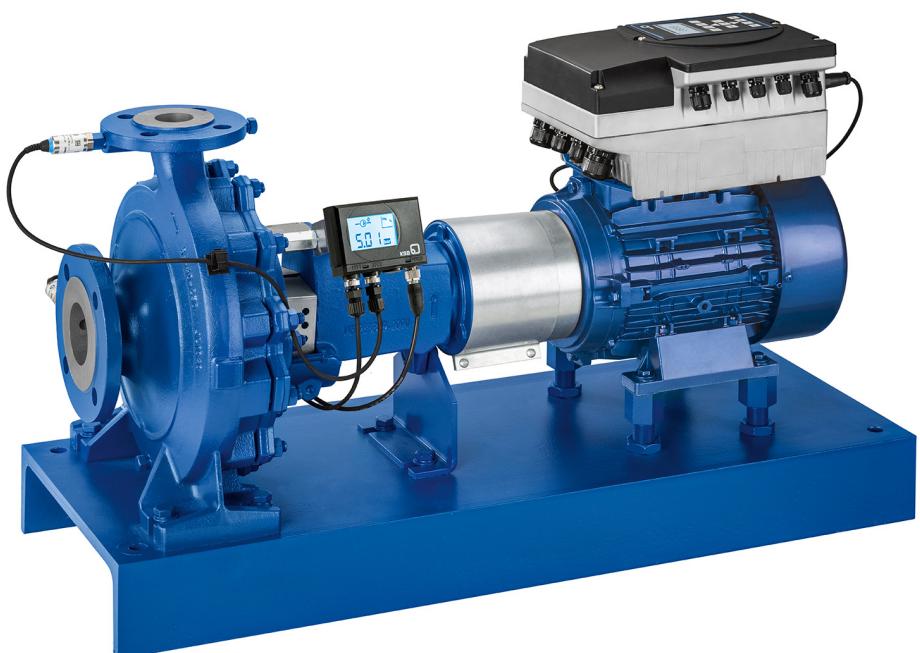


Standardised Pump / Close-coupled Pump

Etanorm/Etabloc

Variable Speed Operation

Characteristic Curves Booklet



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Characteristic Curves Booklet Etanorm/Etabloc

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Centrifugal Pumps with Shaft Seal

Variable-Speed Standardised Pumps / Close-coupled Pumps

Etanorm, Etabloc



Etanorm



Etabloc

General

Test class

Characteristic curves to ISO 9906 Class 3B

NPSH values

The NPSH values indicated in the characteristic curves correspond to a head drop of 3 %.

NPSH values in part-load conditions

NPSH values for flow rates below $Q = 0.3 \times Q_{BEP}$ 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 $20 \text{ mm}^2/\text{s}$ max. If the density $\neq 1.0$, the performance data must be multiplied by ρ . For a viscosity $> 20 \text{ mm}^2/\text{s}$ the corresponding data for cold water has to be calculated and the impact on the pump's performance has to be determined.

Friction loss

For some design variants (reinforced bearings, specific shaft seals) friction losses must be considered and indicated as additional power requirement in the data sheet.

Speed

Speed curves are documented up to the maximum speed. The motor power required for the operating range must therefore always be checked against the pump/motor combinations table in the relevant type series booklet. The material combination of impeller material and shaft material as well as the limit speeds of the PumpDrive affect the maximum speeds. The final speed limits will be known upon completion of the pump selection.

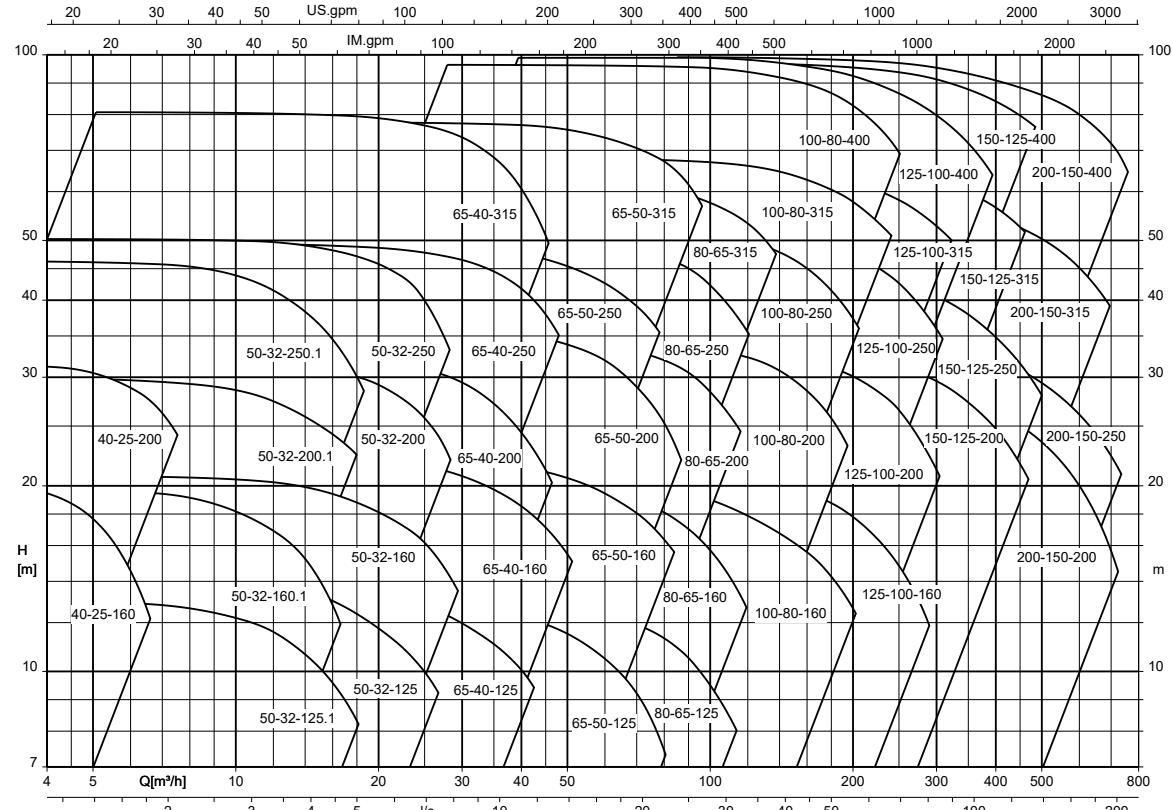
Overview of sizes

Table 1: Overview of sizes

Size	Speed range	
	Up to 2100 rpm	From 2100 rpm
Etanorm, Etabloc 040-025-160	(⇒ Page 9)	(⇒ Page 10)
Etanorm, Etabloc 040-025-200	(⇒ Page 11)	(⇒ Page 12)
Etanorm, Etabloc 050-032-125	(⇒ Page 13)	(⇒ Page 14)
Etanorm, Etabloc 050-032-125.1	(⇒ Page 15)	(⇒ Page 16)
Etanorm, Etabloc 050-032-160	(⇒ Page 17)	(⇒ Page 18)
Etanorm, Etabloc 050-032-160.1	(⇒ Page 19)	(⇒ Page 20)
Etanorm, Etabloc 050-032-200	(⇒ Page 21)	(⇒ Page 22)
Etanorm, Etabloc 050-032-200.1	(⇒ Page 23)	(⇒ Page 24)
Etanorm, Etabloc 050-032-250	(⇒ Page 25)	(⇒ Page 26)
Etanorm, Etabloc 050-032-250.1	(⇒ Page 27)	(⇒ Page 28)
Etanorm, Etabloc 065-040-125	(⇒ Page 29)	(⇒ Page 30)
Etanorm, Etabloc 065-040-160	(⇒ Page 31)	(⇒ Page 32)
Etanorm, Etabloc 065-040-200	(⇒ Page 33)	(⇒ Page 34)
Etanorm, Etabloc 065-040-250	(⇒ Page 35)	(⇒ Page 36)
Etanorm, Etabloc 065-040-315	(⇒ Page 37)	(⇒ Page 38)
Etanorm, Etabloc 065-050-125	(⇒ Page 39)	(⇒ Page 40)
Etanorm, Etabloc 065-050-160	(⇒ Page 41)	(⇒ Page 42)
Etanorm, Etabloc 065-050-200	(⇒ Page 43)	(⇒ Page 44)
Etanorm, Etabloc 065-050-250	(⇒ Page 45)	(⇒ Page 46)
Etanorm, Etabloc 065-050-315	(⇒ Page 47)	(⇒ Page 48)
Etanorm, Etabloc 080-065-125	(⇒ Page 49)	(⇒ Page 50)
Etanorm, Etabloc 080-065-160	(⇒ Page 51)	(⇒ Page 52)
Etanorm, Etabloc 080-065-200	(⇒ Page 53)	(⇒ Page 54)
Etanorm, Etabloc 080-065-250	(⇒ Page 55)	(⇒ Page 56)
Etanorm, Etabloc 080-065-315	(⇒ Page 57) Up to 1900 rpm	(⇒ Page 58)
Etanorm, Etabloc 100-080-160	(⇒ Page 59)	(⇒ Page 60)
Etanorm, Etabloc 100-080-200	(⇒ Page 61)	(⇒ Page 62)
Etanorm, Etabloc 100-080-250	(⇒ Page 63)	(⇒ Page 64)
Etanorm, Etabloc 100-080-315	(⇒ Page 65) Up to 1900 rpm	(⇒ Page 66)
Etanorm, Etabloc 100-080-400	(⇒ Page 67) Up to 1900 rpm	-
Etanorm, Etabloc 125-100-160	(⇒ Page 68)	(⇒ Page 69)
Etanorm, Etabloc 125-100-200	(⇒ Page 70)	(⇒ Page 71)
Etanorm, Etabloc 125-100-250	(⇒ Page 72)	(⇒ Page 73)
Etanorm, Etabloc 125-100-315	(⇒ Page 74) Up to 1900 rpm	(⇒ Page 75)
Etanorm, Etabloc 125-100-400	(⇒ Page 76) Up to 1900 rpm	-
Etanorm, Etabloc 150-125-200	(⇒ Page 77)	(⇒ Page 78)
Etanorm, Etabloc 150-125-250	(⇒ Page 79) Up to 2000 rpm	-
Etanorm, Etabloc 150-125-315	(⇒ Page 80) Up to 1900 rpm	-
Etanorm, Etabloc 150-125-400	(⇒ Page 81) Up to 1800 rpm	-
Etanorm, Etabloc 200-150-200	(⇒ Page 82)	-
Etanorm, Etabloc 200-150-250	(⇒ Page 83) Up to 1800 rpm	-
Etanorm, Etabloc 200-150-315	(⇒ Page 84) Up to 1800 rpm	-
Etanorm, Etabloc 200-150-400	(⇒ Page 85) Up to 1800 rpm	-

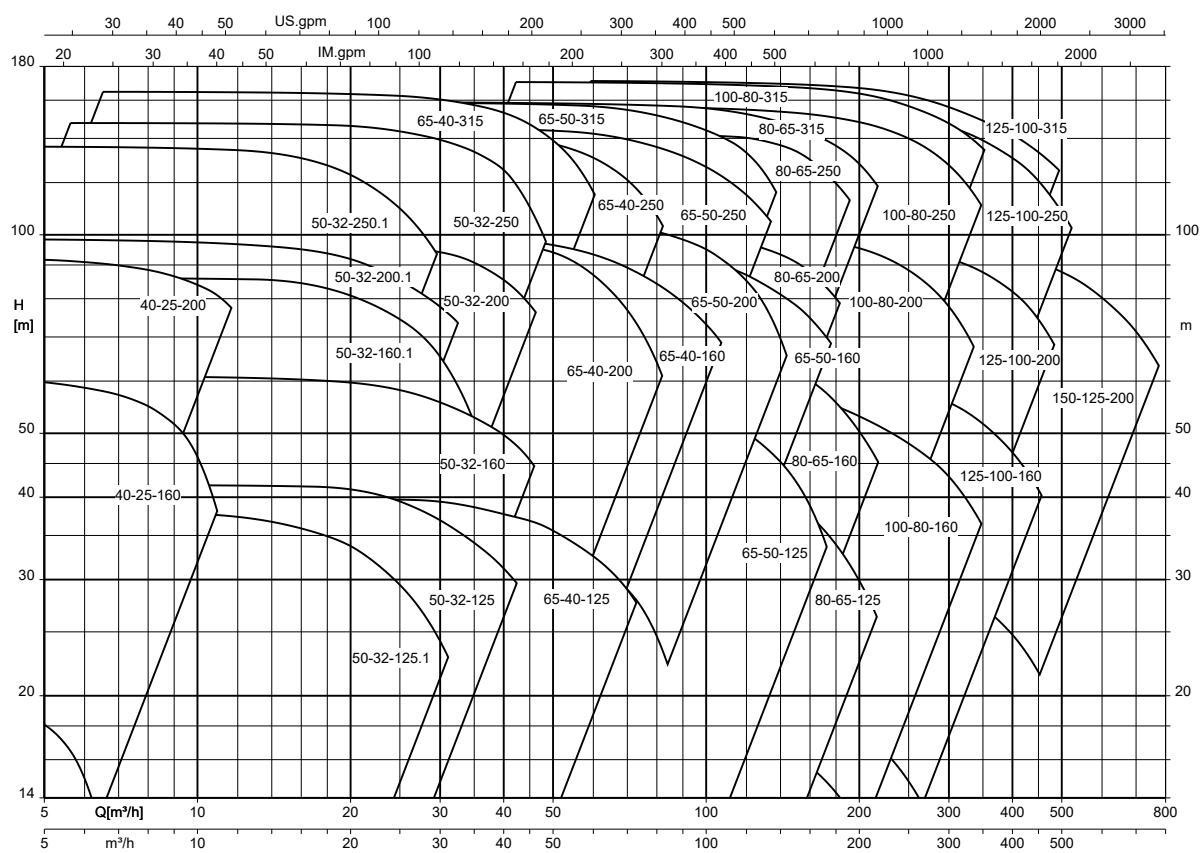
Selection charts

Etanorm, Etabloc, speed range up to 2100 rpm



i Speed curves are documented up to the maximum speed. The motor power required for the operating range must therefore always be checked against the pump/motor combinations table in the relevant type series booklet. The material combination of impeller material and shaft material affect the maximum speeds. The final speed limits will be known upon completion of the pump selection.

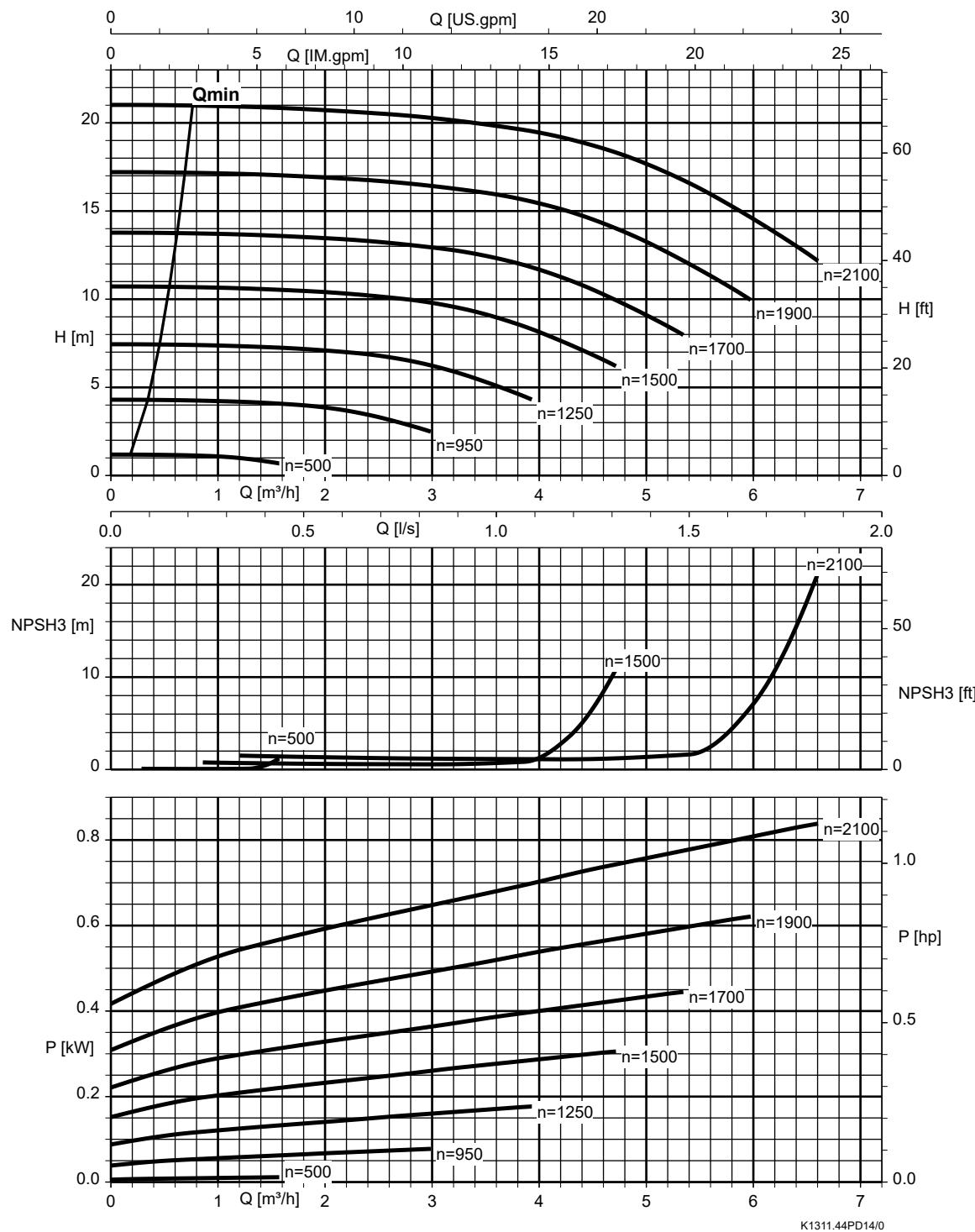
Etanorm, Etabloc, speed range from 2100 rpm



i Speed curves are documented up to the maximum speed. The motor power required for the operating range must therefore always be checked against the pump/motor combinations table in the relevant type series booklet. The material combination of impeller material and shaft material affect the maximum speeds. The final speed limits will be known upon completion of the pump selection.

Characteristic curves

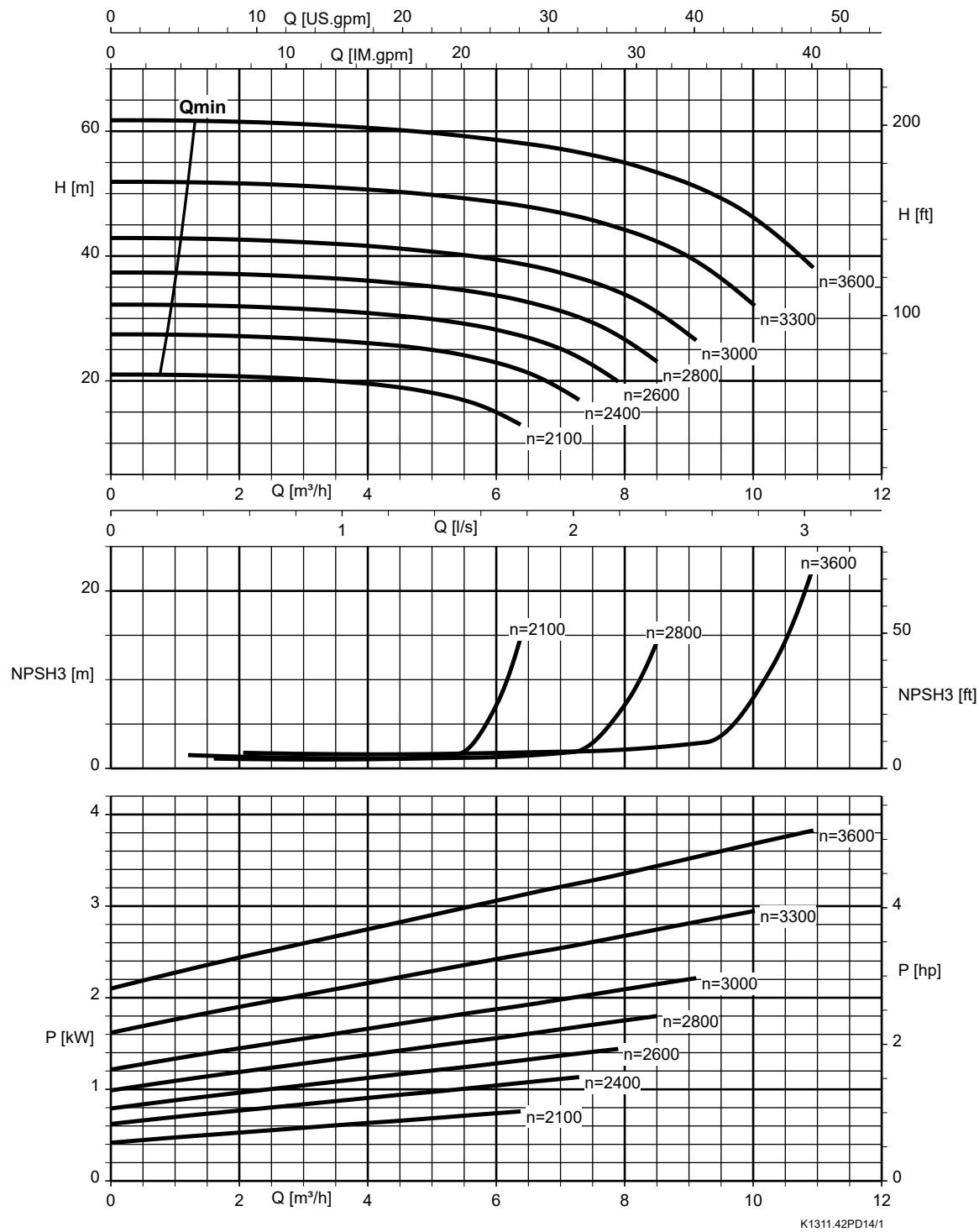
Etanorm, Etabloc 040-025-160, up to 2100 rpm



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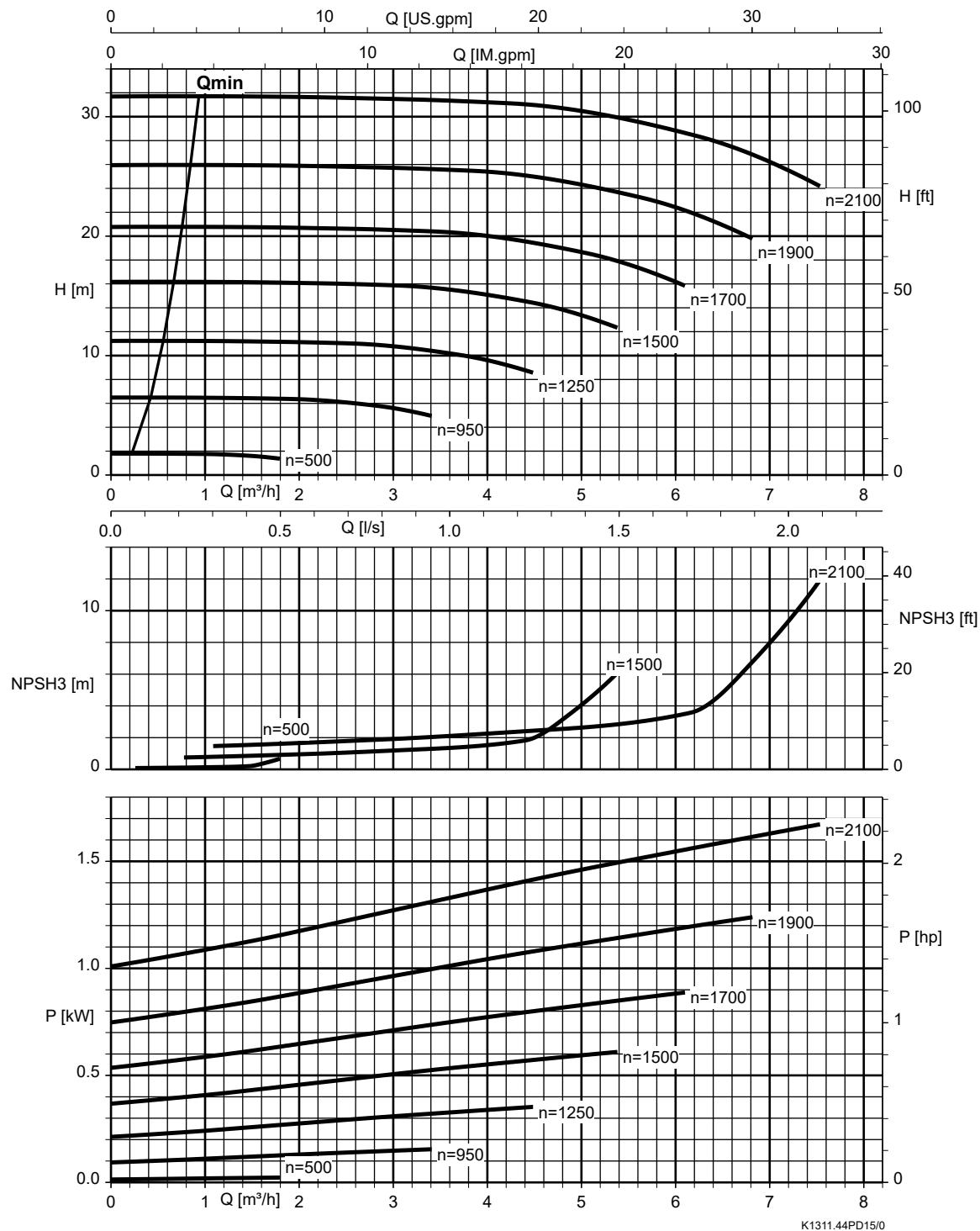
Impeller diameter: 169 mm

Etanorm, Etabloc 040-025-160, from 2100 rpm



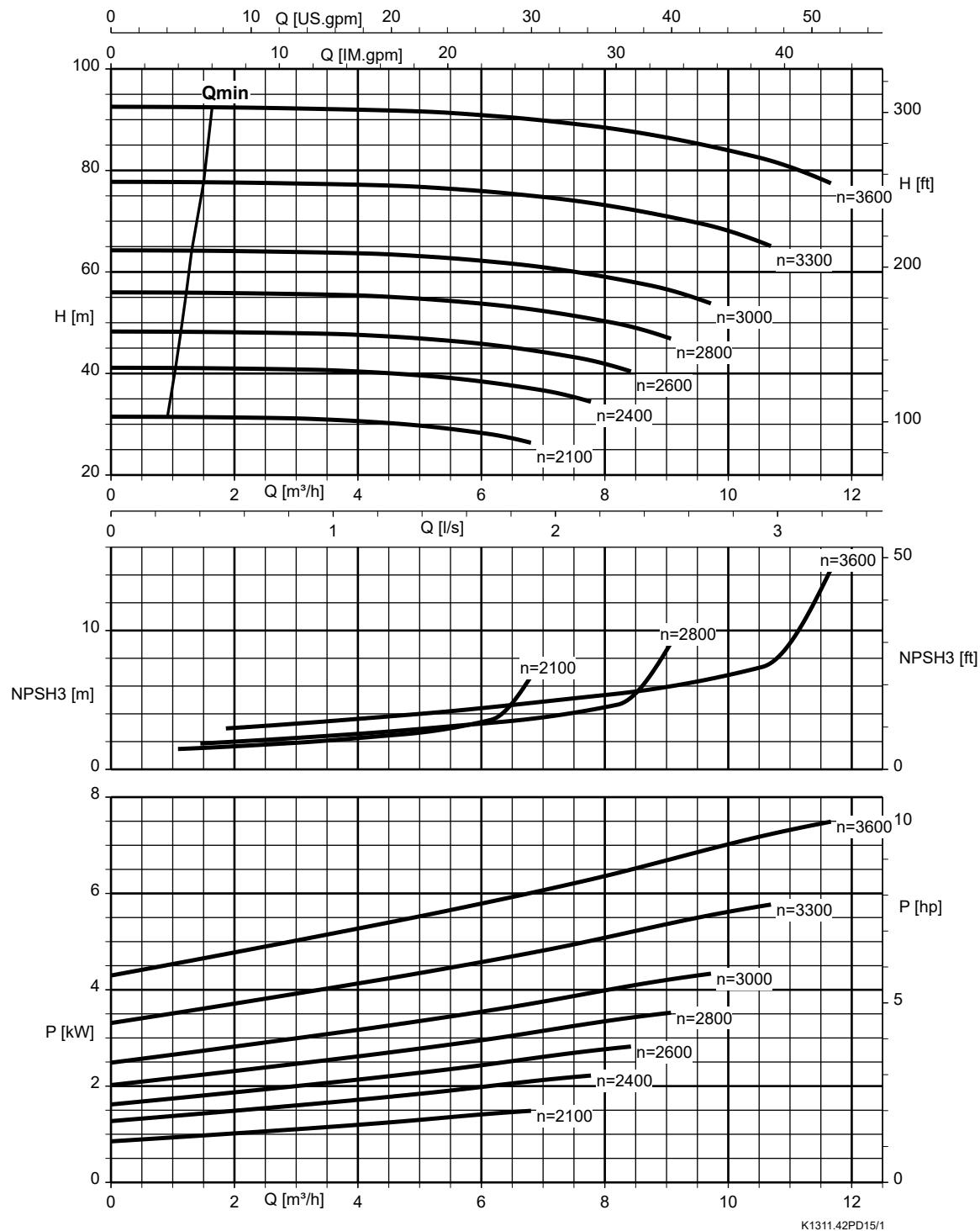
Impeller diameter: 169 mm

Etanorm, Etabloc 040-025-200, up to 2100 rpm



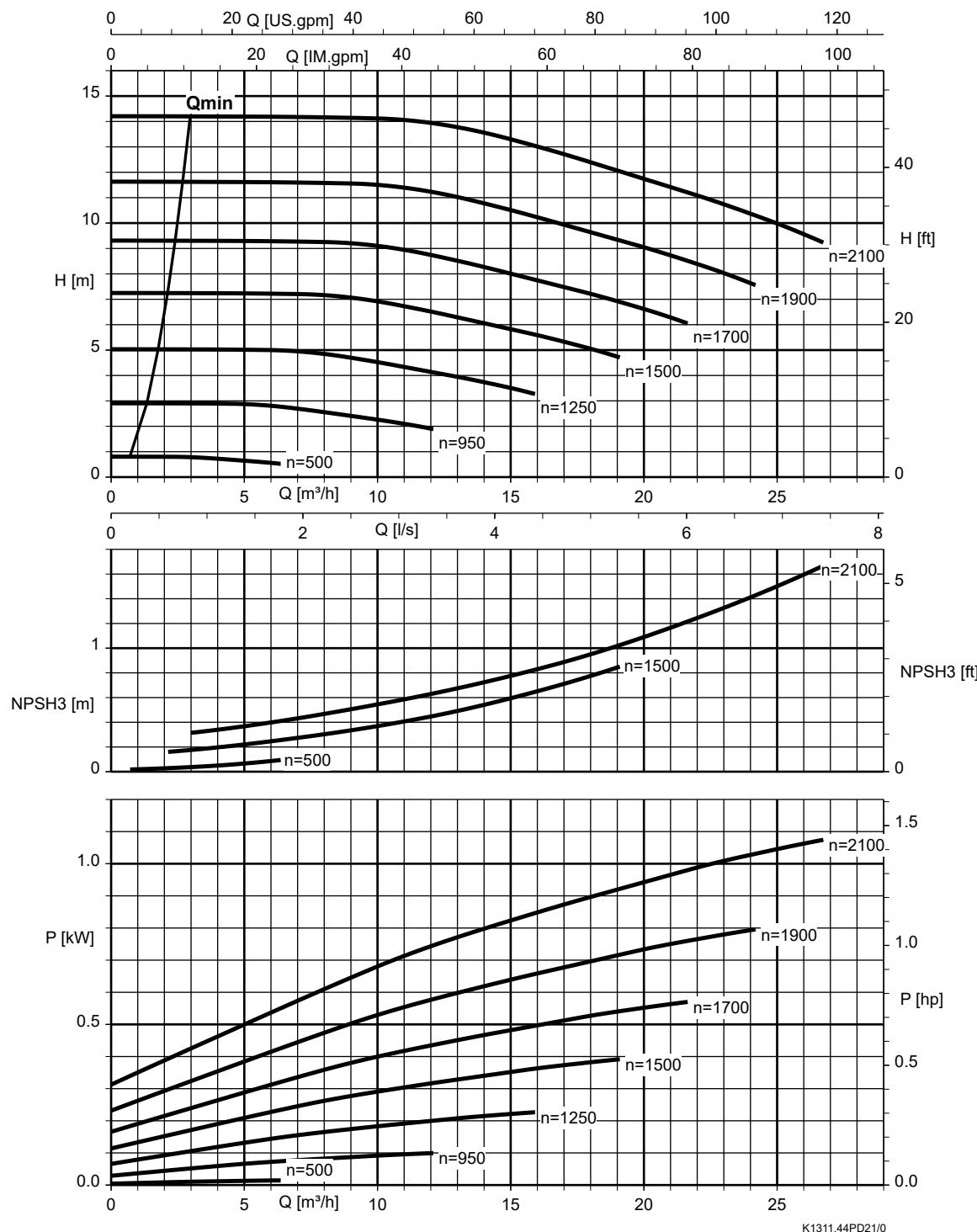
Impeller diameter: 209 mm

Etanorm, Etabloc 040-025-200, from 2100 rpm



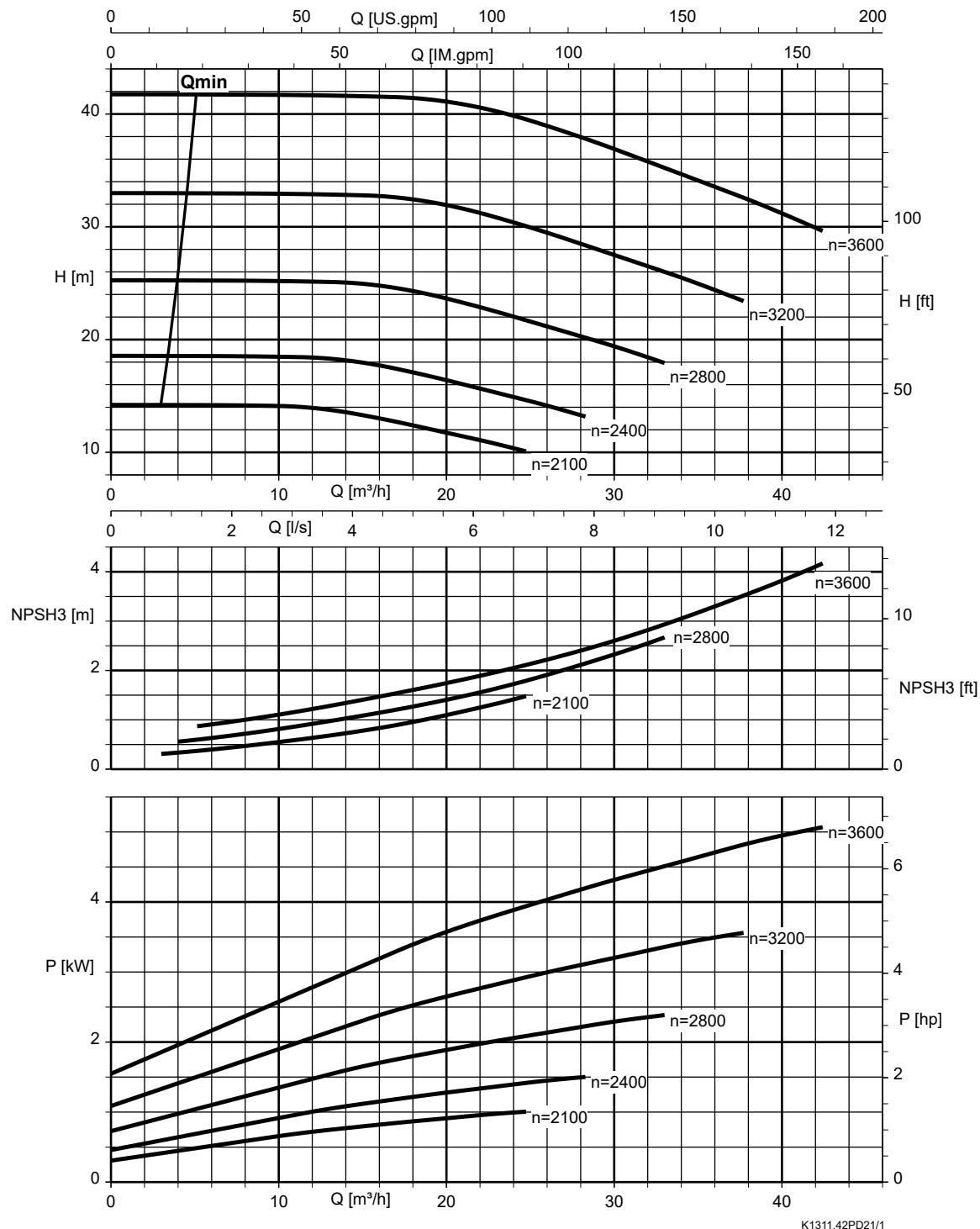
Impeller diameter: 209 mm

Etanorm, Etabloc 050-032-125, up to 2100 rpm



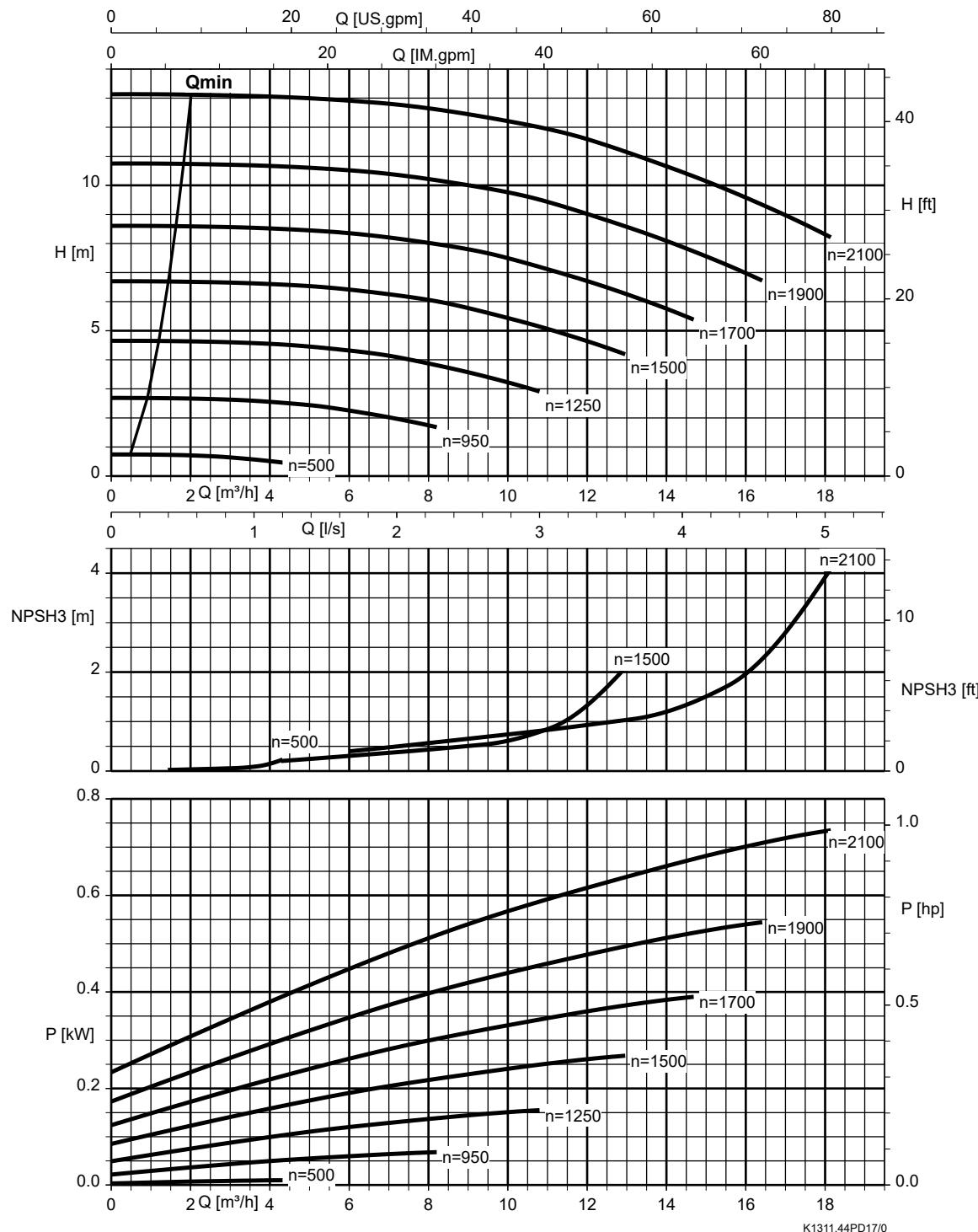
Impeller diameter: 139 mm

Etanorm, Etabloc 050-032-125, from 2100 rpm



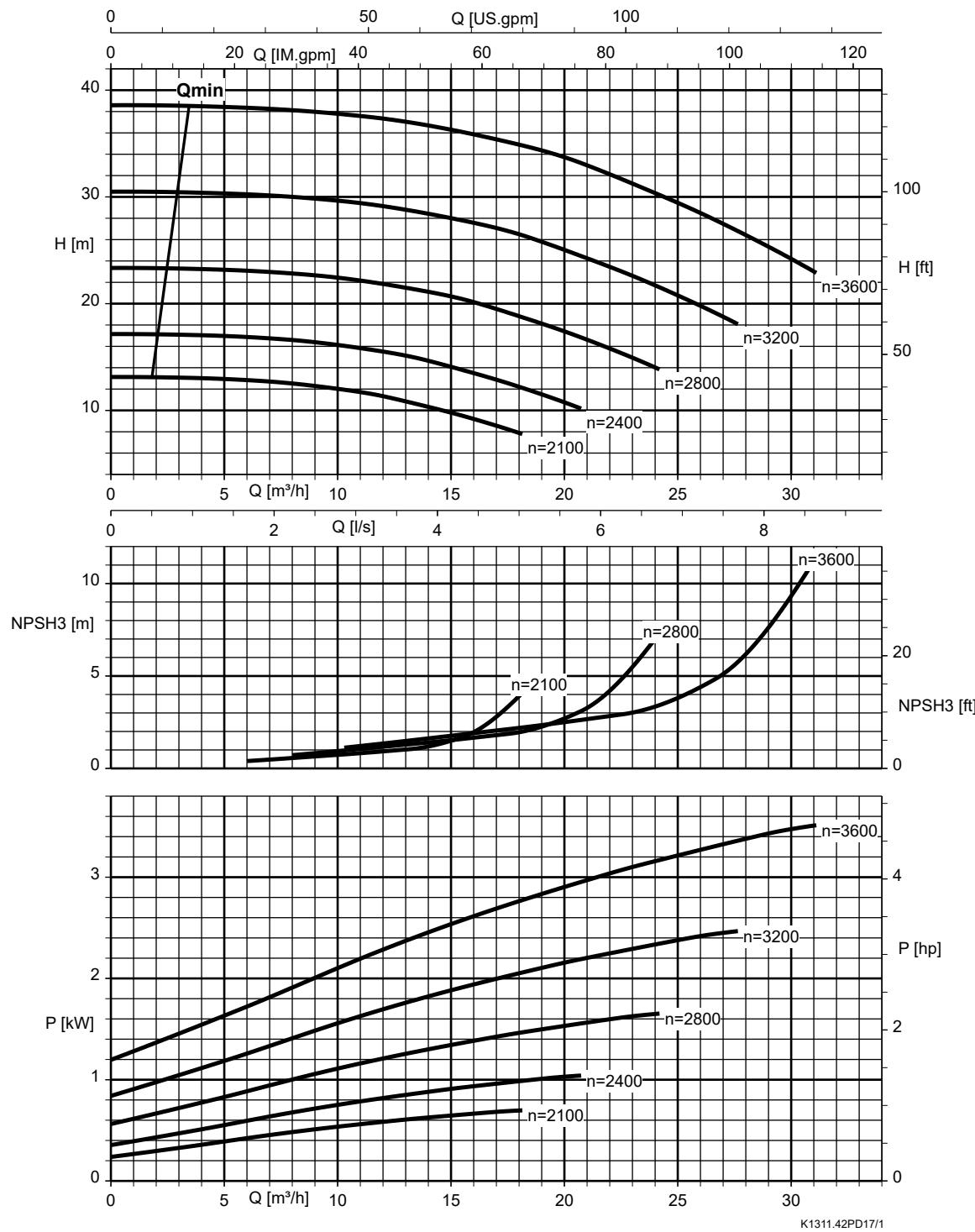
Impeller diameter: 139 mm

Etanorm, Etabloc 050-032-125.1, up to 2100 rpm



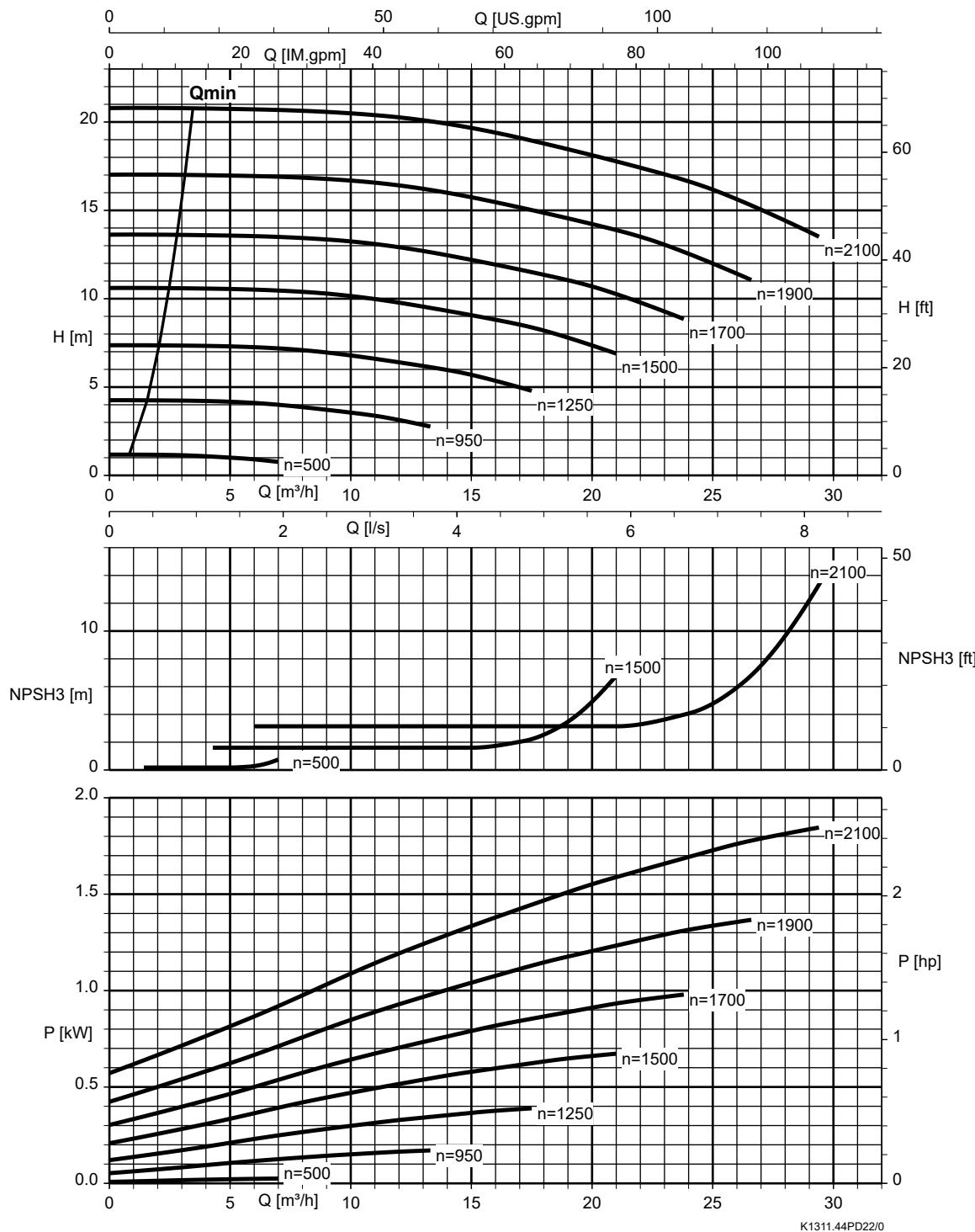
Impeller diameter: 139 mm

Etanorm, Etabloc 050-032-125.1, from 2100 rpm



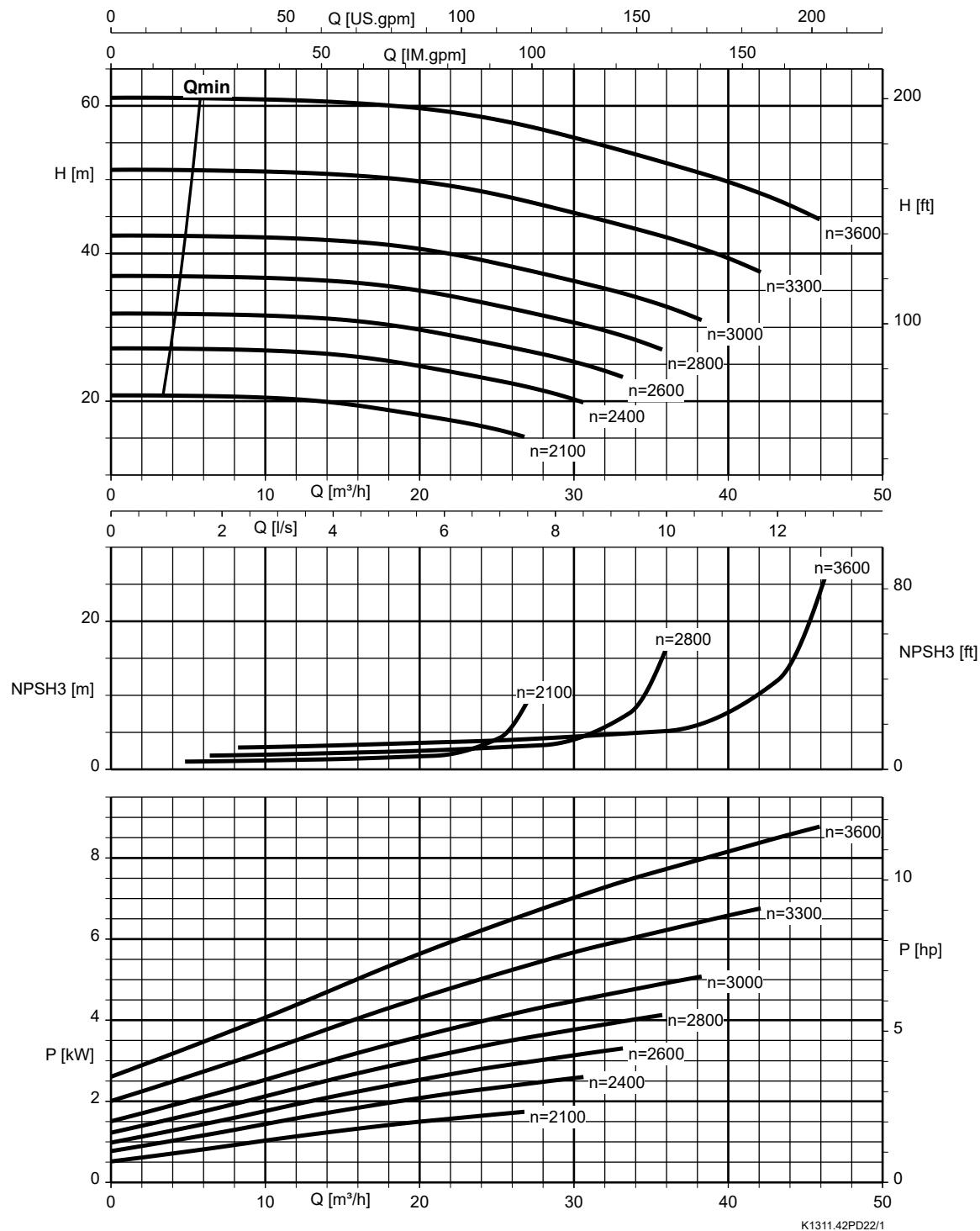
Impeller diameter: 139 mm

Etanorm, Etabloc 050-032-160, up to 2100 rpm



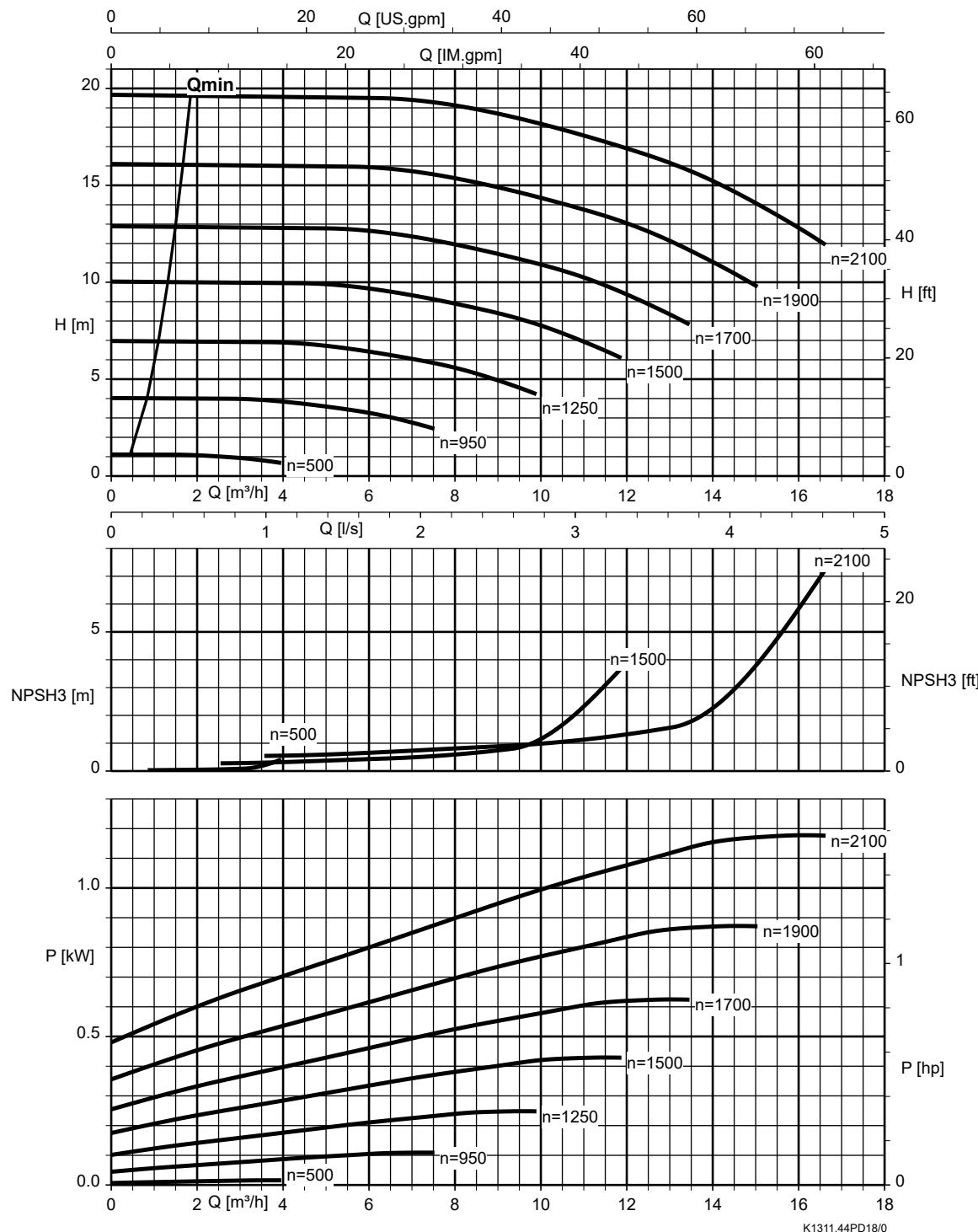
Impeller diameter: 174 mm

Etanorm, Etabloc 050-032-160, from 2100 rpm



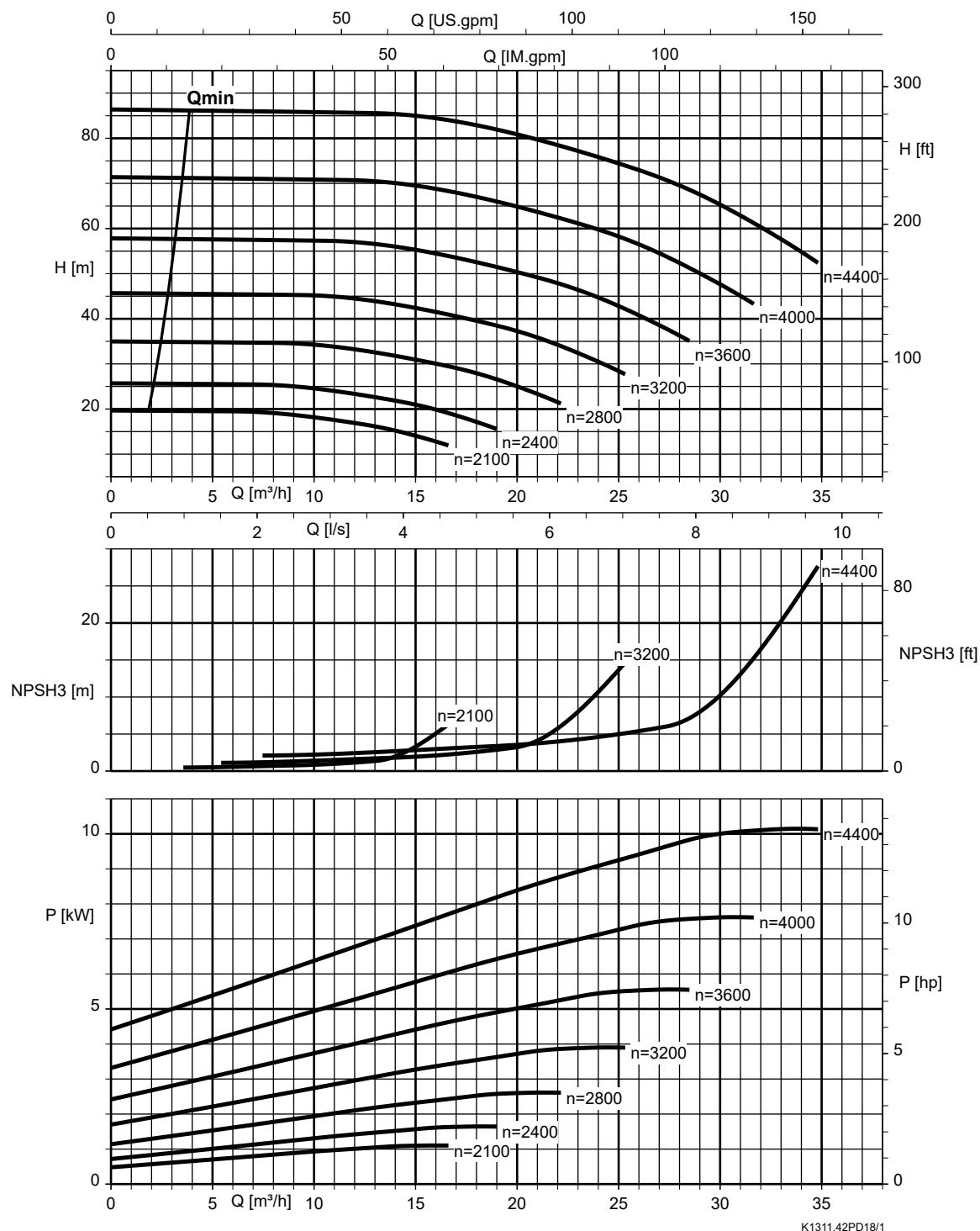
Impeller diameter: 174 mm

Etanorm, Etabloc 050-032-160.1, up to 2100 rpm



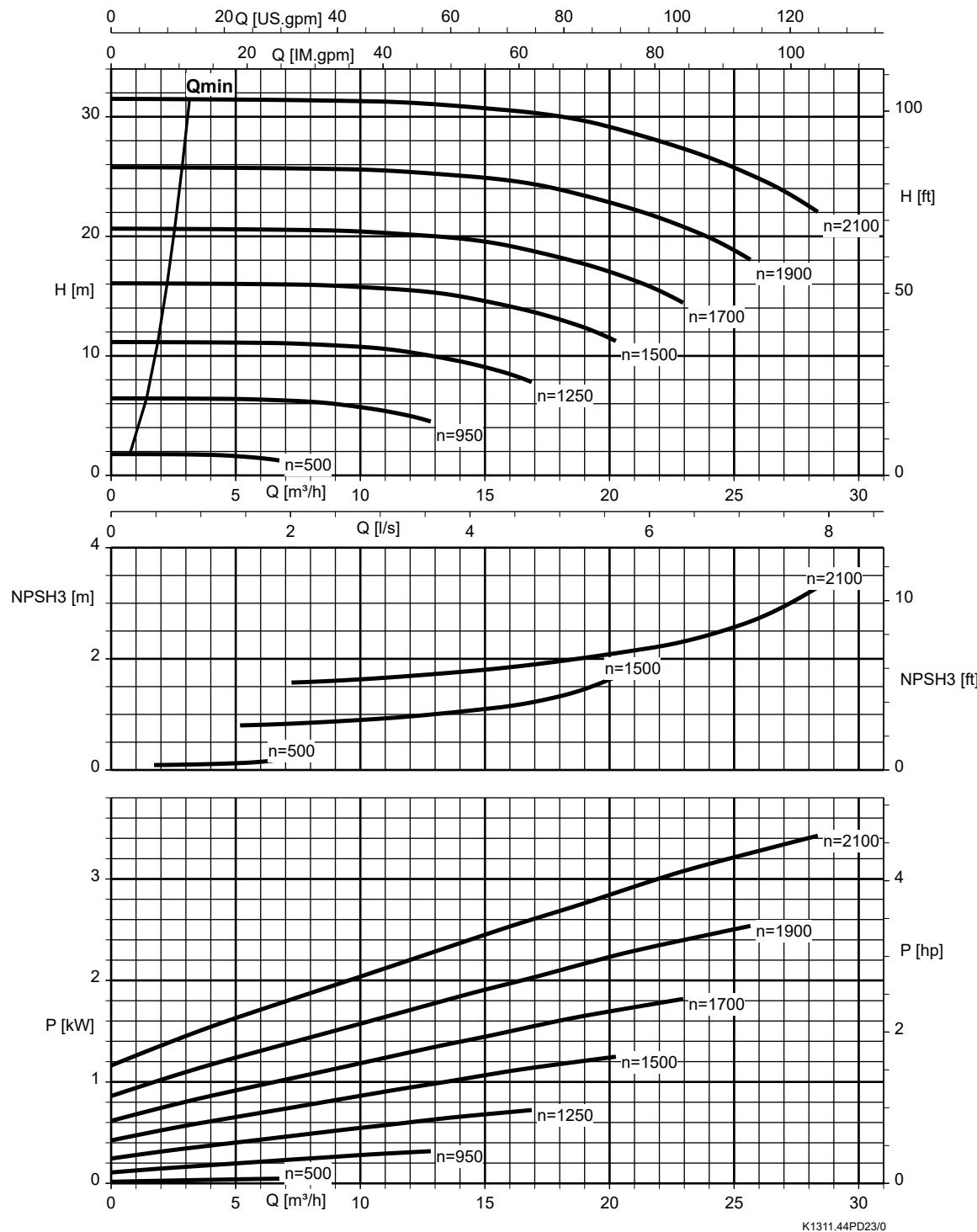
Impeller diameter: 170 mm

Etanorm, Etabloc 050-032-160.1, from 2100 rpm



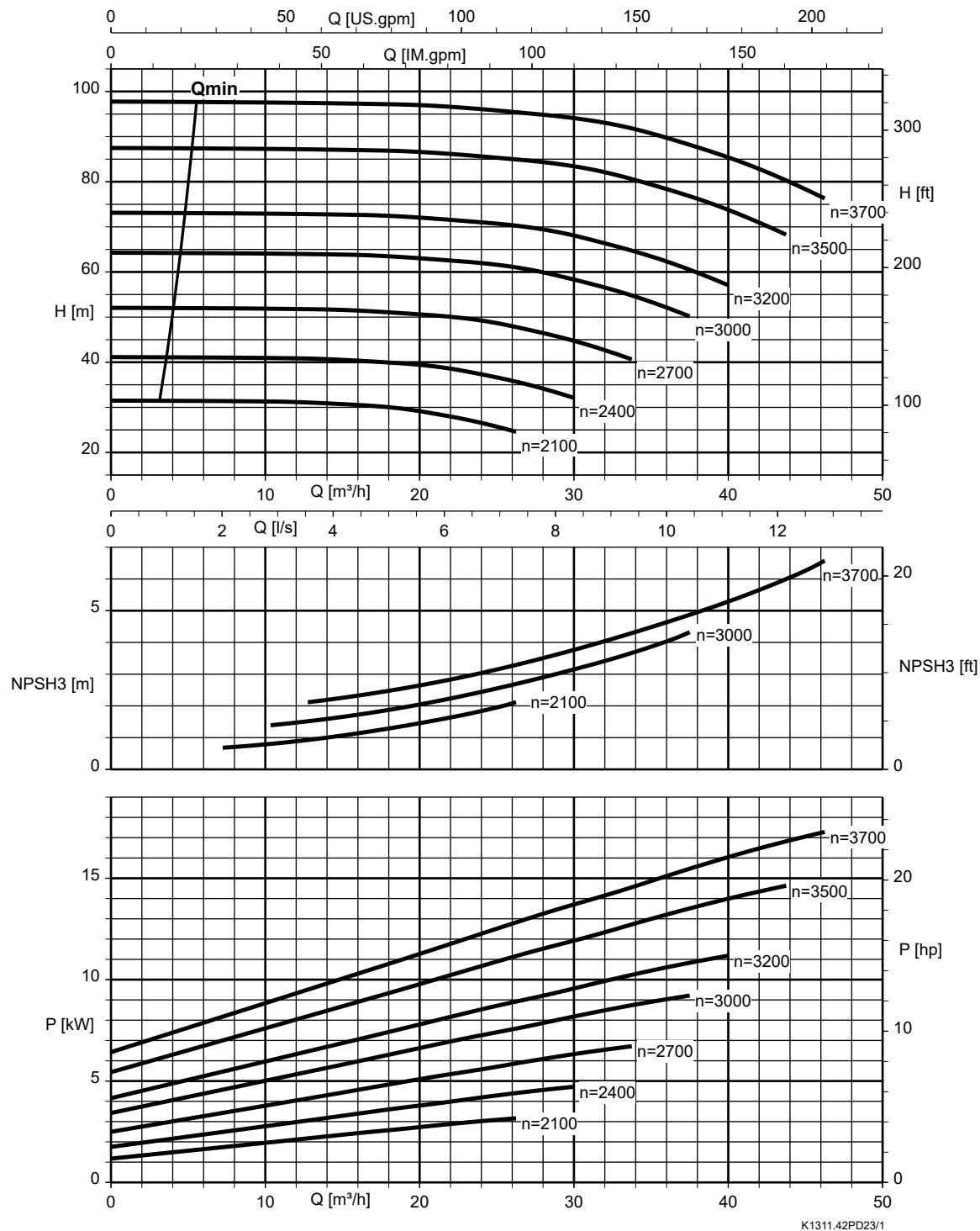
Impeller diameter: 170 mm

Etanorm, Etabloc 050-032-200, up to 2100 rpm

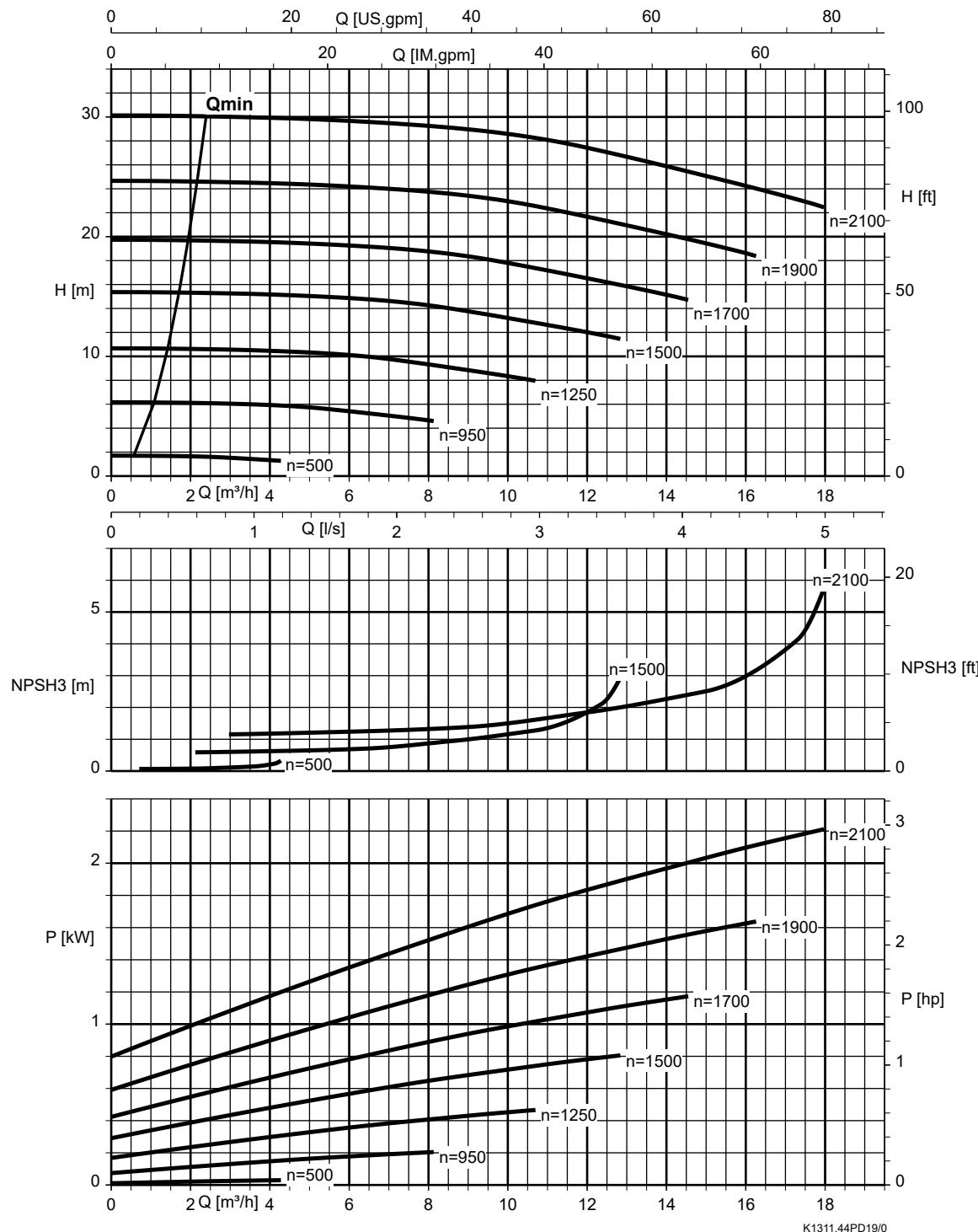


Impeller diameter: 209 mm

Etanorm, Etabloc 050-032-200, from 2100 rpm

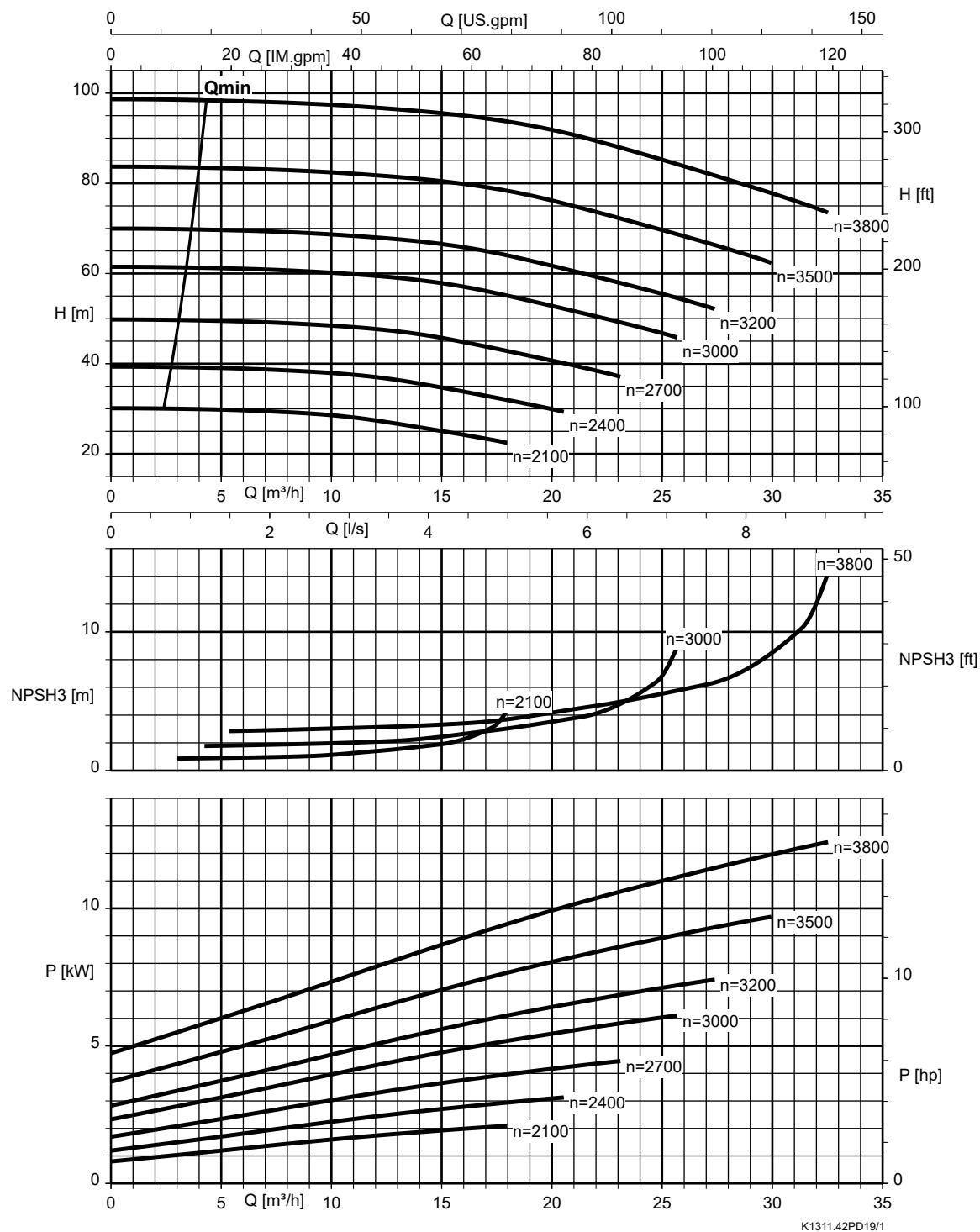


Impeller diameter: 209 mm

Etanorm, Etabloc 050-032-200.1, up to 2100 rpm


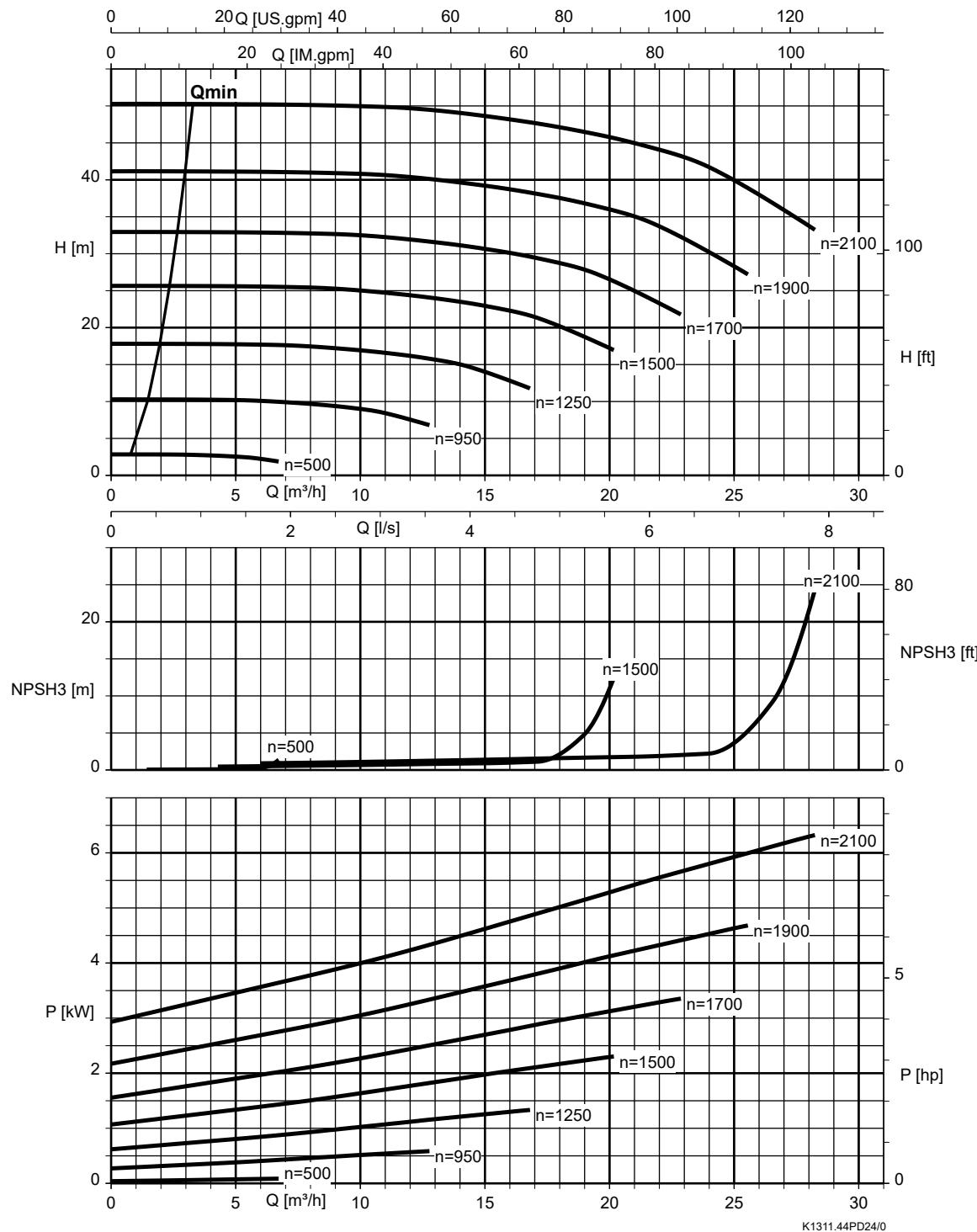
Impeller diameter: 204 mm

Etanorm, Etabloc 050-032-200.1, from 2100 rpm



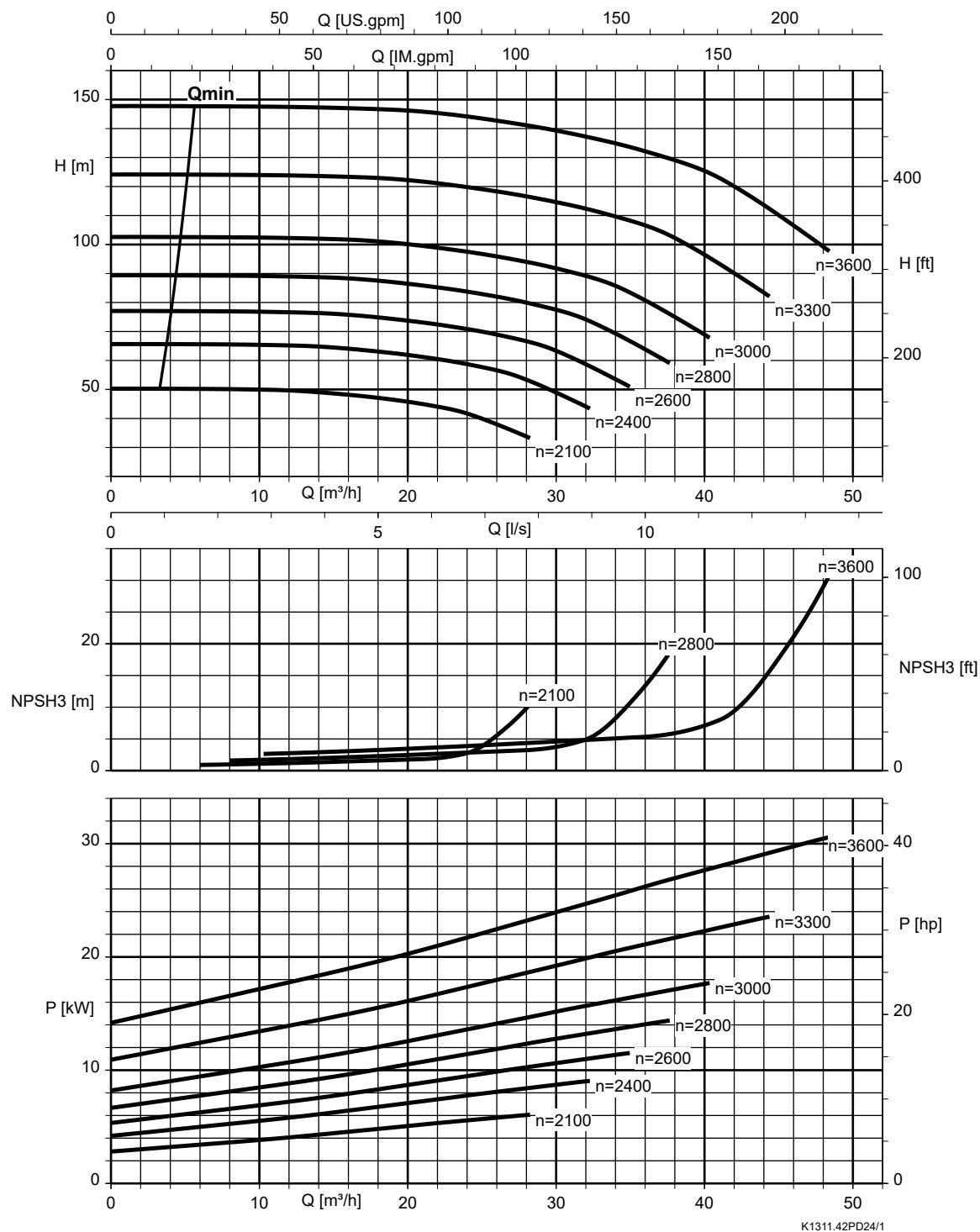
Impeller diameter: 204 mm

Etanorm, Etabloc 050-032-250, up to 2100 rpm



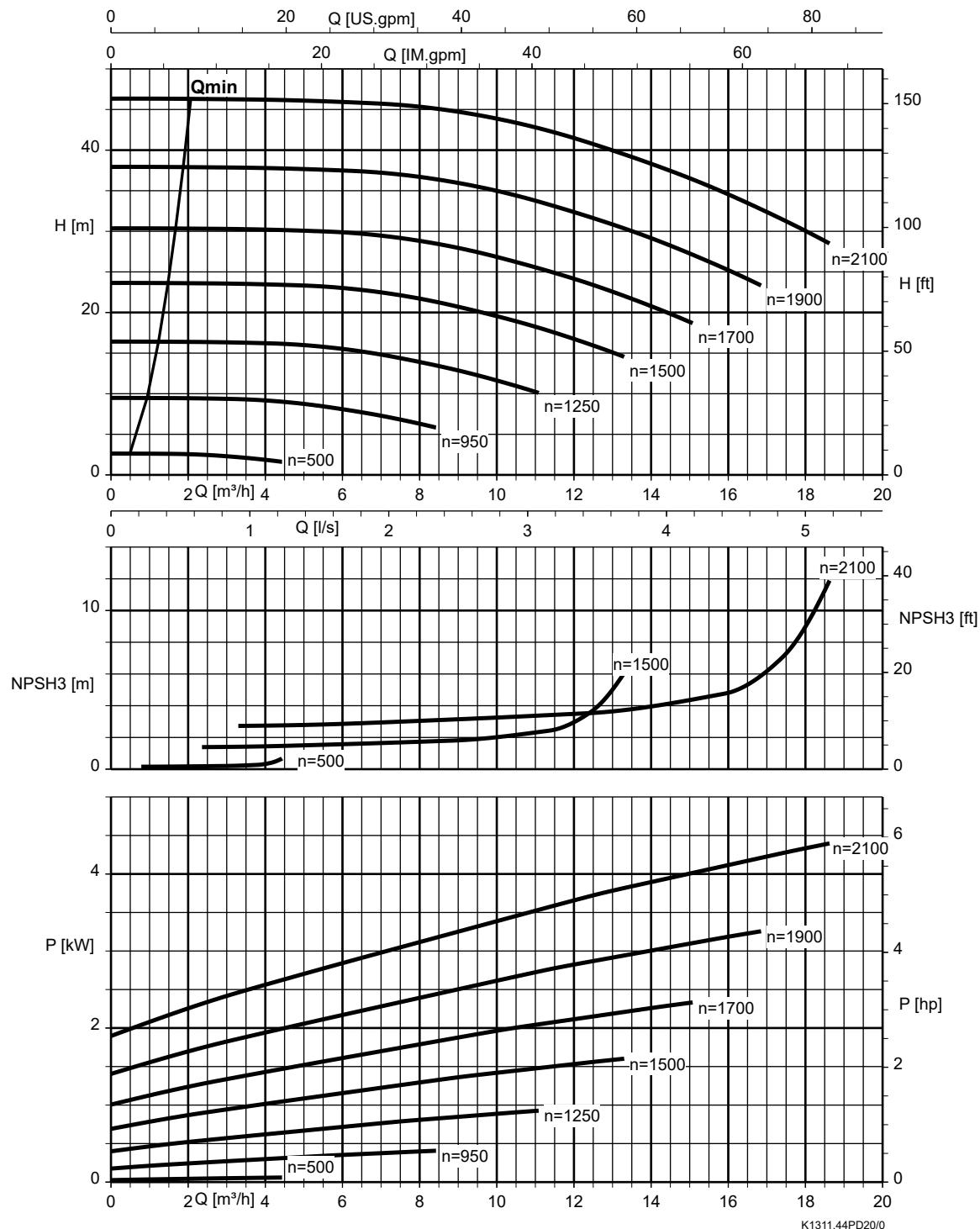
Impeller diameter: 261 mm

Etanorm, Etabloc 050-032-250, from 2100 rpm



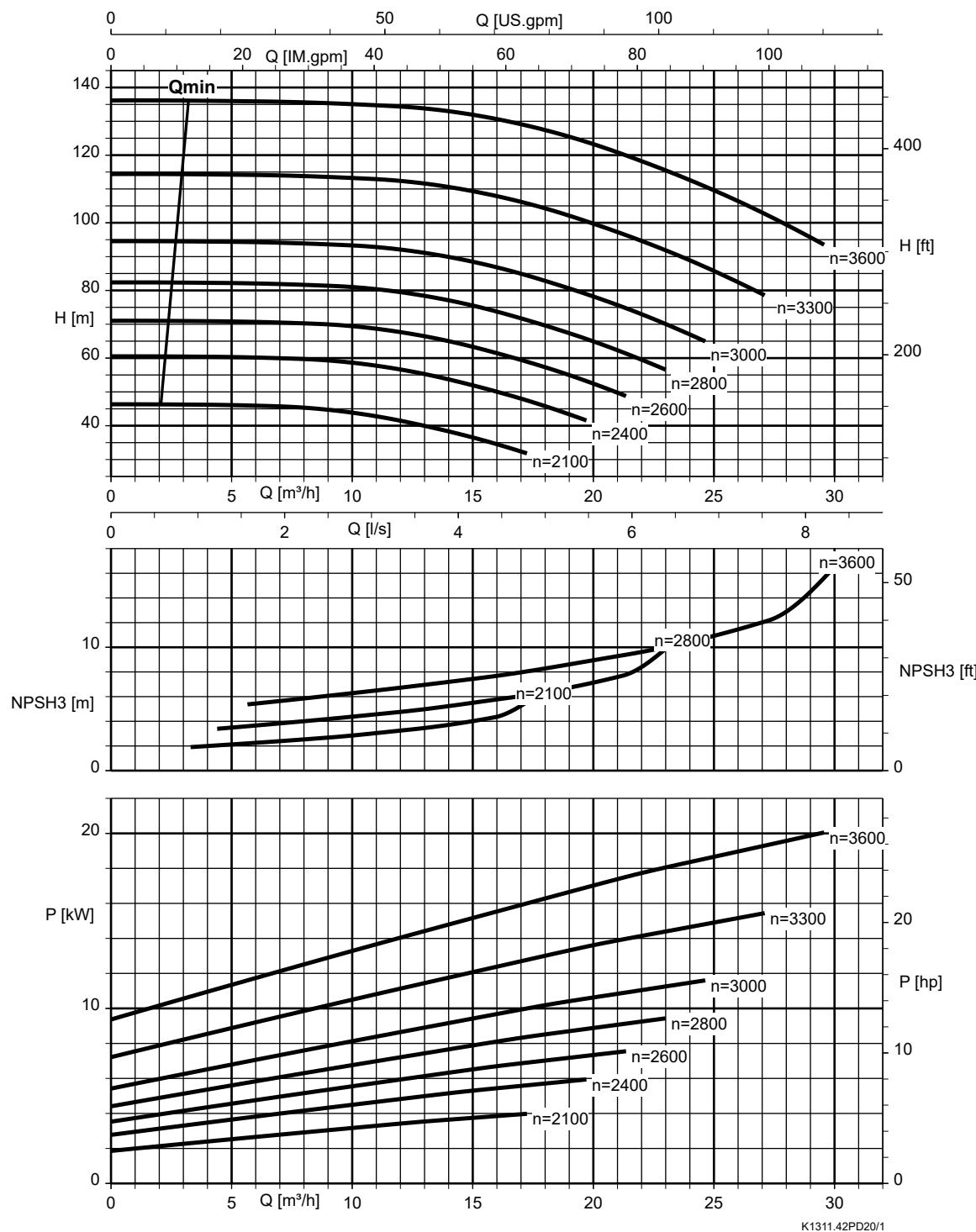
Impeller diameter: 261 mm

Etanorm, Etabloc 050-032-250.1, up to 2100 rpm

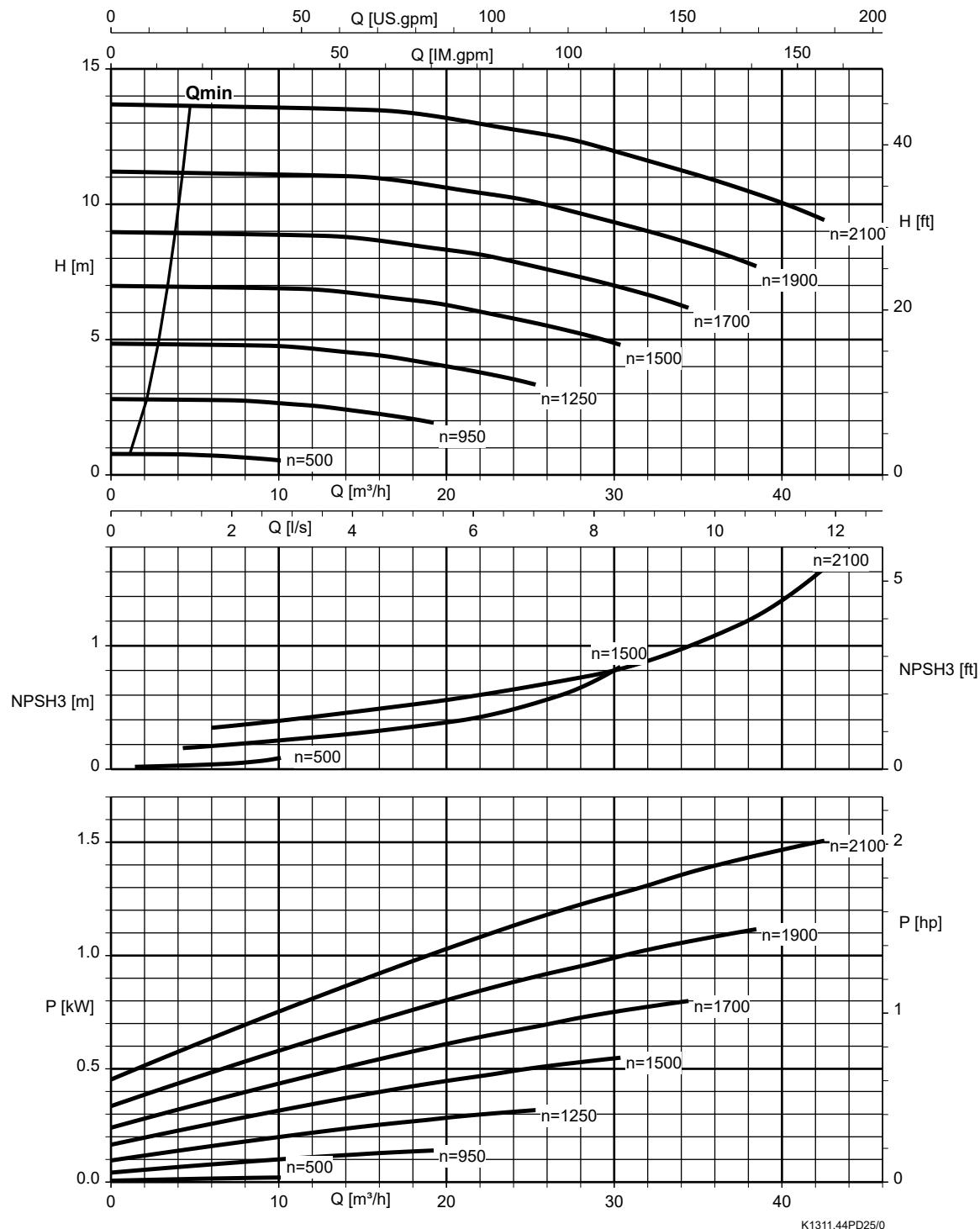


Impeller diameter: 254 mm

Etanorm, Etabloc 050-032-250.1, from 2100 rpm

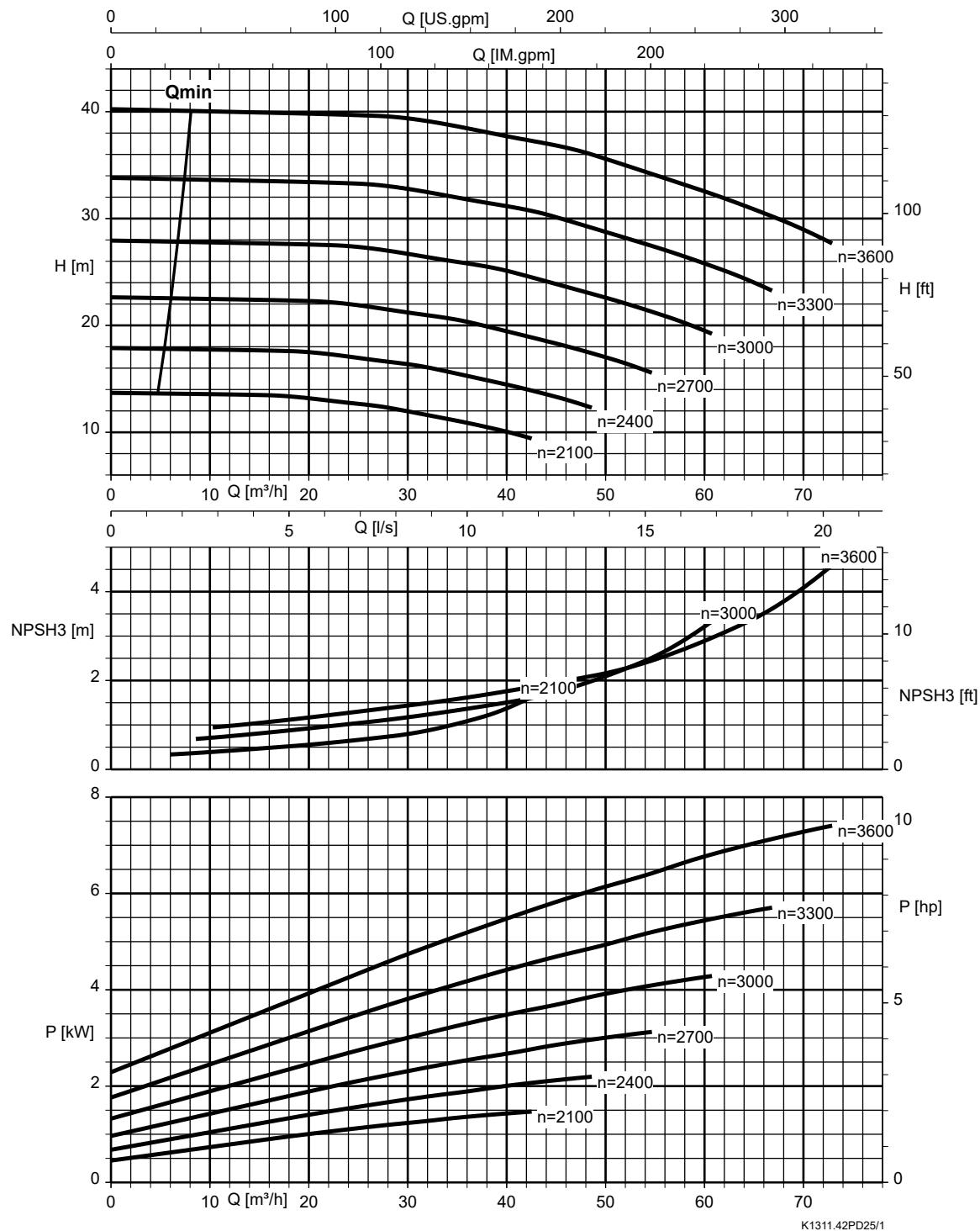


Impeller diameter: 254 mm

Etanorm, Etabloc 065-040-125, up to 2100 rpm


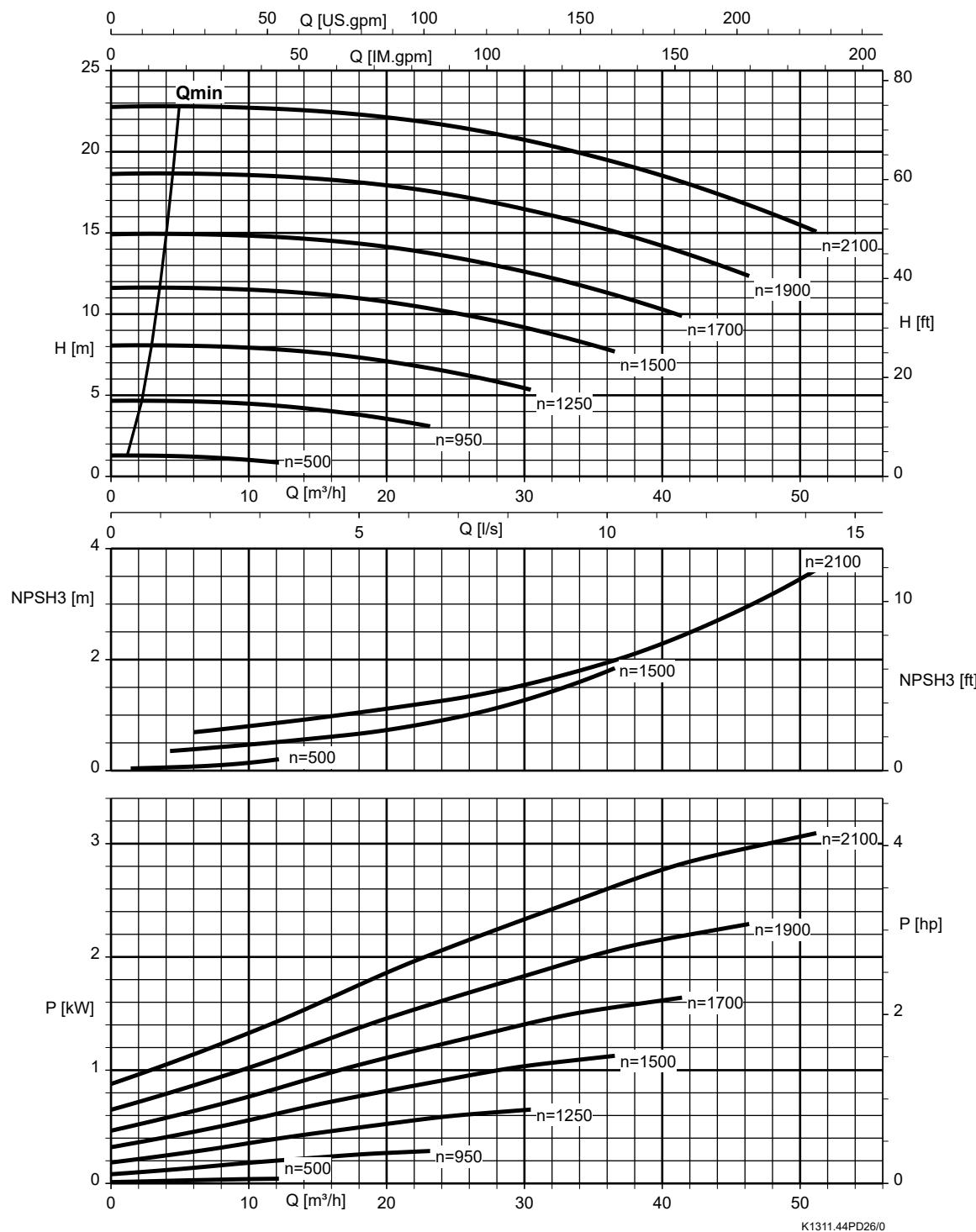
Impeller diameter: 139 mm

Etanorm, Etabloc 065-040-125, from 2100 rpm



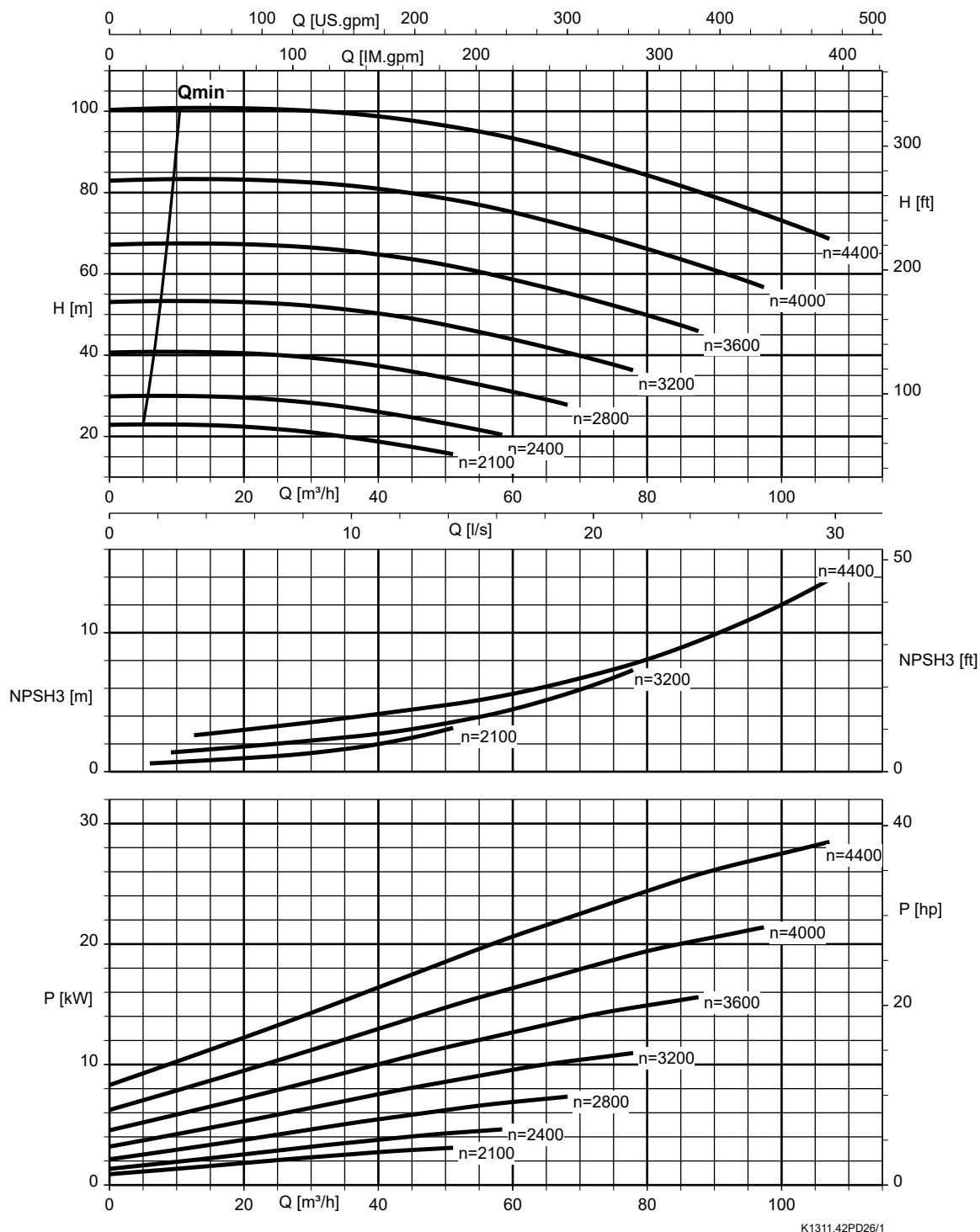
Impeller diameter: 139 mm

Etanorm, Etabloc 065-040-160, up to 2100 rpm



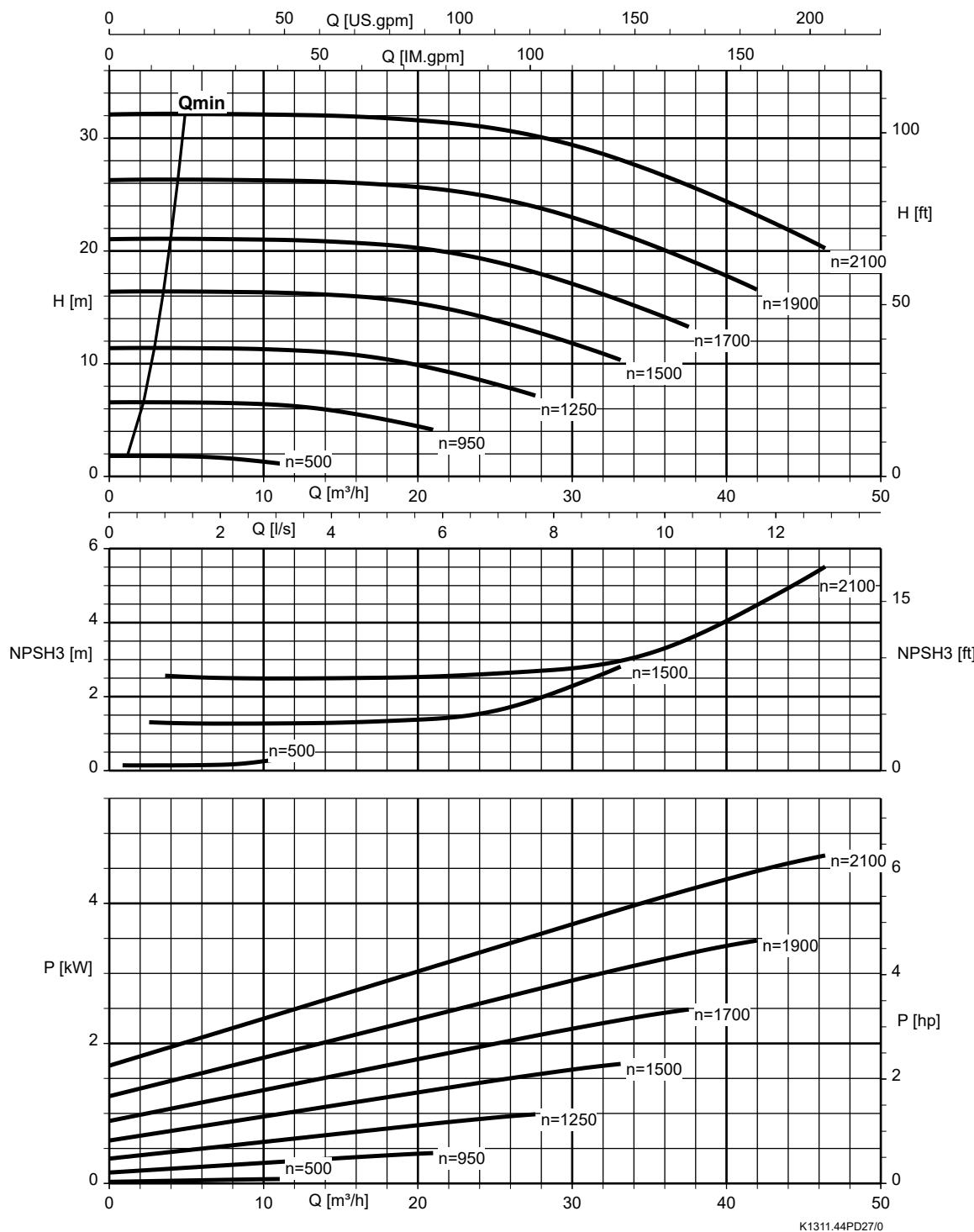
Impeller diameter: 174 mm

Etanorm, Etabloc 065-040-160, from 2100 rpm



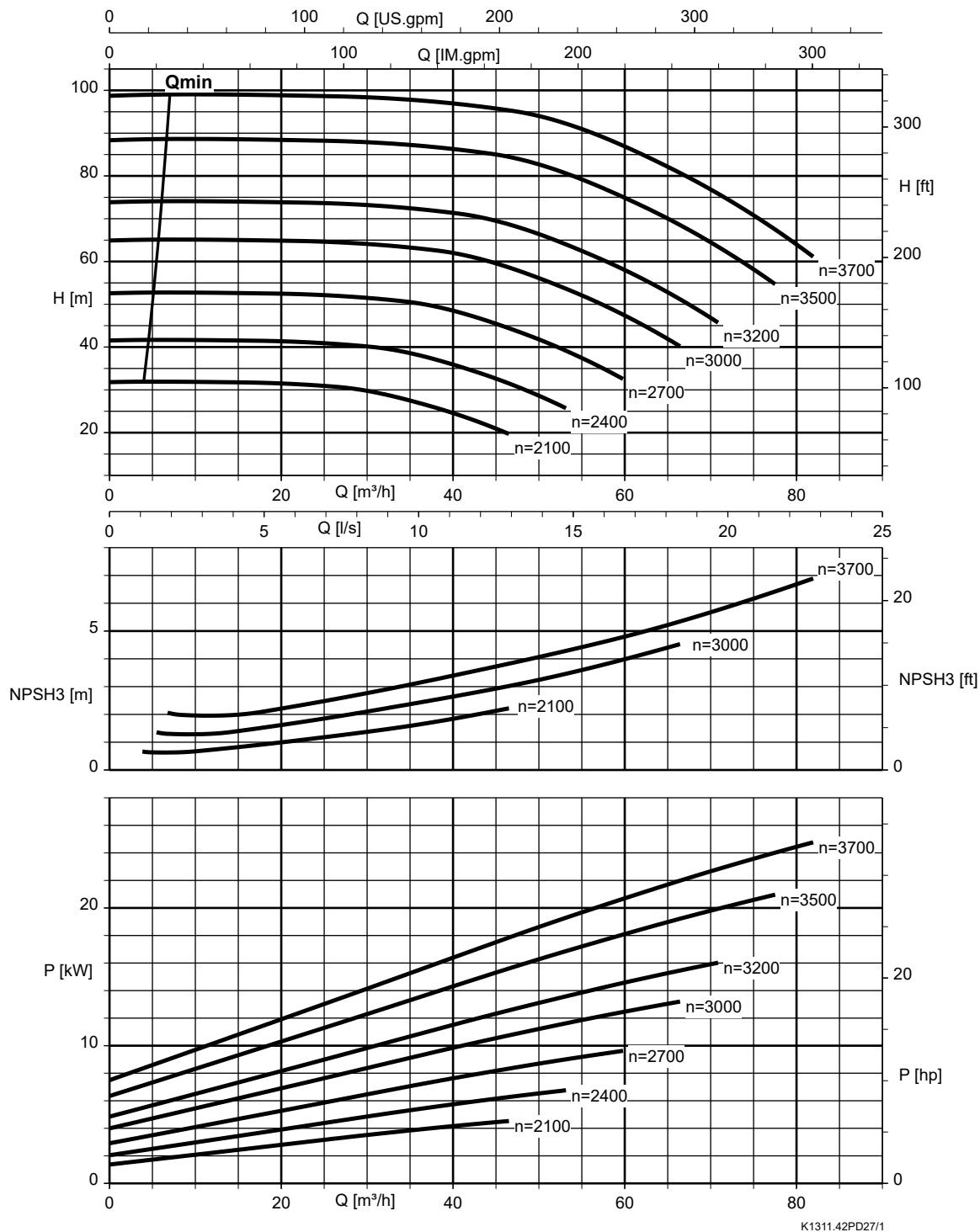
Impeller diameter: 174 mm

Etanorm, Etabloc 065-040-200, up to 2100 rpm



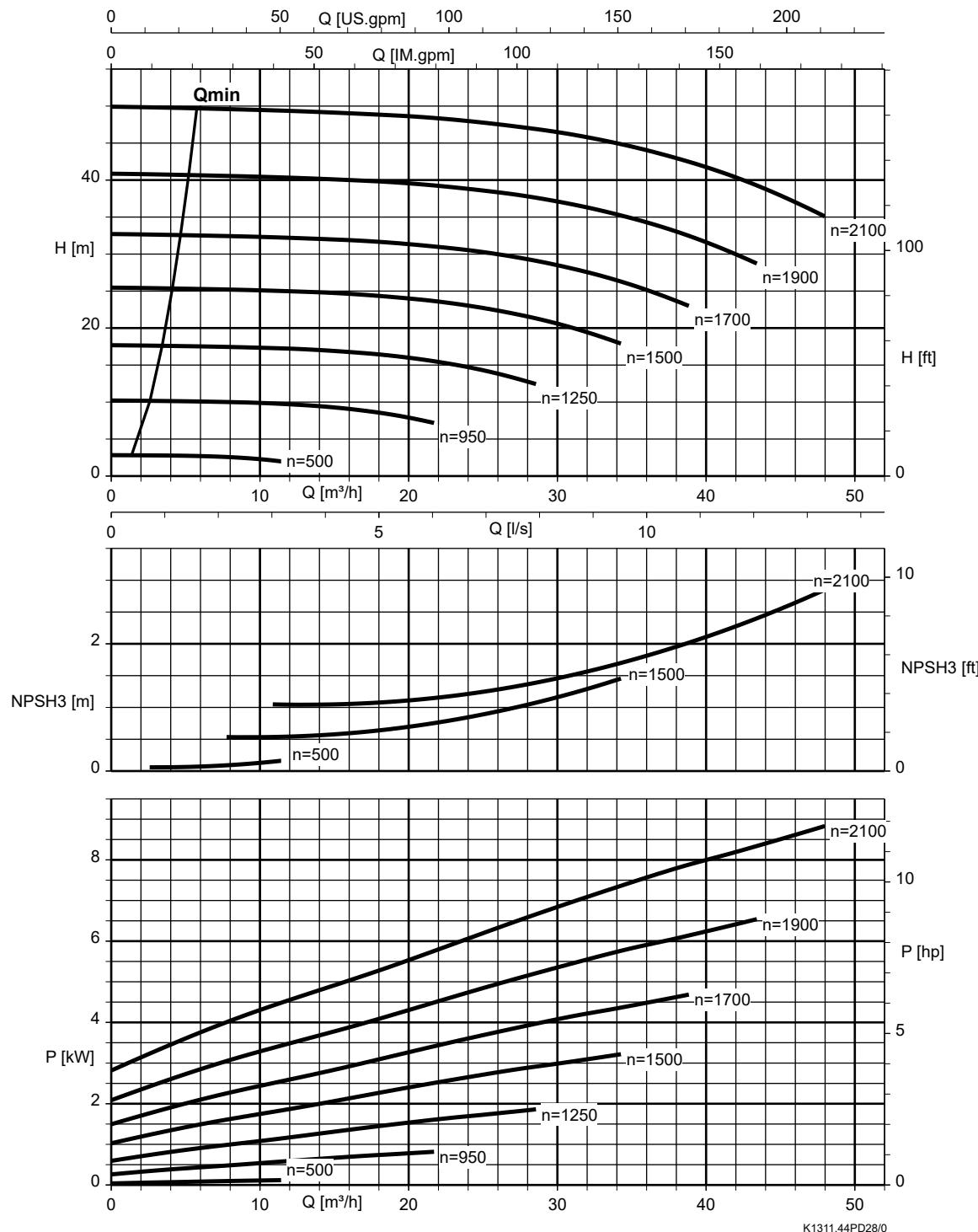
Impeller diameter: 209 mm

Etanorm, Etabloc 065-040-200, from 2100 rpm



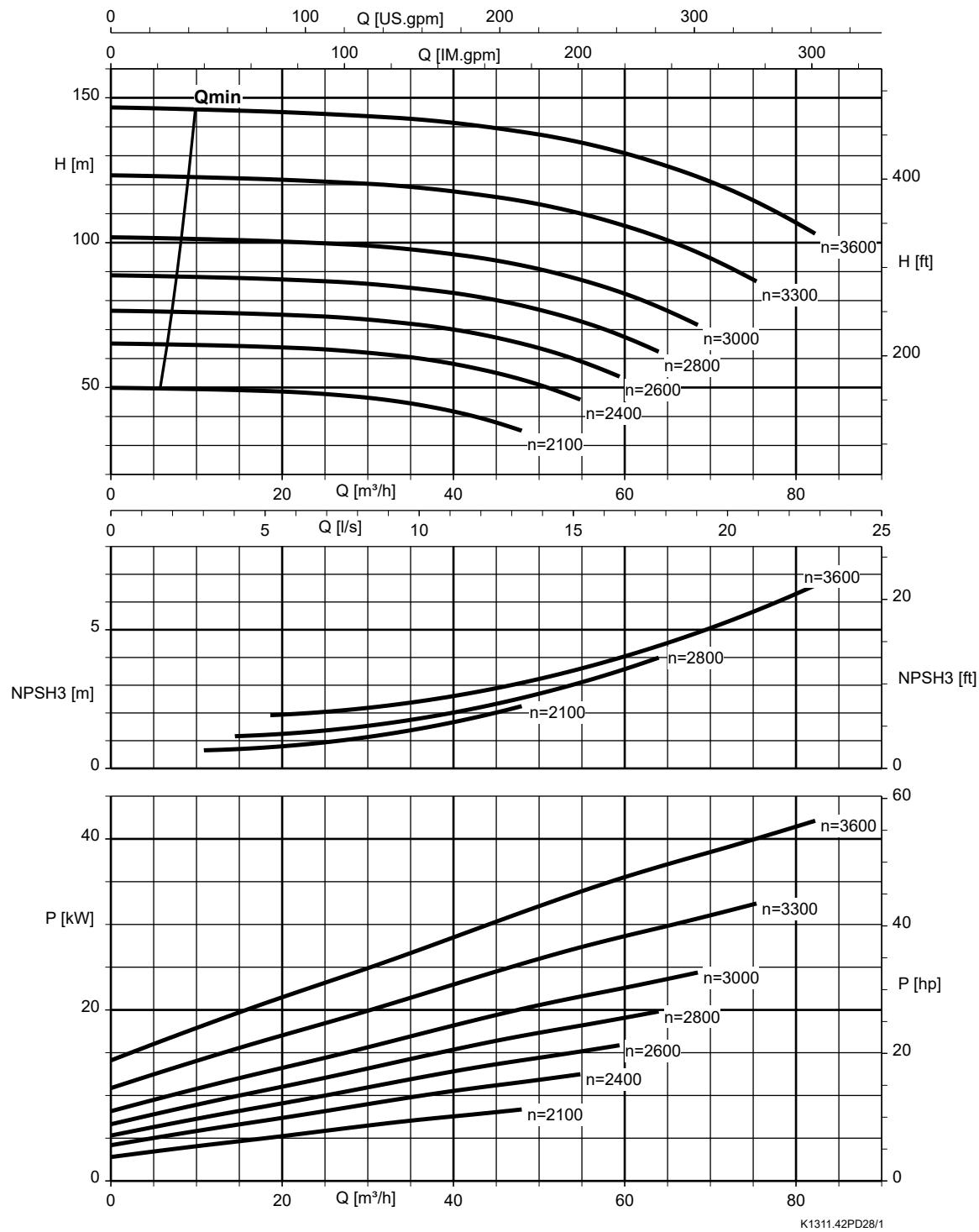
Impeller diameter: 209 mm

Etanorm, Etabloc 065-040-250, up to 2100 rpm



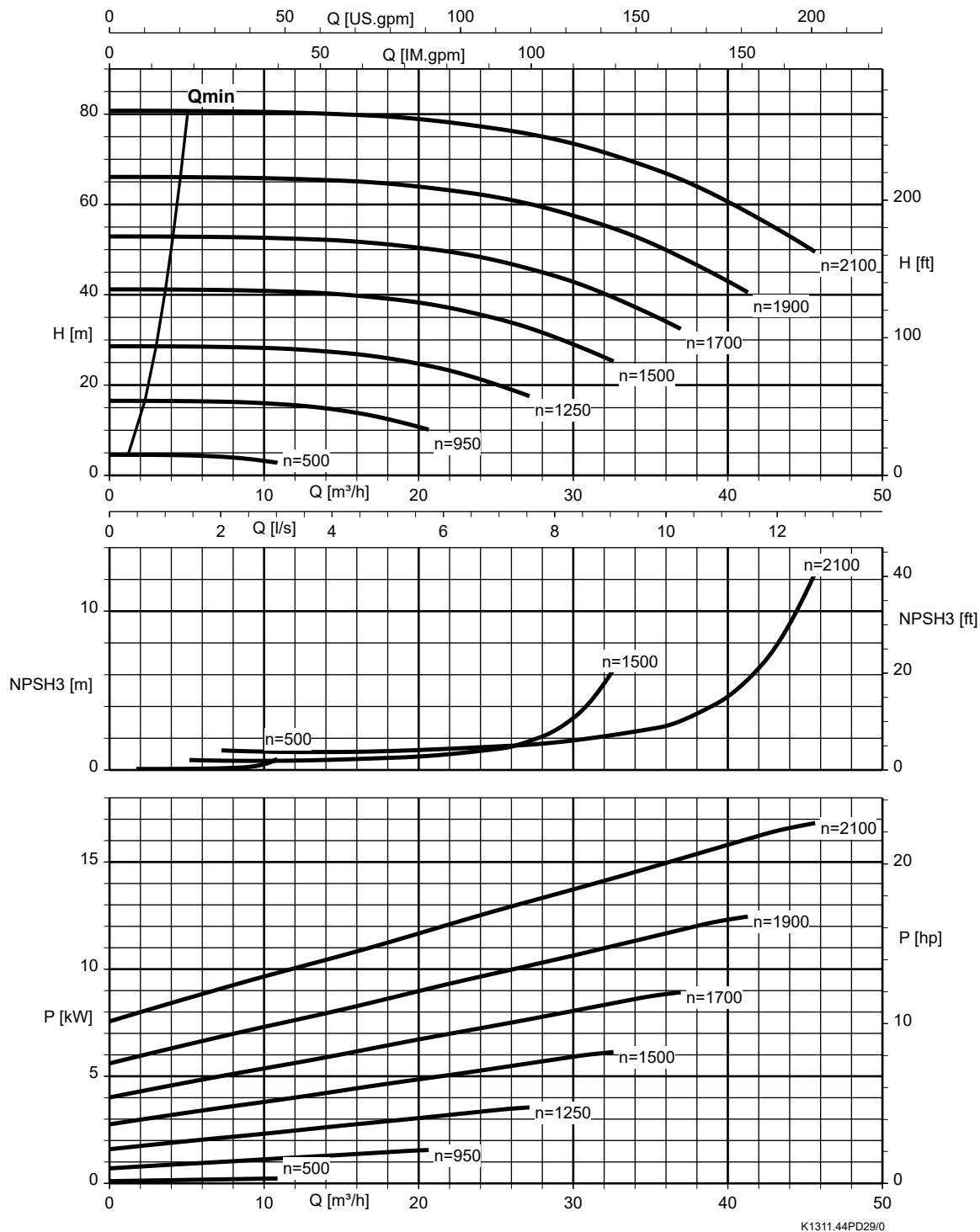
Impeller diameter: 260 mm

Etanorm, Etabloc 065-040-250, from 2100 rpm



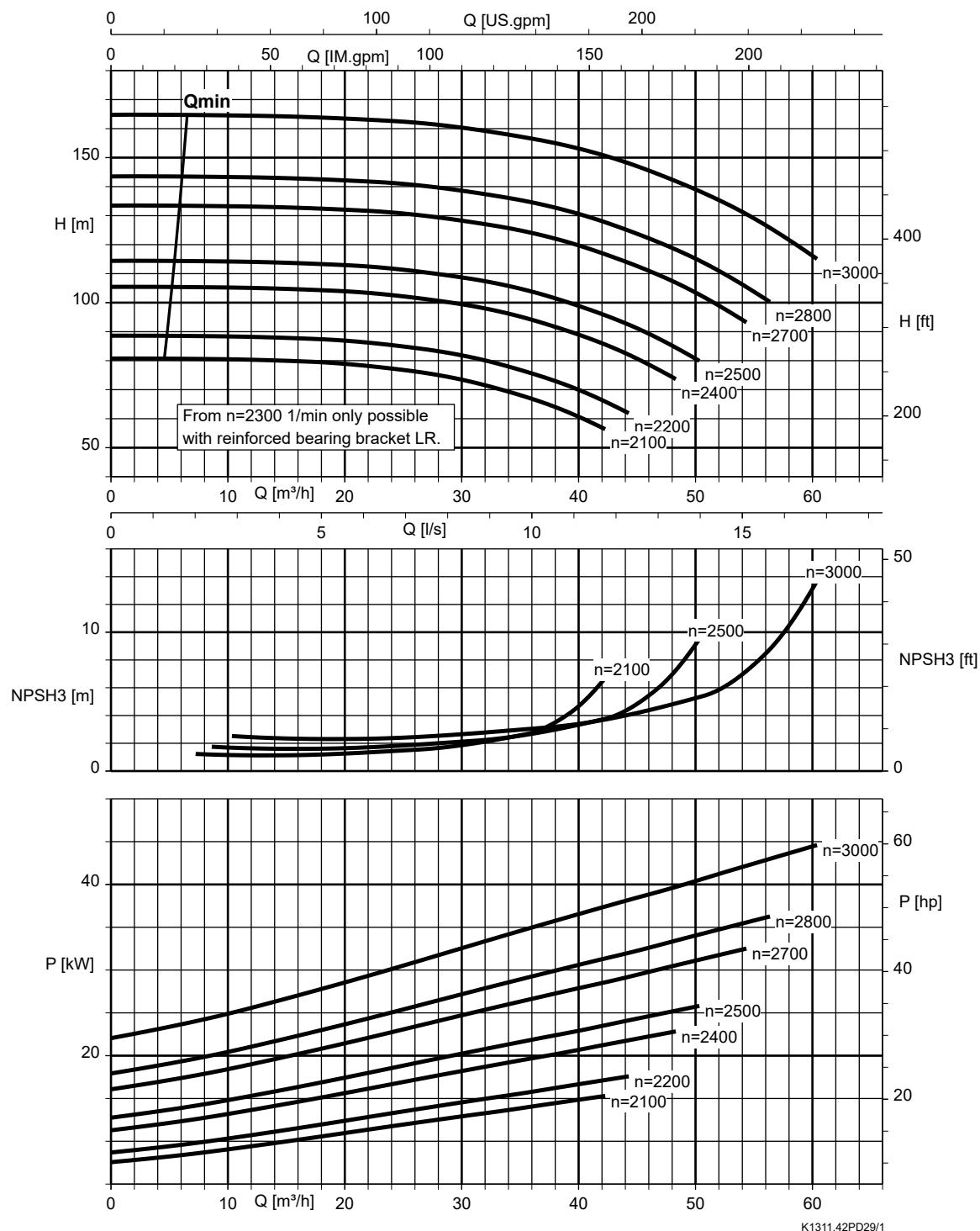
Impeller diameter: 260 mm

Etanorm, Etabloc 065-040-315, up to 2100 rpm

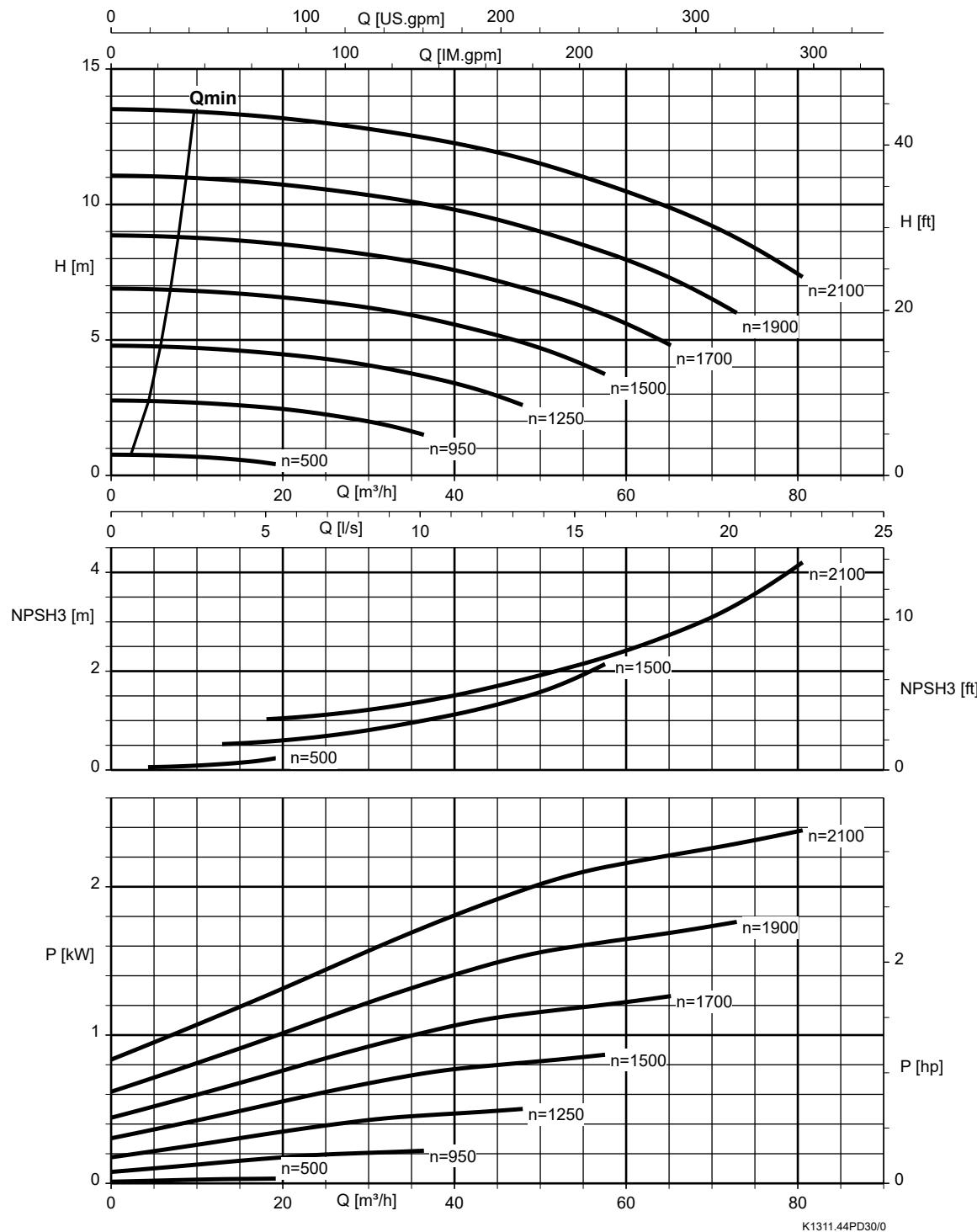


Impeller diameter: 326 mm

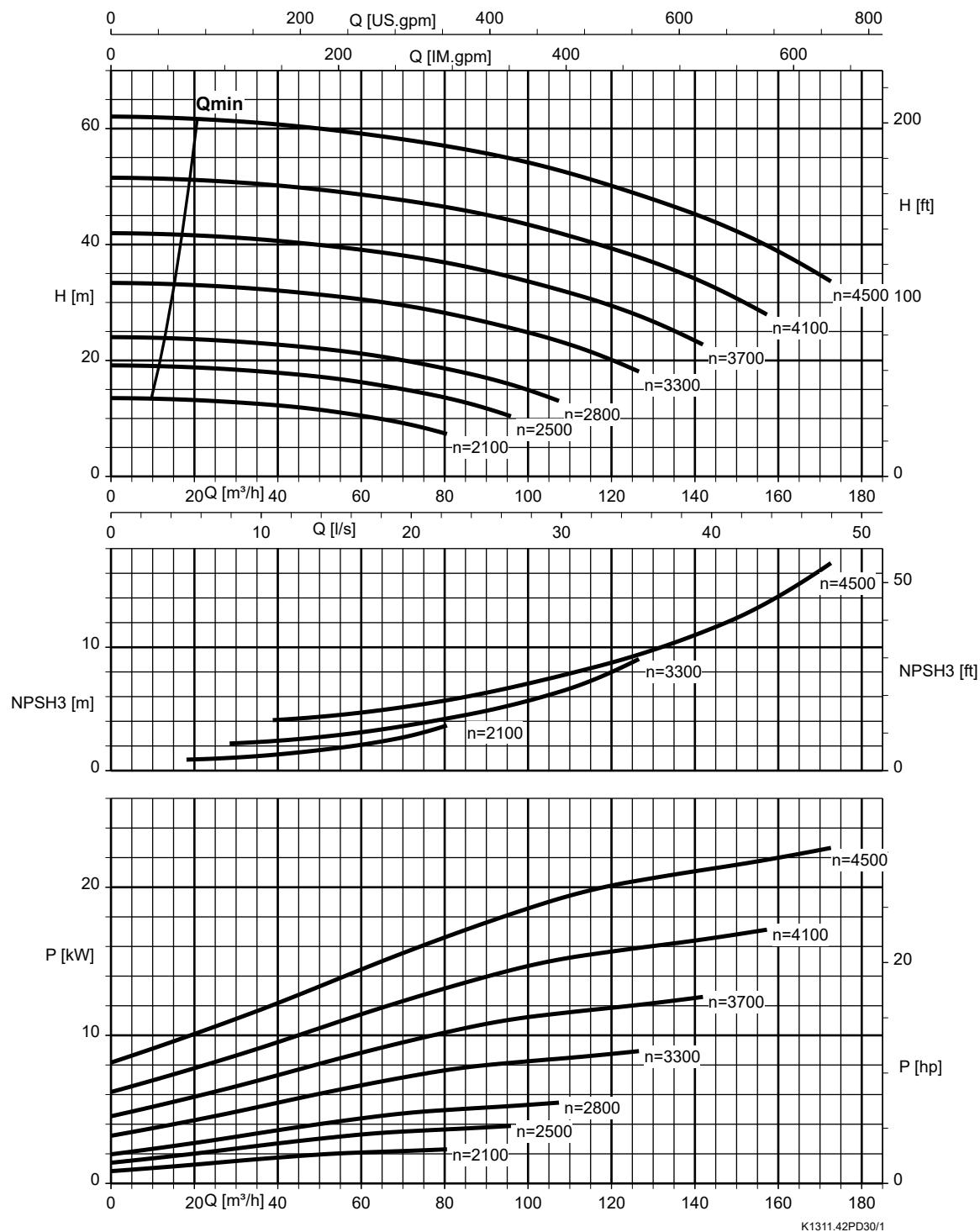
Etanorm, Etabloc 065-040-315, from 2100 rpm



Impeller diameter: 326 mm

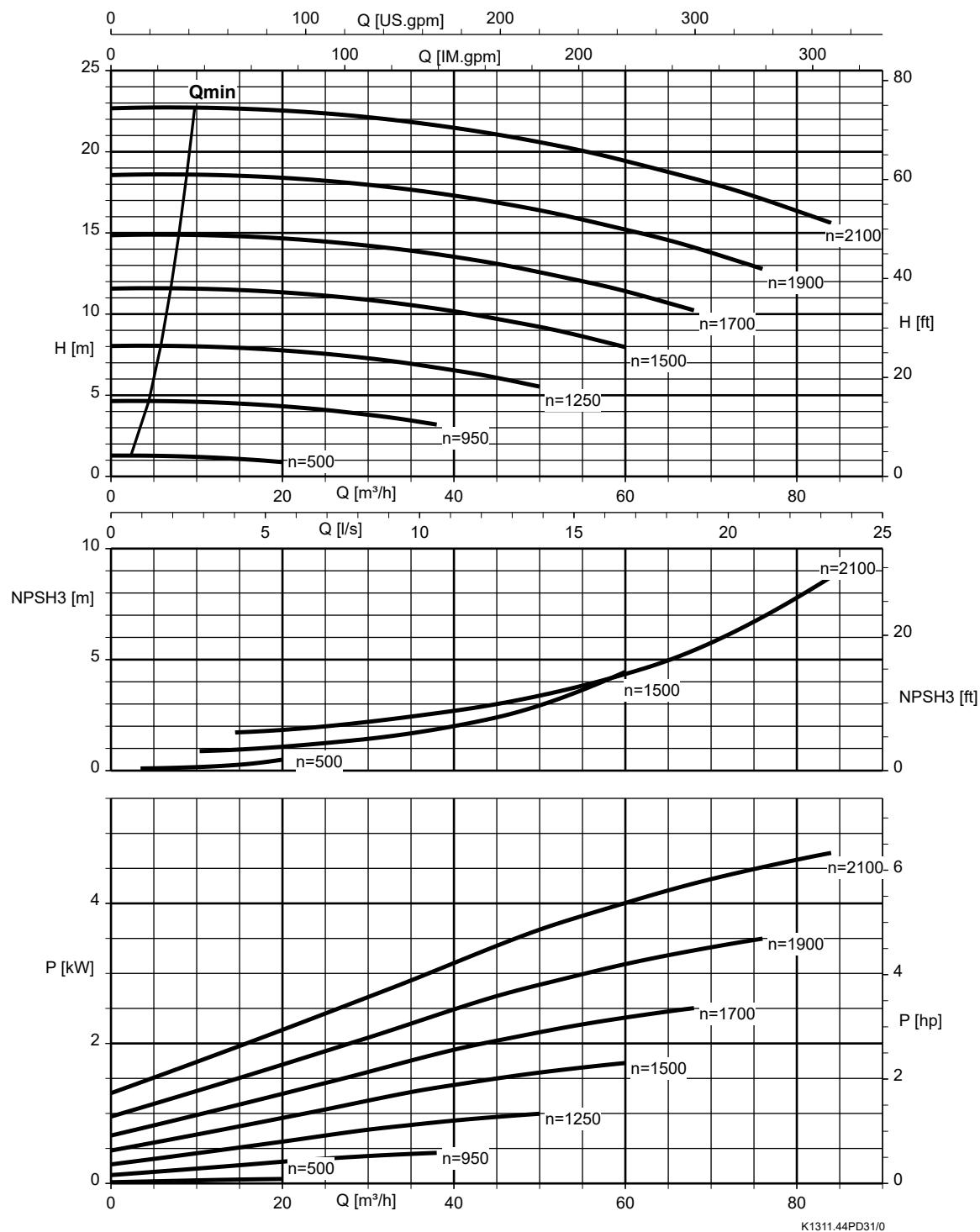
Etanorm, Etabloc 065-050-125, up to 2100 rpm


Impeller diameter: 142 mm

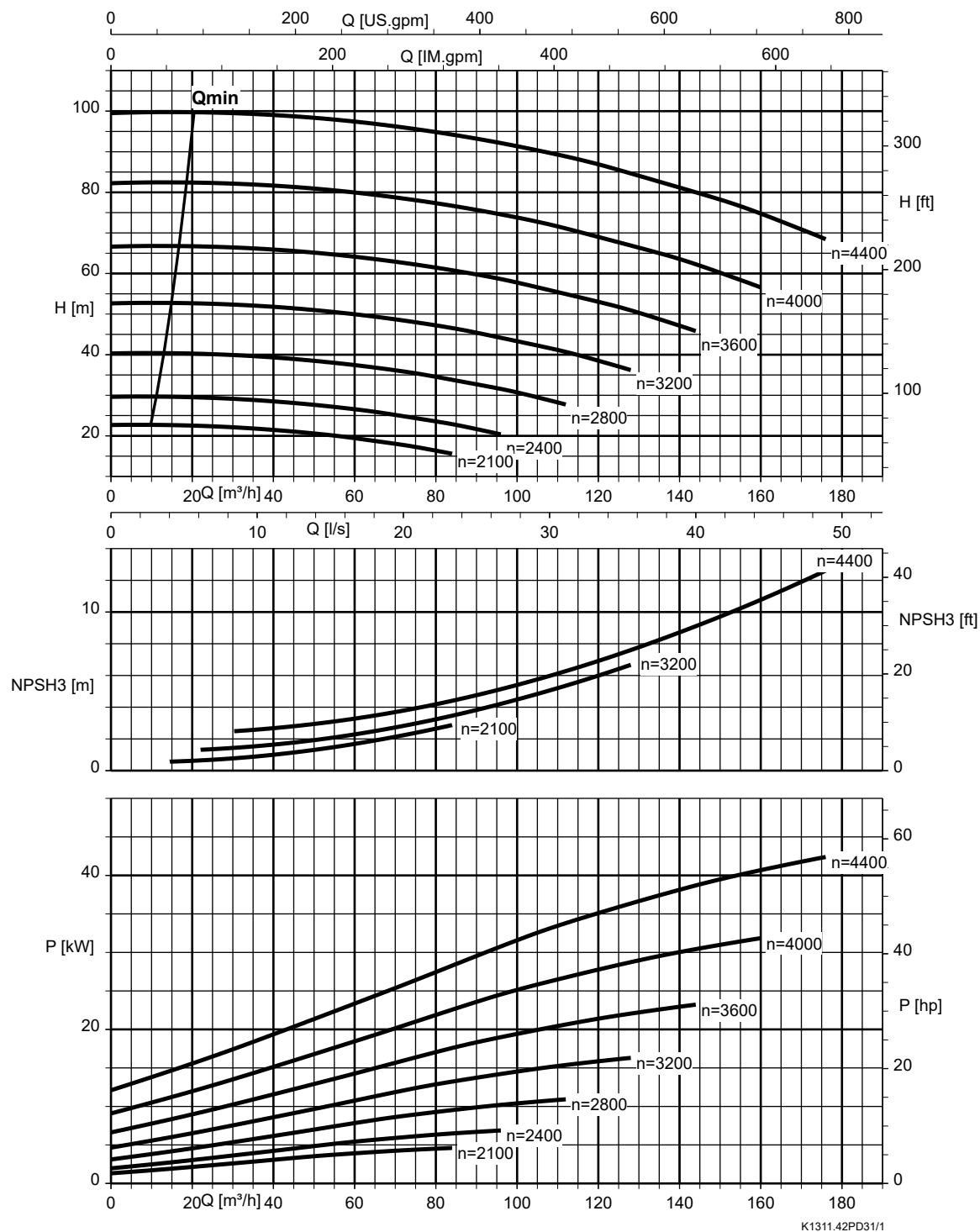
Etanorm, Etabloc 065-050-125, from 2100 rpm


K1311.42PD30/1

Impeller diameter: 142 mm

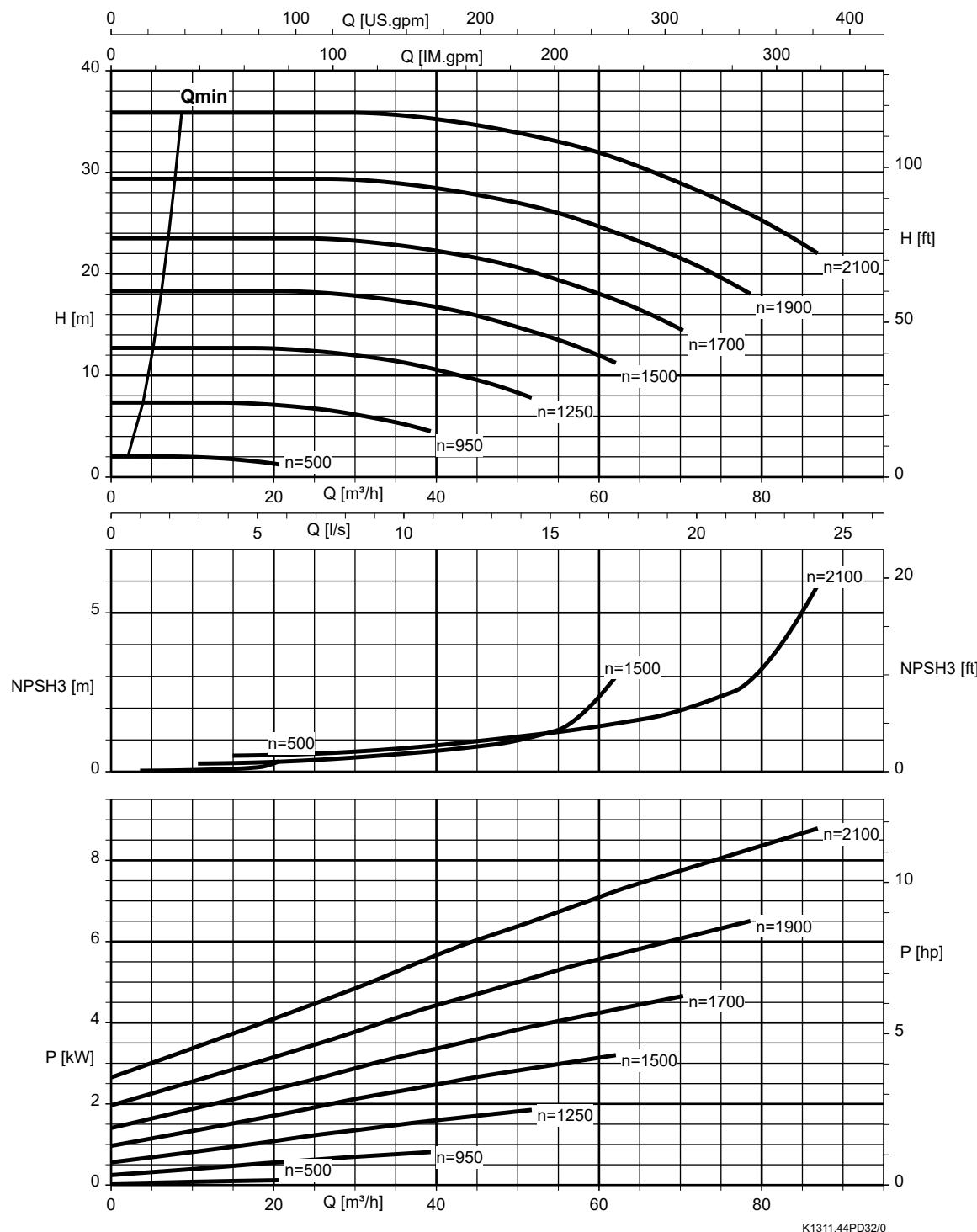
Etanorm, Etabloc 065-050-160, up to 2100 rpm


Impeller diameter: 174 mm

Etanorm, Etabloc 065-050-160, from 2100 rpm


Impeller diameter: 174 mm

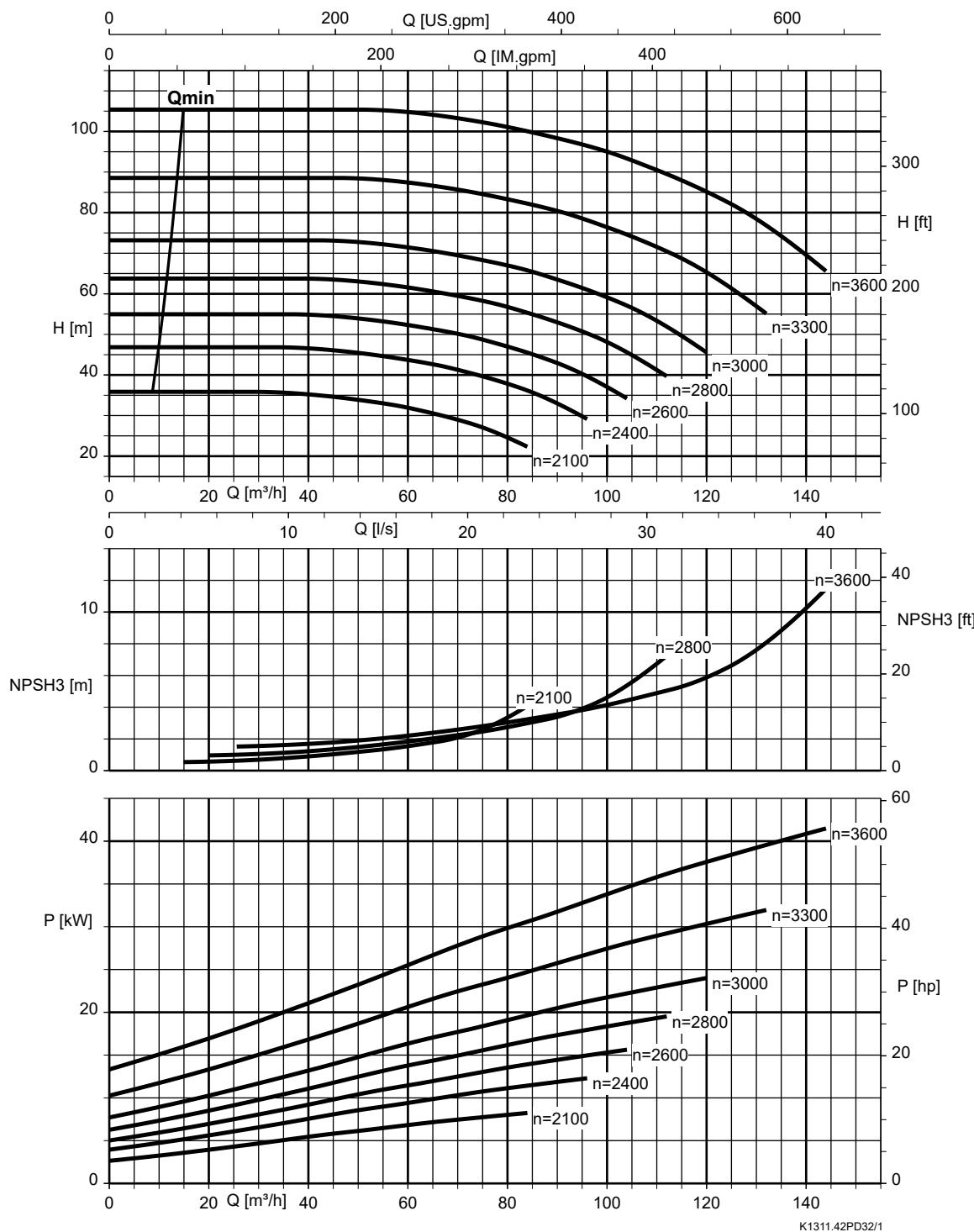
Etanorm, Etabloc 065-050-200, up to 2100 rpm



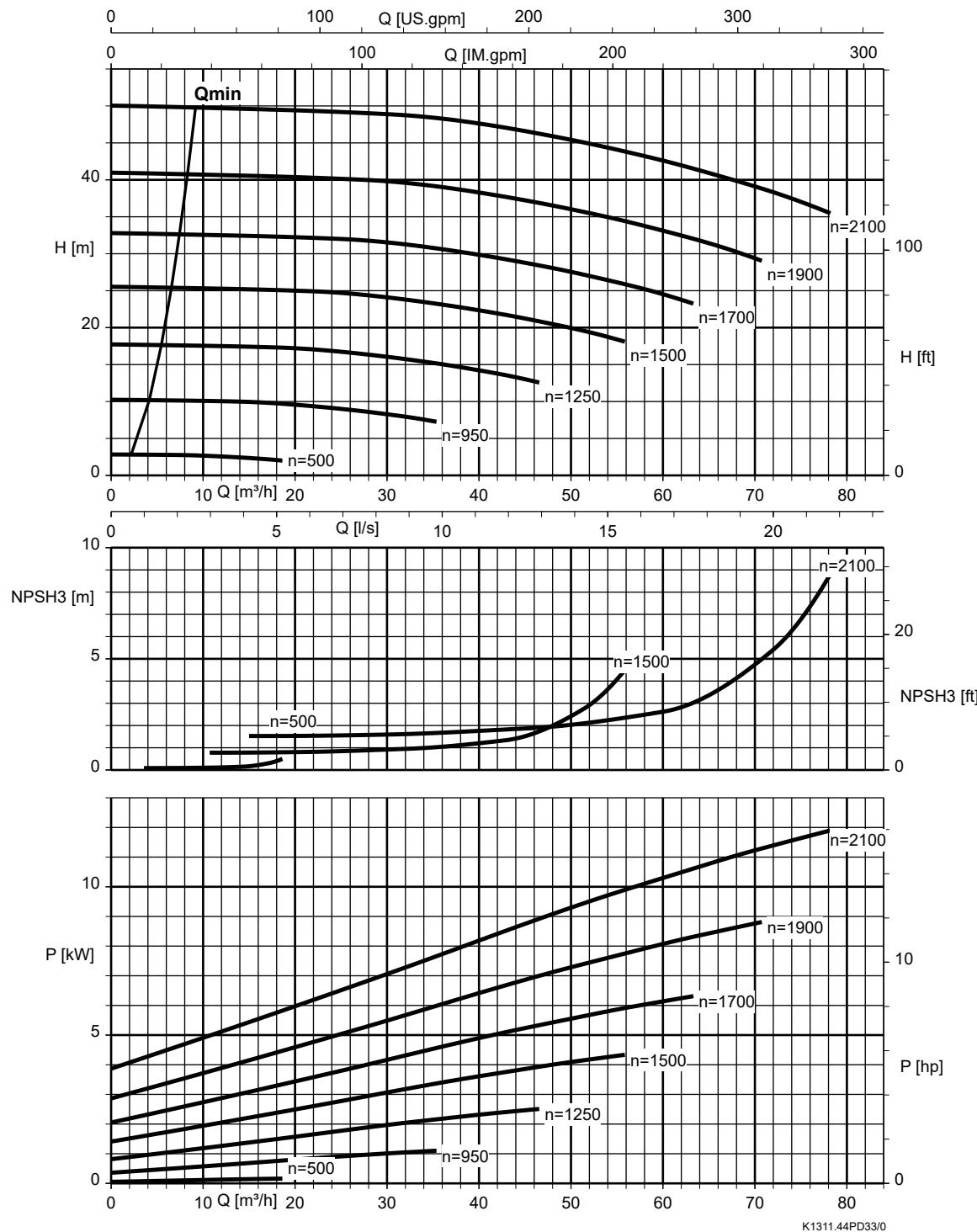
K1311.44PD32/0

Impeller diameter: 219 mm

Etanorm, Etabloc 065-050-200, from 2100 rpm

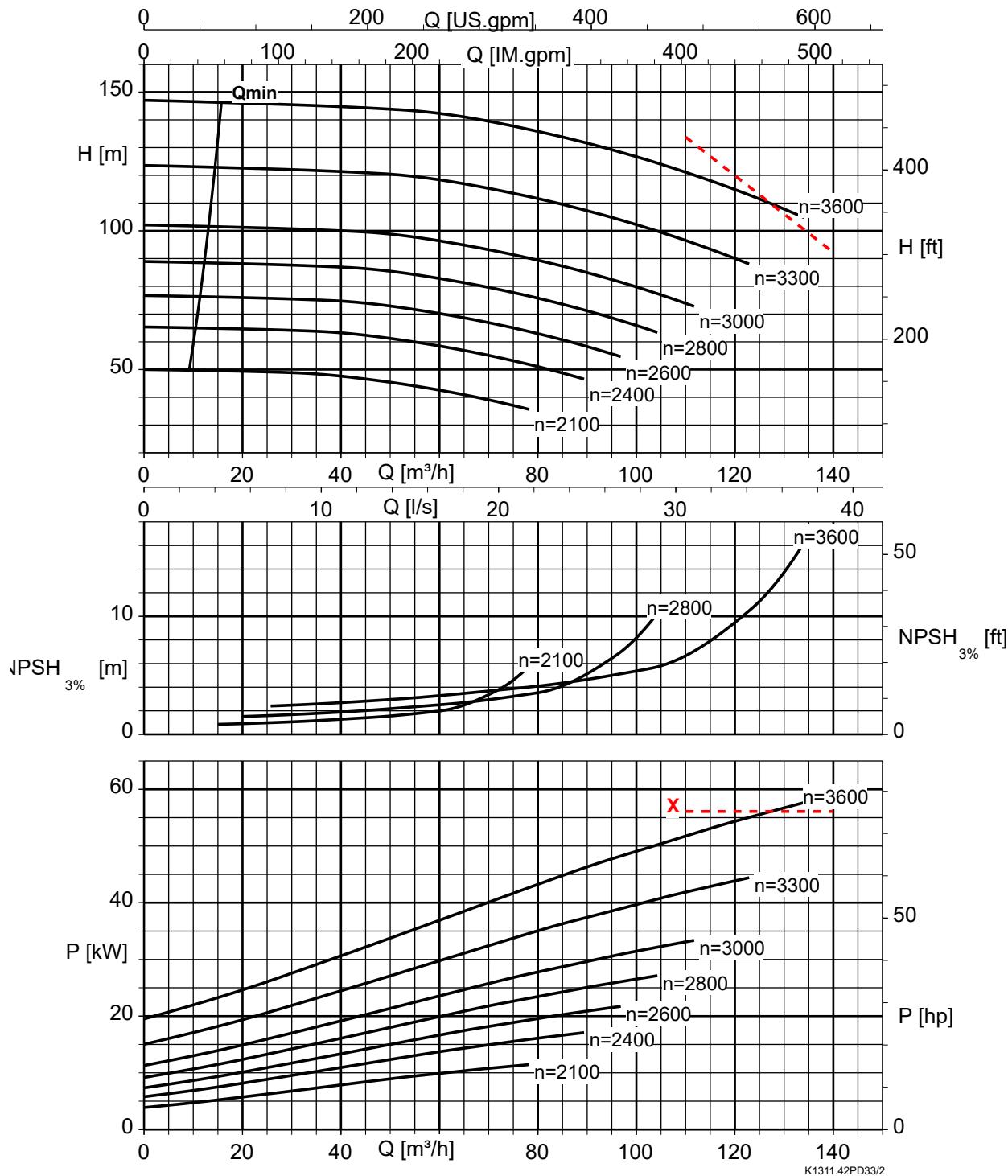


Impeller diameter: 219 mm

Etanorm, Etabloc 065-050-250, up to 2100 rpm


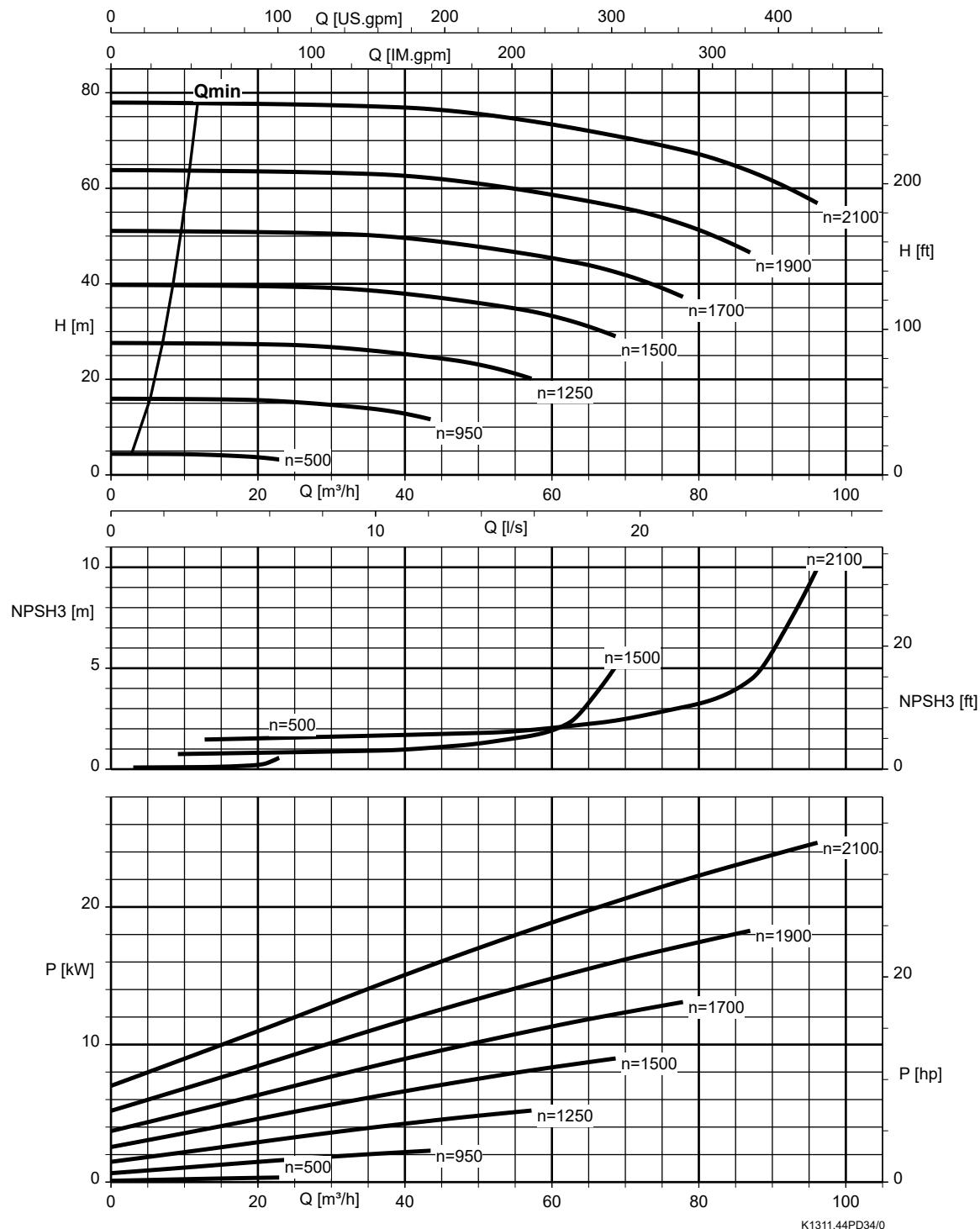
Impeller diameter: 260 mm

Etanorm, Etabloc 065-050-250, from 2100 rpm



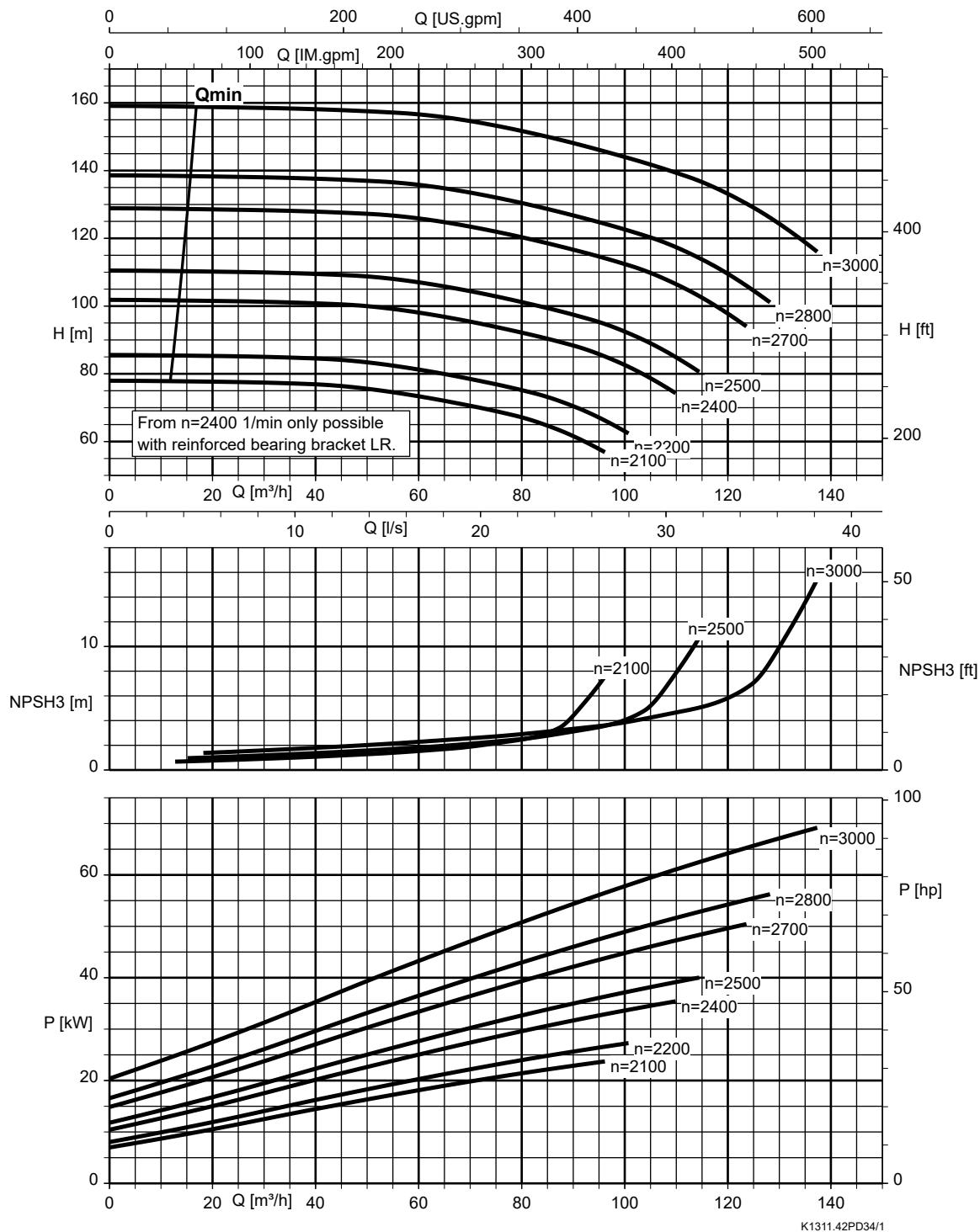
X _____ = power limit

Impeller diameter: 260 mm

Etanorm, Etabloc 065-050-315, up to 2100 rpm


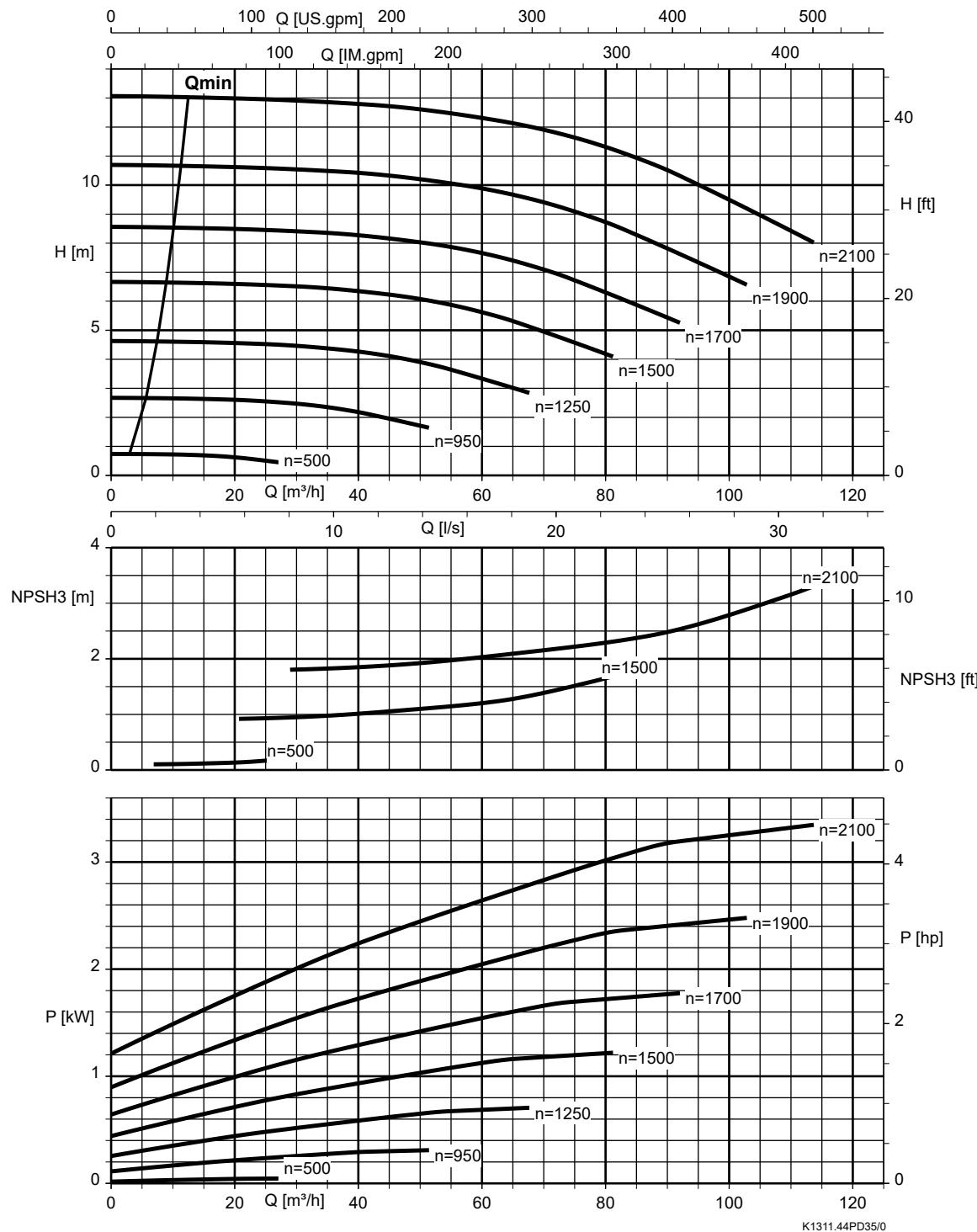
Impeller diameter: 323 mm

Etanorm, Etabloc 065-050-315, from 2100 rpm

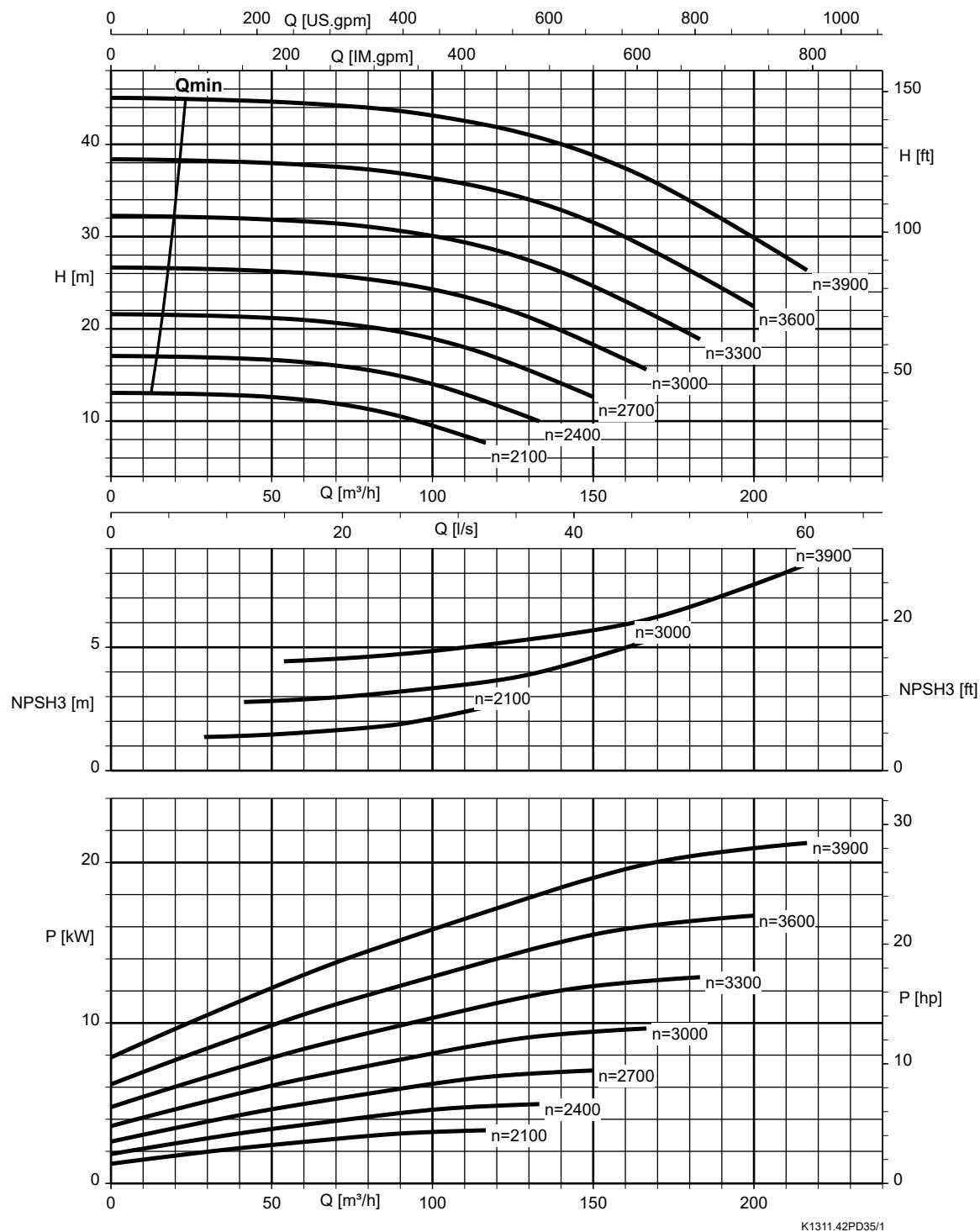


Impeller diameter: 323 mm

Etanorm, Etabloc 080-065-125, up to 2100 rpm

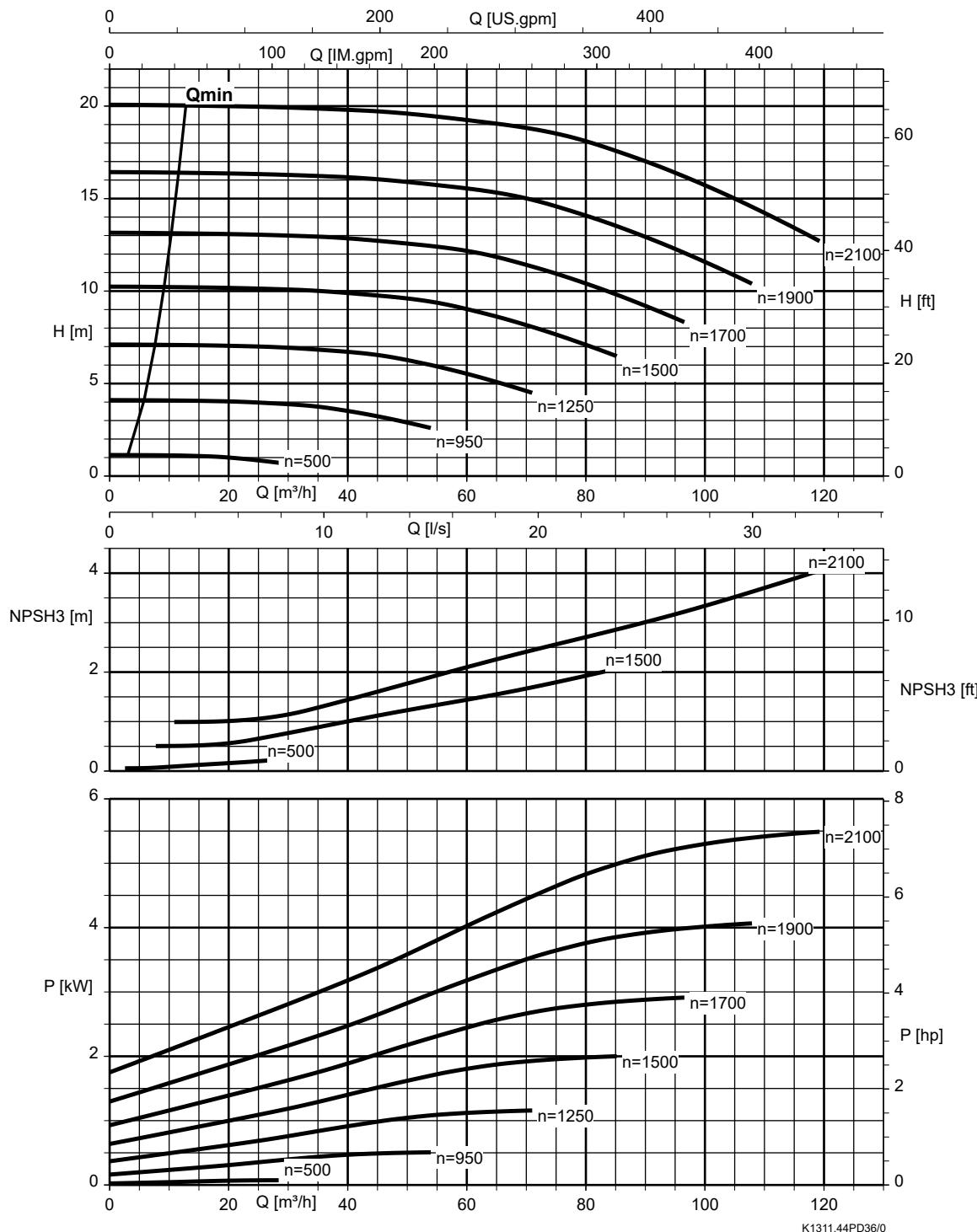


Impeller diameter: 141 mm

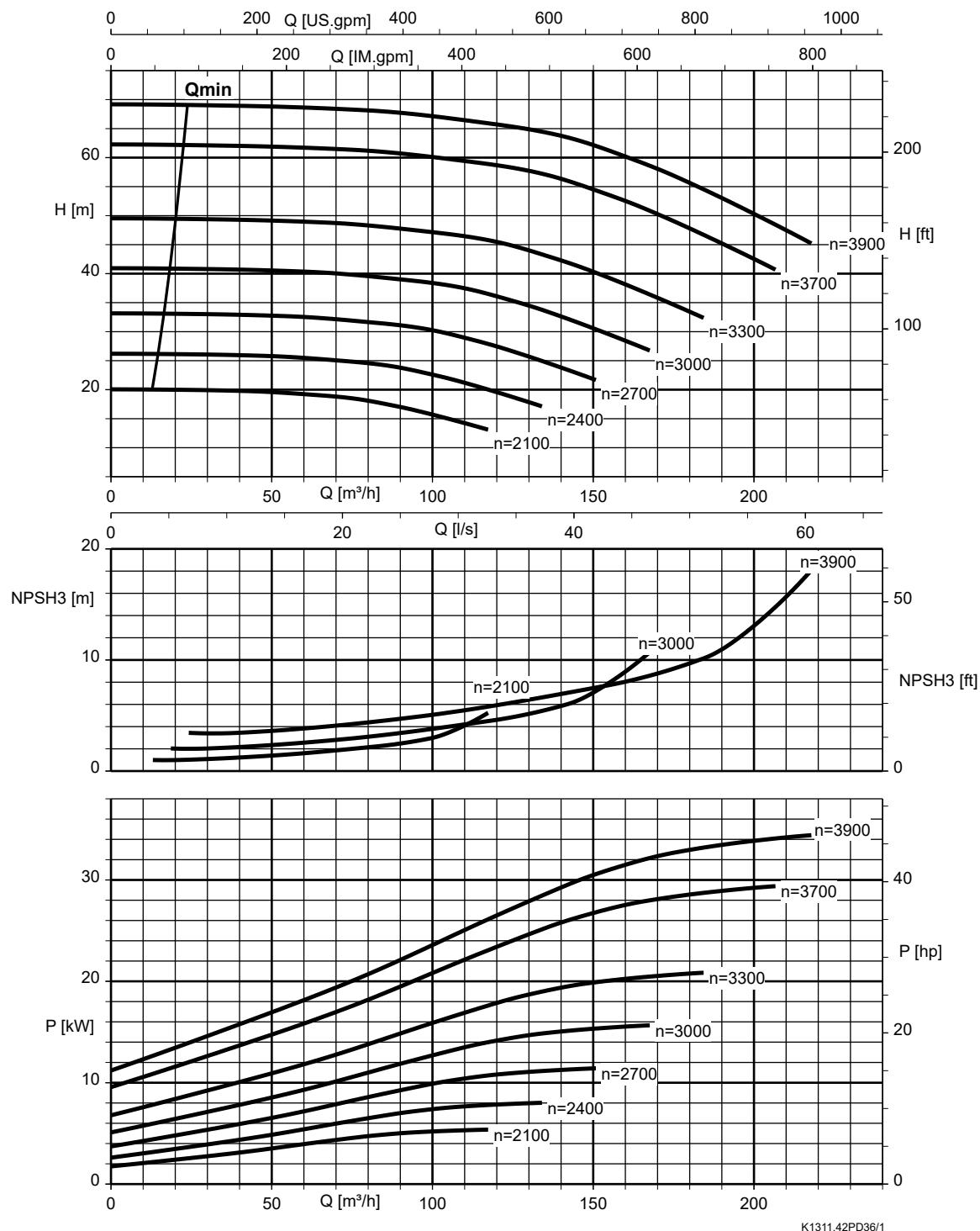
Etanorm, Etabloc 080-065-125, from 2100 rpm


Impeller diameter: 141 mm

Etanorm, Etabloc 080-065-160, up to 2100 rpm

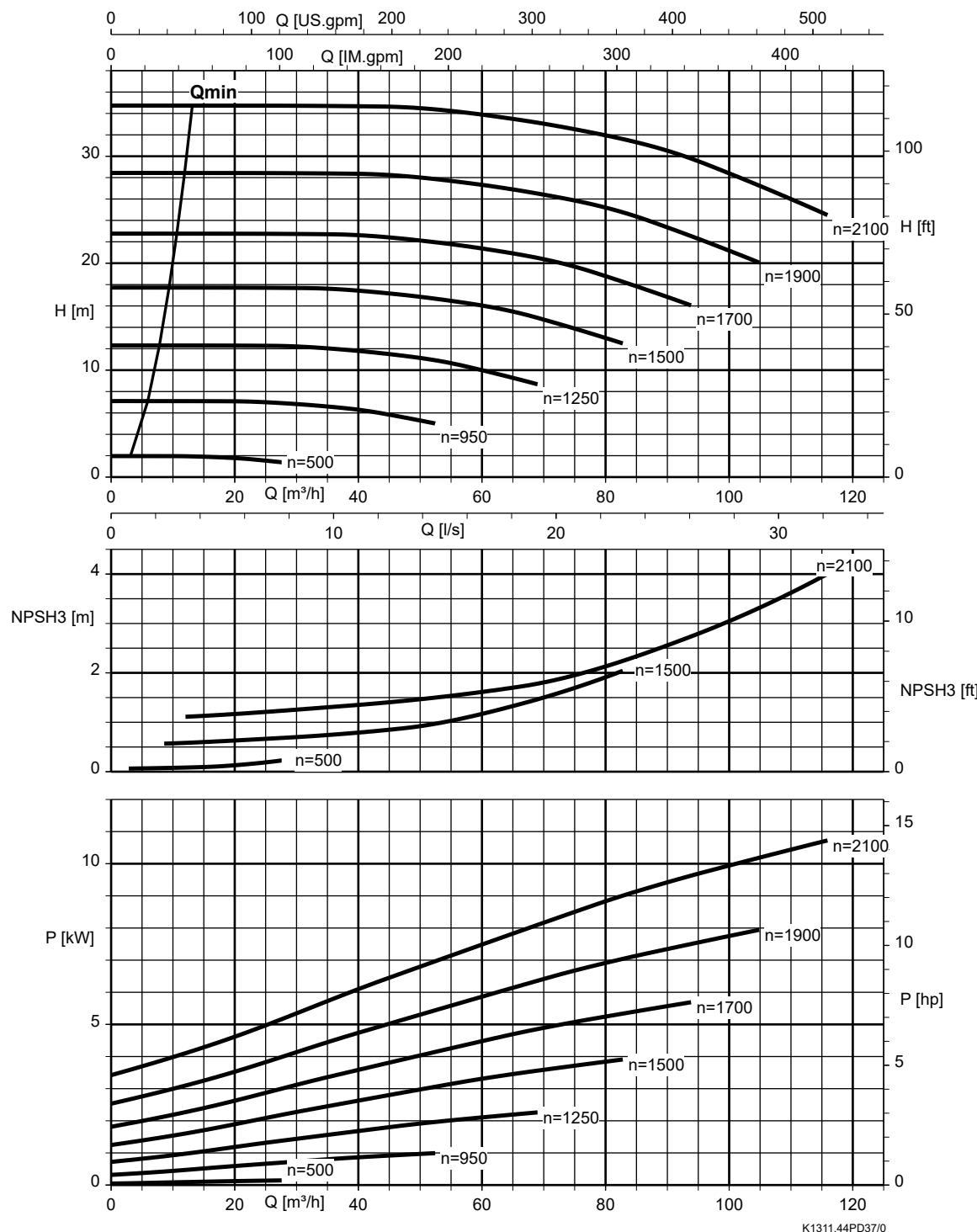


Impeller diameter: 174 mm

Etanorm, Etabloc 080-065-160, from 2100 rpm


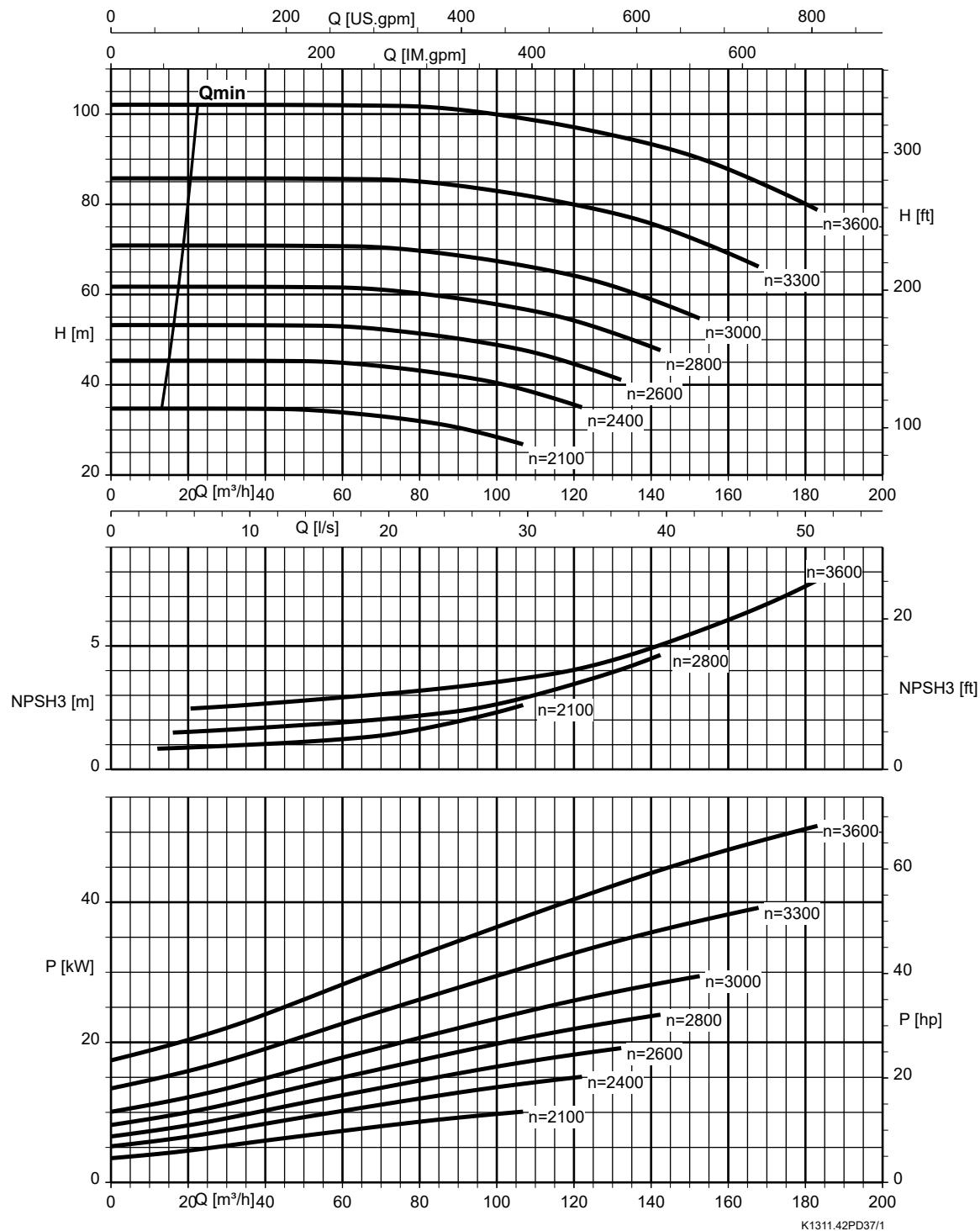
Impeller diameter: 174 mm

Etanorm, Etabloc 080-065-200, up to 2100 rpm



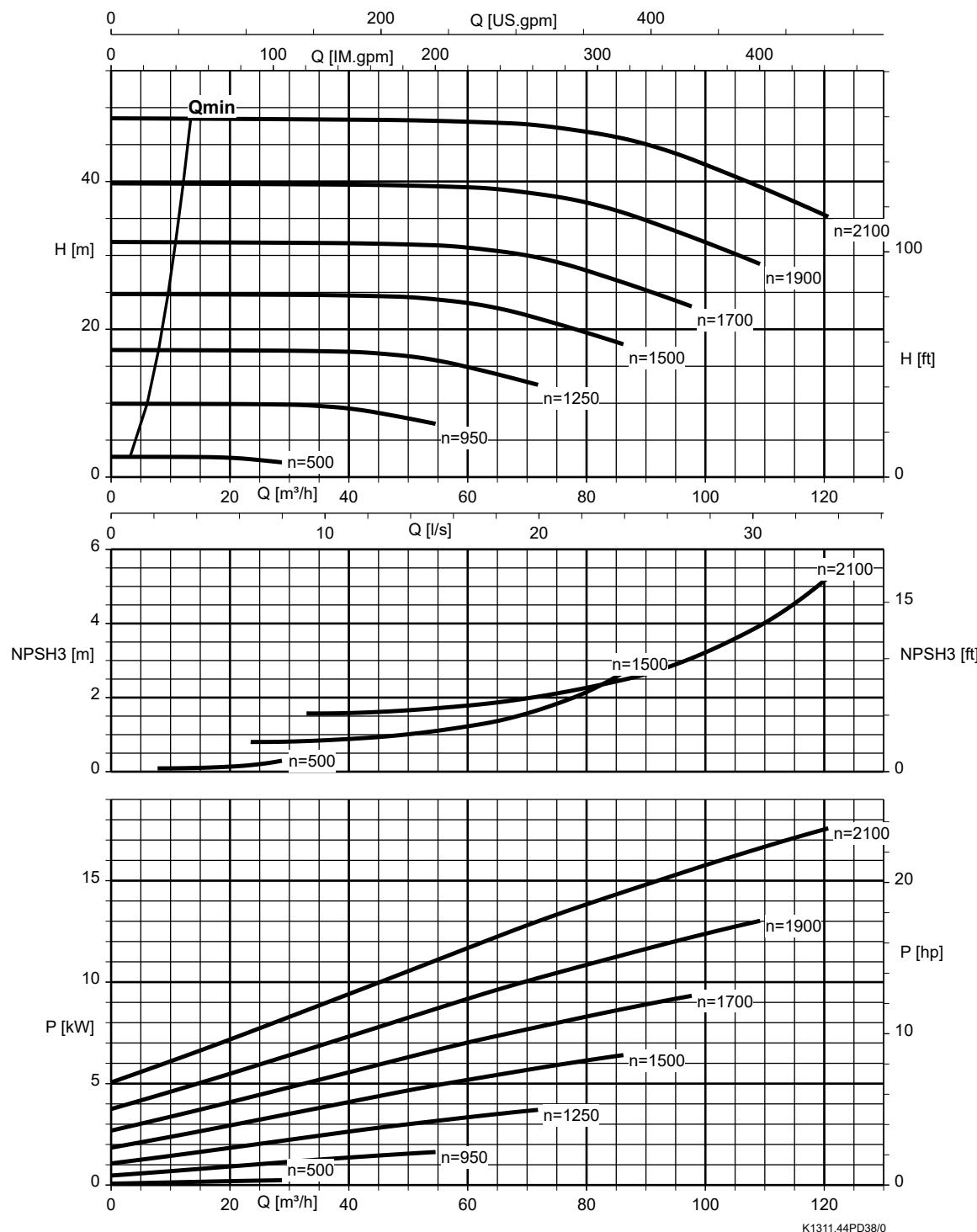
Impeller diameter: 219 mm

Etanorm, Etabloc 080-065-200, from 2100 rpm

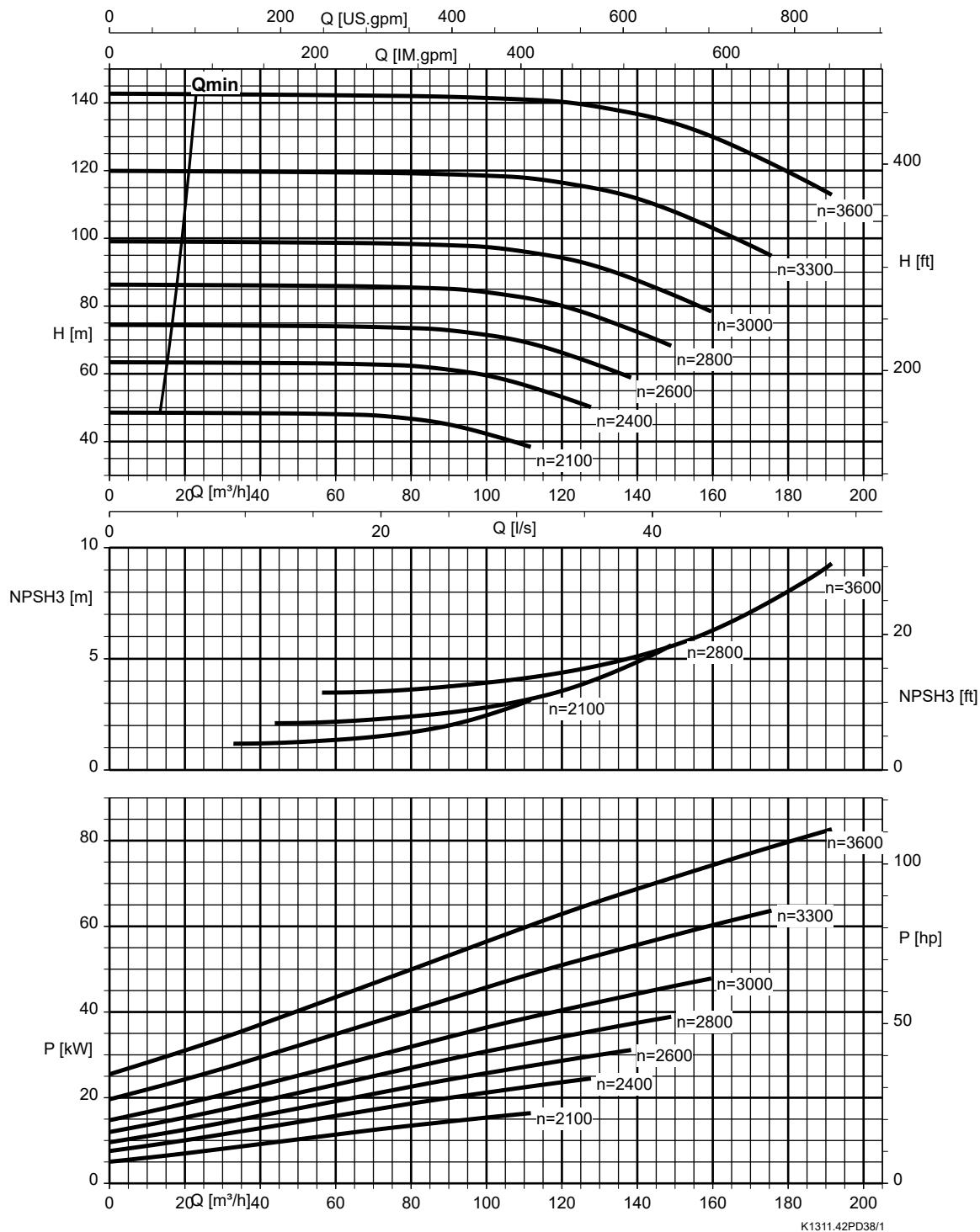


Impeller diameter: 219 mm

Etanorm, Etabloc 080-065-250, up to 2100 rpm

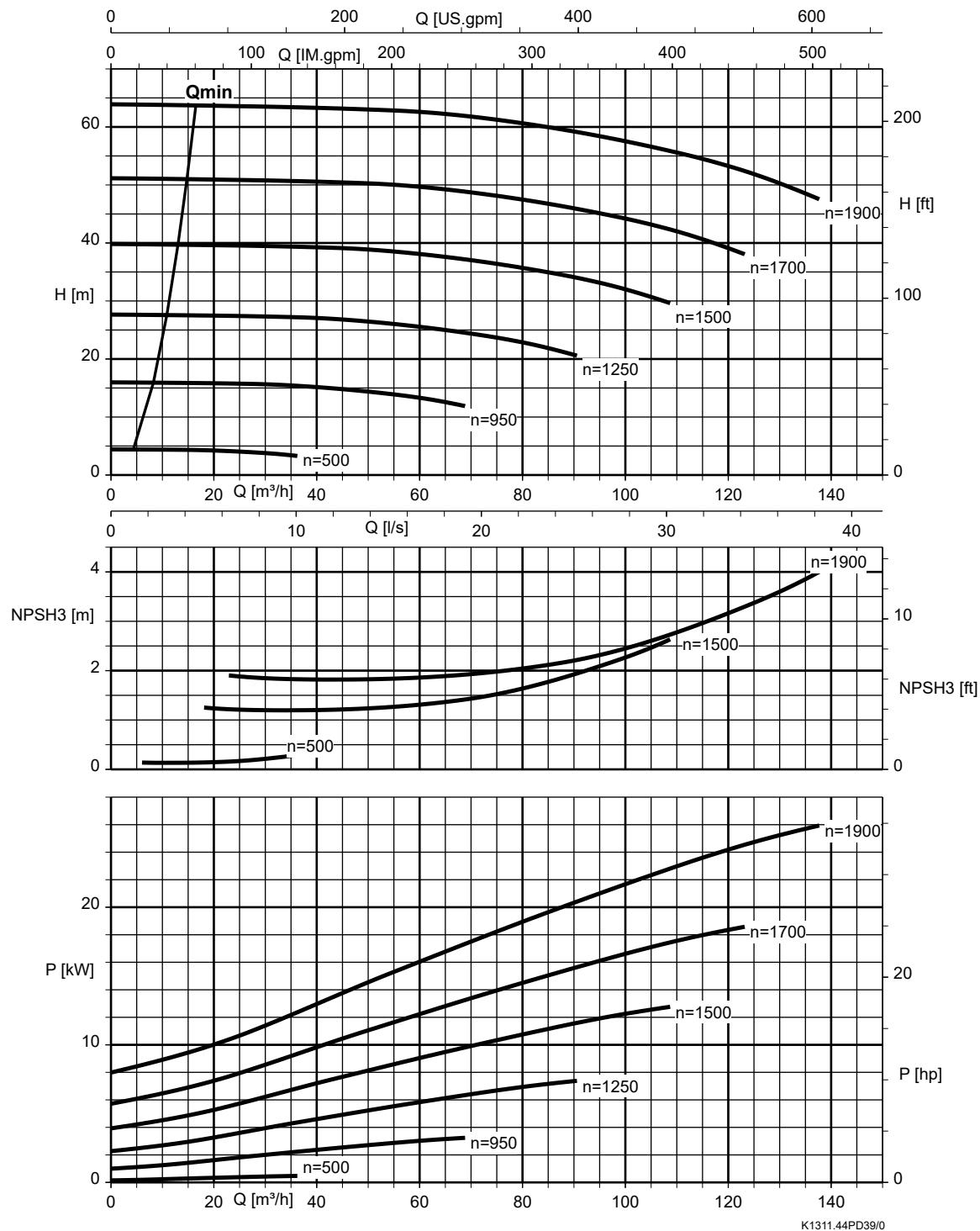


Impeller diameter: 260 mm

Etanorm, Etabloc 080-065-250, from 2100 rpm


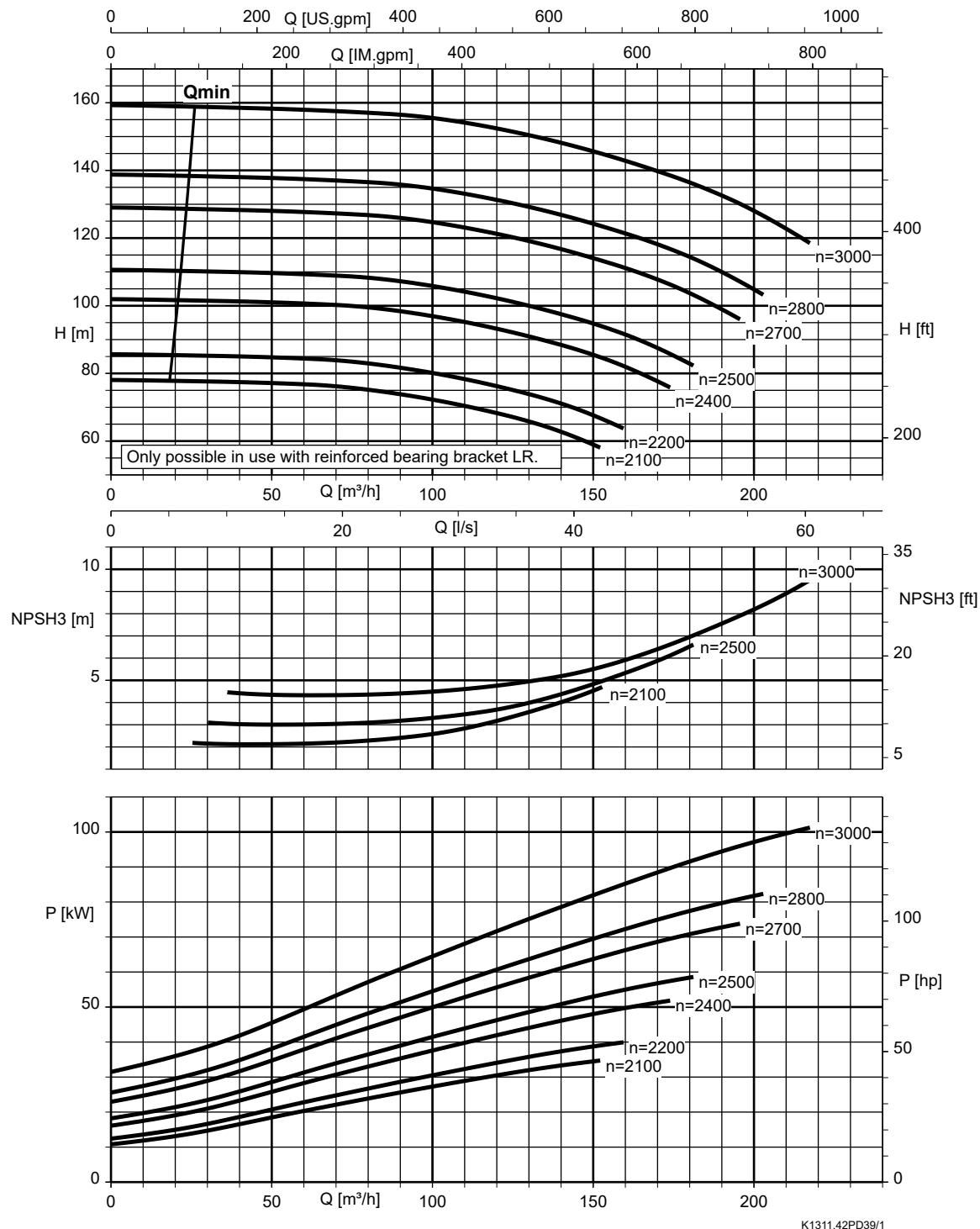
Impeller diameter: 260 mm

Etanorm, Etabloc 080-065-315, up to 1900 rpm



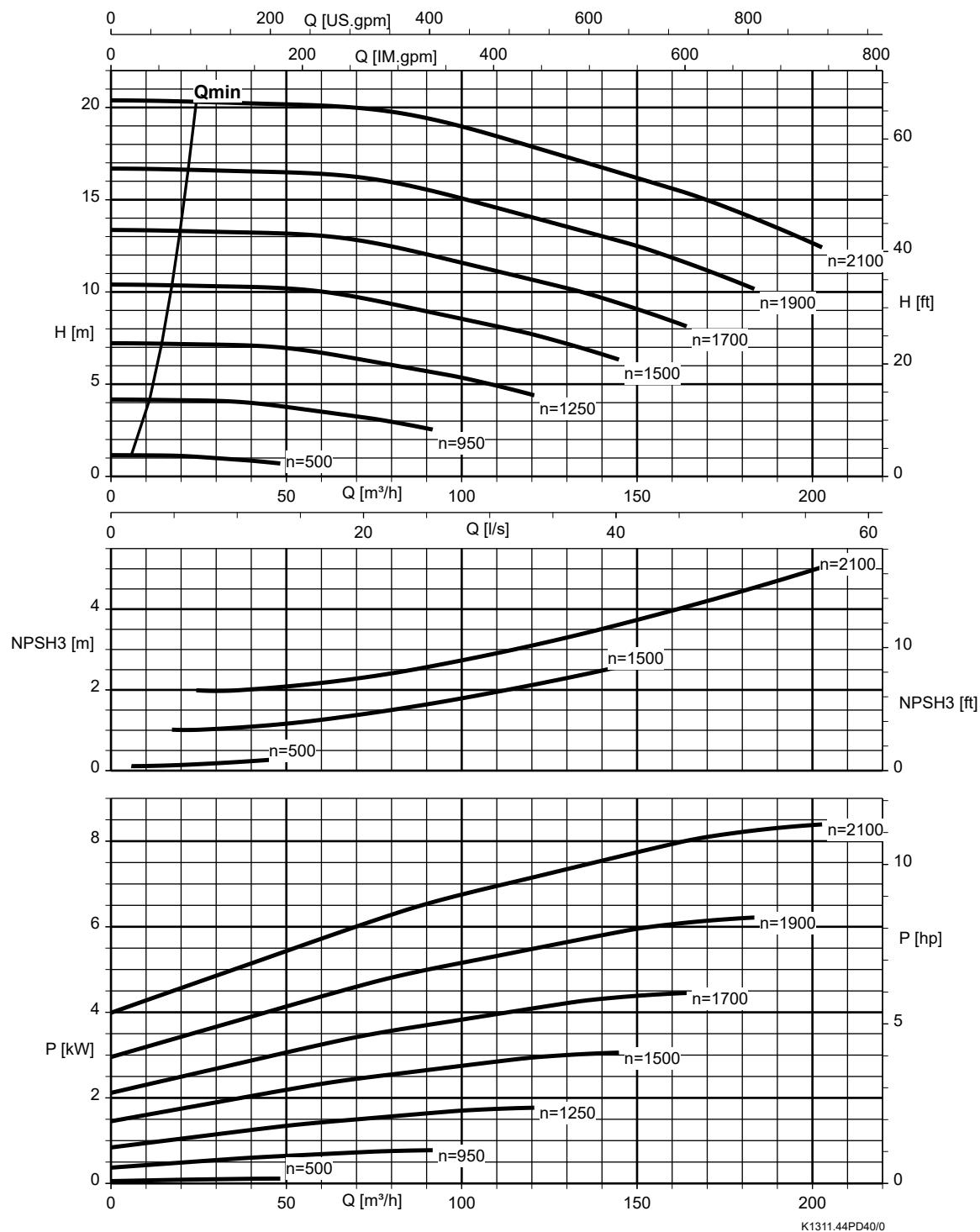
Impeller diameter: 320 mm

 Etanorm mit Drehzahl > 1900 min⁻¹ nur mit verstärktem Lagerträger möglich.

Etanorm, Etabloc 080-065-315, from 2100 rpm


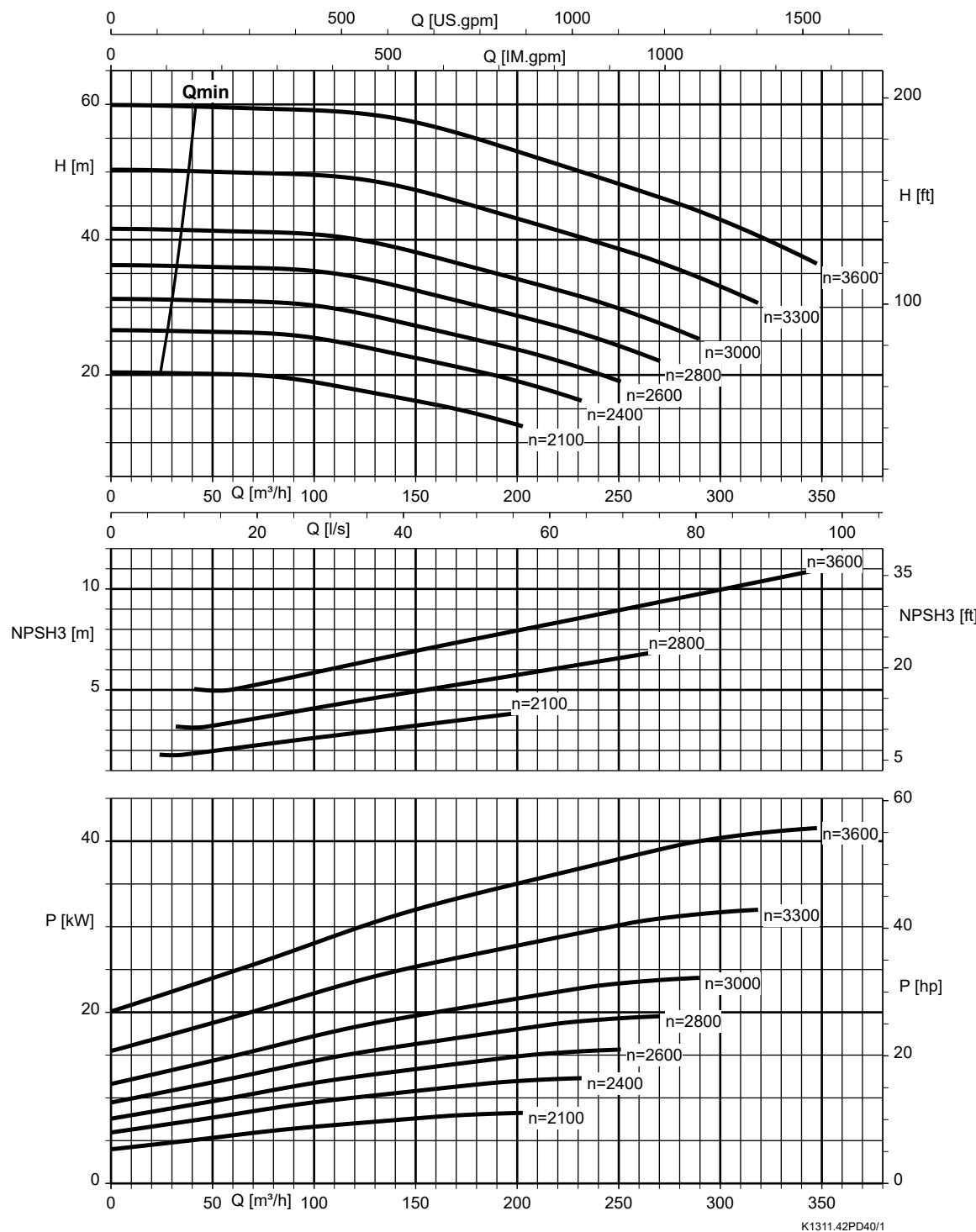
Impeller diameter: 320 mm

 Etanorm mit Drehzahl $> 1900 \text{ min}^{-1}$ nur mit verstärktem Lagerträger möglich.

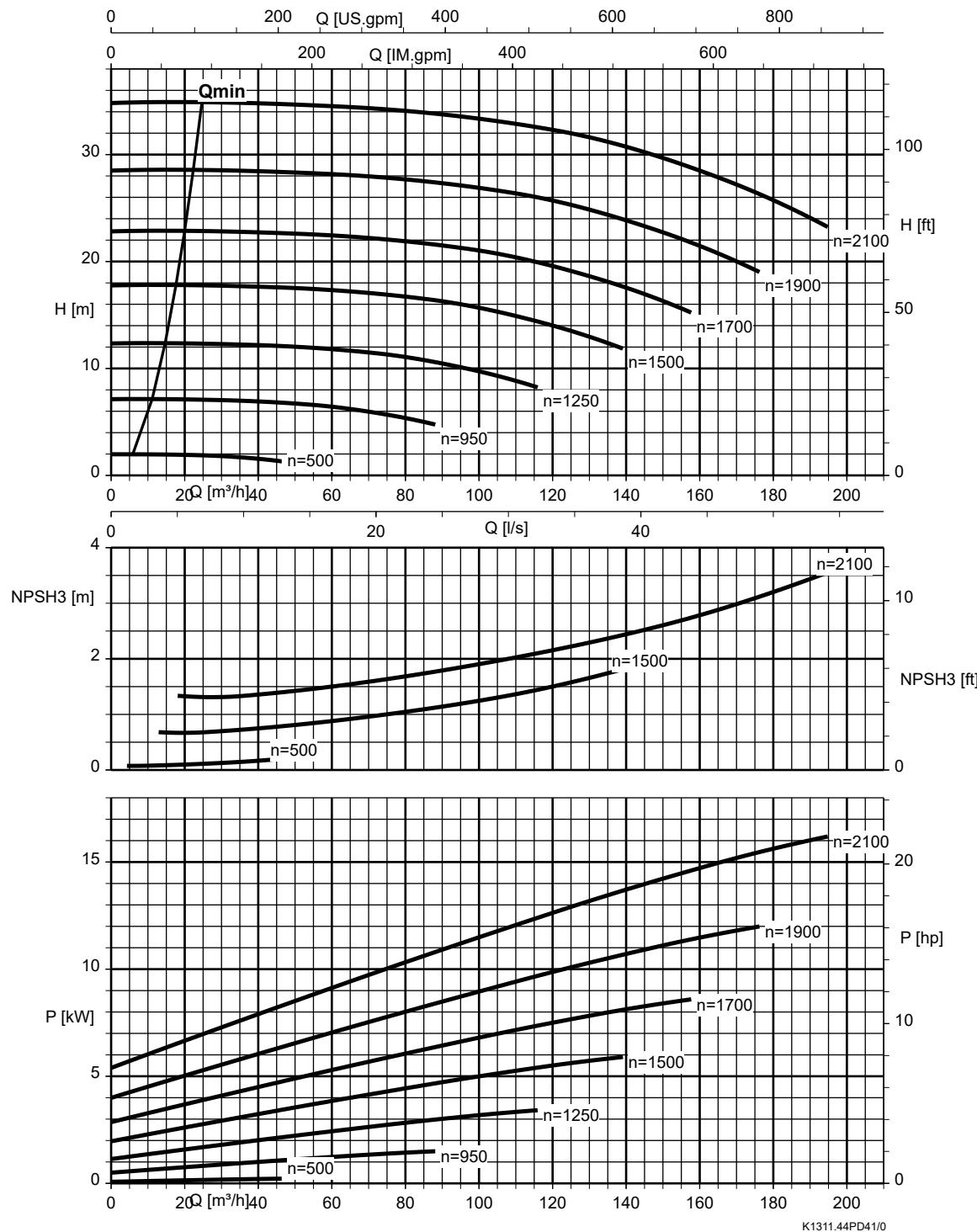
Etanorm, Etabloc 100-080-160, up to 2100 rpm


Impeller diameter: 174 mm

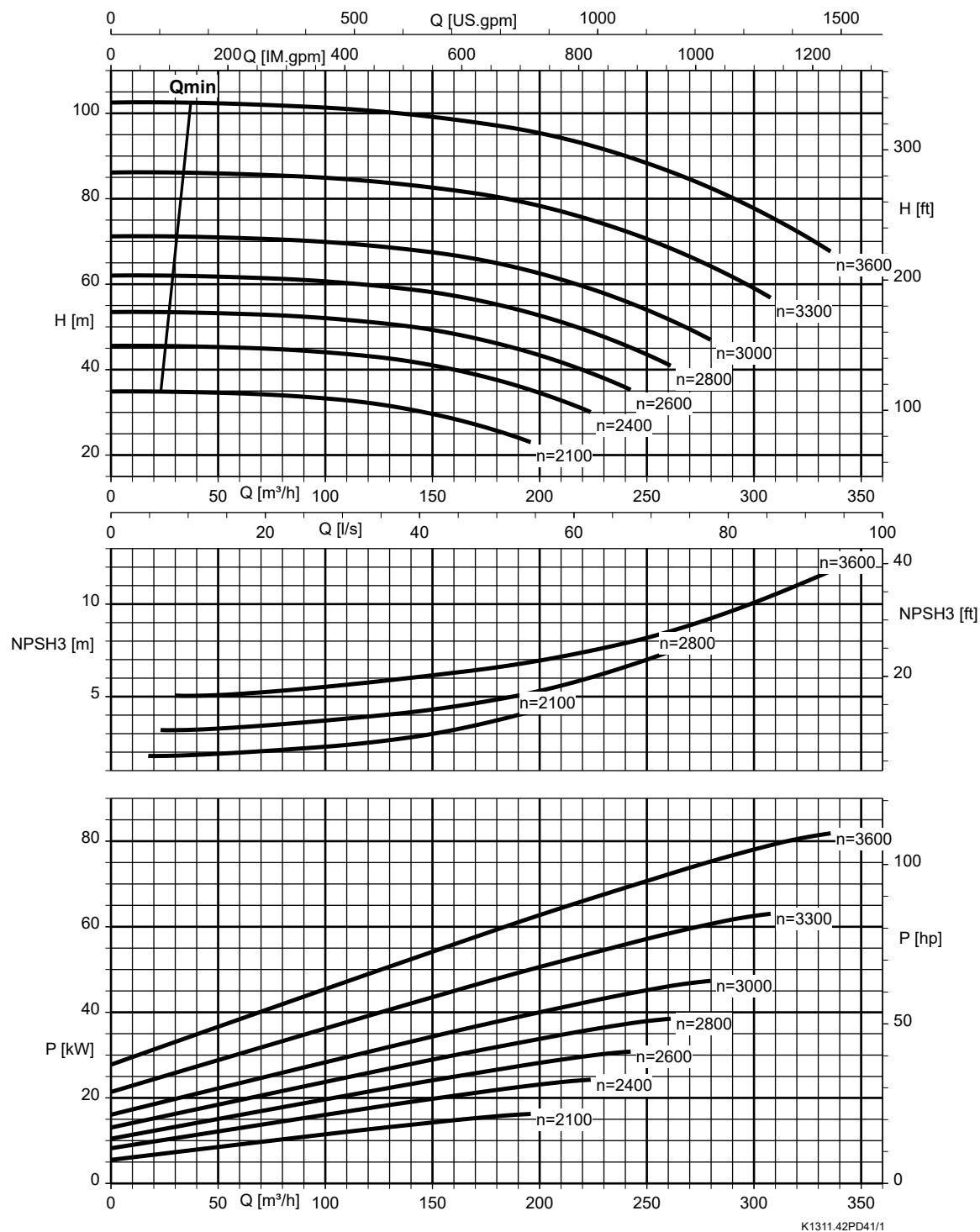
Etanorm, Etabloc 100-080-160, from 2100 rpm



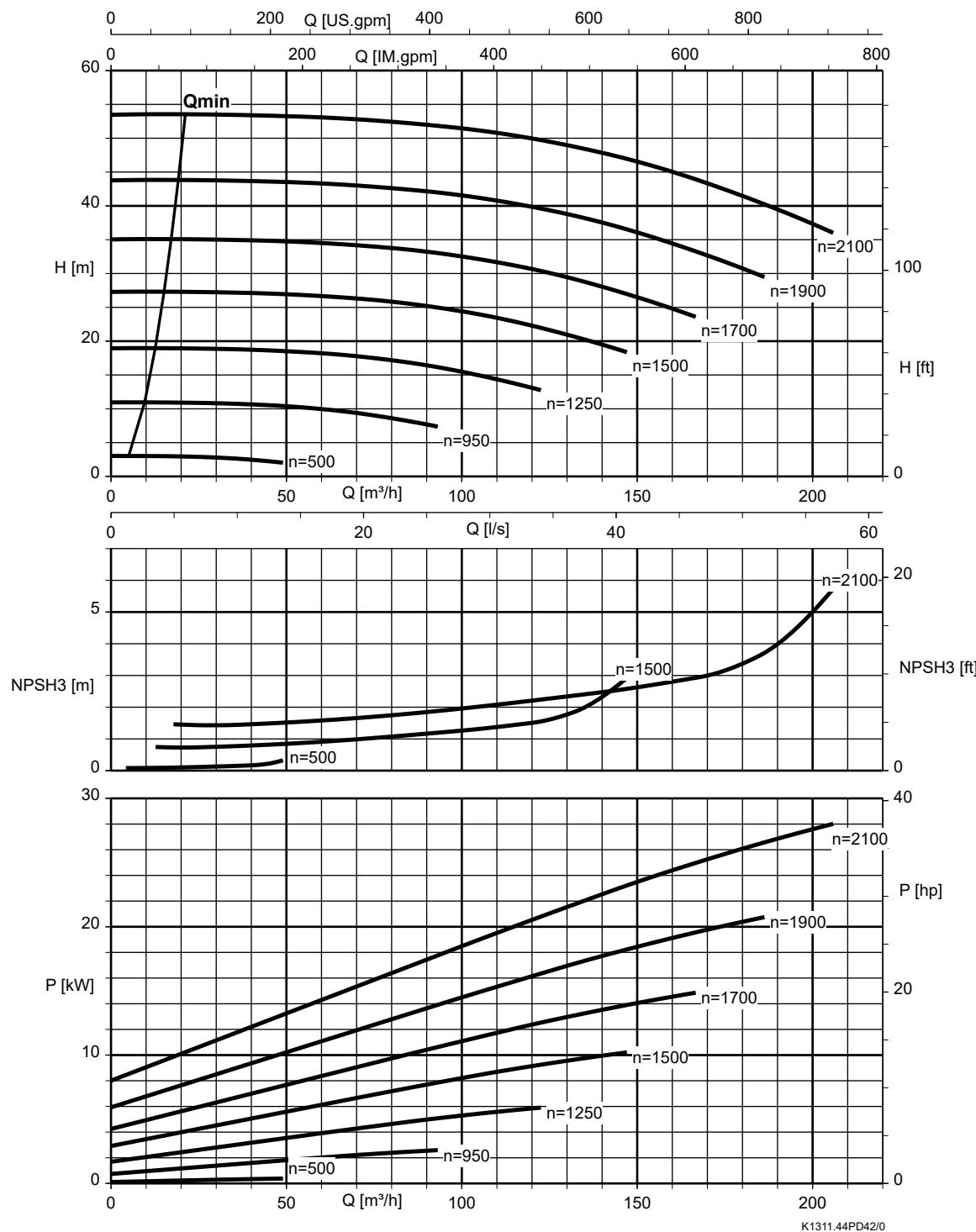
Impeller diameter: 174 mm

Etanorm, Etabloc 100-080-200, up to 2100 rpm


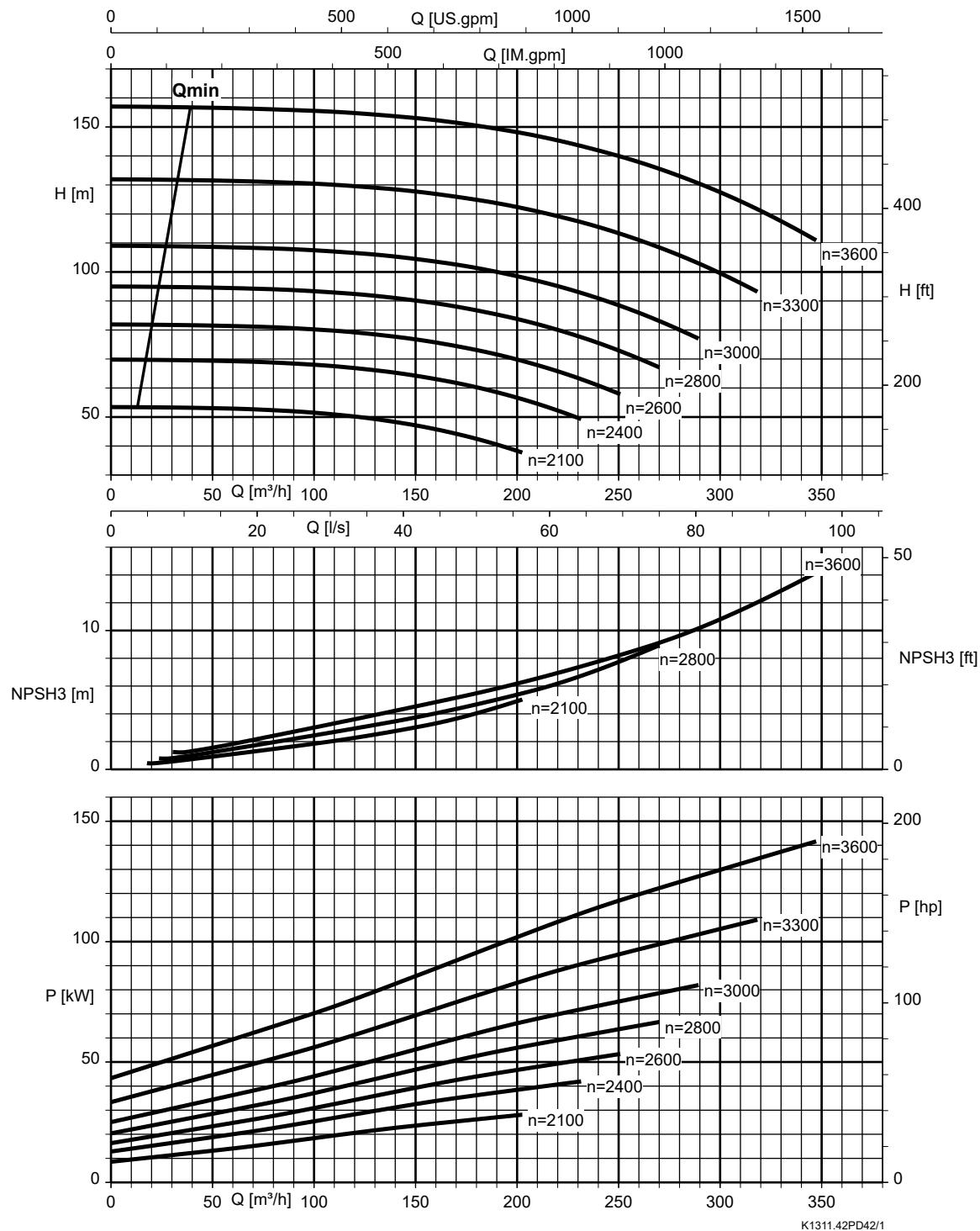
Impeller diameter: 219 mm

Etanorm, Etabloc 100-080-200, from 2100 rpm


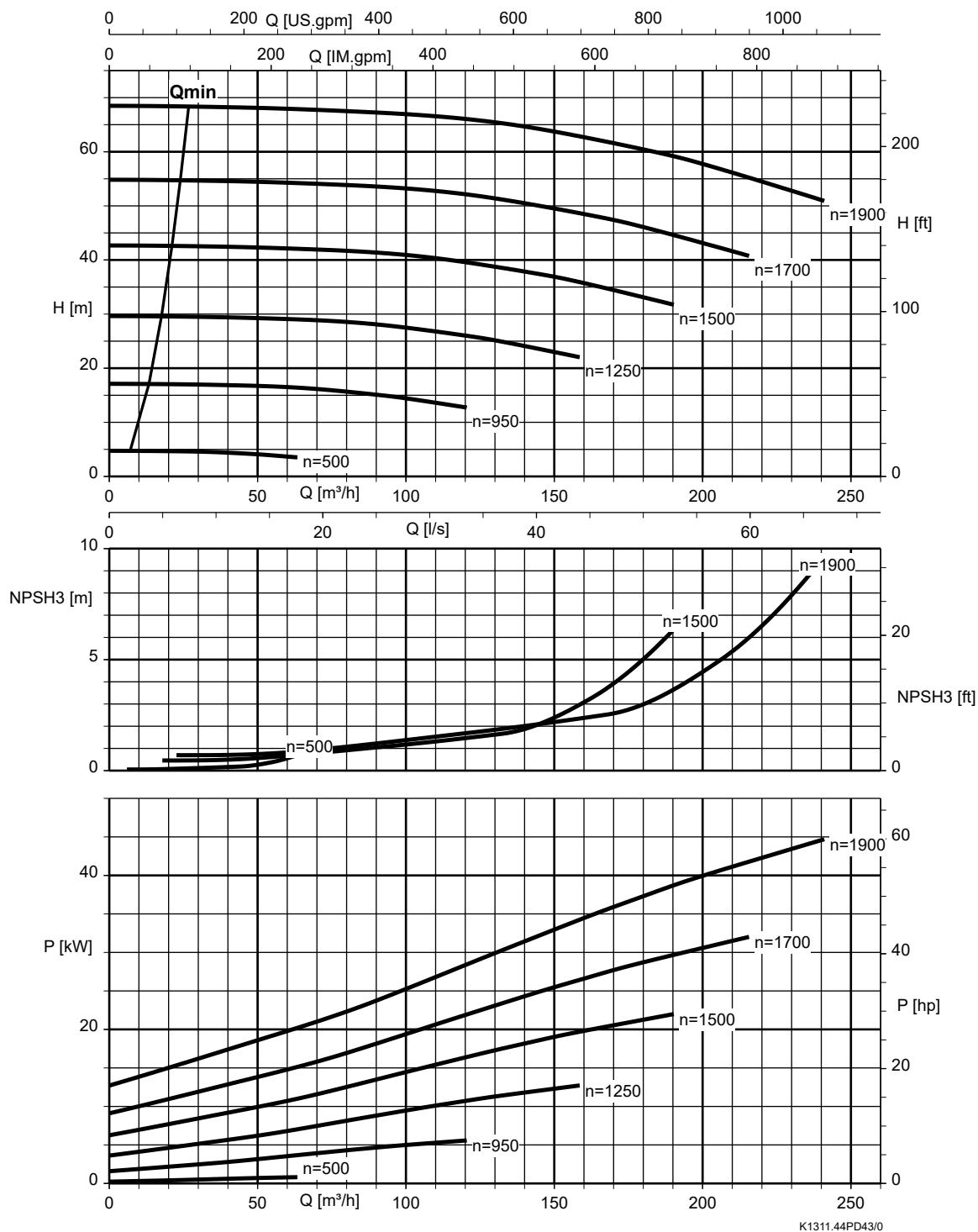
Impeller diameter: 219 mm

Etanorm, Etabloc 100-080-250, up to 2100 rpm


Impeller diameter: 269 mm

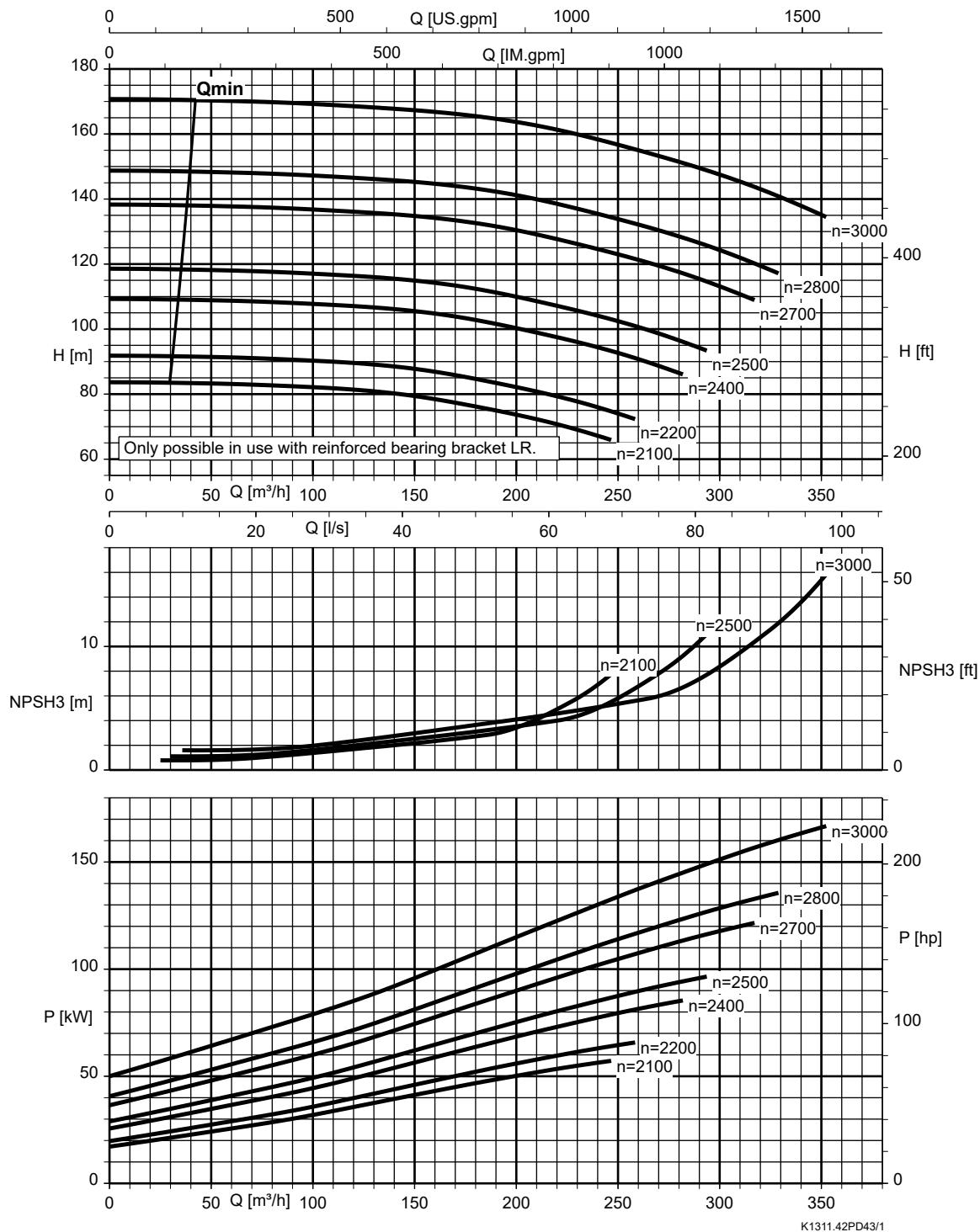
Etanorm, Etabloc 100-080-250, from 2100 rpm


Impeller diameter: 269 mm

Etanorm, Etabloc 100-080-315, up to 1900 rpm


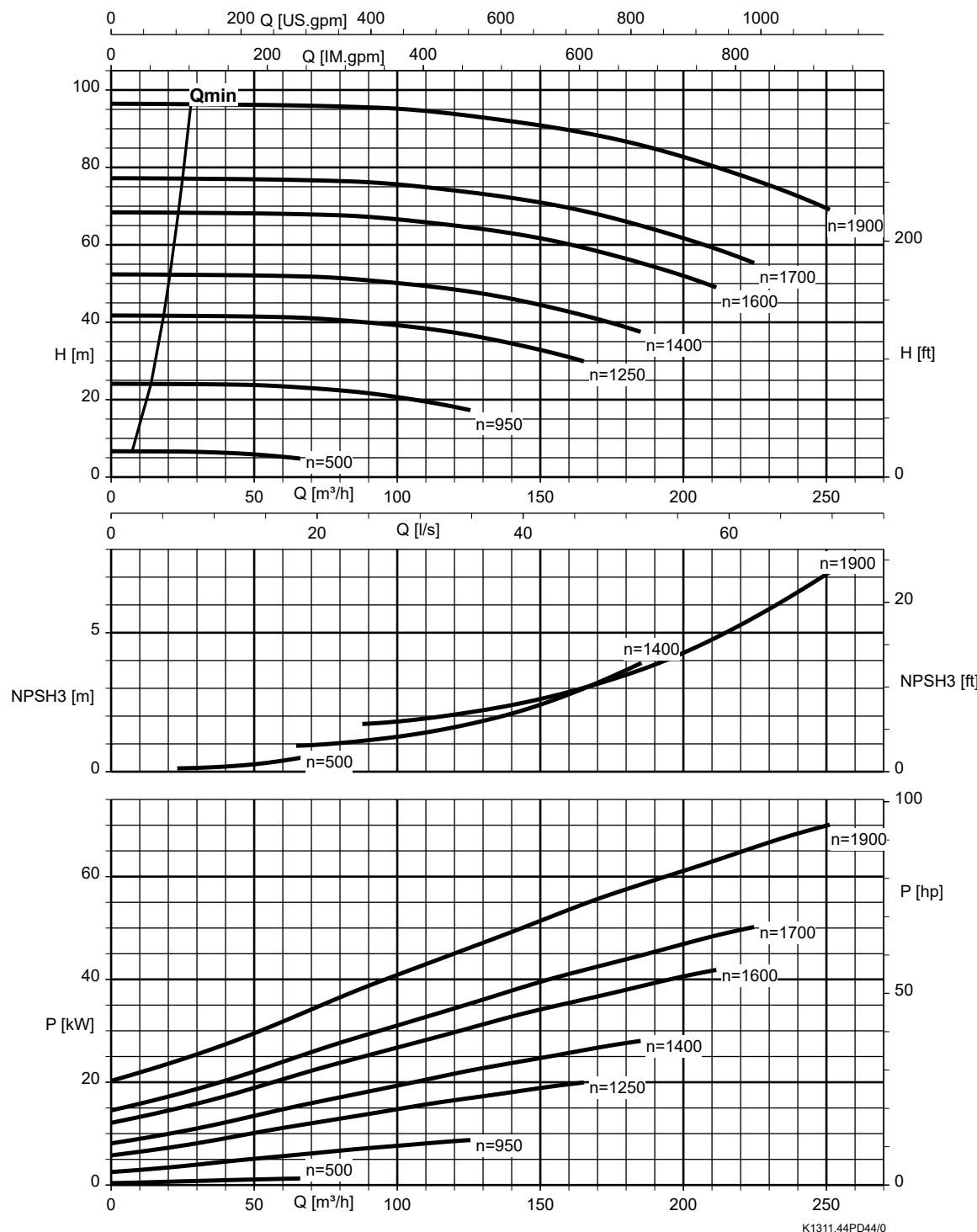
Impeller diameter: 334 mm

 Etanorm mit Drehzahl > 1900 min⁻¹ nur mit verstärktem Lagerträger möglich.

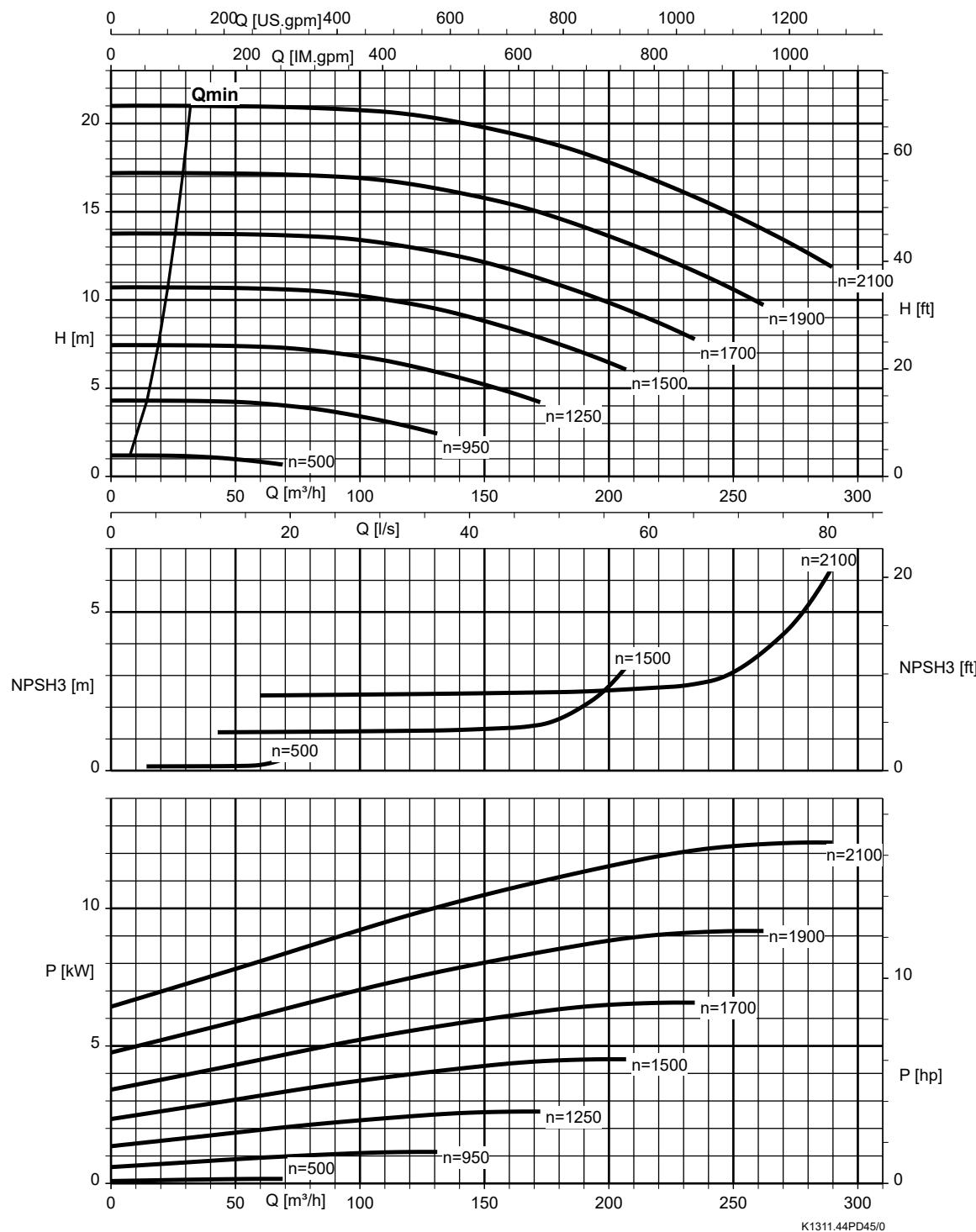
Etanorm, Etabloc 100-080-315, from 2100 rpm


Impeller diameter: 334 mm

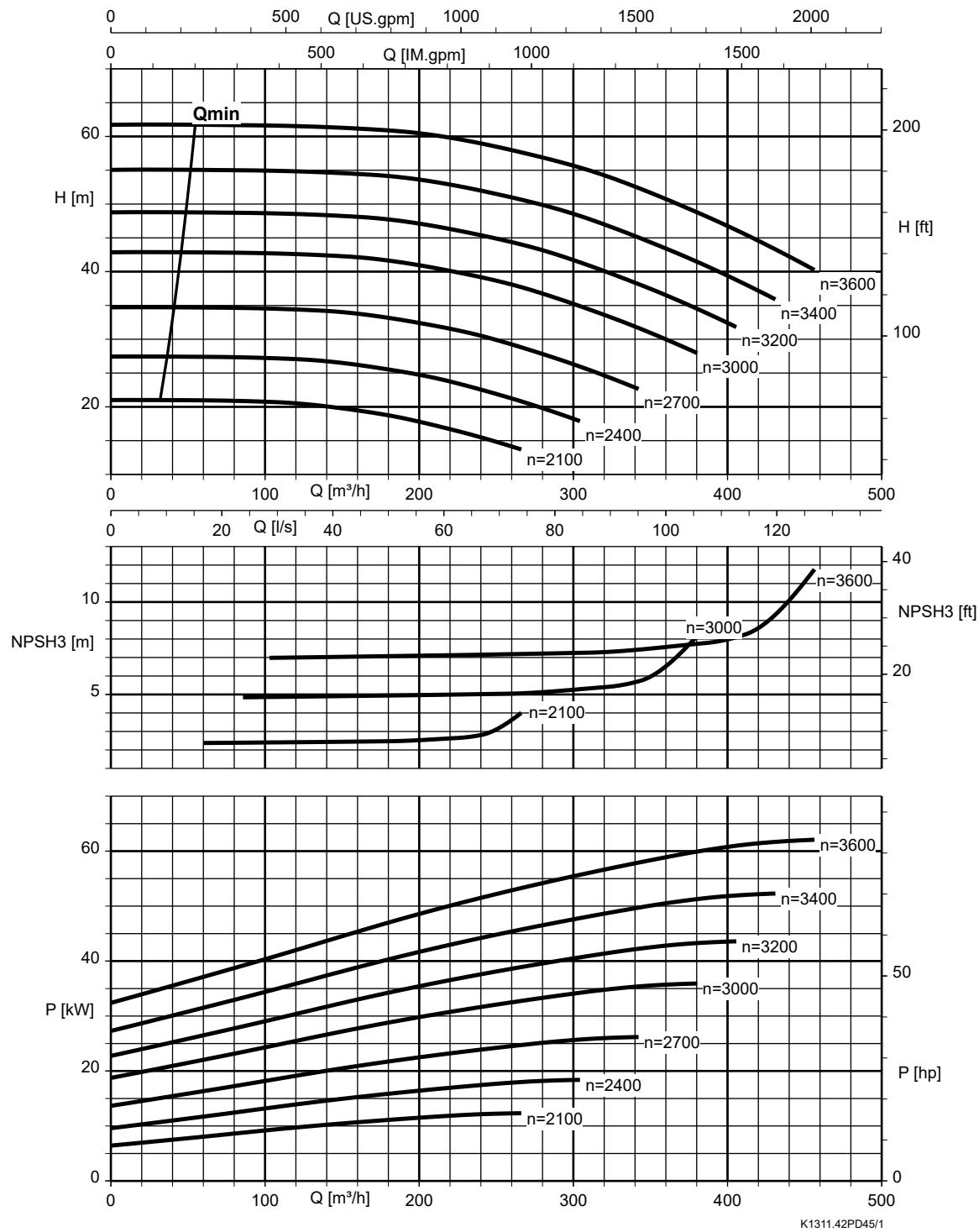
Etanorm mit Drehzahl $> 1900 \text{ min}^{-1}$ nur mit verstärktem Lagerträger möglich.

Etanorm, Etabloc 100-080-400, up to 1900 rpm


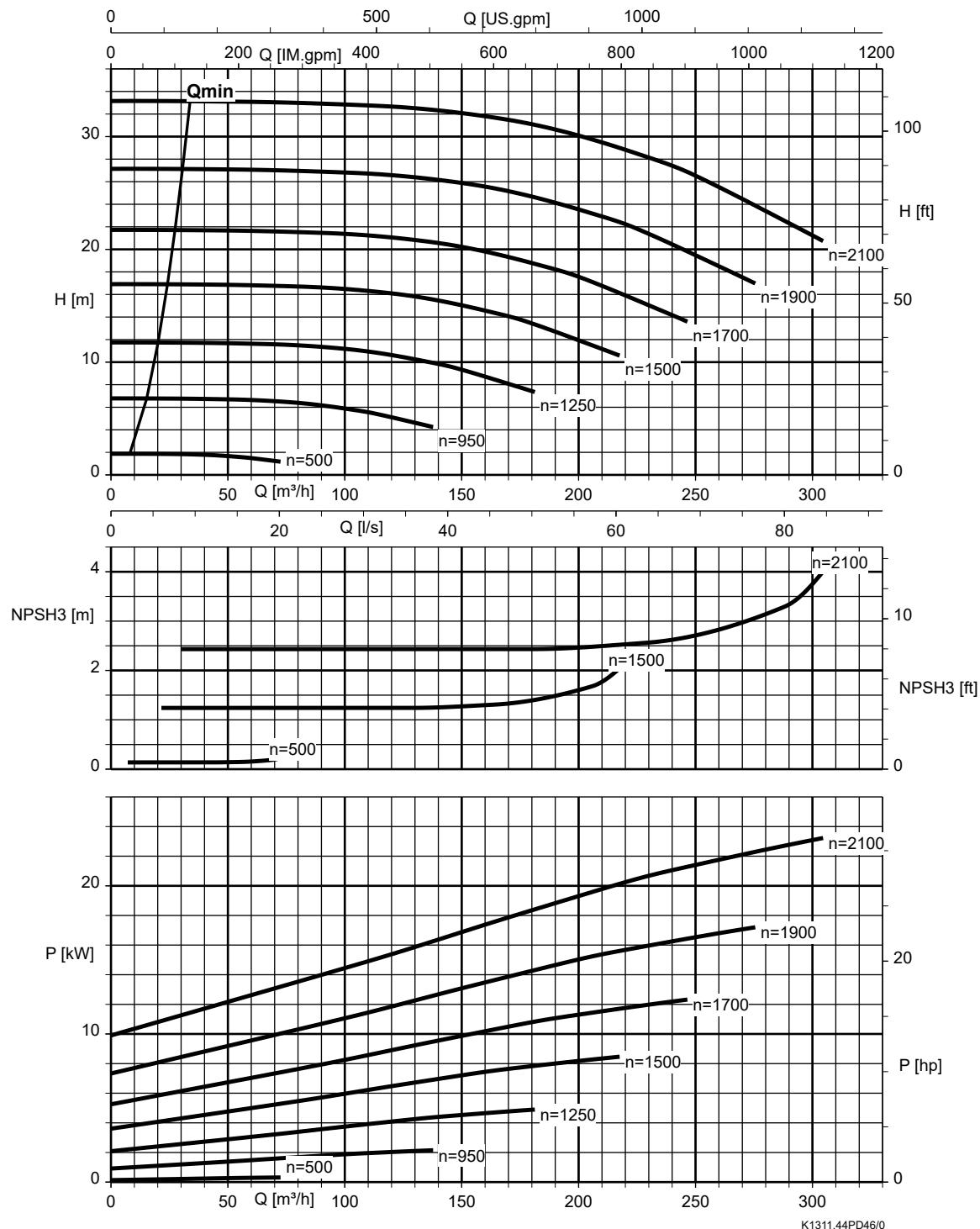
Impeller diameter: 398 mm

Etanorm, Etabloc 125-100-160, up to 2100 rpm


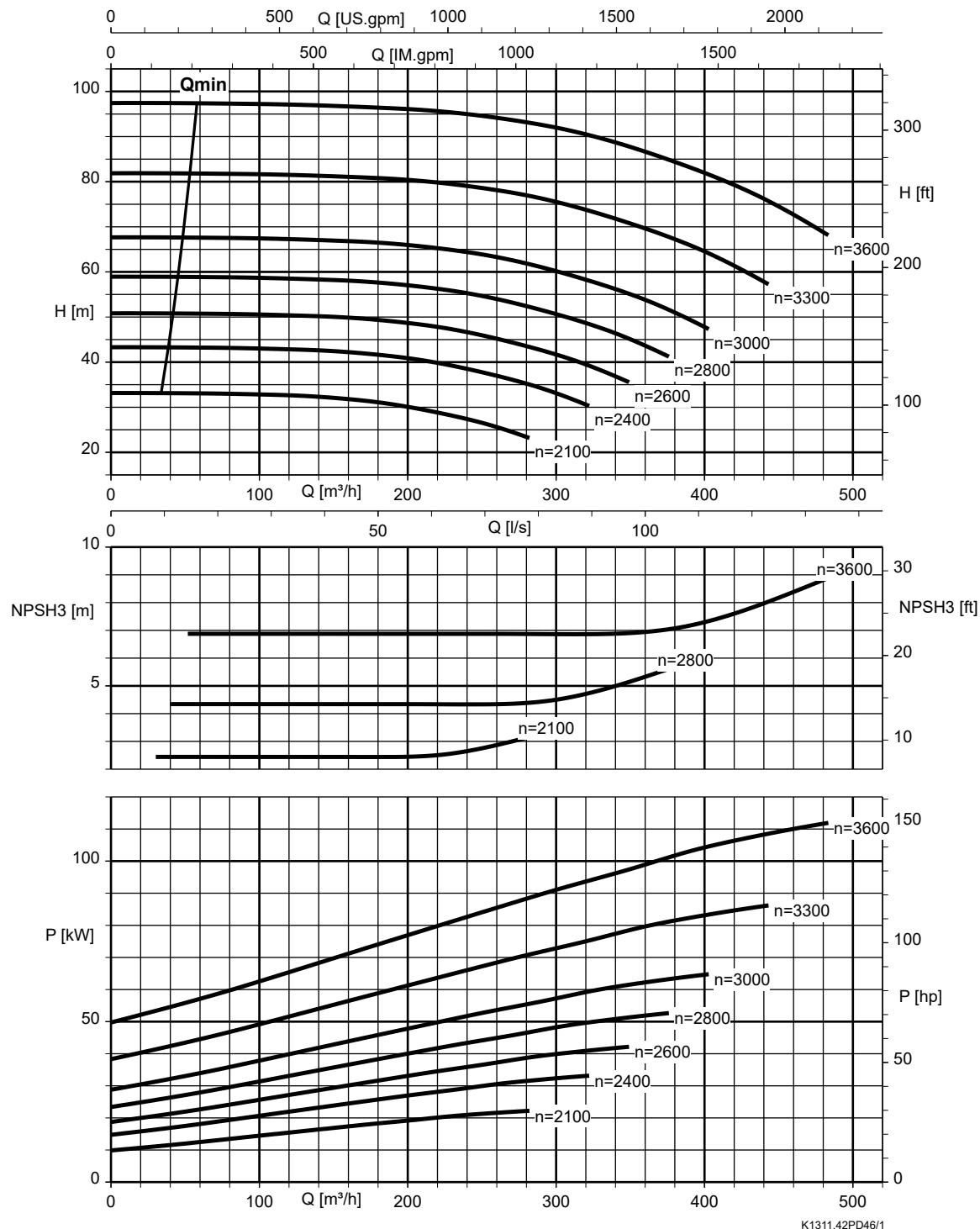
Impeller diameter: 185 mm

Etanorm, Etabloc 125-100-160, from 2100 rpm


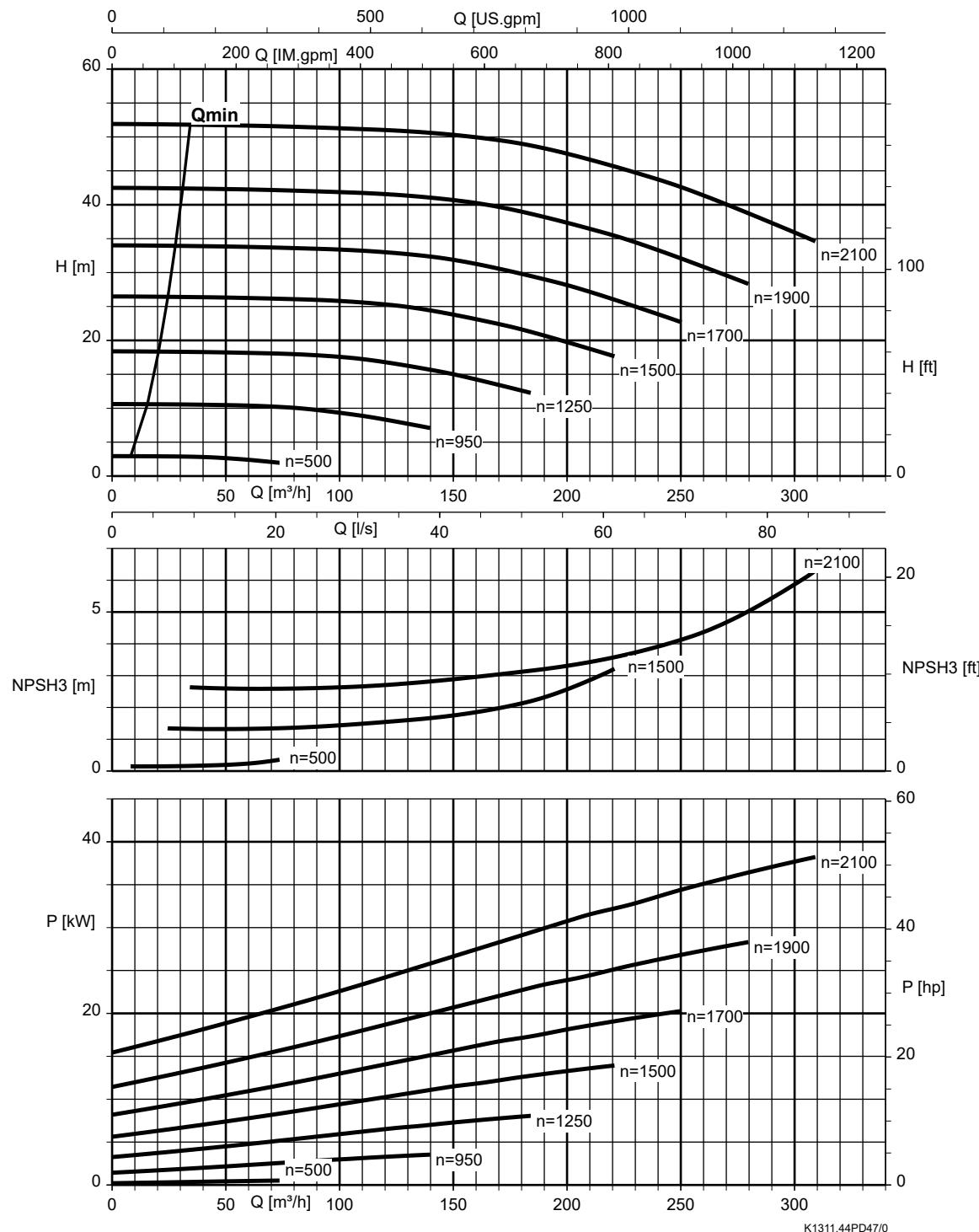
Impeller diameter: 185 mm

Etanorm, Etabloc 125-100-200, up to 2100 rpm


Impeller diameter: 219 mm

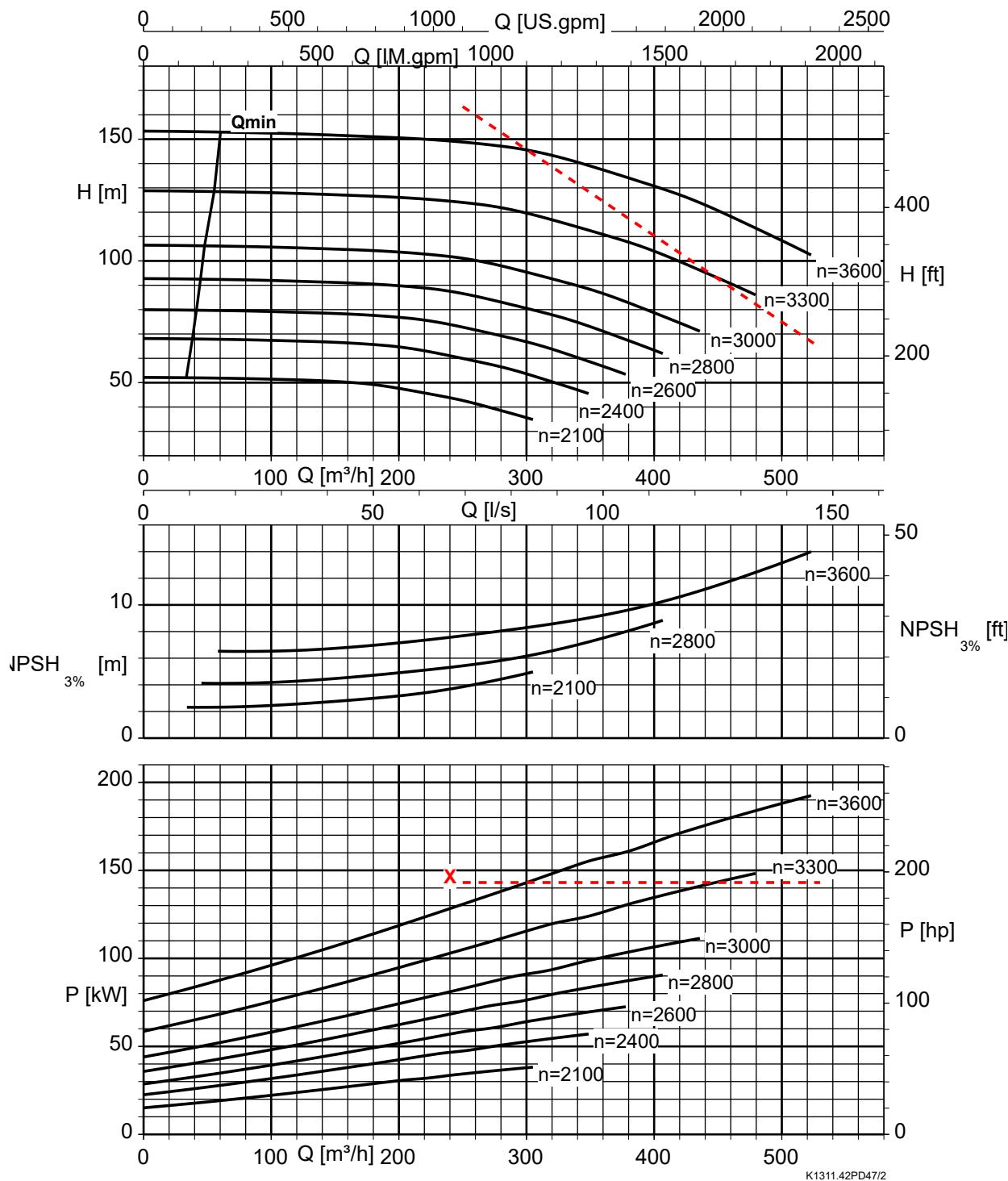
Etanorm, Etabloc 125-100-200, from 2100 rpm


Impeller diameter: 219 mm

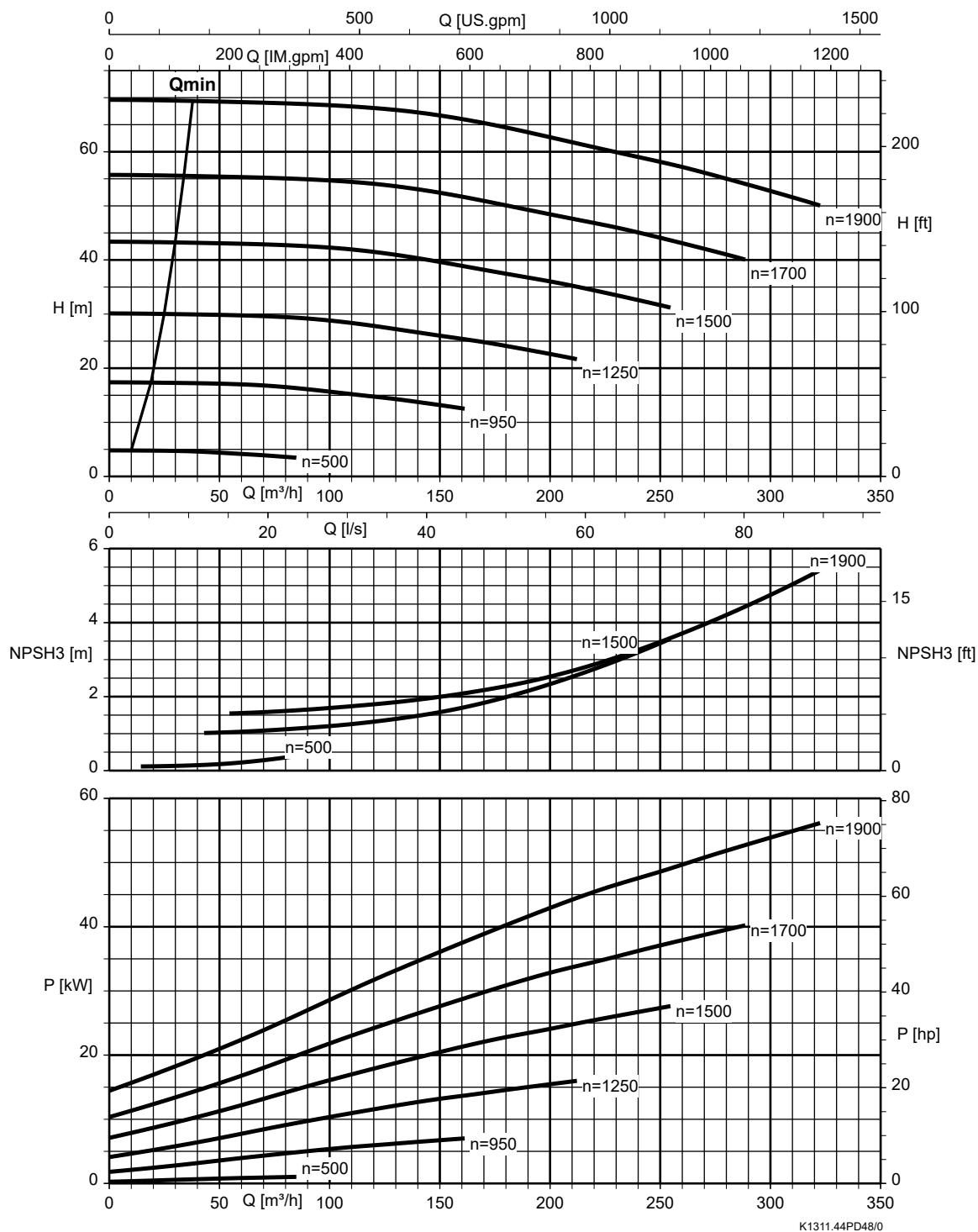
Etanorm, Etabloc 125-100-250, up to 2100 rpm


Impeller diameter: 269 mm

Etanorm, Etabloc 125-100-250, from 2100 rpm

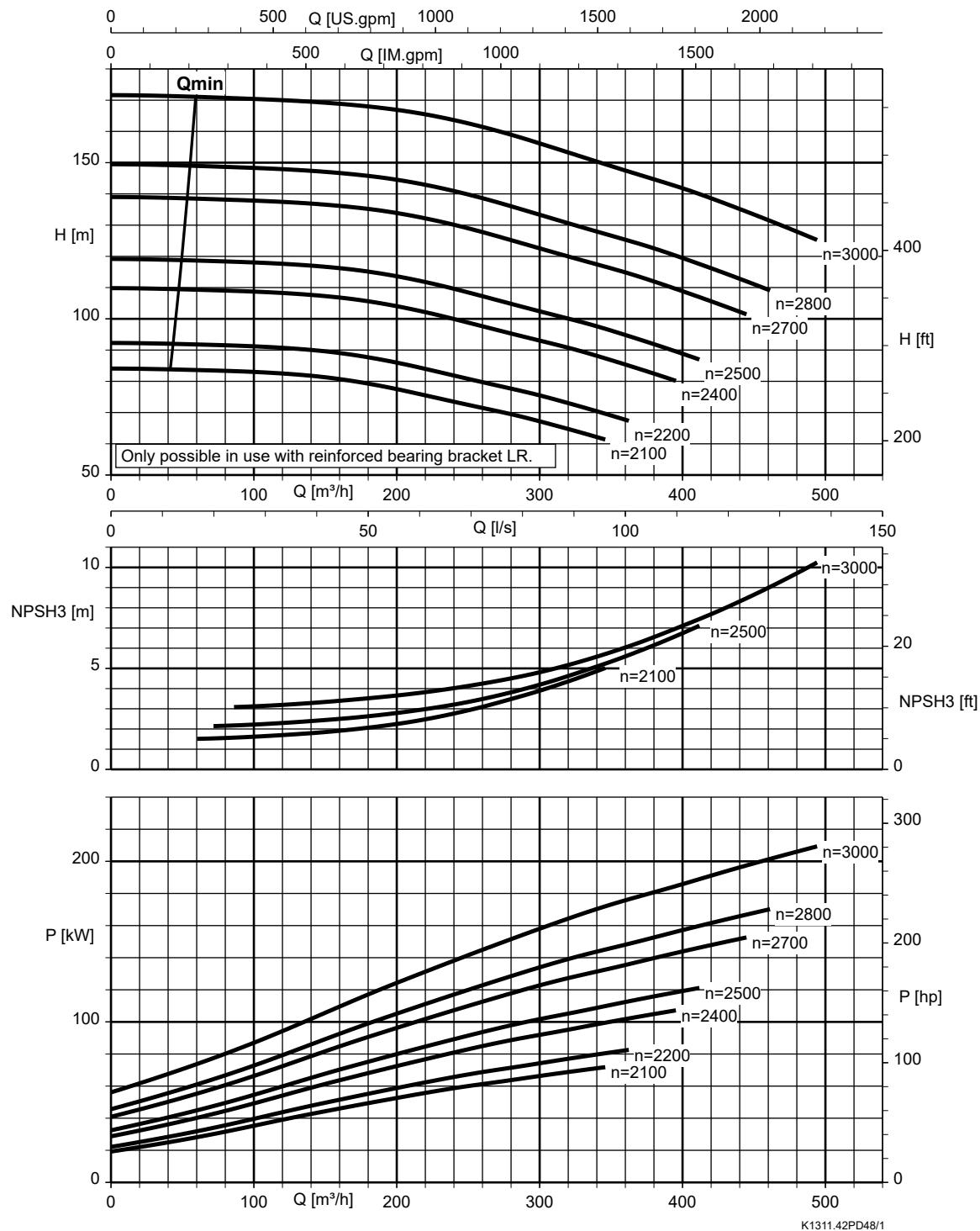


X _____ = power limit
 Impeller diameter: 269 mm

Etanorm, Etabloc 125-100-315, up to 1900 rpm


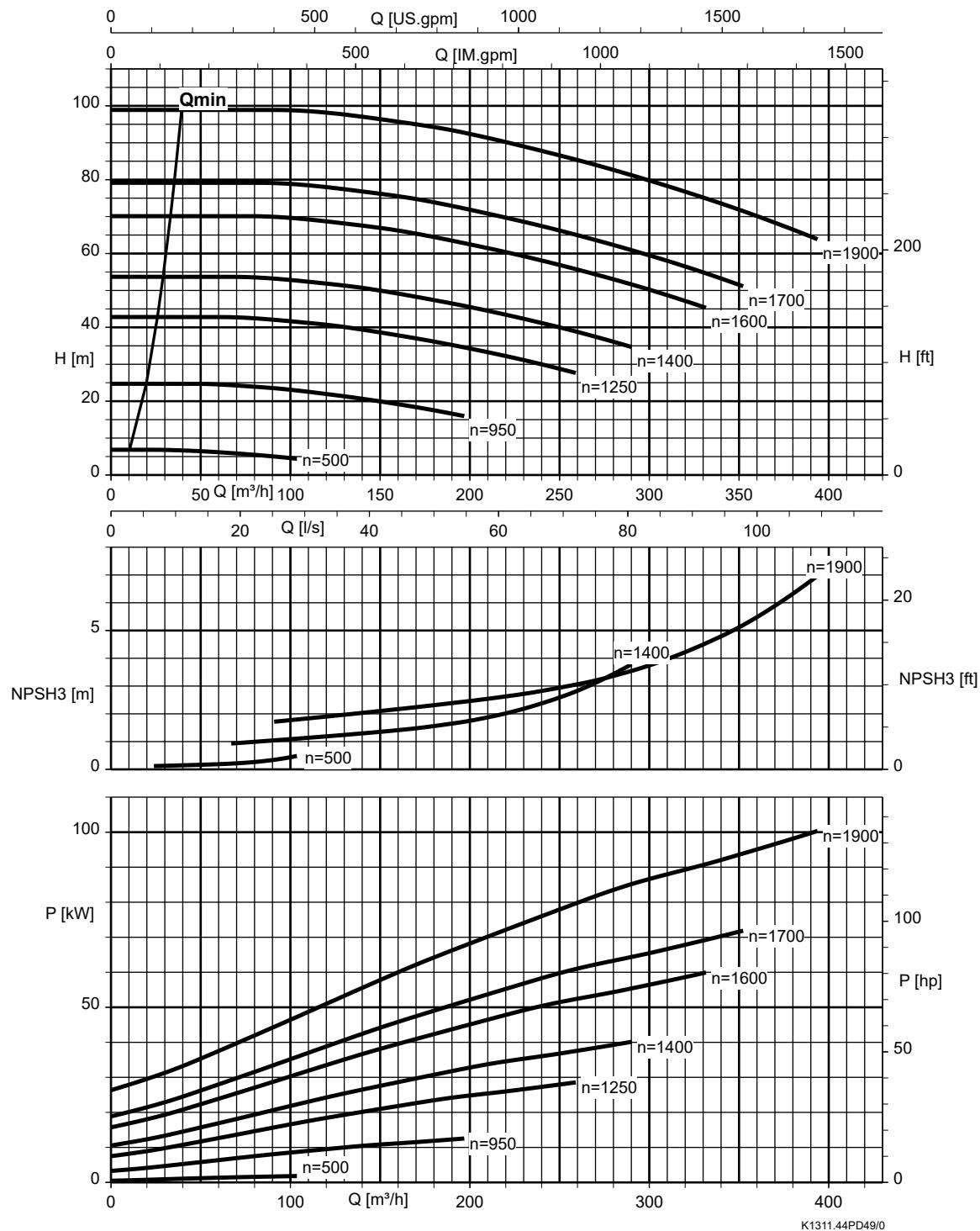
Impeller diameter: 334 mm

 Etanorm mit Drehzahl $> 1900 \text{ min}^{-1}$ nur mit verstärktem Lagerträger möglich.

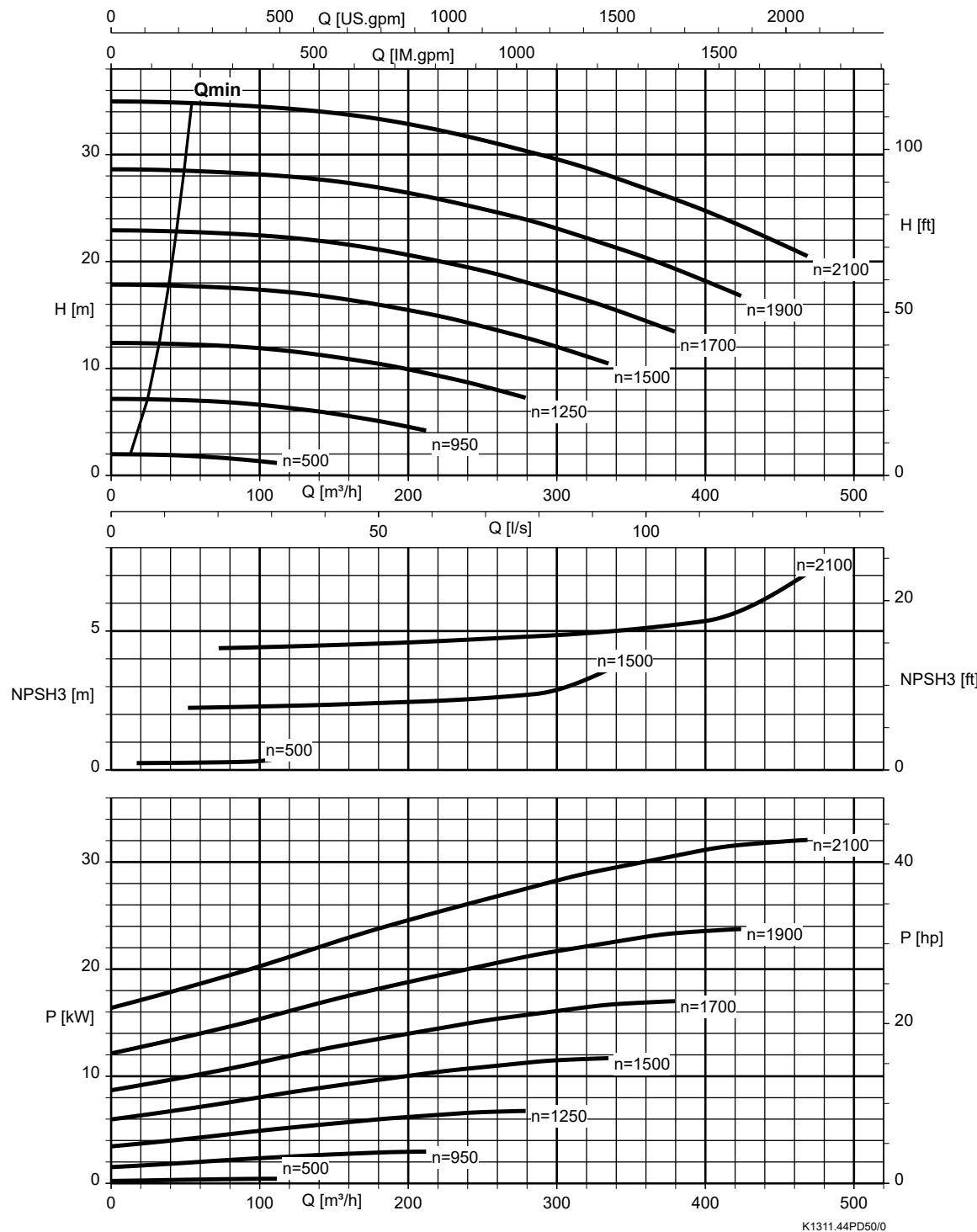
Etanorm, Etabloc, 125-100-315, from 2100 rpm


Impeller diameter: 334 mm

 Etanorm mit Drehzahl > 1900 min⁻¹ nur mit verstärktem Lagerträger möglich.

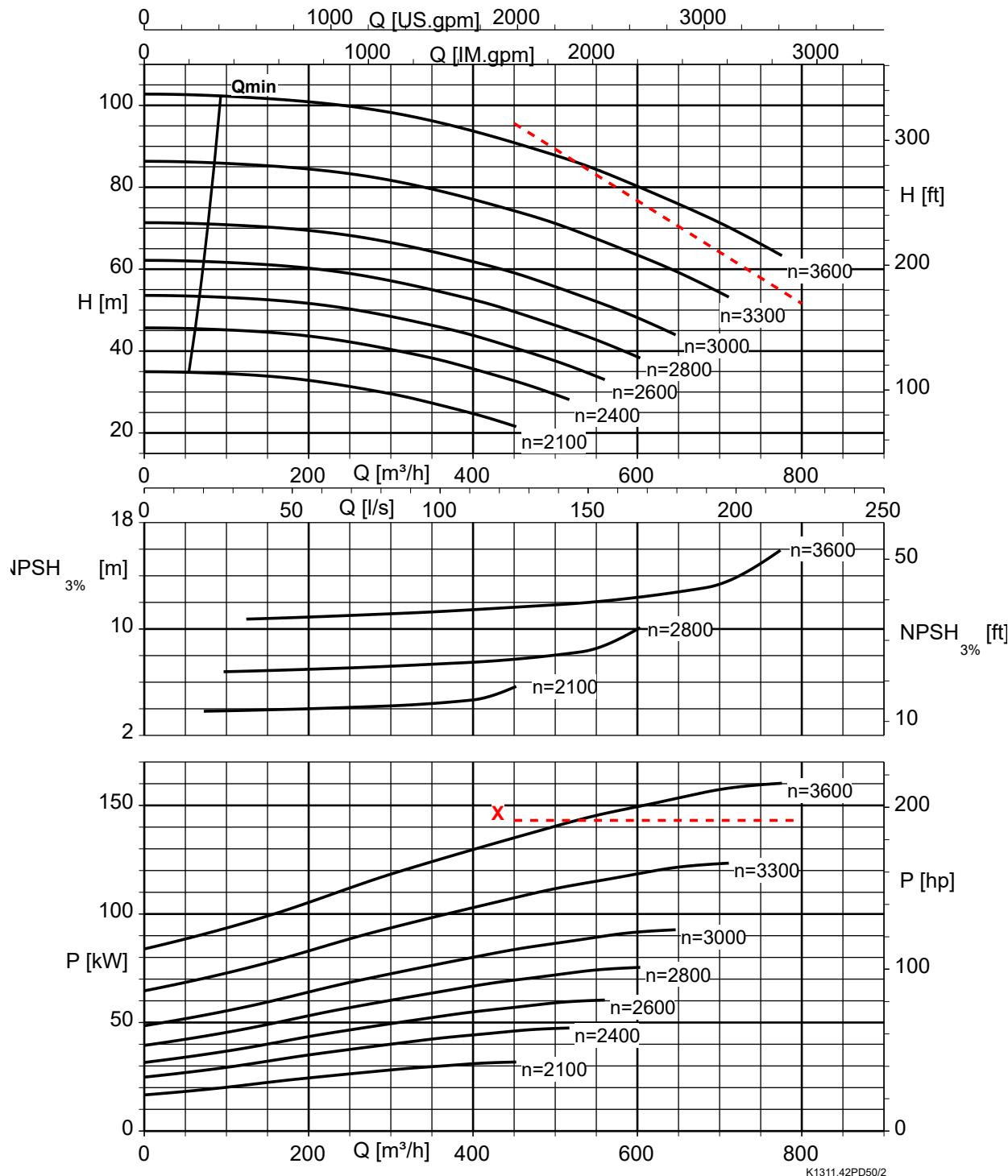
Etanorm, Etabloc 125-100-400, up to 1900 rpm


Impeller diameter: 401 mm

Etanorm, Etabloc 150-125-200, up to 2100 rpm


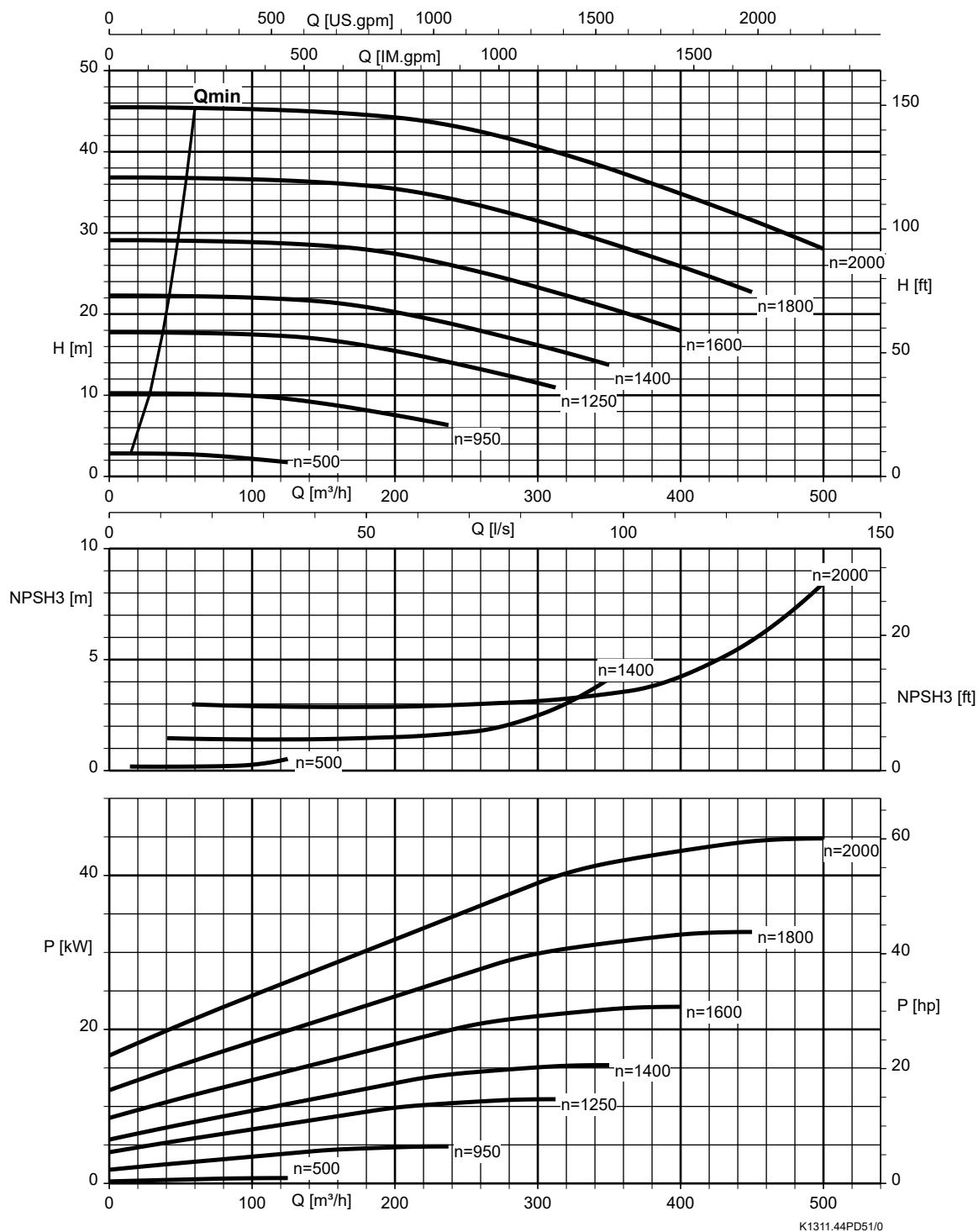
Impeller diameter: 224 mm

Etanorm, Etabloc 150-125-200, from 2100 rpm

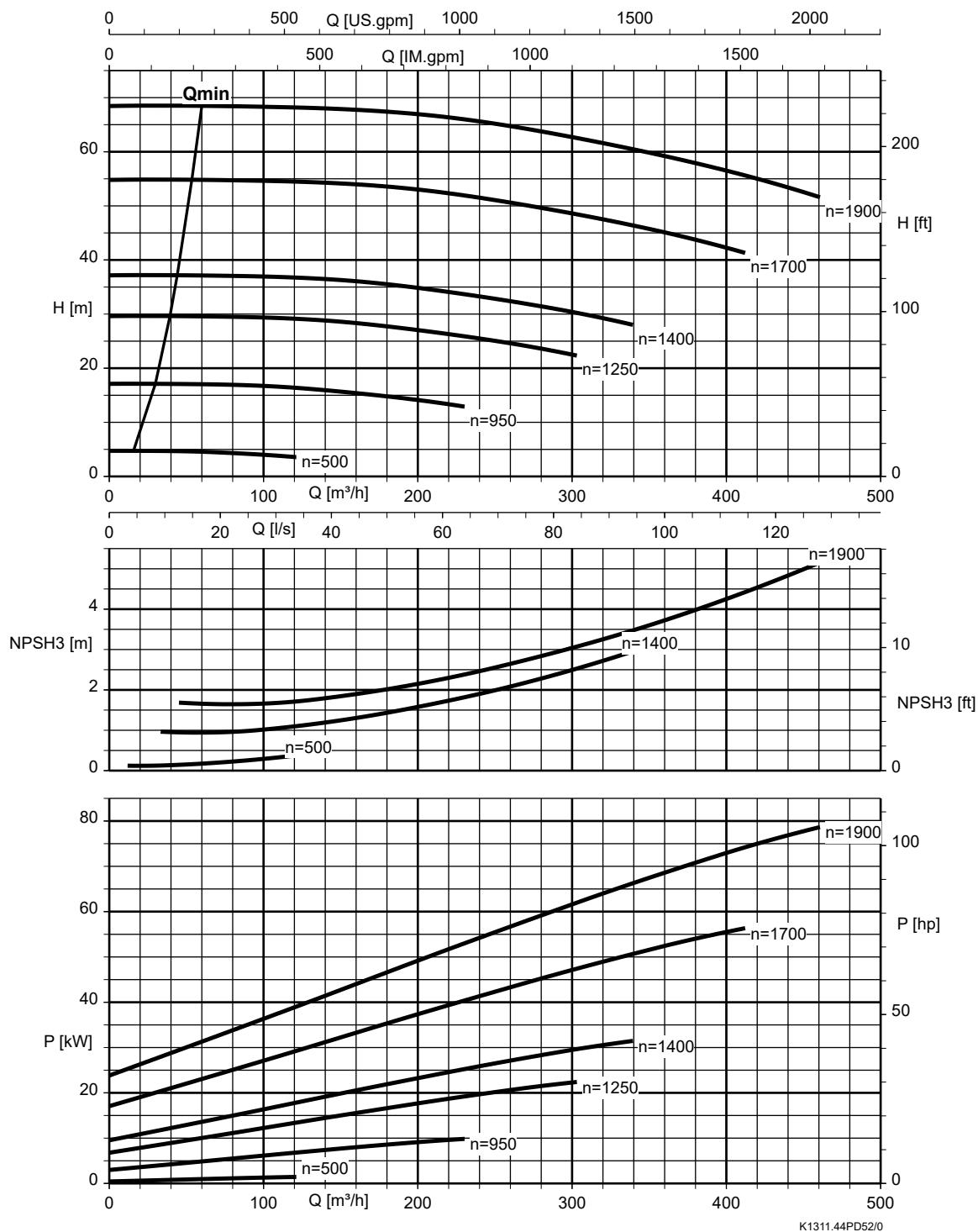


X _____ = power limit

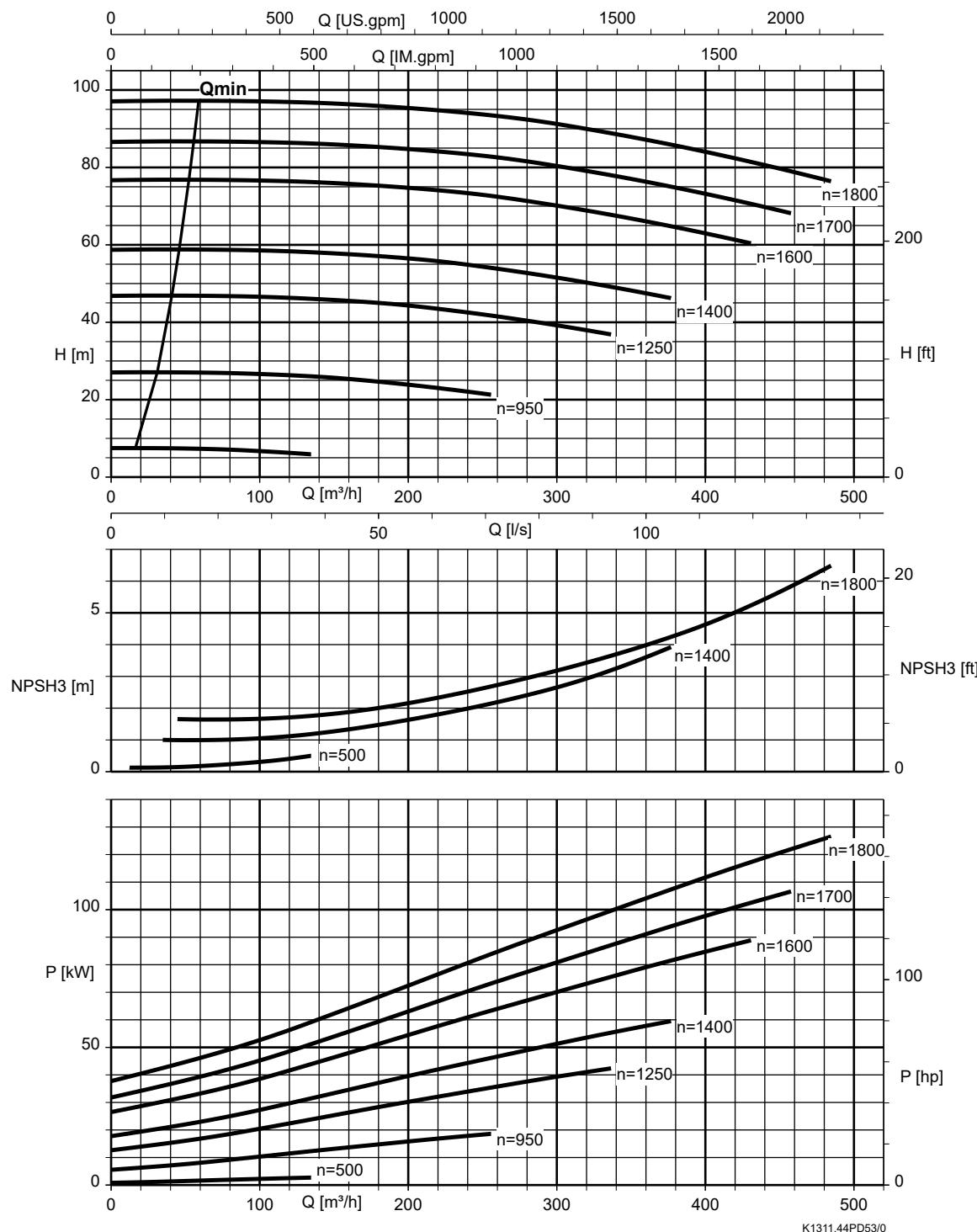
Impeller diameter: 224 mm

Etanorm, Etabloc 150-125-250, up to 2000 rpm


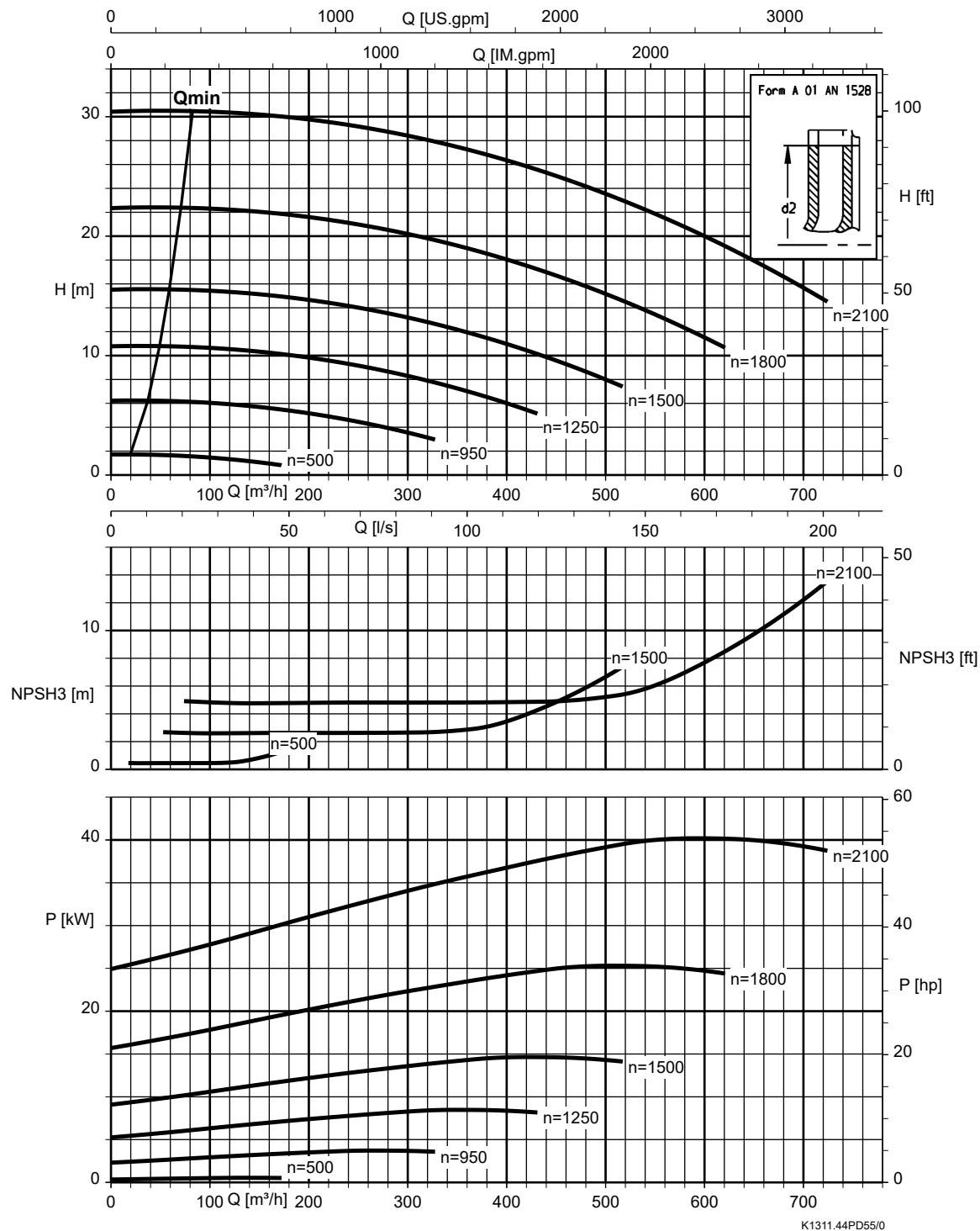
Impeller diameter: 269 mm

Etanorm, Etabloc 150-125-315, up to 1900 rpm


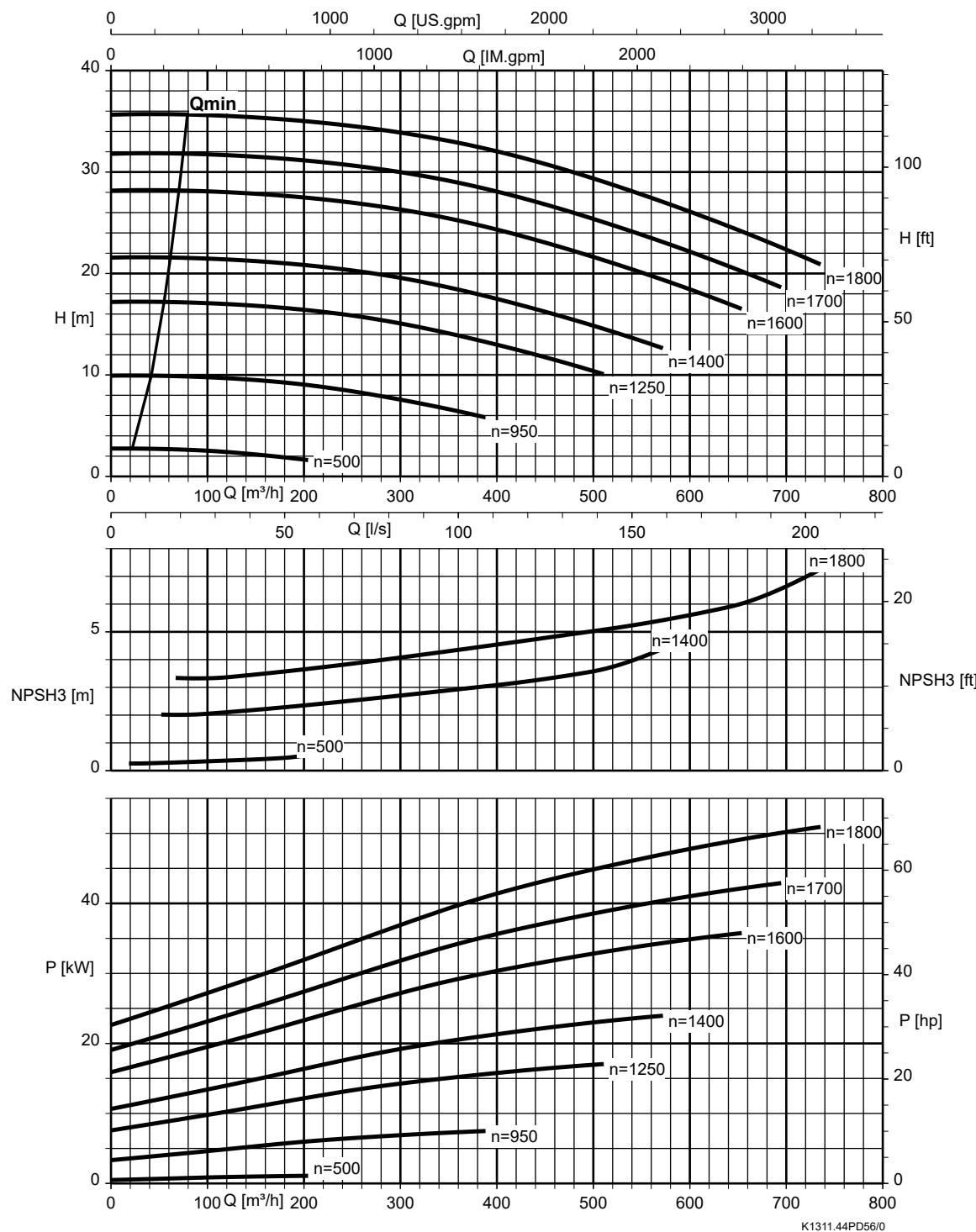
Impeller diameter: 334 mm

Etanorm, Etabloc 150-125-400, up to 1800 rpm


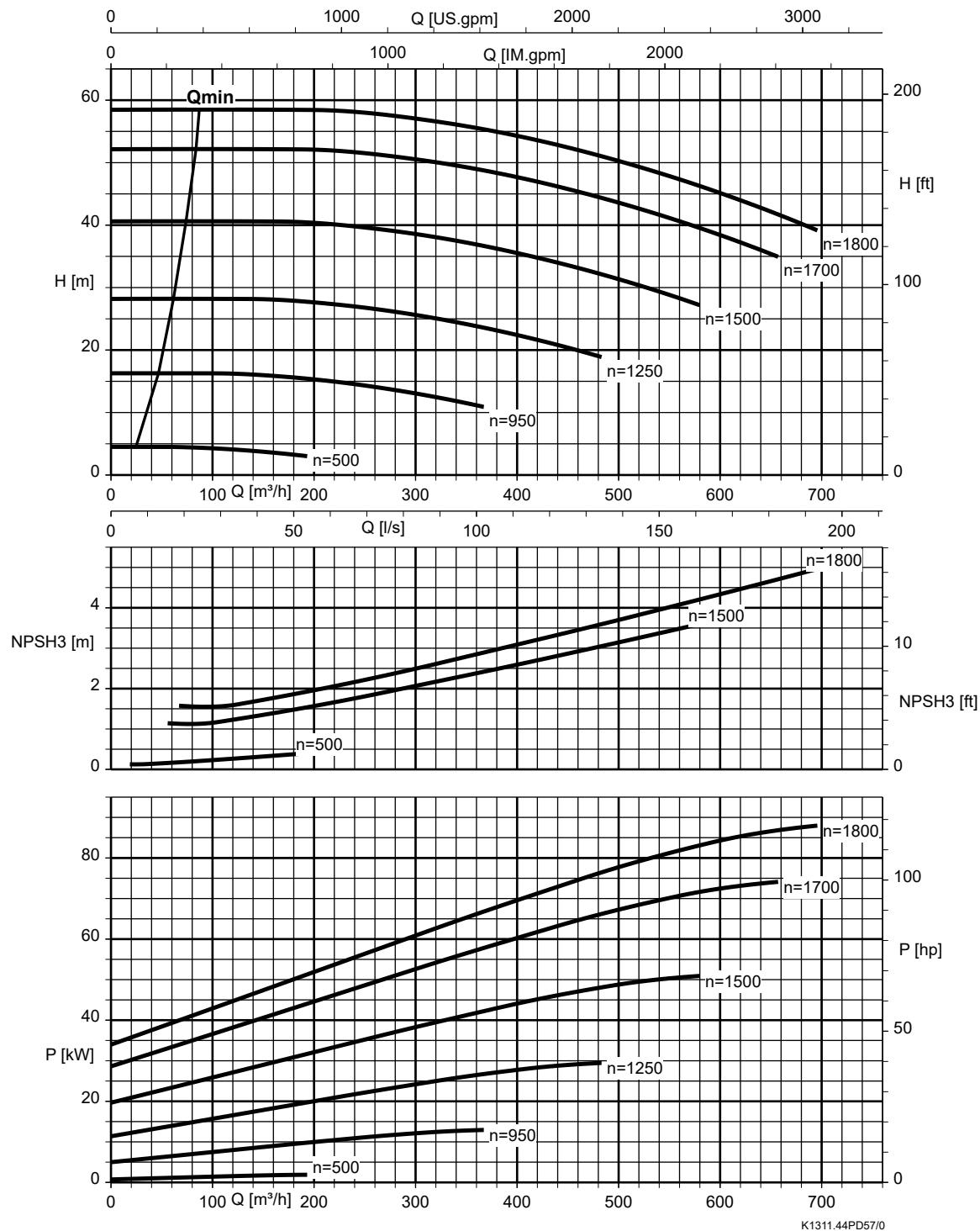
Impeller diameter: 419 mm

Etanorm, Etabloc 200-150-200, up to 2100 rpm


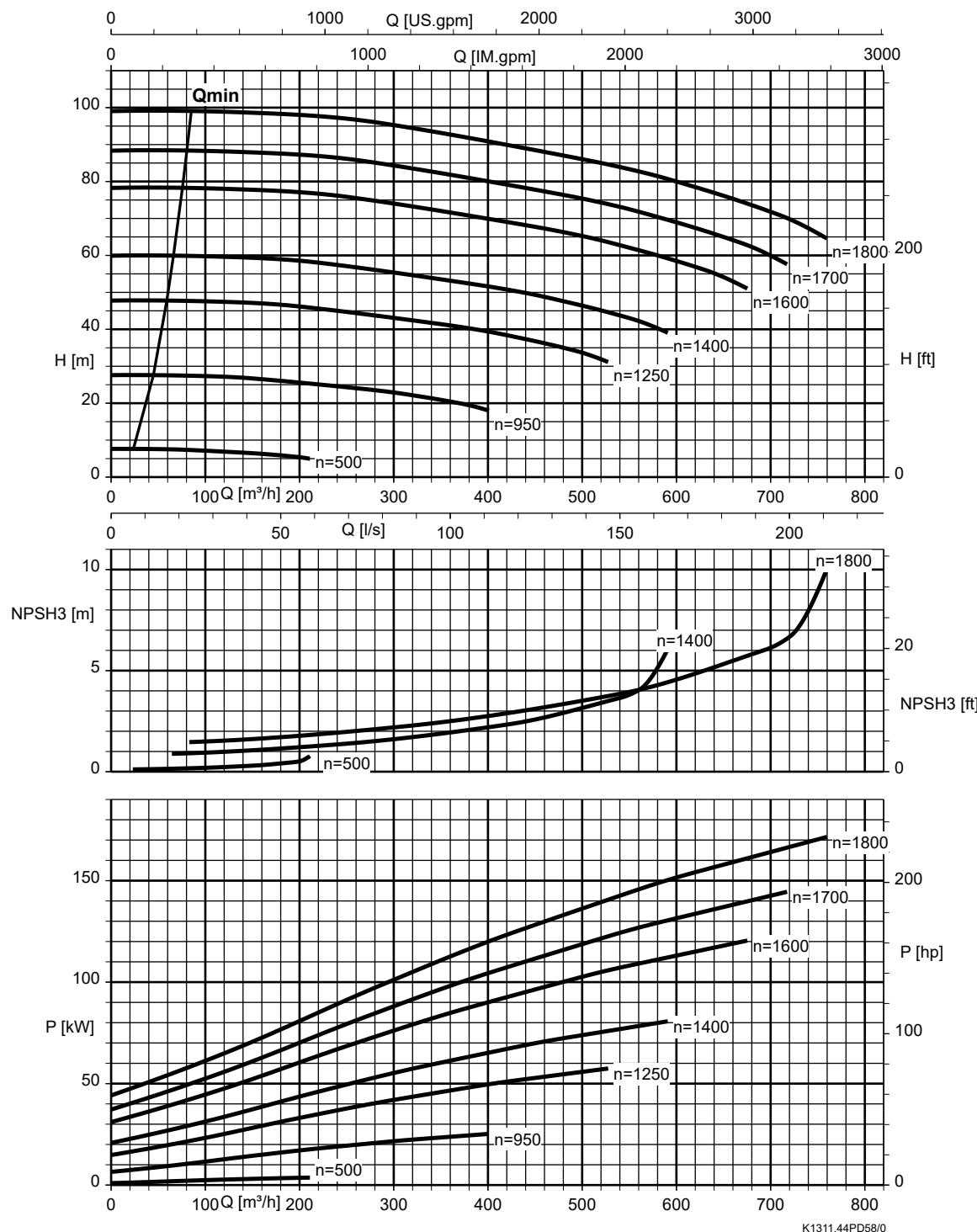
Impeller diameter: 224 mm

Etanorm, Etabloc 200-150-250, up to 1800 rpm


Impeller diameter: 269 mm

Etanorm, Etabloc 200-150-315, up to 1800 rpm


Impeller diameter: 334 mm

Etanorm, Etabloc 200-150-400, up to 1800 rpm


Impeller diameter: 419 mm



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