AK Flow Pumps

QF, QF A

Stainless Steel
Submersible Pumps, 50Hz

Approvals

General Data

Technical Data

Submersible Pumps - ARS

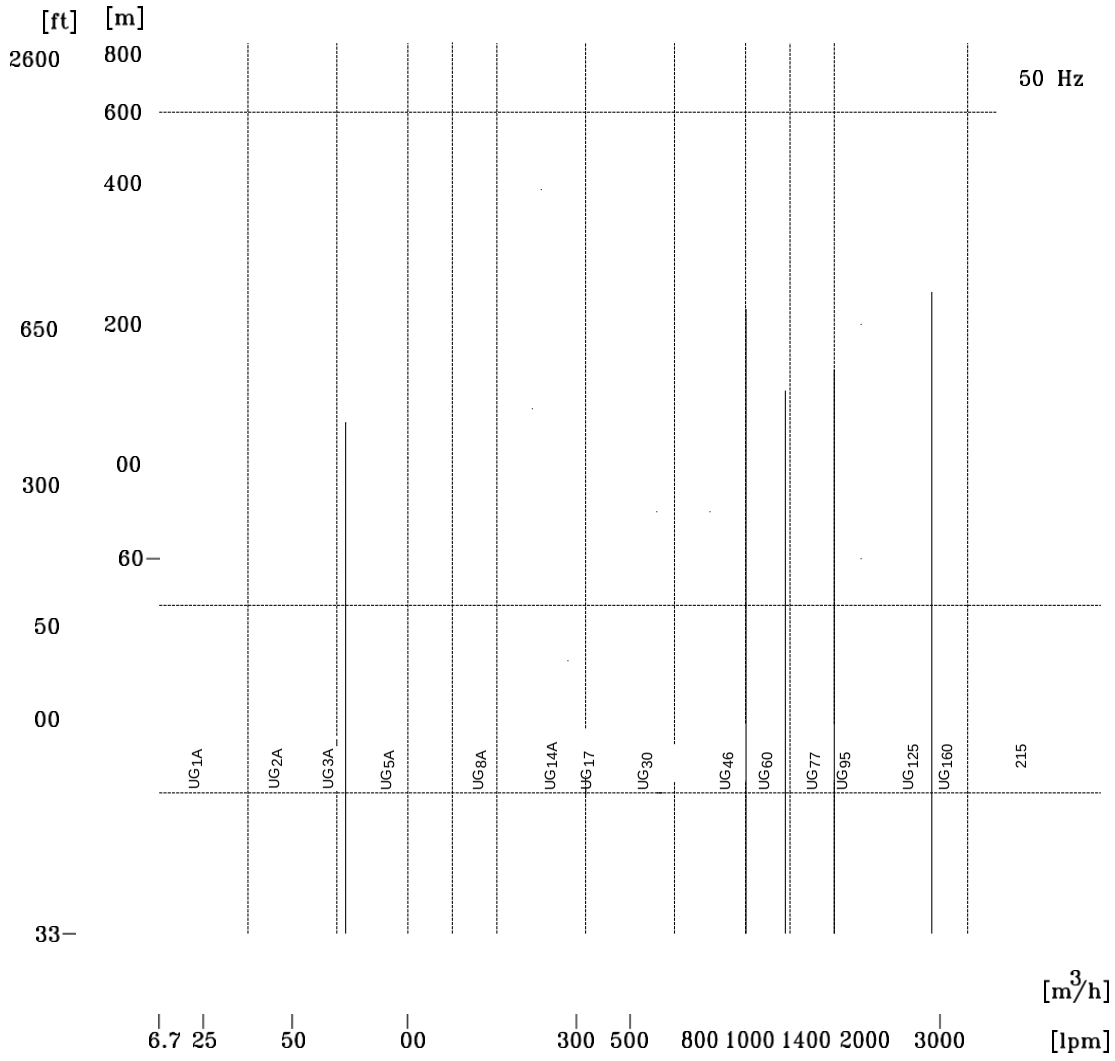
English - SWP submersible pumps ARS and ARS A for deep wells starting from 4“ (DN 100) and with flow up to 280 m3/h. All essential parts, such as shaft, impellers and intermediate chambers are made of fully stainless steel AISI 304. The sealings are made of corrosion- and chemical resistant materials and the bearings consist of hard metal / ceramic combination.
The light stainless steel construction allows high efficiency through which the energy consumption is drastically reduced. The cost and time for installation is lower due to the light weight of the stainless steel sheet metal pump construction.

Deutsch - SWP Unterwasserpumpen der Baureihe ARS und ARS A für Brunnen ab 4” (DN 100) und mit Förderströmen bis zu 280 m3/h. Alle wesentlichen Teile, wie zum Beispiel Welle, Laufräder und Zwischenkammern sind aus komplett nicht rostenden Stahl AISI 304 (W-Nr. 1.4301) gefertigt. Die Dichtungen sind aus besonders korrosions- und chemikalienbeständigen Werkstoffen und die Lager aus einer Hartmetall / Keramik – Kombination hergestellt.
Die Konstruktion der Pumpen in Chrom-Nickel Stahl ergibt eine leichte Bauweise mit guten Wirkungsgraden. Dadurch können der Stromverbrauch und die Installationskosten auf ein Minimum reduziert werden.

Français - Les pompes immergées de l’assortiment UARS et ARS A pour puits dès 4” (DN100) et avec des courants propulsés jusqu’a 280 m3/h. Toutes les pièces principales, comme par exemple axes, roués libres et espaces intermédiaires sont fabriqués spéciaux matériaux anticorrosifs et les produits chimiques et roulements de métaux dur / combinaison céramique. La méthode de construction des pompes en acier chrome – nickel donne une méthode de construction légère de bons degrés de fonctionnement. Par cela la consumation d’électricité et les frais d’installation peuvent être réduits au minimum.

Italiano - SWP – Pompe sommergibili “ARS” e “ARS A” per pozzi profondi da 4” (DN 100) fino a 12” (DN 250) con portata fino 280mc/h e prevalenza fino a mt 600.
Costruite con le parti essenziali – alberi, giranti, diffusori, camere intermedie – realizzate da lastra lucida di acciaio Inox 304. Anelli di usura sono di materiale resistente alla corrosione ed all’azione di aggressivi chimici. Supporti sono realizzati dalla combinazione di ceramica e metallo duro (carburo di tungsteno).
La costruzione cosi realizzata con Acciaio Inox leggero risulta piu efficiente e consente quindi importanti risparmi di energia e costi di installazione notevolmente ridotti.

Performance Range



UG

Pump Range

Model	ARS1A	ARS2A	ARS3A	ARS5A	ARS8A	ARS14A	ARS17	ARS30	ARS46	ARS60	ARS77	ARS95	ARS125	ARS160
Steel: AISI SS 304	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Connection: Rp (Inches) BSP Thread	1 1/4	1 1/4	1 1/4	1 1/2	2	2	2 1/2	3	3 4	3 4	5	5	6	6
NPT Thread	1 1/4	1 1/4	1 1/4	1 1/2	2	2	3	3	3 4	3 4	5	5	6	6
Flange Connection											5	5	6	6

Applications

The pumps are suitable for the following applications:

- raw water supply
- irrigation systems
- groundwater lowering
- pressure boosting
- industrial applications

Type Key

ARS 215 - 5 - A B

Type range _____

Nominal flow rate x 10 lpm _____

Number of impellers

First impeller with reduced diameter (A,B or C)

Second impeller with reduced diameter (A,B or C)

Pumped Liquids

Clean, thin, non-aggressive liquids without solid particles or fibres. The max. sand content is 50 mg/lit.

Operating Conditions

Flow rate Q: 0.1 - 280 m3/h

Head H: max. 670m

Max. installation pressure: 20 bar max (290 PSI)

Maximum Liquid Temp.:

Motor	Installation		
	Flow velocity past motor	Vertival	Horizontal
4“, 6“ & 8“	0.15 m/s	50 °C	50 °C

Operating pressure: Maximum 670m (67 bar)

Curve Conditions

- Curve tolerance according to ISO 9906, Annex A
- The performance curves show pump performance at actual speed cf. standard motor range.
- The speed of the motors is approximately :

4” and 6” motors : n=2870 min-1
8” to 12” motors : n=2900 min-1

- The measurements were made with airless water at a temperature of 20°C. The curves apply to a kinematic viscosity of 1mm²/5. When pumping liquids with density higher than that of water, motors with correspondingly higher outputs must be used.
- The bold curves indicate the recommended performance range.
- The performance curves are inclusive of possible losses such as non-return valve loss.

Table of Head Losses

ARS1A, ARS2A, ARS3A, ARS5A, ARS8A, ARS14A Curves

- Q/H : The curves are inclusive of valve and inlet losses at the actual speed.
- Power Curve : BP kW / Stage shows pump power input per stage.
- Efficiency Curve : Efficiency shows pump stage efficiency.

ARS17,ARS30,ARS46,ARS60,ARS77,ARS95,ARS 125, ARS160, ARS215 Curves

- Q/H : The curves are inclusive of valve and inlet losses at the actual speed.
- Operation without non-return valve (NRV) will increase the actual head at nominal performance by 0.5 - 1.0 m.
- NPSHR The curve is inclusive of suction case and shows required inlet pressure.
- Power Curve: It shows pump power input at the actual speed for each individual pump size.
- Efficiency Curve : Efficiency shows pump stage efficiency.

Features and Benefits

A wide Pump Range

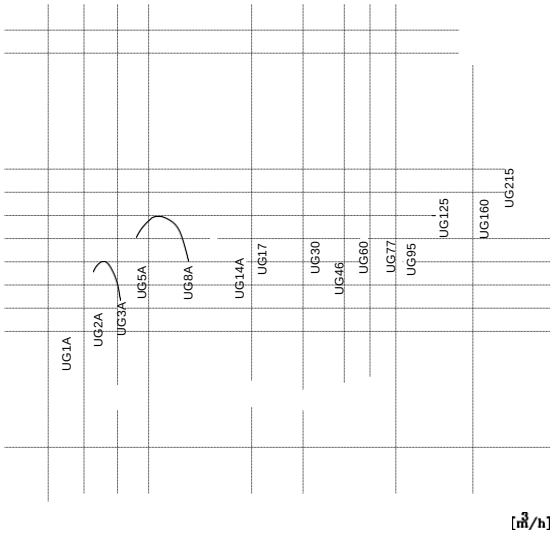
We offers submersible pumps with energy- efficient duty points ranging from 0.1 to 280 m³/h. The pump range consists of many pump sizes - and each pump size is available with an optional number of stages to match any duty point.

High Pumps Efficiency

Often pump efficiency is a neglected factor compared to the price variations are without importance of pump and motor efficiencies.

Example:

When pumping 125 m³/h with a head of 200m for a period of 10 years $ 60,000 will be saved if a pumps and motors having a 10% higher efficiency is chosen and the price is $ 0.10 per kWh.



Pump efficiency overview

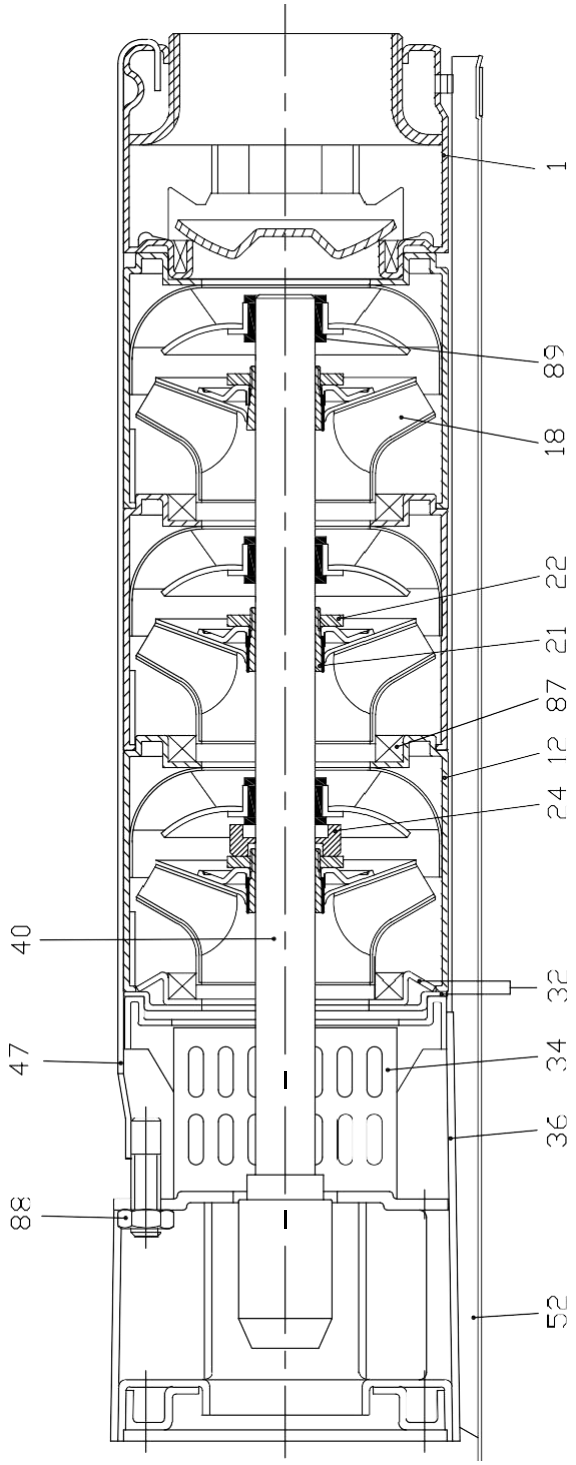
Applications

We offers a complete range of pumps and motors which as a standard are made completely of stainless steel AISI - 304. This provides for good wear resistance and a reduced risk of corrosion when pumping ordinary cold water with a minor content of chloride.

Low Installation Costs

Stainless steel means low weight facilitating the handling of pumps and resulting in low equipment costs and reduced installation and service time. In addition pumps will be as new after service due to the high wear resistance of stainless steel.

Material Specification 4”

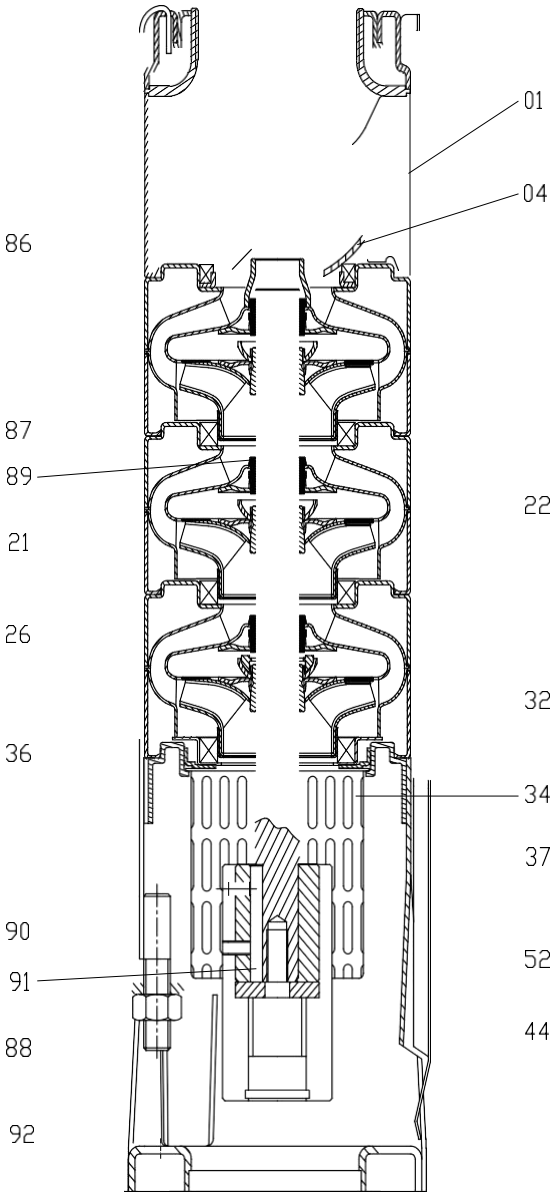


Supmersible Pump ARS-14

Pos.	Components	Material	Standard
01	Discharge	Stainless Steel	304
12	Diffuser	Stainless Steel	304
18	Impeller	Stainless Steel	304
21	Split Cone	Stainless Steel	304
22	Split Cone Nut	Stainless Steel	304
24	Stop Ring	Carbon/ Graphite/ PTFE	
32	Neck Ring Retainer	Stainless Steel	304
34	Strainer	Stainless Steel	304
36	Suction Interconnector	Stainless Steel	304
40	Pump Shaft	Stainless Steel	431
37	Coupling	Stainless Steel	304
47	Strap	Stainless Steel	304
52	Cable Guard	Stainless Steel	304
87	Neck Ring	SS304+NBR	
88	Nut	Stainless Steel	304
89	Bearing	NBR	

- AISI 316 stainless steel pumps are available on request.

Material Specification 6”



Supmersible Pump ARS-17

Pos.	Components	Material	Standard
01	Discharge	Stainless Steel	304
04	Valve Cone	Stainless Steel	304
11	Top Diffuser	Stainless Steel	304
12	Diffuser	Stainless Steel	304
18	Impeller	Stainless Steel	304
19	Ring of Impeller	Stainless Steel	304
21	Split Cone	Stainless Steel	304
22	Split Cone Nut	Stainless Steel	304
26	Spacing Washer for Stop Ring	Carbon/ Graphite/ PTFE	
32	Neck Ring Retainer	Stainless Steel	304
34	Strainer	Stainless Steel	304
36	Suction Interconnector	Stainless Steel	304
37	Pump Shaft	Stainless Steel	431
44	Coupling	Stainless Steel	304
47	Strap	Stainless Steel	304
52	Cable Guard	Stainless Steel	304
86	Valve Seat	SS304+NBR	
87	Neck Ring	SS304+NBR	
88	Nut	Stainless Steel	304
89	Bearing	NBR	
90	Screw	Stainless Steel	304
91	Key	Stainless Steel	304
92	O-ring	NBR	

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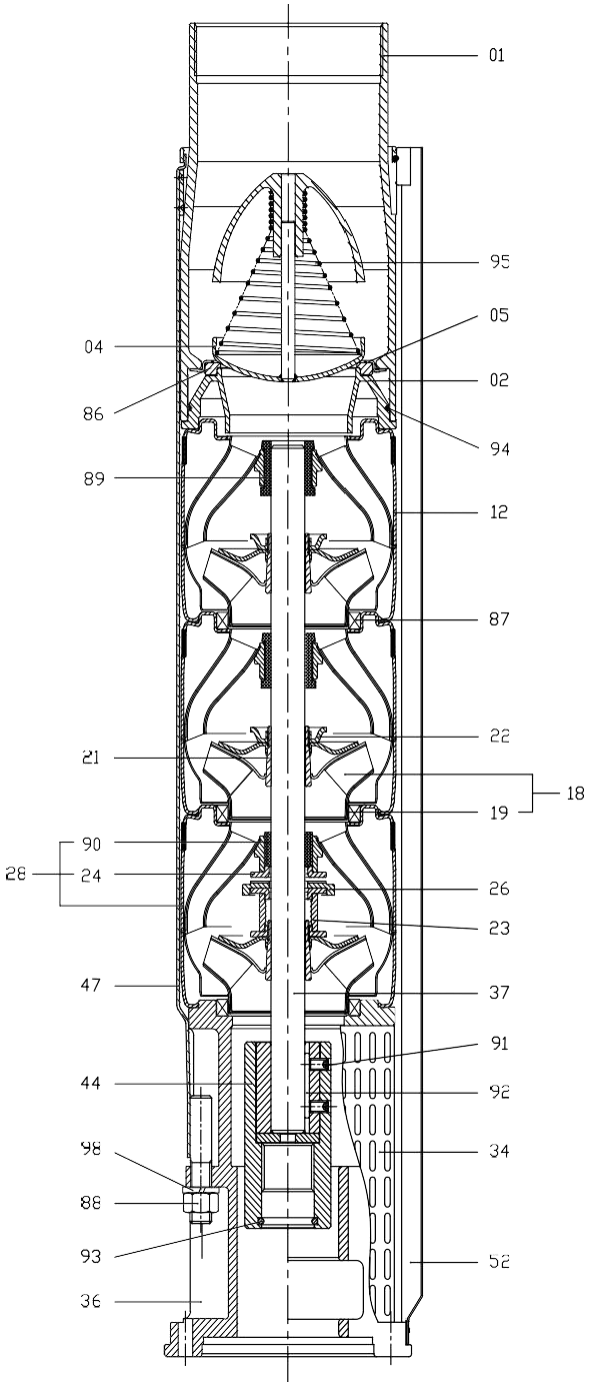
Material Specification 8”



Supmersible Pump ARS-95

Pos.	Components	Material	Standard
01	Discharge	Stainless Steel	304
02	Lower Valve Seat Retainer	Stainless Steel	304
04	Valve Cone	Stainless Steel	304
05	Upper Valve Seat Retainer	Stainless Steel	304
12	Diffuser	Stainless Steel	304
18	Impeller	Stainless Steel	304
19	Ring of Impeller	Stainless Steel	304
21	Split Cone	Stainless Steel	304
22	Split Cone Nut	Stainless Steel	304
23	Nut for Stop Ring	Stainless Steel	304
24	Stop Ring	Stainless Steel	304
26	Spacing Washer for Stop Ring	Carbon/ Graphite/ PTFE	
28	Bottom Diffuser	Stainless Steel	304
34	Strainer	Stainless Steel	304
36	Suction Interconnector	Stainless Steel	304
37	Pump Shaft	Stainless Steel	431
44	Coupling	Stainless Steel	304
47	Strap	Stainless Steel	304
52	Cable Guard	Stainless Steel	304
86	Valve Seat	NBR	
87	Neck Ring	SS304+NBR	
88	Nut	Stainless Steel	304
89	Bearing	NBR	
90	Bearing	NBR+SS304	
91	Screw	Stainless Steel	304
92	Key	Stainless Steel	304
93	O-ring	NBR	
94	O-ring	NBR	
95	Spring	Stainless Steel	304
98	Spring Washer	Stainless Steel	304

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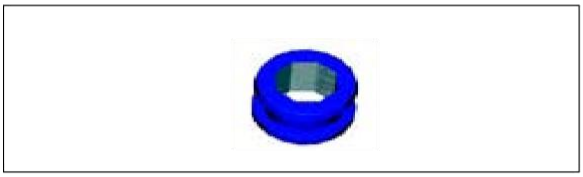
Parts

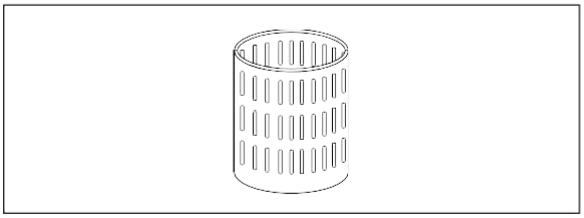
Bearings with Sand Channels

All bearings are water-Lubricated and have a squared shape enabling sand particles, If any, to leave the pump together with the pumped liquid.



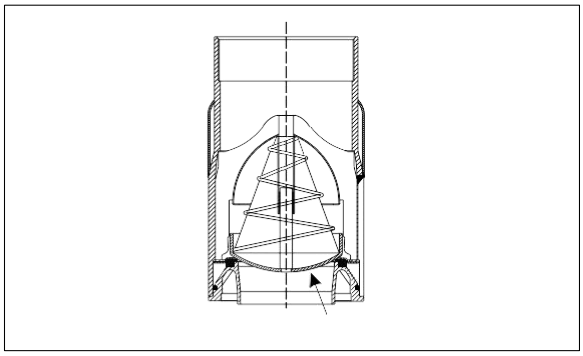
Inlet Strainer

The inlet strainer prevents particles over a certain size form entering the pump.



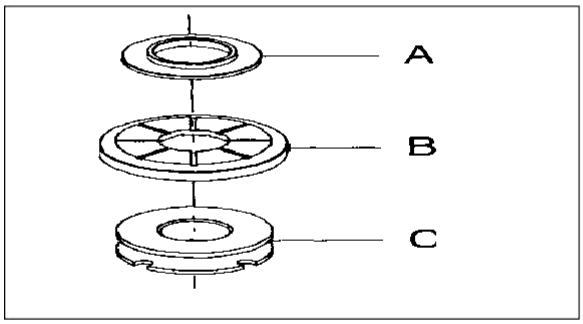
Non-Return Valve (NRV)

All pumps are equipped with a reliable non-return valve in the valve casing preventing back flow in connection with pump stoppage.
Furthermore , the short closing time of the non-return valve means that the risk of destructive water hammer is reduced to a minimum.
The valve casing is designed for optimum hydraulic properties, to minimize the pressure loss across the valve and thus contributes to the high efficiency of the pump

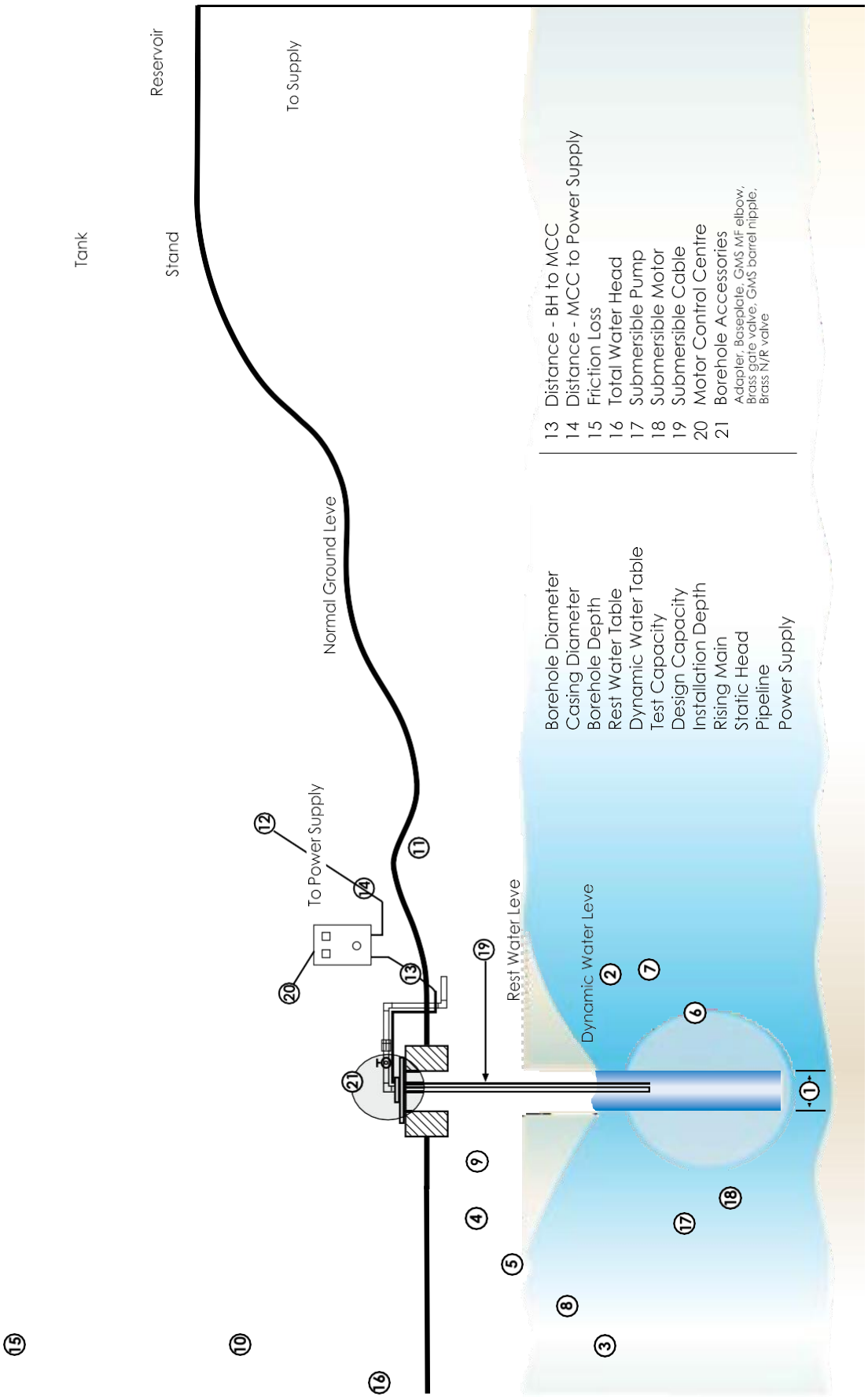


Stop Ring

The stop ring prevents damage to the pump during transport and in case of up-thrust in connection with start-up.
The stop ring, which is designed as a thrust bearing limits axial movements of the pump shaft.
Example: ARS 125
The stationary part of the stop ring (A) is secured in the top bowl (Upper intermediate chamber).
The rotating part (B) is fitted above the cullet split cone (C).



Installation Drawing



Pump Design Sheet

Project 1: .....

Item	Description	Material			Item	Description			
1	Borehole Diameter			mm	15	Friction Loss			m
2	Casing Diameter			mm	16	Total Water Head			mWh
3	Borehole Depth			m	17	Submersible Pump			
4	Rest Eater Table			m	18	Submersible Motor			kw
5	Dynamic Water Table			m	19	Submersible Cable			mm2
6	Test Capacity			m3/h	20	Motor Control Centre			kw
7	Design Capacity			m3/h		Set of Glands			
8	Installation Depth			m	21	Borehole accessories			
9	Resing Main			mm		Adapter			mm
10	Static Head			m		Baseplate			mm
11	Pipeline Type			mm		GMS MF elbow			mm
	Pipeline Length			m		Brass Gate Valve			mm
12	Power Supply			Volt		GMS barrel Nipple			mm
13	Distance - BH To MCC			m		Brass N/R Valve			mm
14	Distance - MCC To Power Supply			m					

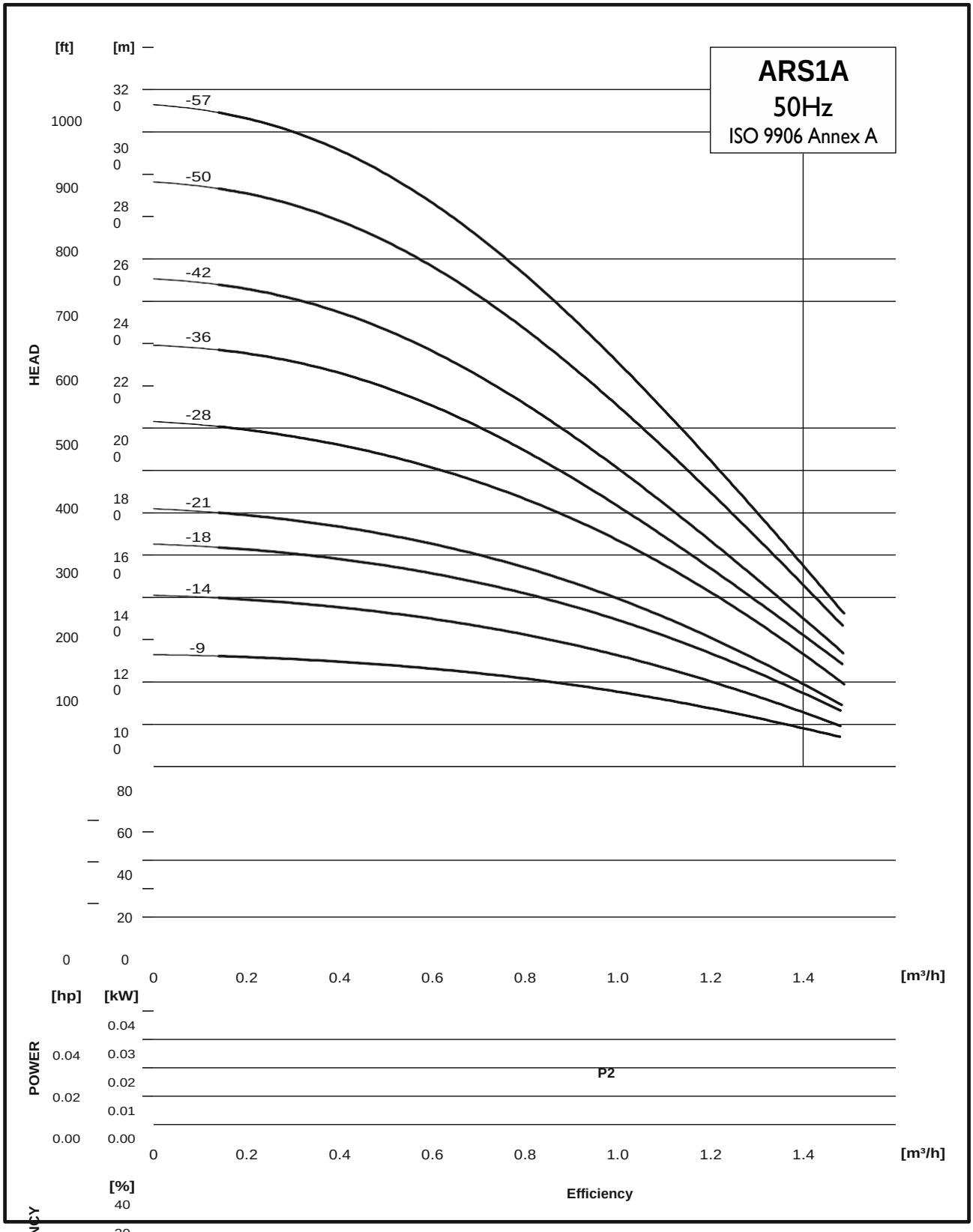
Project 2: .....

Item	Description	Material			Item	Description			
1	Borehole Diameter			mm	15	Friction Loss			m
2	Casing Diameter			mm	16	Total Water Head			mWh
3	Borehole Depth			m	17	Submersible Pump			
4	Rest Eater Table			m	18	Submersible Motor			kw
5	Dynamic Water Table			m	19	Submersible Cable			mm2
6	Test Capacity			m3/h	20	Motor Control Centre			kw
7	Design Capacity			m3/h		Set of Glands			
8	Installation Depth			m	21	Borehole accessories			
9	Resing Main			mm		Adapter			mm
10	Static Head			m		Baseplate			mm
11	Pipeline Type			mm		GMS MF elbow			mm
	Pipeline Length			m		Brass Gate Valve			mm
12	Power Supply			Volt		GMS barrel Nipple			mm
13	Distance - BH To MCC			m		Brass N/R Valve			mm
14	Distance - MCC To Power Supply			m					

Project 3: .....

Item	Description	Material			Item	Description			
1	Borehole Diameter			mm	15	Friction Loss			m
2	Casing Diameter			mm	16	Total Water Head			mWh
3	Borehole Depth			m	17	Submersible Pump			
4	Rest Eater Table			m	18	Submersible Motor			kw
5	Dynamic Water Table			m	19	Submersible Cable			mm2
6	Test Capacity			m3/h	20	Motor Control Centre			kw
7	Design Capacity			m3/h		Set of Glands			
8	Installation Depth			m	21	Borehole accessories			
9	Resing Main			mm		Adapter			mm
10	Static Head			m		Baseplate			mm
11	Pipeline Type			mm		GMS MF elbow			mm
	Pipeline Length			m		Brass Gate Valve			mm
12	Power Supply			Volt		GMS barrel Nipple			mm
13	Distance - BH To MCC			m		Brass N/R Valve			mm
14	Distance - MCC To Power Supply			m					

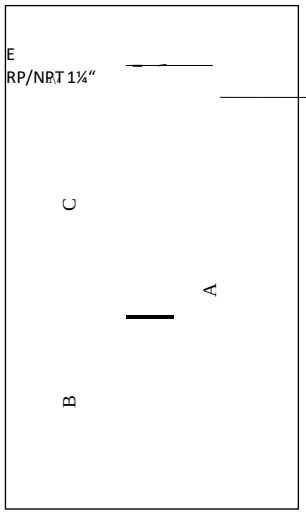
ARS1A - Performance



ARS1A - Performance

ARS1A - Technical Data

Dimensions and Weight

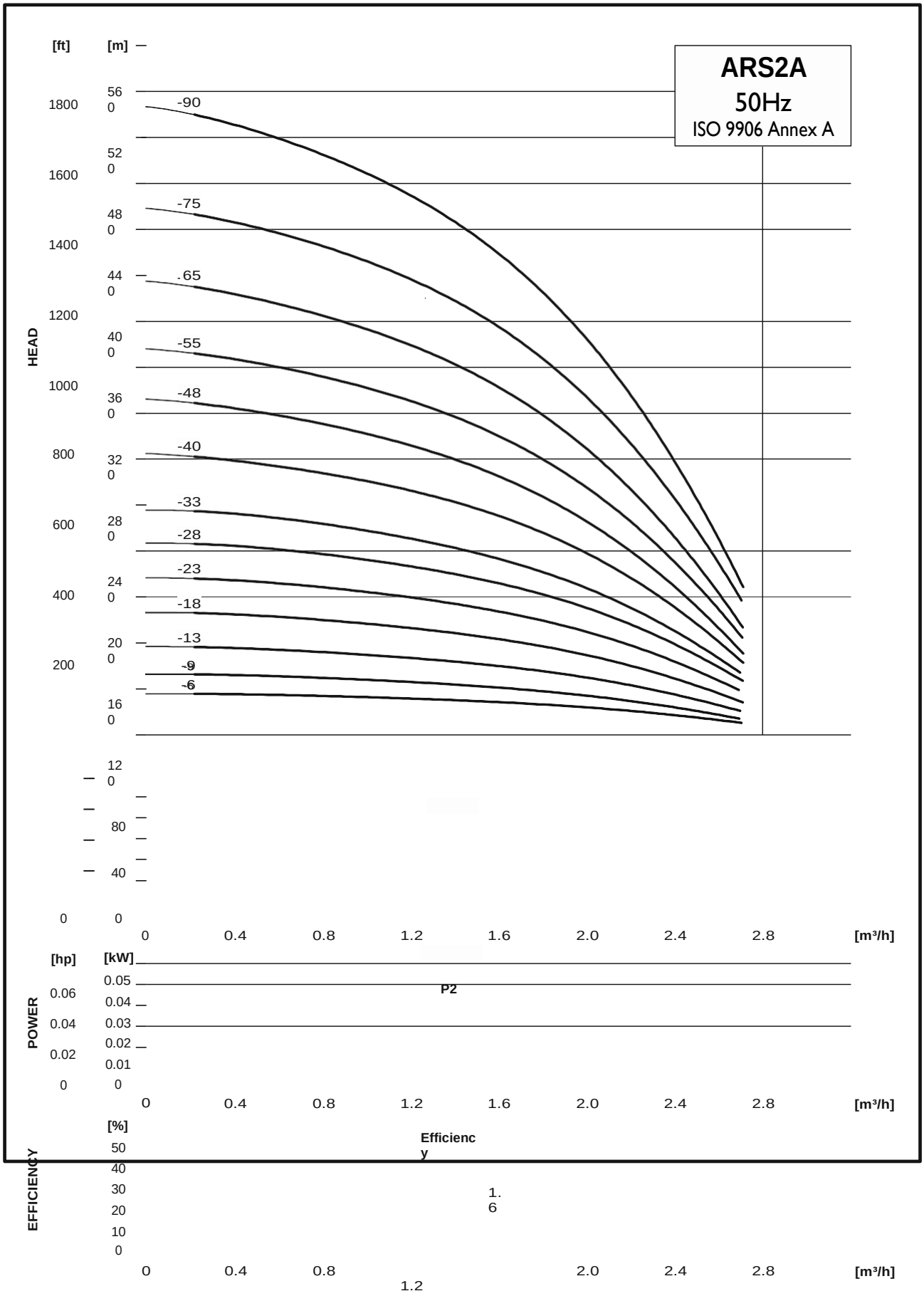


E = Max. Dia of Pump inclusive of cable guard & motor.

PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
ARS1A-9	AFM4/0.5	0.37 / 0.5	356	427	531	783	887	96	98	16.4	17.9
ARS1A-14	AFM4/0.5	0.37 / 0.5	461	427	531	888	992	96	98	17.2	3.7
ARS1A-18	AFM4/0.75	0.55 / 0.75	545	447	-	992	-	96	98	17.9	-
ARS1A-21	AFM4/0.75	0.55 / 0.75	608	447	-	1055	-	96	98	18.5	-
ARS1A-28	AFM4/1	0.75 / 1	755	477	-	1232	-	96	98	20.7	-
ARS1A-36	AFM4/1.5	1.1 / 1.5	946	512	477	1458	1423	96	98	25.4	26.9
ARS1A-42	AFM4/1.5	1.1 / 1.5	1072	512	477	1584	1549	96	98	26.8	28.3
ARS1A-50	AFM4/2	1.5 / 2	1240	579	599	1819	1839	96	98	31	37
ARS1A-57	AFM4/2	1.5 / 2	1387	579	599	1966	1986	96	98	21.6	38.6

- On Request

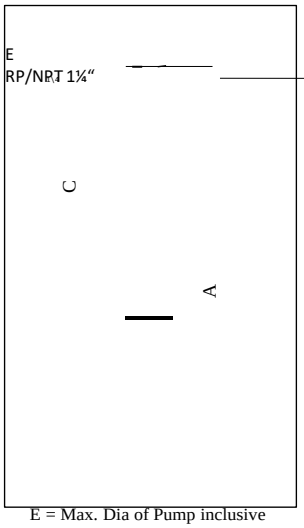
ARS2A - Performance Curves




0
10
20
30
40
50
[L/min]

ARS2A - Technical Data

Dimensions and Weight



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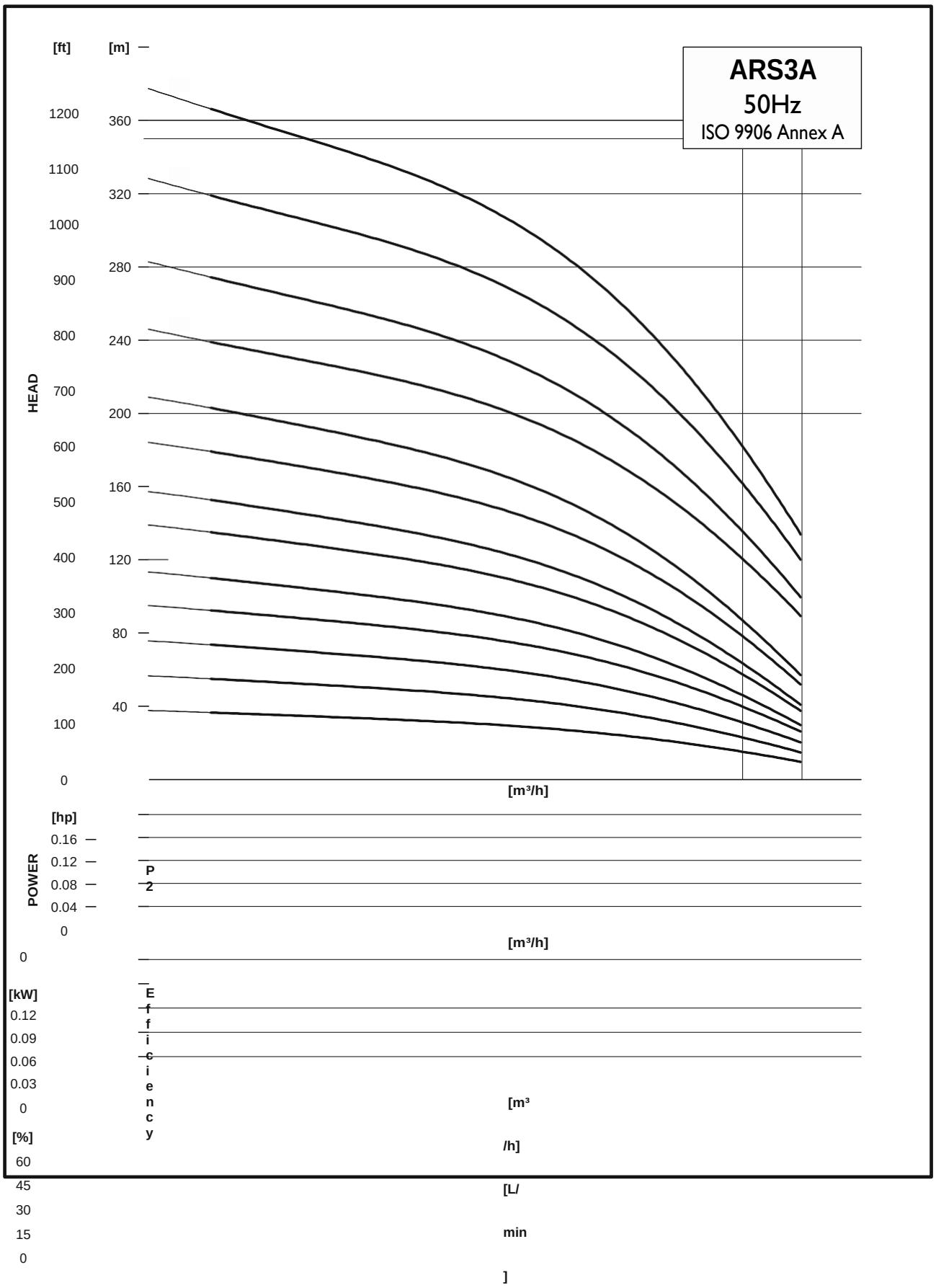
PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
ARS2A-6	AFM4/0.5	0.37 / 0.5	293	427	531	720	824	96	98	15.9	17.4
ARS2A-9	AFM4/0.5	0.37 / 0.5	356	427	531	783	887	96	98	16.5	18
ARS2A-13	AFM4/0.75	0.55 / 0.75	440	447	-	887	-	96	98	17.3	-
ARS2A-18	AFM4/1.0	0.75 / 1	545	477	-	1022	-	96	98	19.2	-
ARS2A-23	AFM4/1.5	1.1 / 1.5	650	512	477	1162	1127	96	98	21.2	22.7
ARS2A-28	AFM4/2	1.5 / 2	755	579	599	1334	1354	96	98	23.6	29.6
ARS2A-33	AFM4/2	1.5 / 2	883	579	599	1462	1482	96	98	26.7	32.7
ARS2A-40	AFM4/3	2.2 / 3	1030	657	637	1687	1667	96	98	39.5	35.5
ARS2A-48	AFM4/3	2.2 / 3	1198	657	637	1855	1835	96	98	41.5	37.5
ARS2A-55	AFM4/4	3 / 4	1345		677		2022	96	98		41
ARS2A-65	AFM4/4	3 / 4	1555		677		2232	96	98		43.3
• ARS2A-75	AFM4/5.5	4 / 5.5	2140		737		2877	96	142		-
• ARS2A-90	AFM4/5.5	4 / 5.5	2455		737		3192	96	142		-

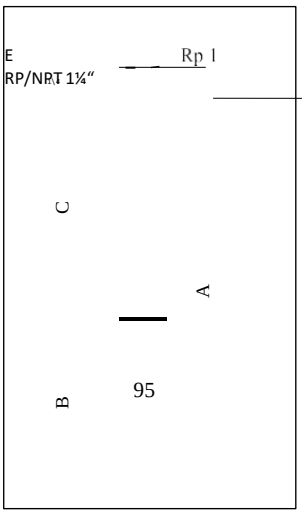
- **Pump mounted in Sleeve.**
- **On Request**

ARS3A - Performance Curves



ARS3A - Technical Data

Dimensions and Weight



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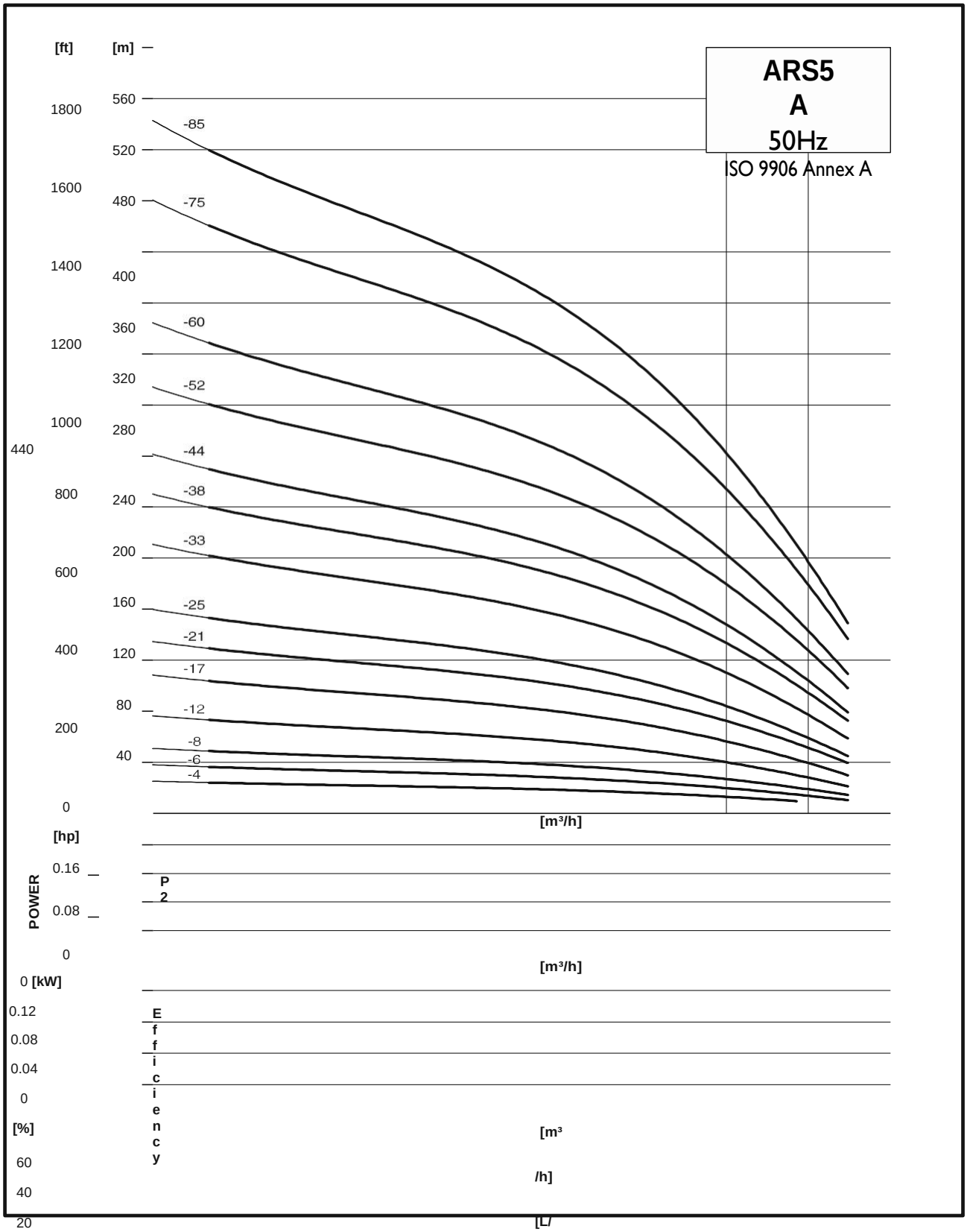
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
ARS3A-6	AFM4/0.5	0.37 / 0.5	293	427	531	720	824	96	98	15.9	17.4
ARS3A-9	AFM4/0.75	0.55 / 0.75	356	447	-	803	-	96	98	16.5	-
ARS3A-12	AFM4/1	0.75 / 1	419	477	-	896	-	96	98	18.1	-
ARS3A-15	AFM4/1.5	1.1 / 1.5	482	512	477	994	959	96	98	19.7	21.2
ARS3A-18	AFM4/1.5	1.1 / 1.5	545	512	477	1057	1022	96	98	20.2	21.7
ARS3A-22	AFM4/2	1.5 / 2	629	579	599	1208	1228	96	98	22.5	28.5
ARS3A-25	AFM4/2	1.5 / 2	692	579	599	1271	1291	96	98	23.1	29.1
ARS3A-29	AFM4/3	2.2 / 3	776	657	637	1433	1413	96	98	34.8	30.8
ARS3A-33	AFM4/3	2.2 / 3	883	657	637	1540	1520	96	98	37.7	33.7
ARS3A-39	AFM4/4	3 / 4	1009		677		1686	96	98		37.2
ARS3A-45	AFM4/4	3 / 4	1135		677		1812	96	98		38.7
ARS3A-52	AFM4/5.5	4 / 5.5	1282		737		2019	96	98		43.7
ARS3A-60	AFM4/5.5	4 / 5.5	1450		737		2187	96	98		45.5

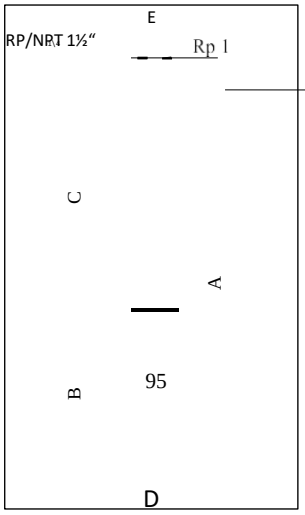
- **On Request**

ARS5A - Performance Curves



ARS5A - Technical Data

Dimensions and Weight



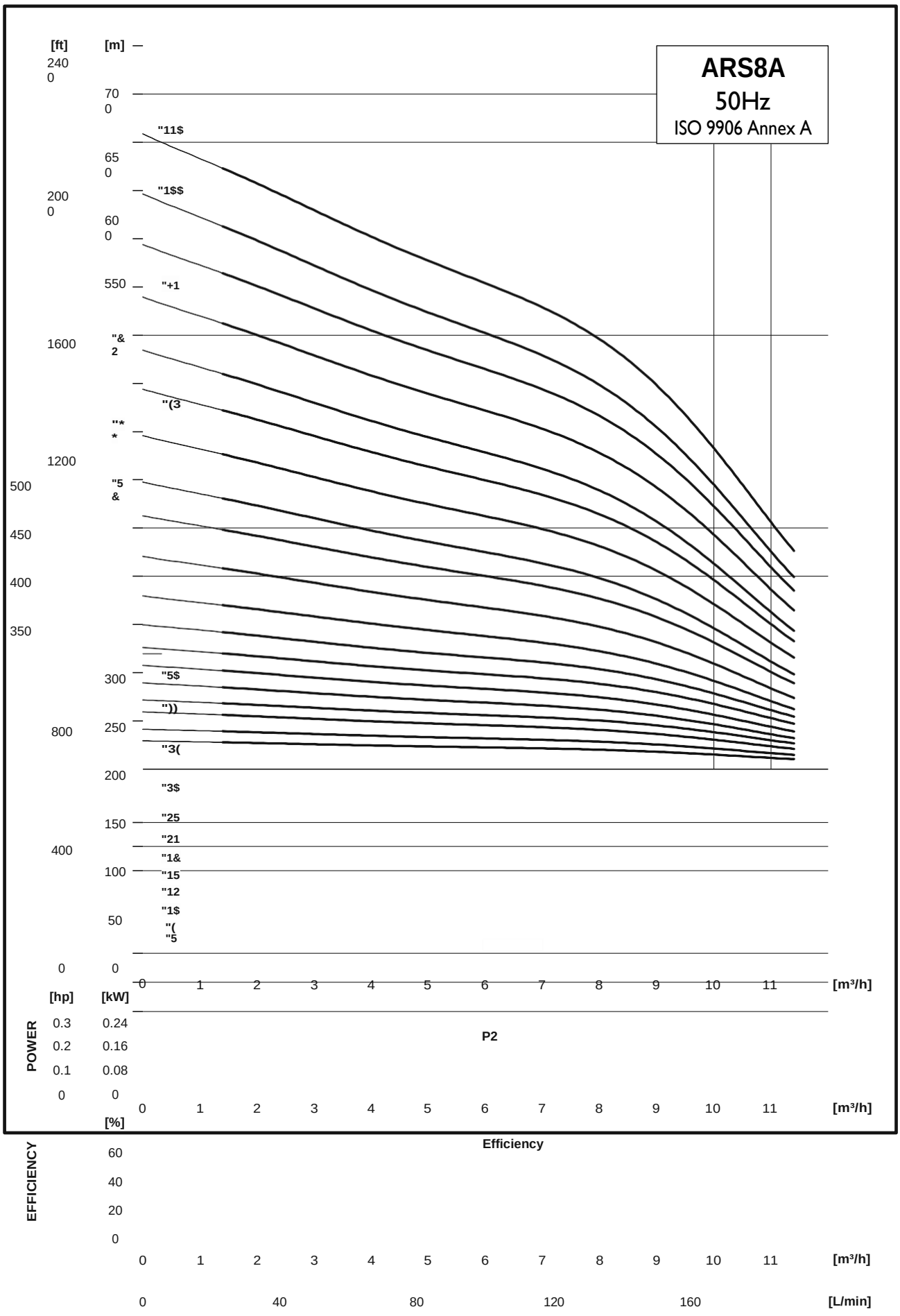
E = Max. Dia of Pump inclusive of cable guard & motor.

PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
ARS5A-4	AFM4/0.5	0.37 / 0.5	251	427	531	678	782	96	98	15.5	17
ARS5A-6	AFM4/0.75	0.55 / 0.75	293	447	-	740	-	96	98	15.9	-
ARS5A-8	AFM4/1	0.75 / 1	335	477	-	812	-	96	98	17.3	-
ARS5A-12	AFM4/1.5	1.1 / 1.5	419	512	477	931	896	96	98	19.1	20.6
ARS5A-17	AFM4/2	1.5 / 2	524	579	599	1103	1123	96	98	21.5	27.5
ARS5A-21	AFM4/3	2.2 / 3	608	657	637	1265	1245	96	98	33.3	29.3
ARS5A-25	AFM4/3	2.2 / 3	692	657	637	1349	1329	96	98	34	30
ARS5A-33	AFM4/4	3 / 4	868		677		1545	96	98		35.6
ARS5A-38	AFM4/5.5	4 / 5.5	973		737		1710	96	98		39.9
ARS5A-44	AFM4/5.5	4 / 5.5	1099		737		1836	96	98		41.4
ARS5A-52	AFM4/7.5	5.5 / 7.5	1362		877		2239	96	98		51.05
ARS5A-60	AFM4/7.5	5.5 / 7.5	1530		877		2407	96	98		52.7
ARS5A-52	AFM6/7.5	5.5 / 7.5	1424		676		2100	144	136		64.1
ARS5A-60	AFM6/7.5	5.5 / 7.5	1592		676		2268	144	136		65.75
• ARS5A-75	AFM6/10	7.5 / 10	1907		706		2613	144	142		-
• ARS5A-85	AFM6/10	7.5 / 10	2117		706		2823	144	142		-

• Pump mounted in Sleeve.

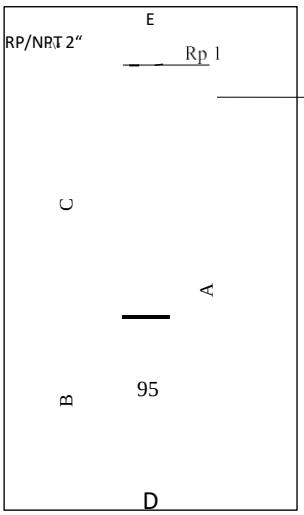
- On Request

ARS8A - Performance Curves



ARS8A - Technical Data

Dimensions and Weight



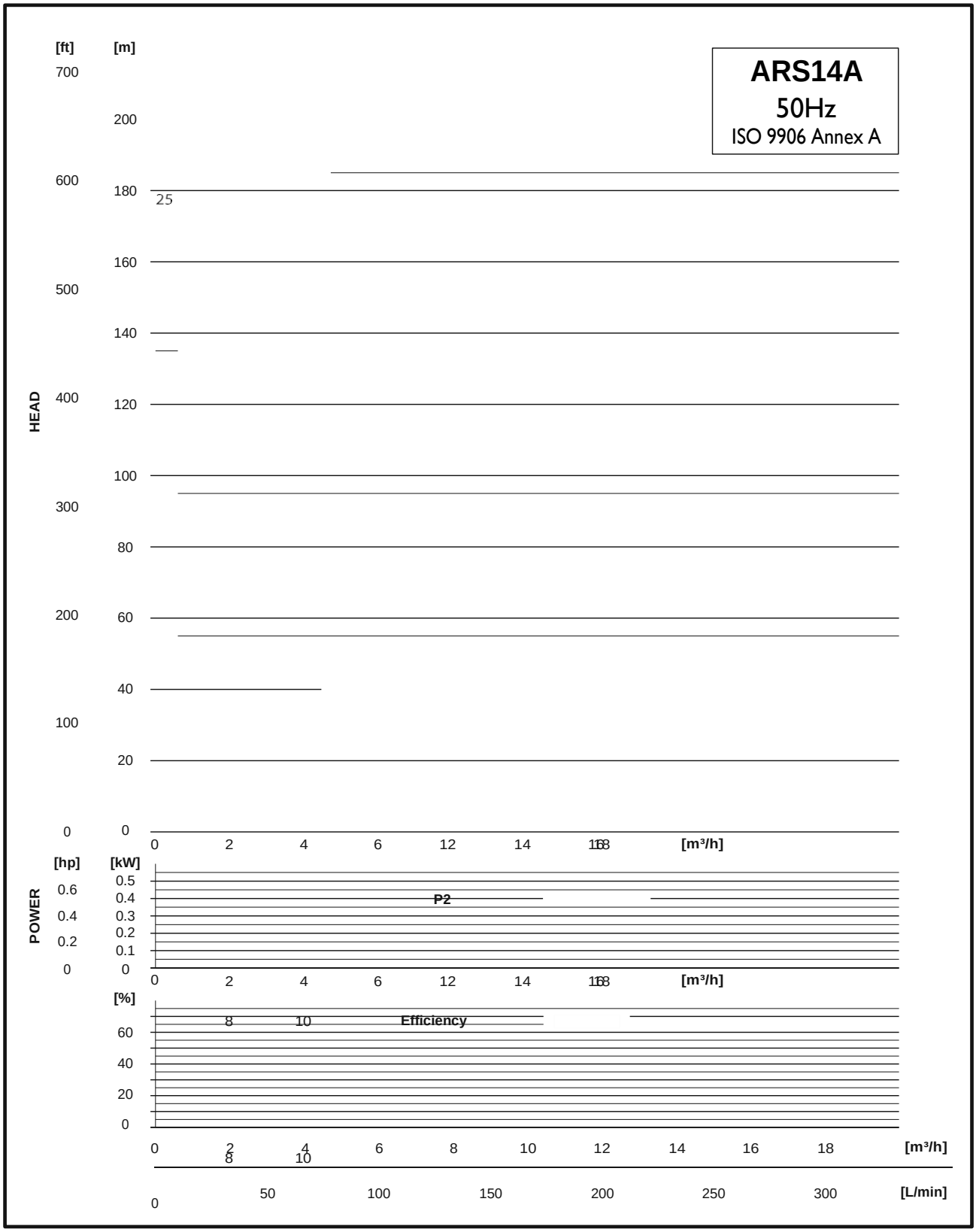
E = Max. Dia of Pump inclusive of cable guard & motor.

	PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)	
		TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
					1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
	ARS8A-5	AFM4/1	0.75 / 1	412	477	-	889	-	96	98	18.8	-
	ARS8A-7	AFM4/1.5	1.1 / 1.5	496	512	-	1008	-	96	98	20.8	-
	ARS8A-10	AFM4/2	1.5 / 2	622	579	599	1201	1221	96	98	23.8	29.8
	ARS8A-12	AFM4/3	2.2 / 3	706	657	637	1363	1343	96	98	35.8	31.8
	ARS8A-15	AFM4/3	2.2 / 3	832	657	637	1489	1469	96	98	37.3	33.3
	ARS8A-18	AFM4/4	3 / 4	958		677		1635	96	98		36.8
	ARS8A-21	AFM4/5.5	4 / 5.5	1084		737		1821	96	98		41.3
	ARS8A-25	AFM4/5.5	4 / 5.5	1252		737		1989	96	98		43.3
	ARS8A-30	AFM4/7.5	5.5 / 7.5	1462		877		2339	96	98		53.1
	ARS8A-37	AFM4/7.5	5.5 / 7.5	1753		877		2630	96	98		56.6
	ARS8A-44	AFM4/10	7.5 / 10	2050		1017		3067	96	98		66.8
	ARS8A-50	AFM4/10	7.5 / 10	2302		1017		3319	96	98		69.8
	ARS8A-30	AFM6/7.5	5.5 / 7.5	1560		676		2236	144	136		66.5
	ARS8A-37	AFM6/7.5	5.5 / 7.5	1840		676		2516	144	136		69.85
	ARS8A-44	AFM6/10	7.5 / 10	2140		706		2846	144	136		72.5
	ARS8A-50	AFM6/10	7.5 / 10	2390		706		3096	144	136		78.5
•	ARS8A-58	AFM6/12.5	9.2 / 12.5	3040		736		3776	144	142		111.3
•	ARS8A-66	AFM6/15	11 / 15	3376		776		4152	144	142		126.8
•	ARS8A-73	AFM6/15	11 / 15	3670		776		4446	144	142		133.4
•	ARS8A-82	AFM6/17.5	13 / 17.5	4048		826		4874	144	142		147.5
•	ARS8A-91	AFM6/20	15 / 20	4426		866		5292	144	142		159.5
•	ARS8A-100	AFM6/20	15 / 20	4804		866		5670	144	142		164.7
•	ARS8A-110	AFM6/25	18.5 / 25	5224		921		6145	144	142		179

• Pump mounted in Sleeve

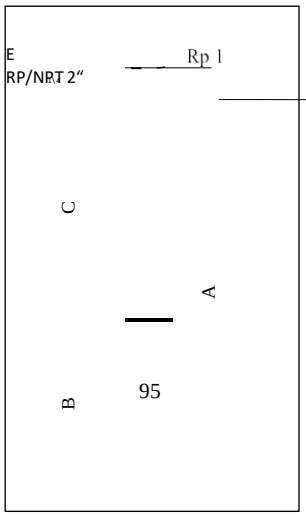
- On Request

ARS14A - Performance Curve



ARS14A - Technical Data

Dimensions and Weight

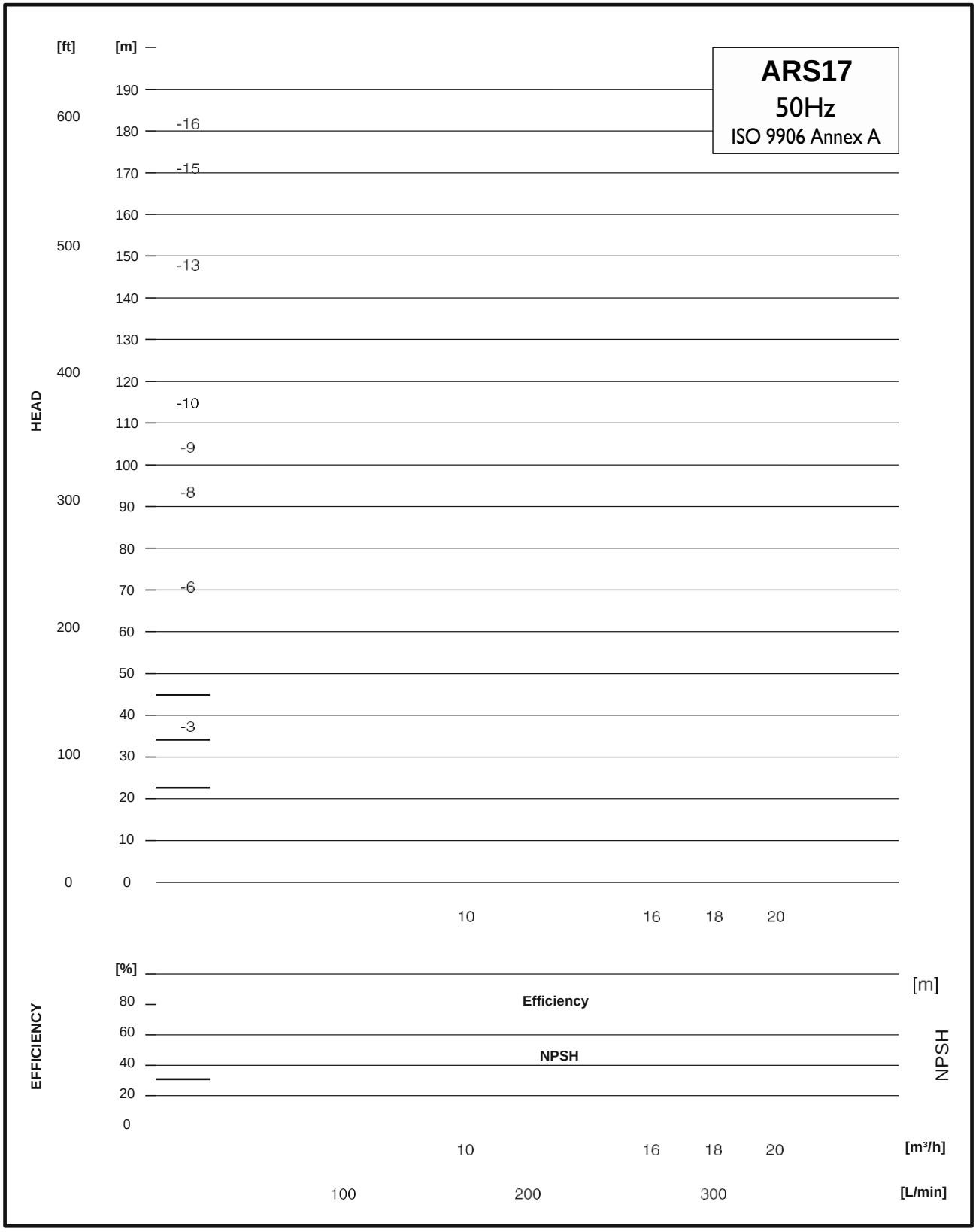


E = Max. Dia of Pump inclusive of cable guard & motor.

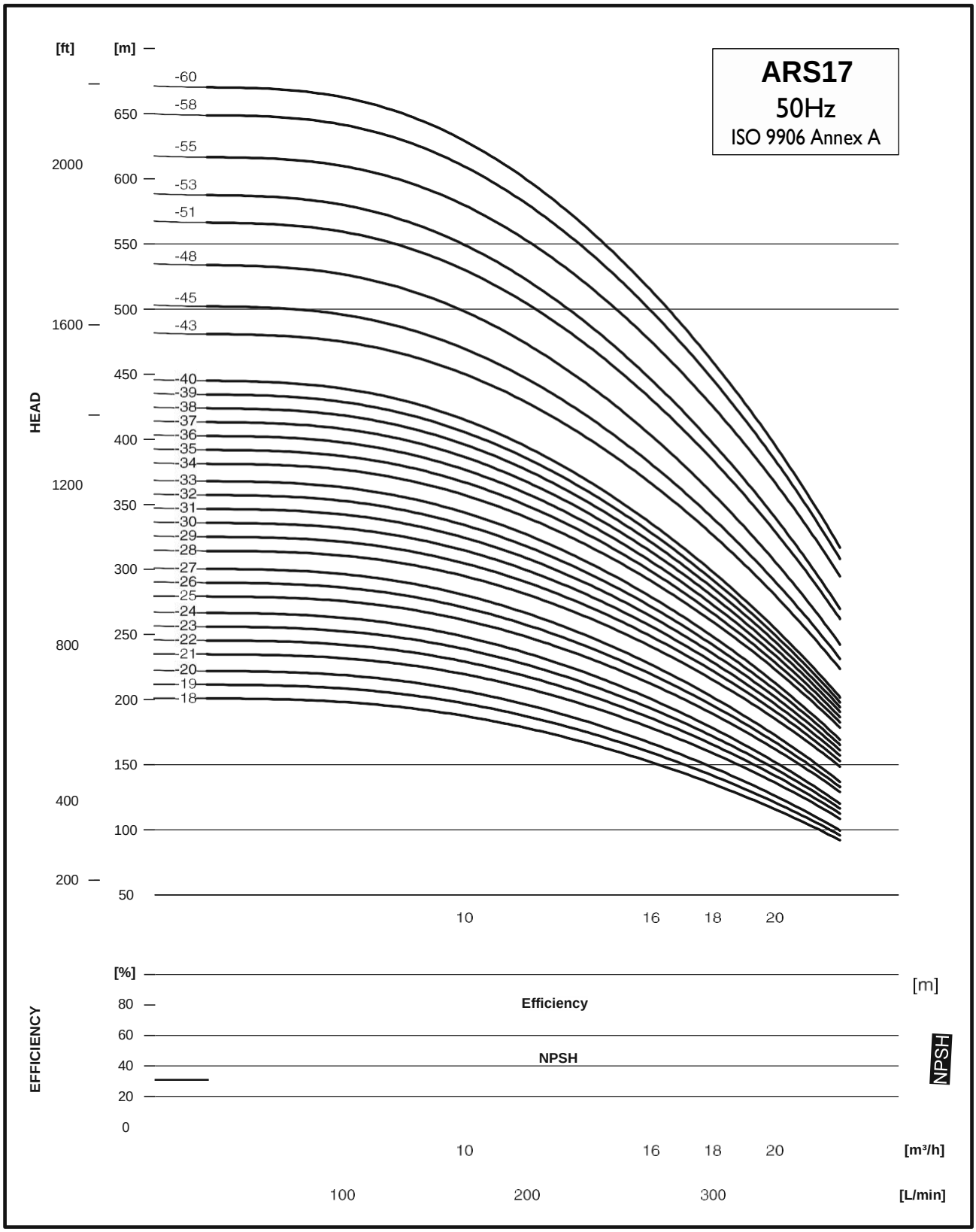
PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
ARS14A-5	AFM4/2	1.5 / 2	505	299	599	804	1104	96	98	22	28
ARS14A-7	AFM4/3	2.2 / 3	635	657	637	1292	1272	96	98	34.3	30.3
ARS14A-10	AFM4/4	3 / 4	830		677		1507	96	98		34.2
ARS14A-13	AFM4/5.5	3.7 / 5.5	1025		737		1762	96	98		39.2
ARS14A-18	AFM4/7.5	5.5 / 7.5	1350		877		2227	96	98		49.7
ARS14A-25	AFM4/10	7.5 / 10	1805		1017		2822	96	98		60.8
ARS14A-18	AFM6/7.5	5.5 / 7.5	1450		676		2126	144	136		63.77
ARS14A-25	AFM6/10	7.5 / 10	1905		706		2611	144	136		-

- **On Request**

ARS17 - Performance

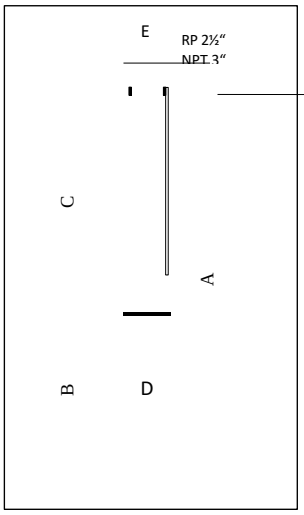


ARS17 - Performance



ARS17 - Technical

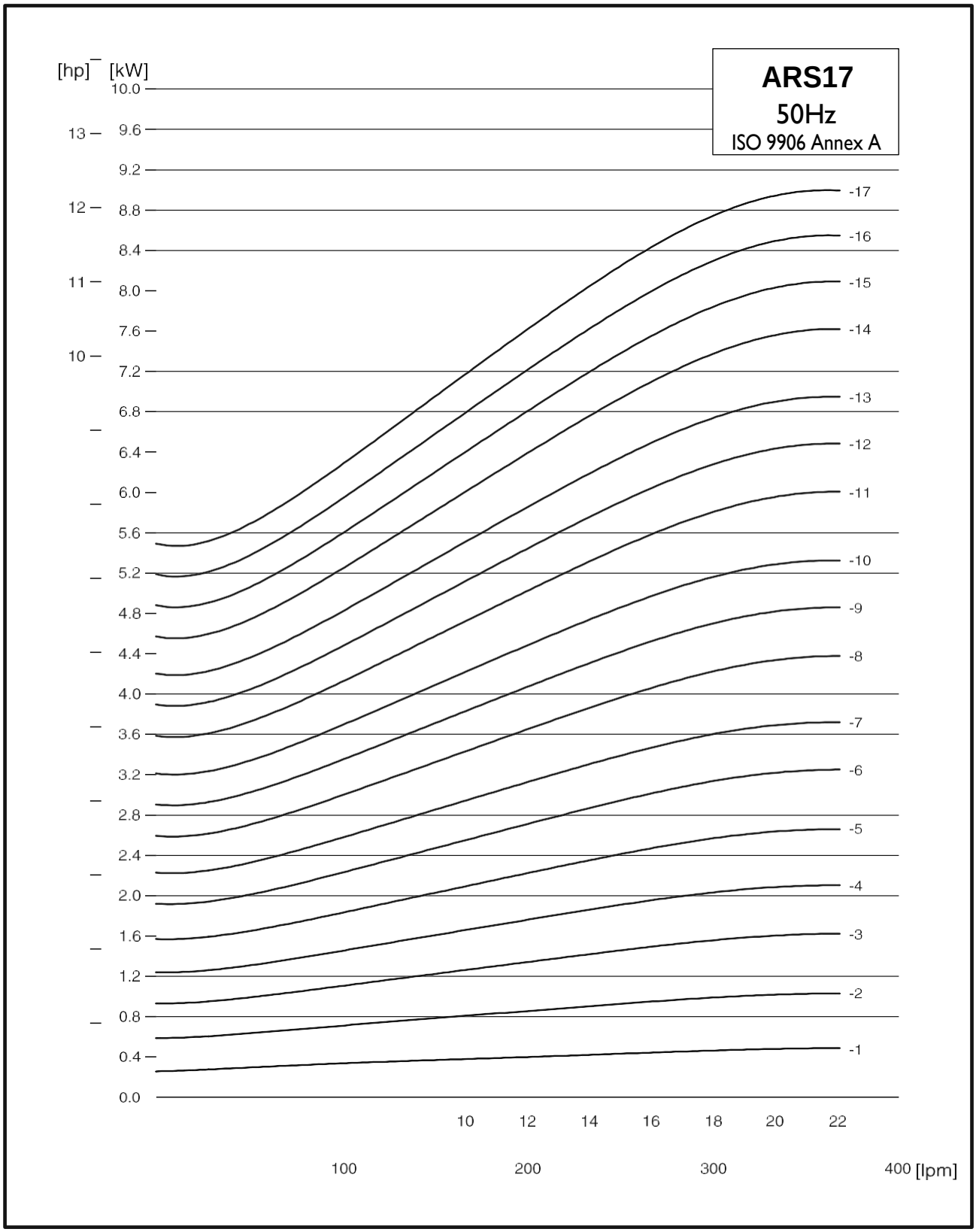
Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS (mm)								NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
ARS17-1	AFM4/0.75	0.55 / 0.75	343	447	-	790	-	96	131		20	-
ARS17-2	AFM4/1.5	1.1 / 1.5	403	512	477	915	880	96	131		23.2	23.4
ARS17-3	AFM4/3	2.2 / 3	435	657	637	1092	1072	96	131		35.3	31.3
ARS17-4	AFM4/3	2.2 / 3	524	657	637	1181	1161	96	131		37.3	33.3
ARS17-5	AFM4/4	3 / 4	585		677		1262	96	131			36.8
ARS17-6	AFM4/5.5	4 / 5.5	616		737		1353	96	131			41.2
ARS17-7	AFM4/5.5	4 / 5.5	677		737		1414	96	131			42.7
ARS17-8	AFM4/7.5	5.5 / 7.5	737		877		1614	96	131			50.4
ARS17-9	AFM4/7.5	5.5 / 7.5	798		877		1675	96	131			51.7
ARS17-10	AFM4/7.5	5.5 / 7.5	858		877		1735	96	131			54.3
ARS17-11	AFM4/10	7.5 / 10	919		1017		1936	96	142			61.2
ARS17-12	AFM4/10	7.5 / 10	979		1017		1996	96	142			62.6
ARS17-13	AFM4/10	7.5 / 10	1040		1017		2057	96	142			64
ARS17-8	AFM6/7.5	5.5 / 7.5	753		676		1429	144	142			63
ARS17-9	AFM6/7.5	5.5 / 7.5	814		676		1490	144	142			64.6
ARS17-10	AFM6/7.5	5.5 / 7.5	874		676		1550	144	142			66
ARS17-11	AFM6/10	7.5 / 10	935		706		1641	144	142			69.5
ARS17-12	AFM6/10	7.5 / 10	995		706		1701	144	142			71
ARS17-13	AFM6/10	7.5 / 10	1056		706		1762	144	142			72.4
ARS17-14	AFM6/12.5	9.2 / 12.5	1116		736		1852	144	142	142		75.6
ARS17-15	AFM6/12.5	9.2 / 12.5	1177		736		1913	144	142	142		77
ARS17-16	AFM6/12.5	9.2 / 12.5	1237		736		1973	144	142	142		78.5
ARS17-17	AFM6/12.5	9.2 / 12.5	1311		736		2047	144	142	142		80
ARS17-18	AFM6/15	11 / 15	1358		776		2134	144	142	142		89.2
ARS17-19	AFM6/15	11 / 15	1419		776		2195	144	142	142		90.7
ARS17-20	AFM6/15	11 / 15	1492		776		2268	144	142	142		92
ARS17-21	AFM6/17.5	13 / 17.5	1540		826		2366	144	142	142		99.2
ARS17-22	AFM6/17.5	13 / 17.5	1613		826		2439	144	142	142		100.5
ARS17-23	AFM6/17.5	13 / 17.5	1661		826		2487	144	142	142		102
ARS17-24	AFM6/17.5	13 / 17.5	1734		826		2560	144	142	142		103.5
ARS17-25	AFM6/20	15 / 20	1782		866		2648	144	142	142		108.4
ARS17-26	AFM6/20	15 / 20	1842		866		2708	144	142	142		109.8
ARS17-27	AFM6/20	15 / 20	1916		866		2782	144	142	142		111.3
ARS17-28	AFM6/25	18.5 / 25	1963		921		2884	144	142	142		118.5
ARS17-29	AFM6/25	18.5 / 25	2037		921		2958	144	142	142		120
ARS17-30	AFM6/25	18.5 / 25	2084		921		3005	144	142	142		121.4
ARS17-31	AFM6/25	18.5 / 25	2158		921		3079	144	142	142		123
ARS17-32	AFM6/25	18.5 / 25	2205		921		3126	144	142	142		124.3
ARS17-33	AFM6/25	18.5 / 25	2279		921		3200	144	142	142		125.8
ARS17-34	AFM6/30	22 / 30	2326		996		3322	144	142	142		137
ARS17-35	AFM6/30	22 / 30	2387		996		3383	144	142	142		138.9
ARS17-36	AFM6/30	22 / 30	2460		996		3456	144	142	142		140
ARS17-37	AFM6/30	22 / 30	2508		996		3504	144	142	142		141.8
ARS17-38	AFM6/30	22 / 30	2581		996		3577	144	142	142		142.8
ARS17-39	AFM6/30	22 / 30	2629		996		3625	144	142	142		144.7
ARS17-40	AFM6/30	22 / 30	2702		996		3698	144	142	142		145.7
• ARS17-43	AFM6/35	26 / 35	3196		1056		4252	144	167			169.8
• ARS17-45	AFM6/35	26 / 35	3317		1056		4373	144	167			--
• ARS17-48	AFM6/35	26 / 35	3499		1056		4555	144	167			187.3
• ARS17-51	AFM6/40	30 / 40	3680		1176		4856	144	167			232.8
• ARS17-53	AFM6/40	30 / 40	3749		1176		4925	144	167			237.2
• ARS17-55	AFM8/50	37 / 50	3870		1010		4880	190	183			281.3
• ARS17-58	AFM8/50	37 / 50	4052		1010		5062	190	183			286.4
• ARS17-60	AFM8/50	37 / 50	4173		1010		5183	190	183			291.7

• Pump mounted in Sleeve
*** Maximum diameter of pump with one motor cable**
**** Maximum diameter of pump with two motor cables**
- On Request

ARS17 - Power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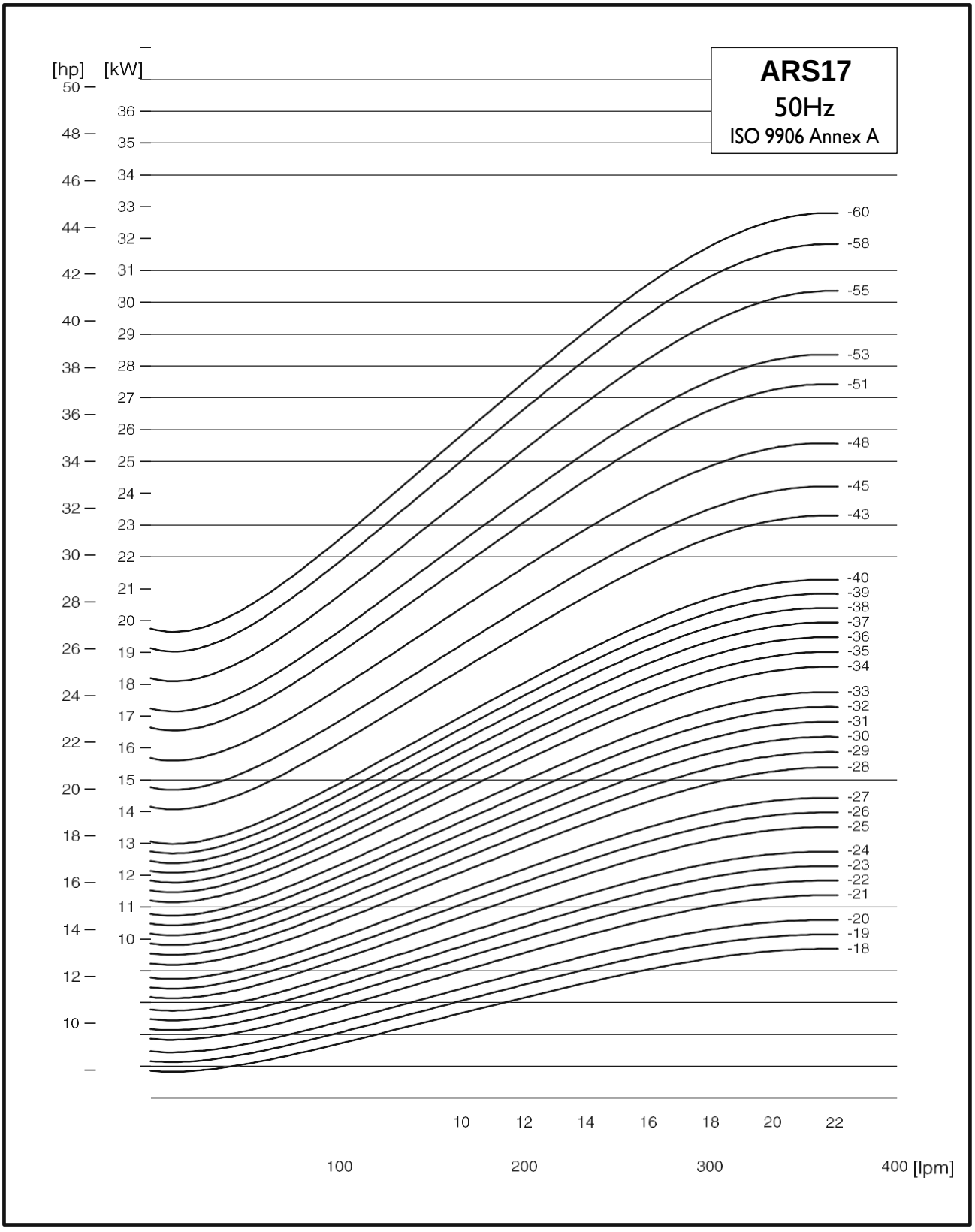
ARS17 - Power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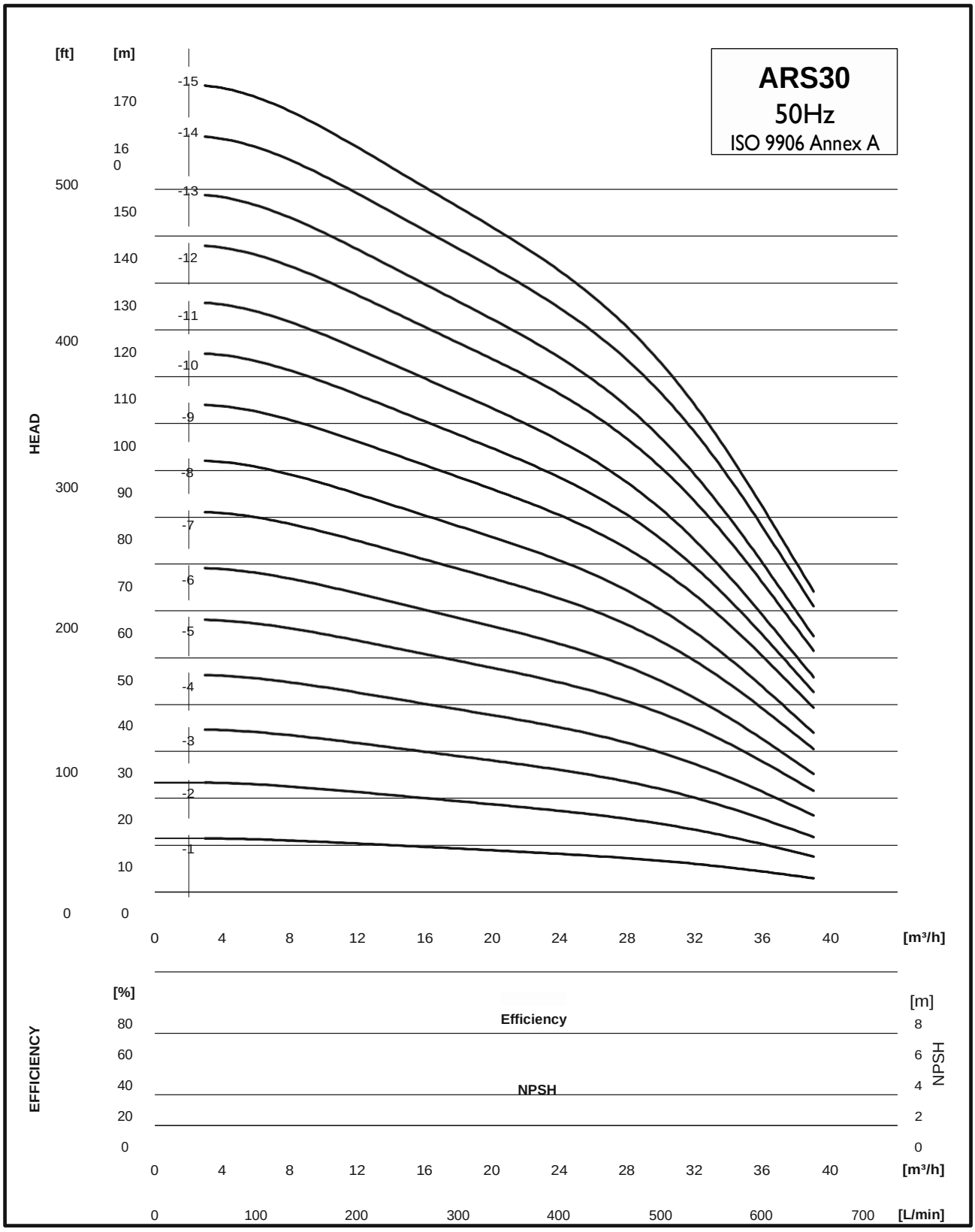
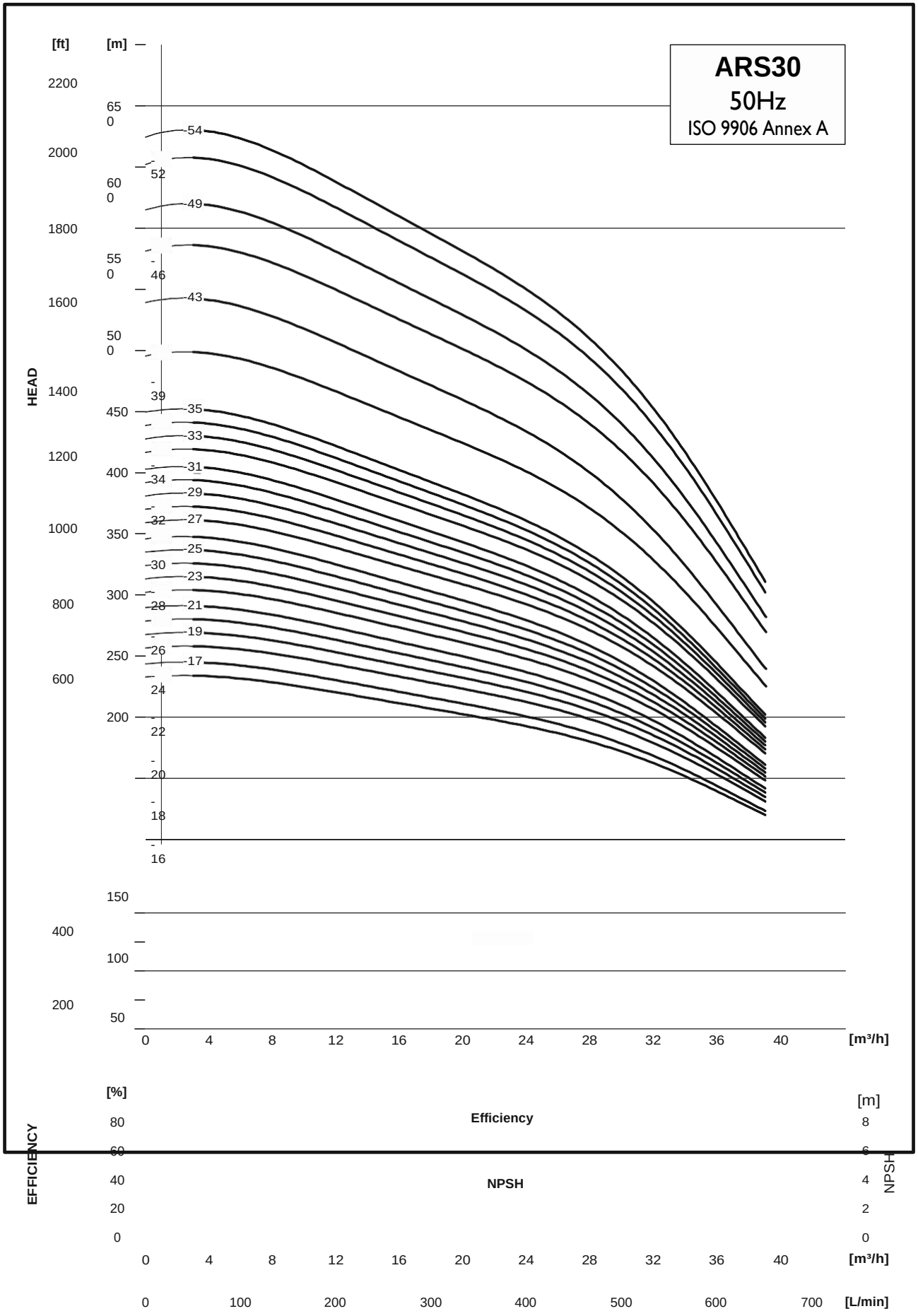
ARS30 - Performance



ARS30 - Performance

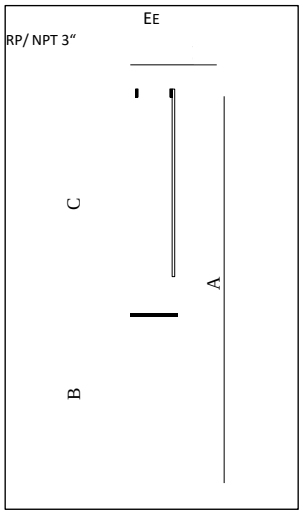
ARS30 - Performance



ARS30 - Performance

ARS30 - Technical Data

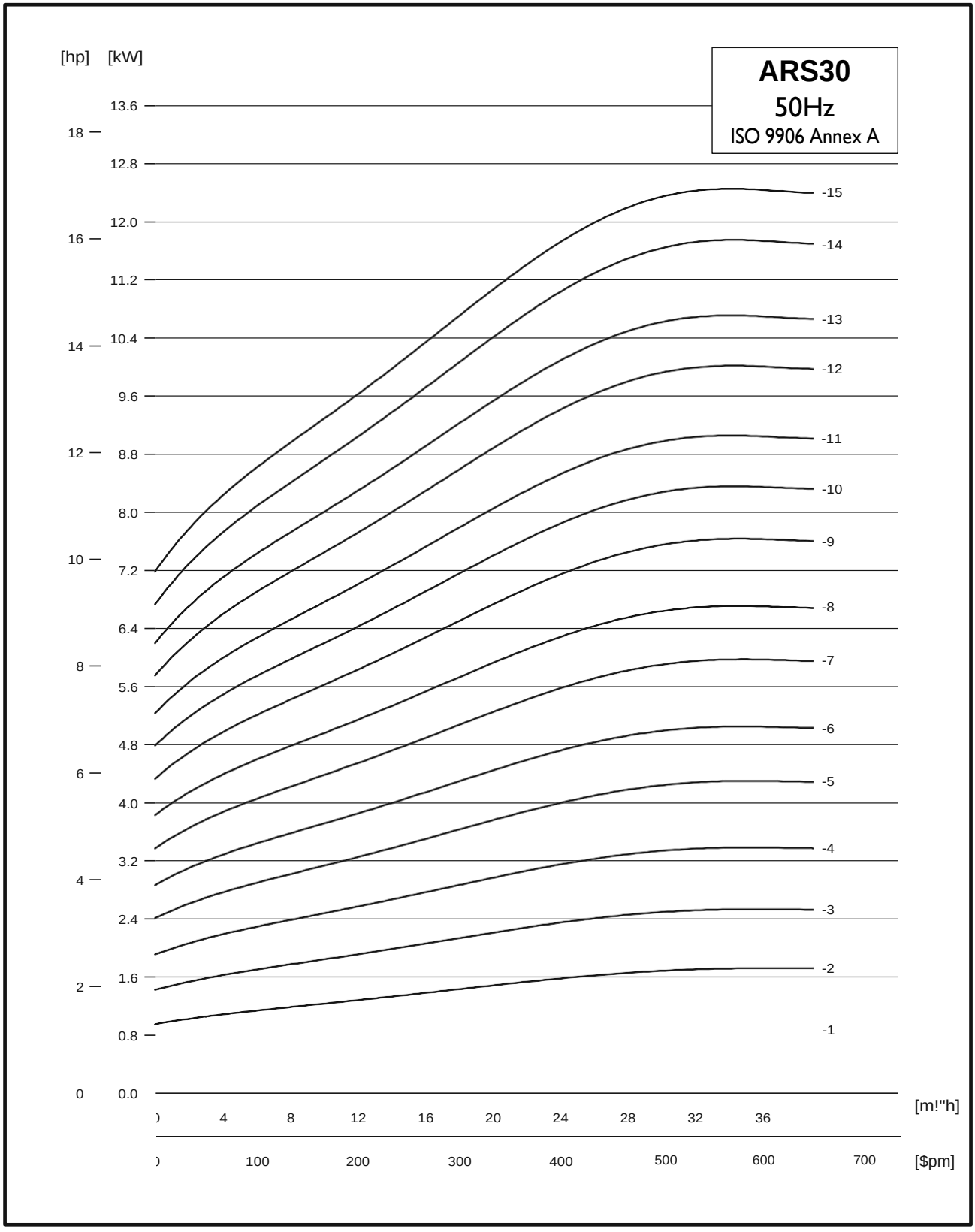
Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS (mm)								NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
ARS30-1	AFM4/1.5	1.1 / 1.5	350	512	477	862	827	96	131		22.2	23.7
ARS30-2	AFM4/3	2.2 / 3	462	657	637	1119	1099	96	131		36.5	32.4
ARS30-3	AFM4/4	3 / 4	558		677		1235	96	131			34.1
ARS30-4	AFM4/5.5	4 / 5.5	654		737		1391	96	131			40.8
ARS30-5	AFM4/7.5	5.5 / 7.5	734		877		1611	96	131			48.6
ARS30-6	AFM4/7.5	5.5 / 7.5	830		877		1707	96	131			50.4
ARS30-7	AFM4/10	7.5 / 10	926		1017		1943	96	142			58.9
ARS30-8	AFM4/10	7.5 / 10	1038		1017		2055	96	142	142		60.7
ARS30-5	AFM6/7.5	5.5 / 7.5	750		676		1426	144	142	142		61.5
ARS30-6	AFM6/7.5	5.5 / 7.5	846		676		1522	144	142	142		63.2
ARS30-7	AFM6/10	7.5 / 10	842		706		1548	144	142	142		66.9
ARS30-8	AFM6/10	7.5 / 10	1038		706		1744	144	142	142		68.6
ARS30-9	AFM6/12.5	9.2 / 12.5	1134		736		1870	144	142	142		72.1
ARS30-10	AFM6/12.5	9.2 / 12.5	1230		736		1966	144	142	142		73.8
ARS30-11	AFM6/15	11 / 15	1326		776		2102	144	142	142		75.4
ARS30-12	AFM6/15	11 / 15	1422		776		2198	144	142	142		85
ARS30-13	AFM6/15	11 / 15	1518		776		2294	144	142	142		86.6
ARS30-14	AFM6/17.5	13 / 17.5	1614		826		2440	144	142	142		94
ARS30-15	AFM6/20	15 / 20	1710		866		2576	144	142	142		99
ARS30-16	AFM6/20	15 / 20	1806		866		2672	144	142	142		100
ARS30-17	AFM6/20	15 / 20	1902		866		2768	144	142	142		102.4
ARS30-18	AFM6/25	18.5 / 25	1998		921		2919	144	142	142		110
ARS30-19	AFM6/25	18.5 / 25	2094		921		3015	144	142	142		111.6
ARS30-20	AFM6/25	18.5 / 25	2190		921		3111	144	142	142		113.4
ARS30-21	AFM6/25	18.5 / 25	2286		921		3207	144	142	142		115
ARS30-22	AFM6/30	22 / 30	2382		996		3378	144	142	142		126.6
ARS30-23	AFM6/30	22 / 30	2478		996		3474	144	142	142		128.3
ARS30-24	AFM6/30	22 / 30	2574		996		3570	144	142	142		129.8
ARS30-25	AFM6/30	22 / 30	2670		996		3666	144	142	142		131.7
ARS30-26	AFM6/30	22 / 30	2766		996		3762	144	142	142		133.2
ARS30-27	AFM6/35	26 / 35	2862		1056		3918	144	142	142		143.9
ARS30-28	AFM6/35	26 / 35	2958		1056		4014	144	142	142		145.6
ARS30-29	AFM6/35	26 / 35	3054		1056		4110	144	142	142		147.1
ARS30-30	AFM6/35	26 / 35	3150		1056		4206	144	142	142		149
ARS30-31	AFM6/40	30 / 40	3246		1176		4422	144	142	142		157.7
ARS30-32	AFM6/40	30 / 40	3342		1176		4518	144	142	142		159.2
ARS30-33	AFM6/40	30 / 40	3438		1176		4614	144	142	142		161.1
ARS30-34	AFM6/40	30 / 40	3534		1176		4710	144	142	142		163.74
ARS30-35	AFM6/40	30 / 40	3630		1176		4806	144	142	142		164.3
• ARS30-39	AFM8/50	37 / 50	4360		1010		5370	190	178	181		264
• ARS30-43	AFM8/50	37 / 50	4744		1010		5754	190	178	181		284
• ARS30-46	AFM8/60	45 / 60	5032		1062		6094	190	192	192		306
• ARS30-49	AFM8/60	45 / 60	5320		1062		6382	190	192	192		321
• ARS30-52	AFM8/75	55 / 75	5608		1168		6776	190	192	192		348
• ARS30-54	AFM8/75	55 / 75	5800		1168		6968	190	192	192		358

• Pump mounted in Sleeve
*** Maximum diameter of pump with one motor cable**
**** Maximum diameter of pump with two motor cables**
- On Request

ARS30 - Power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8.0
7.2
6.4
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3.2
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700
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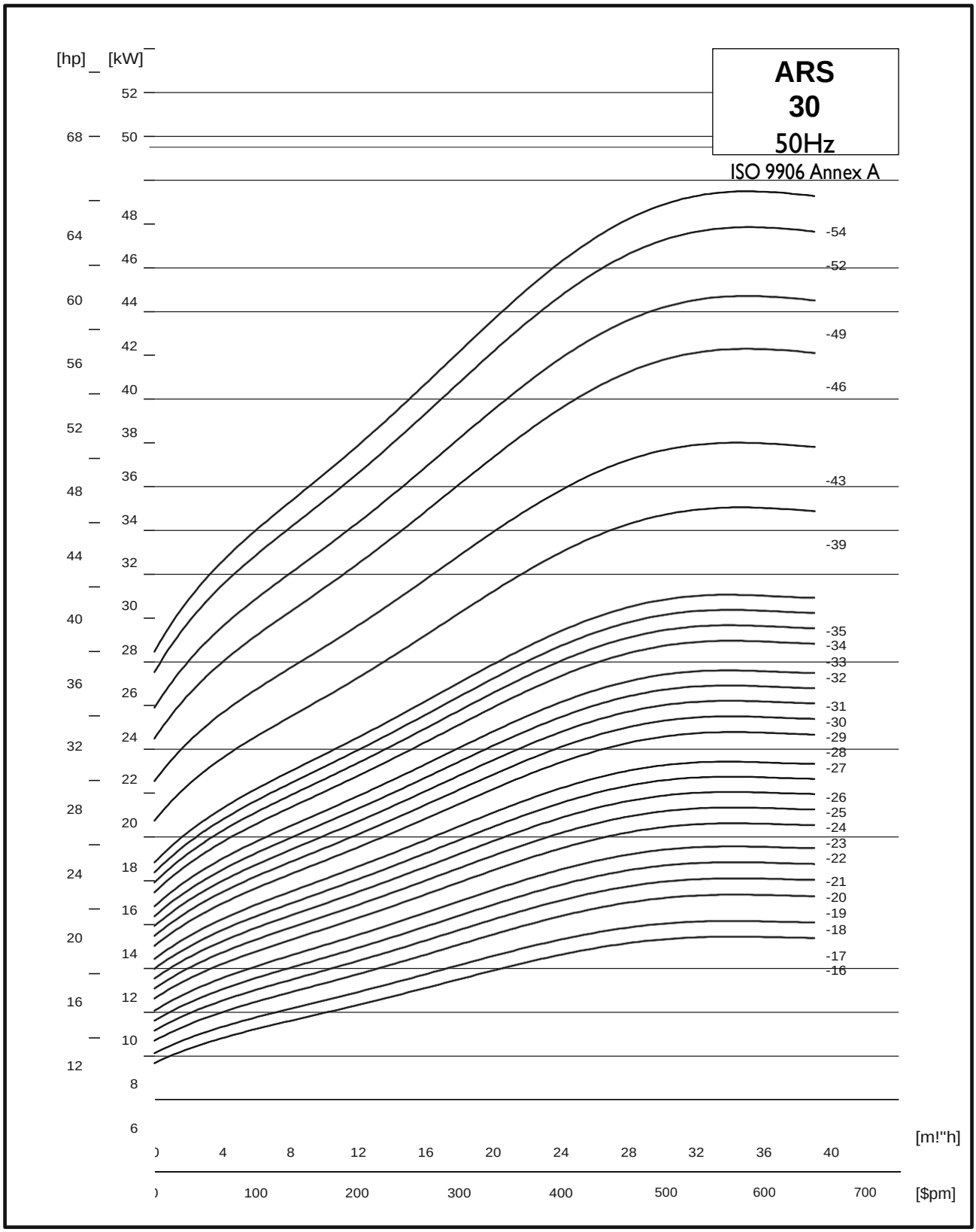
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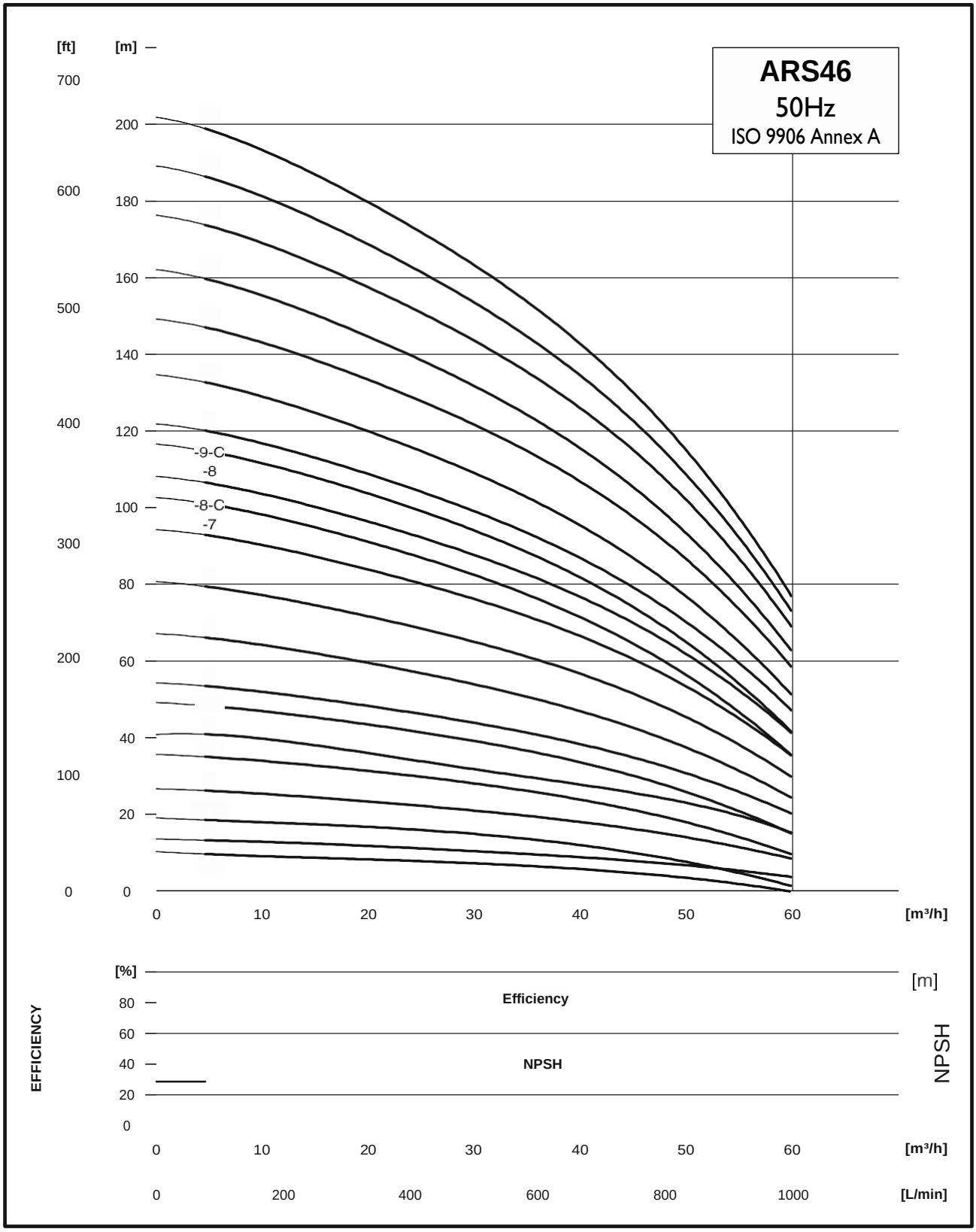
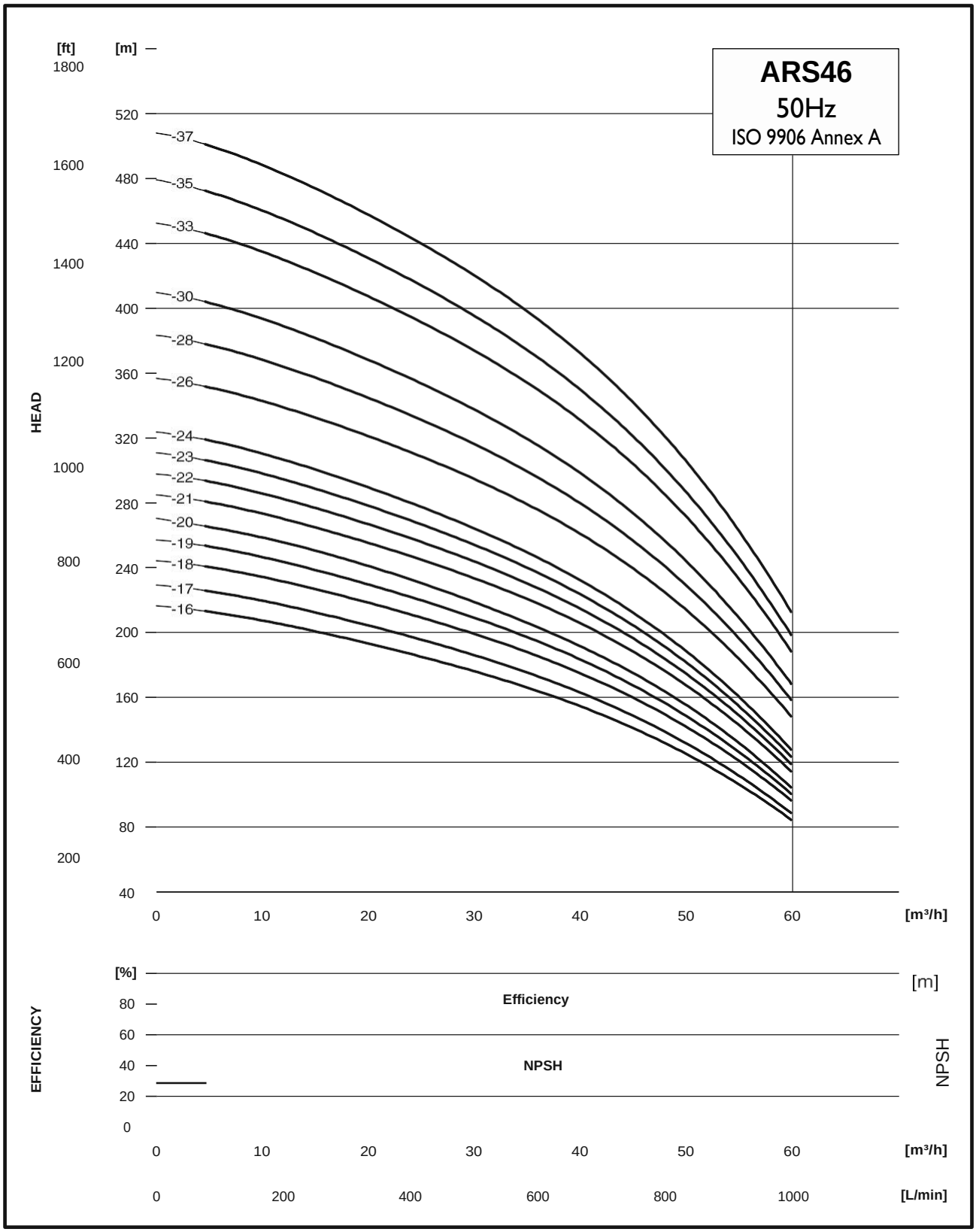
ARS30 - Power

ARS46 - Performance

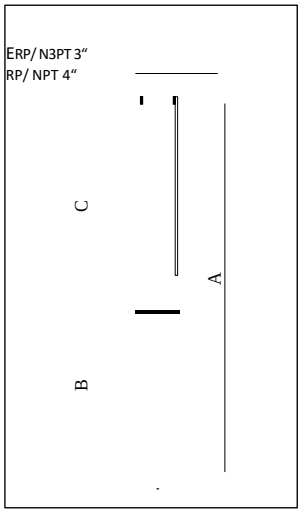


ARS46 - Performance



ARS46 - Technical

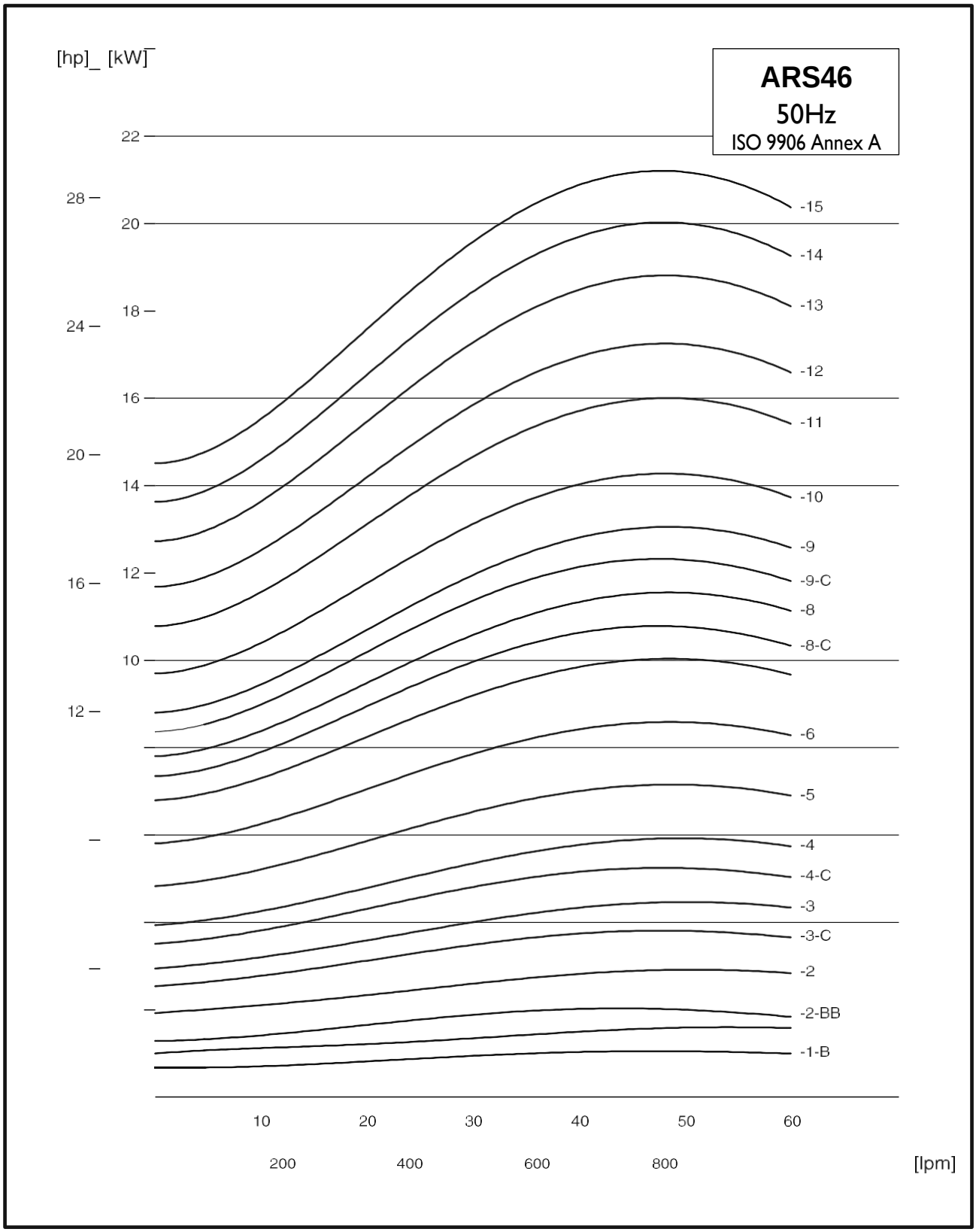
Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS (mm)								NET WEIGHT (kg)	
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
ARS46-1-B	AFM4/1.5	1.1 / 1.5	367	512	477	879	844	96	146		23.5	23
ARS46-1	AFM4/3	2.2 / 3	367	657	637	1024	1004	96	146		34	30
ARS46-2-BB	AFM4/3	2.2 / 3	480	657	637	1137	1117	96	146		36	31.9
ARS46-2	AFM4/4	3 / 4	496		677		1173	96	146			35.2
ARS46-3-C	AFM4/5.5	4 / 5.5	609		737		1346	96	146			40.5
ARS46-3	AFM4/7.5	5.5 / 7.5	609		877		1486	96	146			47.8
ARS46-4-C	AFM4/7.5	5.5 / 7.5	722		877		1599	96	146			50
ARS46-4	AFM4/10	7.5 / 10	706		1017		1723	96	-			61.3
ARS46-4	AFM6/10	7.5 / 10	722		706		1428	144	-			63.8
ARS46-5	AFM6/10	7.5 / 10	835		706		1541	144	149	152		66
ARS46-6	AFM6/12.5	9.2 / 12.5	948		736		1684	144	149	152		70.1
ARS46-7	AFM6/15	11 / 15	1061		776		1837	144	149	152		80.2
ARS46-8-C	AFM6/15	11 / 15	1174		776		1950	144	149	152		82.5
ARS46-8	AFM6/17.5	13 / 17.5	1174		826		2000	144	149	152		88
ARS46-9-C	AFM6/17.5	13 / 17.5	1287		826		2113	144	149	152		90.4
ARS46-10	AFM6/20	15 / 20	1400		866		2266	144	149	152		96
ARS46-11	AFM6/25	18.5 / 25	1513		921		2434	144	149	152		104.1
ARS46-12	AFM6/25	18.5 / 25	1626		921		2547	144	149	152		106.4
ARS46-13	AFM6/30	22 /30	1739		996		2735	144	149	152		118.4
ARS46-14	AFM6/30	22 / 30	1852		996		2848	144	149	152		120.6
ARS46-15	AFM6/30	22 / 30	1965		996		2961	144	149	152		123
ARS46-16	AFM6/35	26 / 35	2078		1056		3134	144	149	152		133.9
ARS46-17	AFM6/35	26 / 35	2191		1056		3247	144	149	152		136.4
ARS46-18	AFM6/40	30 / 40	2304		1176		3480	144	149	152		145.4
ARS46-19	AFM6/40	30 / 40	2417		1176		3593	144	149	152		147.9
ARS46-20	AFM6/40	30 / 40	2530		1176		3706	144	149	152		149.9
ARS46-21	AFM8/50	37 / 50	2643		1010		3653	190	149	152		188.2
ARS46-22	AFM8/50	37 / 50	2756		1010		3766	190	149	152		190.8
ARS46-23	AFM8/50	37 / 50	2869		1010		3879	190	149	152		192.7
ARS46-24	AFM8/50	37 / 50	2982		1010		3992	190	149	152		195.3
• ARS46-26	AFM8/60	45 / 60	3570		1062		4632	190	-	-		-
• ARS46-28	AFM8/60	45 / 60	3810		1062		4872	190	-	-		-
• ARS46-30	AFM8/60	45 / 60	4050		1062		5112	190	-	-		-
• ARS46-33	AFM8/75	55 / 75	4410		1168		5578	190	-	-		-
• ARS46-35	AFM8/75	55 / 75	4650		1168		5818	190	-	-		-
• ARS46-37	AFM8/90	67 / 90	4890		1262		6152	192	-	-		-

• Pump mounted in Sleeve
*** Maximum diameter of pump with one motor cable**
**** Maximum diameter of pump with two motor cables**
- On Request

ARS46 - Power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-10
-9
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-8
-8-C
-6
-5
-4
-4-C
-3
-3-C
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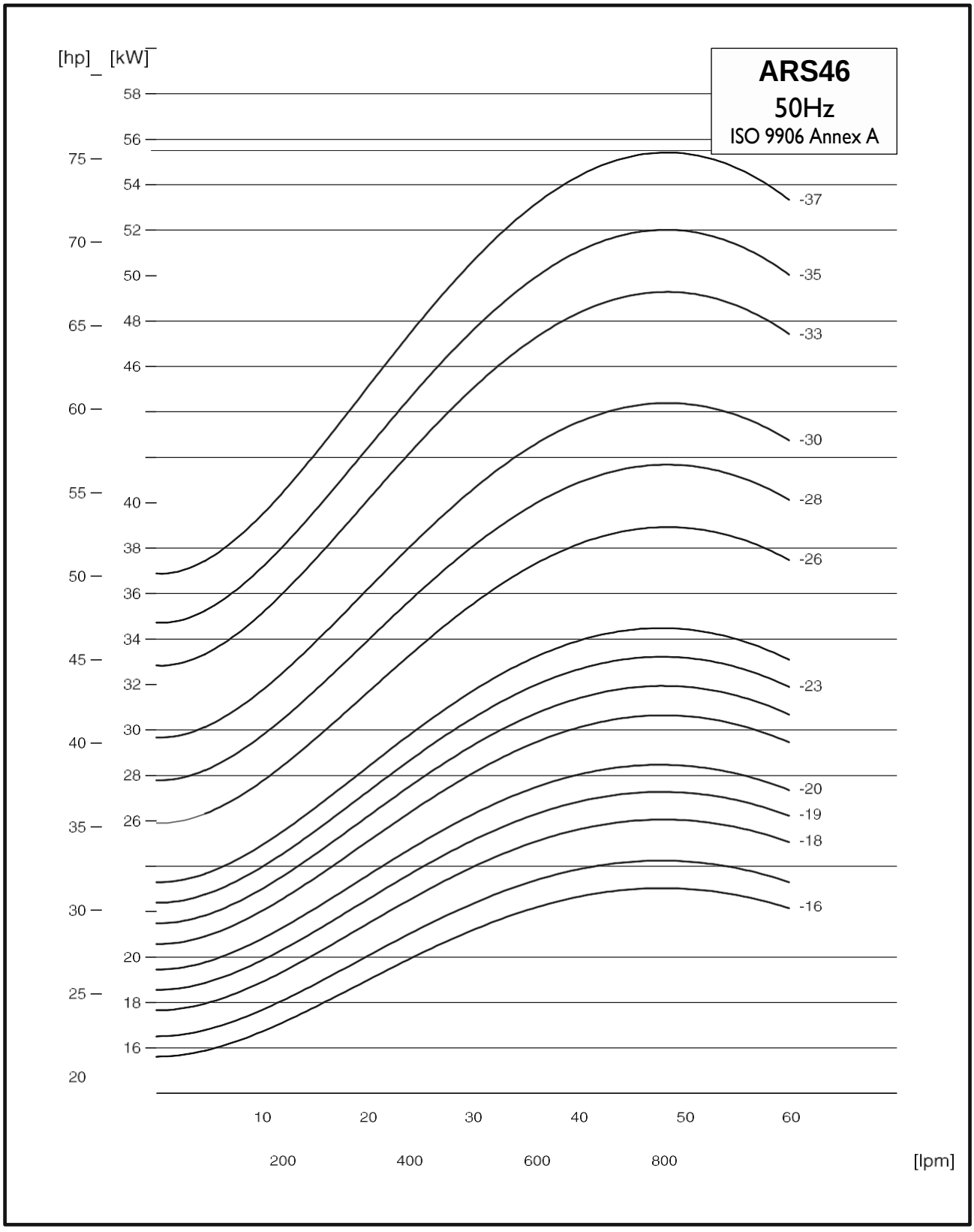
ARS46 - Power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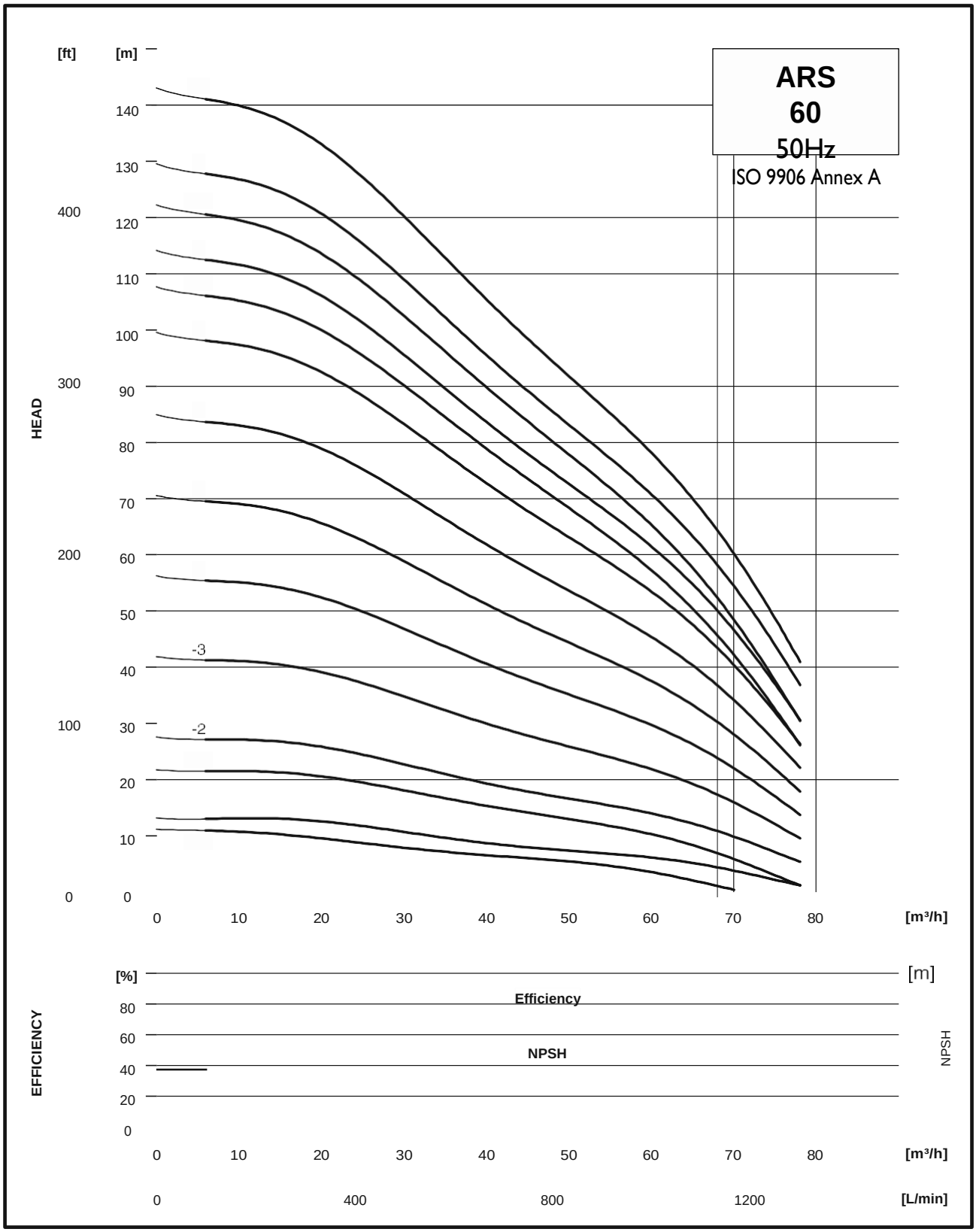
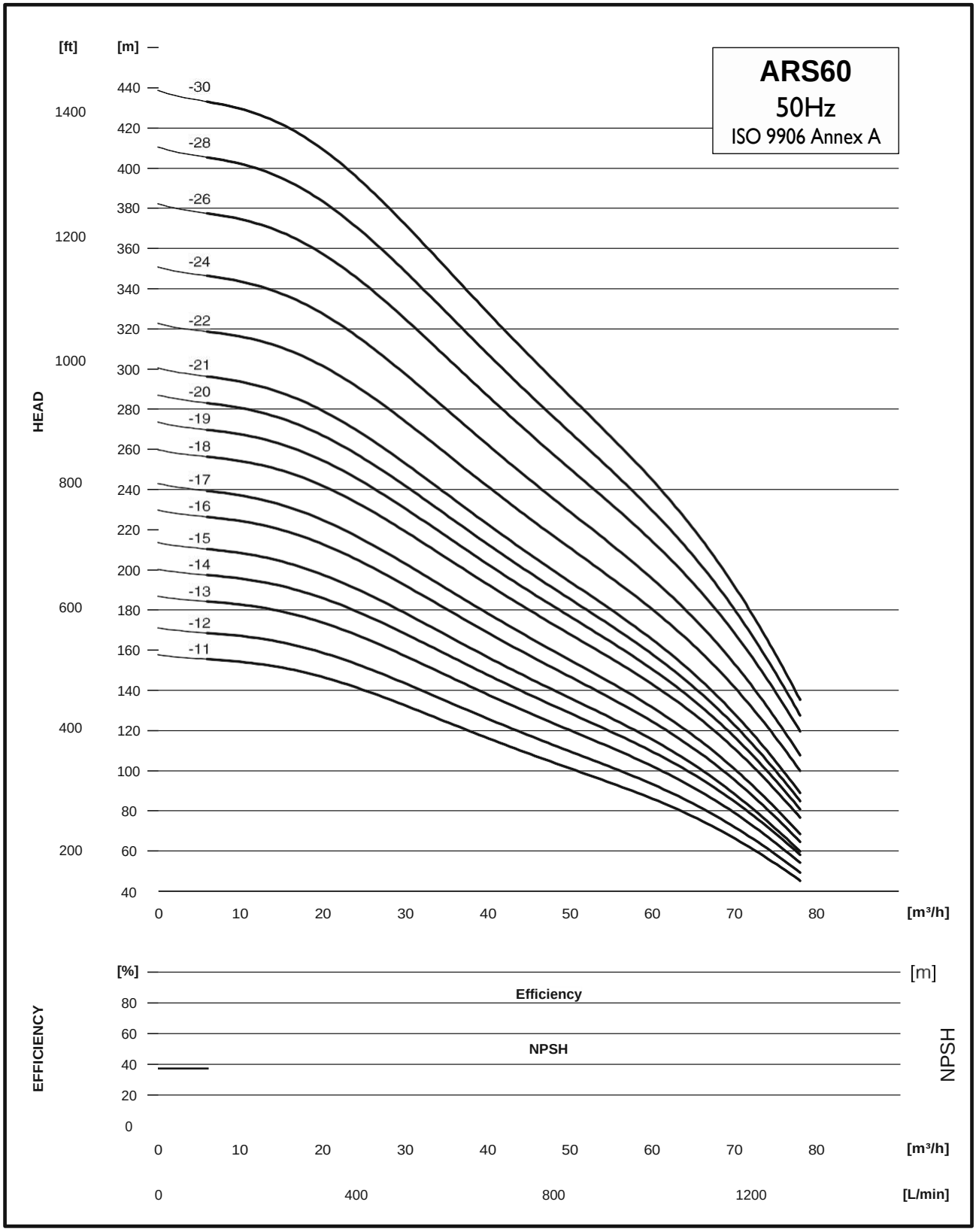
ARS60 - Performance

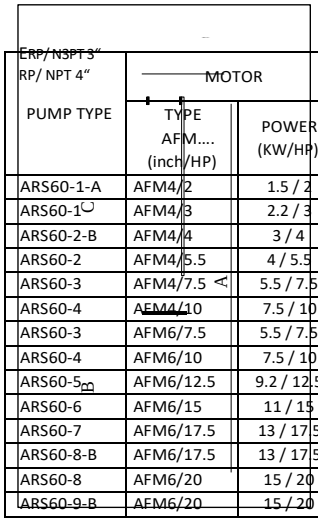


ARS60 - Performance



ARS60 - Technical Data

Dimensions and Weight



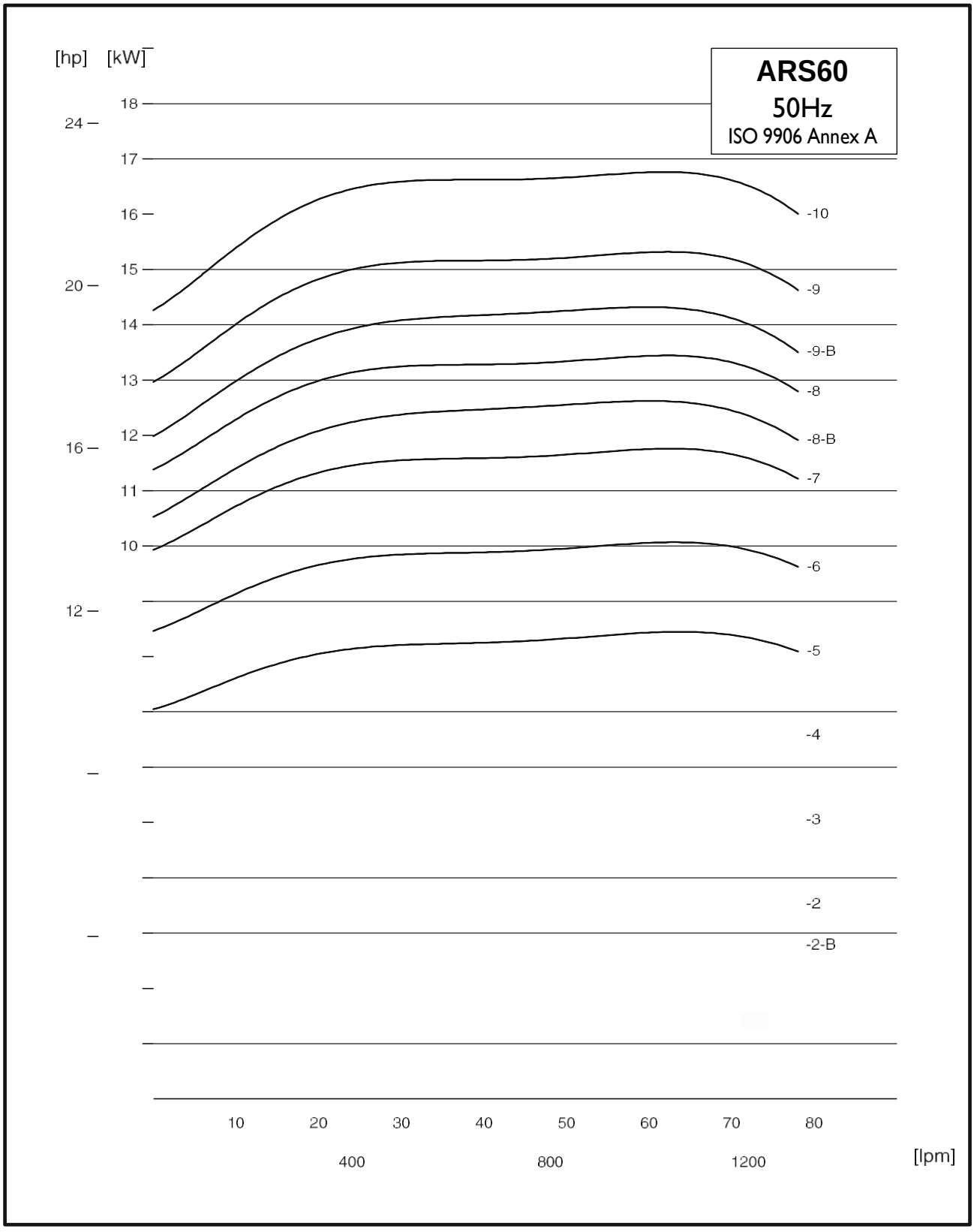
PUMP TYPE	TYPE AFM.... (inch/HP)	POWER (KW/HP)	DIMENSIONS (mm) A	B	C	D	E*	E**	NET WEIGHT (kg) 1x230V	3x230V	3x400V
			1x230V	1x230V	3x400V						
ARS60-1-A	AFM4/2	1.5 / 2	699	946	956	96	241		1010	29	
ARS60-1	AFM4/3	2.2 / 3	837	1040	1070	96	253		1010	31	
ARS60-2-B	AFM4/4	3 / 4	977		1175	96	264		1010	34	
ARS60-2	AFM4/5.5	4 / 5.5	1237		1333	96	278		1062	37	
ARS60-3	AFM4/7.5	5.5 / 7.5	1477		1470	96	301		1062	47.8	
ARS60-4	AFM4/10	7.5 / 10	1717		1739	96	323	-	1168	54.7	
ARS60-3	AFM6/7.5	5.5 / 7.5	1237		1385	144	346		1168	59.5	
ARS60-4	AFM6/10	7.5 / 10	1477		1408	144	368	-	1168	63.7	
ARS60-5-B	AFM6/12.5	9.2 / 12.5	835		736		1571	144	149	152		67.8
ARS60-6	AFM6/15	11 / 15	948		736		1771	144	149	152		78
ARS60-7	AFM6/17.5	13 / 17.5	1060		826		1885	144	149	152		85.8
ARS60-8-B	AFM6/17.5	13 / 17.5	-		826		2000	144	149	152		88
ARS60-8	AFM6/20	15 / 20	1174		866		2040	144	149	152		91.5
ARS60-9-B	AFM6/20	15 / 20	1287		866		2153	144	149	152		93.7
ARS60-9	AFM6/25	18.5 / 25	1287									99.5
ARS60-10	AFM6/25	18.5 / 25	1400									101.8
ARS60-11	AFM6/30	22 / 30	1513									114
ARS60-12	AFM6/30	22 / 30	1626									116.2
ARS60-13	AFM6/35	26 / 35	1739									127.3
ARS60-14	AFM6/35	26 / 35	1852									129.5
ARS60-15	AFM6/35	26 / 35	1965									131
ARS60-16	AFM6/40	30 / 40	2078									141
ARS60-17	AFM6/40	30 / 40	2191									143.4
ARS60-18	AFM6/50	37 / 50	2304									181.7
ARS60-19	AFM8/50	37 / 50	2416									184
ARS60-20	AFM8/50	37 / 50	2530									186.2
ARS60-21	AFM8/50	37 / 50	2644									188.5
ARS60-22	AFM8/60	45 / 60	2784									-
ARS60-24	AFM8/60	45 / 60	3010									-
ARS60-26	AFM8/75	55 / 75	3235									-
ARS60-28	AFM8/75	55 / 75	3462									-
ARS60-30	AFM8/75	55 / 75	3688									-

* Maximum diameter of pump with one motor cable

** Maximum diameter of pump with two motor cables

On Request

ARS60 - Power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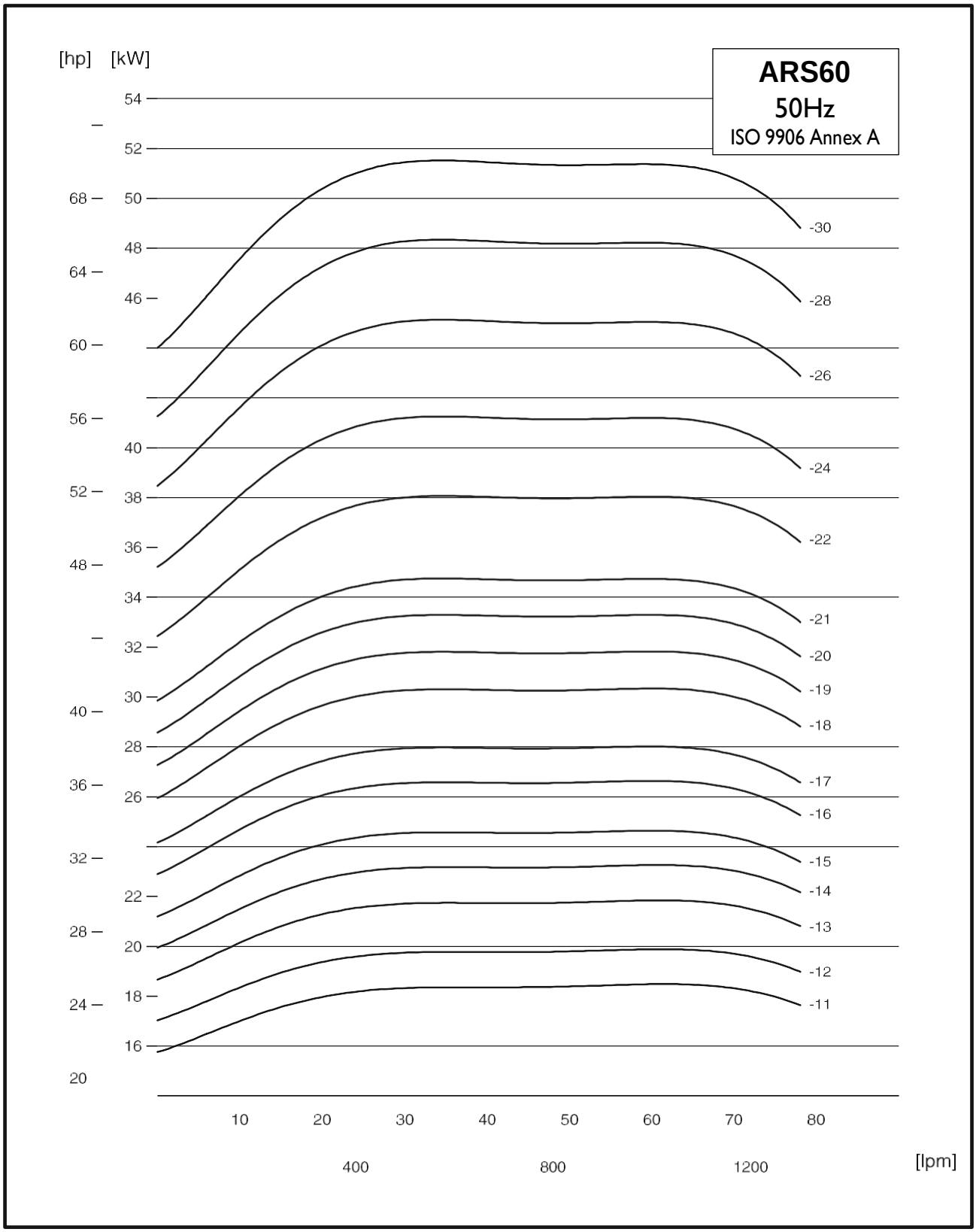
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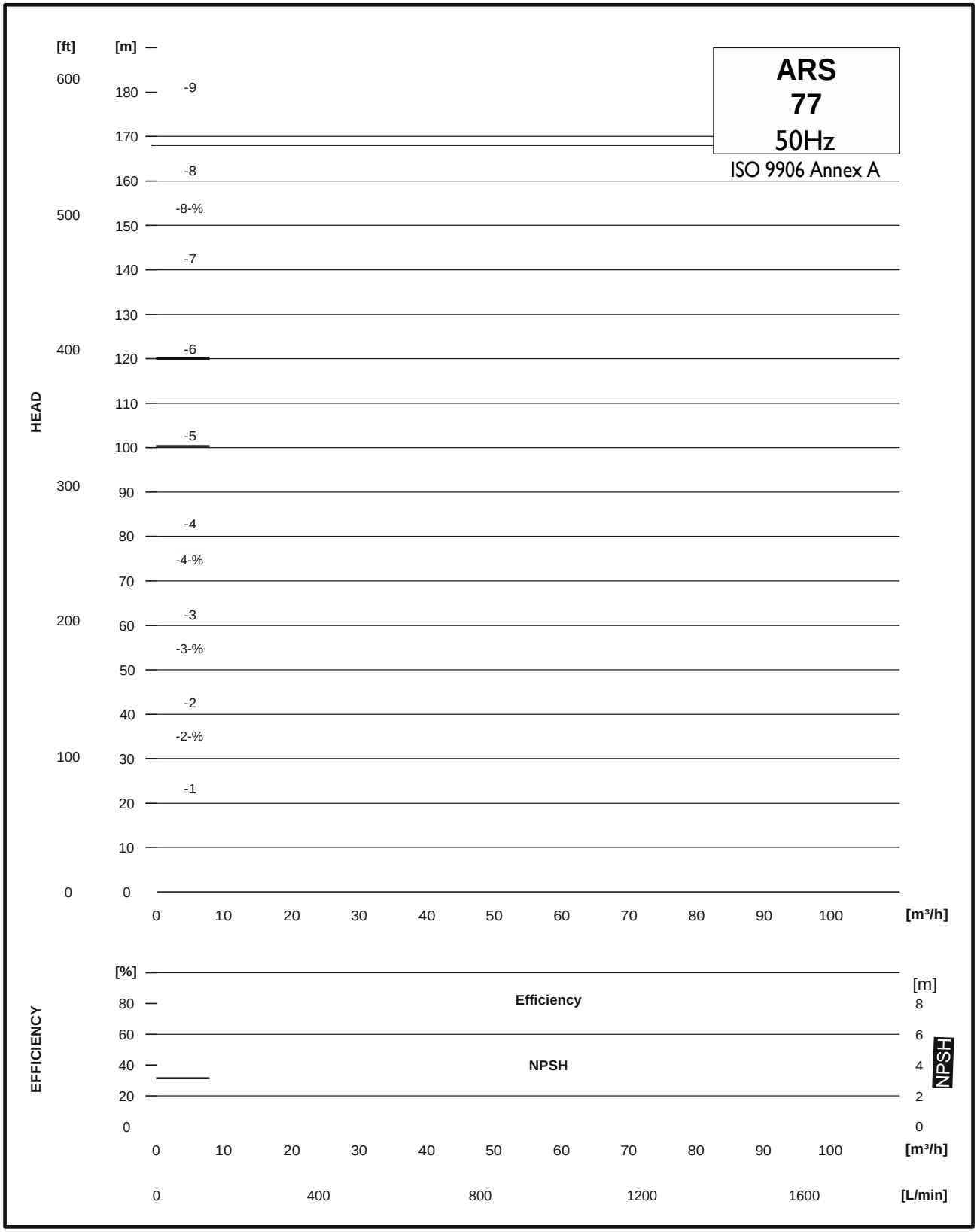
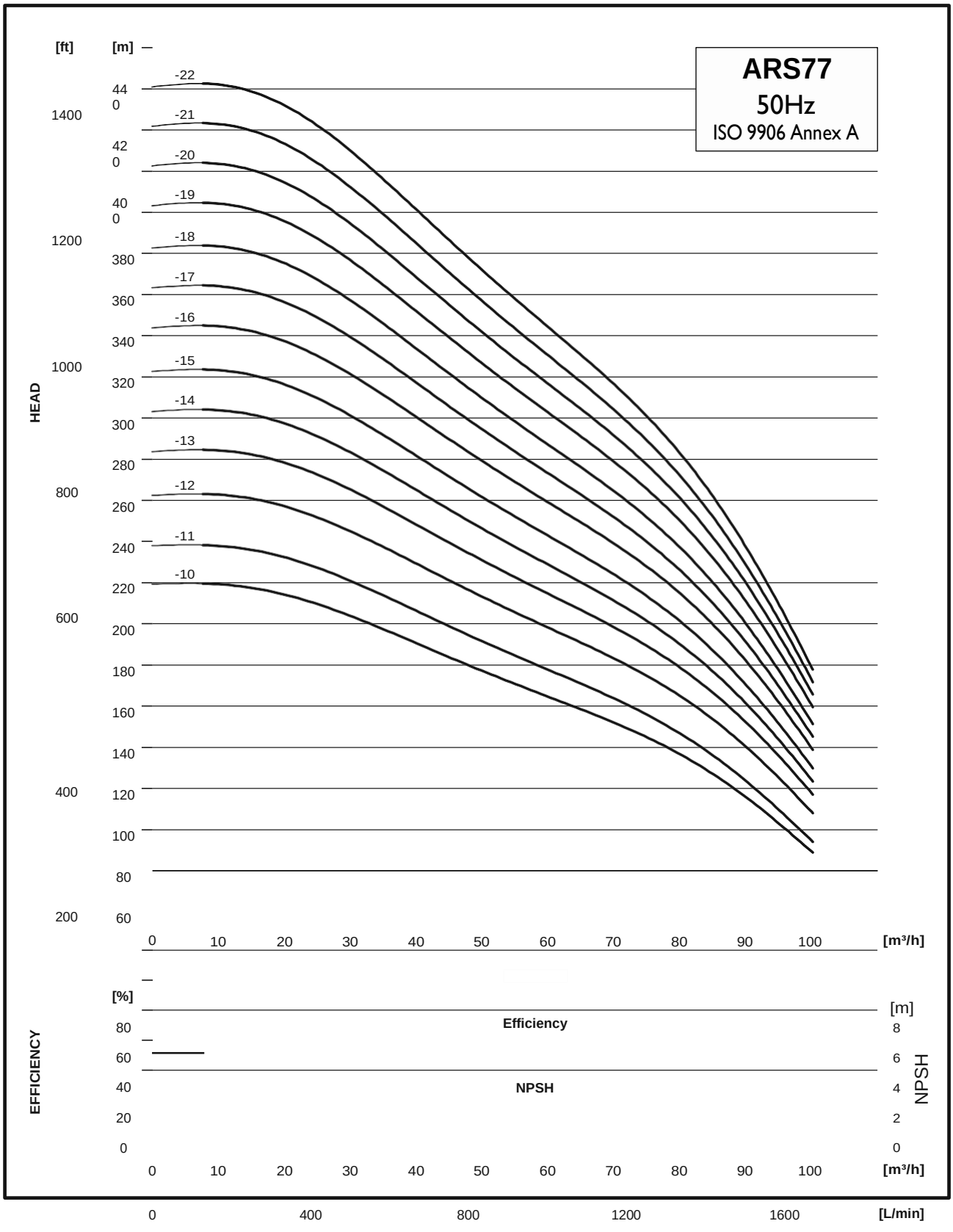
ARS77 - Performance



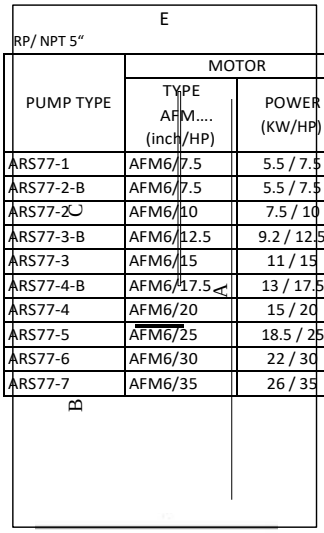
ARS77 - Performance

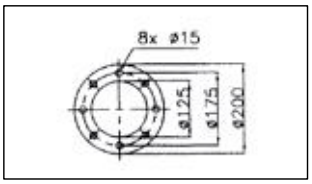


ARS77 - Performance

ARS77 - Technical

Dimensions and Weight



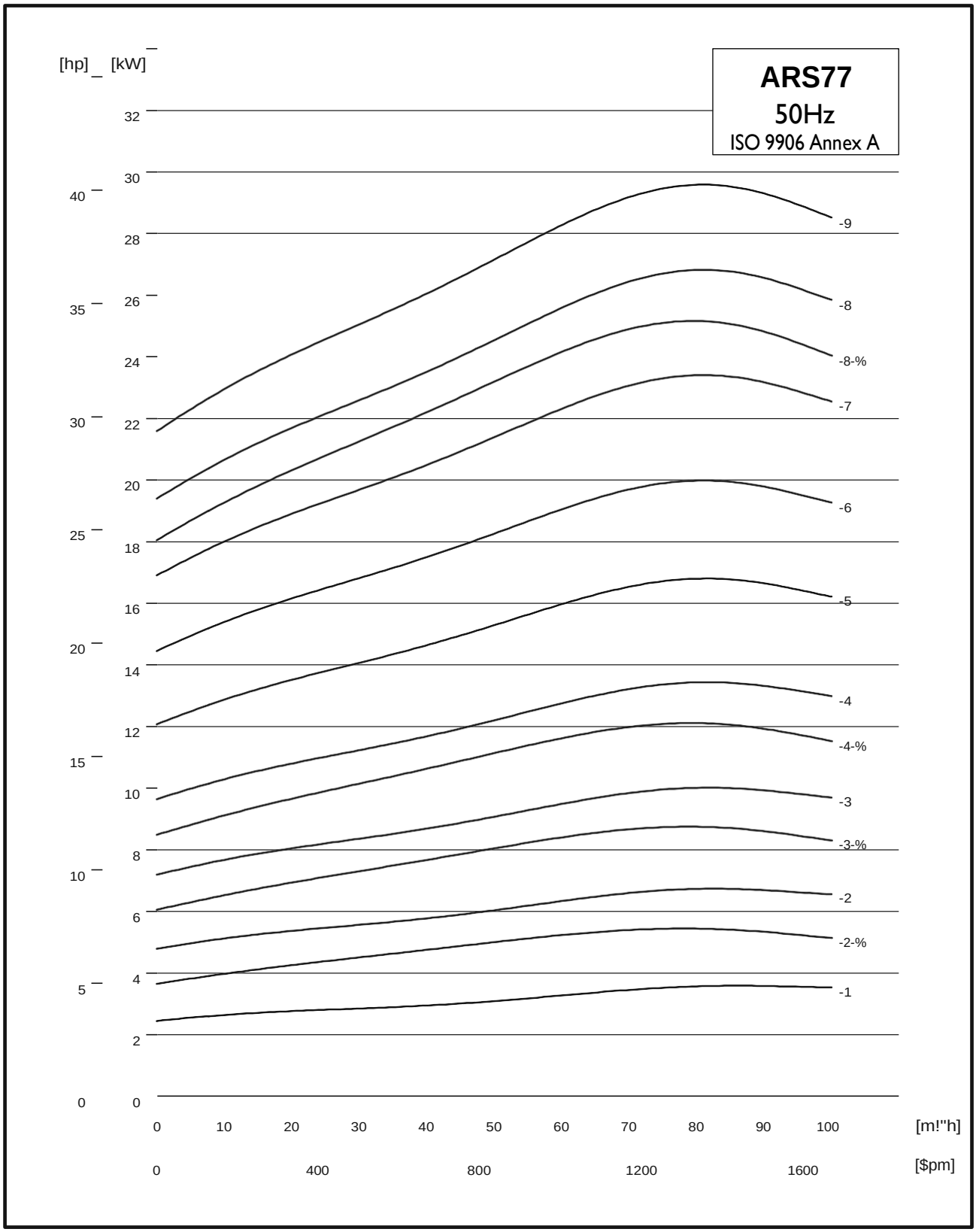


PUMP TYPE	MOTOR TYPE AFM.... (inch/HP)	MOTOR POWER (KW/HP)	DIMENSIONS Suction connection (RP/NPT)				Discharge flange						NET WEIGHT (kg)
			A	C	E*	E**	A	C	E*	E**			
ARS77-1	AFM6/7.5	5.5 / 7.5	1294	618	178	186	1294	618	200	200	921	144	73
ARS77-2-B	AFM6/7.5	5.5 / 7.5	1422	746	178	186	1422	746	200	200	921	144	76.7
ARS77-2	AFM6/10	7.5 / 10	1452	746	178	186	1452	746	200	200	921	144	78.7
ARS77-3-B	AFM6/12.5	9.2 / 12.5	1610	874	178	186	1610	874	200	200	921	144	84.1
ARS77-3	AFM6/15	11 / 15	1650	874	178	186	1650	874	200	200	921	144	92
ARS77-4-B	AFM6/17.5	13 / 17.5	1829	1003	178	186	1829	1003	200	200	921	144	101
ARS77-4	AFM6/20	15 / 20	1869	1003	178	186	1869	1003	200	200	921	144	104.5
ARS77-5	AFM6/25	18.5 / 25	2052	1131	178	186	2052	1131	200	200	921	144	114
ARS77-6	AFM6/30	22 / 30	2359	1131	178	186	2359	1131	200	200	921	144	127.2
ARS77-7	AFM6/35	26 / 35	2543	1287	178	186	2543	1287	200	200	1058	144	139.6
ARS77-8-B	AFM6/35	26 / 35	2571	1515	178	186	2571	1515	200	200	1056	144	143.2
ARS77-8	AFM6/40	30 / 40	2691	1515	178	186	2691	1515	200	200	1176	144	150.2
ARS77-9	AFM6/40	30 / 40	2820	1644	178	186	2820	1644	200	200	1176	144	153.8
ARS77-10	AFM8/50	37 / 50	2782	1772	178	186	2782	1772	200	200	1010	190	193.4
ARS77-11	AFM8/50	37 / 50	2910	1900	178	186	2910	1900	200	200	1010	190	197
ARS77-12	AFM8/60	45 / 60	3101	2039	200	204	3101	2039	209	209	1062	190	202
ARS77-13	AFM8/75	55 / 75	3336	2168	200	204	3336	2168	209	209	1168	190	224.6
ARS77-14	AFM8/75	55 / 75	3464	2296	200	204					1168	190	228.2
ARS77-15	AFM8/75	55 / 75	3592	2424	200	204					1168	190	231.8
ARS77-16	AFM8/90	67 / 90	3810	2552	200	204					1262	192	242.4
ARS77-17	AFM8/90	67 / 90	3940	2682	200	204					1262	192	246
ARS77-18	AFM8/90	67 / 90	4070	2812	200	204					1262	192	249.6
ARS77-19	AFM8/100	75 / 100	4200	2942	200	204					1324	192	275.2
ARS77-20	AFM8/100	75 / 100	4330	3072	200	204					1324	192	278.8
ARS77-21	AFM8/100	75 / 100	4520	3262	200	204					1324	192	282.4
ARS77-22	AFM8/125	90 / 125	4730	3346	200	204					1469	192	317

* Maximum diameter of pump with one motor cable

** Maximum diameter of pump with two motor cables

ARS77 - Power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50Hz
ISO 9906 Annex A
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26
24
22
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18
16
14
12
10
8
6
4
2
0
-9
-8
-8-%
-7
-6
-5
-4
-4-%
-3
-3-%
-2
-2-%
-1
0
10
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70
80
90
100
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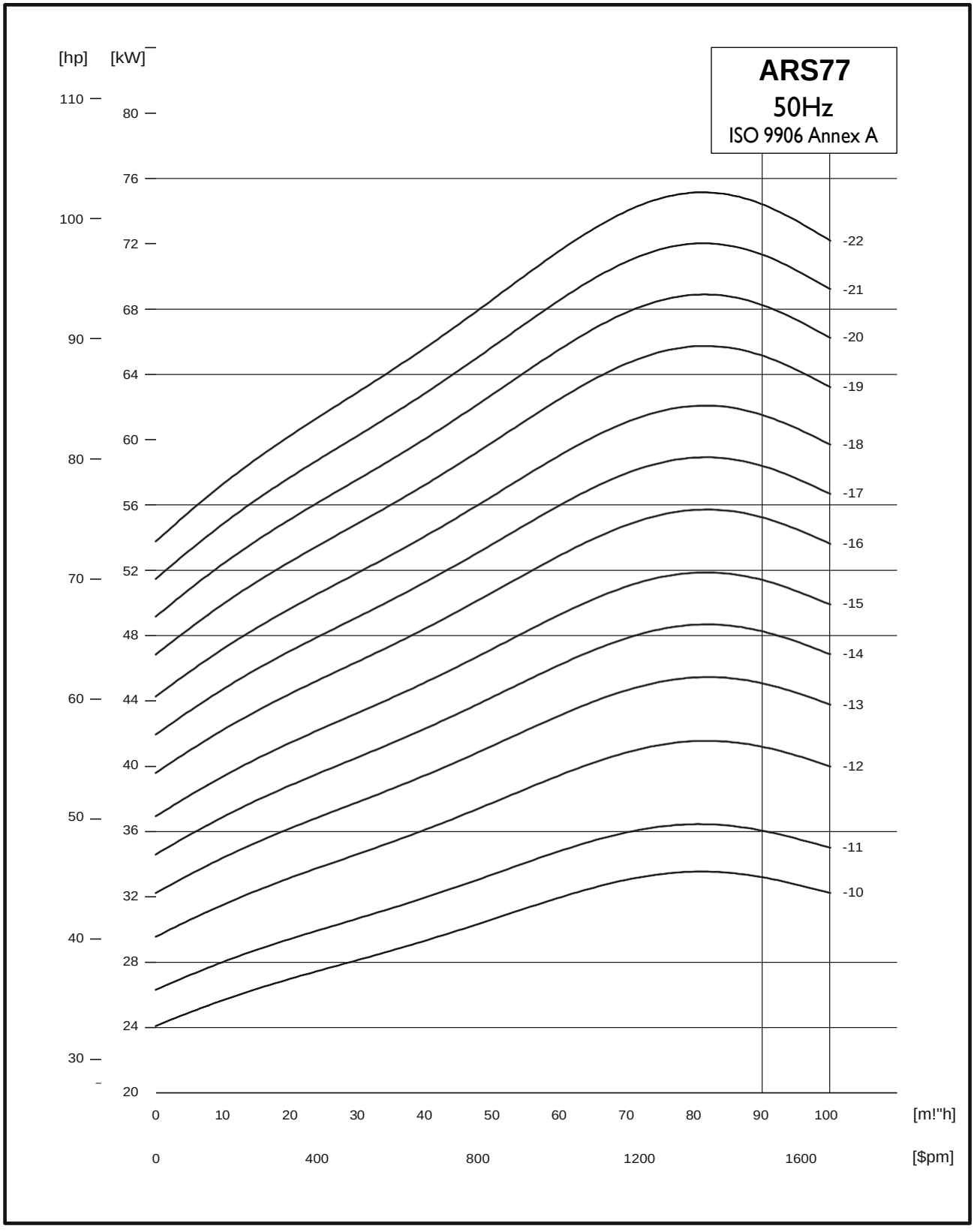
800
1200
1600
[$pm]

ARS77 - Power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50Hz
ISO 9906 Annex A
[hp]
[kW]
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28
24
30
20
-22
-21
-20
-19
-18
-17
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-10
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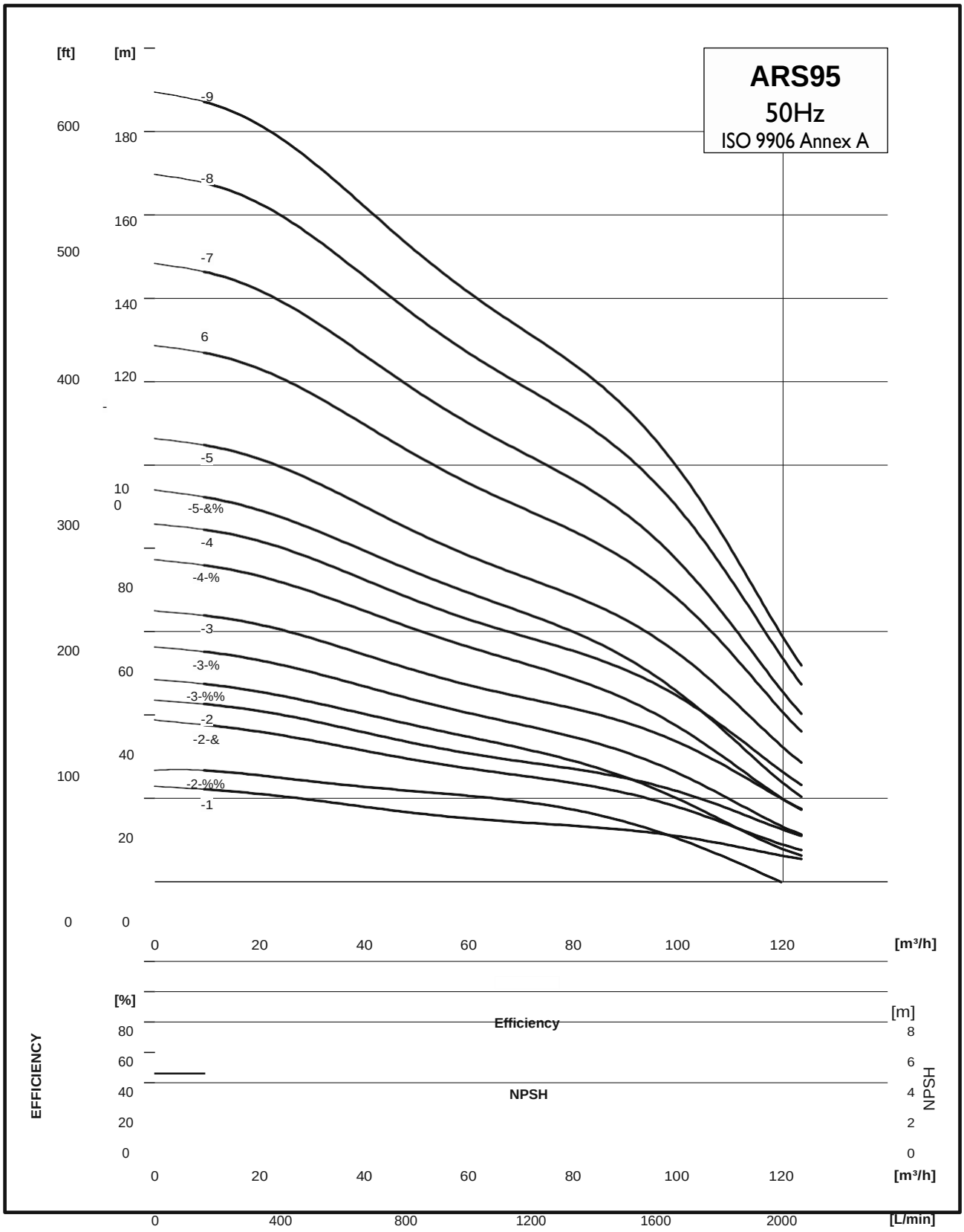
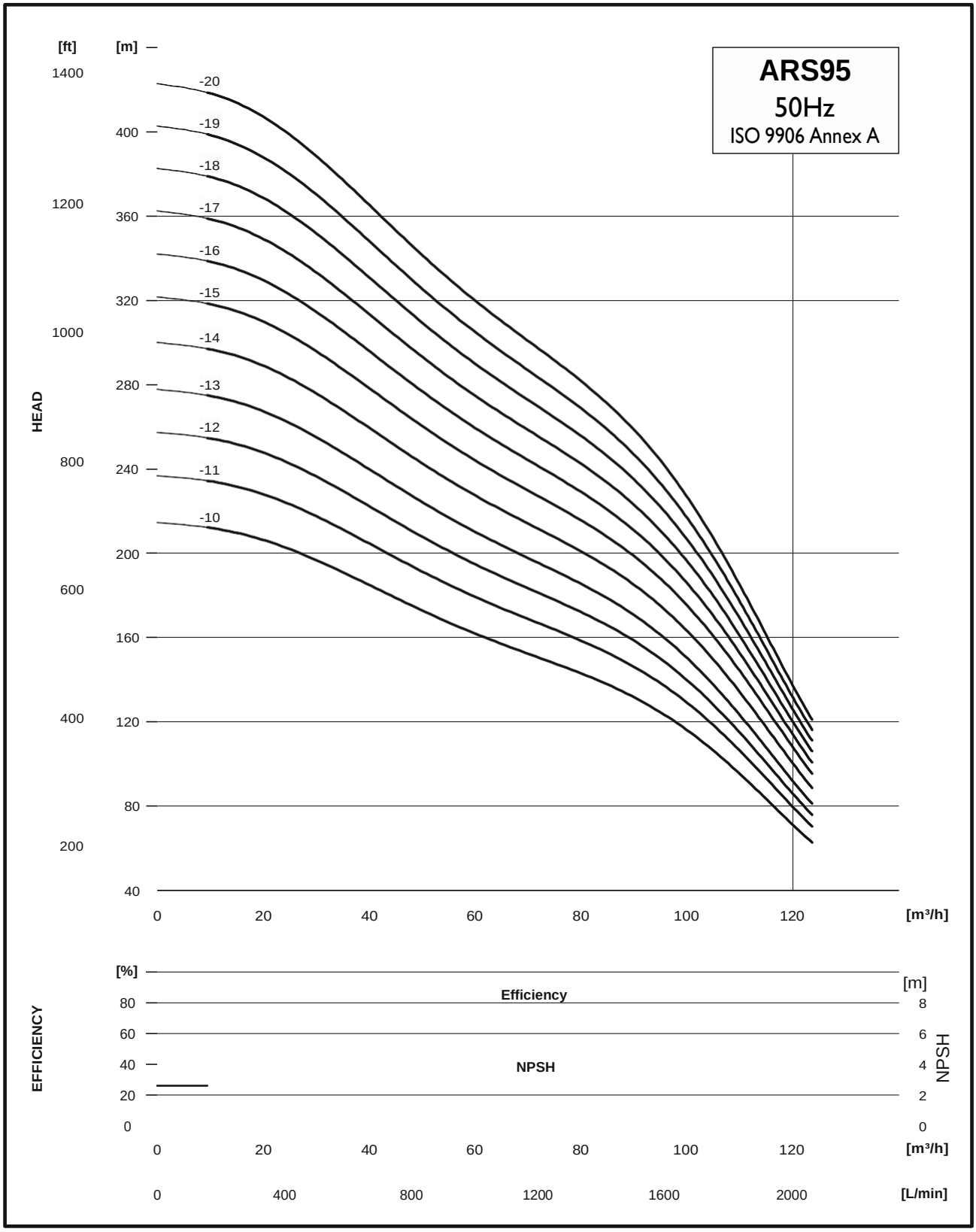
400
800
1200
1600
[$pm]

ARS95 - Performance



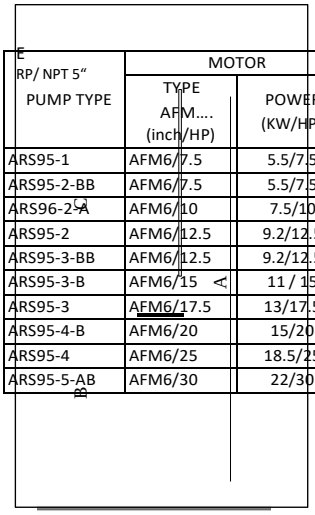
ARS95 - Performance

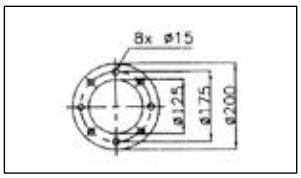
ARS95 - Performance



ARS95 - Technical Data

Dimensions and Weight



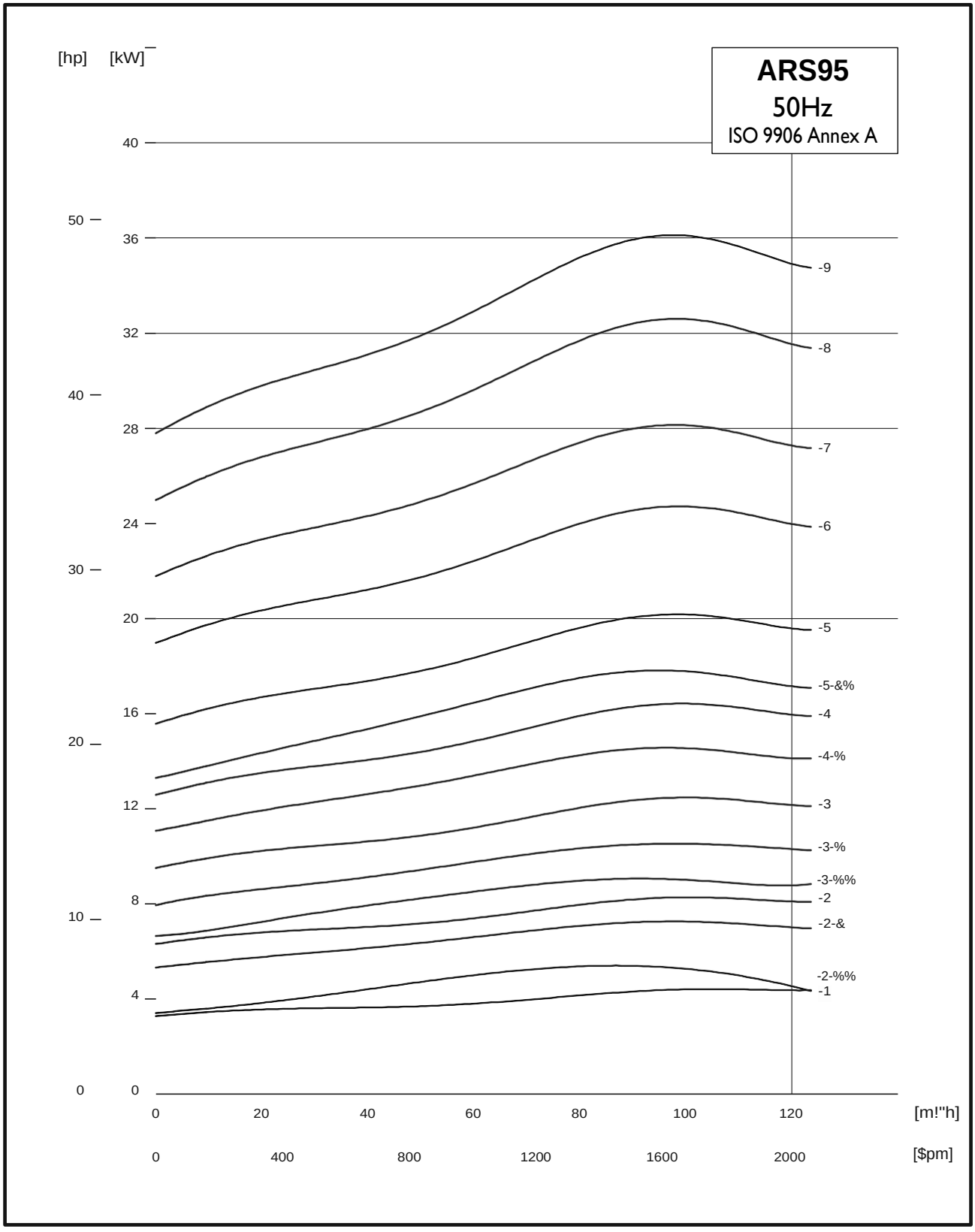


PUMP TYPE	MOTOR TYPE AFM.... (inch/HP)	MOTOR POWER (KW/HP)	DIMENSIONS																NET WEIGHT (kg)
			A	C	F*	F**	A	C	F*	F**	B	D	A	B					
ARS95-1	AFM6/7.5	5.5/7.5	1294	618	178	186	1294	618	200	200	676	144	204	73					
ARS95-2-BB	AFM6/7.5	5.5/7.5	1422	746	178	186	1422	746	200	200	746	144	204	76.7					
ARS96-2-A	AFM6/10	7.5/10	1452	746	178	186	1452	746	200	200	706	144	204	78.7					
ARS95-2	AFM6/12.5	9.2/12.5	1482	746	178	186	1482	746	200	200	736	144	204	80.2					
ARS95-3-BB	AFM6/12.5	9.2/12.5	1610	874	178	186	1610	874	200	200	736	144	204	84					
ARS95-3-B	AFM6/15	11 / 15	1650	874	178	186	1650	874	200	200	776	144	204	92					
ARS95-3	AFM6/17.5	13/17.5	1700	874	178	186	1700	874	200	200	826	144	204	97.5					
ARS95-4-B	AFM6/20	15/20	1869	1003	178	186	1869	1003	200	200	866	144		104.5					
ARS95-4	AFM6/25	18.5/25	1944	1078	178	186	1944	1078	200	200	906	144		110.3					
ARS95-5-AB	AFM6/30	22/30	2127	1131	178	186	2127	1131	200	200	996	144		123.7					
ARS95-5	AFM6/30	22/30	2127	1131	178	186	2127	1131	200	200	996	144		123.7					
ARS95-6	AFM6/35	26/35	2315	1259	178	186	2315	1259	200	200	1056	144		136					
ARS95-7	AFM6/40	30/40	2573	1397	178	186	2563	1387	200	200	1176	144		146.6					
ARS95-8	AFM8/50	37/50	2535	1525	178	186	2525	1515	200	200	1010	190		186.2					
ARS95-9	AFM8/60	45/60	2706	1644	178	186	2706	1644	200	200	1062	190		196.8					
ARS95-10	AFM8/60	45/60	2845	1783	196	204	2845	1783	205	205	1062	190		201.8					
ARS95-11	AFM8/75	55/75	3079	1911	196	204	3079	1911	205	205	1168	190		217.4					
ARS95-12	AFM8/75	55/75	3207	2039	196	204	3207	2039	205	205	1168	190		221					
ARS95-13	AFM8/75	55/75	3336	2168	196	204	3336	2168	205	205	1168	190		224.6					
ARS95-14	AFM8/90	67/90	3538	2296	196	204	3538	2296	205	205	1262	192		235.2					
ARS95-15	AFM8/100	75/100	3748	2424	196	204	76.7				1324	192		260.7					
ARS95-16	AFM8/100	75/100	3877	2553	196	204	78.7				1324	192		264.4					
ARS95-17	AFM8/100	75/100	4004	2680	196	204	80.2				1324	192		268					
ARS95-18	AFM8/125	92/125	4278	2809	196	204	84				1469	192		302.6					
ARS95-19	AFM8/125	92/125	4408	2939	196	204	92				1469	192		306.2					
ARS95-20	AFM8/125	92/125	4534	3062	196	204	97.5				1469	192		309.8					

* Maximum diameter of pump with one motor cable

** Maximum diameter of pump with two motor cables

ARS95 - Power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ARS95
50Hz
ISO 9906 Annex A
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50
36
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28
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30
20
20
16
12
10
8
4
0
0
-9
-8
-7
-6
-5
-5-&%
-4
-4-%
-3
-3-%
-3-%%
-2
-2-&
-2-%%
-1
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60
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1600
2000
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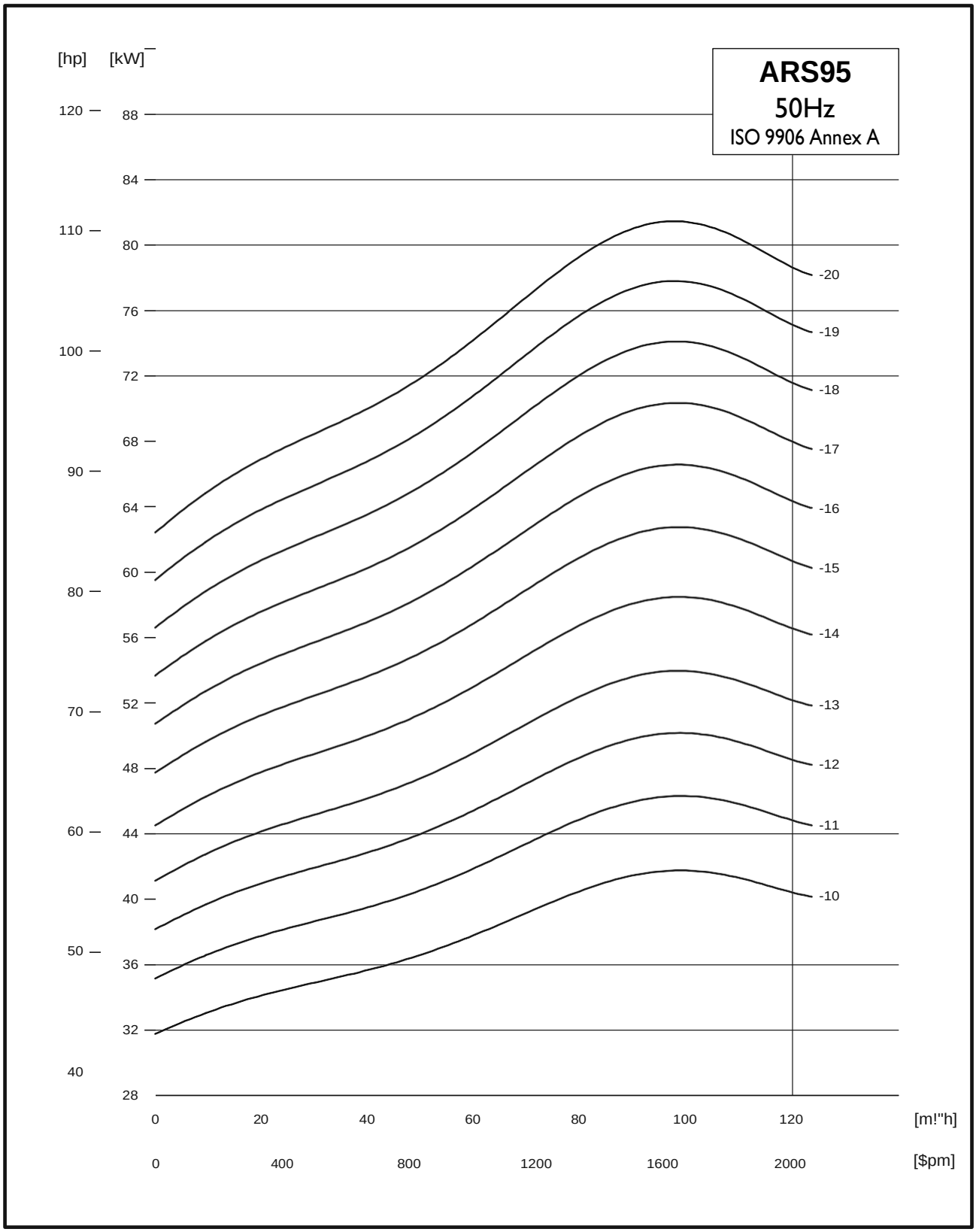
ARS95 - Power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[kW]
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50Hz
ISO 9906 Annex A
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80
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52
70
48
60
44
40
50
36
32
40
28
-20
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1600
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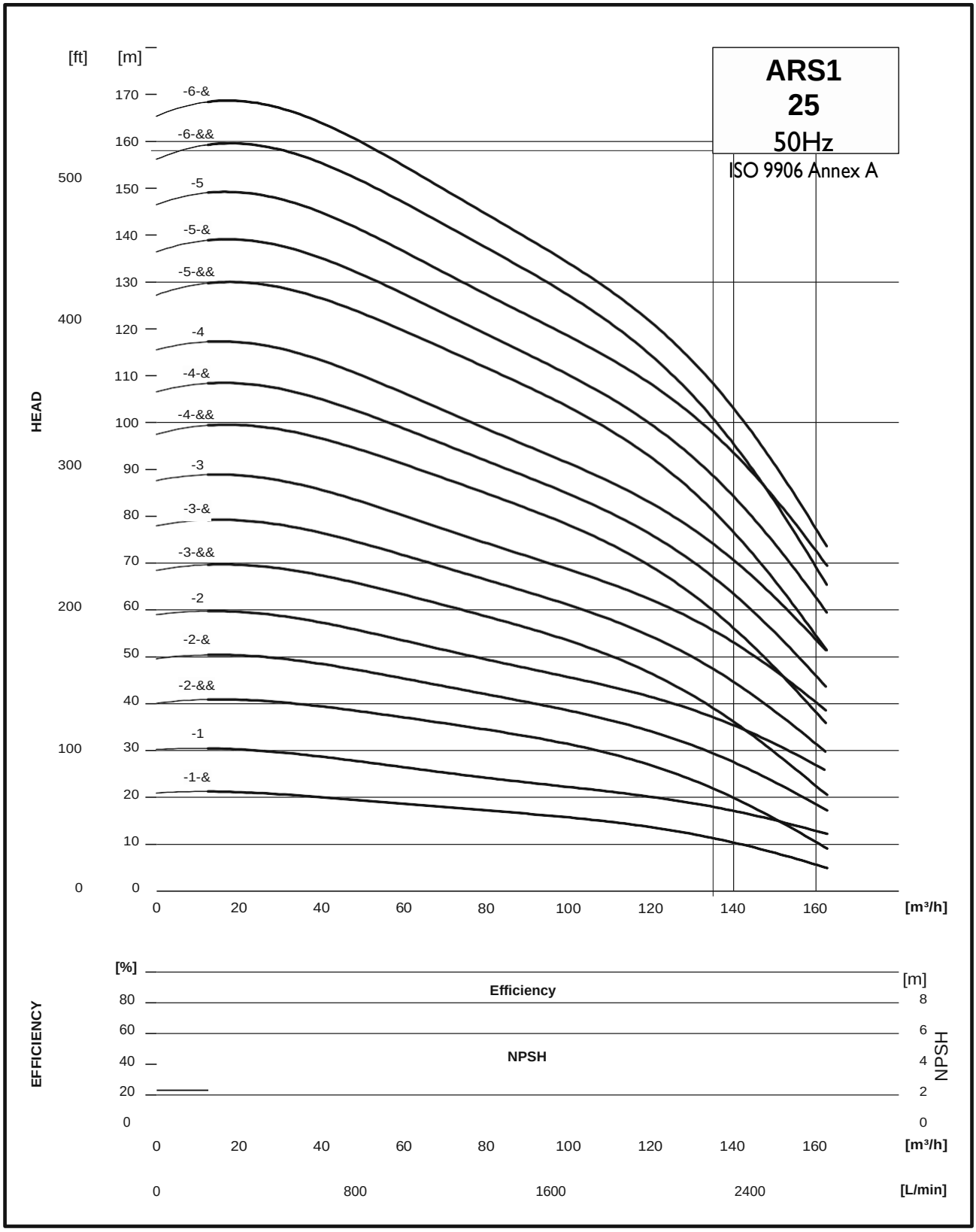
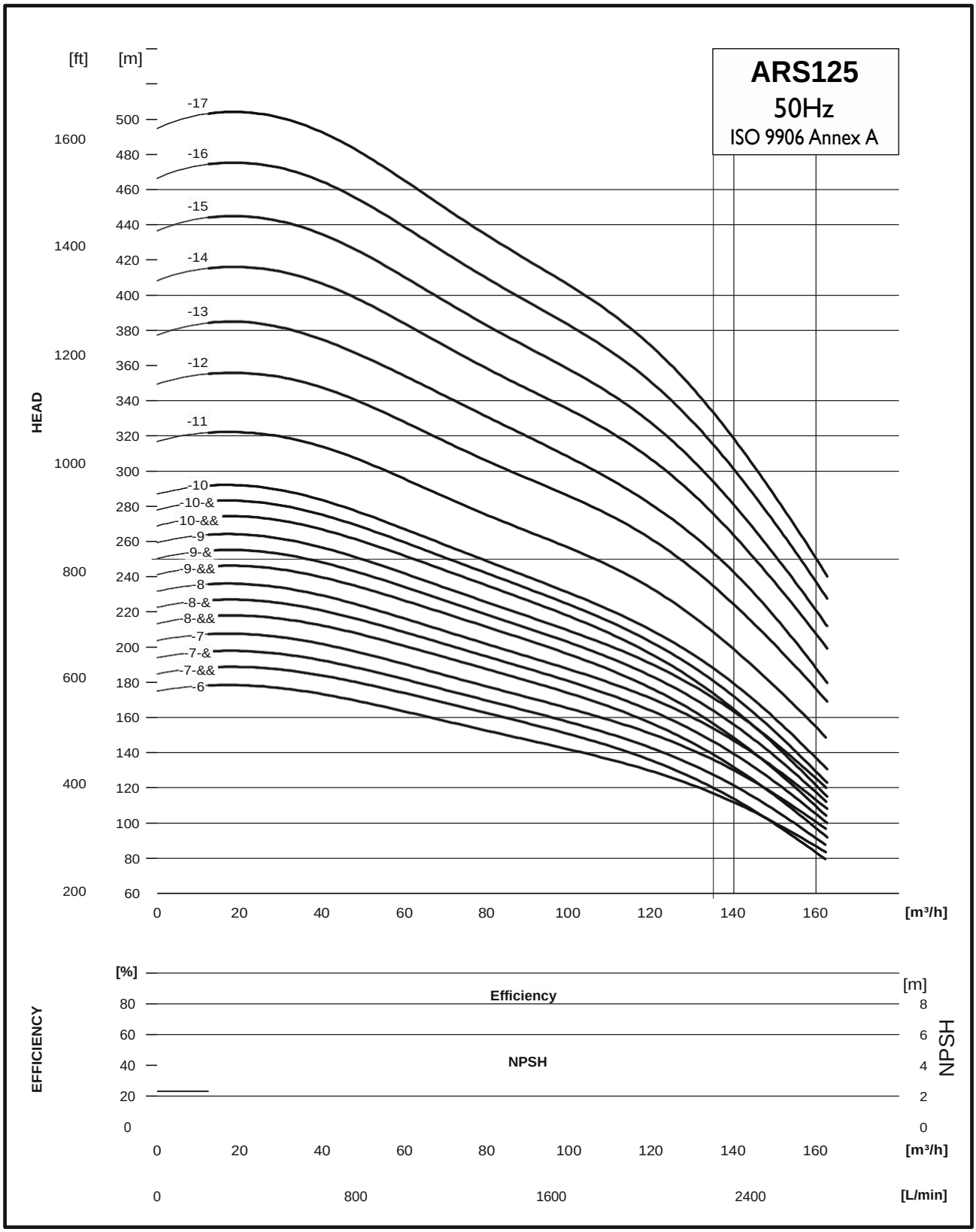
ARS125 - Performance

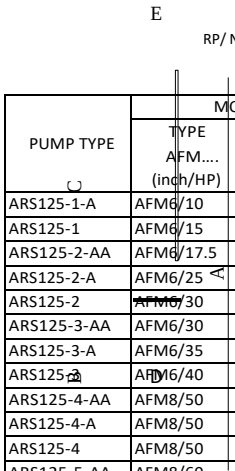


ARS125 - Performance



ARS125 - Technical

Dimensions and Weight

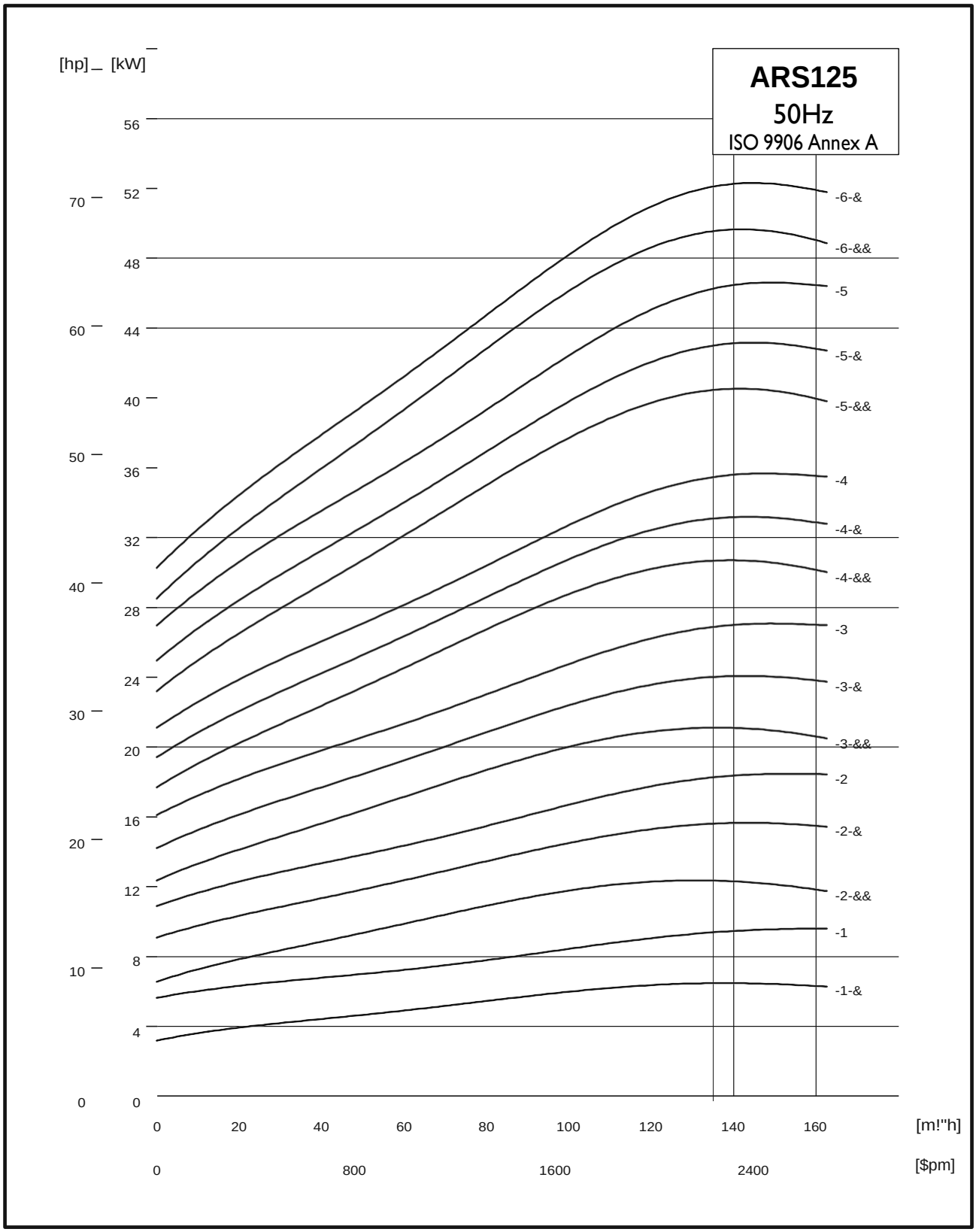


PUMP TYPE	MOTOR		DIMENSIONS											NET WEIGHT (kg)
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	A	C	E*	E**	A	C	E*	E**	D			
ARS125-1-A	AFM6/10	7.5/10	1226	952	214	218	1226	952/125	222	352	226	2054	214	61
ARS125-1	AFM6/15	11/15	1287	952	214	218	1287	952/125	222	352	226	2054	214	70
ARS125-2-AA	AFM6/17.5	13/17.5	1471	807	214	218	1471	807/125	222	352	226	2054	214	83
ARS125-2-A	AFM6/25	18.5/25	1561	807	214	218	1561	807/150	222	372	226	2054	214	92
ARS125-2	AFM6/30	22/30	1619	807	214	218	1619	807/200	222	412	226	2492	214	98
ARS125-3-AA	AFM6/30	22/30	1775	963	214	218	1775	963/200	222	429	226	2618	214	108
ARS125-3-A	AFM6/35	26/35	1887	963	214	218	1887	963/200	222	442	226	2804	214	114
ARS125-3	AFM6/40	30/40	1907	963	214	218	1907	963/200	222	463	226	2994	214	122
ARS125-4-AA	AFM8/50	37/50	2128	1118	214	218	2128	1118/250	223	483	226	3010	214	195
ARS125-4-A	AFM8/50	37/50	2128	1118	214	218	2128	1118/250	223	503	226	3010	214	195
ARS125-4	AFM8/50	37/50	2128	1118	213	218	2128	1118	223	226	1010	190		195
ARS125-5-AA	AFM8/60	45/60 *	2333	1271	213	218	2333	1271	223	226	1062	190		221
ARS125-5-A	AFM8/60	45/60 **	2333	1271	213	218	2333	1271	223	226	1062	190		221
ARS125-5	AFM8/75	55/75	2439	1271	213	218	2439	1271	223	226	1168	190		245
ARS125-6-AA	AFM8/75	55/75	2597	1429	213	218	2597	1429	223	226	1168	190		254
ARS125-6-A	AFM8/75	55/75	2597	1429	213	218	2597	1429	223	226	1168	190		254
ARS125-6	AFM8/90	67/90	2691	1429	218	227	2691	1429	229	232	1262	192		273
ARS125-7-AA	AFM8/90	67/90	2847	1585	218	227	2847	1585	229	232	1262	192		283
ARS125-7-A	AFM8/90	67/90	2847	1585	218	227	2847	1585	229	232	1262	192		283
ARS125-7	AFM8/100	75/100	2909	1585	218	227	2909	1585	229	232	1324	192		300
ARS125-8-AA	AFM8/100	75/100	3034	1710	218	227					1324	192		311
ARS125-8-A	AFM8/100	75/100	3034	1710	218	227					1324	192		311
ARS125-8	AFM8/100	75/100	3034	1710	218	227					1324	192		311
ARS125-9-AA	AFM8/125	92/125	3365	1896	218	227					1469	192		353
ARS125-9-A	AFM8/125	92/125	3365	1896	218	227					1469	192		353
ARS125-9	AFM8/125	92/125	3365	1896	218	227					1469	192		353
ARS125-10-AA	AFM8/125	92/125	3520	2054	218	227					1469	192		363
ARS125-10-A	AFM8/125	92/125	3520	2054	218	227					1469	192		363
ARS125-10	AFM8/125	92/125	3520	2054	218	227					1469	192		363
ARS125-11	AFM8/150	130/150	3726	2054	218	227					1567	192		511
ARS125-12	AFM10/200	147/200	4126	2492	214	247					1675	230		571
ARS125-13	AFM10/200	147/200	4299	2618	214	247					1675	230		582
ARS125-14	AFM10/200	147/200	4426	2804	214	247					1675	230		722
ARS125-15	AFM10/200	147/200	4634	2994	214	247					1675	230		732
ARS125-16	AFM10/250	185/250	4836	3110	214	247					1784	230		782
ARS125-17	AFM10/250	185/250	5036	3110	214	247					1784	230		792

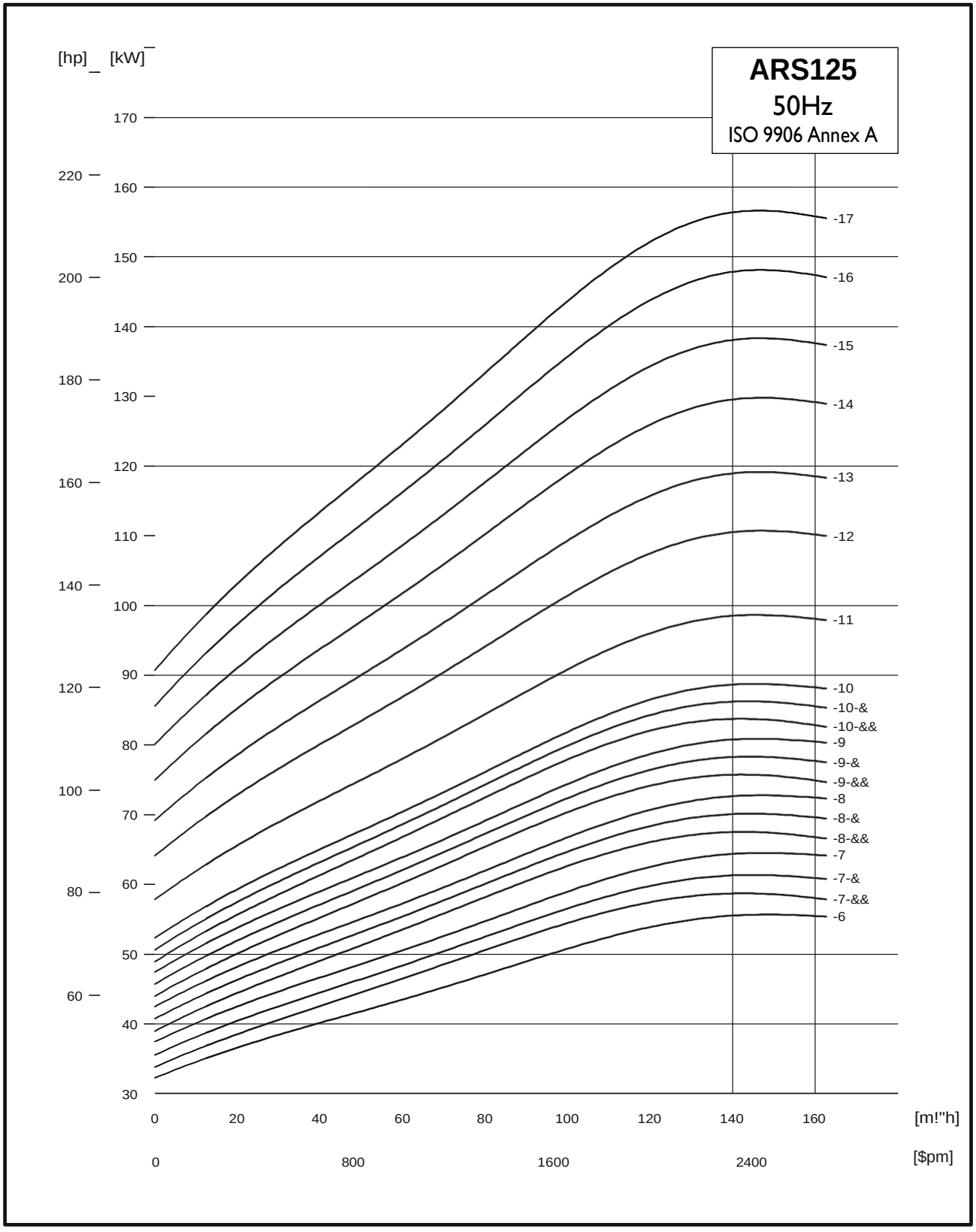
*** Maximum diameter of pump with one motor cable**

**** Maximum diameter of pump with two motor cables**

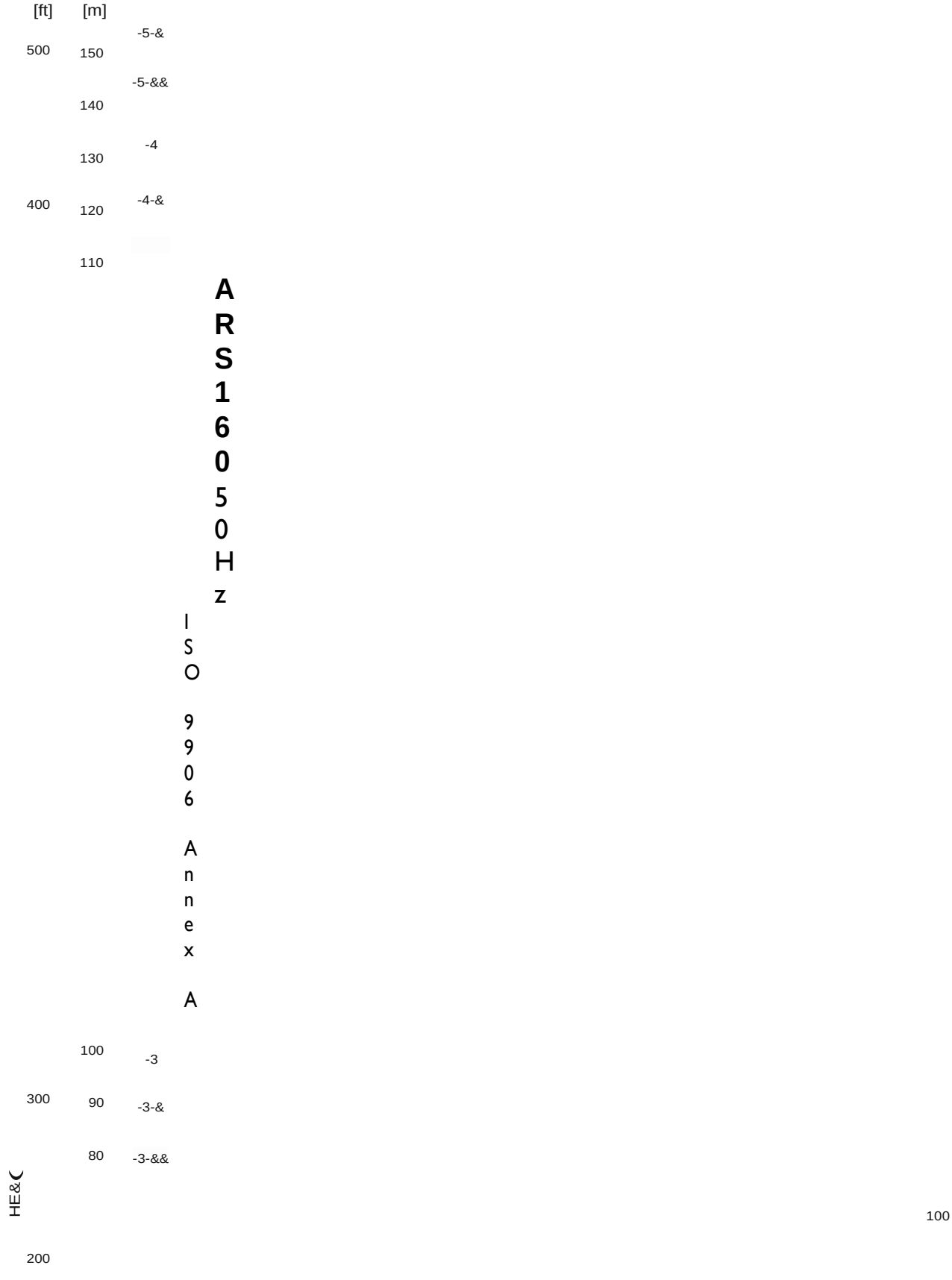
ARS125 - Power



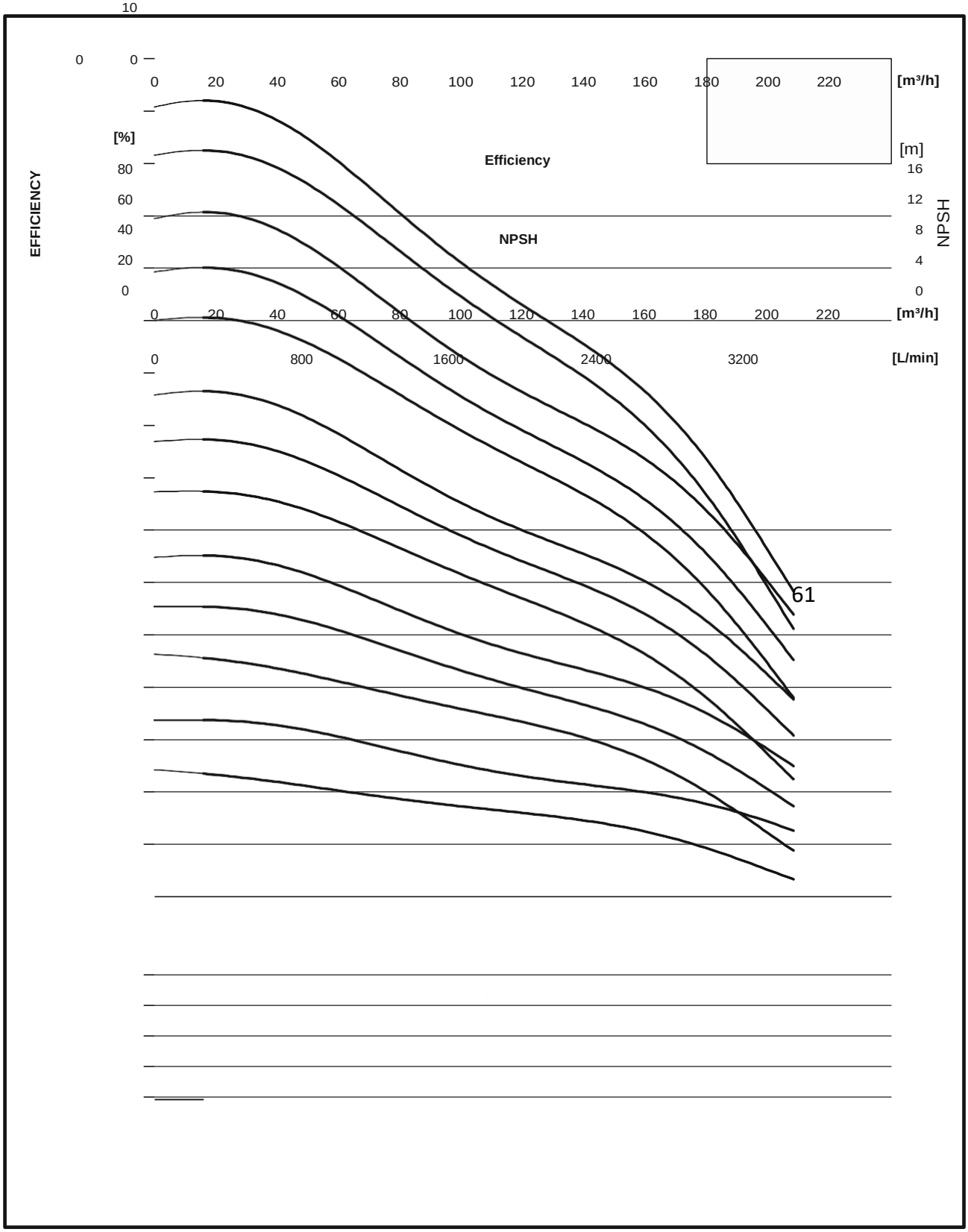
ARS125 - Power



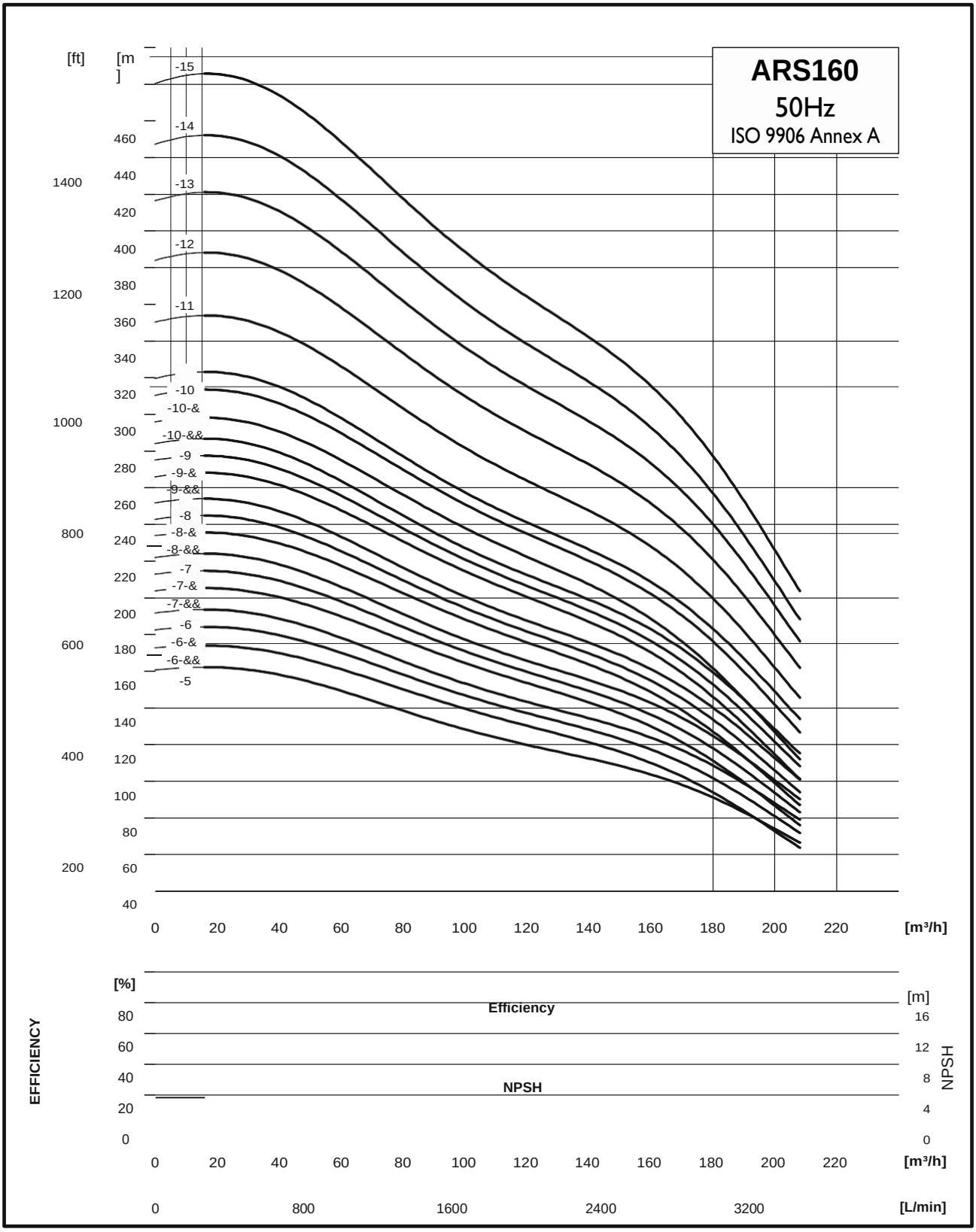
ARS160 - Performance



ARS160 - Performance

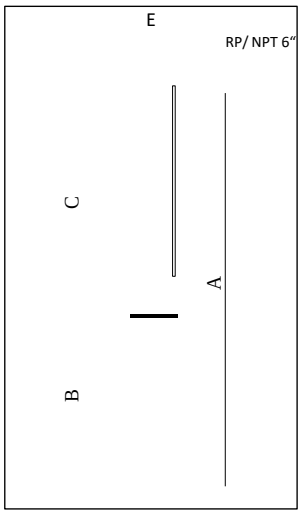


ARS160 - Performance

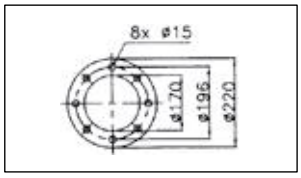


ARS160 - Technical Data

Dimensions and Weight



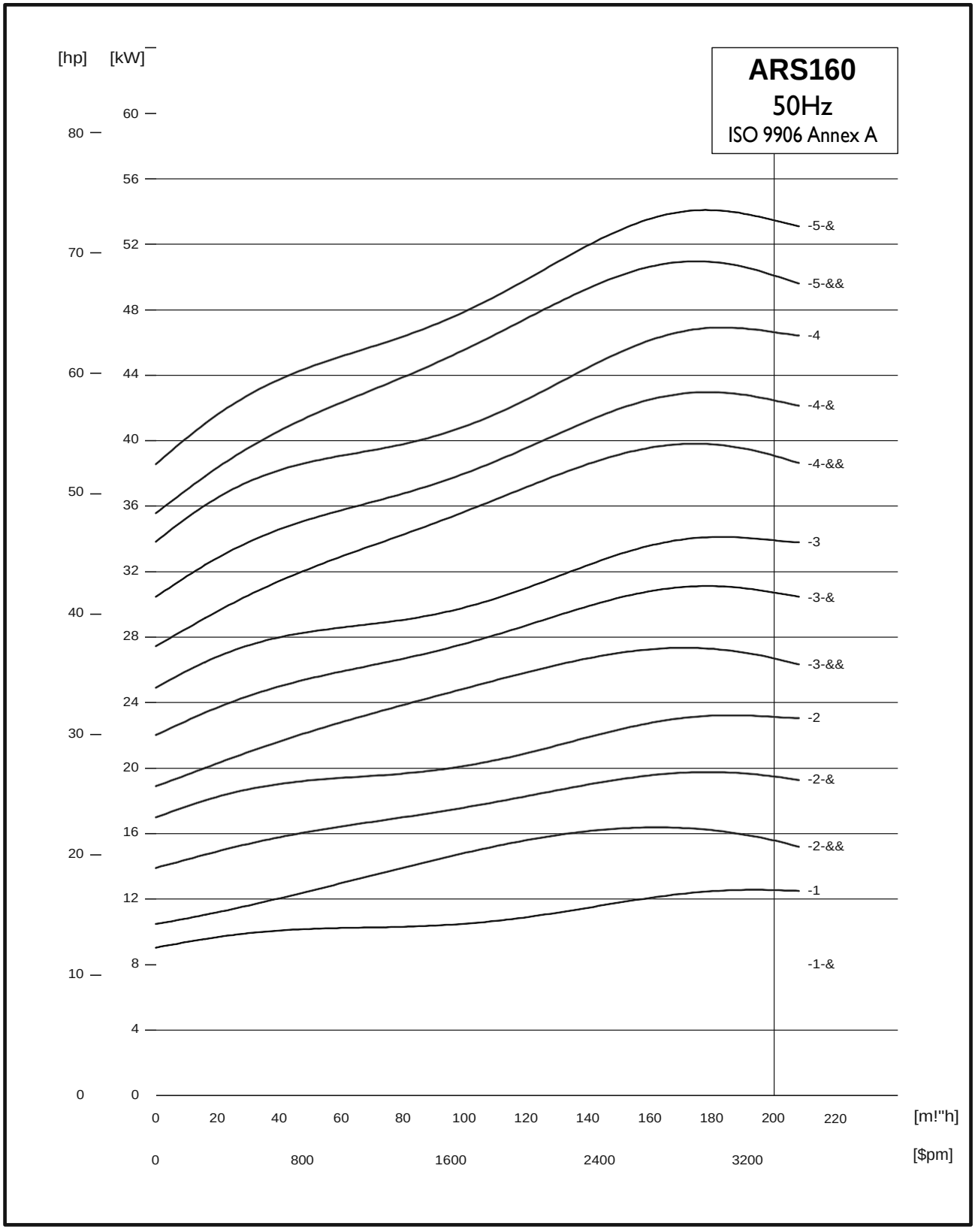
PUMP TYPE	MOTOR		DIMENSIONS										NET WEIGHT (kg)
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	6" Connection (RP,NPT)				6" Flange				B	D	
			A	C	E*	E**	A	C	E*	E**			
ARS160-1-A	AFM6/12.5	9.2 / 12.5	1372	652	211	218	1372	652	222	226	720	143	67
ARS160-1	AFM6/17.5	13 /17.5	1316	652	211	218	1316	652	222	226	664	143	70
ARS160-2-AA	AFM6/25	18.5 / 25	1561	807	211	218	1561	807	222	226	754	143	92
ARS160-2-A	AFM6/30	22 / 30	1619	807	211	218	1619	807	222	226	812	143	98
ARS160-2	AFM6/35	26 / 35	1681	807	211	218	1681	807	222	226	874	143	104
ARS160-3-AA	AFM6/40	30 / 40	1907	963	211	218	1907	963	222	226	944	143	122
ARS160-3-A	AFM8/50	37 / 50	1973	963	211	218	1973	963	222	226	1010	190	185
ARS160-3	AFM8/50	37 / 50	1973	963	211	218	1973	963	222	226	1010	190	185
ARS160-4-AA	AFM8/60	45 / 60	2180	1118	218	227	2180	1118	229	232	1062	190	211
ARS160-4-A	AFM8/60	45 / 60	2180	1118	218	227	2180	1118	229	232	1062	190	211
ARS160-4	AFM8/75	55 / 75	2286	1118	218	227	2286	1118	229	232	1168	190	234
ARS160-5-AA	AFM8/75	55 / 75	2442	1274	218	227	2442	1274	229	232	1168	190	244
ARS160-5-A	AFM8/75	55 / 75	2442	1274	218	227	2442	1274	229	232	1168	190	244
ARS160-5	AFM8/90	67 / 90	2536	1274	218	227	2536	1274	229	232	1262	192	263
ARS160-6-AA	AFM8/90	67 / 90	2691	1429	218	227	2691	1429	229	232	1262	192	273
ARS160-6-A	AFM8/100	75 / 100	2753	1429	218	227	2753	1429	229	232	1324	192	290
ARS160-6	AFM8/100	75 / 100	2753	1429	218	227	2753	1429	229	232	1324	192	290
ARS160-7-AA	AFM8/100	75 / 100	2909	1585	218	227					1324	192	300
ARS160-7-A	AFM8/125	92 / 125	3054	1585	218	227					1469	192	332



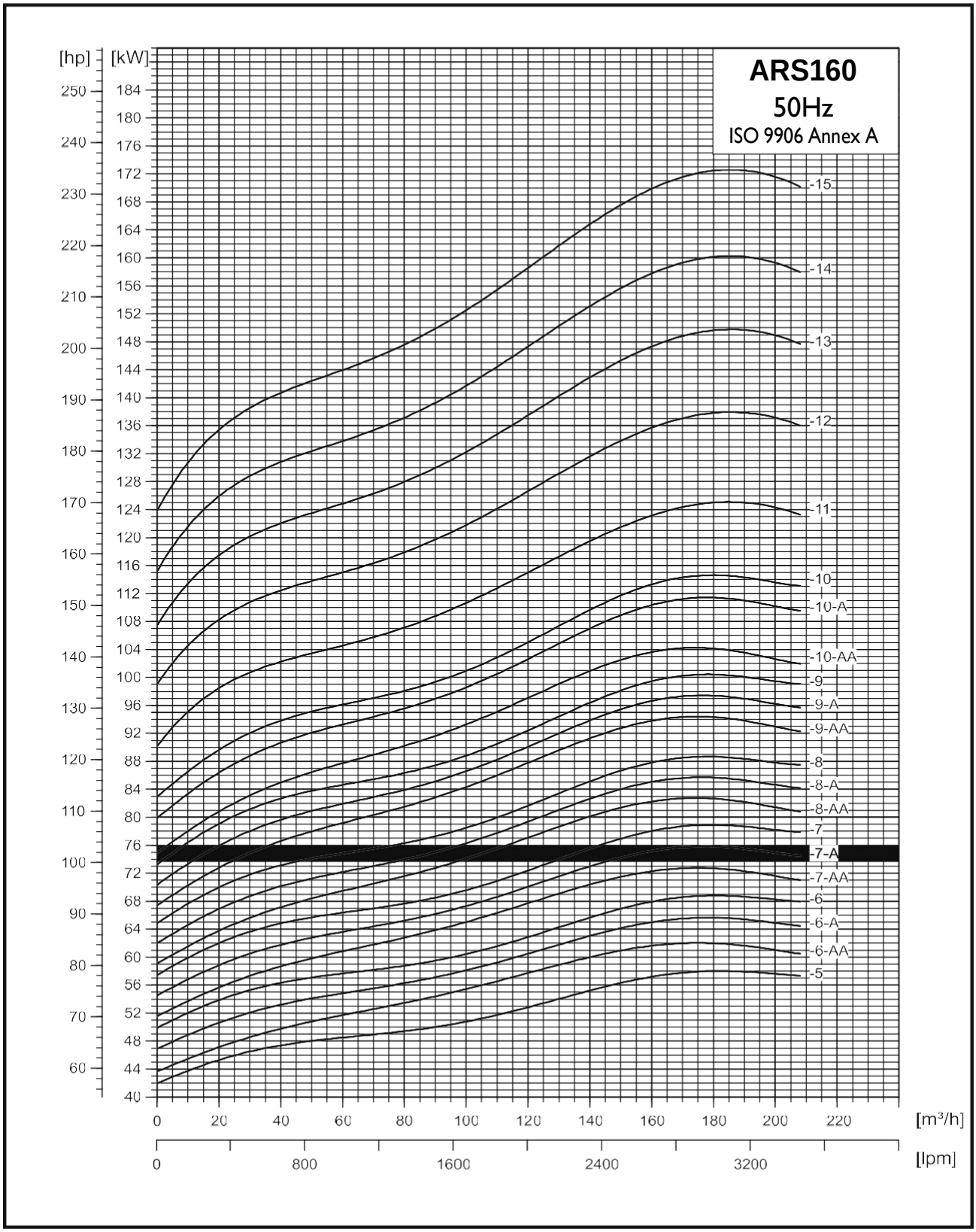
ARS160-7	AFM8/125	92 / 125	3054	1585	218	227					1469	192	332
ARS160-8-AA	AFM8/125	92 / 125	3209	1740	218	227					1469	192	343
ARS160-8-A	AFM8/125	92 / 125	3209	1740	218	227					1469	192	343
ARS160-8	AFM8/125	92 / 125	3209	1740	218	227					1469	192	343
ARS160-9-AA	AFM10/150	110 / 150	3341	1896	218	227					1445	230	439
ARS160-9-A	AFM10/150	110 / 150	3341	1896	218	227					1445	230	439
ARS160-9	AFM10/150	110 / 150	3341	1896	218	227					1445	230	439
ARS160-10-AA	AFM10/150	110 / 150	3496	2051	218	227					1445	230	449
ARS160-10-A	AFM10/200	147 / 200	3856	2181	227	247					1675	230	451
ARS160-10	AFM10/200	147 / 200	3856	2181	227	247					1675	230	451
ARS160-11	AFM10/200	147 / 200	4012	2337	227	247					1675	230	561
ARS160-12	AFM10/200	147 / 200	4167	2492	227	247					1675	230	636
ARS160-13	AFM10/250	185 / 250	4432	2648	227	247					1784	230	752
ARS160-14	AFM10/250	185 / 250	4587	2803	227	247					1784	230	762
ARS160-15	AFM12/260	190 / 260	-	-	227	247					-		-

*** Maximum diameter of pump with one motor cable**
**** Maximum diameter of pump with two motor cables**
- On Request

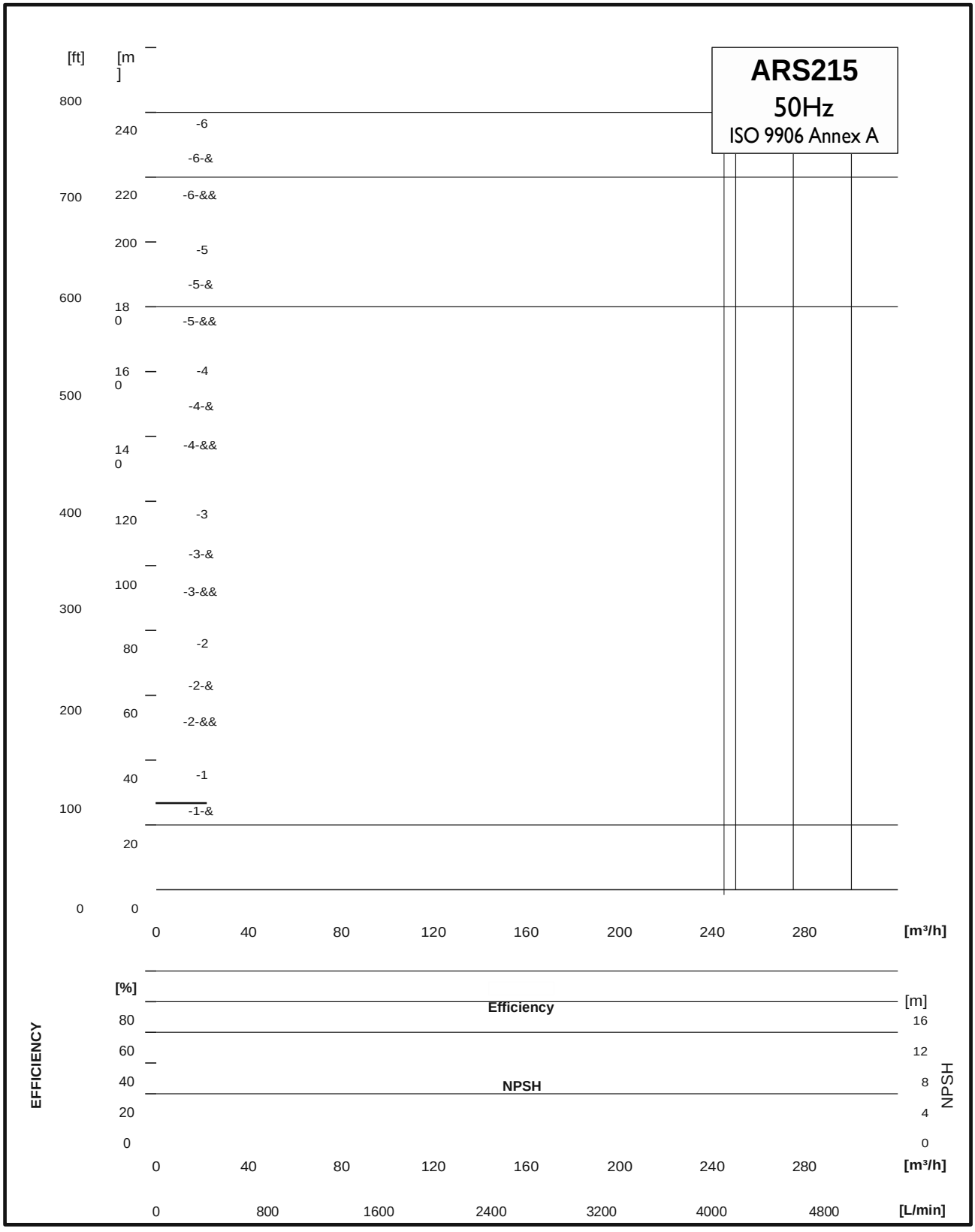
ARS160 - Power



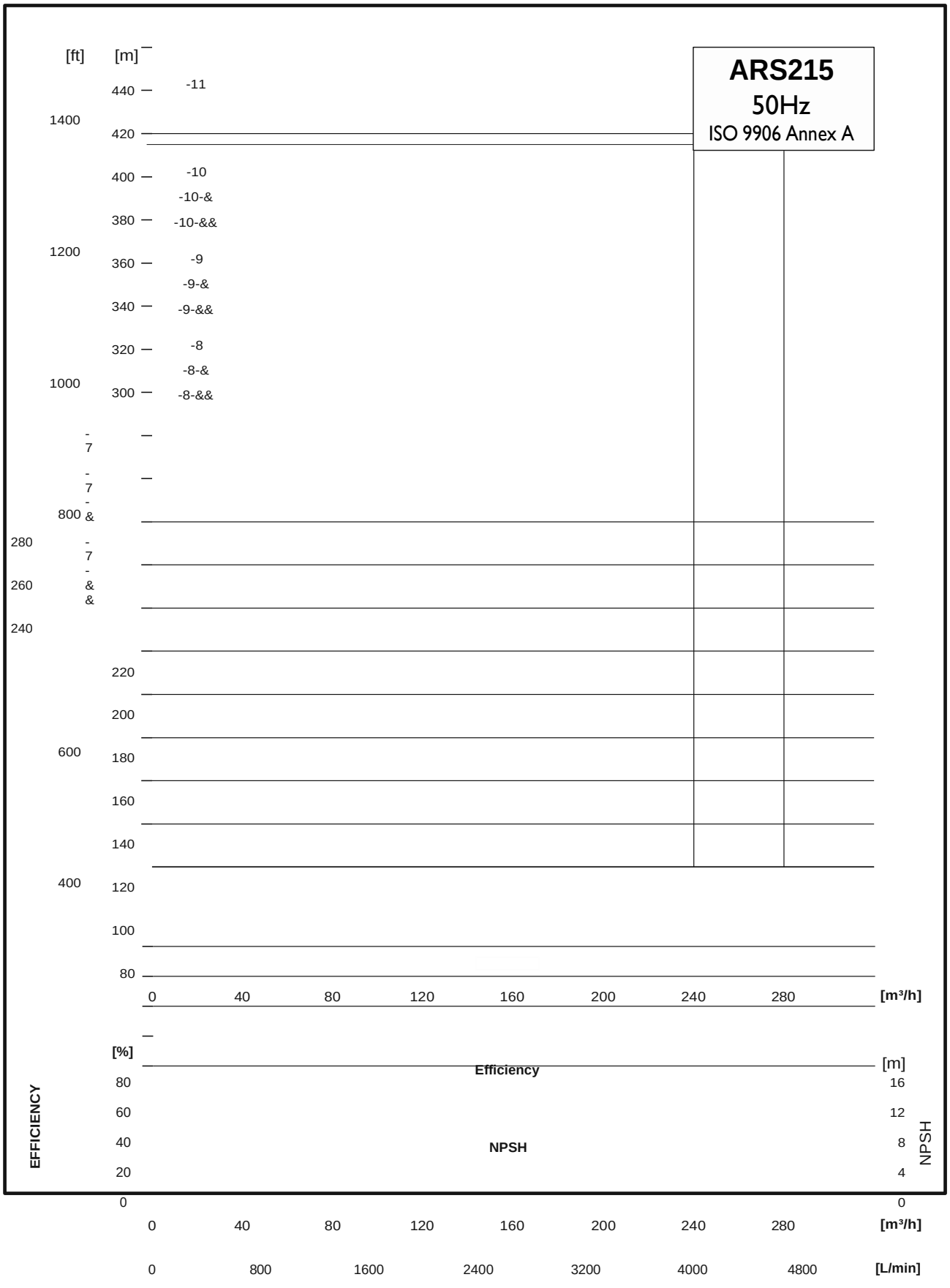
ARS160 - Power



ARS215 - Performance



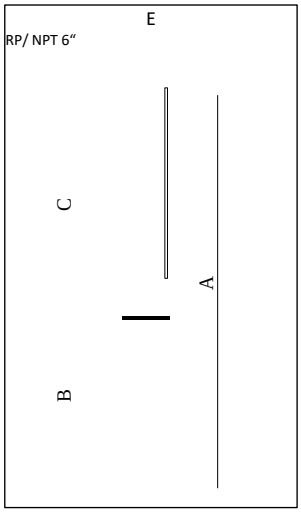
ARS215 - Performance



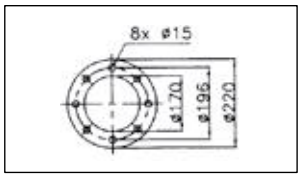
ARS215 - Performance

ARS215 - Technical

Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS										NET WEIGHT (kg)
	TYPE AFM.... (inch/HP)	POWER (KW/HP)	6" Connection (RP,NPT)				6 " Flange				B	D	
			A	C	E*	E**	A	C	E*	E**			
ARS215-1-A	AFM6/20	15 / 20	1470	772	237	241	1470	772	241	247	698	143	92
ARS215-1	AFM6/25	18.5 / 25	1516	772	237	241	1516	772	241	247	744	143	97
ARS215-2-AA	AFM6/40	30 / 40	1891	947	237	241	1891	947	241	247	944	143	142
ARS215-2-A	AFM8/50	37 / 50	1957	947	237	241	1957	947	241	247	1010	190	205
ARS215-2	AFM8/60	45 / 60	2009	947	237	241	2009	947	241	247	1062	190	221
ARS215-3-AA	AFM8/75	55 / 75	2292	1124	237	241	2292	1124	241	247	1168	190	270
ARS215-3-A	AFM8/75	55 / 75	2292	1124	237	241	2292	1124	241	247	1168	190	270
ARS215-3	AFM8/90	67 / 90	2386	1124	237	241	2386	1124	241	247	1262	192	289
ARS215-4-AA	AFM8/100	75 / 100	2624	1300	237	241	2624	1300	241	247	1324	192	331
ARS215-4-A	AFM8/100	75 / 100	2624	1300	237	241	2624	1300	241	247	1324	192	331
ARS215-4	AFM8/100	75 / 100	2624	1300	237	241	2624	1300	241	247	1324	192	331
ARS215-5-AA	AFM8/125	92 / 125	2944	1475	237	241	2944	1475	241	247	1469	192	389
ARS215-5-A	AFM8/125	92 / 125	2944	1475	237	241	2944	1475	241	247	1469	192	389
ARS215-5	AFM8/125	92 / 125	2944	1475	237	241	2944	1475	241	247	1469	192	389
ARS215-6-AA	AFM8/150	110 / 150	3218	1651	237	241	3218	1651	241	247	1567	192	414
ARS215-6-A	AFM8/150	110 / 150	3218	1651	237	241	3218	1651	241	247	1567	192	414
ARS215-6	AFM10/150	110 / 150	3096	1651	237	241	3096	1651	241	247	1445	230	552
ARS215-7-AA	AFM10/200	147 / 200	3502	1827	262	274					1675	230	628
ARS215-7-A	AFM10/200	147 / 200	3502	1827	262	274					1675	230	628

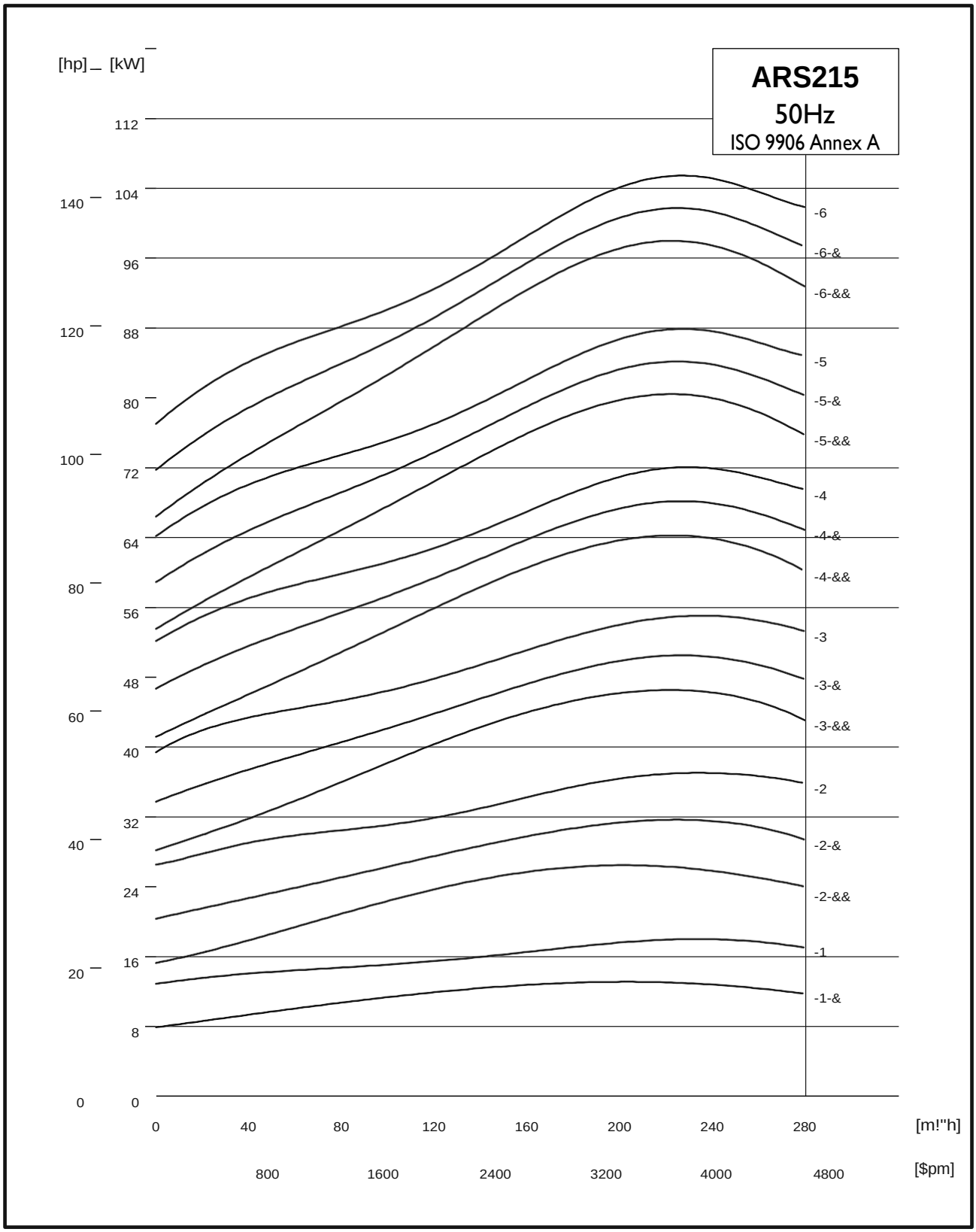


ARS215-7	AFM10/200	147 / 200	3502	1827	262	274					1675	230	628
ARS215-8-AA	AFM10/200	147 / 200	3679	2004	262	274					1675	230	783
ARS215-8-A	AFM10/200	147 / 200	3679	2004	262	274					1675	230	783
ARS215-8	AFM10/200	147 / 200	3679	2004	262	274					1675	230	783
ARS215-9-AA	AFM10/250	185 / 250	3964	2180	262	274					1784	230	849
ARS215-9-A	AFM10/250	185 / 250	3964	2180	262	274					1784	230	849
ARS215-9	AFM10/250	185 / 250	3964	2180	262	274					1784	230	849
ARS215-10-AA	AFM12/260	190 / 260	-	-	-	-					-	-	-
ARS215-10-A	AFM12/260	190 / 260	-	-	-	-					-	-	-
ARS215-10	AFM12/260	190 / 260	-	-	-	-					-	-	-
ARS215-11	AFM12/300	220 / 300	-	-	-	-					-	-	-

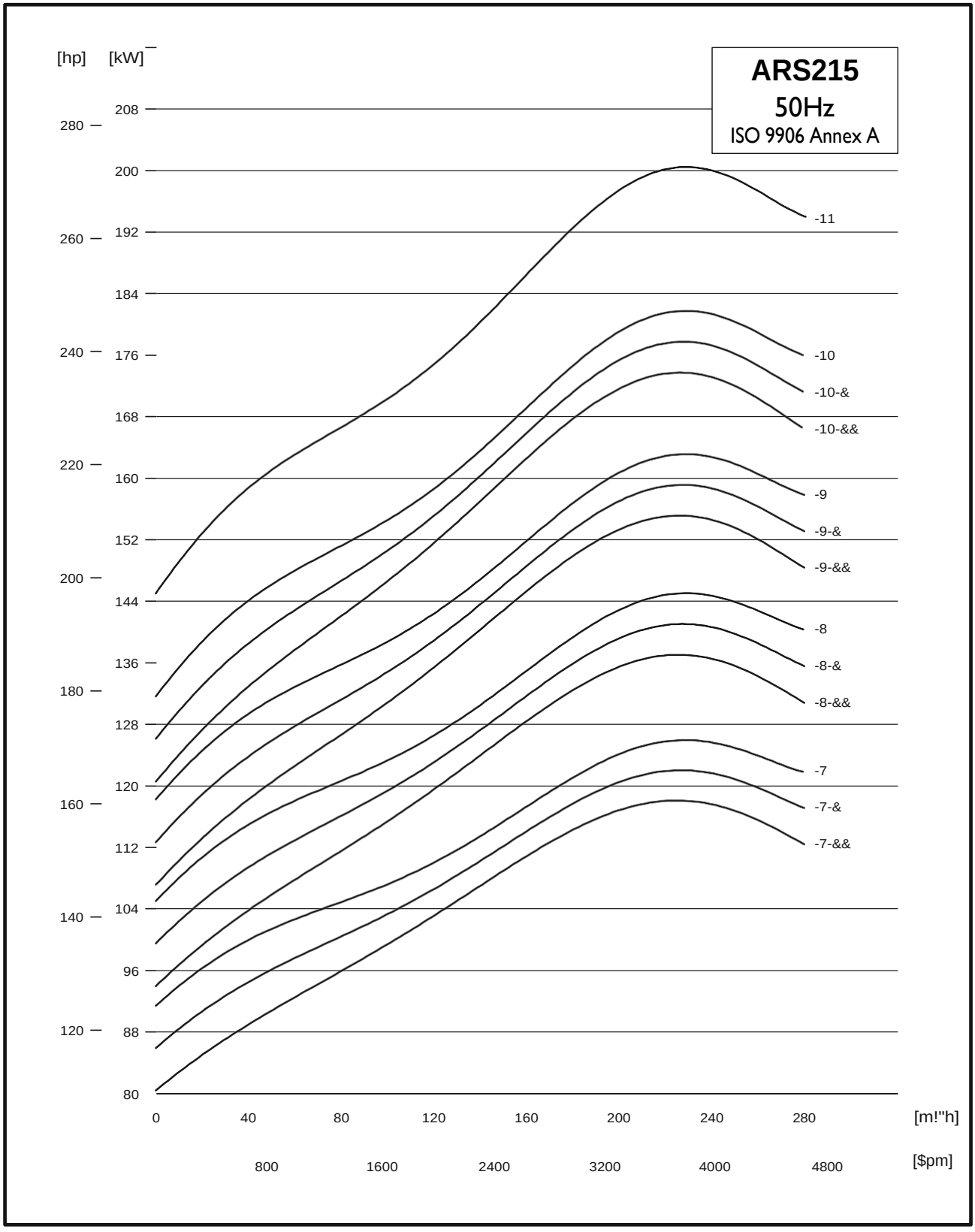
*** Maximum diameter of pump with one motor cable**
**** Maximum diameter of pump with two motor cables**
- On Request

ARS215 - Technical

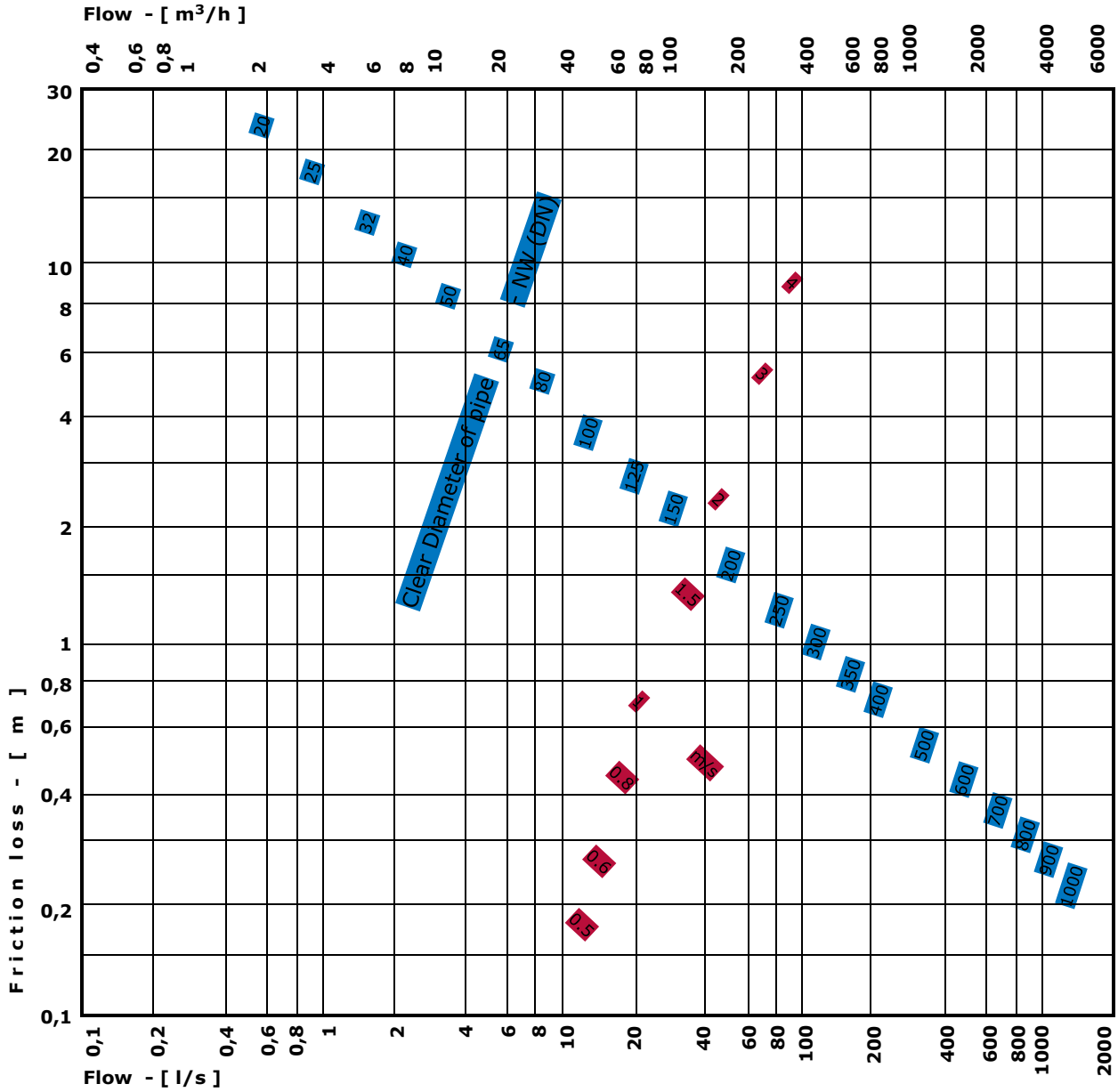
ARS215 - Power



ARS215 - Power



Friction Loss in Straight Pipework



Friction loss in metres for 100m new pipeline of cast iron

The friction loss for:

New rolled steel pipes :	0.8 times
New plastic pipes:	0.8 times
Older, rusty cast iron pipes about:	1.25 times
Pipes with encrustations up to:	1.7 times

Head Losses in Ordinary Water Pipes

Upper figures indicate the velocity of water in m/sec.
Lower figures indicate head in metres per 100 metres of straight pipes

Quantity of Water	Head Losses In Ordinary Water Pipes Nominal Pipe Diameter in Inches and Internal Diameter in (mm)												
m^3/h	½" 15.75	3/4" 21.25	1 27.00	11/4" 35.75	11/2 41.25	2" 52.50	21/2" 68.00	3" 80.25	3 ½" 92.50	4" 105.0			
	0.855 9.910	**0.470** 2.407	**0.292** 0.784										
	1.282 20.11	**0.705** 4.862	**0.438** 1.570	**0.249** 0.416									
	1.710 33.53	**0.940** 8.035	**0.584** 2.588	**0.331** 0.677	**0.249** 0.346								
	2.138 49.93	**1.174** 11.91	**0.730** 3.834	**0.415** 1.004	**0.312** 0.510								
	2.565 69.34	**1.409** 16.50	**0.876** 5.277	**0.498** 1.379	**0.374** 0.700	**0.231** 0.223							
	2.993 91.54	**1.644** 21.75	**1.022** 6.949	**0.581** 1.811	**0.436** 0.914	**0.269** 0.291							
		1.879 27.66	**1.168** 8.820	**0.664** 2.290	**0.499** 1.160	**0.308** 0.368							
		2.349 41.40	**1.460** 13.14	**0.830** 3.403	**0.623** 1.719	**0.385** 0.544	**0.229** 0.159						
		2.819 57.74	**1.751** 18.28	**0.996** 4.718	**0.748** 2.375	**0.462** 0.751	**0.275** 0.218						
		3.288 76.49	**2.043** 24.18	**1.162** 6.231	**0.873** 3.132	**0.539** 0.988	**0.321** 0.287	**0.231** 0.131					
			2.335 30.87	**1.328** 7.940	**0.997** 3.988	**0.616** 1.254	**0.367** 0.363	**0.263** 6.164					
			2.627 38.30	**1.494** 9.828	**1.122** 4.927	**0.693** 1.551	**0.413** 0.449	**0.269** 0.203					
			2.919 46.49	**1.660** 11.90	**1.247** 5.972	**0.770** 1.875	**0.459** 0.542	**0.329** 0.244	**0.248** 0.124				
			3.649 70.41	**2.075** 17.93	**1.558** 8.967	**0.962** 2.802	**0.574** 0.809	**0.412** 0.365	**0.310** 0.185	**0.241** 0.101			
				2.490 25.11	**1.870** 12.53	**1.154** 3.903	**0.668** 1.124	**0.494** 0.506	**0.372** 0.256	**0.289** 0.140			
				2.904 33.32	**2.182** 16.66	**1.347** 5.179	**0.803** 1.488	**0.576** 0.670	**0.434** 0.338	**0.337** 0.184			
				3.319 42.75	**2.493** 21.36	**1.539** 6.624	**0.918** 1.901	**0.659** 0.855	**0.496** 0.431	**0.385** 0.234	**0.251** 0.084		
				4.149 64.86	**3.117** 32.32	**1.924** 10.03	**1.147** 2.860	**0.823** 1.282	**0.620** 0.646	**0481** 0.350	**0.314** 0.126		
					3.740 45.52	**2.309** 14.04	**1.377** 4.009	**0.988** 1.792	**0.744** 0.903	**0.577** 0.488	**0.377** 0.175	**0.263** 0.074	
					4.987 78.17	**3.078** 24.04	**1.836** 6.828	**1.317** 3.053	**0.992** 1.530	**0.770** 0.829	**0.502** 0.294	**0.351** 0.124	
						3.848 36.71	**2.295** 10.40	**1.647** 4.622	**1.240** 2.315	**0.962** 1.254	**0.628** 0.445	**0.439** 0.187	
						46.18 51.84	**2.753** 14.62	**1.976** 6.505	**1.488** 3.261	**1.155** 1.757	**0.753** 0.623	**0.526** 0.260	
							3.212 19.52	**2.306** 8.693	**1.736** 4.356	**1.347** 2.345	**0.879** 0.831	**0.614** 0.347	
							3.671 25.20	**2.635** 11.18	**1.984** 5.582	**1.540** 3.009	**1.005** 1.066	**0.702** 0.445	
							4.130 31.51	**2.964** 13.97	**2.232** 6.983	**1.732** 3.762	**1.130** 1.328	**0.790** 0.555	
							4.589 38.43	**3.294** 17.06	**2.480** 8.521	**1.925** 4.595	**1.256** 1.616	**0.877** 0.674	
								4.117 26.10	**3.100** 13.00	**2.406** 7.010	**1.570** 2.458	**1.097** 1.027	
								4.941 36.97	**3.720** 18.42	**2.887** 9.892	**1.883** 3.458	**1.316** 1.444	
									4.340 24.76	**3.368** 13.30	**1.883** 3.468	**1.535** 1.934	
									4.960 31.94	**3.850** 17.16	**2.197** 4.665	**1.754** 2.496	
										4.812 26.26	**2.511** 5.995	**2.193** 3.807	
											3.139 9.216	**2.632** 5.417	
											3.767 13.05	**3.509** 8.926	
											5.523 22.72	**4.386** 14.42	
300											1.7	2.5	
90°C bends slide valves											7.0	9.0	
T-pieces, non-return valves													

The table is calculated in accordance with H. Lang's new formula a =0.02 and for a water temperature of 10°C

The head loss in bends, slide valves. T-Pieces and non-return valves is equivalent to the metres of straight of straight pipes stated in the last two lines of the table. To find the head loss in foot valves multiply the loss in T-pieces by two.

Head Losses in Ordinary Plastic Pipes

Upper figures indicate the velocity of water in m/sec.
Lower figures indicate head in metres per 100 metres of straight pipes

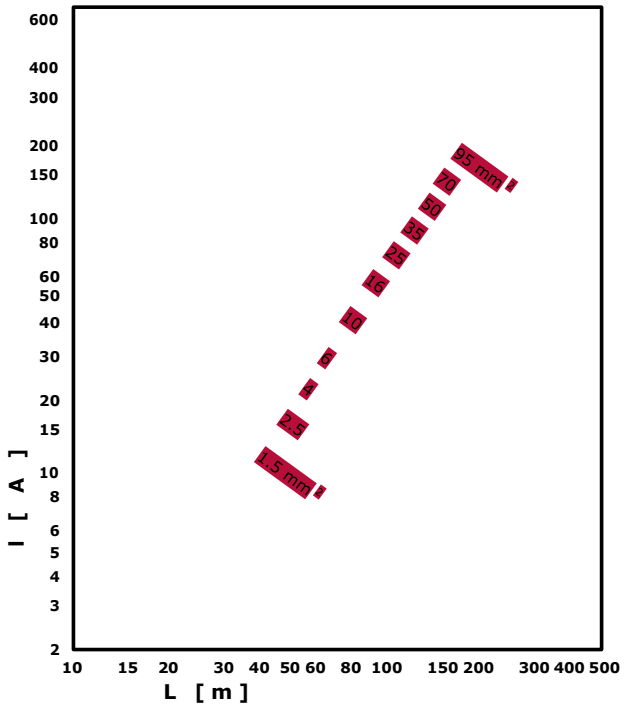
Quantity of Water m^3/h	PELM							PEH				
	25	32	40	50				110	125			
	20.4	26.2	32.6	40.8				90.0	102.2			
	0.49	0.30	0.19	0.12								
	1.8	0.66	0.27	0.085								
	0.76	0.46	0.3	0.19	0.12							
	4.0	1.14	0.6	0.18	0.63							
	1.0	0.61	0.39	0.25	0.16							
	6.4	2.2	0.9	0.28	0.11							
	1.3	0.78	0.5	0.32	0.2	0.14						
	10.0	3.5	1.4	0.43	0.17	0.074						
	1.53	0.93	0.6	0.38	0.24	0.17						
	13.0	4.6	1.9	0.57	0.22	0.092						
	1.77	1.08	0.69	0.44	0.28	0.2						
	16.0	6.0	2.0	0.70	0.27	0.12						
	2.05	1.24	0.80	0.51	0.32	0.23	0.16					
	22.0	7.5	3.3	0.93	0.35	0.16	0.063					
	2.54	1.54	0.99	0.63	0.4	0.28	0.2					
	37.0	11.0	4.8	1.40	0.50	0.22	0.09					
	3.06	1.85	1.2	0.76	0.48	0.34	0.24	0.16				
	43.0	15.0	6.5	1.90	0.70	0.32	0.13	0.050				
	3.43	2.08	1.34	0.86	0.54	0.38	0.26	0.18				
	50.0	18.0	8.0	2.50	0.83	0.38	0.17	0.068				
		2.47	1.59	1.02	0.64	0.45	0.31	0.2				
		25.0	10.5	3.00	1.20	0.50	0.22	0.084				
		2.78	1.8	1.15	0.72	0.51	0.35	0.24	0.18			
		30.0	12.0	3.50	1.30	0.57	0.26	0.092	0.05			
		3.1	2.0	1.28	0.8	0.56	0.39	0.26	0.2			
		39.0	16.0	4.6	1.80	0.73	0.30	0.12	0.07			
		3.86	2.49	1.59	1.00	0.70	0.49	0.33	0.25	0.20		
		50.0	24.0	6.6	2.50	1.10	0.50	0.18	1.10	0.055		
			3.00	1.91	1.20	0.84	0.59	0.39	0.30	0.24		
			33.0	8.6	3.5	1.40	0.63	0.24	0.13	0.075		
			3.5	2.23	1.41	0.99	0.69	0.46	0.36	0.28		
			38.0	11.0	4.3	1.80	0.78	0.30	0.18	0.09		
			3.99	2.55	1.60	1.12	0.78	0.52	0.41	0.32	0.25	
			50.0	14.0	5.5	2.40	1.0	0.40	0.22	0.12	0.065	
			.	3.19	2.01	1.41	0.98	0.66	0.51	0.40	0.31	0.25
				21.0	8.0	3.70	1.50	0.57	0.34	0.18	0.105	0.06
				3.82	2.41	1.69	1.18	0.78	0.61	0.48	0.37	0.29
				28.0	10.5	4.60	1.95	0.77	0.45	0.25	0.13	0.085
					3.21	2.25	1.57	1.05	0.81	0.65	0.50	0.39
					19.0	8.0	3.60	1.40	0.78	0.44	0.23	0.15
					4.01	2.81	1.96	1..0	1.02	0.81	0.62	0.49
					28.0	11.5	5.0	2.0	1.20	0.63	0.33	0.21
					4.82	3.38	2.35	1.57	1.22	0.97	0.74	0.59
					37.0	15.0	6.6	2.60	1.50	0.82	0.45	0.28
					5.64	3.95	2.75	1.84	1.43	1.13	0.87	0.69
					47.0	24.0	8.0	3.50	1.90	1.10	0.60	0.40
						4.49	3.13	2.09	1.62	1.29	0.99	0.78
						26.0	11.0	4.5	2.60	1.40	0.81	0.48
						5.07	3.53	2.36	1.83	1.45	1.12	0.08
						33.0	13.5	5.5	3.20	1.70	0.95	0.58
						5.64	3.93	2.63	2.04	1.62	1.24	0.96
						40.0	16.0	6.7	3.90	2.2	1.2	0.75
							4.89	3.27	2.54	2.02	1.55	1.22
							25.0	9.0	5.0	3.0	1.6	0.95
							5.88	3.93	3.05	2.42	1.86	1.47
							33.0	13.0	8.0	4.1	2.3	1.40
							6.86	4.59	3.56	2.83	2.17	1.72
							44.0	17.5	9.7	5.7	3.2	1.9
								5.23	4.06	3.23	2.48	1.96
								23.0	13.0	7.0	4.0	2.4
								6.55	5.08	4.04	3.10	2.45
								34.0	18.0	10.5	6.0	3.5
								7.86	6.1	4.85	3.72	2.94
								45.0	27.0	14.0	7.6	
									8.13	6.47	4.96	3.92
									43.0	24.0	13.0	7.5
										8.08	6.2.	4.89
										33.0	18.0	11.0

The table is based on a nomogram .
Roughness : K =0.01mm
Water temperature : t =10°C

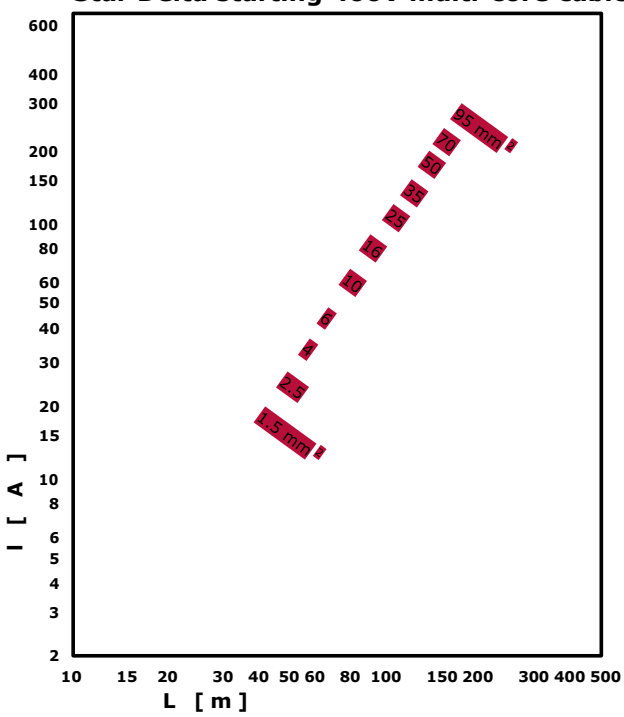
Subject to alterations

Cable Selection Chart

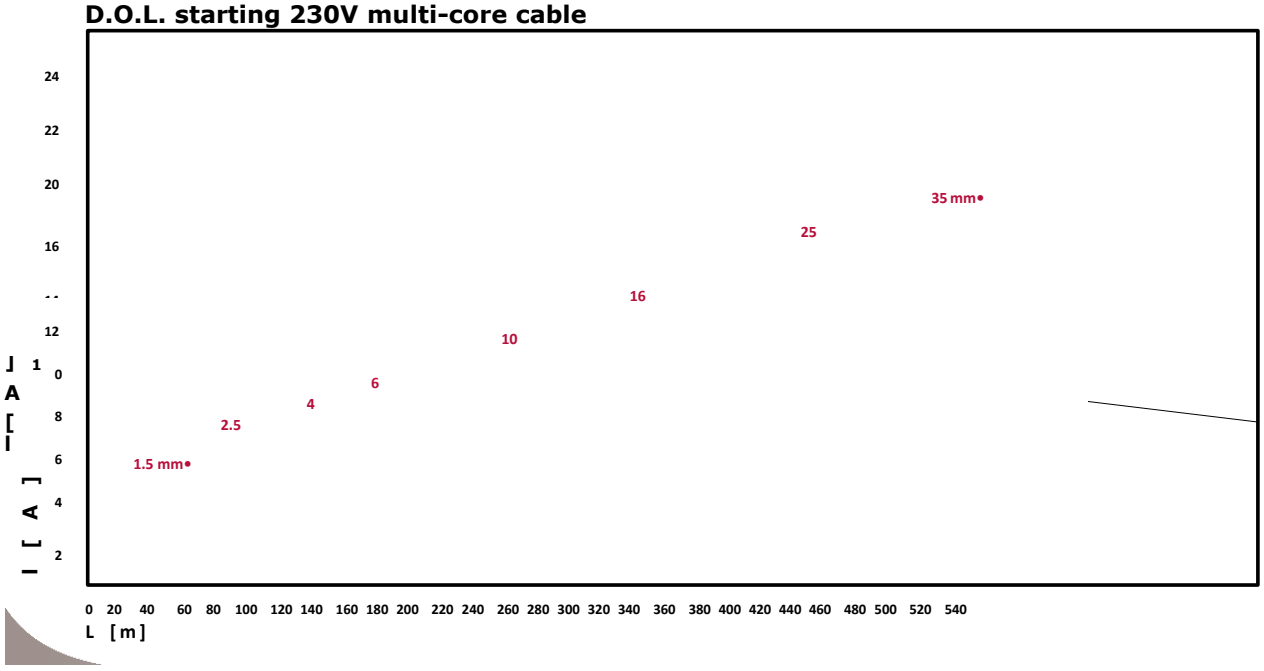
D.O.L. starting 400V multi-core cable



Star Delta starting 400V multi-core cable



D.O.L. starting 230V multi-core cable



Cable Size

Star - Delta Operation (YΔ) MAX. CABLE LENGTH (m)

Motor Rating	CABLE SIZE (mm²)										
(HP)	3x1.5	3x2.5	3x4	3x6	3x10	3x16	3x25	3x35	3x50	3x70	3x95
5.5	97	161	258	388	646	1033	1615	2261	3230	4521	6139
7.5	72	121	193	290	483	773	1207	1690	2415	3381	4588
10	57	96	153	230	383	613	958	1342	1916	2683	3641
12.5	47	78	125	188	313	501	783	1096	1565	2191	2974
15	41	68	109	163	271	434	678	949	1356	1899	2577
17.5	34	57	92	138	230	367	574	803	1148	1607	2181
20	29	49	79	118	196	314	491	688	982	1375	1867
25		40	64	96	159	255	398	558	797	1115	1514
30			54	81	136	217	339	475	678	949	1288
35			46	68	114	182	285	399	570	798	1083
40				60	101	161	252	352	503	705	956
50					84	134	209	293	418	585	794
60					69	110	172	241	344	481	653
70					59	95	149	208	297	416	565
75						90	141	197	281	394	534
80						82	129	180	258	361	490
90						74	115	162	231	323	439
100							103	144	206	289	392
110							95	134	191	267	363
125								118	168	235	319
150								101	144	201	273
175									123	172	233
200										152	207
210										152	196

D.O.L. MAX. CABLE LENGTH (m)

Motor Rating	CABLE SIZE (mm²)										
(HP)	3x1.5	3x2.5	3x4	3x6	3x10	3x16	3x25	3x35	3x50	3x70	3x95
5.5	65	108	172	258	431	689	1077	1507	2153	3014	4091
7.5	48	80	129	193	322	515	805	1127	1610	2254	3059
10	38	64	102	153	256	409	639	894	1278	1789	2428
12.5		52	83	125	209	334	522	730	1043	1461	1982
15		45	72	109	181	289	452	633	904	1266	1718
17.5			61	92	153	245	383	536	765	1071	1454
20			52	79	131	210	327	458	655	917	1244
25					106	170	266	372	531	744	1009
30					90	145	226	316	452	633	859
35					76	122	190	266	380	532	722
40					67	107	168	235	336	470	638
50						89	139	195	279	390	529
60							115	160	229	321	435
70								139	198	278	377
75								131	187	262	356
80								120	172	241	326
90									154	215	292
100									137	192	261
110									127	178	242
125										157	213
150											182
175											155
200											
210