آتور صنعت
ATOORSANAT

EBARA

آتور صنعت
ATOORSANAT

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50Hz

Rev. A

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آتور صنعت
ATOORSANAT

SPECIFICATION

50Hz

Rev. A

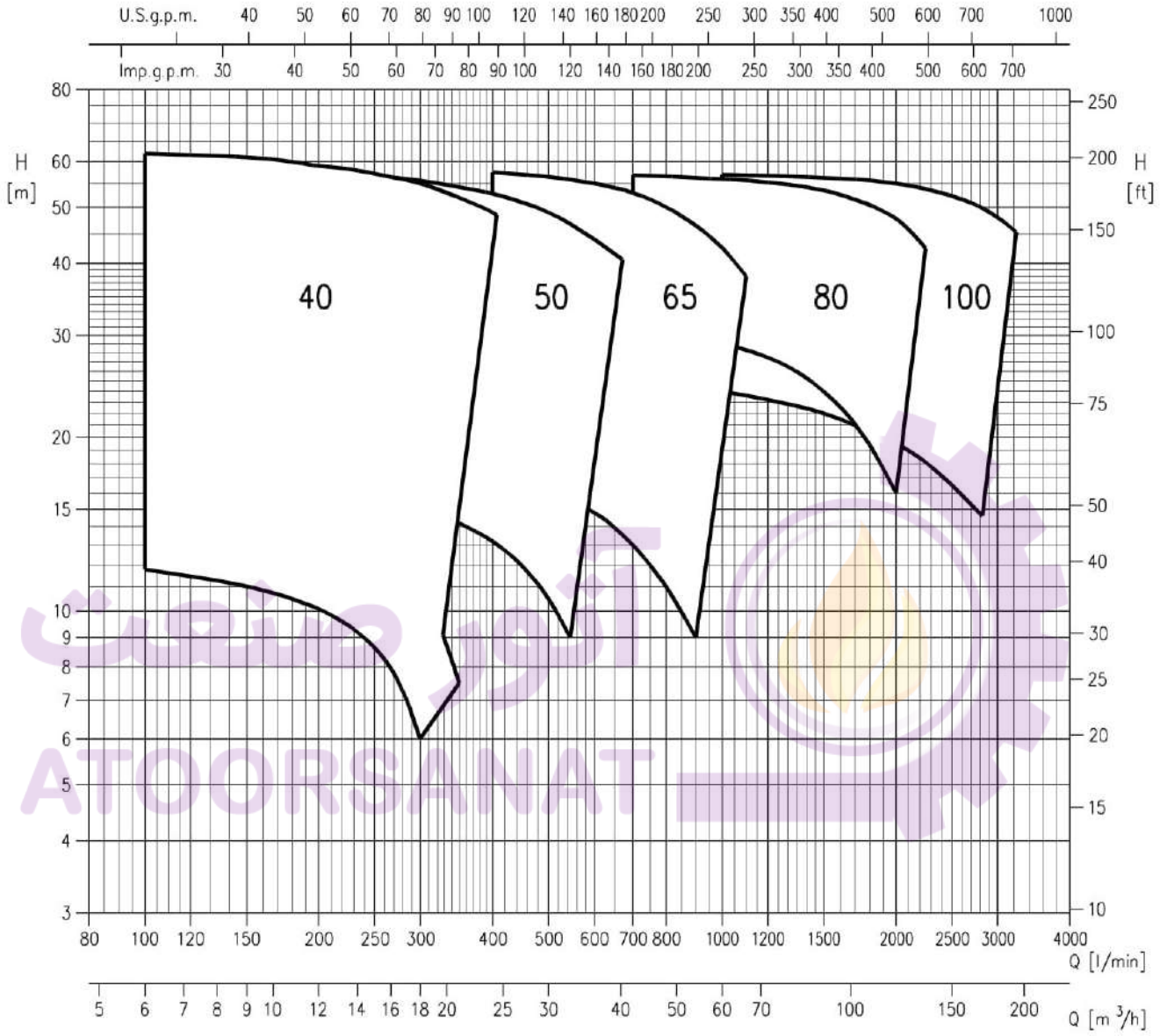
PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [℃]	min. -10 max +110
	Viscosity [cSt]	max 38
Maximum ambient temperature [℃]		40 (over ask for det ails)
Maximum working pressure [MPa]		1.0
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	On the motor
Pipe Connection	Suction	PN10 (LPC 32-100 – LPC 40-100) DIN 2501 UNI 2223-29 PN16 all other models DIN 2501
	Discharge	PN10 (LPC 32-100 – LPC 40-100) DIN 2501 UNI 2223-29 PN16 all other models DIN 2501
Material	Casing	CAST IRON
	Impeller	CAST IRON
	Casing cover	CAST IRON
	Shaft seal	Carbon/SiC/EPDM
	Shaft	AISI 420
	Bracket	CAST IRON
Applicable standard of test		ISO 9906 – Annex A

MOTOR	
Type	Electric - TEFC
	Three Phase
Efficiency level (Reg. 640/2009)	- from 0.37 kW up to 0.55 kW IE2 from 0.75 kW up to 5.5 kW IE3 from 7.5 kW up to 37 kW
No. of Poles	2
Rotation speed [min^{-1}]	≈ 2900
Insulation Class	F
Protection degree (CEI EN 60034-5)	IP 55
Power rating [kW]	0.37 ÷ 37
Power rating [HP]	0.5 ÷ 50
Frequency [Hz]	50
Voltage [V]	230/400 ±10% (up to 4 kW) 400/690 ±10% (5.5kW and above)
Over load protection	Provided by the user
Casing material	Alluminum (up to MEC 160) Cast iron (MEC 180 and above)

SELECTION CHART

50Hz

Rev. A



SELECTION CHART

50Hz

Rev. A

LPC 2 Poles: 32, 40, 50 Version

Pump type	Power [kW]	Power [HP]	Q=Capacity l/min	0	50	100	125	150	175	200	225	250	300	350	400	450	500	600
			m³/h	0	3.0	6	7.5	9	10.5	12	13.5	15	18	21	24	27	30	36
			H=Total manometric head in meters															
LPC 32-100/0,37	0.37	0.5		11.2	10.7	10	9.3	8.4	7.3	6	4	-	-	-	-	-	-	-
LPC 40-100/0,55	0.55	0.75		12.2	-	11.7	11.4	11	10.5	9.9	9.3	8.5	7	-	-	-	-	-
LPC 40-100/0,75	0.75	1		14	-	13.5	13.3	13	12.5	12	11.4	10.7	9	7	-	-	-	-
LPC 40-125/0,75	0.75	1		16.8	-	15.3	14.5	13.7	12.8	11.5	10.4	9	6	-	-	-	-	-
LPC 40-125/1,1	1.1	1.5		21.5	-	20.5	19.7	19	18.1	17.1	15.9	14.5	11.2	7.5	-	-	-	-
LPC 40-125/1,5	1.5	2		25	-	24.5	24.1	23.5	22.9	22	20.8	19.5	16.5	13	-	-	-	-
LPC 40-160/2,2	2.2	3		29.2	-	28.5	28	27.4	26.5	25.5	24.4	23.1	20	15	-	-	-	-
LPC 40-160/3R	3	4		34.5	-	33.5	33	32.5	32	31	30	29	26	22.5	-	-	-	-
LPC 40-160/3	3	4		38.5	-	38	37.5	36.8	35.8	35	33.9	32.5	30	26.5	-	-	-	-
LPC 40-200/4	4	5.5		47.5	-	47	46.5	46	45	44	43	42	39.2	36.1	33	-	-	-
LPC 40-200/5,5	5.5	7.5		55.5	-	55	54.5	54	53.5	53	52	51	48.5	46	42.5	-	-	-
LPC 40-200/7,5	7.5	10		62.5	-	62	61.5	61	60	59	58.5	57	55	52	49	45	40	-
LPC 50-125/1,5	1.5	2		16.8	-	-	-	-	-	16	15.7	15.5	15	14.2	13.2	11.9	10.5	7
LPC 50-125/2,2	2.2	3		20	-	-	-	-	-	19.5	19.3	19.1	18.5	17.5	16.6	15.5	14.1	10.5
LPC 50-125/3	3	4		25	-	-	-	-	-	24.7	24.6	24.5	24.2	23.7	23	21.8	20.5	17
LPC 50-160/3	3	4		31	-	-	-	-	-	30.5	30.2	29.9	29	27.8	26.5	24.9	23	18
LPC 50-160/4	4	5.5		38	-	-	-	-	-	37	36.8	36.5	35.5	34.6	33.5	32.2	30.7	26.5
LPC 50-200/5,5	5.5	7.5		47	-	-	-	-	-	46	45.5	45	44	43	41	39.2	37	31
LPC 50-200/7,5R	7.5	10		51.5	-	-	-	-	-	51	51	51	50	48.5	47	45	42.5	37
LPC 50-200/7,5	7.5	10		58.5	-	-	-	-	-	57.5	57	57	55.5	54	53	51	49	44

LPC 2 Poles: 65, 80, 100 Version

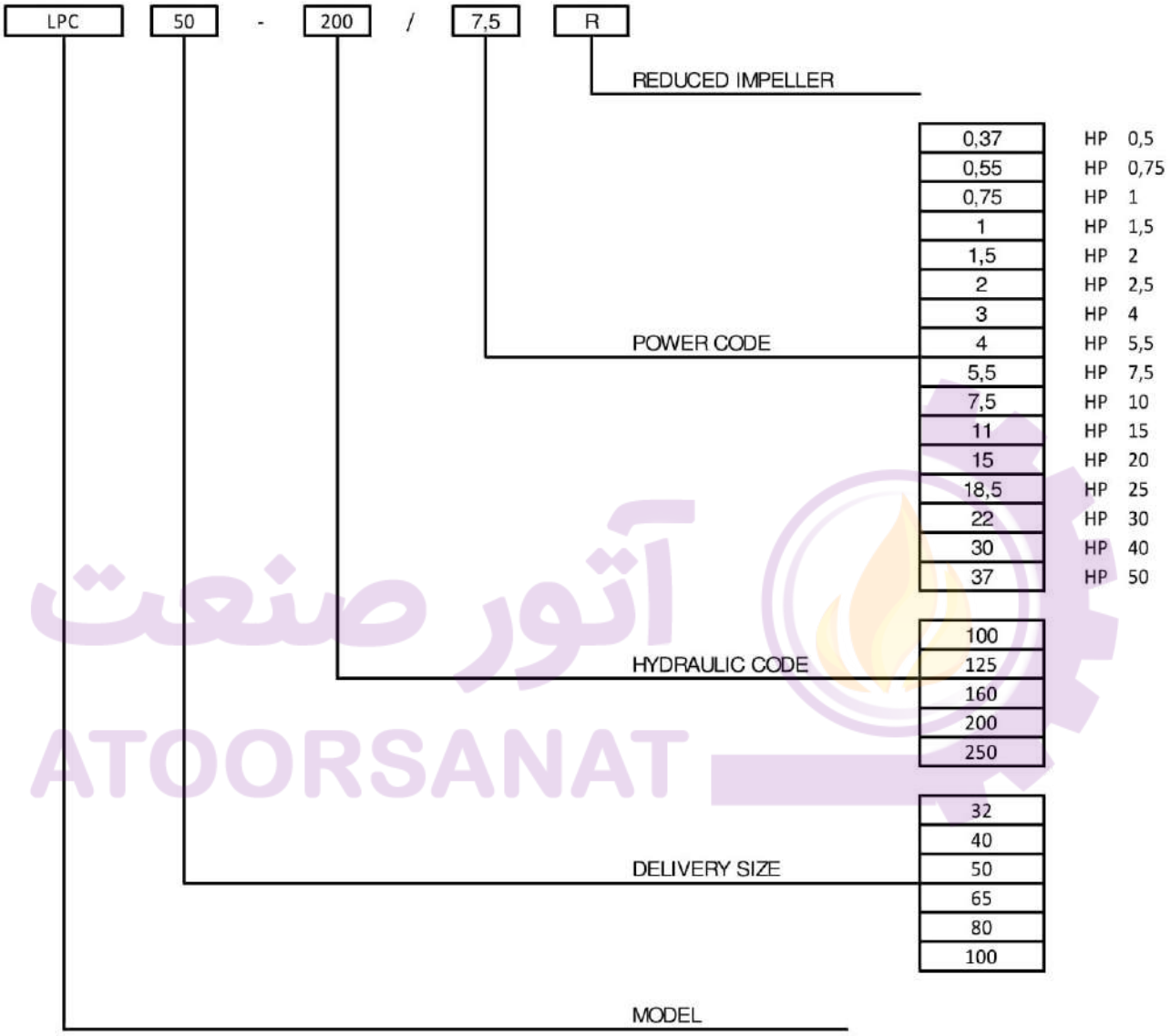
Pump type LPC Three Phase	Power [kW]	Power [HP]	Q=Capacity l/min	0	350	400	450	500	600	700	800	900	1000	1100	1216	1250	1500	1750	2000	2250	2500	2750	3000	3500
			m³/h	0	21	24	27	30	36	42	48	54	60	66	73	75	90	105	120	135	150	165	180	210
			H=Total manometric head in meters																					
LPC 65-125/2,2	2.2	3		18.5	17.5	17	16.5	16	14.8	13	11	9	-	-	-	-	-	-	-	-	-	-	-	-
LPC 65-125/3	3	4		22.5	-	21.0	20.6	20.1	19	17.6	16	14	12	-	-	-	-	-	-	-	-	-	-	-
LPC 65-125/4	4	5.5		26.2	-	25.5	25.2	24.8	24	22.9	21.5	19.6	17.5	-	-	-	-	-	-	-	-	-	-	-
LPC 65-160/5,5	5.5	7.5		33.1	-	32.3	32	31.5	30.8	29.5	28	25.8	23.5	-	-	-	-	-	-	-	-	-	-	-
LPC 65-160/7,5	7.5	10		37.1	-	36.7	36.4	36	35.2	34.1	32.8	31	28.8	26	23	-	-	-	-	-	-	-	-	-
LPC 65-200/11	10	13.6		52	-	51	50	49	48	45.5	43	39.7	36	31.5	27.0	-	-	-	-	-	-	-	-	-
LPC 65-200/15	12.5	17		58.5	-	57.5	57	56.5	55	53	50	46.5	42.5	38	33.8	-	-	-	-	-	-	-	-	-
LPC 80-160/11	10	13.6		31	-	-	-	-	-	30.5	30	29.5	29	28.3	27.5	27	24	20.2	16	-	-	-	-	-
LPC 80-160/15R	12.5	17		37	-	-	-	-	-	36	35.5	35	34.5	34	33	32.8	30	27	23	19	-	-	-	-
LPC 80-160/15	15	20		42	-	-	-	-	-	41	40.5	39.9	39.2	38.6	37.8	37.5	35.5	32.5	29	24	-	-	-	-
LPC 80-200/15	20	15		44	-	-	-	-	-	44	44	43.5	43	42.5	41.8	41.5	39	35.5	31.5	-	-	-	-	-
LPC 80-200/18,5	18.5	25		51	-	-	-	-	-	50.5	50	50	49.5	49	48.8	48.5	46.5	43	39.5	35	-	-	-	-
LPC 80-200/22	22	30		57	-	-	-	-	-	57	56.5	56.5	56.0	55.5	55.2	55	53.5	51	48	42.5	-	-	-	-
LPC 100-160/11	10	13.6		24.8	-	-	-	-	-	-	-	-	23.5	23.6	23.2	23	22	20.7	19.5	18.1	16.5	14	-	-
LPC 100-160/15R	12.5	17		29.5	-	-	-	-	-	-	-	-	28.5	28.2	28.0	27.9	27	25.8	24.5	23	21.5	20	18	-
LPC 100-160/15	15	20		35	-	-	-	-	-	-	-	-	34	33.8	33.5	33.3	32.5	31.7	30.5	29.2	27.6	26	24.5	-
LPC 100-200/18,5	18.5	25		42	-	-	-	-	-	-	-	-	42	41.5	41.2	41	40	38.6	37	35	33	30.5	28	-
LPC 100-200/22	22	30		47	-	-	-	-	-	-	-	-	47	46.5	46..6	46.7	45.5	44.5	43	41	39	36.7	34	-
LPC 100-200/30	30	40		55.5	-	-	-	-	-	-	-	-	-	-	-	54	53	52	50.5	49	47	45	42.5	37
LPC 100-200/37	37	55		57	-	-	-	-	-	-	-	-	-	-	-	56.5	56.5	56	55	54	52.5	50.5	48	42
LPC 100-250/37	37	55		68.5	-	-	-	-	-	-	-	-	-	-	-	67.5	67	66	65	63.5	61	58	55	47

TYPE KEY AND CURVE SPECIFICATIONS

50Hz

Rev. A

TYPE KEY:



آتور صنعت
ATOORSANAT

PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A
The curves refer to effective speed of asynchronous motors at 50 Hz
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of ν = 1 mm²/s (1 cSt)

The NPSH curve is an average curve obtained in the same conditions of performance curves.
The continuous curves indicate the recommended working range. The dotted curve is only a guide.
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

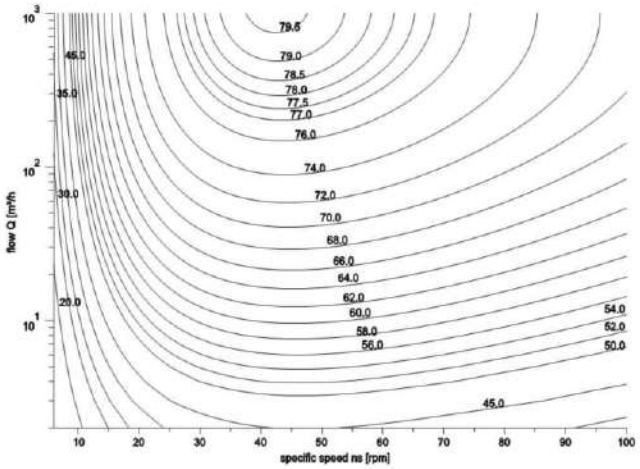
Q = volume flow rate
H = total head
P_2 = pump power input (shaft power)
η = pump efficiency
NPSH = net positive suction head required by the pump
MEI = minimum efficiency index

The minimun efficiency index (MEI) is a measure of the quality of a pump size in respect to its mean efficiency. The minimum efficiency index is based on the hydraulic efficiency and on the head at the best efficiency point.

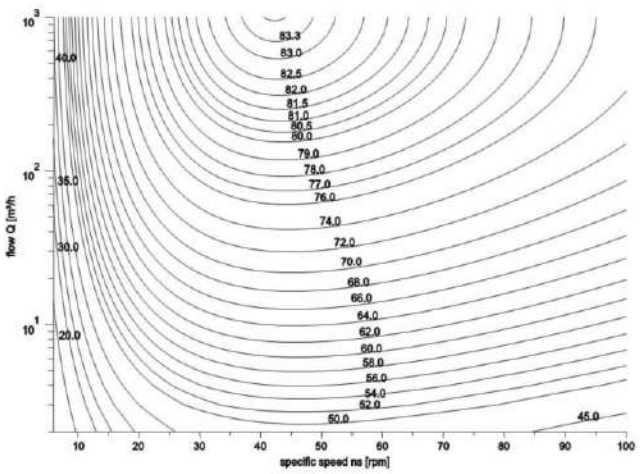
The efficiency of a pump with trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

The operation of these water pumps with variabile duty points may be more efficient end economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.

MEI = 0.4 for ESCCi 2900rpm



MEI=0.7 for ESCCi 2900 rpm

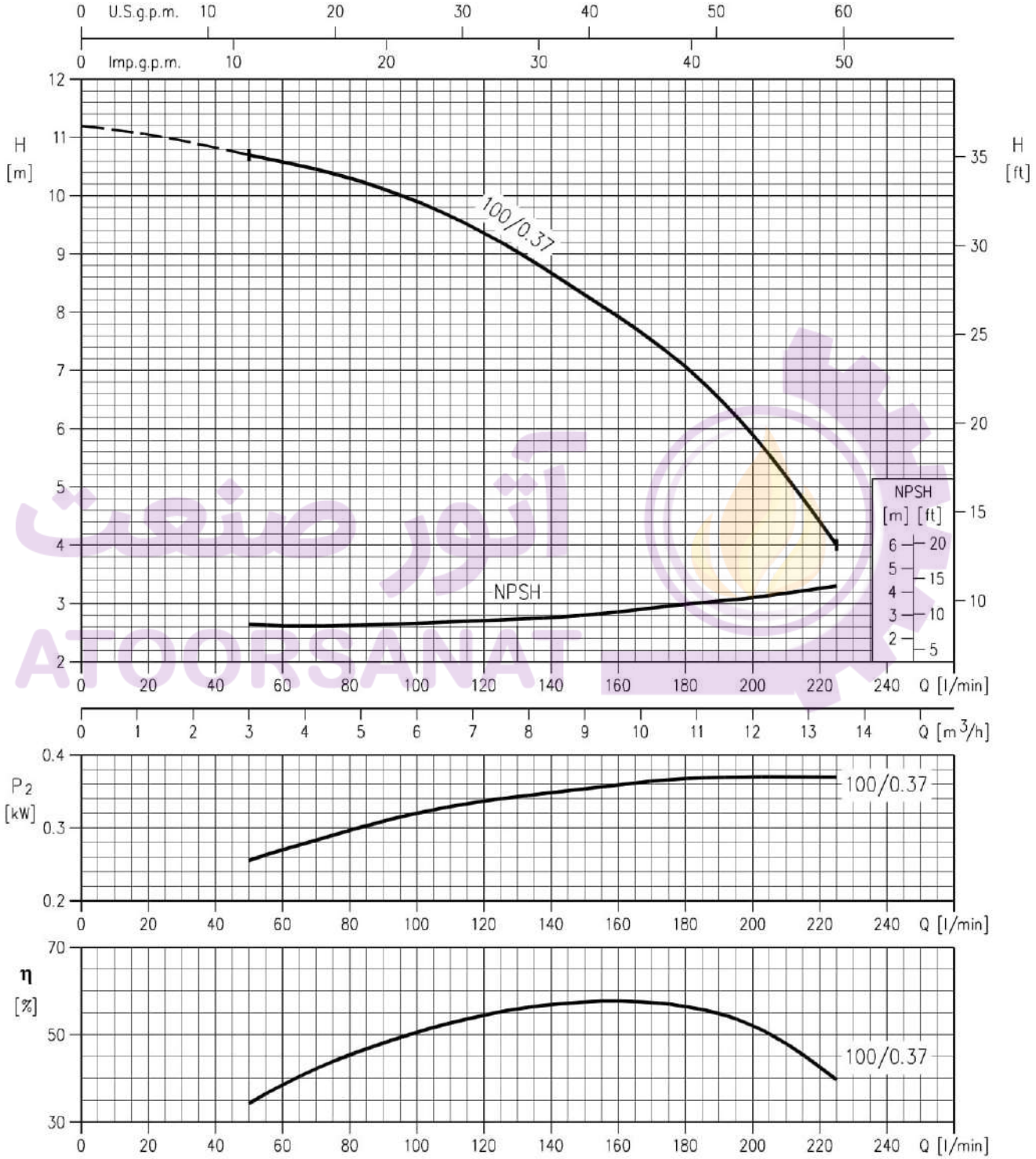


PERFORMANCE CURVE

50Hz

Rev. A

LPC 32-100/0.37 (0.37 kW) MEI > 0.40 Impeller diameter = 99 mm



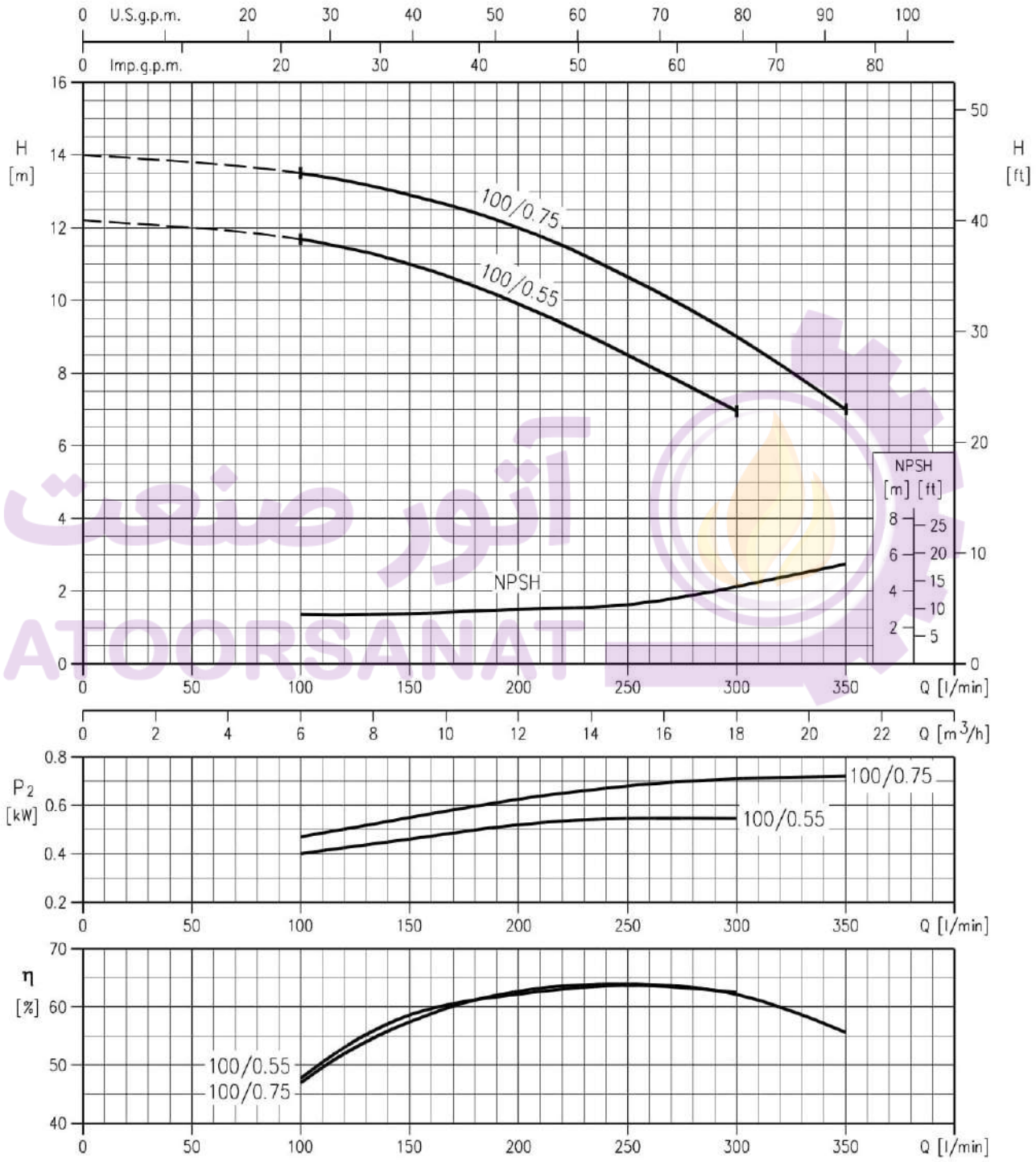
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 40-100/0.55 (0.55 kW) MEI > 0.40 Impeller diameter = 98 mm
LPC 40-100/0.75 (0.75 kW) MEI > 0.40 Impeller diameter = 105 mm



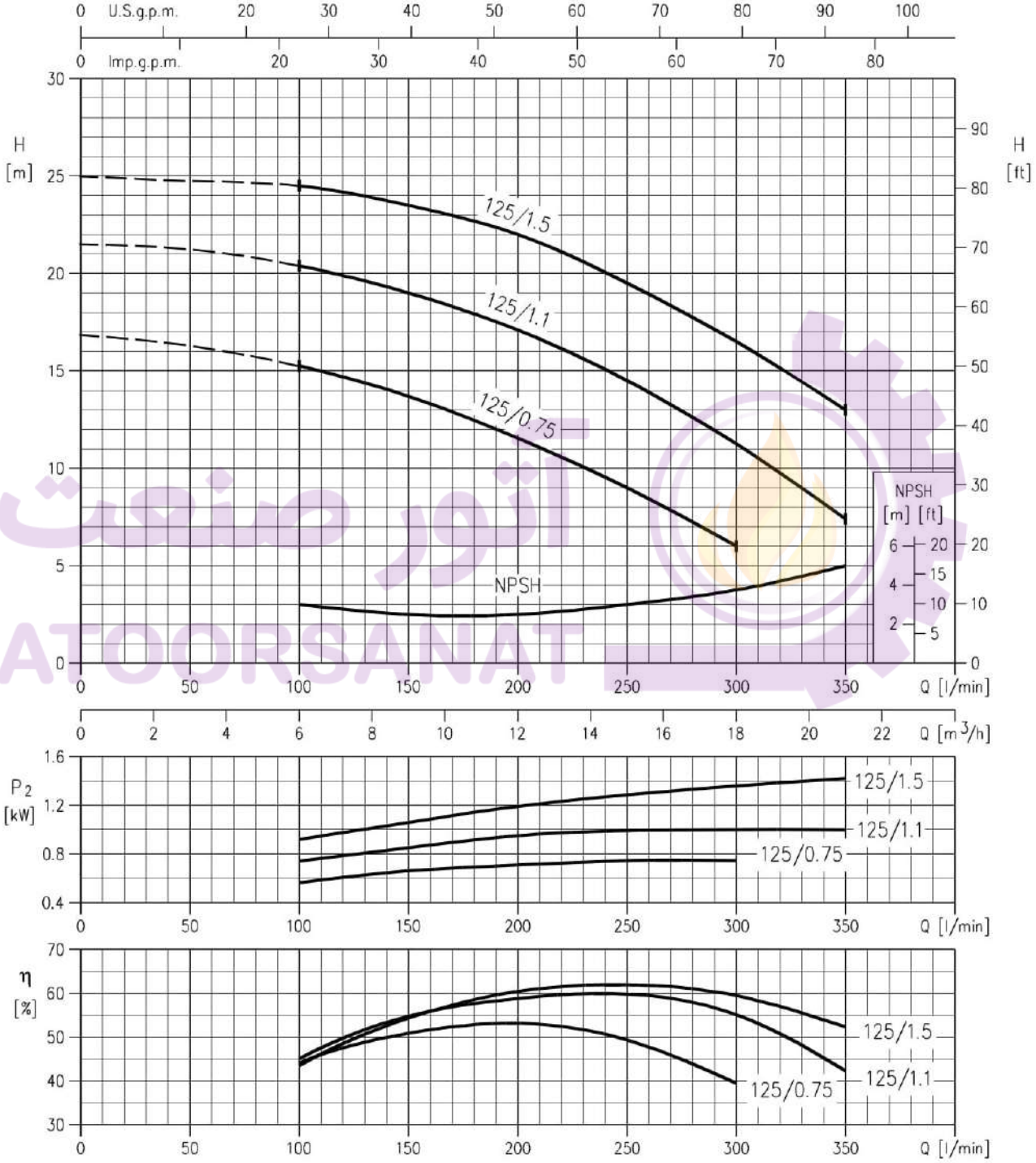
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 40-125/0.75 (0.75 kW) MEI > 0.40 Impeller diameter = 120 mm
LPC 40-125/1.1 (1.1 kW) MEI > 0.40 Impeller diameter = 130 mm
LPC 40-125/1.5 (1.5 kW) MEI > 0.40 Impeller diameter = 139 mm



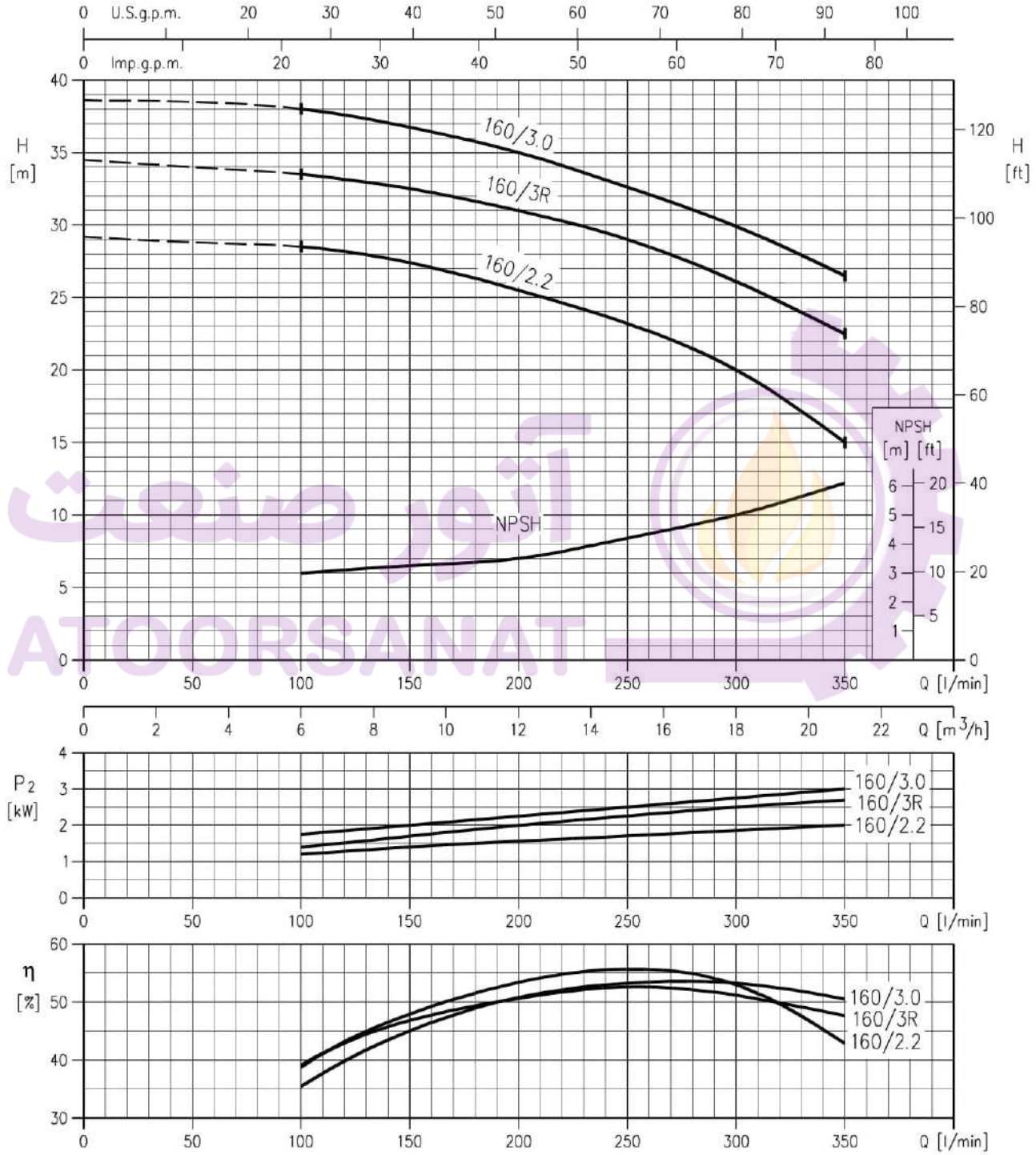
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 40-160/2.2 (2.2 kW) MEI > 0.40 Impeller diameter = 150 mm
LPC 40-160/3R (3.0 kW) MEI > 0.40 Impeller diameter = 160 mm
LPC 40-160/3.0 (3.0 kW) MEI > 0.40 Impeller diameter = 169 mm



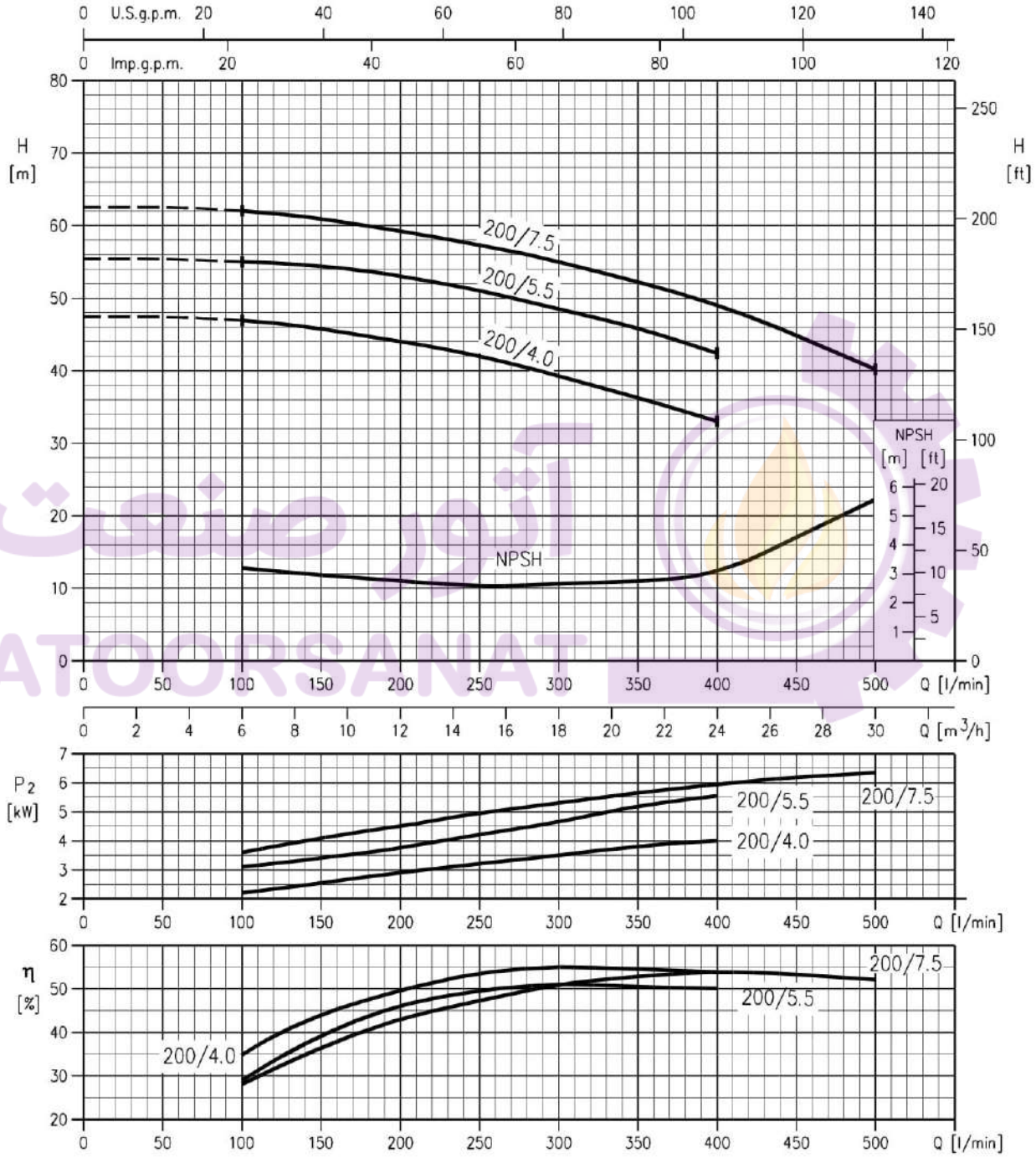
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 40-200/4.0 (4.0 kW) MEI > 0.40 Impeller diameter = 187 mm
LPC 40-200/5.5 (5.5 kW) MEI > 0.40 Impeller diameter = 200 mm
LPC 40-200/7.5 (7.5 kW) MEI > 0.40 Impeller diameter = 209 mm



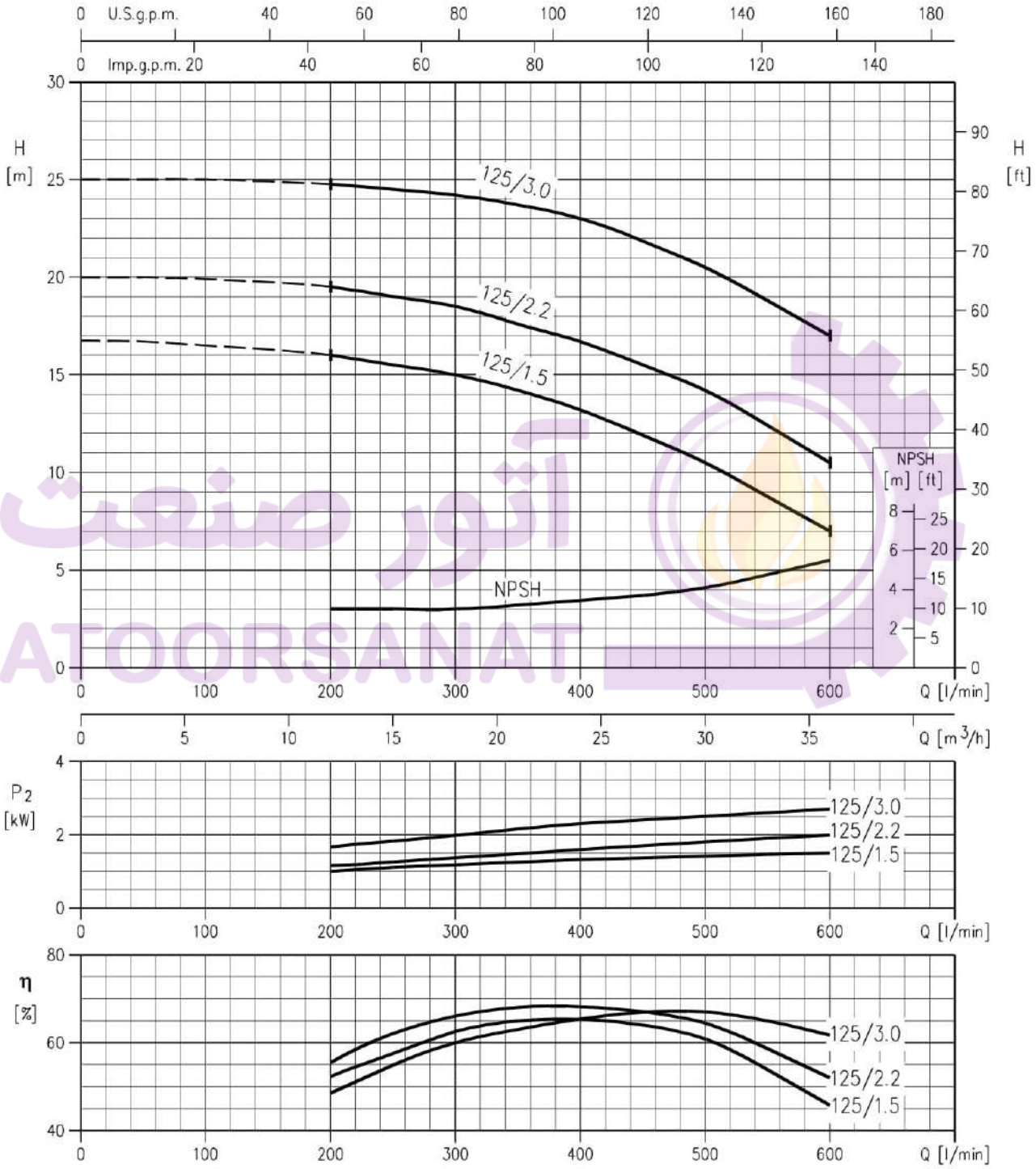
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 50-125/1.5 (1.5 kW) MEI > 0.40 Impeller diameter = 122 mm
LPC 50-125/2.2 (2.2 kW) MEI > 0.40 Impeller diameter = 130 mm
LPC 50-125/3.0 (3.0 kW) MEI > 0.40 Impeller diameter = 140.5 mm



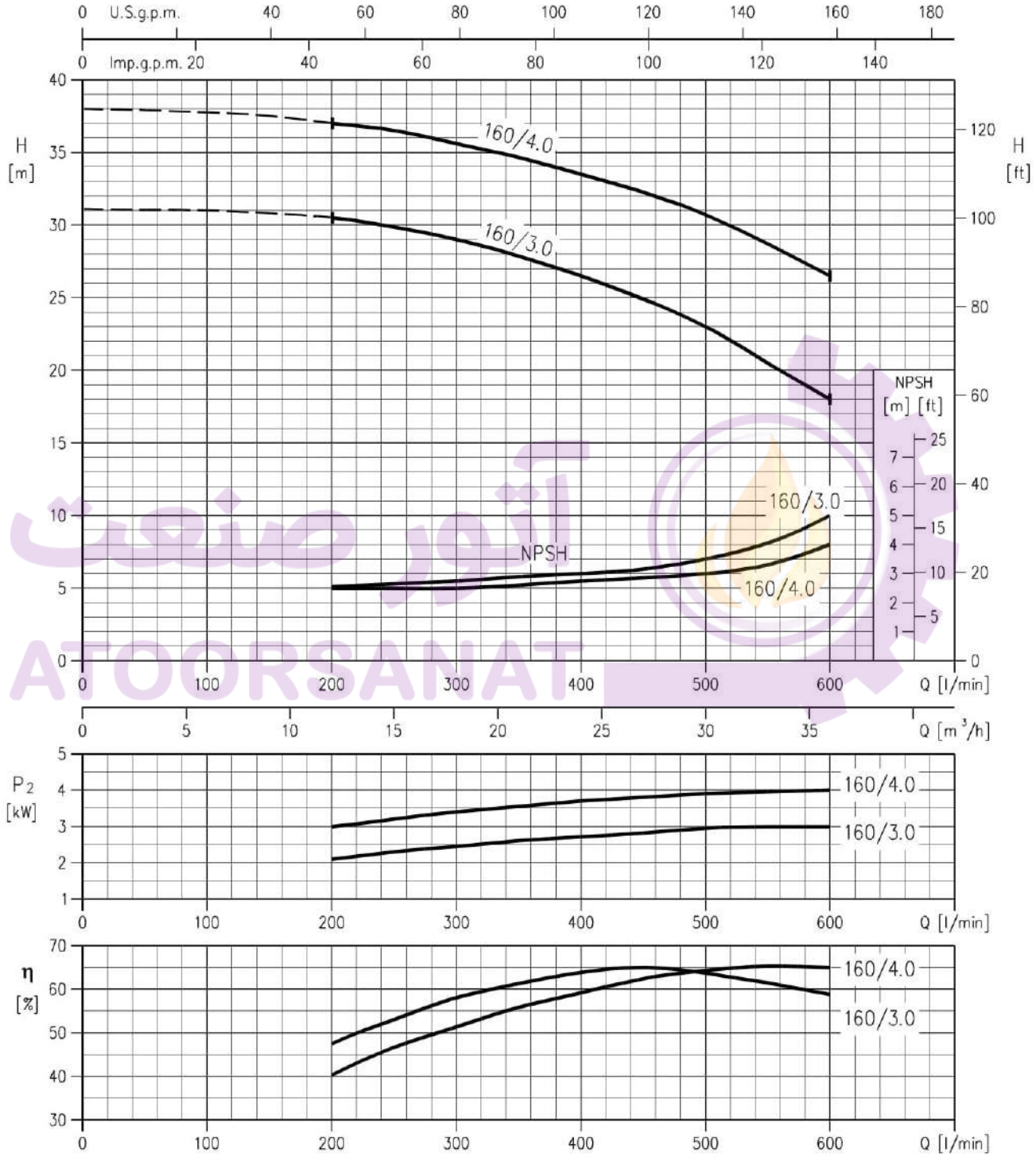
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 50-160/3.0 (3.0 kW) MEI > 0.40 Impeller diameter = 158 mm
LPC 50-160/4.0 (4.0 kW) MEI > 0.40 Impeller diameter = 169 mm



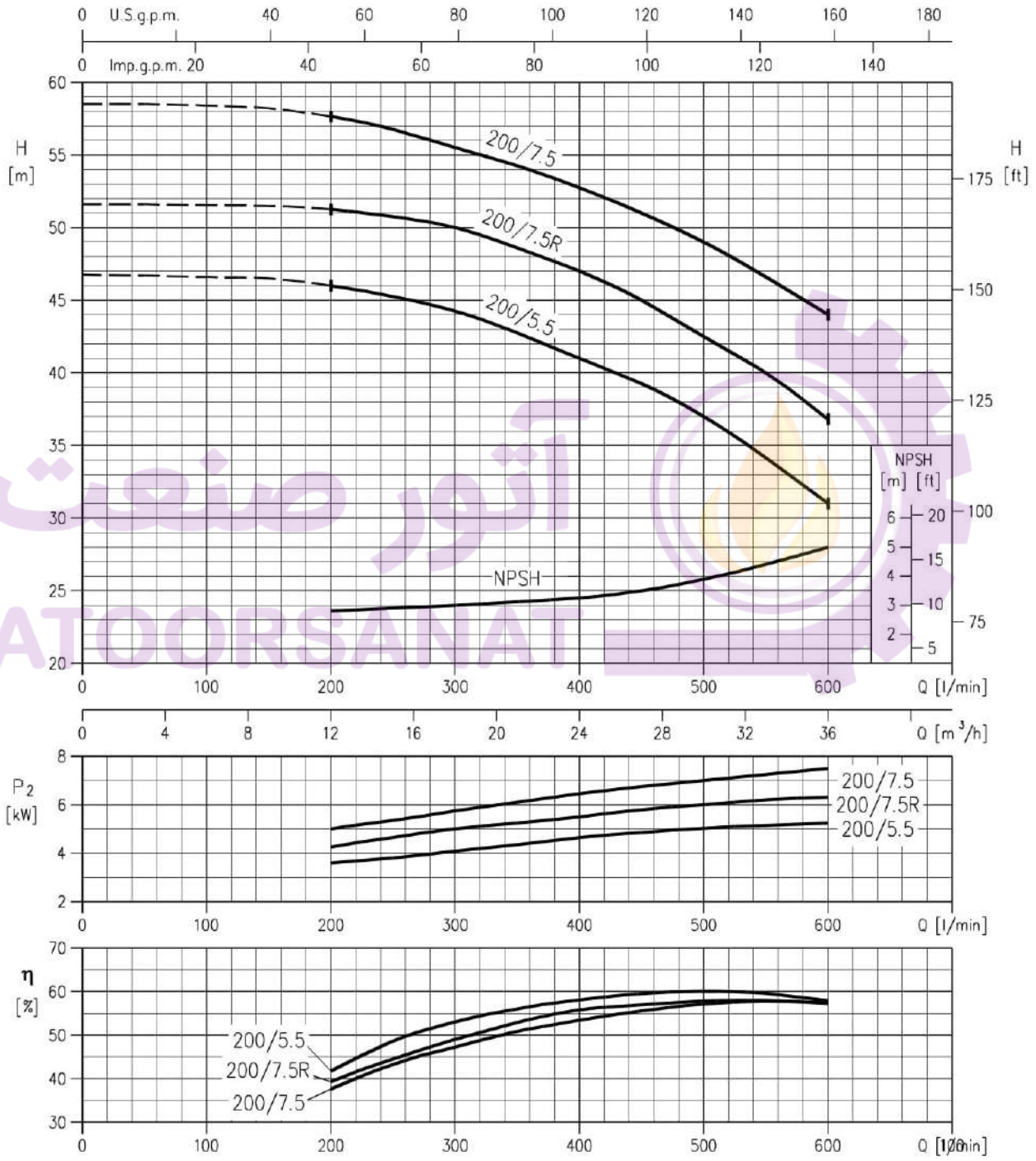
Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 50-200/5.5 (5.5 kW) MEI > 0.40 Impeller diameter = 193 mm
LPC 50-200/7.5R (7.5 KW) MEI > 0.40 Impeller diameter = 201 mm
LPC 50-200/7.5 (7.5 kW) MEI > 0.40 Impeller diameter = 210 mm



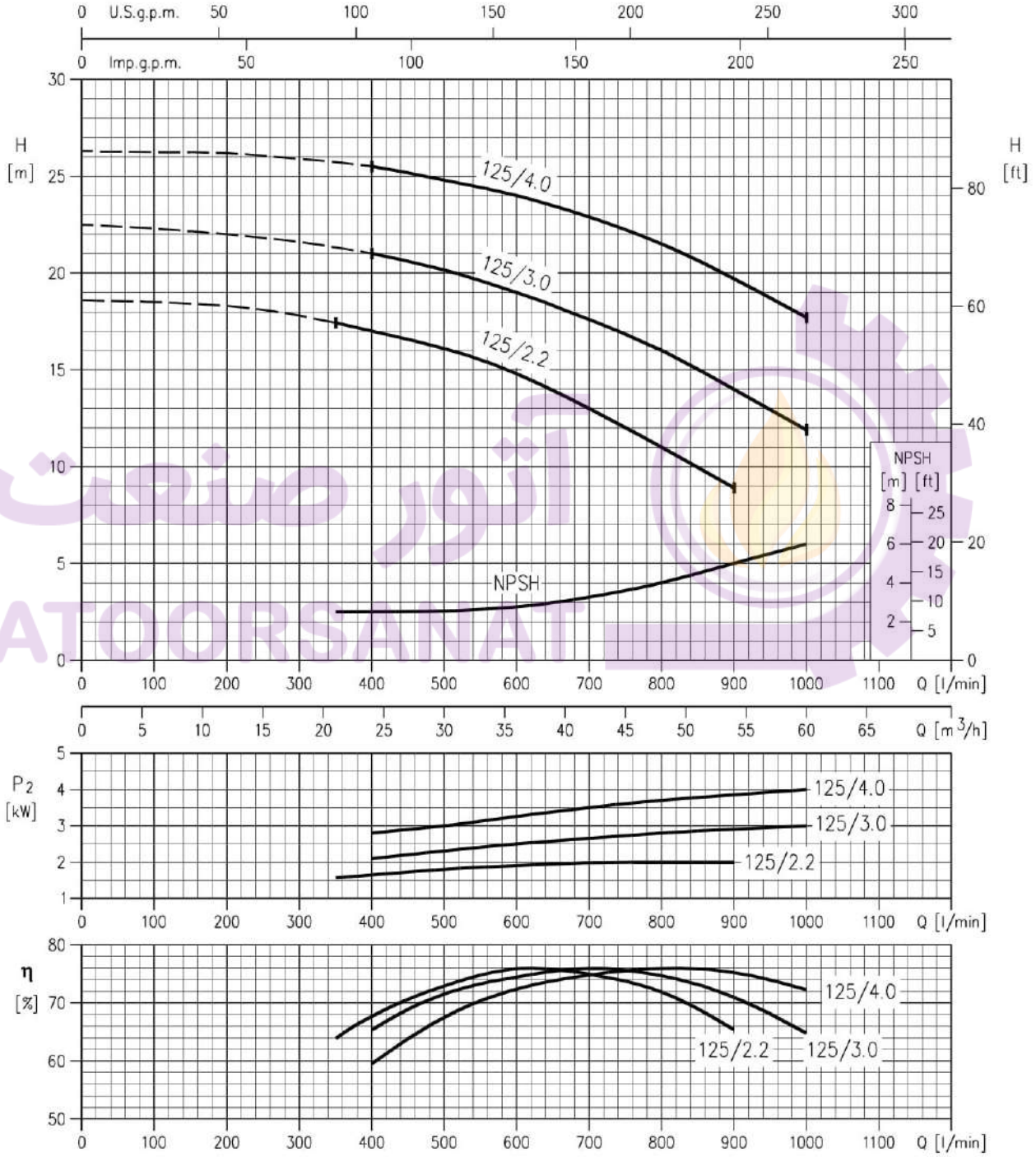
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 65-125/2.2 (2.2 kW) MEI > 0.40 Impeller diameter = 118 mm
LPC 65-125/3.0 (3.0 kW) MEI > 0.40 Impeller diameter = 128 mm
LPC 65-125/4.0 (4.0 kW) MEI > 0.40 Impeller diameter = 139 mm



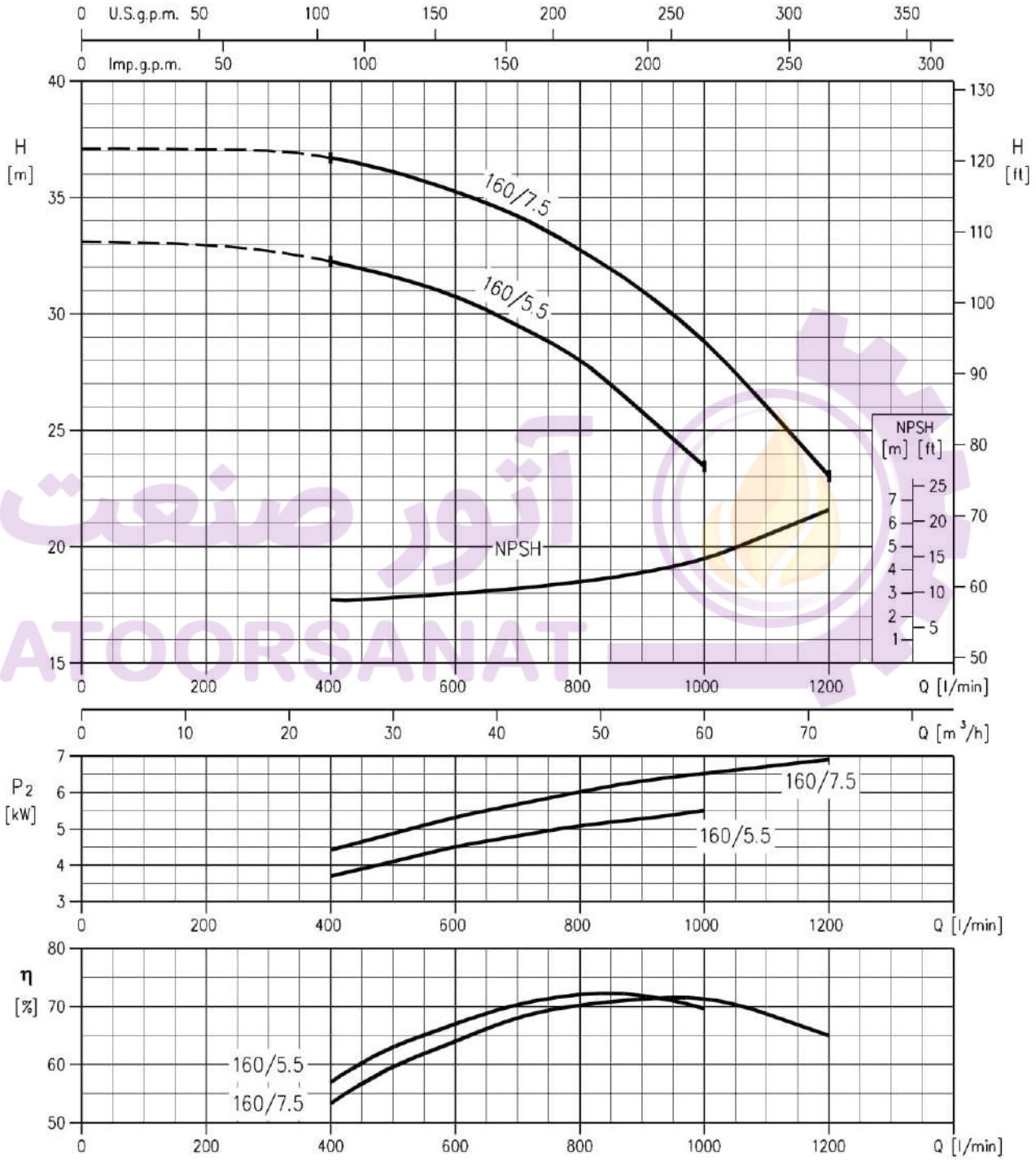
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 65-160/5.5 (5.5 kW) MEI > 0.40 Impeller diameter = 160 mm
LPC 65-160/7.5 (7.5 kW) MEI > 0.40 Impeller diameter = 169 mm



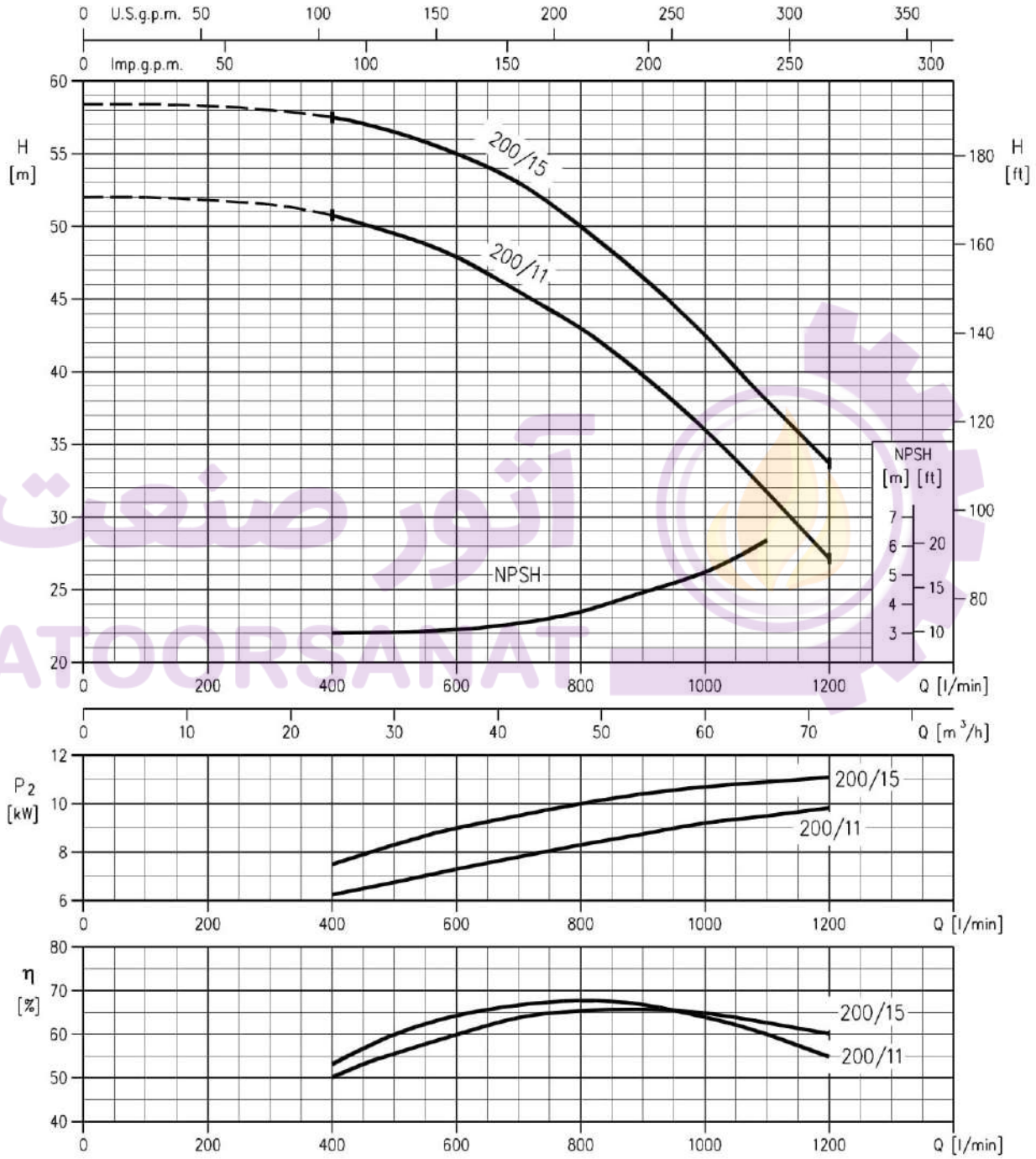
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 65-200/11 (11 kW) MEI > 0.40 Impeller diameter = 200 mm
LPC 65-200/15 (15 kW) MEI > 0.40 Impeller diameter = 209 mm



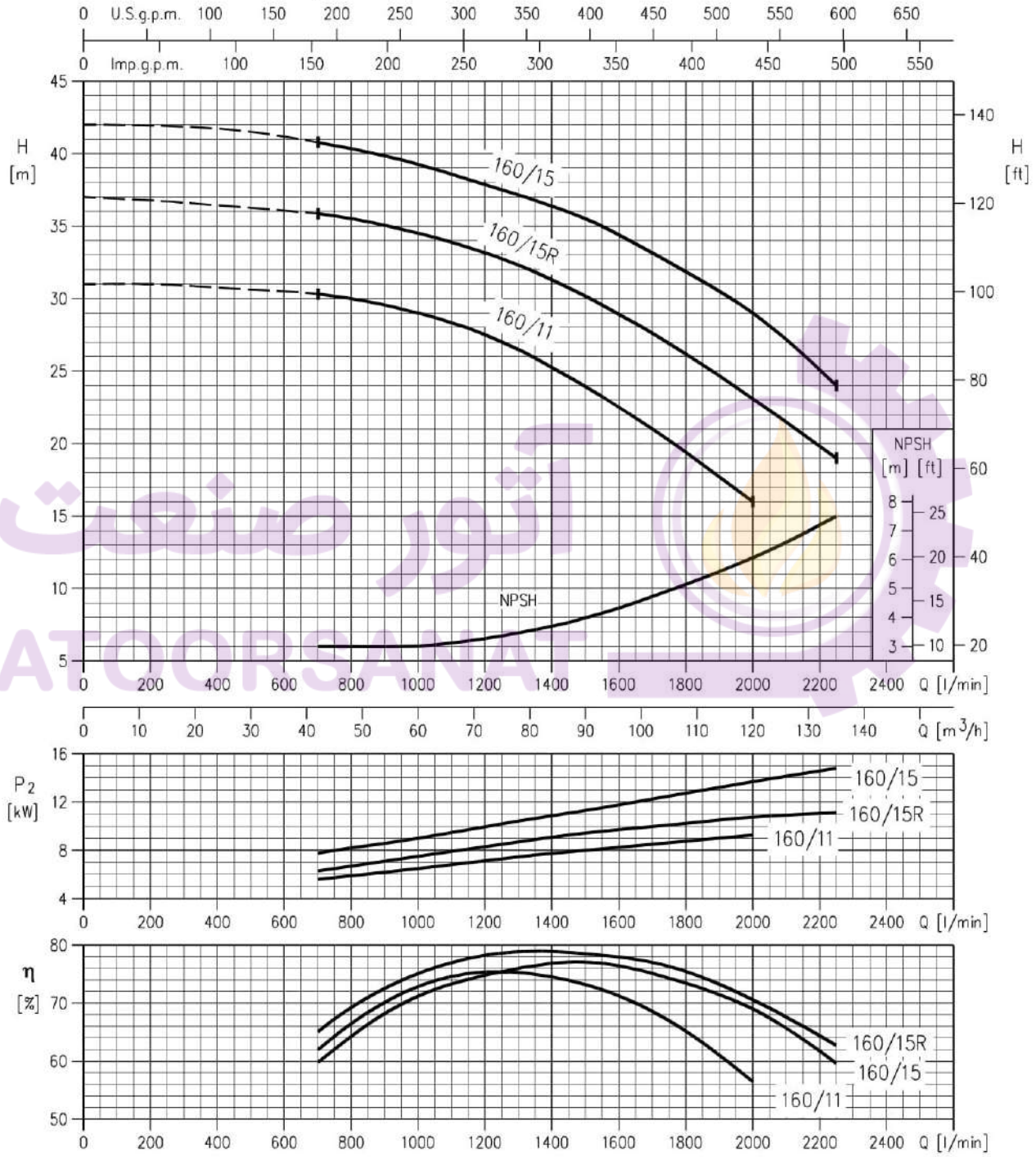
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 80-160/11 (11 kW) MEI > 0.40 Impeller diameter = 150 mm
LPC 80-160/15R (15 kW) MEI > 0.40 Impeller diameter = 160 mm
LPC 80-160/15 (15 kW) MEI > 0.40 Impeller diameter = 169 mm



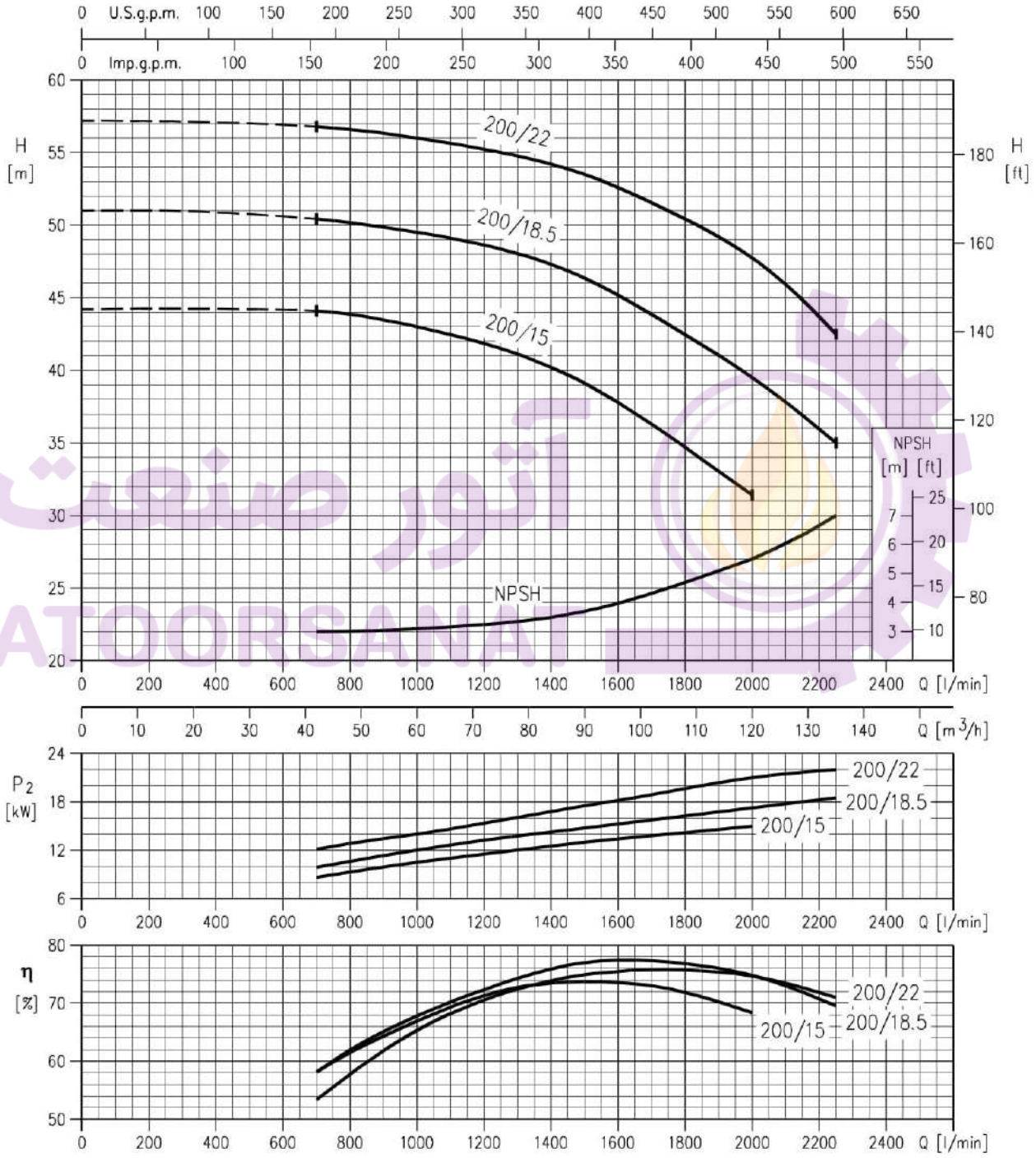
Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. A

LPC 80-200/15 (15 kW) MEI > 0.40 Impeller diameter = 180 mm
LPC 80-200/18.5 (18.5 kW) MEI > 0.40 Impeller diameter = 194 mm
LPC 80-200/22 (22 kW) MEI > 0.40 Impeller diameter = 204 mm



Rotation speed ≈ 2900 min⁻¹
Test standard: ISO 9906 – Annex A