

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



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.

i In the case of waste water, too low a circumferential speed of the impeller will lead to clogging of the hydraulic system (operation on a frequency inverter). 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 other than G, 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.

Efficiency class

- IEC 60034-30 standard not binding for submersible motor pumps. Efficiencies are derived in analogy to the measurement method described in IEC 60034-2. The marking is used for submersible motors that achieve efficiency levels similar to those of standardised motors acc. to the IEC 60034-30 standard.

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.

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 11)	-
80-170	(⇒ Page 13)	-
80-180	-	(⇒ Page 15)
80-230	-	(⇒ Page 17)
100-140	(⇒ Page 19)	-
100-170	(⇒ Page 21)	-
100-180	-	(⇒ Page 23)
100-230	-	(⇒ Page 25)
150-230	-	(⇒ Page 27)

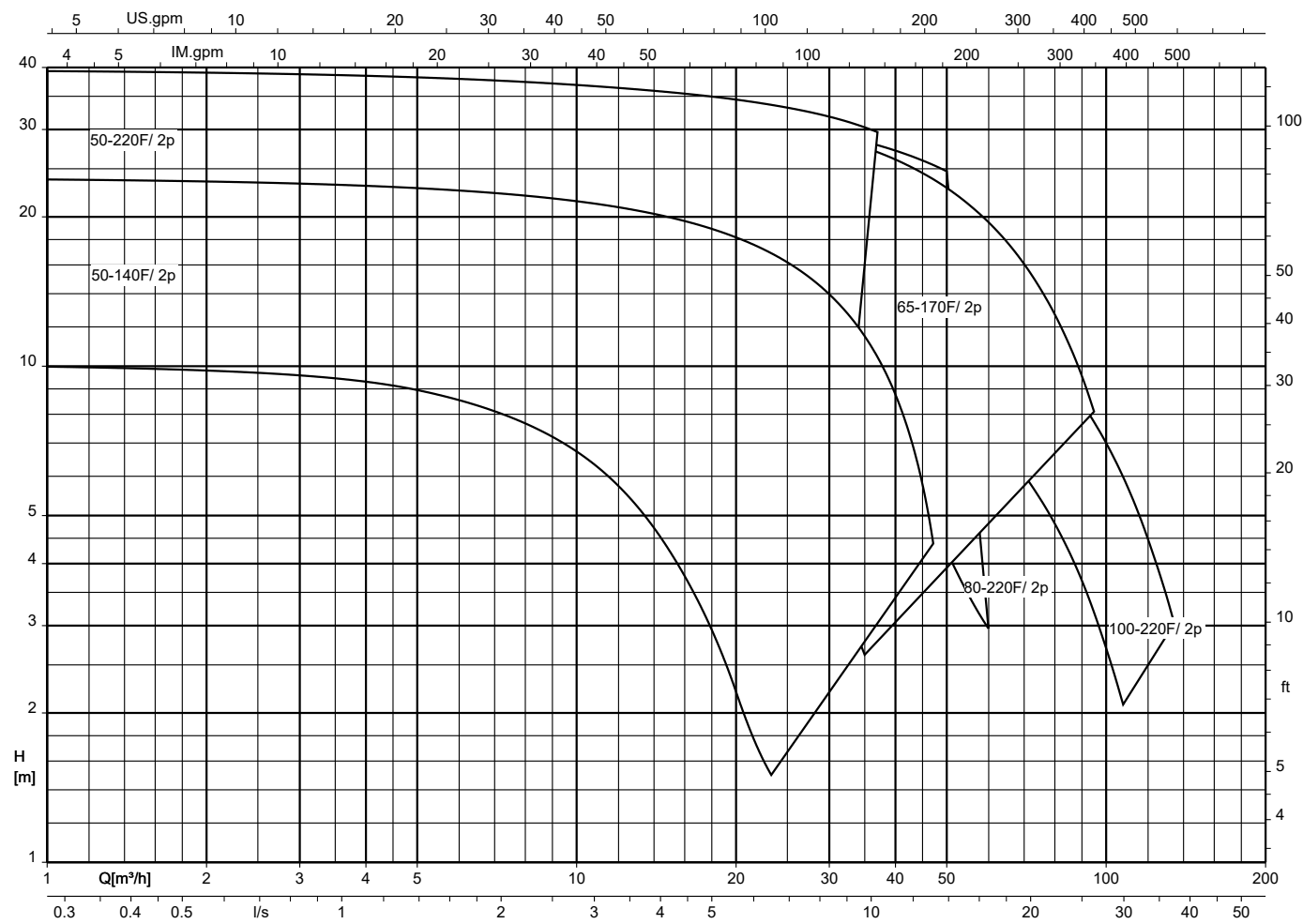
Overview of sizes, F-max impeller

Size	Speed [rpm]	
	2900	1450
50-140	(⇒ Page 29)	-
50-220	(⇒ Page 31)	-
65-150	-	(⇒ Page 33)
65-170	(⇒ Page 35)	-
65-230	-	(⇒ Page 37)
80-150	-	(⇒ Page 39)
80-180	-	(⇒ Page 41)
80-220	(⇒ Page 43)	-
80-230	-	(⇒ Page 45)
100-180	-	(⇒ Page 47)
100-220	(⇒ Page 49)	-
100-230	-	(⇒ Page 51)
150-180	-	(⇒ Page 53)
150-230	-	(⇒ Page 55)

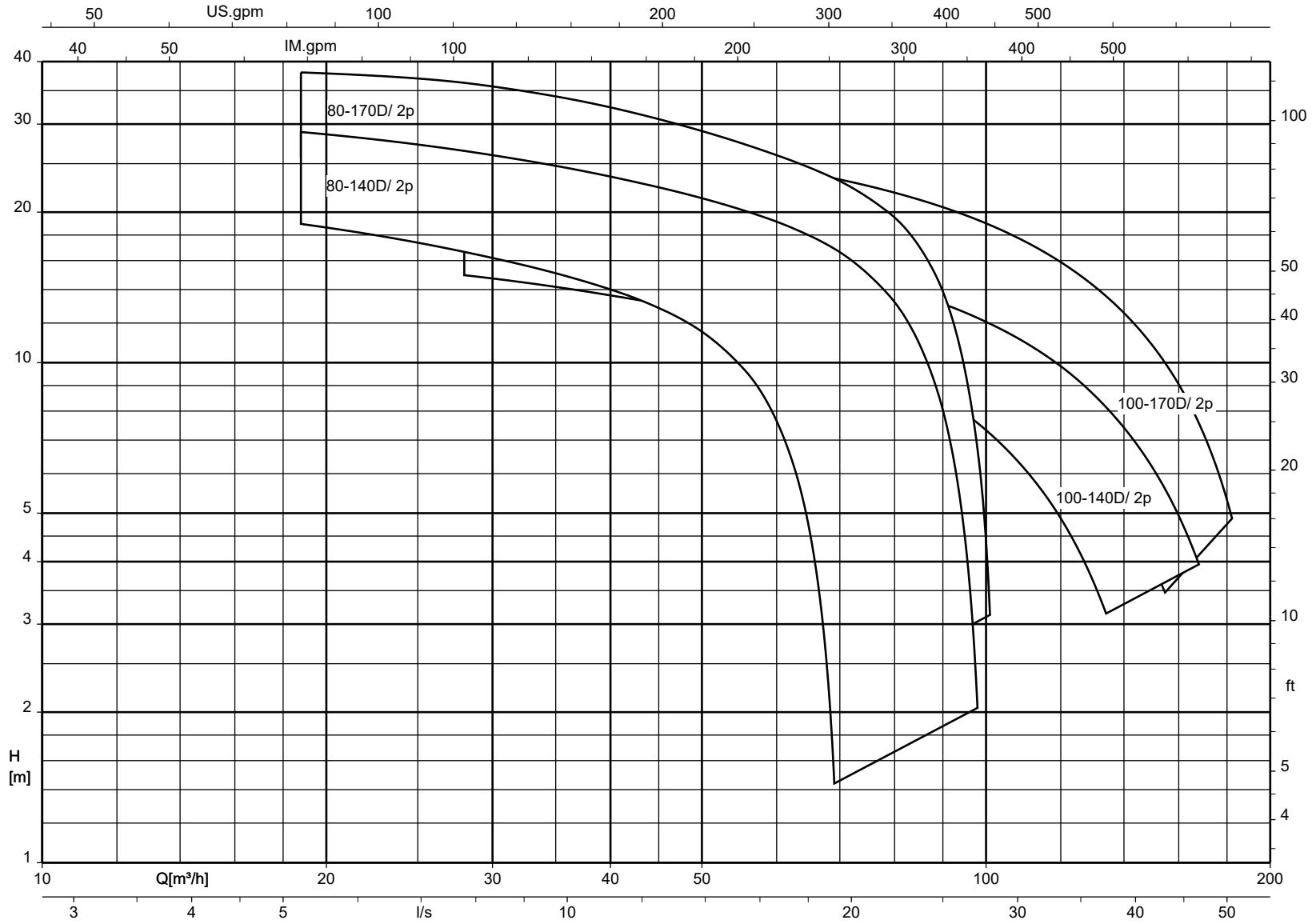
Selection charts

n = 2900 rpm

Amarex, F-max, n = 2900 rpm

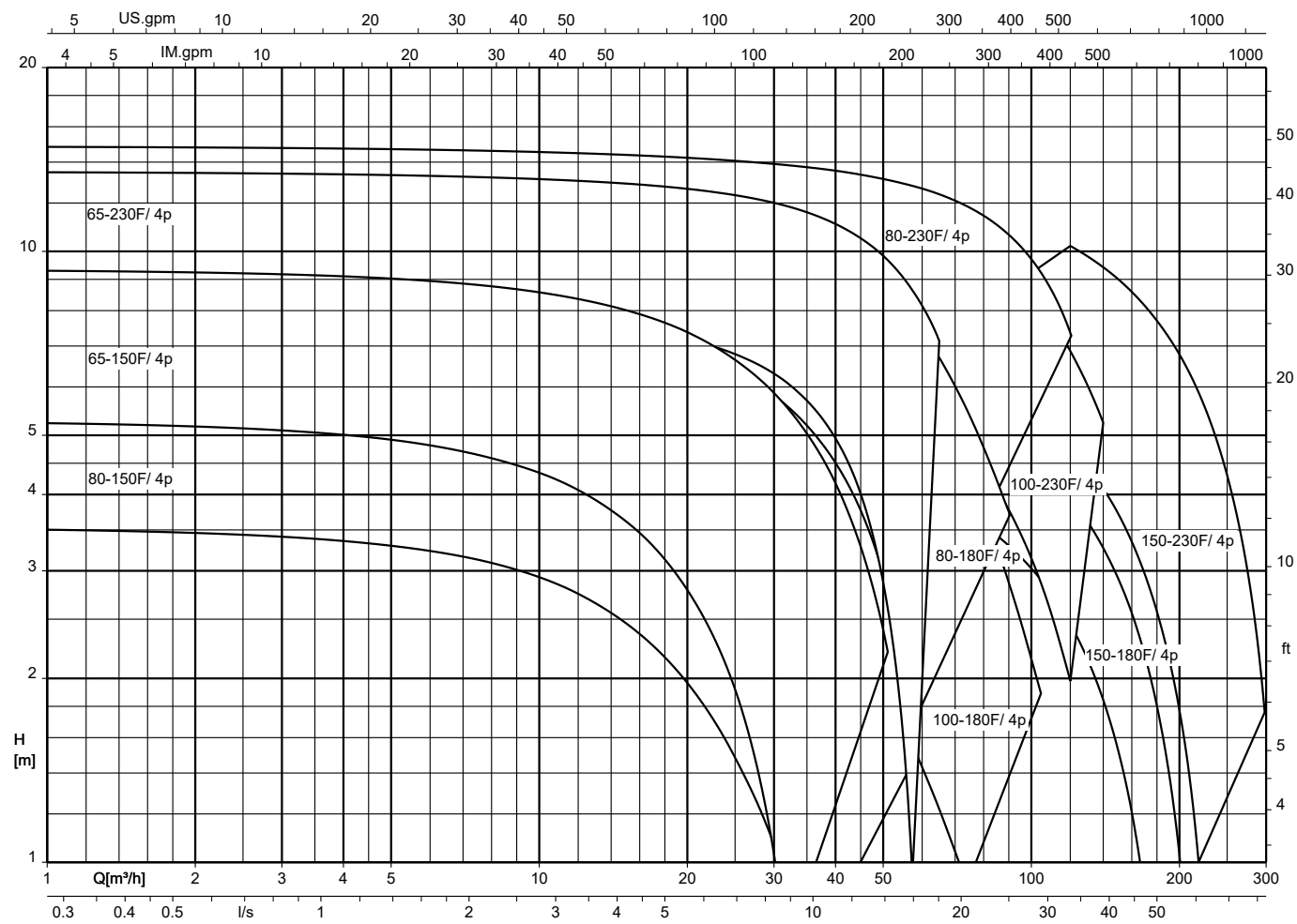


Amarex, D-max, n = 2900 rpm

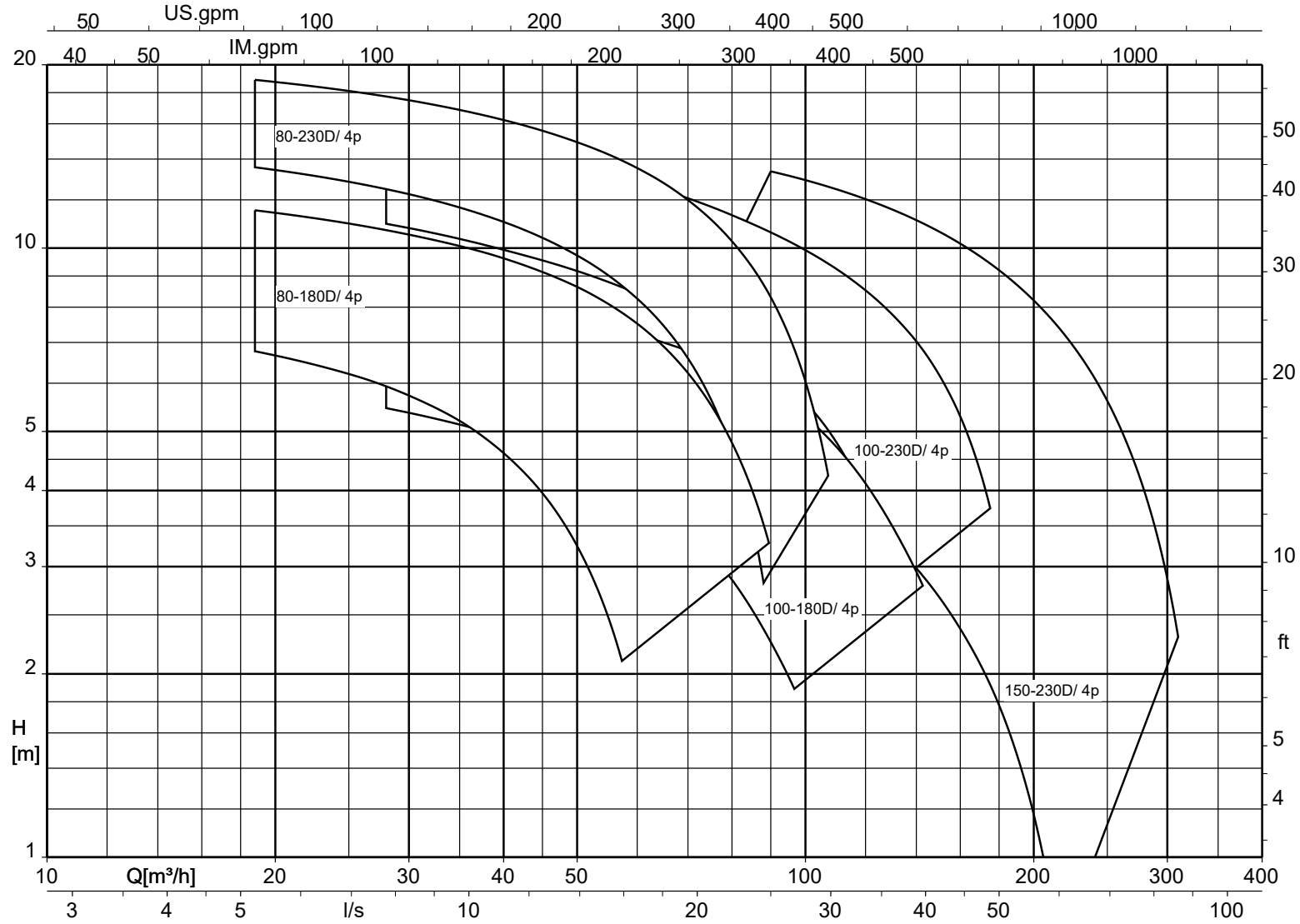


n = 1450 rpm

Amarex, F-max, n = 1450 rpm



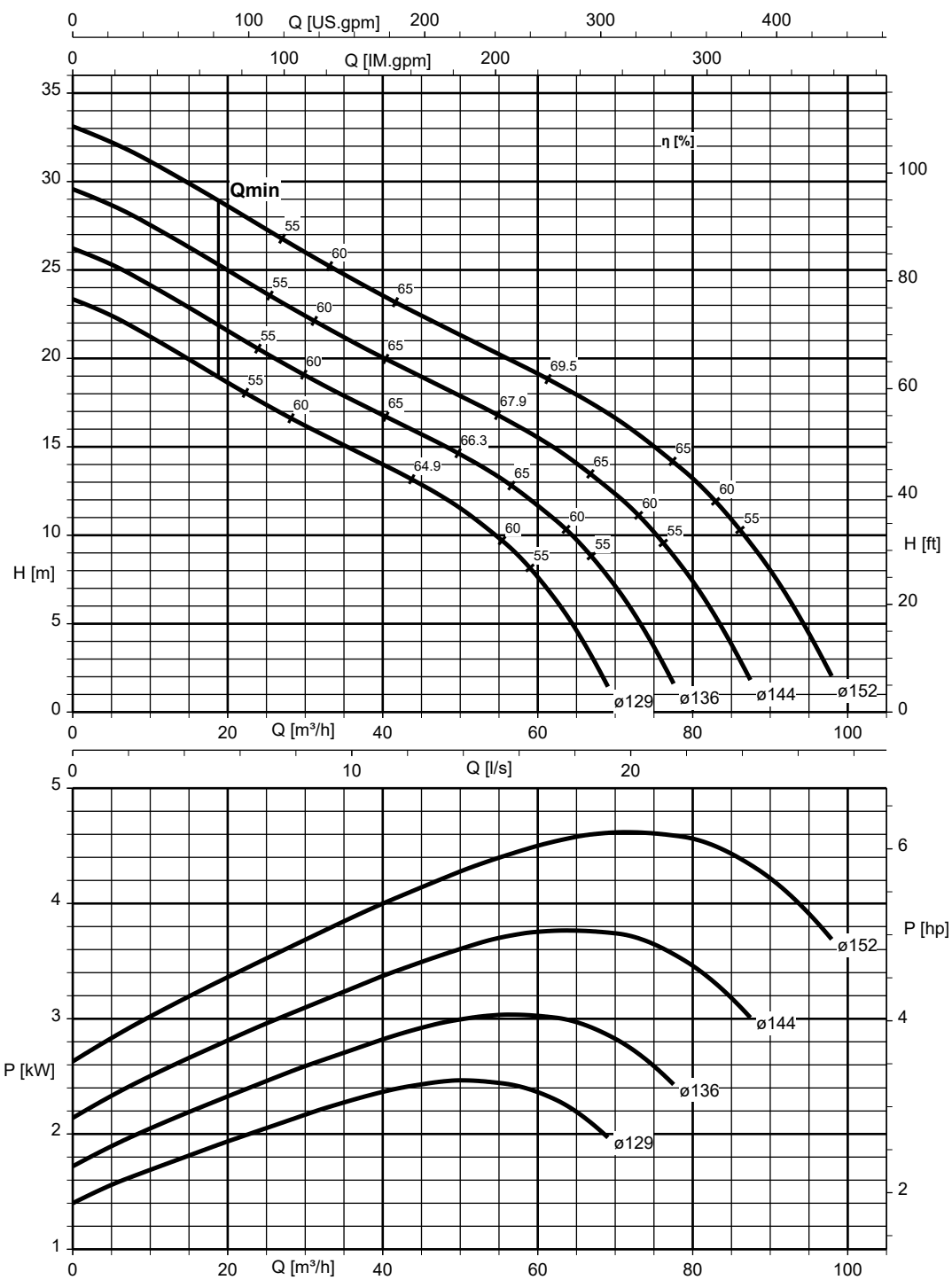
Amarex, D-max, n = 1450 rpm



Characteristic curves

D-max impeller

Amarex D-max 080-140, n = 2900 rpm



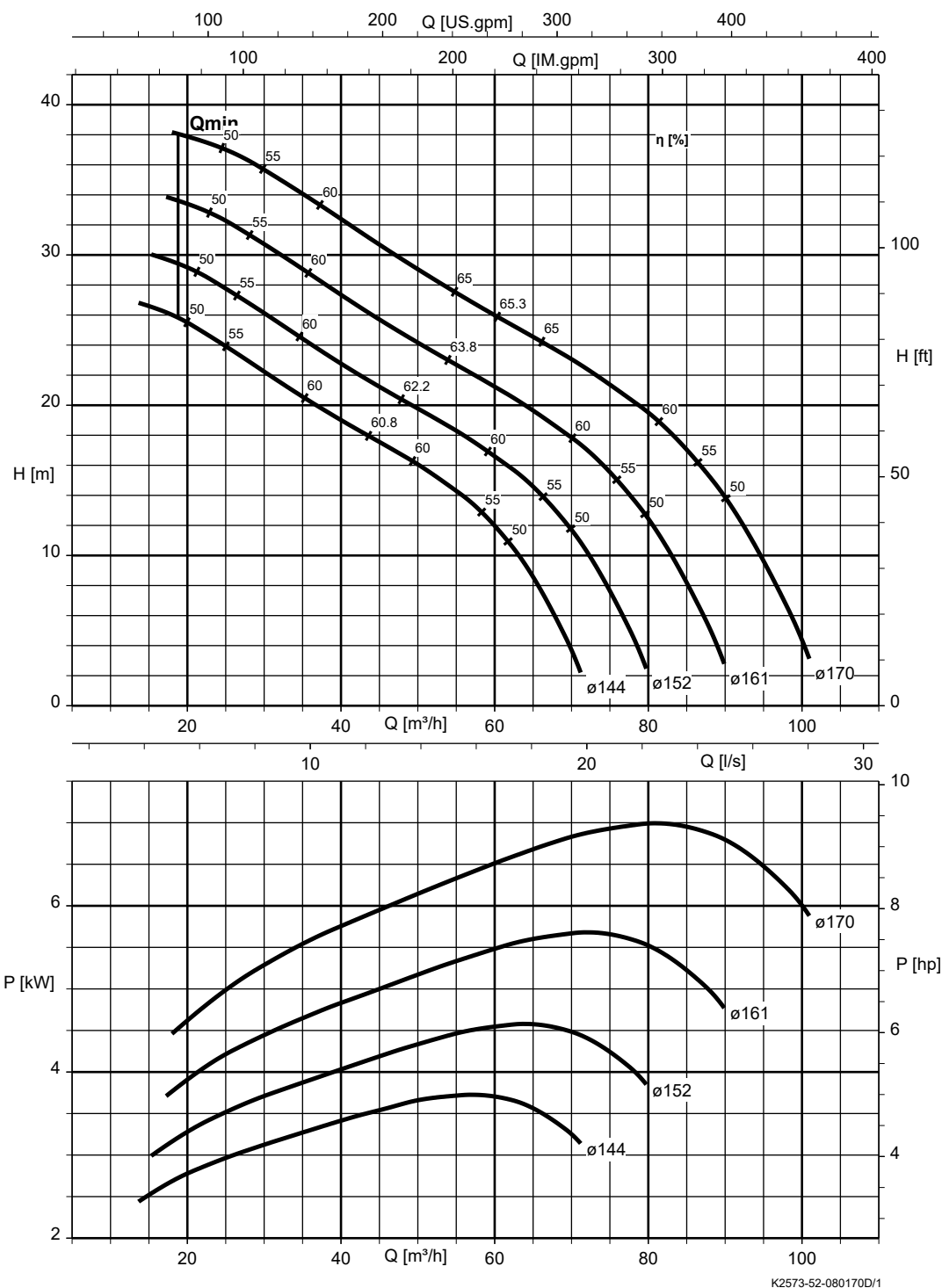
K2573-52-080140D/1

Motor assignment

Size ³⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-140/024F2	129	M	2,40	2,95	4,89	DOL
D080-140/029C2	129	M	2,97	3,41	6,29	DOL
D080-140/035C2	129	L	3,57	4,06	7,46	DOL
D080-140/040F2	129	M	4,00	4,86	8,17	DOL
D080-140/035C2	136	L	3,57	4,06	7,46	DOL
D080-140/040F2	136	M	4,00	4,86	8,17	DOL
D080-140/049F2	136	L	4,90	5,83	9,85	DOL
D080-140/040F2	144	M	4,00	4,86	8,17	DOL
D080-140/049F2	144	L	4,90	5,83	9,85	DOL
D080-140/049F2	152	L	4,90	5,83	9,85	DOL

³⁾ C: motors to IE3, F: without

Amarex D-max 080-170, n = 2900 rpm



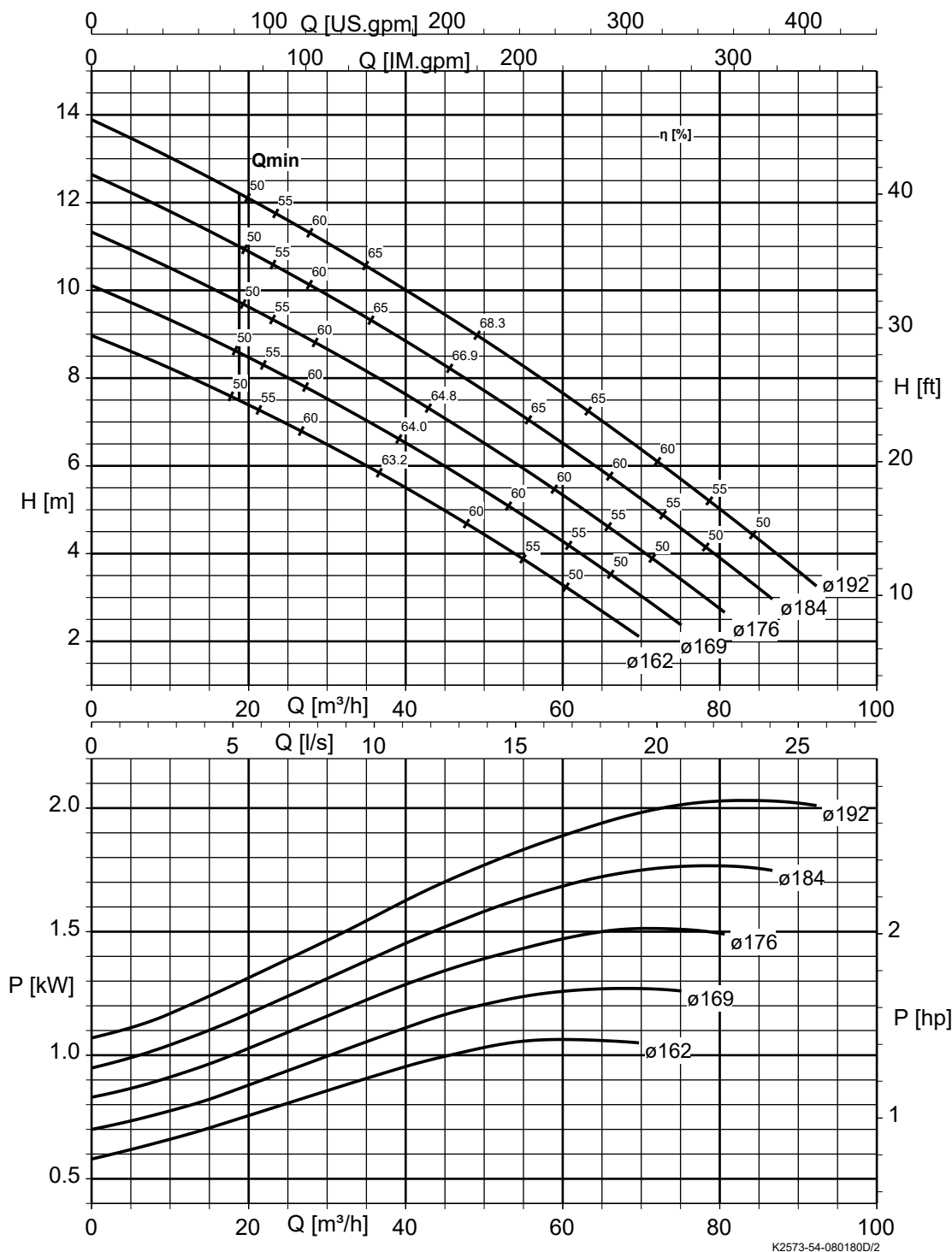
Motor assignment

Size ⁴⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-170/045C2	144	L	4,54	5,13	10,1/5,9	DOL / star-delta
D080-170/060C2	144	X	6	6,71	12,7/7,4	DOL / star-delta
D080-170/060C2	152	X	6	6,71	12,7/7,4	DOL / star-delta
D080-170/060C2	161	X	6	6,71	12,7/7,4	DOL / star-delta

⁴⁾ C: motors to IE3, F: without

Size ⁴⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-170/073F2	161	L	7,3	8,72	14,7/8,5	DOL / star-delta
D080-170/084F2	161	X	8,4	9,85	16,8/9,7	DOL / star-delta
D080-170/073F2	170	L	7,3	8,72	14,7/8,5	DOL / star-delta
D080-170/084F2	170	X	8,4	9,85	16,8/9,7	DOL / star-delta

Amarex D-max 080-180, n = 1450 rpm



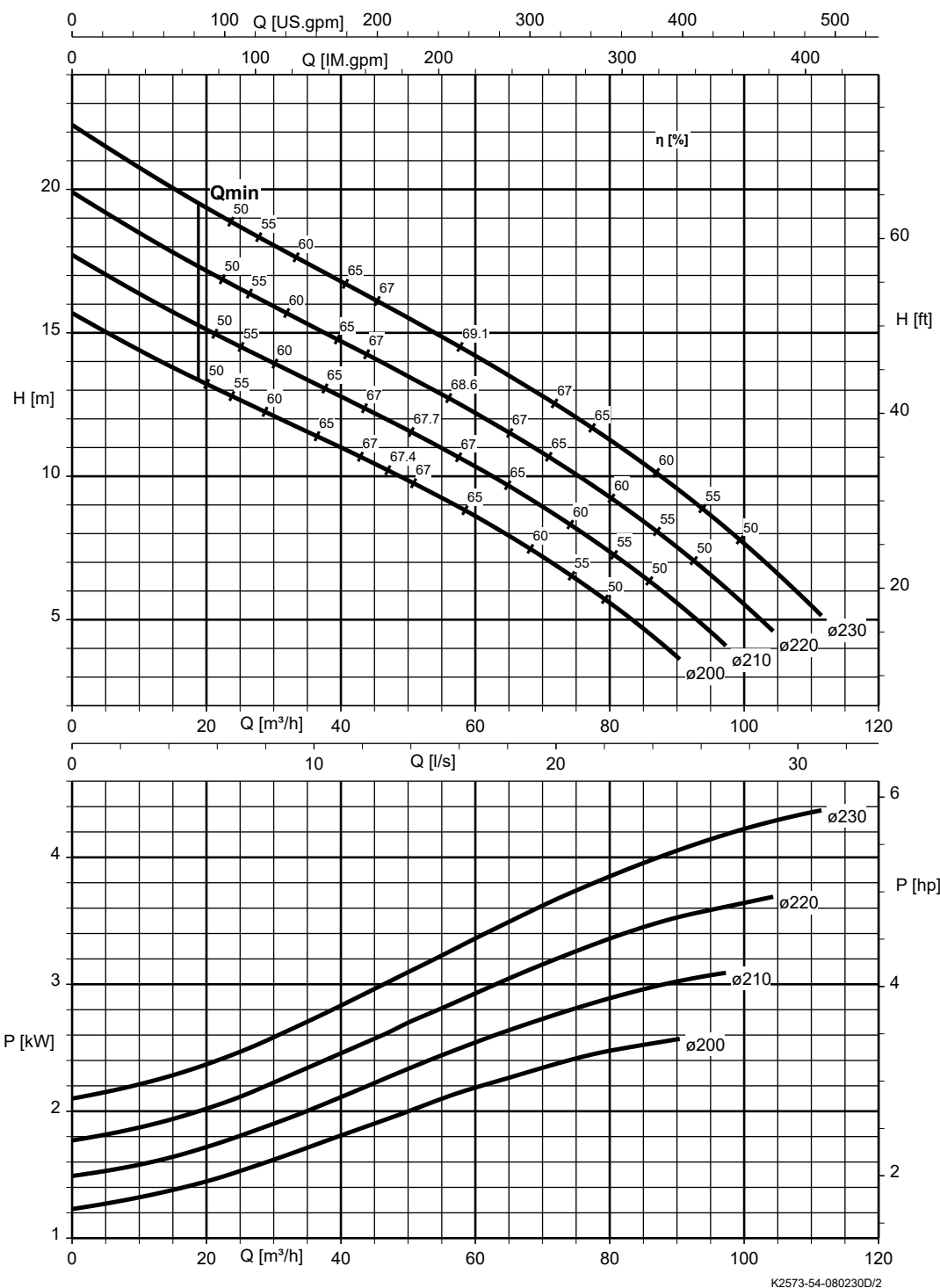
Motor assignment

Size ⁵⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-180/012C4	162	M	1,24	1,46	3,36	DOL
D080-180/021C4	162	L	2,1	2,47	5,14	DOL
D080-180/017F4	162	M	1,67	2,13	3,71	DOL
D080-180/023F4	162	M	2,3	2,98	5,15	DOL

⁵⁾ C: motors to IE3, F: without

Size ⁵⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-180/012C4	169	M	1,24	1,46	3,36	DOL
D080-180/021C4	169	L	2,1	2,47	5,14	DOL
D080-180/017F4	169	M	1,67	2,13	3,71	DOL
D080-180/023F4	169	M	2,3	2,98	5,15	DOL
D080-180/021C4	176	L	2,1	2,47	5,14	DOL
D080-180/017F4	176	M	1,67	2,13	3,71	DOL
D080-180/023F4	176	M	2,3	2,98	5,15	DOL
D080-180/021C4	184	L	2,1	2,47	5,14	DOL
D080-180/017F4	184	M	1,67	2,13	3,71	DOL
D080-180/023F4	184	M	2,3	2,98	5,15	DOL
D080-180/021C4	192	L	2,1	2,47	5,14	DOL
D080-180/017F4	192	M	1,67	2,13	3,71	DOL
D080-180/023F4	192	M	2,3	2,98	5,15	DOL

Amarex D-max 080-230, n = 1450 rpm



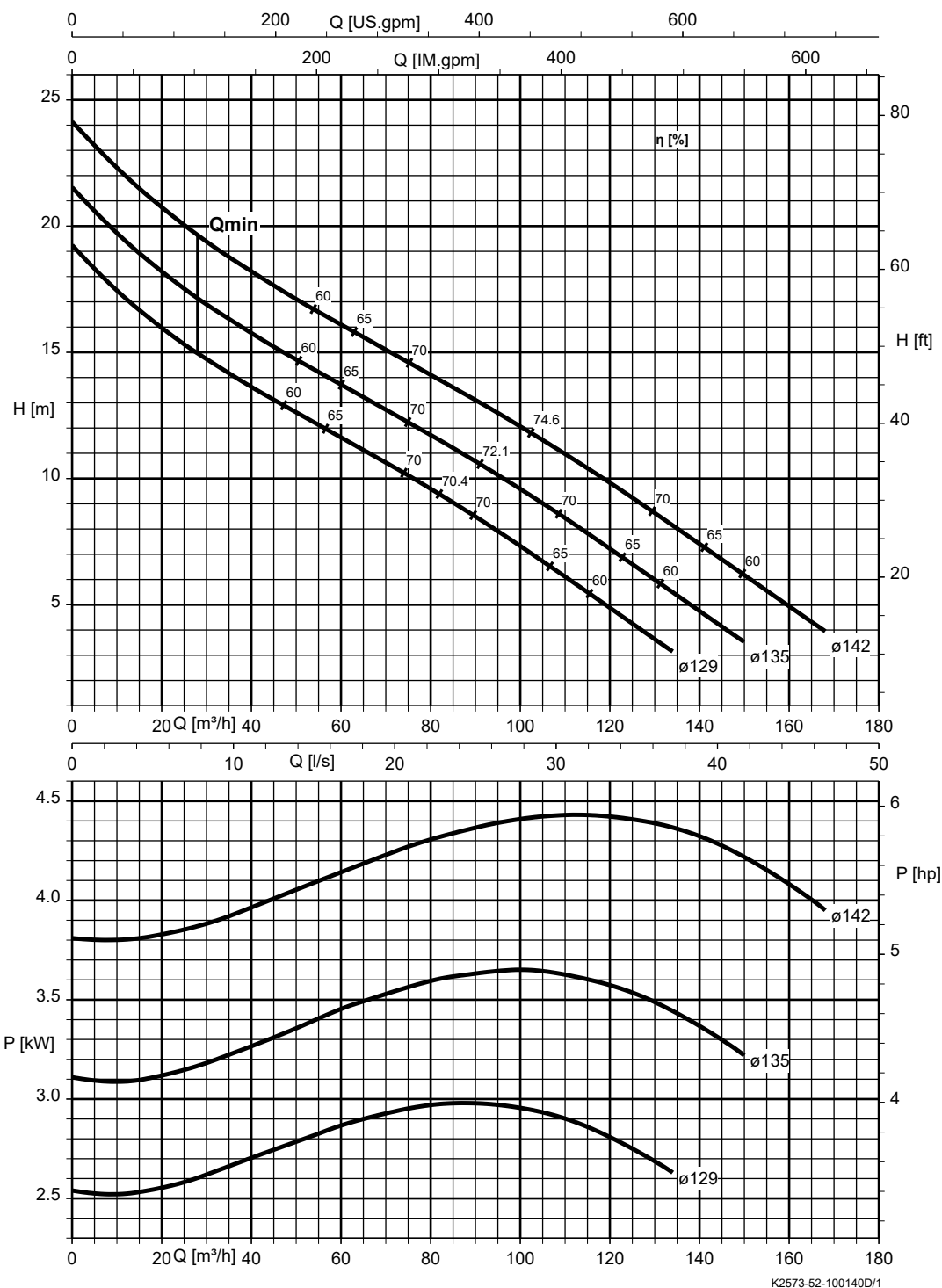
Motor assignment

Size ⁶⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-230/035F4	200	L	3,55	4,41	7,56	DOL
D080-230/036C4	200	X	3,59	4,06	8,4/4,87	DOL / star-delta
D080-230/039F4	200	L	3,90	5,01	9,91	DOL
D080-230/045C4	200	X	4,48	5,04	10,7/6,2	DOL / star-delta

⁶⁾ C: motors to IE3, F: without

Size ⁶⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D080-230/035F4	210	L	3,55	4,41	7,56	DOL
D080-230/036C4	210	X	3,59	4,06	8,4/4,87	DOL / star-delta
D080-230/039F4	210	L	3,90	5,01	9,91	DOL
D080-230/045C4	210	X	4,48	5,04	10,7/6,2	DOL / star-delta
D080-230/035F4	220	L	3,55	4,41	7,56	DOL
D080-230/039F4	220	L	3,90	5,01	9,91	DOL
D080-230/045C4	220	X	4,48	5,04	10,7/6,2	DOL / star-delta
D080-230/039F4	230	L	3,90	5,01	9,91	DOL
D080-230/045C4	230	X	4,48	5,04	10,7/6,2	DOL / star-delta
D080-230/065F4	230	X	6,50	7,89	13,4/7,8	DOL / star-delta

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



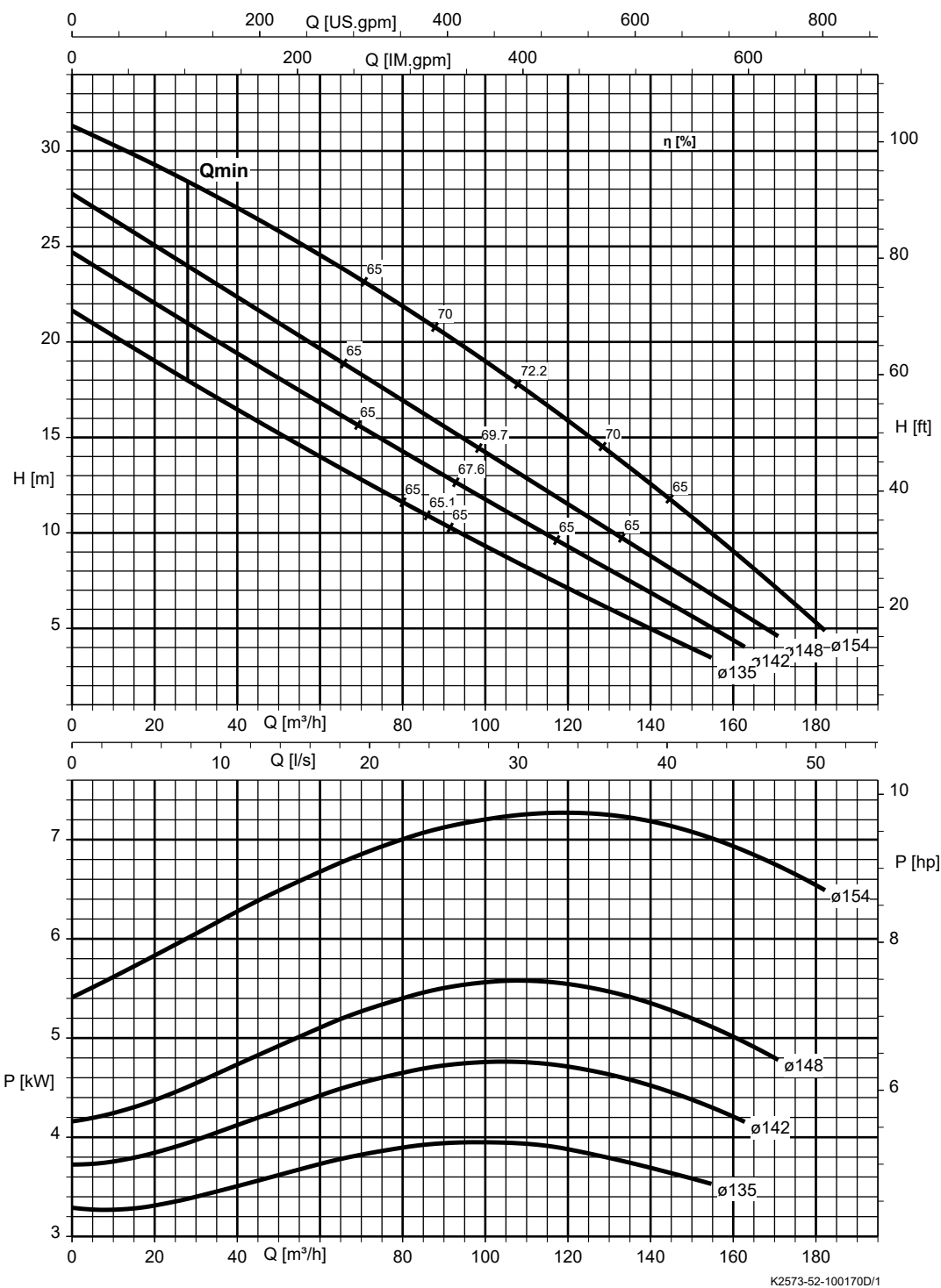
Motor assignment

Size ⁷⁾	Impeller diameter [mm]	Motor size	P ₂	P ₁	I _N	Starting method
			[kW]	[kW]	[A]	
D100-140/035C2	129	L	3,57	4,06	7,46	DOL
D100-140/040F2	129	M	4,00	4,86	8,17	DOL
D100-140/049F2	129	L	4,90	5,83	9,85	DOL
D100-140/040F2	135	M	4,00	4,86	8,17	DOL

⁷⁾ C: motors to IE3, F: without

Size ⁷⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D100-140/049F2	135	L	4,90	5,83	9,85	DOL
D100-140/040F2	142	M	4,00	4,86	8,17	DOL
D100-140/049F2	142	L	4,90	5,83	9,85	DOL

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



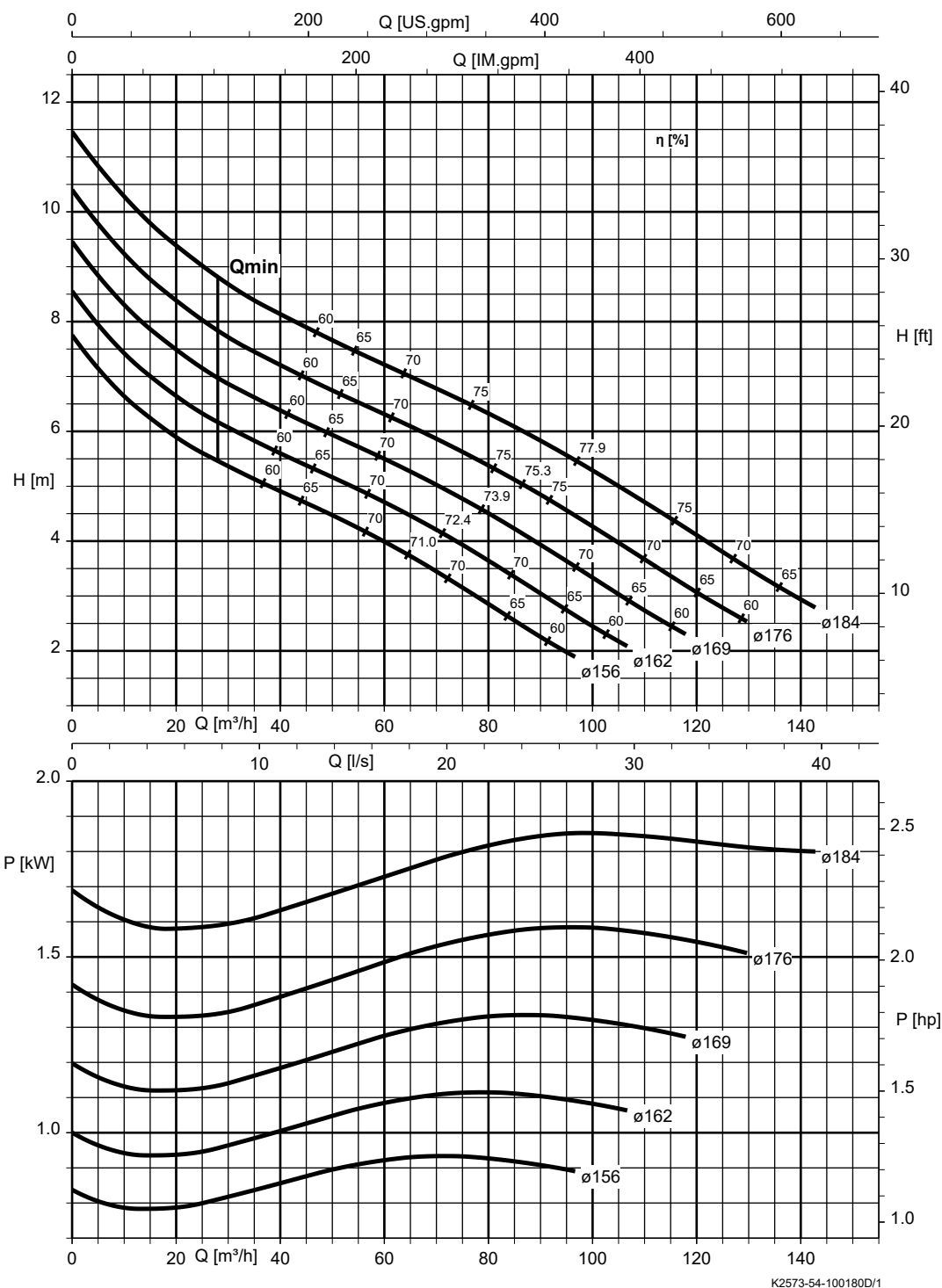
Motor assignment

Size ⁸⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D100-170/045C2	135	L	4,54	5,13	10,1/5,9	DOL / star-delta
D100-170/060C2	135	X	6	6,71	12,7/7,4	DOL / star-delta
D100-170/060C2	142	X	6	6,71	12,7/7,4	DOL / star-delta
D100-170/060C2	148	X	6	6,71	12,7/7,4	DOL / star-delta

⁸⁾ C: motors to IE3, F: without

Size ⁸⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D100-170/073F2	148	L	7,3	8,72	14,7/8,5	DOL / star-delta
D100-170/084F2	148	X	8,4	9,85	16,8/9,7	DOL / star-delta
D100-170/073F2	154	L	7,3	8,72	14,7/8,5	DOL / star-delta
D100-170/084F2	154	X	8,4	9,85	16,8/9,7	DOL / star-delta

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



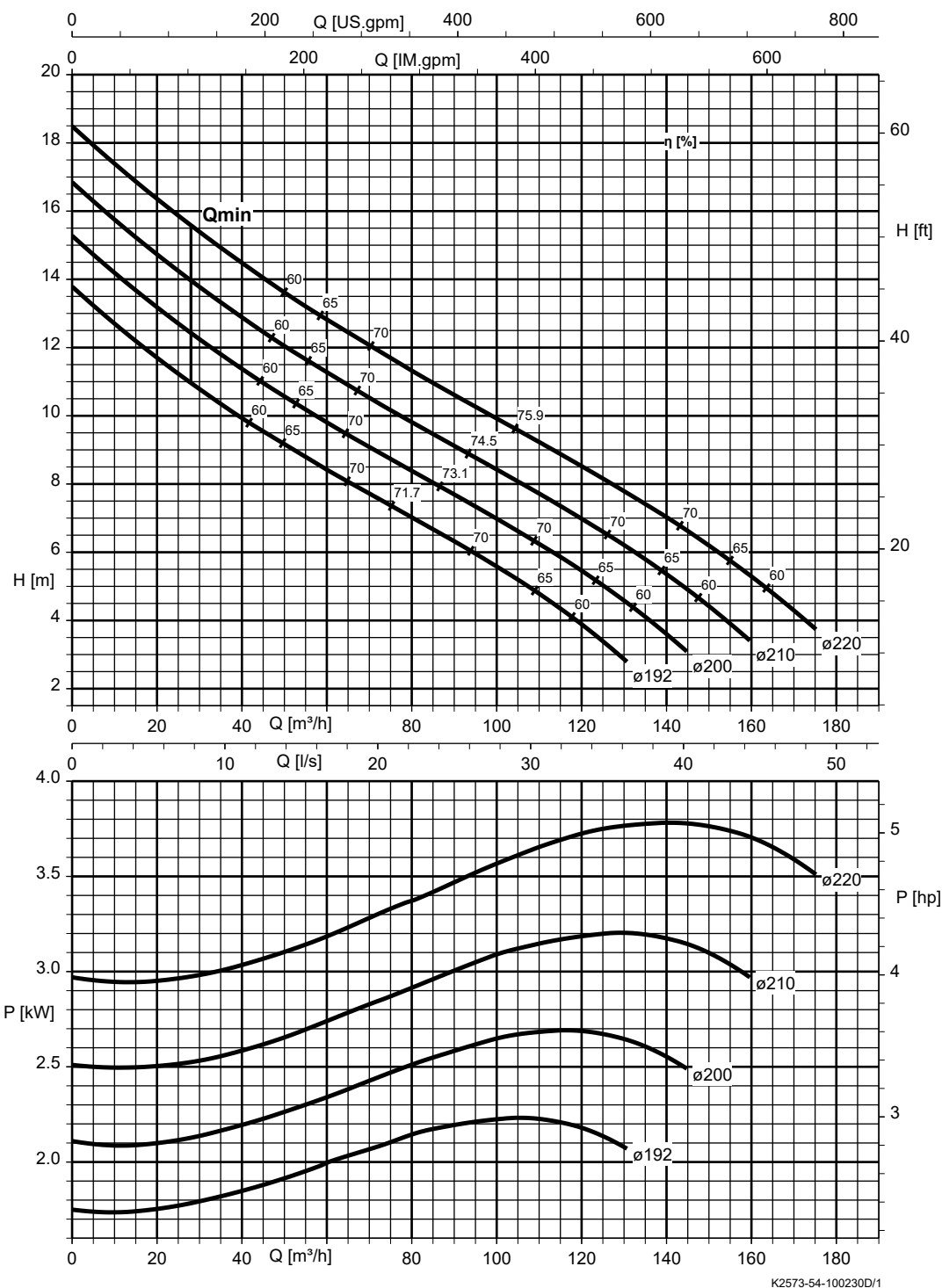
Motor assignment

Size ⁹⁾	Impeller diameter [mm]	Motor size	P ₂	P ₁	I _N	Starting method
			[kW]	[kW]	[A]	
D100-180/012C4	156	M	1,24	1,46	3,36	DOL
D100-180/021C4	156	L	2,1	2,47	5,14	DOL
D100-180/017F4	156	M	1,67	2,13	3,71	DOL
D100-180/023F4	156	M	2,3	2,98	5,15	DOL

⁹⁾ C: motors to IE3, F: without

Size ⁹⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D100-180/012C4	162	M	1,24	1,46	3,36	DOL
D100-180/021C4	162	L	2,1	2,47	5,14	DOL
D100-180/017F4	162	M	1,67	2,13	3,71	DOL
D100-180/023F4	162	M	2,3	2,98	5,15	DOL
D100-180/021C4	169	L	2,1	2,47	5,14	DOL
D100-180/017F4	169	M	1,67	2,13	3,71	DOL
D100-180/023F4	169	M	2,3	2,98	5,15	DOL
D100-180/021C4	176	L	2,1	2,47	5,14	DOL
D100-180/017F4	176	M	1,67	2,13	3,71	DOL
D100-180/023F4	176	M	2,3	2,98	5,15	DOL
D100-180/021C4	184	L	2,1	2,47	5,14	DOL
D100-180/017F4	184	M	1,67	2,13	3,71	DOL
D100-180/023F4	184	M	2,3	2,98	5,15	DOL

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



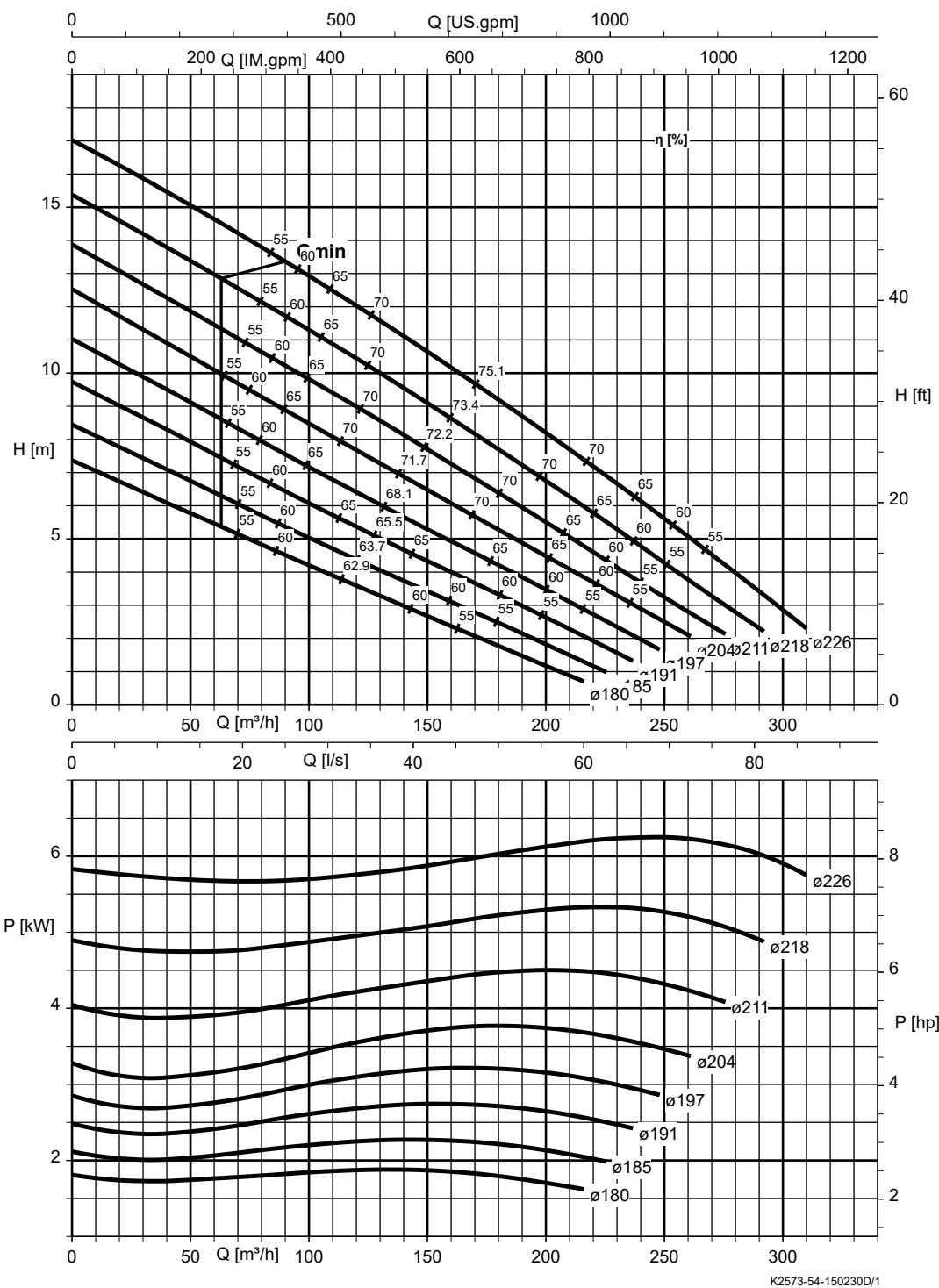
Motor assignment

Size ¹⁰⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D100-230/035F4	192	L	3,55	4,41	7,56	DOL
D100-230/036C4	192	X	3,59	4,06	8,4/4,87	DOL / star-delta
D100-230/039F4	192	L	3,90	5,01	9,91	DOL
D100-230/045C4	192	X	4,48	5,04	10,7/6,2	DOL / star-delta

¹⁰⁾ C: motors to IE3, F: without

Size ¹⁰⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D100-230/035F4	200	L	3,55	4,41	7,56	DOL
D100-230/036C4	200	X	3,59	4,06	8,4/4,87	DOL / star-delta
D100-230/039F4	200	L	3,90	5,01	9,91	DOL
D100-230/045C4	200	X	4,48	5,04	10,7/6,2	DOL / star-delta
D100-230/035F4	210	L	3,55	4,41	7,56	DOL
D100-230/036C4	210	X	3,59	4,06	8,4/4,87	DOL / star-delta
D100-230/039F4	210	L	3,90	5,01	9,91	DOL
D100-230/045C4	210	X	4,48	5,04	10,7/6,2	DOL / star-delta
D100-230/035F4	220	L	3,55	4,41	7,56	DOL
D100-230/039F4	220	L	3,90	5,01	9,91	DOL
D100-230/045C4	220	X	4,48	5,04	10,7/6,2	DOL / star-delta

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



Motor assignment

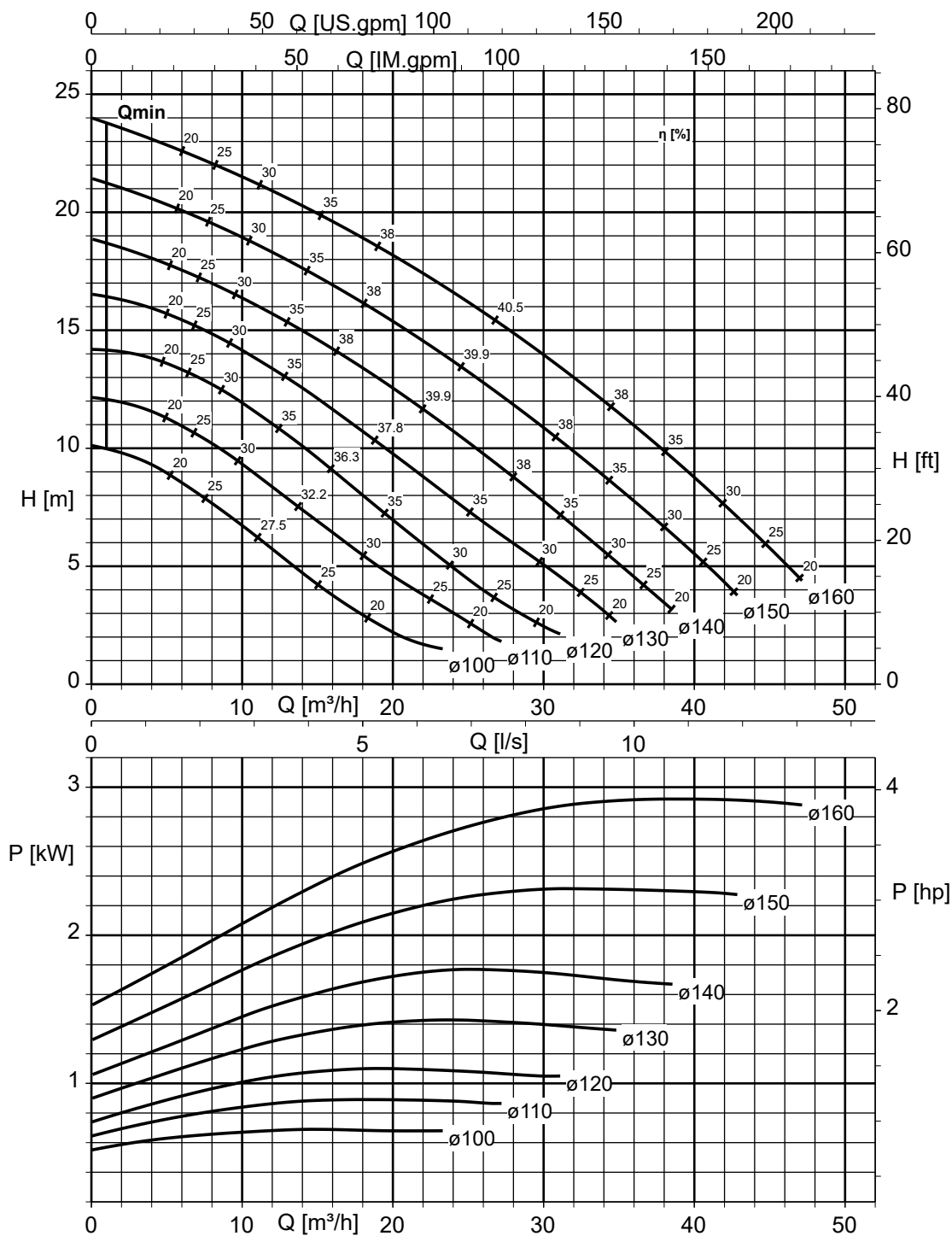
Size ¹¹⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D150-230/036C4	180	X	3,59	4,06	8,4/4,87	DOL / star-delta
D150-230/045C4	180	X	4,48	5,04	10,7/6,2	DOL / star-delta
D150-230/065F4	180	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	180	X	7,7	9,2	15,9/9,2	DOL / star-delta

¹¹⁾ C: motors to IE3, F: without

Size ¹¹⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
D150-230/036C4	185	X	3,59	4,06	8,4/4,87	DOL / star-delta
D150-230/045C4	185	X	4,48	5,04	10,7/6,2	DOL / star-delta
D150-230/077F4	185	X	7,7	9,2	15,9/9,2	DOL / star-delta
D150-230/065F4	185	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/036C4	191	X	3,59	4,06	8,4/4,87	DOL / star-delta
D150-230/045C4	191	X	4,48	5,04	10,7/6,2	DOL / star-delta
D150-230/065F4	191	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	191	X	7,7	9,2	15,9/9,2	DOL / star-delta
D150-230/036C4	197	X	3,59	4,06	8,4/4,87	DOL / star-delta
D150-230/045C4	197	X	4,48	5,04	10,7/6,2	DOL / star-delta
D150-230/065F4	197	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	197	X	7,7	9,2	15,9/9,2	DOL / star-delta
D150-230/045C4	204	X	4,48	5,04	10,7/6,2	DOL / star-delta
D150-230/065F4	204	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	204	X	7,7	9,2	15,9/9,2	DOL / star-delta
D150-230/045C4	211	X	4,48	5,04	10,7/6,2	DOL / star-delta
D150-230/065F4	211	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	211	X	7,7	9,2	15,9/9,2	DOL / star-delta
D150-230/065F4	218	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	218	X	7,7	9,2	15,9/9,2	DOL / star-delta
D150-230/065F4	226	X	6,5	7,89	13,4/7,8	DOL / star-delta
D150-230/077F4	226	X	7,7	9,2	15,9/9,2	DOL / star-delta

F-max impeller

Amarex F-max 050-140, n = 2900 rpm



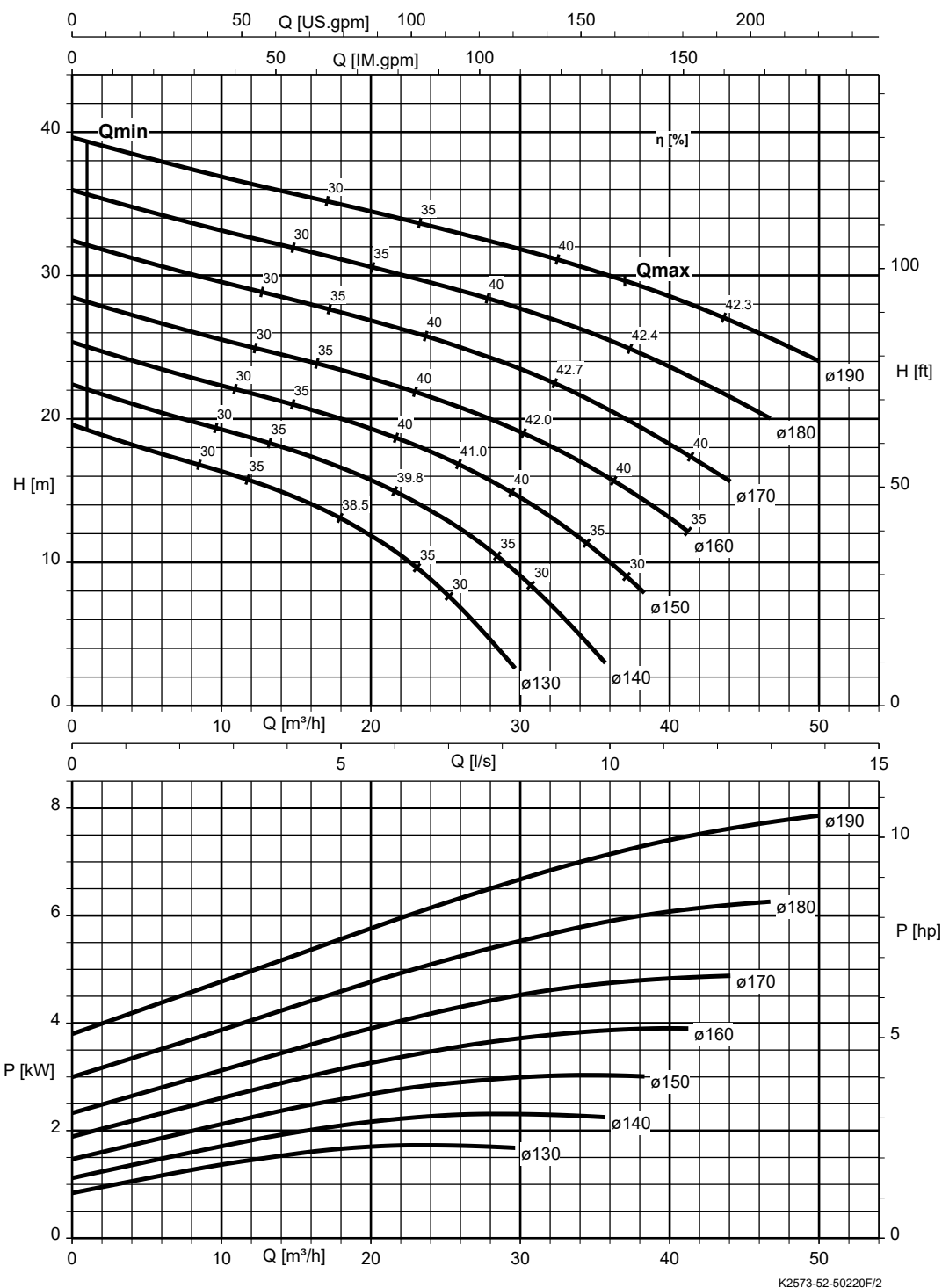
Free passage = 44 mm

Motor assignment

Size ¹²⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F050-140/014C2	100	S	1,4	1,67	3,5	DOL
F050-140/023F2	100	S	2,35	3,04	5,25	DOL
F050-140/014C2	110	S	1,4	1,67	3,5	DOL
F050-140/023F2	110	S	2,35	3,04	5,25	DOL
F050-140/014C2	120	S	1,4	1,67	3,5	DOL
F050-140/023F2	120	S	2,35	3,04	5,25	DOL
F050-140/014C2	130	S	1,4	1,67	3,5	DOL
F050-140/023F2	130	S	2,35	3,04	5,25	DOL
F050-140/023F2	140	S	2,35	3,04	5,25	DOL
F050-140/023F2	150	S	2,35	3,04	5,25	DOL
F050-140/023F2	160	S	2,35	3,04	5,25	DOL

¹²⁾ C: motors to IE3, F: without

Amarex F-max 050-220, n = 2900 rpm



Free passage = 40 mm

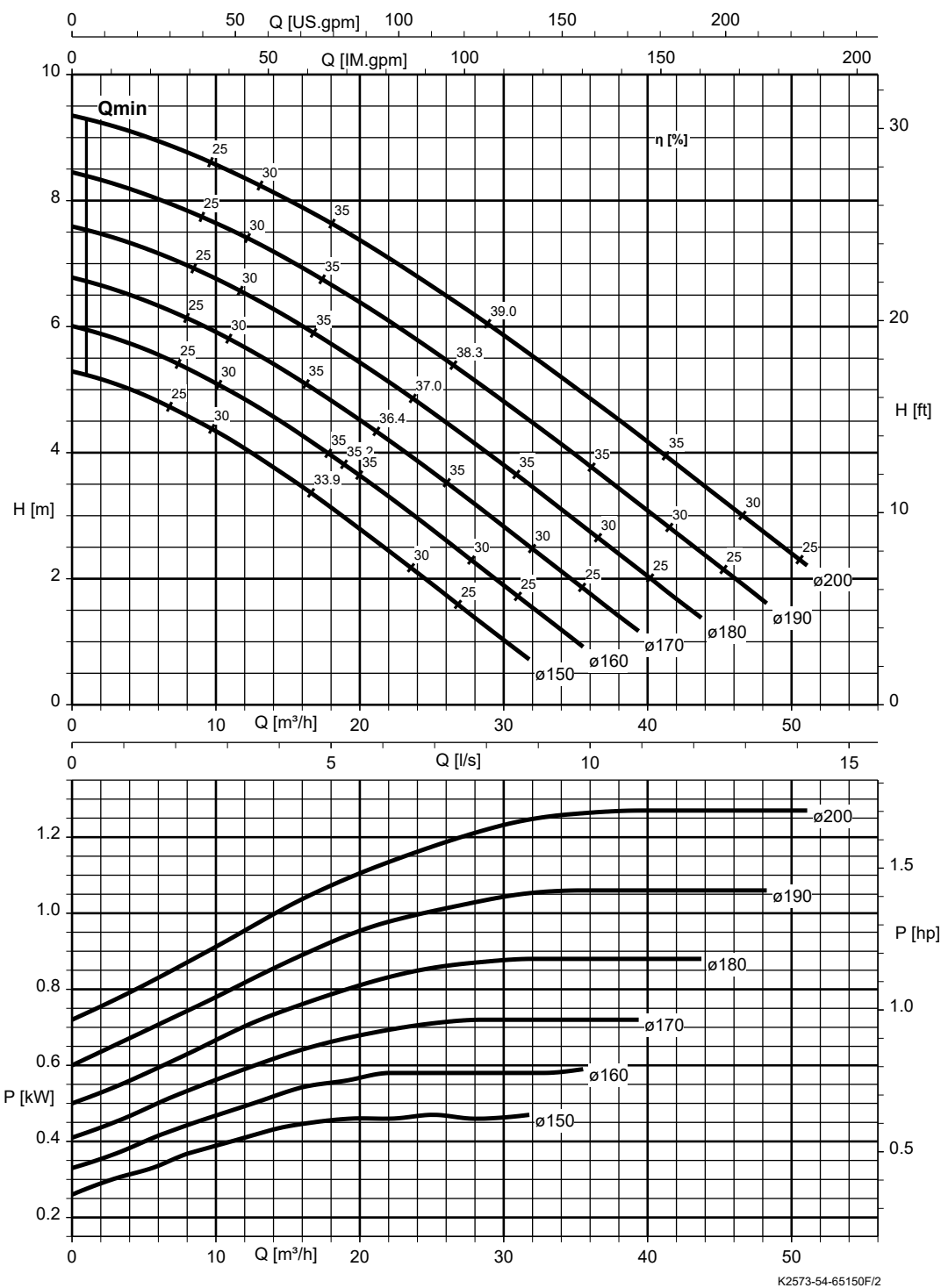
Motor assignment

Size ¹³⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F050-220/018C2	130	M	1,82	2,14	3,78	DOL
F050-220/029C2	130	M	2,97	3,41	6,29	DOL
F050-220/029C2	140	M	2,97	3,41	6,29	DOL

¹³⁾ C: motors to IE3, F: without

Size ¹³⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F050-220/035C2	140	L	3,57	4,06	7,46	DOL
F050-220/029C2	150	M	2,97	3,41	6,29	DOL
F050-220/035C2	150	L	3,57	4,06	7,46	DOL
F050-220/024F2	160	M	2,40	2,95	4,89	DOL
F050-220/040F2	160	M	4,00	4,86	8,17	DOL
F050-220/045C2	160	L	4,54	5,13	10,1/5,9	DOL / star-delta
F050-220/049F2	160	L	4,90	5,83	9,85	DOL
F050-220/040F2	170	M	4,00	4,86	8,17	DOL
F050-220/045C2	170	L	4,54	5,13	10,1/5,9	DOL / star-delta
F050-220/049F2	170	L	4,90	5,83	9,85	DOL
F050-220/073F2	170	L	7,30	8,72	14,7/8,5	DOL / star-delta
F050-220/040F2	180	M	4,00	4,86	8,17	DOL
F050-220/045C2	180	L	4,54	5,13	10,1/5,9	DOL / star-delta
F050-220/049F2	180	L	4,90	5,83	9,85	DOL
F050-220/073F2	180	L	7,30	8,72	14,7/8,5	DOL / star-delta
F050-220/049F2	190	L	4,90	5,83	9,85	DOL
F050-220/073F2	190	L	7,30	8,72	14,7/8,5	DOL / star-delta

Amarex F-max 065-150, n = 1450 rpm



Free passage = 65 mm

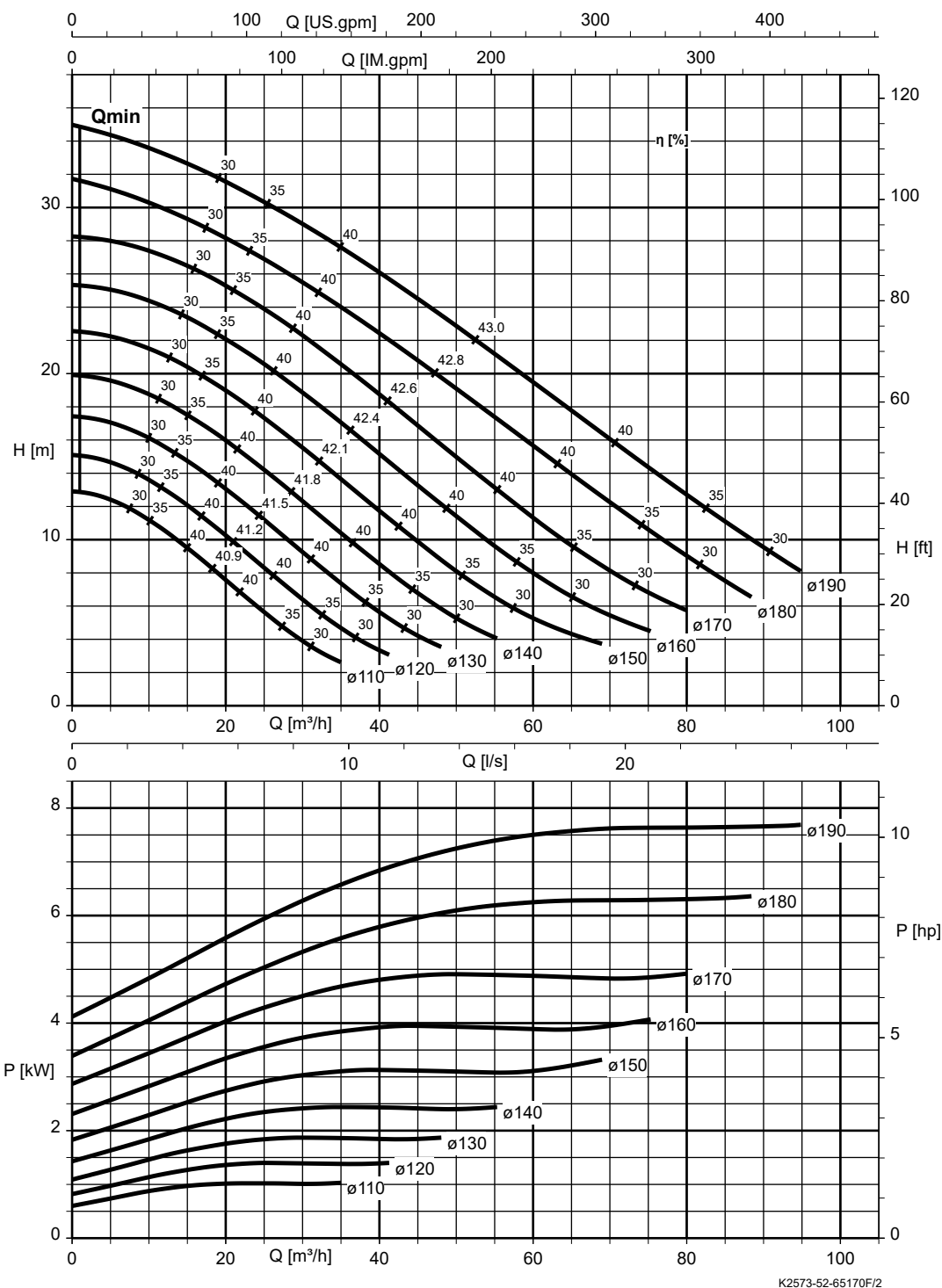
Motor assignment

Size ¹⁴⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F065-150/012C4	150	M	1,24	1,46	3,36	DOL
F065-150/021C4	150	L	2,1	2,47	5,14	DOL
F065-150/017F4	150	M	1,67	2,13	3,71	DOL

¹⁴⁾ C: motors to IE3, F: without

Size ¹⁴⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F065-150/023F4	150	M	2,3	2,98	5,15	DOL
F065-150/012C4	160	M	1,24	1,46	3,36	DOL
F065-150/021C4	160	L	2,1	2,47	5,14	DOL
F065-150/017F4	160	M	1,67	2,13	3,71	DOL
F065-150/023F4	160	M	2,3	2,98	5,15	DOL
F065-150/012C4	170	M	1,24	1,46	3,36	DOL
F065-150/021C4	170	L	2,1	2,47	5,14	DOL
F065-150/017F4	170	M	1,67	2,13	3,71	DOL
F065-150/023F4	170	M	2,3	2,98	5,15	DOL
F065-150/012C4	180	M	1,24	1,46	3,36	DOL
F065-150/021C4	180	L	2,1	2,47	5,14	DOL
F065-150/017F4	180	M	1,67	2,13	3,71	DOL
F065-150/023F4	180	M	2,3	2,98	5,15	DOL
F065-150/012C4	190	M	1,24	1,46	3,36	DOL
F065-150/021C4	190	L	2,1	2,47	5,14	DOL
F065-150/017F4	190	M	1,67	2,13	3,71	DOL
F065-150/023F4	190	M	2,3	2,98	5,15	DOL
F065-150/012C4	200	M	1,24	1,46	3,36	DOL
F065-150/021C4	200	L	2,1	2,47	5,14	DOL
F065-150/017F4	200	M	1,67	2,13	3,71	DOL
F065-150/023F4	200	M	2,3	2,98	5,15	DOL

Amarex F-max 065-170, n = 2900 rpm



Free passage = 65 mm

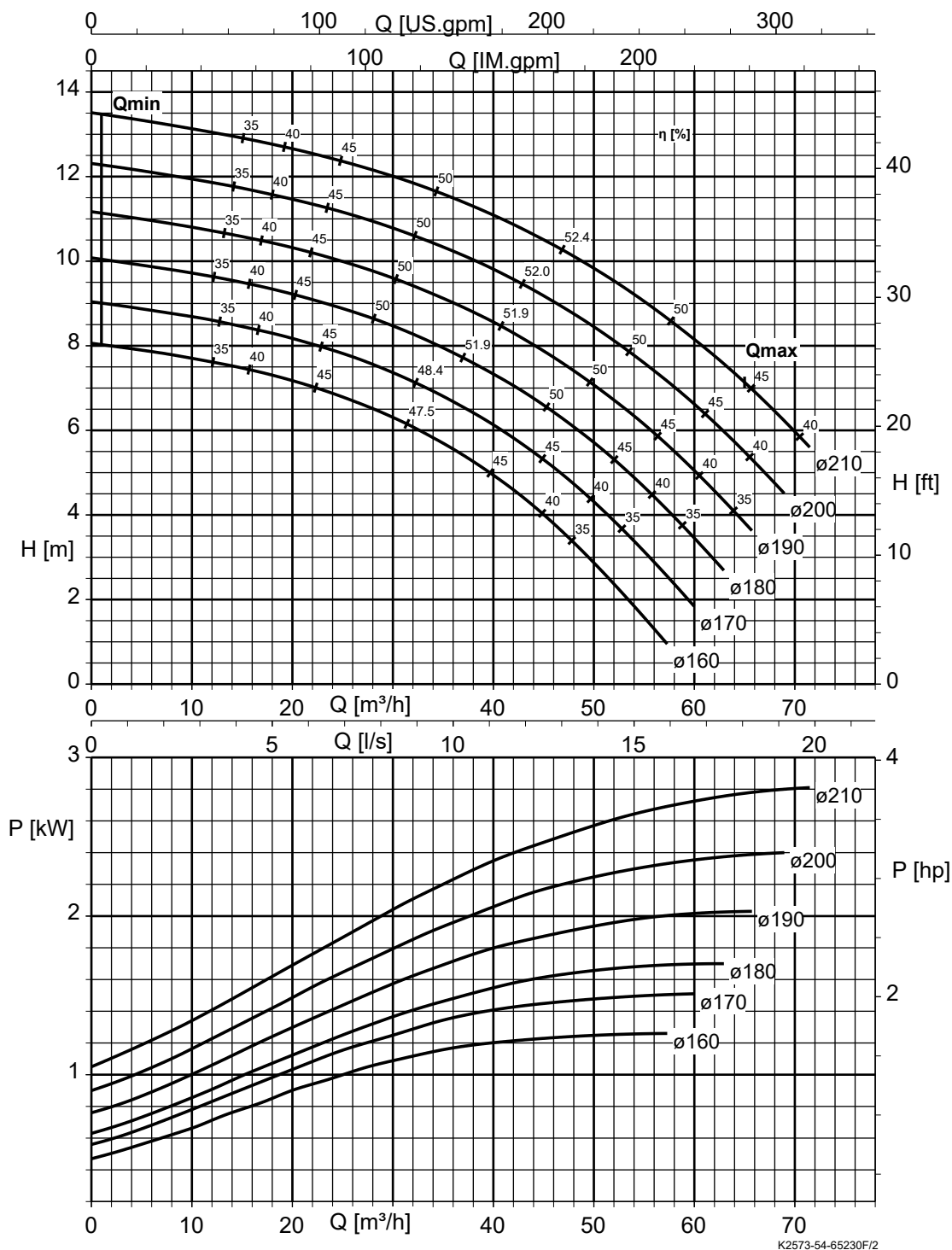
Motor assignment

Size ¹⁵⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F065-170/018C2	110	M	1,82	2,14	3,78	DOL
F065-170/024F2	110	M	2,40	2,95	4,89	DOL
F065-170/029C2	110	M	2,97	3,41	6,29	DOL

¹⁵⁾ C: motors to IE3, F: without

Size ¹⁵⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F065-170/040F2	110	M	4,00	4,86	8,17	DOL
F065-170/018C2	120	M	1,82	2,14	3,78	DOL
F065-170/024F2	120	M	2,40	2,95	4,89	DOL
F065-170/029C2	120	M	2,97	3,41	6,29	DOL
F065-170/040F2	120	M	4,00	4,86	8,17	DOL
F065-170/018C2	130	M	1,82	2,14	3,78	DOL
F065-170/024F2	130	M	2,40	2,95	4,89	DOL
F065-170/029C2	130	M	2,97	3,41	6,29	DOL
F065-170/040F2	130	M	4,00	4,86	8,17	DOL
F065-170/024F2	140	M	2,40	2,95	4,89	DOL
F065-170/029C2	140	M	2,97	3,41	6,29	DOL
F065-170/035C2	140	L	3,57	4,06	7,46	DOL
F065-170/040F2	140	M	4,00	4,86	8,17	DOL
F065-170/024F2	150	M	2,40	2,95	4,89	DOL
F065-170/035C2	150	L	3,57	4,06	7,46	DOL
F065-170/040F2	150	M	4,00	4,86	8,17	DOL
F065-170/045C2	150	L	4,54	5,13	10,1/5,9	DOL / star-delta
F065-170/049F2	150	L	4,90	5,83	9,85	DOL
F065-170/040F2	160	M	4,00	4,86	8,17	DOL
F065-170/045C2	160	L	4,54	5,13	10,1/5,9	DOL / star-delta
F065-170/049F2	160	L	4,90	5,83	9,85	DOL
F065-170/040F2	170	M	4,00	4,86	8,17	DOL
F065-170/045C2	170	L	4,54	5,13	10,1/5,9	DOL / star-delta
F065-170/049F2	170	L	4,90	5,83	9,85	DOL
F065-170/073F2	170	L	7,30	8,72	14,7/8,5	DOL / star-delta
F065-170/049F2	180	L	4,90	5,83	9,85	DOL
F065-170/073F2	180	L	7,30	8,72	14,7/8,5	DOL / star-delta
F065-170/049F2	190	L	4,90	5,83	9,85	DOL
F065-170/073F2	190	L	7,30	8,72	14,7/8,5	DOL / star-delta

Amarex F-max 065-230, n = 1450 rpm



Free passage = 65 mm

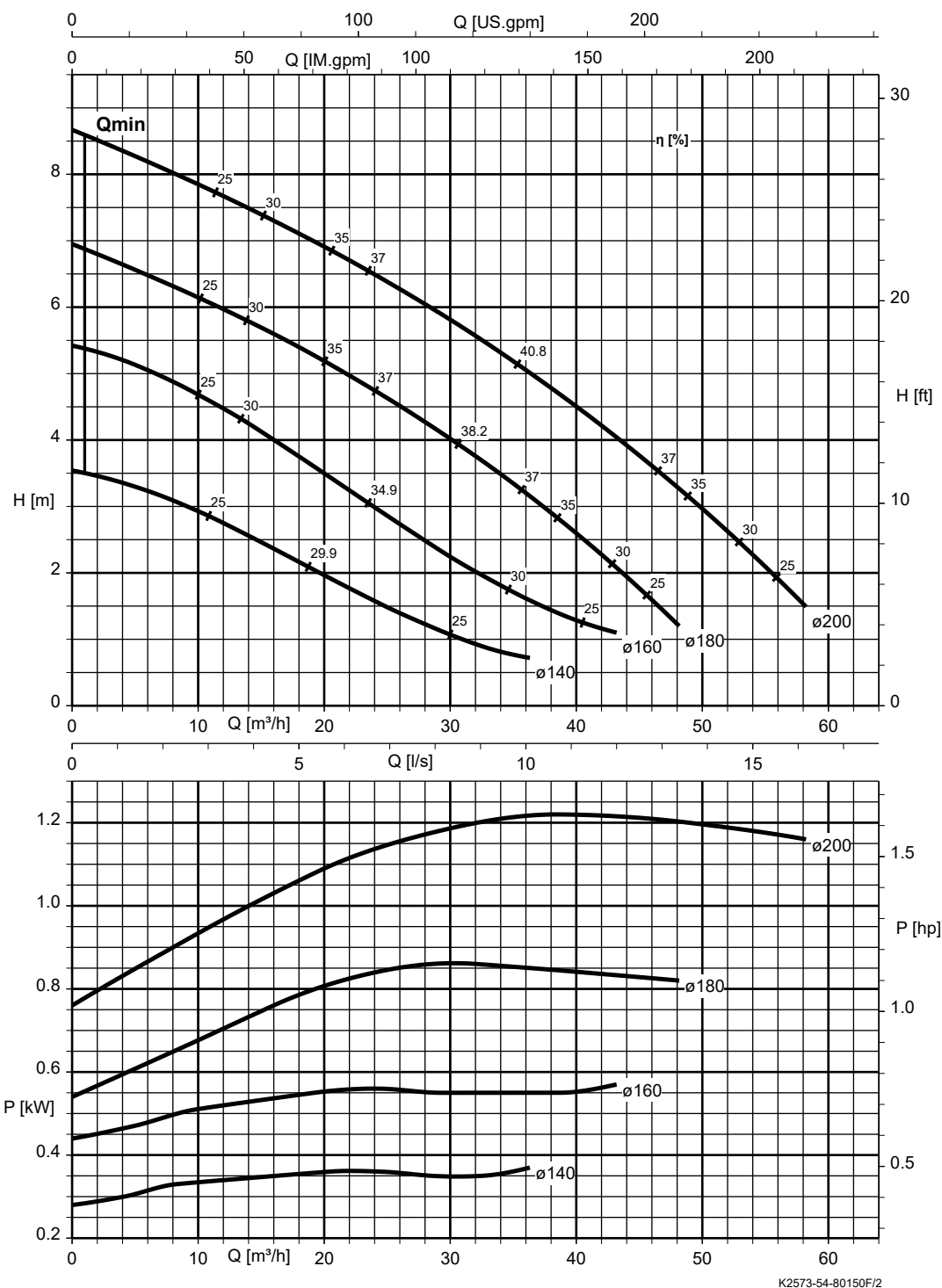
Motor assignment

Size ¹⁶⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F065-230/012C4	160	M	1,24	1,46	3,36	DOL
F065-230/017F4	160	M	1,67	2,13	3,71	DOL
F065-230/021C4	160	L	2,10	2,47	5,14	DOL

¹⁶⁾ C: motors to IE3, F: without

Size ¹⁶⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F065-230/023F4	160	M	2,30	2,98	5,15	DOL
F065-230/017F4	170	M	1,67	2,13	3,71	DOL
F065-230/021C4	170	L	2,10	2,47	5,14	DOL
F065-230/023F4	170	M	2,30	2,98	5,15	DOL
F065-230/017F4	180	M	1,67	2,13	3,71	DOL
F065-230/021C4	180	L	2,10	2,47	5,14	DOL
F065-230/023F4	180	M	2,30	2,98	5,15	DOL
F065-230/017F4	190	M	1,67	2,13	3,71	DOL
F065-230/021C4	190	L	2,10	2,47	5,14	DOL
F065-230/023F4	190	M	2,30	2,98	5,15	DOL
F065-230/035F4	190	L	3,55	4,41	7,56	DOL
F065-230/017F4	200	M	1,67	2,13	3,71	DOL
F065-230/023F4	200	M	2,30	2,98	5,15	DOL
F065-230/035F4	200	L	3,55	4,41	7,56	DOL
F065-230/023F4	210	M	2,30	2,98	5,15	DOL
F065-230/035F4	210	L	3,55	4,41	7,56	DOL
F065-230/039F4	210	L	3,90	5,01	9,91	DOL

Amarex F-max 080-150, n = 1450 rpm



Free passage = 80 mm

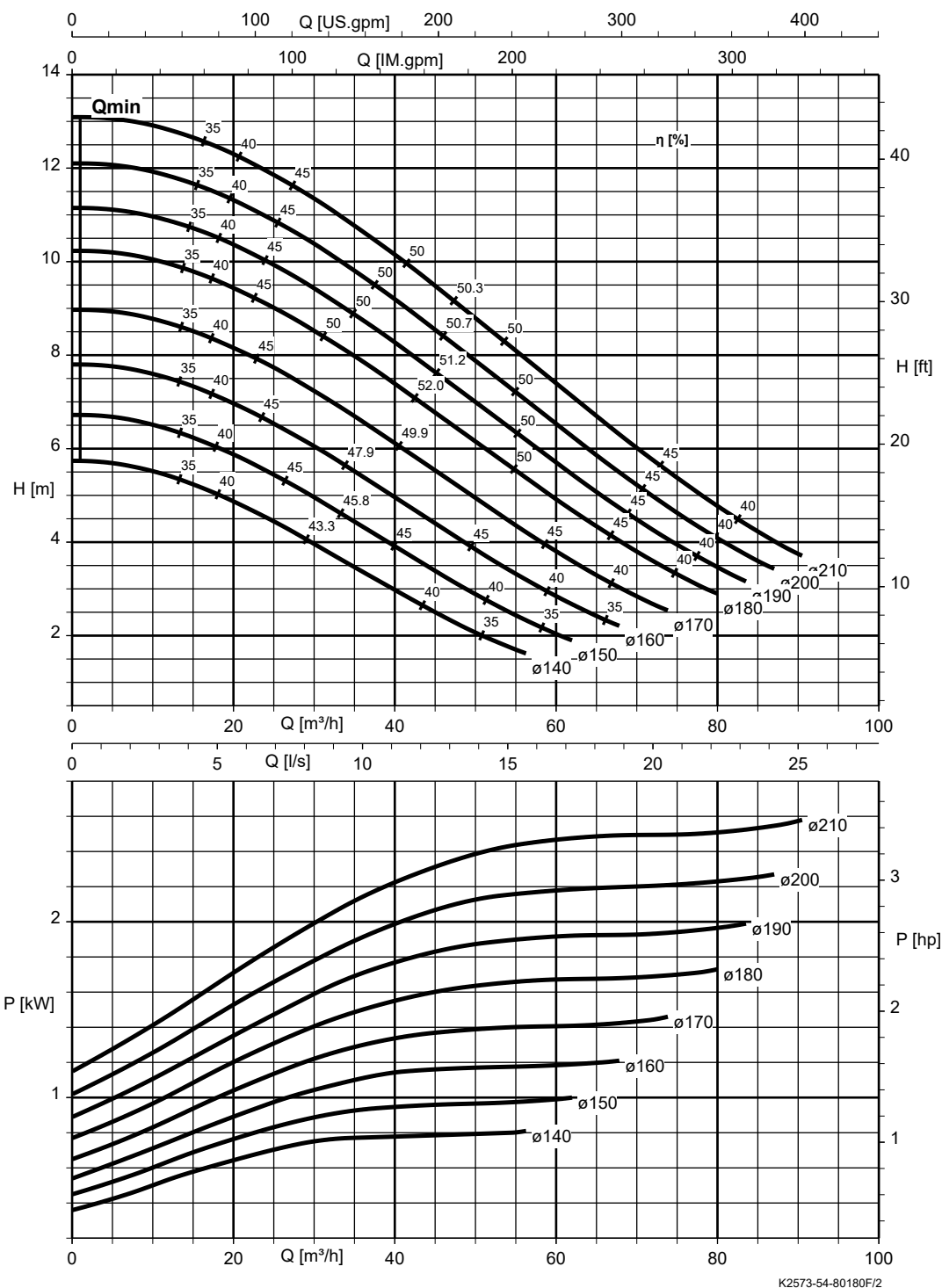
Motor assignment

Size ¹⁷⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-150/012C4	140	M	1,24	1,46	3,36	DOL
F080-150/017F4	140	M	1,67	2,13	3,71	DOL
F080-150/012C4	160	M	1,24	1,46	3,36	DOL

¹⁷⁾ C: motors to IE3, F: without

Size ¹⁷⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-150/017F4	160	M	1,67	2,13	3,71	DOL
F080-150/012C4	180	M	1,24	1,46	3,36	DOL
F080-150/017F4	180	M	1,67	2,13	3,71	DOL
F080-150/021C4	180	L	2,10	2,47	5,14	DOL
F080-150/012C4	200	M	1,24	1,46	3,36	DOL
F080-150/017F4	200	M	1,67	2,13	3,71	DOL
F080-150/021C4	200	L	2,10	2,47	5,14	DOL

Amarex F-max 080-180, n = 1450 rpm



Free passage = 80 mm

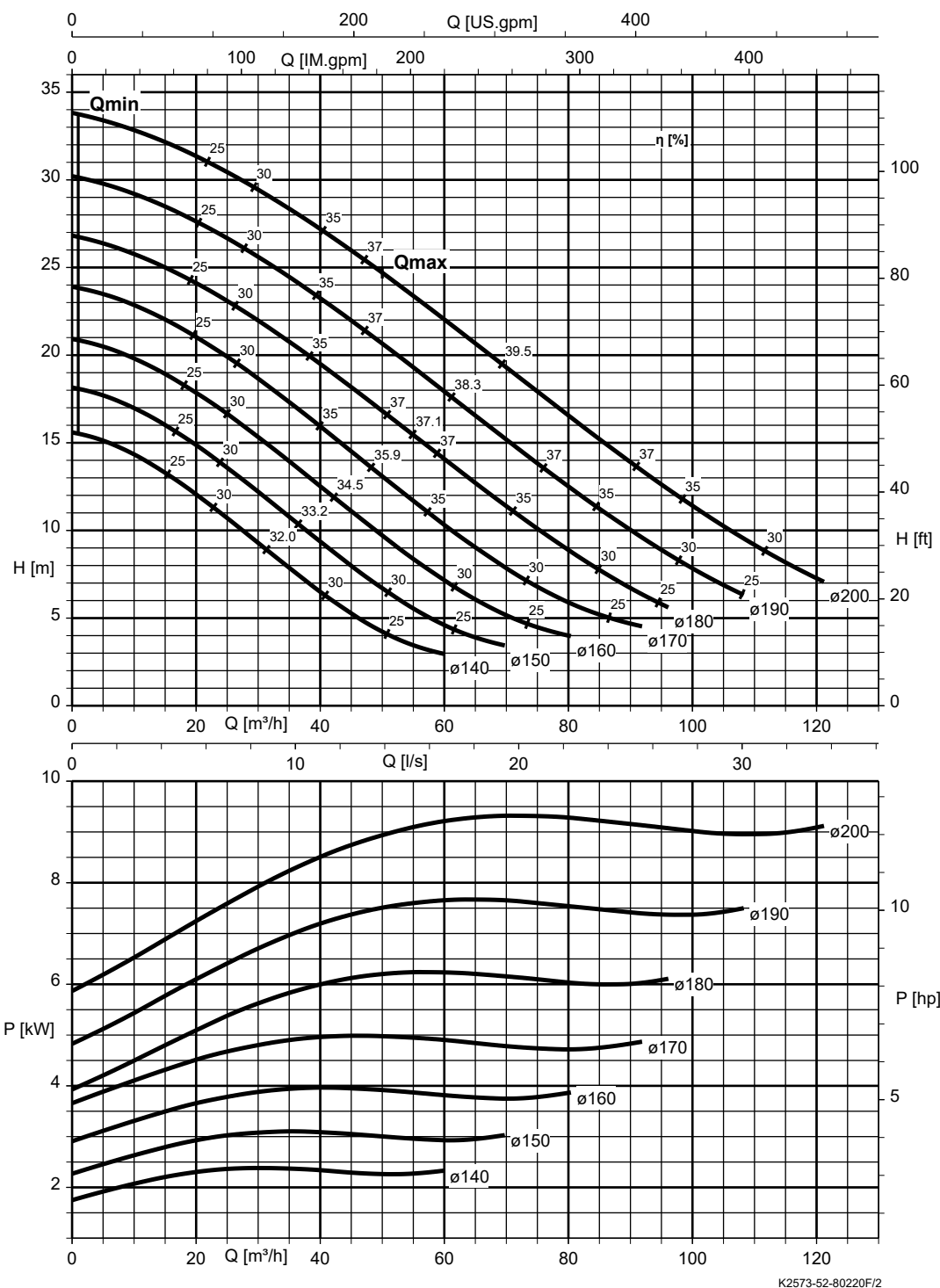
Motor assignment

Size ¹⁸⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-180/012C4	140	M	1,24	1,46	3,36	DOL
F080-180/017F4	140	M	1,67	2,13	3,71	DOL
F080-180/021C4	140	L	2,1	2,47	5,14	DOL

¹⁸⁾ C: motors to IE3, F: without

Size ¹⁸⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-180/023F4	140	M	2,3	2,98	5,15	DOL
F080-180/012C4	150	M	1,24	1,46	3,36	DOL
F080-180/017F4	150	M	1,67	2,13	3,71	DOL
F080-180/021C4	150	L	2,1	2,47	5,14	DOL
F080-180/023F4	150	M	2,3	2,98	5,15	DOL
F080-180/012C4	160	M	1,24	1,46	3,36	DOL
F080-180/017F4	160	M	1,67	2,13	3,71	DOL
F080-180/021C4	160	L	2,1	2,47	5,14	DOL
F080-180/023F4	160	M	2,3	2,98	5,15	DOL
F080-180/017F4	170	M	1,67	2,13	3,71	DOL
F080-180/021C4	170	L	2,1	2,47	5,14	DOL
F080-180/023F4	170	M	2,3	2,98	5,15	DOL
F080-180/036C4	170	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-180/017F4	180	M	1,67	2,13	3,71	DOL
F080-180/021C4	180	L	2,1	2,47	5,14	DOL
F080-180/023F4	180	M	2,3	2,98	5,15	DOL
F080-180/036C4	180	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-180/017F4	190	M	1,67	2,13	3,71	DOL
F080-180/023F4	190	M	2,30	2,98	5,15	DOL
F080-180/035F4	190	L	3,55	4,41	7,56	DOL
F080-180/036C4	190	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-180/017F4	200	M	1,67	2,13	3,71	DOL
F080-180/023F4	200	M	2,30	2,98	5,15	DOL
F080-180/035F4	200	L	3,55	4,41	7,56	DOL
F080-180/036C4	200	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-180/045C4	200	X	4,48	5,04	10,7/6,2	DOL / star-delta
F080-180/023F4	210	M	2,30	2,98	5,15	DOL
F080-180/035F4	210	L	3,55	4,41	7,56	DOL
F080-180/036C4	210	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-180/045C4	210	X	4,48	5,04	10,7/6,2	DOL / star-delta

Amarex F-max 080-220, n = 2900 rpm



Free passage = 80 mm

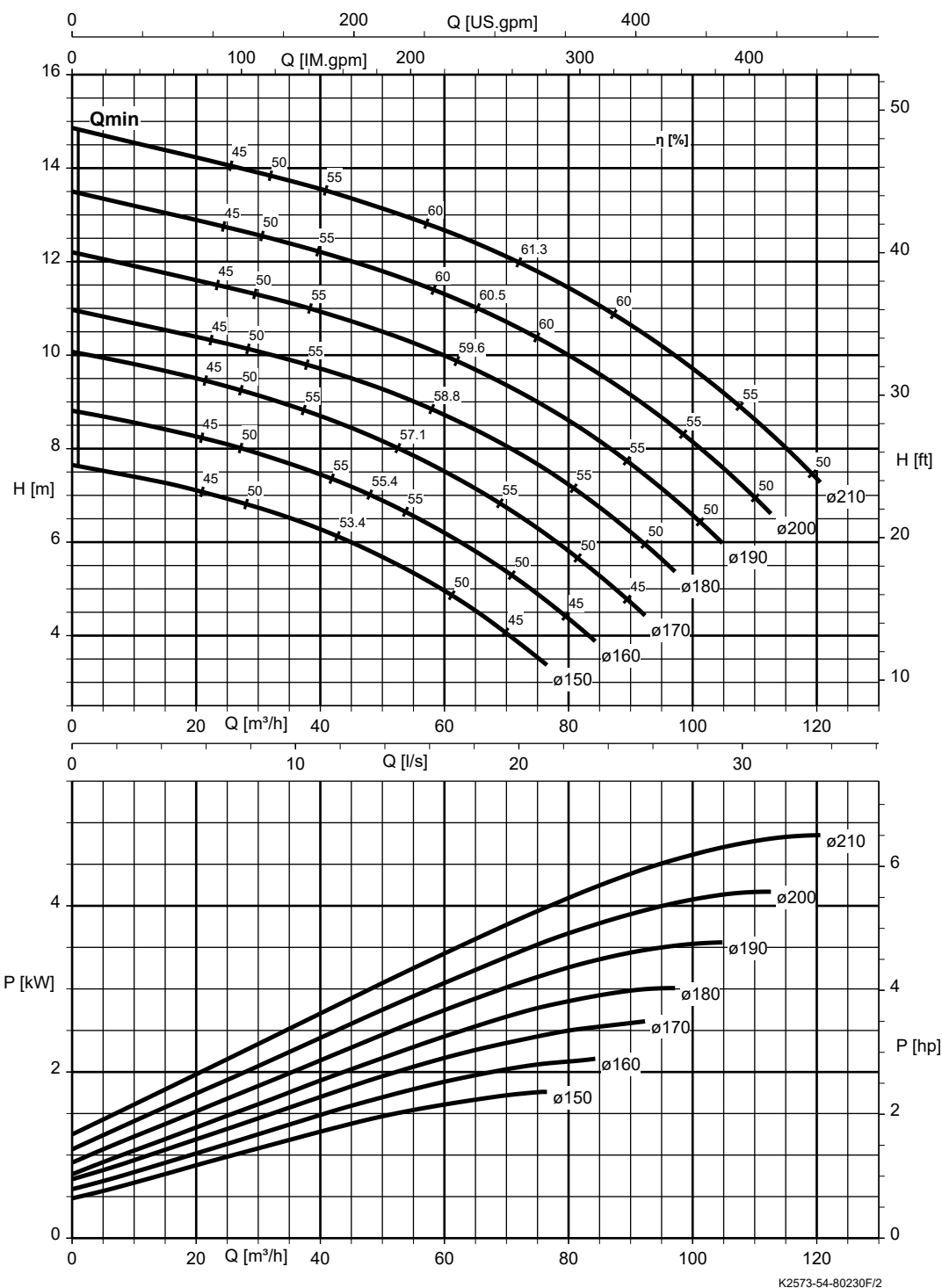
Motor assignment

Size ¹⁹⁾	Impeller diameter [mm]	Motor size	P ₂	P ₁	I _N	Starting method
			[kW]	[kW]	[A]	
F080-220/024F2	140	M	2,40	2,95	4,89	DOL
F080-220/029C2	140	M	2,97	3,41	6,29	DOL
F080-220/035C2	140	L	3,57	4,06	7,46	DOL

¹⁹⁾ C: motors to IE3, F: without

Size ¹⁹⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-220/040F2	140	M	4,00	4,86	8,17	DOL
F080-220/035C2	150	L	3,57	4,06	7,46	DOL
F080-220/040F2	150	M	4,00	4,86	8,17	DOL
F080-220/045C2	150	L	4,54	5,13	10,1/5,9	DOL / star-delta
F080-220/049F2	150	L	4,90	5,83	9,85	DOL
F080-220/040F2	160	M	4,00	4,86	8,17	DOL
F080-220/045C2	160	L	4,54	5,13	10,1/5,9	DOL / star-delta
F080-220/049F2	160	L	4,90	5,83	9,85	DOL
F080-220/060C2	160	X	6,00	6,71	12,7/7,4	DOL / star-delta
-F080-220/049F2	170	L	4,90	5,83	9,85	DOL
F080-220/060C2	170	X	6,00	6,71	12,7/7,4	DOL / star-delta
F080-220/073F2	170	L	7,30	8,72	14,7/8,5	DOL / star-delta
F080-220/049F2	180	L	4,90	5,83	9,85	DOL
F080-220/060C2	180	X	6,00	6,71	12,7/7,4	DOL / star-delta
F080-220/073F2	180	L	7,30	8,72	14,7/8,5	DOL / star-delta
F080-220/084F2	180	X	8,40	9,85	16,8/9,7	DOL / star-delta
F080-220/073F2	190	L	7,30	8,72	14,7/8,5	DOL / star-delta
F080-220/084F2	190	X	8,40	9,85	16,8/9,7	DOL / star-delta
F080-220/073F2	200	L	7,30	8,72	14,7/8,5	DOL / star-delta
F080-220/084F2	200	X	8,40	9,85	16,8/9,7	DOL / star-delta

Amarex F-max 080-230, n = 1450 rpm



Free passage = 80 mm

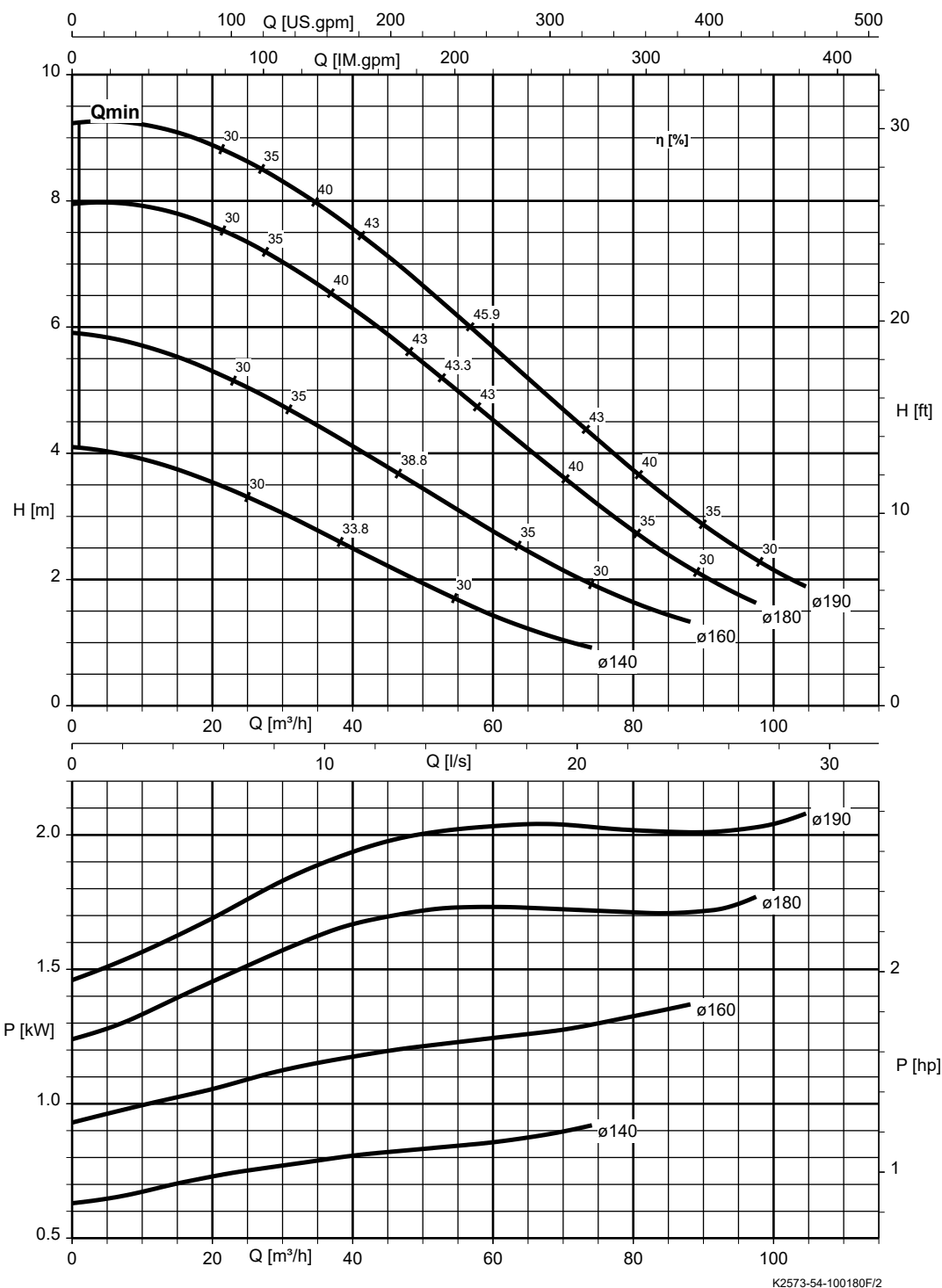
Motor assignment

Size ²⁰⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-230/017F4	150	M	1,67	2,13	3,71	DOL
F080-230/021C4	150	L	2,1	2,47	5,14	DOL
F080-230/023F4	150	M	2,3	2,98	5,15	DOL

²⁰⁾ C: motors to IE3, F: without

Size ²⁰⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F080-230/036C4	150	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-230/017F4	160	M	1,67	2,13	3,71	DOL
F080-230/021C4	160	L	2,1	2,47	5,14	DOL
F080-230/023F4	160	M	2,3	2,98	5,15	DOL
F080-230/035F4	160	L	3,55	4,41	7,56	DOL
F080-230/036C4	160	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-230/017F4	170	M	1,67	2,13	3,71	DOL
F080-230/023F4	170	M	2,3	2,98	5,15	DOL
F080-230/035F4	170	L	3,55	4,41	7,56	DOL
F080-230/036C4	170	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-230/045C4	170	X	4,48	5,04	10,7/6,2	DOL / star-delta
F080-230/023F4	180	M	2,3	2,98	5,15	DOL
F080-230/035F4	180	L	3,55	4,41	7,56	DOL
F080-230/036C4	180	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-230/039F4	180	L	3,90	5,01	9,91	DOL
F080-230/045C4	180	X	4,48	5,04	10,7/6,2	DOL / star-delta
F080-230/023F4	190	M	2,3	2,98	5,15	DOL
F080-230/035F4	190	L	3,55	4,41	7,56	DOL
F080-230/036C4	190	X	3,59	4,06	8,4/4,87	DOL / star-delta
F080-230/039F4	190	L	3,90	5,01	9,91	DOL
F080-230/045C4	190	X	4,48	5,04	10,7/6,2	DOL / star-delta
F080-230/023F4	200	M	2,30	2,98	5,15	DOL
F080-230/035F4	200	L	3,55	4,41	7,56	DOL
F080-230/045C4	200	X	4,48	5,04	10,7/6,2	DOL / star-delta
F080-230/035F4	210	L	3,55	4,41	7,56	DOL
F080-230/039F4	210	L	3,90	5,01	9,91	DOL
F080-230/045C4	210	X	4,48	5,04	10,7/6,2	DOL / star-delta
F080-230/065F4	210	X	6,5	7,89	13,4/7,8	DOL / star-delta

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



Free passage = 100 mm

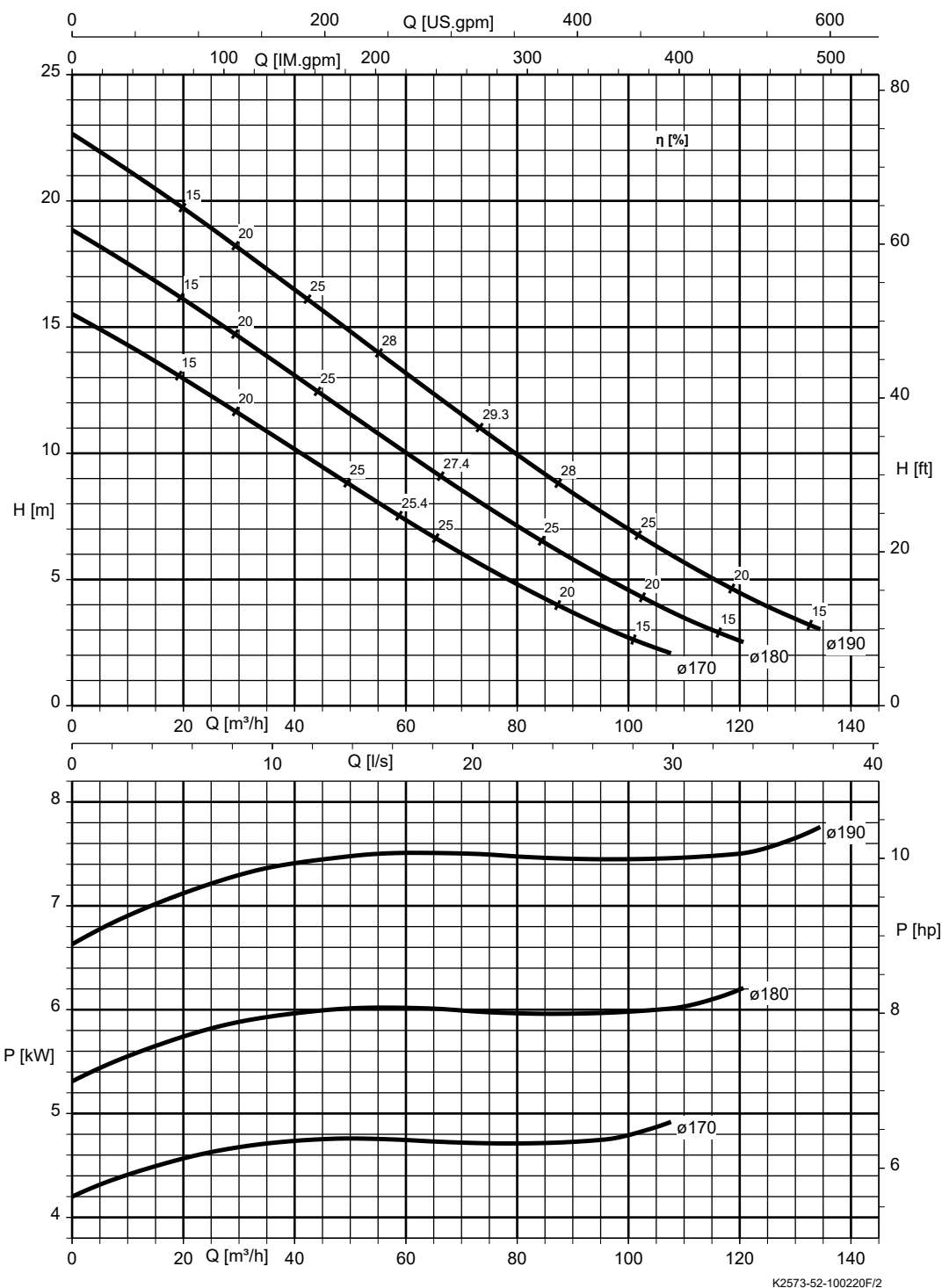
Motor assignment

Size ²¹⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F100-180/012C4	140	M	1,24	1,46	3,36	DOL
F100-180/017F4	140	M	1,67	2,13	3,71	DOL
F100-180/021C4	140	L	2,1	2,47	5,14	DOL

²¹⁾ C: motors to IE3, F: without

Size ²¹⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F100-180/023F4	140	M	2,3	2,98	5,15	DOL
F100-180/012C4	160	M	1,24	1,46	3,36	DOL
F100-180/017F4	160	M	1,67	2,13	3,71	DOL
F100-180/021C4	160	L	2,1	2,47	5,14	DOL
F100-180/023F4	160	M	2,3	2,98	5,15	DOL
F100-180/036C4	160	X	3,59	4,06	8,4 / 4,87	DOL / star-delta
F100-180/017F4	180	M	1,67	2,13	3,71	DOL
F100-180/021C4	180	L	2,1	2,47	5,14	DOL
F100-180/023F4	180	M	2,3	2,98	5,15	DOL
F100-180/036C4	180	X	3,59	4,06	8,4/4,87	DOL / star-delta
F100-180/017F4	190	M	1,67	2,13	3,71	DOL
F100-180/021C4	190	L	2,1	2,47	5,14	DOL
F100-180/023F4	190	M	2,3	2,98	5,15	DOL
F100-180/035F4	190	L	3,55	4,41	7,56	DOL
F100-180/036C4	190	X	3,59	4,06	8,4/4,87	DOL / star-delta

Amarex F-max 100-220, n = 2900 rpm



Free passage = 100 mm

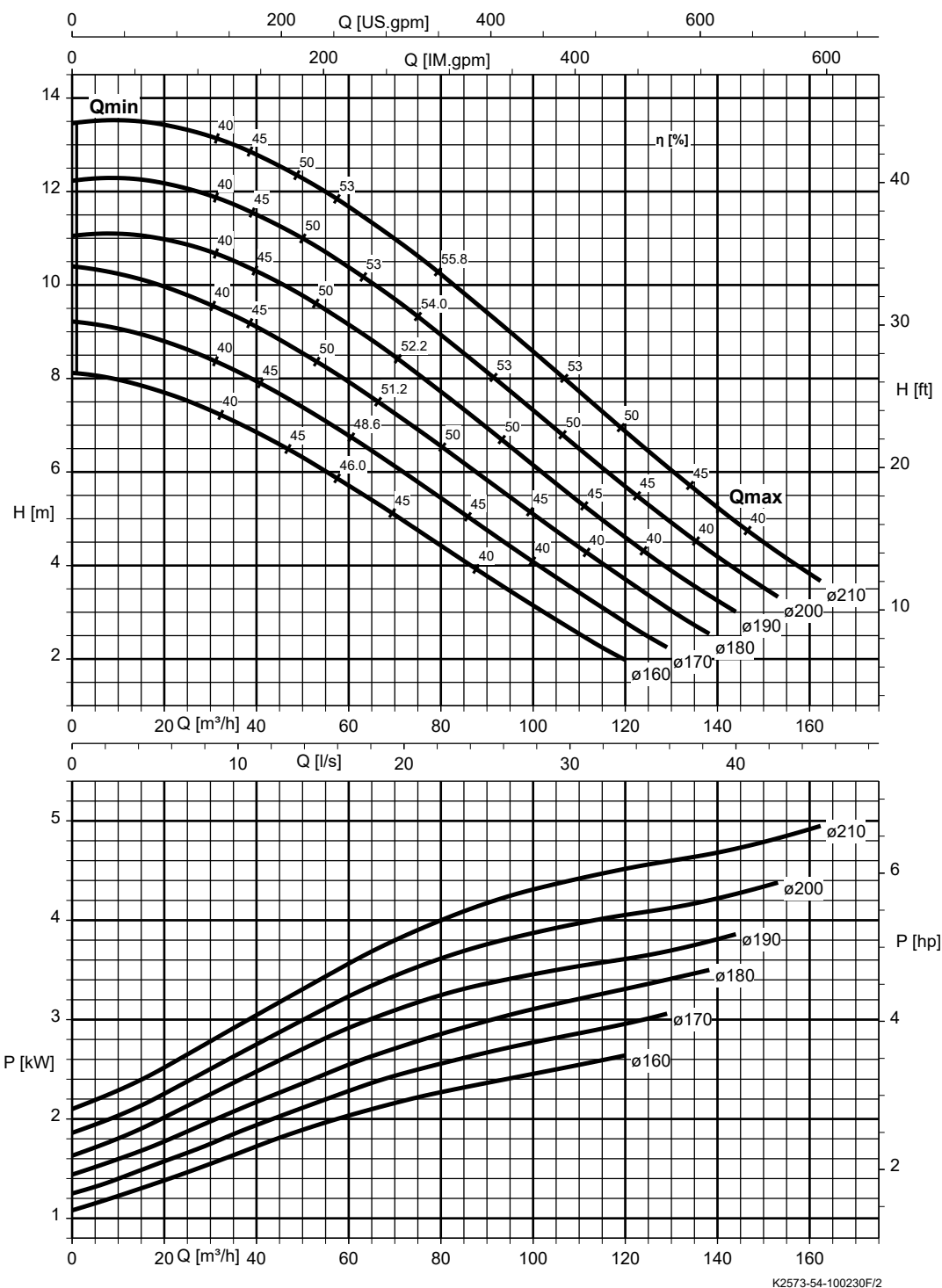
Motor assignment

Size ²²⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F100-220/049F2	170	L	4,90	5,83	9,85	DOL
F100-220/073F2	170	L	7,30	8,72	14,7/8,5	DOL / star-delta
F100-220/060C2	170	X	6,00	6,71	12,7/7,4	DOL / star-delta

²²⁾ C: motors to IE3, F: without

Size ²²⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F100-220/073F2	180	L	7,30	8,72	14,7/8,5	DOL / star-delta
F100-220/084F2	180	X	8,40	9,85	16,8/9,7	DOL / star-delta
F100-220/060C2	180	X	6,00	6,71	12,7/7,4	DOL / star-delta
F100-220/073F2	190	L	7,30	8,72	14,7/8,5	DOL / star-delta
F100-220/084F2	190	X	8,40	9,85	16,8/9,7	DOL / star-delta

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



Free passage = 100 mm

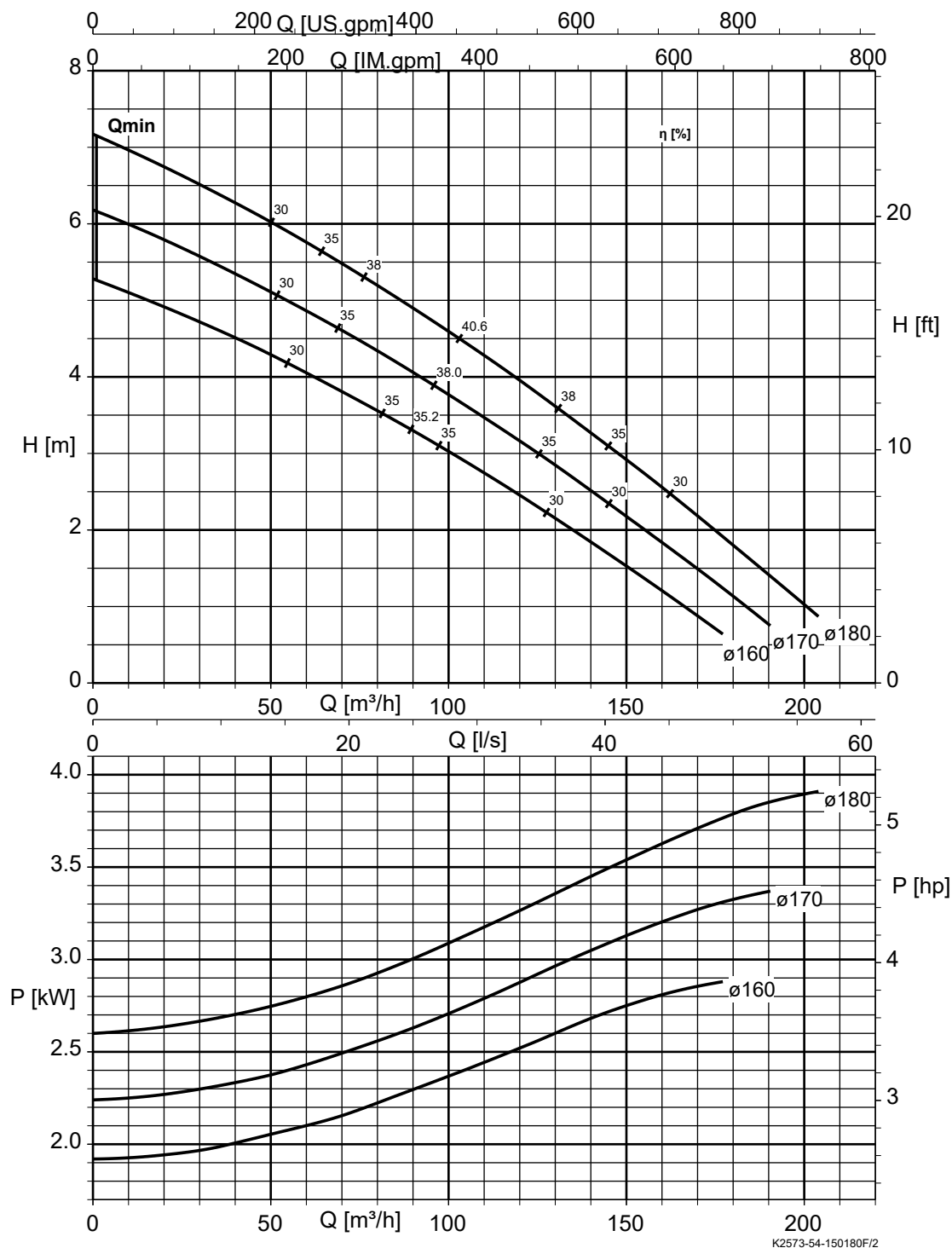
Motor assignment

Size ²³⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F100-230/017F4	160	M	1,67	2,13	3,71	DOL
F100-230/021C4	160	L	2,1	2,47	5,14	DOL
F100-230/023F4	160	M	2,3	2,98	5,15	DOL

²³⁾ C: motors to IE3, F: without

Size ²³⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F100-230/035F4	160	L	3,55	4,41	7,56	DOL
F100-230/036C4	160	X	3,59	4,06	8,4/4,87	DOL / star-delta
F100-230/045C4	160	X	4,48	5,04	10,7/6,2	DOL / star-delta
F100-230/023F4	170	M	2,3	2,98	5,15	DOL
F100-230/035F4	170	L	3,55	4,41	7,56	DOL
F100-230/036C4	170	X	3,59	4,06	8,4 / 4,87	DOL / star-delta
F100-230/045C4	170	X	4,48	5,04	10,7 / 6,2	DOL / star-delta
F100-230/023F4	180	M	2,3	2,98	5,15	DOL
F100-230/035F4	180	L	3,55	4,41	7,56	DOL
F100-230/036C4	180	X	3,59	4,06	8,4/4,87	DOL / star-delta
F100-230/039F4	180	L	3,9	5,01	9,91	DOL
F100-230/045C4	180	X	4,48	5,04	10,7/6,2	DOL / star-delta
F100-230/023F4	190	M	2,30	2,98	5,15	DOL
F100-230/035F4	190	L	3,55	4,41	7,56	DOL
F100-230/036C4	190	X	3,59	4,06	8,4/4,87	DOL / star-delta
F100-230/039F4	190	L	3,9	5,01	9,91	DOL
F100-230/045C4	190	X	4,48	5,04	10,7/6,2	DOL / star-delta
F100-230/023F4	200	M	2,30	2,98	5,15	DOL
F100-230/035F4	200	L	3,55	4,41	7,56	DOL
F100-230/039F4	200	L	3,9	5,01	9,91	DOL
F100-230/045C4	200	X	4,48	5,04	10,7/6,2	DOL / star-delta
F100-230/065F4	200	X	6,5	7,89	13,4/7,8	DOL / star-delta
F100-230/023F4	210	M	2,30	2,98	5,15	DOL
F100-230/035F4	210	L	3,55	4,41	7,56	DOL
F100-230/039F4	210	L	3,9	5,01	9,91	DOL
F100-230/045C4	210	X	4,48	5,04	10,7/6,2	DOL / star-delta
F100-230/065F4	210	X	6,5	7,89	13,4/7,8	DOL / star-delta

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



Free passage = 100 mm

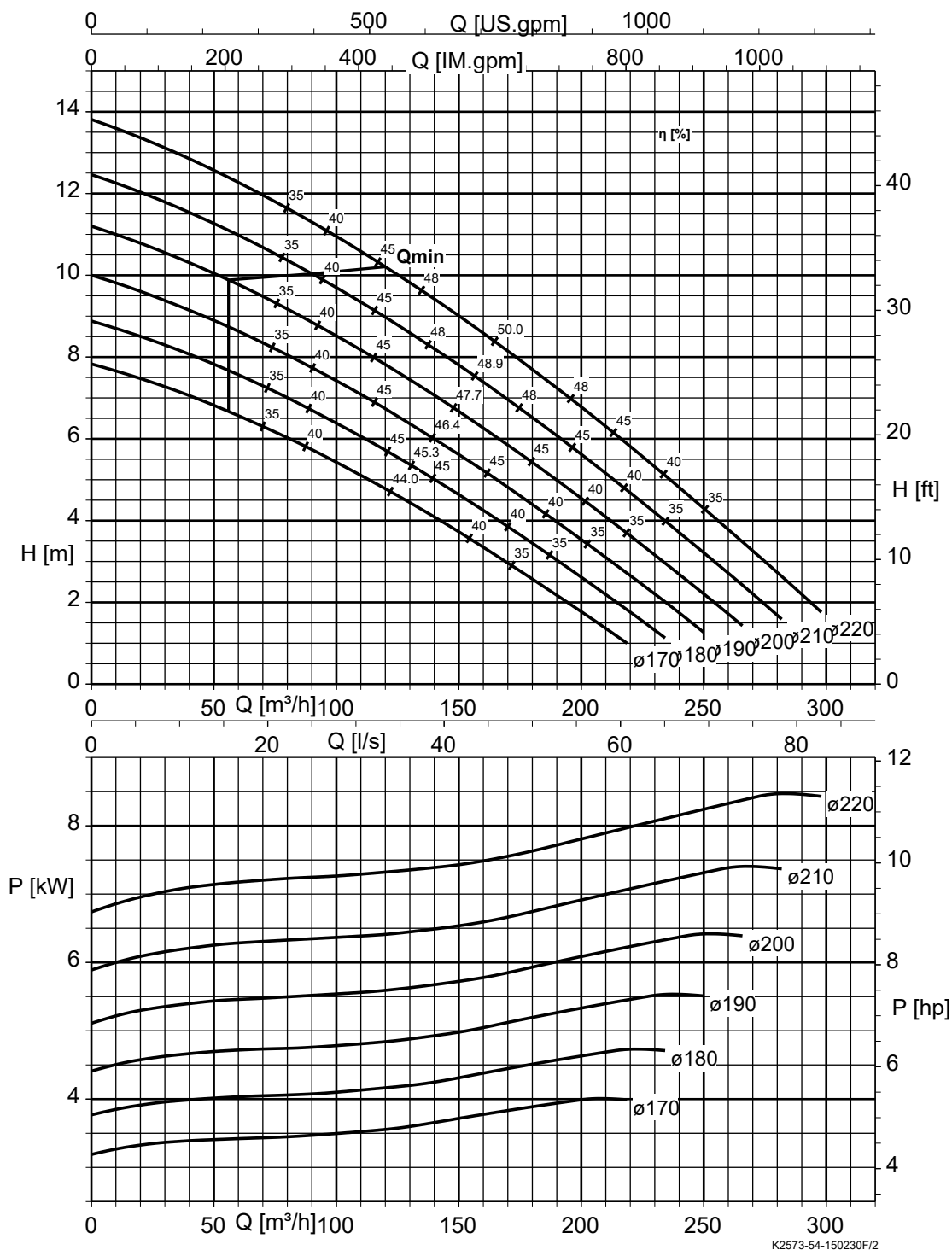
Motor assignment

Size ²⁴⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F150-180/036C4	160	X	3,59	4,06	8,4/4,87	DOL / star-delta
F150-180/045C4	160	X	4,48	5,04	10,7/6,2	DOL / star-delta
F150-180/065F4	160	X	6,5	7,89	13,4/7,8	DOL / star-delta

²⁴⁾ C: motors to IE3, F: without

Size ²⁴⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F150-180/077F4	160	X	7,7	9,2	15,9/9,2	DOL / star-delta
F150-180/036C4	170	X	3,59	4,06	8,4/4,87	DOL / star-delta
F150-180/045C4	170	X	4,48	5,04	10,7/6,2	DOL / star-delta
F150-180/065F4	170	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-180/077F4	170	X	7,7	9,2	15,9/9,2	DOL / star-delta
F150-180/045C4	180	X	4,48	5,04	10,7/6,2	DOL / star-delta
F150-180/065F4	180	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-180/077F4	180	X	7,7	9,2	15,9/9,2	DOL / star-delta

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



Free passage = 100 mm

Motor assignment

Size ²⁵⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F150-230/045C4	170	X	4,48	5,04	10,7/6,2	DOL / star-delta
F150-230/065F4	170	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-230/077F4	170	X	7,7	9,2	15,9/9,2	DOL / star-delta

²⁵⁾ C: motors to IE3, F: without

Size ²⁵⁾	Impeller diameter	Motor size	P ₂	P ₁	I _N	Starting method
	[mm]		[kW]	[kW]	[A]	
F150-230/045C4	180	X	4,48	5,04	10,7/6,2	DOL / star-delta
F150-230/065F4	180	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-230/077F4	180	X	7,7	9,2	15,9/9,2	DOL / star-delta
F150-230/065F4	190	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-230/077F4	190	X	7,7	9,2	15,9/9,2	DOL / star-delta
F150-230/065F4	200	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-230/077F4	200	X	7,7	9,2	15,9/9,2	DOL / star-delta
F150-230/065F4	210	X	6,5	7,89	13,4/7,8	DOL / star-delta
F150-230/077F4	210	X	7,7	9,2	15,9/9,2	DOL / star-delta
F150-230/077F4	220	X	7,7	9,2	15,9/9,2	DOL / star-delta



KSB SE & Co. KGaA
Johann-Klein-Straße 9 • 67227 Frankenthal (Germany)
Tel. +49 6233 86-0
www.ksb.com