diffuser	Stainless steel AISI 304
03	Neck ring	NBR
04	Bearing	NBR
05	Impeller	Stainless steel AISI 304
06	Pump shaft	Stainless steel AISI 431
07	Strainer	Stainless steel AISI 304
08	Coupling	Stainless steel AISI 304
09	Suction inter connector	Stainless steel AISI 304 / Cf8



10" USP125

Performance Table

Model Name	kW	HP	Stage	Q	n = 2900 rpm					
				m ³ /h	0	20	60	100	120	162.5
				L/min	0	333	1000	1667	2000	2708
USP125/1-A	7.50	10.0	1	H mts.	21	22	19	16	14	5
USP125/1	11.0	15.0	1		31	31	27	22	20	13
USP125/2-AA	13.0	17.5	2		40	41	37	31	27	10
USP125/2-A	18.5	25.0	2		50	50	46	40	34	18
USP125/2	22.0	30.0	2		59	60	54	46	41	26
USP125/3-AA	22.0	30.0	3		69	70	63	54	47	21
USP125/3-A	26.0	35.0	3		78	79	72	61	54	30
USP125/3	30.0	40.0	3		88	88	80	69	62	39
USP125/4-AA	37.0	50.0	4		98	100	91	78	69	36
USP125/4-A	37.0	50.0	4		107	108	99	85	76	44
USP125/4	37.0	50.0	4		116	117	107	91	83	52
USP125/5-AA	45.0	60.0	5		127	130	120	104	93	52
USP125/5-A	45.0	60.0	5		137	139	128	110	100	59
USP125/5	55.0	75.0	5		147	149	136	118	108	70
USP125/6-AA	55.0	75.0	6		156	160	147	127	114	66
USP125/6-A	55.0	75.0	6		166	168	155	134	121	74
USP125/6	66.0	90.0	6		176	178	164	143	130	85
USP125/7-AA	66.0	90.0	7		185	188	173	152	136	80



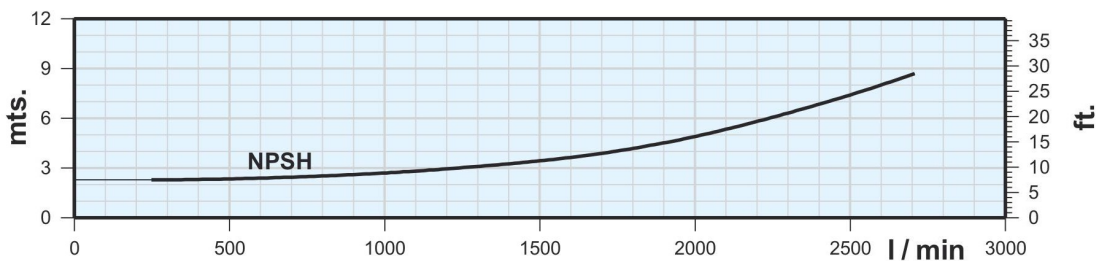
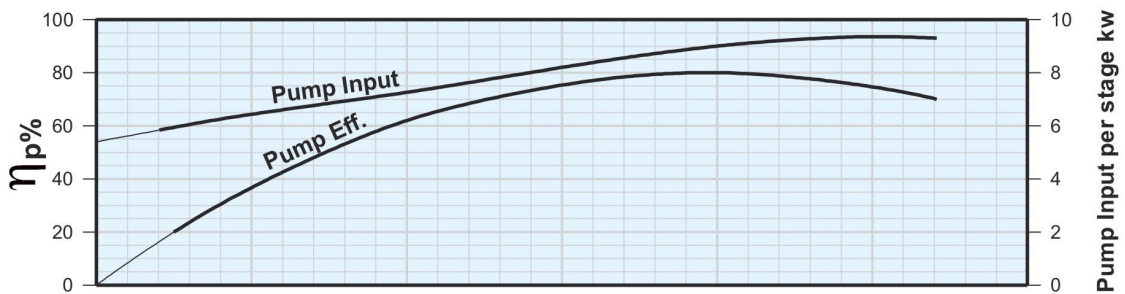
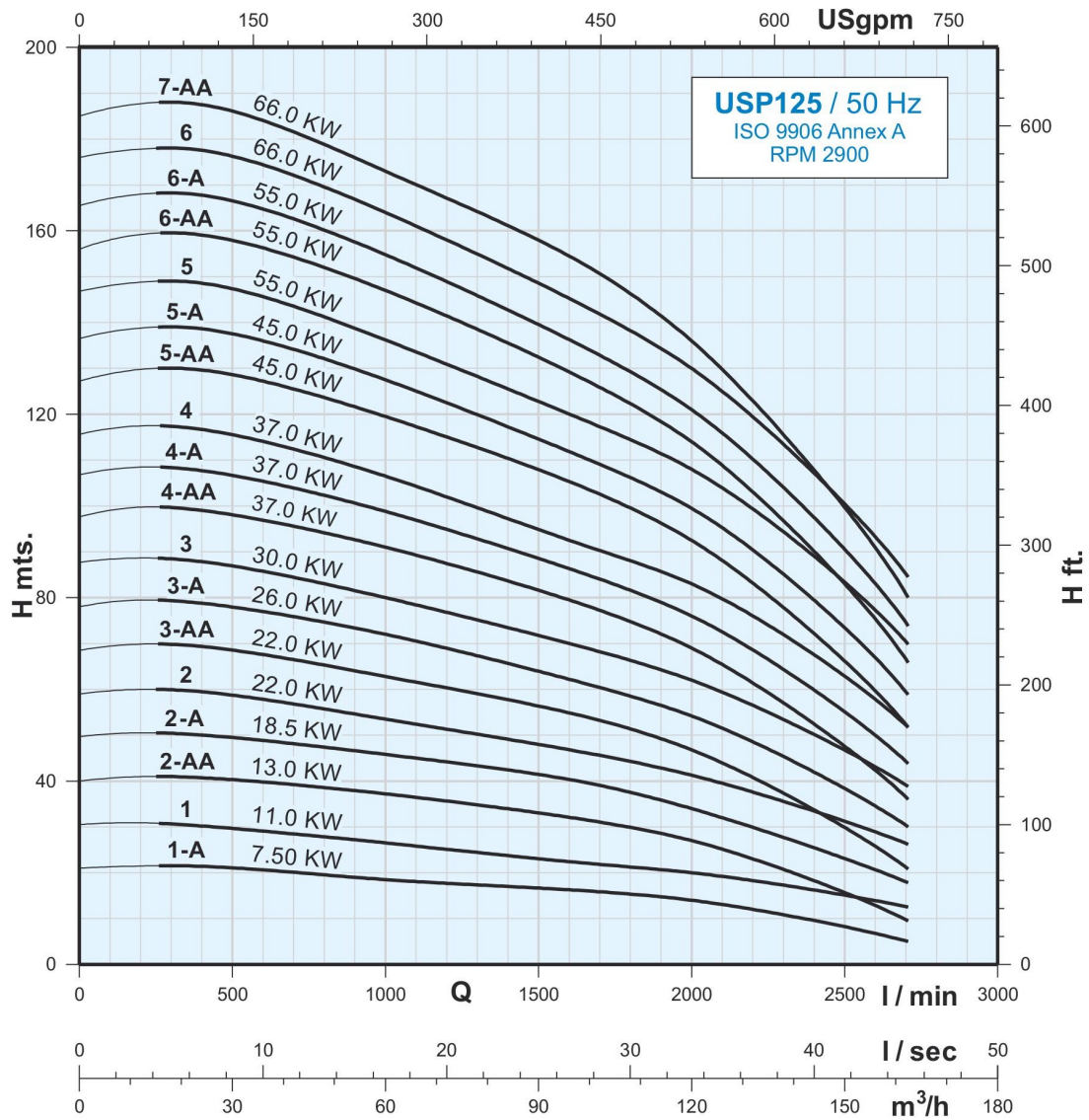
Dimensions & Weights

Model Name	Motor Joining Size	ØE (mm)	L (mm)	Pump Gross Weight (kg)	Pump Gross Volume (m ³)
USP125/1-A	6"	211	791	26.0	0.0543
USP125/1	6"	211	791	26.0	0.0543
USP125/2-AA	6"	211	926	30.1	0.0636
USP125/2-A	6"	211	926	30.1	0.0636
USP125/2	6"	211	926	30.1	0.0636
USP125/3-AA	6"	211	1081	34.3	0.0742
USP125/3-A	6"	211	1081	34.3	0.0742
USP125/3	6"	211	1081	34.3	0.0742
USP125/4-AA	6"	211	1236	38.5	0.0848
USP125/4-A	6"	211	1236	38.5	0.0848
USP125/4	6"	211	1236	38.5	0.0848
USP125/5-AA	8"	213	1391	42.7	0.0955
USP125/5-A	8"	213	1391	42.7	0.0955
USP125/5	8"	213	1391	42.7	0.0955
USP125/6-AA	8"	213	1546	46.8	0.1061
USP125/6-A	8"	213	1546	46.8	0.1061
USP125/6	8"	218	1546	46.8	0.1061
USP125/7-AA	8"	218	1701	51.0	0.1168



10" USP125

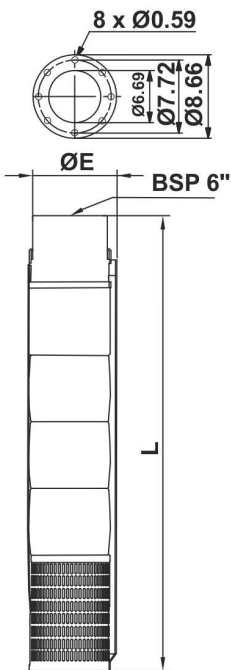
Performance Curve





Performance Table

Model Name	kW	HP	Stage	Q	n = 2900 rpm						
					m ³ /h	0	20	60	100	120	162.5
						L/min	0	333	1000	1667	2000
USP125/7-A	66.0	90.0	7	H mts.	195	198	183	157	143	88	
USP125/7	75.0	100.0	7		204	207	190	167	150	98	
USP125/8-AA	75.0	100.0	8		214	217	201	173	157	93	
USP125/8-A	75.0	100.0	8		223	227	209	181	164	100	
USP125/8	75.0	100.0	8		232	236	216	188	170	108	
USP125/9-AA	93.0	125.0	9		242	247	226	197	177	105	
USP125/9-A	93.0	125.0	9		251	255	233	203	184	112	
USP125/9	93.0	125.0	9		260	265	242	210	190	120	
USP125/10-AA	93.0	125.0	10		269	275	252	218	196	115	
USP125/10-A	93.0	125.0	10		278	283	260	225	203	123	
USP125/10	93.0	125.0	10		287	293	268	232	210	131	
USP125/11	110.0	150.0	11		317	322	295	255	233	155	
USP125/12	135.0	180.0	12		350	355	328	285	261	175	
USP125/13	135.0	180.0	13		377	385	355	308	280	187	
USP125/14	150.0	200.0	14		409	415	385	335	307	207	
USP125/15	150.0	200.0	15		437	445	410	357	327	220	
USP125/16	165.0	225.0	16		466	475	438	382	350	238	
USP125/17	165.0	225.0	17	495	505	465	405	370	250		

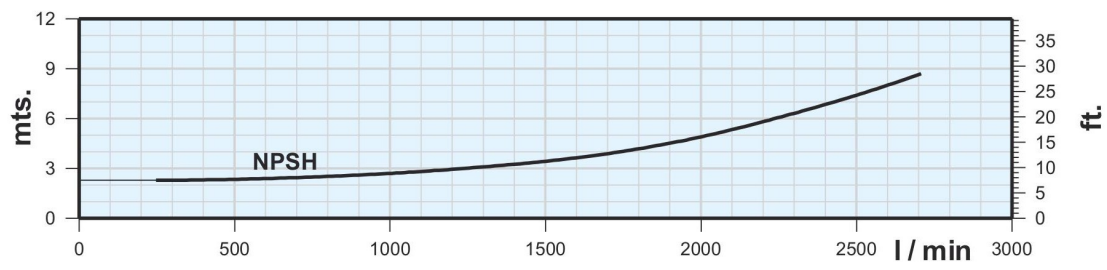
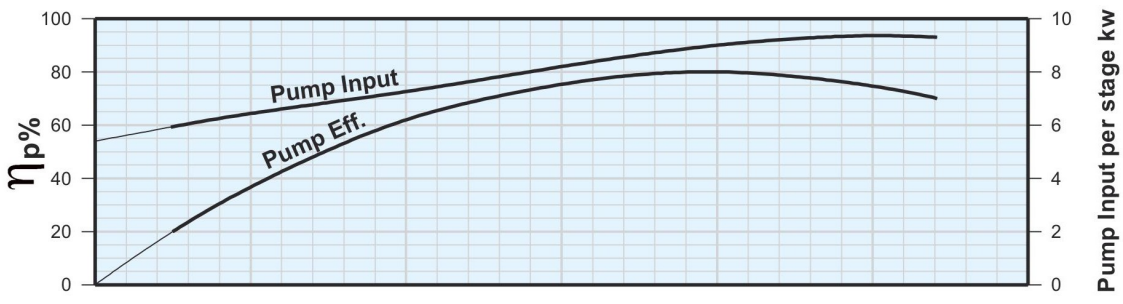
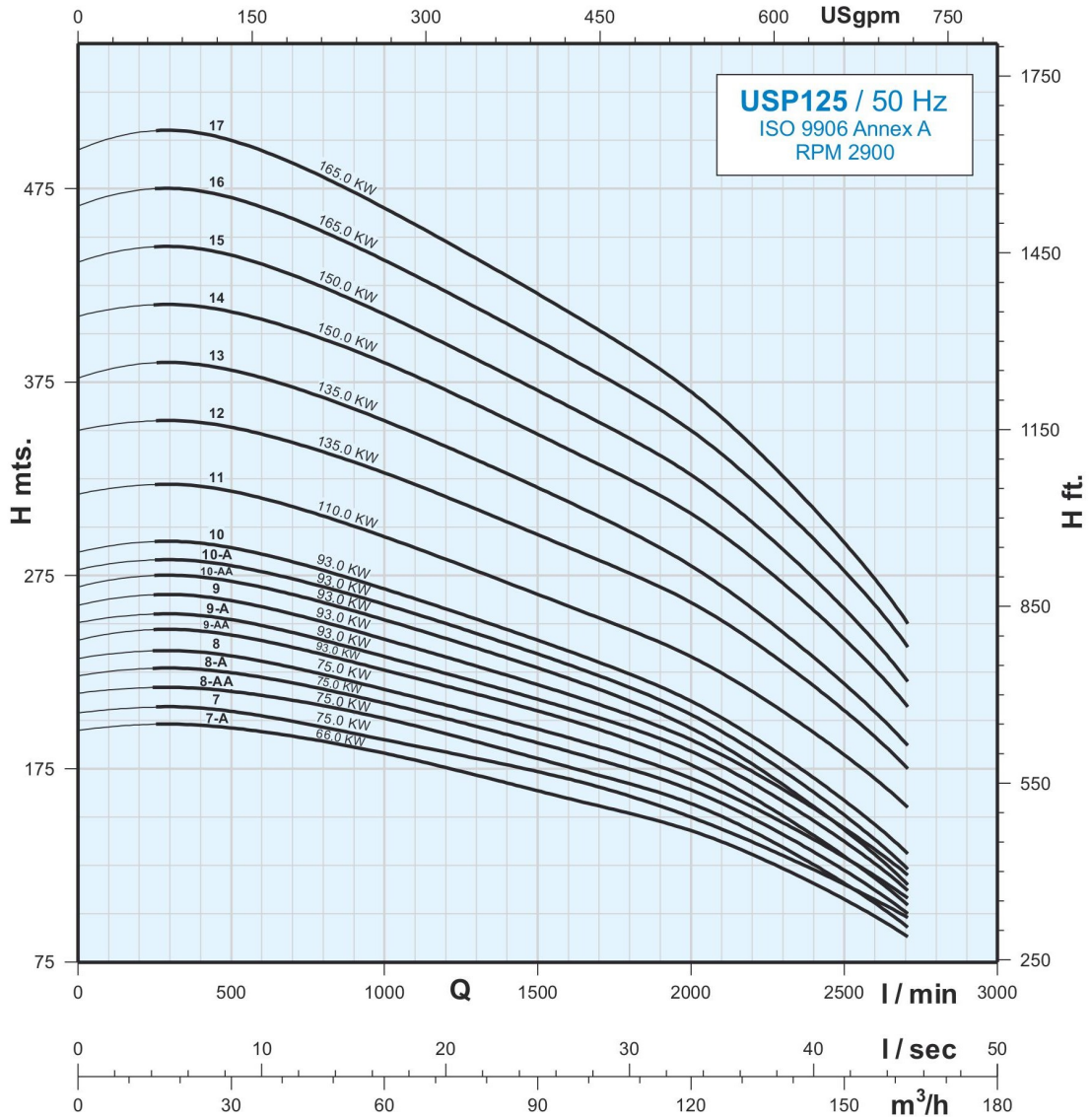


Dimensions & Weights

Model Name	Motor Joining Size	ØE (mm)	L (mm)	Pump Gross Weight (kg)	Pump Gross Volume (m ³)
USP125/7-A	8"	218	1701	51.0	0.1168
USP125/7	8"	218	1701	51.0	0.1168
USP125/8-AA	8"	218	1856	55.2	0.1274
USP125/8-A	8"	218	1856	55.2	0.1274
USP125/8	8"	218	1856	55.2	0.1274
USP125/9-AA	8"	218	2011	59.4	0.1380
USP125/9-A	8"	218	2011	59.4	0.1380
USP125/9	8"	218	2011	59.4	0.1380
USP125/10-AA	8"	218	2166	63.6	0.1487
USP125/10-A	8"	218	2166	63.6	0.1487
USP125/10	8"	218	2166	63.6	0.1487
USP125/11	8"	218	2321	67.8	0.1593
USP125/12	10"	240	2476	72.0	0.1700
USP125/13	10"	240	2631	76.1	0.1806
USP125/14	10"	240	2786	80.3	0.1912
USP125/15	10"	240	2941	84.5	0.2019
USP125/16	10"	240	3096	88.7	0.2125
USP125/17	10"	240	3251	92.9	0.2232



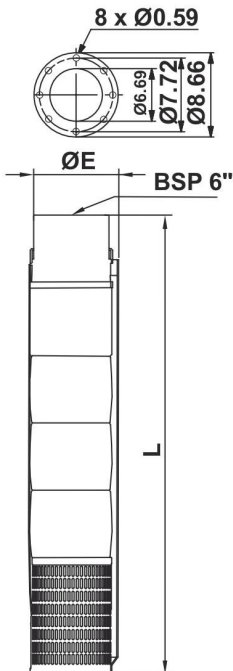
Performance Curve





Performance Table

Model Name	kW	HP	Stage	Q	n = 2900 rpm					
				m ³ /h	0	20	80	120	160	217
				L/min	0	333	1334	2000	2667	3617
USP160/1-A	9.30	12.5	1	H mts.	24	24	19	16	13	4
USP160/1	13.0	17.5	1		34	34	28	23	20	13
USP160/2-AA	18.5	25.0	2		46	46	39	34	26	9
USP160/2-A	22.0	30.0	2		56	56	47	40	33	18
USP160/2	26.0	35.0	2		65	65	55	47	40	25
USP160/3-AA	30.0	40.0	3		77	77	67	57	46	22
USP160/3-A	37.0	50.0	3		87	88	75	64	54	31
USP160/3	37.0	50.0	3		96	97	82	70	60	38
USP160/4-AA	45.0	60.0	4		110	111	96	83	69	38
USP160/4-A	45.0	60.0	4		119	120	103	89	76	46
USP160/4	55.0	75.0	4		130	131	112	96	84	54
USP160/5-AA	55.0	75.0	5		142	143	123	107	90	51
USP160/5-A	55.0	75.0	5		151	152	131	113	96	58
USP160/5	66.0	90.0	5		161	163	138	120	104	64



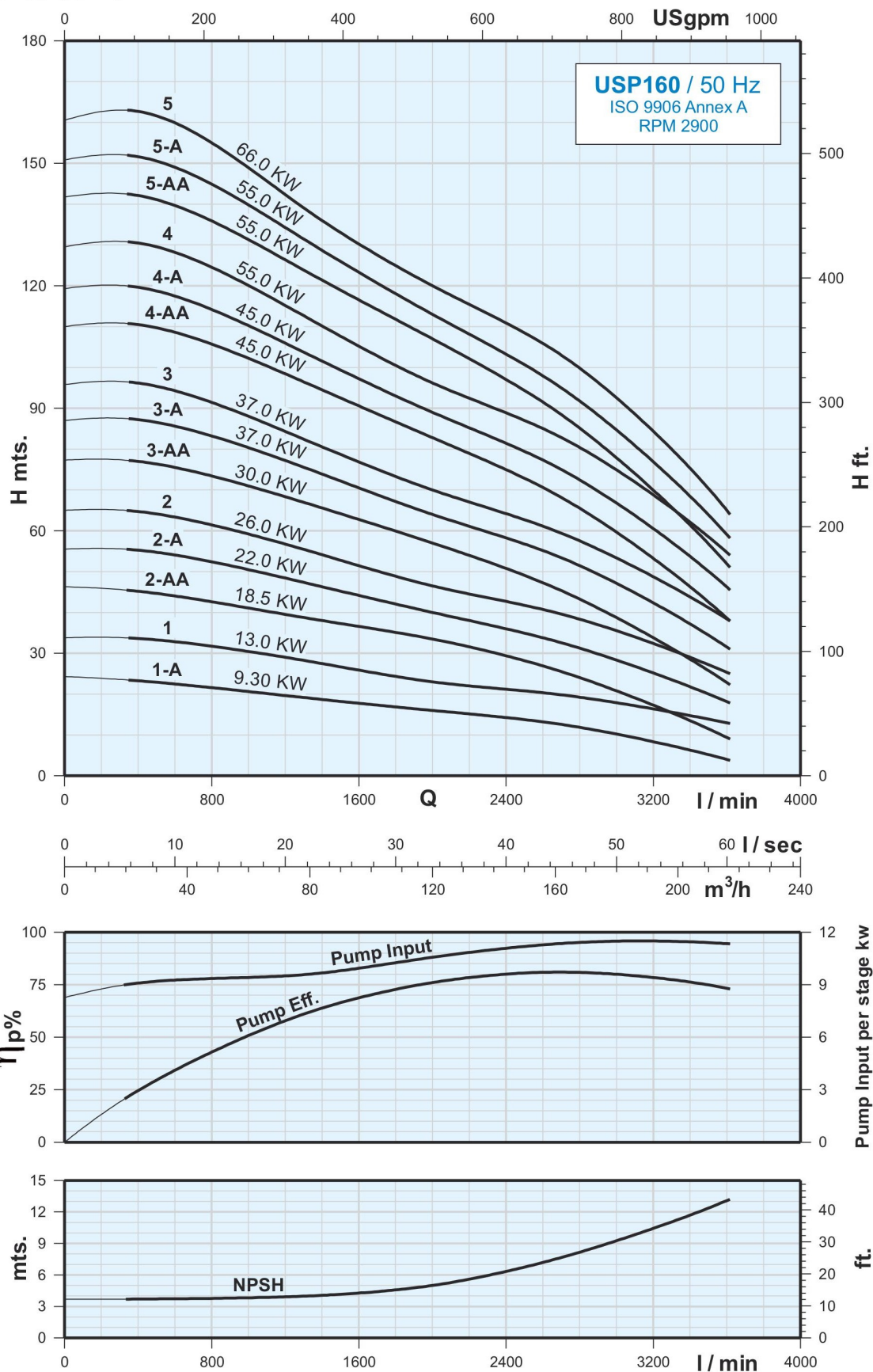
Dimensions & Weights

Model Name	Motor Joining Size	ØE (mm)	L (mm)	Pump Gross Weight (kg)	Pump Gross Volume (m ³)
USP160/1-A	6"	211	791	26.0	0.0543
USP160/1	6"	211	791	26.0	0.0543
USP160/2-AA	6"	211	926	30.1	0.0636
USP160/2-A	6"	211	926	30.1	0.0636
USP160/2	6"	211	926	30.1	0.0636
USP160/3-AA	6"	211	1081	34.3	0.0742
USP160/3-A	6"	211	1081	34.3	0.0742
USP160/3	6"	211	1081	34.3	0.0742
USP160/4-AA	8"	218	1236	38.5	0.0848
USP160/4-A	8"	218	1236	38.5	0.0848
USP160/4	8"	218	1236	38.5	0.0848
USP160/5-AA	8"	218	1391	42.7	0.0955
USP160/5-A	8"	218	1391	42.7	0.0955
USP160/5	8"	218	1391	42.7	0.0955



10" USP160

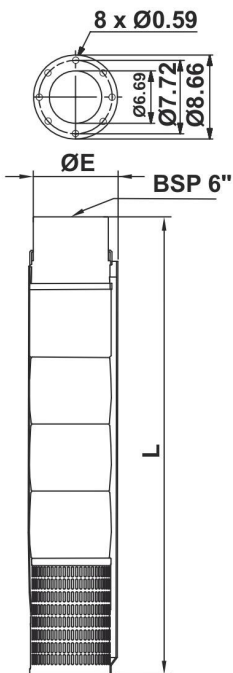
Performance Curve





Performance Table

Model Name	kW	HP	Stage	Q	n = 2900 rpm					
				m ³ /h	0	40	120	200	240	280
				L/min	0	667	2000	3334	4000	4667
USP215/1-A	15.0	20.0	1	H mts.	27	27	22	15	10	3
USP215/1	18.5	25.0	1		38	37	30	23	19	12
USP215/2-AA	30.0	40.0	2		55	54	47	35	25	12
USP215/2-A	37.0	50.0	2		67	65	55	44	35	18
USP215/2	45.0	60.0	2		80	78	64	52	44	28
USP215/3-AA	55.0	75.0	3		95	94	82	67	52	29
USP215/3-A	55.0	75.0	3		107	105	89	72	59	37
USP215/3	66.0	90.0	3		119	117	97	79	67	47
USP215/4-AA	75.0	100.0	4		135	132	114	92	74	45
USP215/4-A	75.0	100.0	4		147	144	122	98	82	53
USP215/4	75.0	100.0	4		158	155	129	105	87	62
USP215/5-AA	93.0	125.0	5		173	170	146	117	95	59
USP215/5-A	93.0	125.0	5		184	181	152	123	102	67
USP215/5	93.0	125.0	5		195	192	160	130	108	75



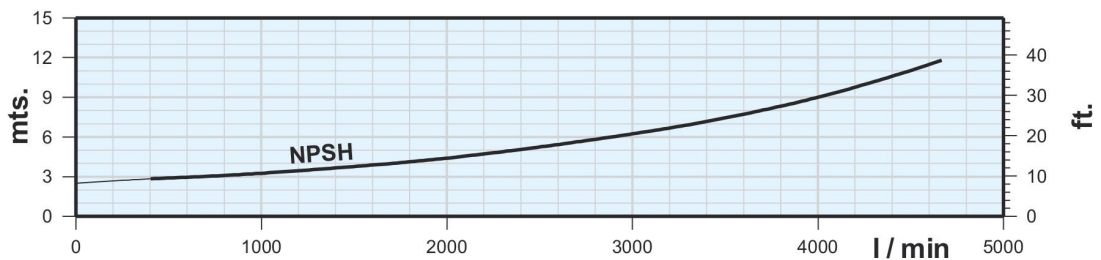
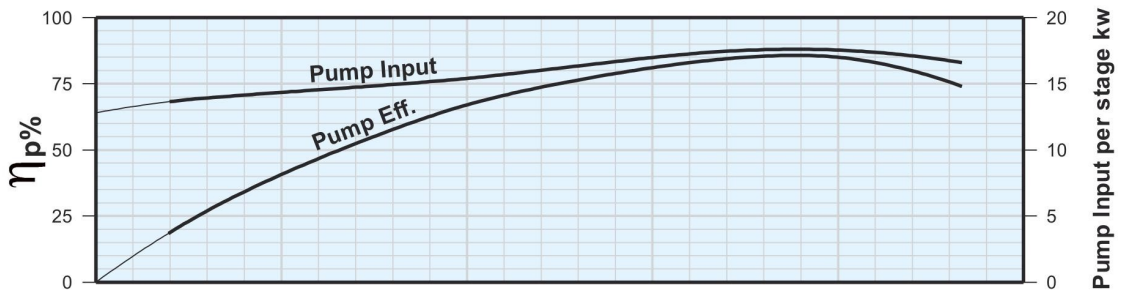
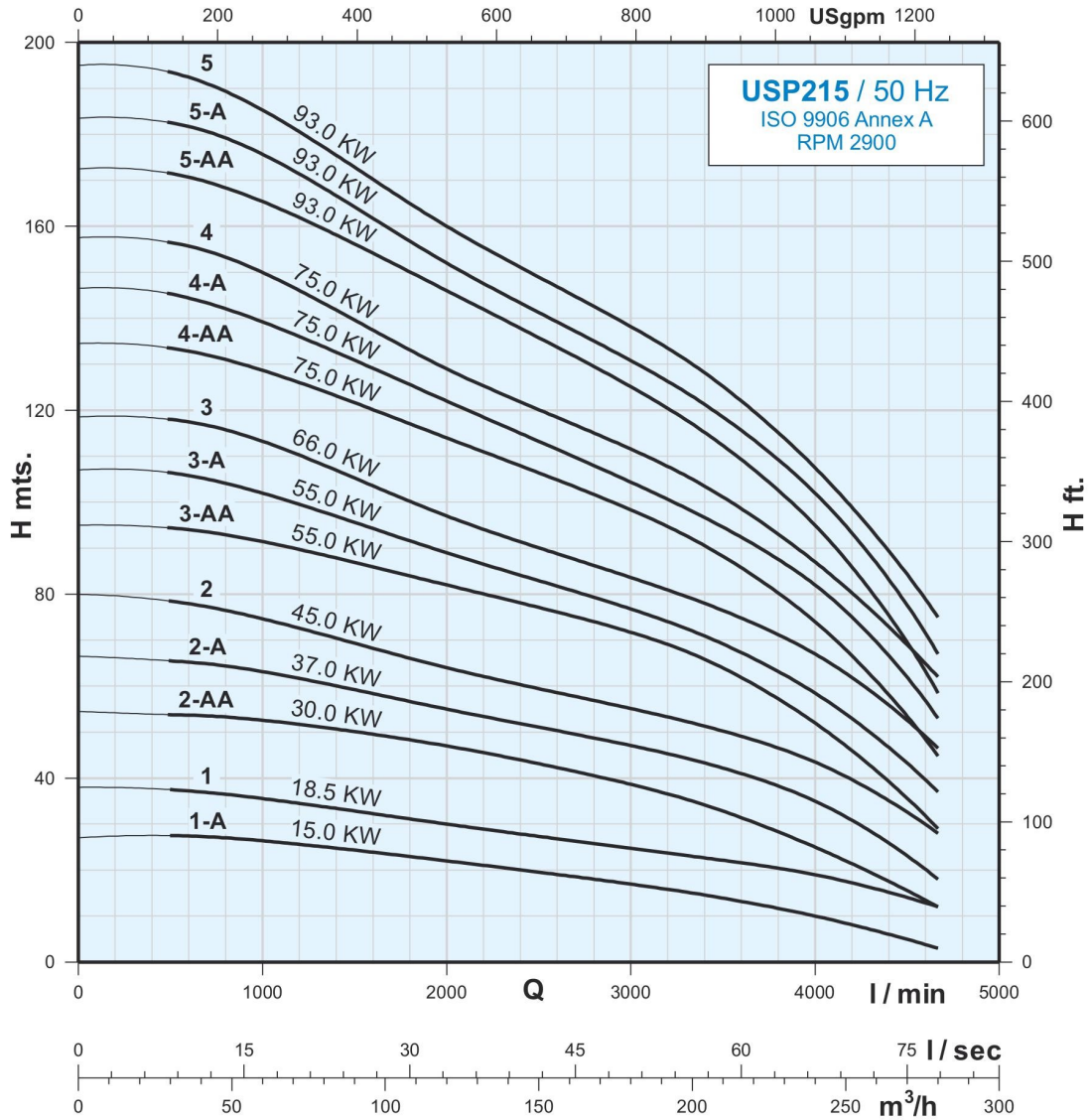
Dimensions & Weights

Model Name	Motor Joining Size	ØE (mm)	L (mm)	Pump Gross Weight (kg)	Pump Gross Volume (m ³)
USP215/1-A	6"	241	790	49.0	0.0498
USP215/1	6"	241	790	49.0	0.0498
USP215/2-AA	6"	241	966	59.5	0.0761
USP215/2-A	6"	241	966	59.5	0.0761
USP215/2	8"	241	966	59.5	0.0761
USP215/3-AA	8"	241	1142	101.0	0.1792
USP215/3-A	8"	241	1142	101.0	0.1792
USP215/3	8"	241	1142	101.0	0.1792
USP215/4-AA	8"	241	1318	114.5	0.2306
USP215/4-A	8"	241	1318	114.5	0.2306
USP215/4	8"	241	1318	114.5	0.2306
USP215/5-AA	8"	241	1494	128.0	0.2560
USP215/5-A	8"	241	1494	128.0	0.2560
USP215/5	8"	241	1494	128.0	0.2560



10" USP215

Performance Curve



Disclaimer : Due to continual up gradation in design & specification in motor the technical details illustrated in this catalogue may differ with that of actual motor.



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Unnati[®]
MOTORS | PUMPS

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