

Submersible Motor Pump

Amarex

Characteristic Curves Booklet



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Characteristic Curves Booklet Amarex

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Waste Water

Submersible Motor Pump

Amarex

i In the case of waste water, too low a circumferential speed of the impeller will lead to clogging of the hydraulic system (frequency inverter operation). A minimum circumferential speed (measured at the impeller diameter) of 12 m/s must be observed.²⁾



Selection information

- The indicated heads and performance data apply to material variant G, for fluids with a density $\rho = 1 \text{ kg/dm}^3$ and a kinematic viscosity $\nu \leq 20 \text{ mm}^2/\text{s}$.
- For hydraulic acceptance tests of different material variants reduce the documented efficiencies by 2 percent.

Impeller type

- D-max impellers and F-max impellers can only be supplied with the documented impeller diameters. Indicate the pump set designation and the impeller diameter in the purchase order.

Pump input power

- Adjust the power input to the density of the fluid handled:

$$P_2 \text{ (required)} = \rho \text{ [kg/dm}^3\text{]} \text{ (fluid handled)} \times P_2 \text{ (documented)}$$
- Select the operating point with the largest power input within an operating range. Select a motor size providing a power reserve to compensate the tolerances in the system characteristic / pump characteristic.

Recommended motor power reserve¹⁾

P ₂ [kW]	Reserve	
	Mains operation	With frequency inverter
≤ 30	10 %	15 %
> 30	5 %	10 %

i In the case of waste water, too low a flow velocity in the discharge line will lead to clogging and increased wear. The flow velocity in the vertical riser must not fall below 2 m/s.

1) If larger power reserves are stipulated by local regulations, these larger reserves must be provided.
 2) For F impellers, a circumferential speed below 12 m/s is permissible.

Overview of sizes

Overview of sizes, D-max impeller

Size	Speed [rpm]	
	2900	1450
80-140	(⇒ Page 12)	-
80-170	(⇒ Page 11)	-
80-180	-	(⇒ Page 16)
80-230	-	(⇒ Page 15)
100-140	(⇒ Page 14)	-
100-170	(⇒ Page 13)	-
100-180	-	(⇒ Page 18)
100-230	-	(⇒ Page 17)
150-230	-	(⇒ Page 19)

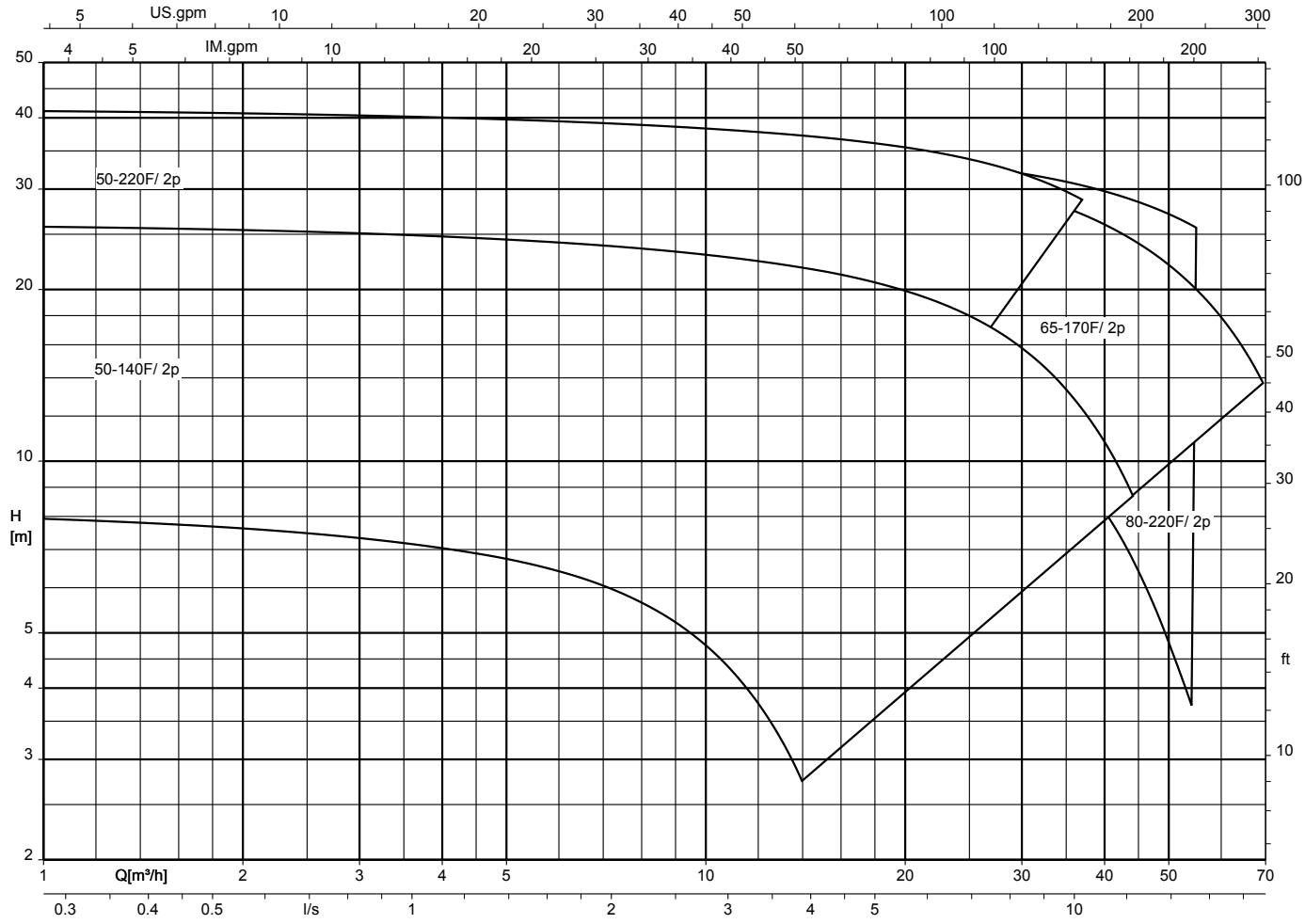
Overview of sizes, F-max impeller

Size	Speed [rpm]	
	2900	1450
50-140	(⇒ Page 20)	-
50-220	(⇒ Page 21)	-
65-150	-	(⇒ Page 22)
65-170	(⇒ Page 23)	-
65-230	-	(⇒ Page 25)
80-150	-	(⇒ Page 26)
80-180	-	(⇒ Page 27)
80-220	(⇒ Page 24)	-
80-230	-	(⇒ Page 28)
100-180	-	(⇒ Page 29)
100-230	-	(⇒ Page 30)
150-180	-	(⇒ Page 31)
150-230	-	(⇒ Page 32)

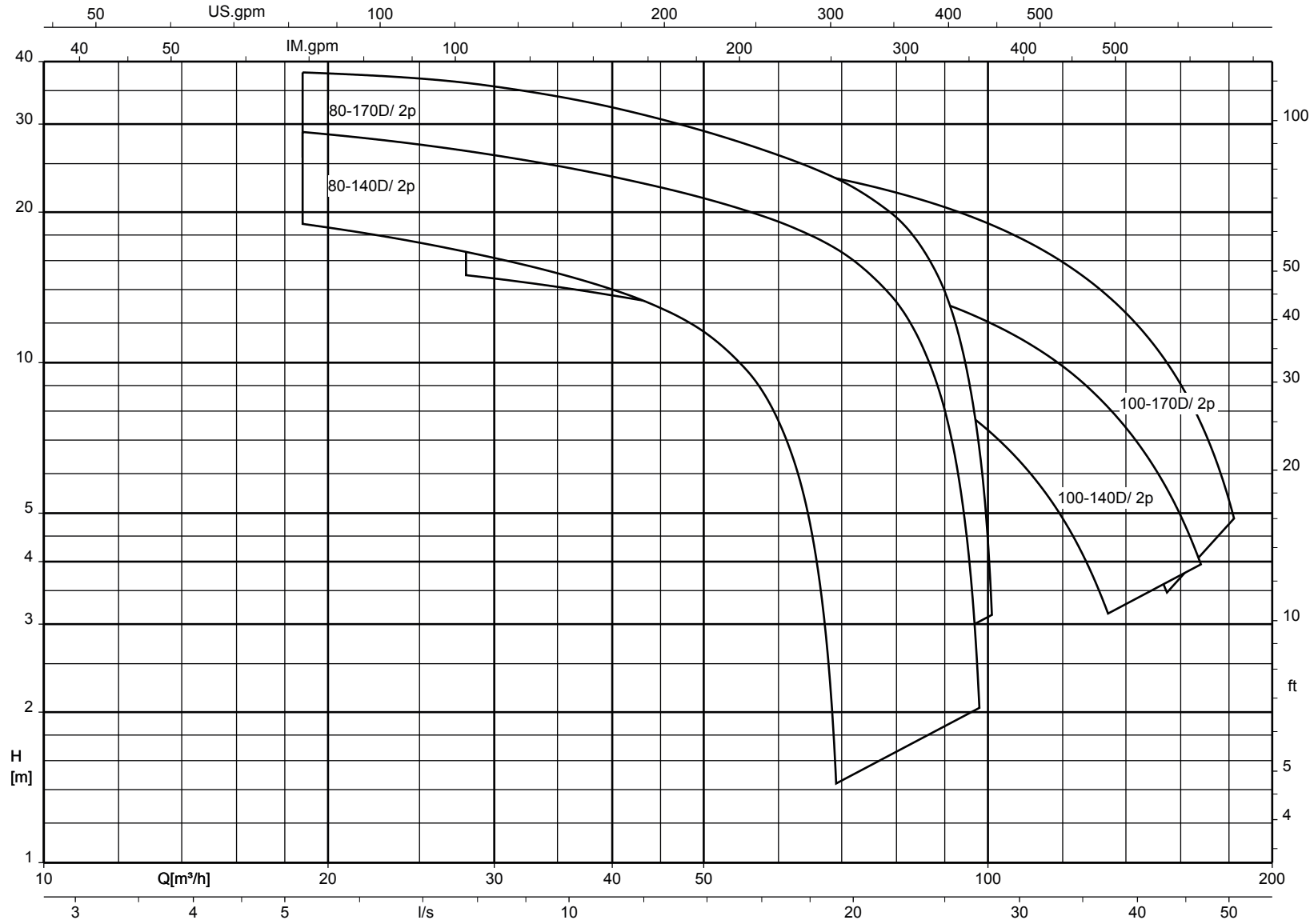
Selection charts

n = 2900 rpm

Amarex, F-max, n = 2900 rpm

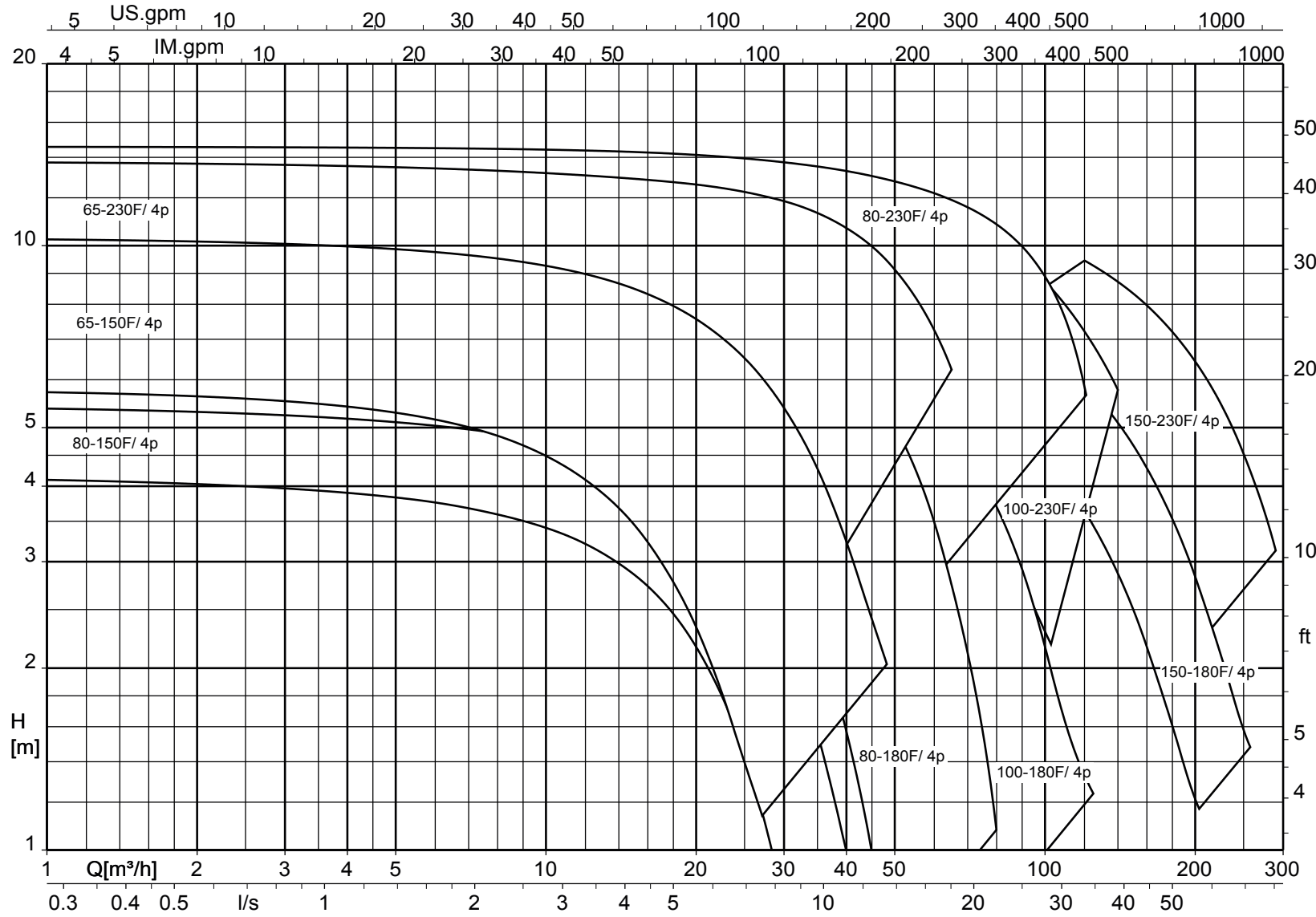


Amarex, D-max, n = 2900 rpm

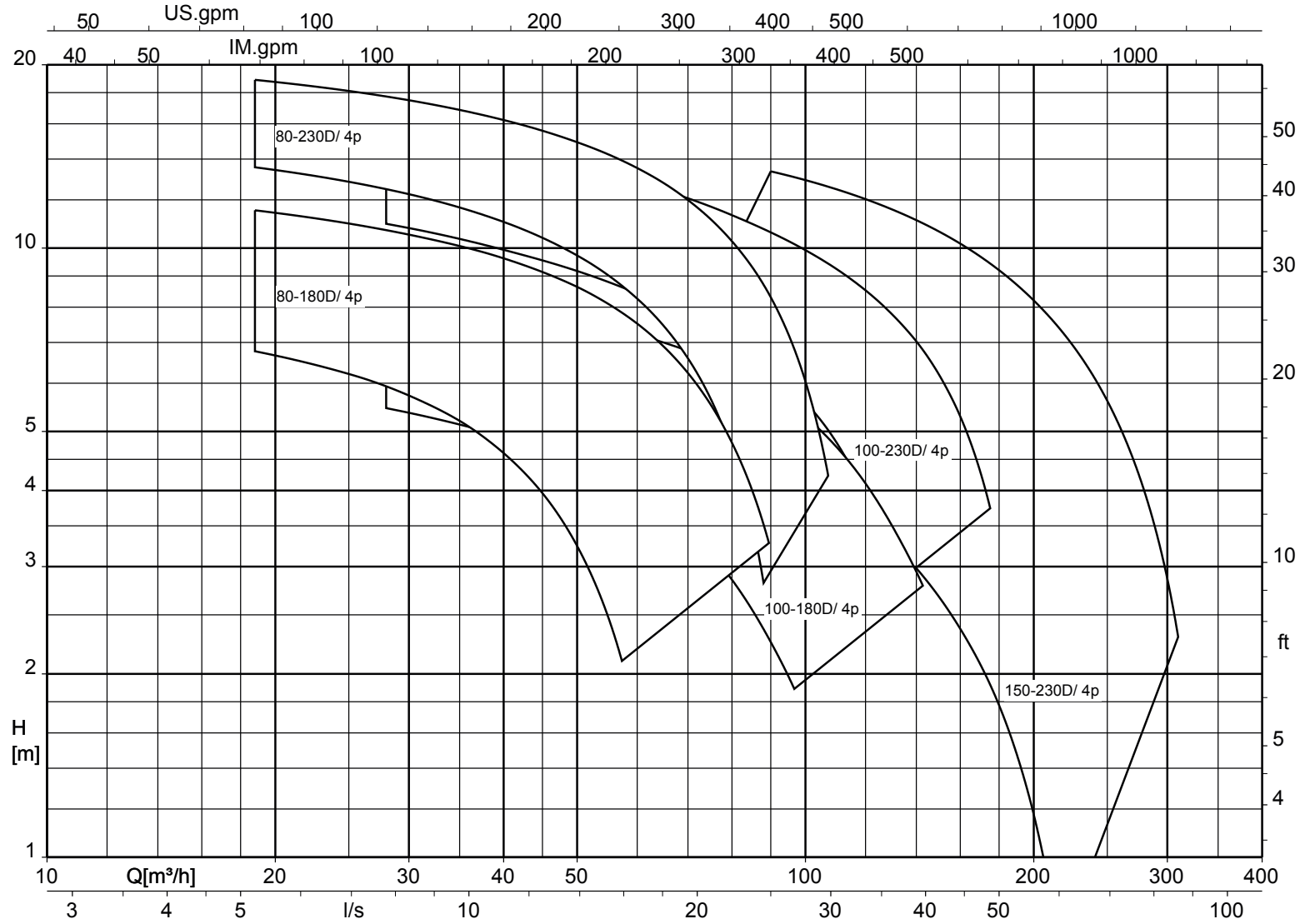


n = 1450 rpm

Amarex, F-max, n = 1450 rpm



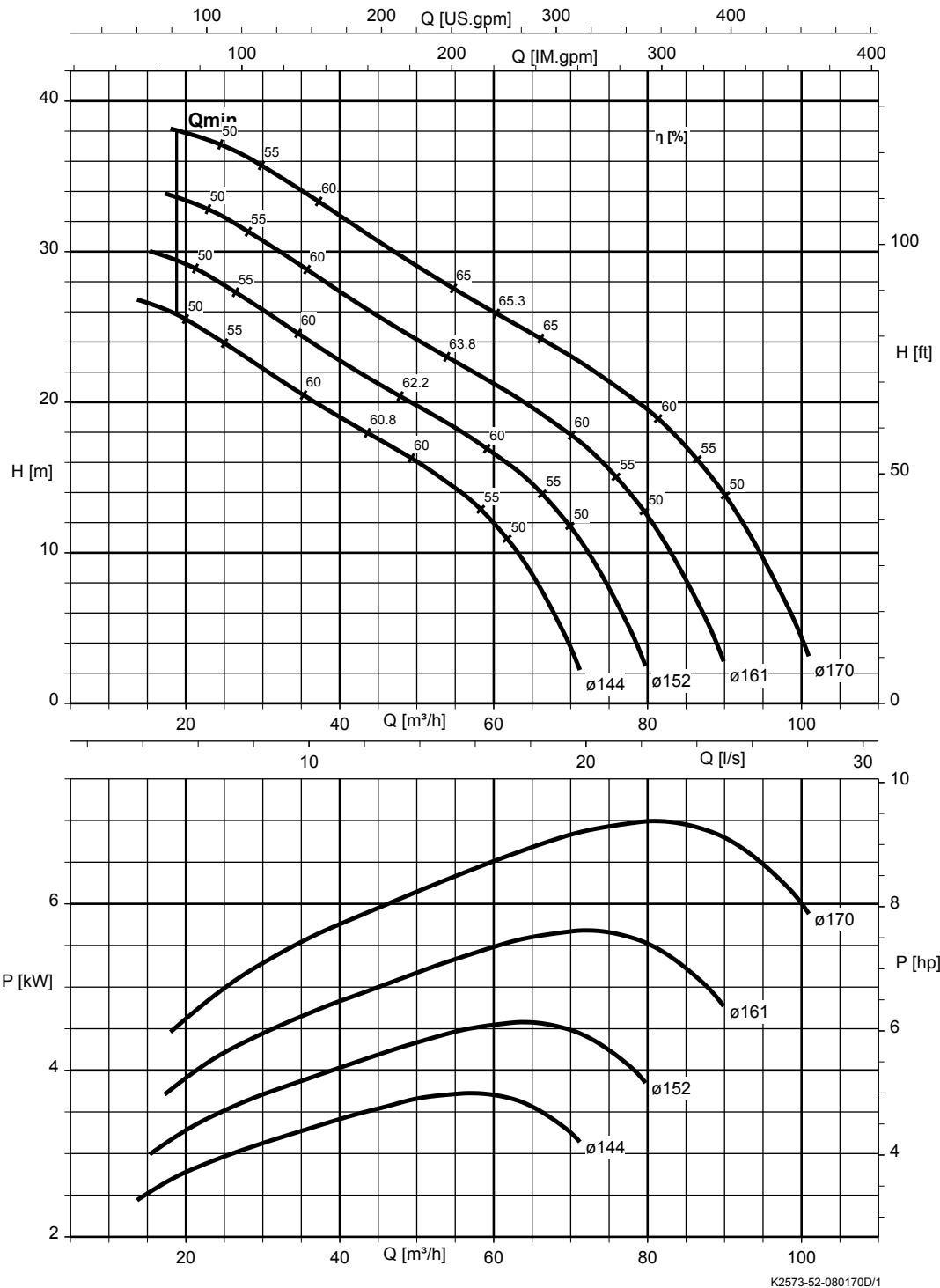
Amarex, D-max, n = 1450 rpm



Characteristic curves

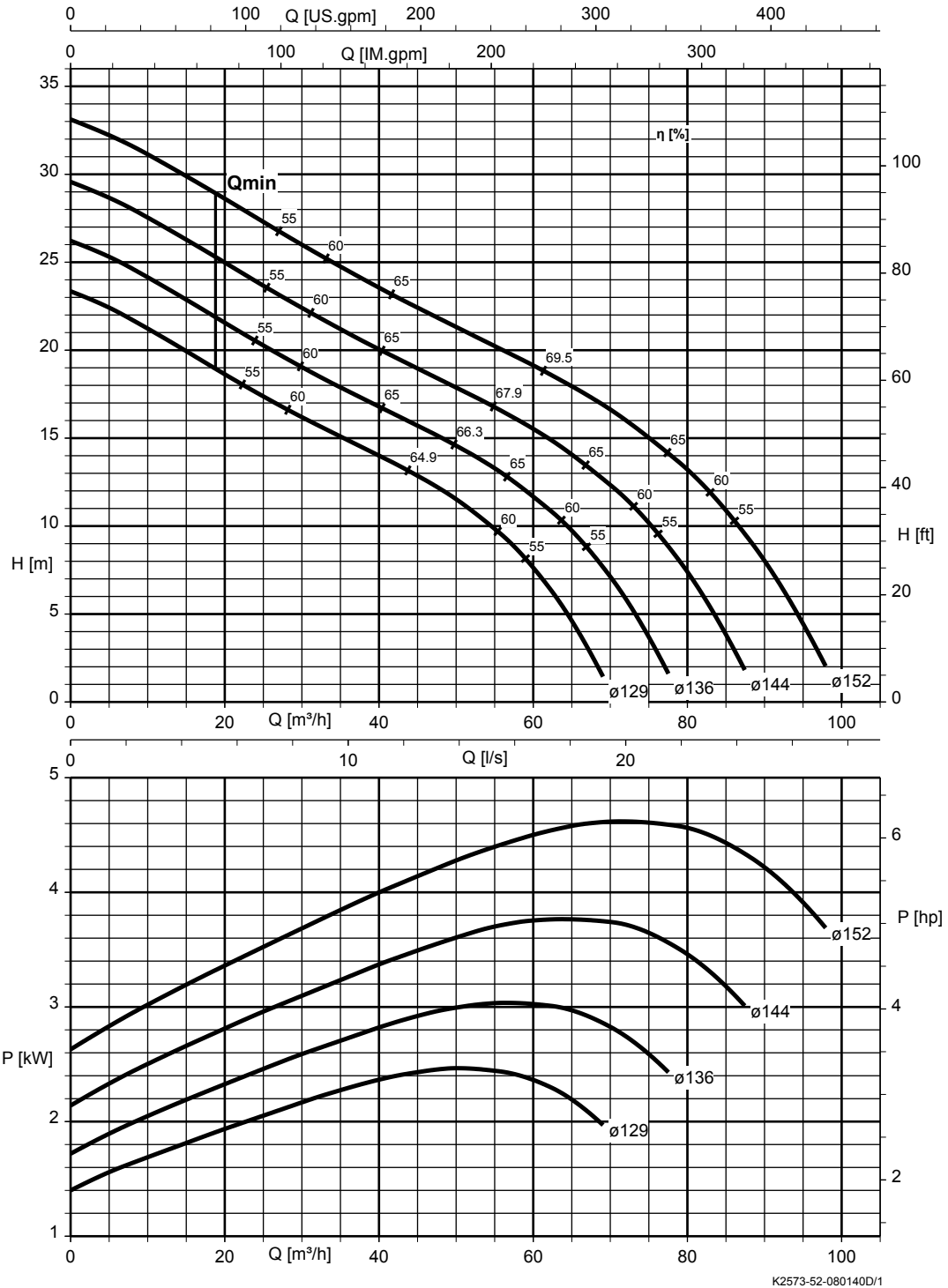
D-max impeller

Amarex D-max 80-170, n = 2900 rpm

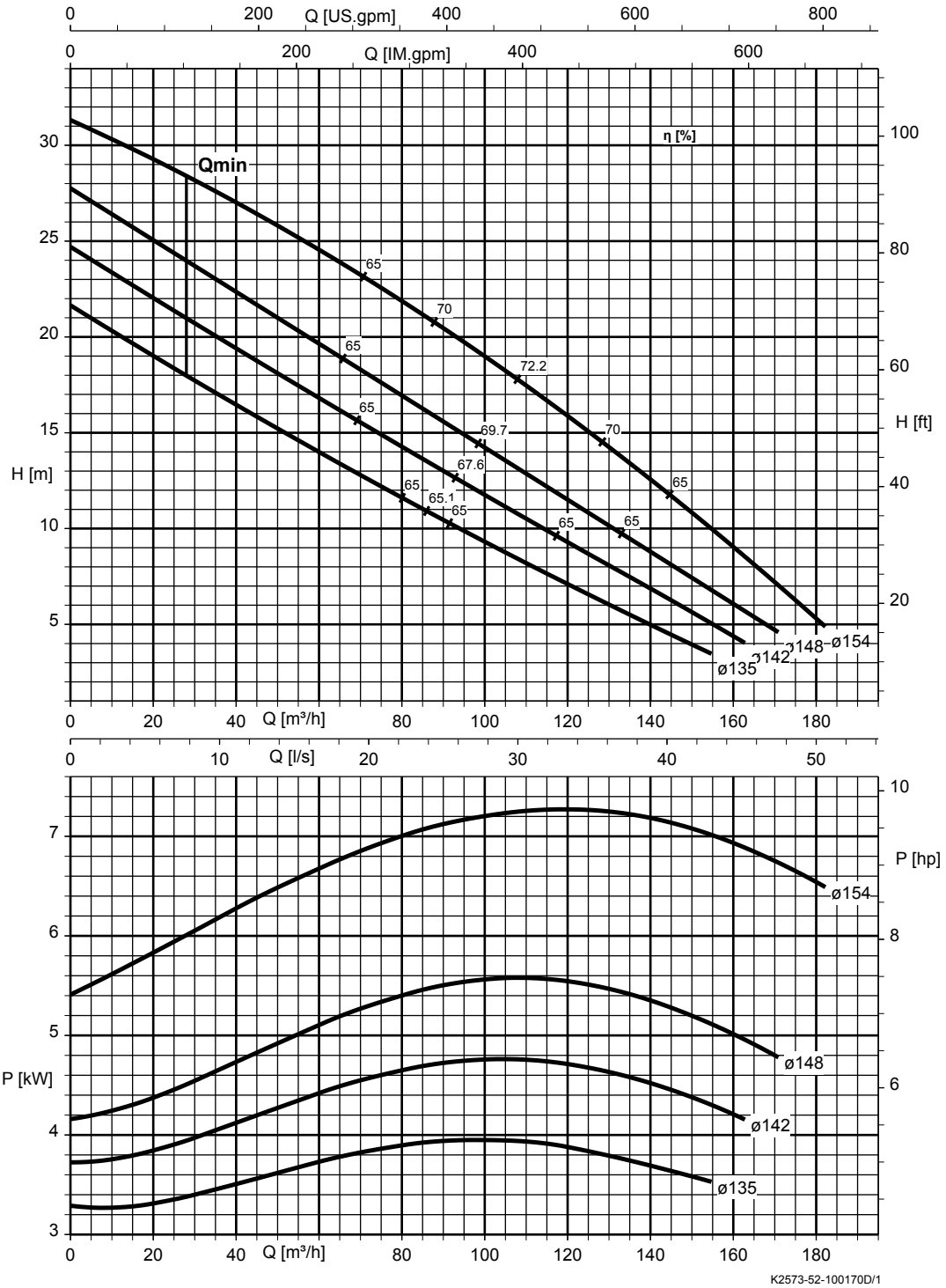


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Amarex D-max 80-140, n = 2900 rpm

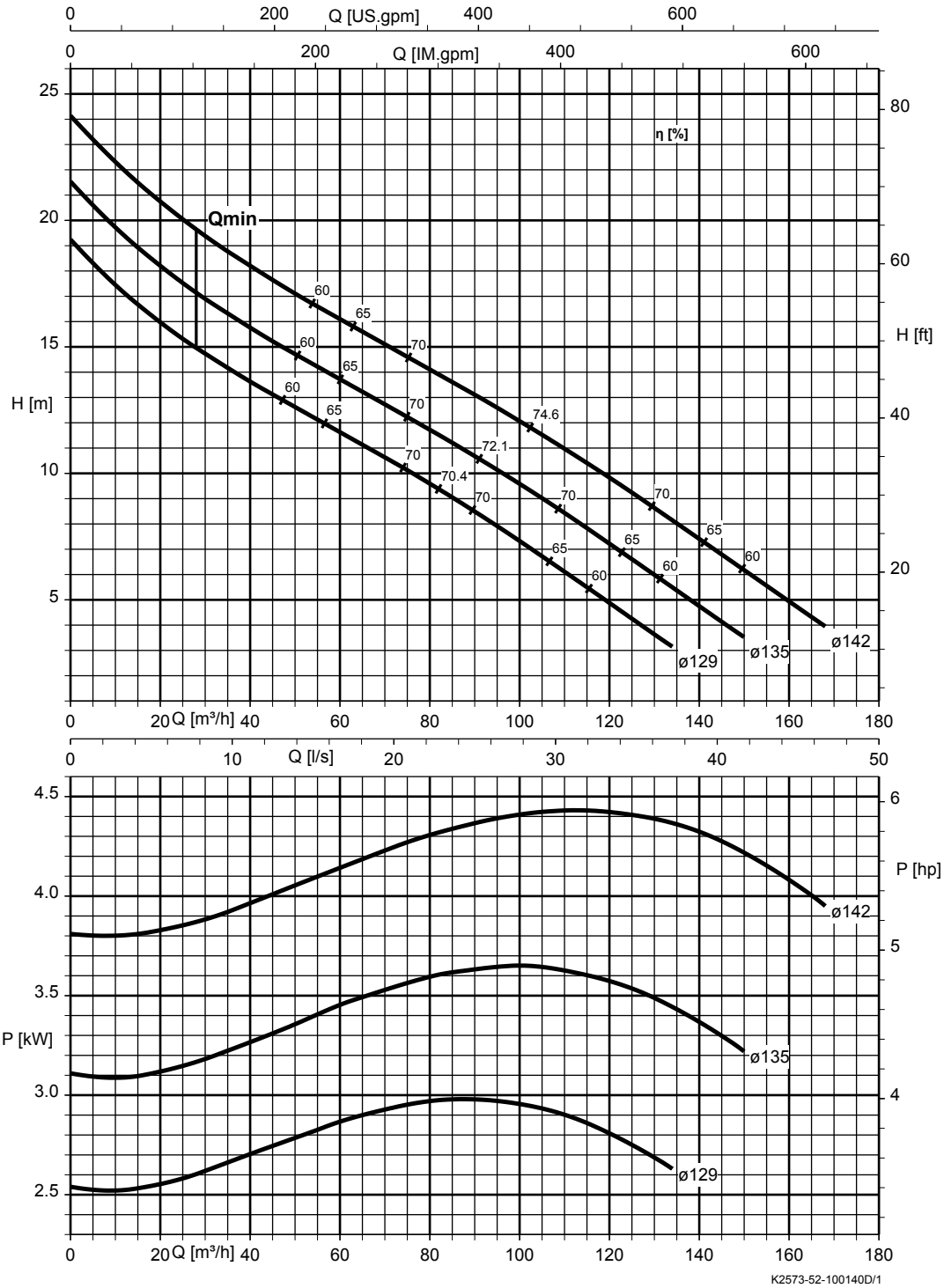


Amarex D-max 100-170, n = 2900 rpm

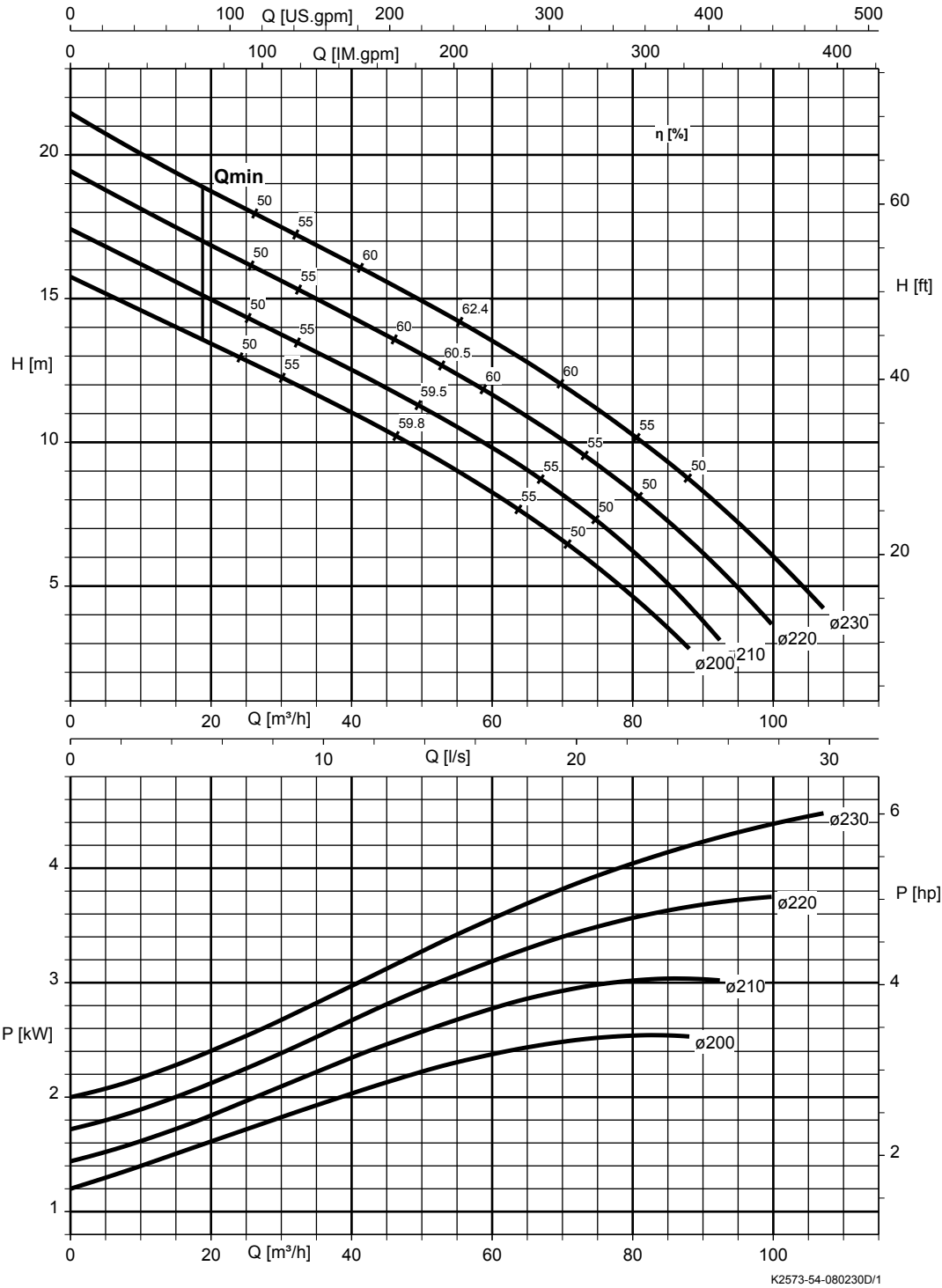


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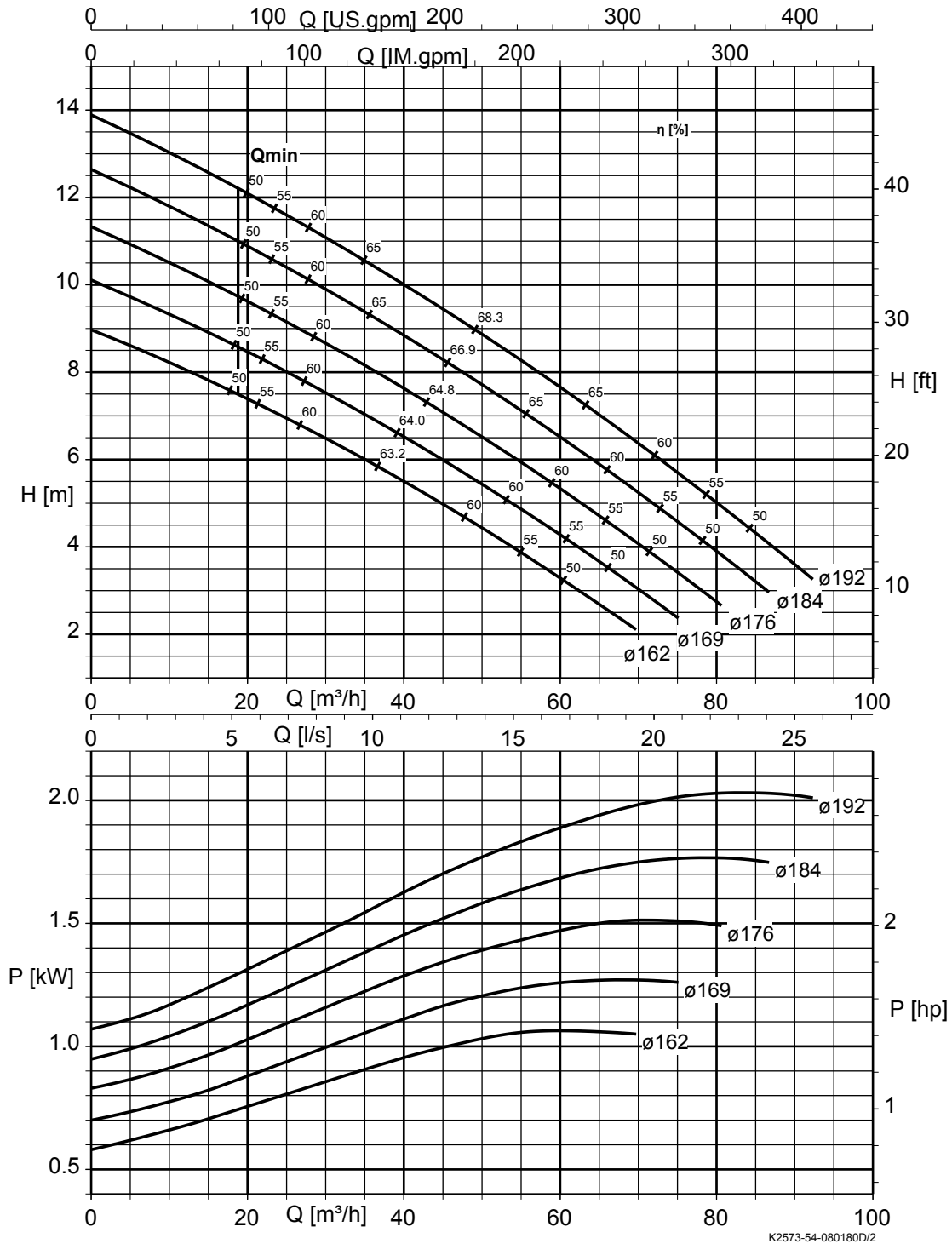
Amarex D-max 100-140, n = 2900 rpm



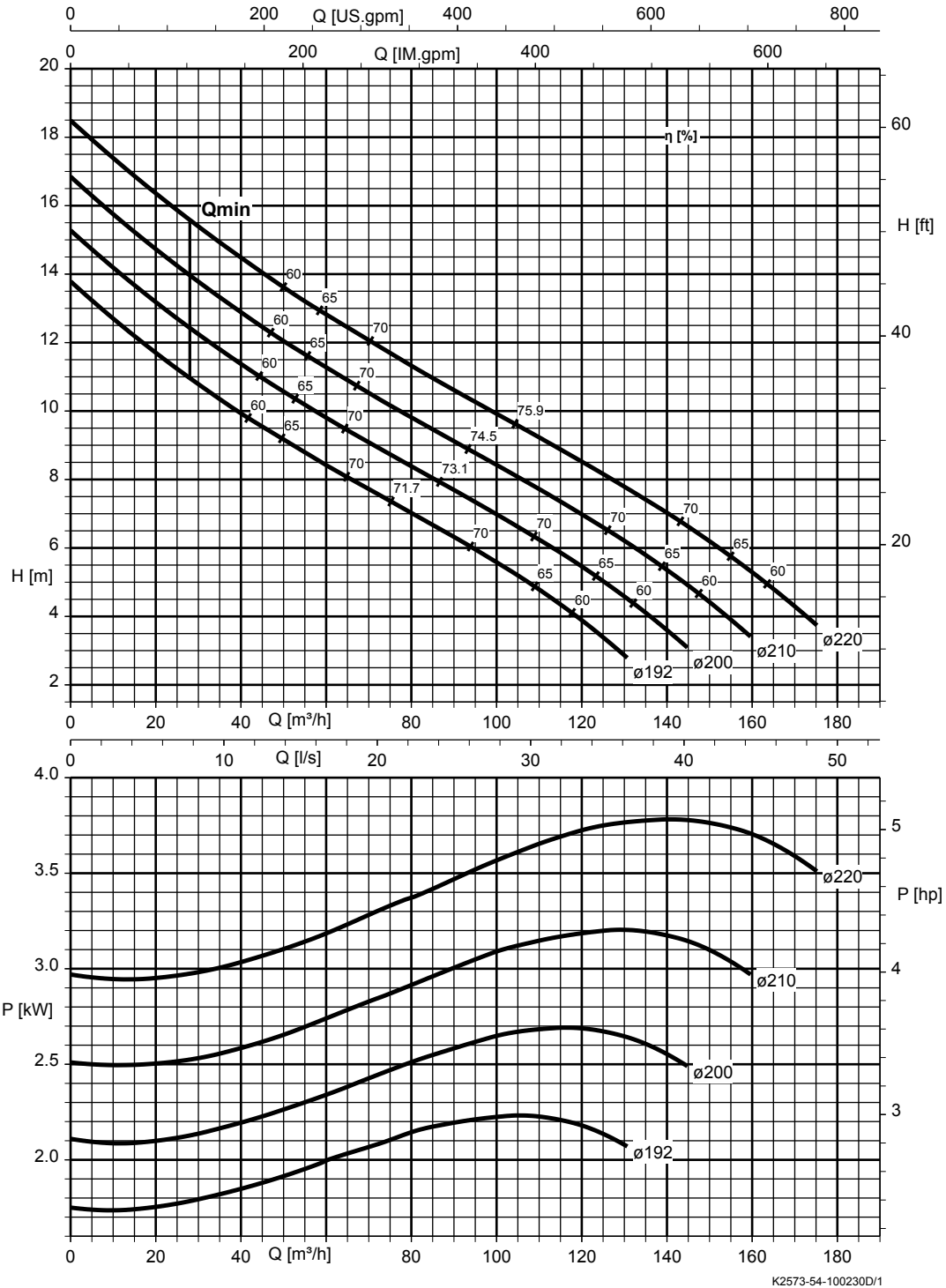
Amarex D-max 80-230, n = 1450 rpm



Amarex D-max 80-180, n = 1450 rpm

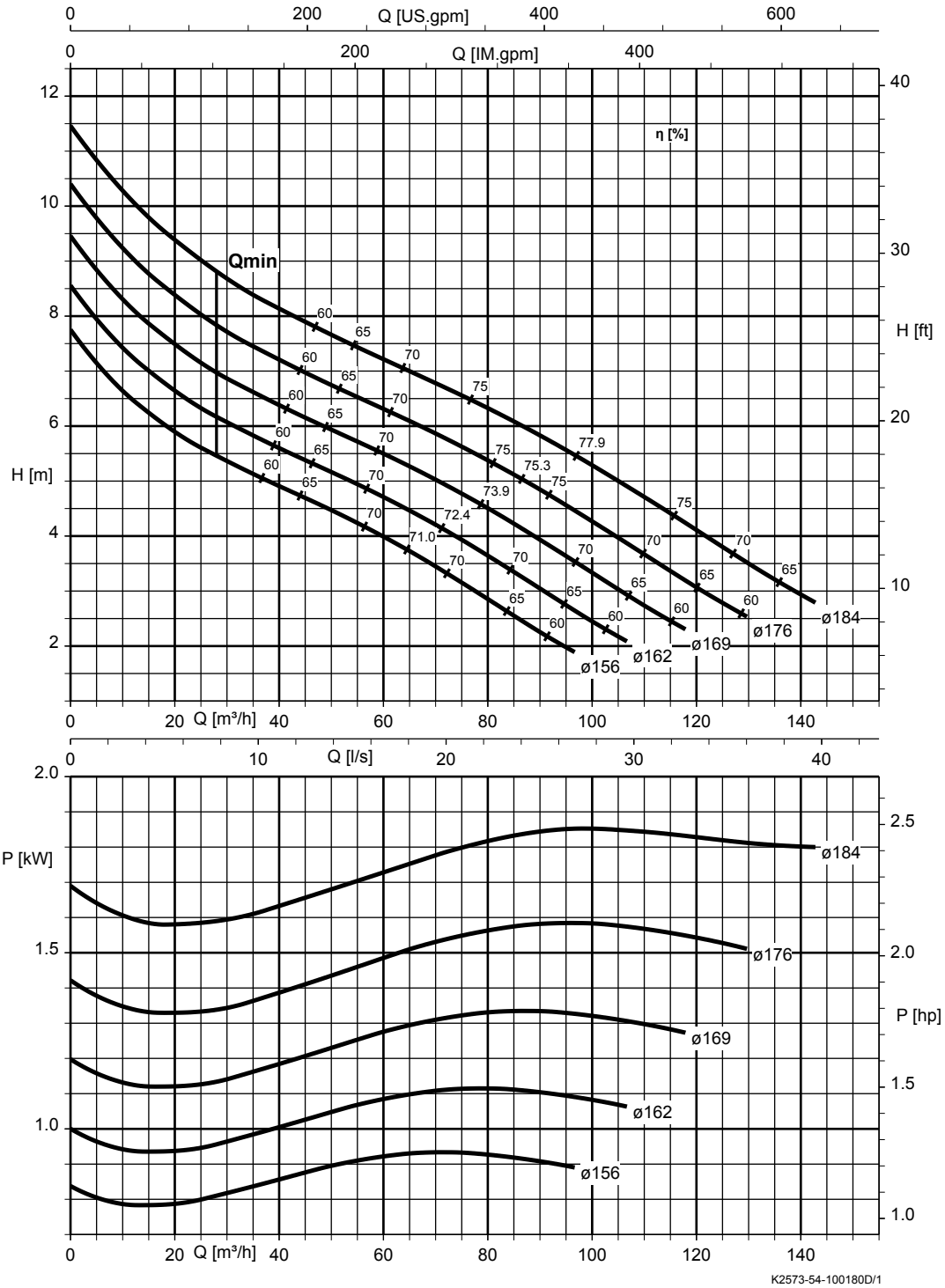


Amarex D-max 100-230, n = 1450 rpm

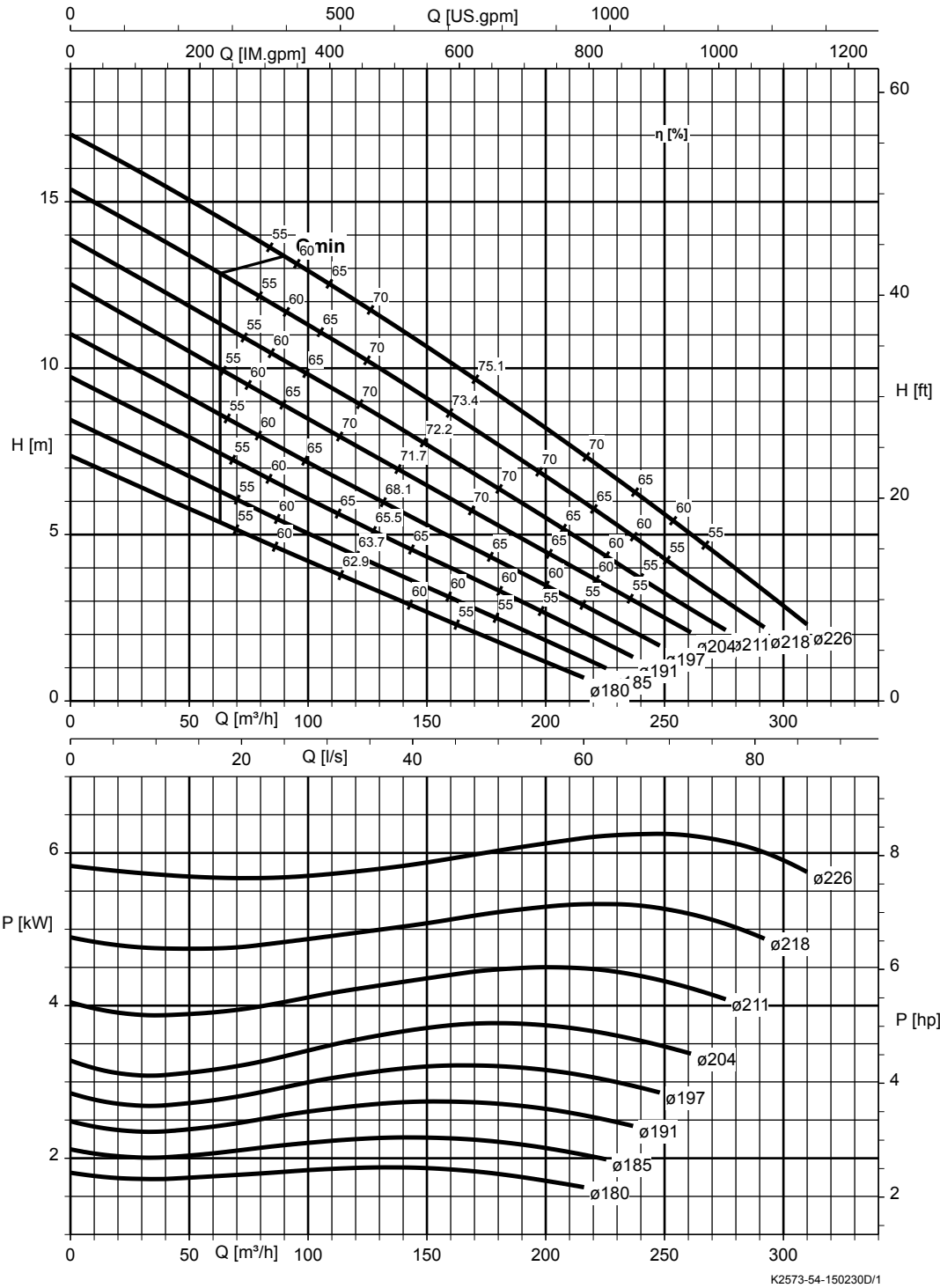


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Amarex D-max 100-180, n = 1450 rpm



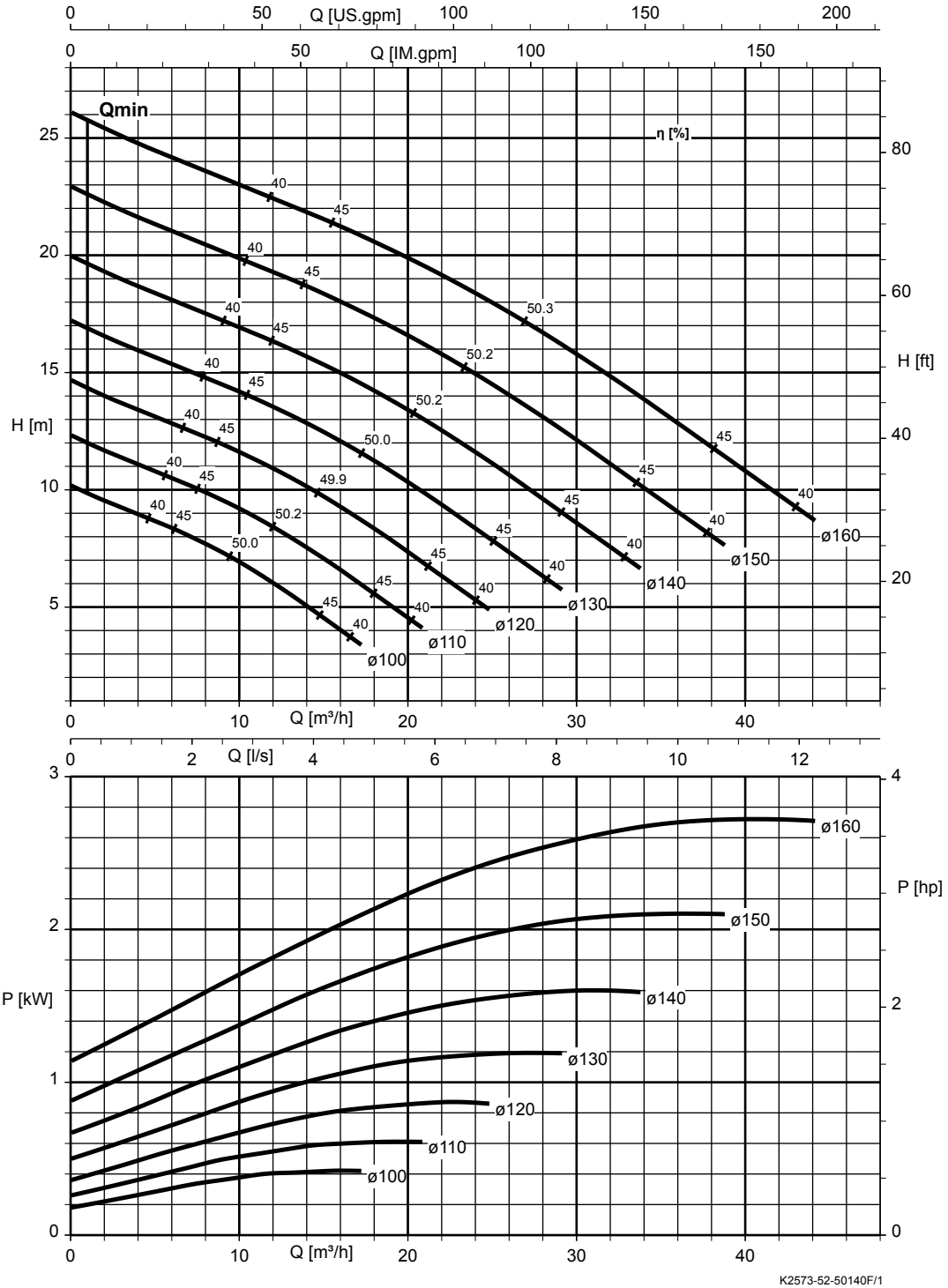
Amarex D-max 150-230, n = 1450 rpm



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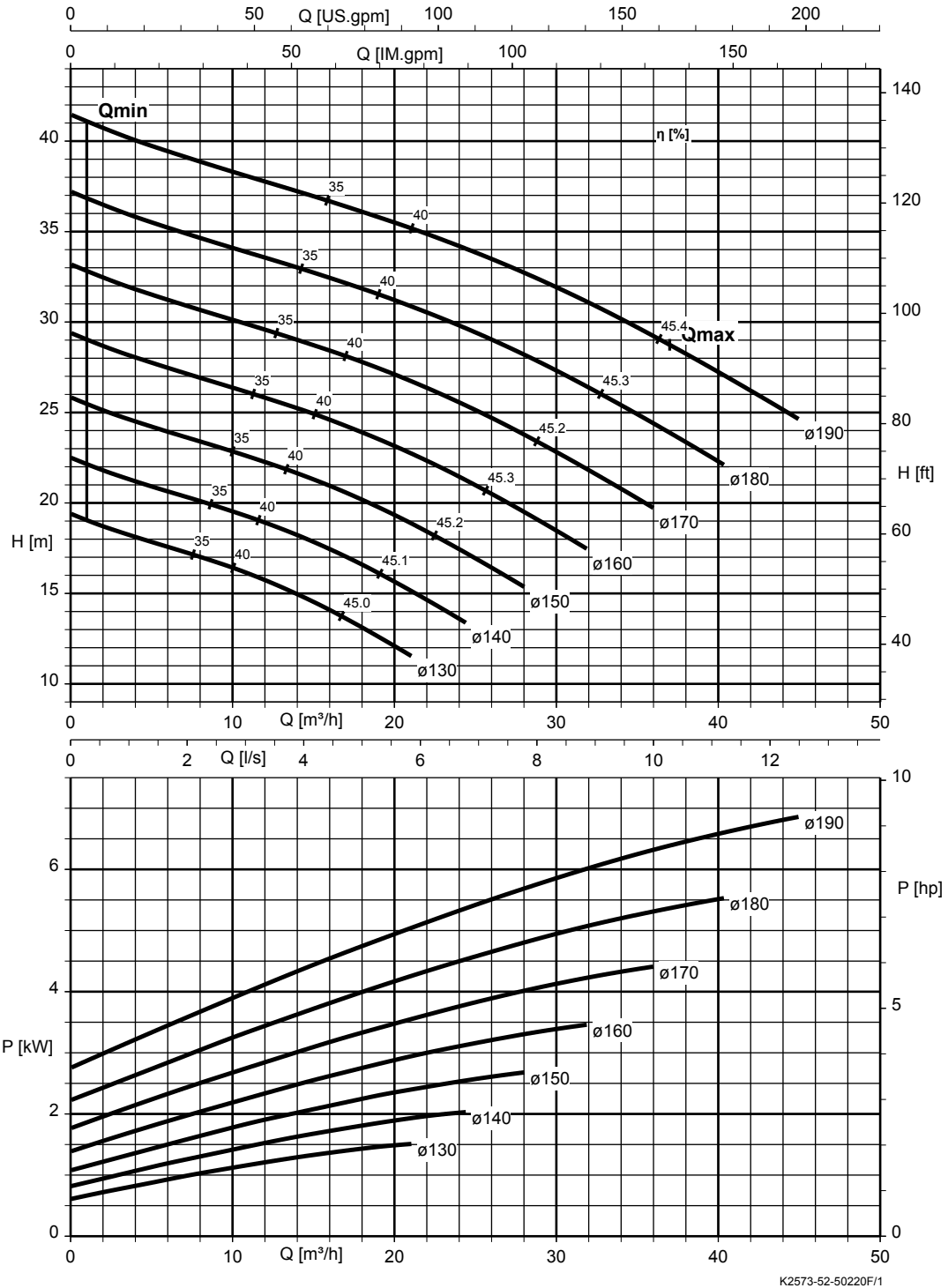
F-max impeller

Amarex F-max 50-140, n = 2900 rpm



Free passage = 44 mm

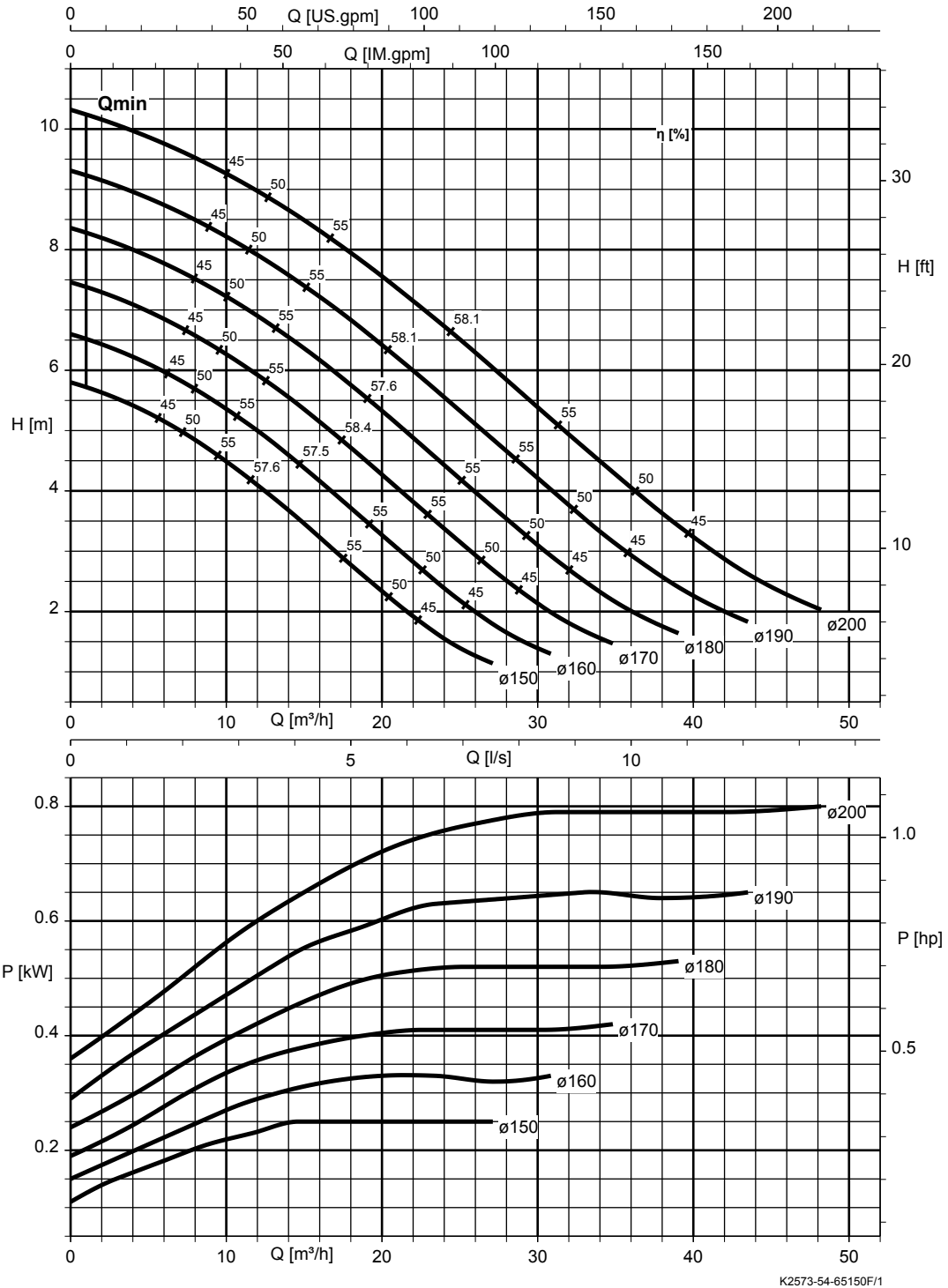
Amarex F-max 50-220, n = 2900 rpm



Free passage = 40 mm

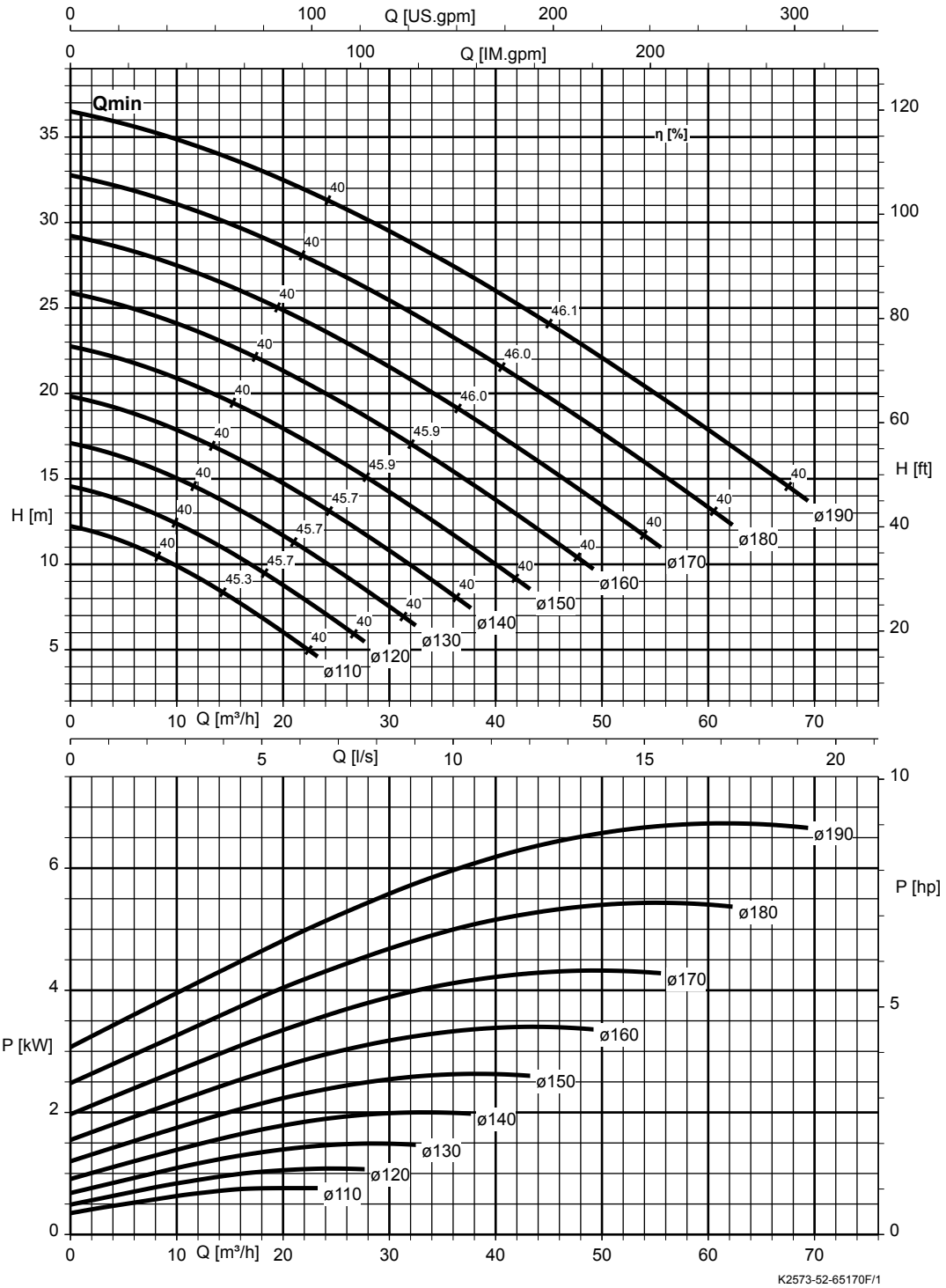
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Amarex F-max 65-150, n = 1450 rpm



Free passage = 65 mm

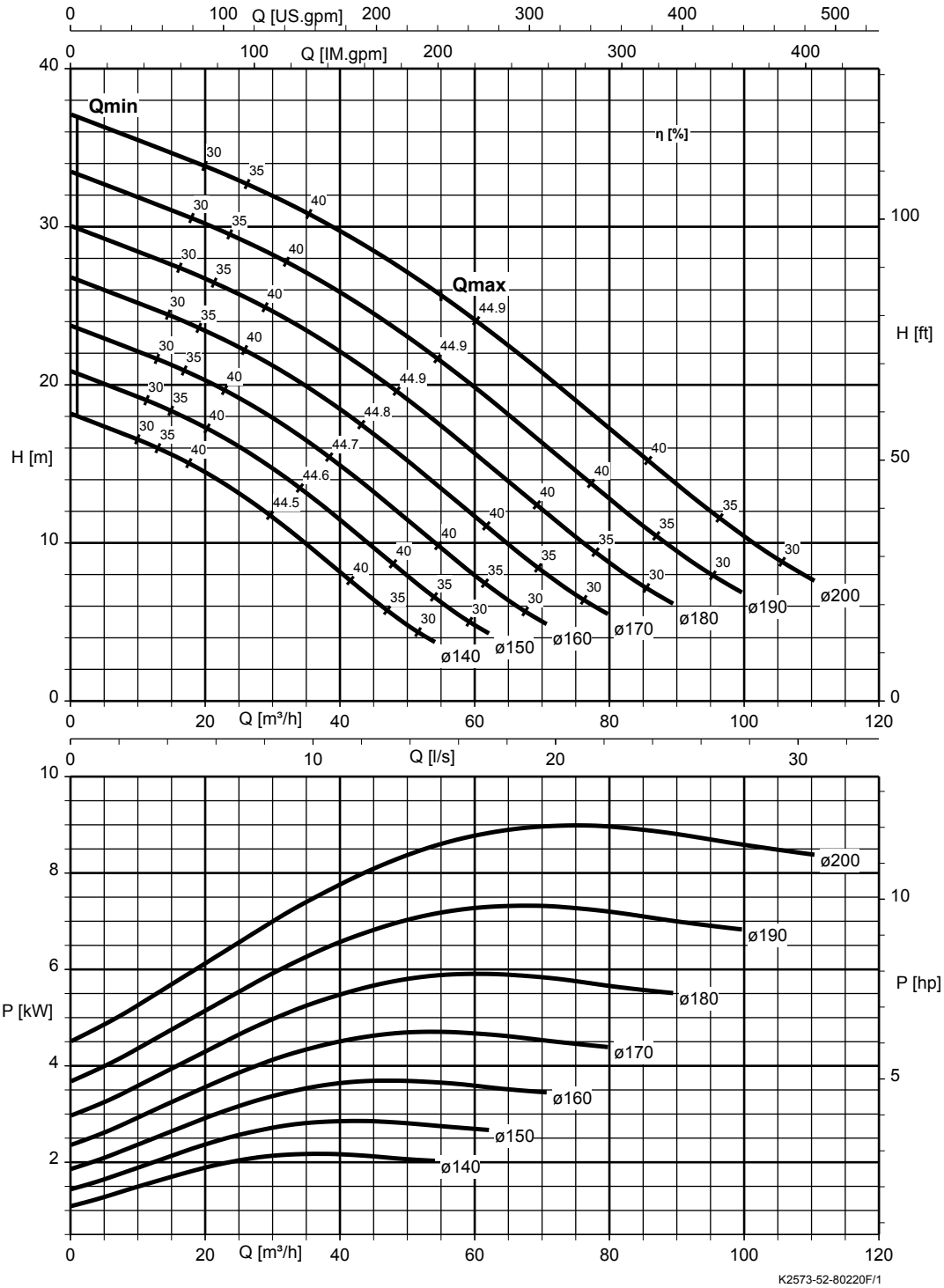
Amarex F-max 65-170, n = 2900 rpm



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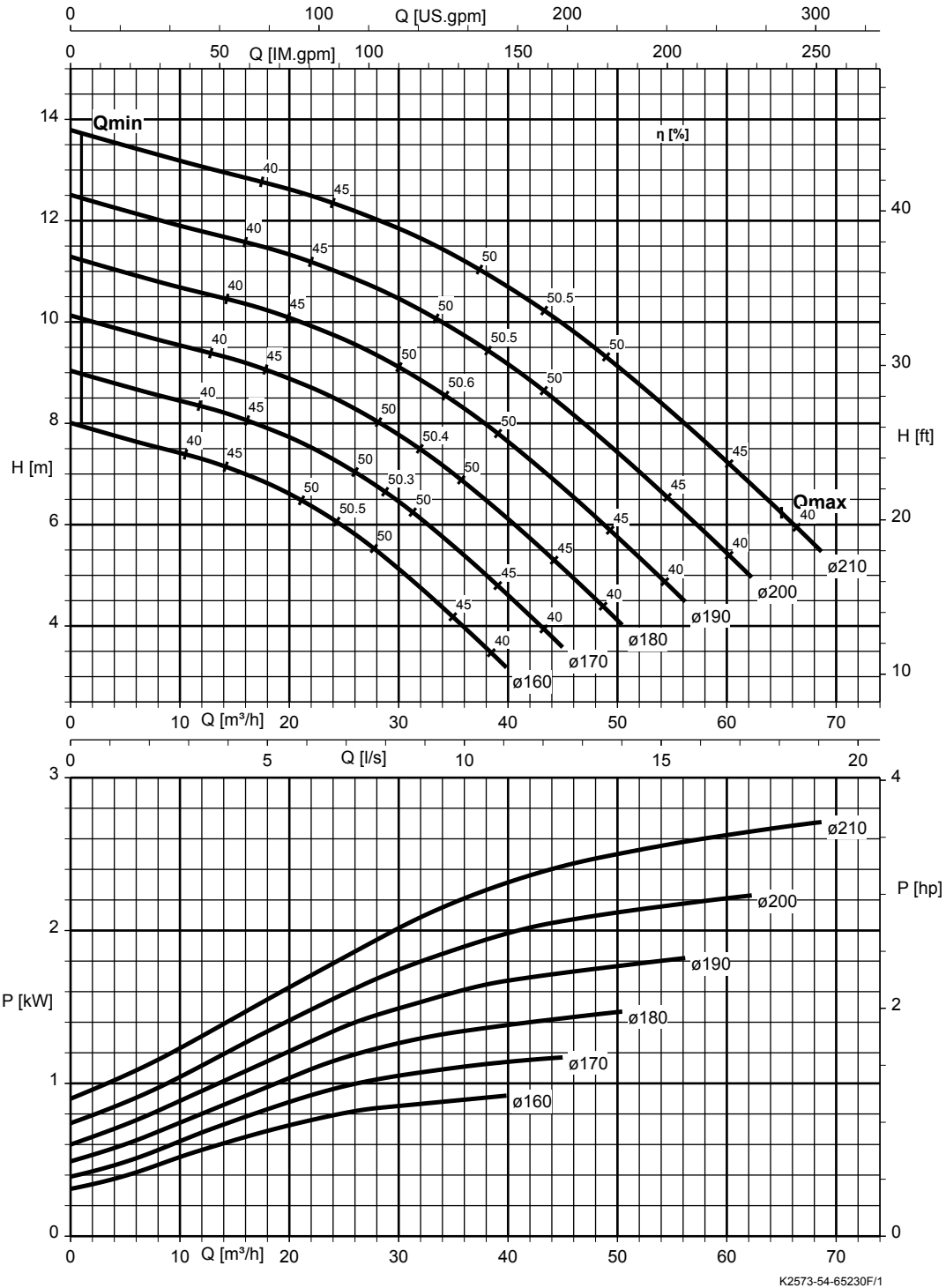
Free passage = 65 mm

Amarex F-max 80-220, n = 2900 rpm



Free passage = 80 mm

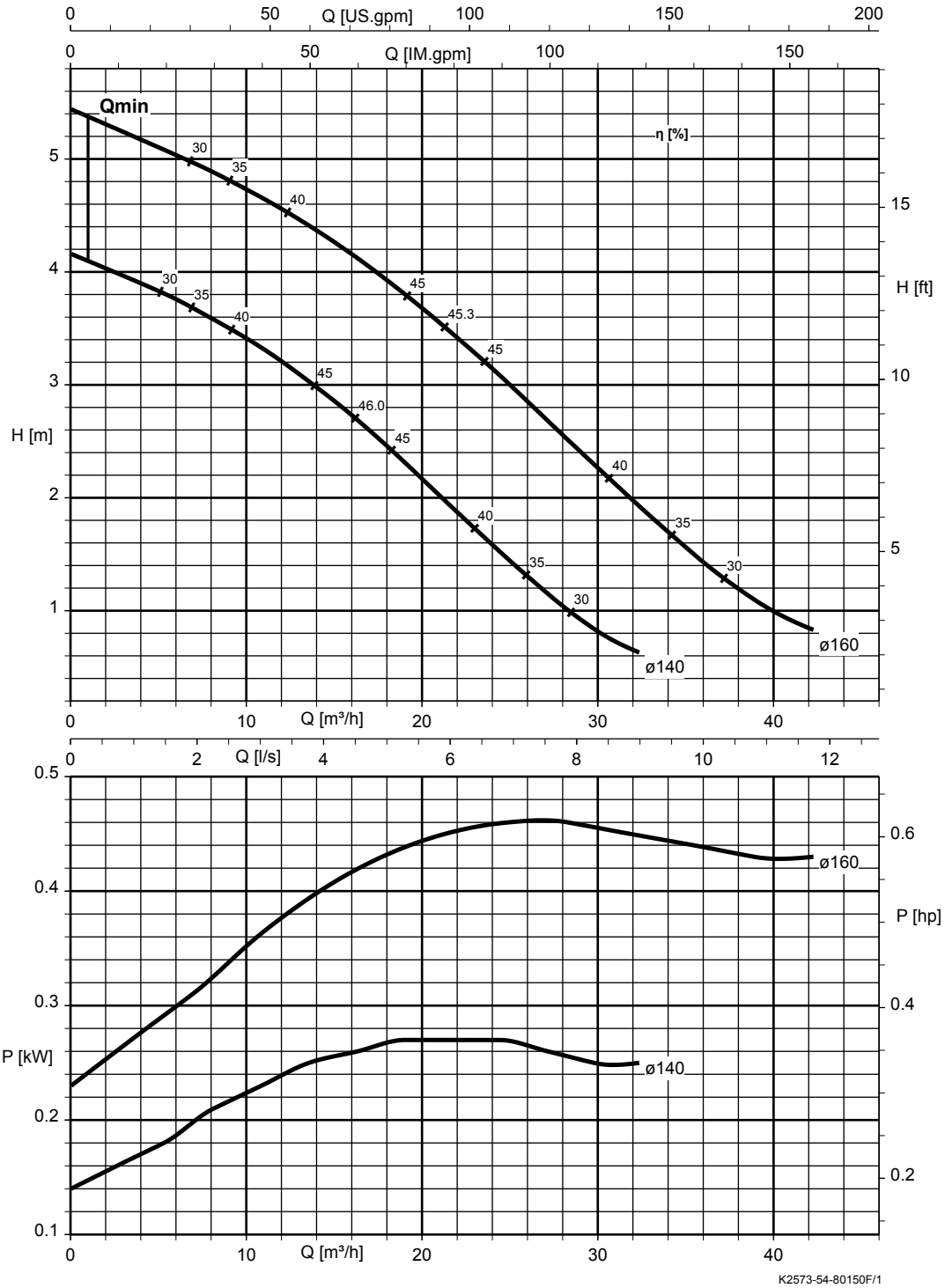
Amarex F-max 65-230, n = 1450 rpm



Free passage = 65 mm

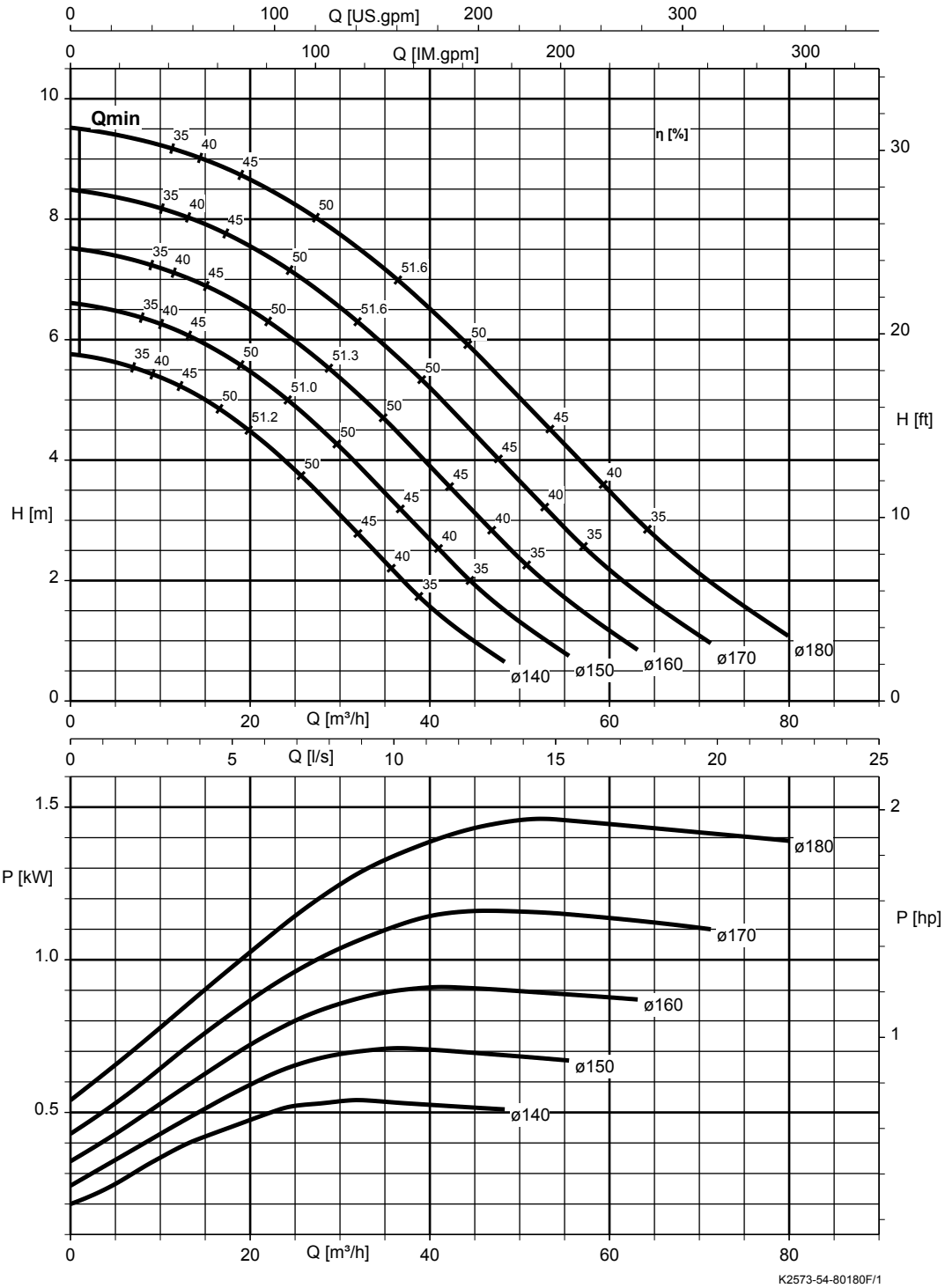
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Amarex F-max 80-150, n = 1450 rpm



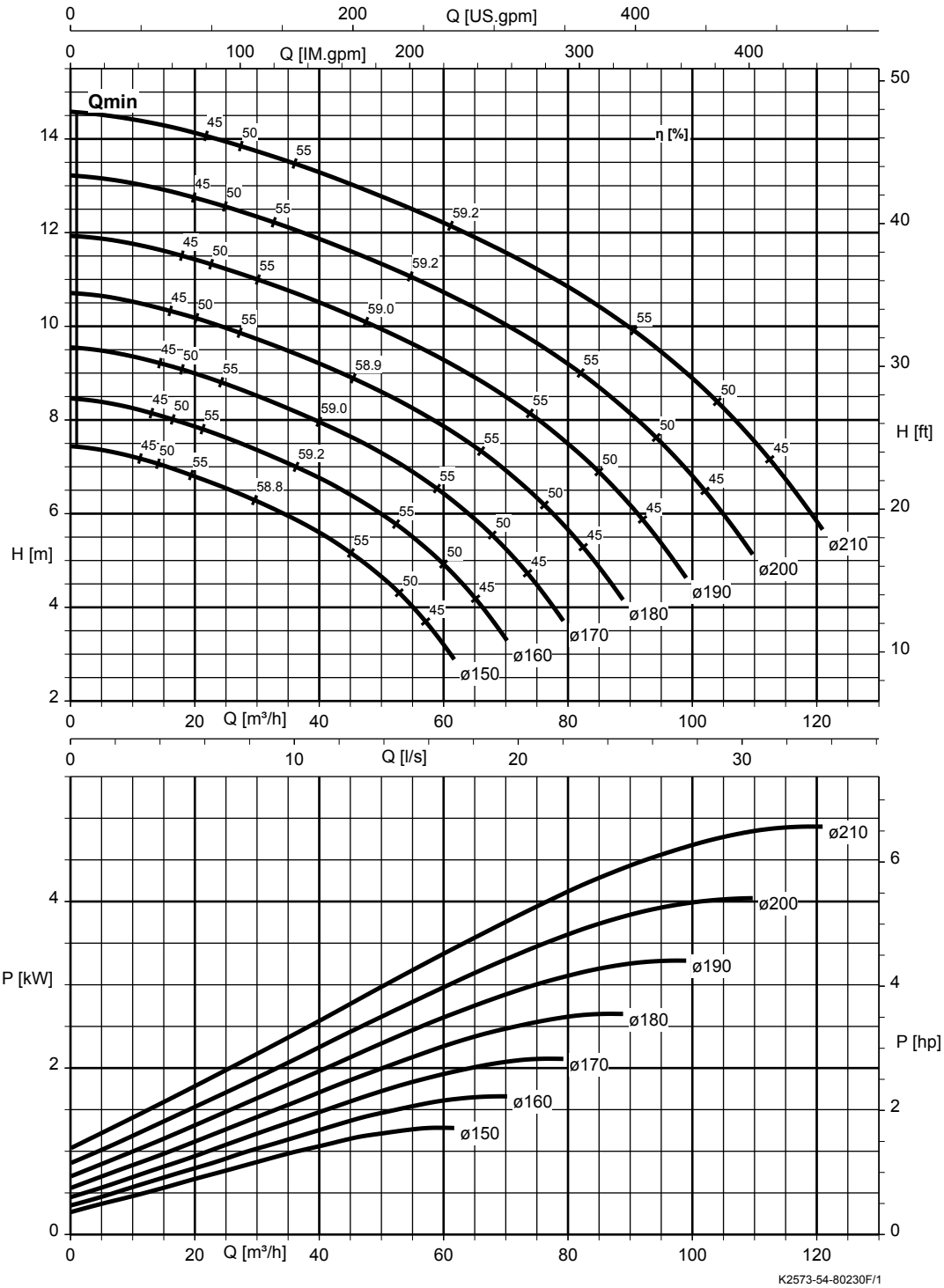
Free passage = 80 mm

Amarex F-max 80-180, n = 1450 rpm



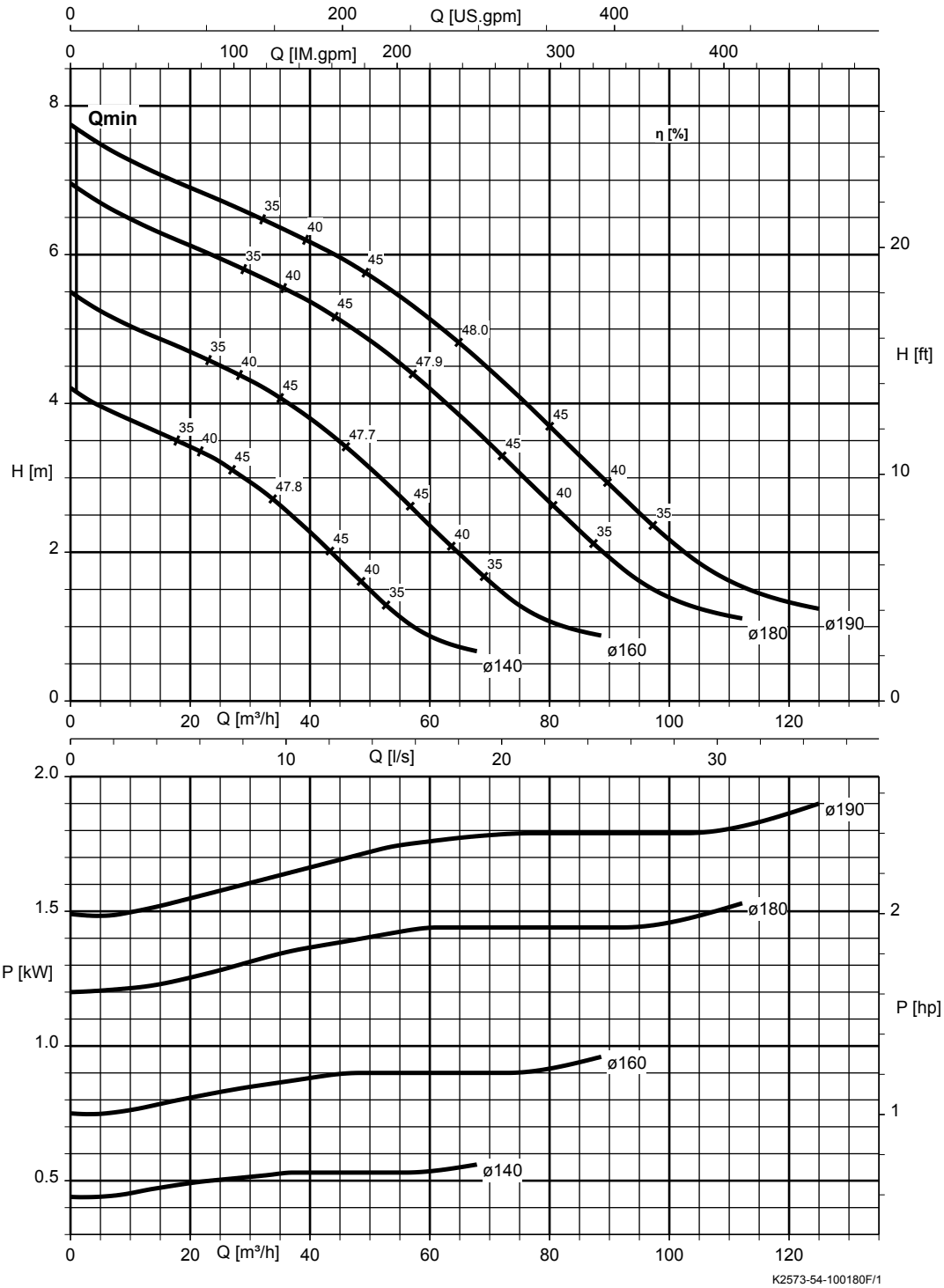
Free passage = 80 mm

Amarex F-max 80-230, n = 1450 rpm

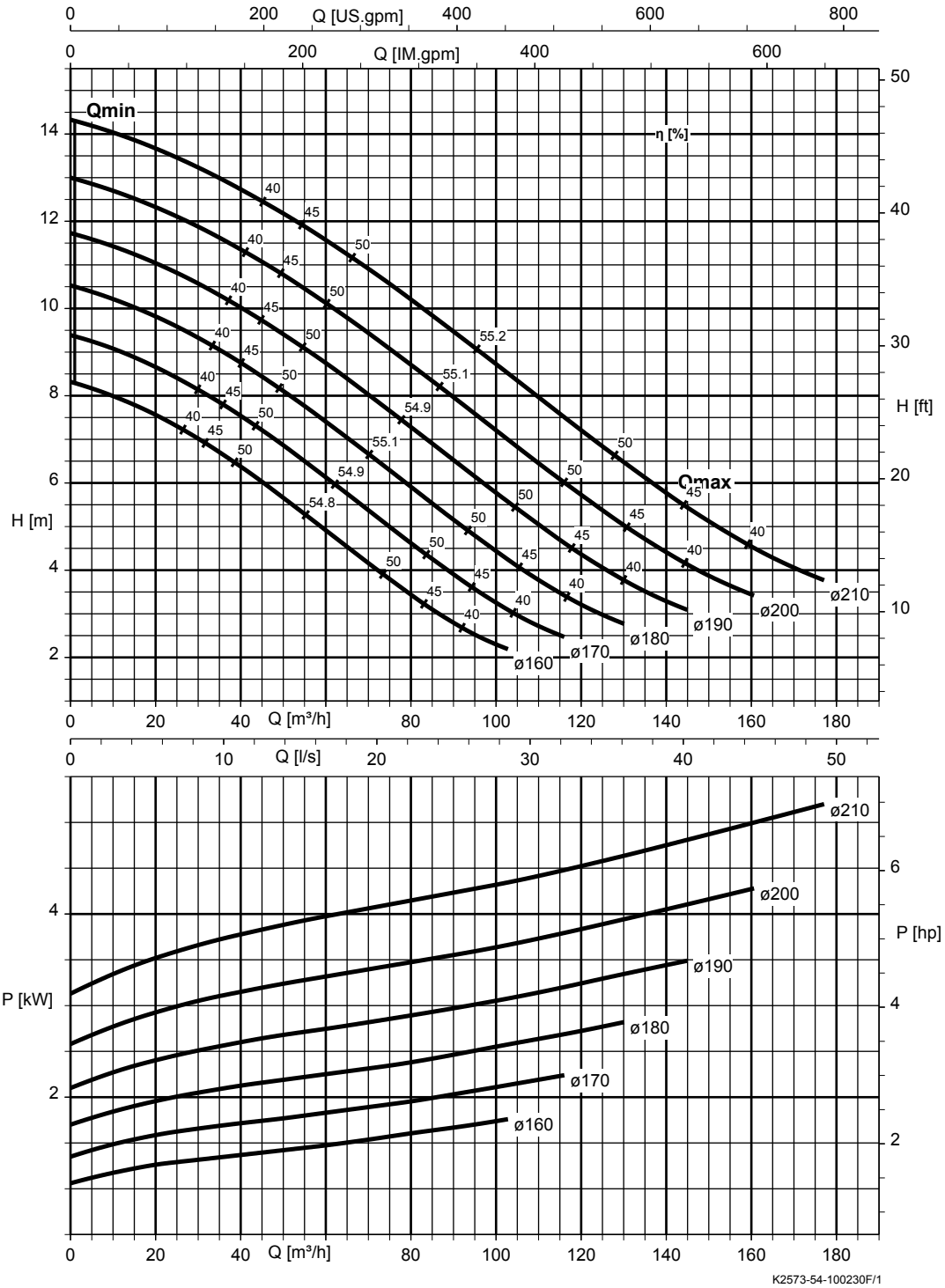


Free passage = 80 mm

Amarex F-max 100-180, n = 1450 rpm

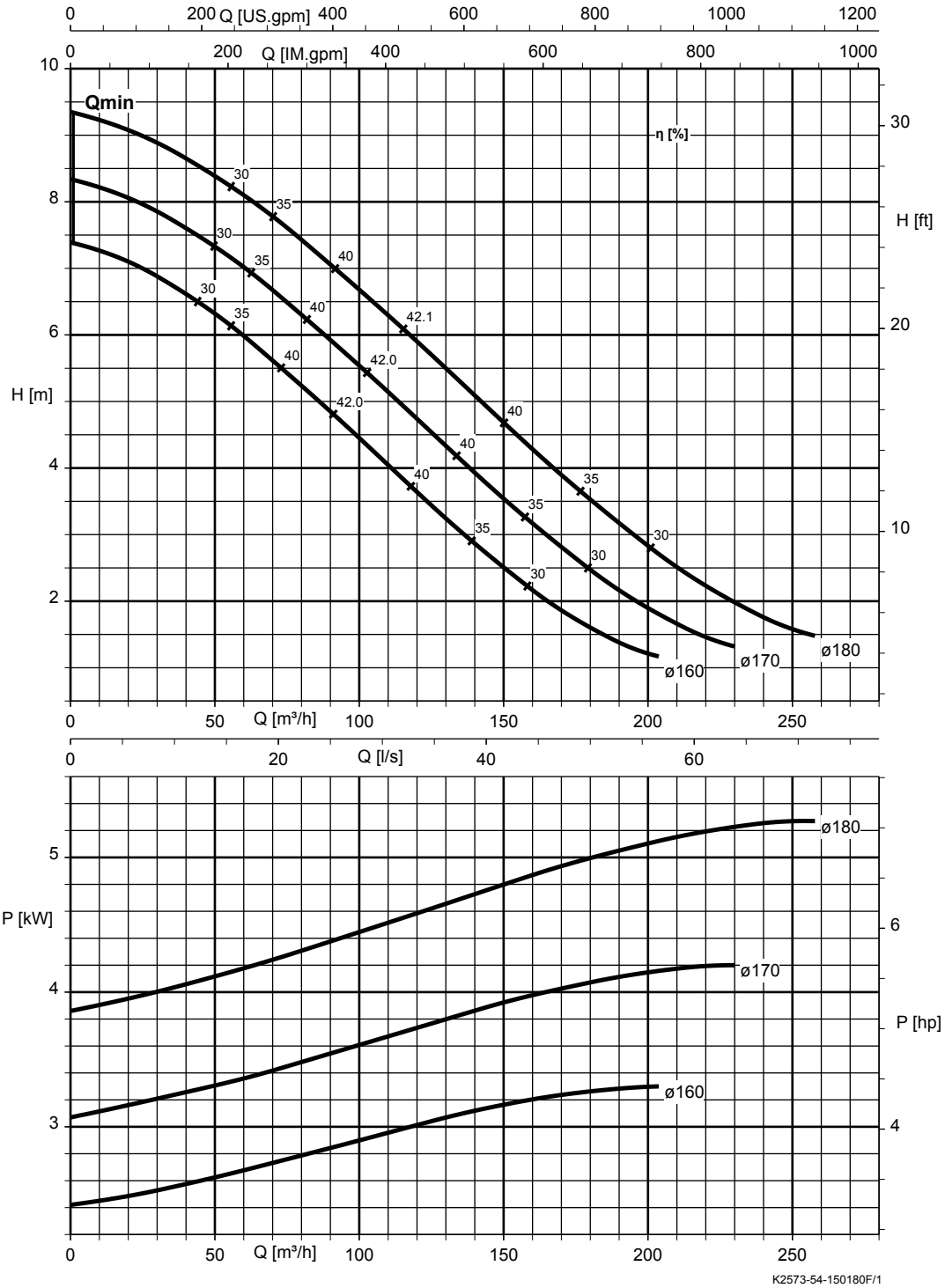


Amarex F-max 100-230, n = 1450 rpm



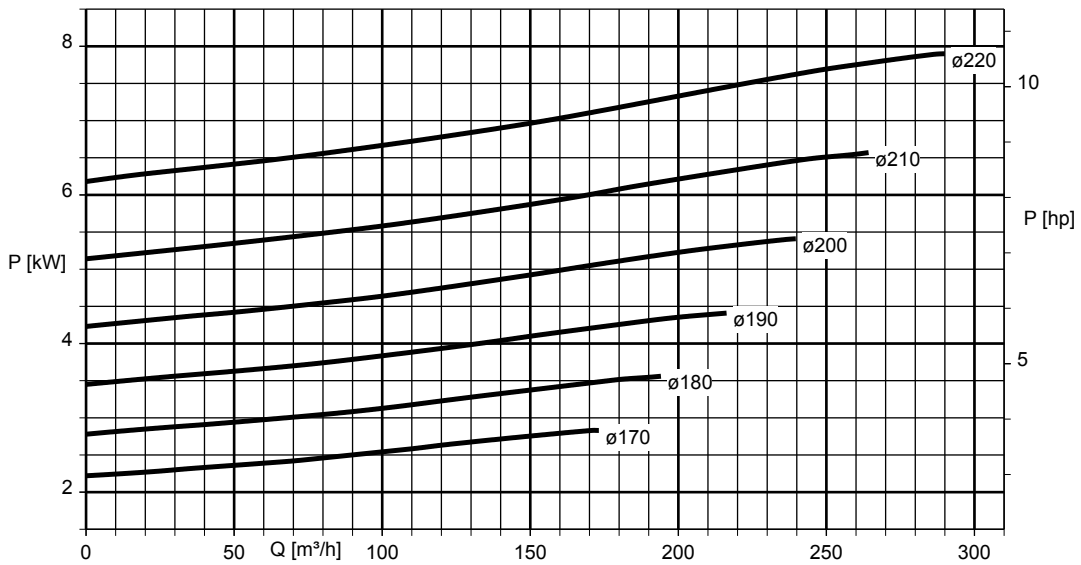
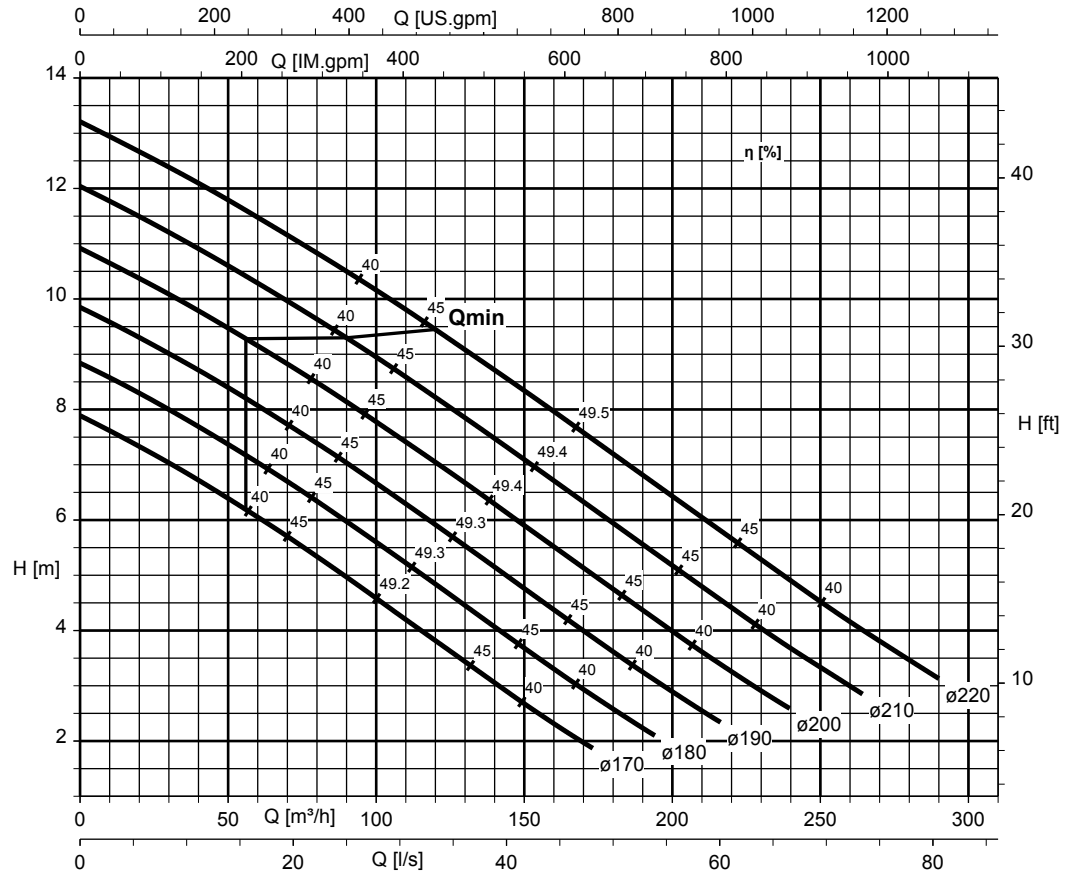
Free passage = 100 mm

Amarex F-max 150-180, n = 1450 rpm



Free passage = 100 mm

Amarex F-max 150-230, n = 1450 rpm



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Free passage = 100 mm

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