

Dry-installed Volute Casing Pump

KWP

50 Hz
K Impeller

Characteristic Curves Booklet



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Characteristic Curves Booklet KWP

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Centrifugal Pumps with Shaft Seal

Dry-installed Volute Casing Pumps

KWP



Operating limits

Observe the operating limits resulting from the specific materials or designs used.

Unless specified otherwise in the characteristic curves, the following applies:

- Short-time operation
 - For sizes < DN 600: $Q_{min}^{1)} = 0.1 \times Q_{opt}^{2)}$
 - For sizes \geq DN 600: $Q_{min}^{1)} = 0.4 \times Q_{opt}^{2)}$
- Continuous operation
 - For sizes \leq DN 125: $Q_{min}^{1)} = 0.2 \times Q_{opt}^{2)}$
 - For sizes \geq DN 150: $Q_{min}^{1)} = 0.3 \times Q_{opt}^{2)}$
 - For 2-pole operation: $Q_{max} = 1.1 \times Q_{opt}^{2)}$
 - For 4-pole operation: $Q_{max} = 1.25 \times Q_{opt}^{2)}$

The Q_{max} data plotted vertically in some of the characteristic curve diagrams describe Q_{max} as a function of $v_s = 7.5 \text{ m/s}^3$, independently of rotational speed.

Motor rating

The motor ratings given are valid for the following conditions:

- Ambient temperatures of up to 40 °C
- Installation altitude of up to 1000 m above MSL
- Voltages of 230/400 V to 400/690 V

General

Acceptance grade: characteristic curves to ISO 9906 Grade 2B

NPSH values

The NPSH values indicated in the characteristic curves correspond to a head drop of 3 %. The values indicated are minimum values. They apply to degassed water. As a safety margin, increase the values indicated in the curves by at least 0.5 m for the actual application, and by at least 3 m in the case of impellers made of CeramikPolySiC (as identified by the digits 8 or 9 at the end of the size designation) for sizes DN 400 and above.

NPSH values in part-load conditions

NPSH values for flow rates below $Q = 0.3 \times Q_{opt}$ can only be measured with intense technical efforts. Evidence of NPSH values in the part-load range cannot be provided.

Density of the fluid handled

The indicated heads and performance data apply to pumped fluids with a density $\rho = 1.0 \text{ kg/dm}^3$ and a kinematic viscosity of up to 20 mm²/s max. If the density $\neq 1.0$, the performance data must be multiplied by ρ . For viscosities >20 mm²/s the corresponding data for cold water has to be calculated and the impact on the pump's performance has to be determined.

Impeller trimming

Impellers of all diameters can be trimmed right down to the minimum diameter indicated.

1) Minimum permissible flow rate
2) Flow rate at best efficiency point
3) Velocity in the suction-side pipe

Technical data of hydraulic system

Technical data of hydraulic system

Sizes	Bearing bracket	Free passage	Number of blades	Impeller diameter	
				Max.	Min.
		[mm]		[mm]	[mm]
065-040-250	P03ax	15	3	260	170
065-050-200	P03ax	34	2	209	120
080-065-200	P03ax	46	2	209	145
080-040-315	P04ax	15	2	320	230
080-050-400	P04ax	15	2	408	330
080-065-315	P04ax	42	2	320	230
080-065-313	P04ax	15	5	320	230
080-065-400	P04ax	34	2	408	330
100-080-250	P03ax	50	2	260	170
100-080-315	P04ax	44	2	320	260
100-080-400	P05ax	46	2	404	280
100-080-403	P05ax	16	5	404	280
125-080-500	P06x	20	3	504	380
125-100-250	P04ax	60	2	260	180
125-100-253	P04ax	28	6	260	180
125-100-315	P04ax	54	2	320	230
125-100-400	P05ax	50	2	404	280
125-100-403	P05ax	20	6	404	280
150-125-500	P06x	50	3	504	350
150-125-503	P06x	21	6	509	350
150-150-315	P05ax	88	2	320	260
150-150-400	P05ax	64	3	404	320
150-150-403	P05ax	41	5	404	320
200-200-320	P05ax	75	3	320	257
200-200-400	P06x	80	3	403	320
200-200-403	P06x	40	6	404	320
200-200-500	P08xs, P10ax, P12sx	75	3	504	400
200-200-501	P08xs, P10ax, P12sx	75	3	504	400
200-200-503	P08xs, P10ax, P12sx	40	5	504	400
250-250-315	P06x	70	3	324	285
250-250-400	P08xs, P10ax	80	3	409	338
250-250-403	P08xs, P10ax	44	5	409	340
250-250-500	P08xs, P10ax, P12sx	85	3	504	400
250-250-503	P08xs, P10ax, P12sx	48	6	504	400
250-250-505	P08xs, P10ax, P12sx	70	4	504	436
250-250-630	P08xs, P10ax, P12sx	86	4	630	500
250-250-634	P08xs, P10ax, P12sx	41	5	630	480
300-300-400	P08xs, P10ax	85	3	409	320
300-300-500	P08xs, P10ax, P12sx	89	3	504	400
300-300-503	P08xs, P10ax, P12sx	50	5	504	420
350-350-400	P08xs, P10ax	110	3	408	330
350-350-500	P08xs, P10ax, P12sx	110	3	508	390
350-350-503	P08xs, P10ax, P12sx	65	5	508	472
350-350-504	P08xs, P10ax, P12sx	55	5	507	460
350-350-630	P08xs, P10ax, P12sx	135	3	630	500
350-350-633	P08xs, P10ax, P12sx	75	5	630	500
400-400-500	P08xs, P10ax, P12sx	123	3	508	430
400-400-503	P08xs, P10ax, P12sx	90	4	508	445
400-400-533	P10ax, P12sx	90	5	538	496
400-400-583	P10ax, P12sx	90	5	600	550
500-400-710	P10ax, P12sx, P16ax	160	3	730	630
500-400-713	P10ax, P12sx, P16ax	65	5	730	630
500-500-544	P10ax, P12sx	75	4	572	495
500-500-630	P10ax, P12sx, P16ax	142	3	636	528
500-500-633	P10ax, P12sx, P16ax	90	5	636	534
500-500-634	P10ax, P12sx, P16ax	85	5	636	554

Sizes	Bearing bracket	Free passage	Number of blades	Impeller diameter	
				Max.	Min.
		[mm]		[mm]	[mm]
500-500-635	P10ax, P12sx, P16ax	75	5	636	565
500-500-637	P10ax, P12sx, P16ax	85	5	636	540
600-600-663	P12sx	80	5	700	620
600-600-669	P12sx	80	5	700	630
600-600-710	P12sx, P16ax	165	3	716	650
600-600-753	P16ax	112	5	750	675
600-600-803	P16ax	100	5	780	718
600-600-813	P16ax	95	5	830	710
600-600-824	P16ax	95	5	794	720
600-600-825	P16ax	95	5	800	709
600-600-873	P16ax	97	5	880	800
600-600-923	P20sx	113	5	930	840
700-700-923	P20sx	115	5	870	765
700-700-929	P20sx	100	6	870	780
800-700-953	P20sx	110	5	940	834
800-700-959	P20sx	105	5	940	820
800-800-934	P20sx	115	5	950	845
800-800-939	P20sx	86	6	950	854
800-900-883	P20sx	155	4	855	750
900-900-1133	P20sx	140	5	1120	1018
900-900-1134	P20sx	150	5	1120	1008
900-900-1138	P20sx	120	6	1122	1006
900-900-1139	P20sx	110	6	1120	980

Overview of sizes

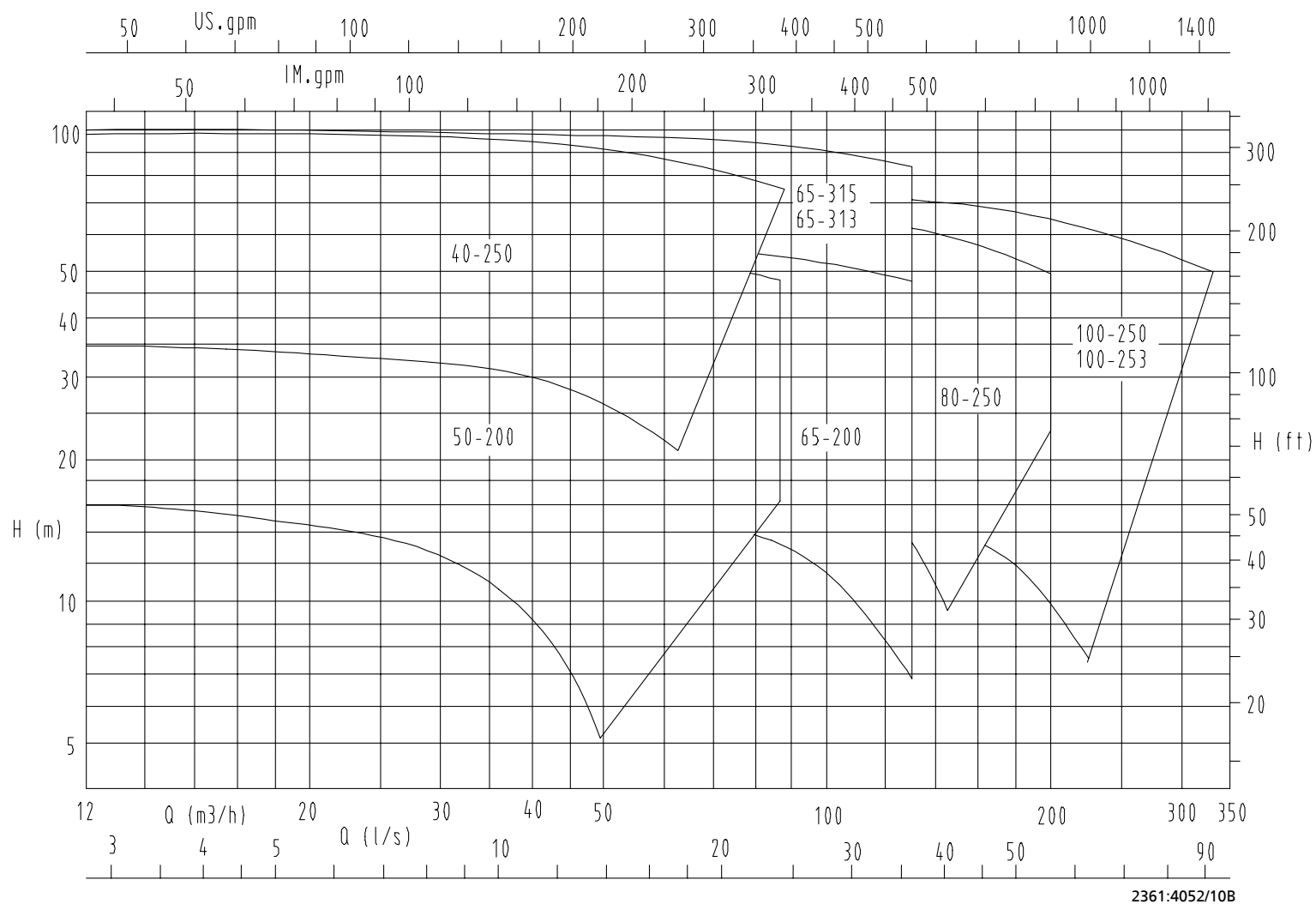
Overview of KWP K sizes

Size	Speed [rpm]					
	2900	1450	960	725	580	480
065-040-250	(⇒ Page 14)	(⇒ Page 22)	(⇒ Page 61)	–	–	–
080-040-315	–	(⇒ Page 24)	(⇒ Page 63)	–	–	–
065-050-200	(⇒ Page 15)	(⇒ Page 23)	(⇒ Page 62)	–	–	–
080-050-400	–	(⇒ Page 25)	(⇒ Page 64)	–	–	–
080-065-200	(⇒ Page 16)	(⇒ Page 26)	(⇒ Page 65)	–	–	–
080-065-315	(⇒ Page 17)	(⇒ Page 28)	(⇒ Page 67)	–	–	–
080-065-313	(⇒ Page 18)	(⇒ Page 27)	(⇒ Page 66)	–	–	–
080-065-400	–	(⇒ Page 29)	(⇒ Page 68)	–	–	–
100-080-250	(⇒ Page 19)	(⇒ Page 30)	(⇒ Page 69)	–	–	–
100-080-315	–	(⇒ Page 31)	(⇒ Page 70)	–	–	–
100-080-400	–	(⇒ Page 32)	(⇒ Page 71)	–	–	–
100-080-403	–	(⇒ Page 33)	(⇒ Page 72)	–	–	–
125-080-500	–	(⇒ Page 34)	(⇒ Page 73)	(⇒ Page 119)	–	–
125-100-250	(⇒ Page 20)	(⇒ Page 35)	(⇒ Page 74)	–	–	–
125-100-253	(⇒ Page 21)	(⇒ Page 36)	(⇒ Page 75)	–	–	–
125-100-315	–	(⇒ Page 37)	(⇒ Page 76)	–	–	–
125-100-400	–	(⇒ Page 38)	(⇒ Page 77)	–	–	–
125-100-403	–	(⇒ Page 39)	(⇒ Page 78)	–	–	–
150-125-500	–	(⇒ Page 40)	(⇒ Page 79)	(⇒ Page 120)	–	–
150-125-503	–	(⇒ Page 41)	(⇒ Page 80)	(⇒ Page 121)	–	–
150-150-315	–	(⇒ Page 42)	(⇒ Page 81)	(⇒ Page 122)	–	–
150-150-400	–	(⇒ Page 43)	(⇒ Page 82)	(⇒ Page 123)	–	–
150-150-403	–	(⇒ Page 44)	(⇒ Page 83)	(⇒ Page 124)	–	–
200-200-320	–	(⇒ Page 45)	(⇒ Page 84)	(⇒ Page 125)	–	–
200-200-400	–	(⇒ Page 46)	(⇒ Page 85)	(⇒ Page 126)	–	–
200-200-403	–	(⇒ Page 47)	(⇒ Page 86)	(⇒ Page 127)	–	–
200-200-500	–	(⇒ Page 48)	–	–	–	–
200-200-501	–	–	(⇒ Page 87)	(⇒ Page 128)	–	–
200-200-503	–	(⇒ Page 49)	(⇒ Page 88)	(⇒ Page 129)	–	–
250-250-315	–	(⇒ Page 50)	(⇒ Page 89)	(⇒ Page 130)	–	–
250-250-400	–	(⇒ Page 51)	(⇒ Page 90)	(⇒ Page 131)	–	–
250-250-403	–	(⇒ Page 52)	(⇒ Page 91)	(⇒ Page 132)	–	–
250-250-500	–	(⇒ Page 53)	(⇒ Page 92)	(⇒ Page 133)	–	–
250-250-503	–	(⇒ Page 54)	(⇒ Page 93)	(⇒ Page 134)	–	–
250-250-505	–	(⇒ Page 55)	(⇒ Page 94)	(⇒ Page 135)	–	–
250-250-630	–	–	(⇒ Page 95)	(⇒ Page 136)	(⇒ Page 168)	–
250-250-634	–	–	(⇒ Page 96)	(⇒ Page 137)	(⇒ Page 169)	–
300-300-400	–	(⇒ Page 56)	(⇒ Page 97)	(⇒ Page 138)	–	–
300-300-401	–	(⇒ Page 57)	(⇒ Page 98)	(⇒ Page 139)	–	–
300-300-500	–	(⇒ Page 58)	(⇒ Page 99)	(⇒ Page 140)	–	–

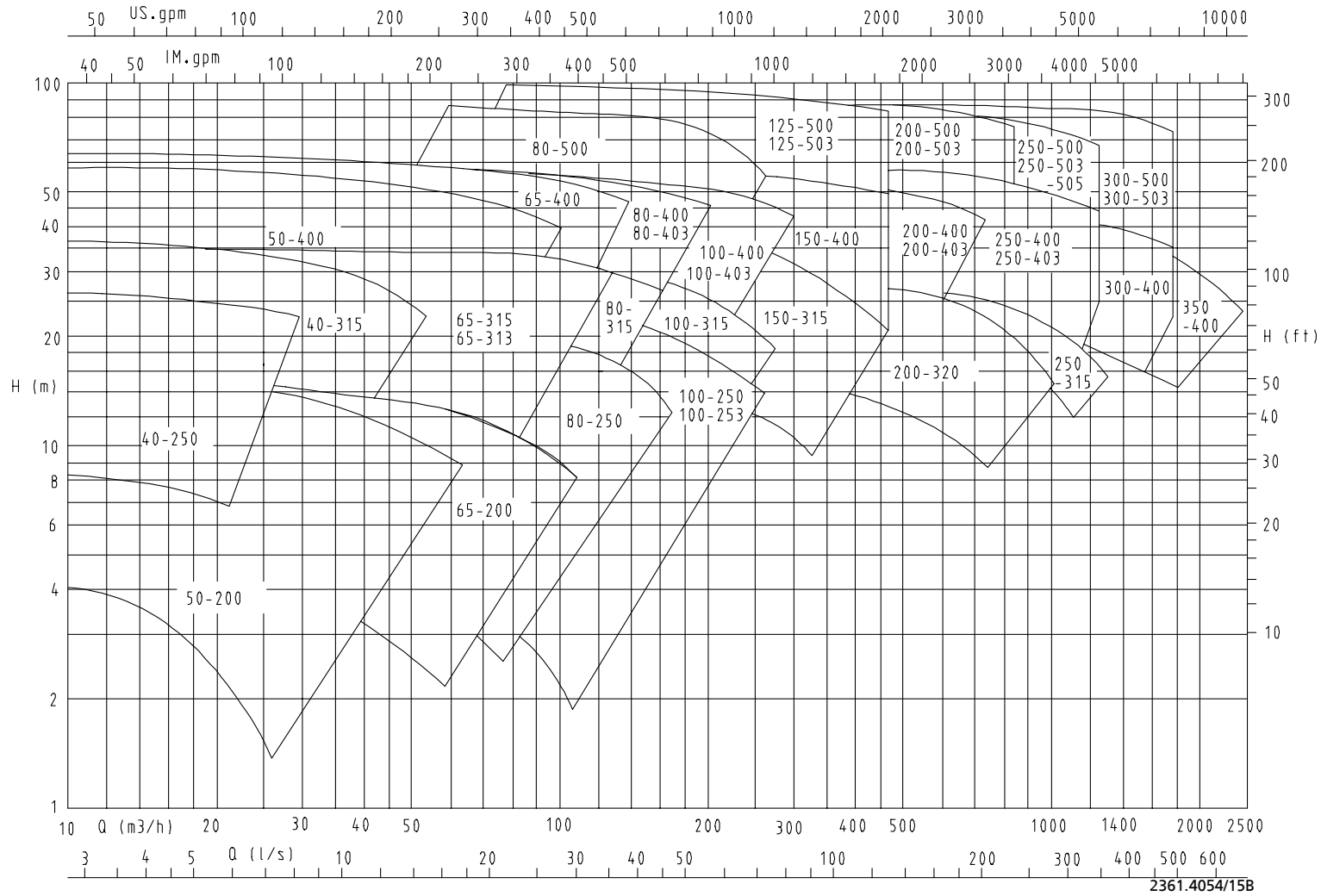
Size	Speed [rpm]					
	2900	1450	960	725	580	480
300-300-503	–	(⇒ Page 59)	(⇒ Page 100)	(⇒ Page 141)	–	–
350-350-400	–	(⇒ Page 60)	(⇒ Page 101)	(⇒ Page 142)	–	–
350-350-500	–	–	(⇒ Page 102)	(⇒ Page 143)	–	–
350-350-503	–	–	(⇒ Page 103)	(⇒ Page 144)	–	–
350-350-504	–	–	(⇒ Page 104)	(⇒ Page 145)	–	–
350-350-630	–	–	(⇒ Page 105)	(⇒ Page 146)	(⇒ Page 170)	–
350-350-633	–	–	(⇒ Page 106)	(⇒ Page 147)	(⇒ Page 171)	–
400-400-500	–	–	(⇒ Page 107)	(⇒ Page 148)	–	–
400-400-503	–	–	(⇒ Page 108)	(⇒ Page 149)	–	–
400-400-533	–	–	(⇒ Page 109)	(⇒ Page 150)	(⇒ Page 172)	–
400-400-583	–	–	(⇒ Page 110)	(⇒ Page 151)	(⇒ Page 173)	–
500-400-710	–	–	(⇒ Page 111)	(⇒ Page 152)	(⇒ Page 174)	(⇒ Page 200)
500-400-713	–	–	(⇒ Page 112)	(⇒ Page 153)	(⇒ Page 175)	(⇒ Page 201)
500-500-544	–	–	(⇒ Page 113)	(⇒ Page 154)	(⇒ Page 176)	–
500-500-630	–	–	(⇒ Page 114)	(⇒ Page 155)	(⇒ Page 177)	–
500-500-633	–	–	(⇒ Page 115)	(⇒ Page 156)	(⇒ Page 178)	–
500-500-634	–	–	(⇒ Page 116)	(⇒ Page 157)	(⇒ Page 179)	–
500-500-635	–	–	(⇒ Page 117)	(⇒ Page 158)	(⇒ Page 180)	–
500-500-637	–	–	(⇒ Page 118)	(⇒ Page 159)	(⇒ Page 181)	–
600-600-663	–	–	–	(⇒ Page 160)	(⇒ Page 182)	–
600-600-669	–	–	–	(⇒ Page 161)	(⇒ Page 183)	–
600-600-710	–	–	–	(⇒ Page 162)	(⇒ Page 184)	(⇒ Page 202)
600-600-753	–	–	–	(⇒ Page 163)	(⇒ Page 185)	(⇒ Page 203)
600-600-803	–	–	–	(⇒ Page 164)	(⇒ Page 186)	(⇒ Page 204)
600-600-813	–	–	–	(⇒ Page 165)	(⇒ Page 187)	(⇒ Page 205)
600-600-824	–	–	–	(⇒ Page 166)	(⇒ Page 188)	(⇒ Page 206)
600-600-825	–	–	–	(⇒ Page 167)	(⇒ Page 189)	(⇒ Page 207)
600-600-873	–	–	–	–	(⇒ Page 190)	(⇒ Page 208)
600-600-923	–	–	–	–	(⇒ Page 191)	(⇒ Page 209)
700-700-923	–	–	–	–	(⇒ Page 192)	(⇒ Page 210)
700-700-929	–	–	–	–	(⇒ Page 193)	(⇒ Page 211)
800-700-953	–	–	–	–	(⇒ Page 194)	(⇒ Page 212)
800-700-959	–	–	–	–	(⇒ Page 195)	(⇒ Page 213)
800-800-934	–	–	–	–	(⇒ Page 196)	(⇒ Page 214)
800-800-935	–	–	–	–	(⇒ Page 197)	(⇒ Page 215)
800-800-939	–	–	–	–	(⇒ Page 198)	(⇒ Page 216)
800-900-883	–	–	–	–	(⇒ Page 199)	(⇒ Page 217)
900-900-1133	–	–	–	–	–	(⇒ Page 218)
900-900-1134	–	–	–	–	–	(⇒ Page 219)
900-900-1138	–	–	–	–	–	(⇒ Page 220)
900-900-1139	–	–	–	–	–	(⇒ Page 221)

Selection charts

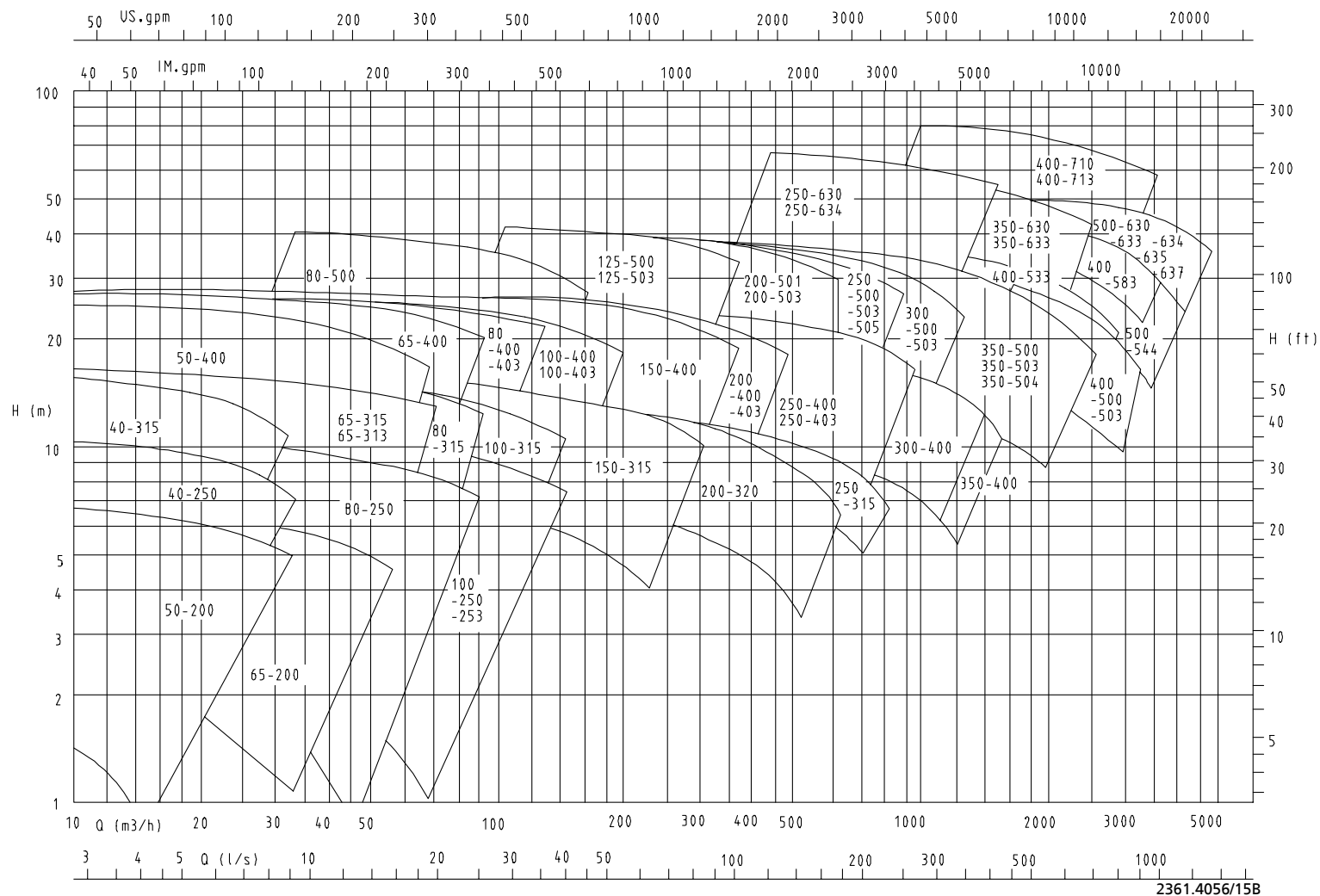
KWP K, n = 2900 rpm



KWP K, n = 1450 rpm

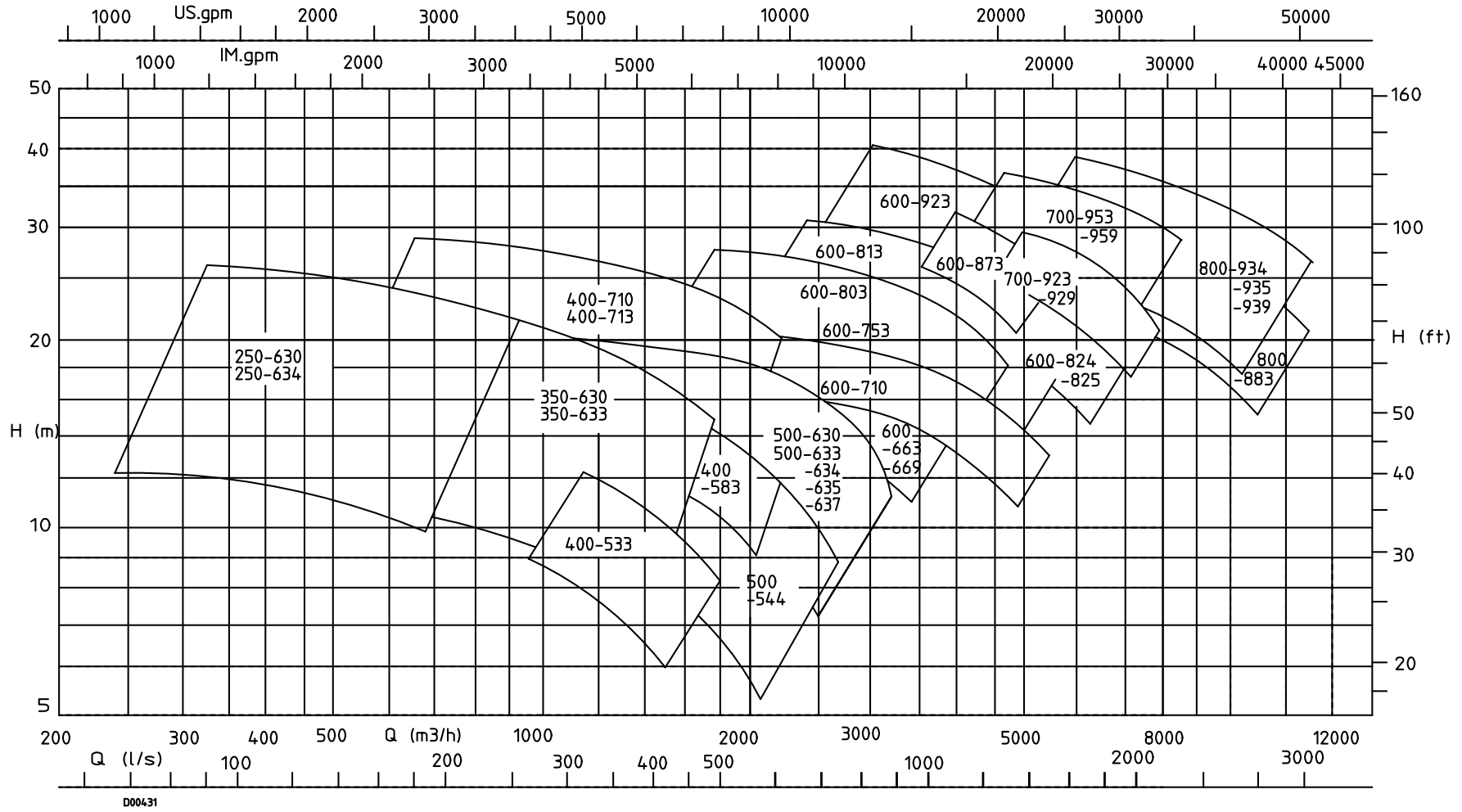


KWP K, n = 960 rpm



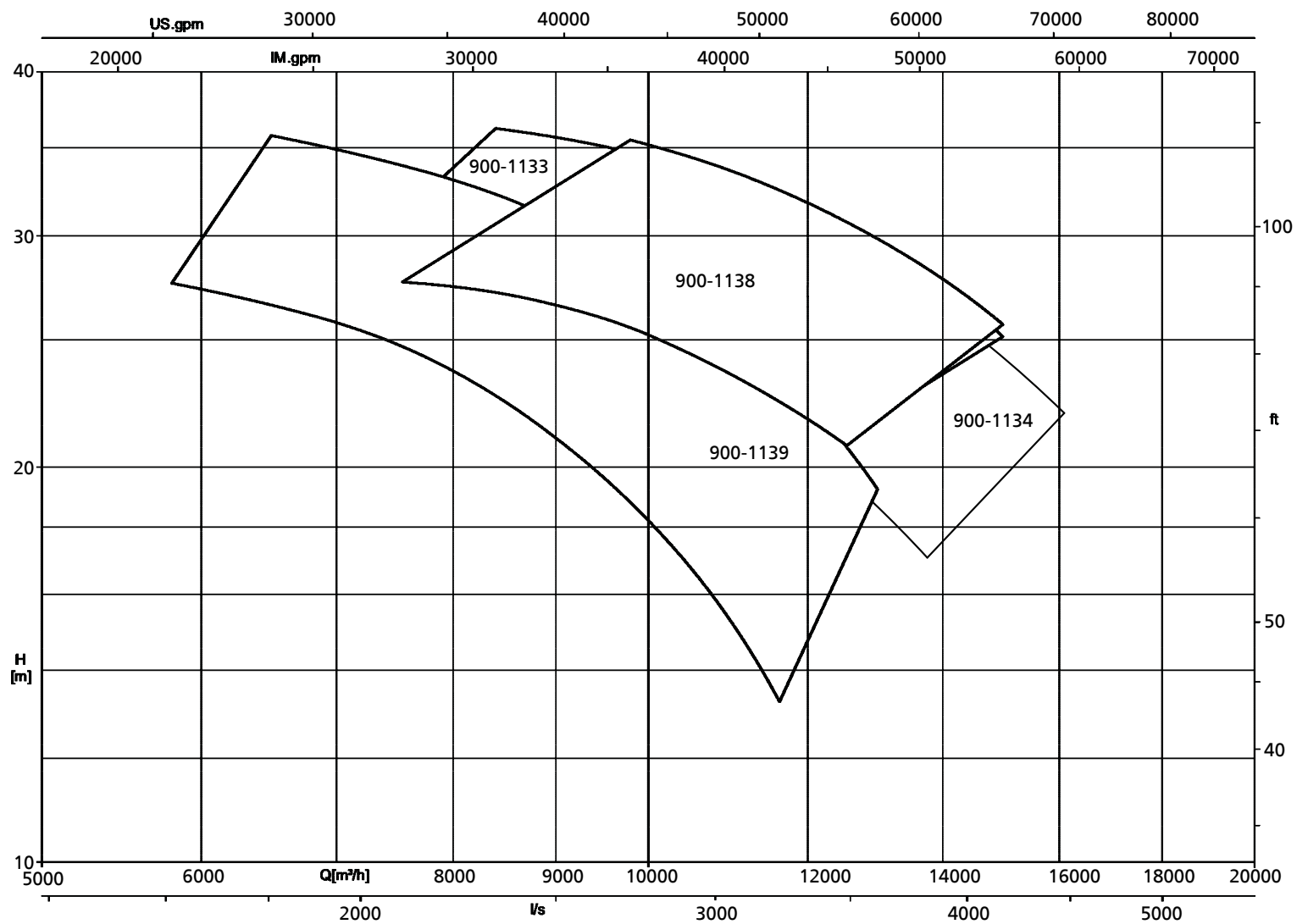
2361.4056/15B

KWP K, n = 580 rpm



D00431

KWP K, n = 480 rpm

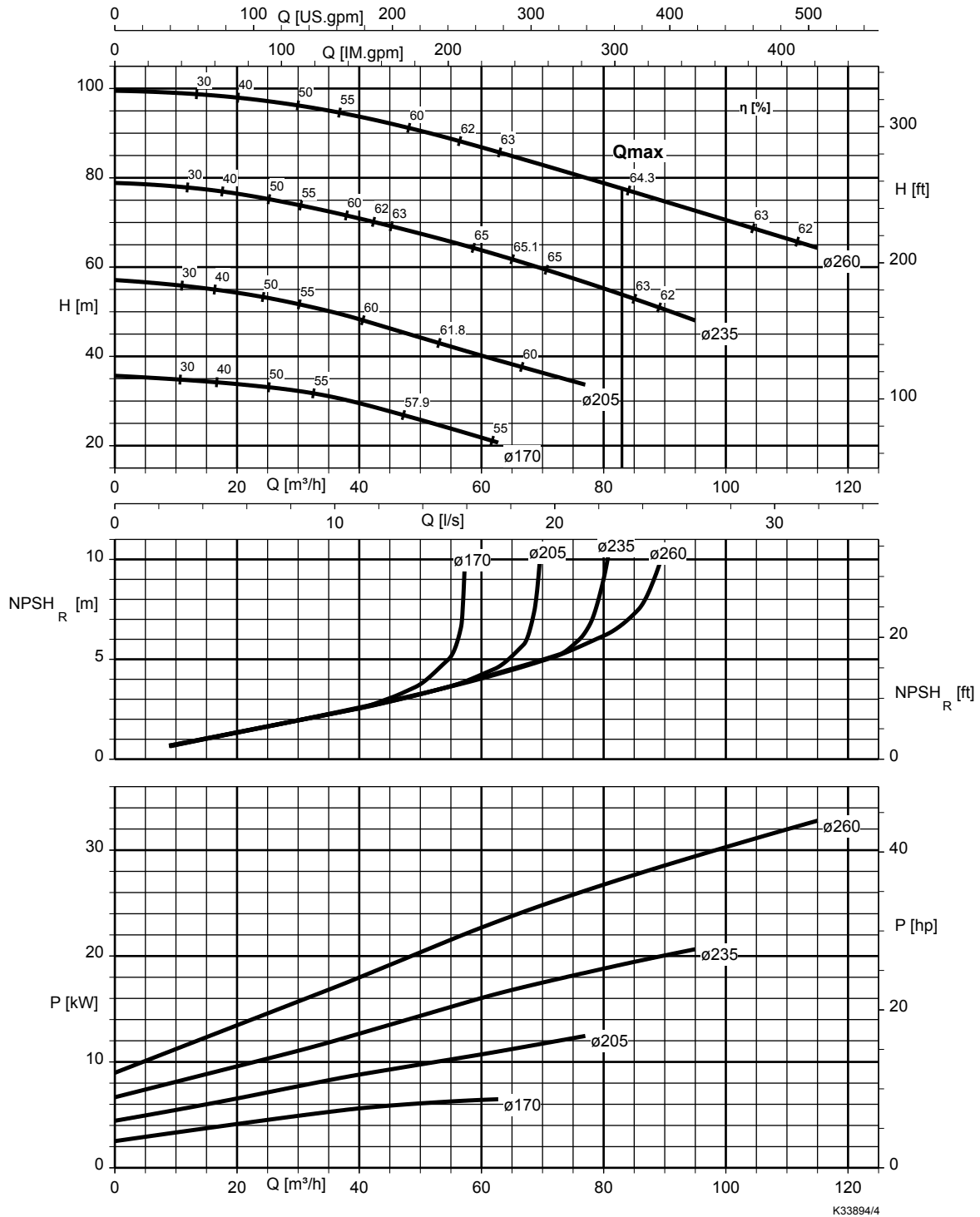


Characteristic curves

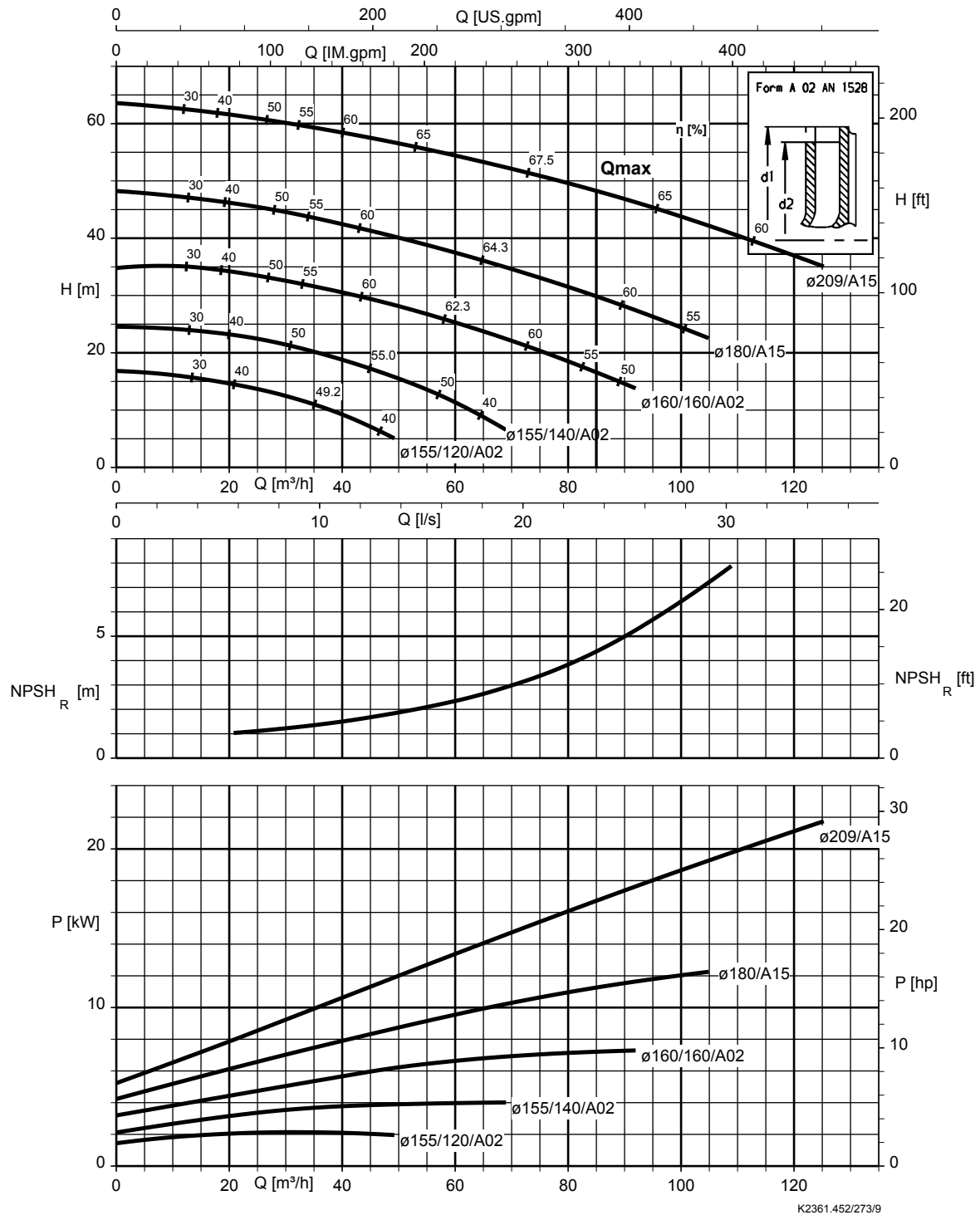
K impeller

$n = 2900 \text{ rpm}$

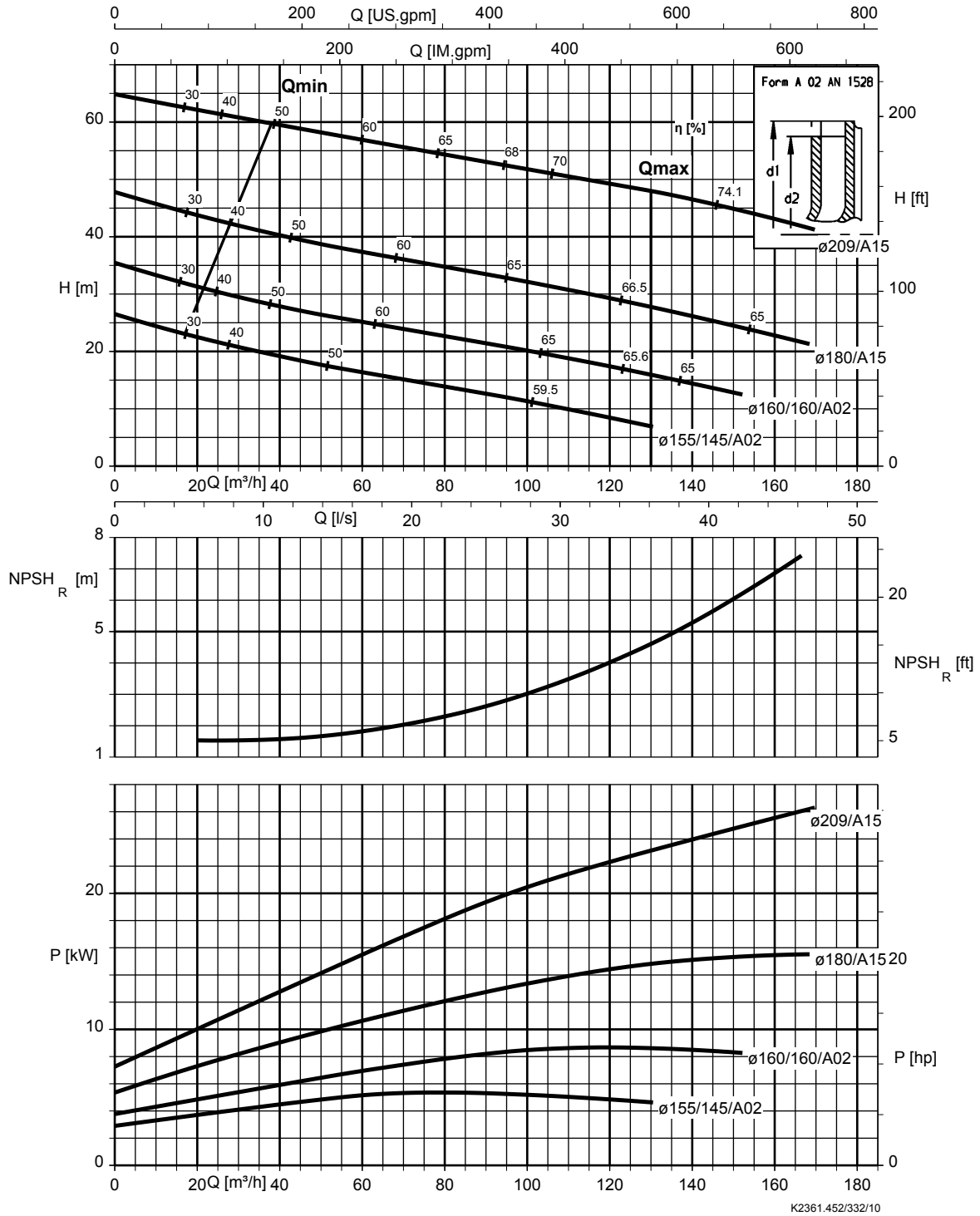
KWP K 065-040-250, $n = 2900 \text{ rpm}$



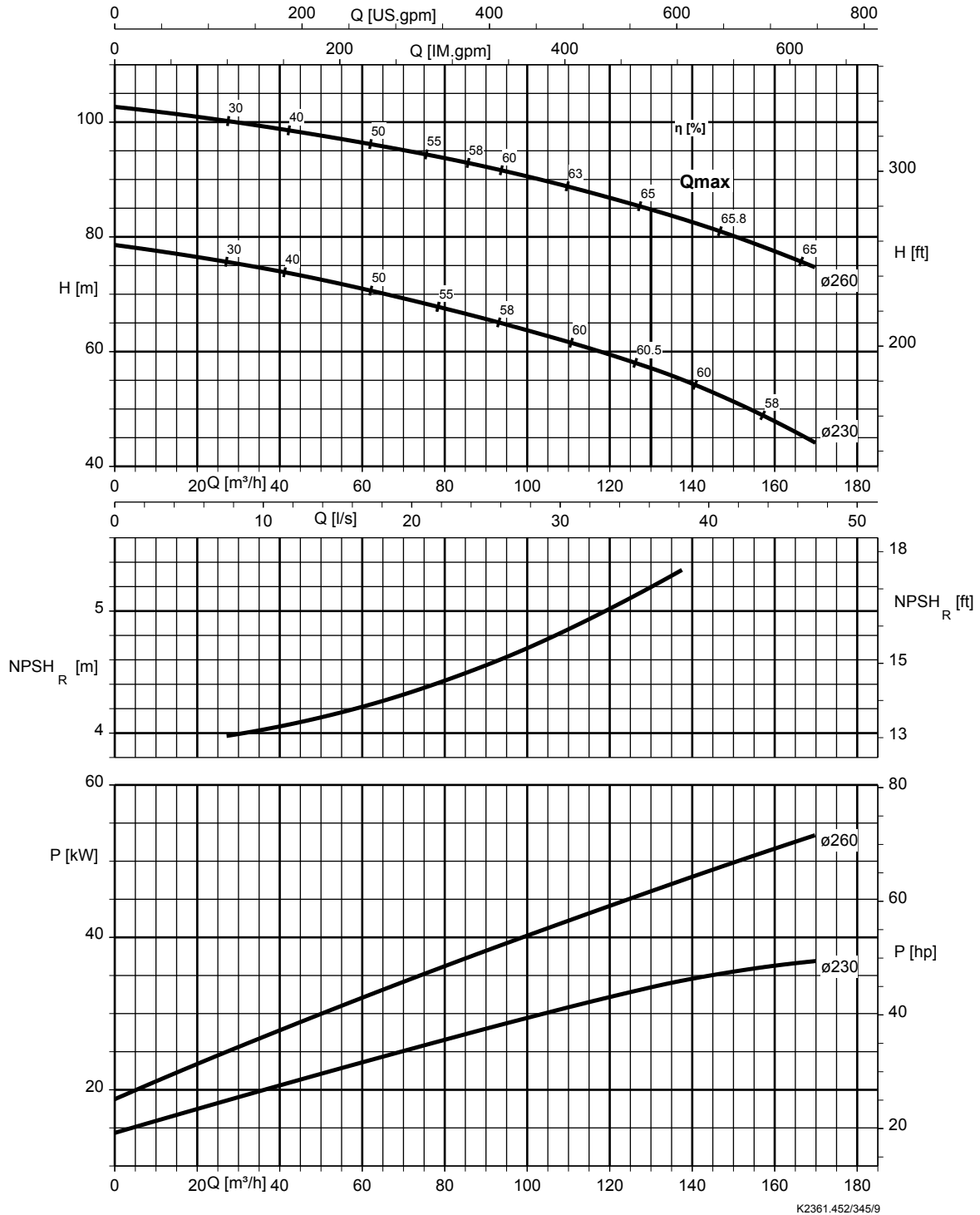
KWP K 065-050-200, $n = 2900$ rpm



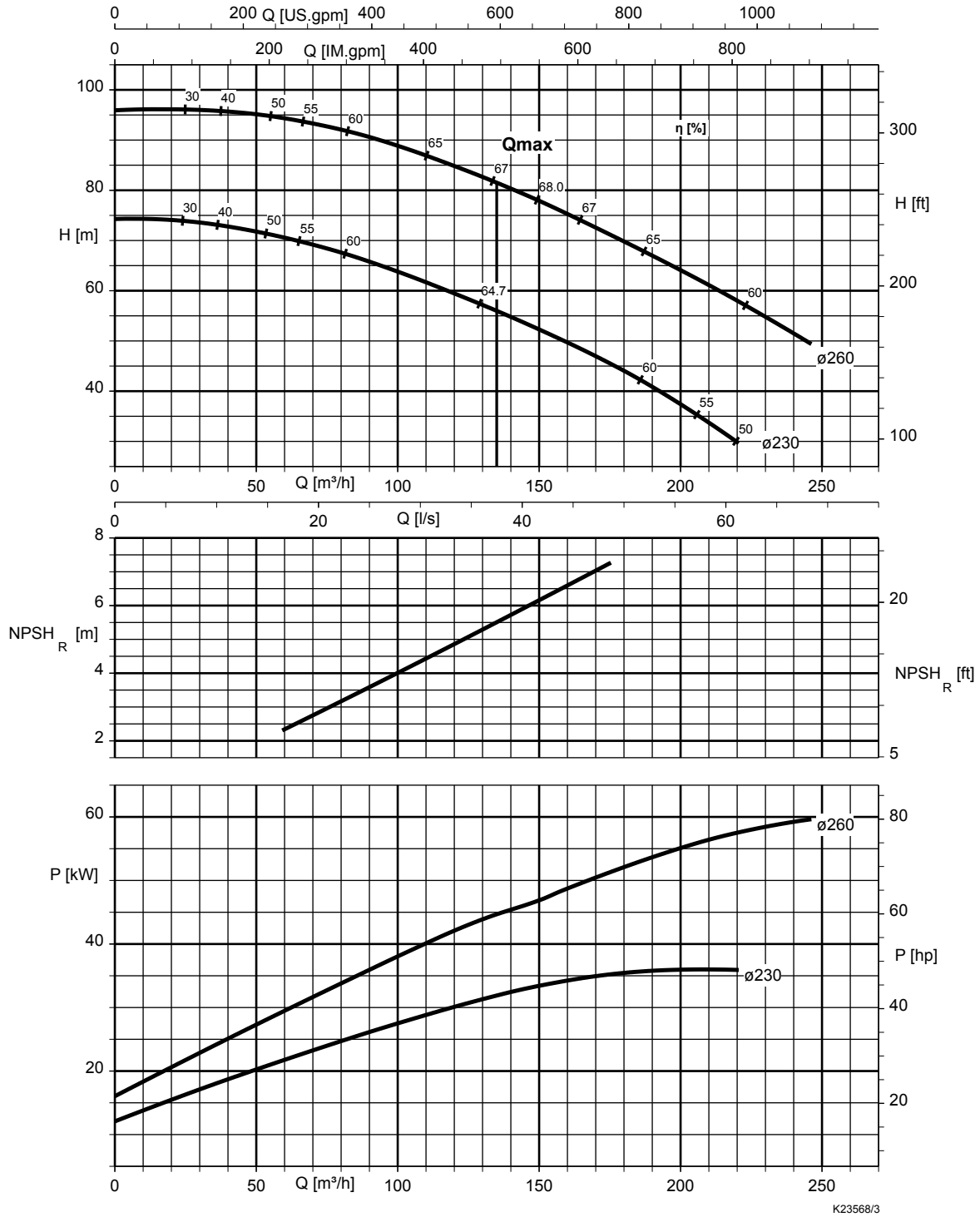
KWP K 080-065-200, $n = 2900$ rpm



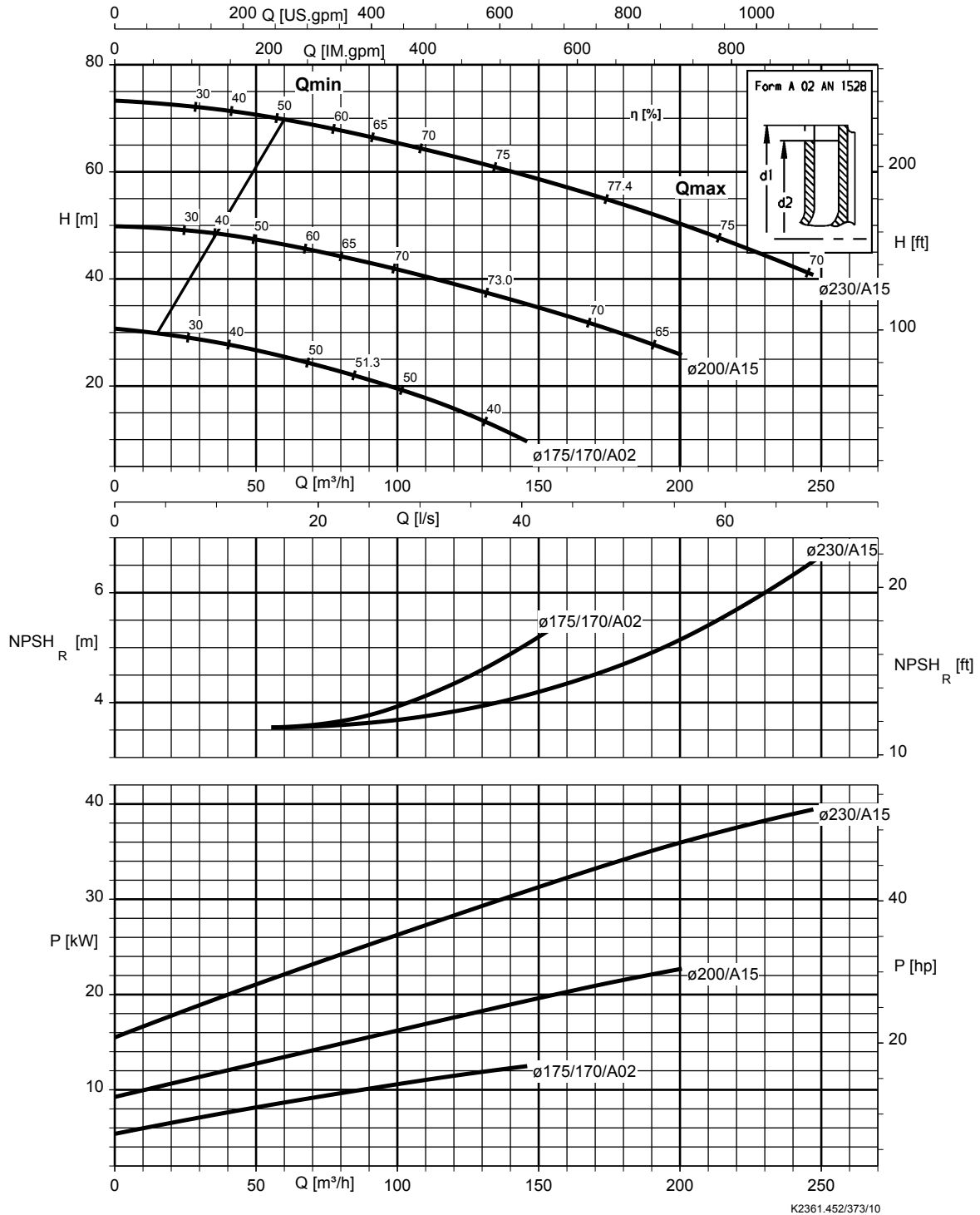
KWP K 080-065-315, $n = 2900$ rpm



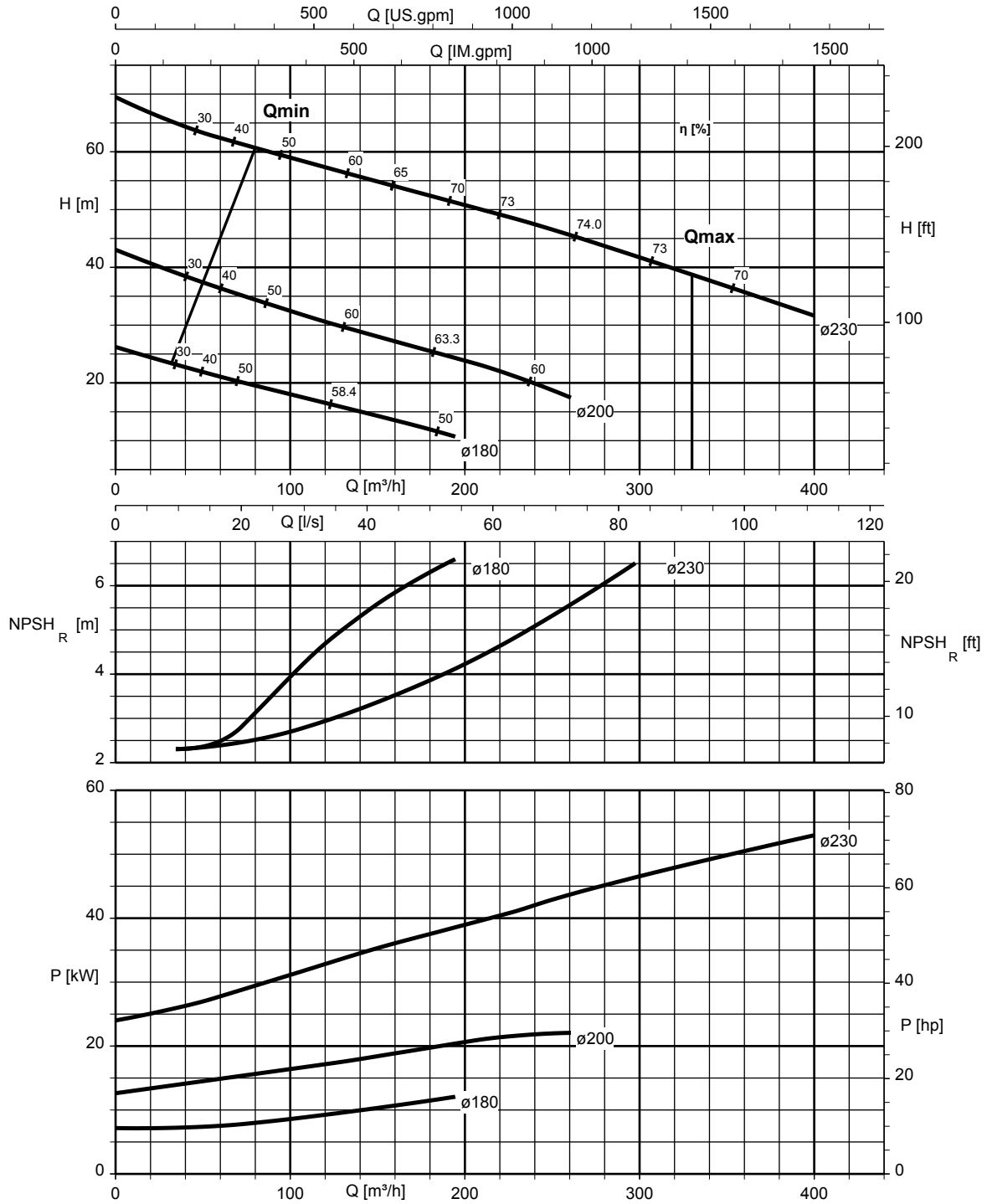
KWP K 080-065-313, $n = 2900$ rpm



KWP K 100-080-250, n = 2900 rpm

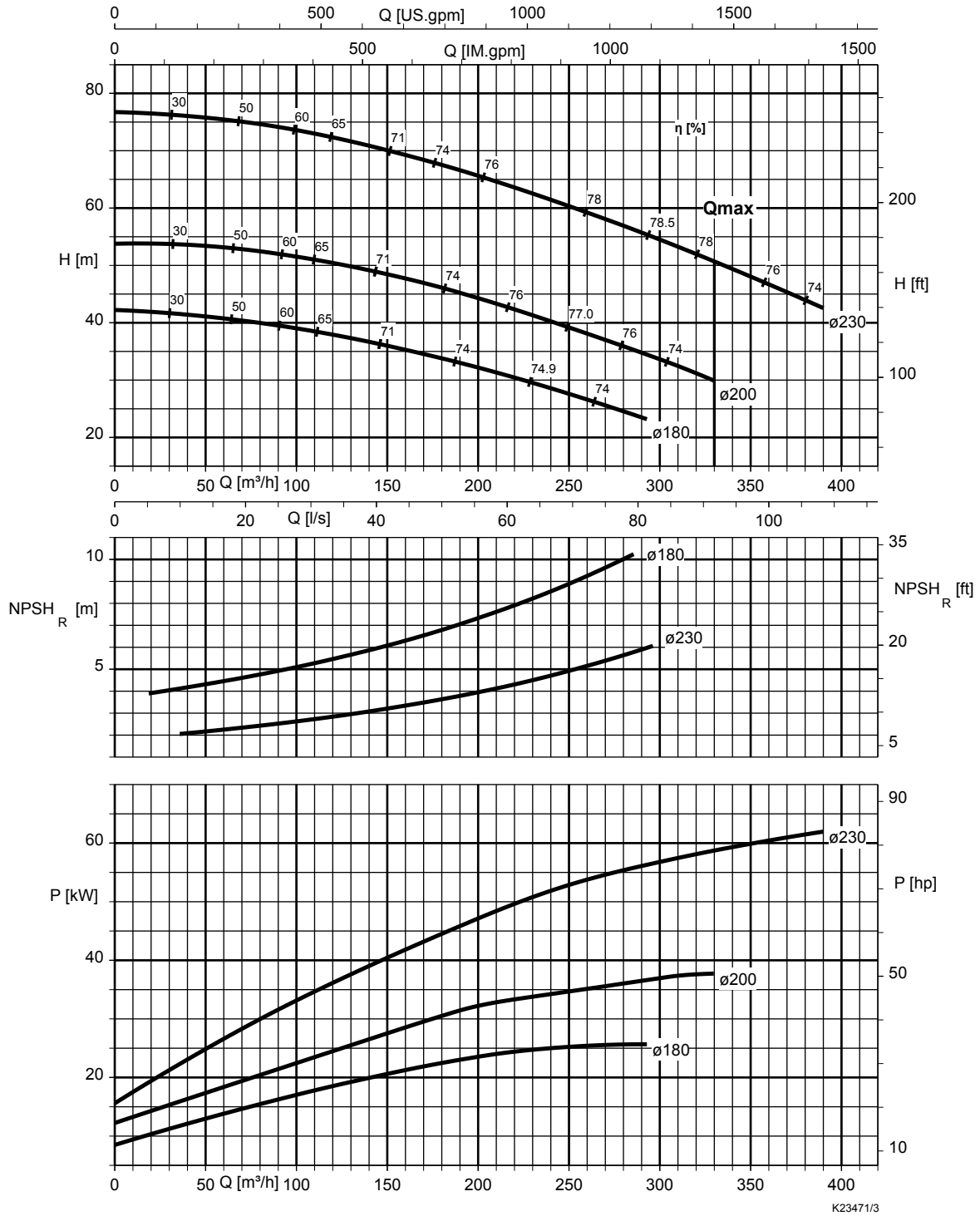


KWP K 125-100-250, n = 2900 rpm



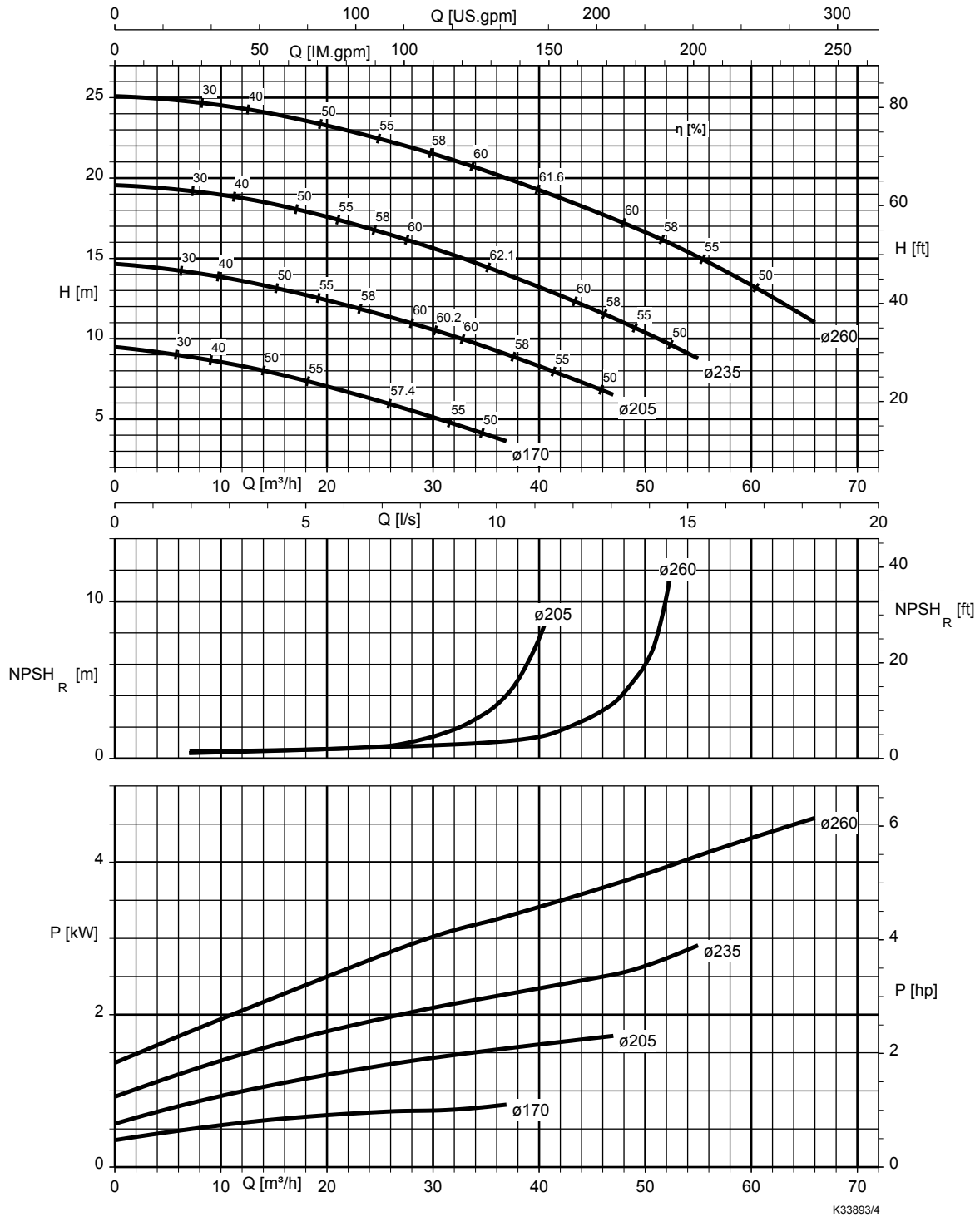
K2361.452/403/12

KWP K 125-100-253, n = 2900 rpm

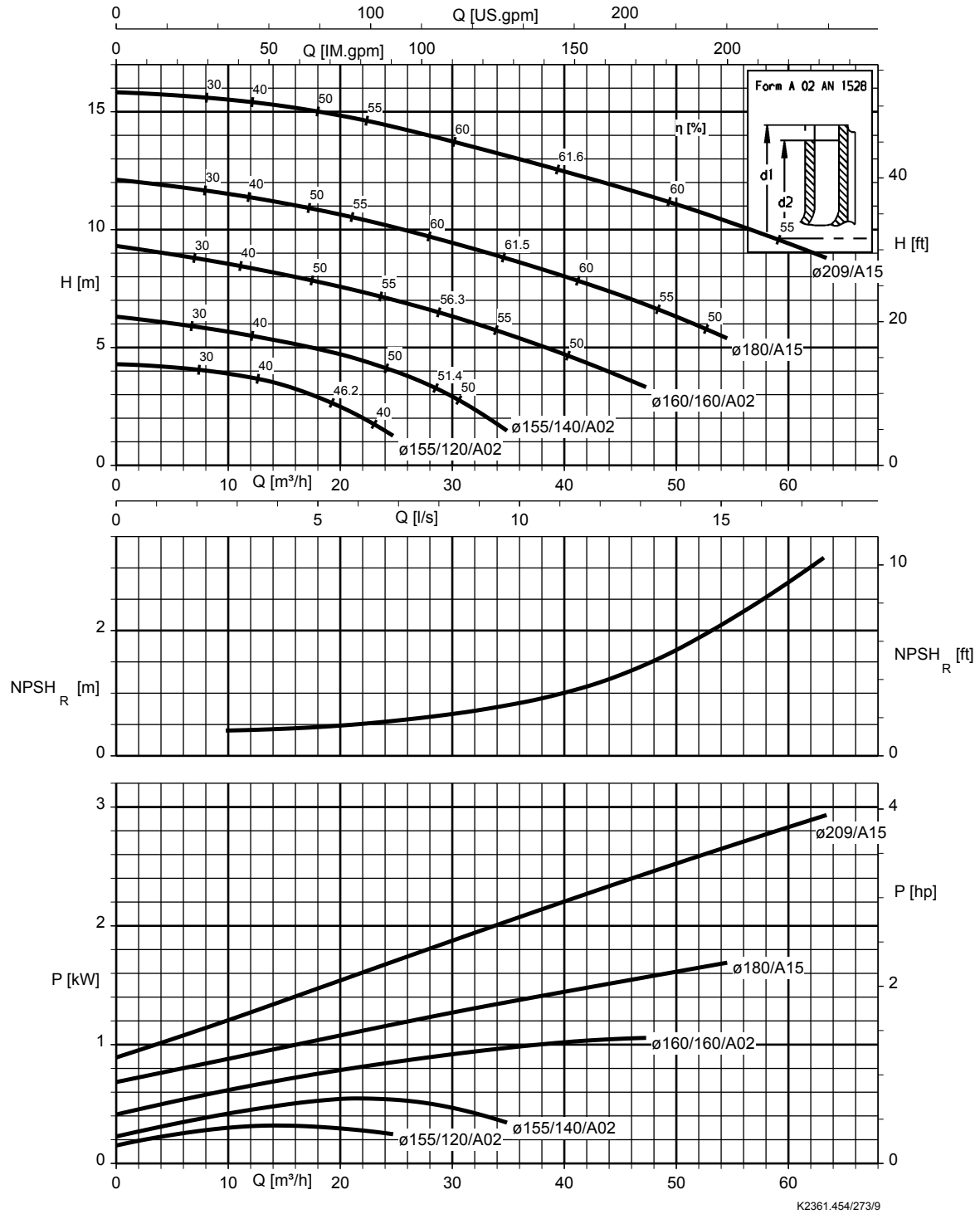


$n = 1450 \text{ rpm}$

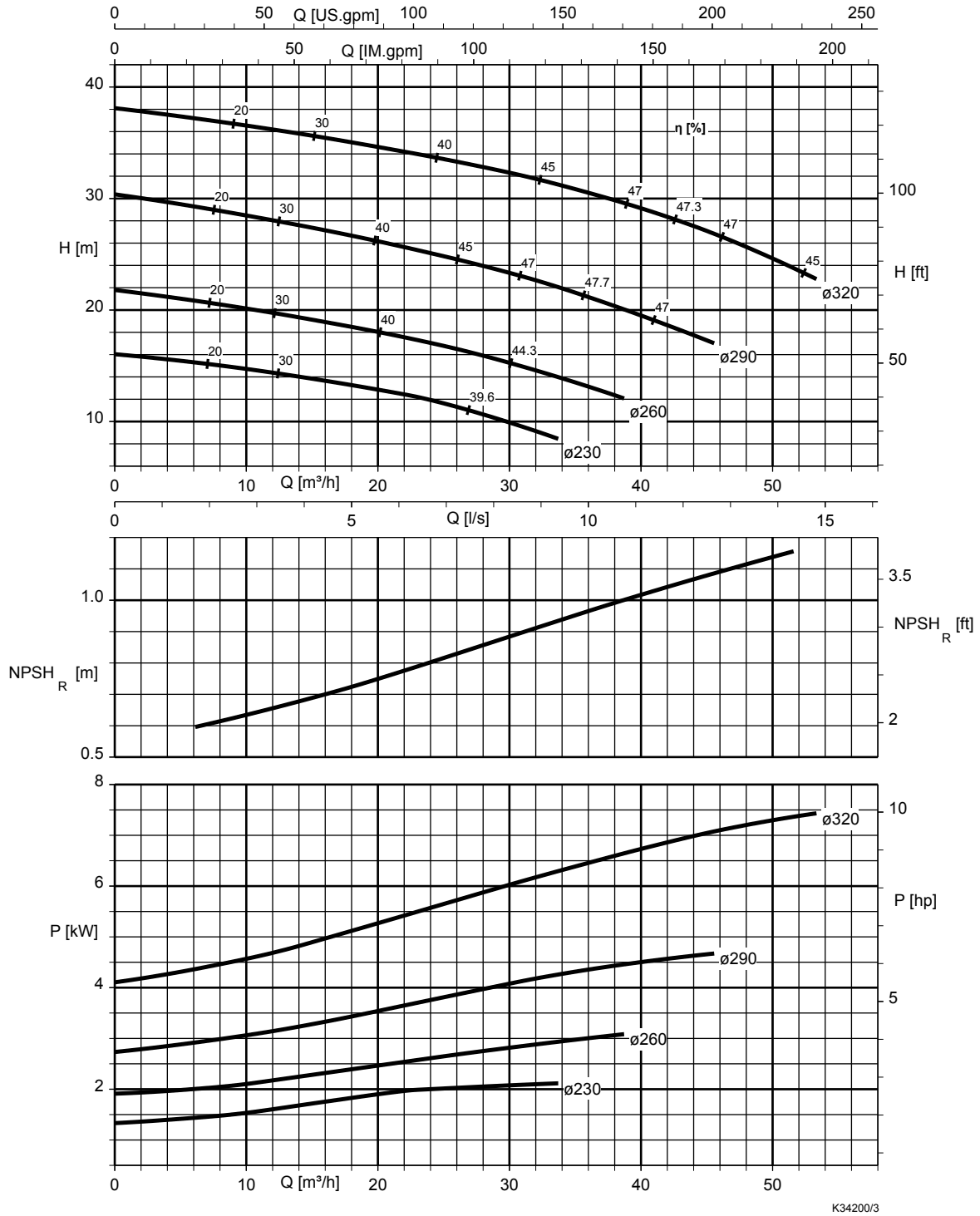
KWP K 065-040-250, $n = 1450 \text{ rpm}$



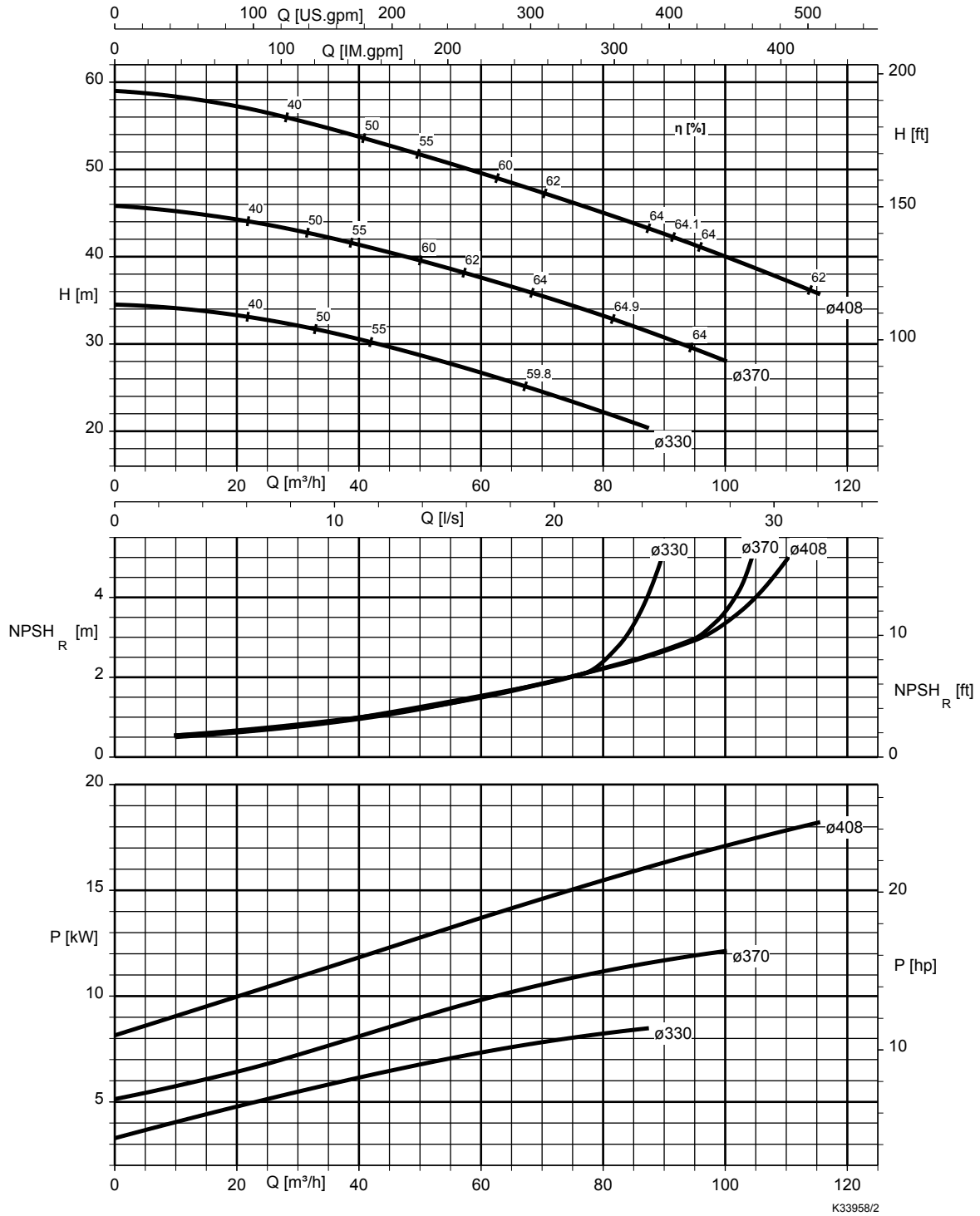
KWP K 065-050-200, n = 1450 rpm



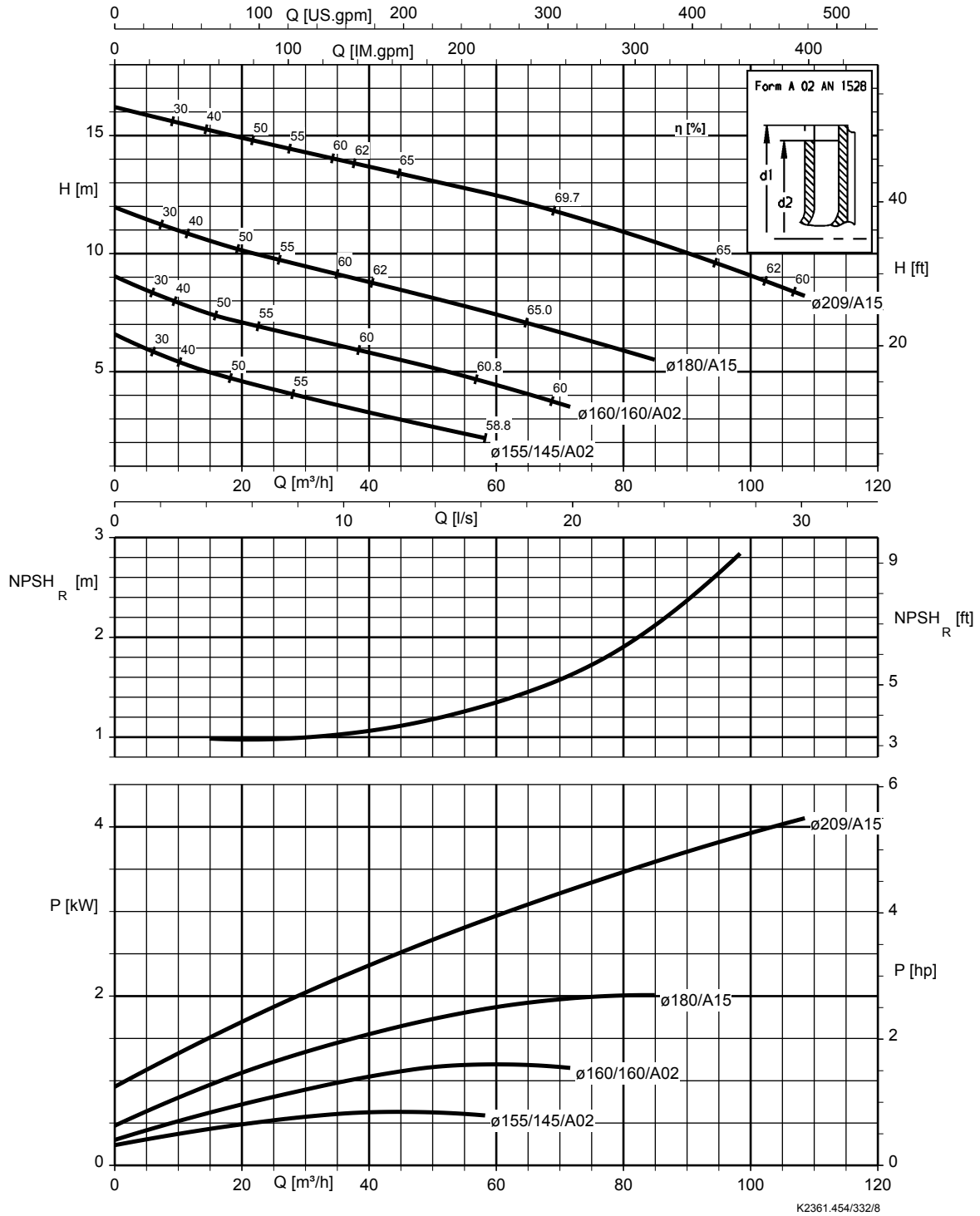
KWP K 080-040-315, $n = 1450$ rpm



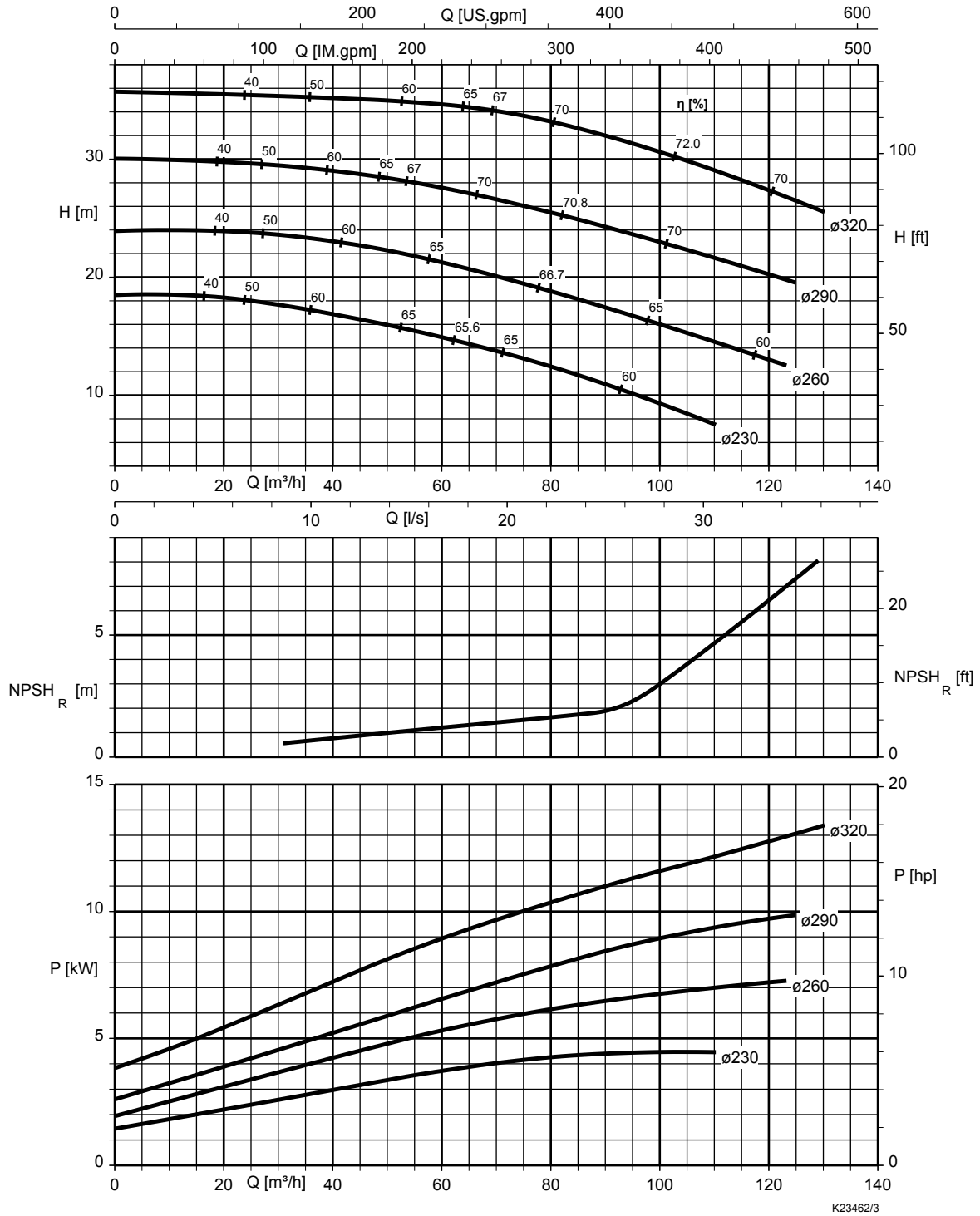
KWP K 080-050-400, $n = 1450$ rpm



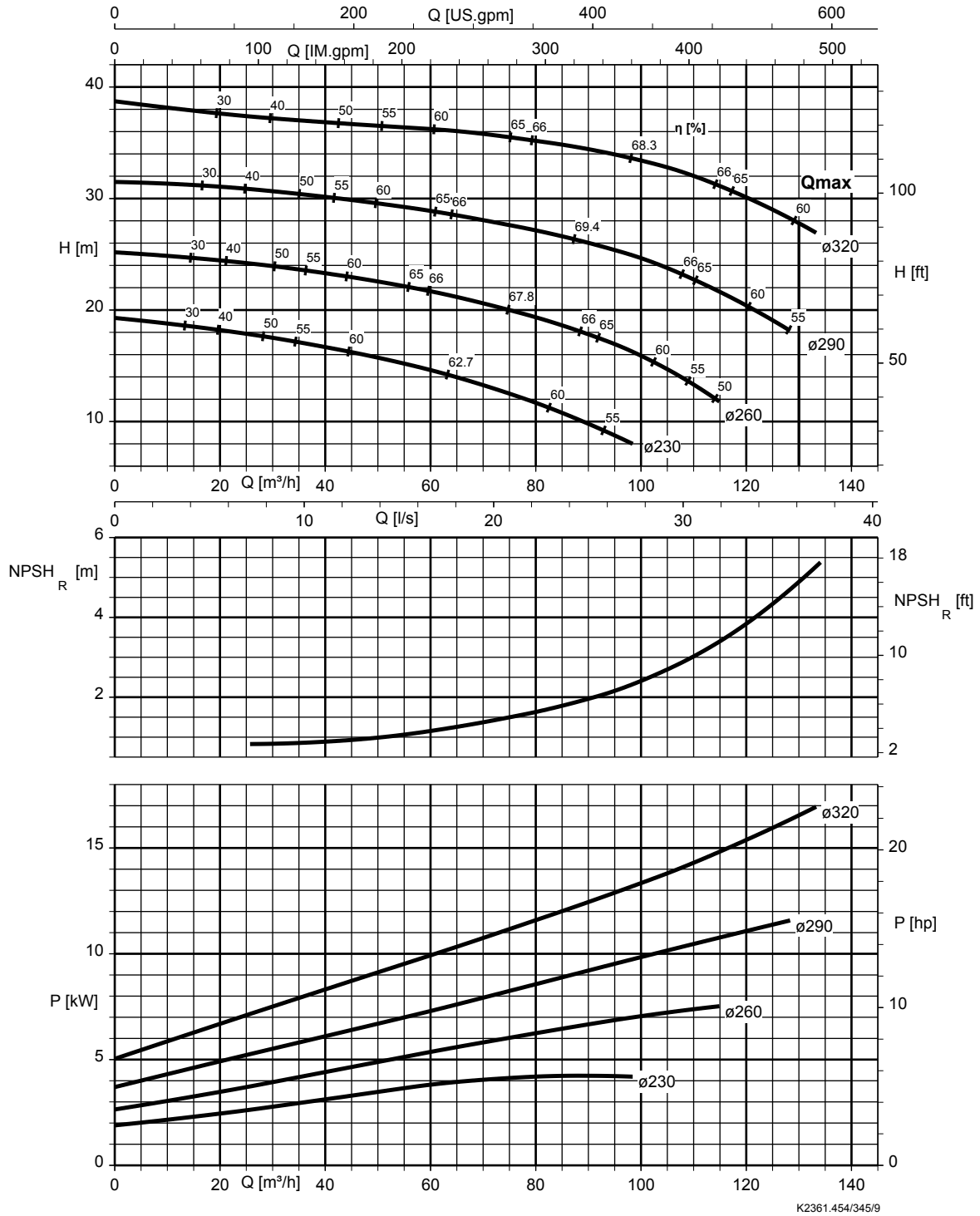
KWP K 080-065-200, n = 1450 rpm



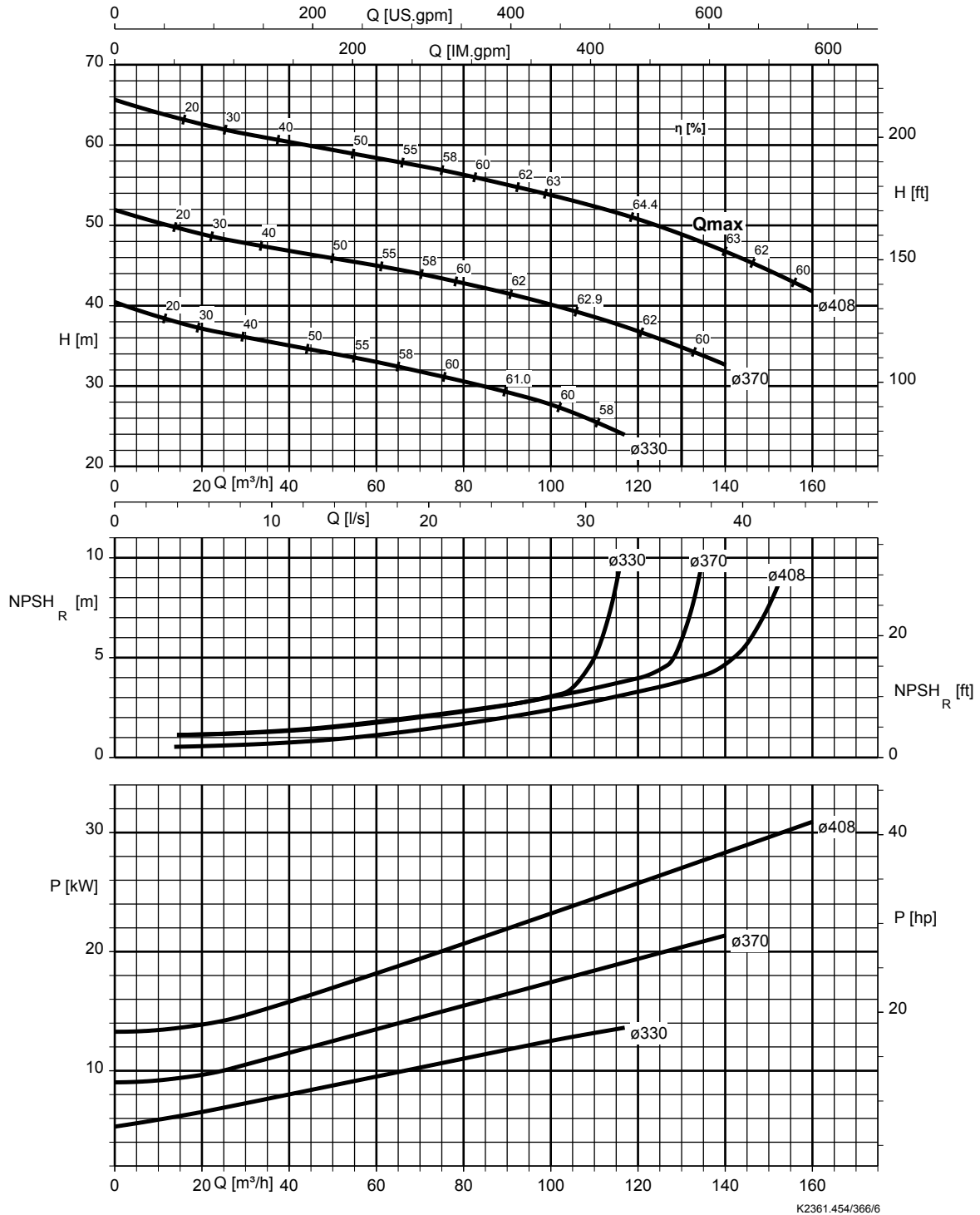
KWP K 080-065-313, $n = 1450$ rpm



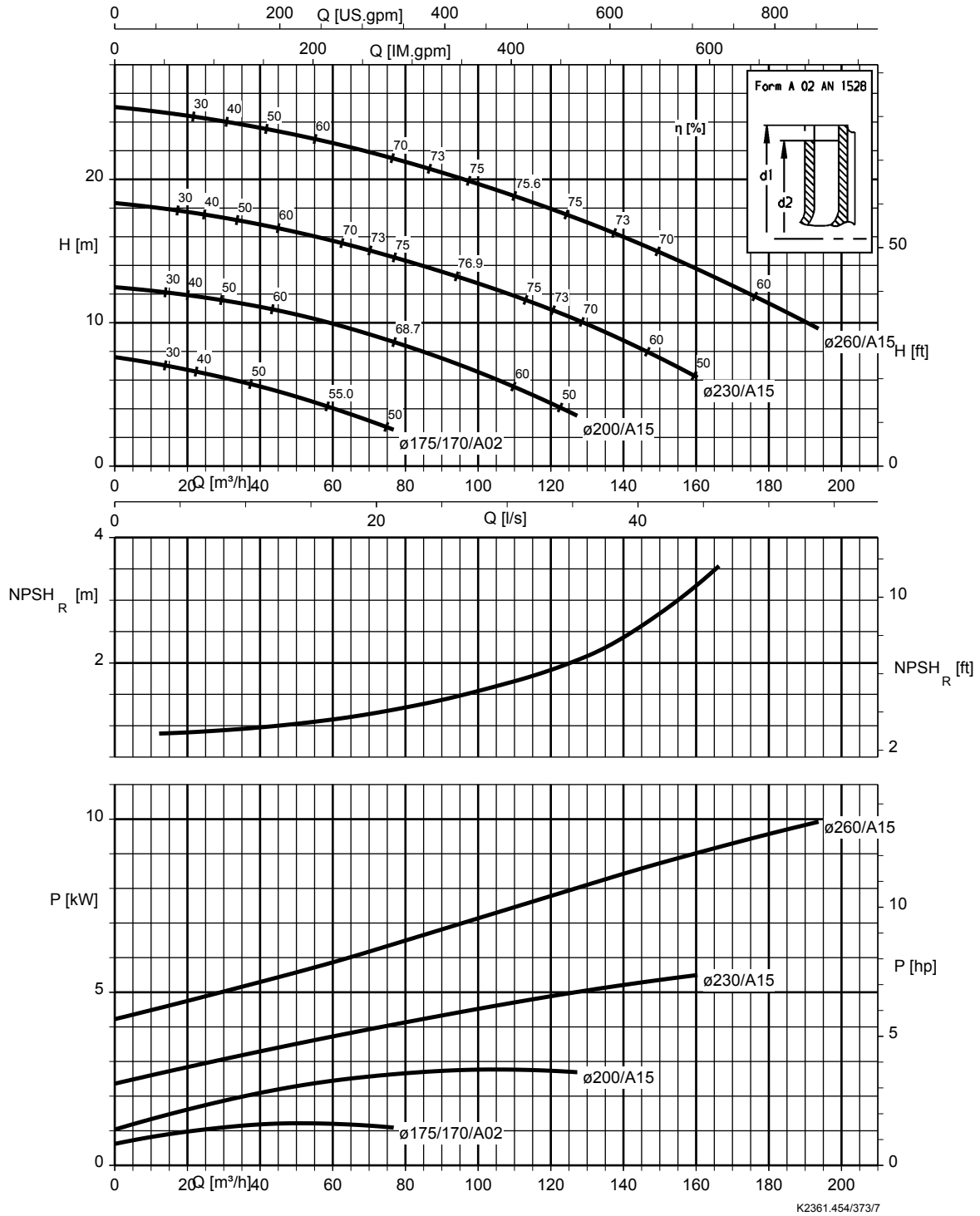
KWP K 080-065-315, $n = 1450$ rpm



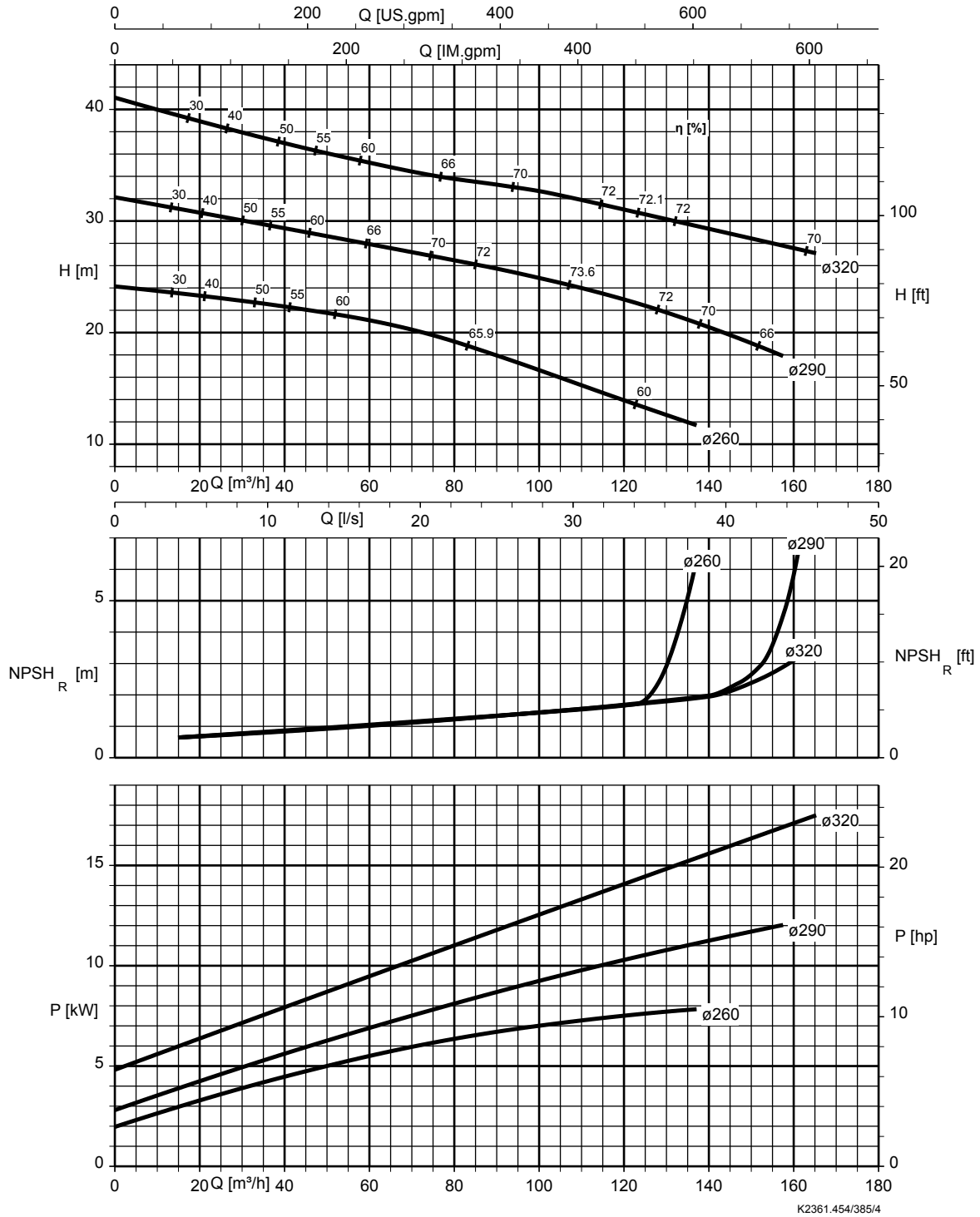
KWP K 080-065-400, $n = 1450$ rpm



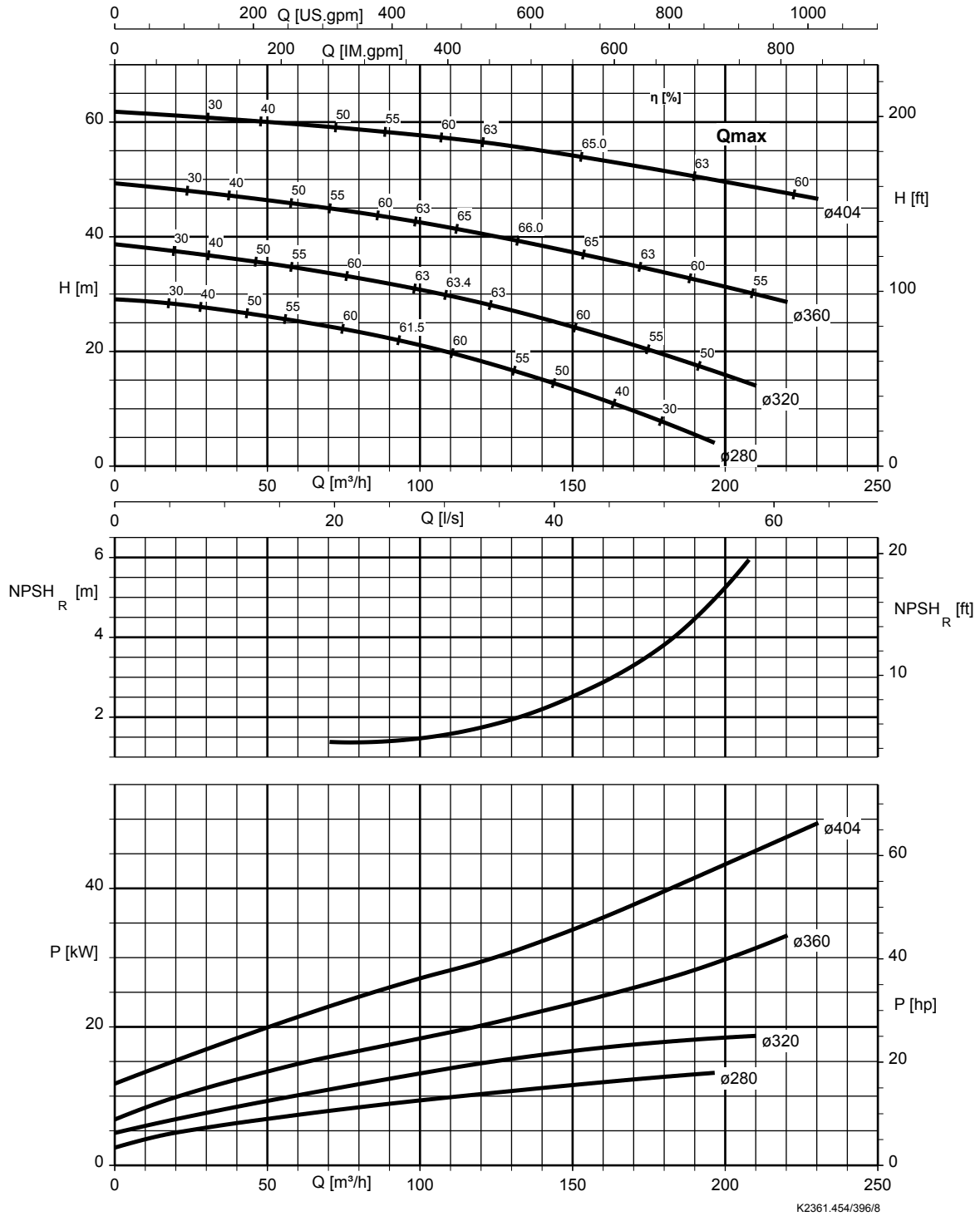
KWP K 100-080-250, $n = 1450$ rpm



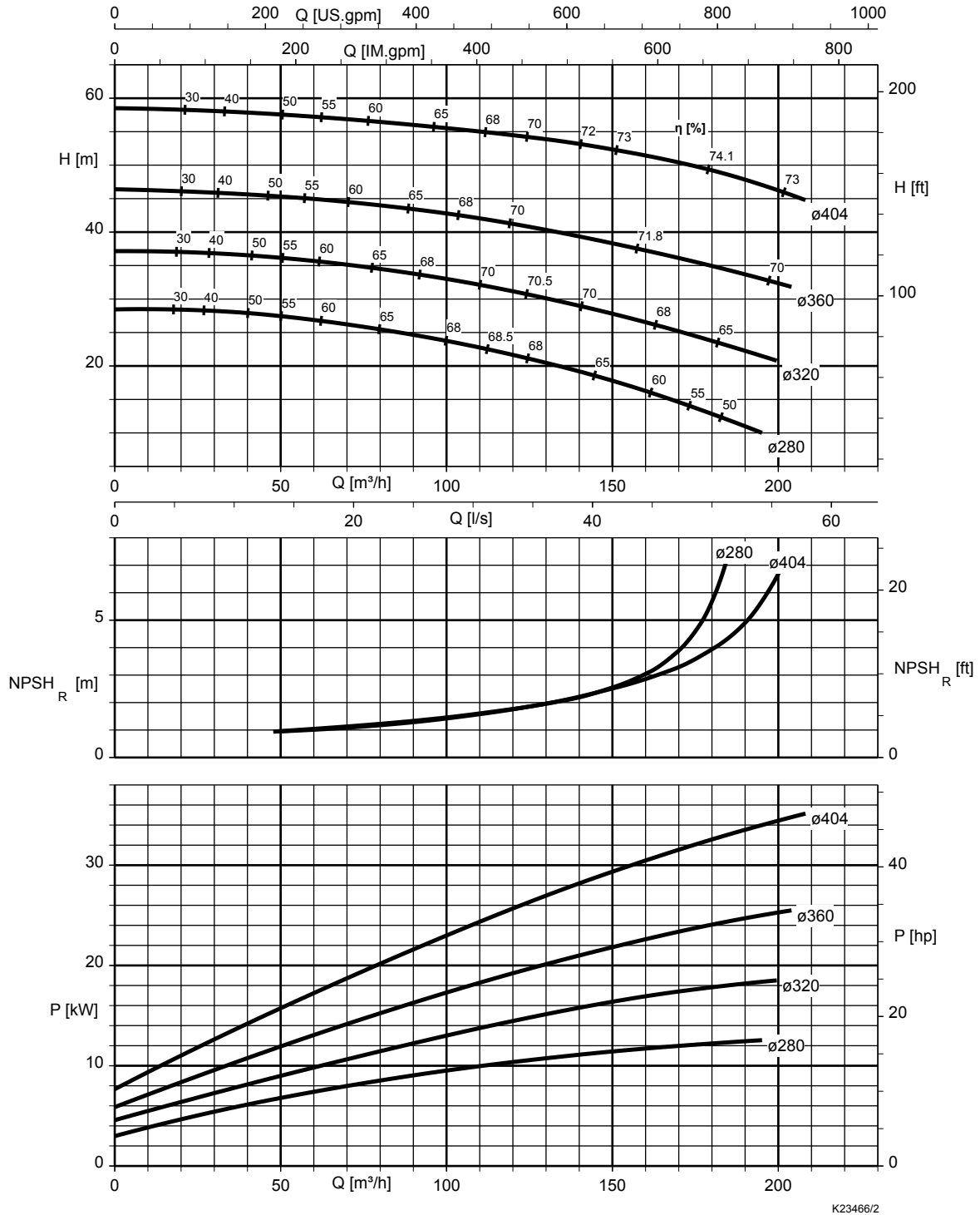
KWP K 100-080-315, n = 1450 rpm



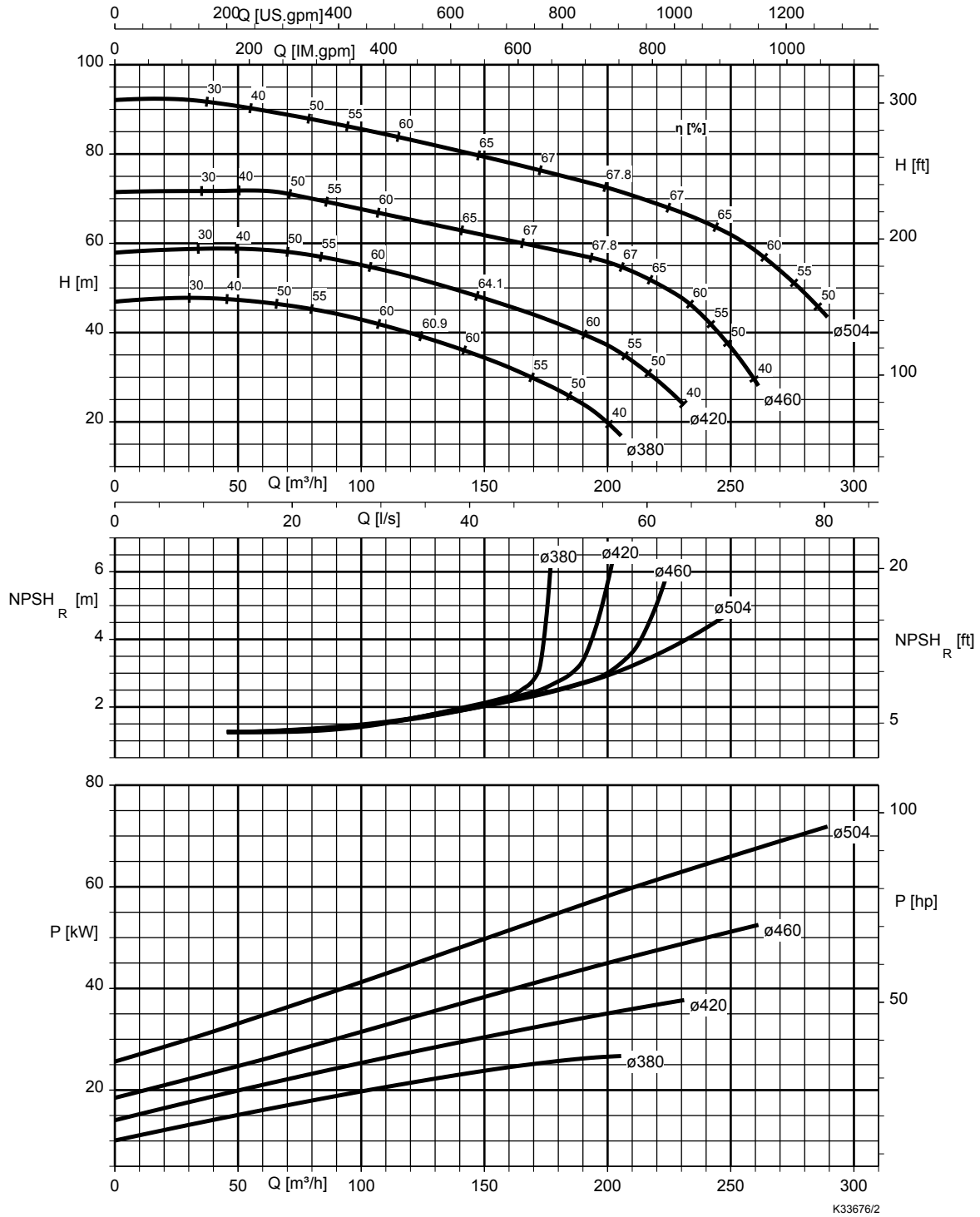
KWP K 100-080-400, $n = 1450$ rpm



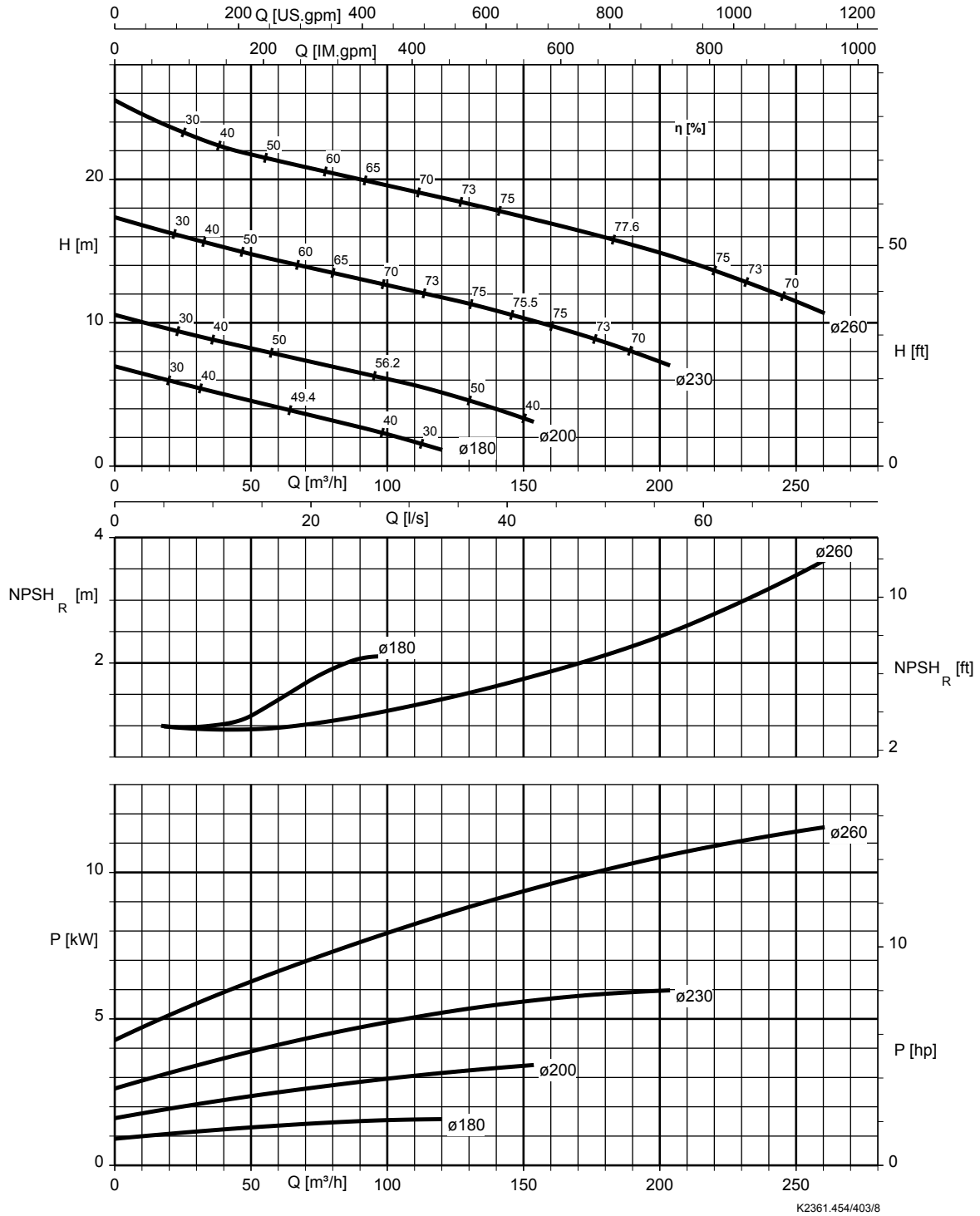
KWP K 100-080-403, n = 1450 rpm



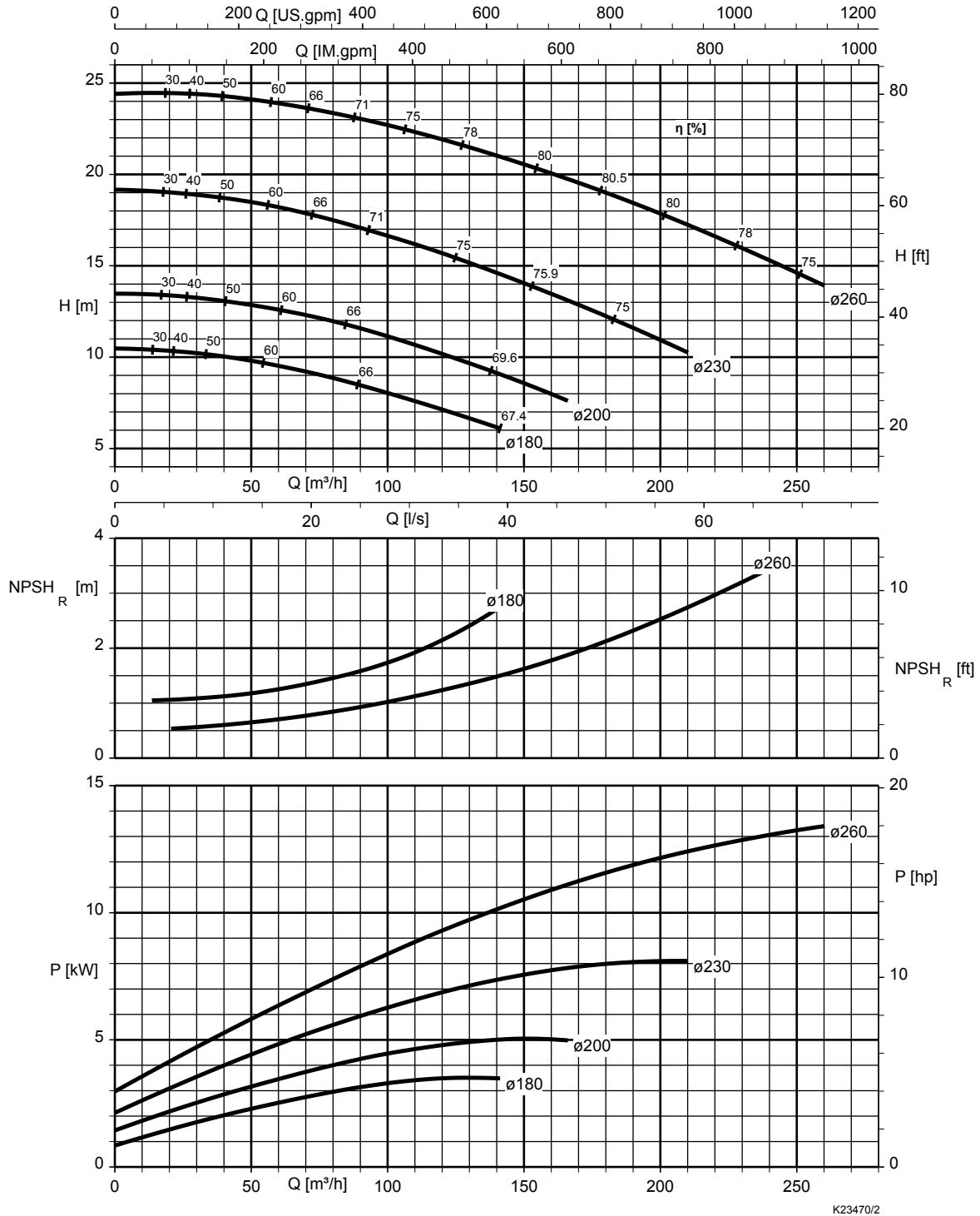
KWP K 125-080-500, $n = 1450$ rpm



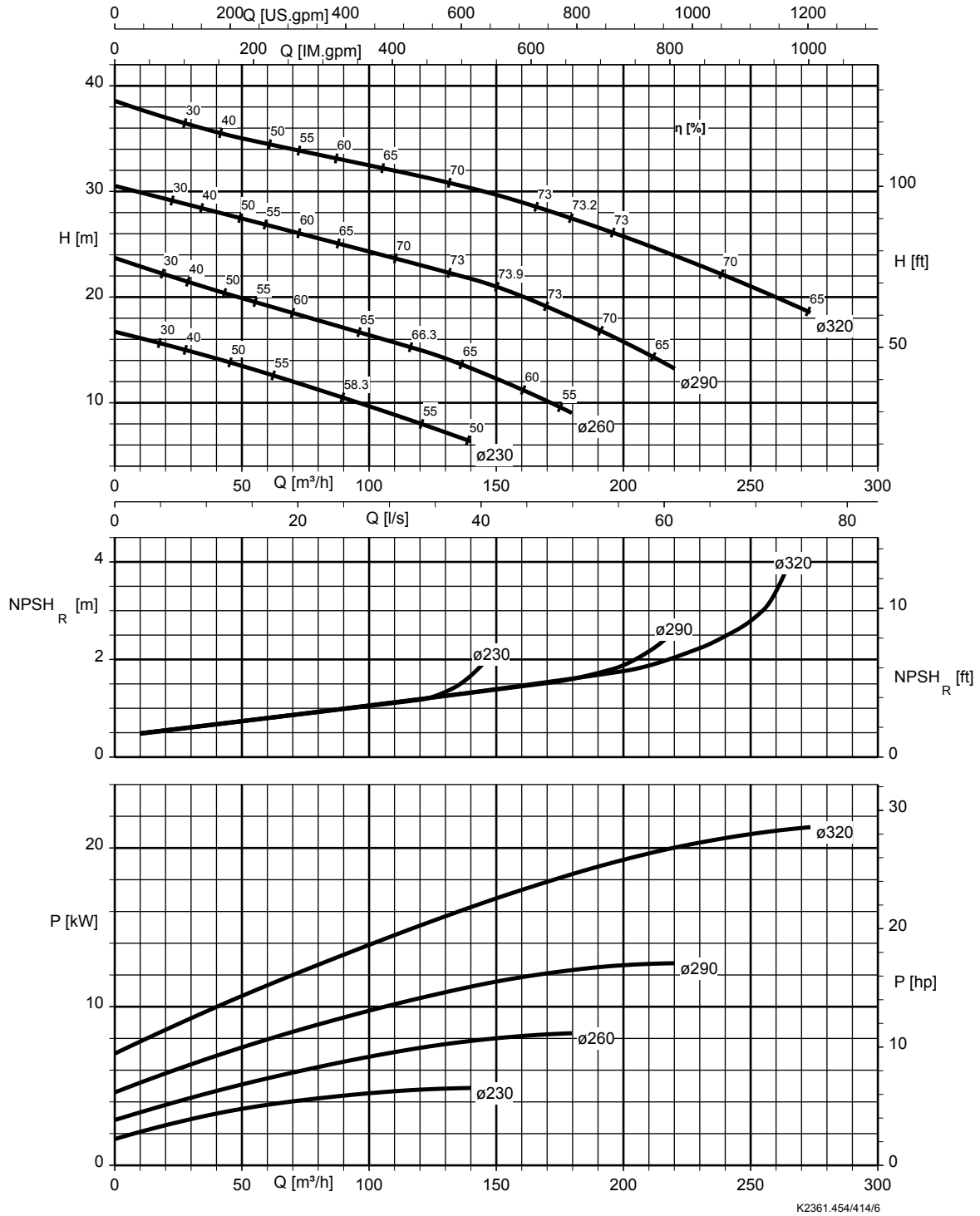
KWP K 125-100-250, n = 1450 rpm



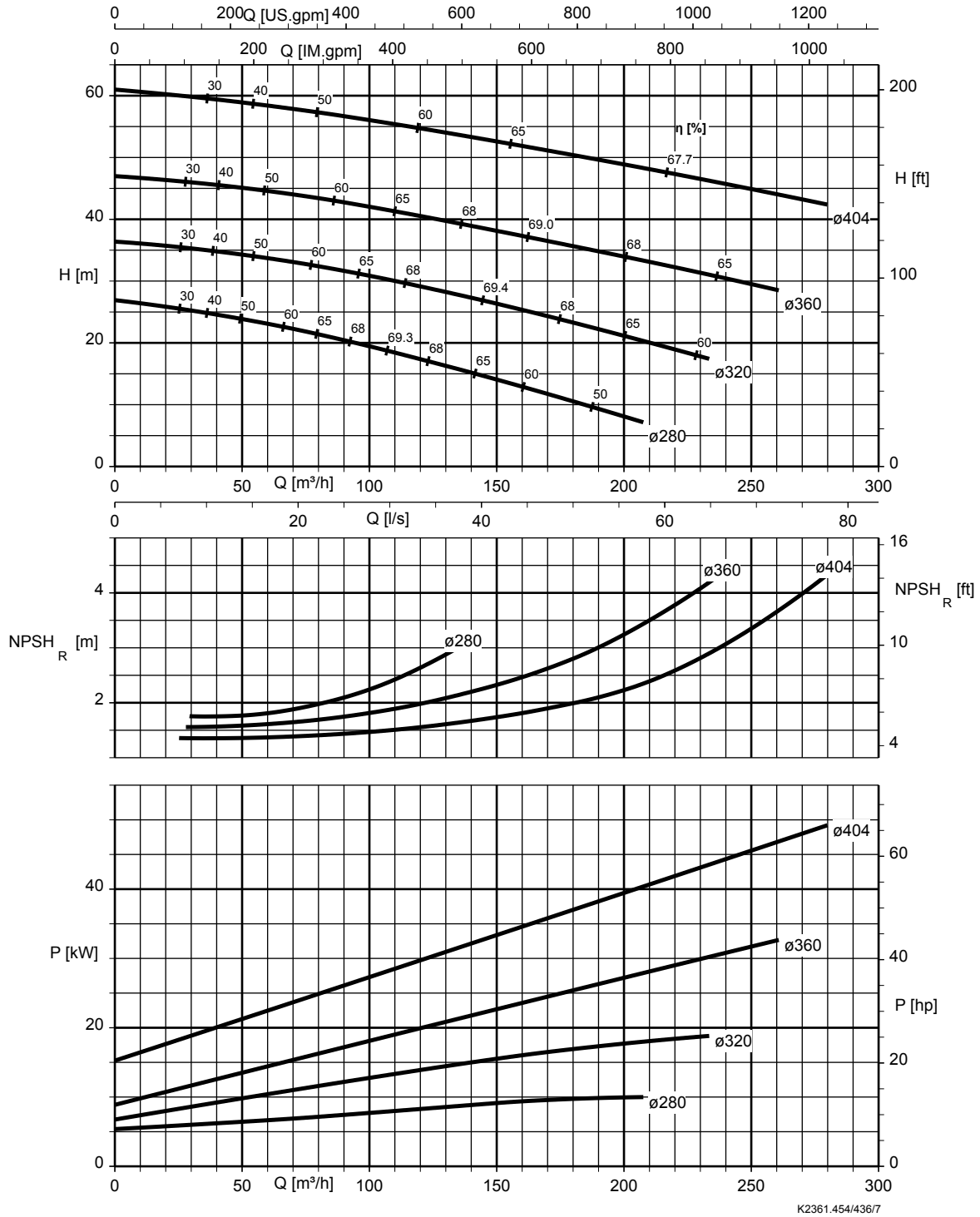
KWP K 125-100-253, $n = 1450$ rpm



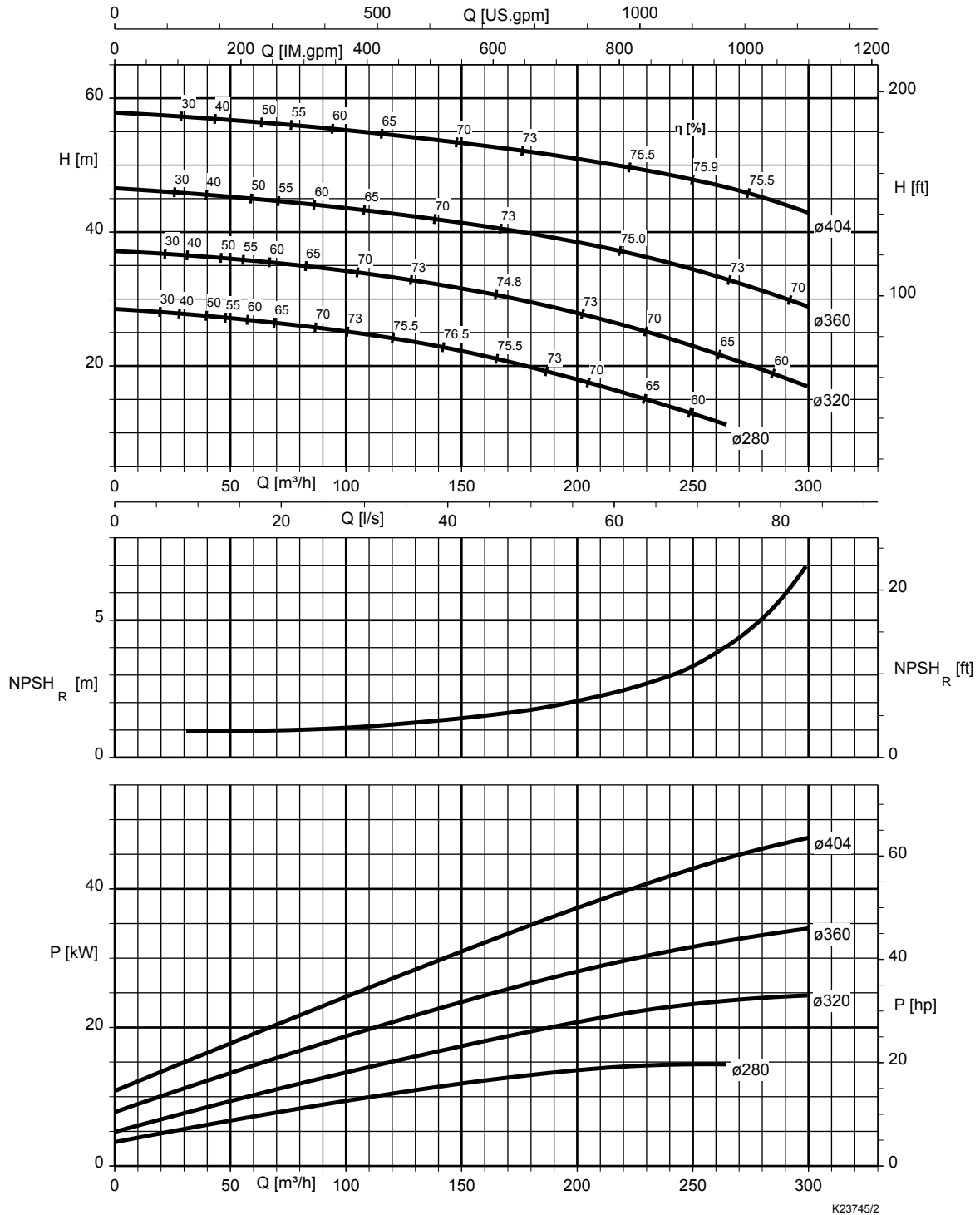
KWP K 125-100-315, n = 1450 rpm



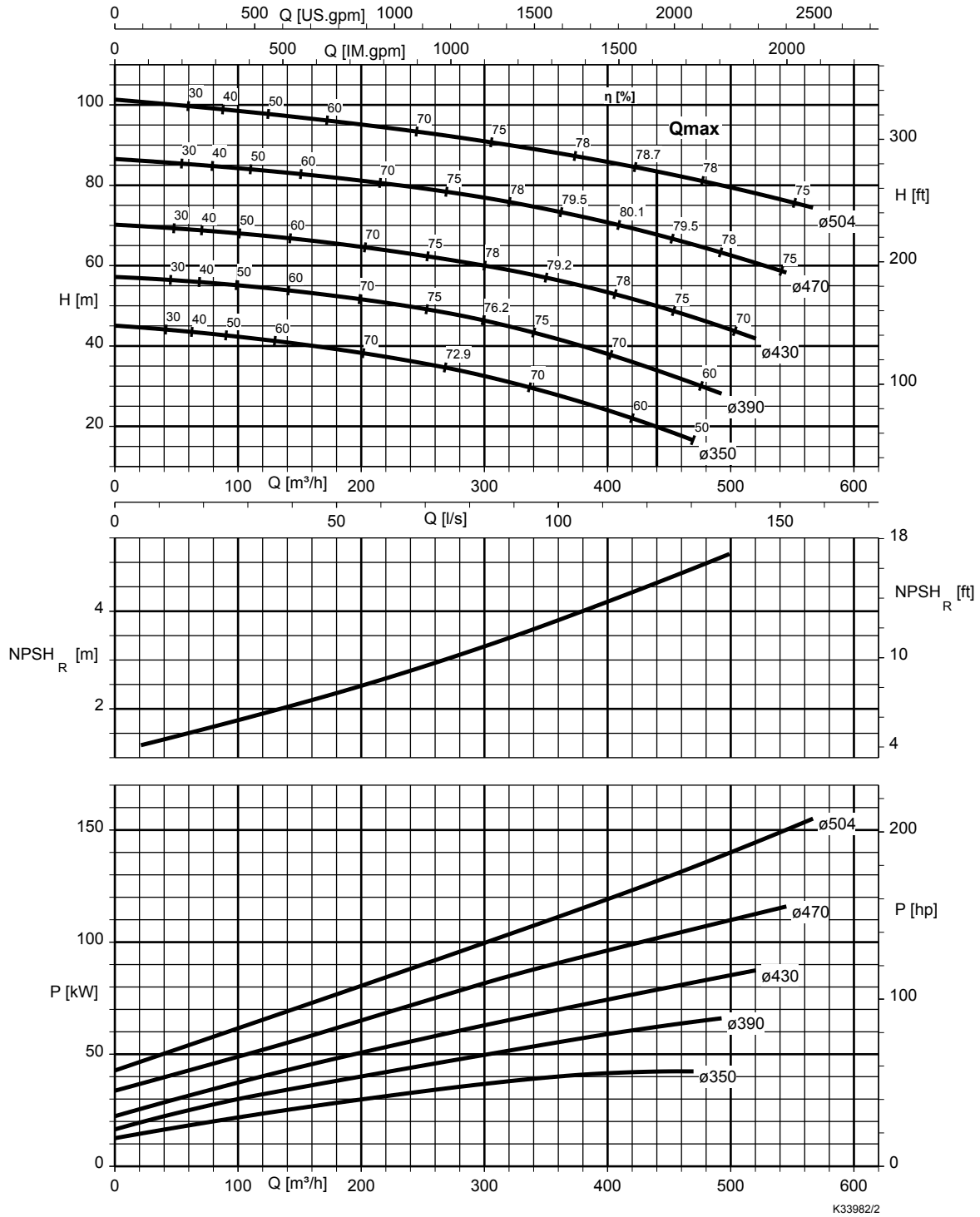
KWP K 125-100-400, n = 1450 rpm



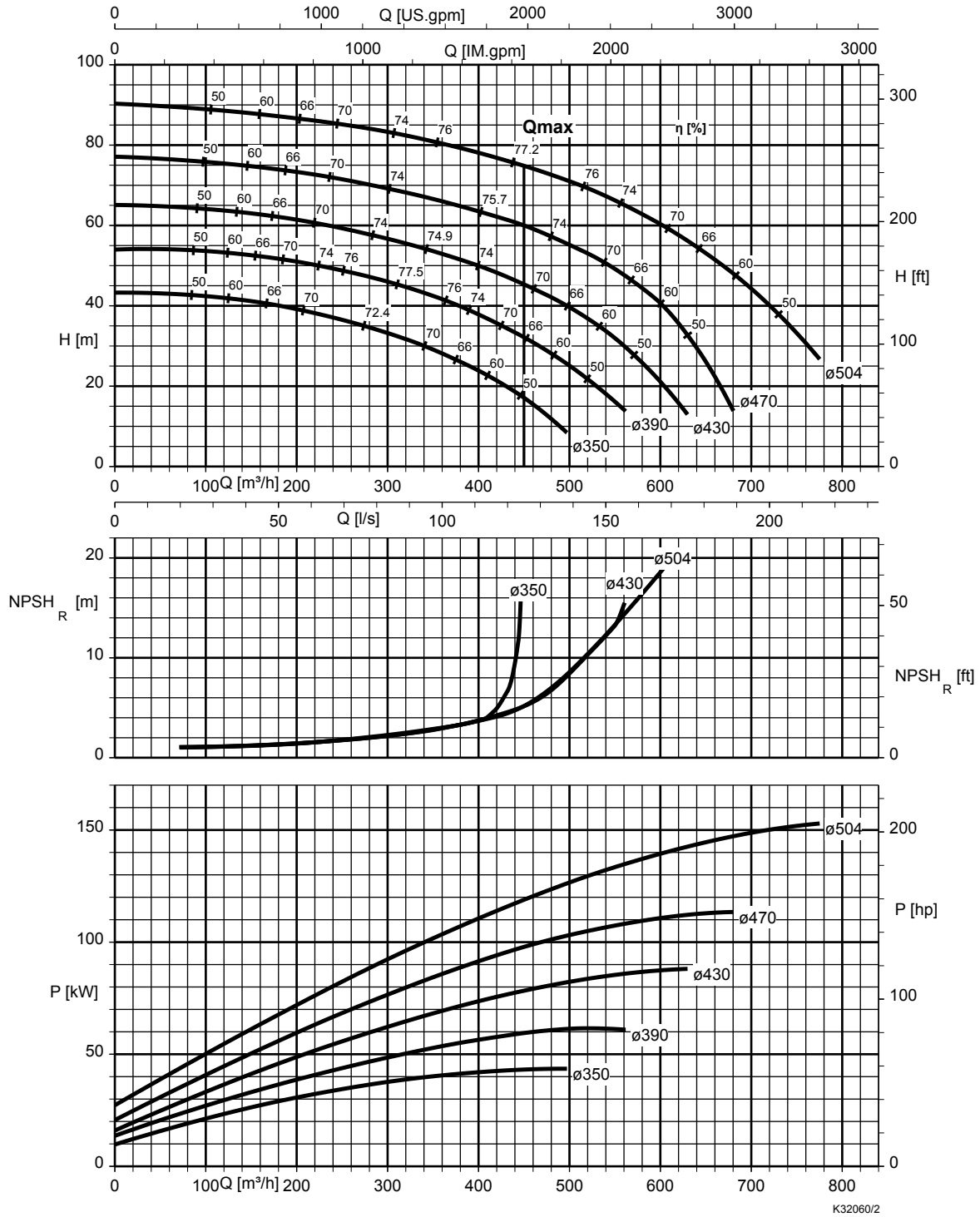
KWP K 125-100-403, n = 1450 rpm



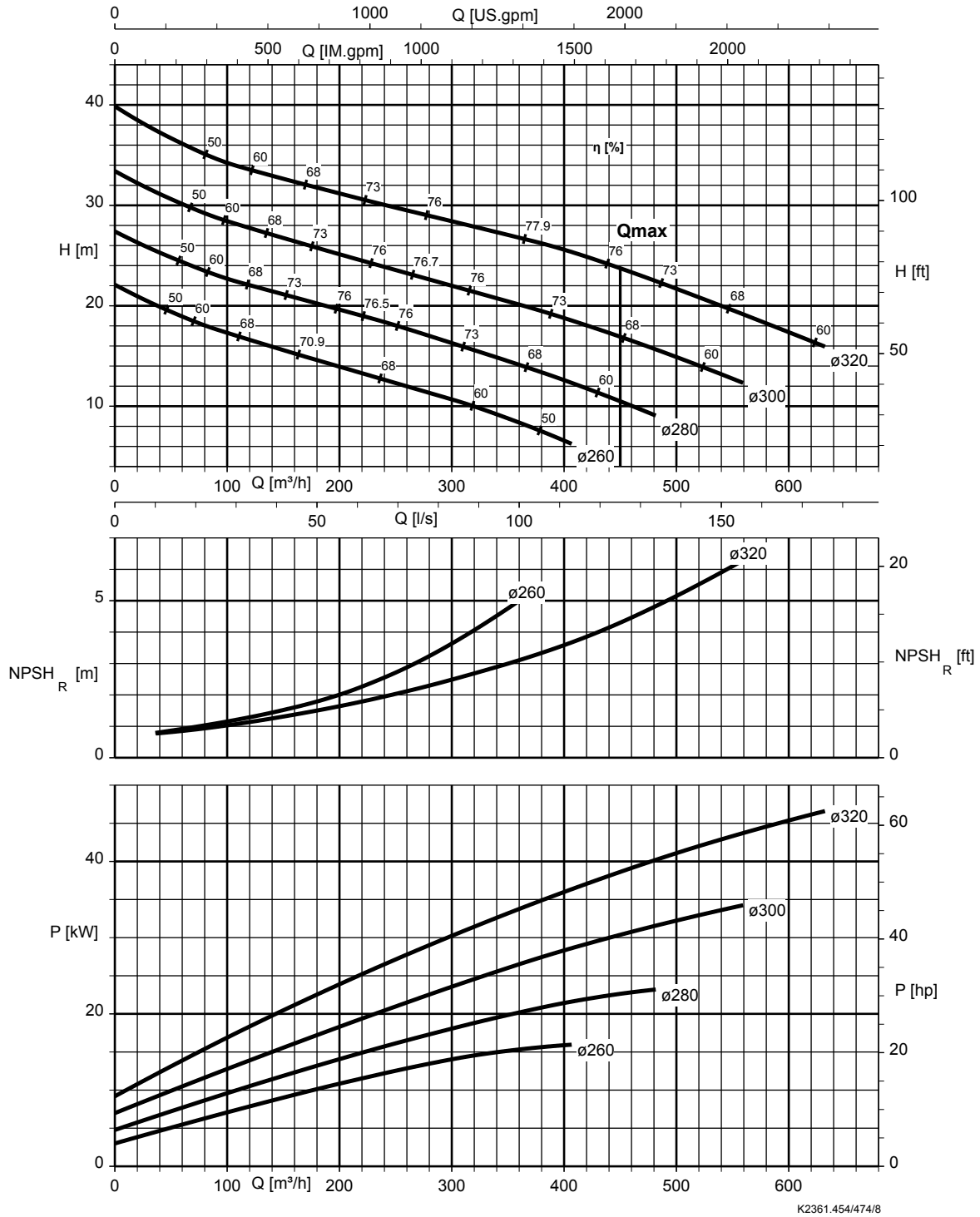
KWP K 150-125-500, n = 1450 rpm



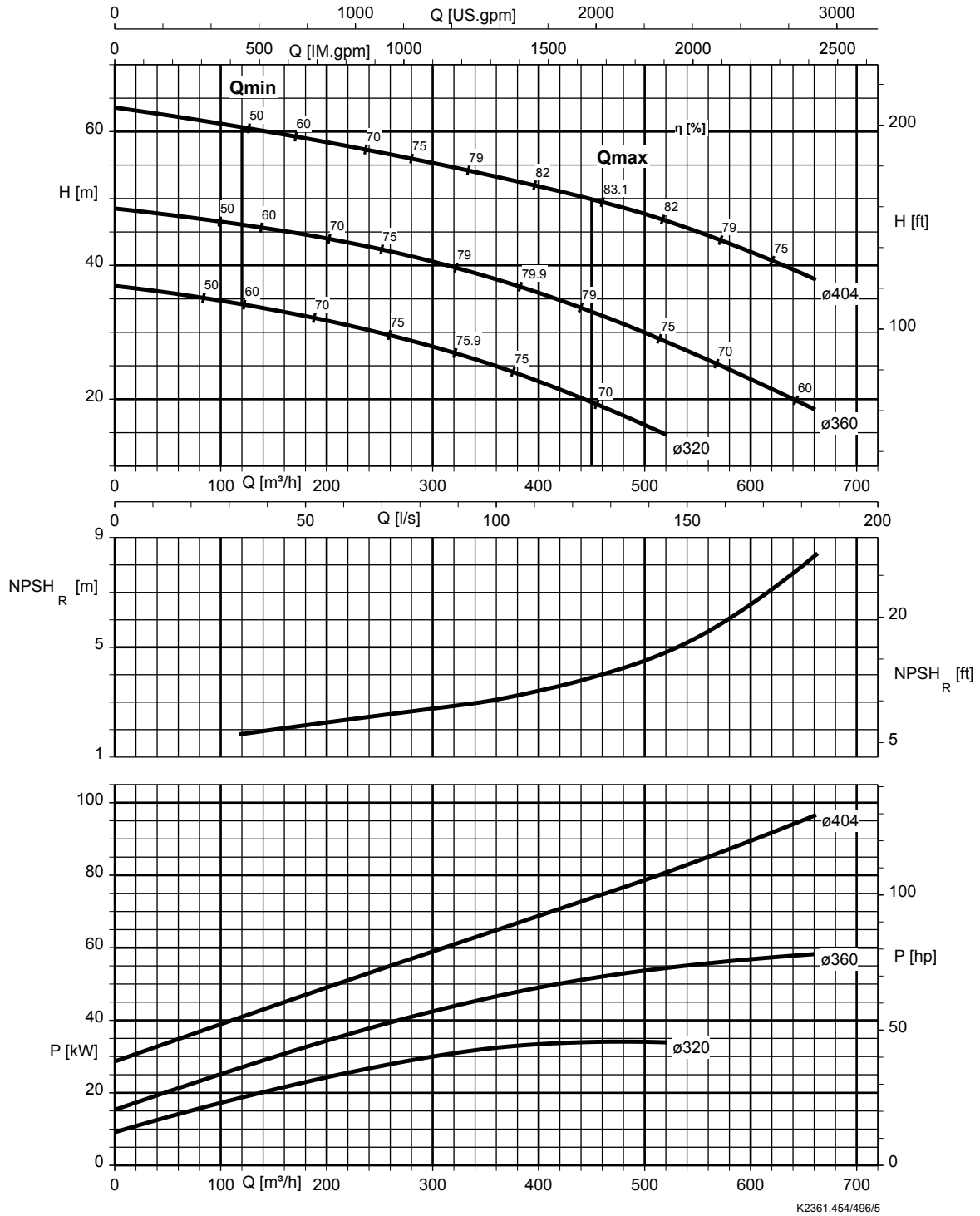
KWP K 150-125-503, n = 1450 rpm



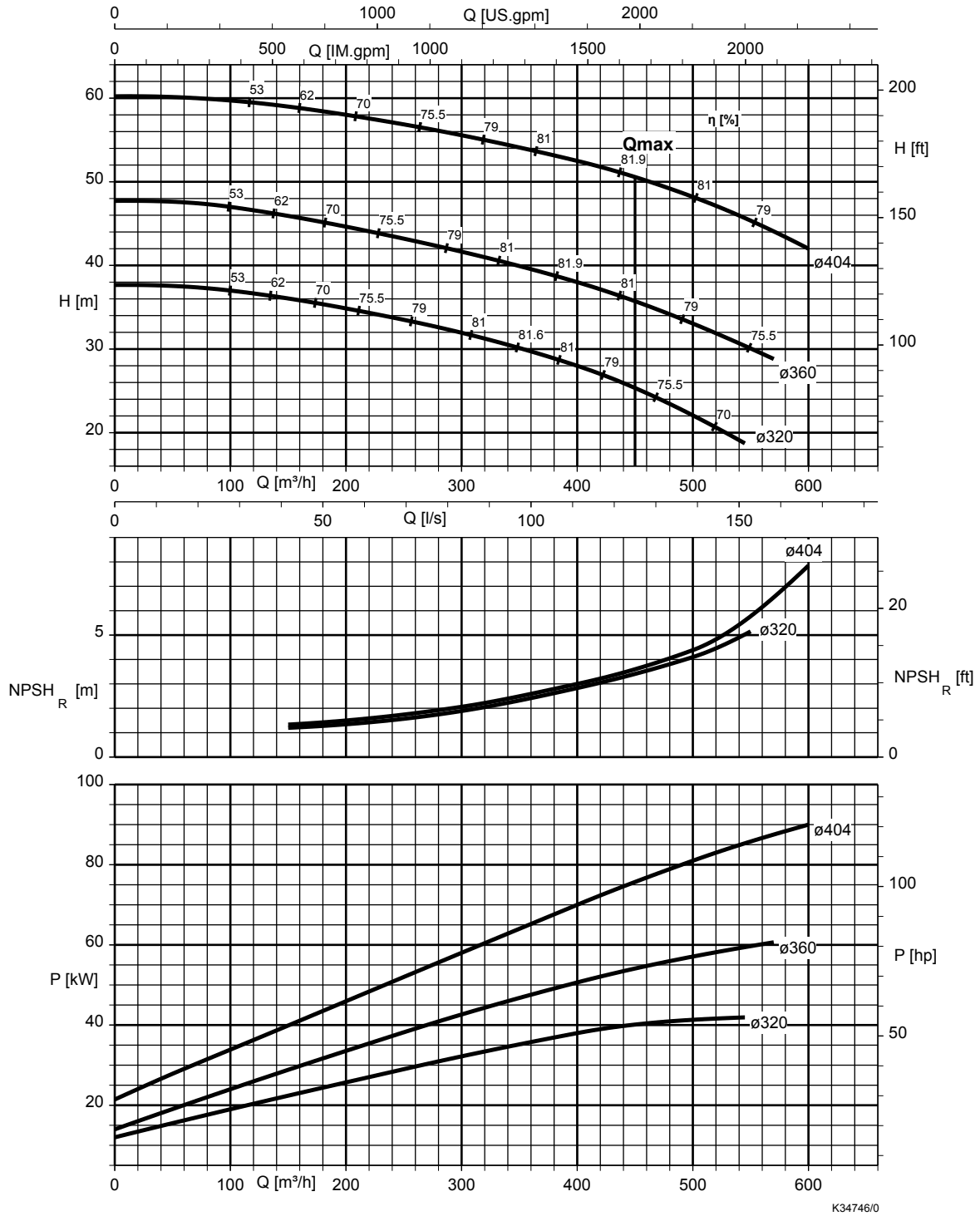
KWP K 150-150-315, $n = 1450$ rpm



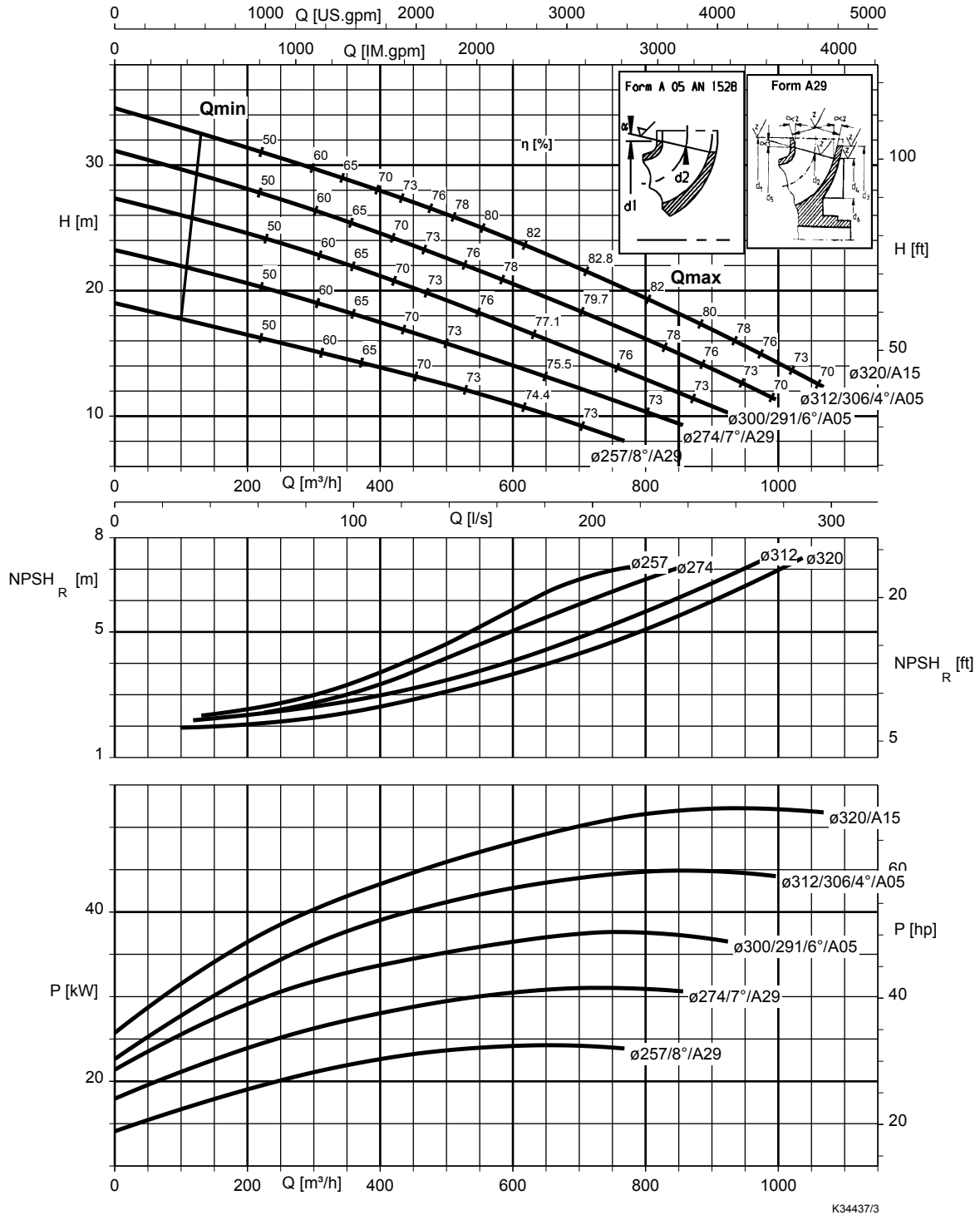
KWP K 150-150-400, n = 1450 rpm



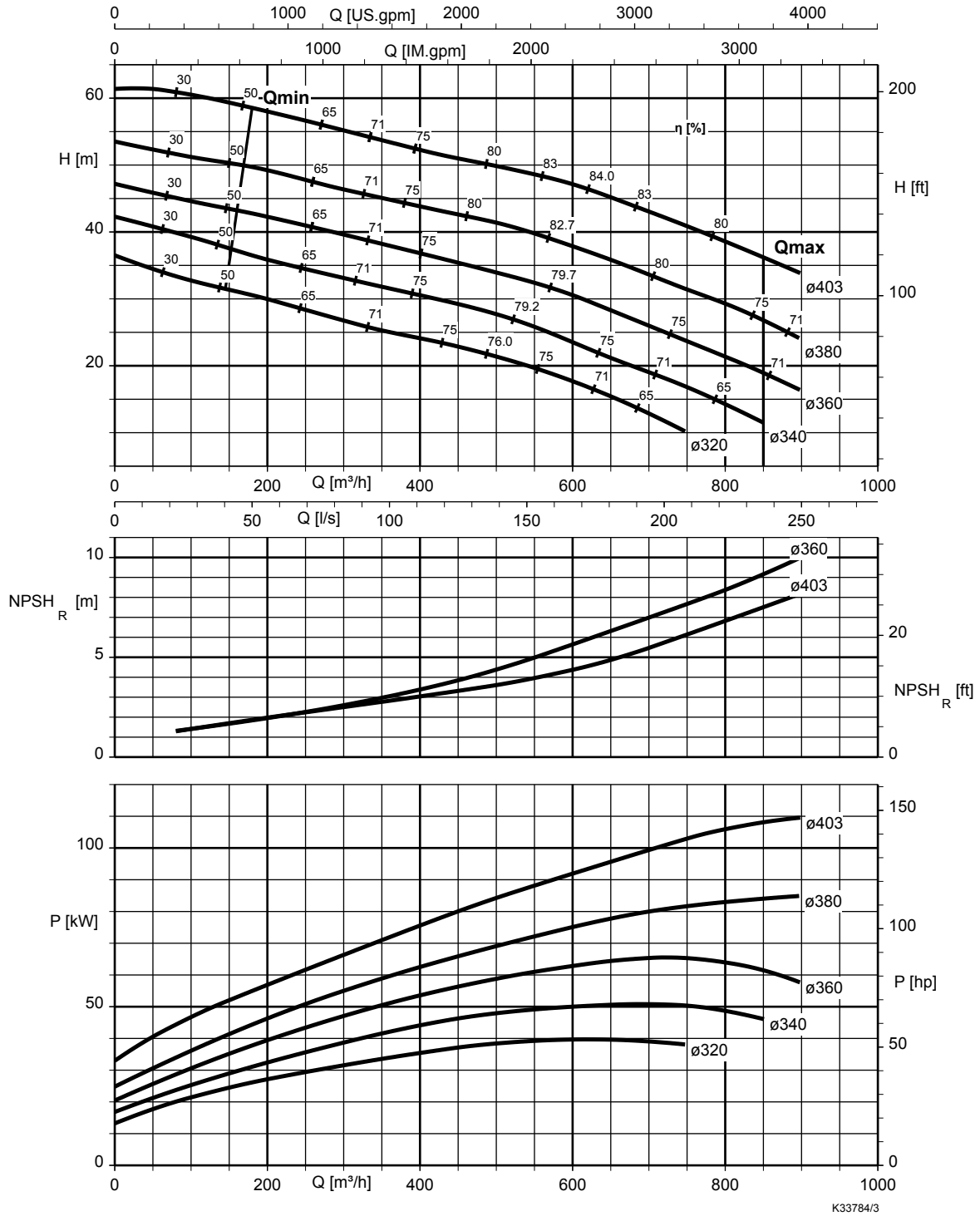
KWP K 150-150-403, $n = 1450$ rpm



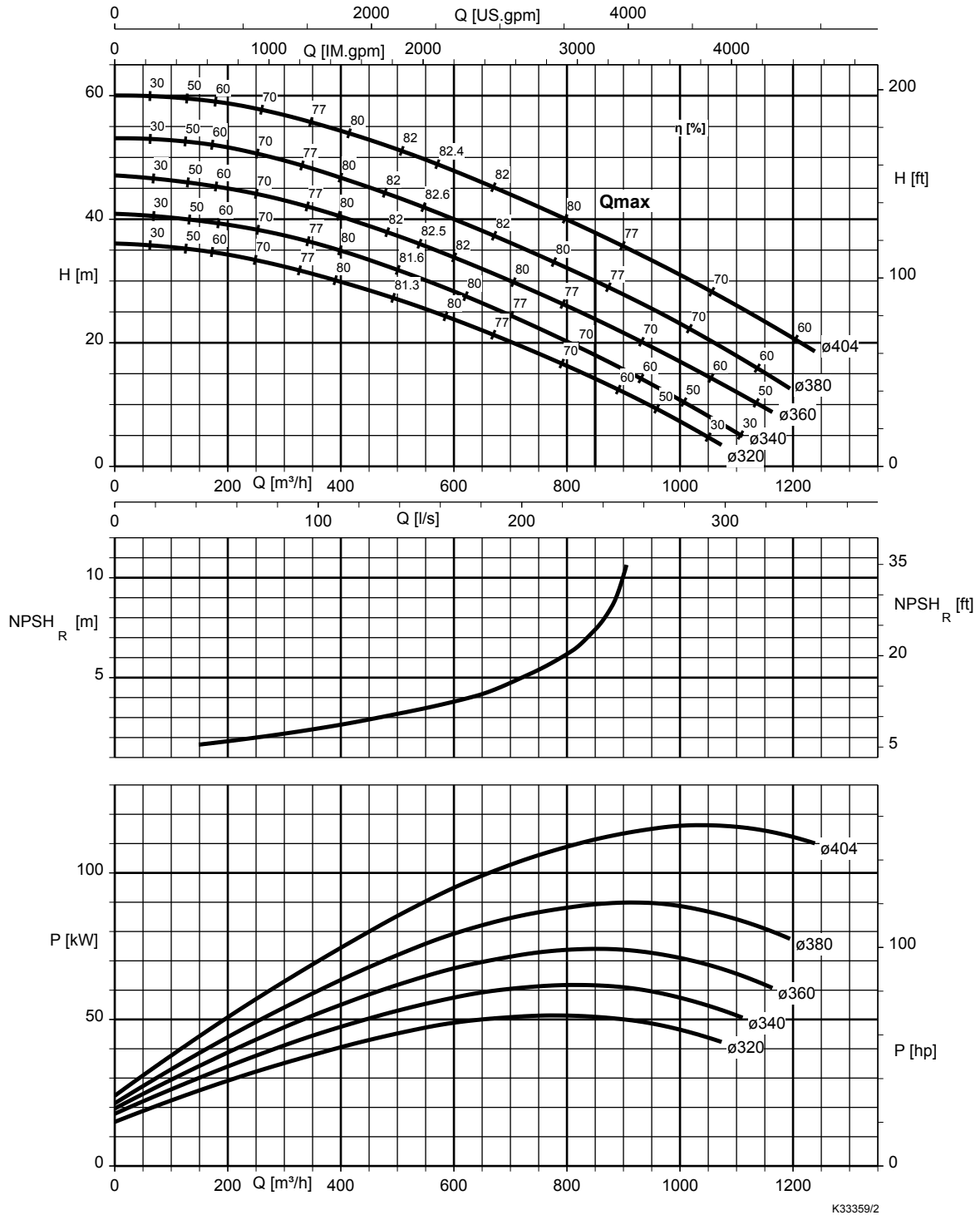
KWP K 200-200-320, $n = 1450$ rpm



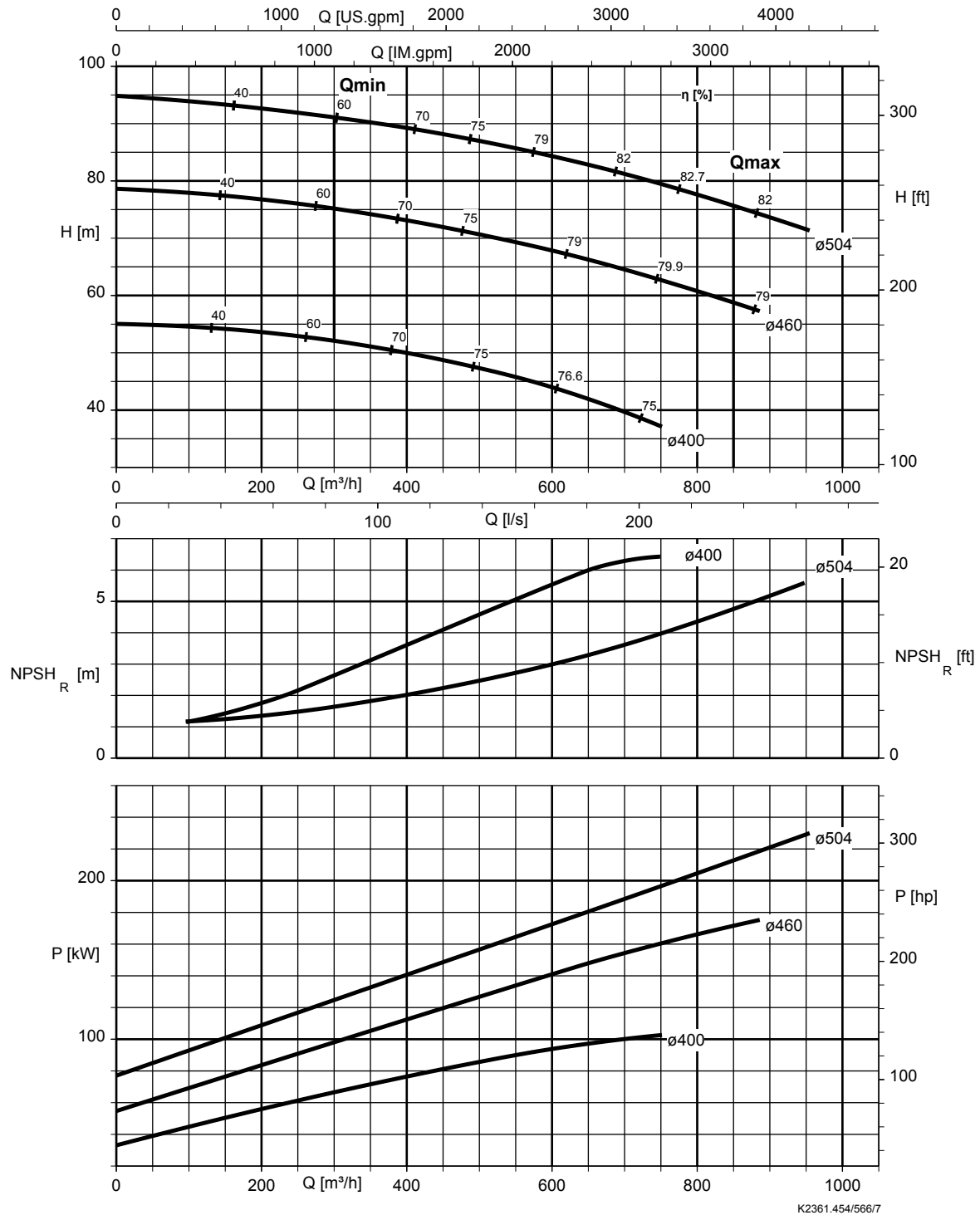
KWP K 200-200-400, n = 1450 rpm



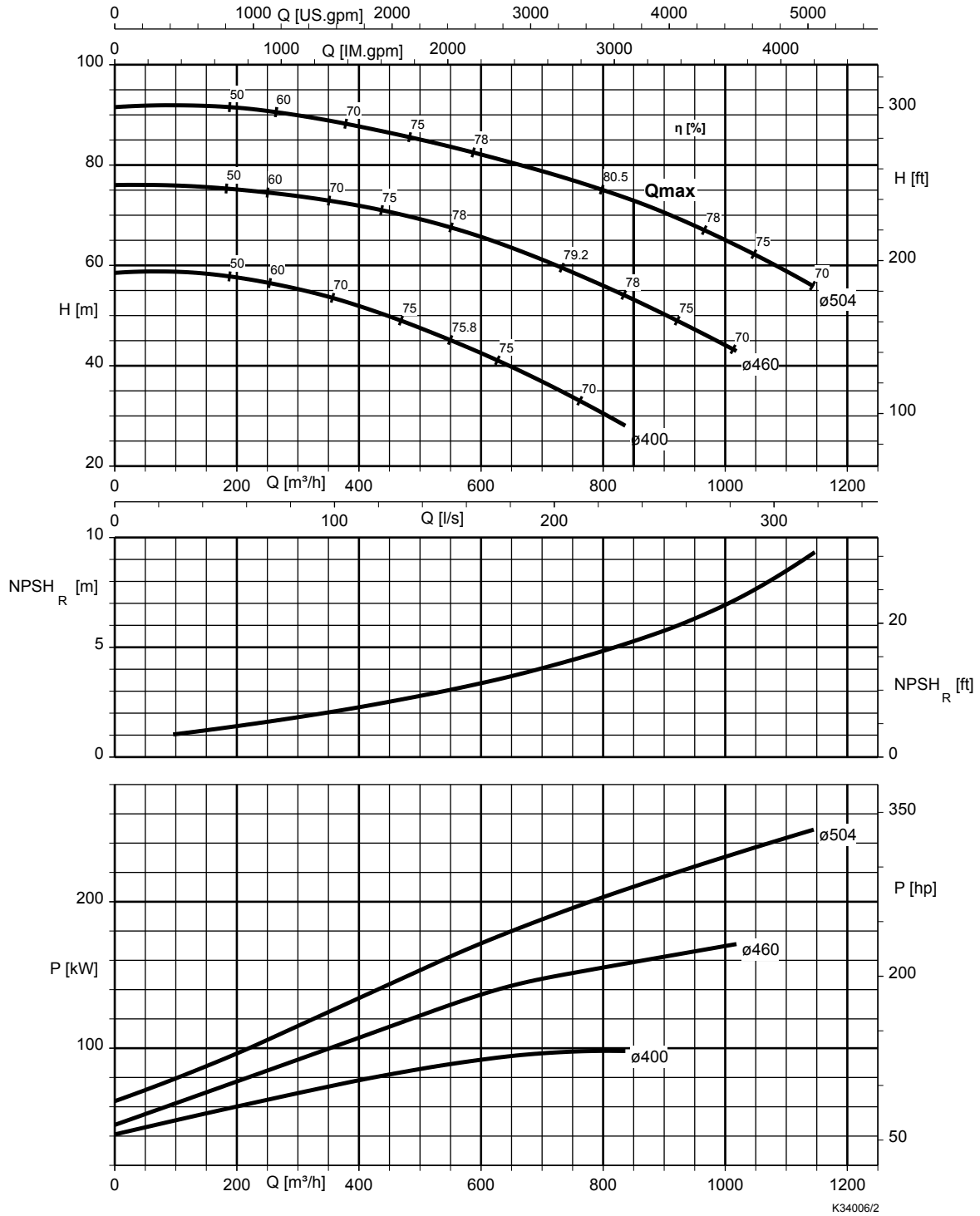
KWP K 200-200-403, n = 1450 rpm



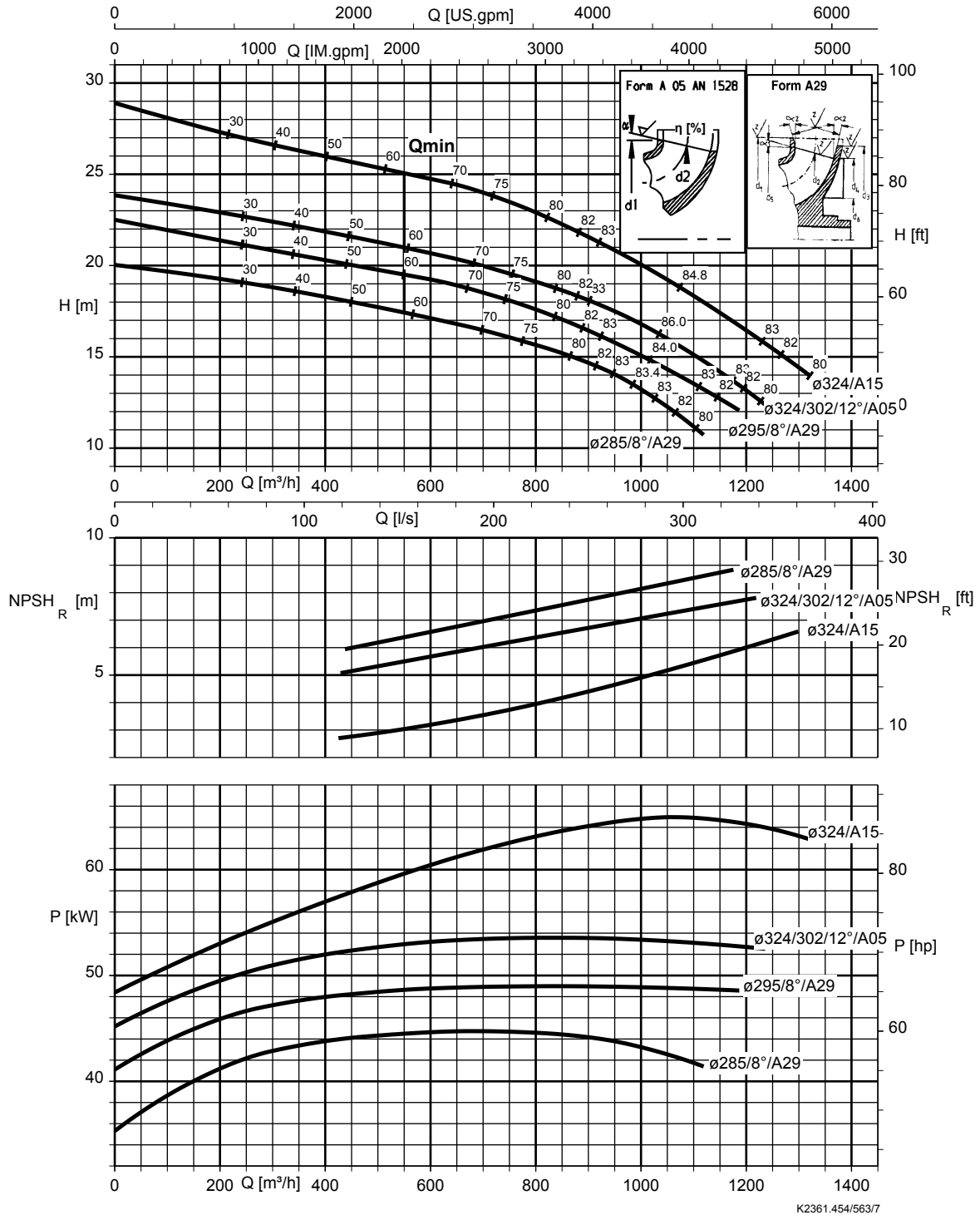
KWP K 200-200-500, n = 1450 rpm



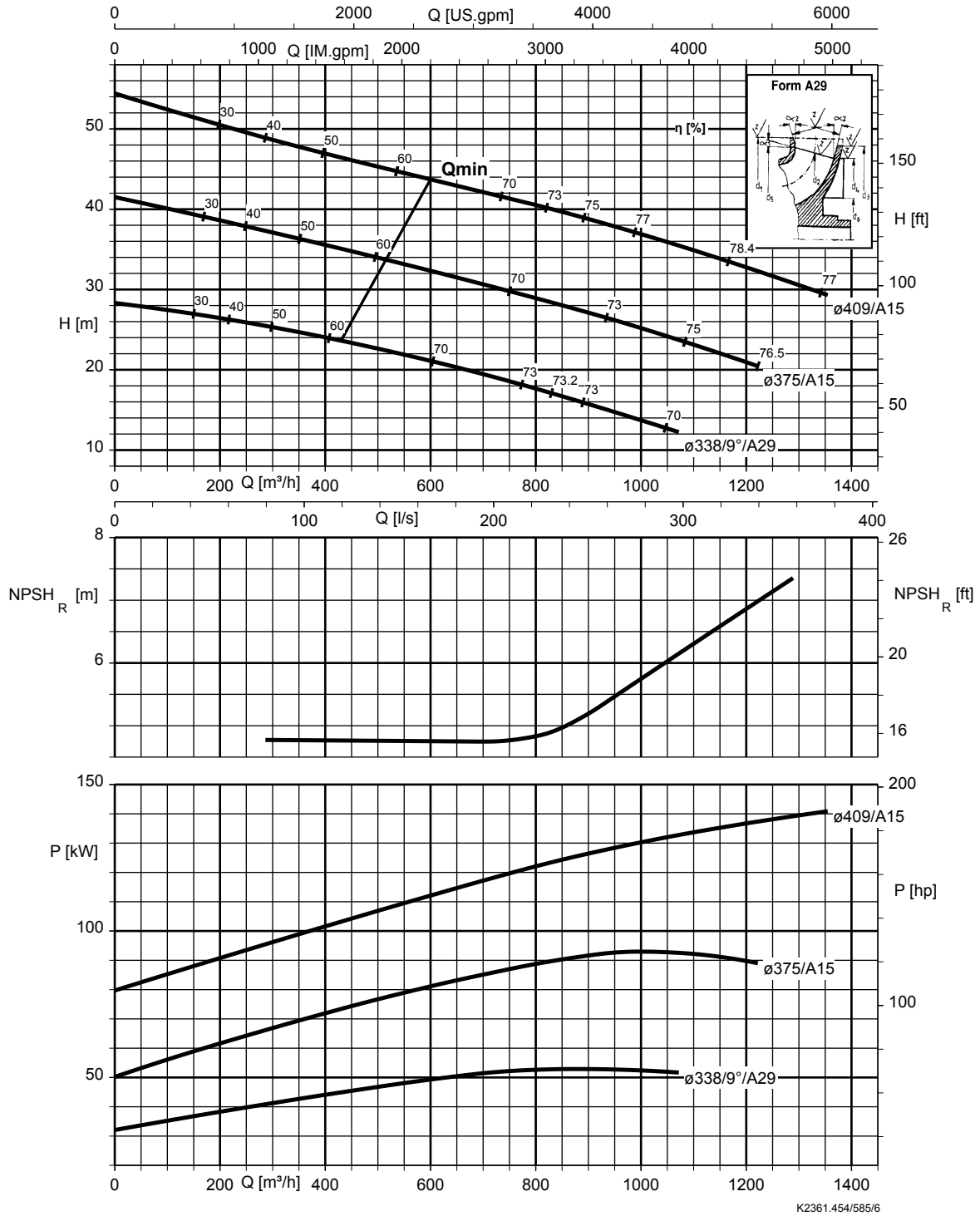
KWP K 200-200-503, $n = 1450$ rpm



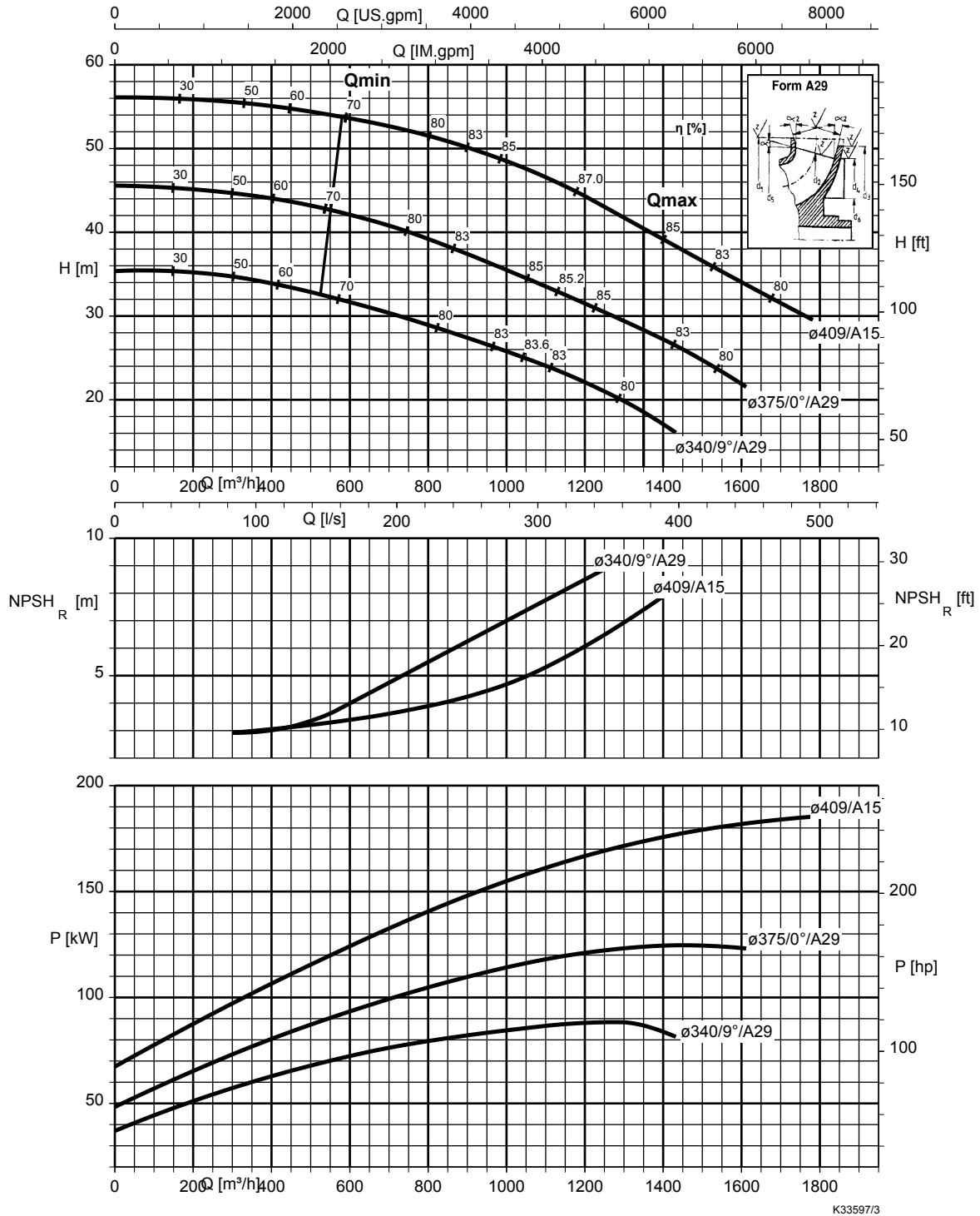
KWP K 250-250-315, n = 1450 rpm



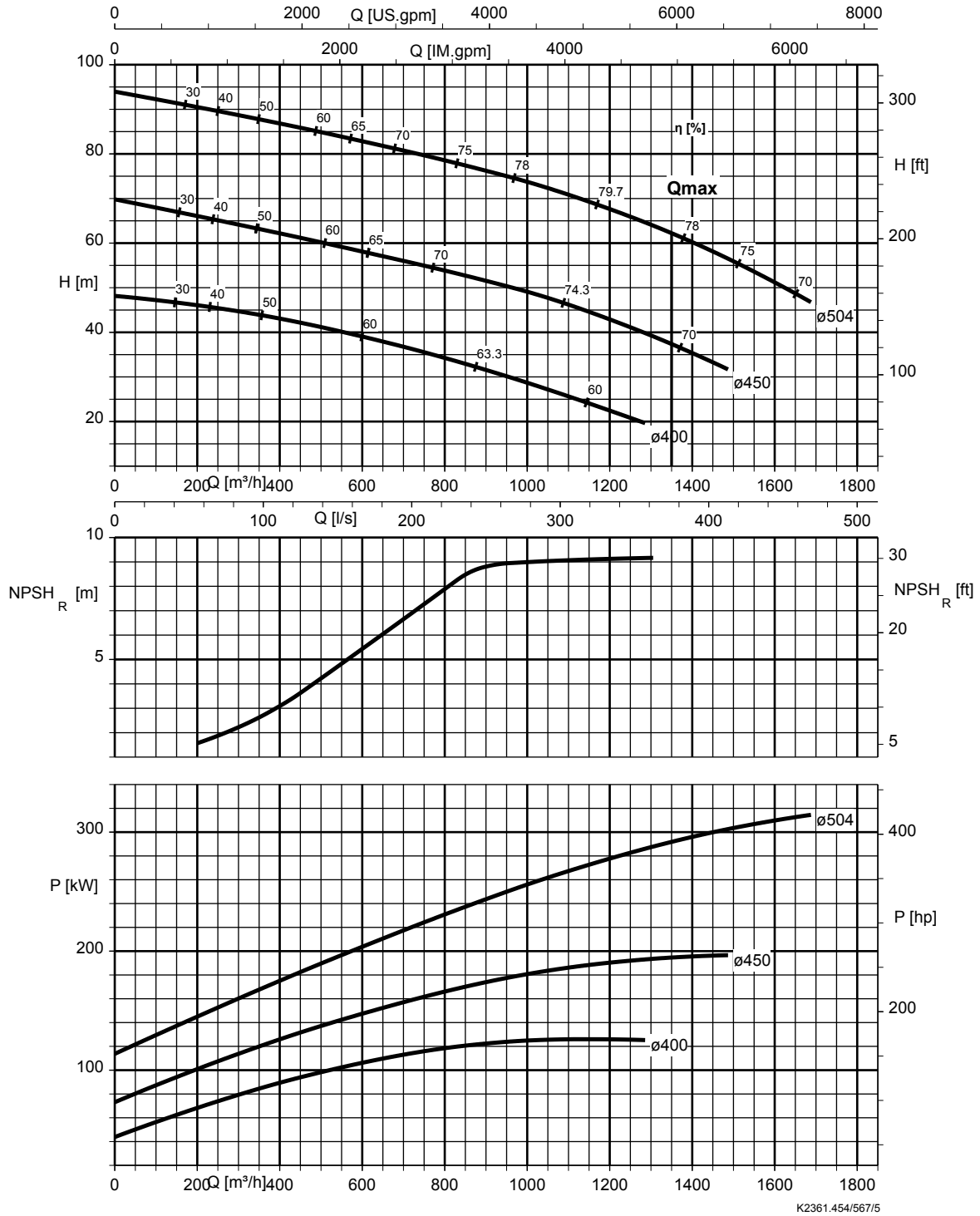
KWP K 250-250-400, n = 1450 rpm



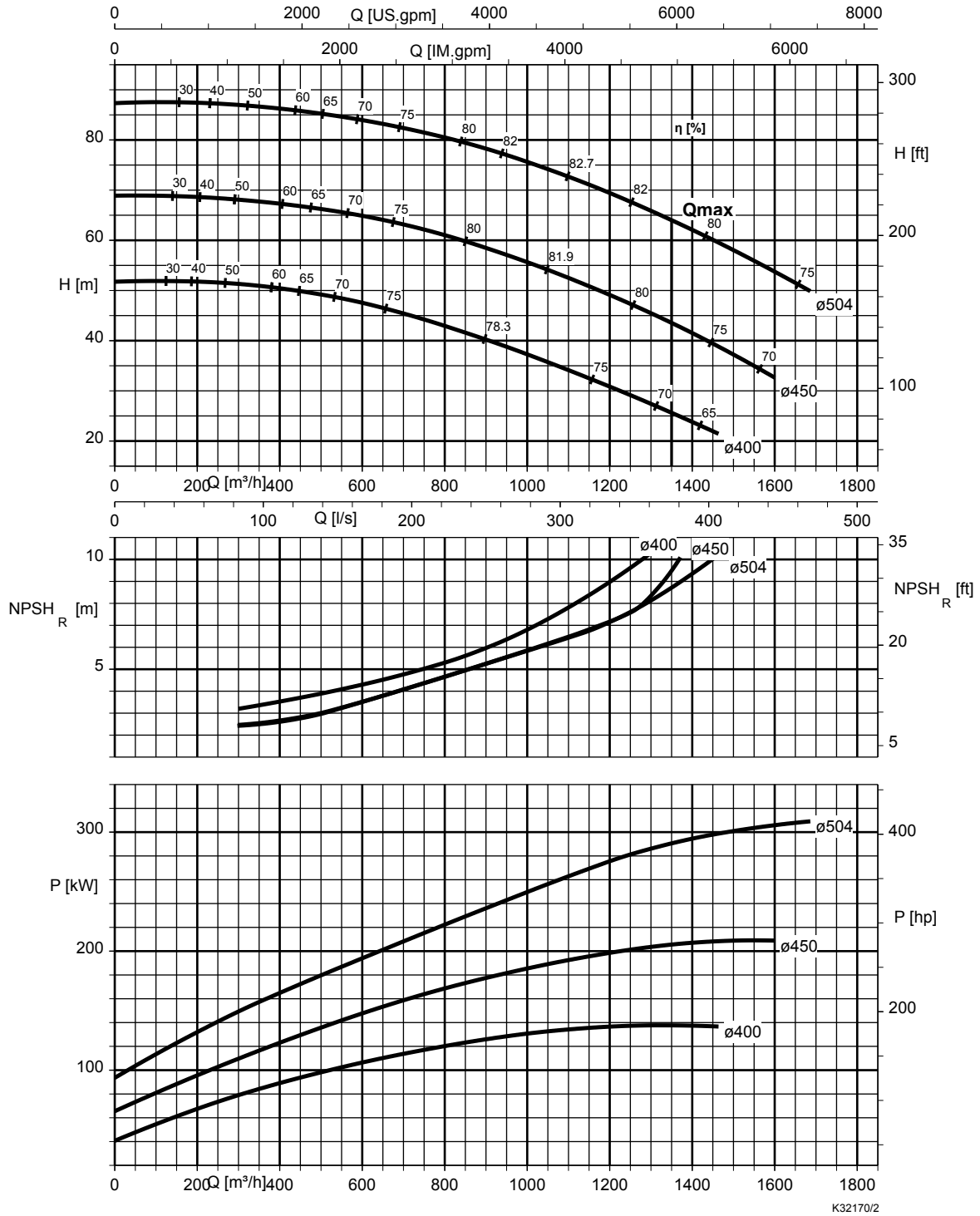
KWP K 250-250-403, n = 1450 rpm



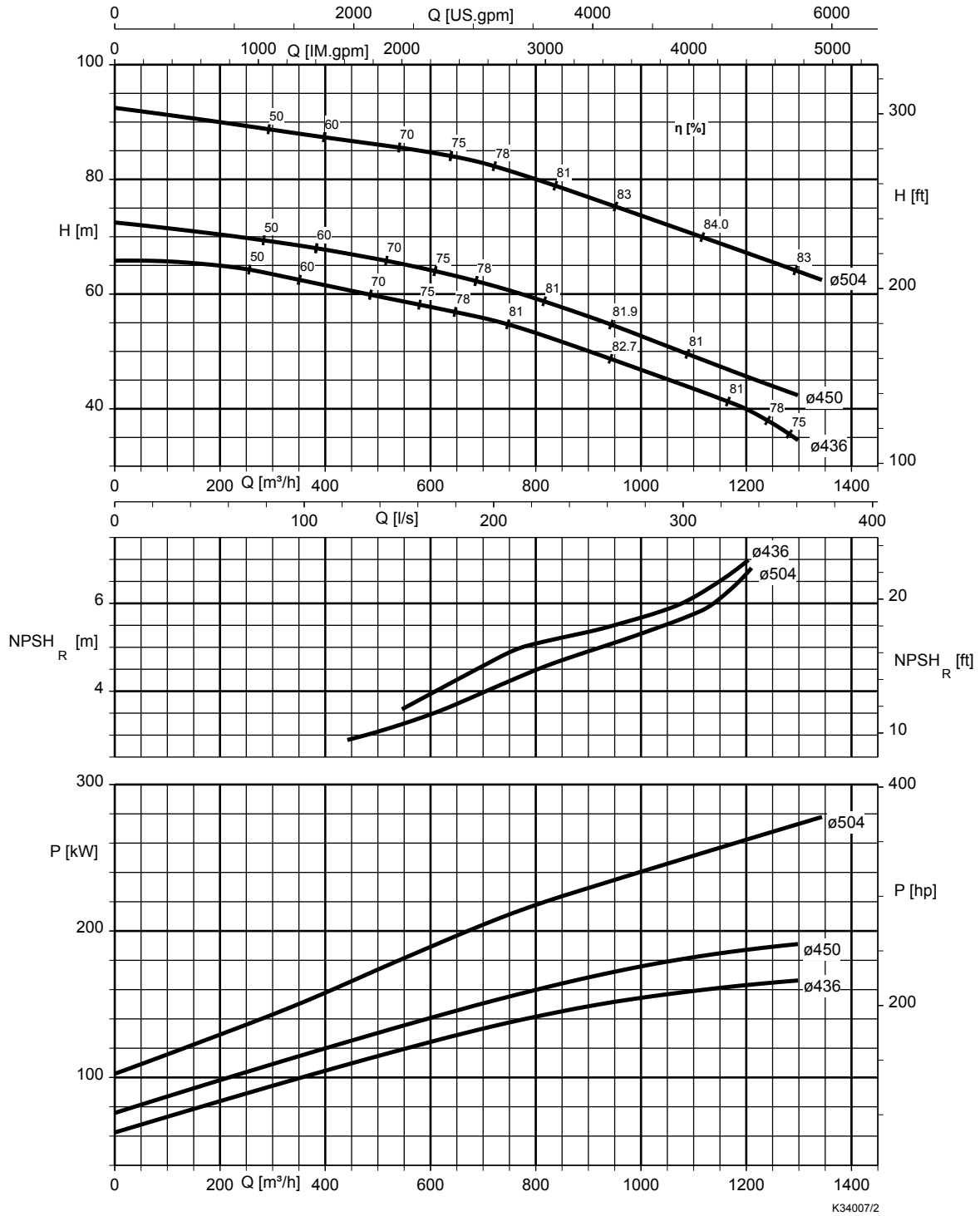
KWP K 250-250-500, n = 1450 rpm



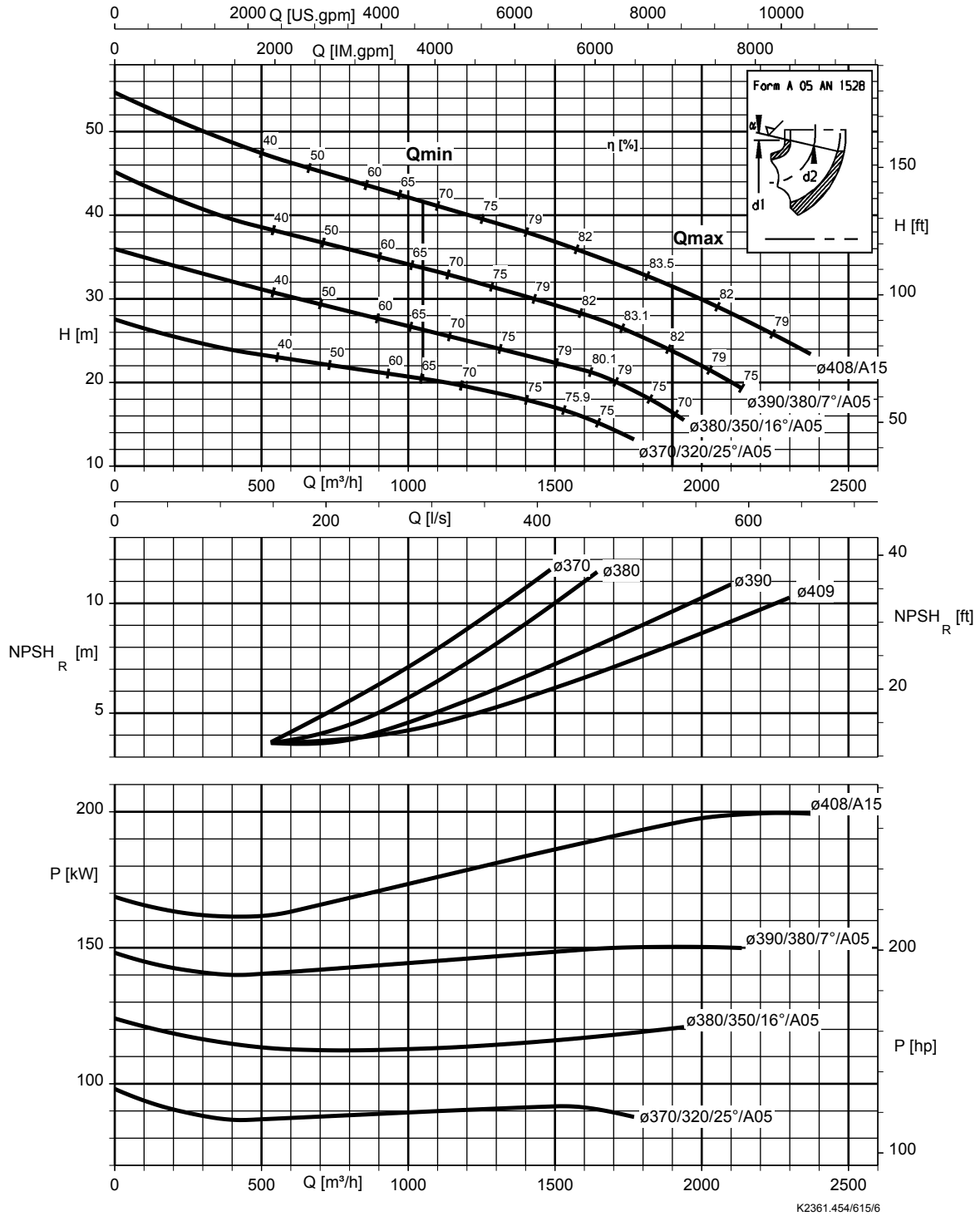
KWP K 250-250-503, n = 1450 rpm



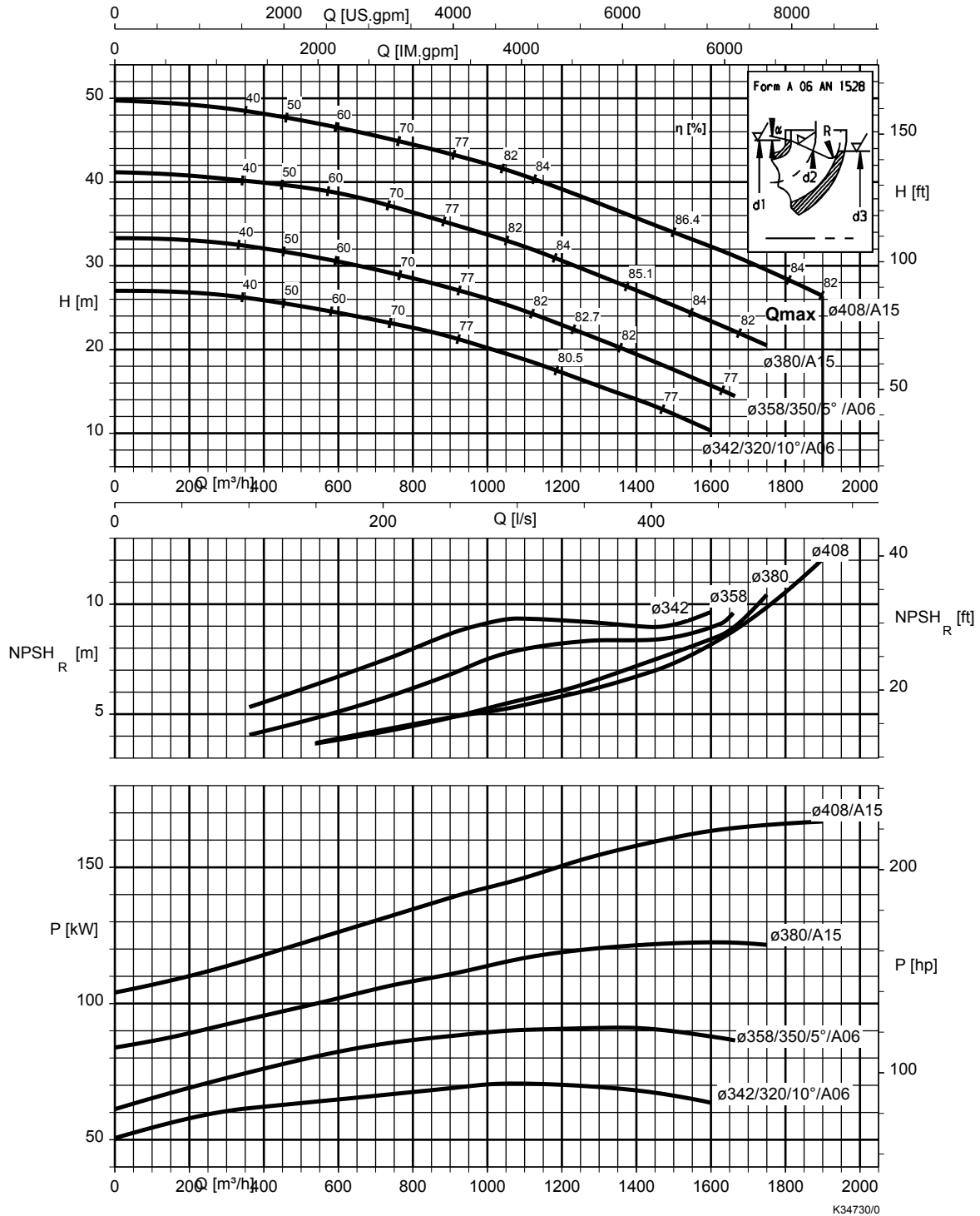
KWP K 250-250-505, n = 1450 rpm



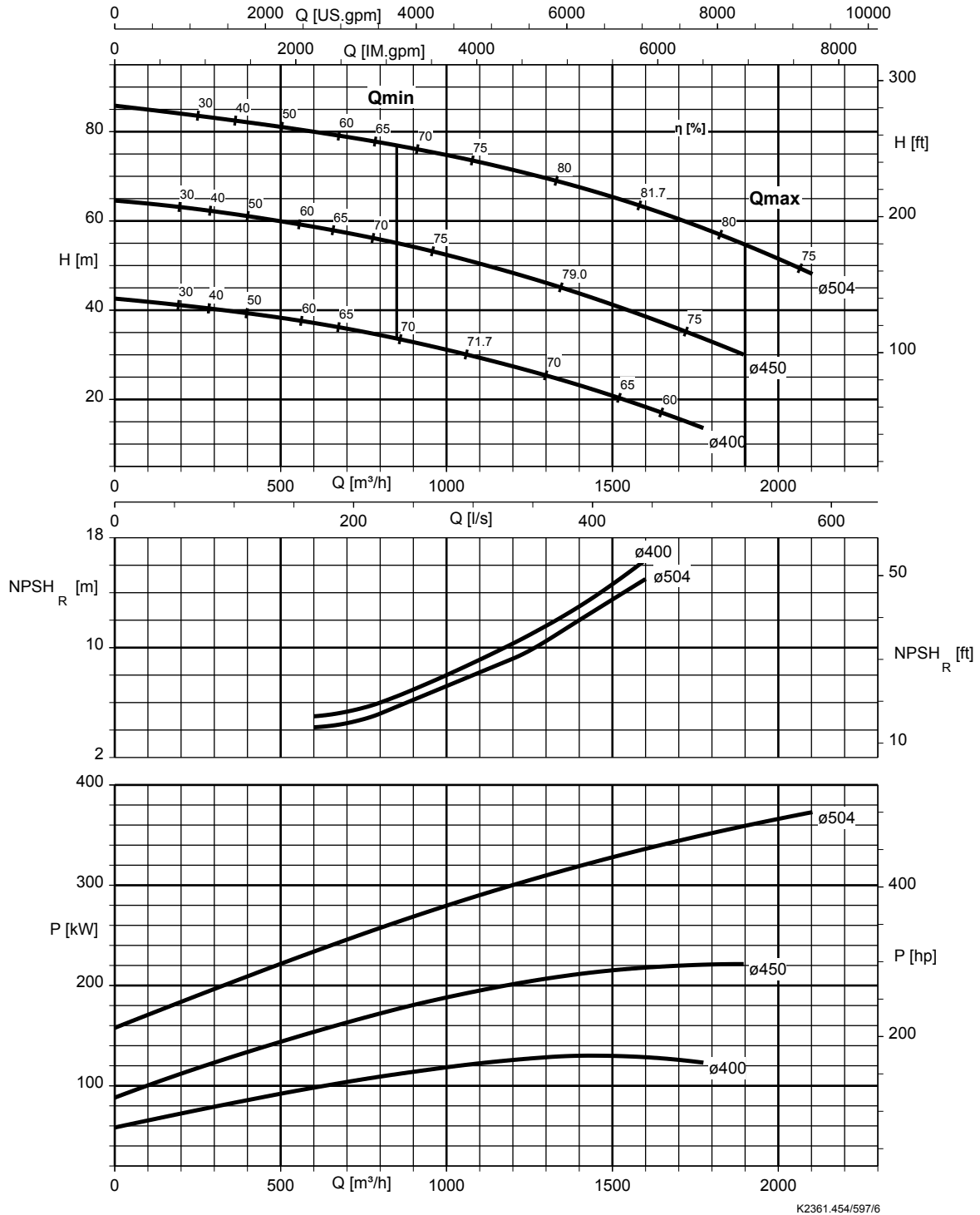
KWP K 300-300-400, n = 1450 rpm



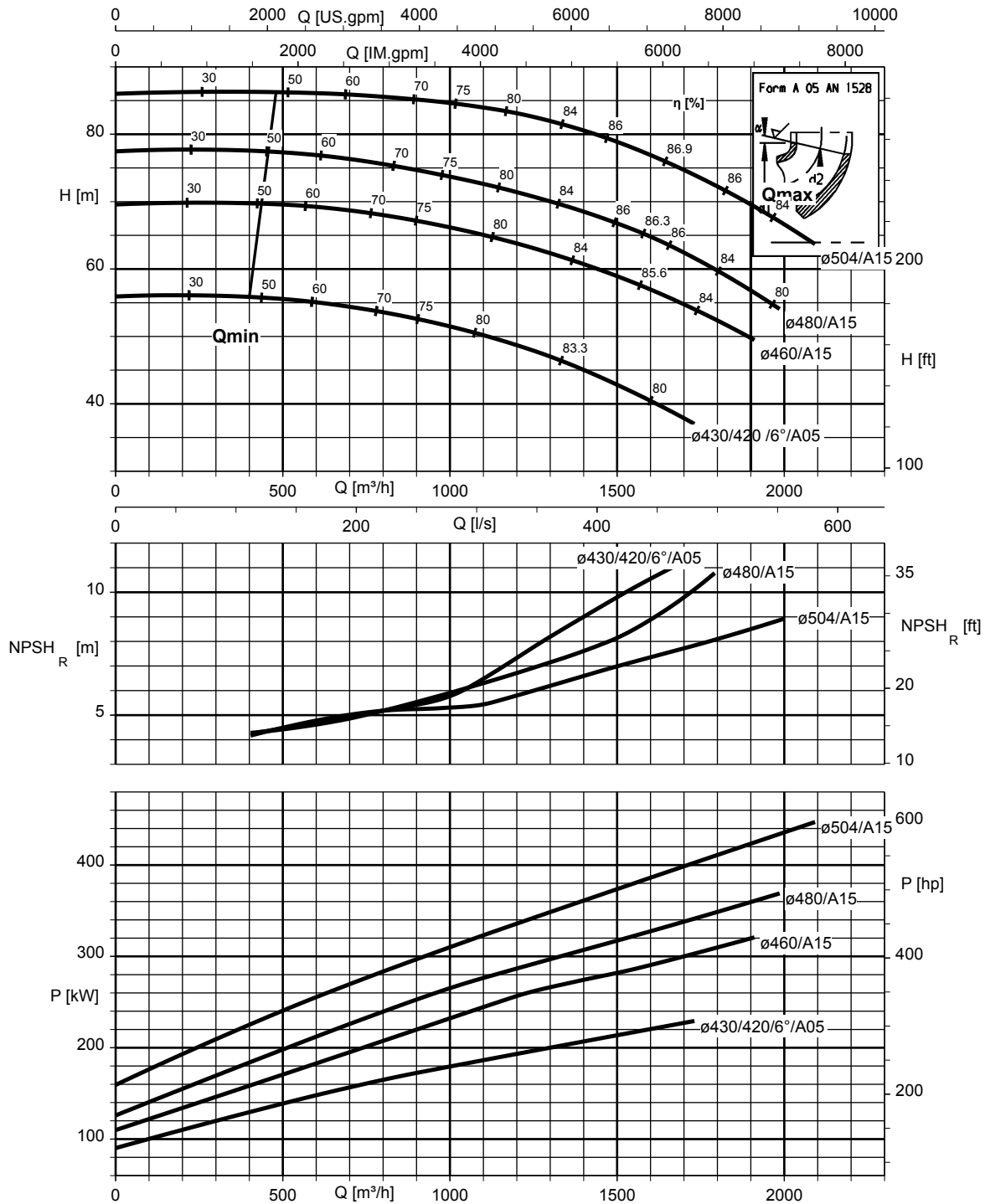
KWP K 300-300-401, n = 1450 rpm



KWP K 300-300-500, n = 1450 rpm

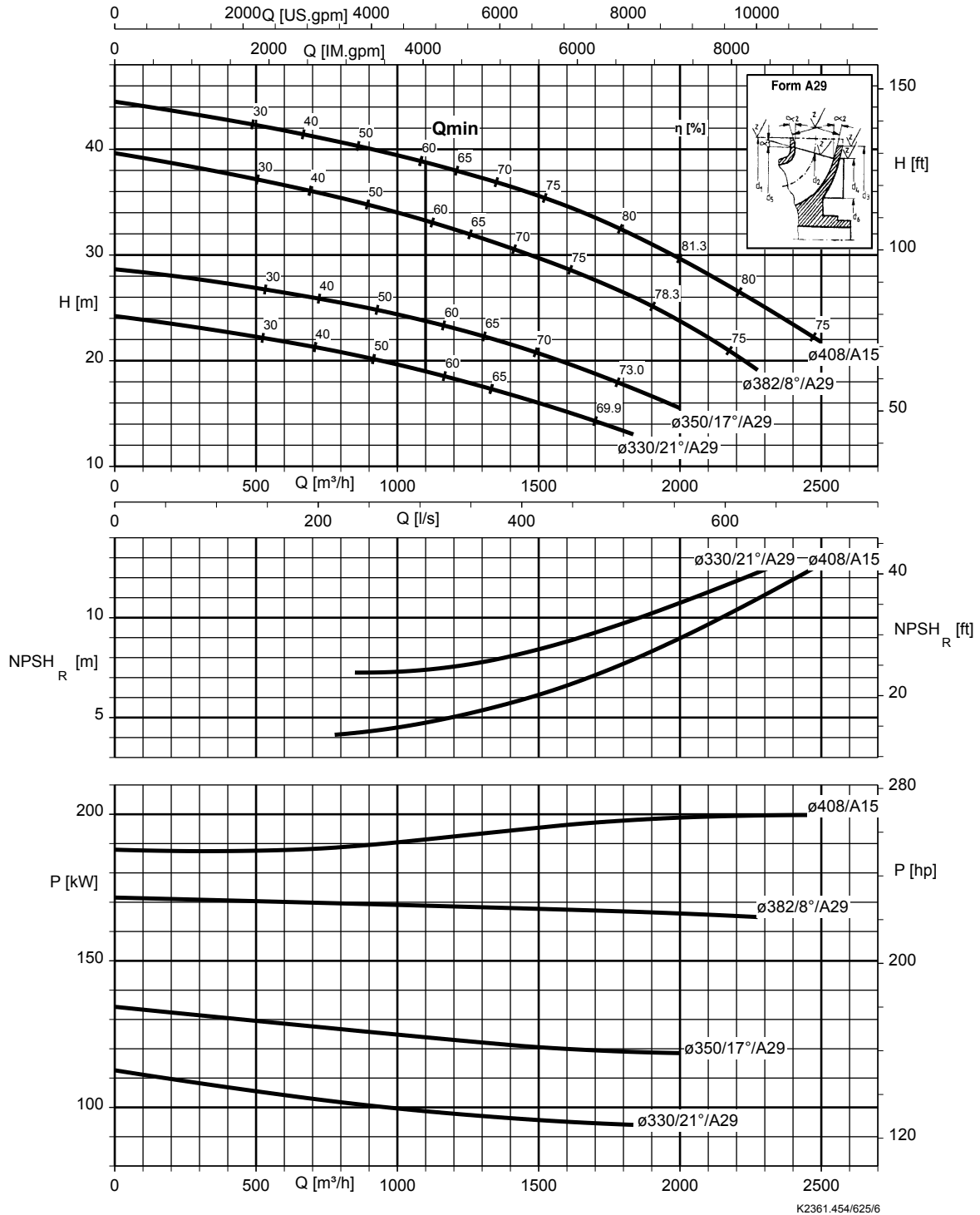


KWP K 300-300-503, $n = 1450$ rpm



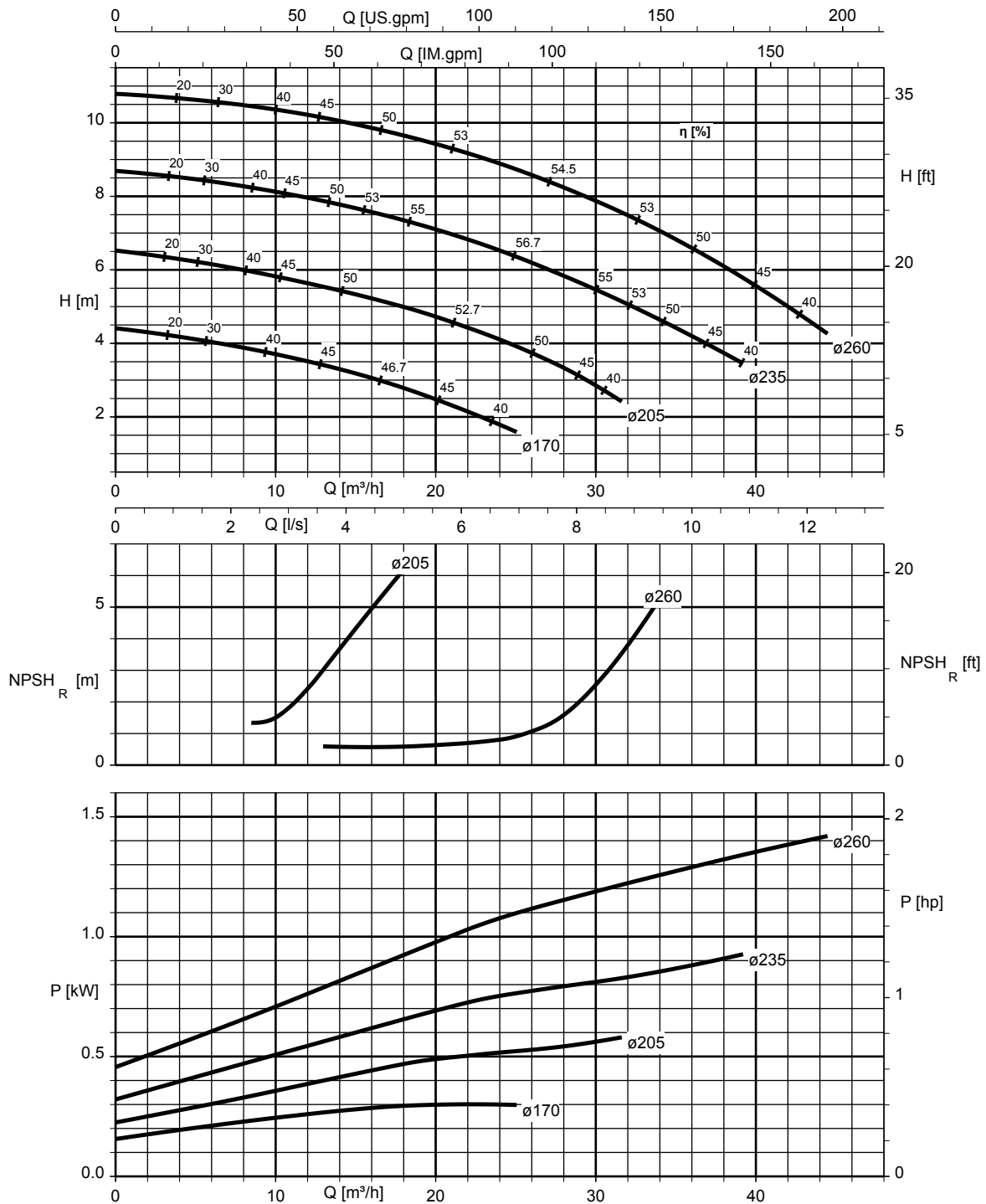
K33759/2

KWP K 350-350-400, n = 1450 rpm



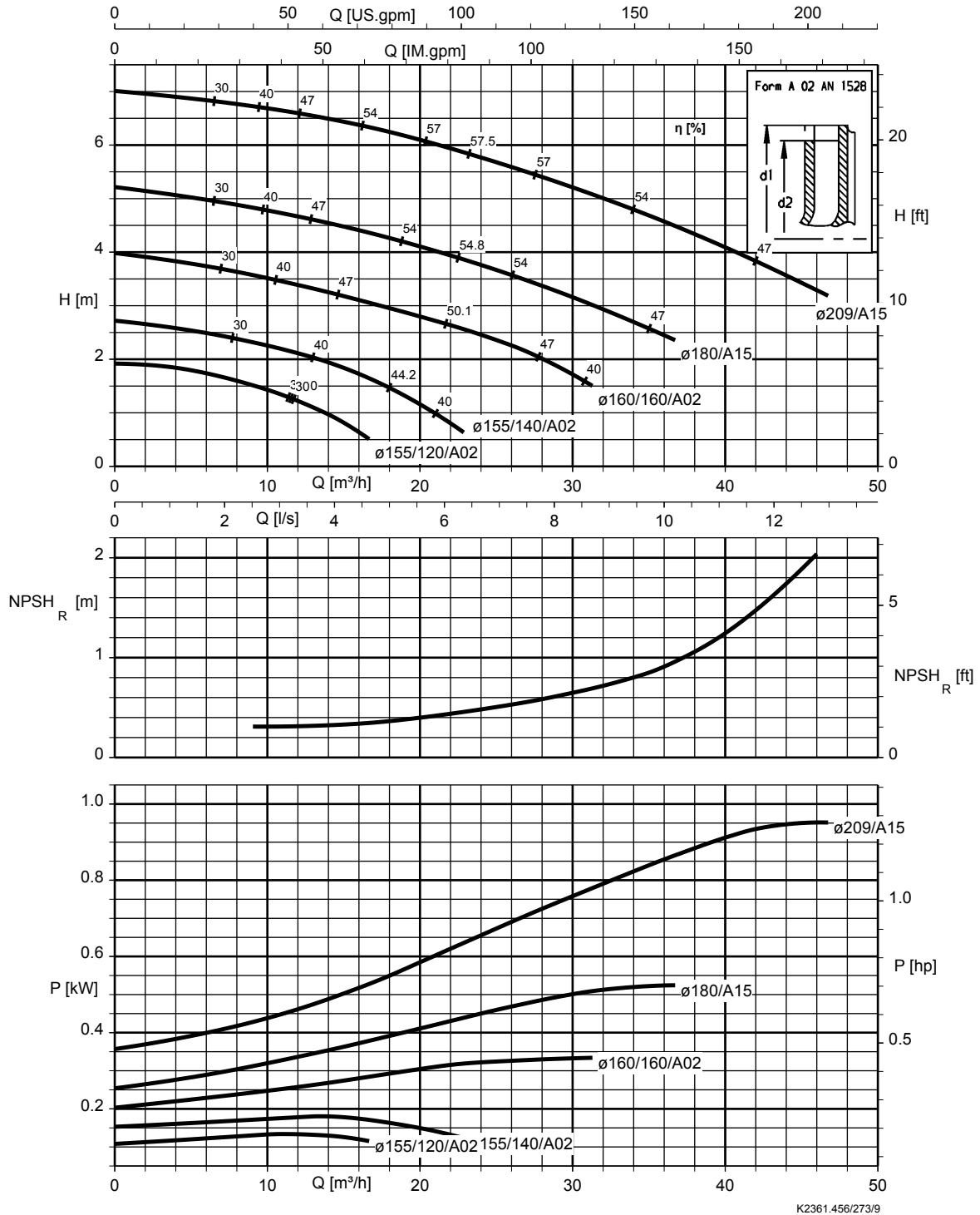
$n = 960 \text{ rpm}$

KWP K 065-040-250, $n = 960 \text{ rpm}$

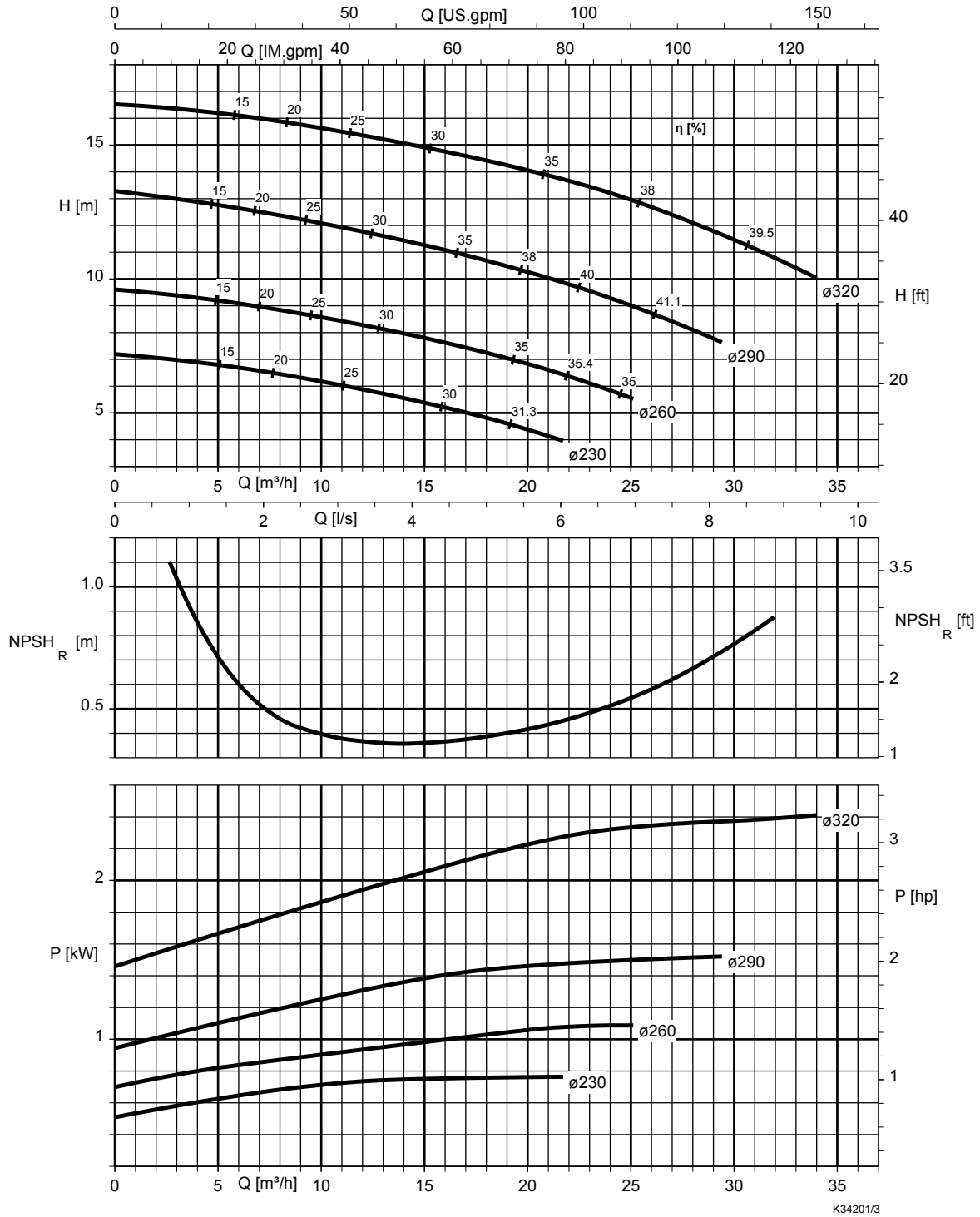


K33892/4

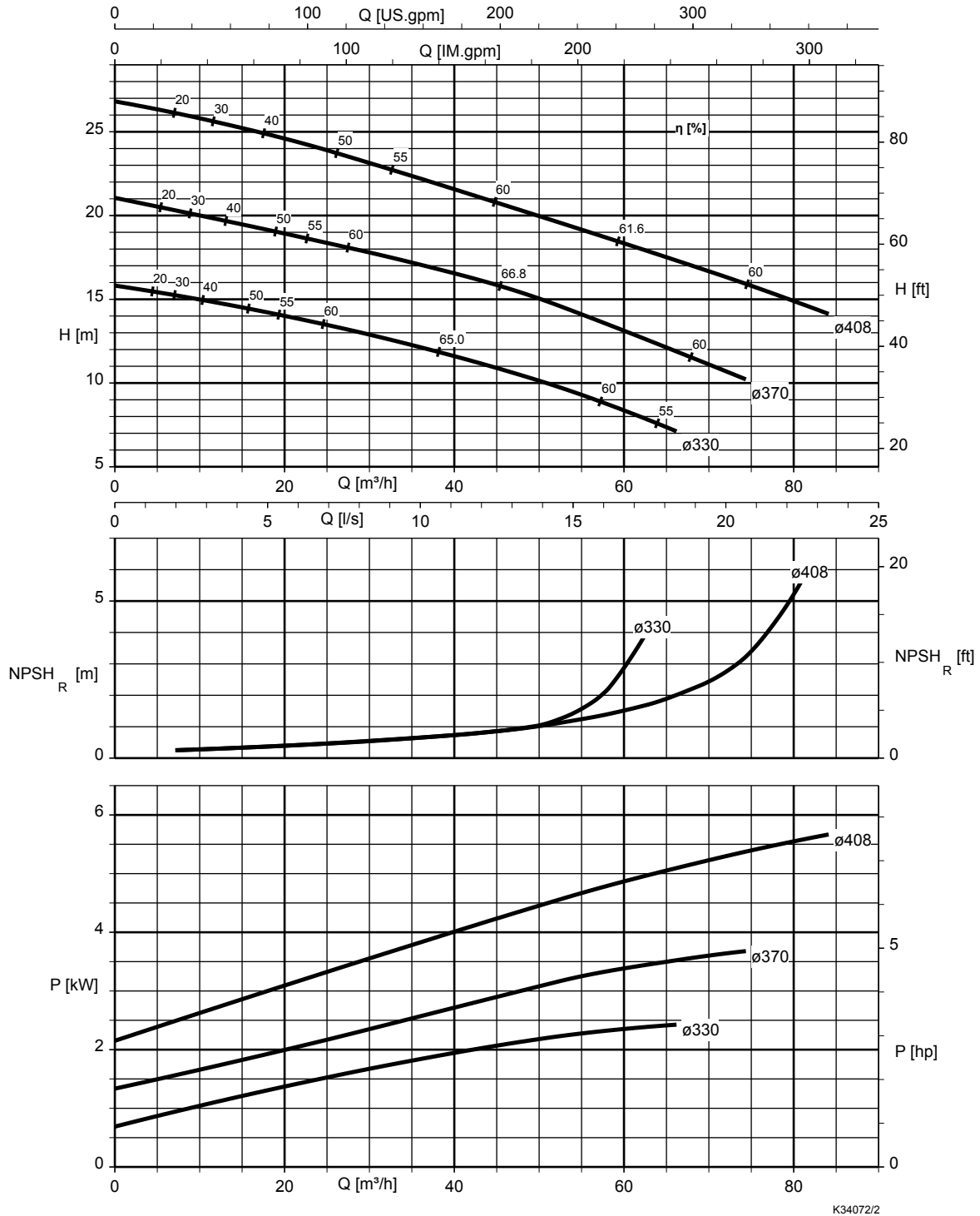
KWP K 065-050-200, n = 960 rpm



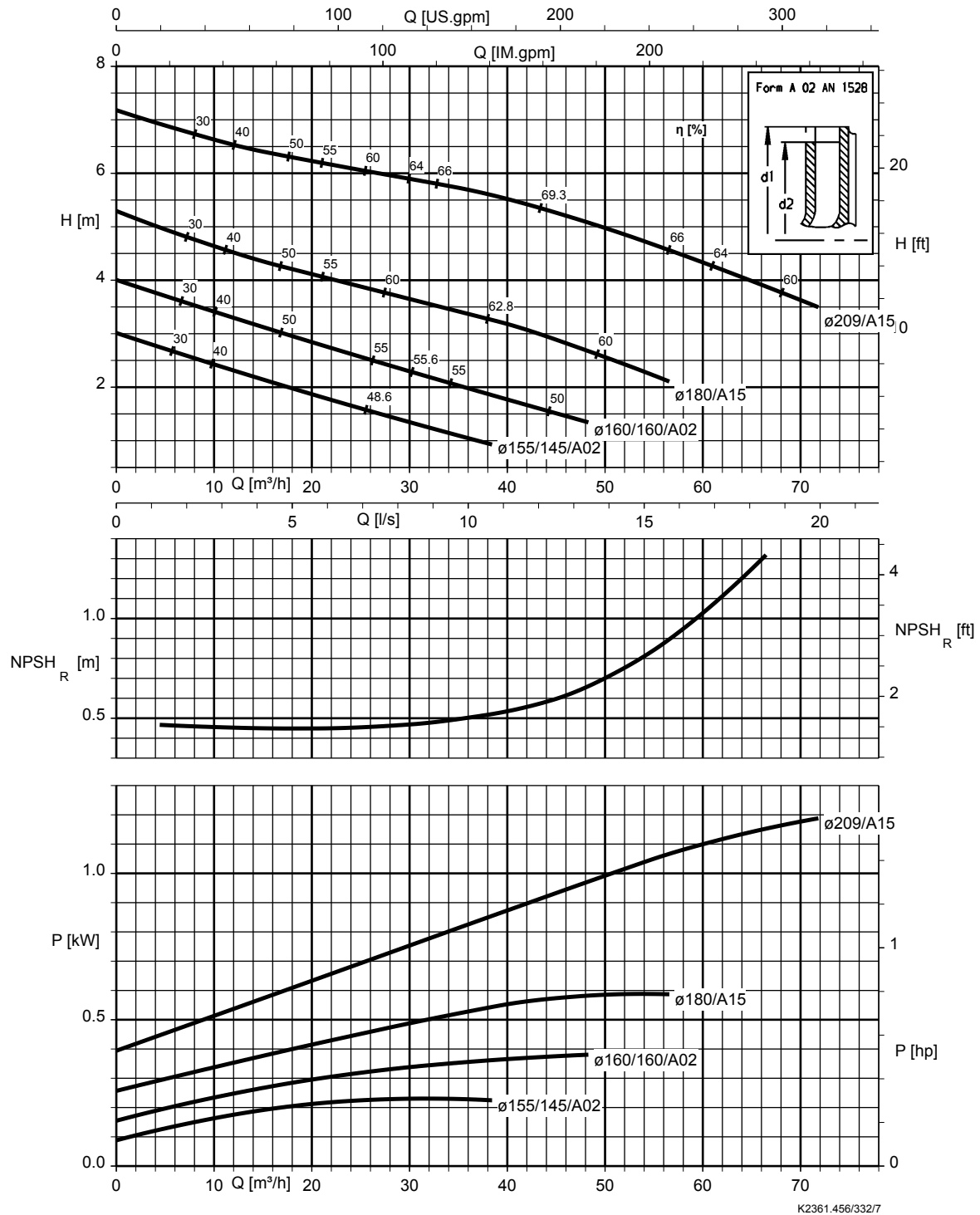
KWP K 080-040-315, $n = 960 \text{ rpm}$



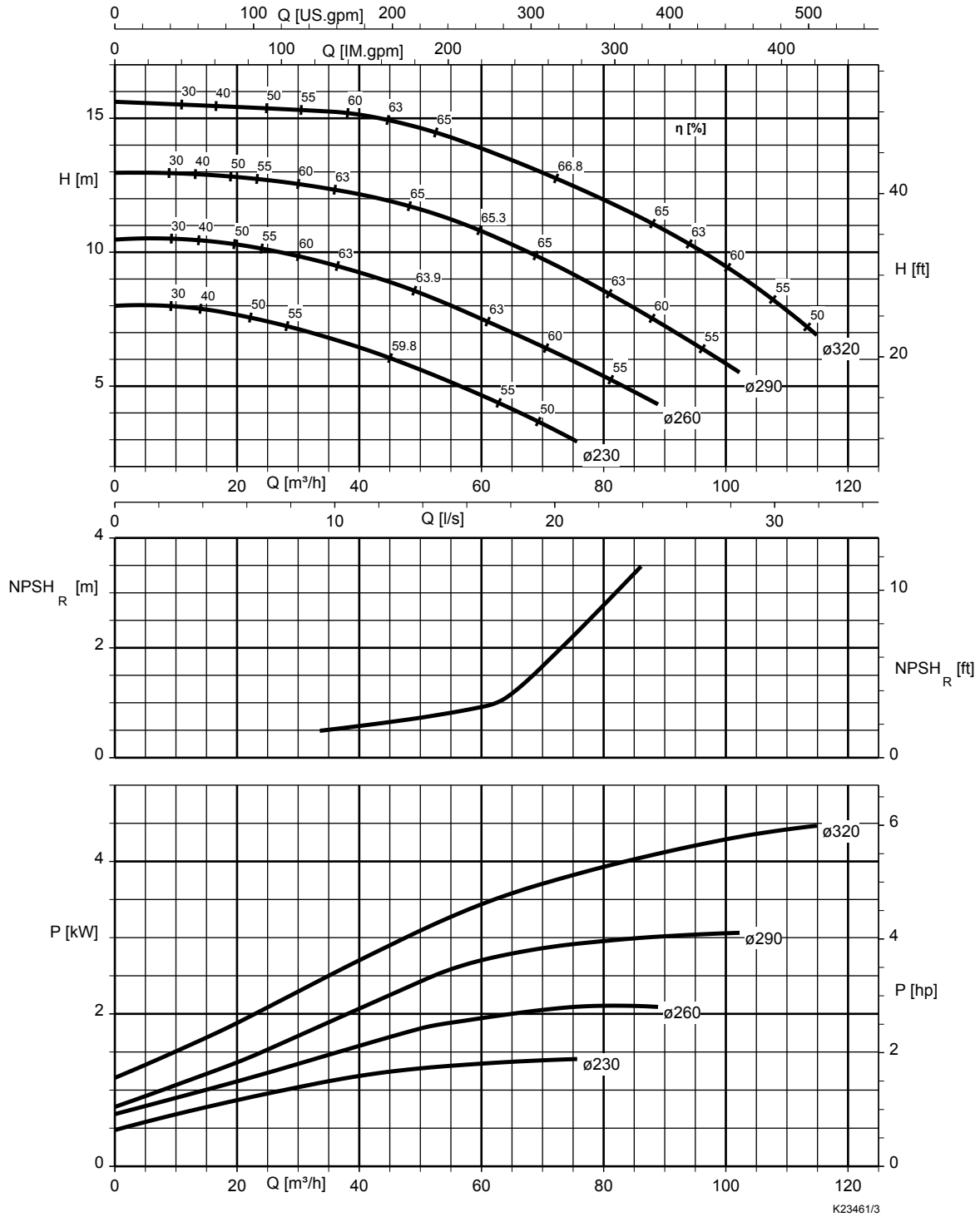
KWP K 080-050-400, $n = 960 \text{ rpm}$



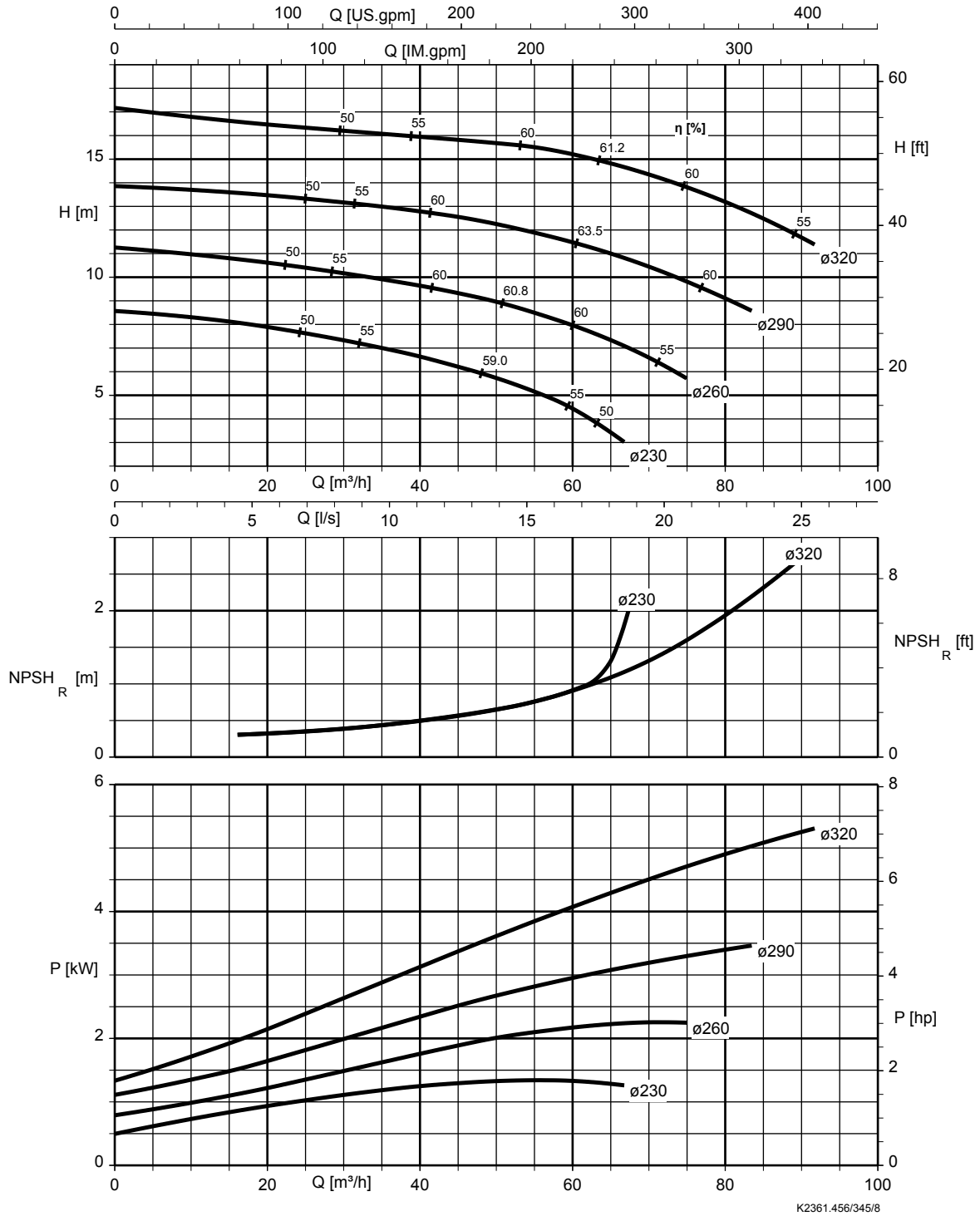
KWP K 080-065-200, $n = 960 \text{ rpm}$



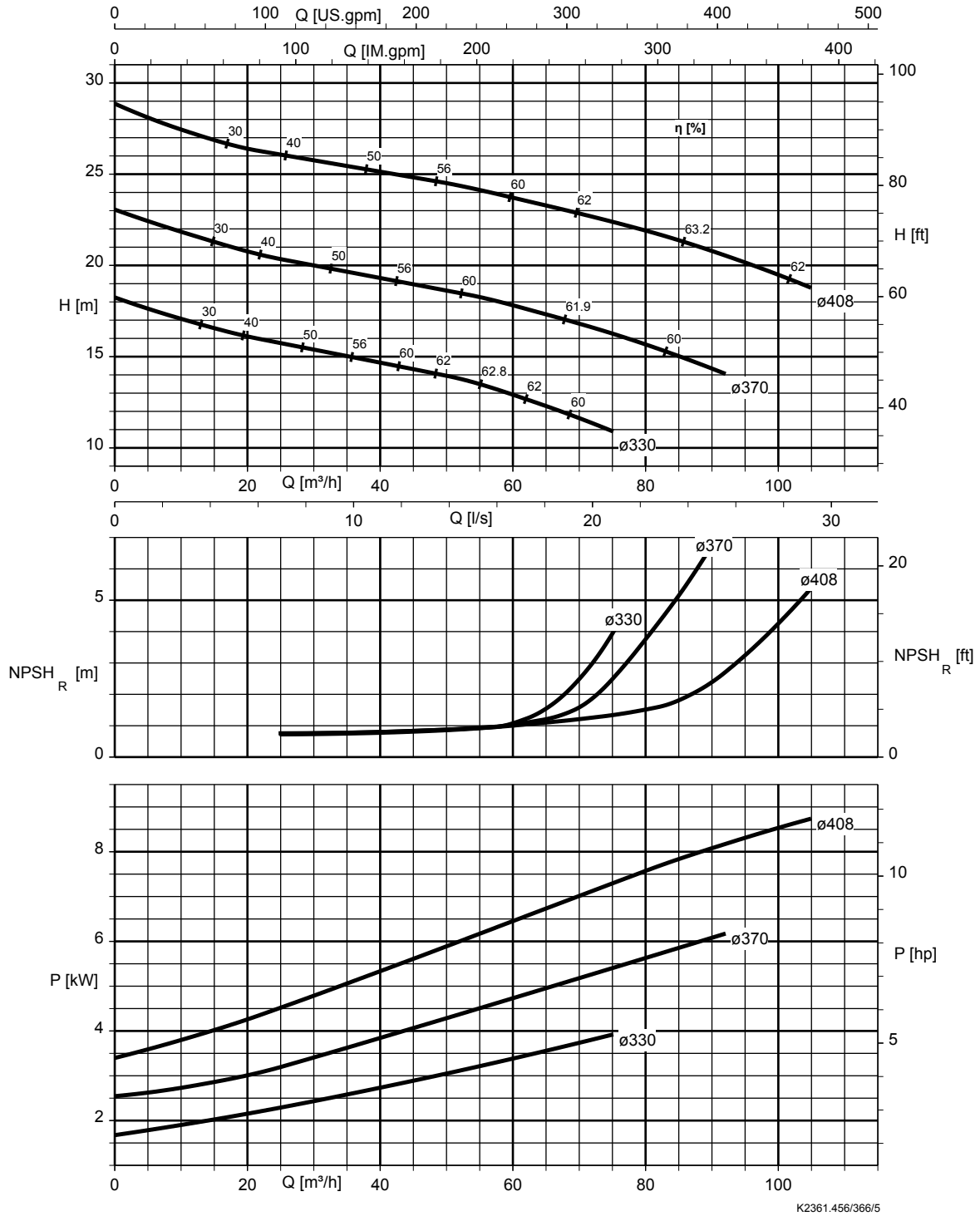
KWP K 080-065-313, $n = 960 \text{ rpm}$



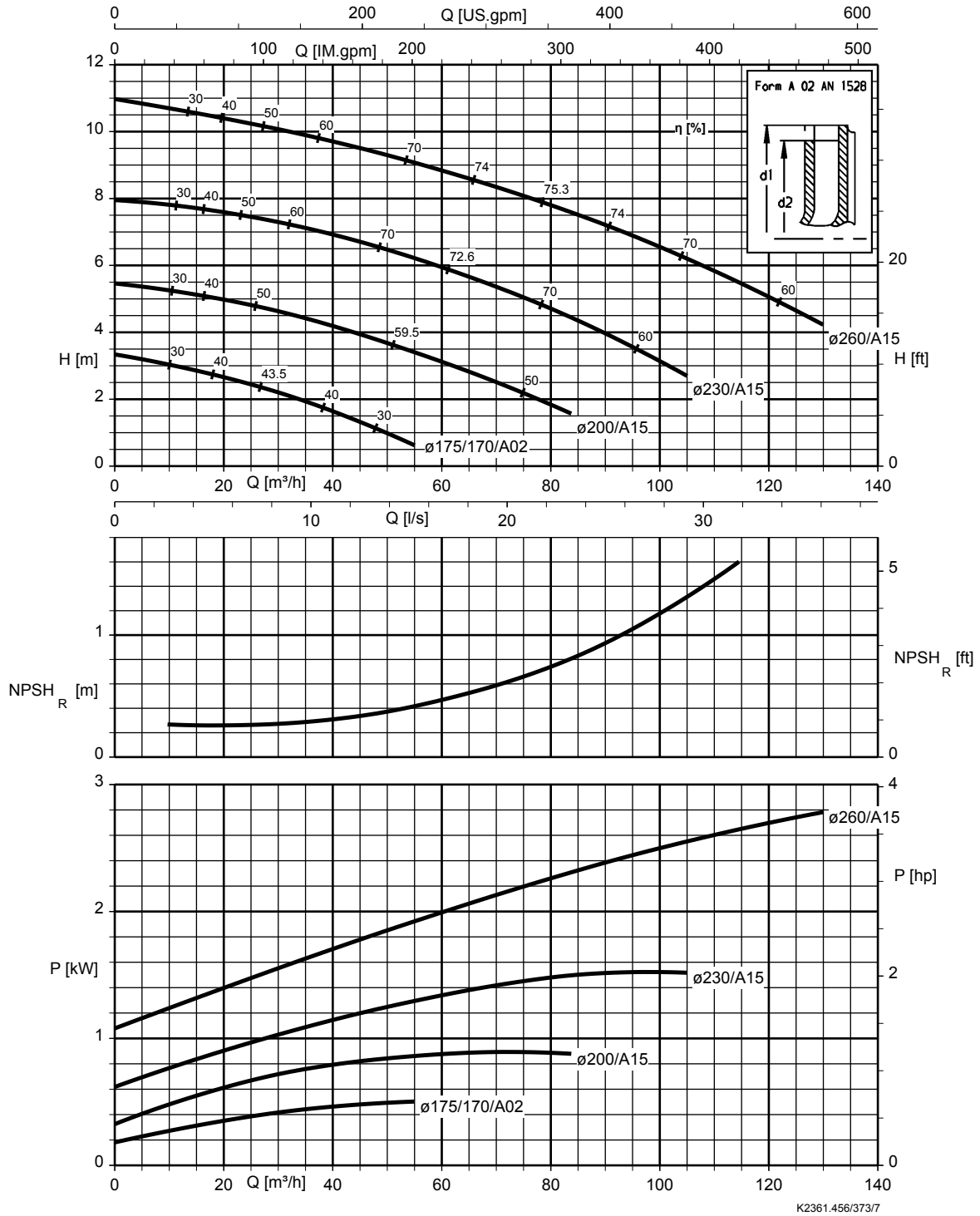
KWP K 080-065-315, $n = 960$ rpm



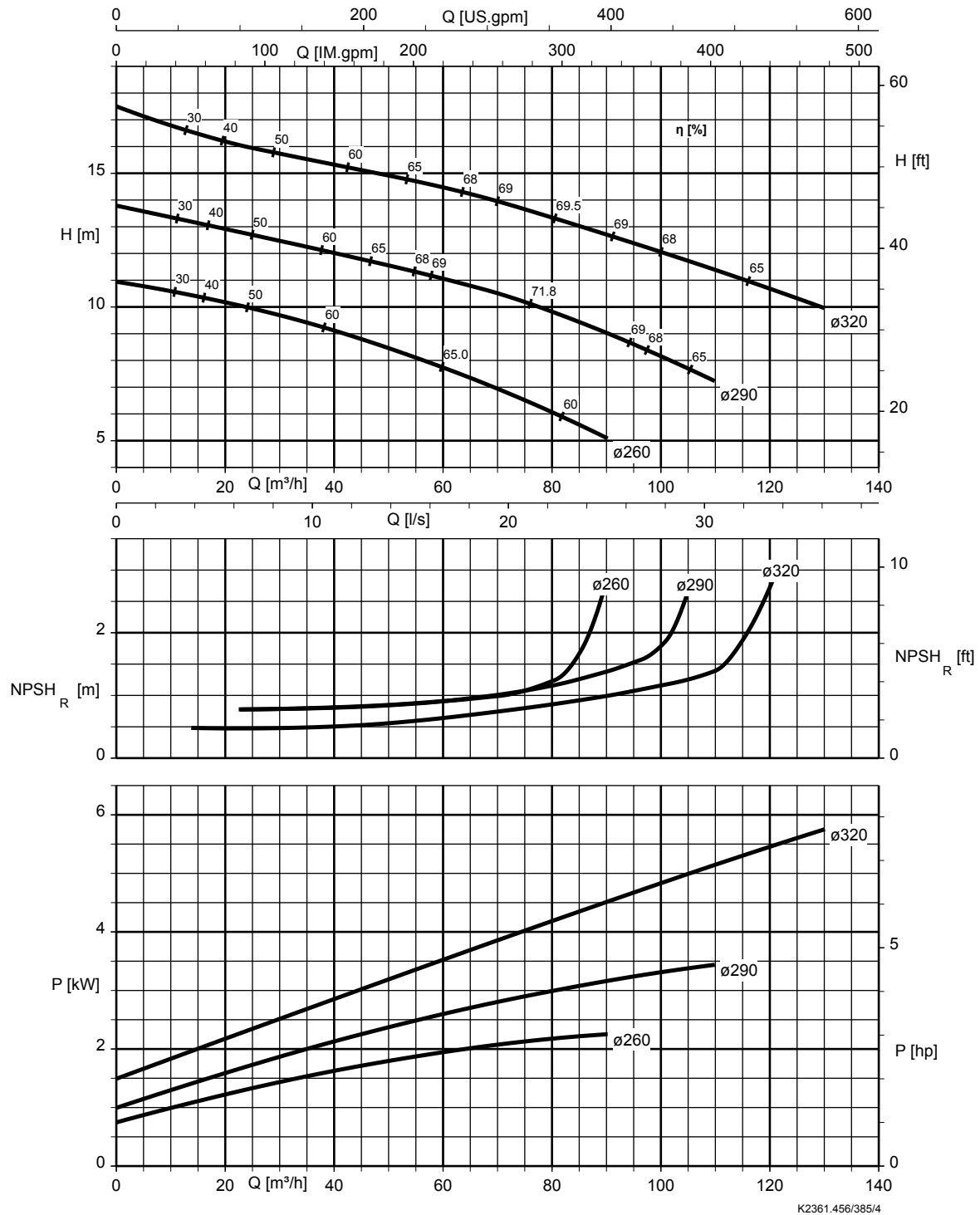
KWP K 080-065-400, n = 960 rpm



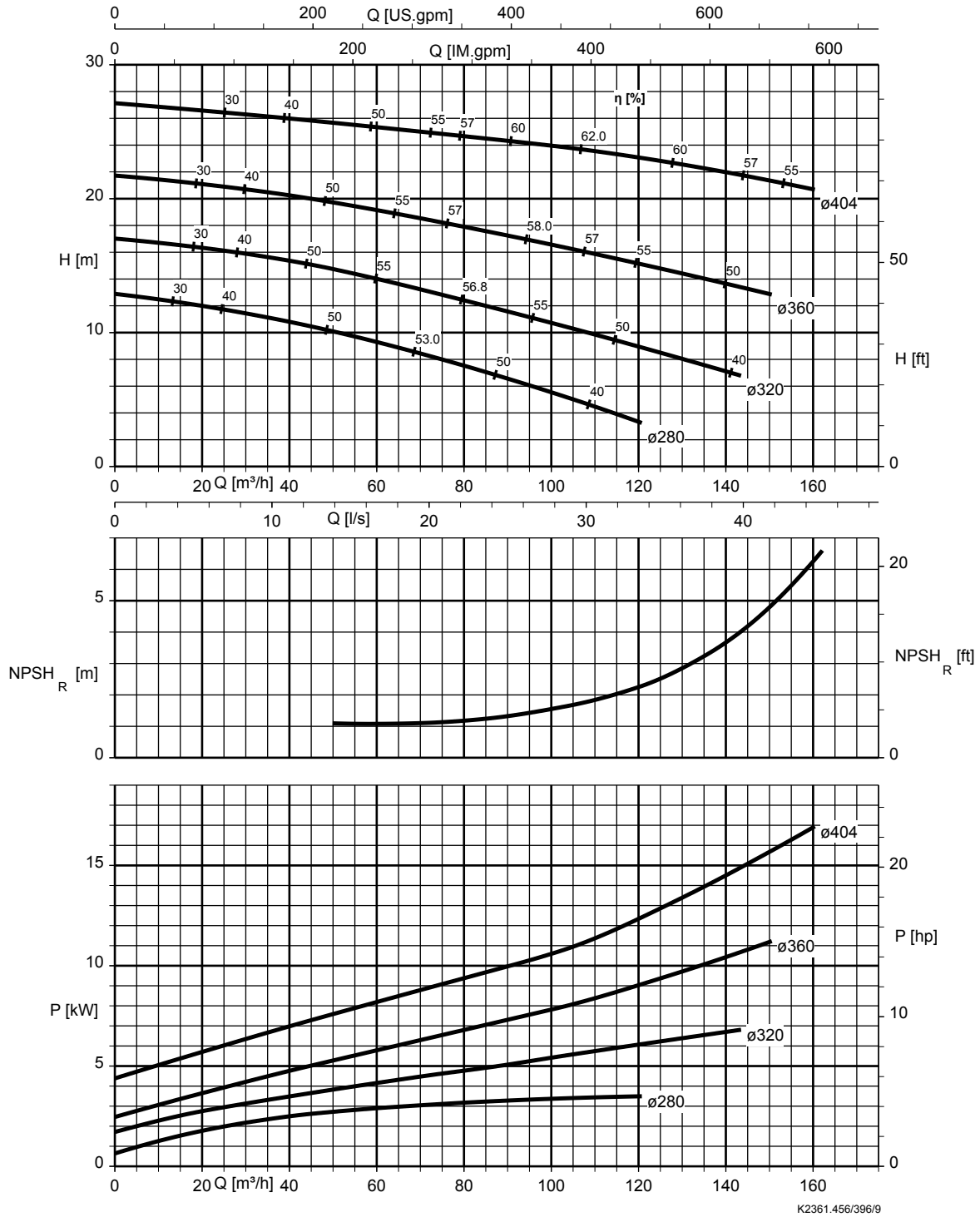
KWP K 100-080-250, n = 960 rpm



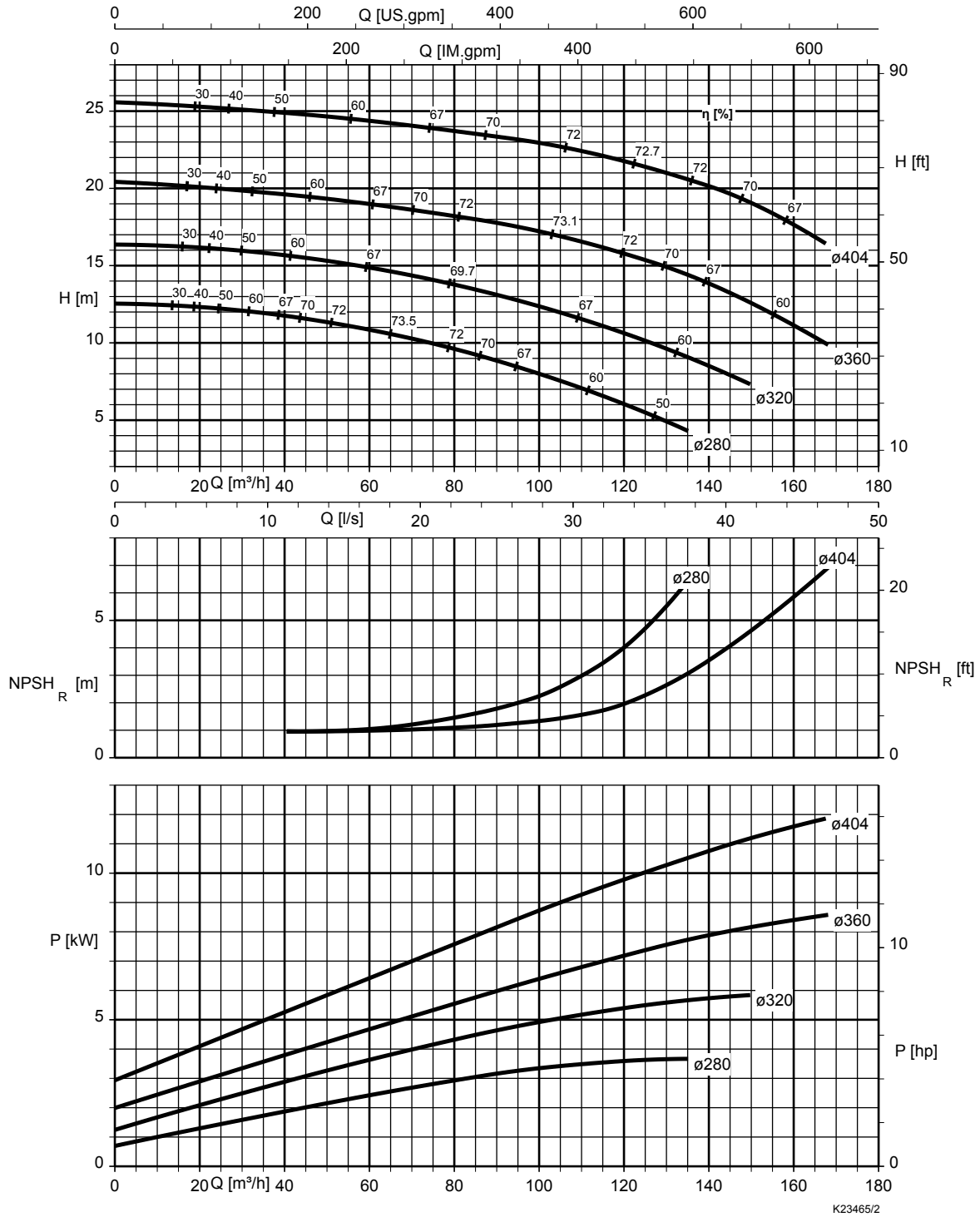
KWP K 100-080-315, n = 960 rpm



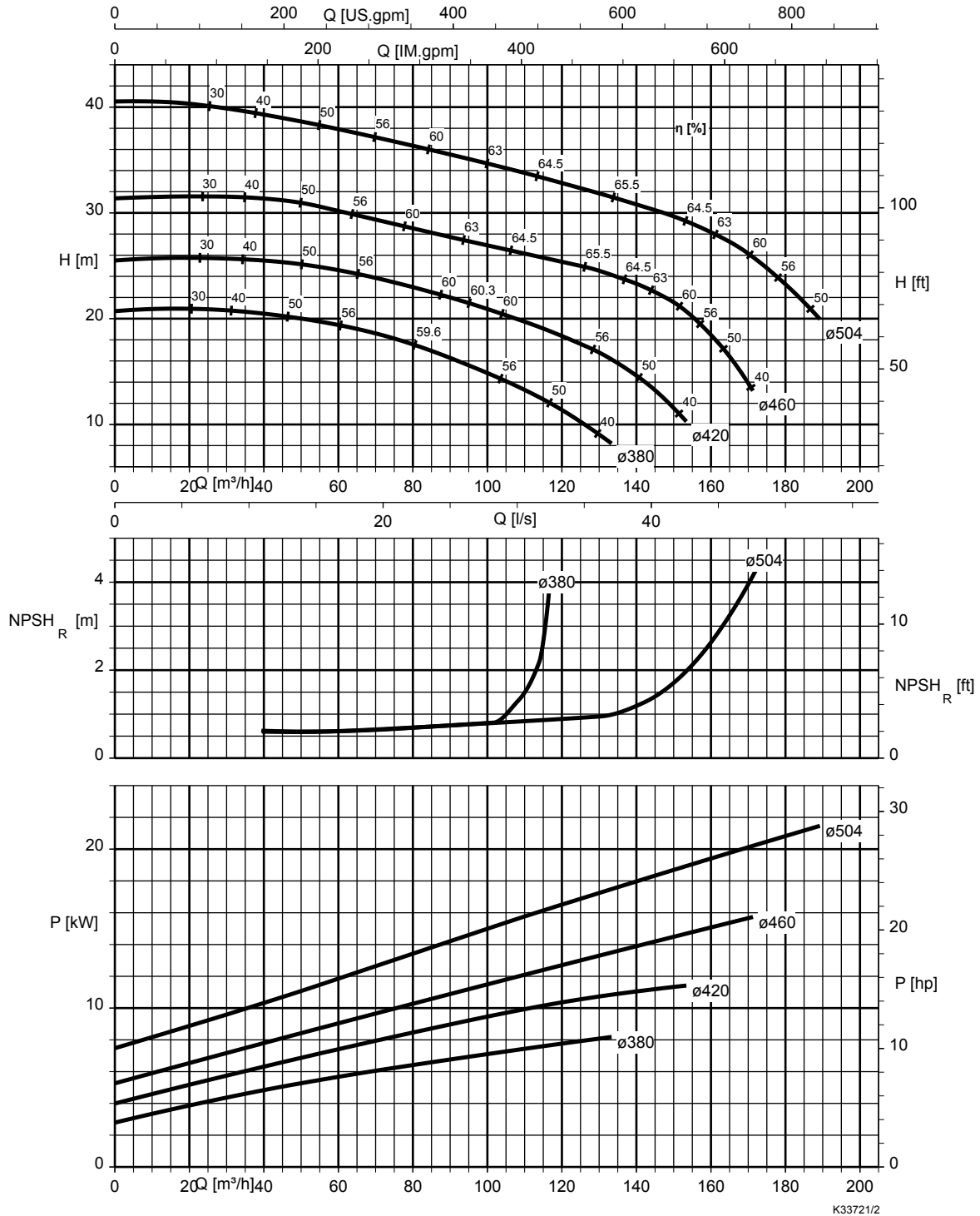
KWP K 100-080-400, $n = 960 \text{ rpm}$



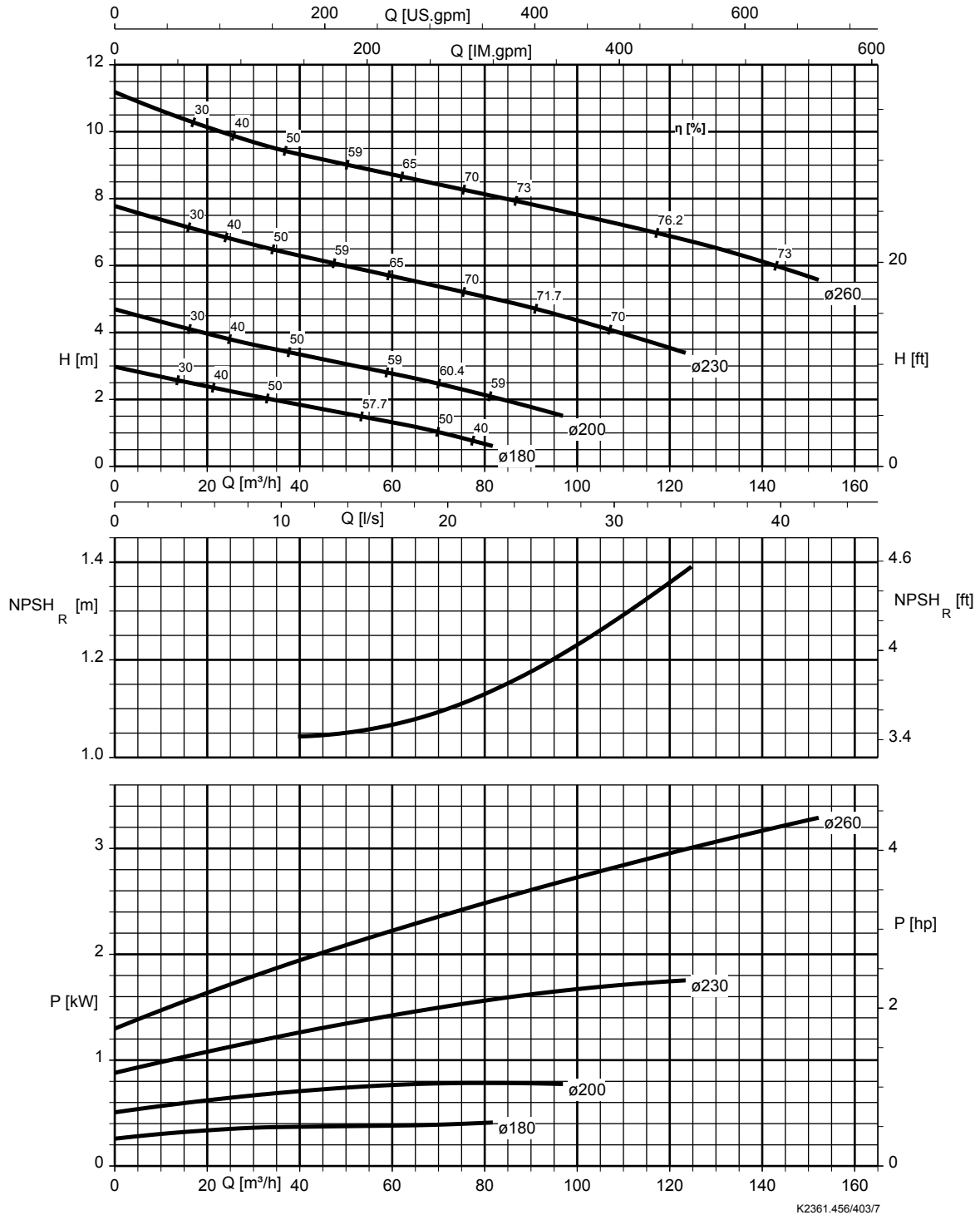
KWP K 100-080-403, n = 960 rpm



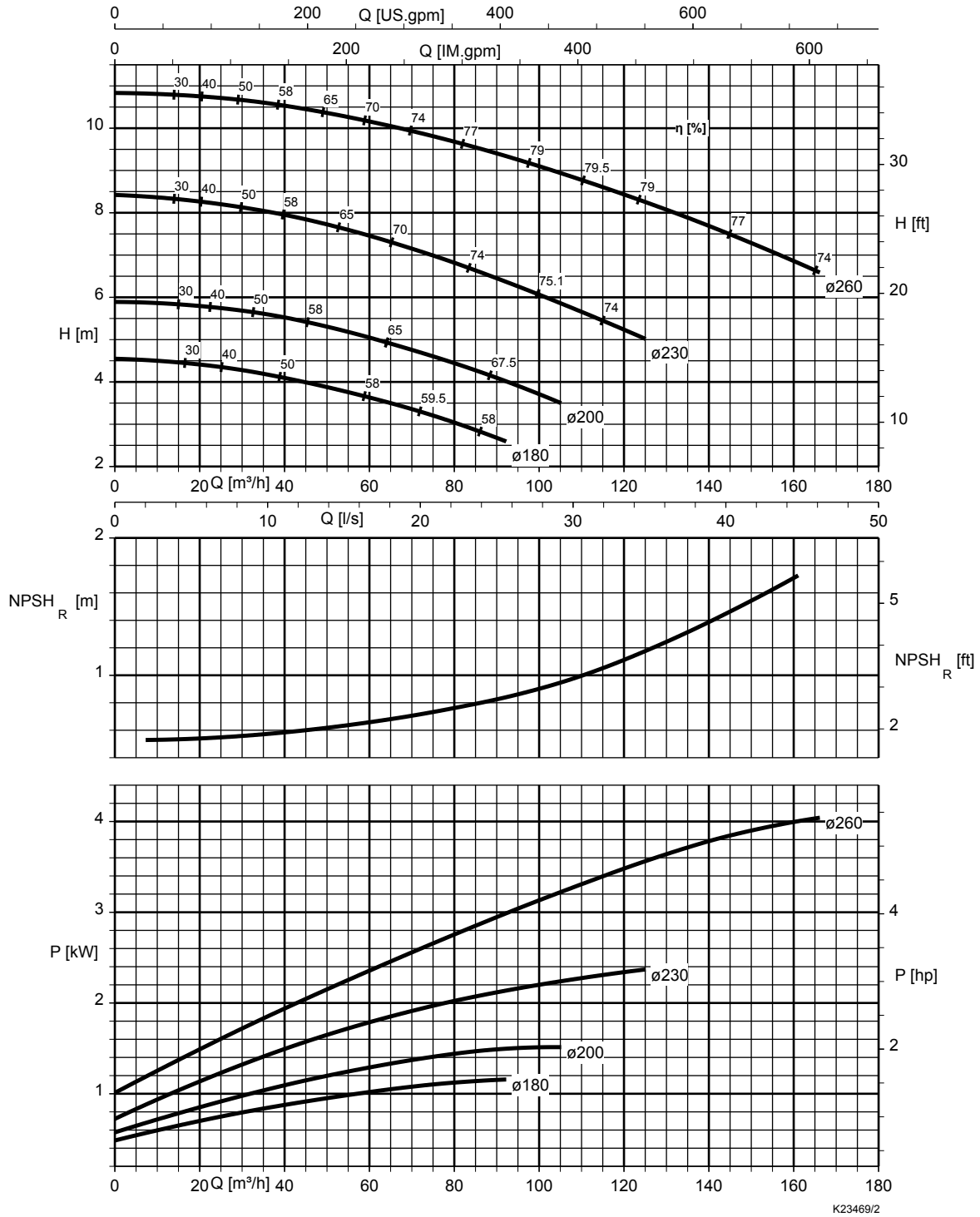
KWP K 125-080-500, $n = 960$ rpm



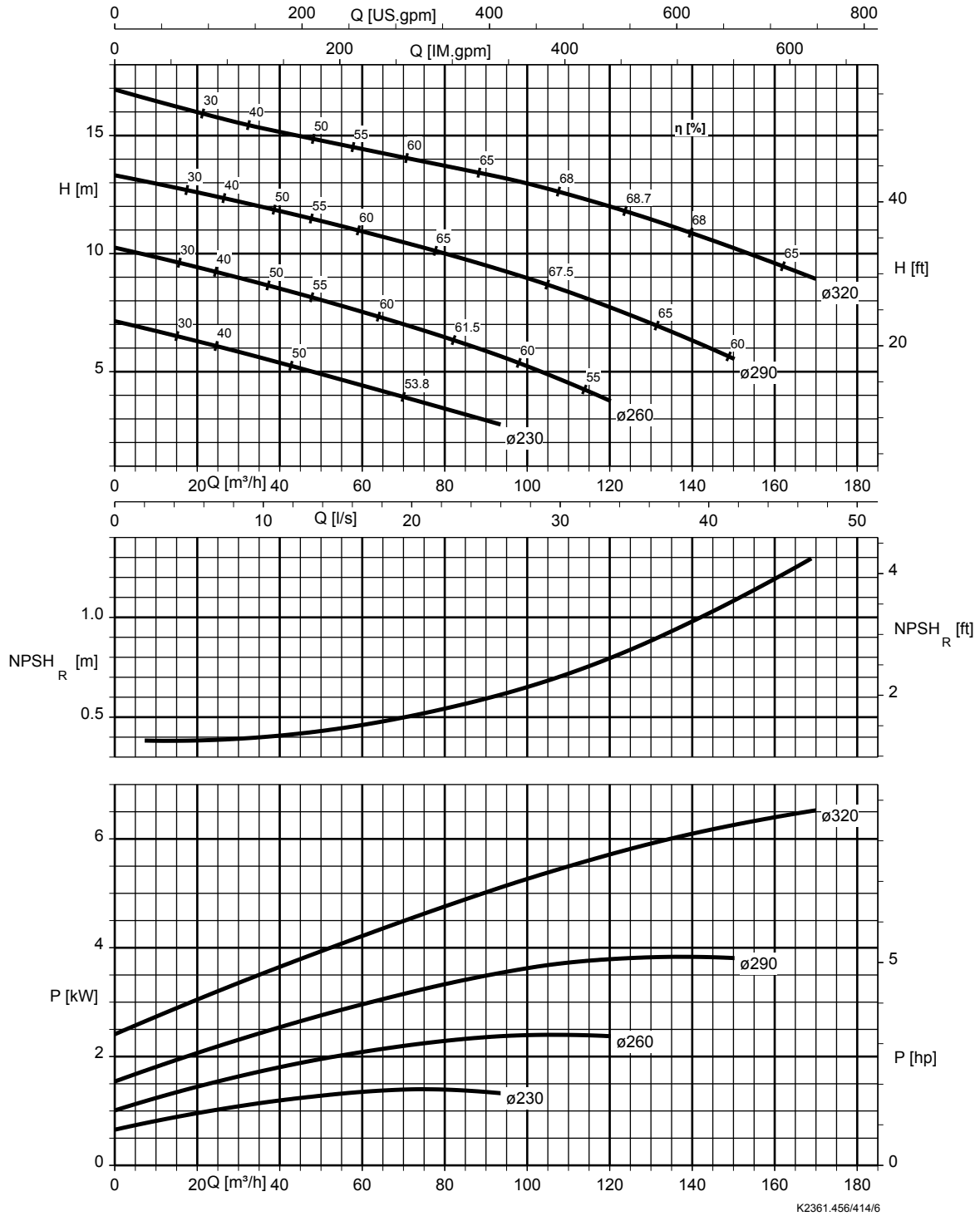
KWP K 125-100-250, n = 960 rpm



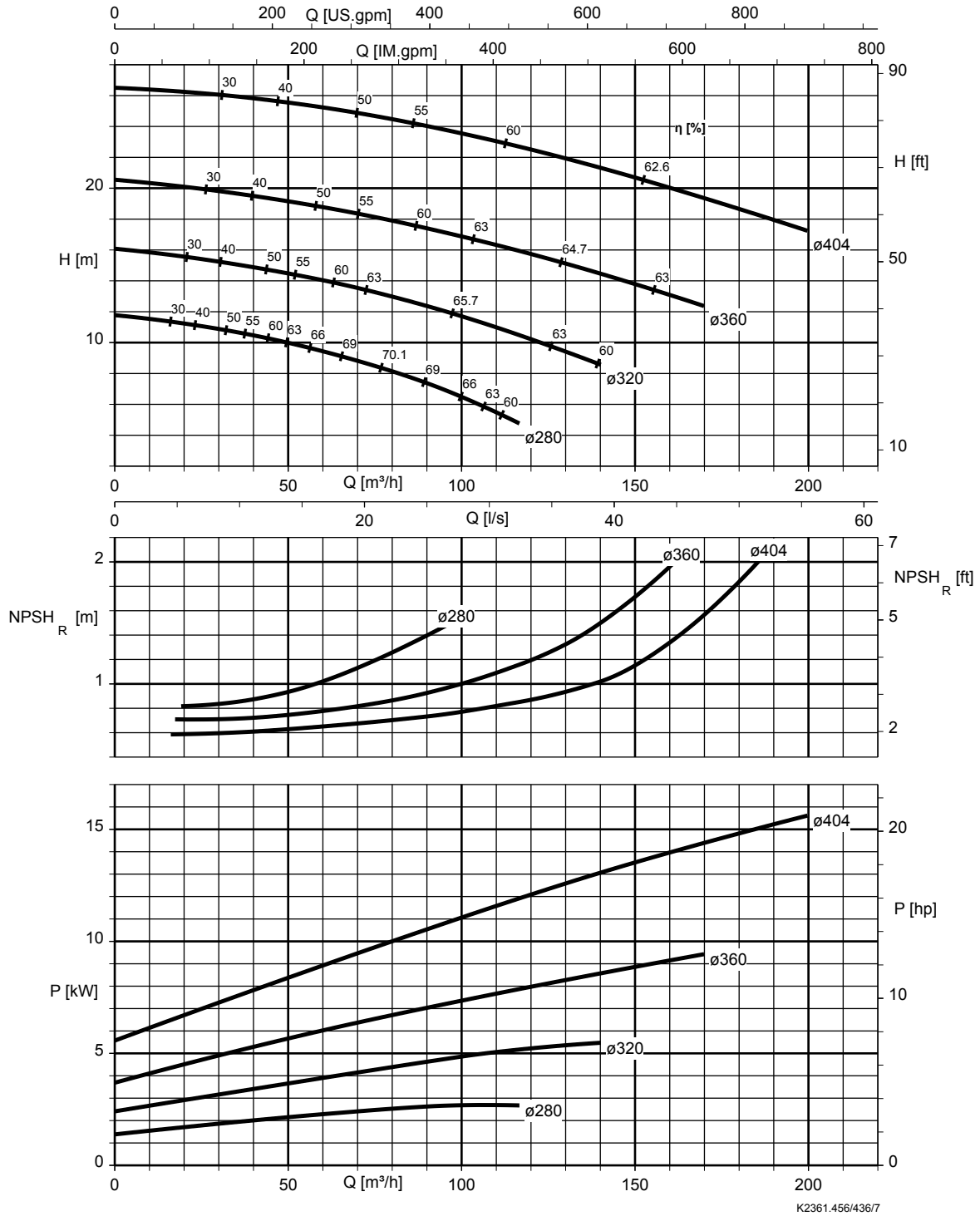
KWP K 125-100-253, n = 960 rpm



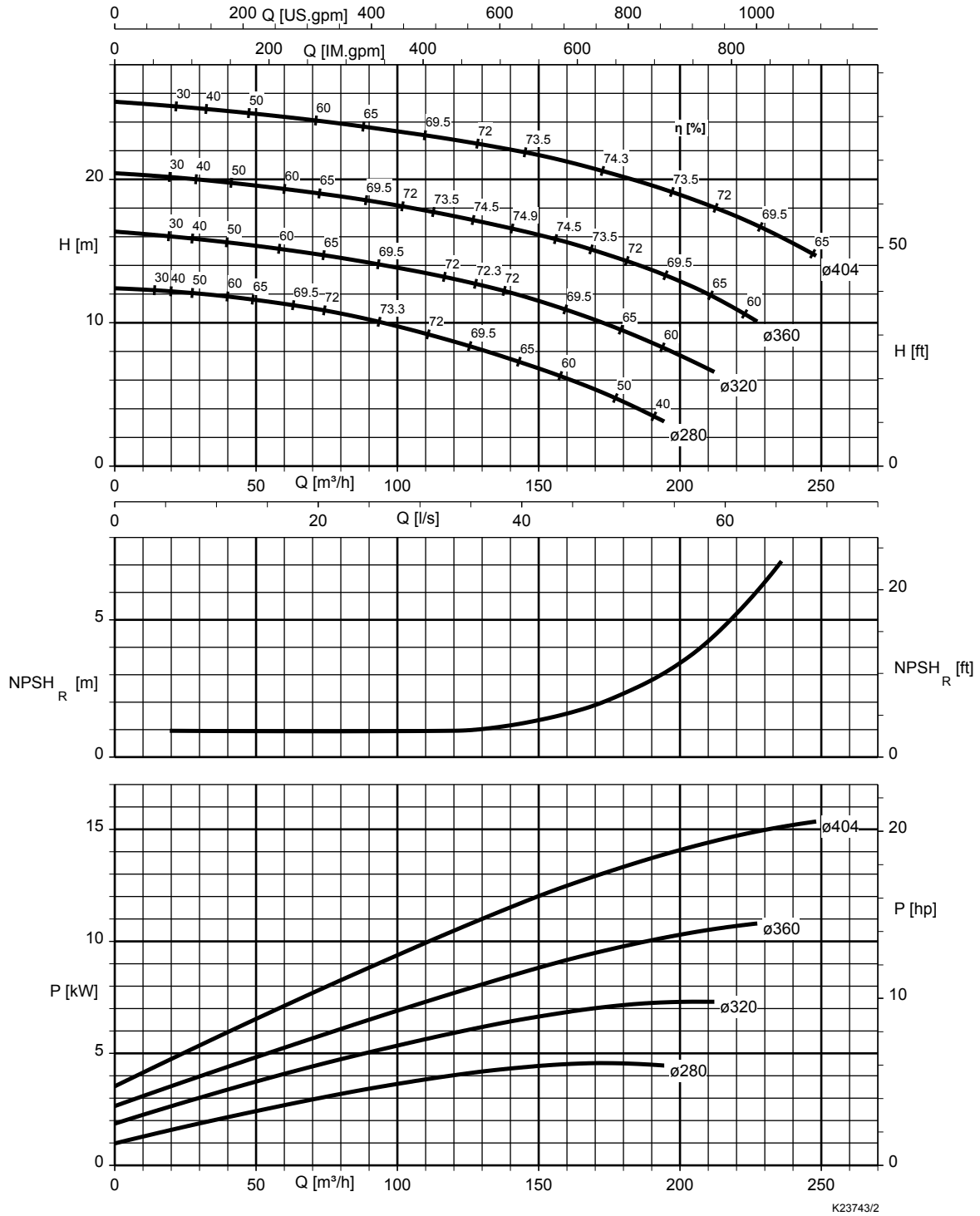
KWP K 125-100-315, $n = 960 \text{ rpm}$



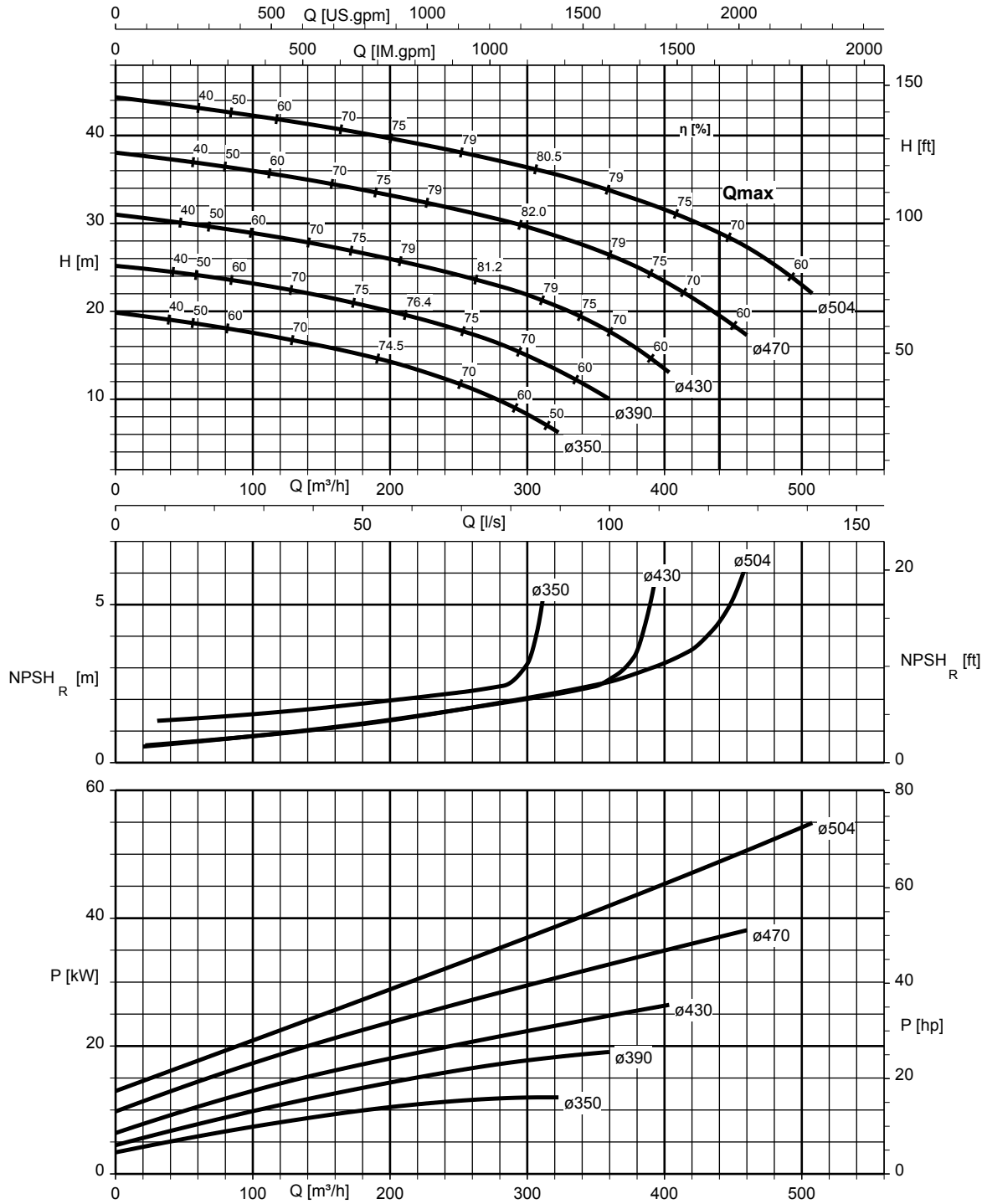
KWP K 125-100-400, n = 960 rpm



KWP K 125-100-403, n = 960 rpm

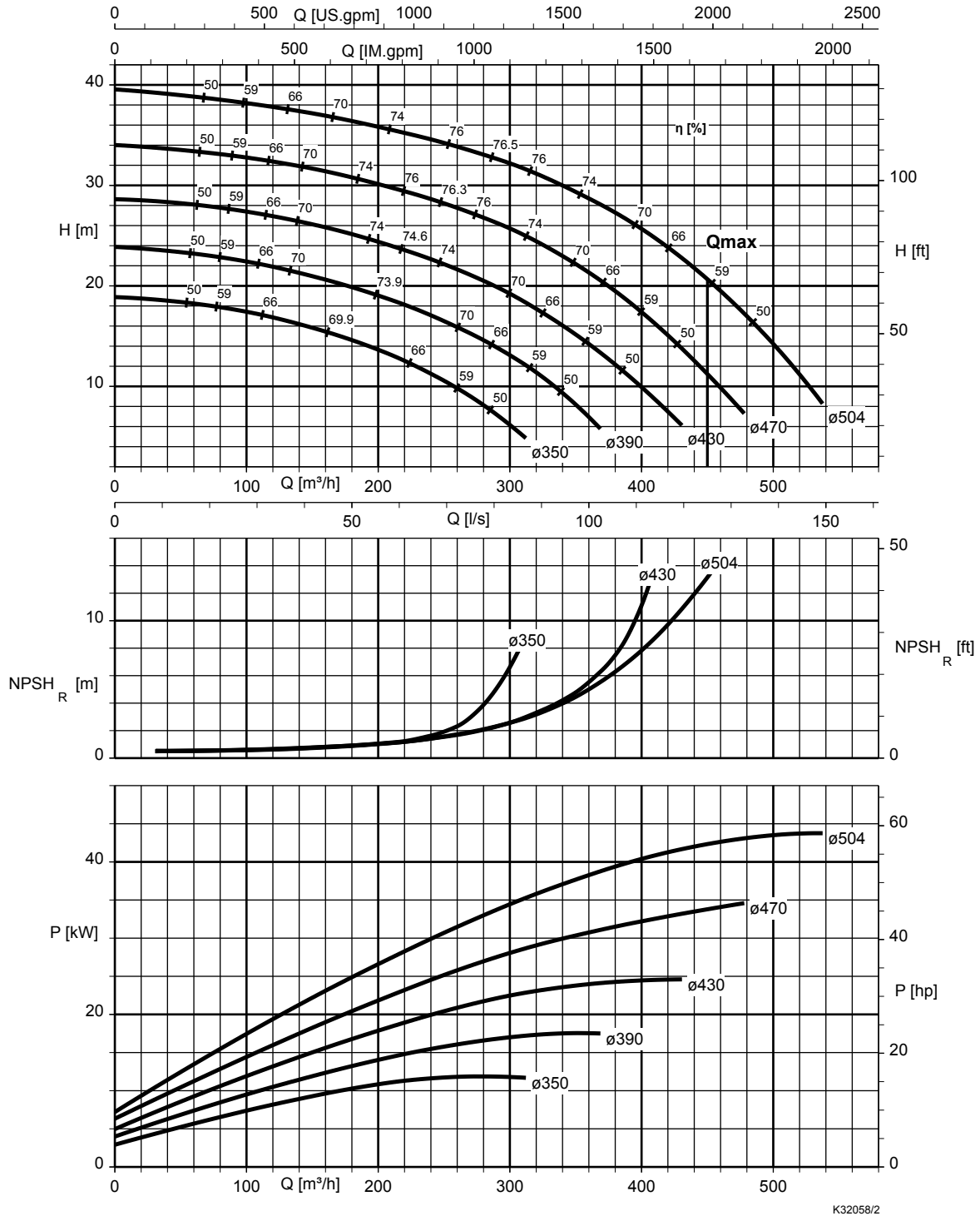


KWP K 150-125-500, n = 960 rpm

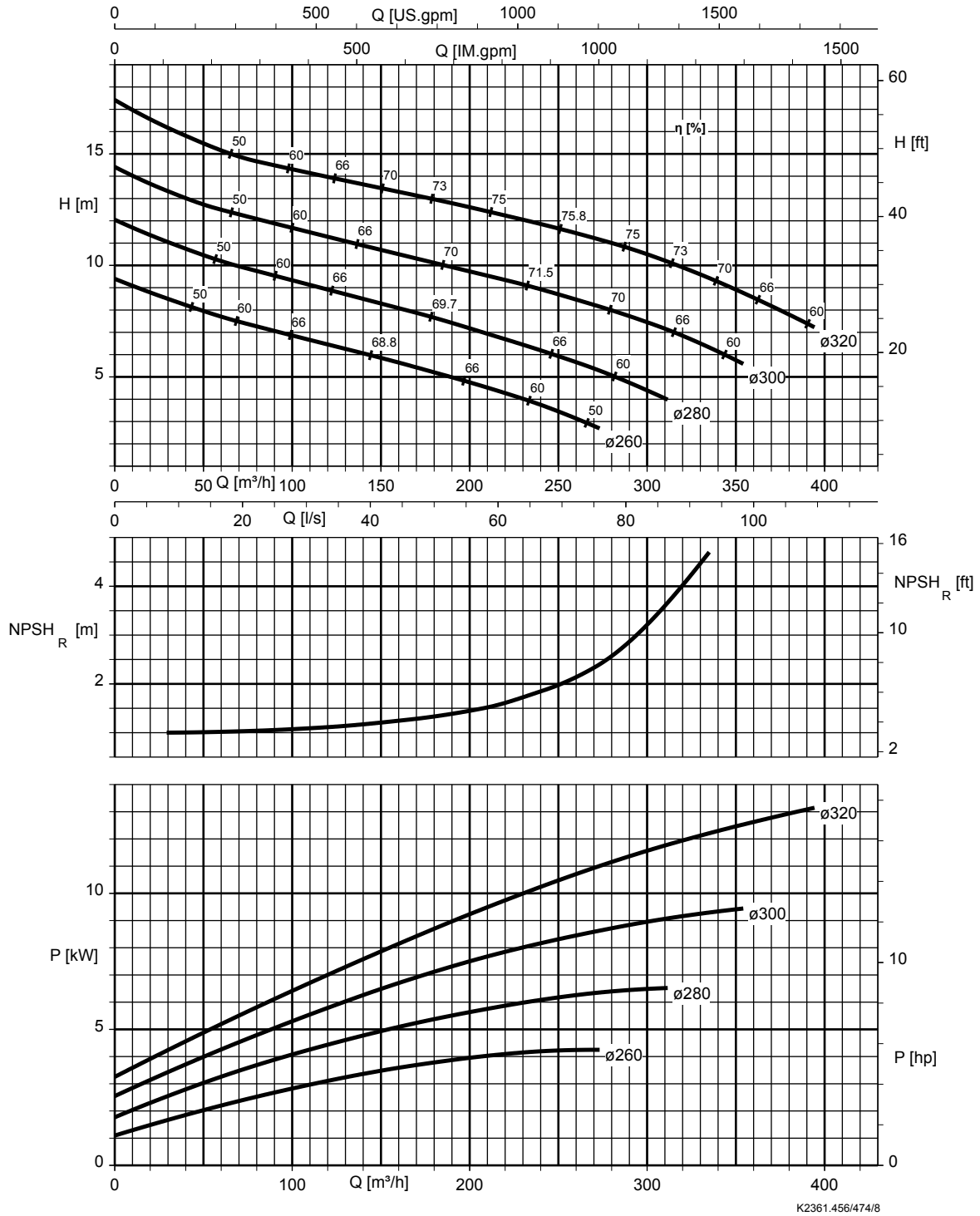


K33984/3

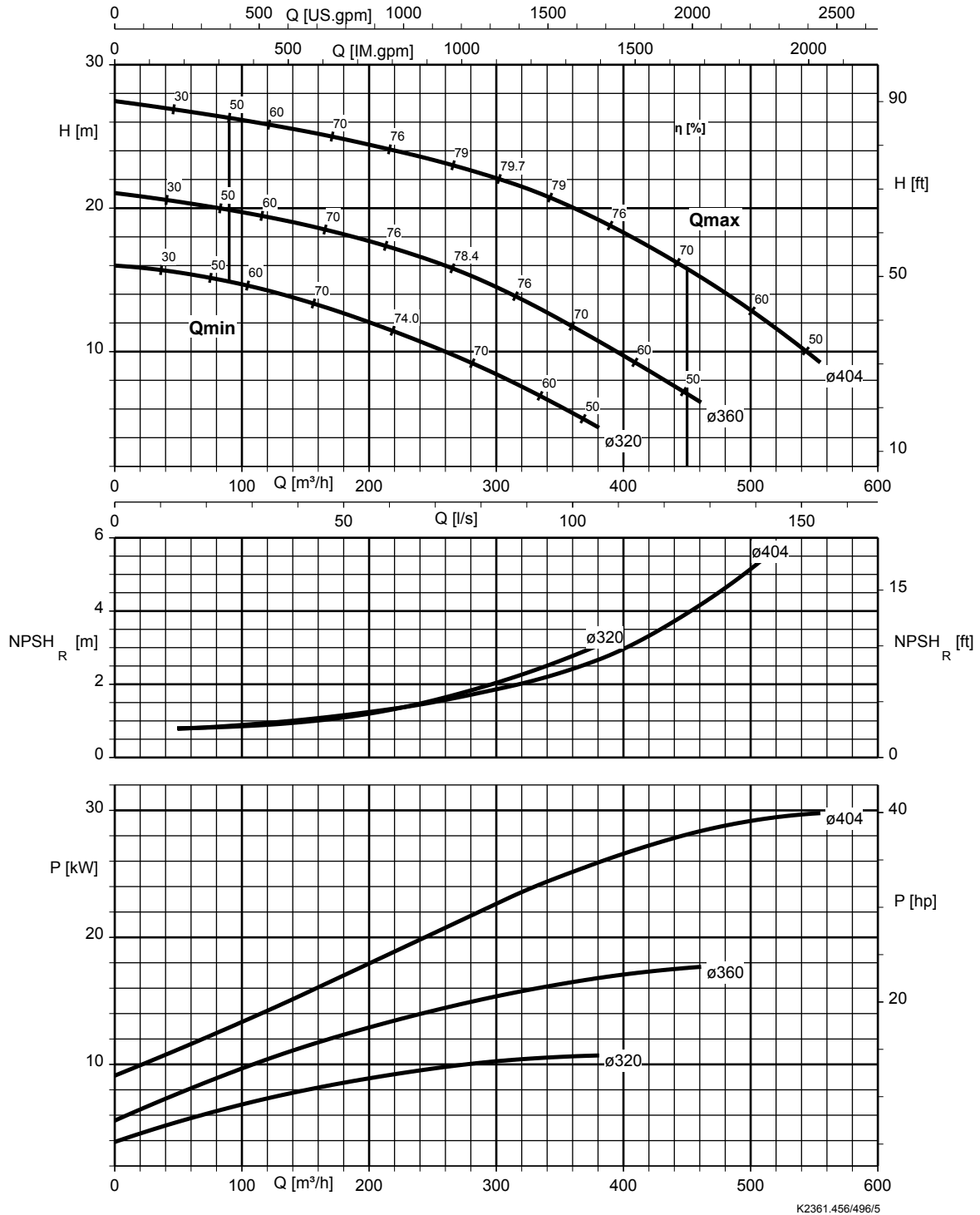
KWP K 150-125-503, n = 960 rpm



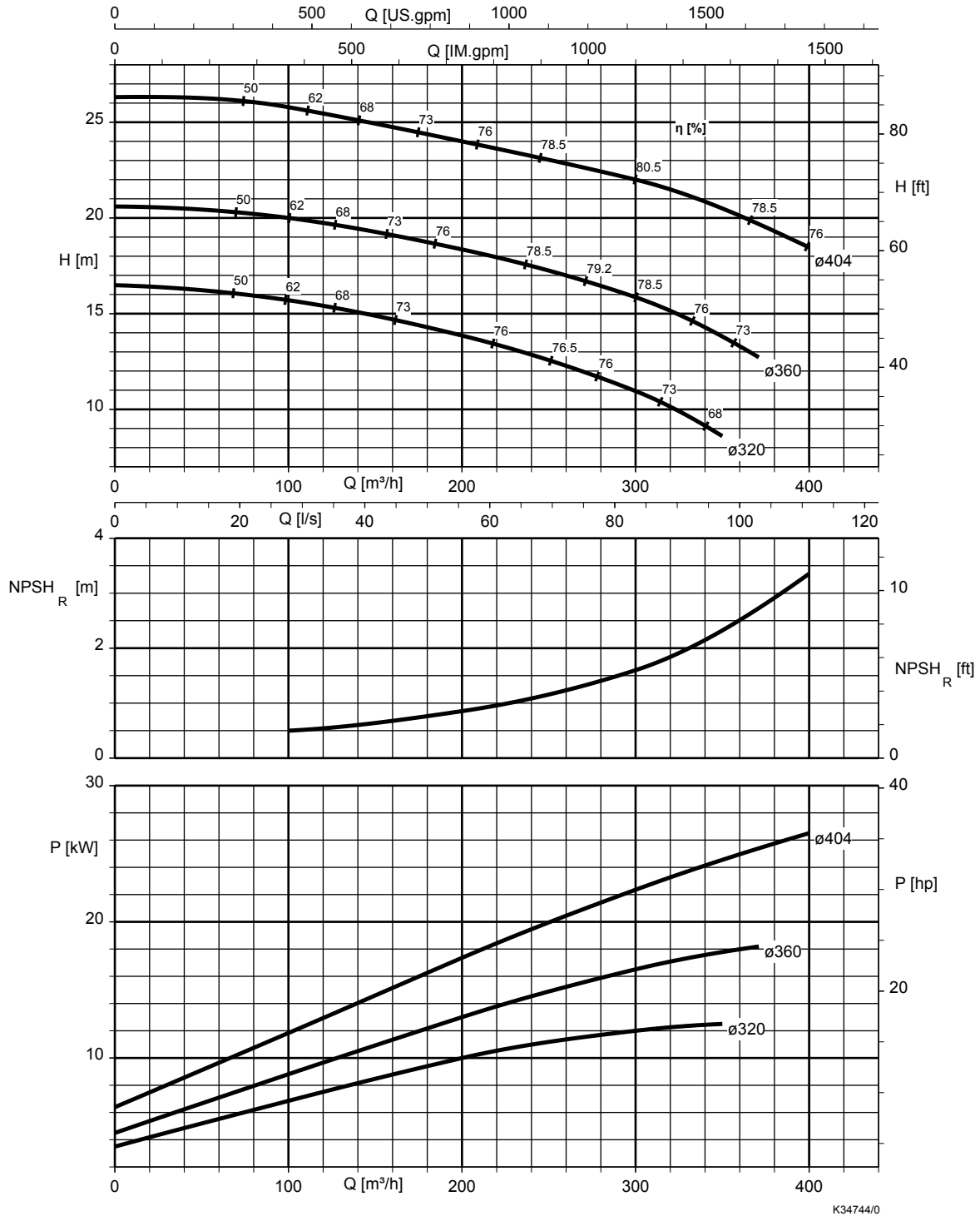
KWP K 150-150-315, $n = 960 \text{ rpm}$



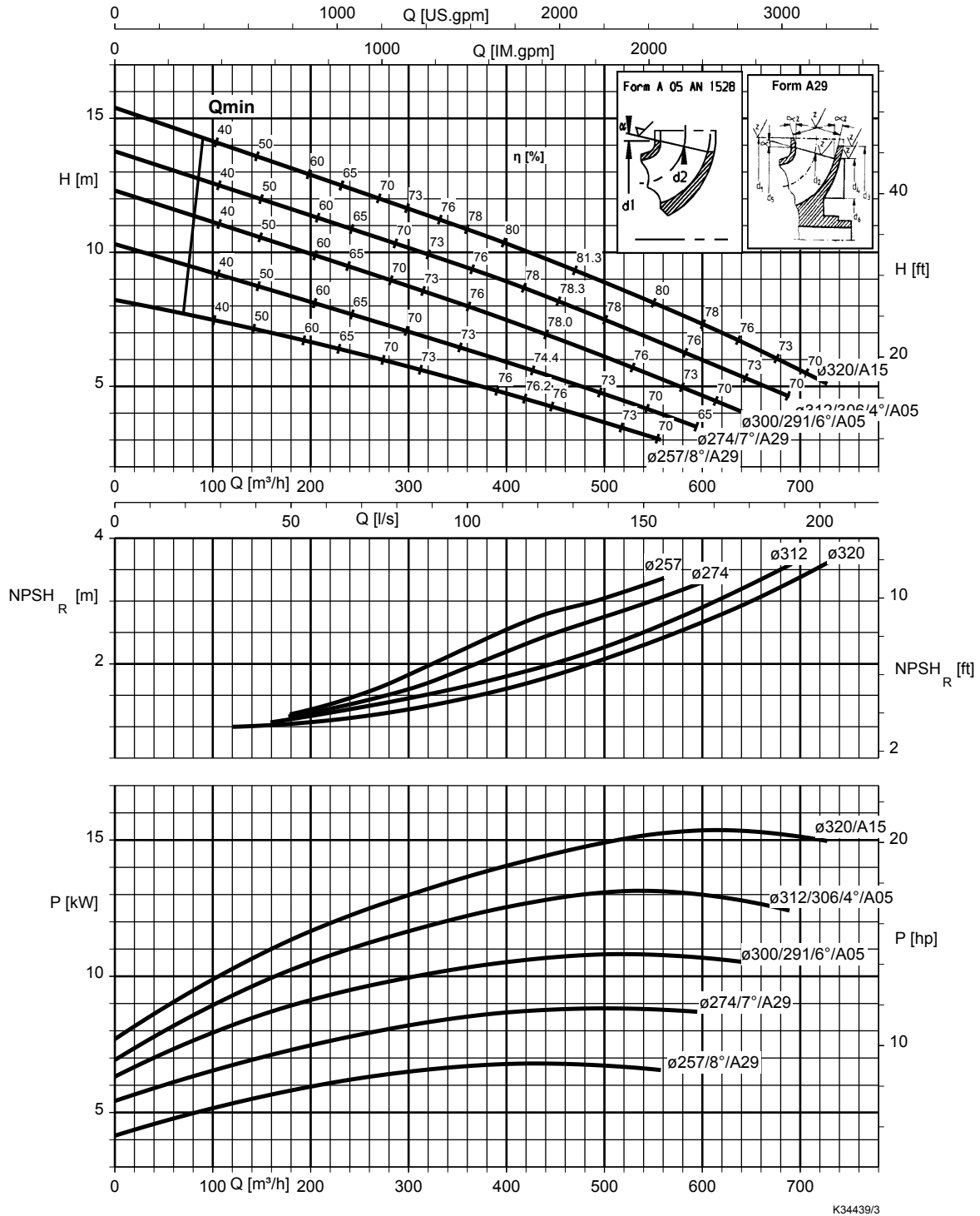
KWP K 150-150-400, n = 960 rpm



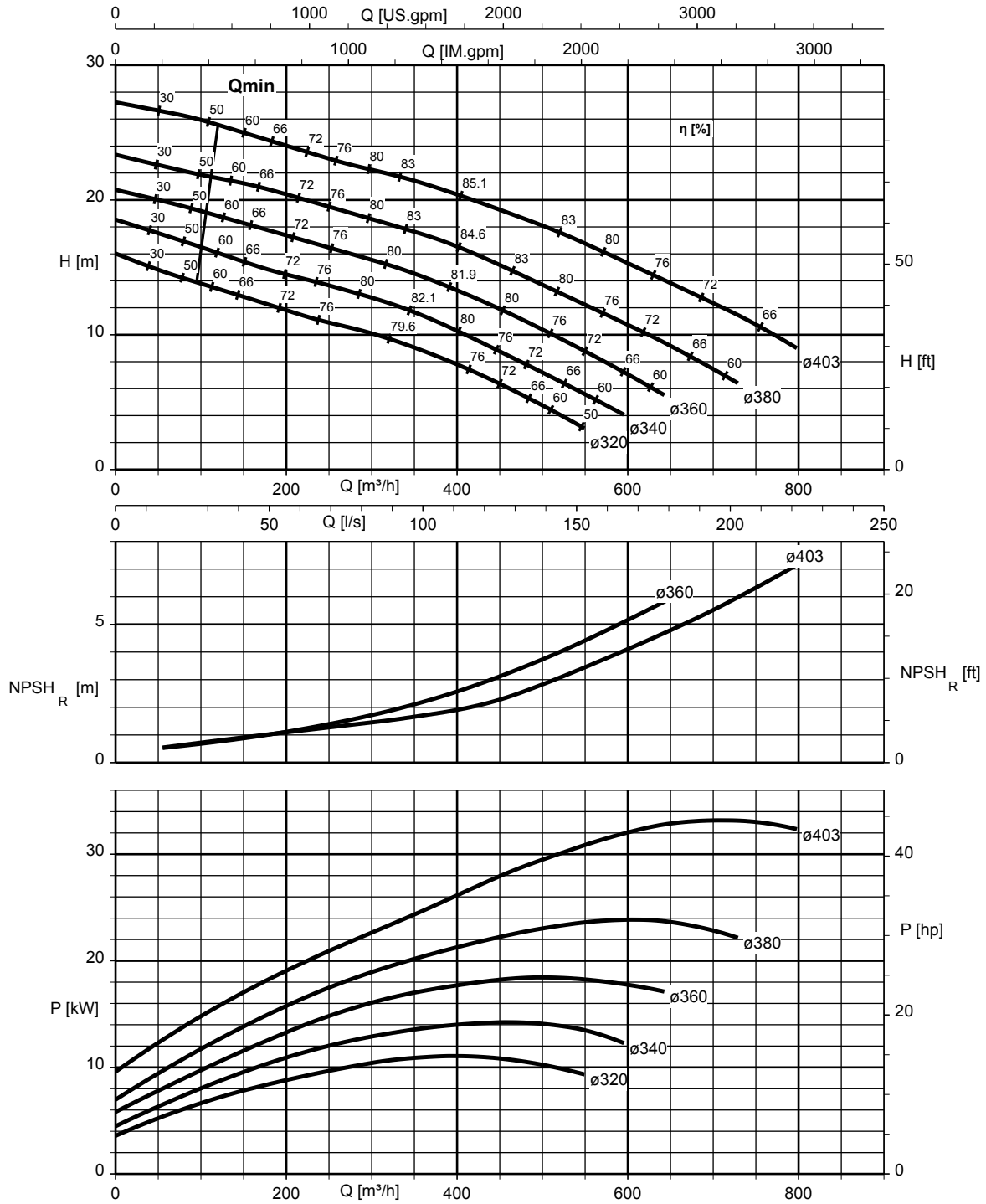
KWP K 150-150-403, n = 960 rpm



KWP K 200-200-320, $n = 960 \text{ rpm}$

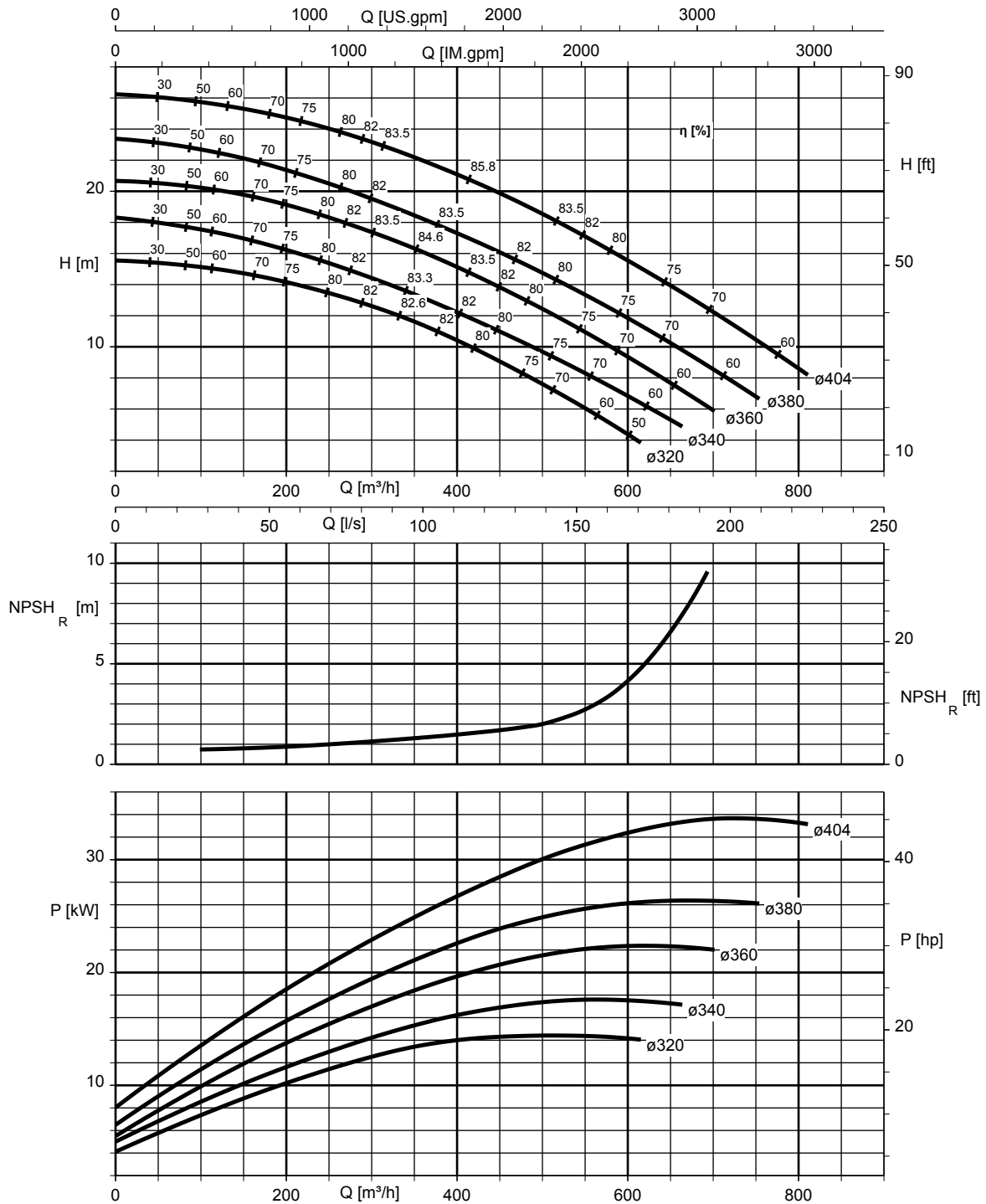


KWP K 200-200-400, $n = 960 \text{ rpm}$



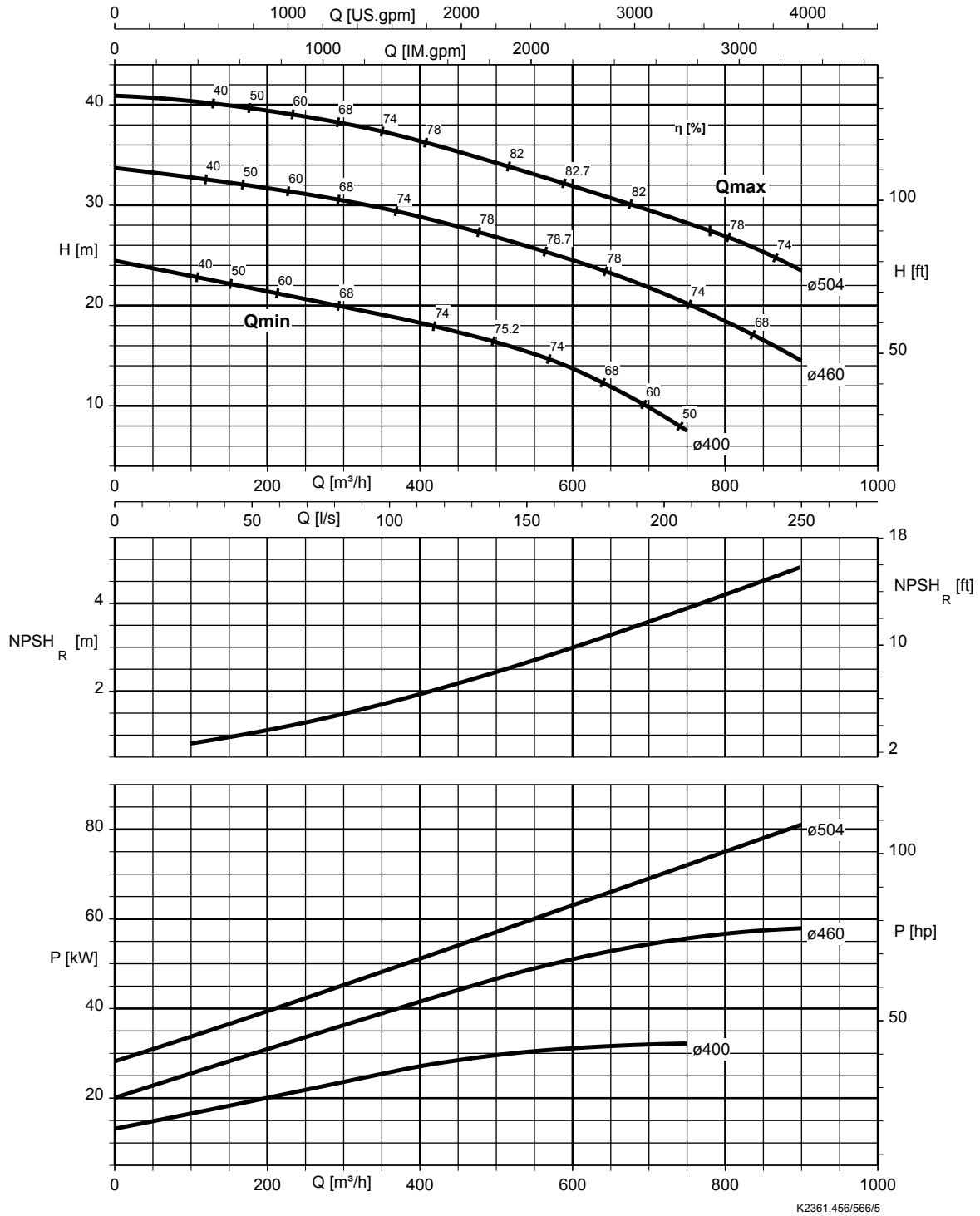
K33783/3

KWP K 200-200-403, n = 960 rpm

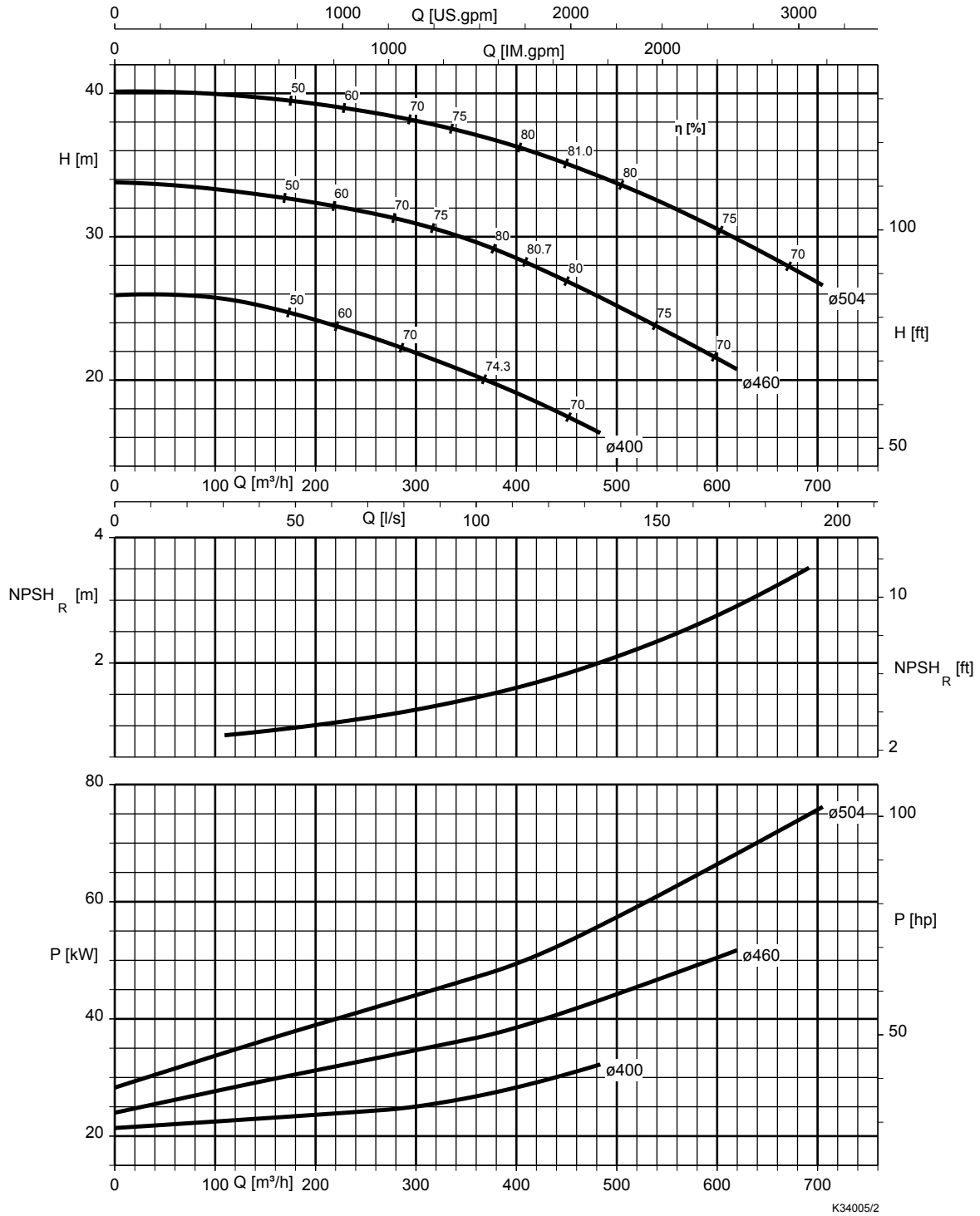


K31960/2

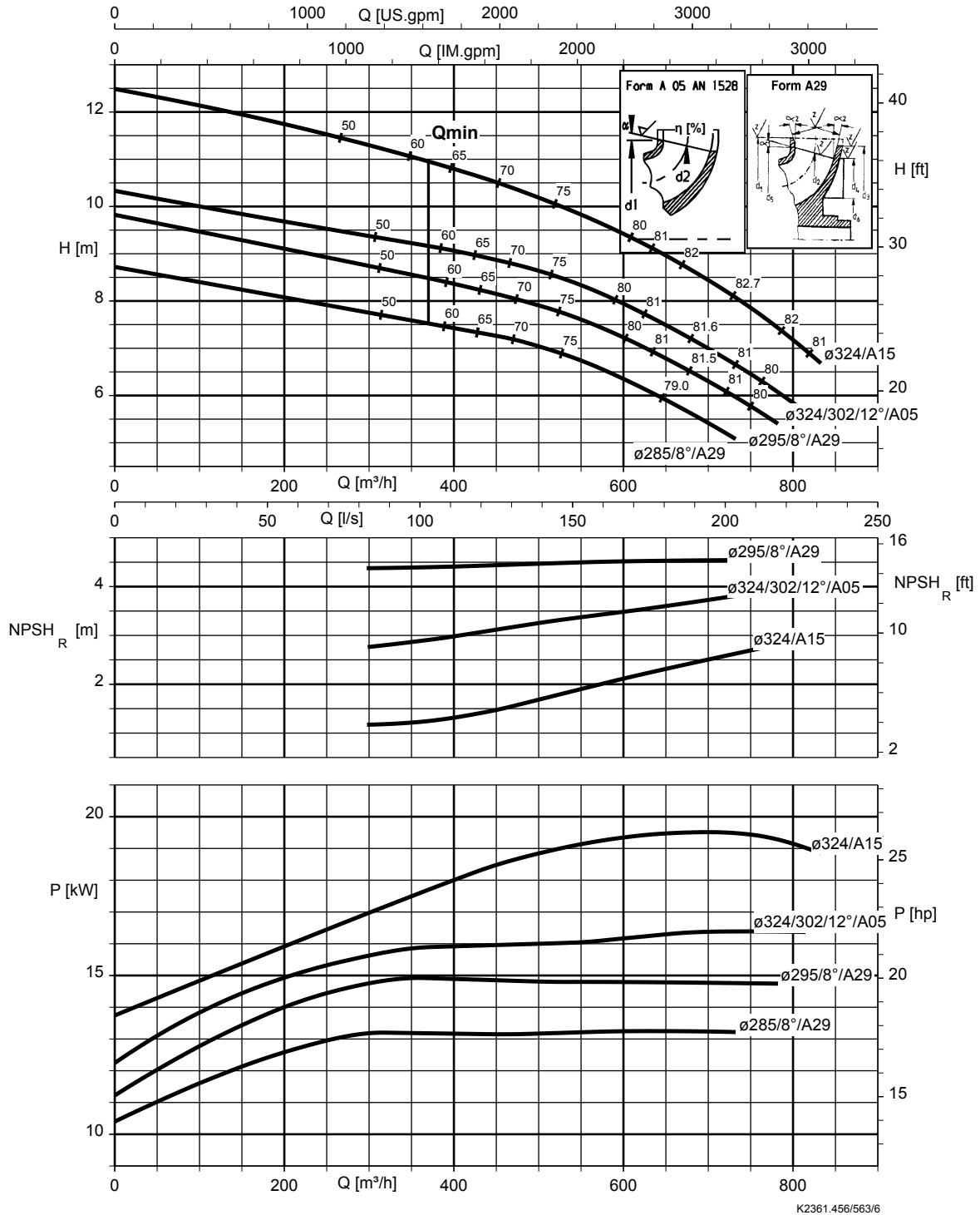
KWP K 200-200-501, n = 960 rpm



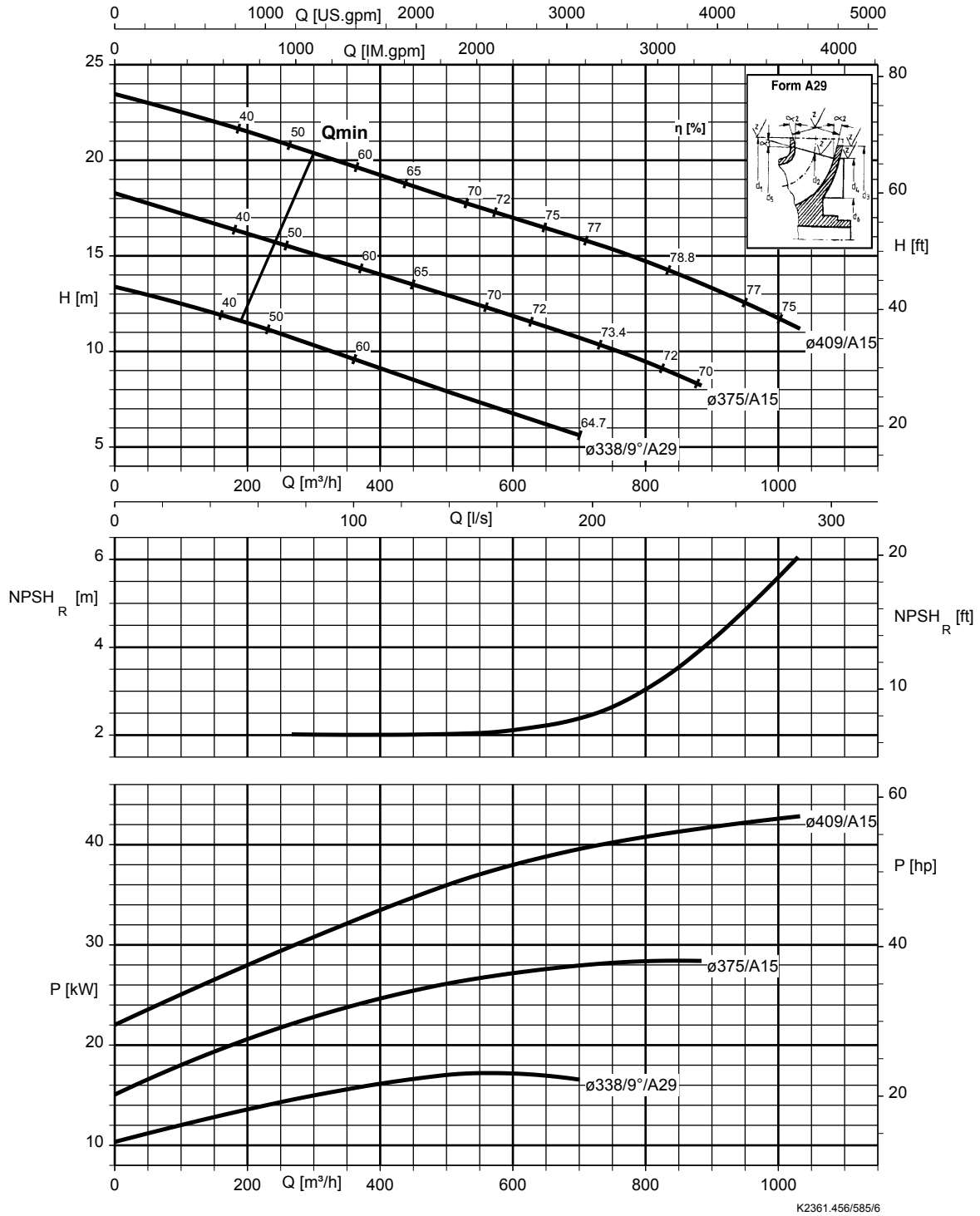
KWP K 200-200-503, n = 960 rpm



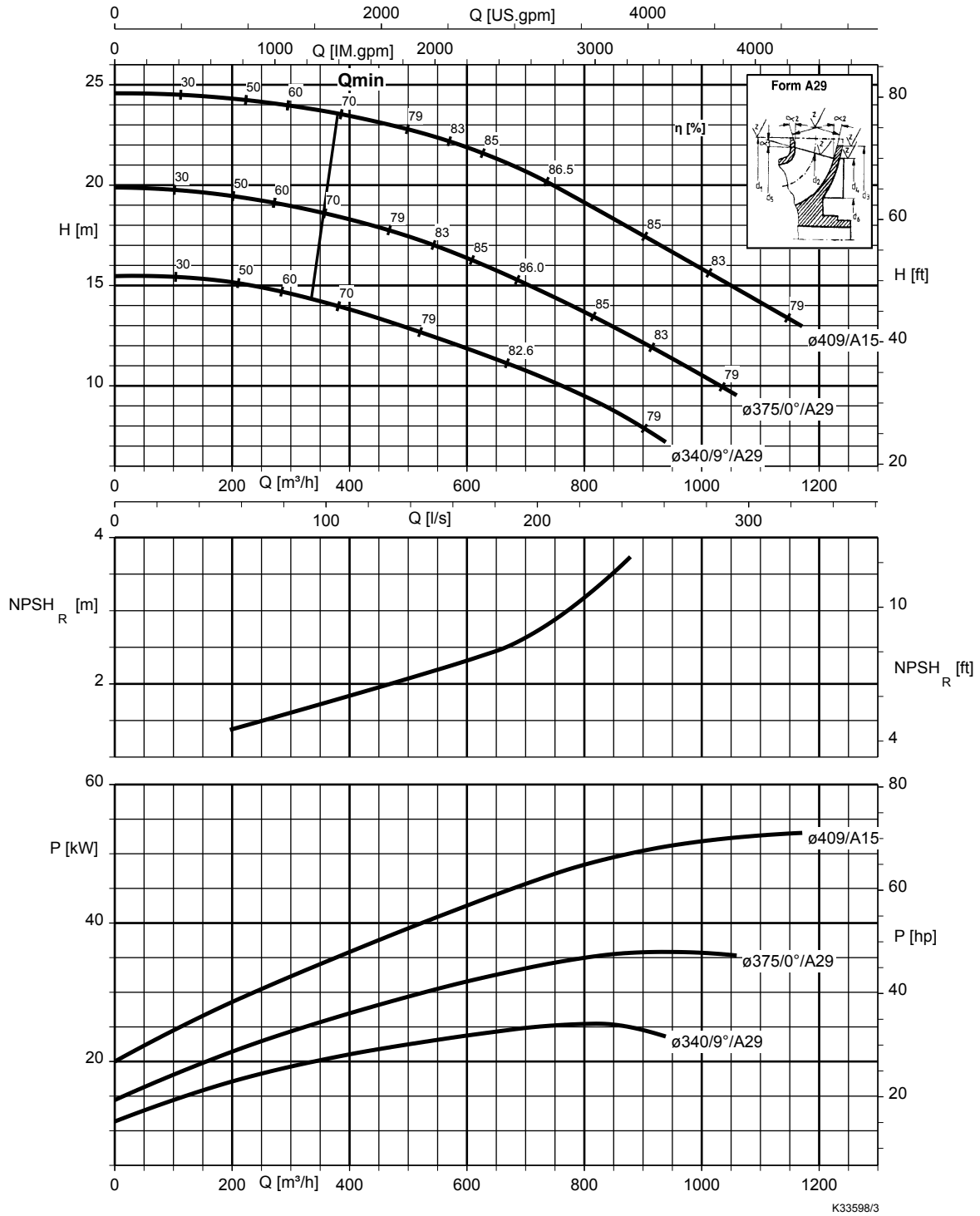
KWP K 250-250-315, n = 960 rpm



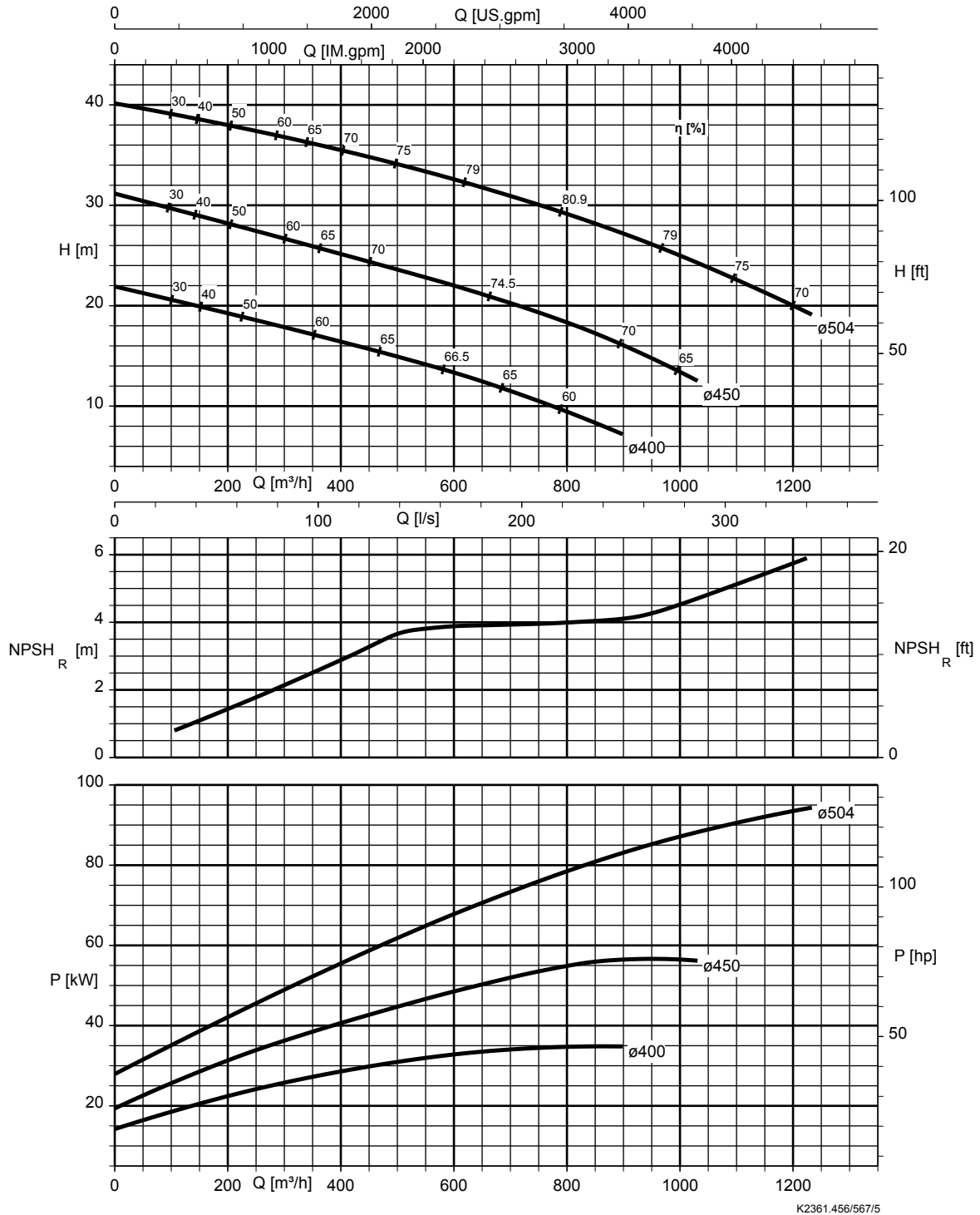
KWP K 250-250-400, n = 960 rpm



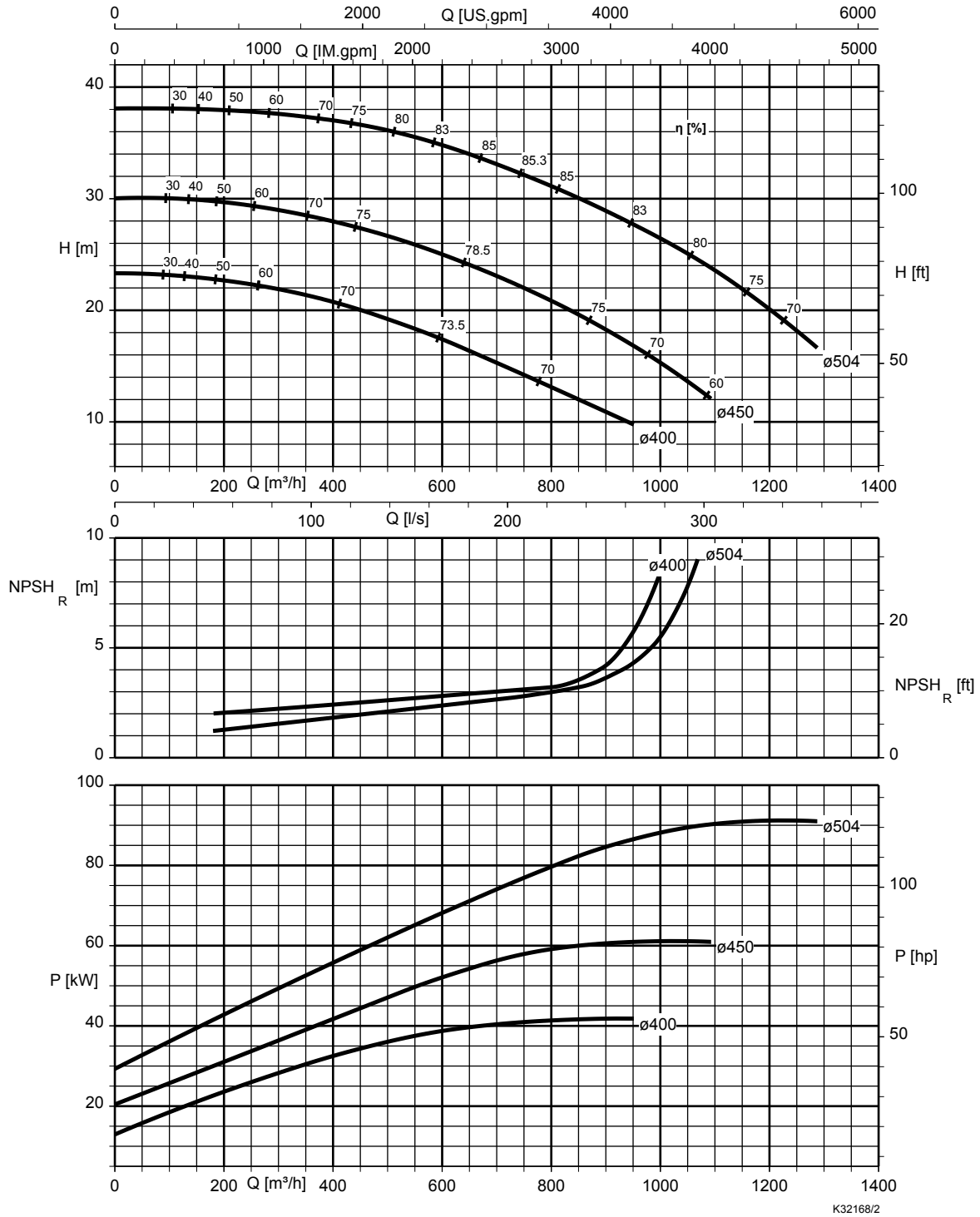
KWP K 250-250-403, n = 960 rpm



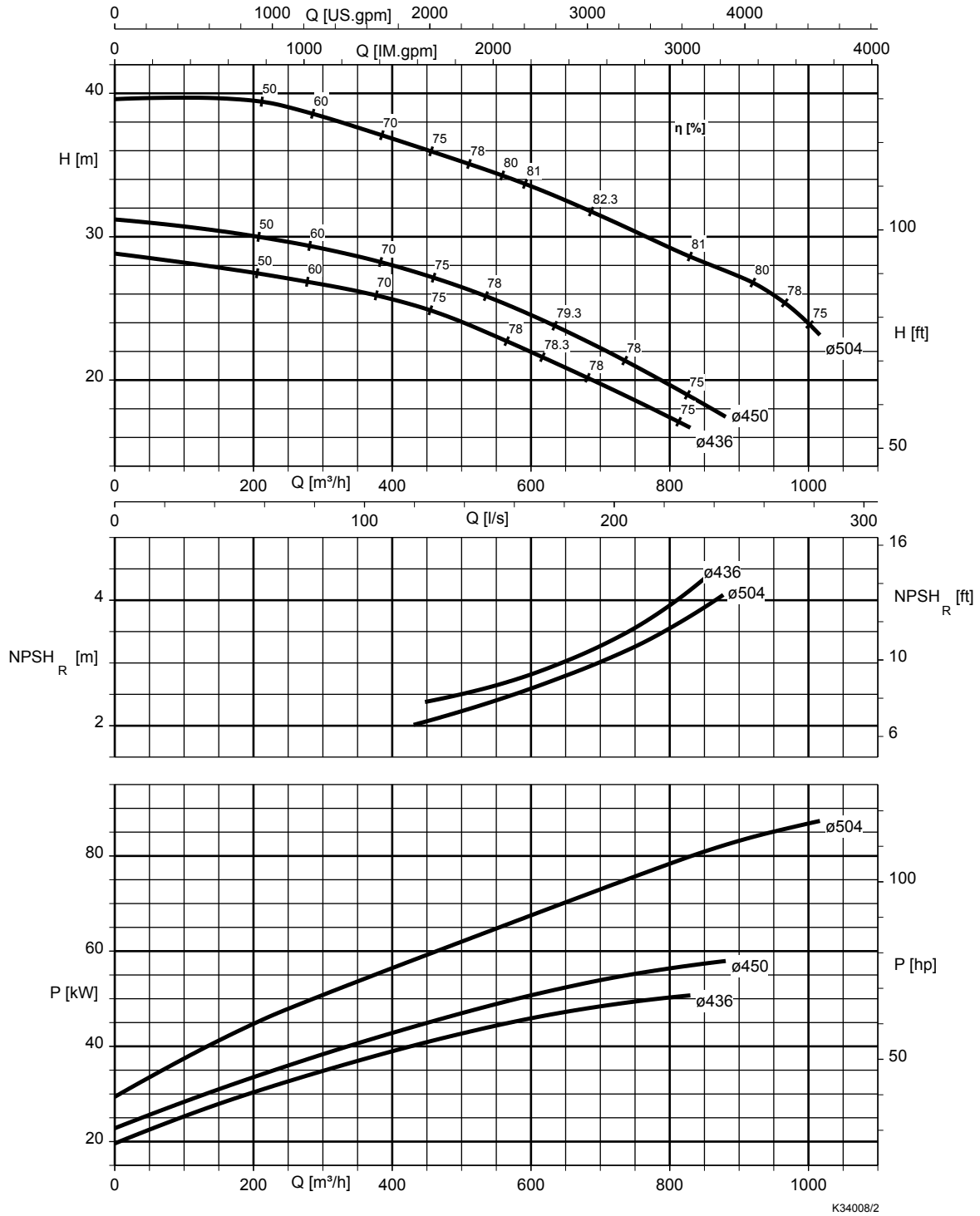
KWP K 250-250-500, n = 960 rpm



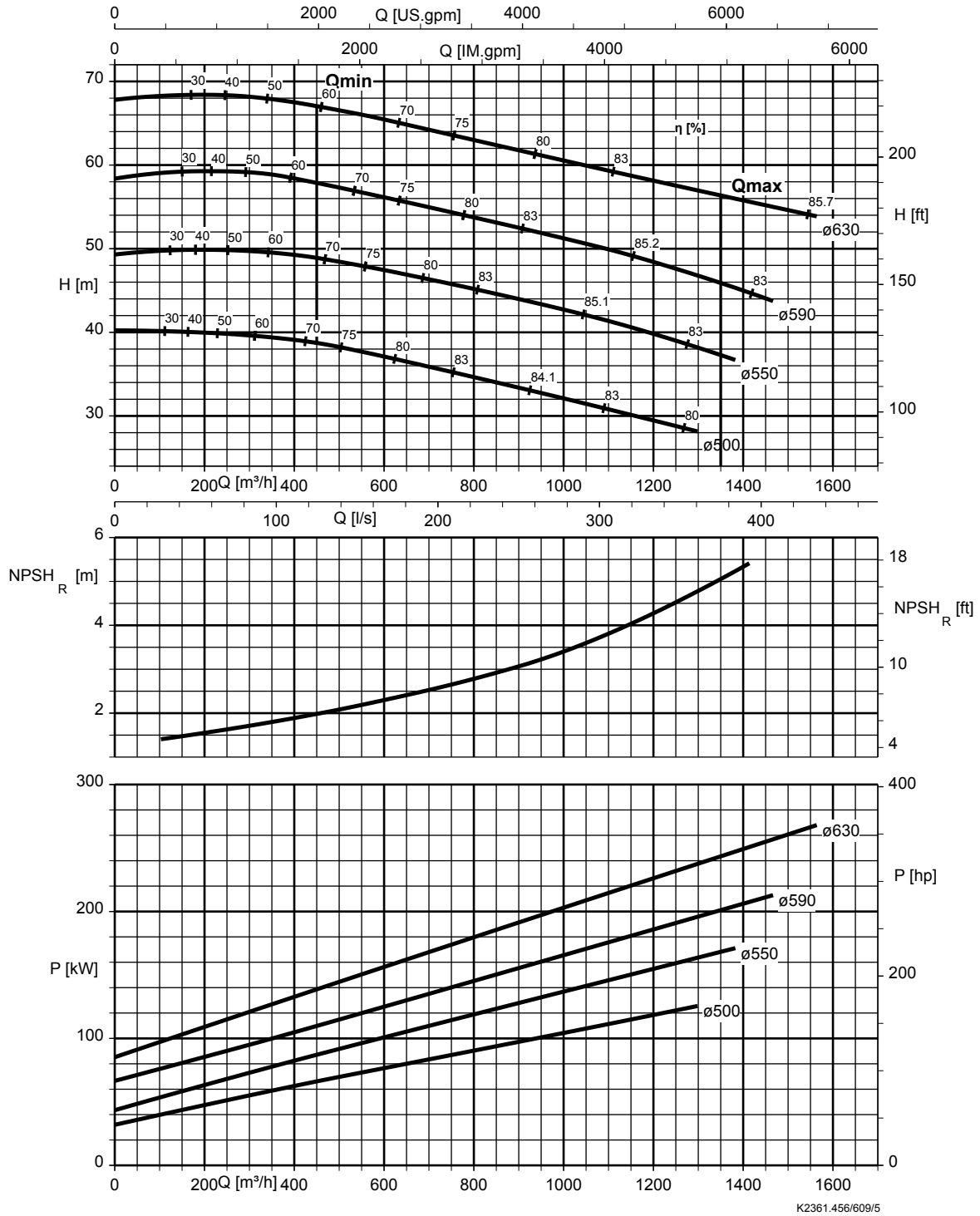
KWP K 250-250-503, $n = 960$ rpm



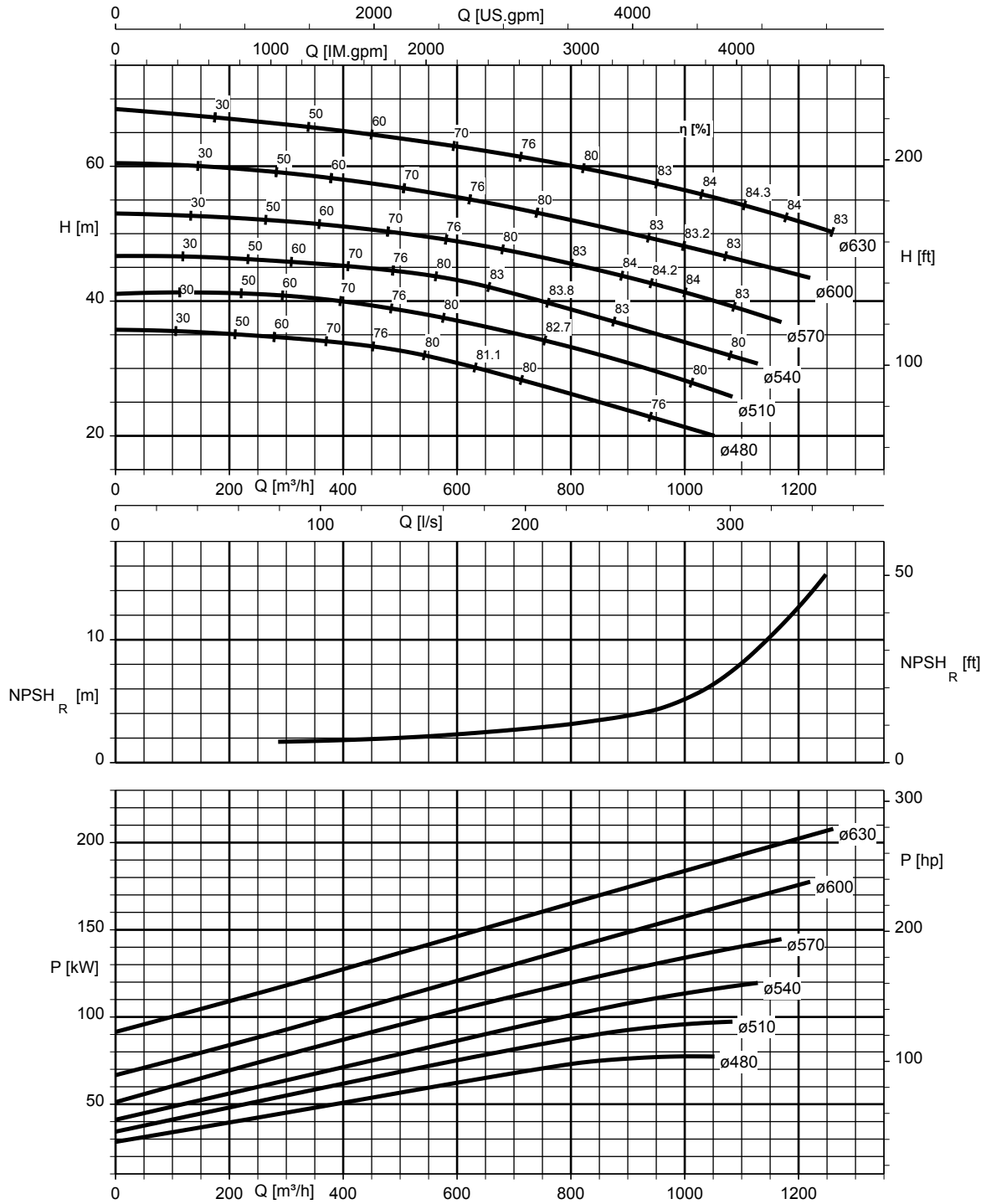
KWP K 250-250-505, n = 960 rpm



KWP K 250-250-630, n = 960 rpm

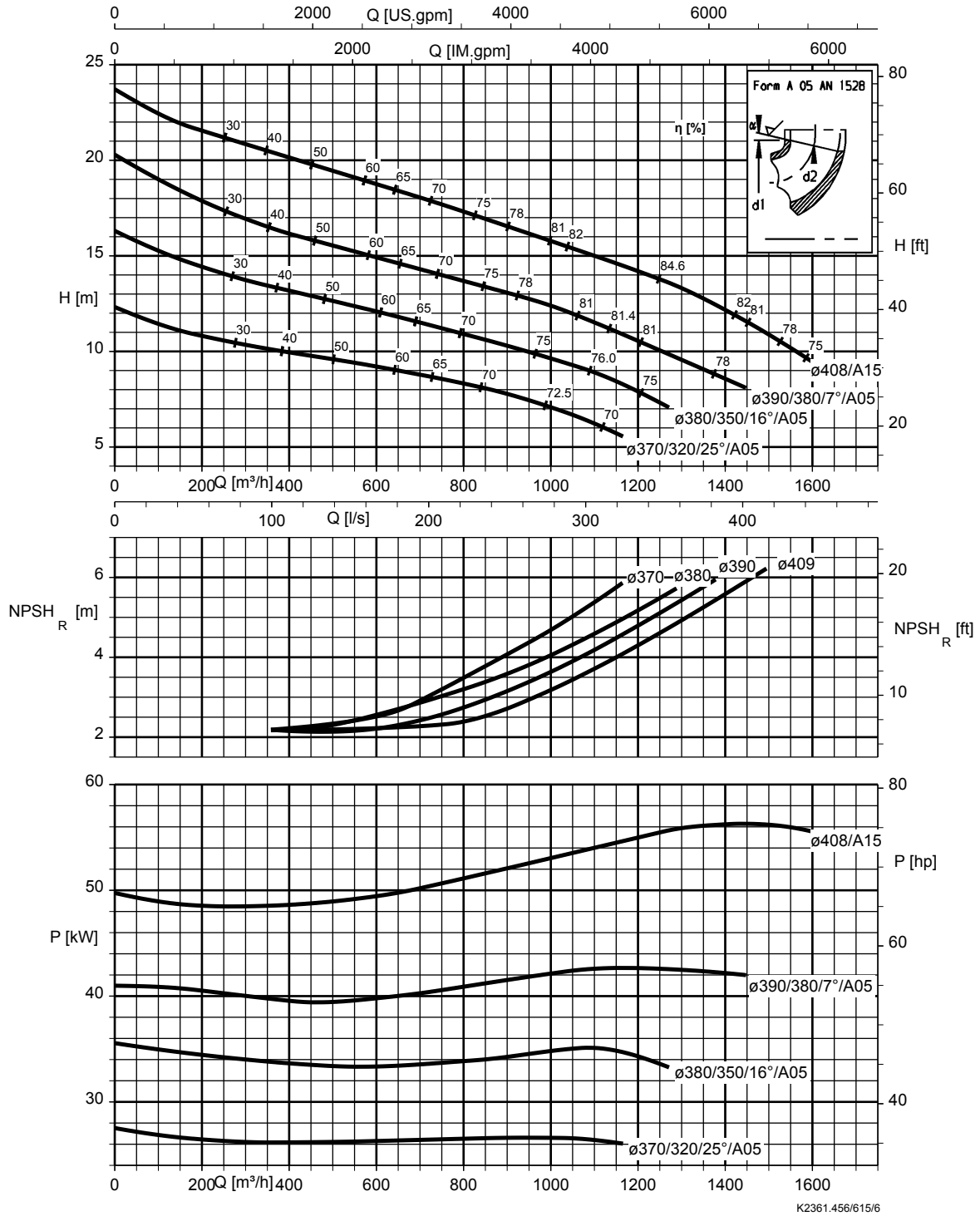


KWP K 250-250-634, n = 960 rpm

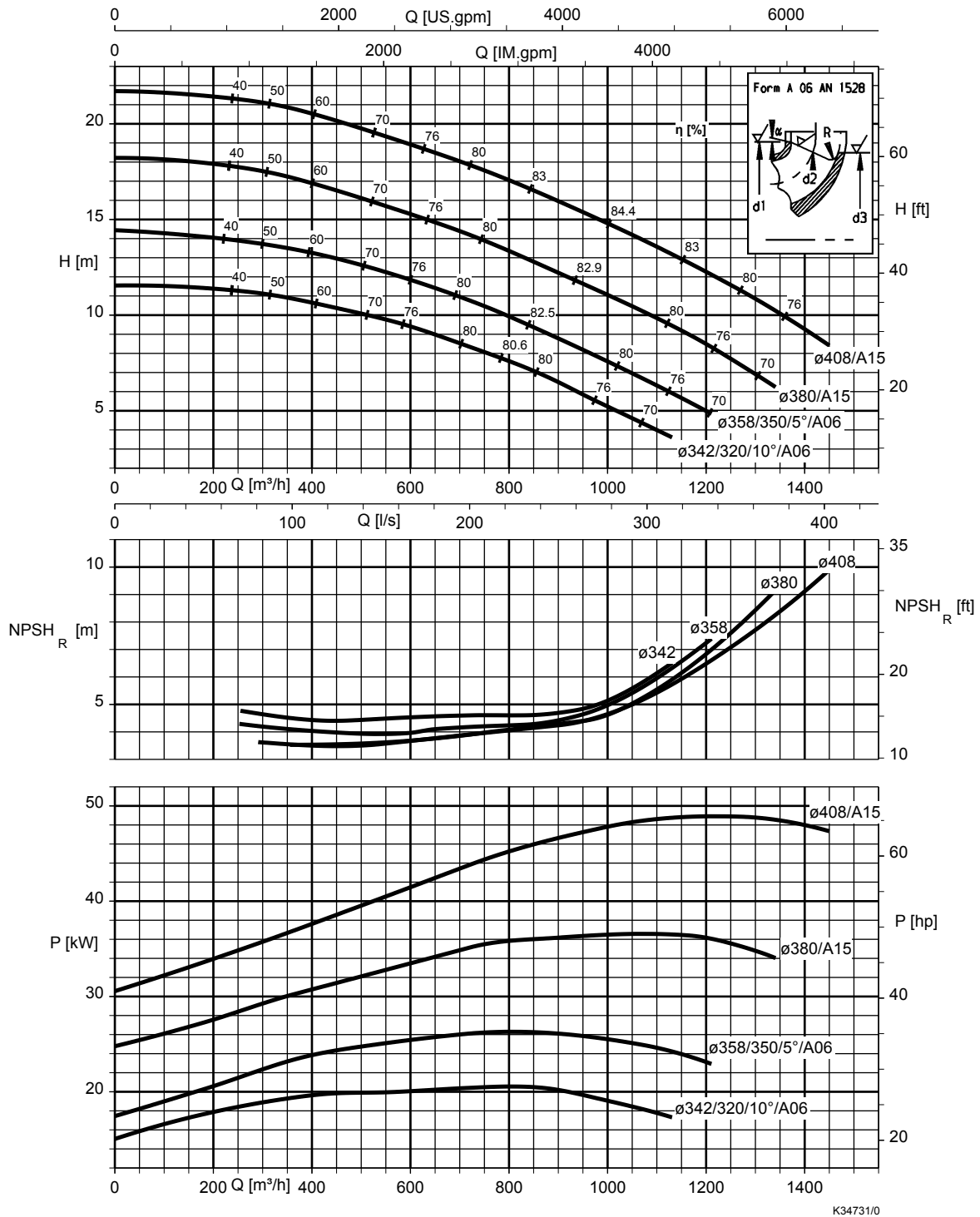


K34042/2

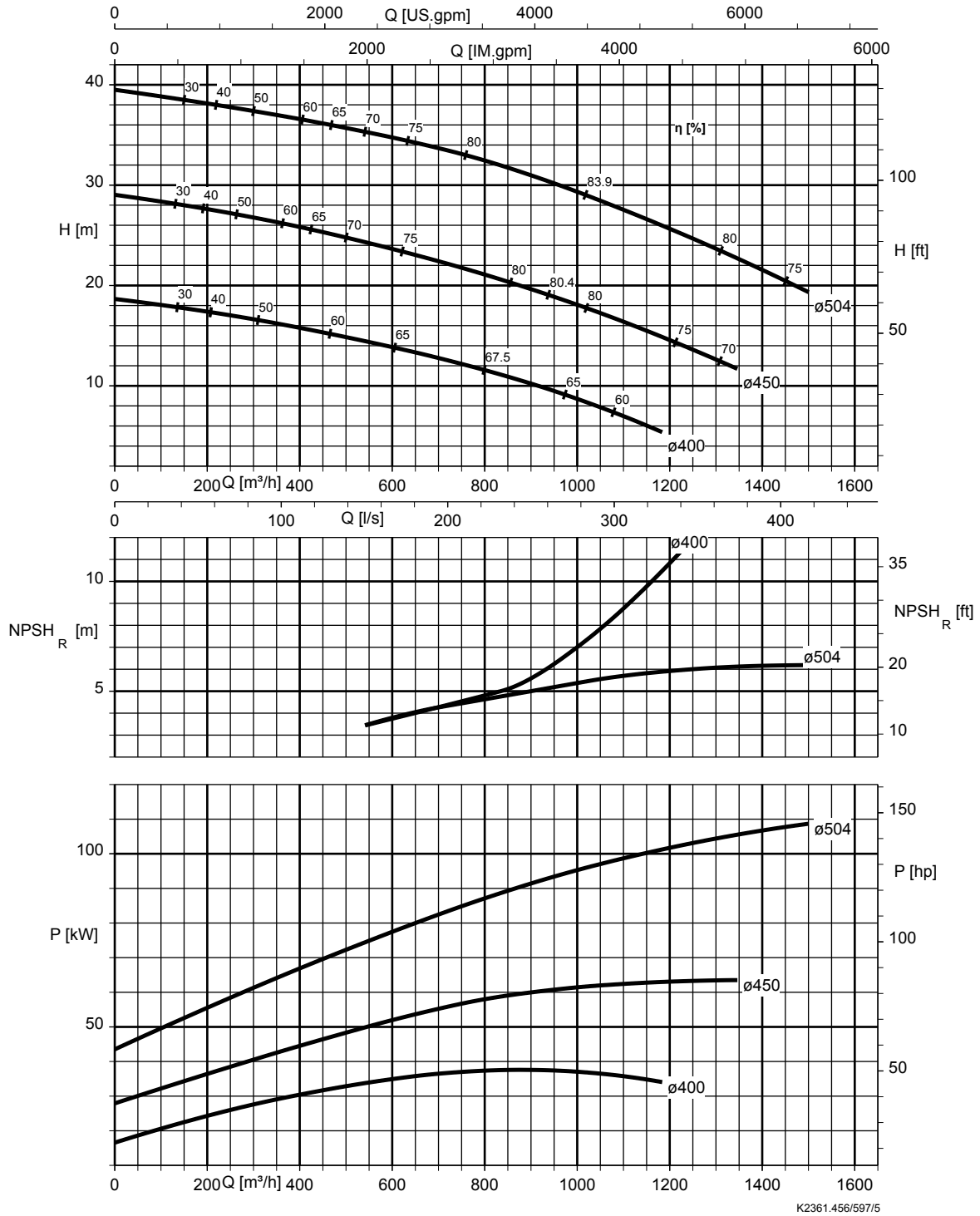
KWP K 300-300-400, n = 960 rpm



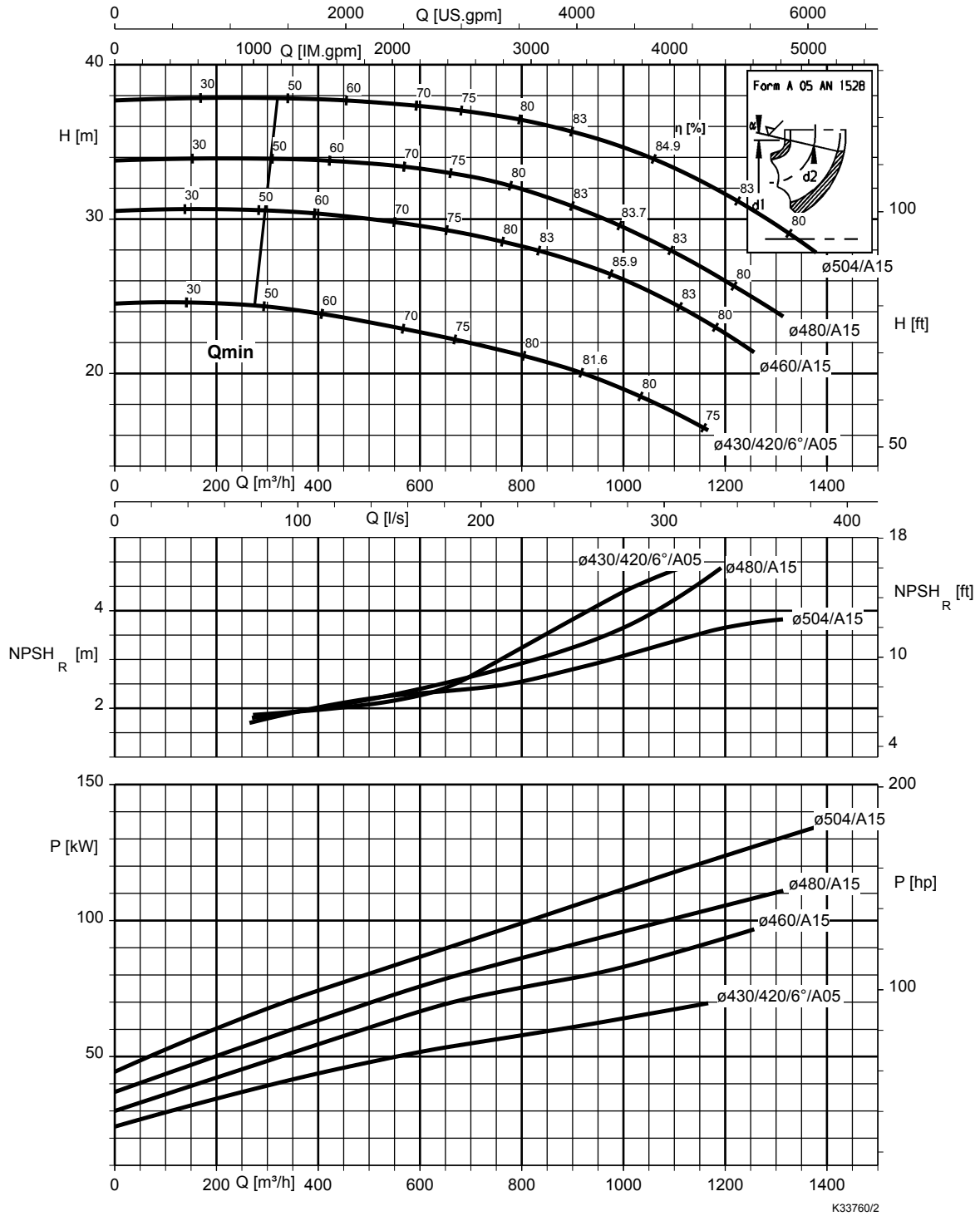
KWP K 300-300-401, n = 960 rpm



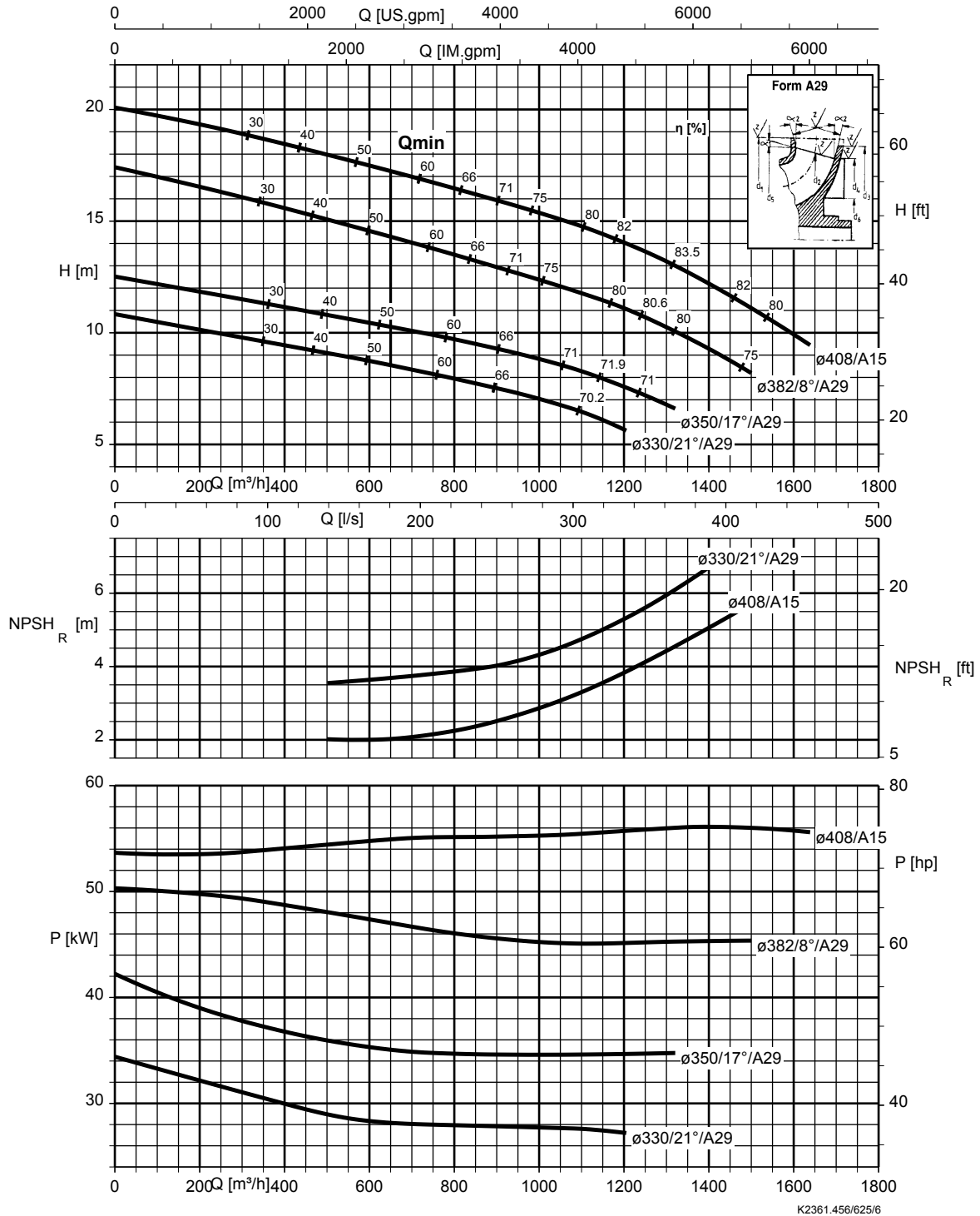
KWP K 300-300-500, n = 960 rpm



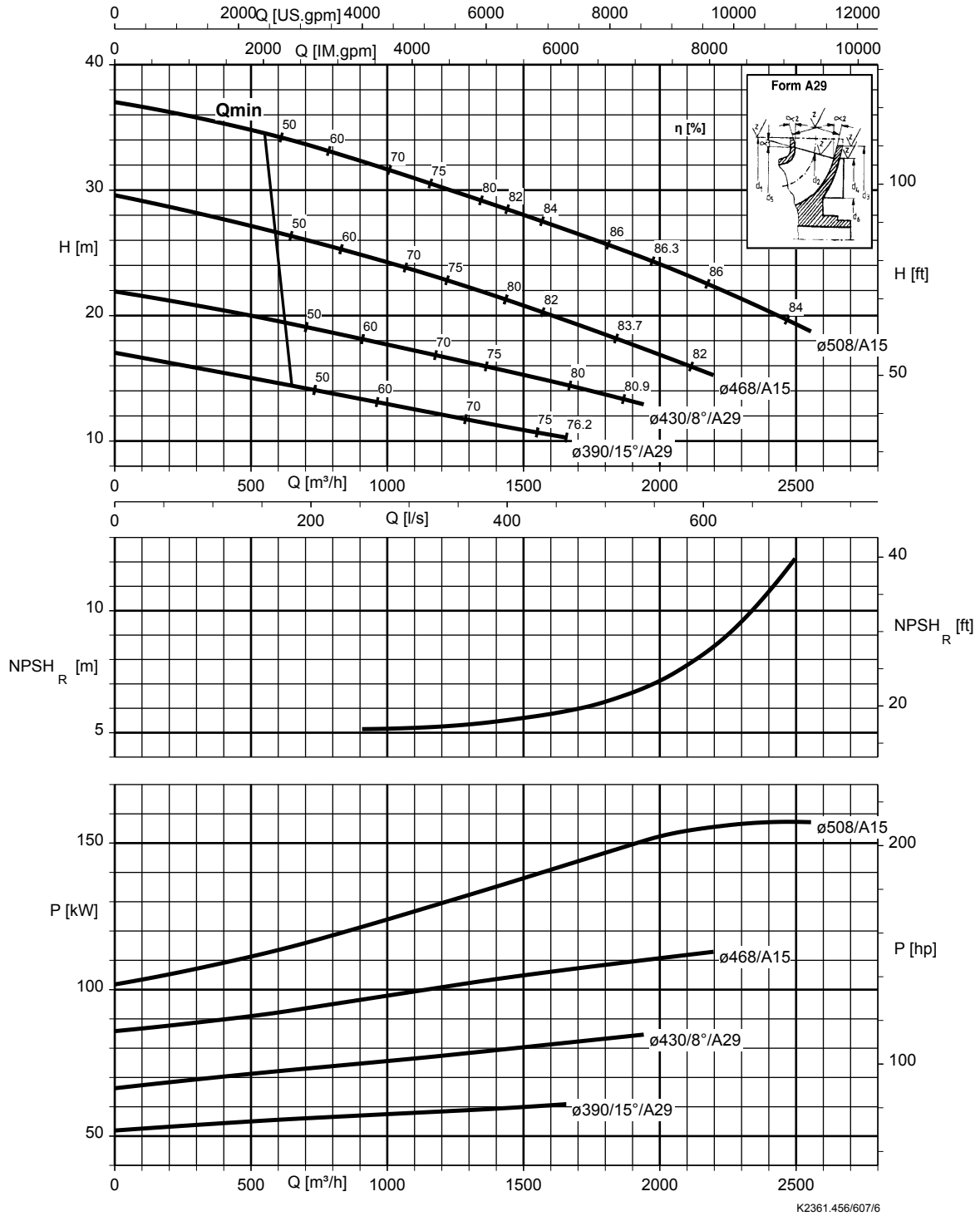
KWP K 300-300-503, $n = 960 \text{ rpm}$



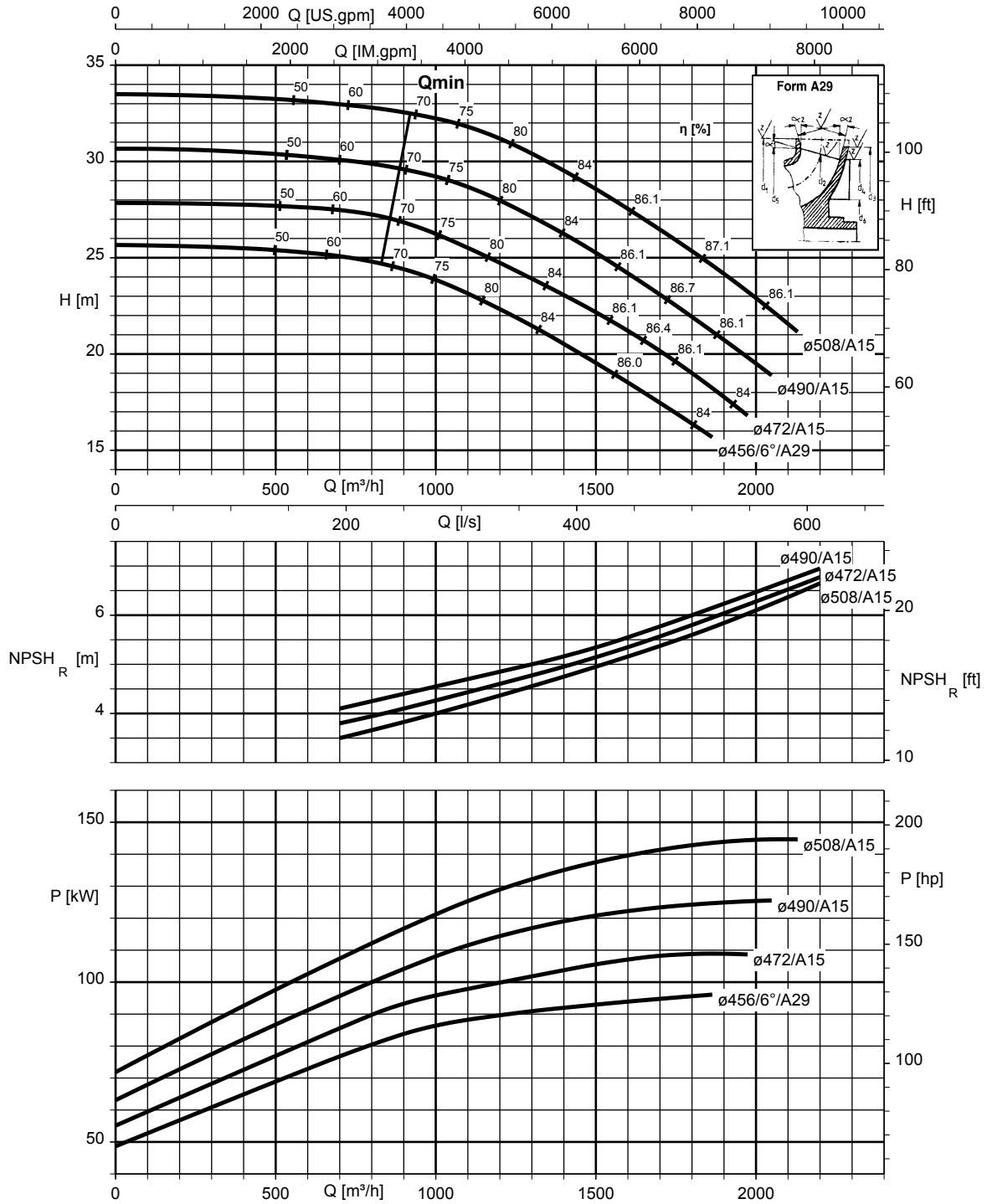
KWP K 350-350-400, n = 960 rpm



KWP K 350-350-500, n = 960 rpm

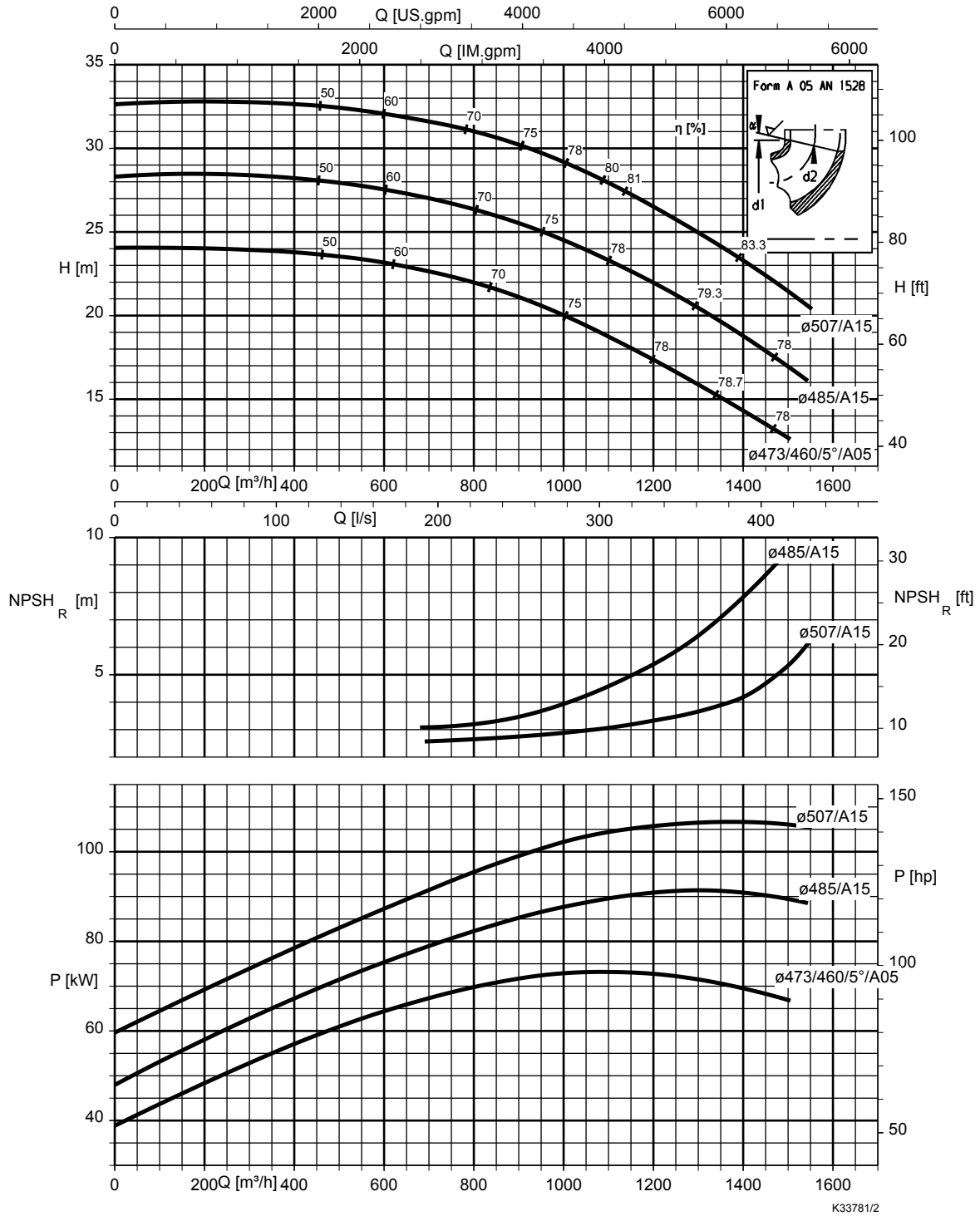


KWP K 350-350-503, n = 960 rpm

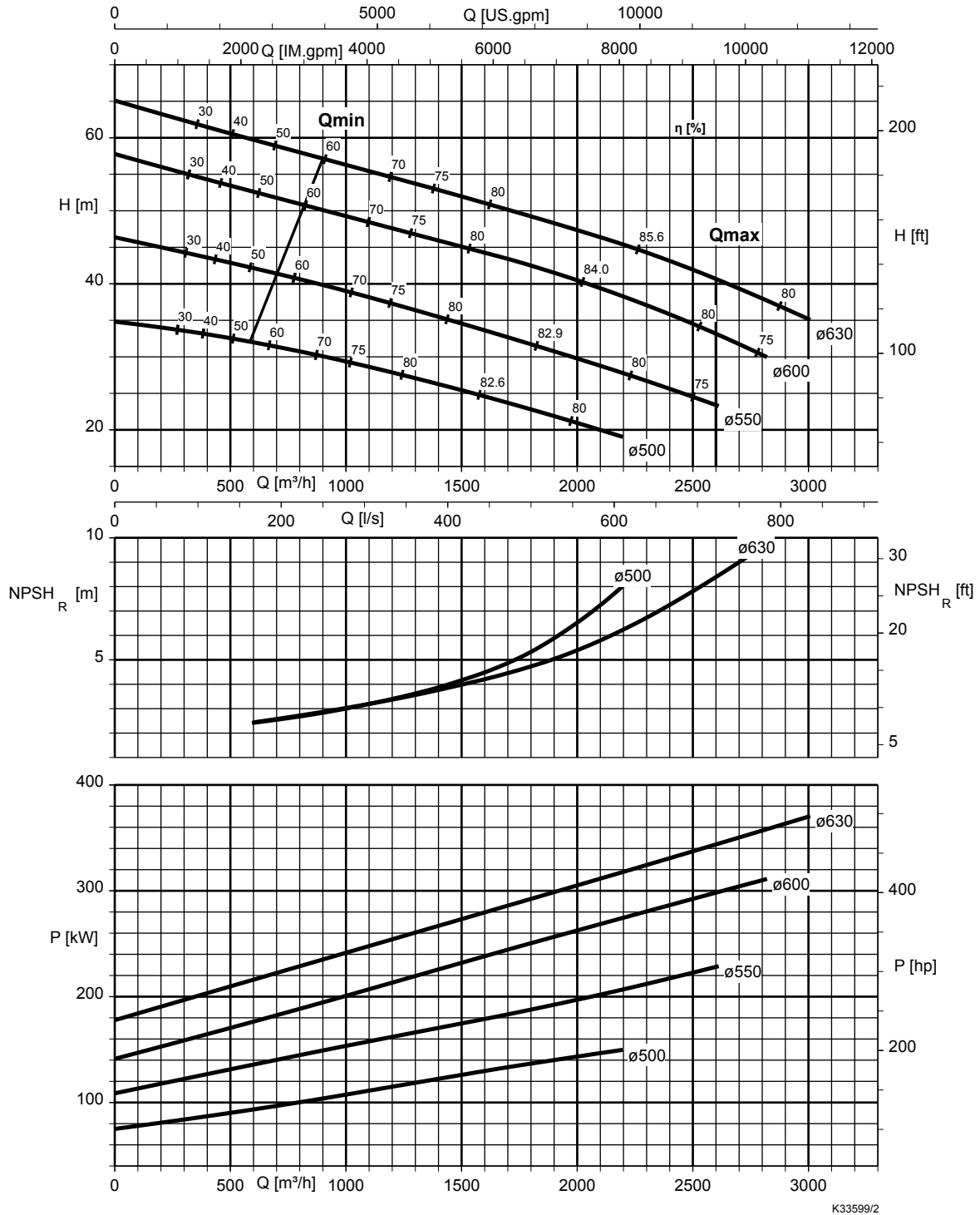


K33765/4

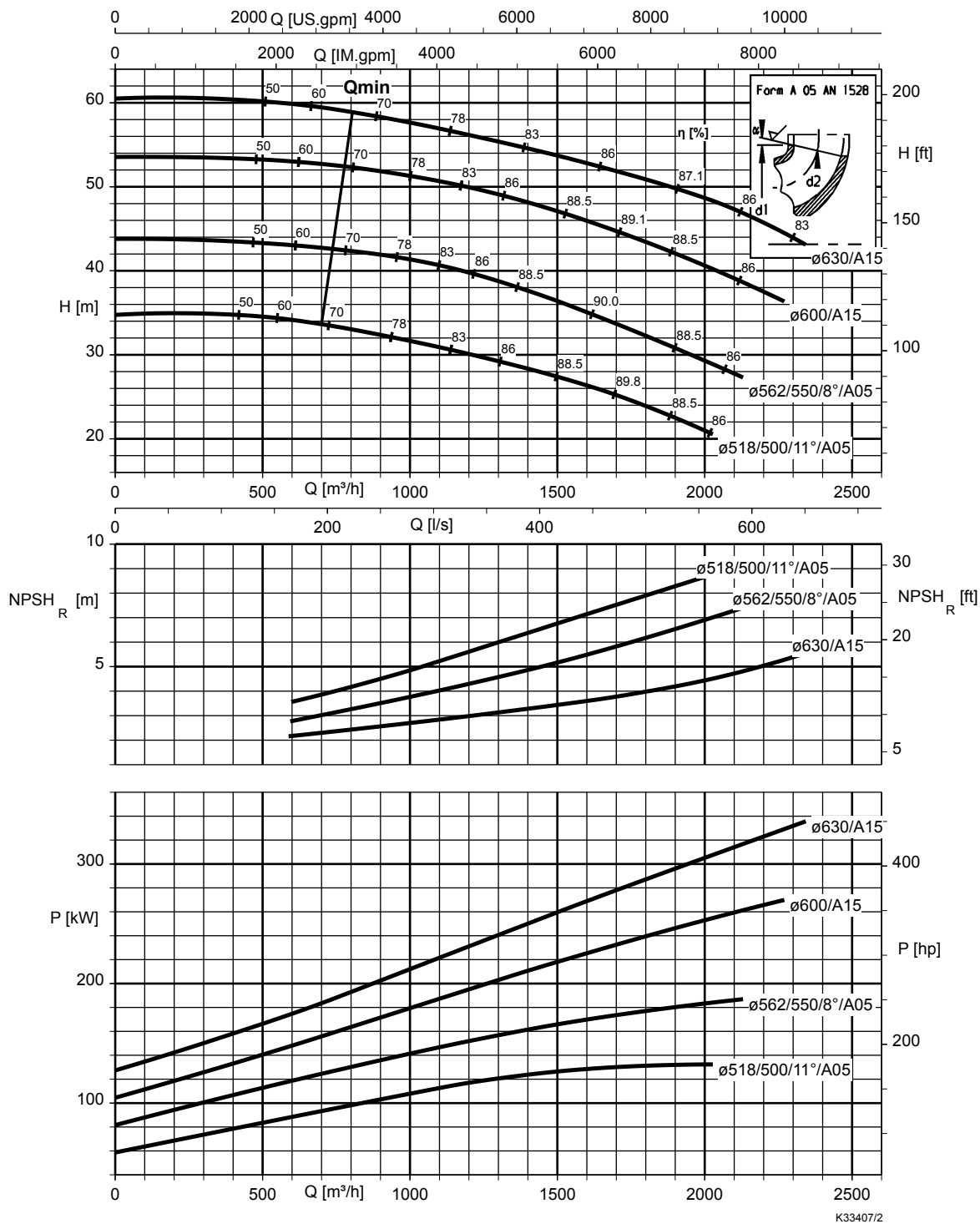
KWP K 350-350-504, $n = 960$ rpm



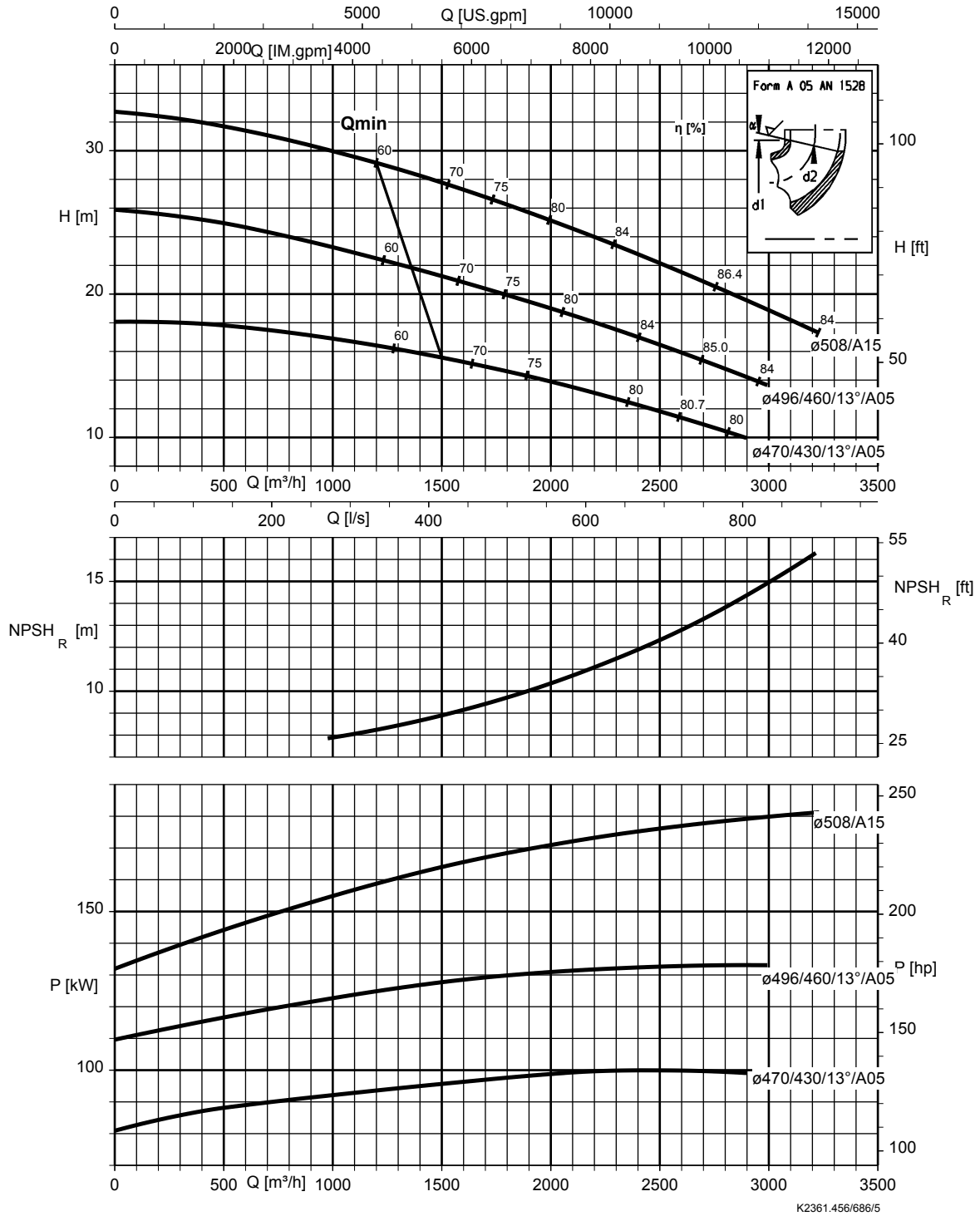
KWP K 350-350-630, $n = 960 \text{ rpm}$



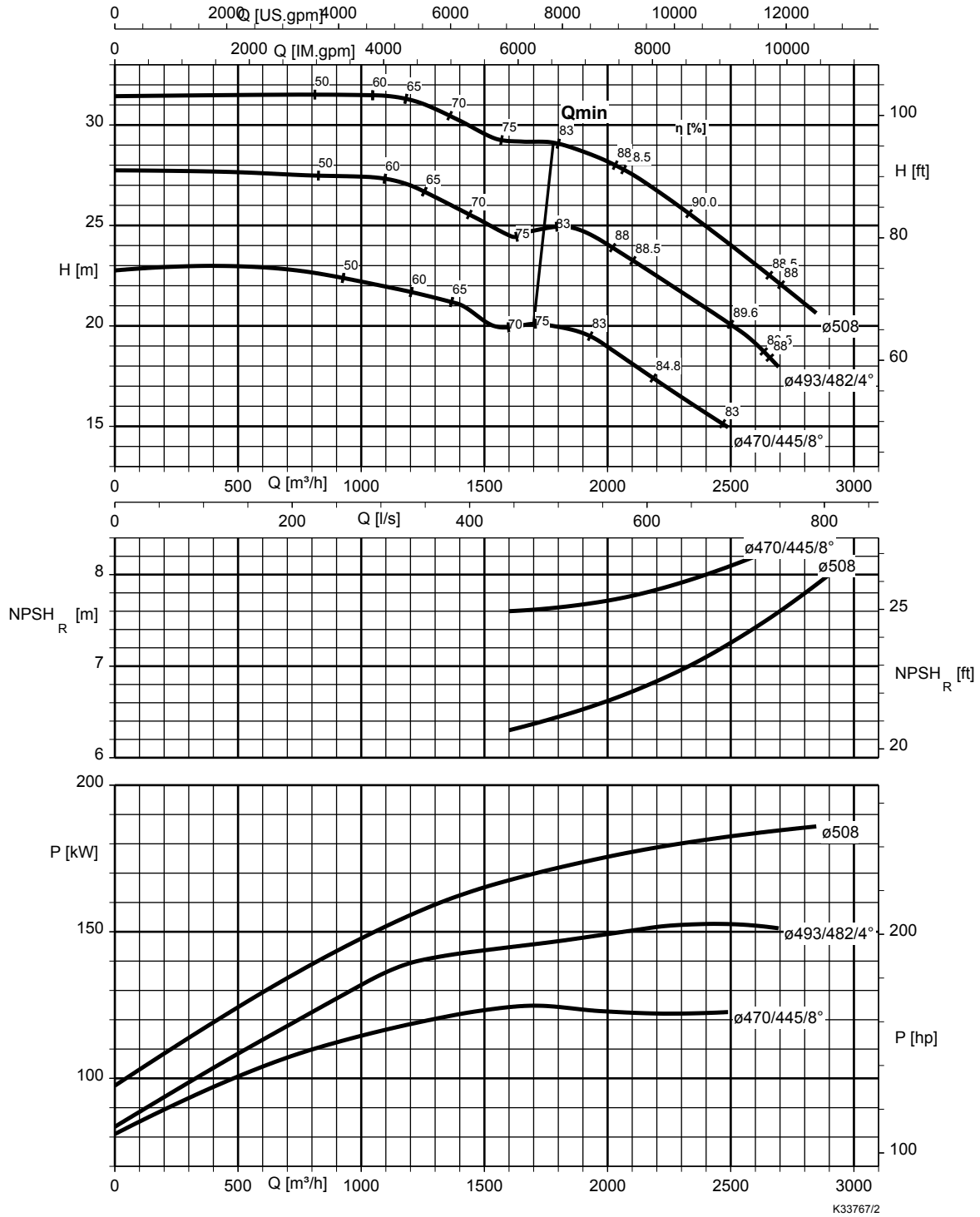
KWP K 350-350-633, $n = 960 \text{ rpm}$



KWP K 400-400-500, n = 960 rpm



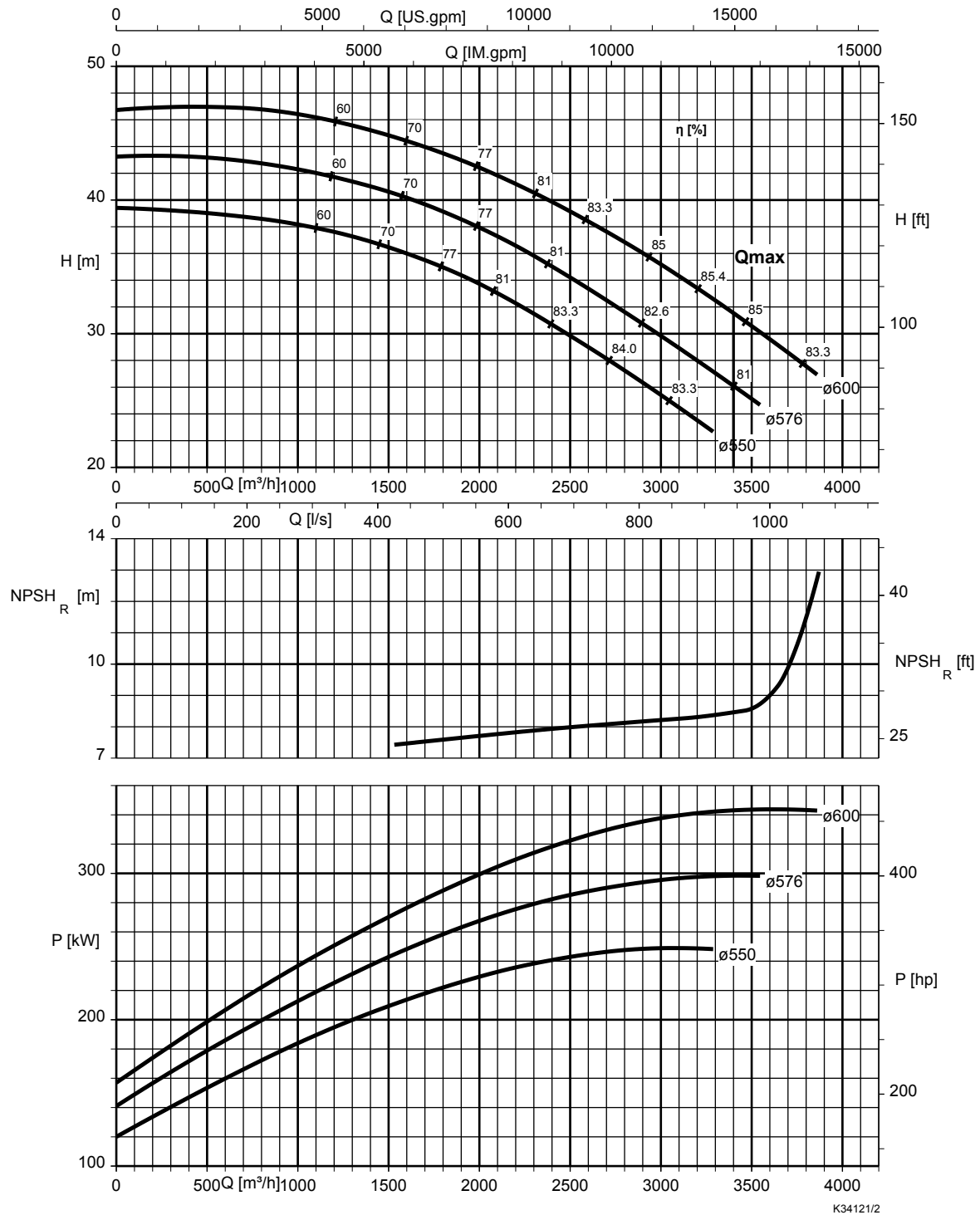
KWP K 400-400-503, n = 960 rpm



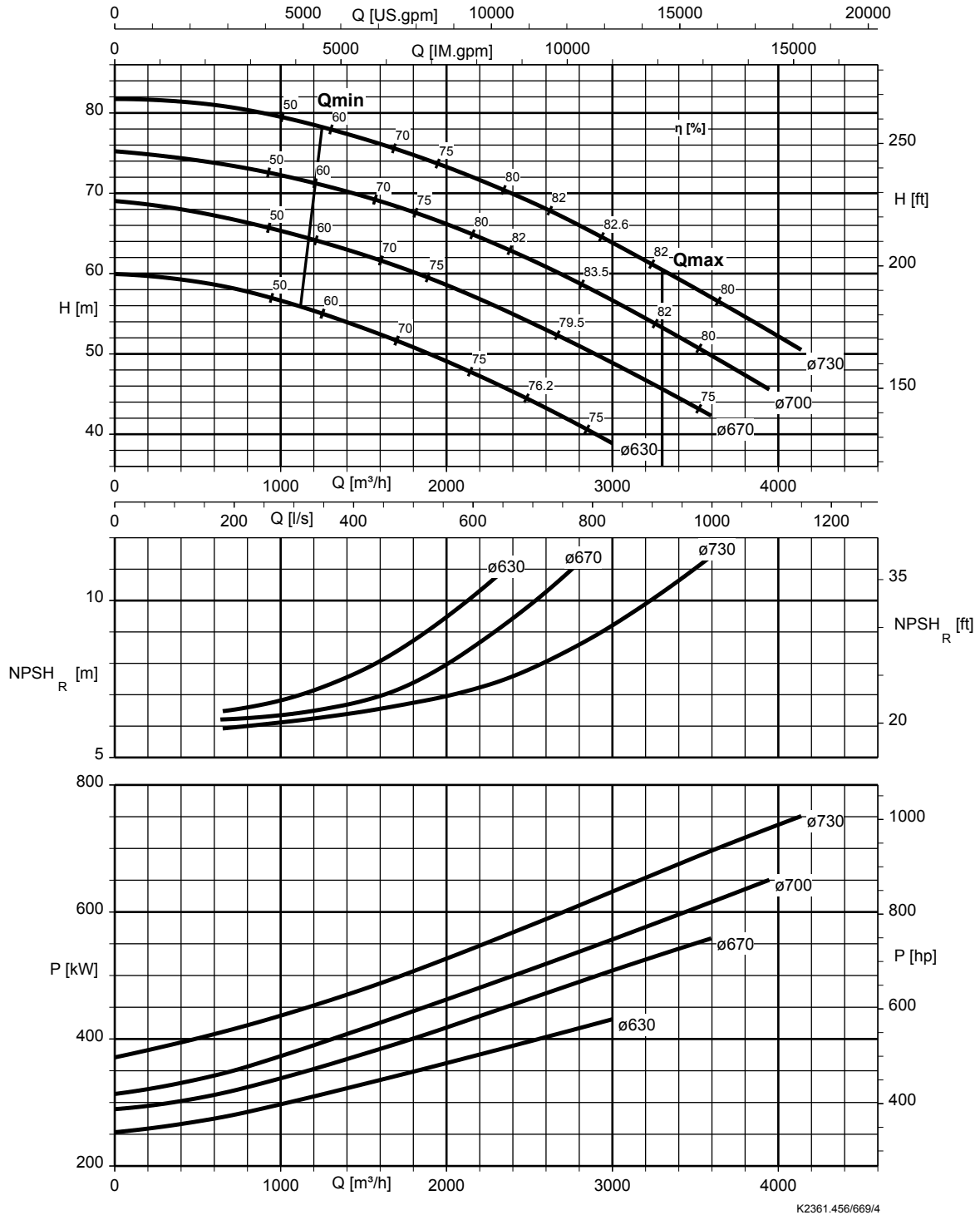
The figure consists of three vertically stacked graphs sharing a common x-axis representing flow rate (Q) in m³/h, ranging from 0 to 3000.

- Top Graph: Total Head (H) vs. Flow Rate (Q)**
 - Left y-axis: H [m], ranging from 15 to 35.
 - Right y-axis: H [ft], ranging from 60 to 120.
 - Top x-axis: Q [IM.gpm] (0 to 4000) and Q [US.gpm] (0 to 10000).
 - Curves: Four performance curves for different impeller diameters: ø496, ø510, ø527, and ø538 mm. Efficiency values (η [%]) are marked on the curves, ranging from 60% to 85.4%.
 - Point: A specific operating point is marked on the ø527 curve at approximately Q = 1700 m³/h and H = 30 m, labeled "Qmin".
- Middle Graph: Required Head (H_R) vs. Flow Rate (Q)**
 - Left y-axis: H_R [m], ranging from 5 to 10.
 - Right y-axis: NPSH_R [ft], ranging from 20 to 40.
 - Curves: Two curves showing the required head for different impeller diameters: ø496 and ø538 mm.
- Bottom Graph: Power (P) vs. Flow Rate (Q)**
 - Left y-axis: P [kW], ranging from 100 to 200.
 - Right y-axis: P [hp], ranging from 100 to 200.
 - Curves: Four curves showing the power consumption for different impeller diameters: ø496, ø510, ø527, and ø538 mm.

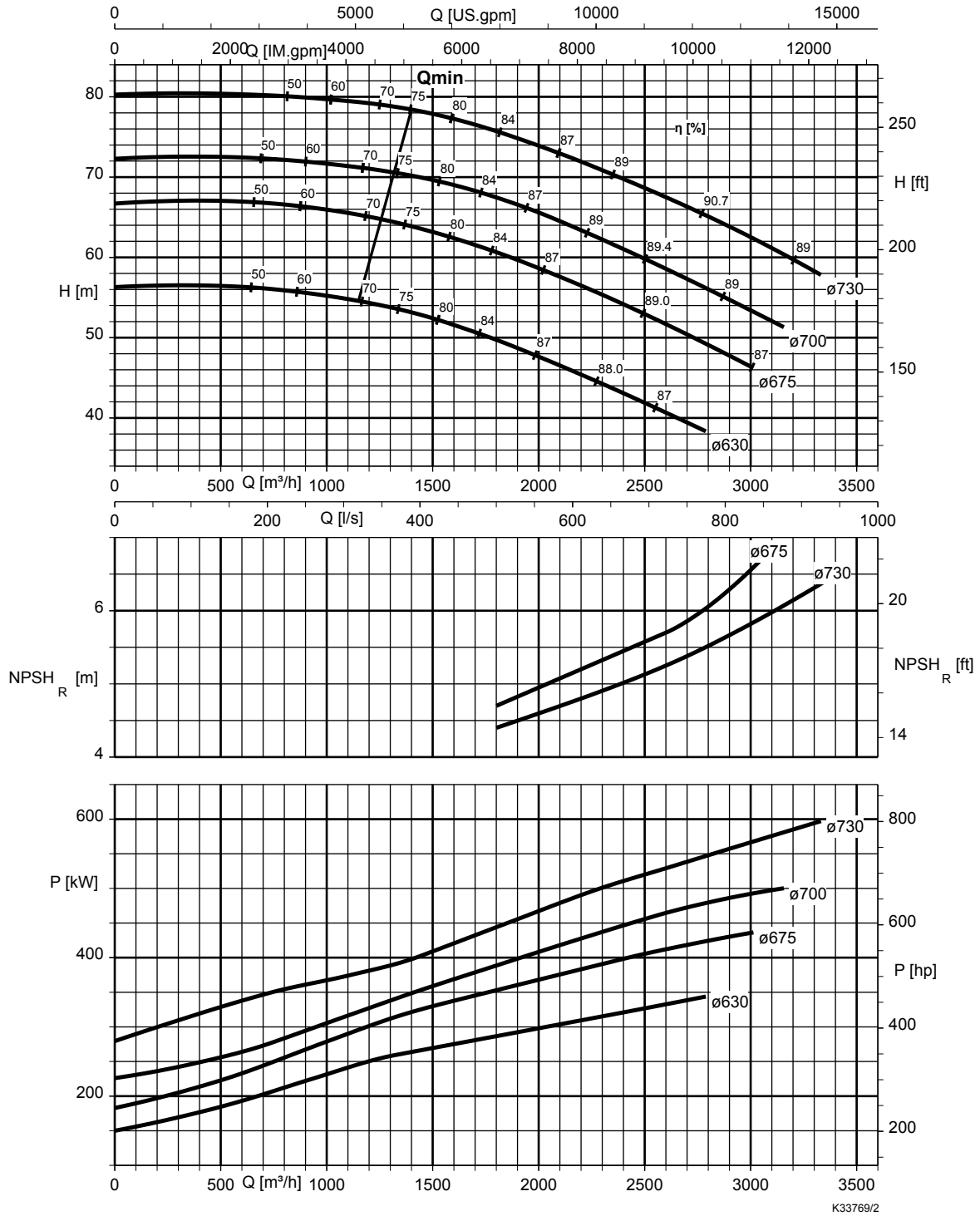
KWP K 400-400-583, $n = 960$ rpm



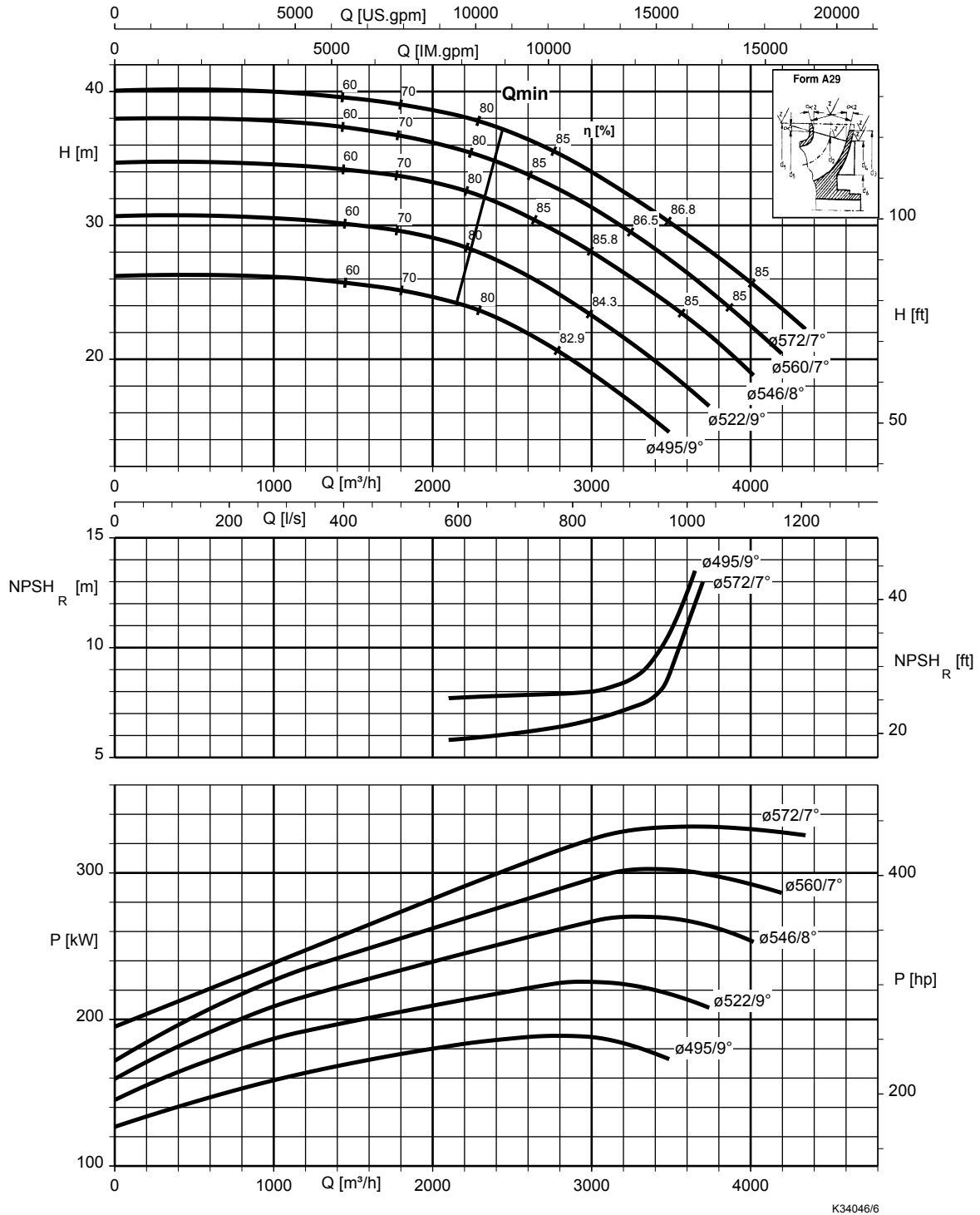
KWP K 500-400-710, n = 960 rpm



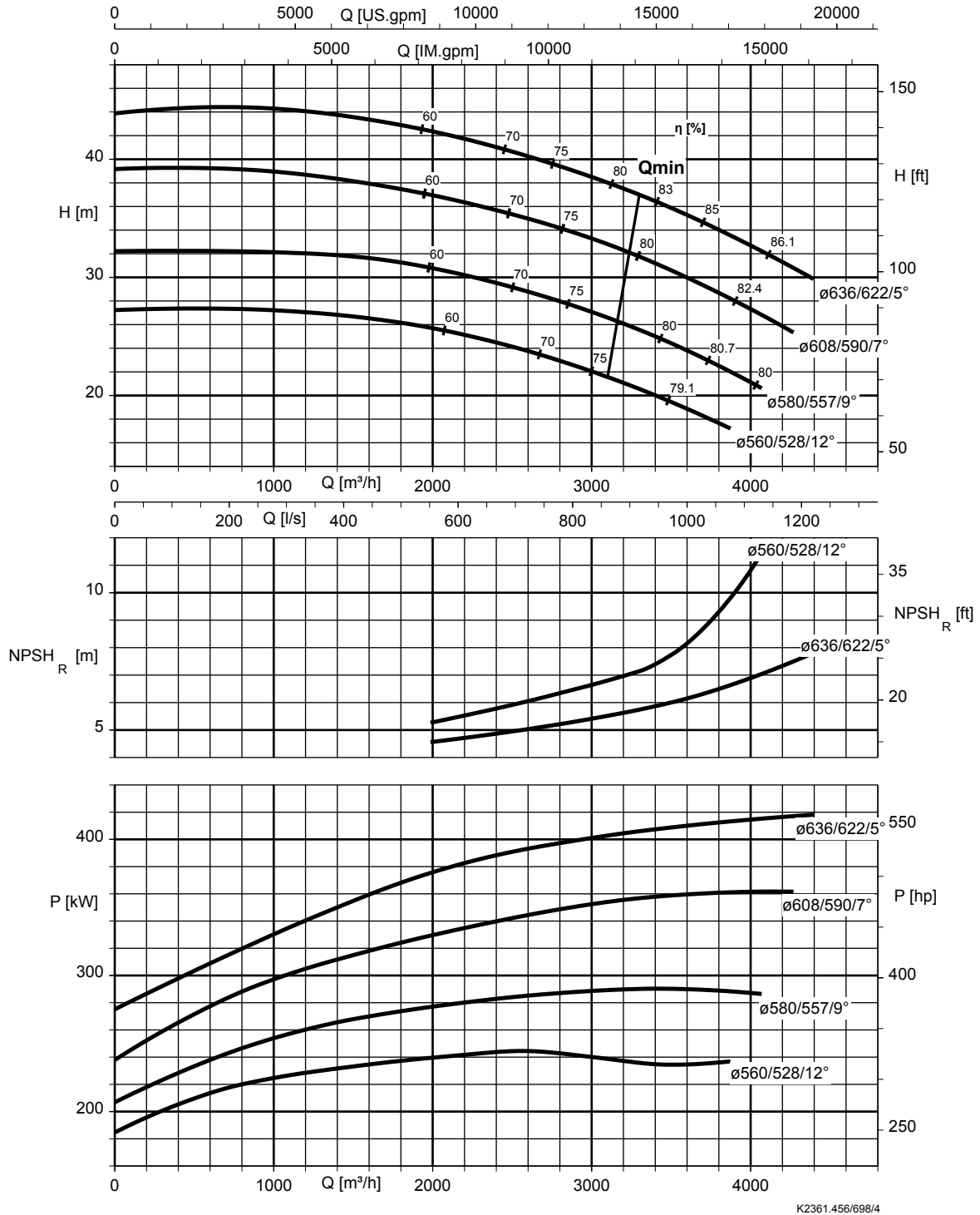
KWP K 500-400-713, $n = 960$ rpm



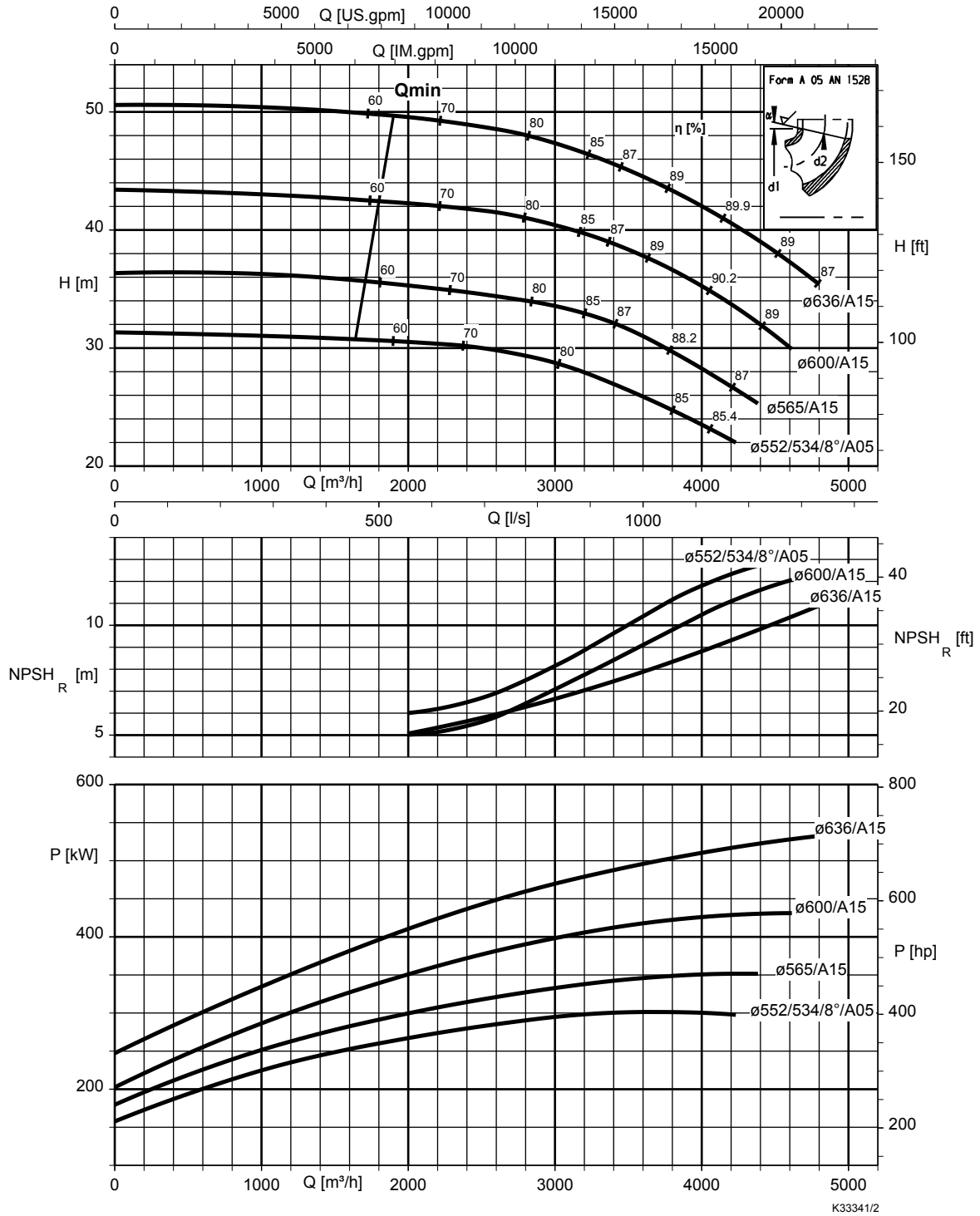
KWP K 500-500-544, $n = 960$ rpm



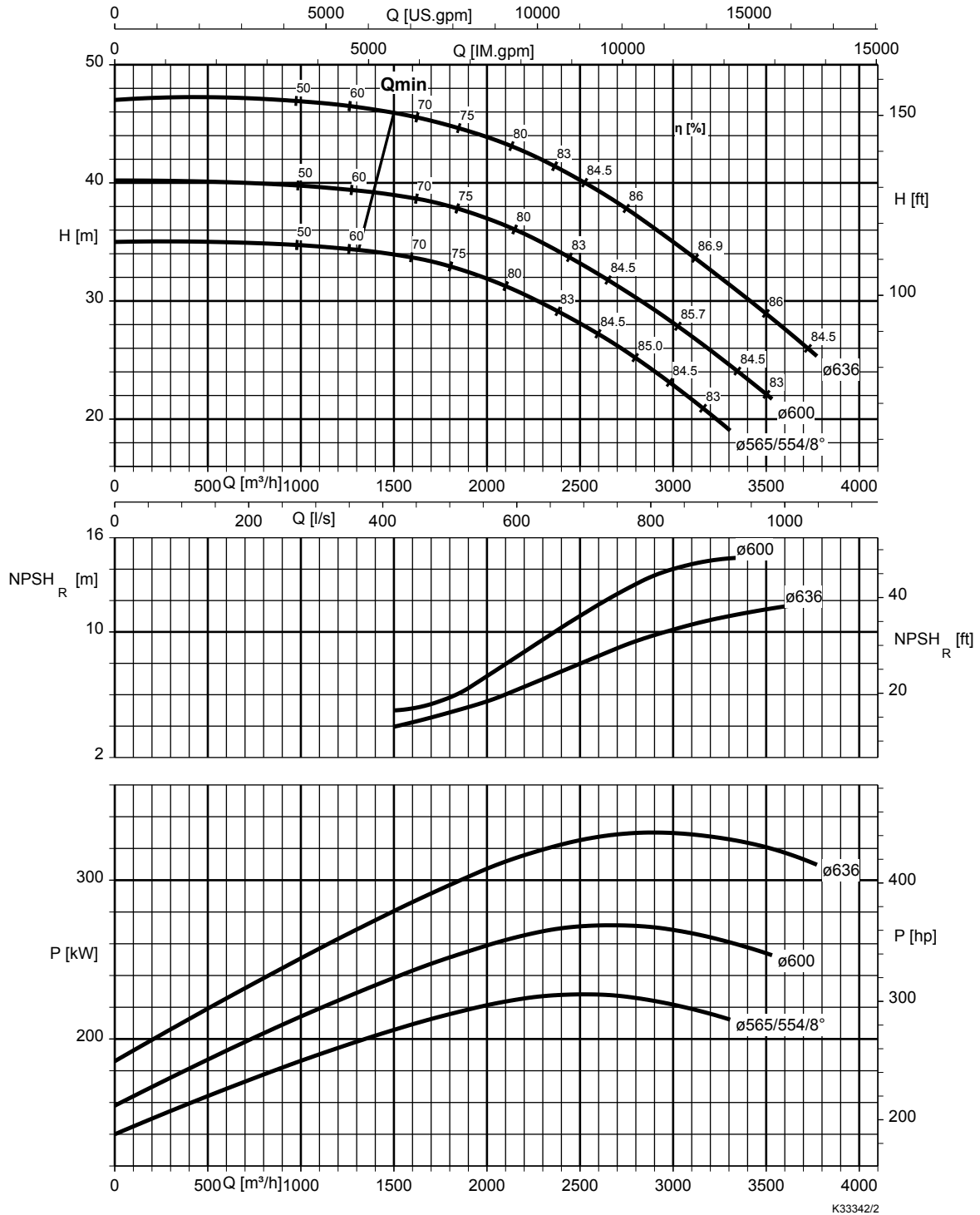
KWP K 500-500-630, n = 960 rpm



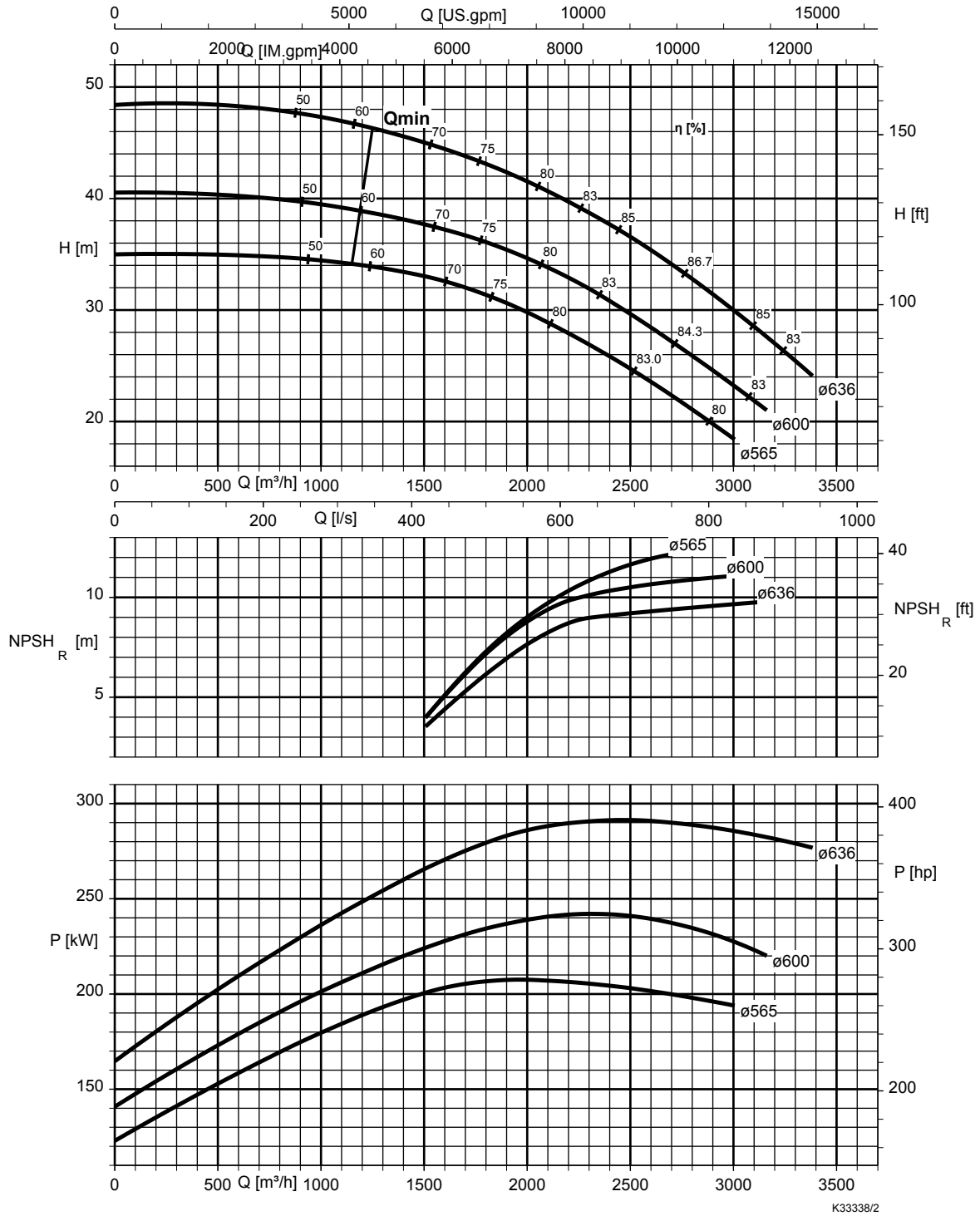
KWP K 500-500-633, $n = 960 \text{ rpm}$



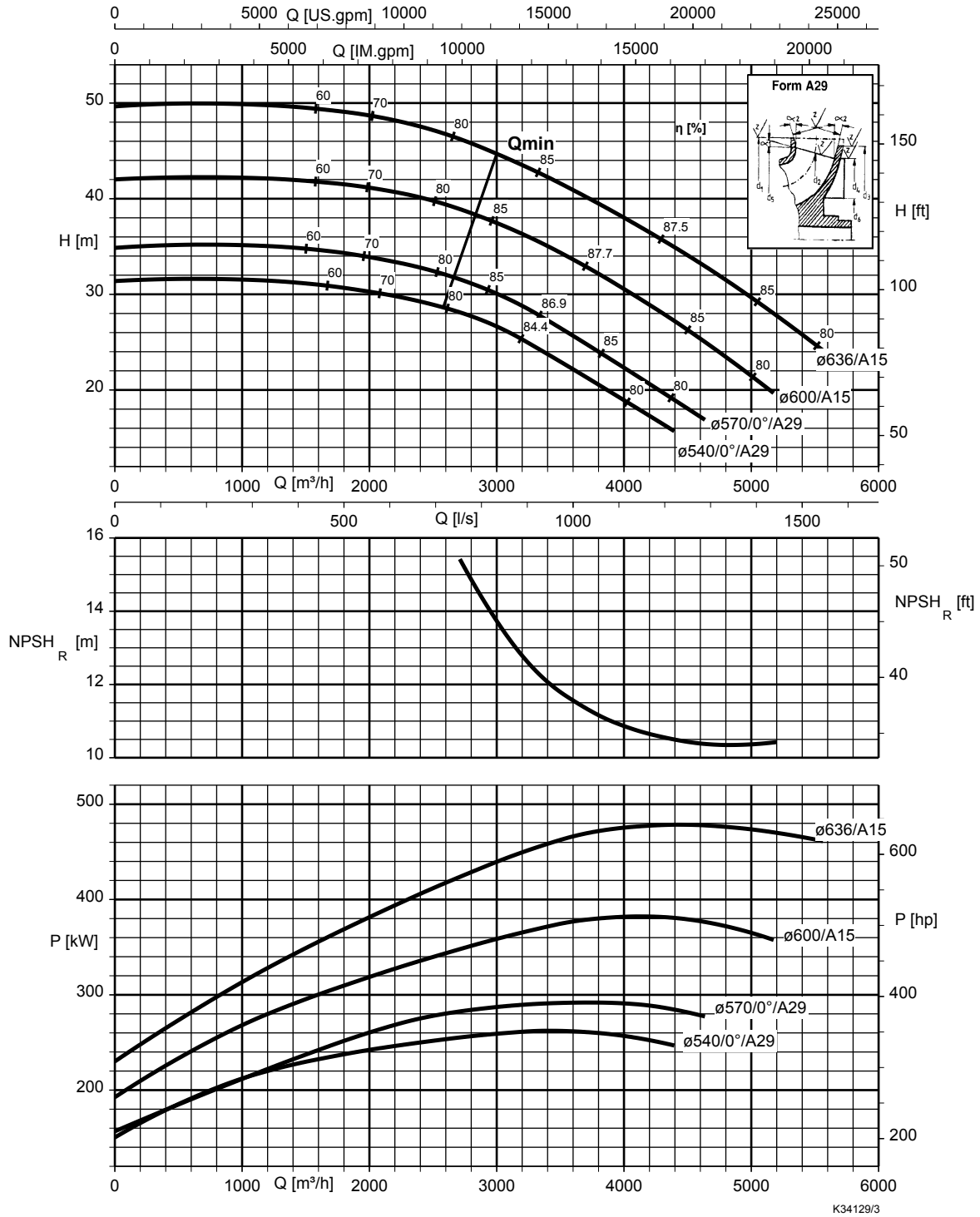
KWP K 500-500-634, n = 960 rpm



KWP K 500-500-635, $n = 960$ rpm

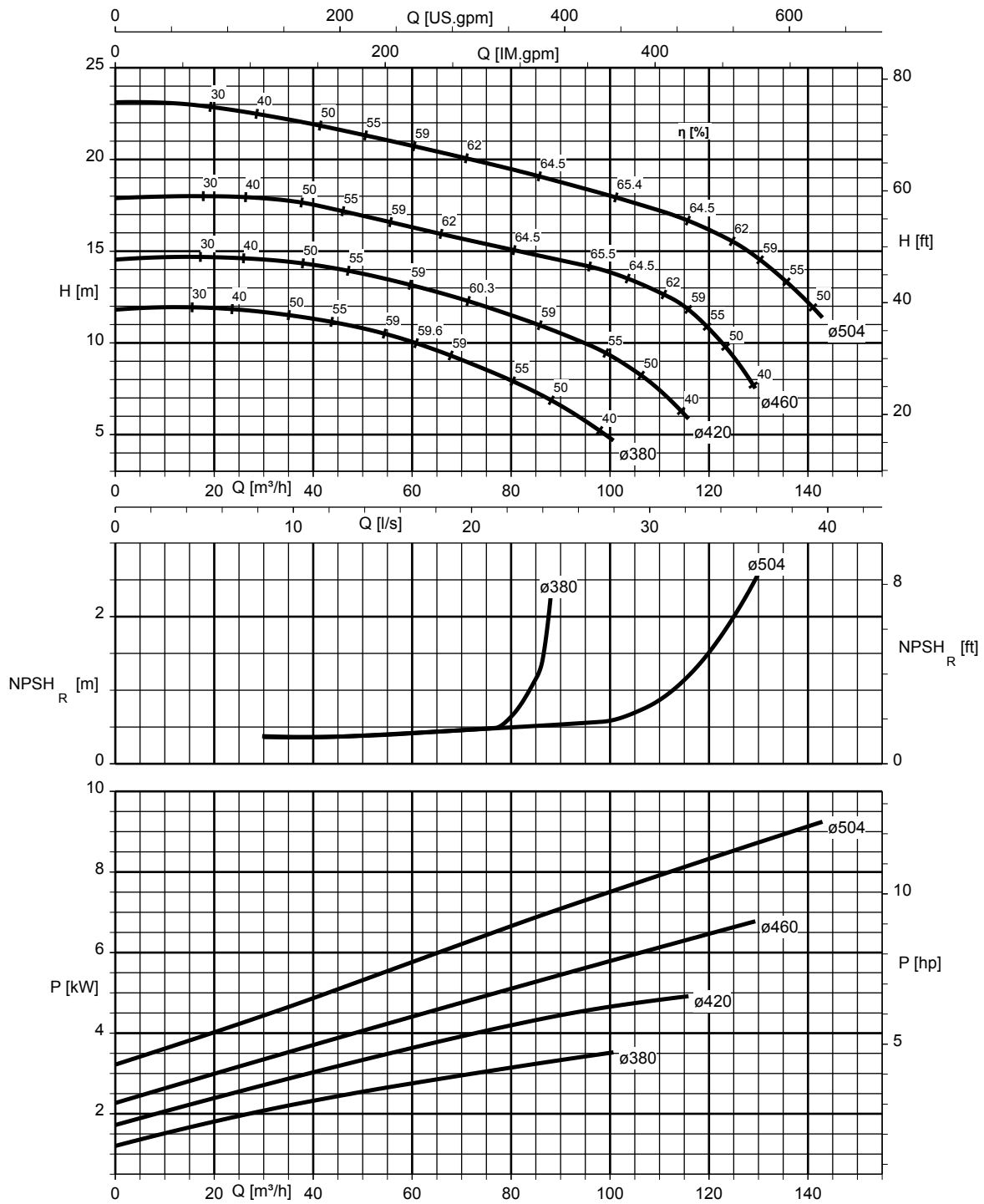


KWP K 500-500-637, $n = 960 \text{ rpm}$



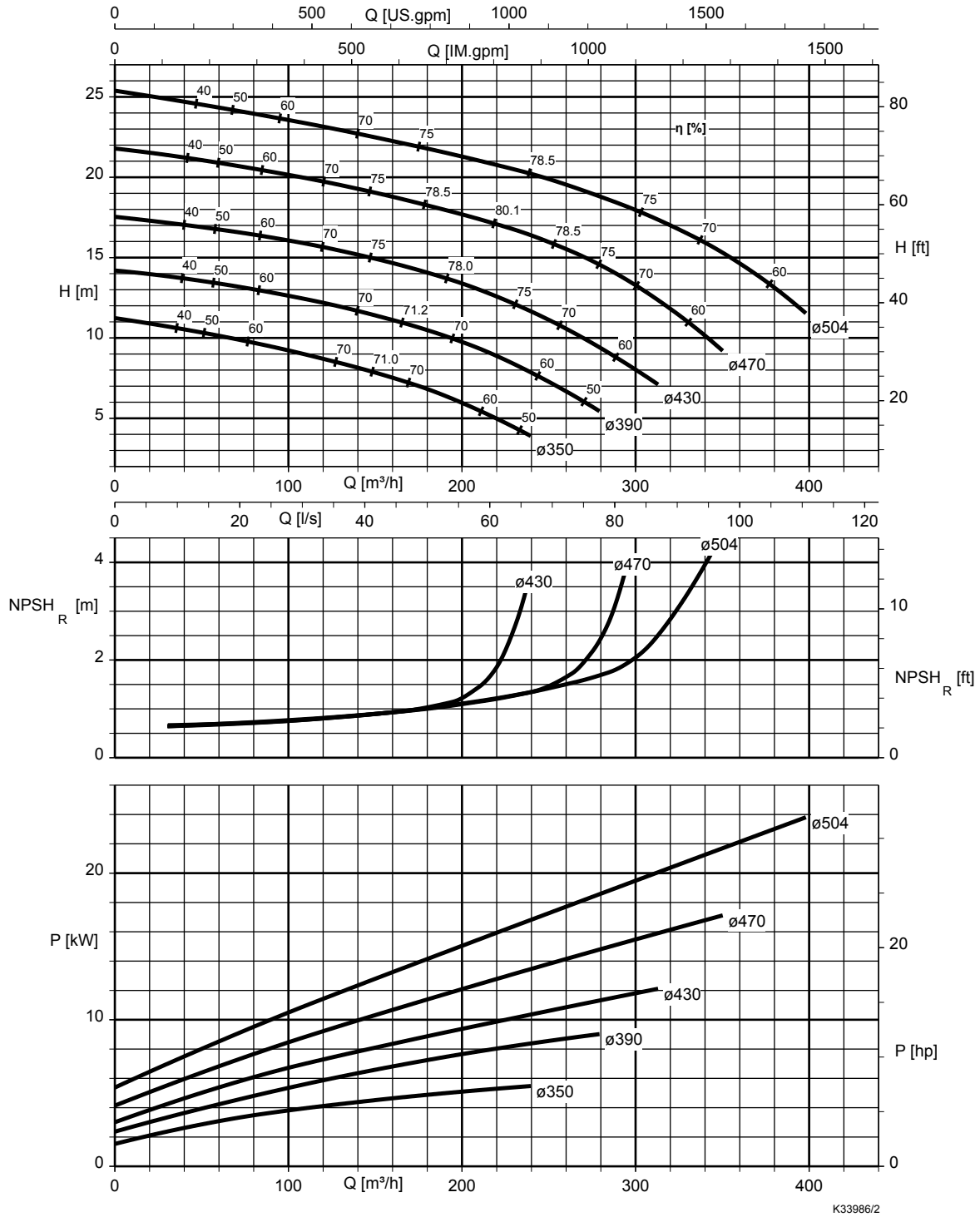
$n = 725 \text{ rpm}$

KWP K 125-080-500, $n = 725 \text{ rpm}$

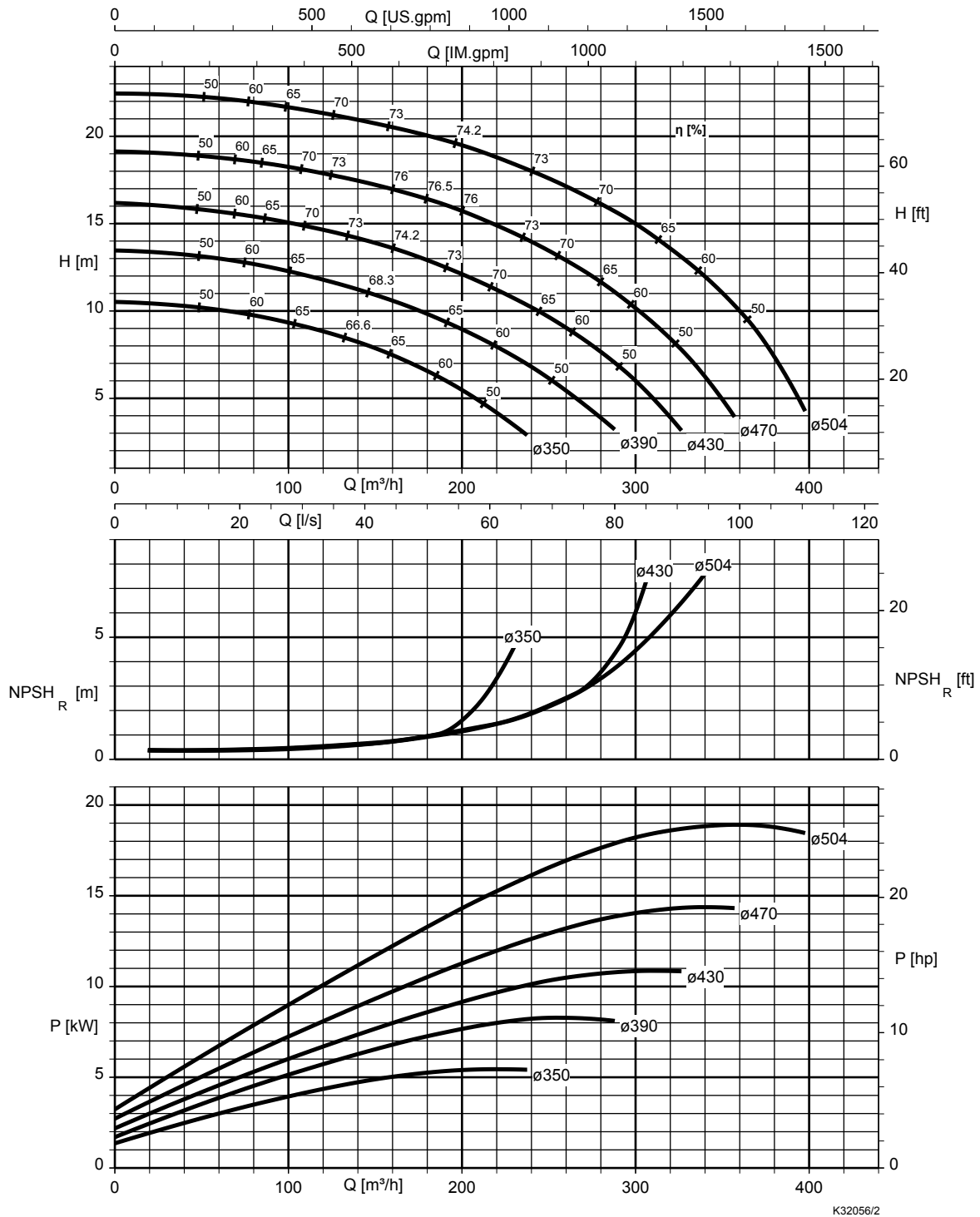


K33954/2

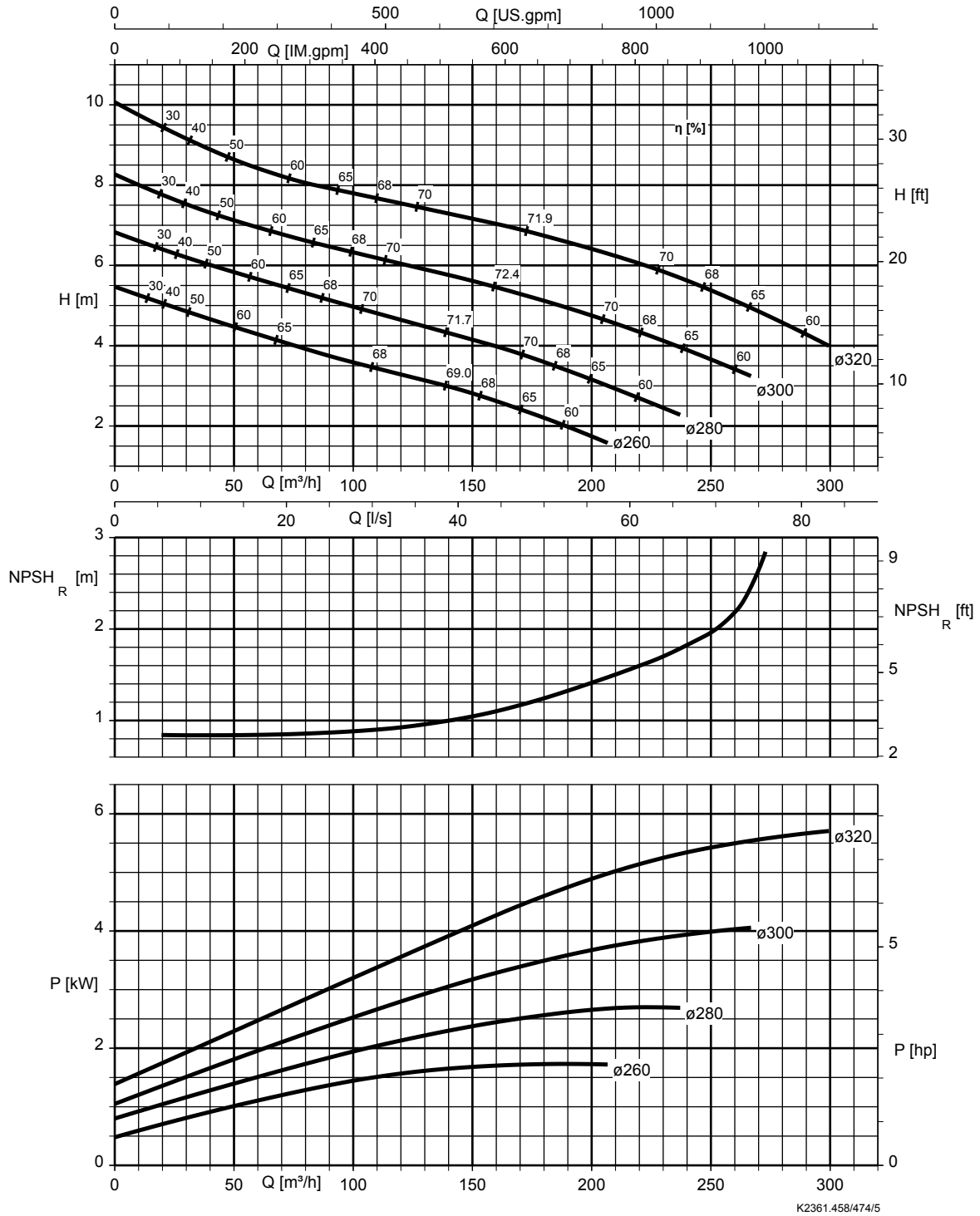
KWP K 150-125-500, $n = 725 \text{ rpm}$



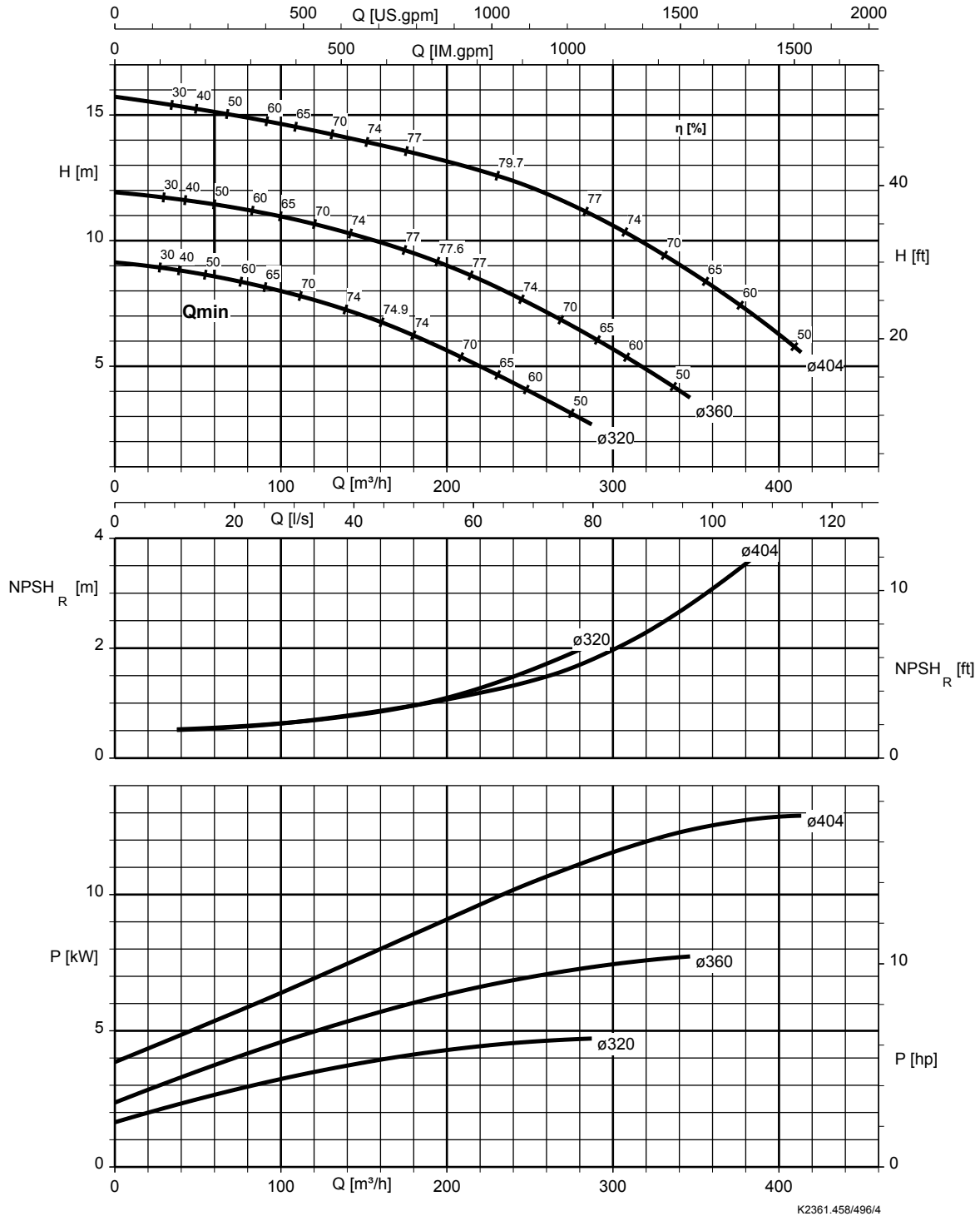
KWP K 150-125-503, $n = 725 \text{ rpm}$



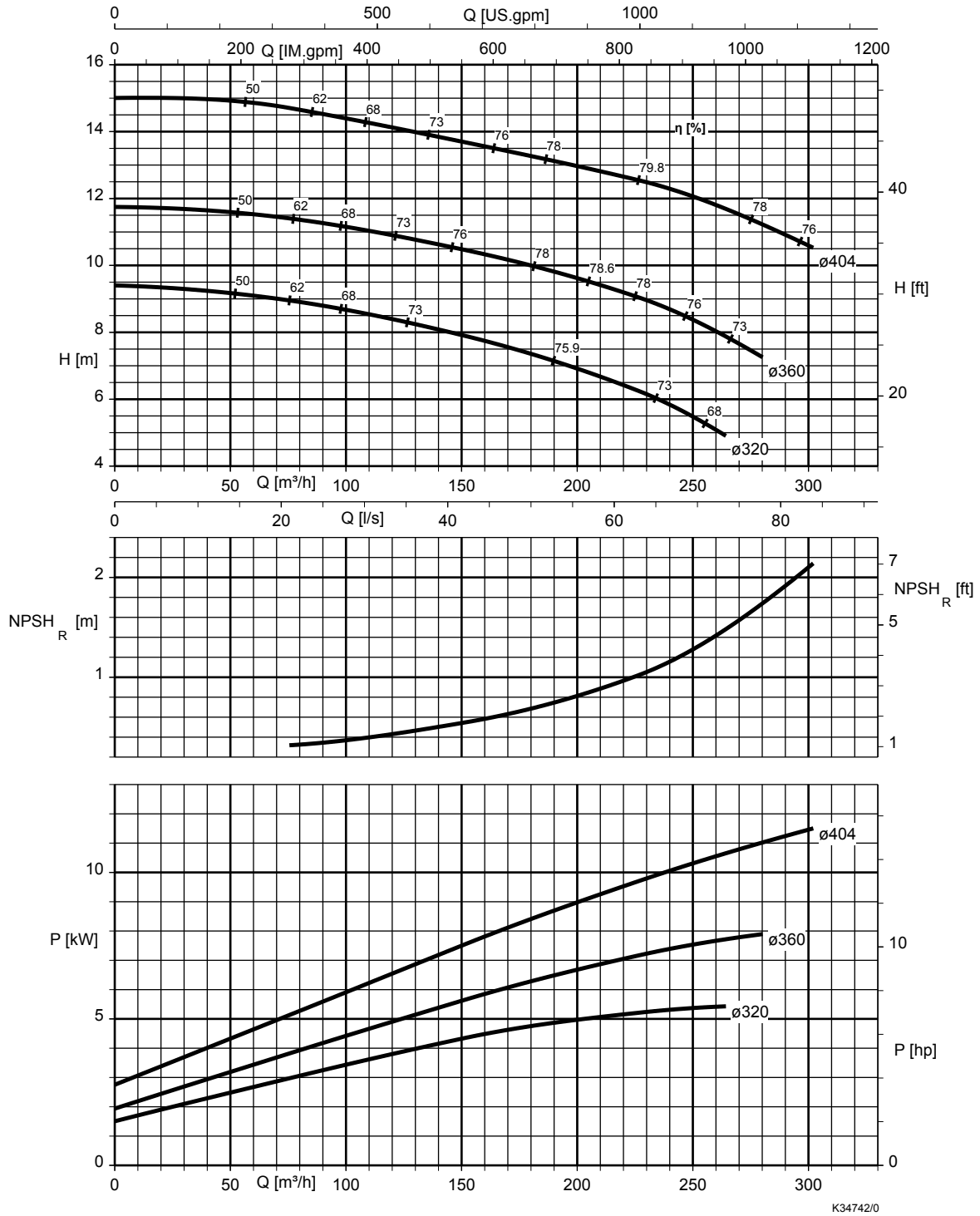
KWP K 150-150-315, n = 725 rpm



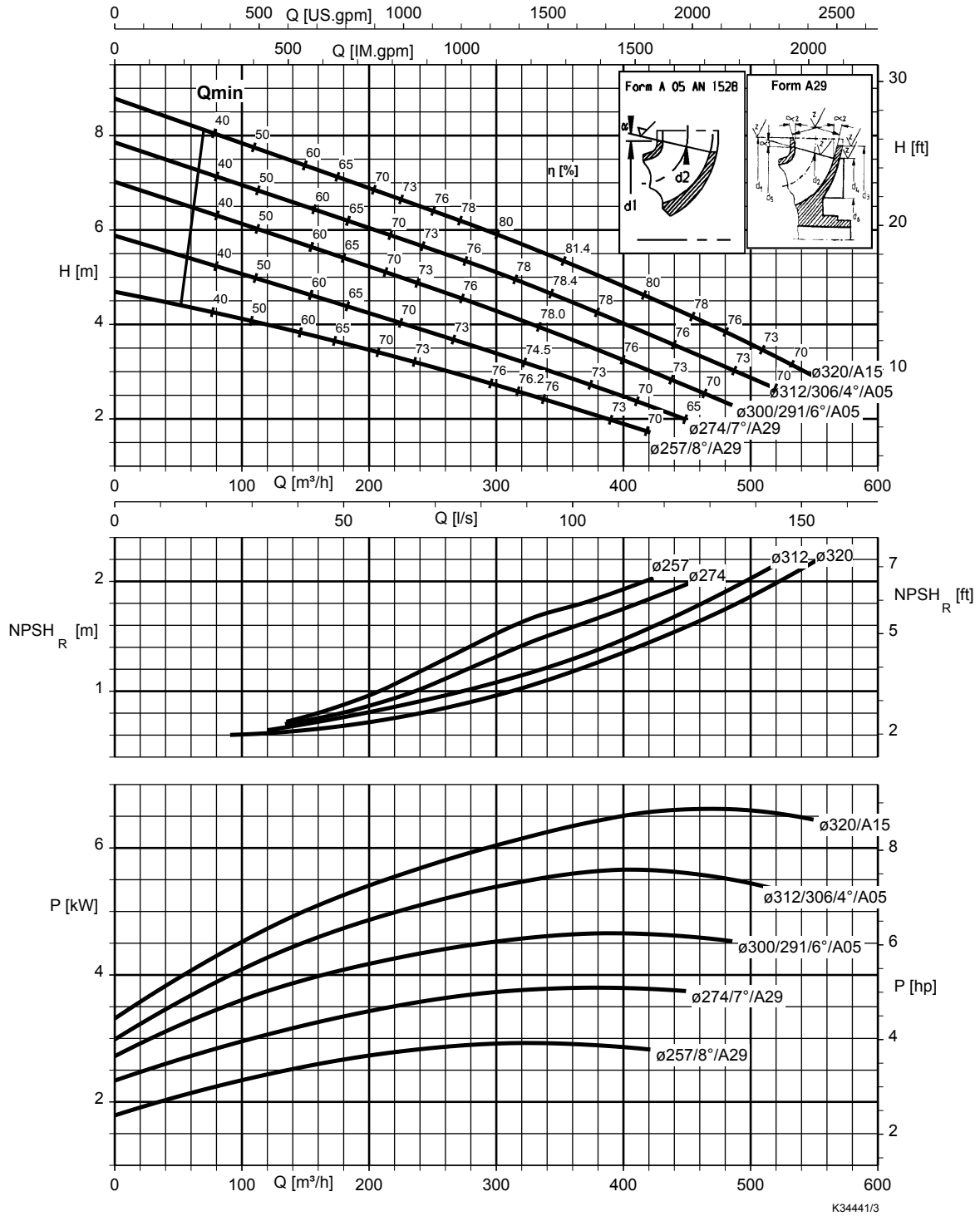
KWP K 150-150-400, n = 725 rpm



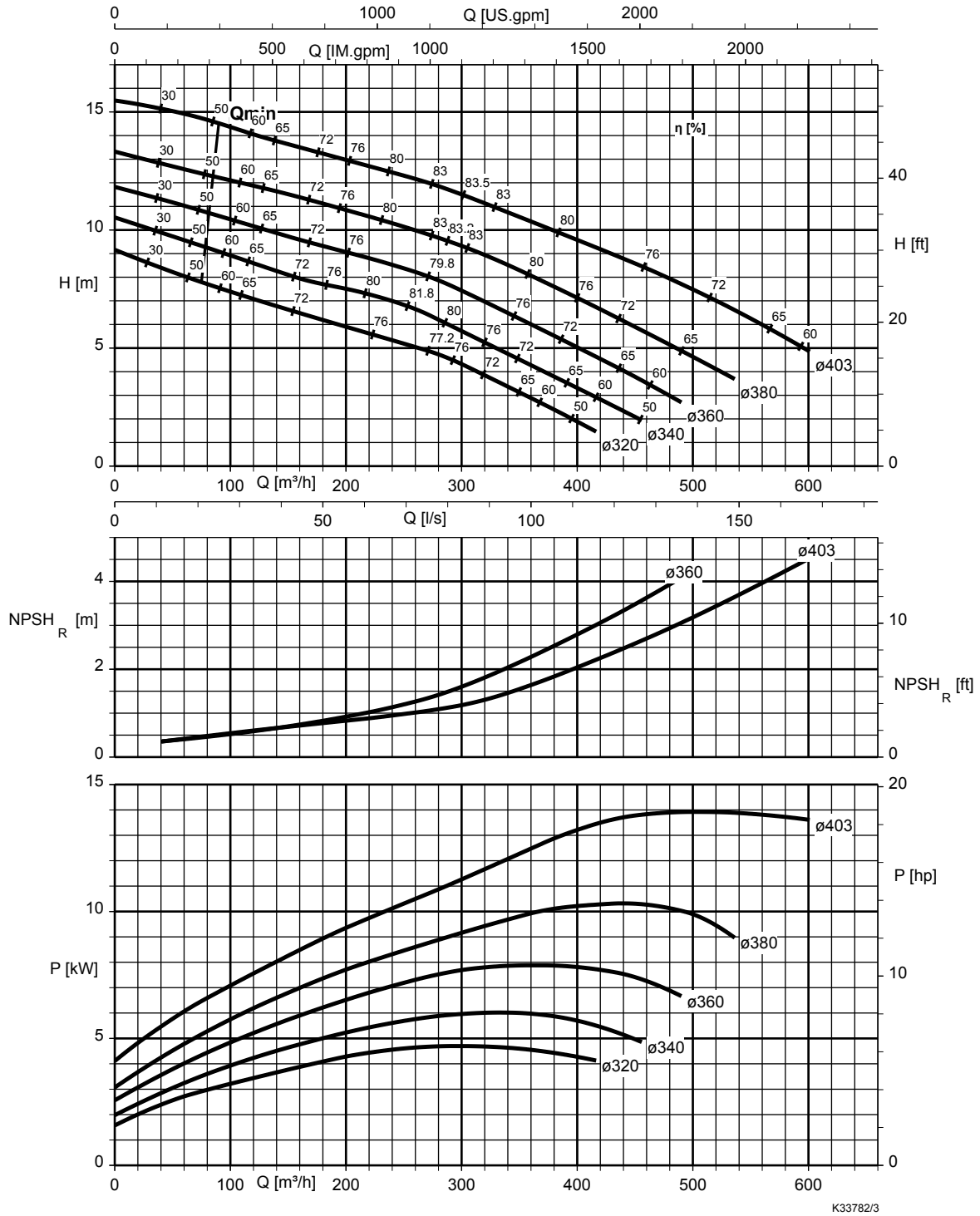
KWP K 150-150-403, n = 725 rpm



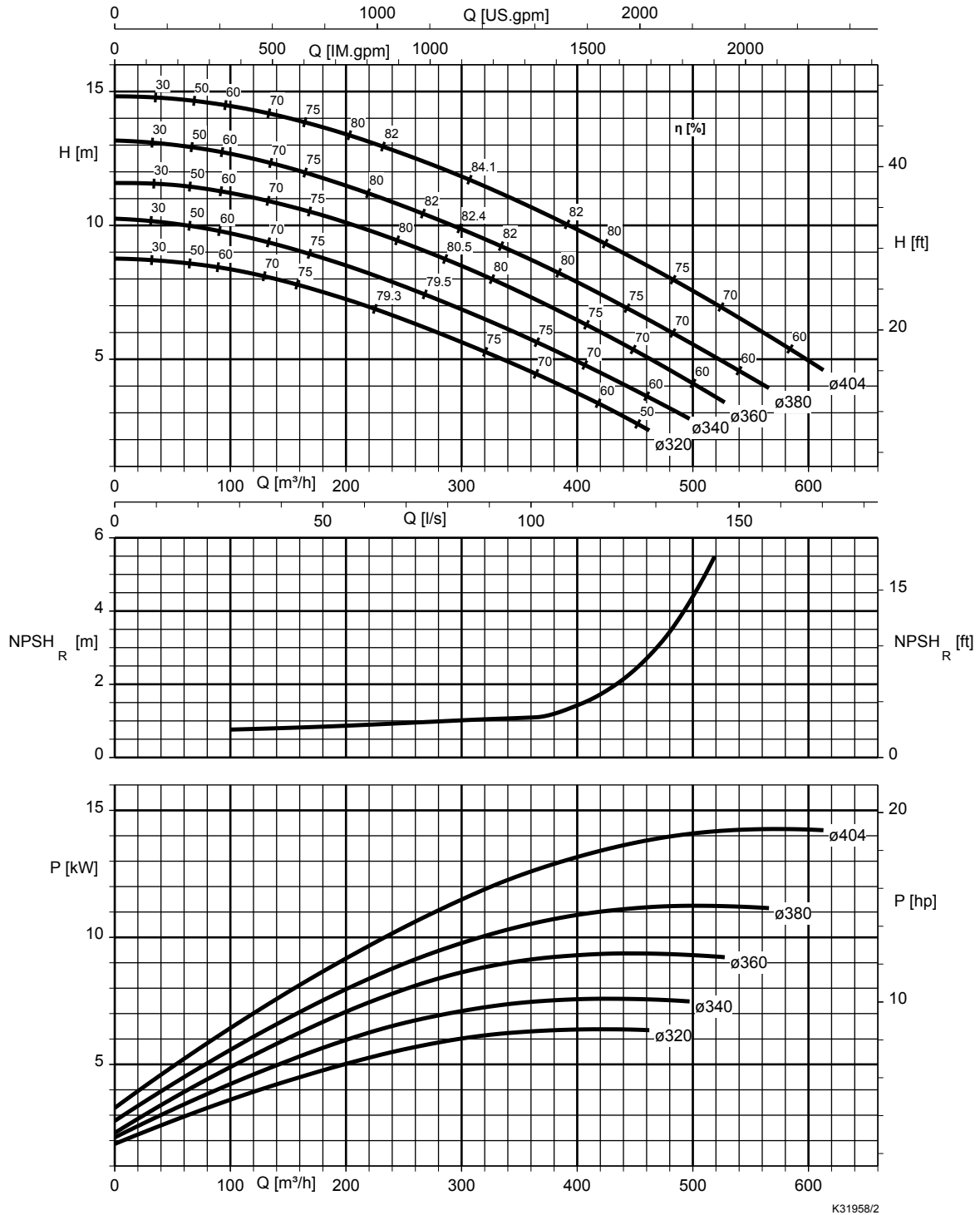
KWP K 200-200-320, $n = 725 \text{ rpm}$



KWP K 200-200-400, n = 725 rpm

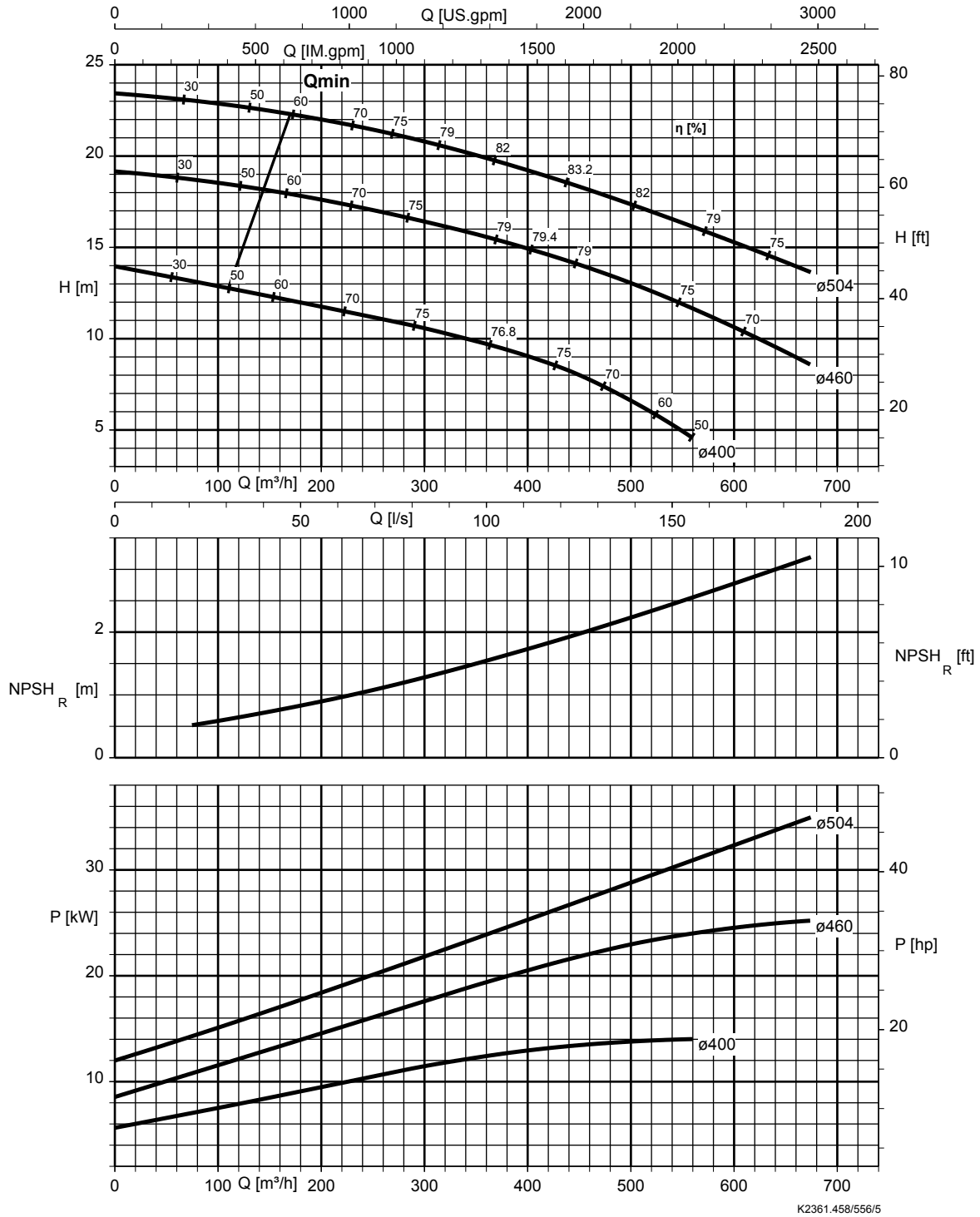


KWP K 200-200-403, n = 725 rpm

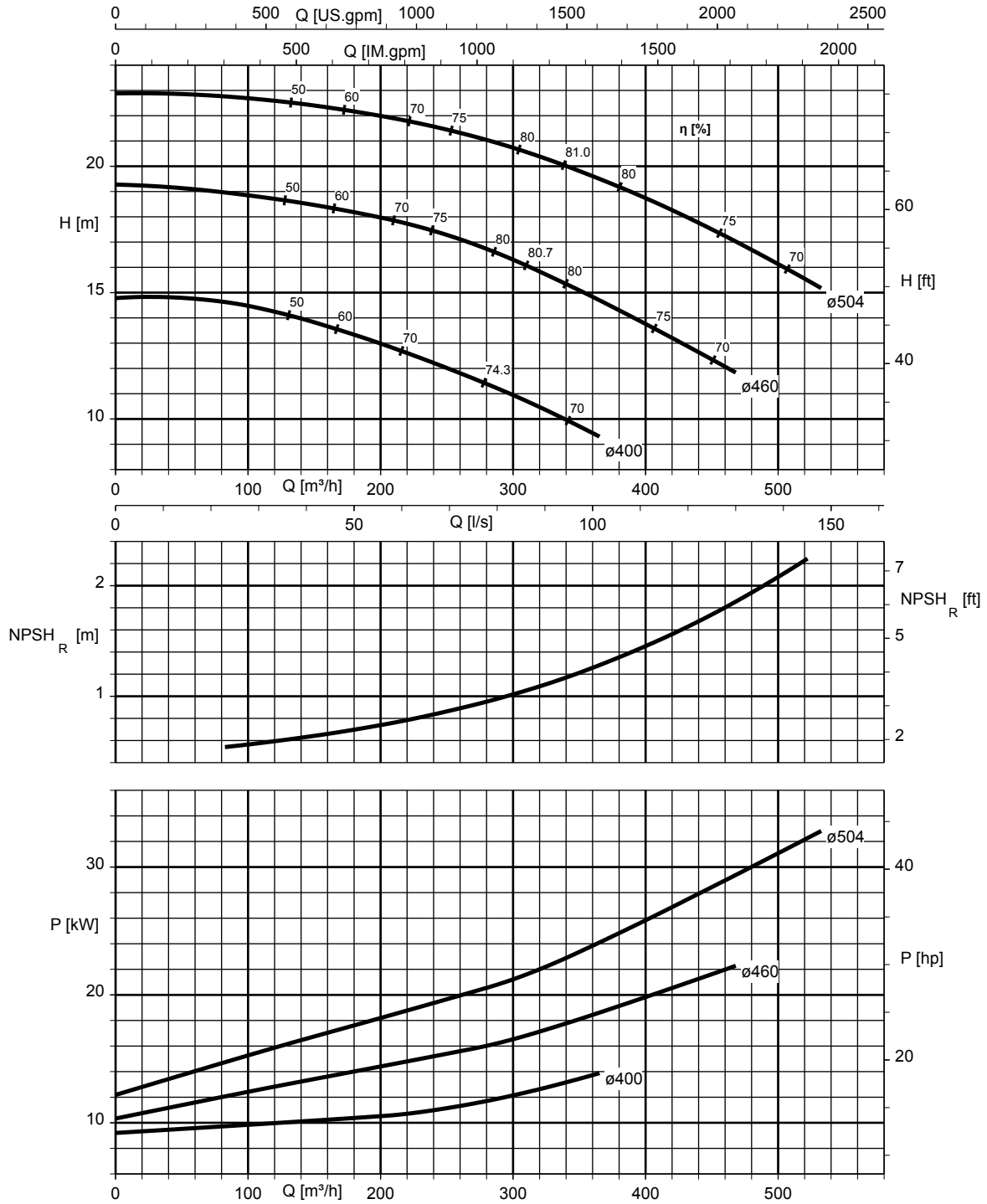


K31958/2

KWP K 200-200-501, $n = 725 \text{ rpm}$

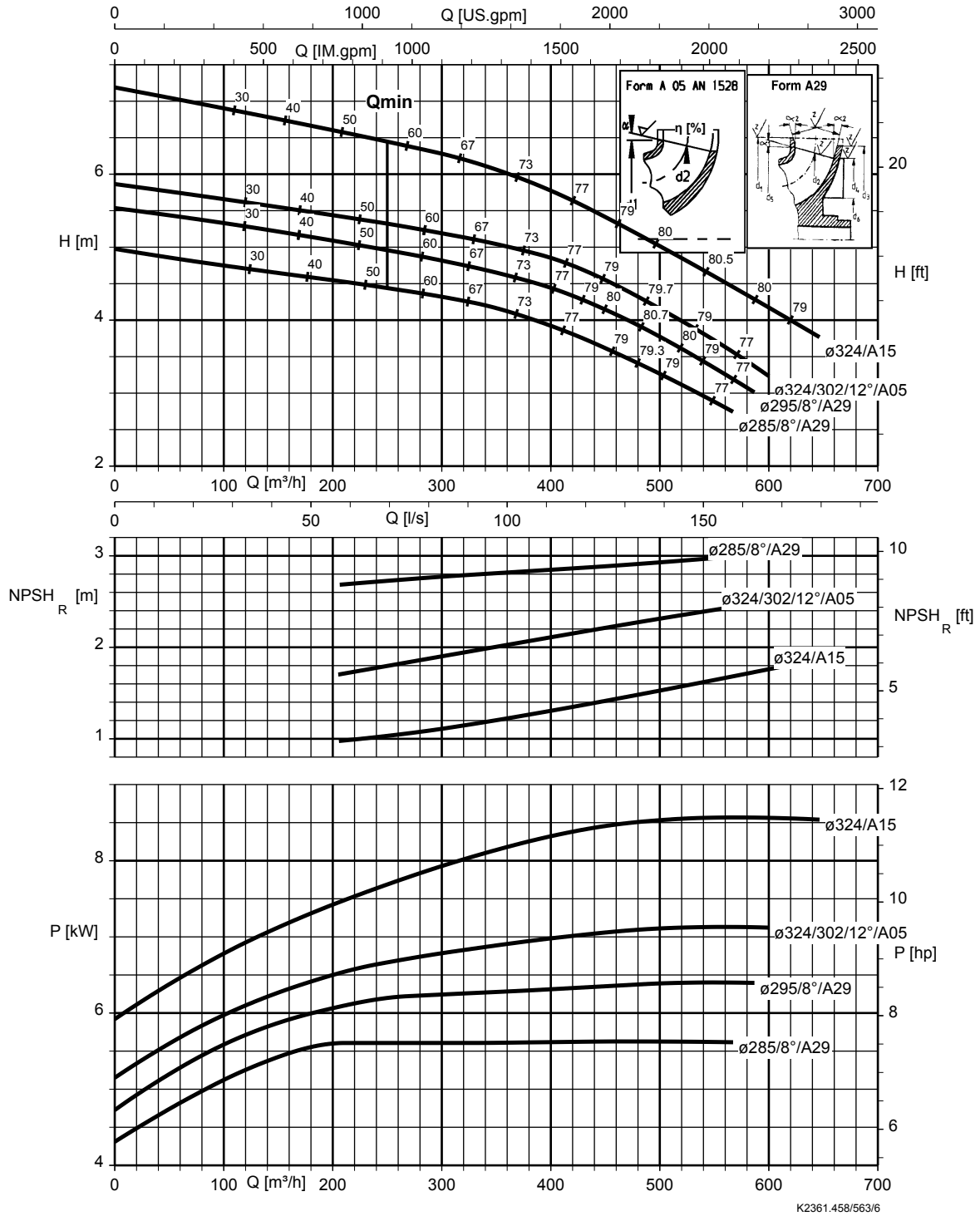


KWP K 200-200-503, n = 725 rpm

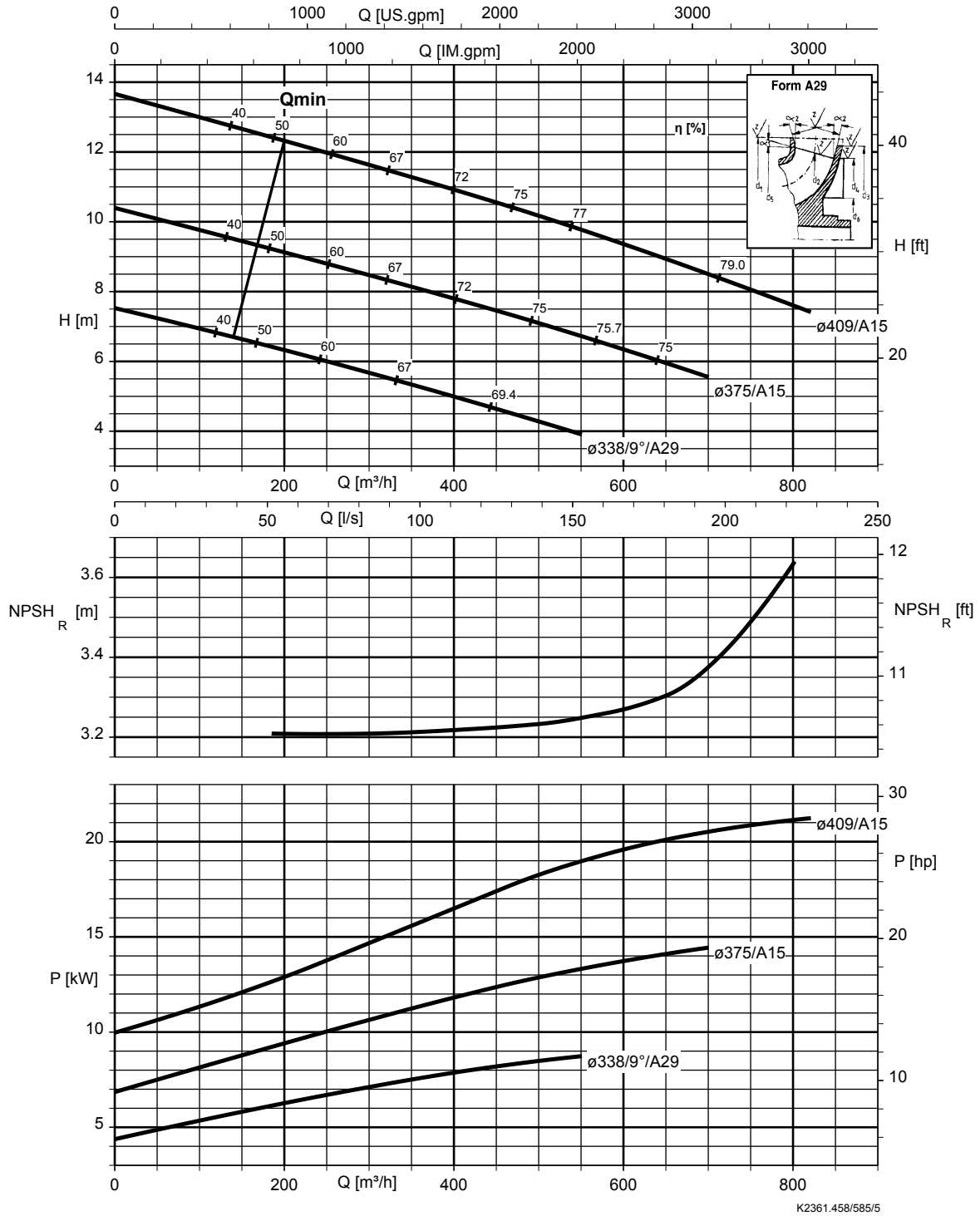


K34115/2

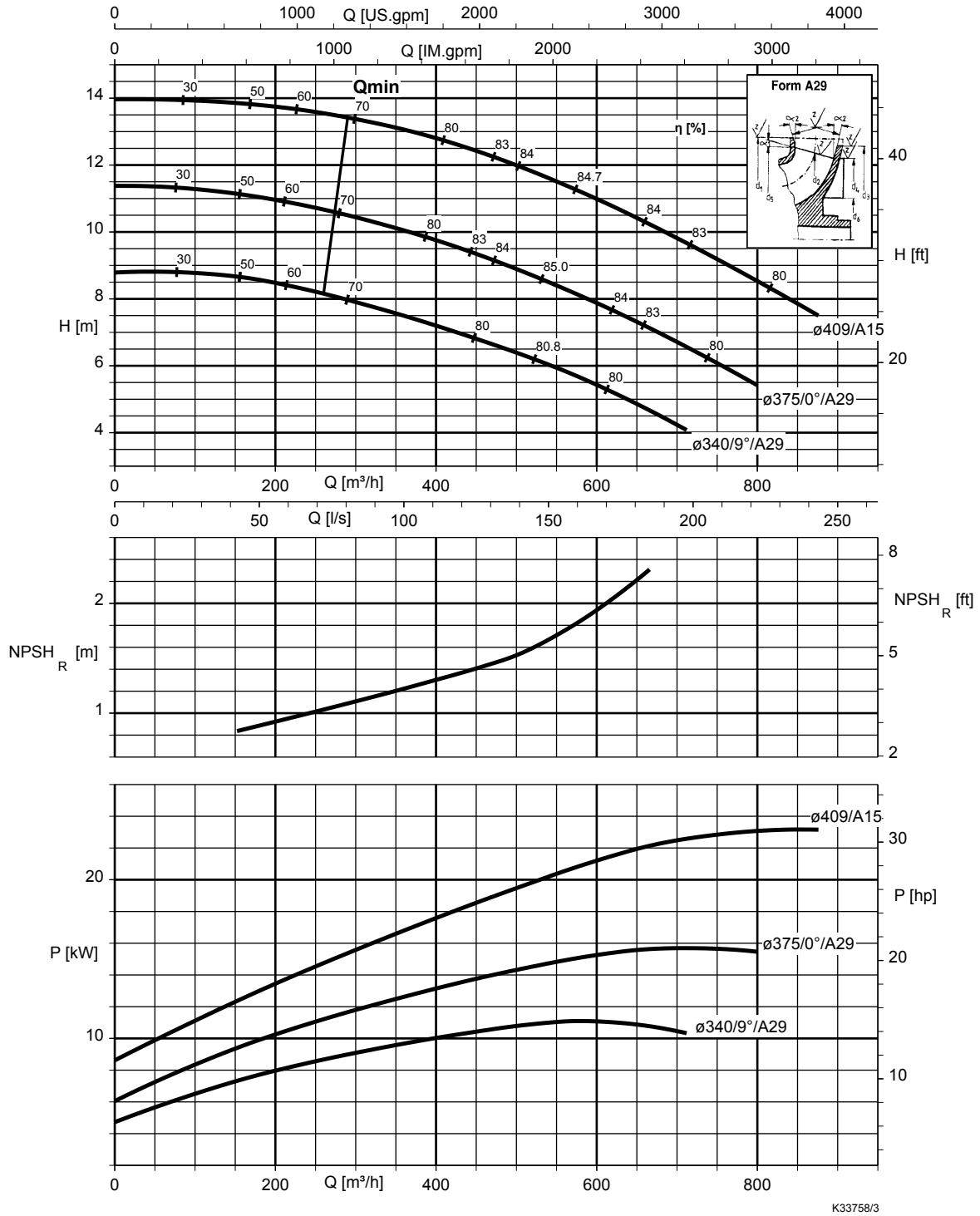
KWP K 250-250-315, $n = 725 \text{ rpm}$



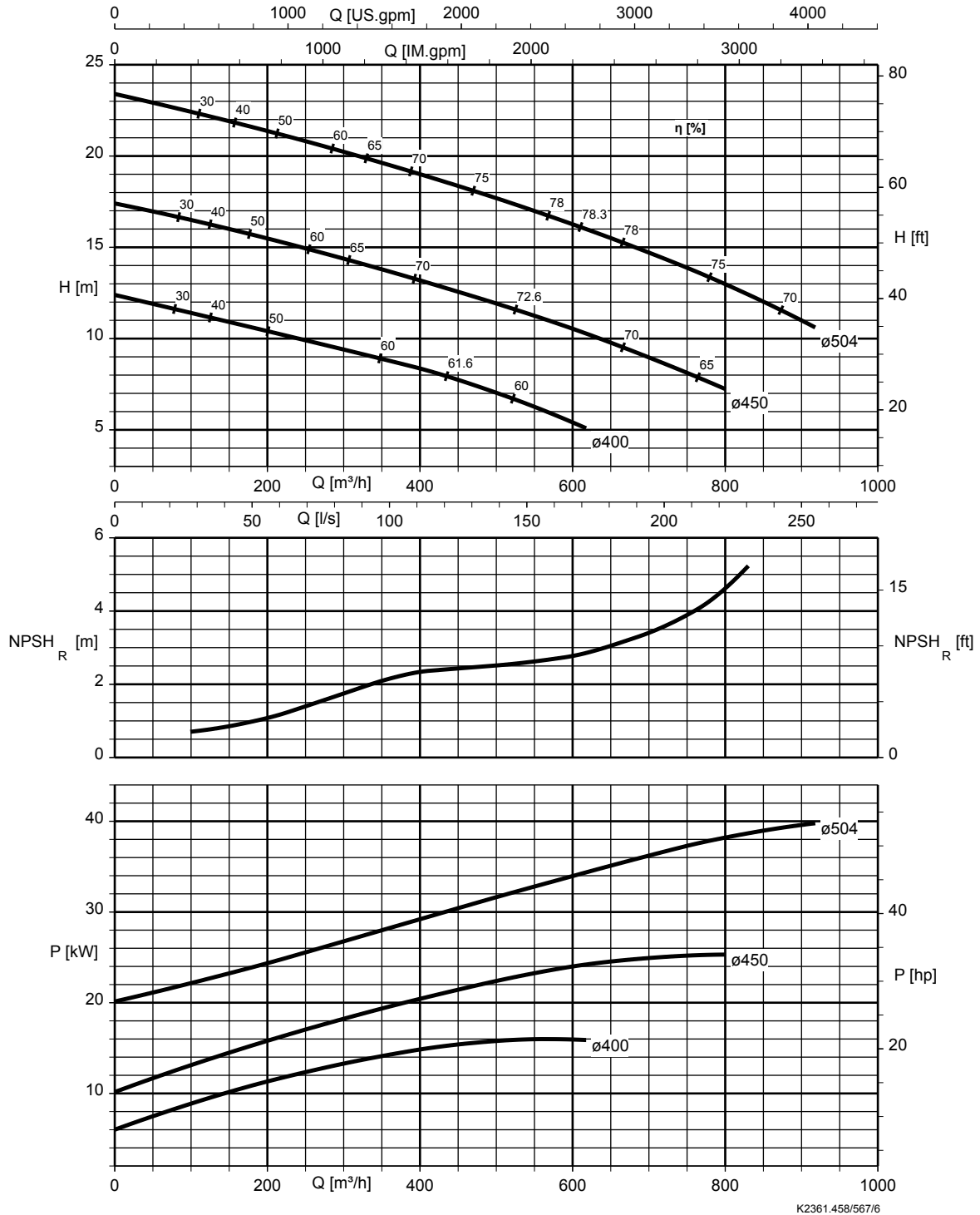
KWP K 250-250-400, $n = 725 \text{ rpm}$



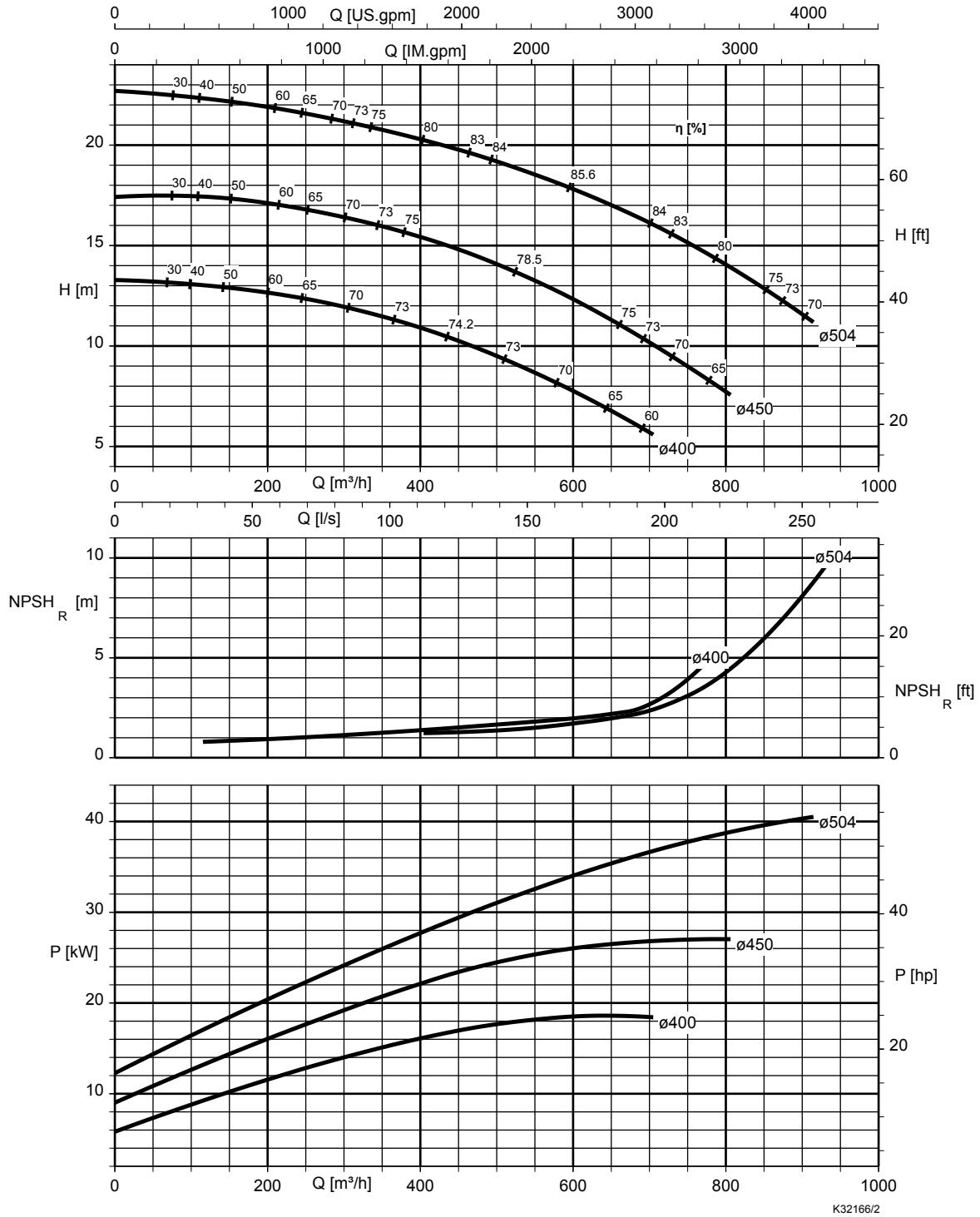
KWP K 250-250-403, $n = 725 \text{ rpm}$



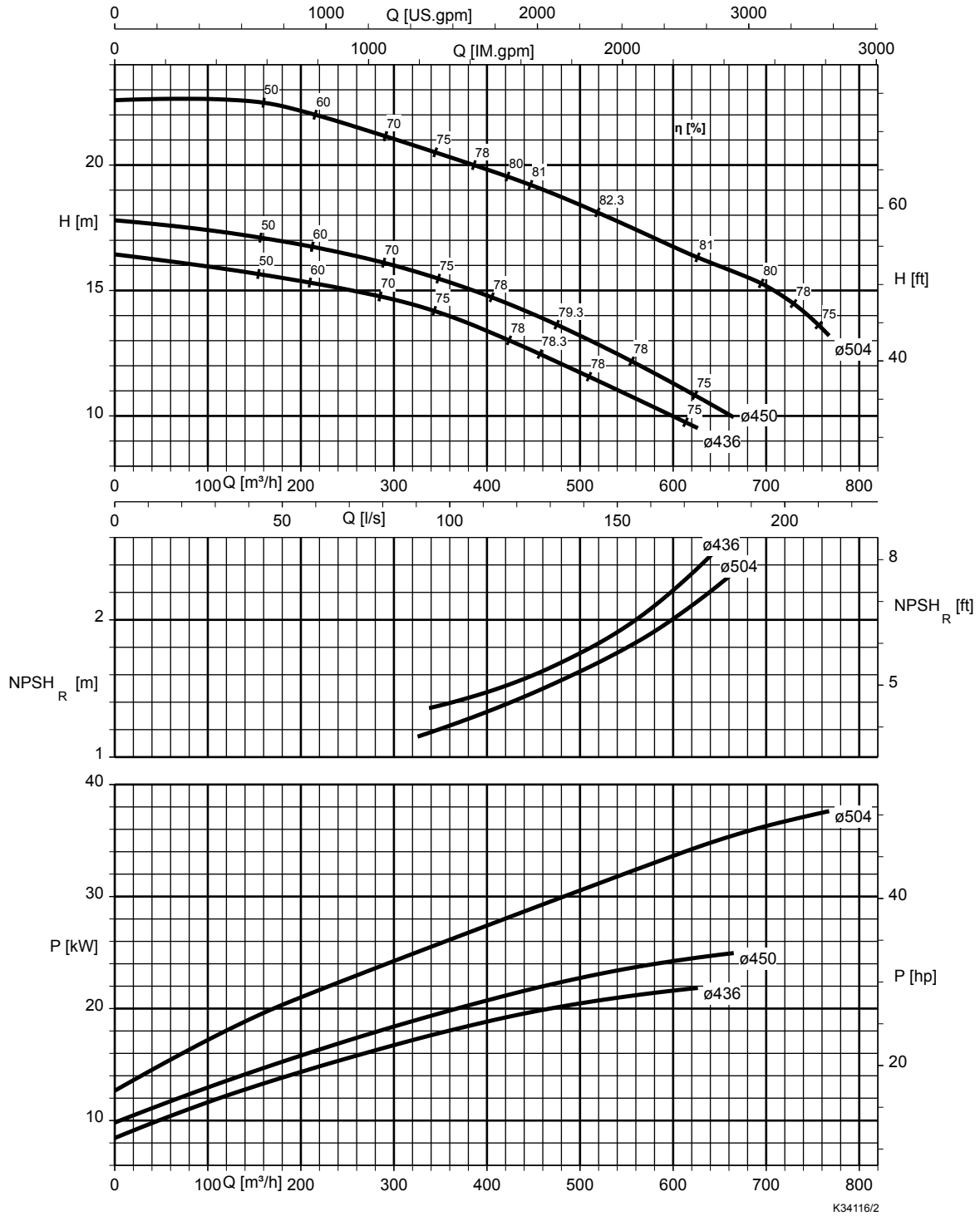
KWP K 250-250-500, n = 725 rpm



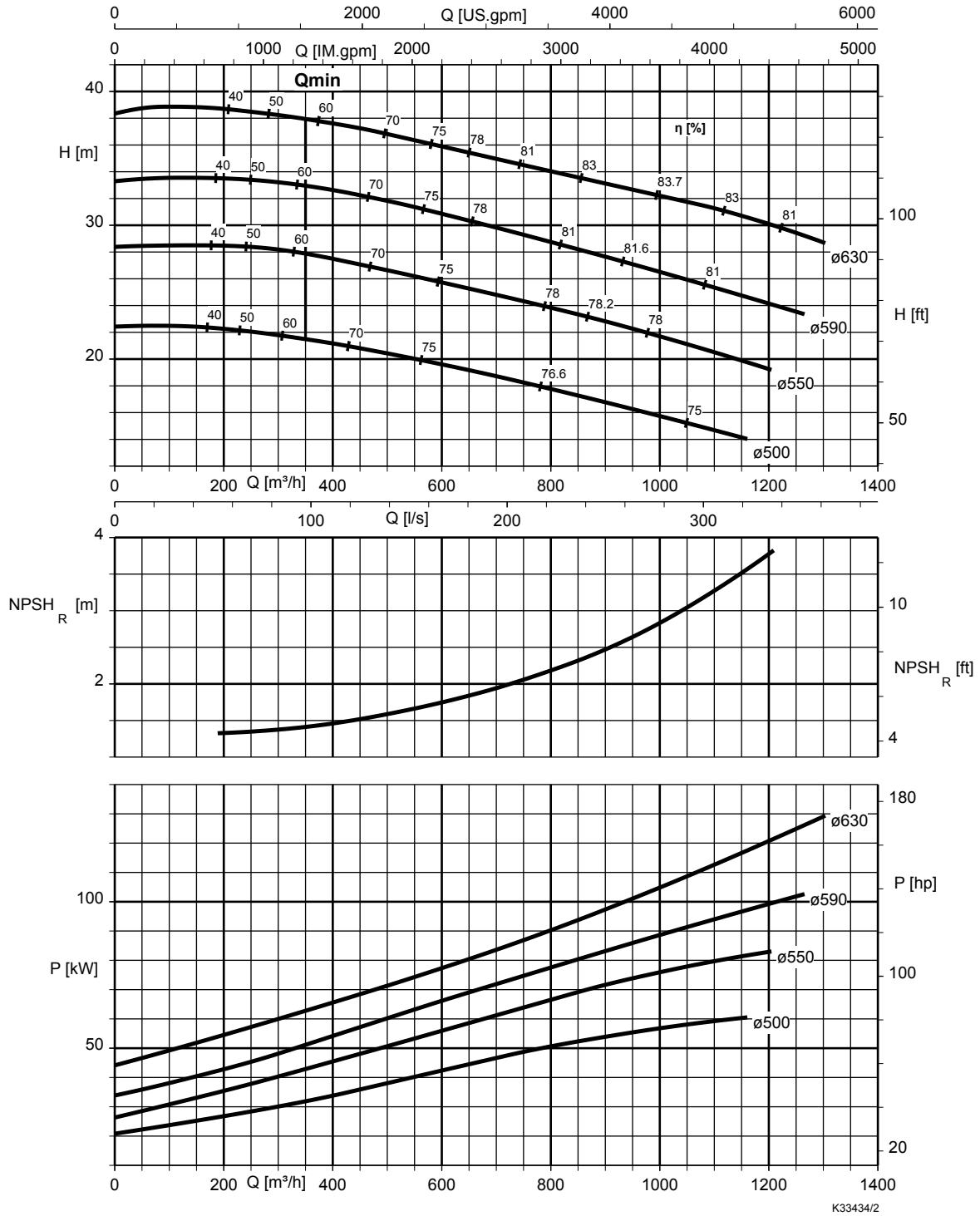
KWP K 250-250-503, $n = 725 \text{ rpm}$



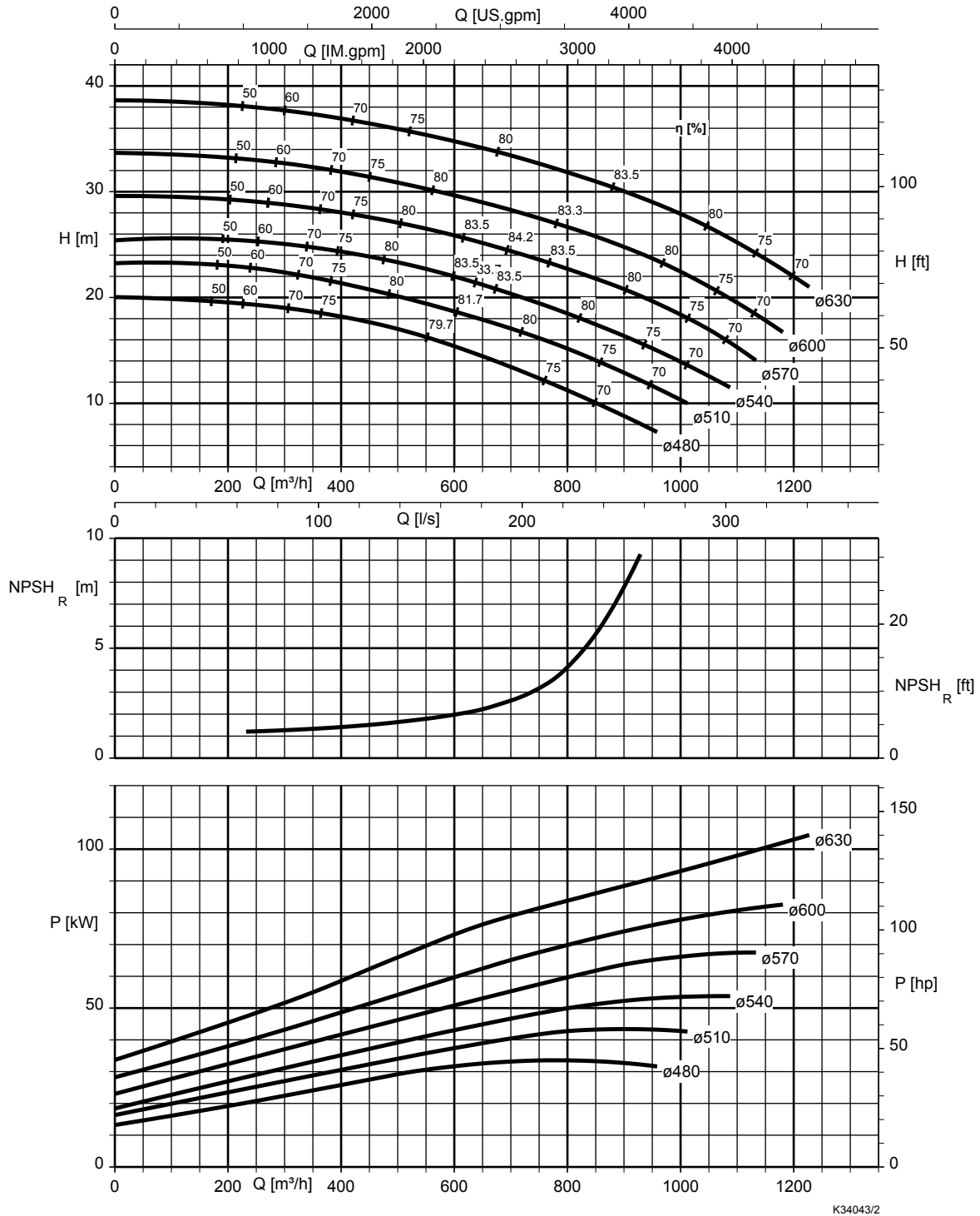
KWP K 250-250-505, $n = 725 \text{ rpm}$



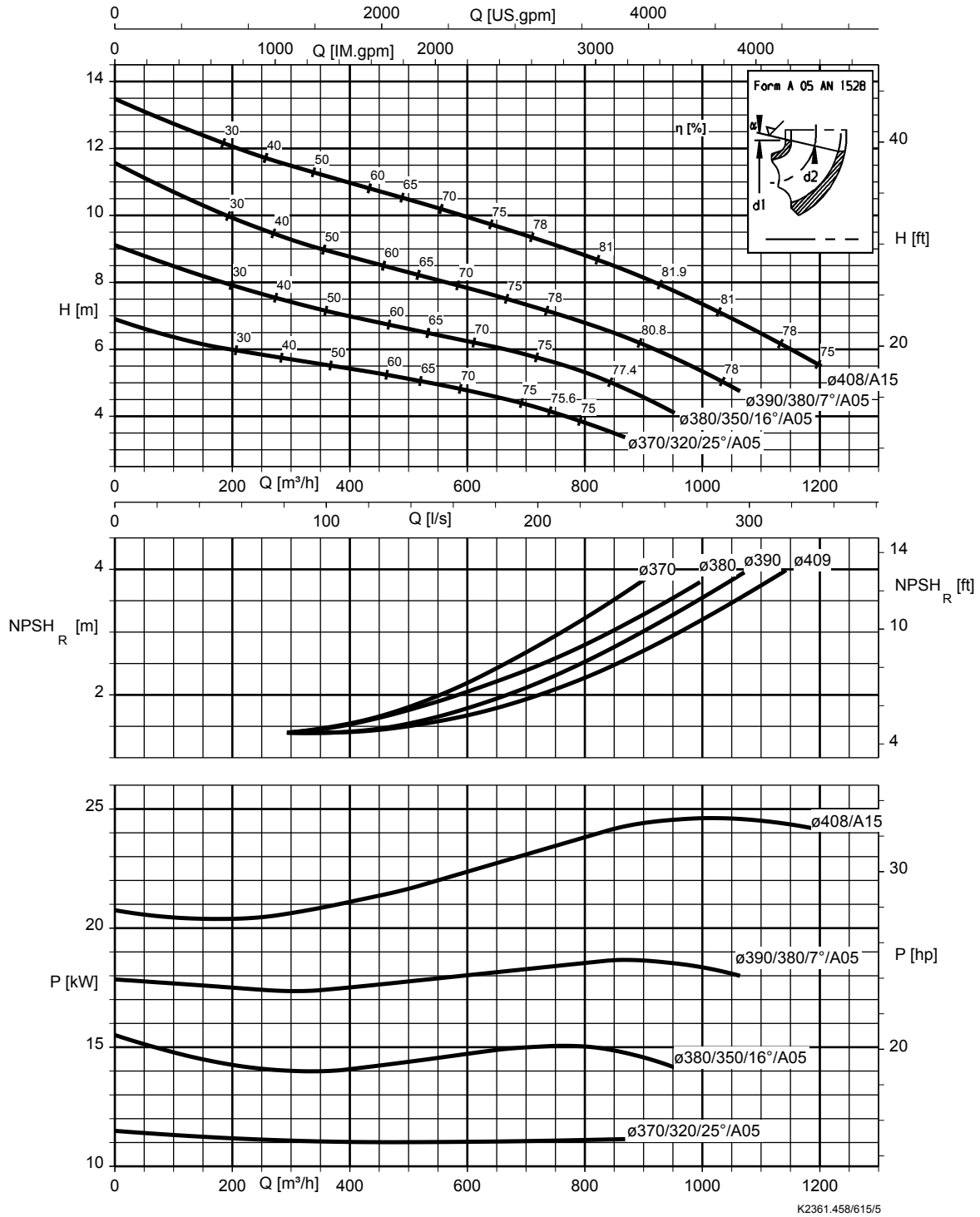
KWP K 250-250-630, n = 725 rpm



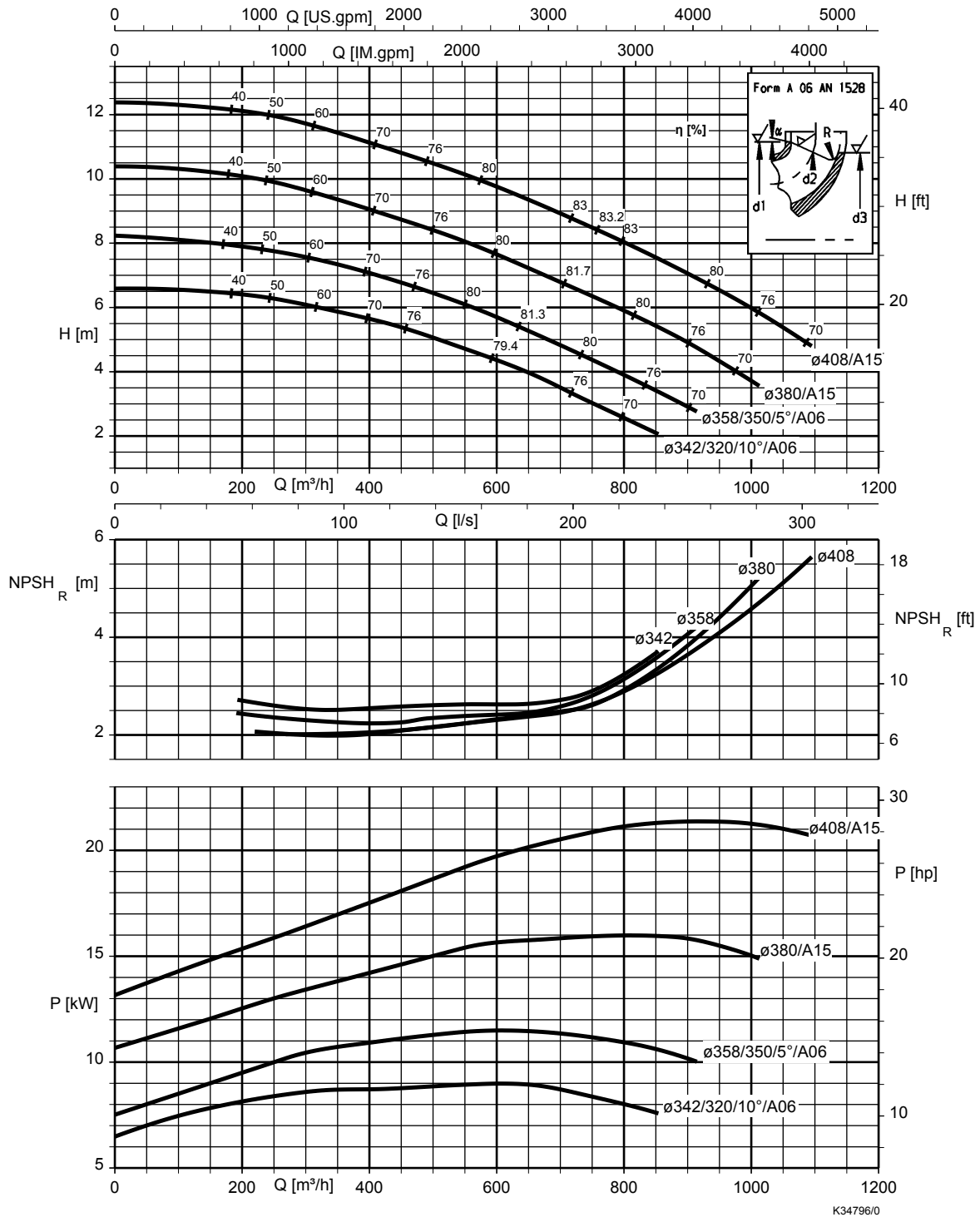
KWP K 250-250-634, $n = 725 \text{ rpm}$



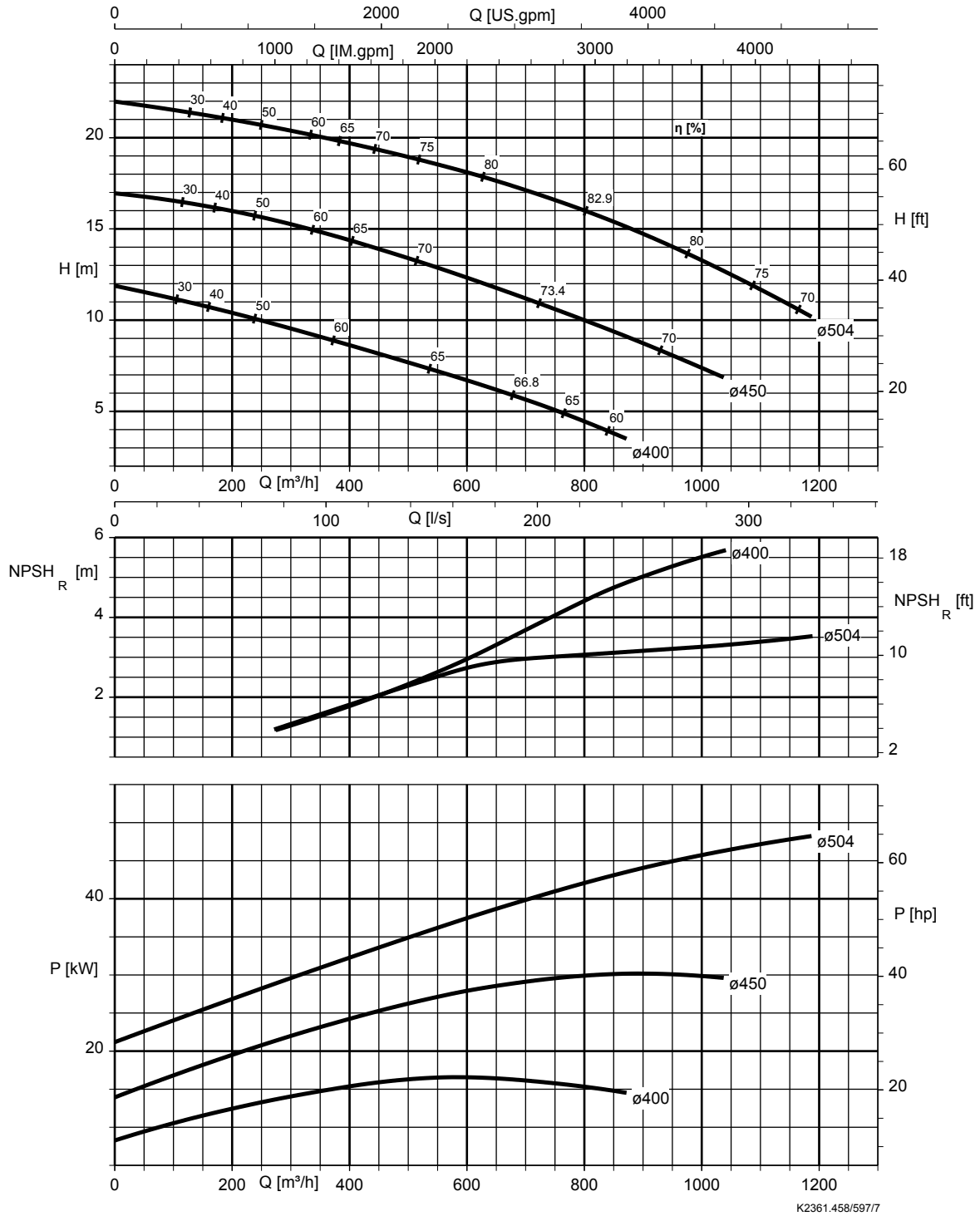
KWP K 300-300-400, $n = 725 \text{ rpm}$



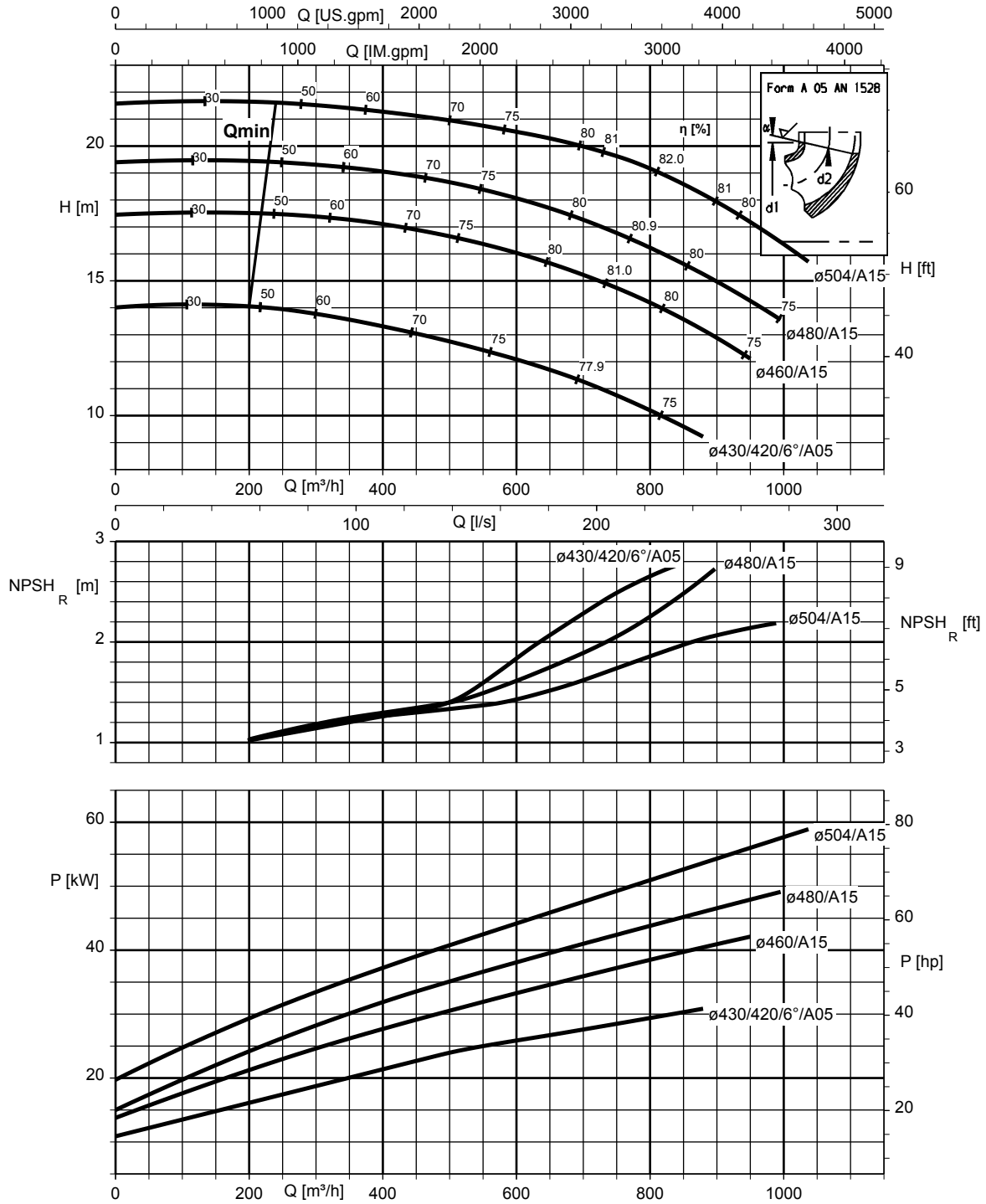
KWP K 300-300-401, $n = 725 \text{ rpm}$



KWP K 300-300-500, n = 725 rpm

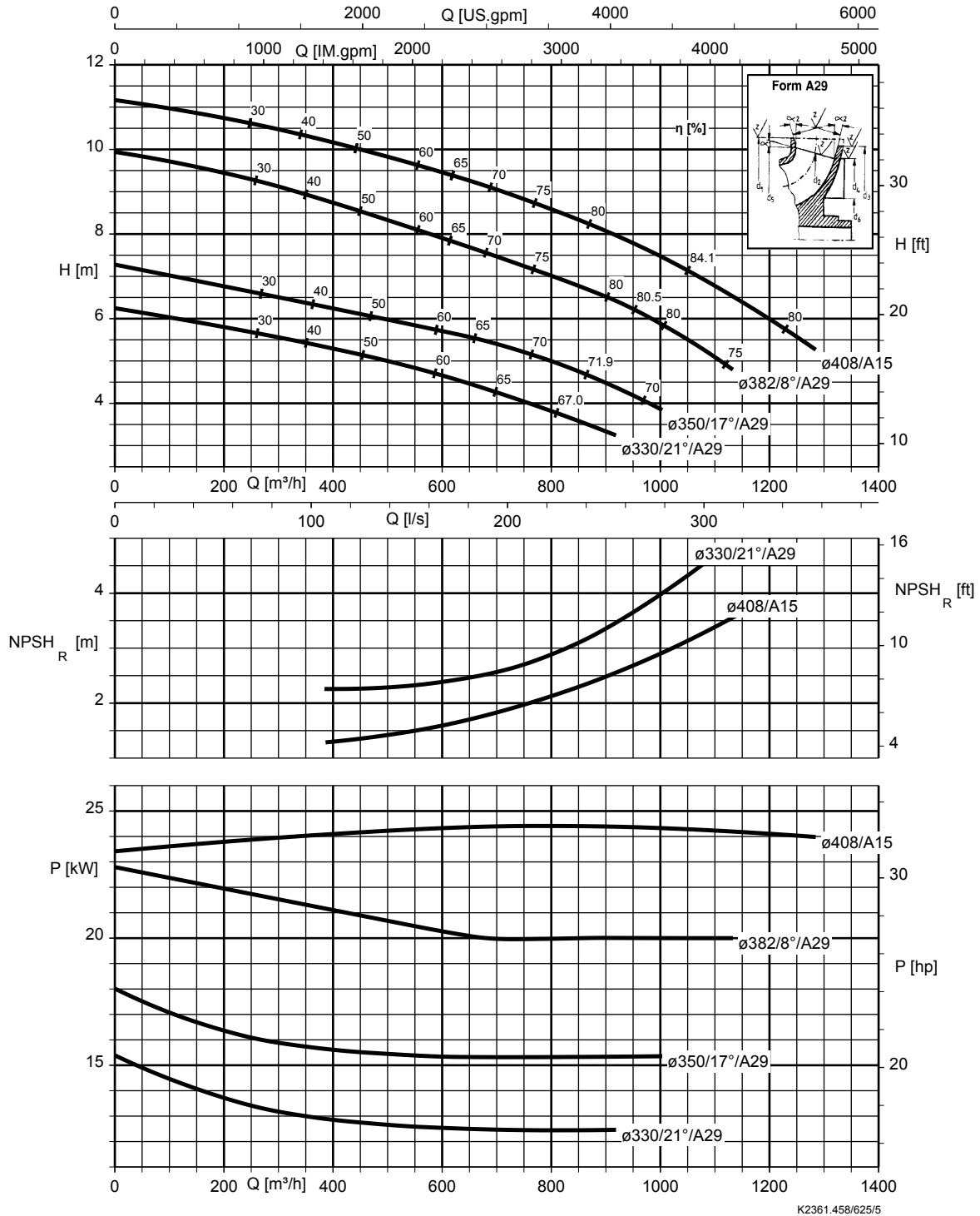


KWP K 300-300-503, $n = 725 \text{ rpm}$

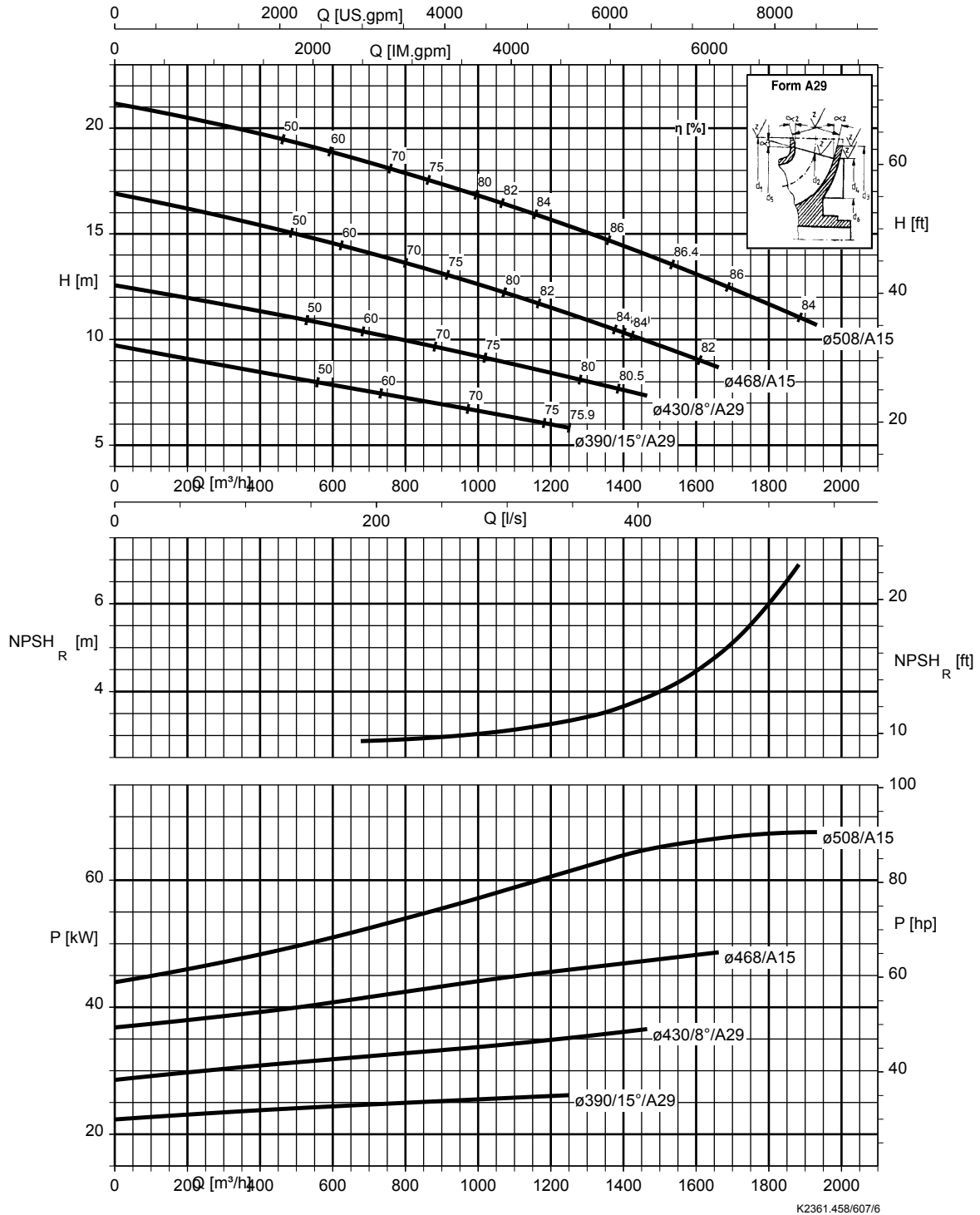


K33761/2

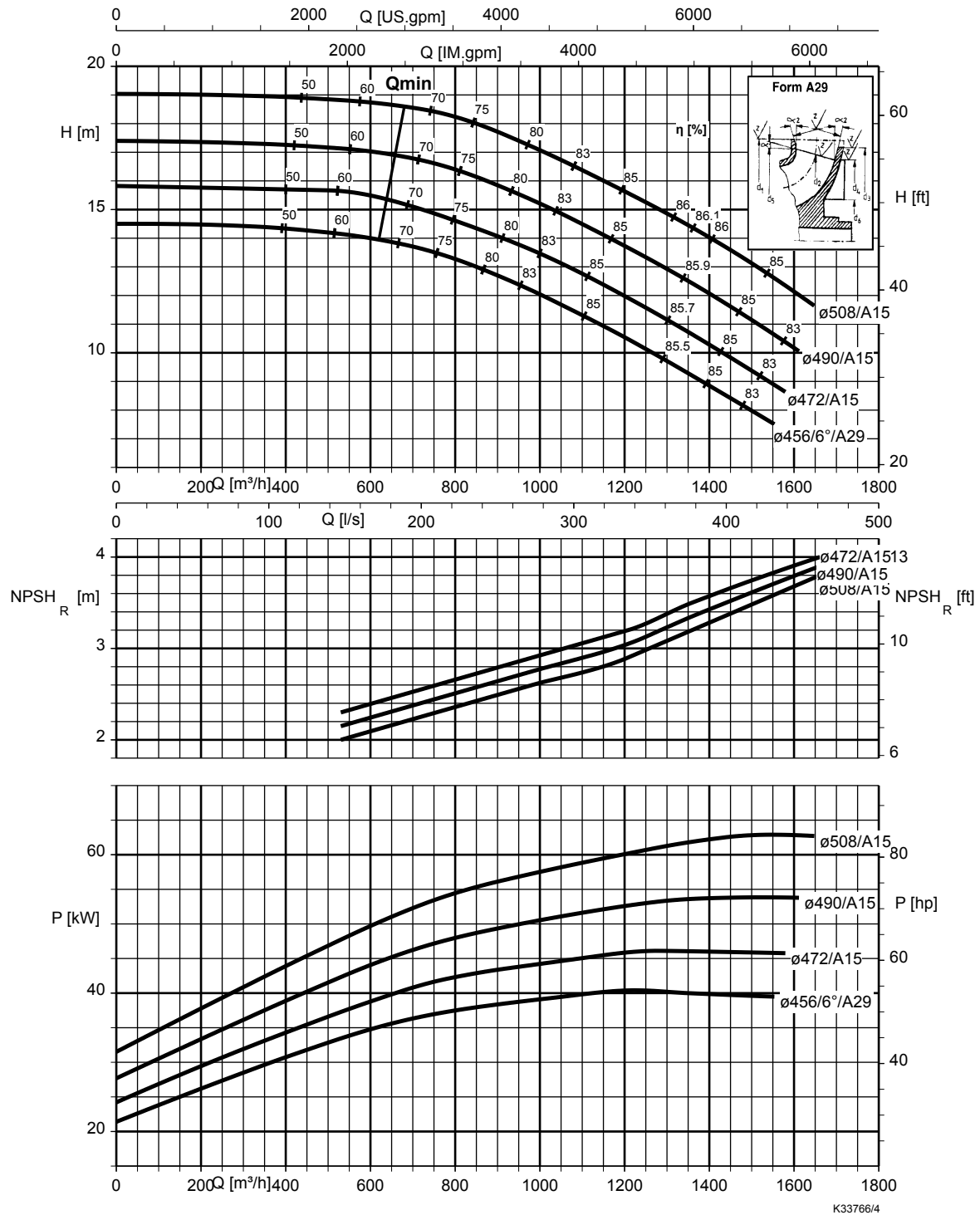
KWP K 350-350-400, n = 725 rpm



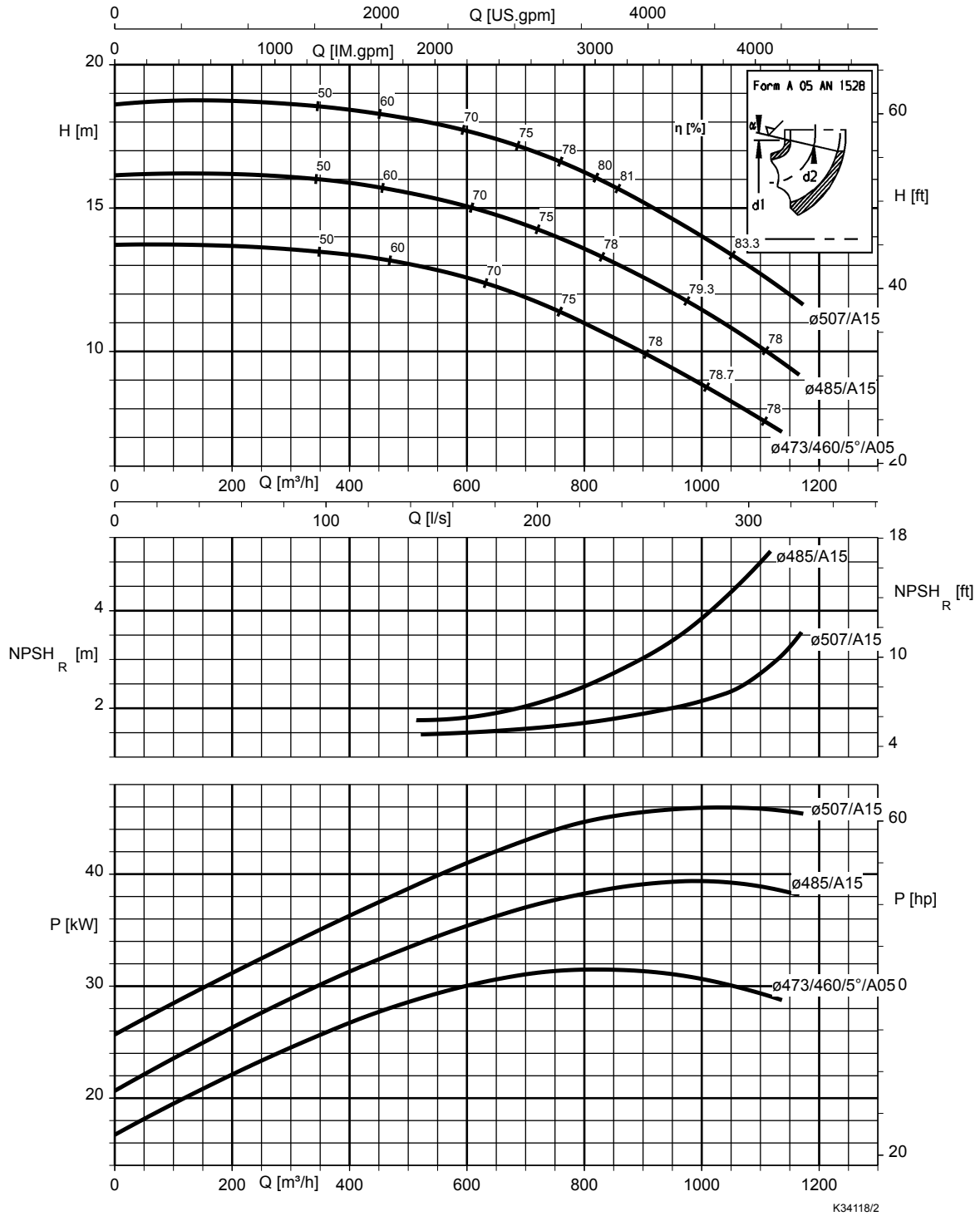
KWP K 350-350-500, n = 725 rpm



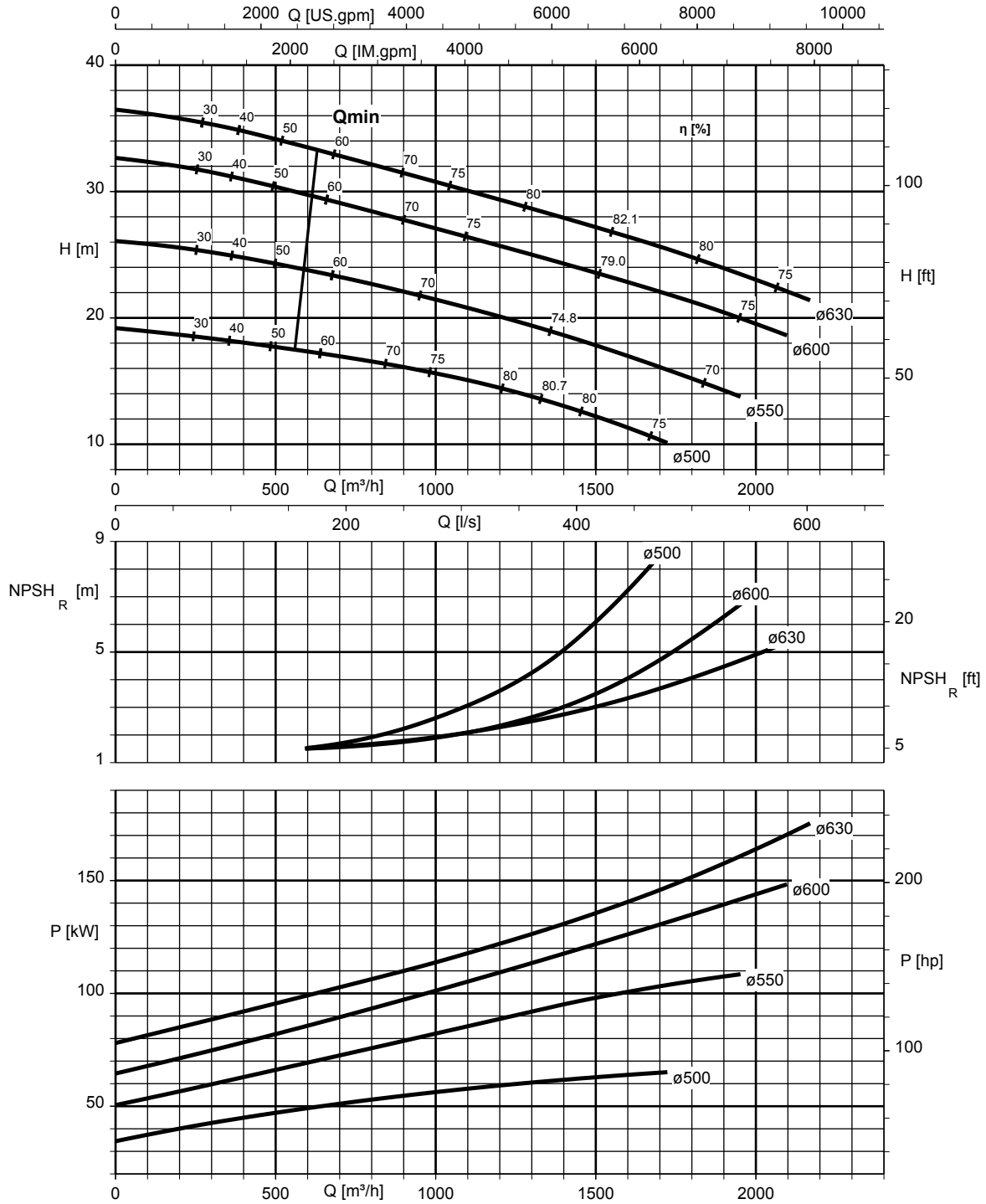
KWP K 350-350-503, $n = 725$ rpm



KWP K 350-350-504, $n = 725 \text{ rpm}$

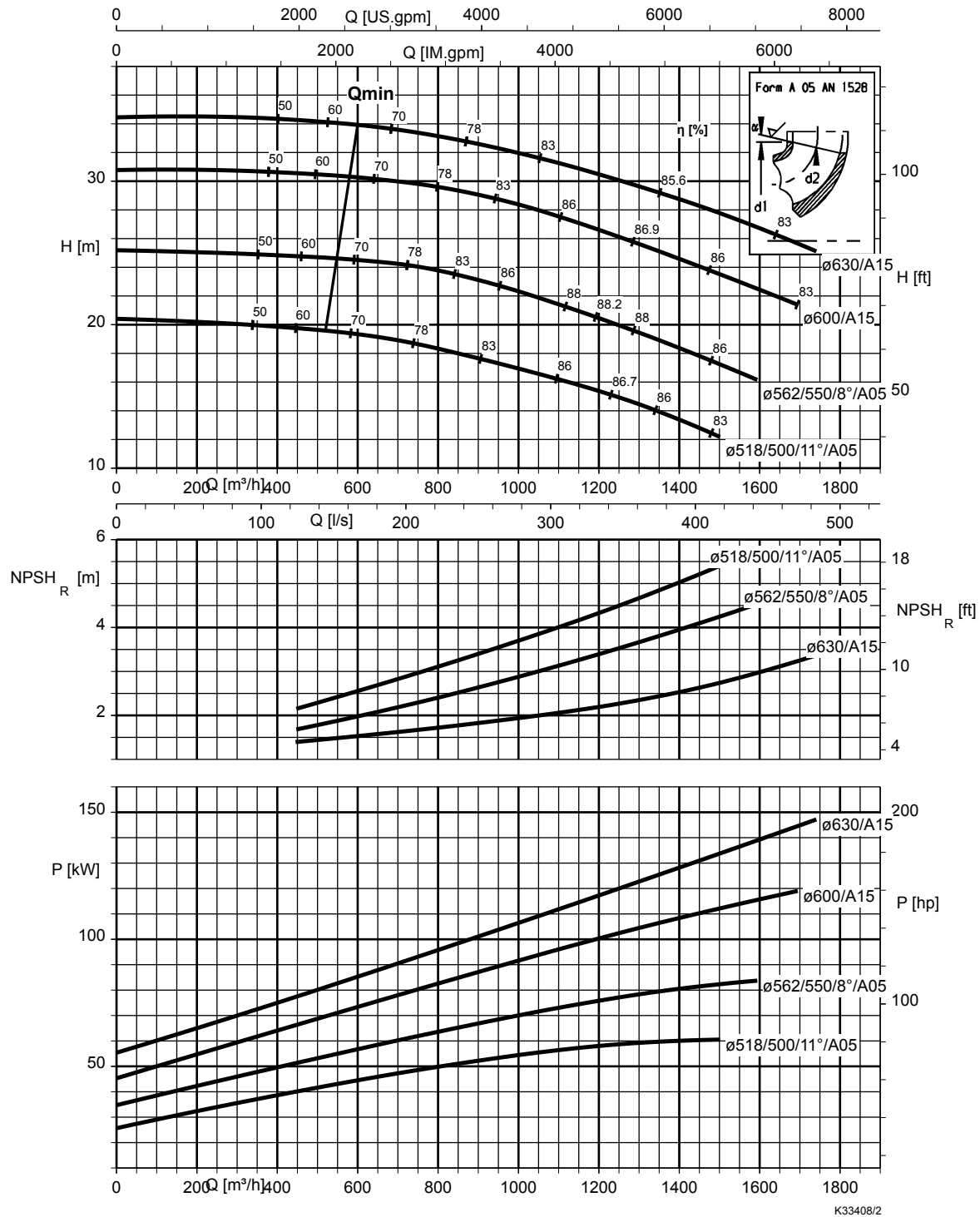


KWP K 350-350-630, n = 725 rpm

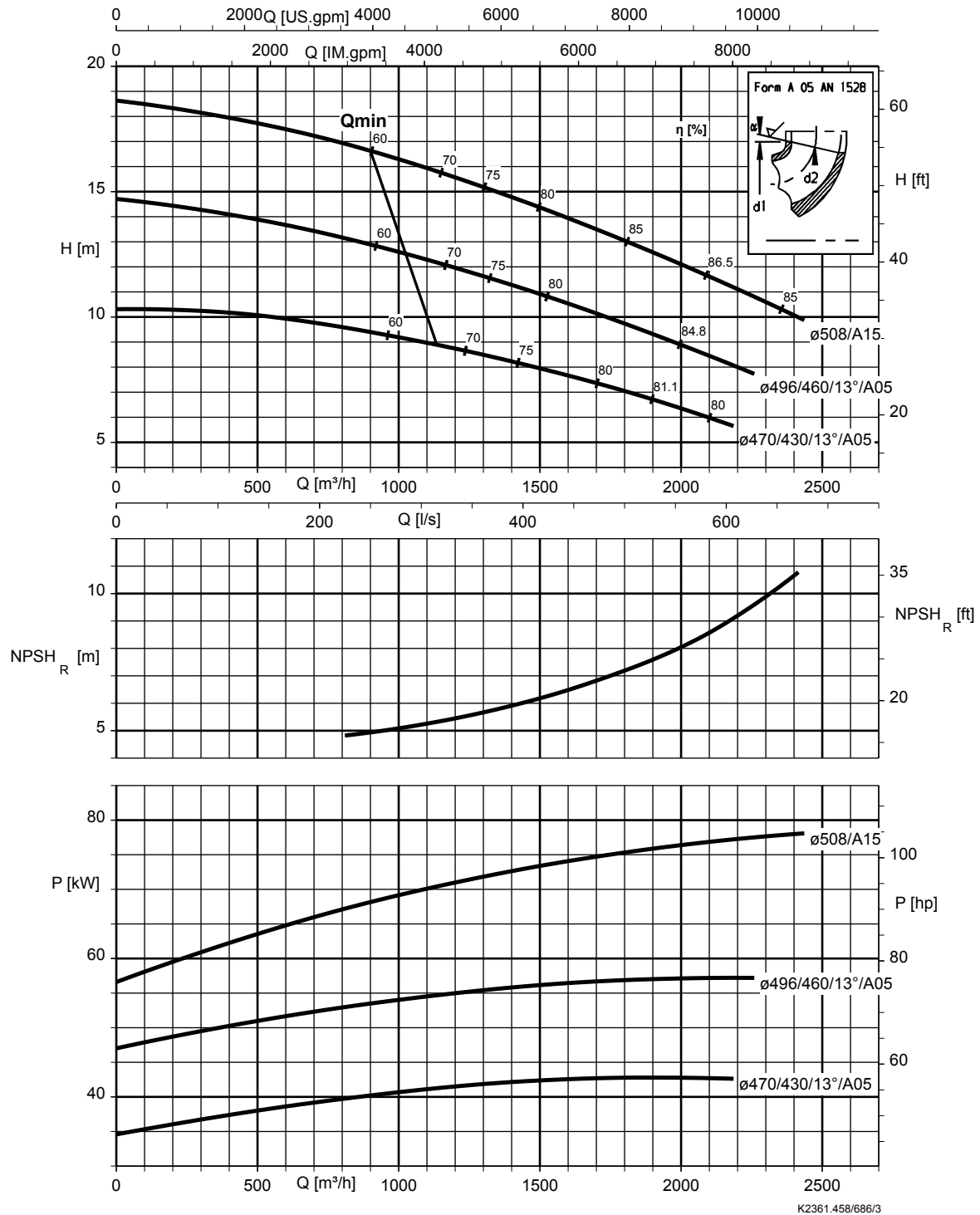


K33600/2

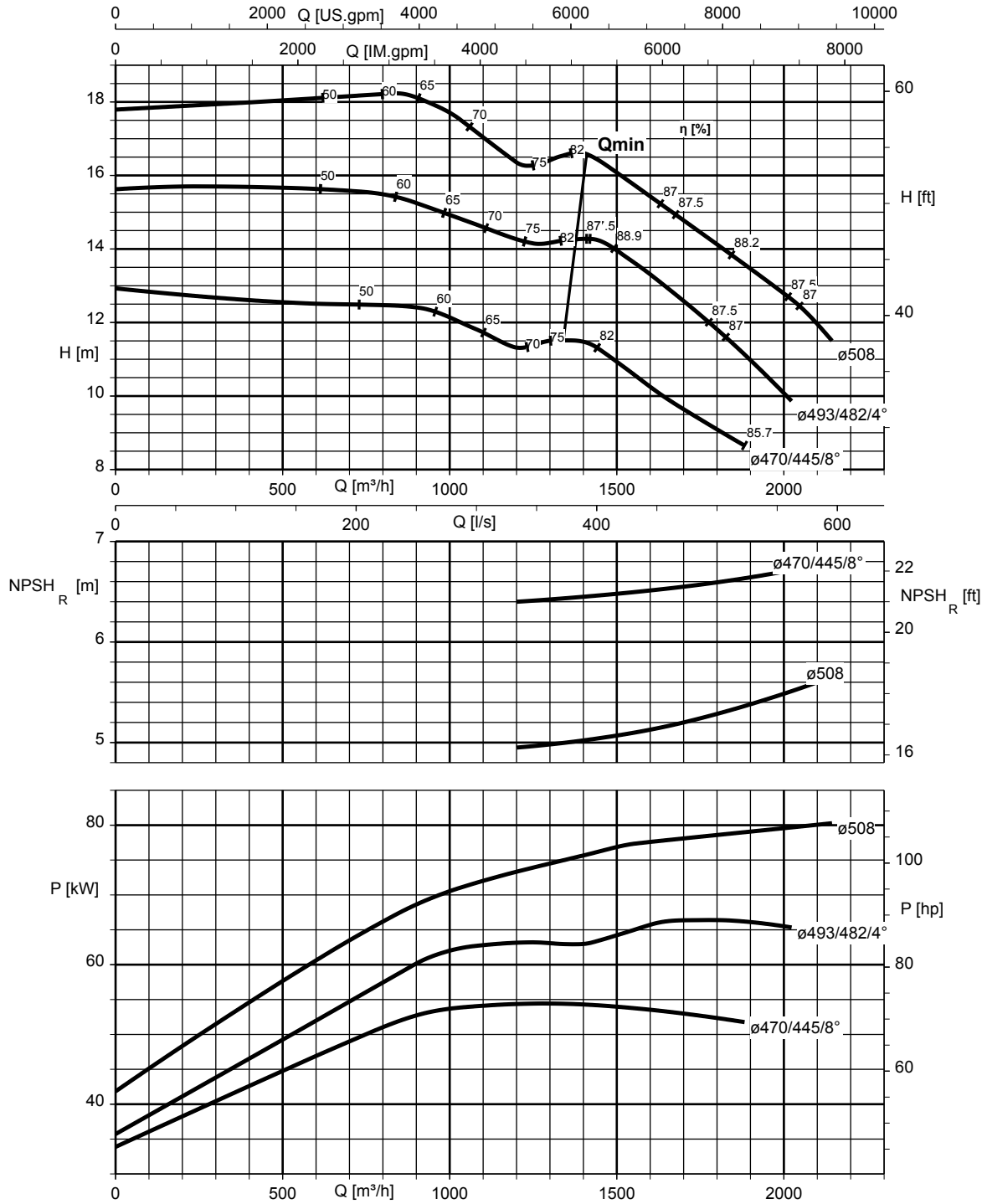
KWP K 350-350-633, $n = 725$ rpm



KWP K 400-400-500, n = 725 rpm

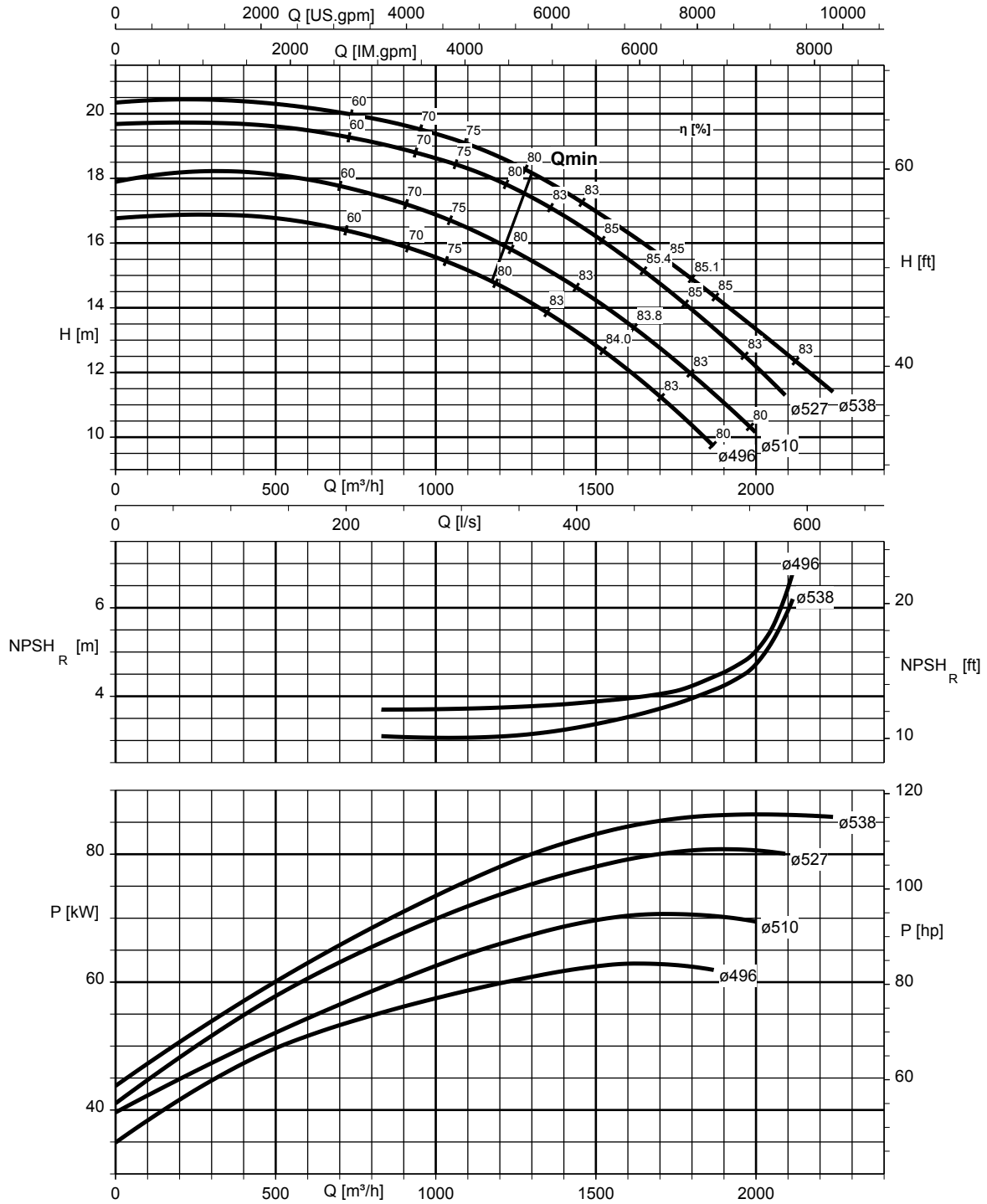


KWP K 400-400-503, n = 725 rpm



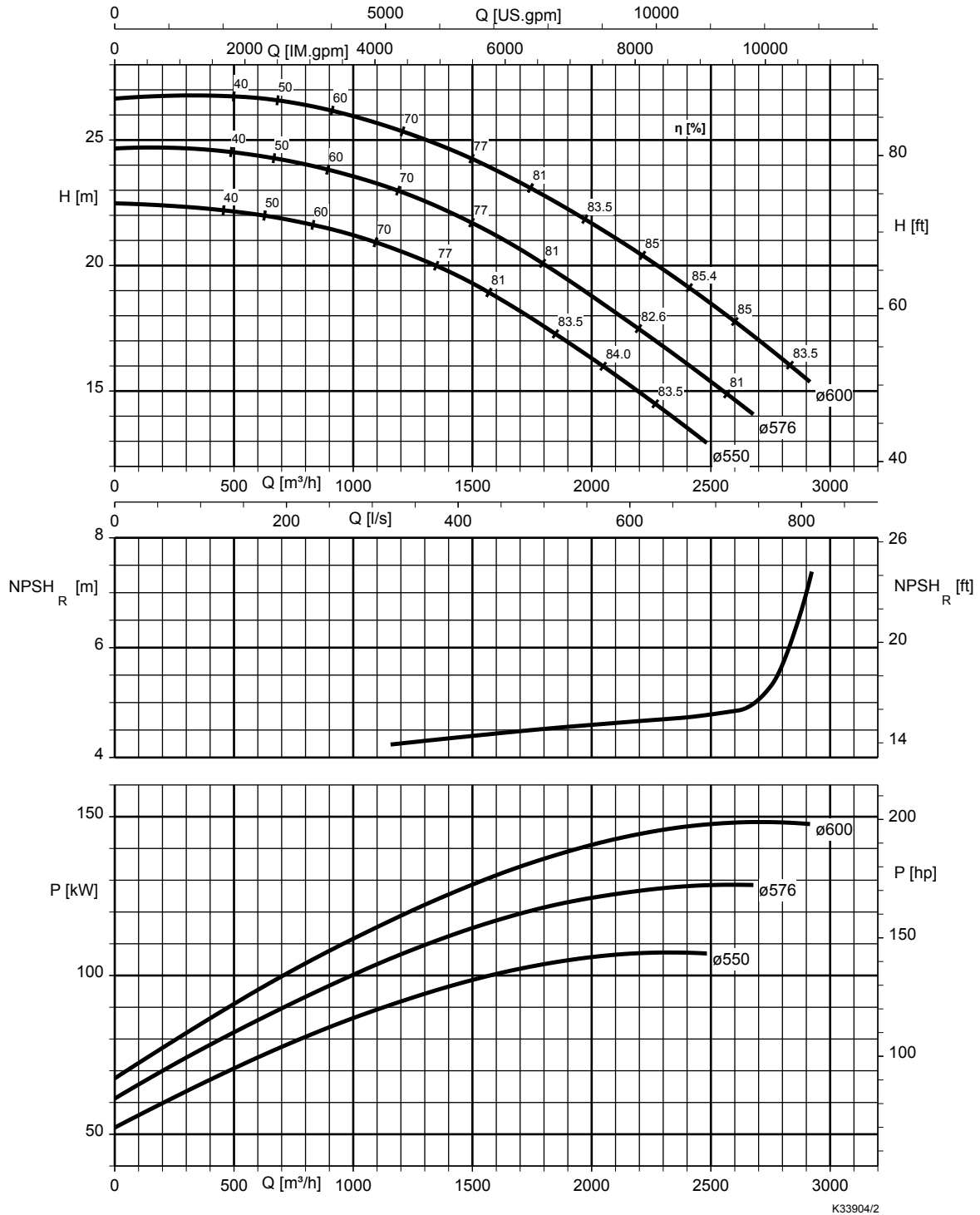
K33768/2

KWP K 400-400-533, $n = 725 \text{ rpm}$

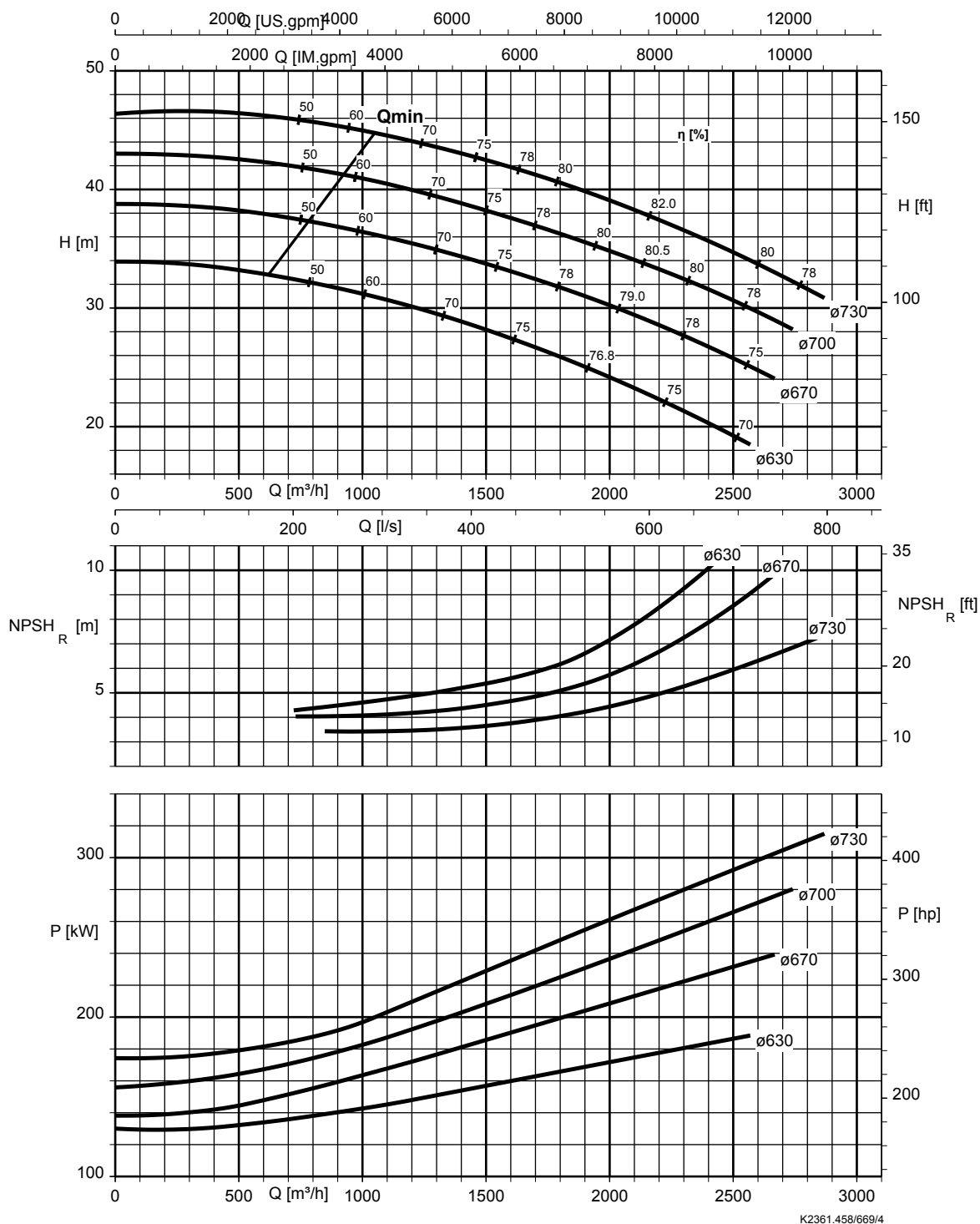


K63079/2

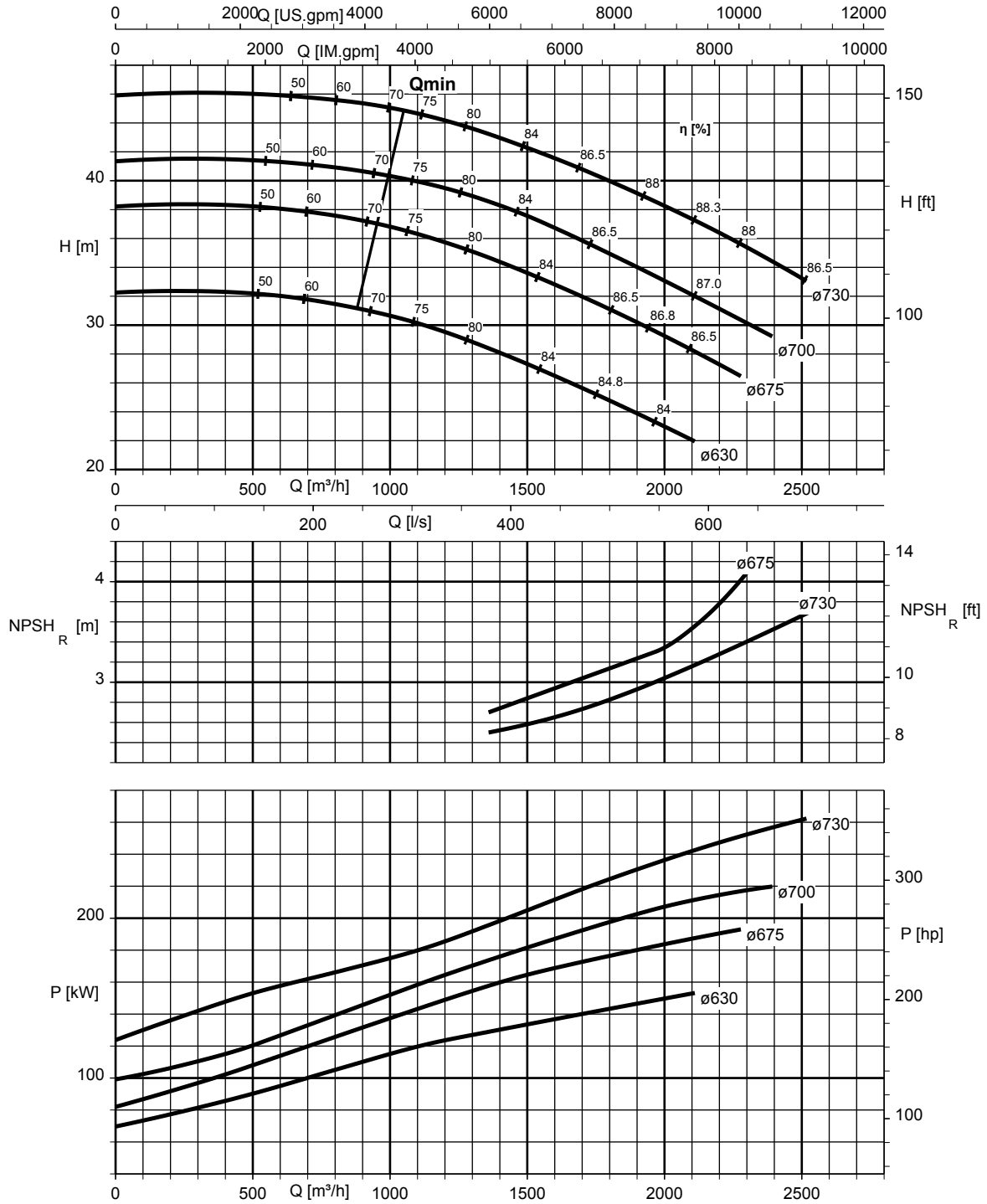
KWP K 400-400-583, $n = 725 \text{ rpm}$



KWP K 500-400-710, $n = 725 \text{ rpm}$

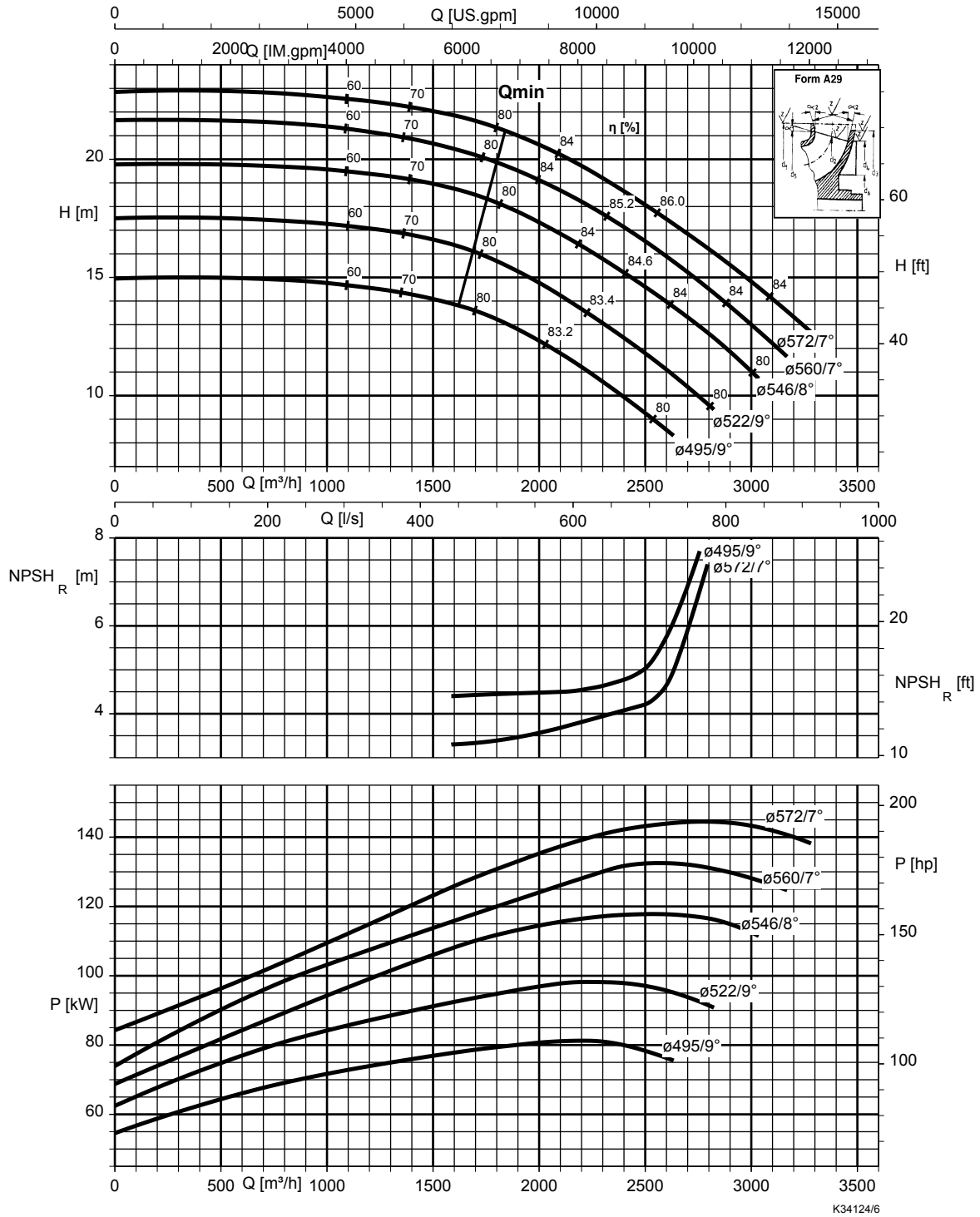


KWP K 500-400-713, $n = 725 \text{ rpm}$

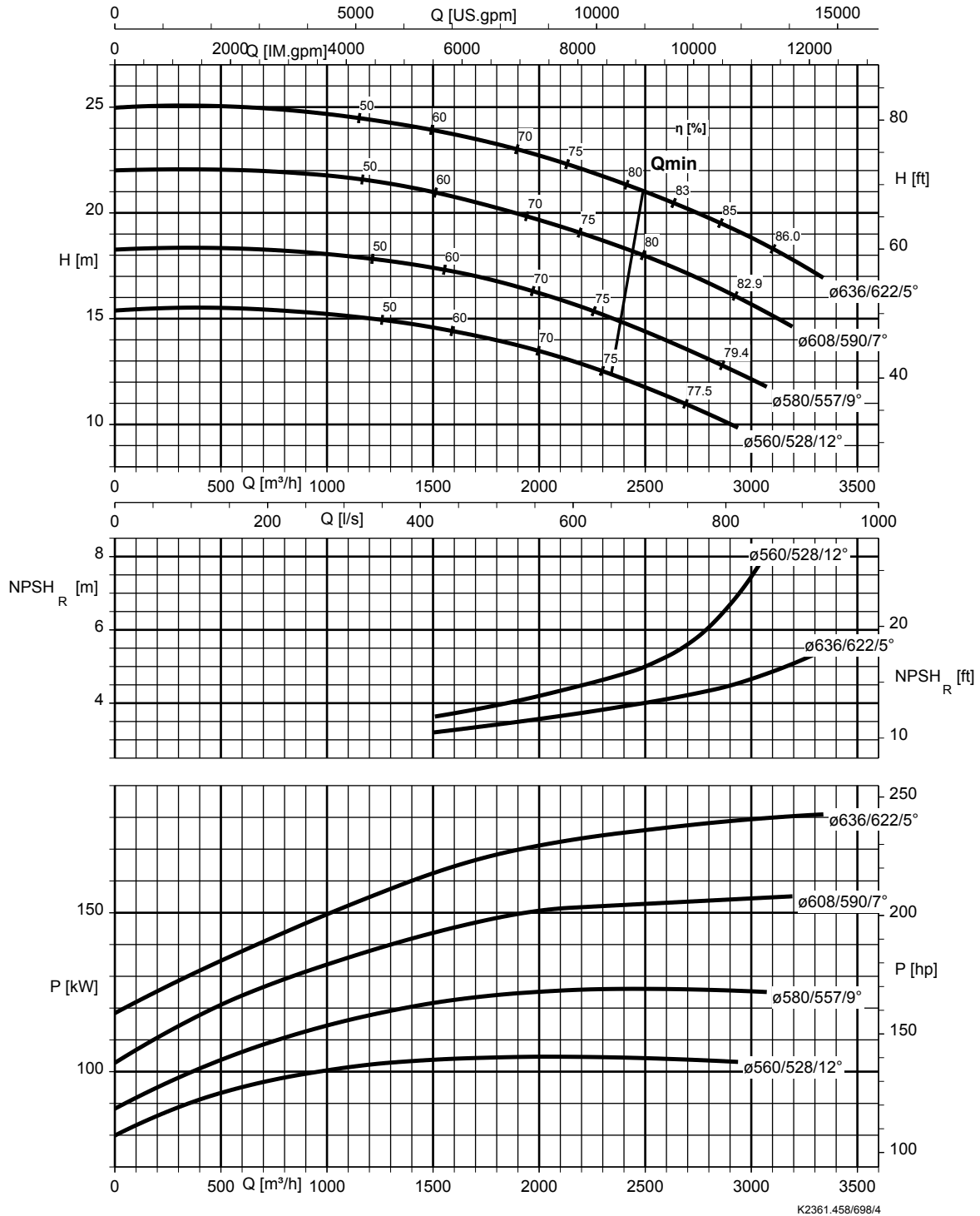


K33770/2

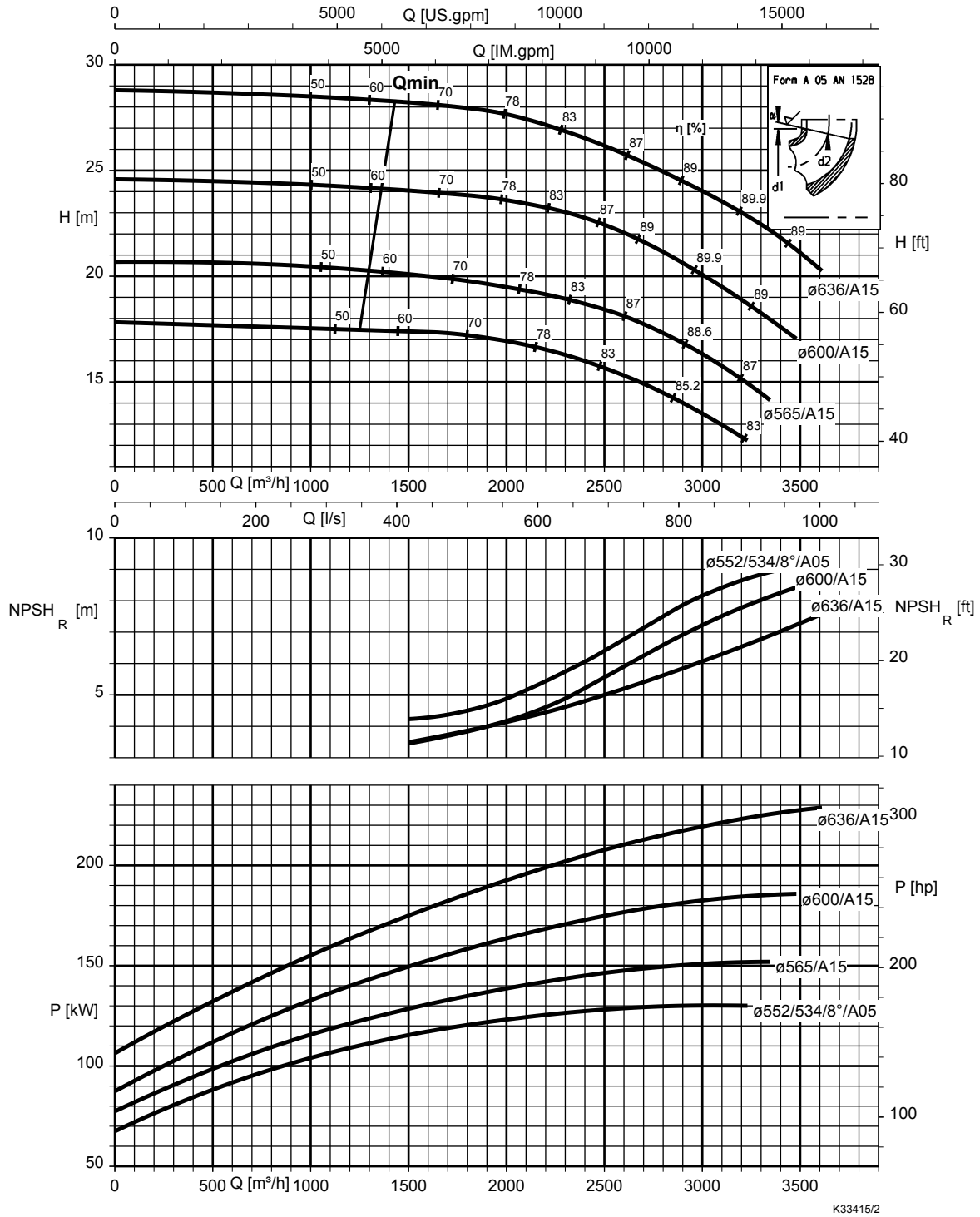
KWP K 500-500-544, $n = 725 \text{ rpm}$



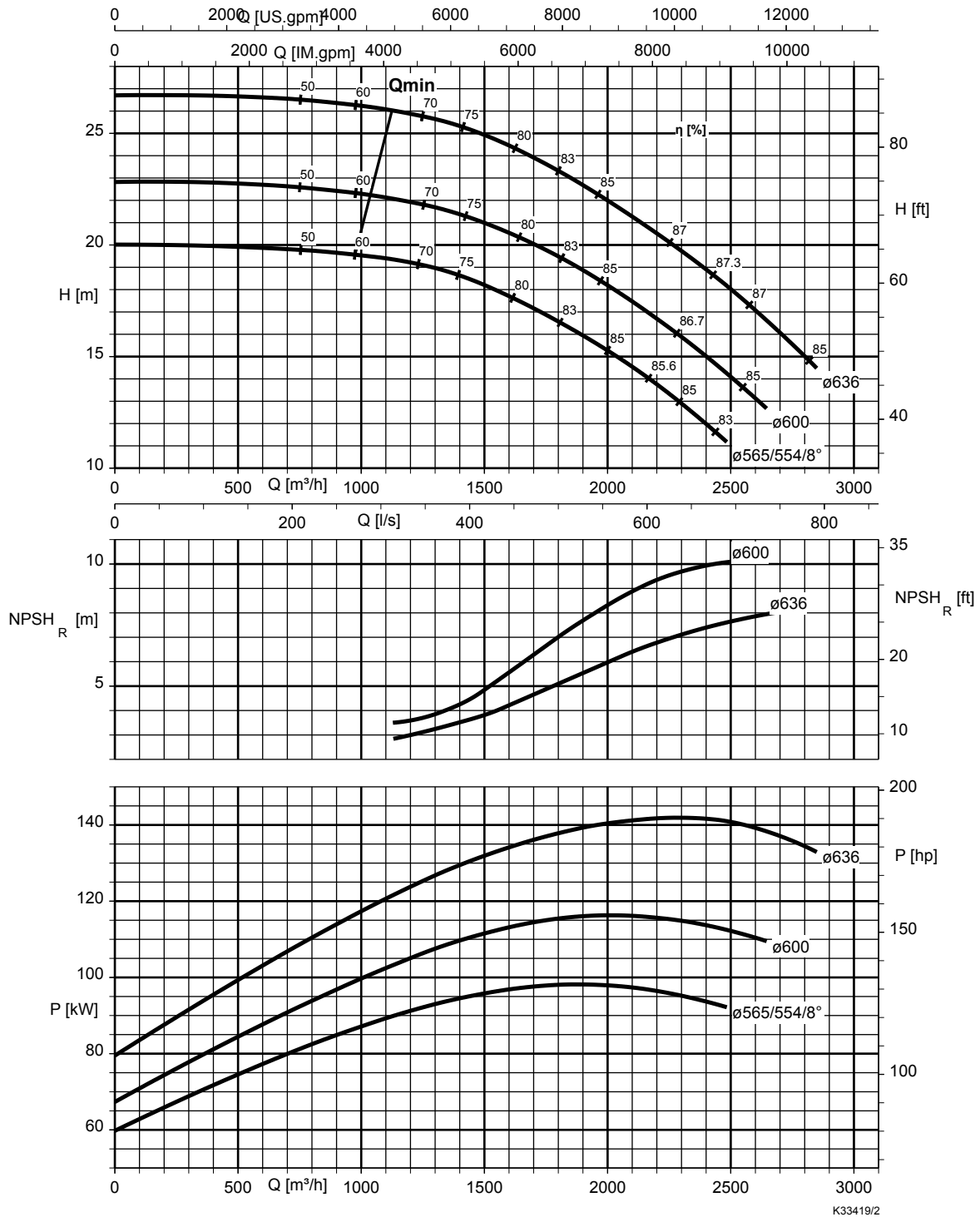
KWP K 500-500-630, $n = 725 \text{ rpm}$



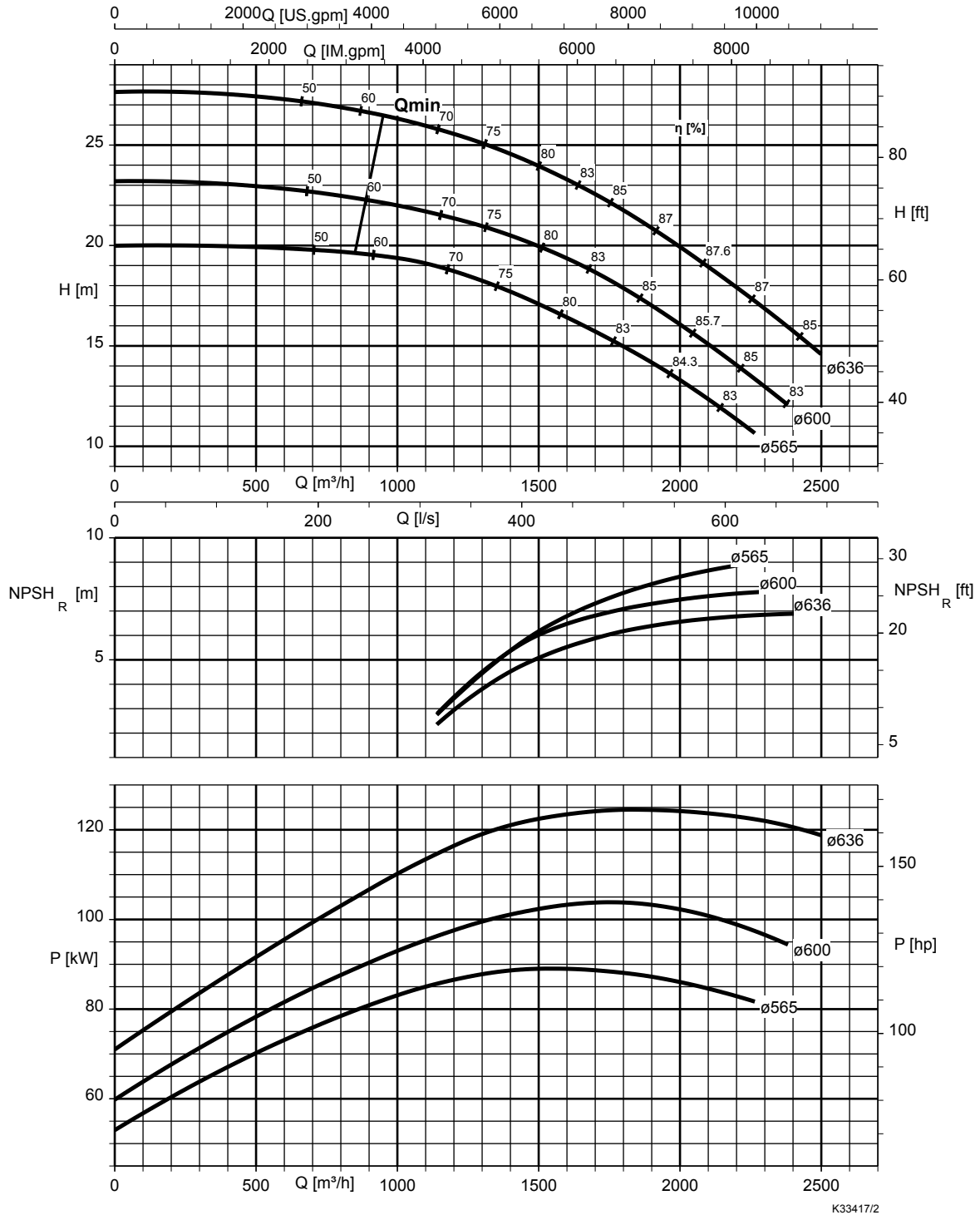
KWP K 500-500-633, $n = 725$ rpm



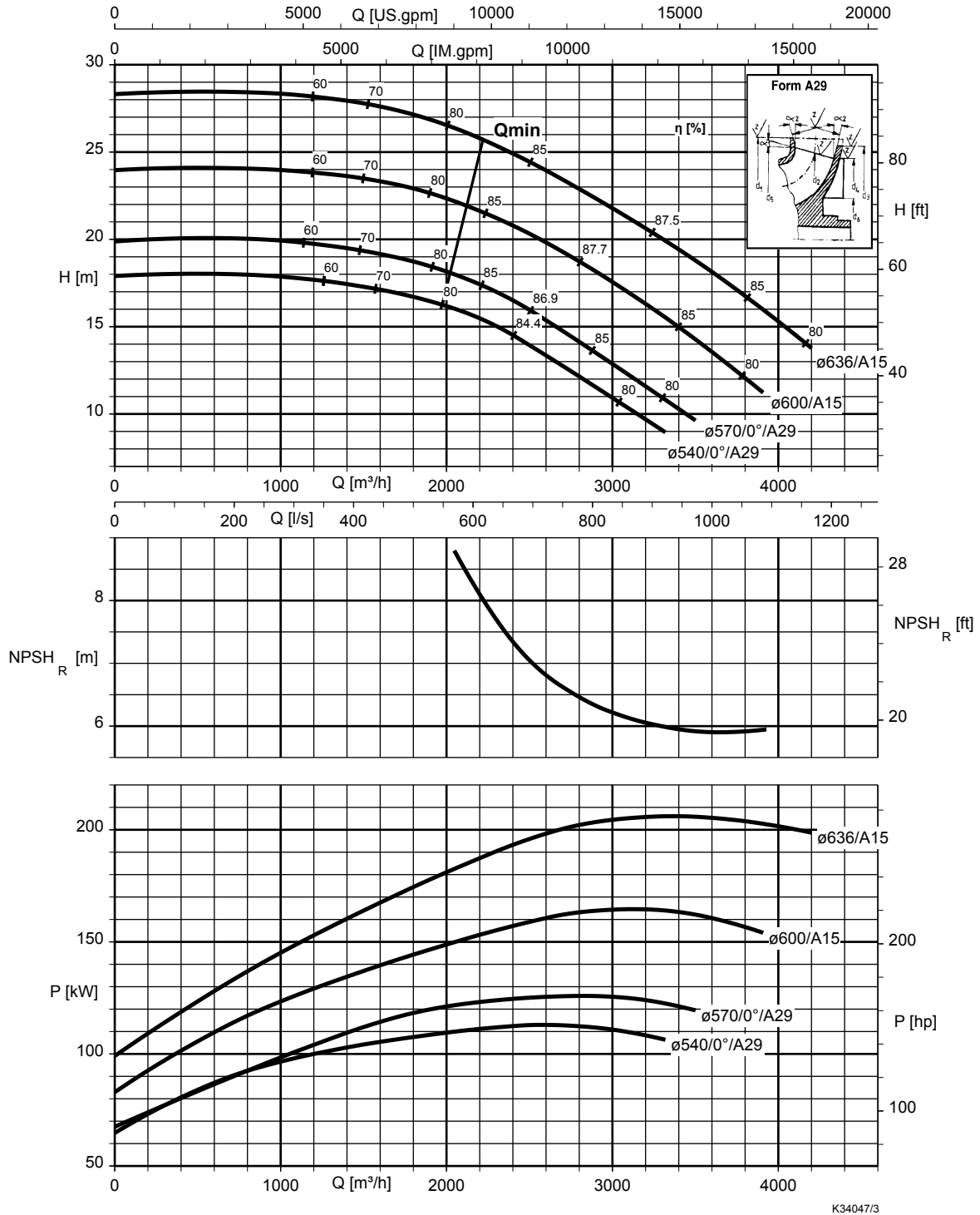
KWP K 500-500-634, $n = 725 \text{ rpm}$



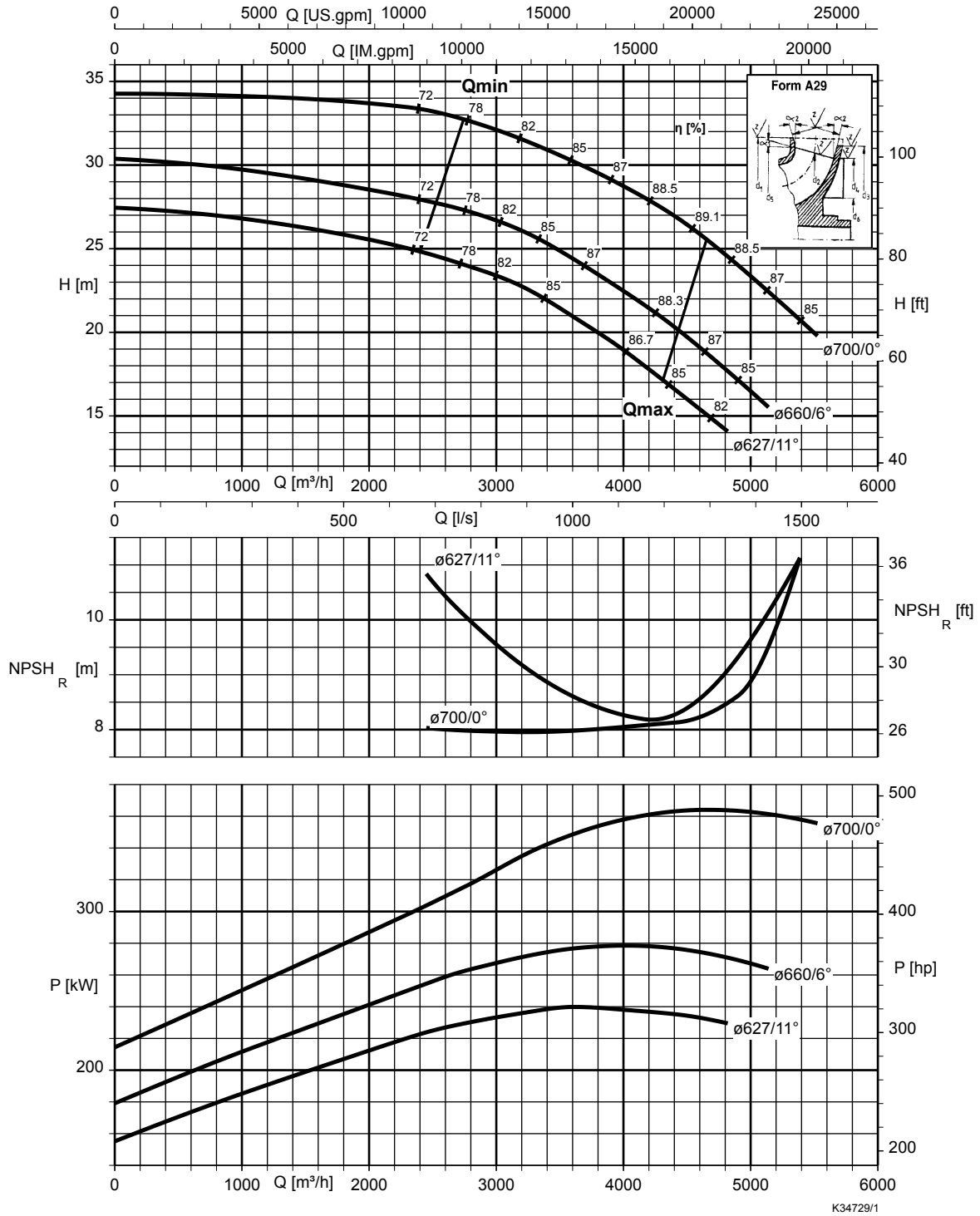
KWP K 500-500-635, $n = 725 \text{ rpm}$



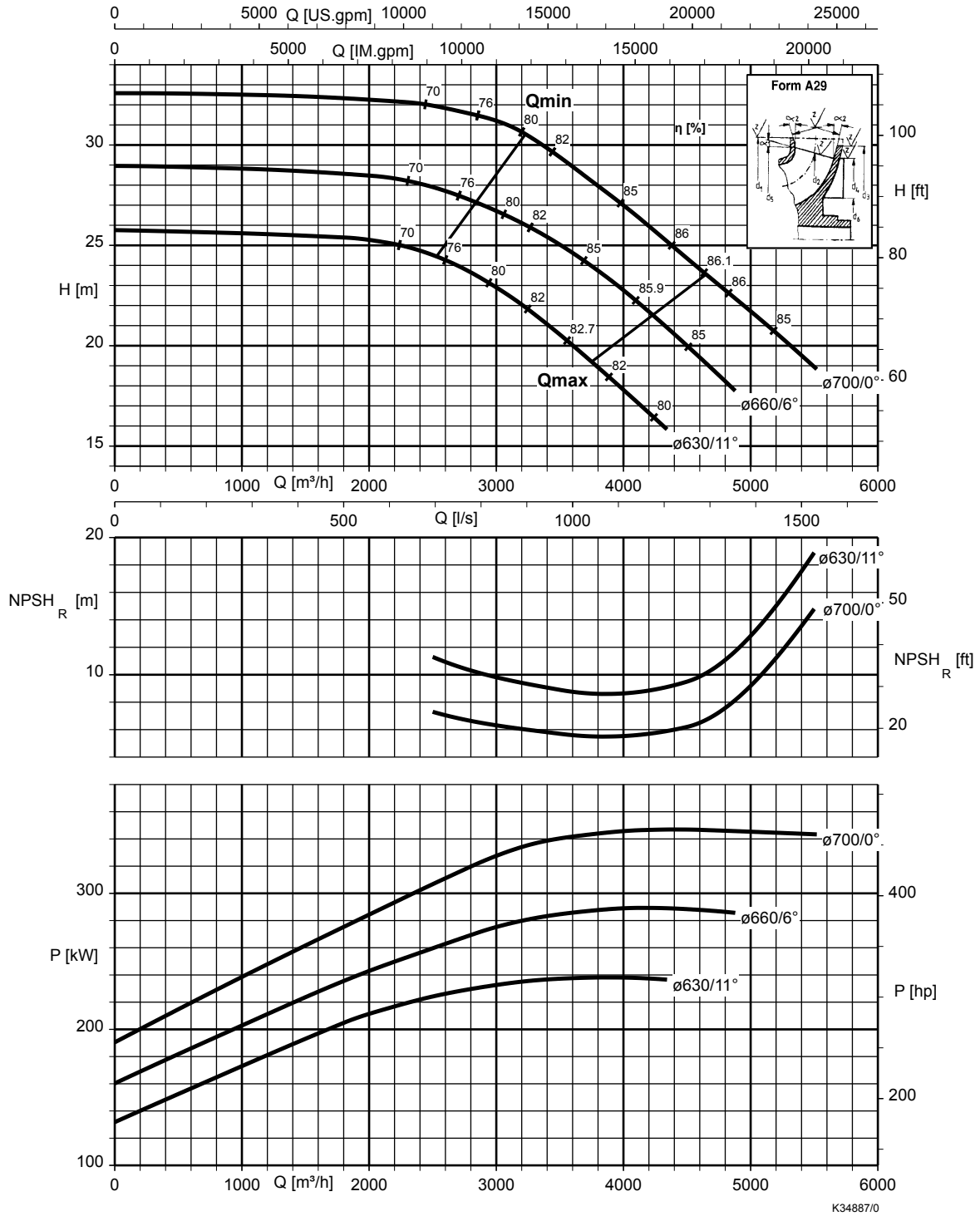
KWP K 500-500-637, $n = 725 \text{ rpm}$



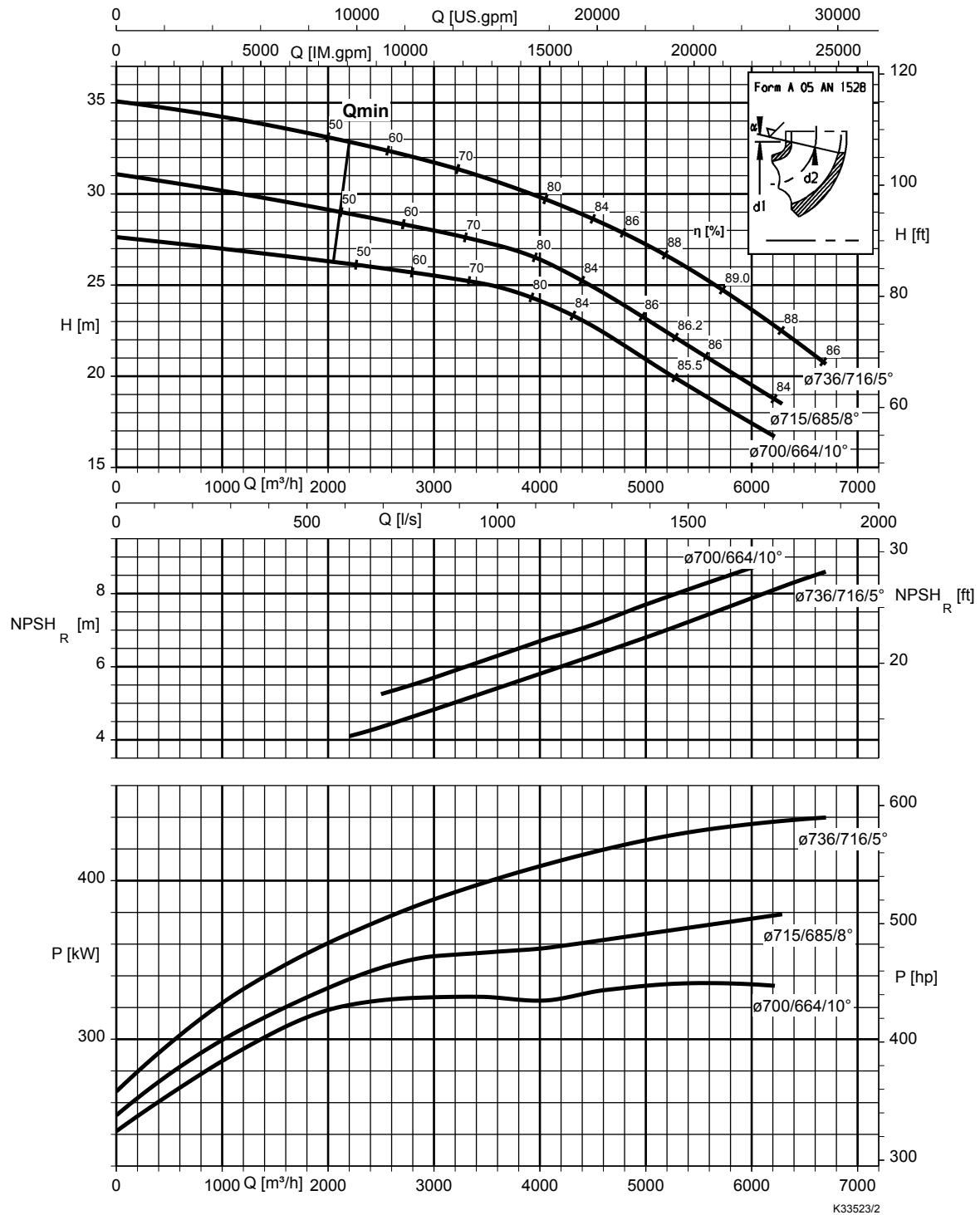
KWP K 600-600-663, $n = 725 \text{ rpm}$



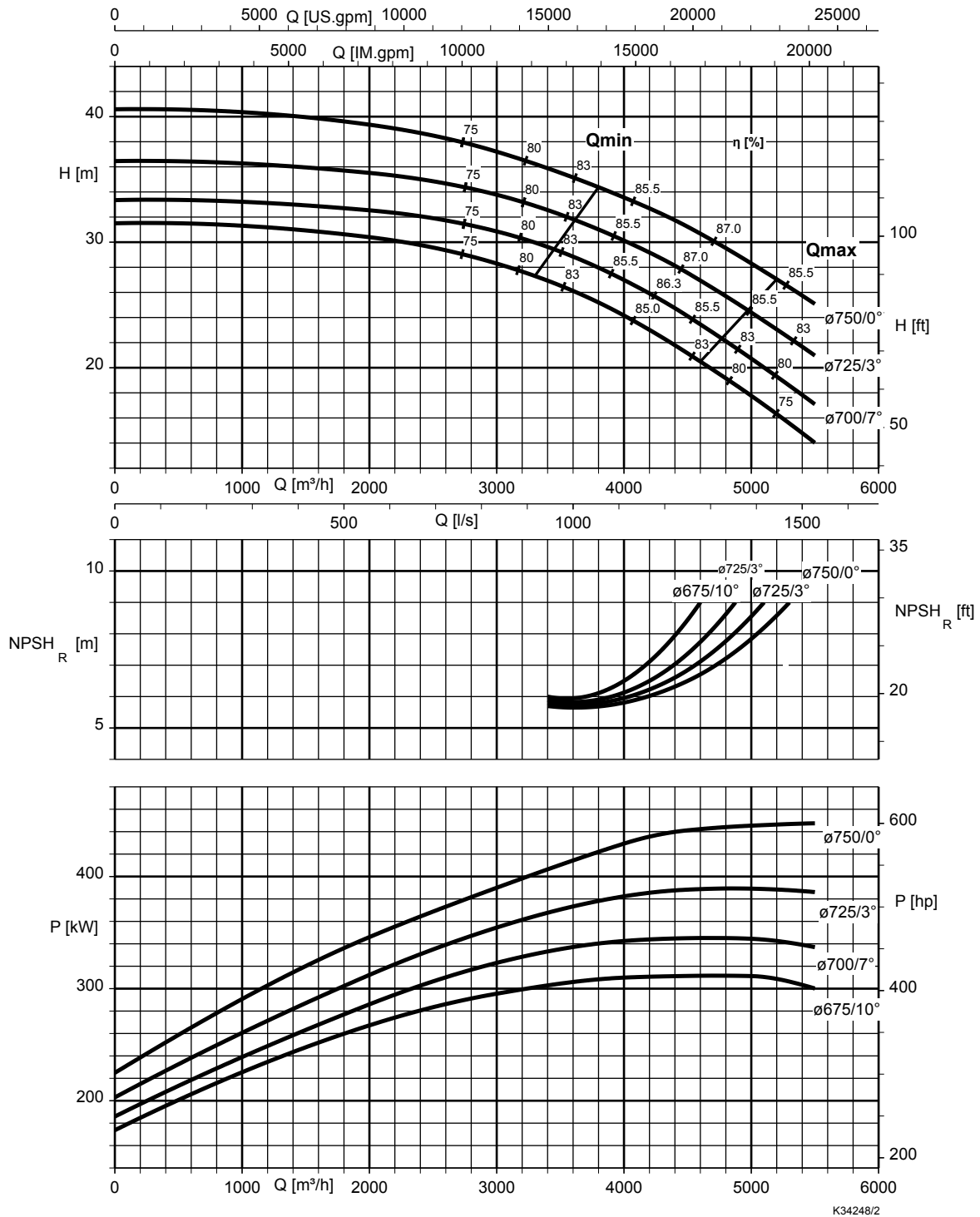
KWP K 600-600-669, $n = 725 \text{ rpm}$



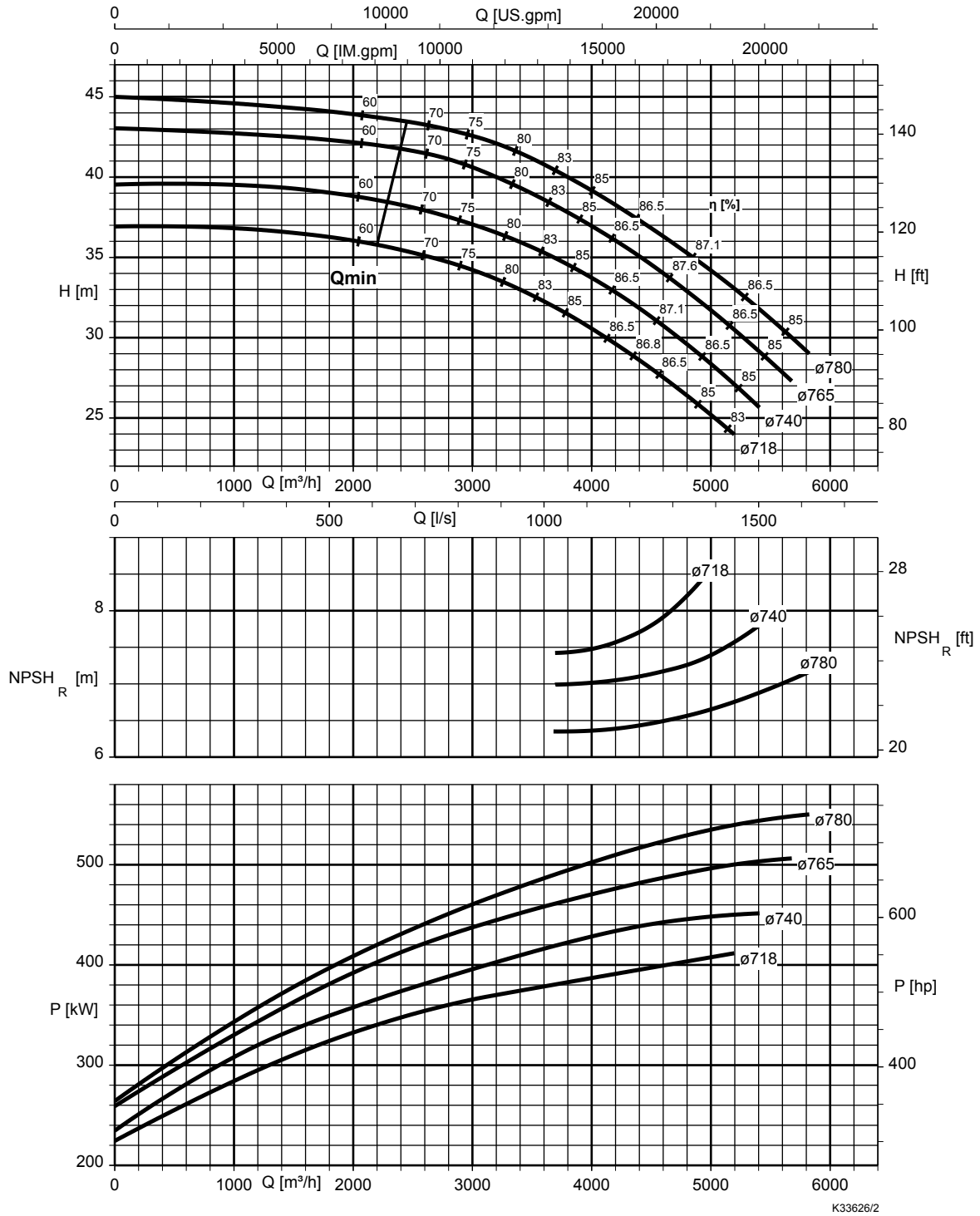
KWP K 600-600-710, $n = 725 \text{ rpm}$



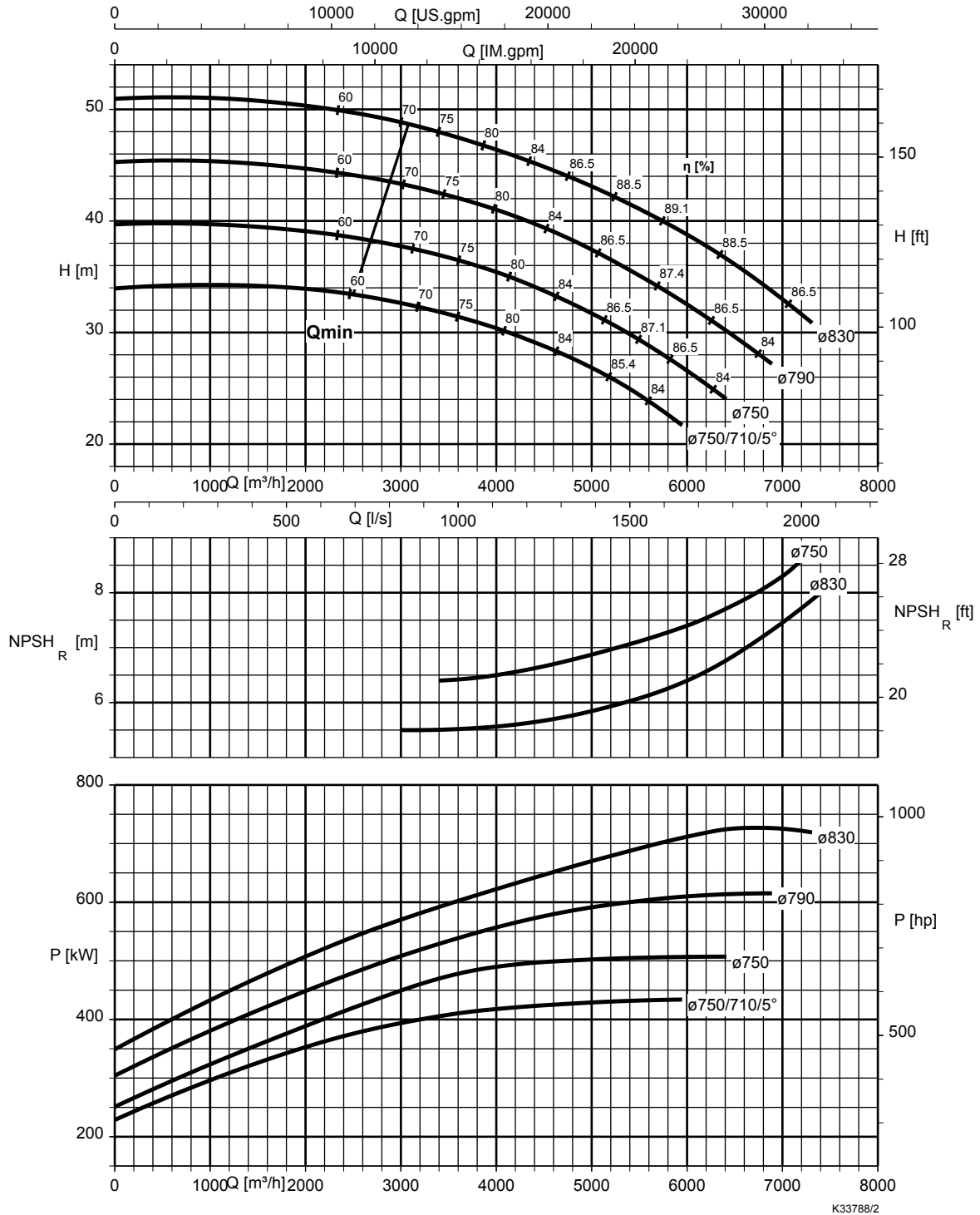
KWP K 600-600-753, $n = 725 \text{ rpm}$



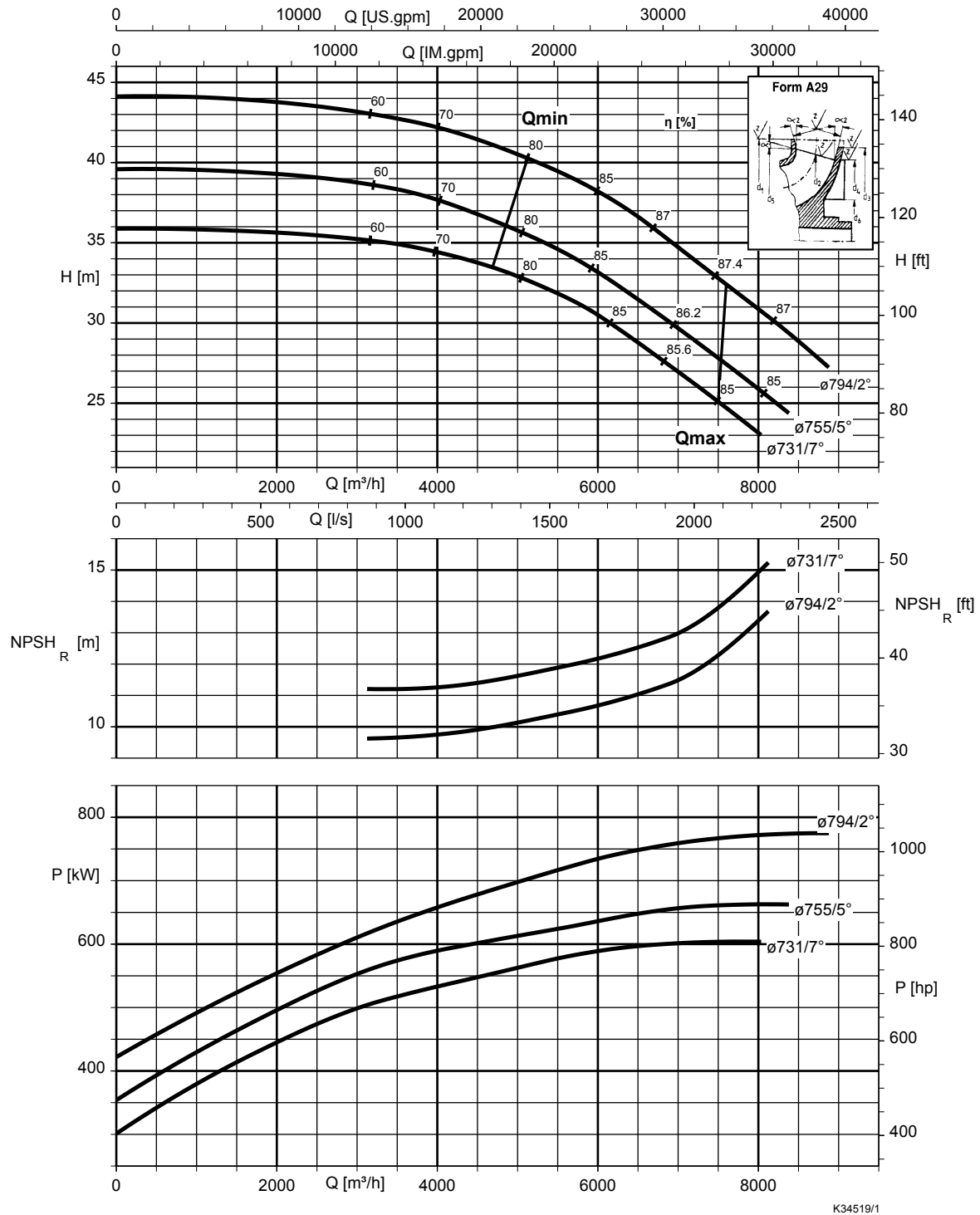
KWP K 600-600-803, n = 725 rpm



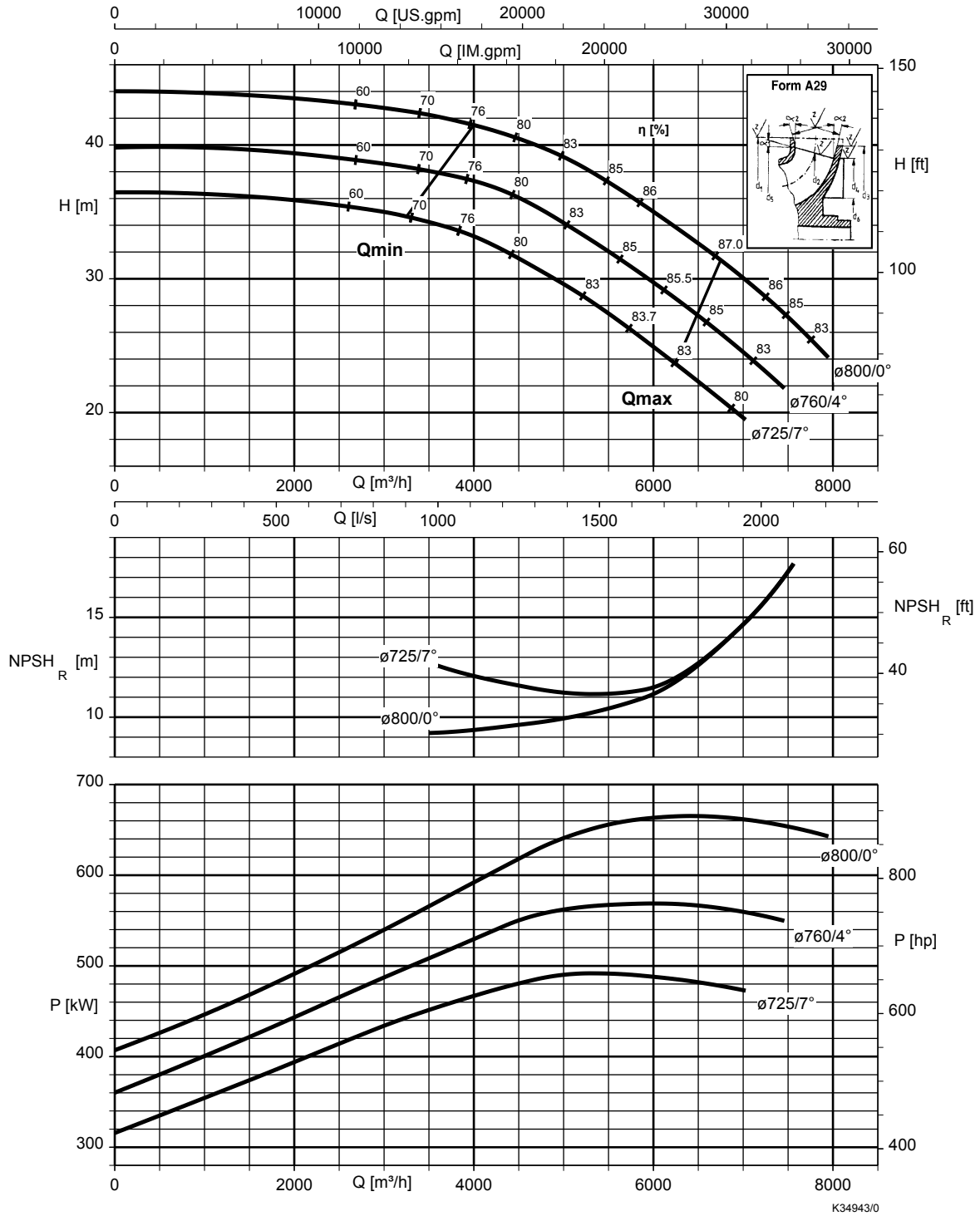
KWP K 600-600-813, $n = 725 \text{ rpm}$



KWP K 600-600-824, $n = 725 \text{ rpm}$

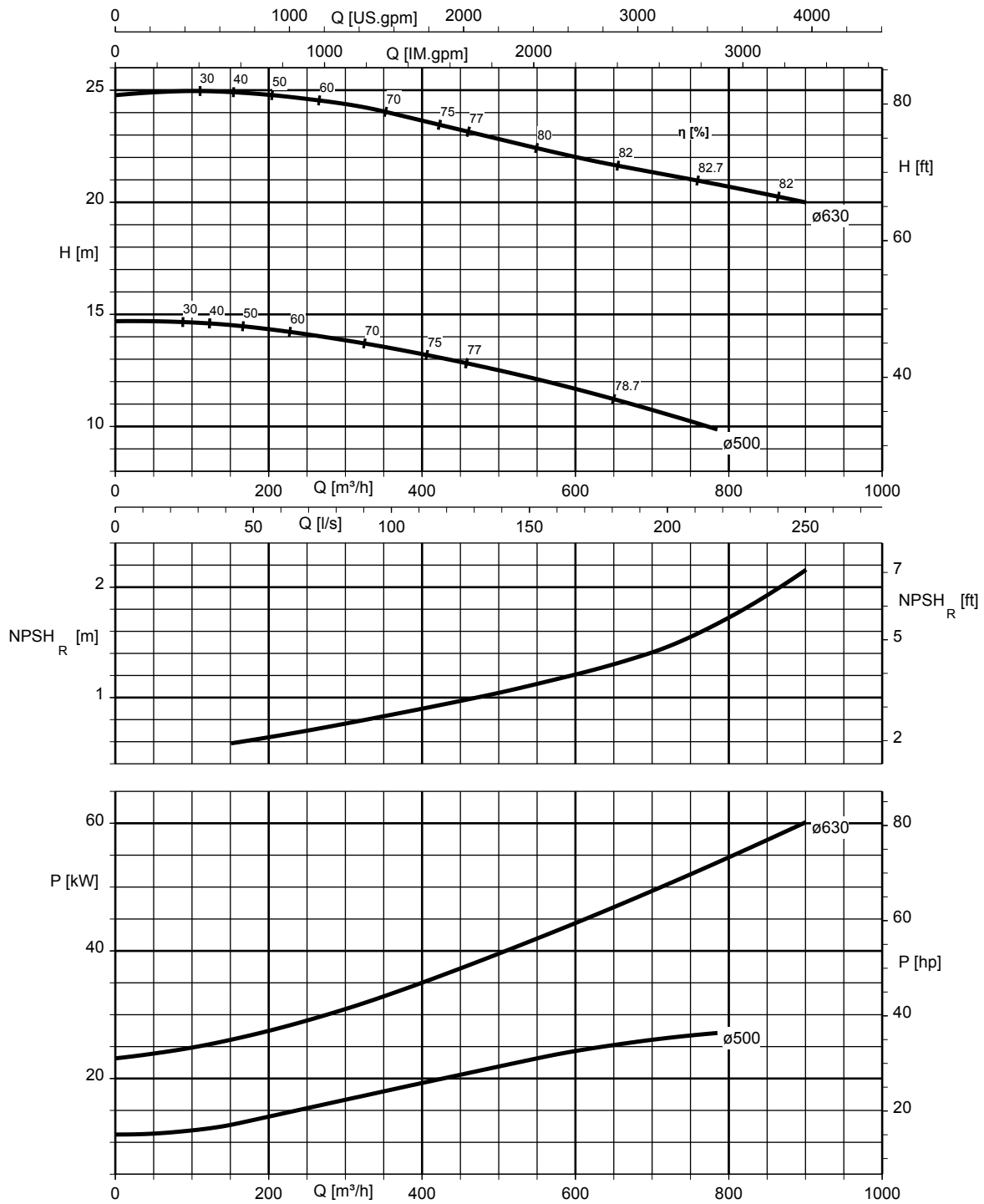


KWP K 600-600-825, $n = 725 \text{ rpm}$



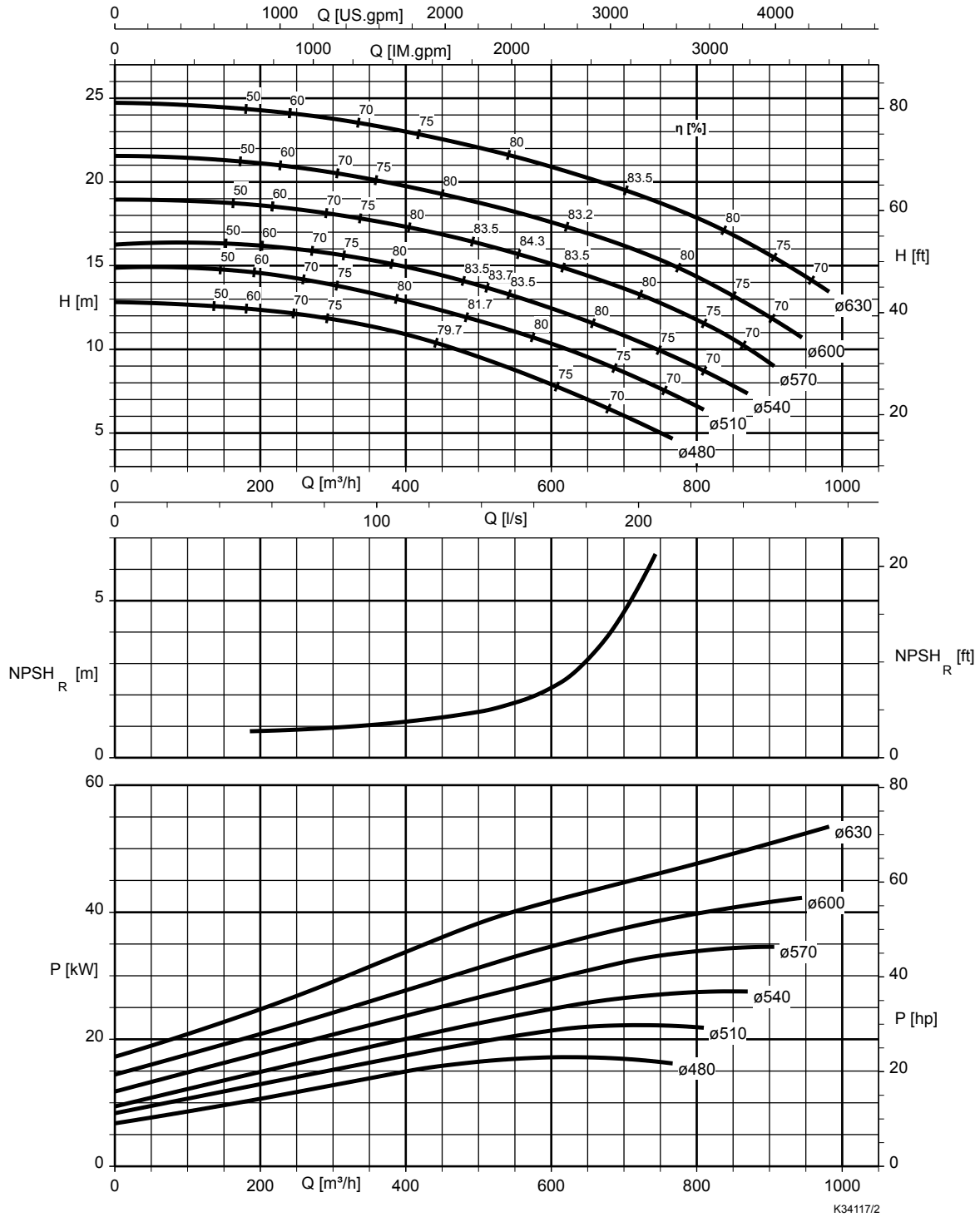
$n = 580 \text{ rpm}$

KWP K 250-250-630, $n = 580 \text{ rpm}$

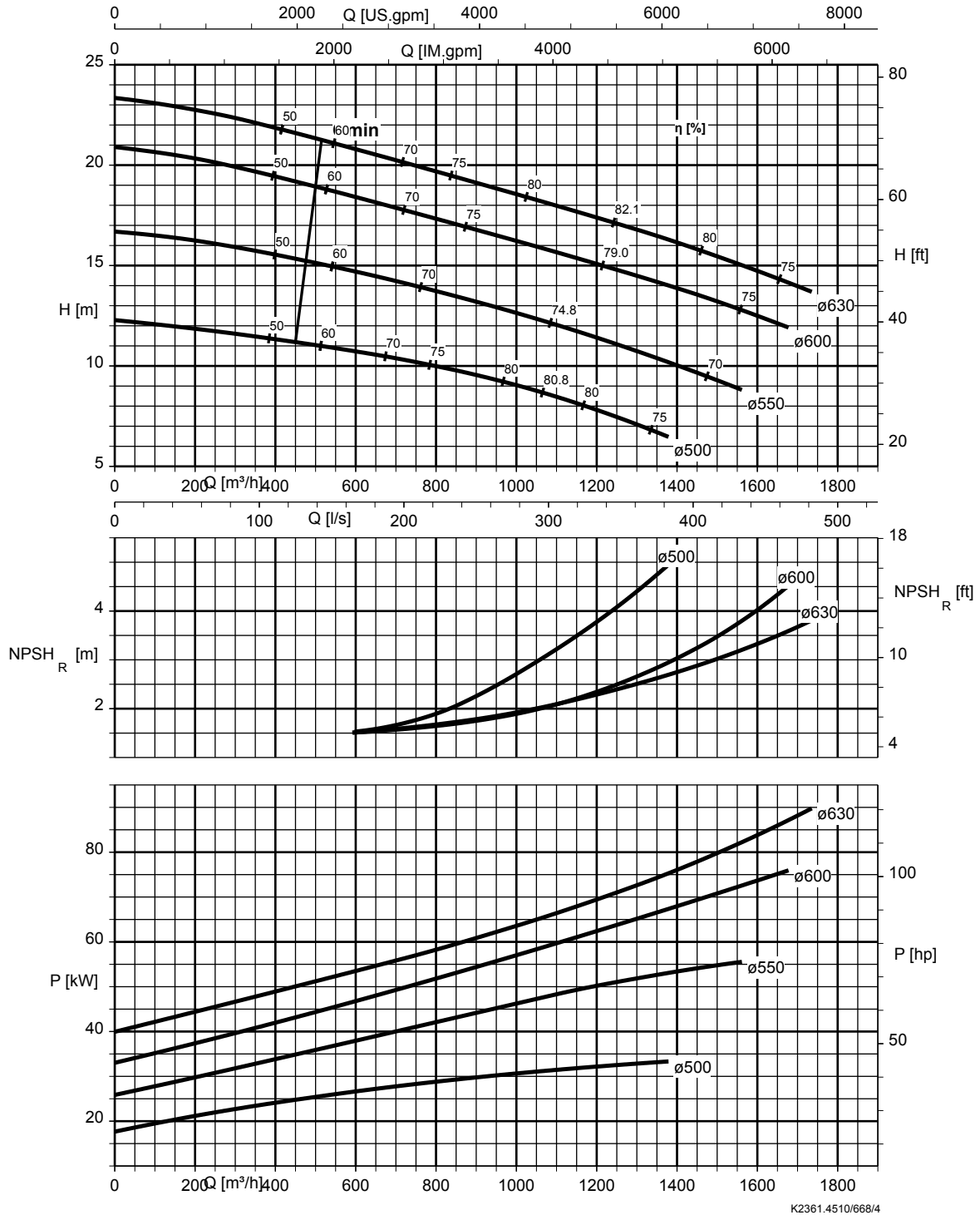


K2361.4510/609/4

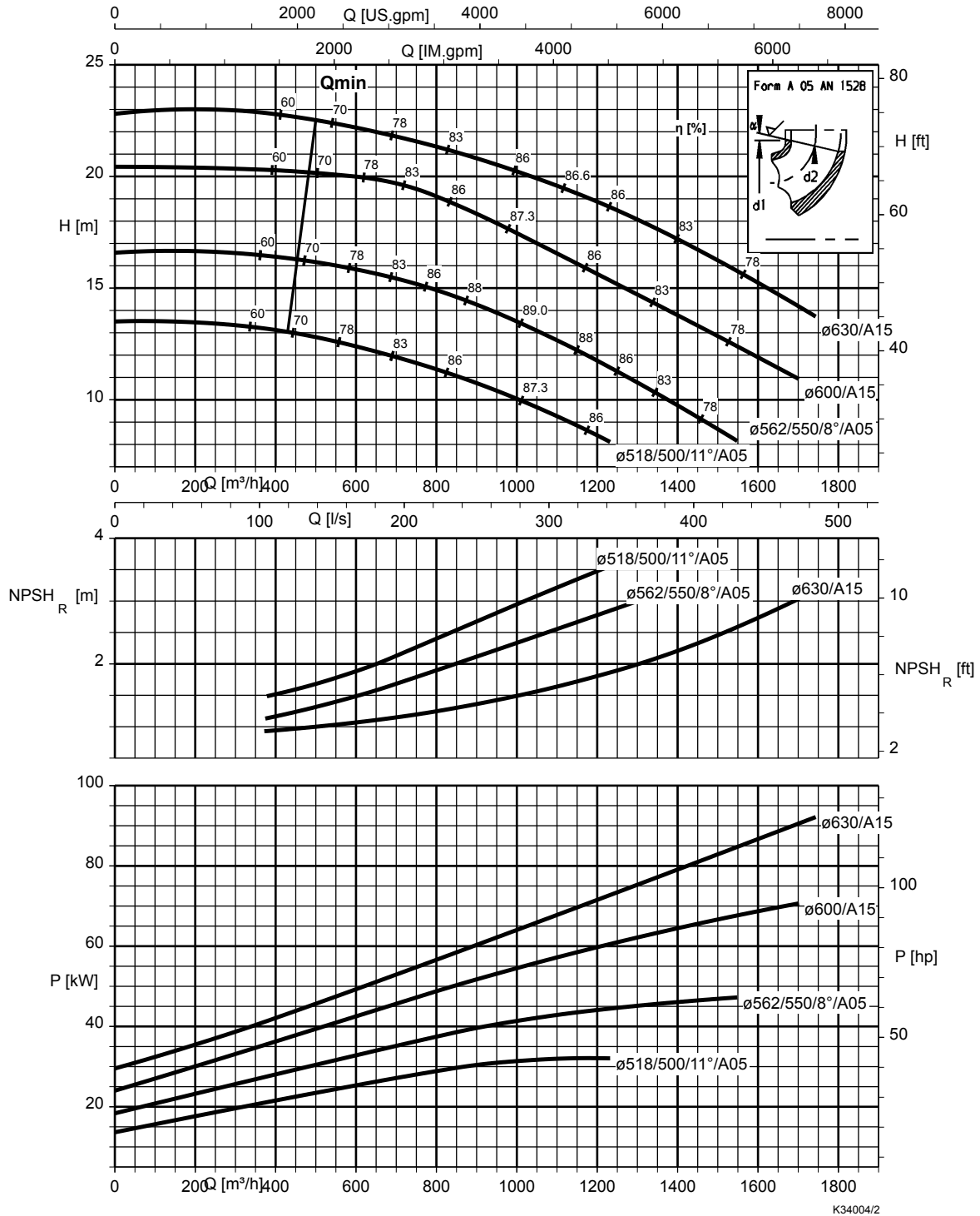
KWP K 250-250-634, n = 580 rpm



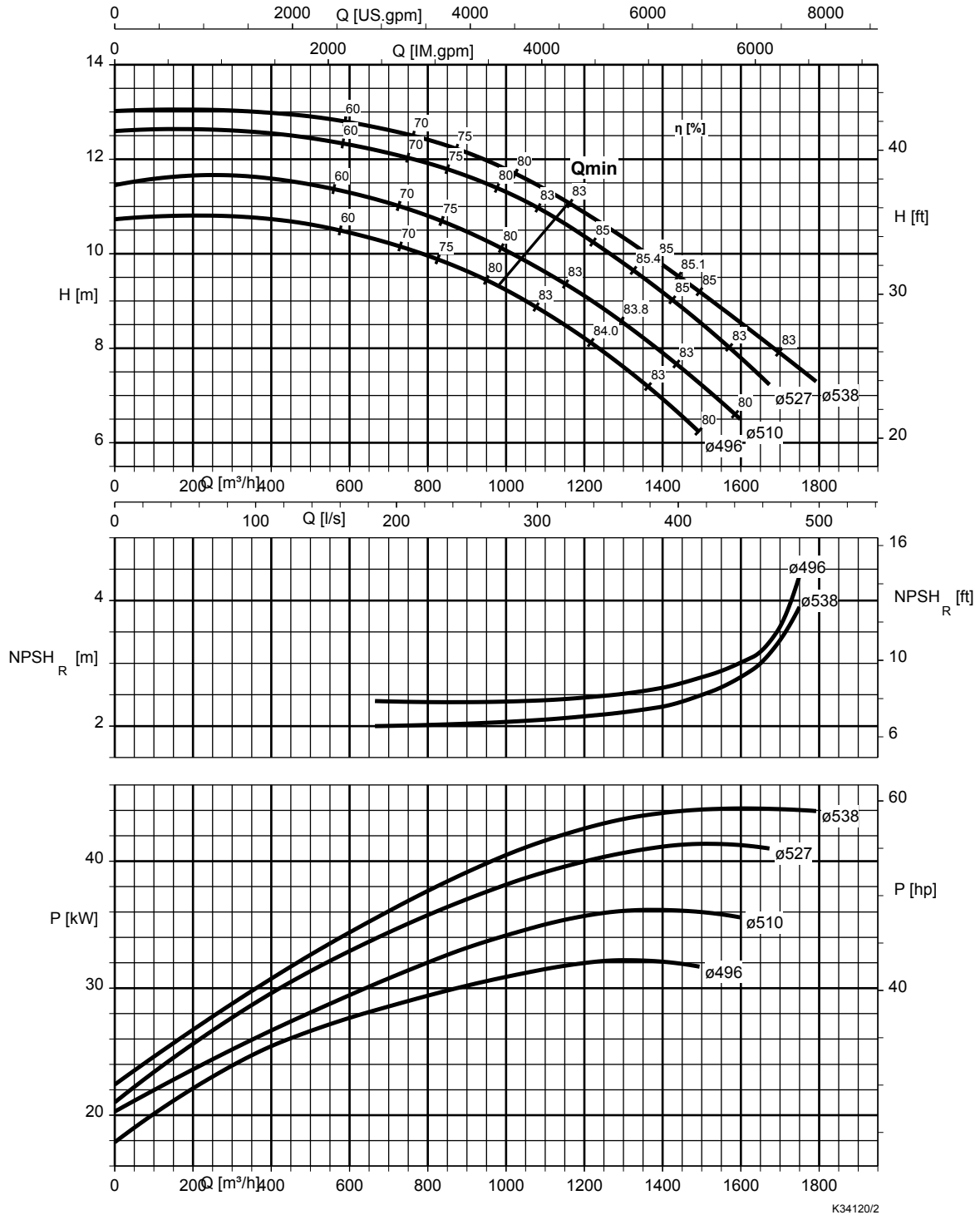
KWP K 350-350-630, n = 580 rpm



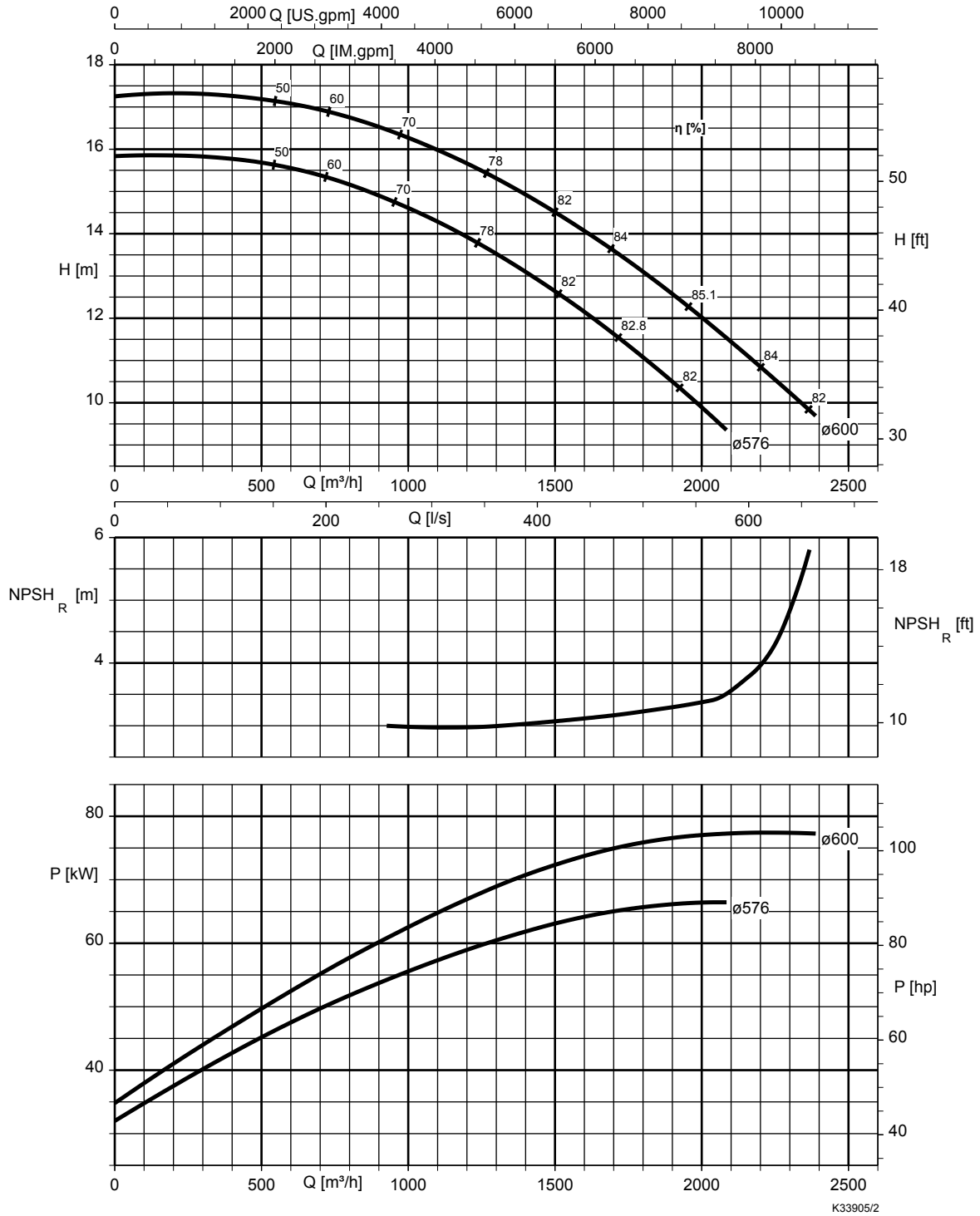
KWP K 350-350-633, n = 580 rpm



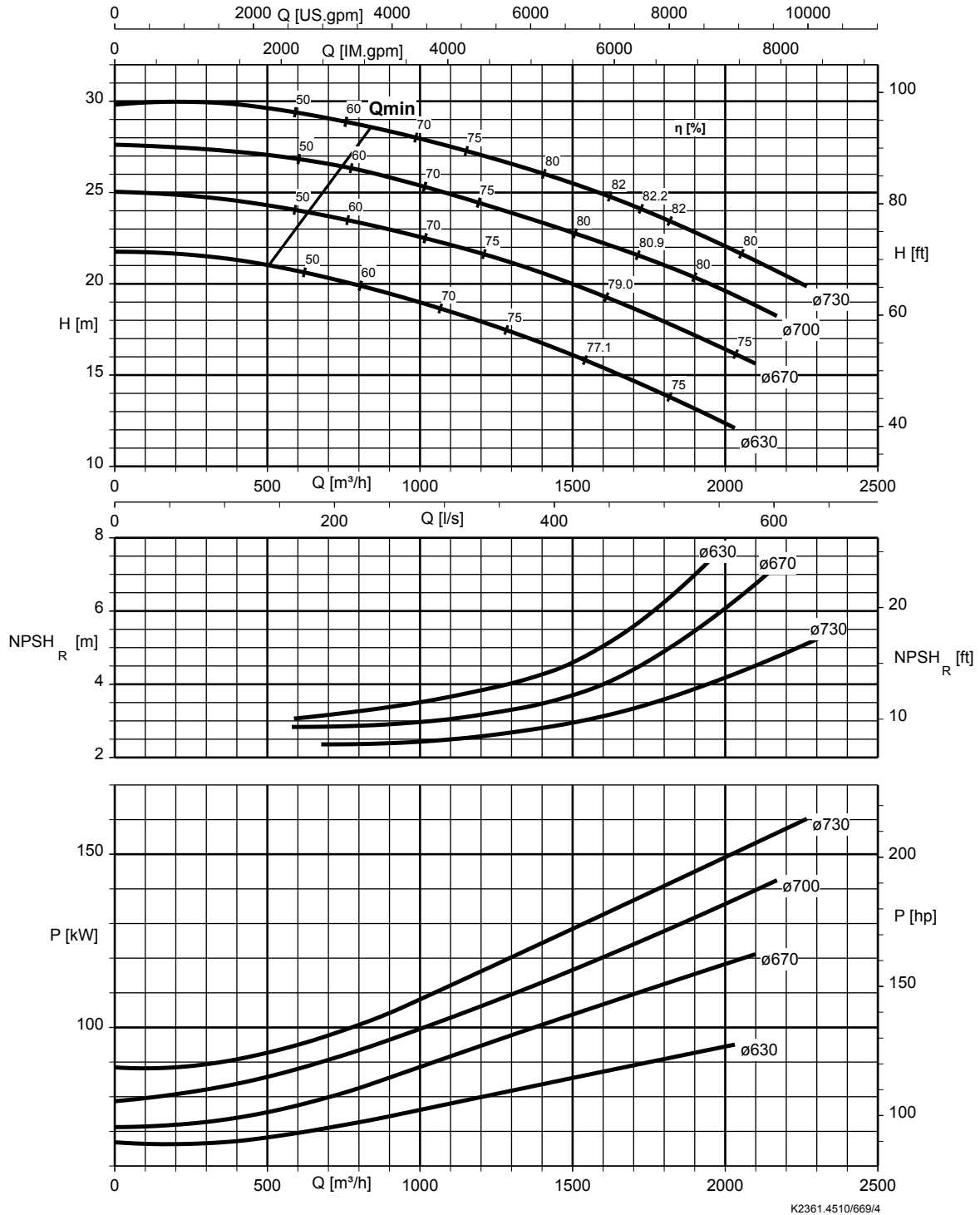
KWP K 400-400-533, $n = 580 \text{ rpm}$



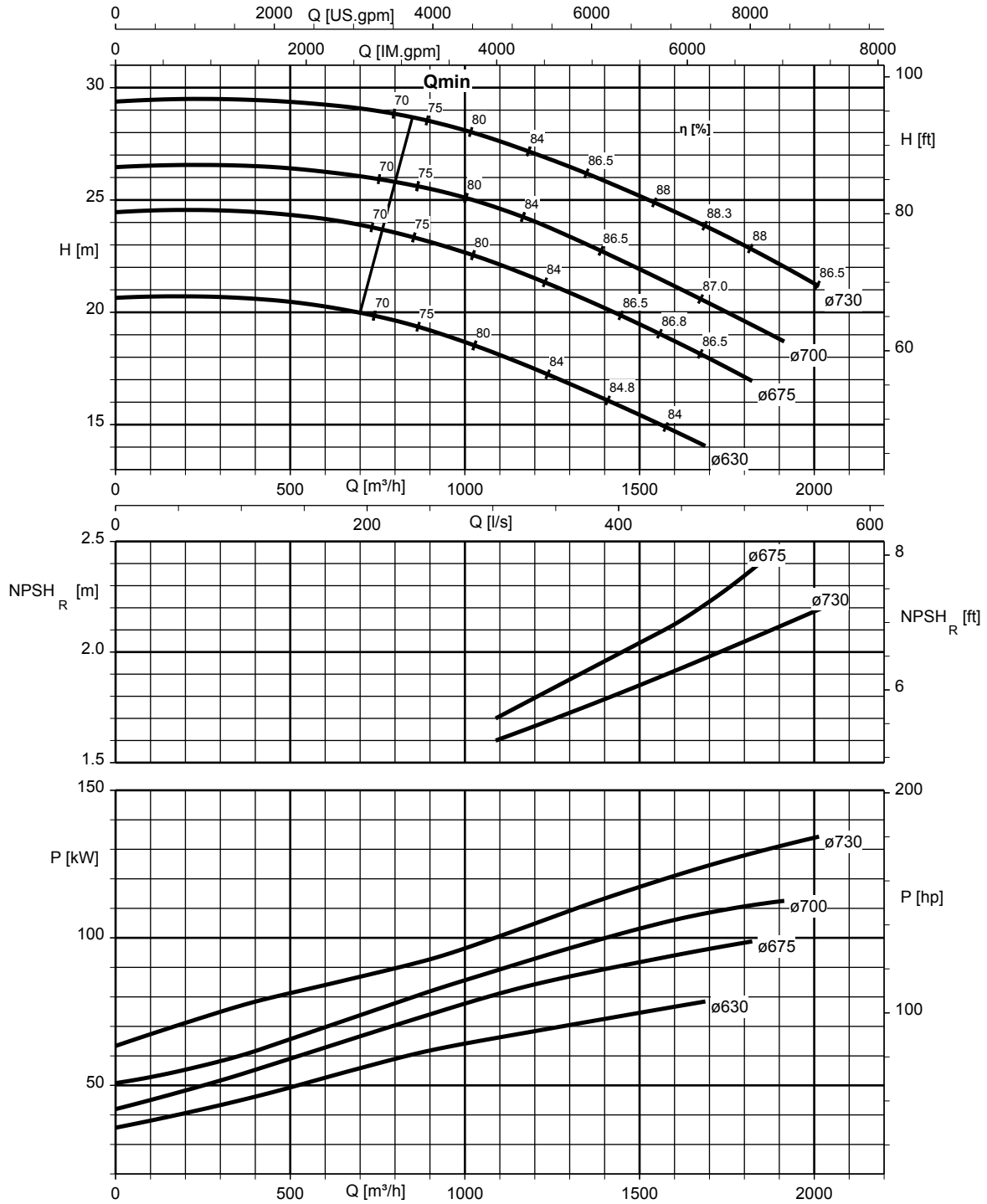
KWP K 400-400-583, n = 580 rpm



KWP K 500-400-710, $n = 580 \text{ rpm}$

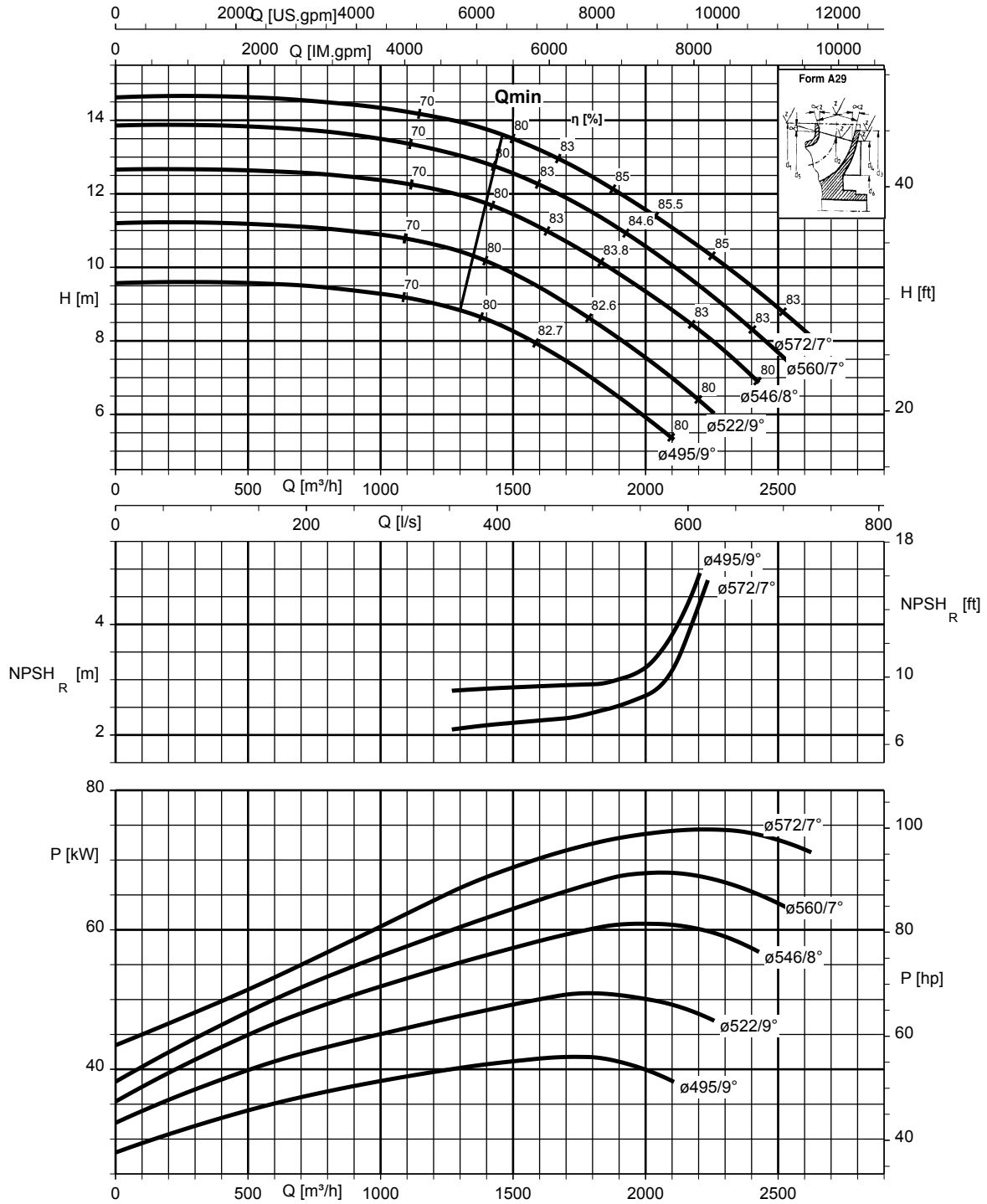


KWP K 500-400-713, $n = 580 \text{ rpm}$

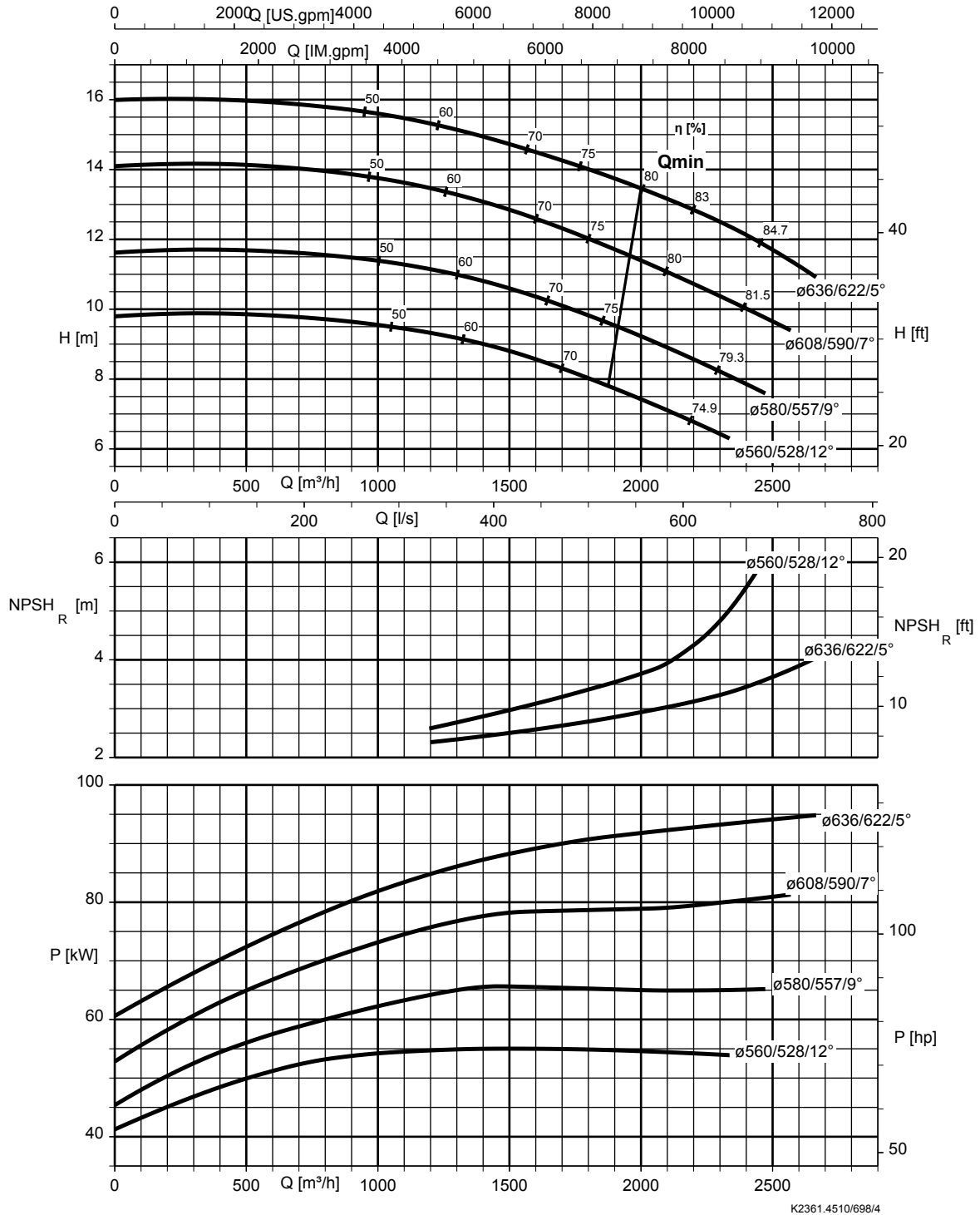


K34122/2

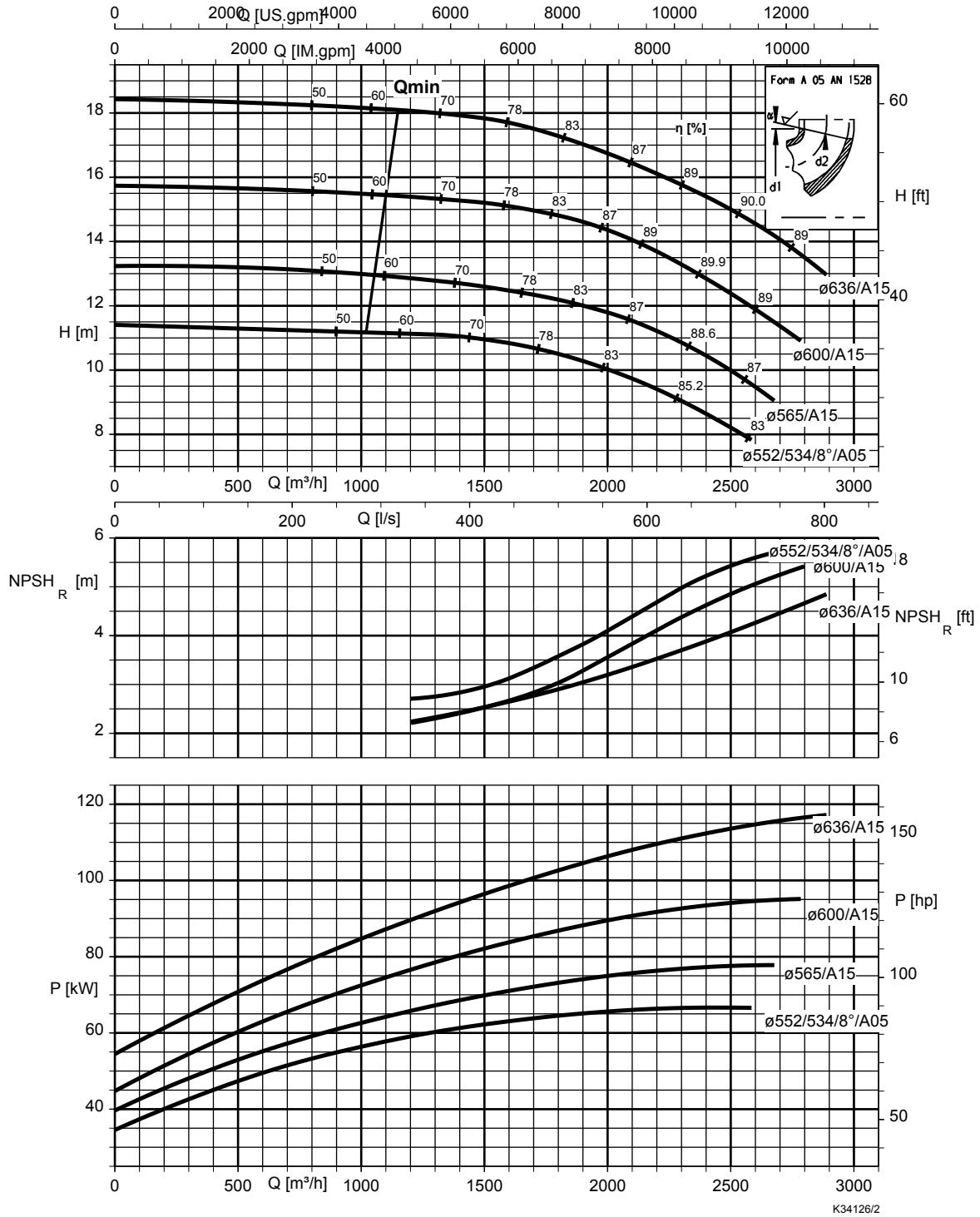
KWP K 500-500-544, $n = 580 \text{ rpm}$



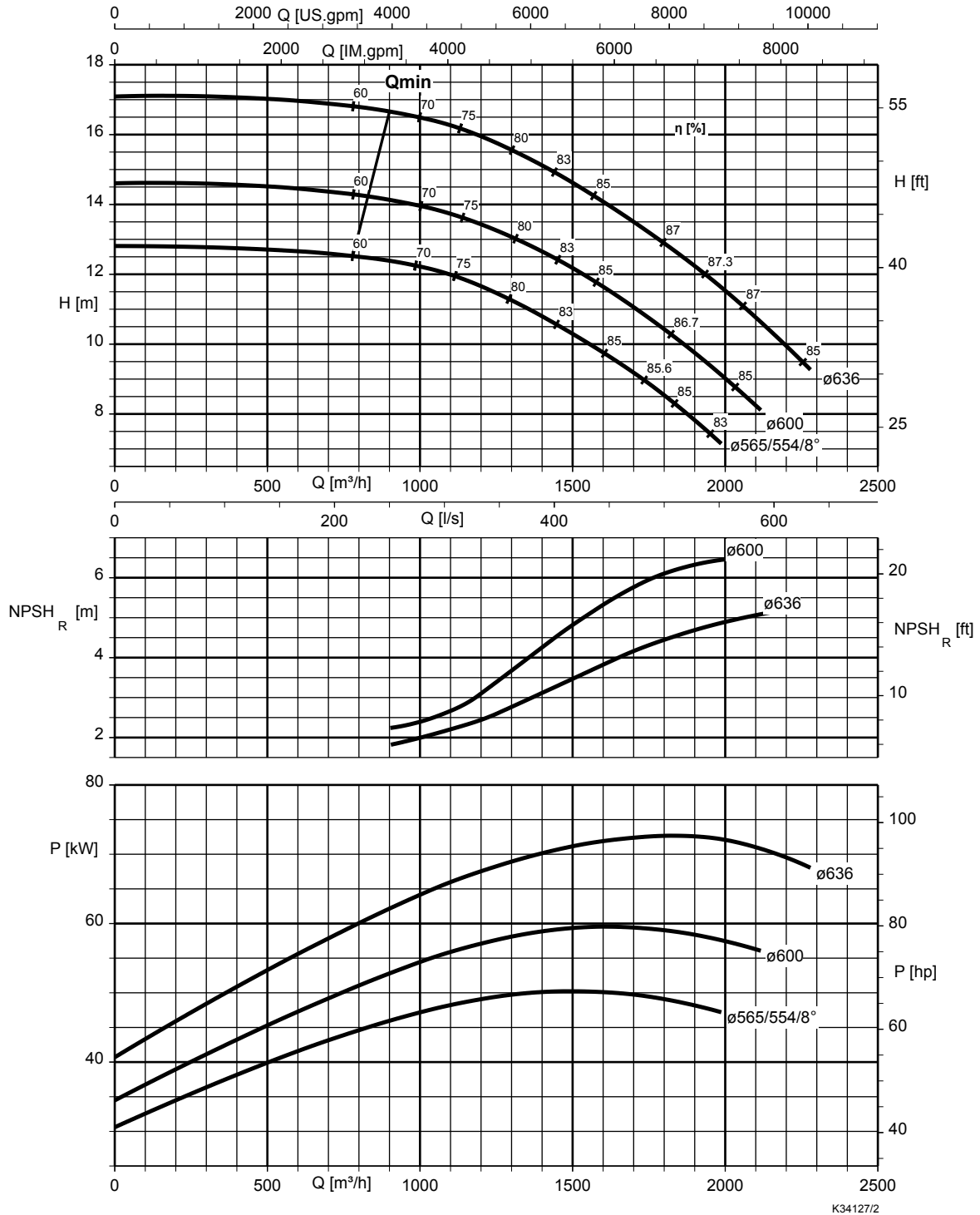
KWP K 500-500-630, n = 580 rpm



KWP K 500-500-633, n = 580 rpm

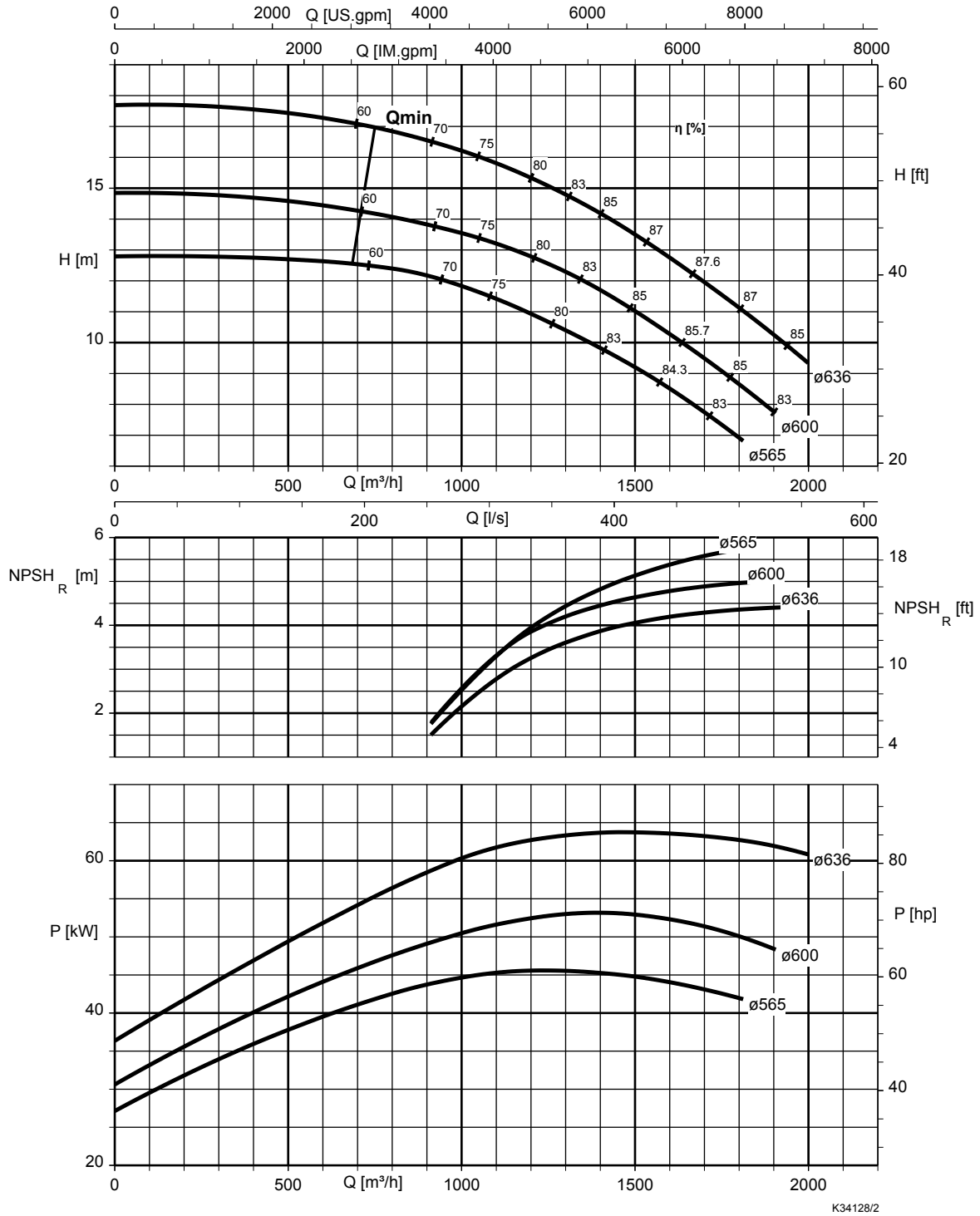


KWP K 500-500-634, n = 580 rpm

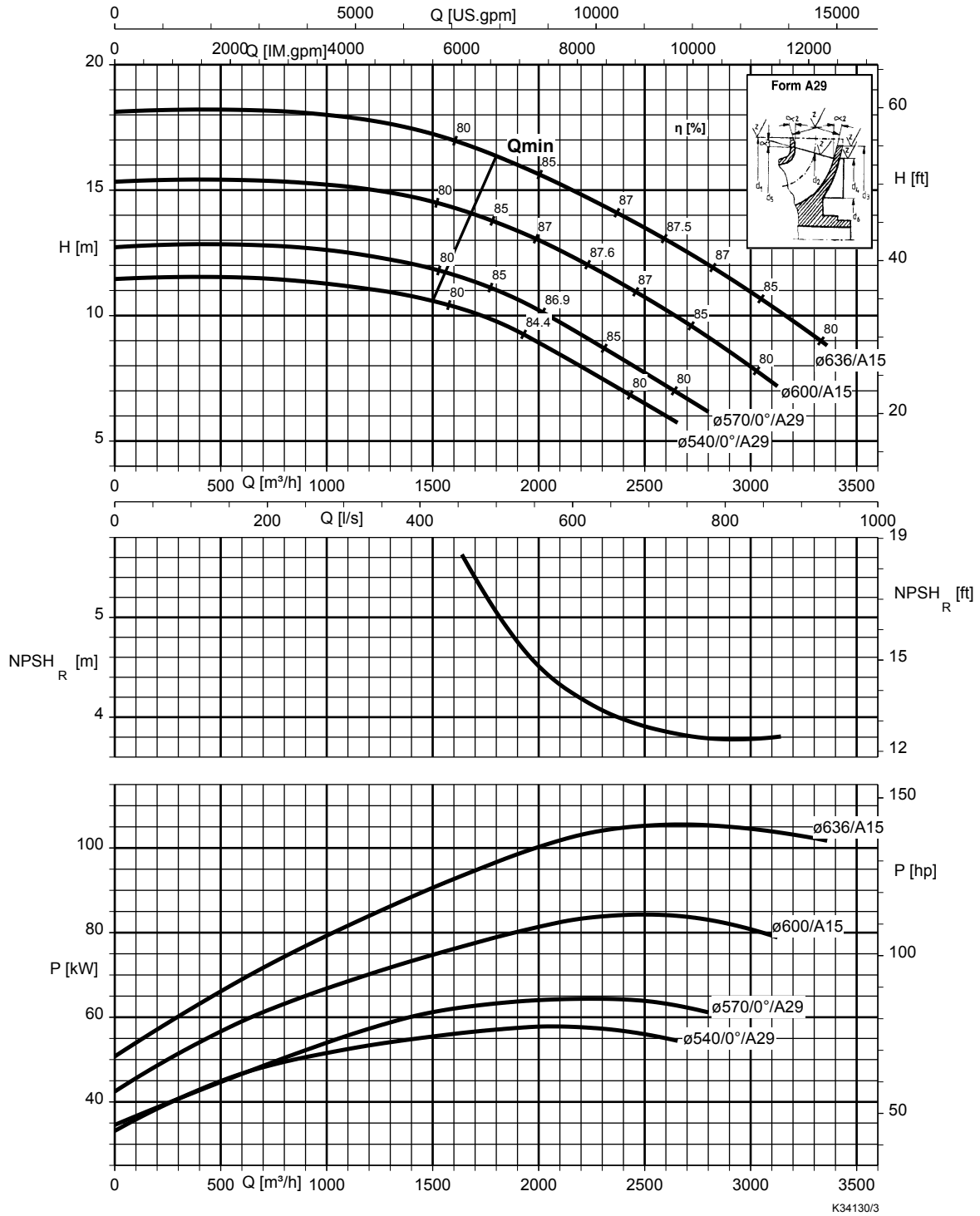


K34127/2

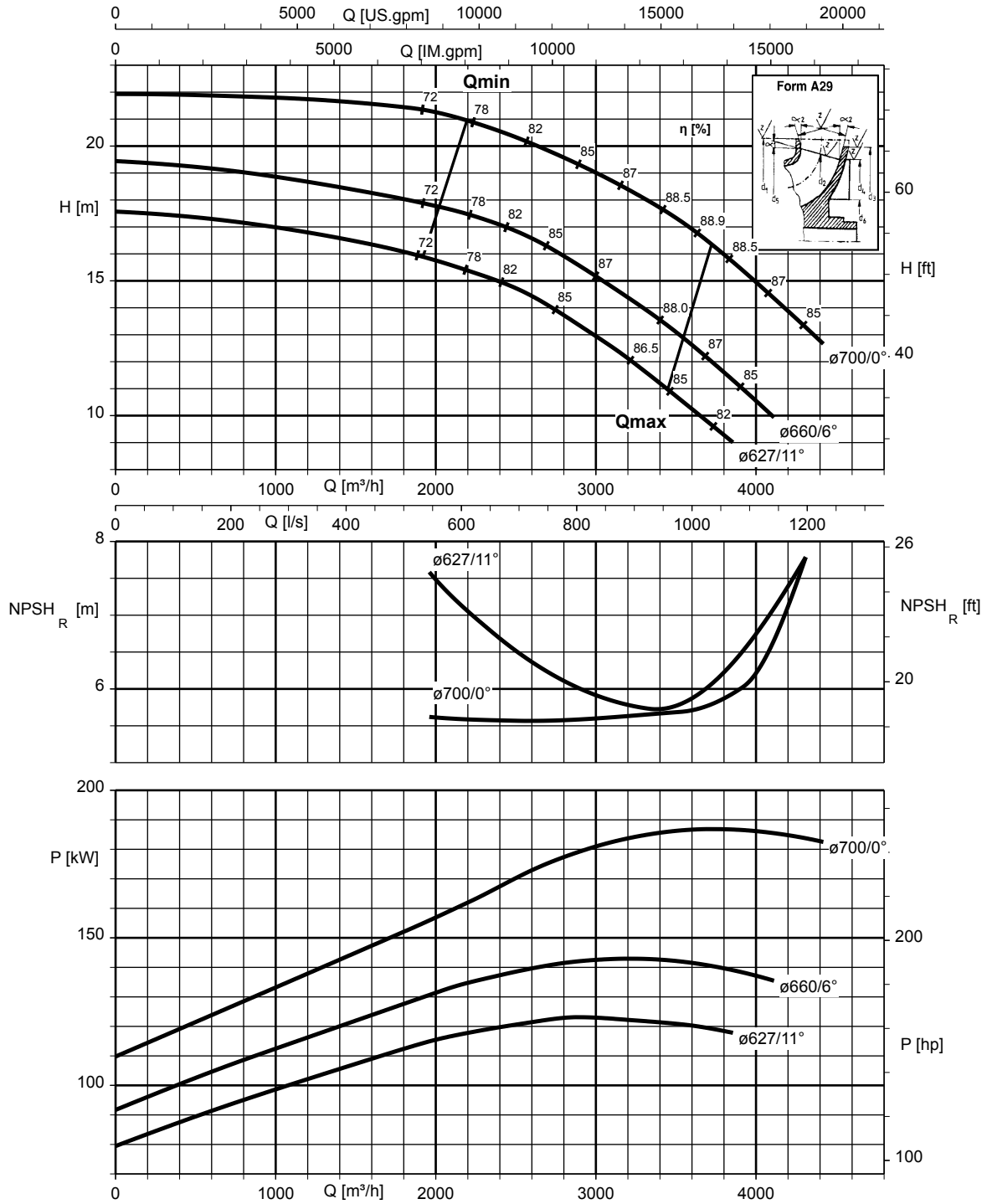
KWP K 500-500-635, $n = 580 \text{ rpm}$



KWP K 500-500-637, $n = 580 \text{ rpm}$

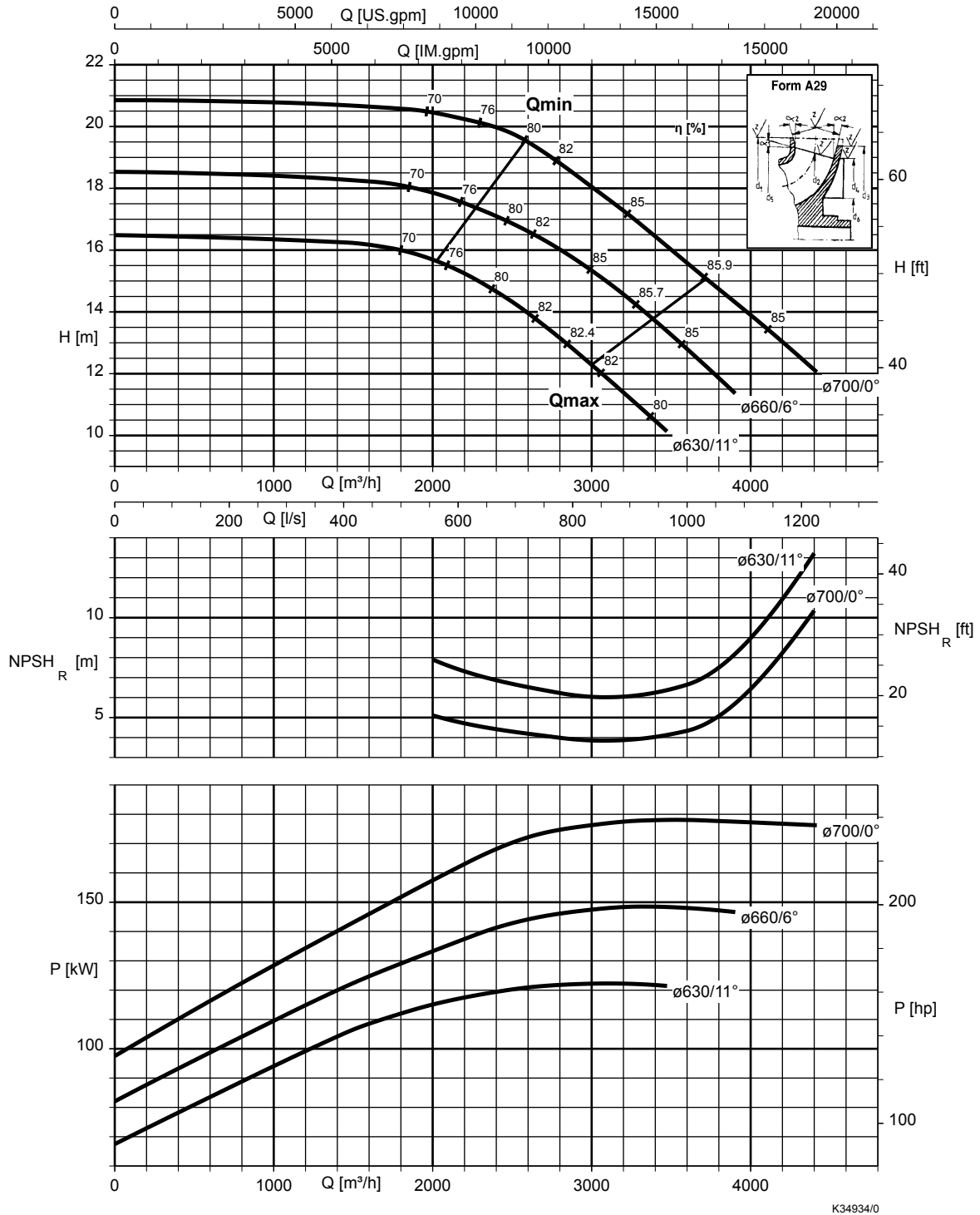


KWP K 600-600-663, n = 580 rpm

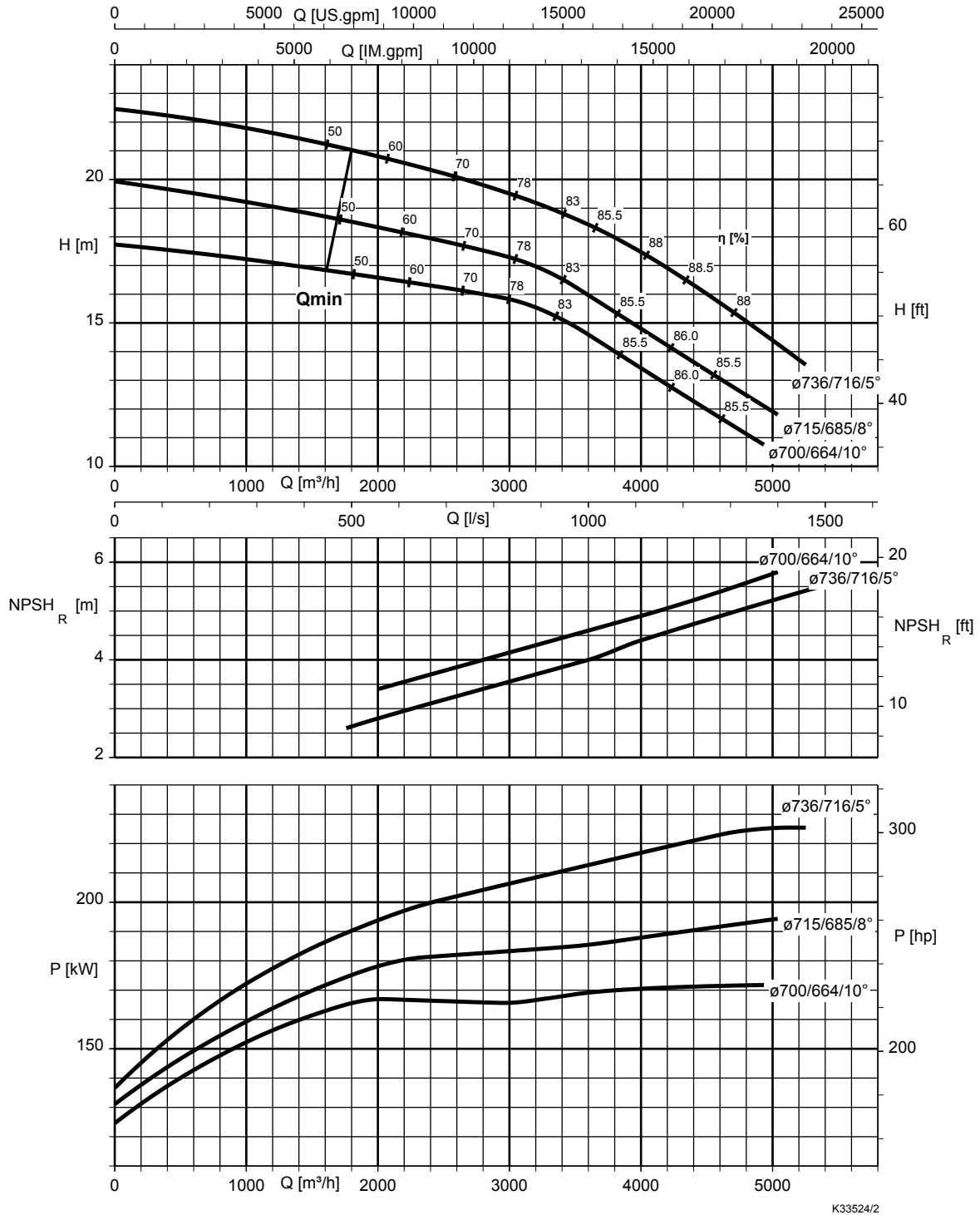


K34931/0

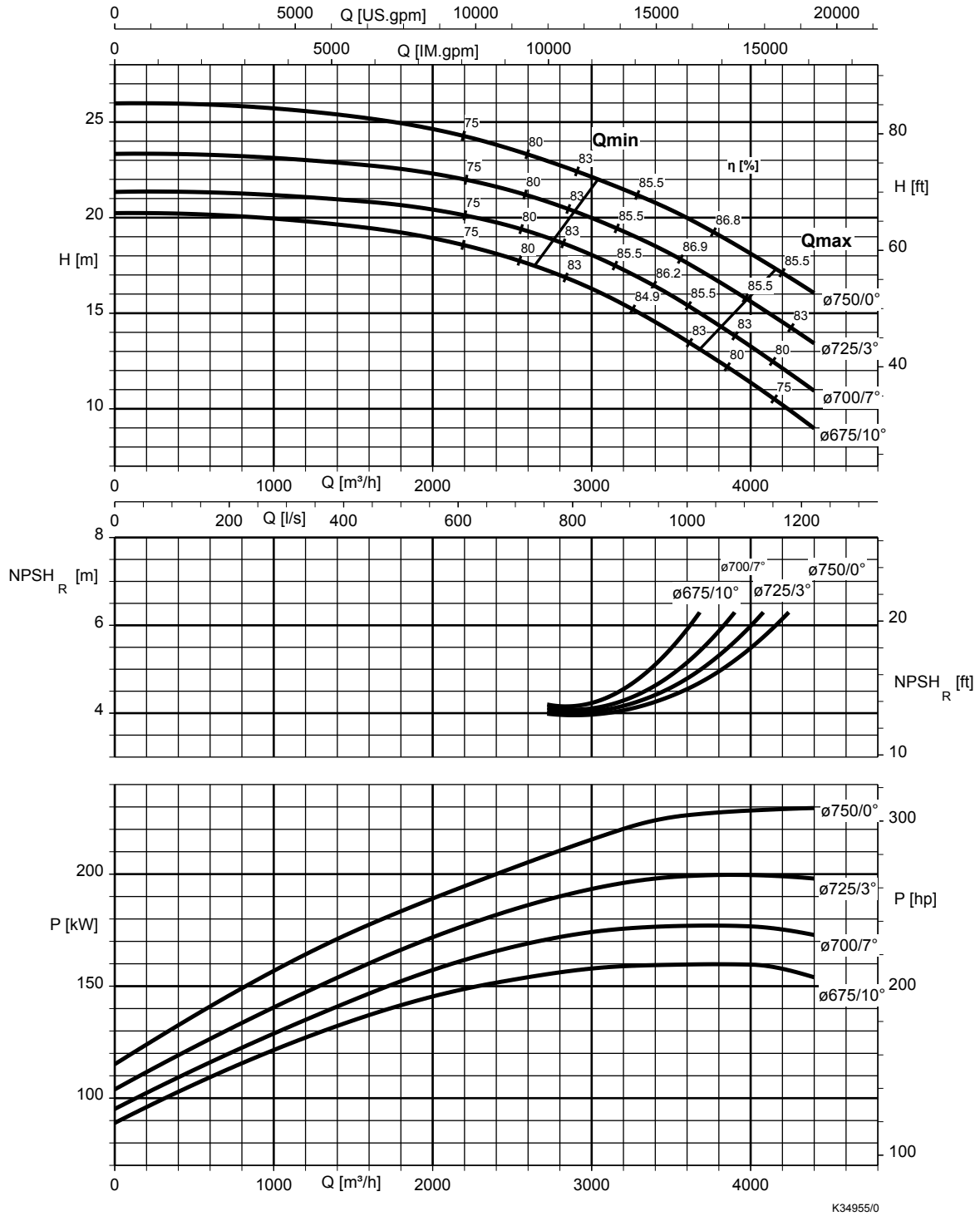
KWP K 600-600-669, n = 580 rpm



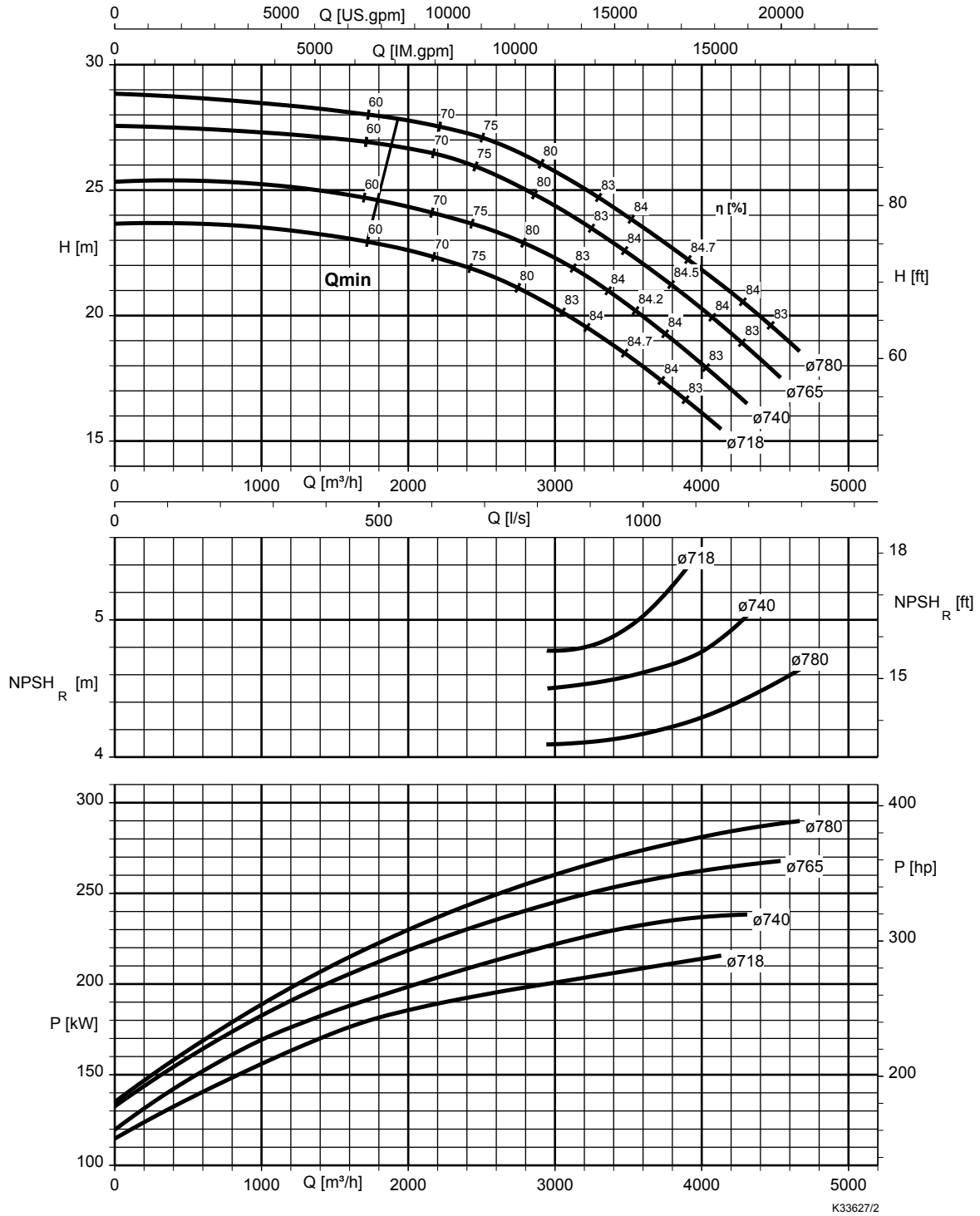
KWP K 600-600-710, n = 580 rpm



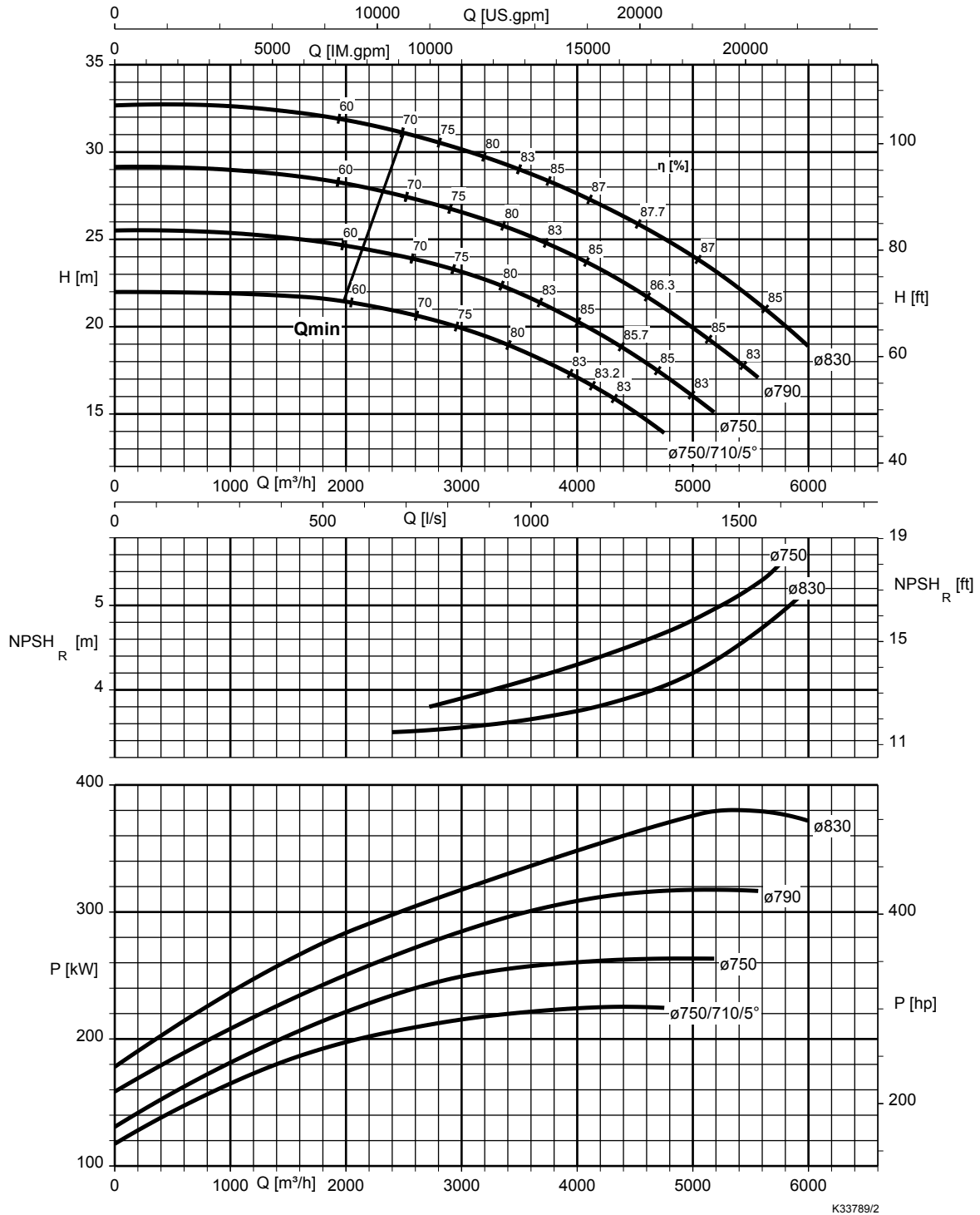
KWP K 600-600-753, n = 580 rpm



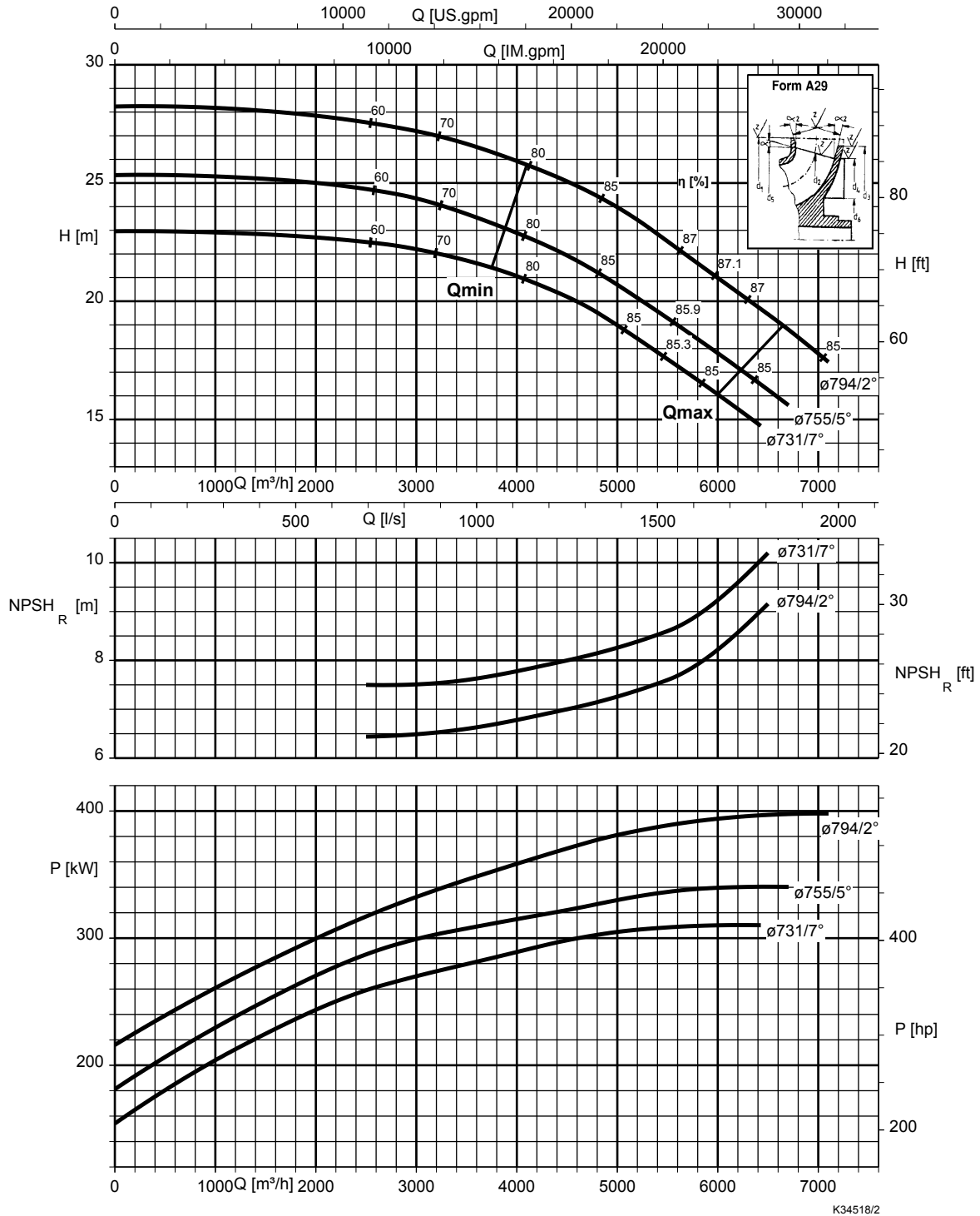
KWP K 600-600-803, n = 580 rpm



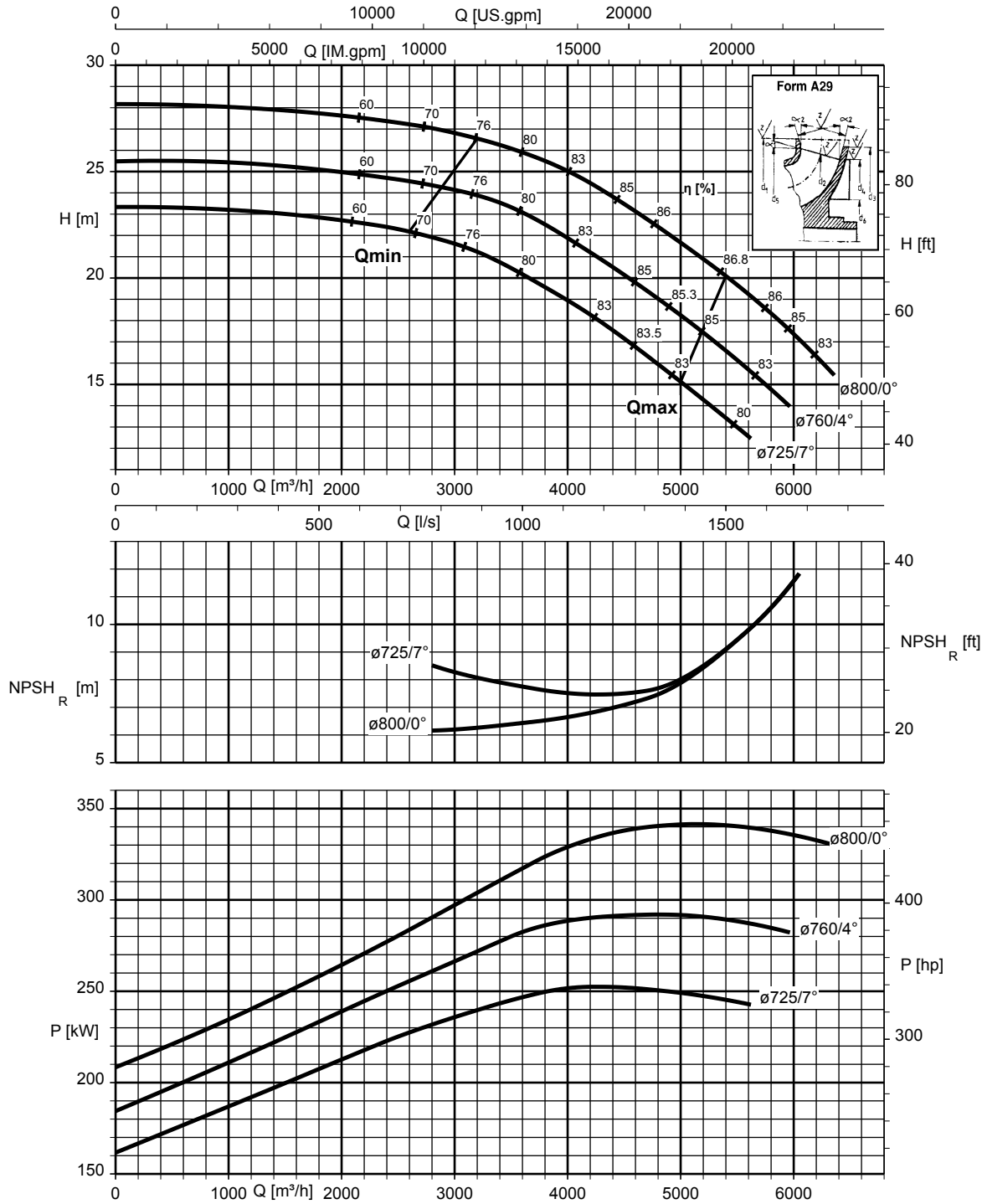
KWP K 600-600-813, $n = 580 \text{ rpm}$



KWP K 600-600-824, $n = 580$ rpm

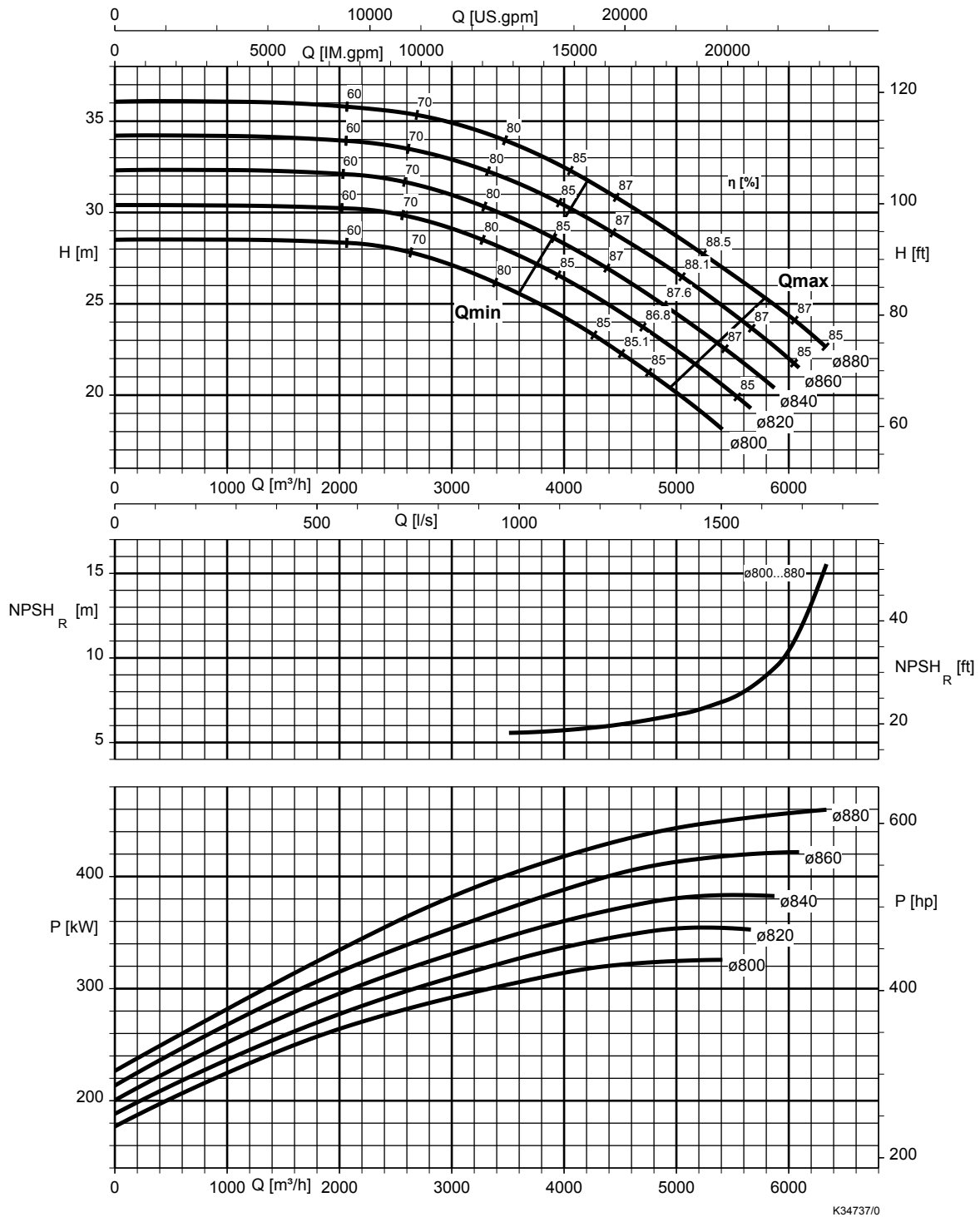


KWP K 600-600-825, $n = 580 \text{ rpm}$



K34736/1

KWP K 600-600-873, $n = 580 \text{ rpm}$



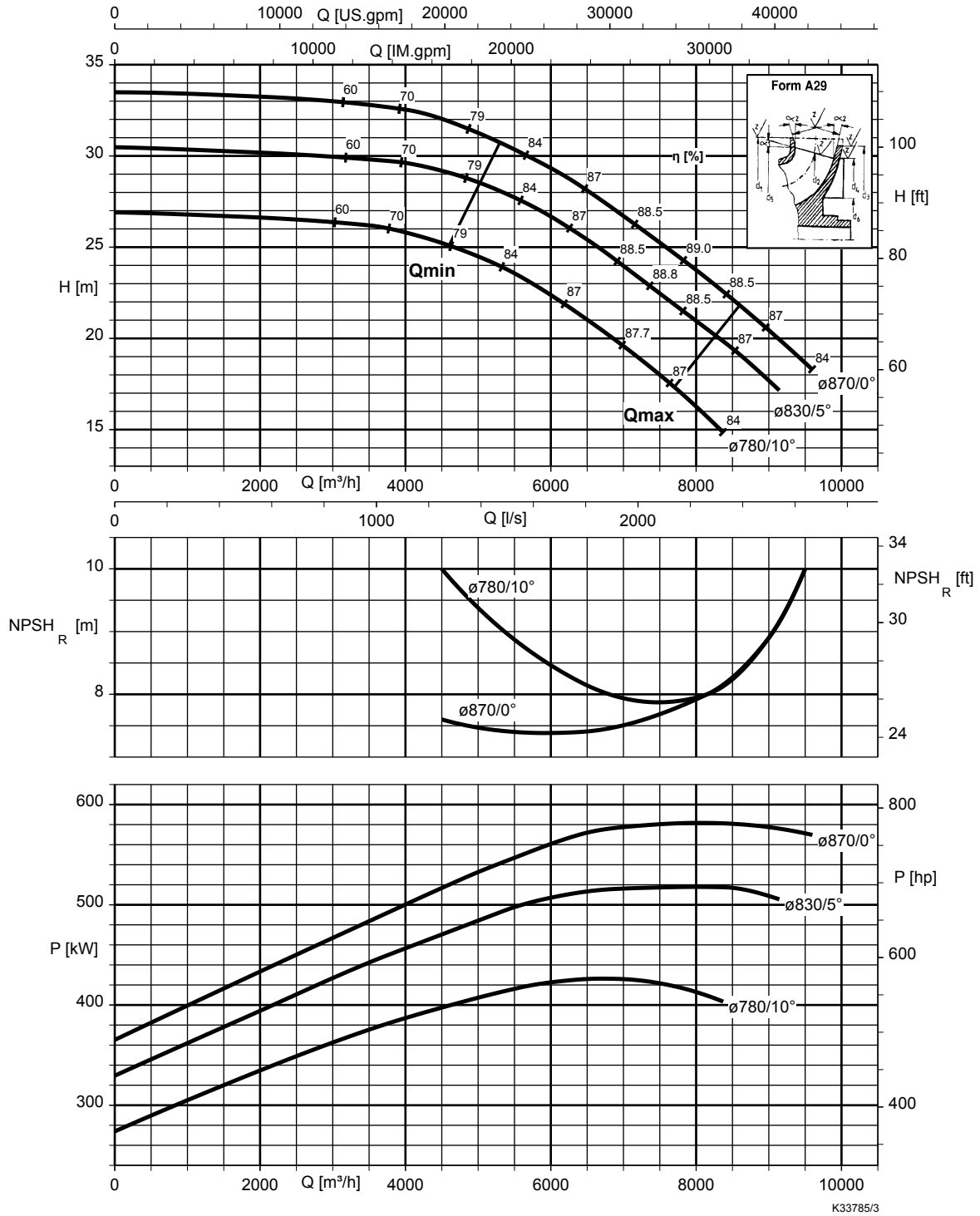
The figure consists of three vertically stacked graphs sharing a common x-axis representing flow rate Q in m^3/h (0 to 6000).

Top Graph: Total Head H vs. Flow Rate Q
 The y-axis shows total head H in meters (25 to 45) and feet (80 to 140). It includes efficiency curves (η [%]) and performance curves for three impeller diameters: $\phi 930$, $\phi 910$, and $\phi 890$. The curves show a decrease in head as flow rate increases. Key points on the $\phi 930$ curve are labeled with efficiency values: 70, 78, 83, 86, 87.8, 87.3, 86.6, 86, 86, 83.

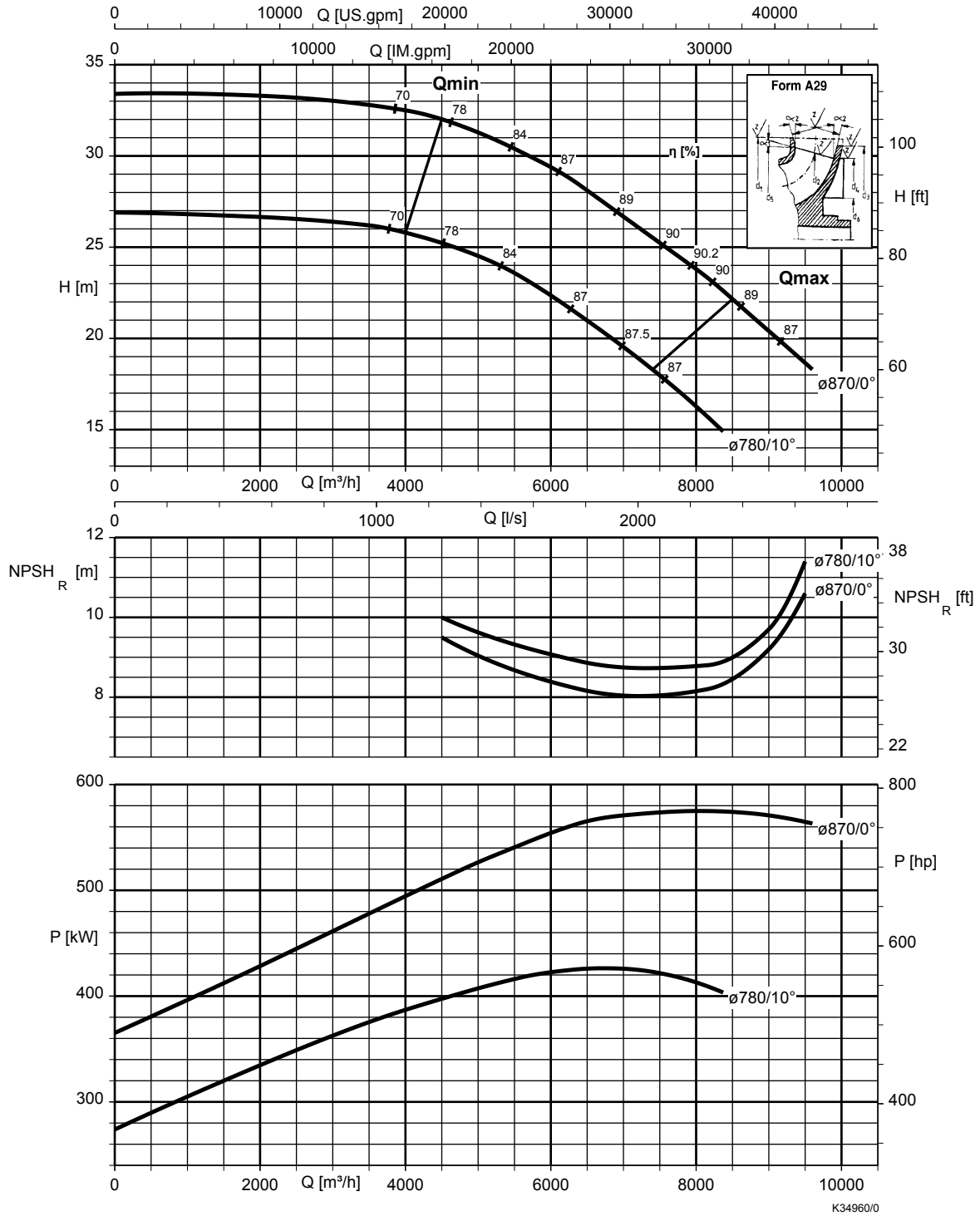
Middle Graph: Required Net Positive Suction Head ($NPSH_R$) vs. Flow Rate Q
 The y-axis shows $NPSH_R$ in meters (2 to 9) and feet (10 to 20). The curve indicates that the required head increases with flow rate, starting around 4.5 meters at 3000 m^3/h .

Bottom Graph: Power P vs. Flow Rate Q
 The y-axis shows power P in kilowatts (200 to 500) and horsepower (300 to 600). The curves for $\phi 930$, $\phi 910$, and $\phi 890$ show that power increases with flow rate, with the $\phi 930$ curve reaching approximately 550 kW at 6000 m^3/h .

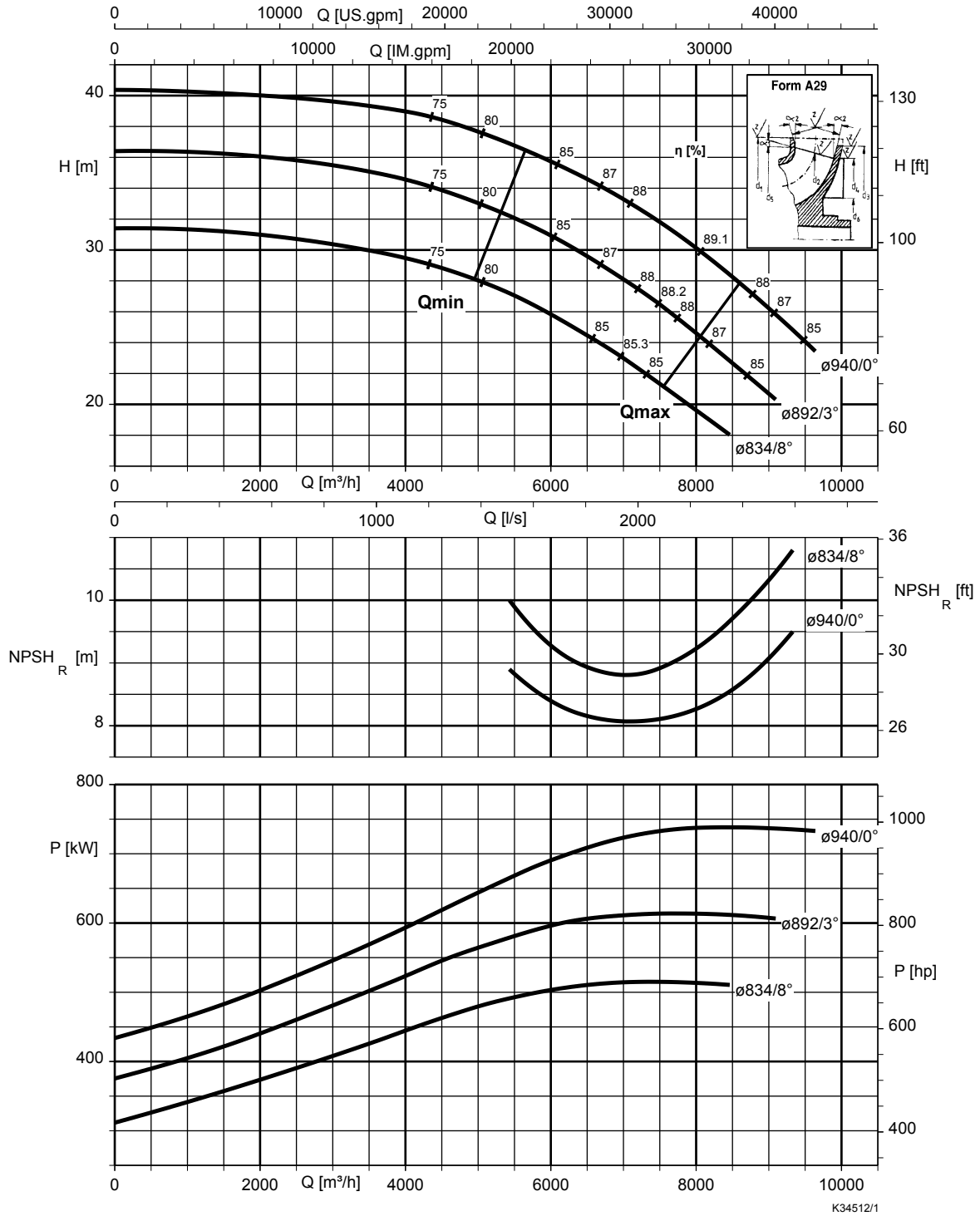
KWP K 700-700-923, $n = 580 \text{ rpm}$



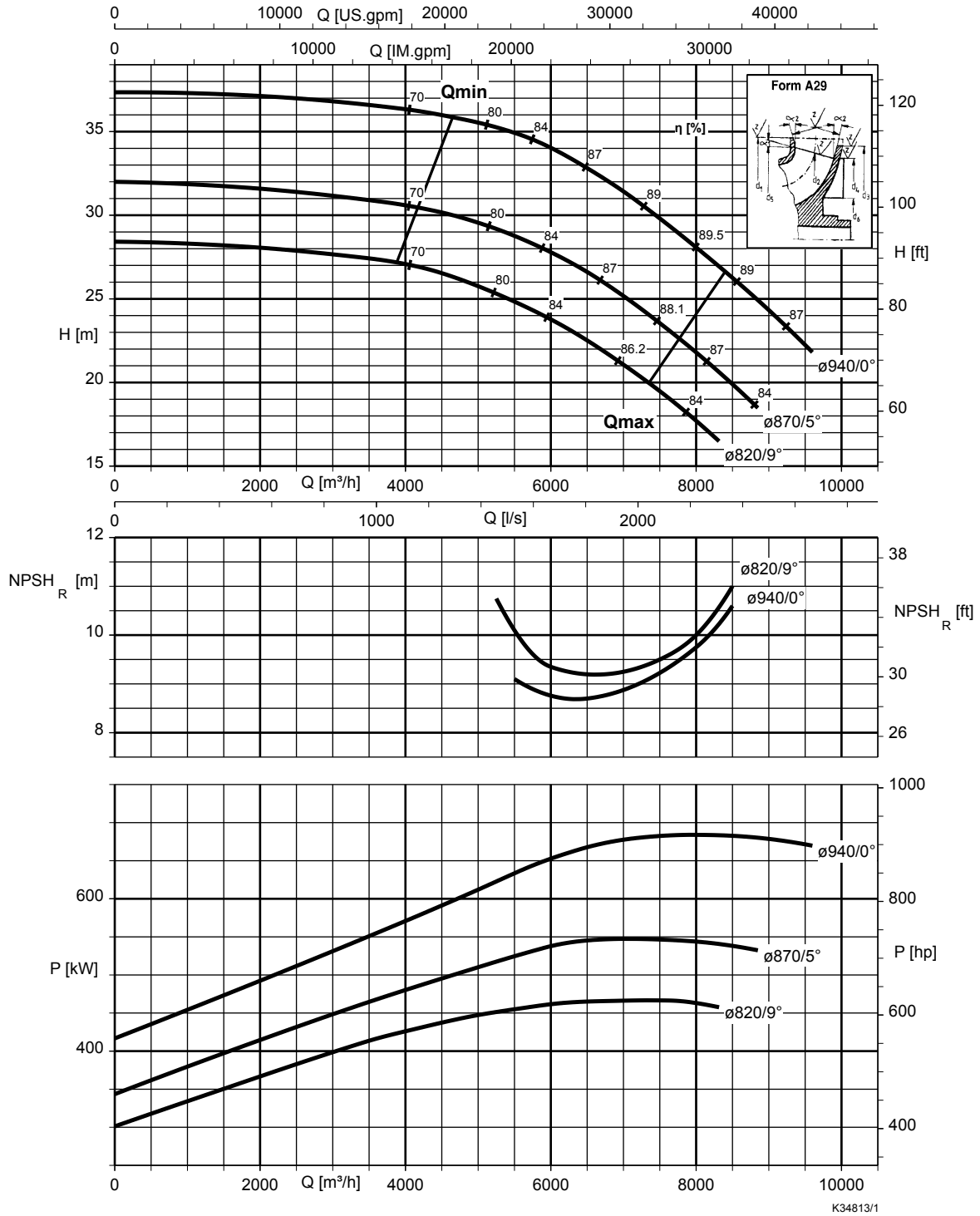
KWP K 700-700-929, n = 580 rpm



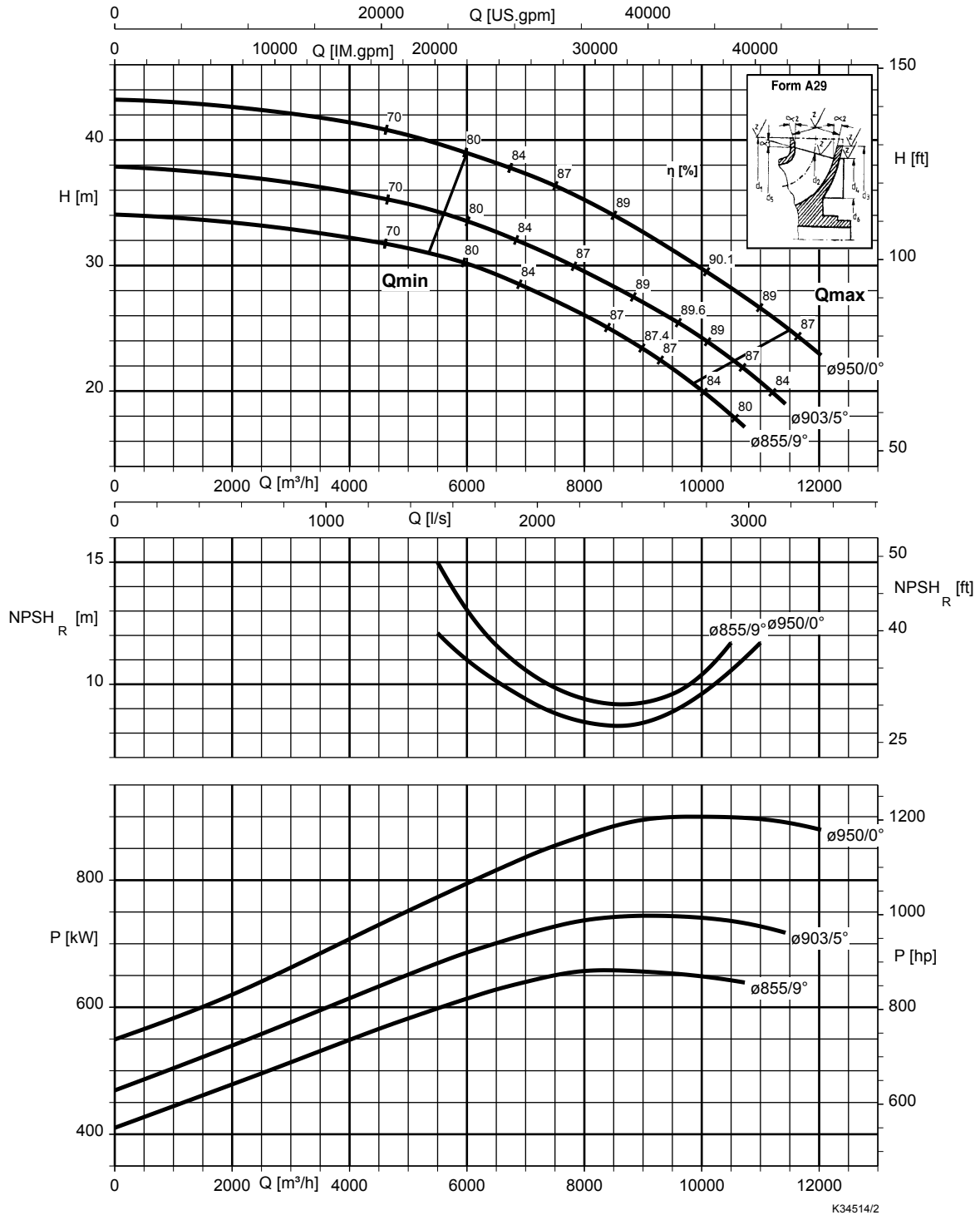
KWP K 800-700-953, $n = 580 \text{ rpm}$



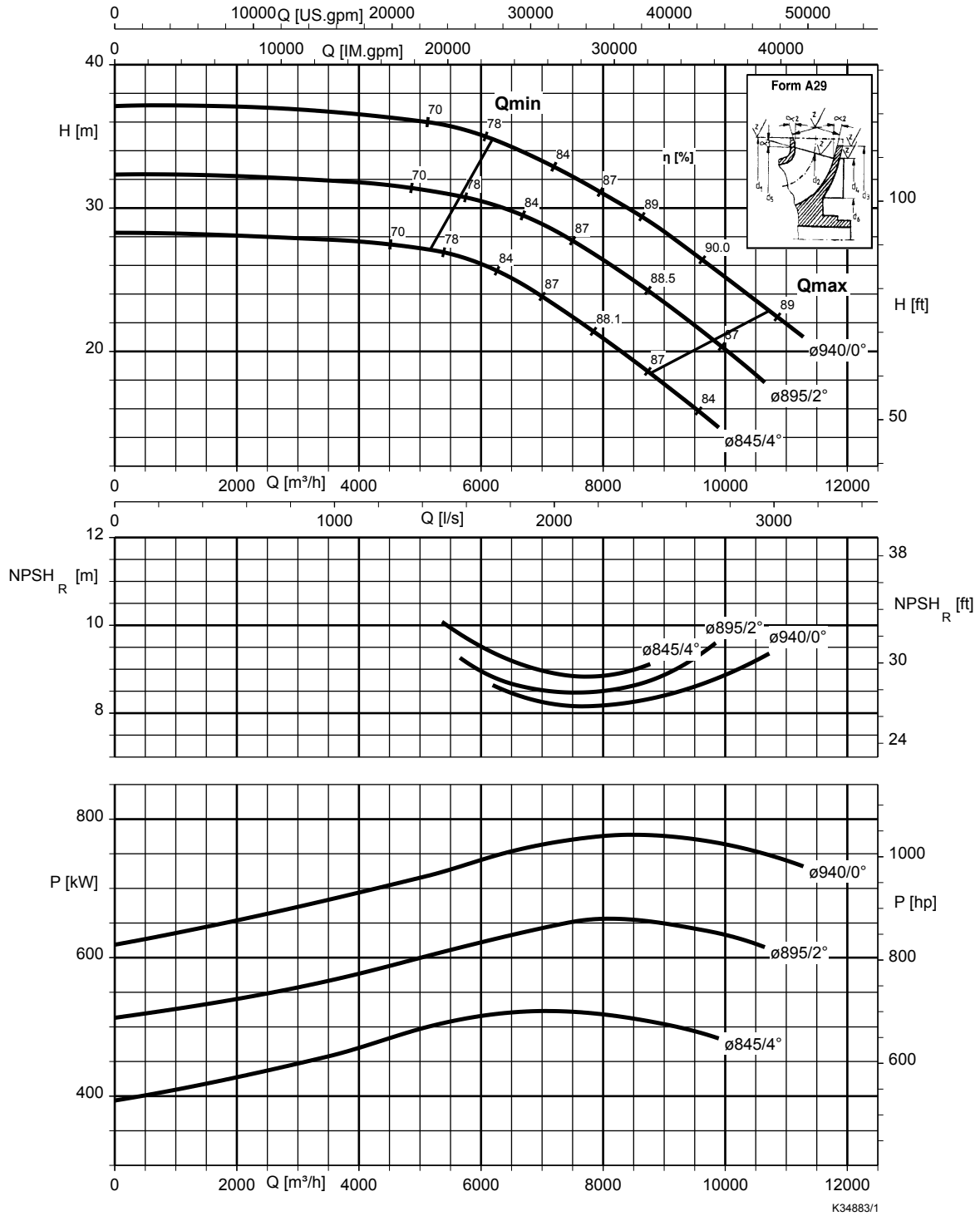
KWP K 800-700-959, $n = 580 \text{ rpm}$



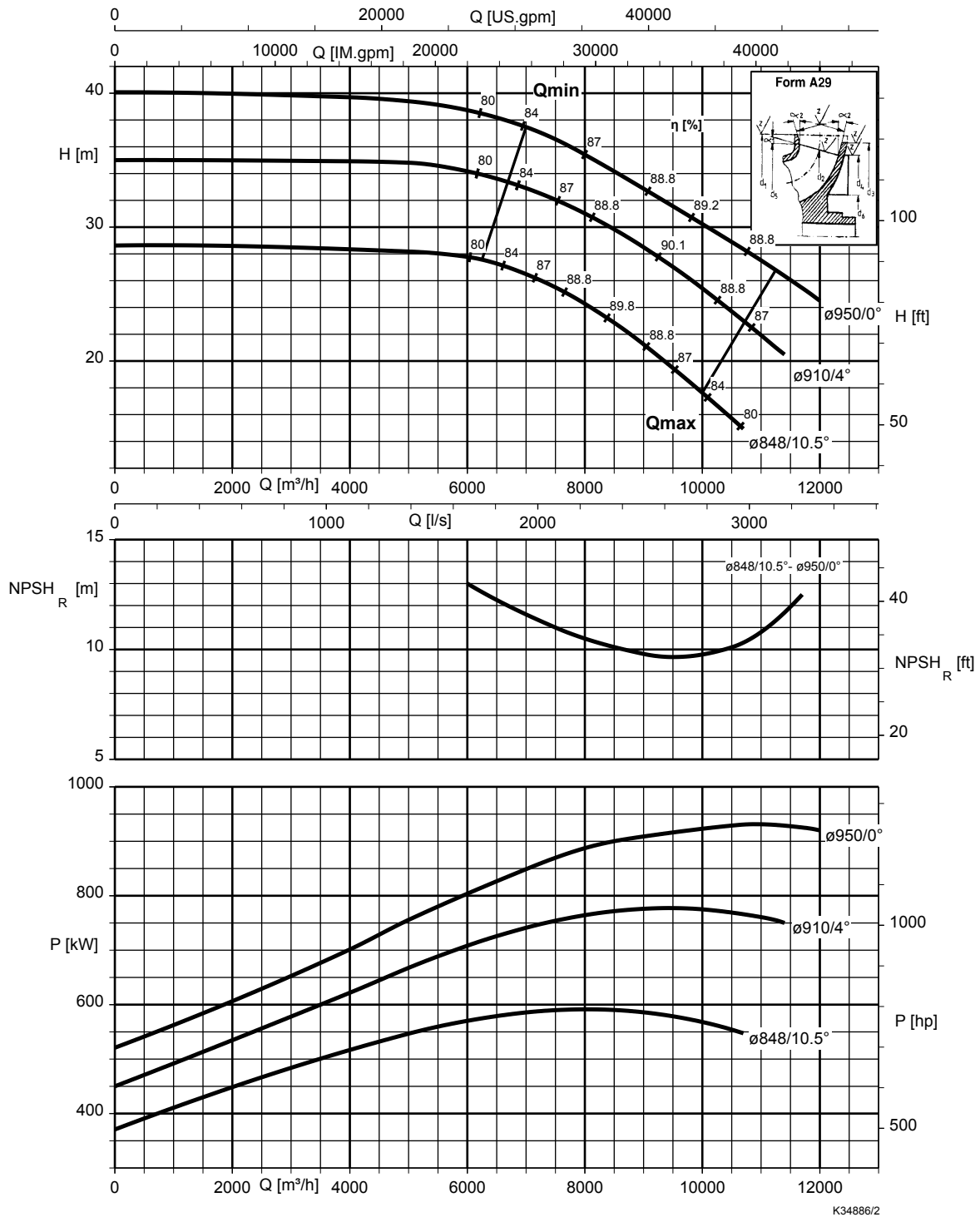
KWP K 800-800-934, $n = 580 \text{ rpm}$



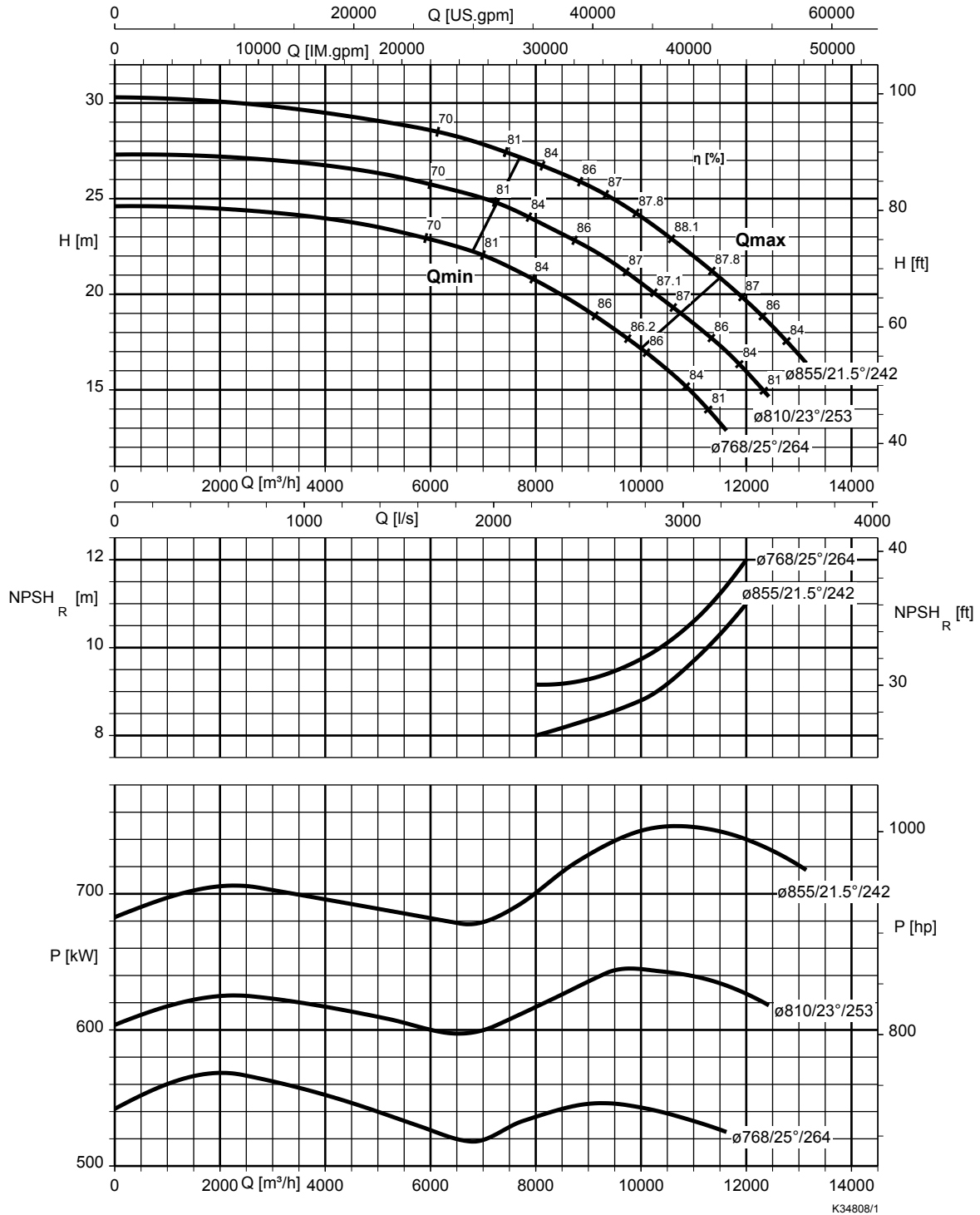
KWP K 800-800-935, $n = 580 \text{ rpm}$



KWP K 800-800-939, $n = 580$ rpm

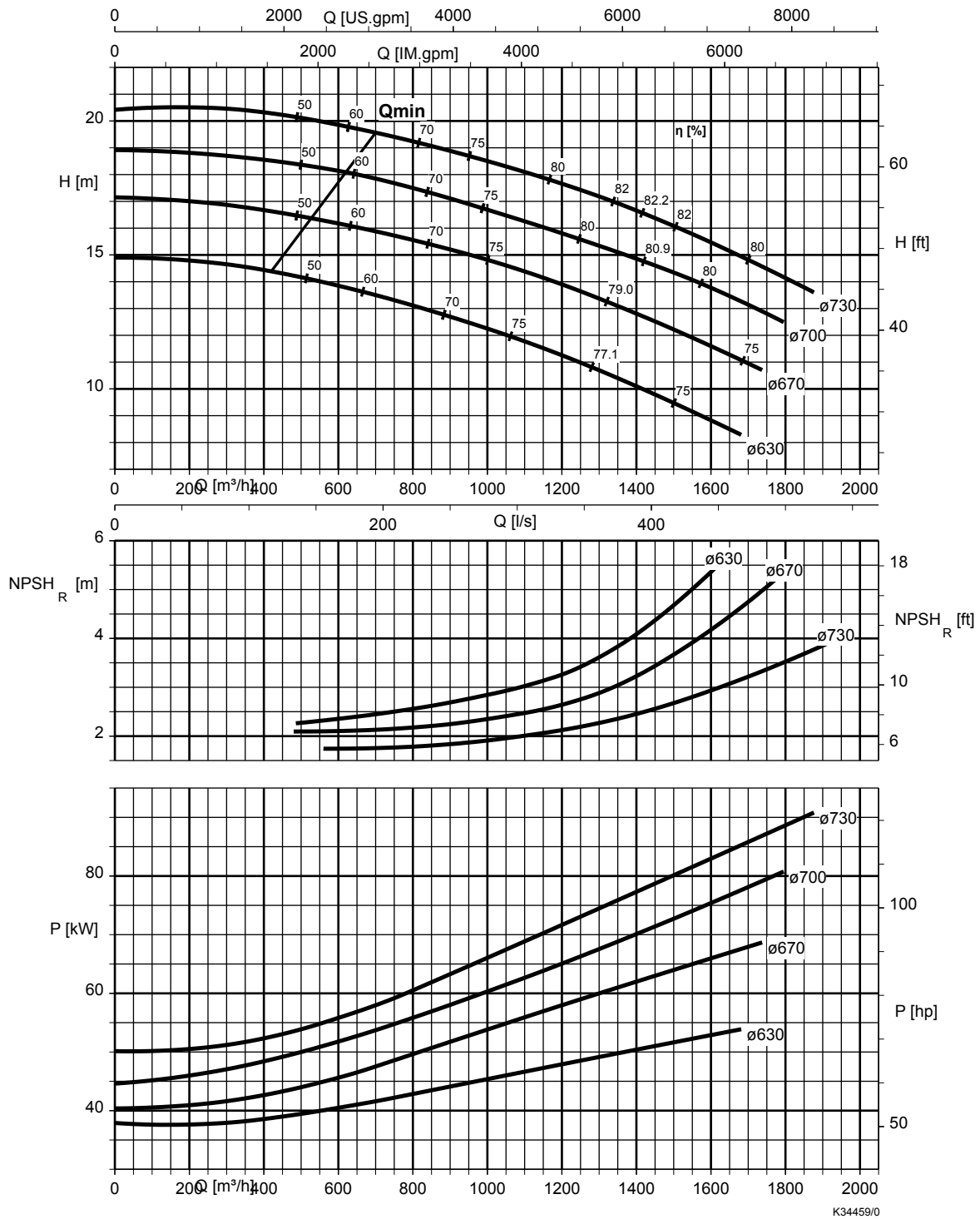


KWP K 800-900-883, $n = 580 \text{ rpm}$

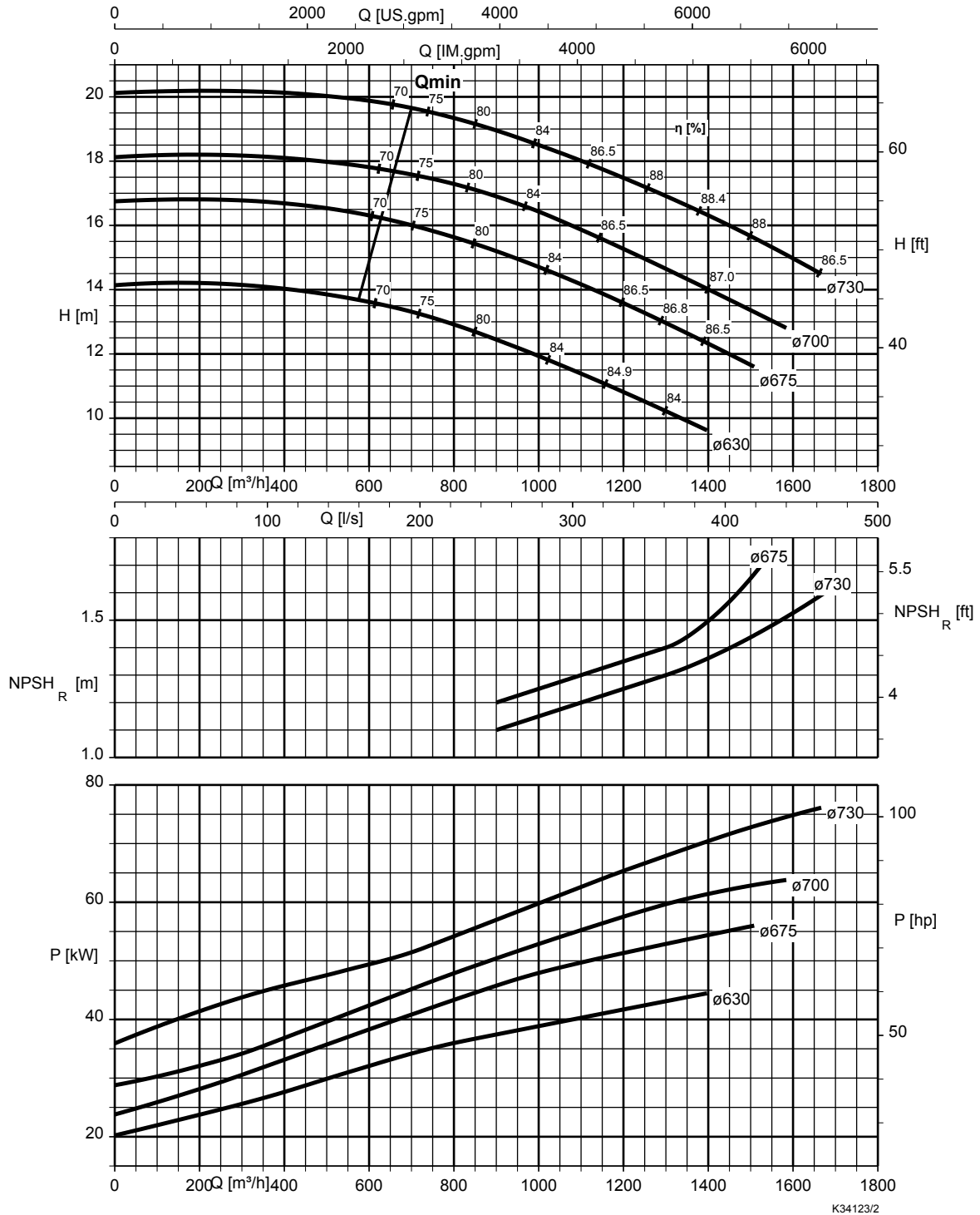


$n = 480 \text{ rpm}$

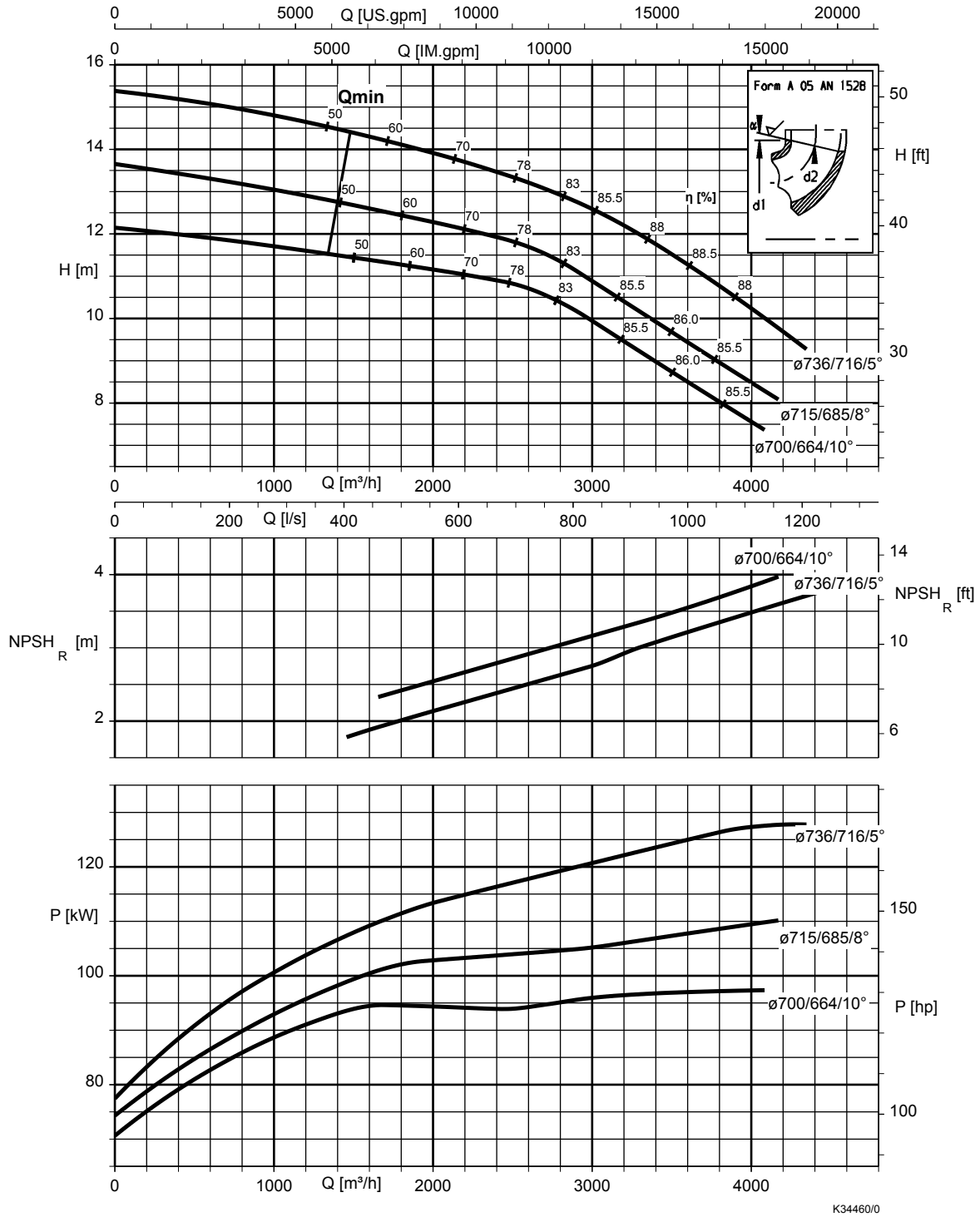
KWP K 500-400-710, $n = 480 \text{ rpm}$



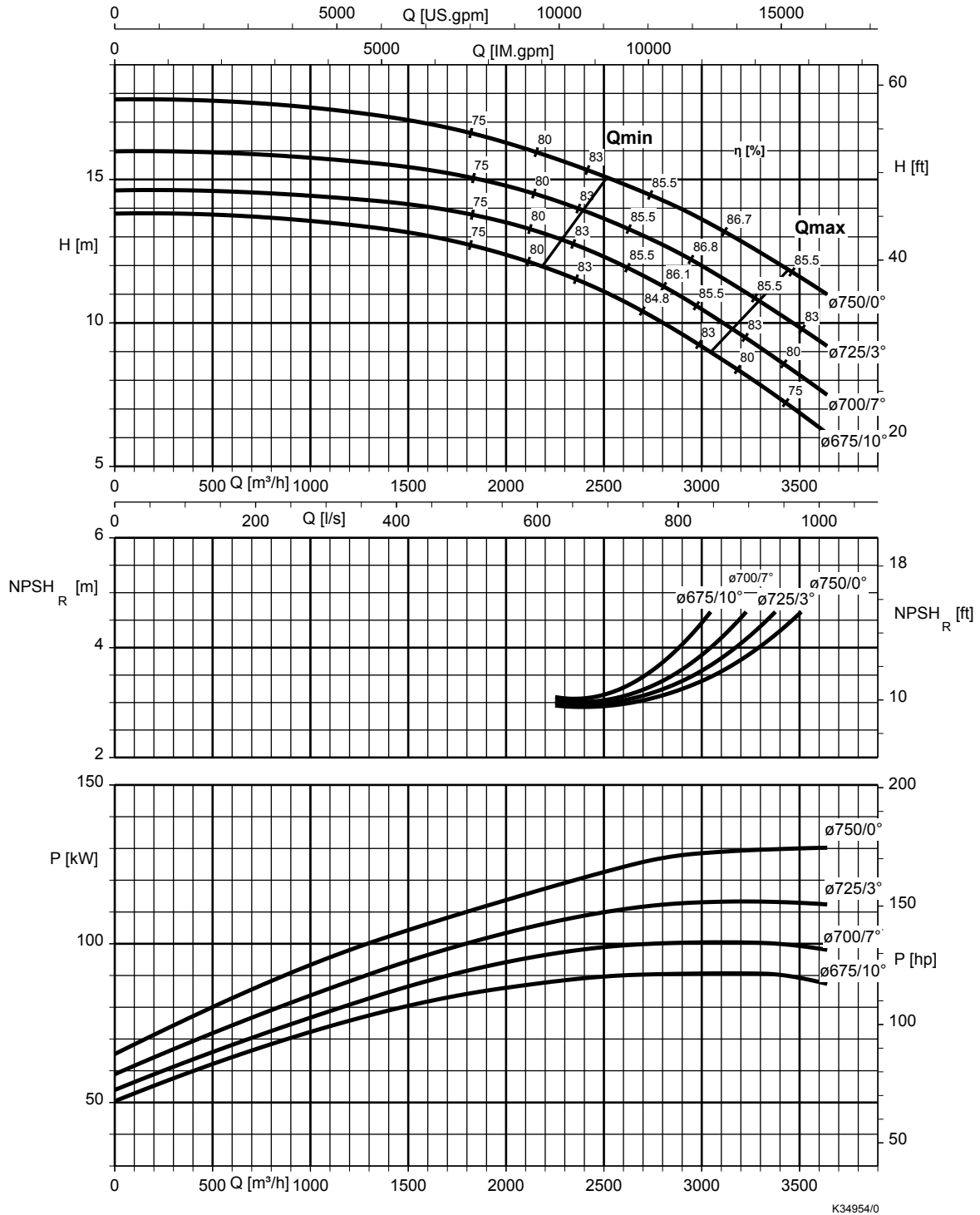
KWP K 500-400-713, $n = 480 \text{ rpm}$



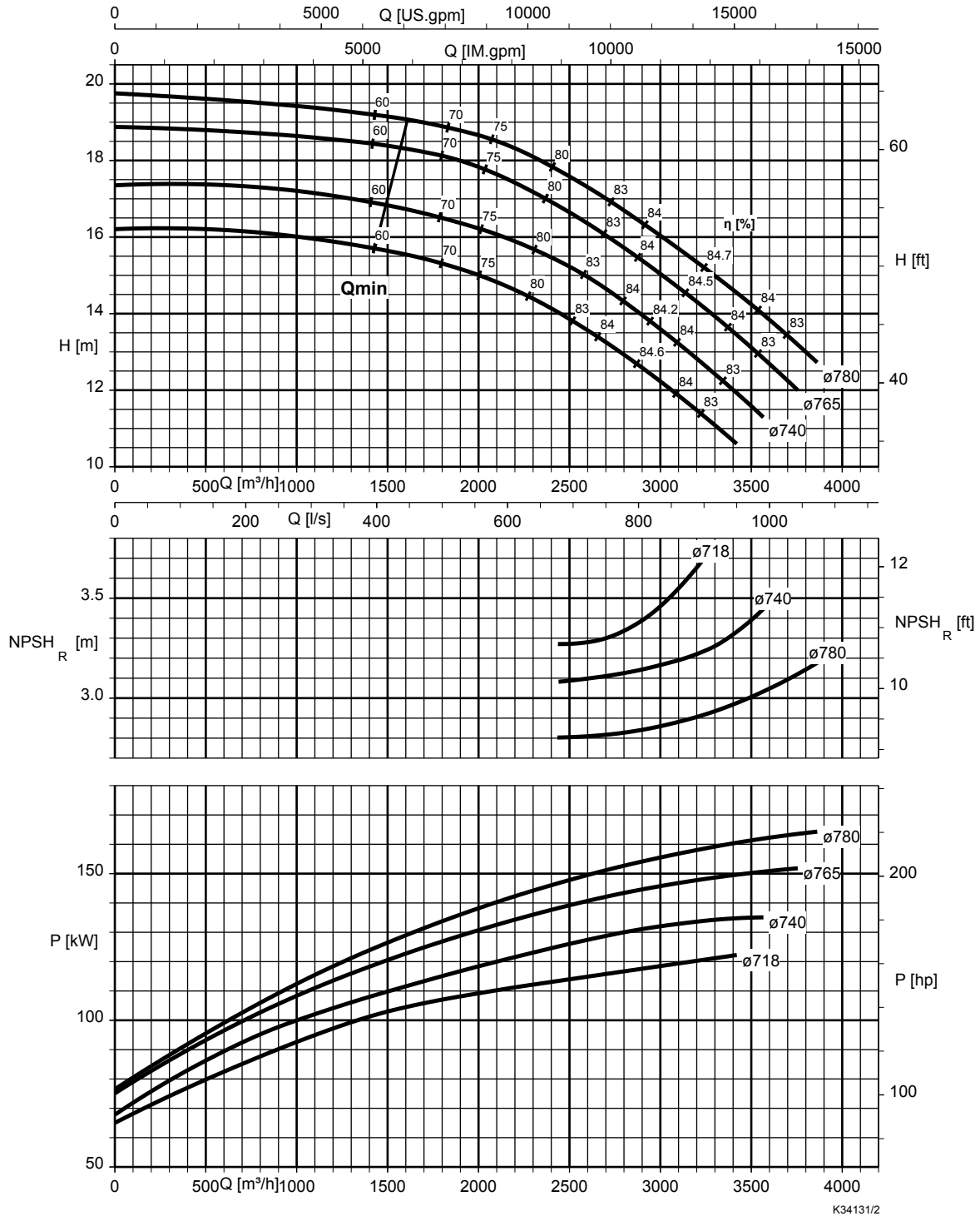
KWP K 600-600-710, n = 480 rpm



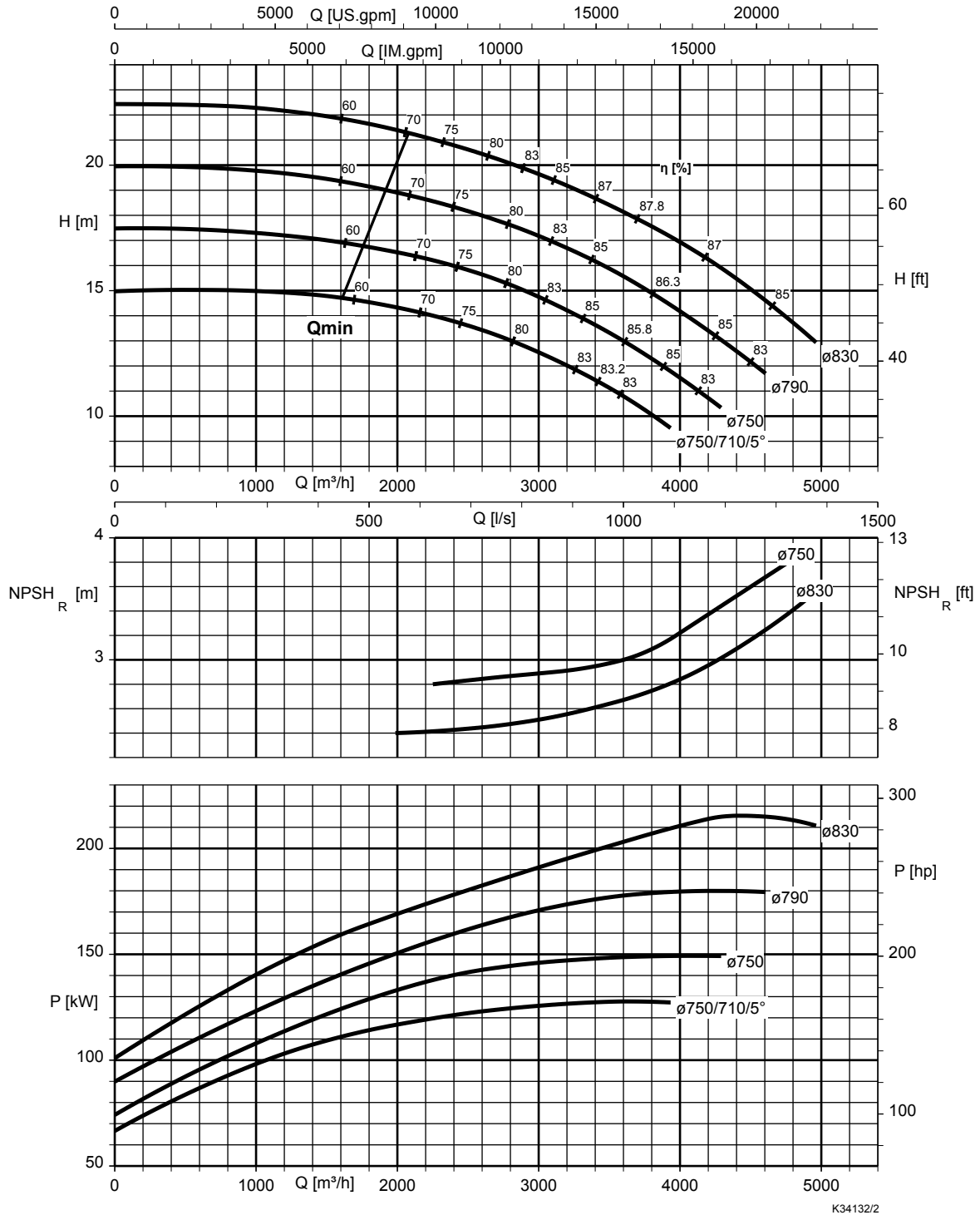
KWP K 600-600-753, $n = 480$ rpm



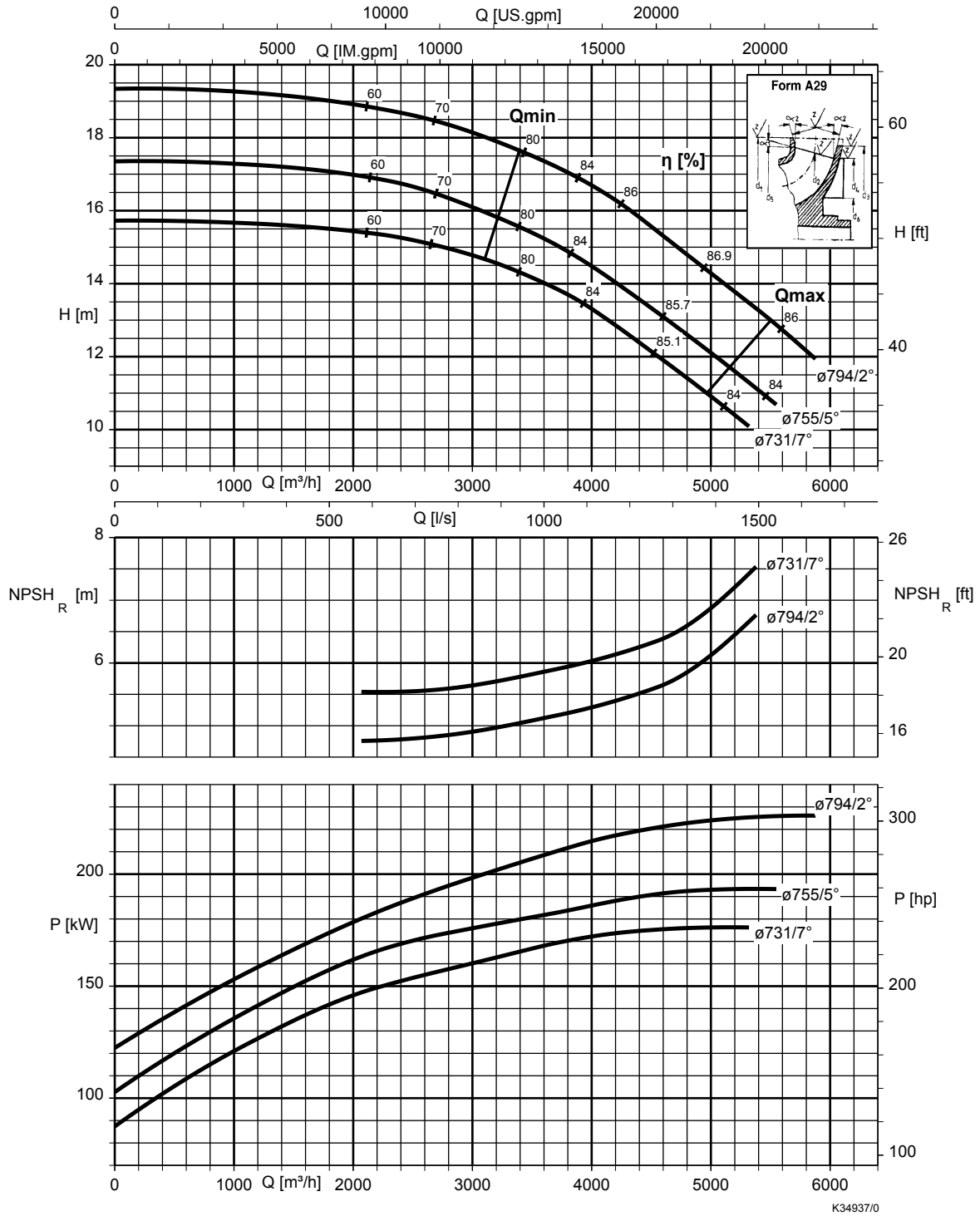
KWP K 600-600-803, $n = 480 \text{ rpm}$



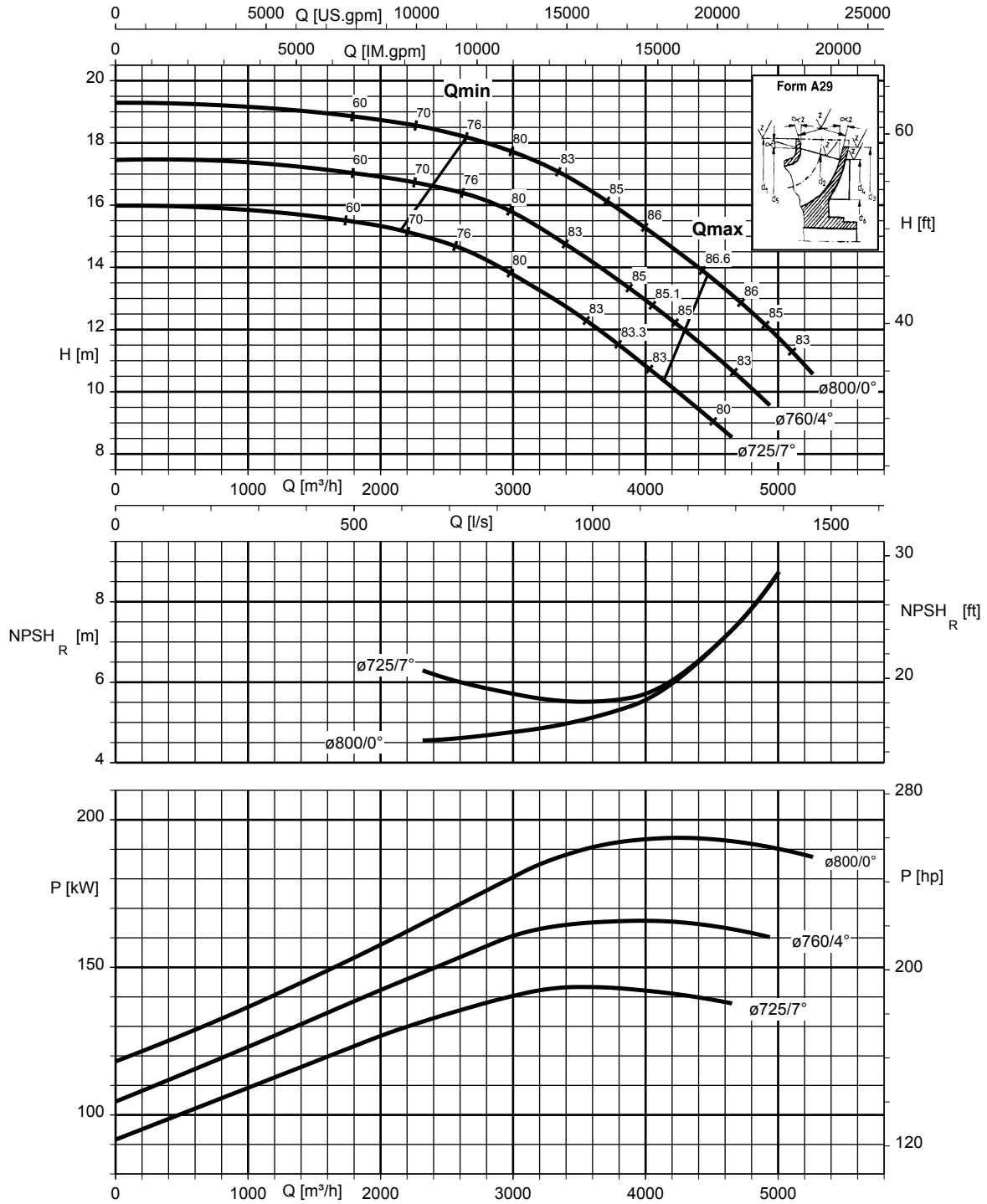
KWP K 600-600-813, n = 480 rpm



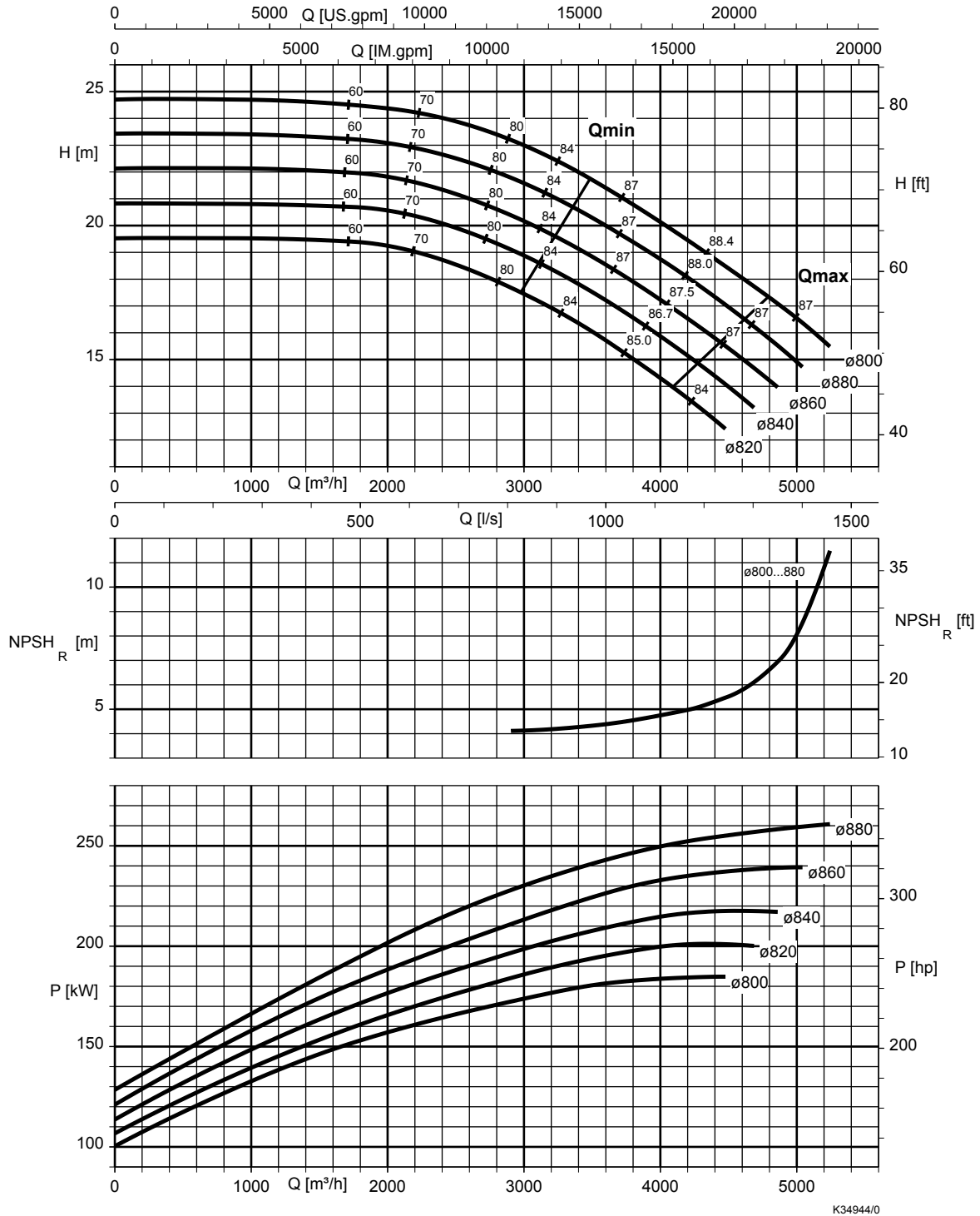
KWP K 600-600-824, n = 480 rpm



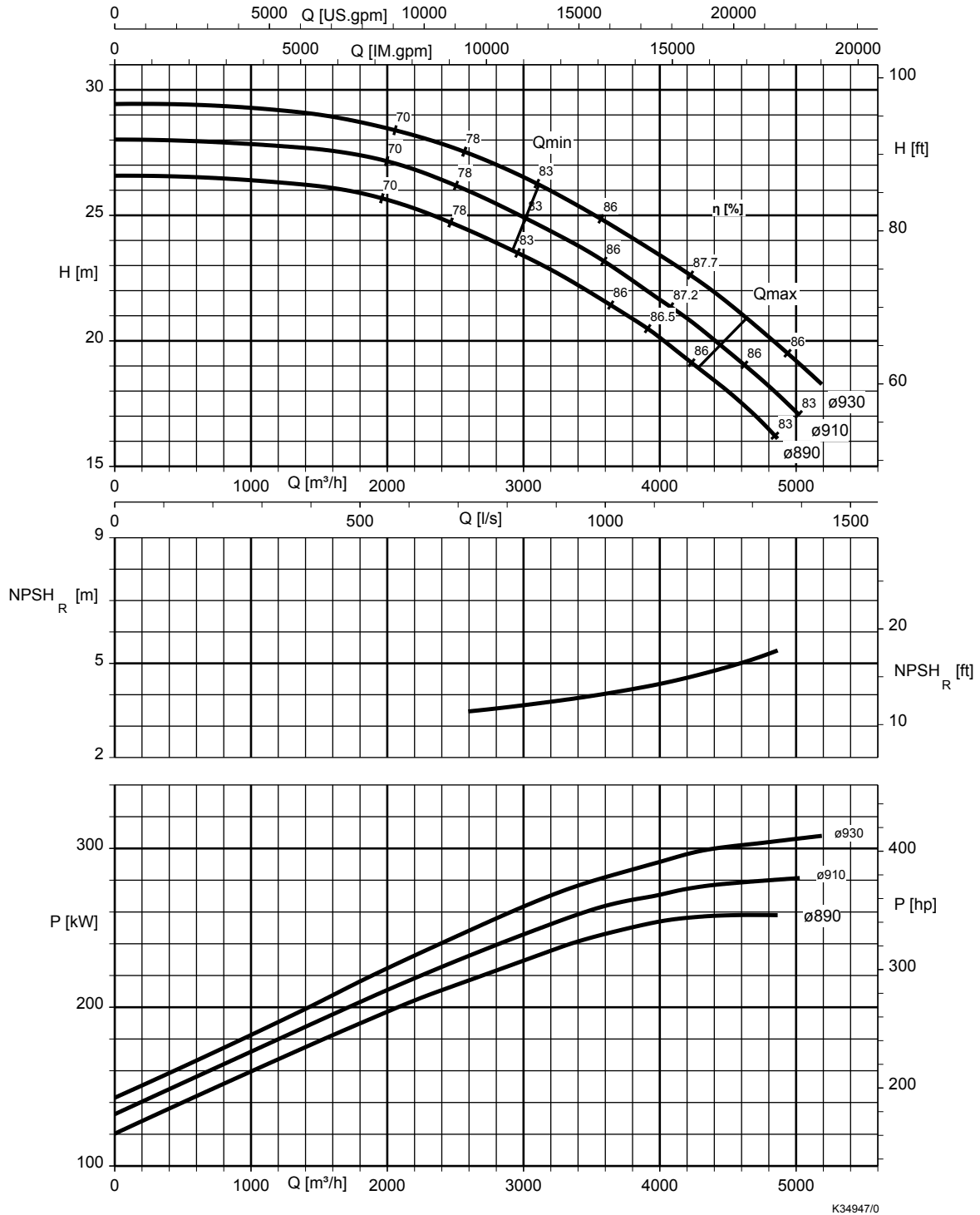
KWP K 600-600-825, n = 480 rpm



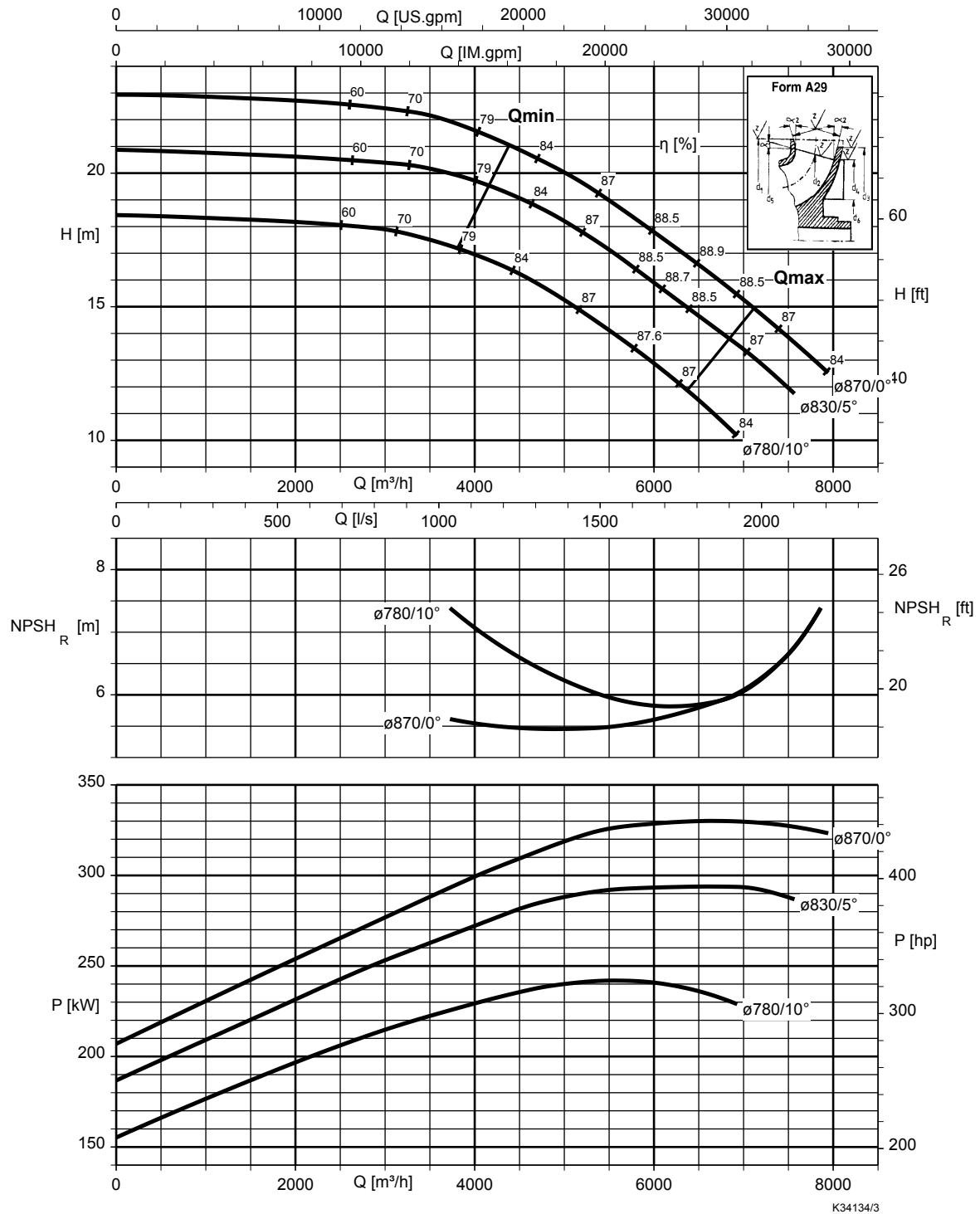
KWP K 600-600-873, $n = 480 \text{ rpm}$



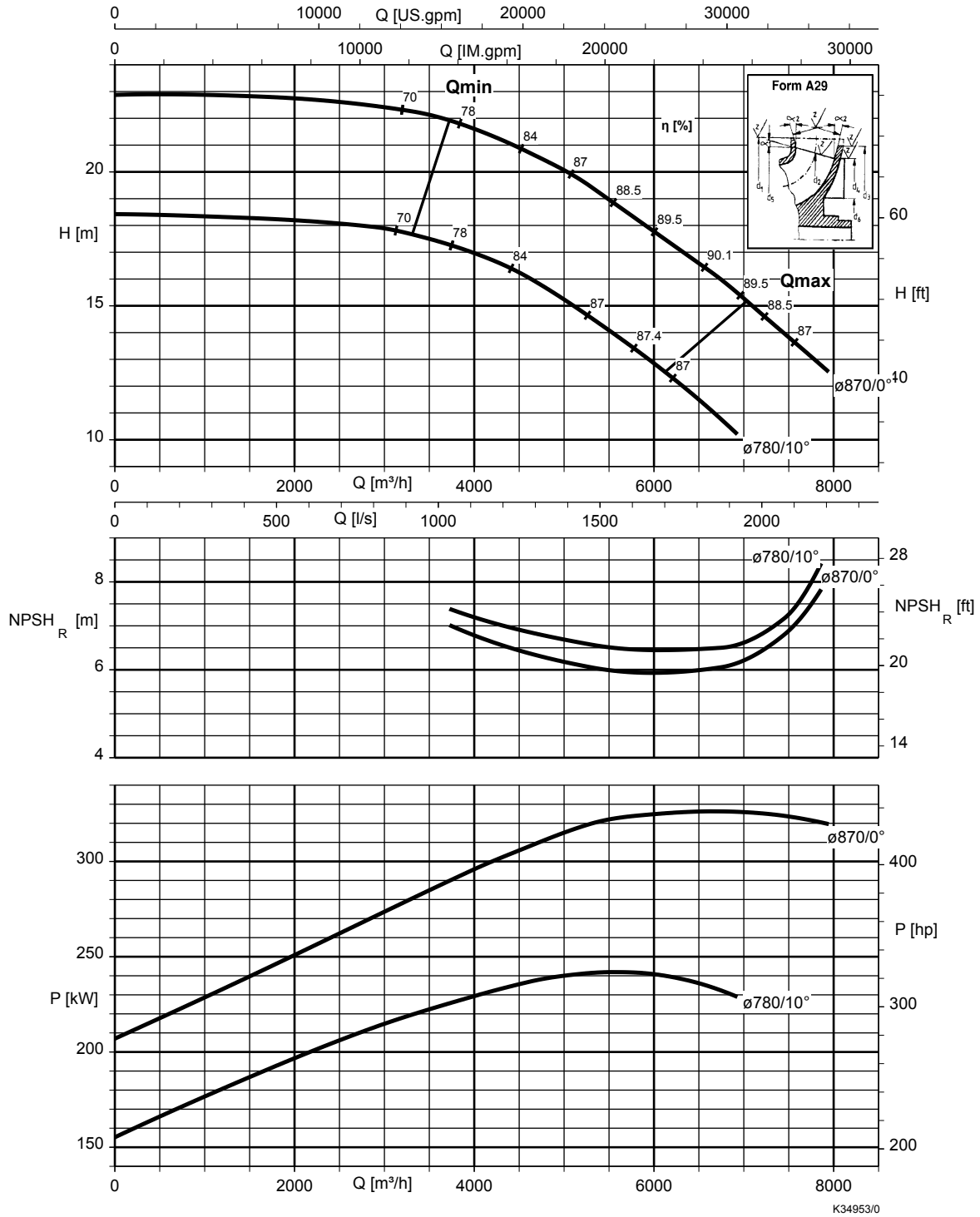
KWP K 600-600-923, $n = 480$ rpm



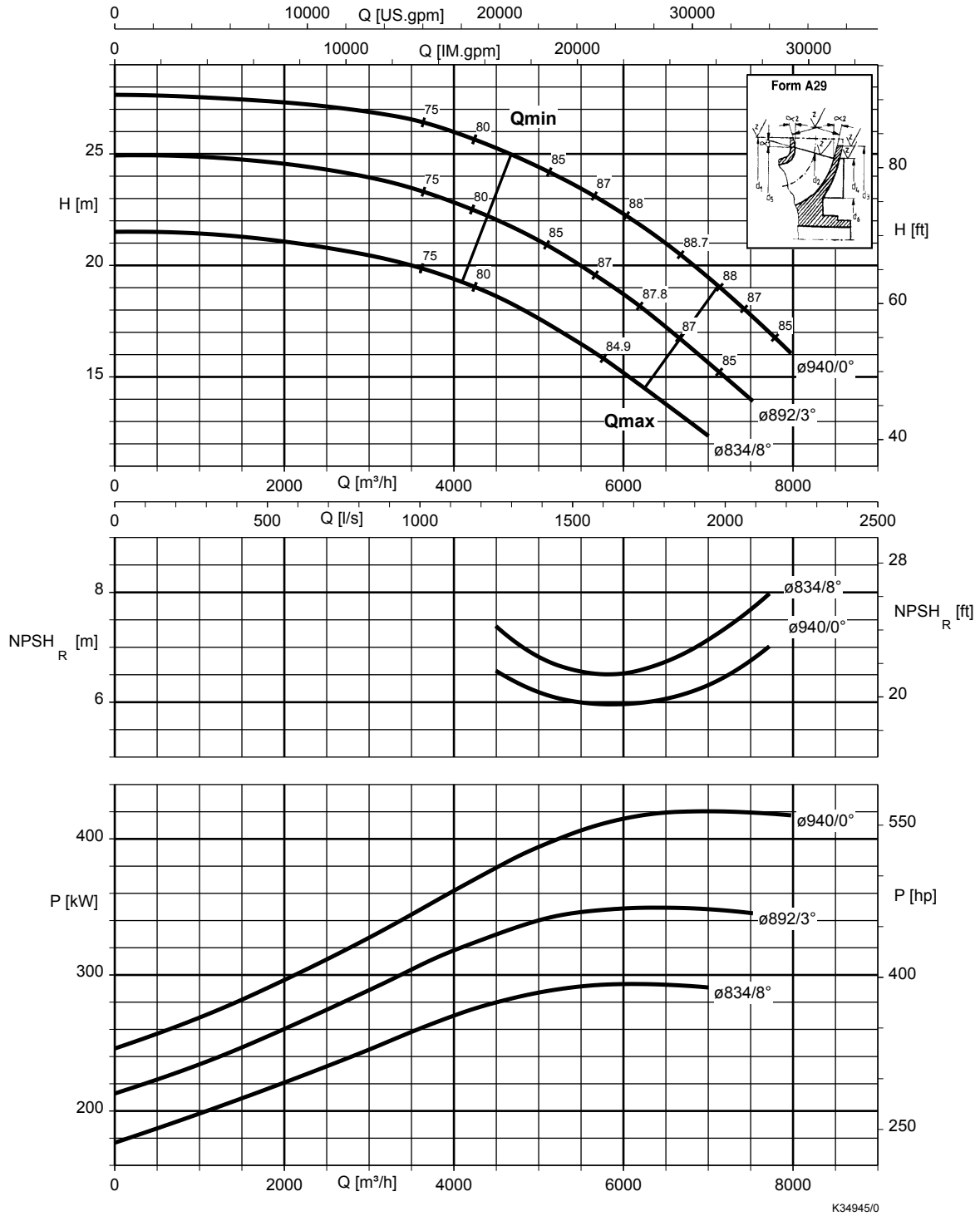
KWP K 700-700-923 , n = 480 rpm



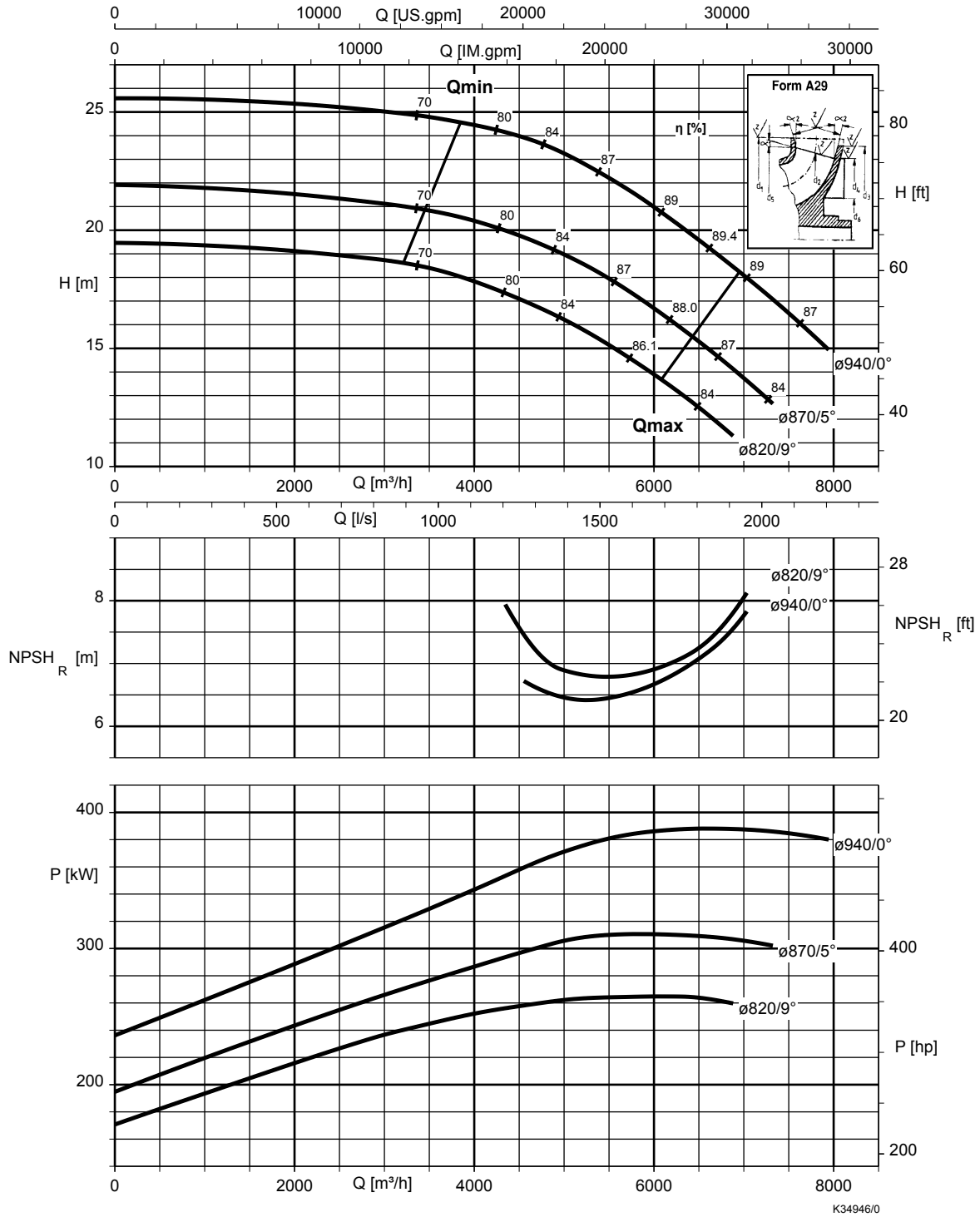
KWP K 700-700-929, n = 480 rpm



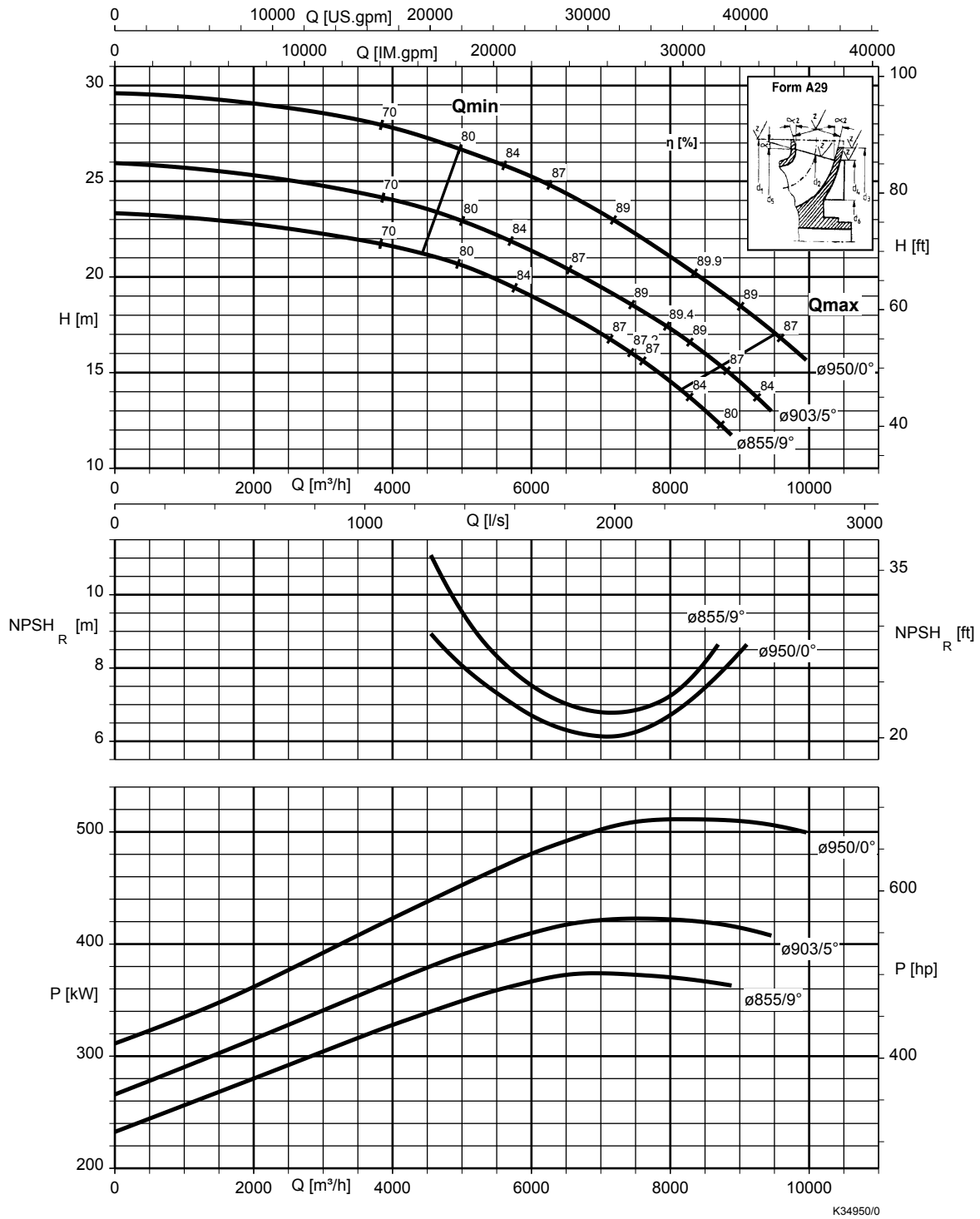
KWP K 800-700-953, $n = 480 \text{ rpm}$



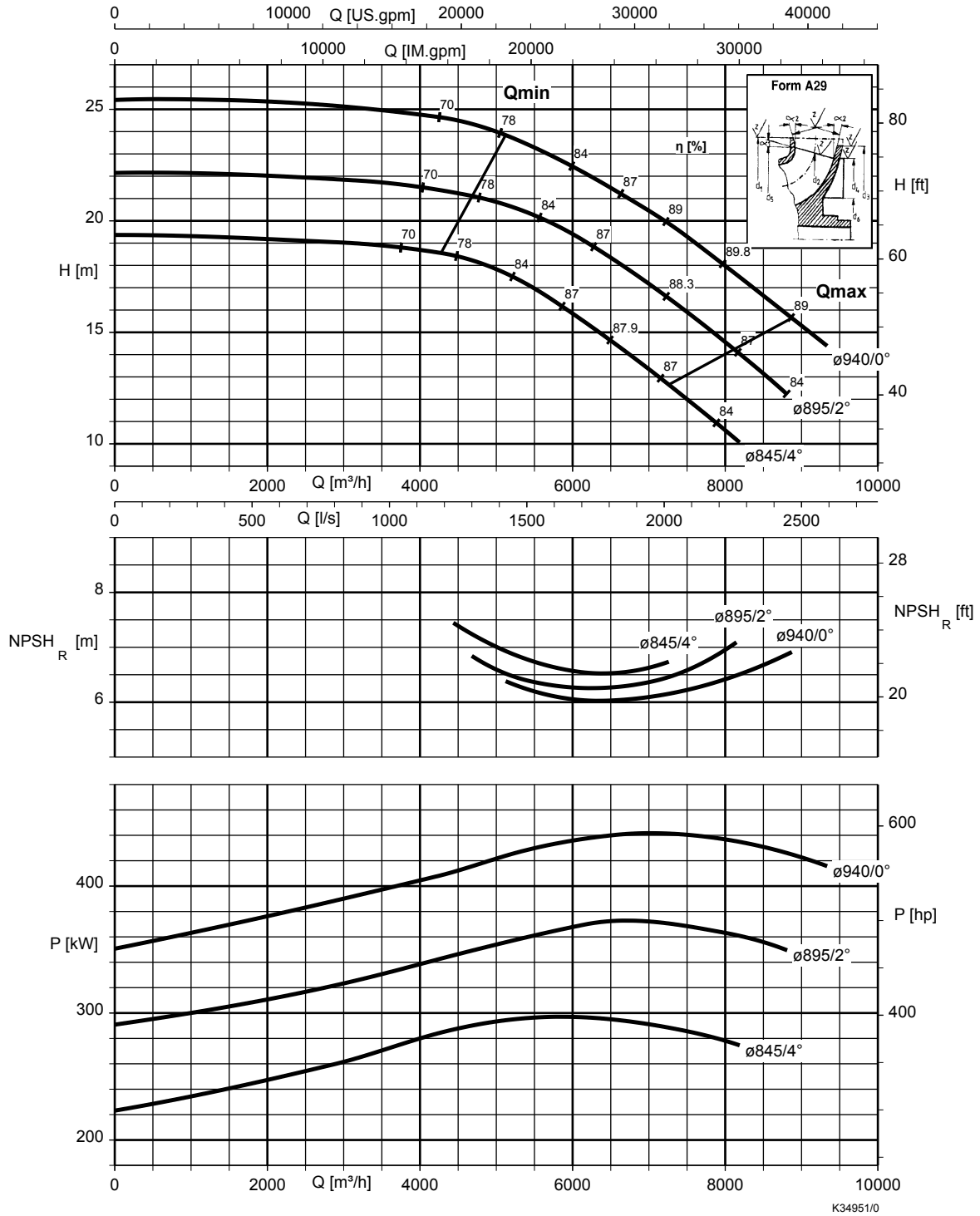
KWP K 800-700-959, $n = 480 \text{ rpm}$



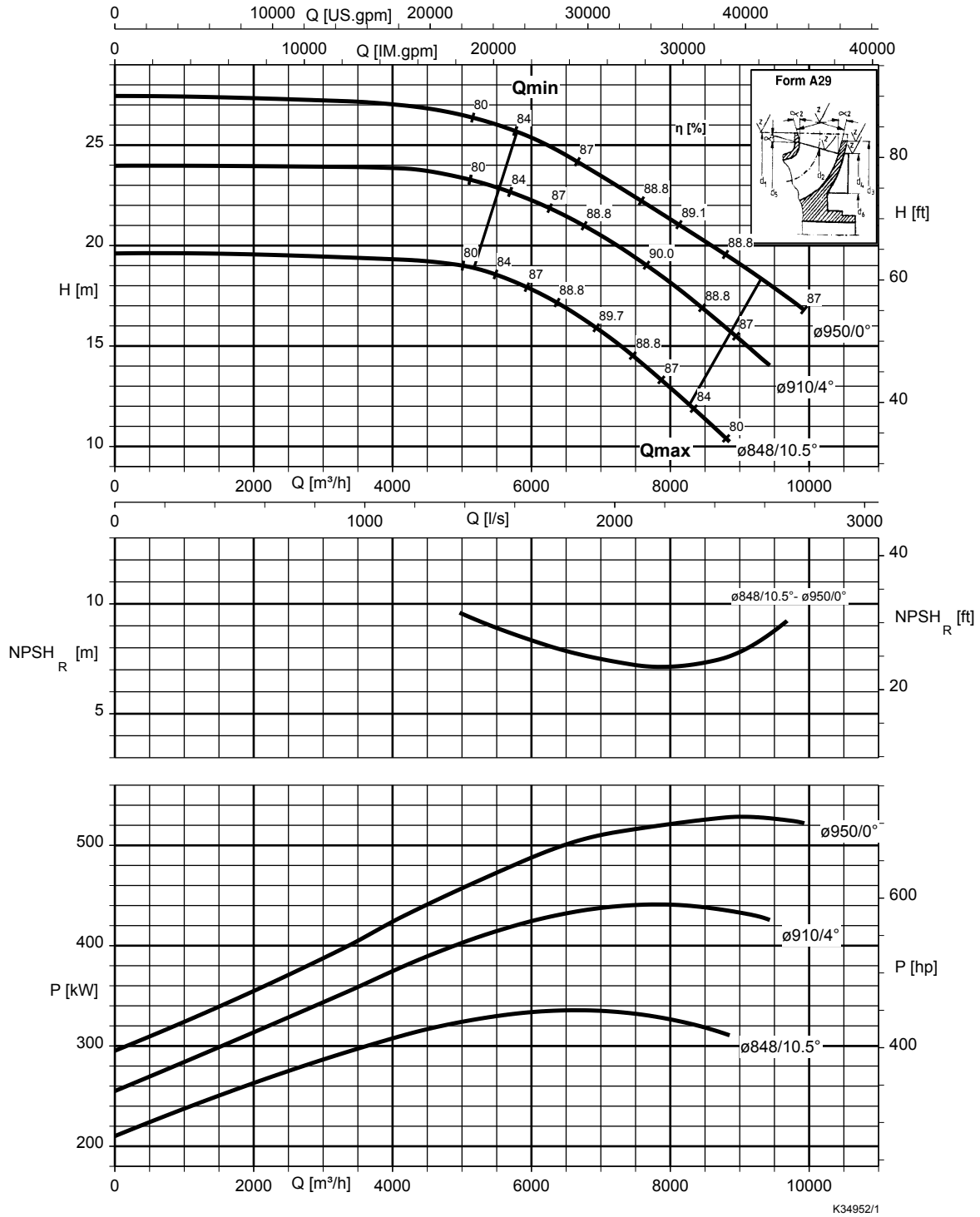
KWP K 800-800-934, $n = 480$ rpm



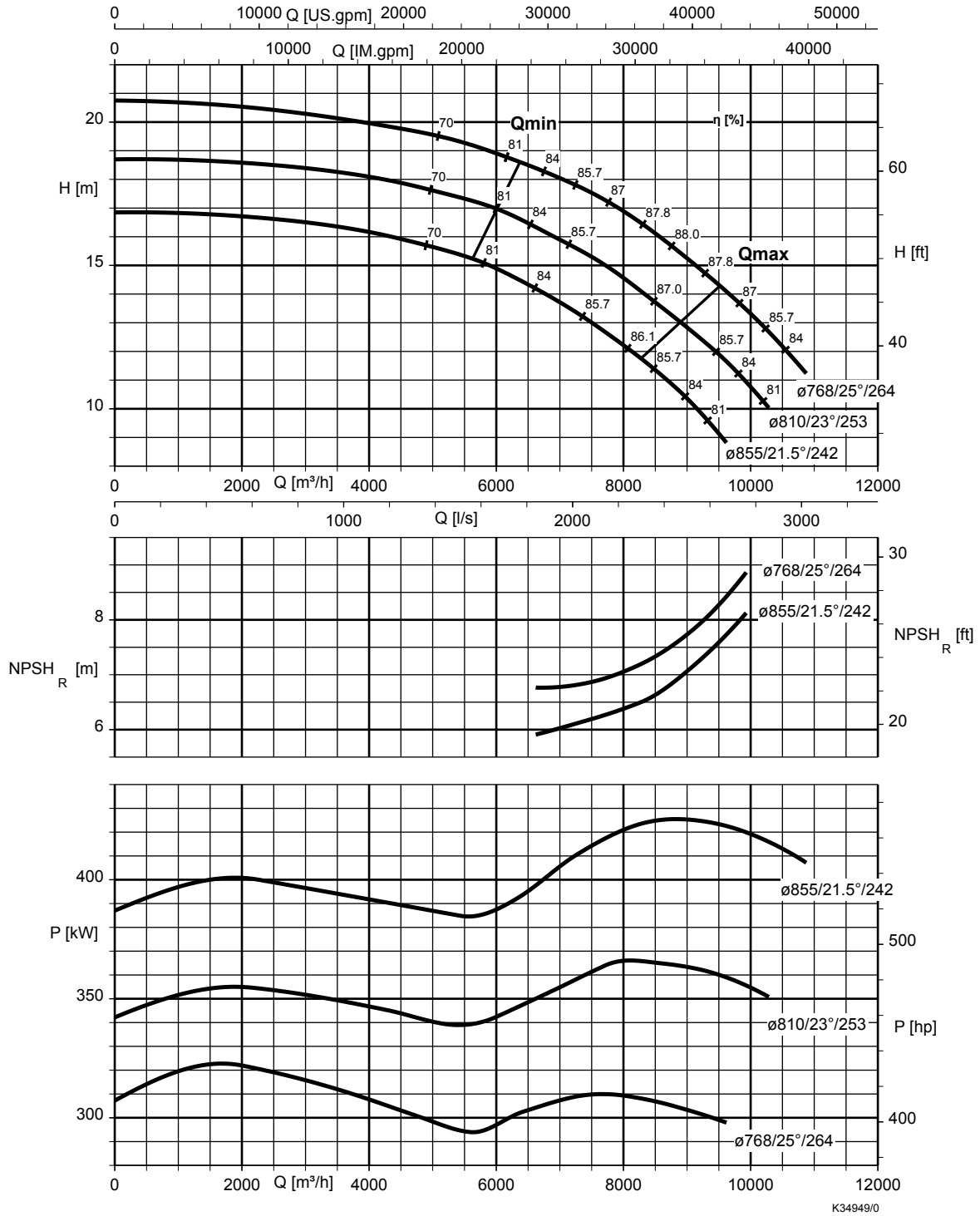
KWP K 800-800-935, $n = 480$ rpm



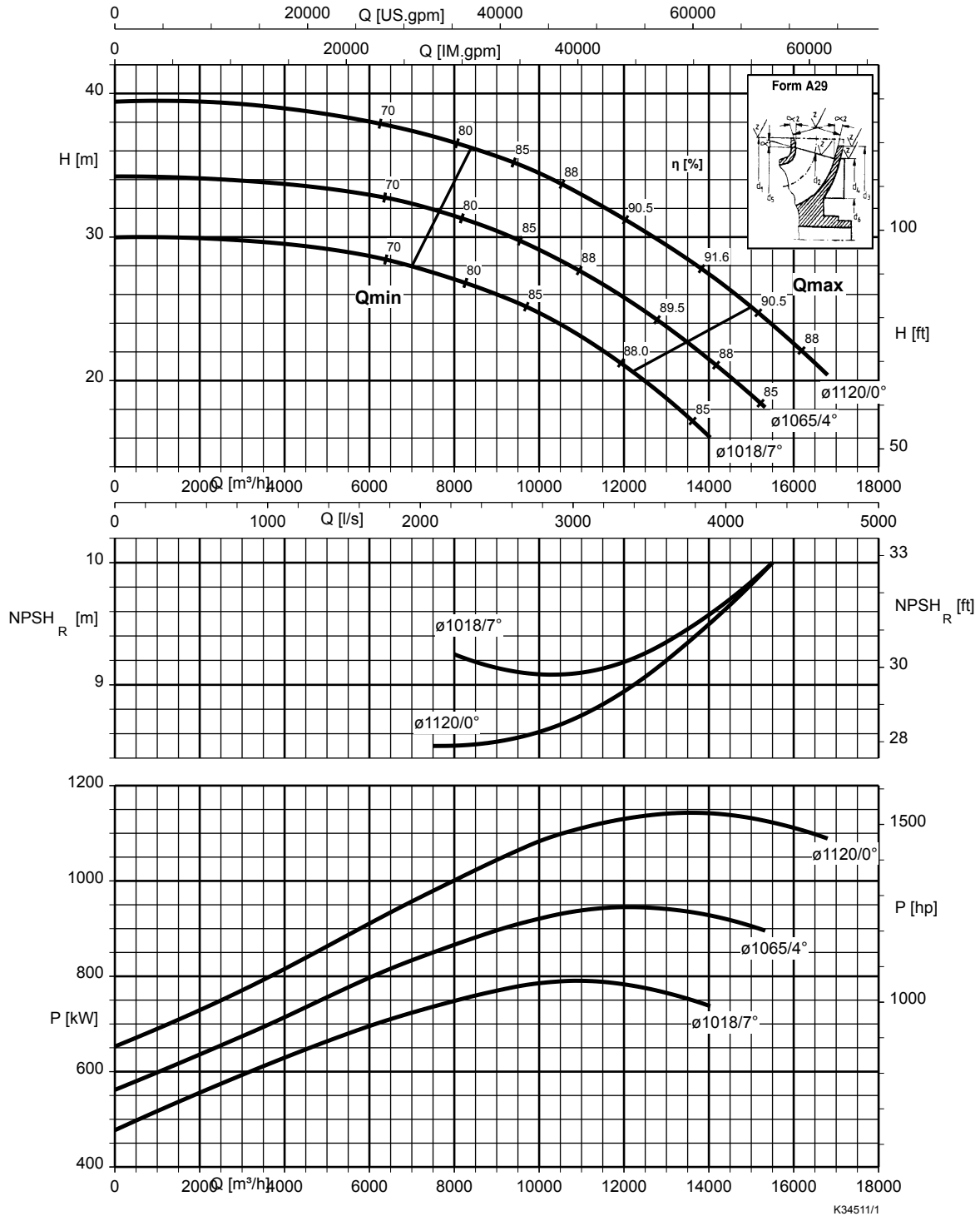
KWP K 800-800-939, n = 480 rpm



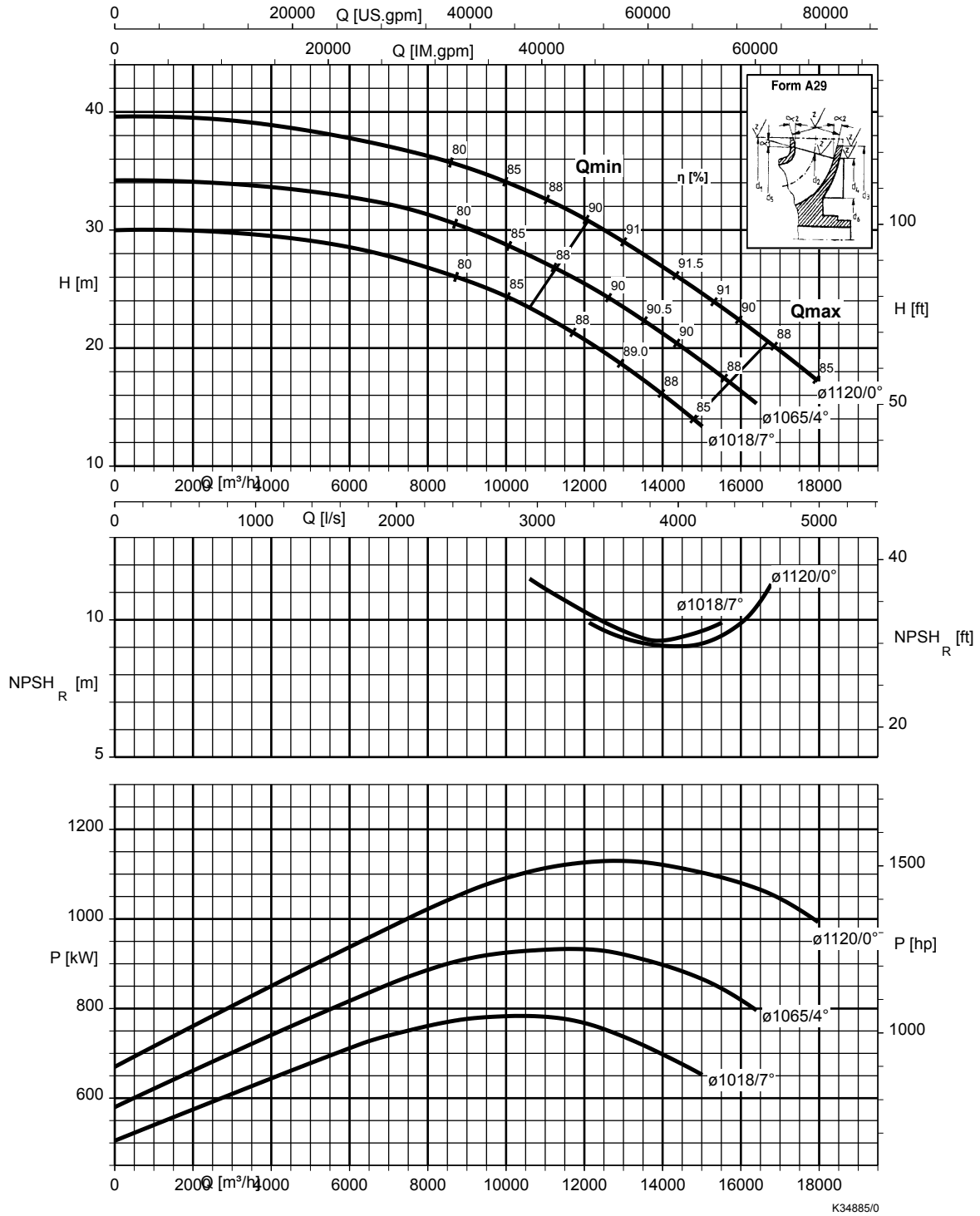
KWP K 800-900-883, $n = 480 \text{ rpm}$



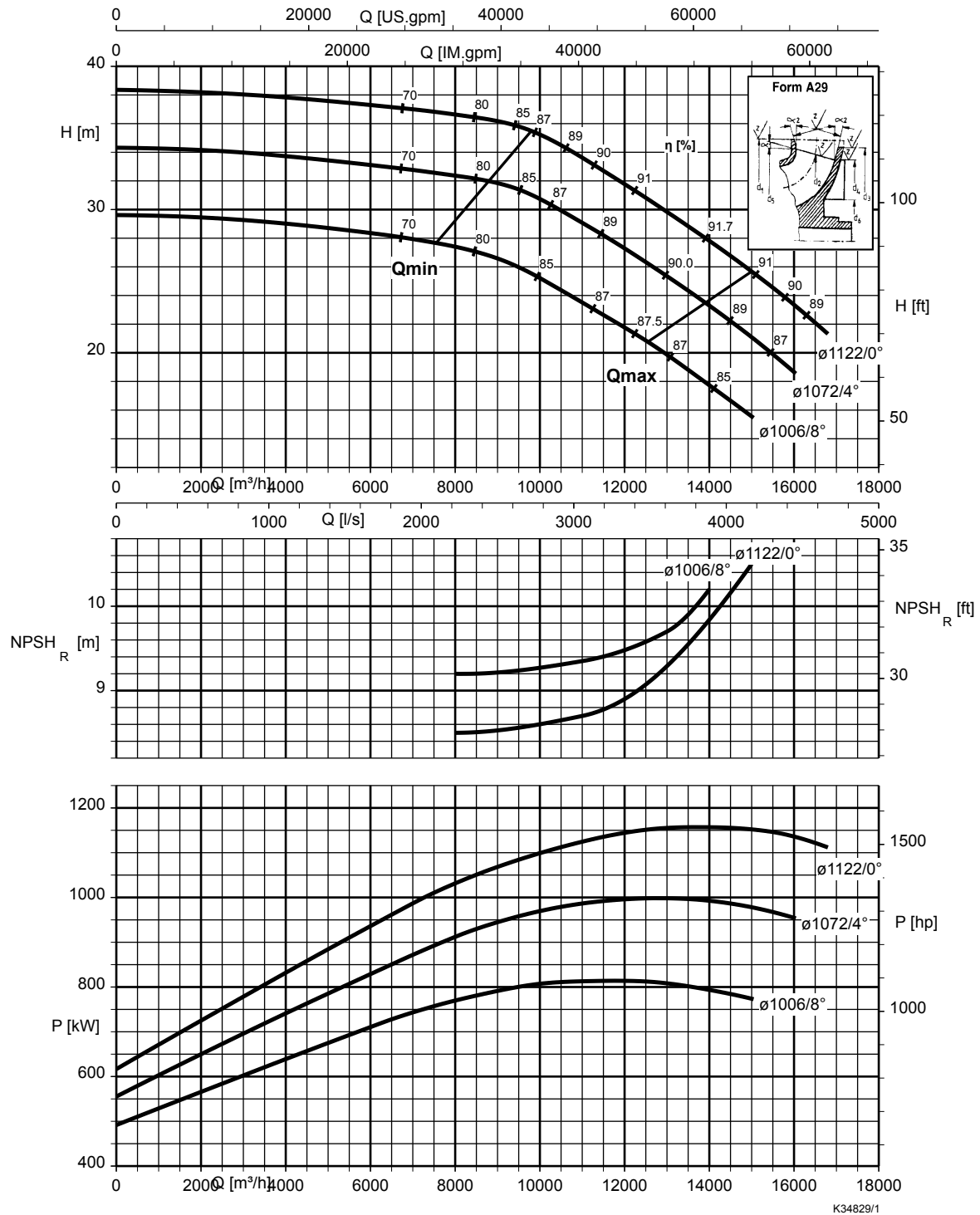
KWP K 900-900-1133, $n = 480$ rpm



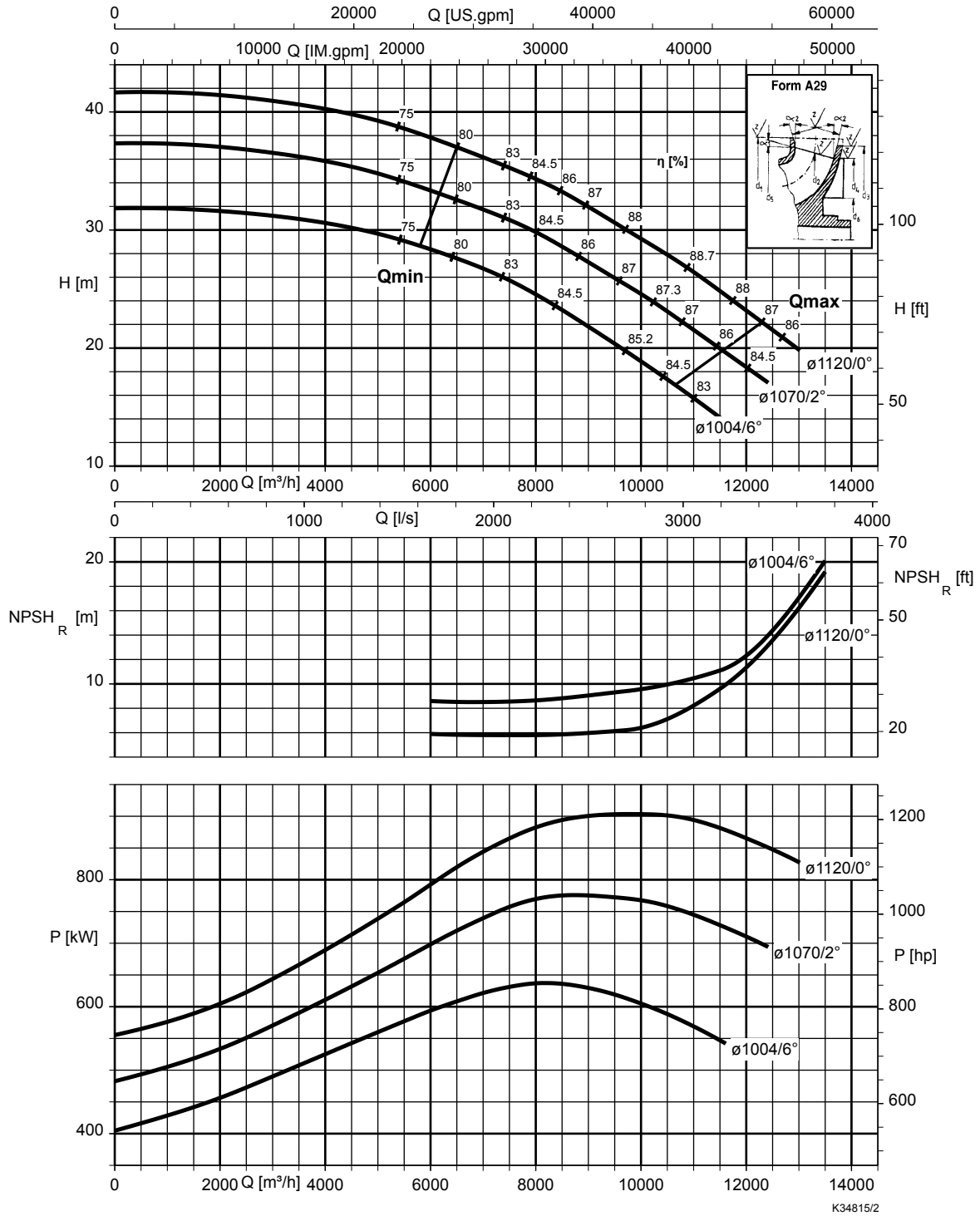
KWP K 900-900-1134, $n = 480$ rpm



KWP K 900-900-1138, $n = 480$ rpm



KWP K 900-900-1139, $n = 480$ rpm





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