In-line Pump

Etaline

Fixed Speed / Variable Speed
50 Hz / 60 Hz

Type Series Booklet

Legal information/Copyright

Type Series Booklet Etaline

Contents

Heating / Air-conditioning / Ventilation

In-line Pumps

Etaline

The product illustrated as an example may include options incurring a surcharge.

Main applications

- Service water supply systems
- Heating systems
- Industrial recirculation systems
- Air-conditioning systems
- Cooling circuits
- Water supply systems[1)]

Fluids handled

- Fluids not chemically or mechanically aggressive to the materials

Further information on fluids handled

Overview of fluids handled (⇨ Page 12)

Operating data

Table 1: Operating properties

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 700	≤ 850
	Q [l/s]	≤ 194	≤ 236
Head	H [m]	≤ 96	≤ 139
Fluid temperature	T [°C]	≥ -30	≥ -30
		≤ +140	≤ +140
Operating pressure	p [bar]	≤ 16	≤ 16

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1 No drinking water in acc. with UBA (German drinking water regulations to German Environment Agency)

Design details

Design

- Close-coupled design / in-line design
- Single-stage
- Horizontal installation / vertical installation
- Rigid connection between pump and motor
- Back pull-out design
- Fixed speed version (without PumpDrive 2 / PumpDrive 2 Eco / PumpDrive R) / variable speed version (with PumpDrive 2 / PumpDrive 2 Eco / PumpDrive R)

Pump casing

- Radially split volute casing
- In-line design

Drive (fixed speed version)

Standard design:

- KSB/Siemens surface-cooled IEC frame three-phase squirrel-cage motor
- Efficiency class IE2 (size 71/80) / IE3 (from size 90) to IEC 60034-30
- Rated voltage (50 Hz) 230 V / 400 V ≤ 2.20 kW
- Rated voltage (50 Hz) 400 V / 690 V ≥ 3.00 kW
- Rated voltage (60 Hz) - / 460 V ≤ 2.20 kW
- Rated voltage (60 Hz) 460 V / - ≥ 3.00 kW
- Type of construction IM V1
- Enclosure IP55
- Duty type: continuous duty S1
- Thermal class F with temperature sensor, 1 PTC thermistor (size 80/90) / 3 PTC thermistors (from size 100)

Explosion-proof design:

- KSB surface-cooled IEC three-phase current squirrel-cage motor
- Efficiency class IE2 / IE3 to IEC 60034-30
- Rated voltage (50 Hz) 230 V / 400 V ≤ 2.50 kW
- Rated voltage (50 Hz) 400 V / 690 V ≥ 3.30 kW
- Rated voltage (60 Hz) - / 460 V ≤ 2.50 kW
- Rated voltage (60 Hz) 460 V / - ≥ 3.30 kW
- Type of construction IM V1
- Enclosure IP55
- Duty type: continuous duty S1
- II 3G Ex ec IIC T3 Gc
- II 2G Ex eb IIC T3 Gb
- II 2G Ex db (eb) IIB T4 Gb
- II 2G Ex db (eb) IIC T4 Gb

Drive (variable speed version)

KSB SuPremE motor:

- Surface-cooled KSB SuPremE motor, IEC-compatible, magnetless synchronous reluctance motor[2)] (PumpDrive 2 / PumpDrive 2 Eco / PumpDrive R required)
- Efficiency class IE4 / IE5 to IEC TS 60034-30-2:2016
- Mounting points to EN 50347:2001
- Envelope dimensions to DIN VDE 42673-4:2011-07
- Type of construction IM V1
- Enclosure IP55
- Duty type: continuous duty S1
- Thermal class F with temperature sensor, 3 PTC thermistors
- Shaft centreline height 71 to 225 mm
- Rated power 0.55 kW to 45 kW
- Rated speed 1500 rpm or 3000 rpm
- Frequency 50 Hz / 60 Hz (PumpDrive input)
- Voltage 380 V to 480 V (PumpDrive input)

KSB SuPremE X1:

- With terminal box for connecting to PumpDrive 2 or PumpDrive R for mounting on walls and in control cabinets

KSB SuPremE X2:

- Equipped for being fitted with a motor-mounted PumpDrive 2

PumpDrive 2 / PumpDrive 2 Eco:

- Self-cooling frequency inverter of modular design for the continuously variable speed control of asynchronous motors and synchronous reluctance motors by means of analog standard signals, a field bus or the control panel
- Identical design of frequency inverter for motor mounting, wall mounting and cabinet mounting
- Mains voltage 3~ 380 V AC -10 % to 480 V AC +10 %
- Mains frequency 50 Hz to 60 Hz ± 2 %

PumpDrive R:

- Self-cooling frequency inverter of modular design for the continuously variable speed control of asynchronous motors and synchronous reluctance motors, such as KSB SupremE motors or permanent magnet synchronous motors, by means of analog standard signals, a field bus or the control panel
- Identical design of frequency inverter for the mounting types wall mounting and cabinet mounting
- Mains voltage 3~ 380 V AC -10 % to 480 V AC +10 %
- Extended mains voltage range (on request)
- Mains frequency 50 Hz to 60 Hz ± 2 %
- Extended power range with a nominal power of 110 kW (standard) or 1400 kW (on request)

PumpMeter:

- Intelligent pressure transmitter for pumps, with on-site display of measured values and operating data
- For recording the load profile of the pump
- Supplied completely assembled and parameterised for the individual pump

KSB Guard

- System for monitoring the pump's condition by means of temperature and vibration sensors
- Measured values and operating data may be retrieved via the KSB Guard app and the web portal at any time.

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2 Motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets.

Shaft seal

- Standardised mechanical seal to EN 12756
- Shaft equipped with replaceable shaft protecting sleeve in the shaft seal area

Impeller type

- Closed radial impeller

Bearings

- Radial ball bearings in the motor housing
- Grease lubrication

Designation

Table 2: 2nd designation example

Position																												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
E	T	L		0	3	2	-	0	3	2	-	1	6	0		G	G	S	A	V	0	1	W	S	E	B	A	2	H	H	B
See name plate and data sheet																															

Table 3: Designation key

Position	Code	Description		
1-4	Pump type			
	ETL	Etaline		
5-16	Size [mm], e.g.			
	032	Nominal suction nozzle diameter		
	032	Nominal discharge nozzle diameter		
	160	Nominal impeller diameter		
17	Pump casing material			
	G	Cast iron	EN-GJL-250 / A48CL35	
18	Impeller material			
	B	Bronze	CC480K-GS / B30 C90700	
	C	Stainless steel	1.4408 / A743CF8M	
	G	Cast iron	EN-GJL-250 / A48CL35	
19	Design			
	H	Approved for drinking water to ACS		
	K	Approved for drinking water to KSB standard		
	S	Standard		
	V	Approved for drinking water to UBA		
	W	Approved for drinking water to WRAS		
20	Casing cover connections			
	B	Conical casing cover with connection for venting		
	C	Conical casing cover with vent		
21	Shaft seal type			
	V	Single mechanical seal with vented chamber (A-type cover)		
22-23	Seal code, single mechanical seal			
	01	Q1Q1VGG	1 (ZN1181)	≥ -20 - ≤ +110 [°C]
	06	U3BEGG (shaft units 25, 35)	RMG13G606	≥ -30 - ≤ +140 [°C]
	07	Q1Q1EGG	1A (ZN1181)	≥ -30 - ≤ +110 [°C]
	09	U3U3VGG	MG13G60	≥ -20 - ≤ +110 [°C]
	10	Q1Q1X4GG	1 (ZN1181)	≥ -20 - ≤ +110 [°C]
	11	BQ1EGG-WA (WA = drinking water)	1 (ZN1181)	≥ -30 - ≤ +110 [°C]
	13	BQ1VGG	1 (ZN1181)	≥ -20 - ≤ +110 [°C]
	22	AQ1EGG (shaft unit 55)	M32N69	≥ -30 - ≤ +140 [°C]
	66	Q7Q7EGG	MG13G6	≥ -30 - ≤ +120 [°C]
24	Lubrication type			
	W	None		
25	Order type			
	S	KSB standard		
	C	Extended standard		
	X	Special design		
26	Shaft unit			
	E	Shaft unit 25		
	F	Shaft unit 35		

Position	Code	Description
26	H	Shaft unit 55
27-28	Motor rating P_N [kW]	
	AF	0,25
	...	...
	GY	55,00
29	Number of motor poles	
	2	2 poles
	4	4 poles
30	Scope of supply	
	A	Bare shaft pump (Fig. 0)
	G	Back pull-out unit
	H	Pump, motor
31	Accessories / Automation	
	A	KSB PumpDrive 2
	B	KSB PumpMeter
	C	KSB PumpDrive 2 + KSB PumpMeter
	D	IFS, MyFlow Drive
	E	KSB Guard
	H	None
	I	ATEX
	J	KSB PumpDrive 2 + KSB Guard
	K	KSB PumpMeter + KSB Guard
	L	KSB PumpDrive 2 + KSB PumpMeter + KSB Guard
32	Product generation	
	B	Generation B

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Materials

Table 4: Symbols key

Symbol	Description
✘	Standard
-	Version not available / not feasible

Table 5: Overview of available materials

Part No. (⇨ Page 116)	Designation	Material	Material variant		
			GG	GB	GC
102	Volute casing	Grey cast iron EN-GJL-250 / A 48 Cl. 35B	✘	✘	✘
161	Casing cover, conical	Grey cast iron EN-GJL-250 / A 48 Cl. 35B	✘	✘	✘
210	Shaft	Tempered steel C45+N	✘	✘	✘
		Stainless steel 1.4571 (optional)	✘	✘	✘
230	Impeller	Grey cast iron EN-GJL-250 / A 48 Cl. 35B	✘	-	-
		Bronze CC480K-GS / B30 C90700	-	✘	-
		Stainless steel 1.4408 / A743 Gr. CF8 M [3)]	-	-	✘
341	Drive lantern	Grey cast iron EN-GJL-250 / A 48 Cl. 35B	✘	✘	✘
400	Sealing elements	DPAF, asbestos-free	✘	✘	✘
502.01	Casing wear ring, suction side	Grey cast iron EN-GJL-250 / A 48 Cl. 35B	✘	✘	✘
		Bronze CC495K-GS	-	✘	-
		Stainless steel (CrNiMo steel)	✘	✘	✘
502.02	Casing wear ring, discharge side	Grey cast iron EN-GJL-250 / A 48 Cl. 35B	✘	✘	✘
		Bronze CC495K-GS	-	✘	-
		Stainless steel (CrNiMo steel)	✘	✘	✘
523	Shaft sleeve	Stainless steel (CrNiMo steel)	✘	✘	✘
902	Studs	Steel 8.8	✘	✘	✘
903	Plug	Steel	✘	✘	✘
920	Nut	8+A2A / 8+B633 SC1 TP3	✘	✘	✘
920.95	Impeller nut	Stainless steel (CrNiMo steel)	✘	✘	✘
		Steel 8	✘	✘	-

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3 Size Etaline GC 125-125-250 not available in Europe.

Coating and preservation

- Coating and preservation to KSB standard

Product benefits

- Maximum energy efficiency through demand-driven operation in combination with KSB SuPremE IE4/IE5 motor[4)] to IEC TS 60034-30-2:2016
- PumpDrive 2 / PumpDrive 2 Eco perfectly matched to pump and motor by default factory parameter settings
- Motor-mounted variable speed system up to 45 kW saves space
- Pump operation made fully transparent with PumpMeter

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see https://www.ksb.com/en-global/company/corporate-responsibility/reach.

Product information as per Regulation No. 547/2012 (for water pumps with a maximum shaft power of 150 kW) implementing "Ecodesign" Directive 2009/125/EC

- Minimum efficiency index: see data sheet
- The benchmark for the most efficient water pumps is MEI ≥ 0.70.
- Year of construction: see data sheet
- Manufacturer's name or trade mark, commercial registration number and place of manufacture: see data sheet or order documentation
- Product's type and size identificator: see data sheet
- Hydraulic pump efficiency (%) with trimmed impeller: see data sheet
- Pump performance curves, including efficiency characteristics: see documented characteristic curve
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. Trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- Operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information relevant for disassembly, recycling or disposal at end of life: see installation/operating manual
- Information on benchmark efficiency or benchmark efficiency graph for MEI = 0.70 (0.40) for the pump based on the model shown in the Figure are available at: http://www.europump.org/efficiencycharts

Acceptance tests and warranty

The following acceptance tests may be performed at a surcharge:

- **Materials testing**
  - Test report 2.2
- **Final inspection**
  - Inspection certificate 3.1 to EN 10204
- **Hydraulic test**
  - The duty point of each pump is guaranteed according to ISO 9906/2B or ISO 9906/3B.
  - NPSH test
- Other inspections/tests on request

Warranties

- Warranties are given within the scope of the valid delivery conditions.

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4 Motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets.

Overview of product features / selection tables

Overview of variants

Other designs on request

Table 6: Symbols key

Symbol	Description
✗	Standard
-	Version not available / not feasible

Table 7: Overview of Etaline / Etaline Z variants

Variant	102 / Volute casing	230 / Impeller	Mechanical seal	T [°C]	Main applications				
					Handling clean or aggressive fluids not chemically and mechanically aggressive to the pump materials	Water supply systems	Cooling circuits	Heating systems	Air-conditioning systems
GG06	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	SU 25, 35: mech. seal U3BEGG SU 55: mech. seal AQ1EGG	≥ -30 - ≤ +140	-	-	-	✗	-
GG10	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Mech. seal Q1Q1X4GG	≥ -20 - ≤ +110	-	✗	-	-	-
GG11	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Mech. seal BQ1EGG	≥ -30 - ≤ +110	✗	✗	✗ [5]	-	✗ [5]
GB06	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	SU 25, 35: mech. seal U3BEGG SU 55: mech. seal AQ1EGG	≥ -30 - ≤ +140	-	-	-	✗	-
GB10	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	Mech. seal Q1Q1X4GG	≥ -20 - ≤ +110	-	✗	-	-	-
GB11	Grey cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	Mech. seal BQ1EGG	≥ -30 - ≤ +110	✗	✗	✗ [5]	-	✗ [5]

5 Q1Q1EGG / Q7Q7EGG, fluid handled: water, glycol with inhibitors

Overview of fluids handled

Table 8: Symbols key

Symbol	Description
✘	Standard
-	Version not available / not feasible

Table 9: Excerpt from the overview of fluids handled with associated material variants

Fluid handled	T[6]		Materials			Shaft seal							Notes
			Casing / impeller			Mechanical seal							
	Minimum	Maximum	Grey cast iron / grey cast iron	Grey cast iron / stainless steel	Grey cast iron / tin bronze	U3BEGG (WE 25, 35)	AQ1EGG (WE 55)	Q1Q1EGG	U3U3VGG	Q1Q1X4GG	BQ1EGG	Q7Q7EGG	
	[°C]		GG	GC	GB	6	22	7	9	10	11	66	
Water													
Service water	-	≤ +110	✘	-	-	-	-	-	-	✘	-	-	CrNiMo cast steel can be used.
Fire-fighting water[7]	-	≤ +60	-	-	✘	-	-	-	-	✘	-	-	Contact the manufacturer for supply to VdS guideline.
Heating water[8]	-	≤ +110	✘	-	-	-	-	-	-	-	✘	-	If used as circulating pump to DIN 4752: p max ≤ 10 bar
Heating water	-	≤ +140	✘	-	-	✘	✘	-	-	-	-	-	
Condensate	-	≤ +110	✘	-	-	-	-	-	-	-	✘	-	-
Cooling water without anti-freeze	-	≤ +60	✘	-	-	-	-	-	-	✘	-	-	Open circuit: GB 10 required
Cooling water with anti-freeze[9], pH ≥ 7.5	≥ -30	≤ +60	✘	-	-	-	-	-	-	-	-	✘	Open circuit: GB required
Cooling water with anti-freeze[9], pH ≥ 7.5	≥ +60	≤ +110	✘	-	-	-	-	-	-	-	-	✘	Open circuit: GB required
Slightly contaminated water	-	≤ +60	✘	-	-	-	-	-	-	✘	-	-	-
Pure water[10]	-	≤ +60	✘	-	-	-	-	-	-	-	✘	-	-
Raw water	-	≤ +60	✘	-	-	-	-	-	-	✘	-	-	-
Swimming pool water (fresh water)	-	≤ +60	✘	-	-	-	-	-	-	✘	-	-	Also applies to requirements as per DIN 19643
Swimming pool water[11]: filtration	-	≤ +40	-	-	✘	-	-	-	-	✘	-	-	Variant GB: shaft C45+N, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction and discharge side) grey cast iron JL 1040/ CI
Swimming pool water[11]: water features; without turbulences and/or air content	-	≤ +40	-	-	✘	-	-	-	-	✘	-	-	Variant GB: shaft C45+N, shaft sleeve CrNiMo steel, nut A4/ AISI 316, key A2, casing wear ring (suction and discharge side) CC495K-GS
Dam water	-	≤ +60	-	-	✘	-	-	-	-	✘	-	-	If solids are contained, contact the manufacturer.
Drinking water[12]	-	≤ +60	-	-	✘	-	-	-	-	-	✘	-	-
Partly desalinated water	-	≤ +120	✘	-	-	-	-	-	-	-	✘	-	-
Fully desalinated water as boiler feed water	-	≤ +110	✘	-	-	-	-	-	-	-	✘	-	-
Refrigerants, cooling brines													
Cooling brine; inorganic, pH > 7.5, inhibited	≥ -30	≤ +25	✘	-	-	-	-	-	-	-	-	✘	-
Water with antifreeze, pH ≥ 7.5	≥ -30	≤ +60	✘	-	-	-	-	-	-	-	✘	-	-
Water with antifreeze, pH ≥ 7.5	≥ +60	≤ +110	✘	-	-	-	-	✘	-	-	-	-	-
Oils / emulsions													
Drilling emulsion, grinding emulsion	-	≤ +60	✘	-	-	-	-	-	✘	-	-	-	-
Oil-water emulsion	-	≤ +60	✘	-	-	-	-	-	✘	-	-	-	-

6 T = fluid temperature
7 General evaluation criteria for results of water analysis: pH ≥ 7; chlorides content (Cl) ≤ 250 mg/kg. Chlorine (Cl2) ≤ 0.6 mg/kg
8 Treatment to VdTÜV 1466, additional requirement: O2 t ≤ 0.02 mg/l
9 Antifreeze on ethylene glycol basis with inhibitors, content > 20 % to 50 %
10 No pure water, electrical conductivity at 25 °C: ≤ 800 µS/cm, neutral with regard to chemical corrosion
11 France: Observe the rules as per ministerial order dated 18 January 2002.
12 For France, ACS approval is required.

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Overview of functions for variable speed version

Table 10: Overview of functions

Functions / firmware	PumpDrive 2	PumpDrive 2 Eco
Protective functions		
Thermal motor protection	✗	✗
Mains voltage monitoring	✗	✗
Phase failure, motor side	✗	✗
Short-circuit monitoring, motor side (phase to phase and phase to earth)	✗	✗
Dynamic overload protection by speed limitation (i^2t control)	✗	✗
Resonant frequency suppression	✗	✗
Broken wire detection (live zero)	✗	✗
Protection against dry running and hydraulic blockage (sensorless due to learning function)	✗	✗
Dry running protection (external control signal)	✗	✗
Operating point estimation and characteristic curve control	✗	✗
Open-loop control		
Open-loop control mode	✗	✗
Closed-loop control		
Closed-loop control mode via integrated PID controller	✗	✗
Pressure control / differential pressure control (Δp const)	✗	✗
Pressure control / differential pressure control with dynamic pressure compensation (Δp var)	✗	✗
Flow rate control	✗	✗
Sensorless differential pressure control (Δp const) in a single-pump configuration	✗	✗
Sensorless differential pressure control with dynamic pressure compensation (Δp var) in a single-pump configuration	✗	✗
Sensorless flow rate control	✗	✗
Level control	✗	✗
Temperature control	✗	✗
Alternative setpoint	✗	-
Operation and monitoring (display)		
Measured value display (pressure, head, speed, electric power, motor voltage, motor current, torque)	✗	✗
Fault history	✗	✗
Operating hours counter	✗	✗
Fault reporting via relay	✗	✗
Frequency inverter functions		
Programmable start ramps and stop ramps	✗	✗
Field-oriented control (vector control), V/f control	✗	✗
Configurable motor control method (asynchronous motor, KSB SuPremE)	✗	✗
Automatic motor adaptation (AMA)	✗	✗
Motor standstill heater	✗	✗
Manual-0-automatic mode	✗	✗
External OFF	✗	✗
External minimum speed	✗	✗
Sleep mode (stand-by mode)	✗	✗
Energy savings meter	✗	-
Pump functions		
Flow rate estimation	✗	✗
M12 module with PumpMeter bus connection	✗	✗
M12 module for dual-pump configuration	✗	✗
M12 module for multiple pump configuration with up to 6 pumps	✗	✗
Functional check run	✗	✗
Deragging	✗	✗
Integrated dual-pump configuration (1×100 % with redundant pump or 2×50 % without redundant pump)	✗	✗
Multiple pump configuration with up to 6 pumps	✗	✗
Waste water function: start-up at maximum speed	✗	-
Waste water function: rinsing function	✗	-
Operation		

Functions / firmware	PumpDrive 2	PumpDrive 2 Eco
Control panel	✗	✗[13]
Commissioning wizard	✗	✗[14]
Favourites list	✗	-
Service interface	✗	✗

Pressure limits and temperature limits

Test pressure limits and temperature limits

Table 11: Pressure limits and temperature limits as a function of material variant

Material variant	Fluid temperature[15][16]	Test pressure[17]
	[°C]	[bar]
GG, GB, GC	-30 to +140	≤ 21

In-service pressure limits and temperature limits

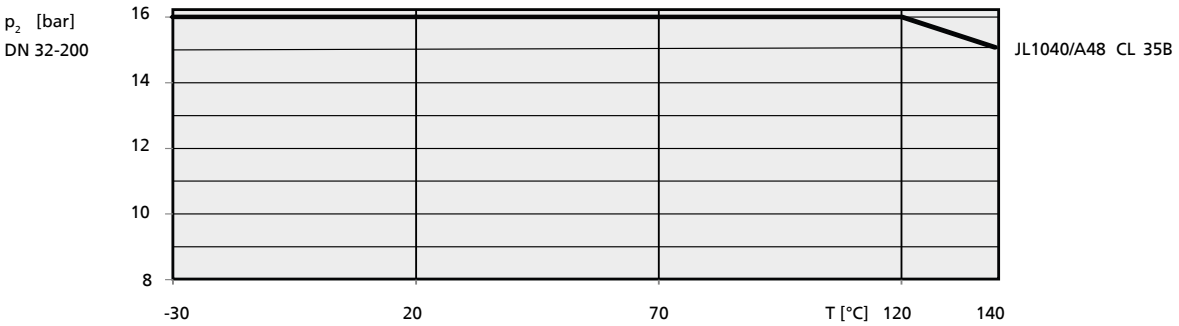

Fig. 1: Operating pressure limits and temperature limits

13 Some functions can only be parameterised and/or displayed using the KSB ServiceTool (see operating manual).
14 Only available via KSB ServiceTool or app
15 For hot water heating systems to DIN 4752, Section 4.5, application limits must be observed.
16 For fluid temperatures >140 °C use Etanorm SYT.
17 The casing components are checked for leakage by means of internal pressure tests to AN 1897/75-03D00 with water.

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Technical data

Pump

Table 12: Technical data of the pump

Size	Shaft unit	Impeller				Speed limit	
		Impeller outlet width	Impeller inlet diameter	Nominal impeller diameter		Minimum	Maximum
				Minimum	Maximum		
		[mm]				[rpm]	
032-032-160	WS_25	5,7	52,7	112	170	500	4400
032-032-200	WS_25	5,6	54,0	165	204	500	3800
040-040-160	WS_25	8,5	60,6	136	174	500	3600
040-040-250	WS_25	7,5	62,6	197	261	500	3600
050-050-160	WS_25	13,0	70,0	120	174	500	4400
050-050-250	WS_25	8,4	74,1	198	260	500	3600
065-065-160	WS_25	16,9	86,9	108	174	500	4400
065-065-250	WS_25	10,5	84,0	196	260	500	3600
080-080-160	WS_25	21,0	92,0	132	174	500	3900
080-080-200	WS_25	17,0	99,7	170	219	500	3600
080-080-250	WS_35	15,1	101,0	190	260	500	3600
100-100-125	WS_25	25,8	99,0	124	141	500	3900
100-100-160	WS_25	31,6	124,0	138	174	500	3600
100-100-200	WS_35	24,5	115,0	178	219	500	3600
100-100-250	WS_35	19,0	115,0	215	269	500	3600
125-125-160	WS_35	37,6	135,0	155	185	500	3600
125-125-200	WS_35	32,5	142,0	179	219	500	3600
125-125-250	WS_35	27,0	145,0	210	269	500	3600
150-150-200	WS_35	40,7	159,0	178	224	500	3600
150-150-250	WS_35	37,0	162,4	218	269	500	2000
200-200-250	WS_35	48,8	191,0	220	269	500	1800
200-200-315	WS_55	39,7	191,5	264	334	500	1800

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Motor (fixed speed version), n = 2900 rpm, n = 3500 rpm

Table 13: 50 Hz / 60 Hz, technical data of the motor, n = 2900 rpm, n = 3500 rpm (fixed speed version)

Size	n = 2900 rpm		n = 3500 rpm		Efficiency class	Motor	Weight[18)]
	P_N	I_N	P_N	I_N			
	[kW]	3~400 V	[kW]	3~400 V			[kg]
032-032-160	1,10	2,47	-	-	IE3	080M	40
032-032-160	1,50	3,30	1,50	3,30	IE3	090S	44
032-032-160	2,20	4,62	2,20	4,70	IE3	090L	47
032-032-160	3,00	5,90	3,00	9,10	IE3	100L	56
032-032-160	4,00	8,00	4,00	7,60	IE3	112M	65
032-032-160	5,50	10,50	5,50	10,00	IE3	132S	93
032-032-160	-	-	7,50	13,80	IE3	132S	93
032-032-200	3,00	5,90	-	-	IE3	100L	65
032-032-200	4,00	8,00	-	-	IE3	112M	74
032-032-200	5,50	10,50	5,50	10,00	IE3	132S	102
032-032-200	7,50	14,60	7,50	13,80	IE3	132S	102
032-032-200	11,00	22,00	11,00	19,50	IE3	160M	119
032-032-200	-	-	15,00	26,30	IE3	160M	119
040-040-160	2,20	4,62	-	-	IE3	090L	47
040-040-160	3,00	5,90	3,00	9,10	IE3	100L	57
040-040-160	4,00	8,00	4,00	7,60	IE3	112M	66
040-040-160	5,50	10,50	5,50	10,00	IE3	132S	93
040-040-160	7,50	14,60	7,50	13,80	IE3	132S	93
040-040-160	-	-	11,00	19,50	IE3	160M	111
040-040-250	5,50	10,50	-	-	IE3	132S	109
040-040-250	7,50	14,60	-	-	IE3	132S	109
040-040-250	11,00	22,00	11,00	19,50	IE3	160M	126
040-040-250	15,00	29,40	15,00	26,30	IE3	160M	126
040-040-250	18,50	35,60	18,50	32,90	IE3	160L	159
040-040-250	22,00	41,20	22,00	38,00	IE3	180M	215
040-040-250	30,00	56,50	30,00	55,70	IE3	200L	306
040-040-250	-	-	37,00	65,20	IE3	200L	306
050-050-160	3,00	5,90	3,00	9,10	IE3	100L	61
050-050-160	4,00	8,00	4,00	7,60	IE3	112M	70
050-050-160	5,50	10,50	5,50	10,00	IE3	132S	98
050-050-160	7,50	14,60	7,50	13,80	IE3	132S	98
050-050-160	11,00	22,00	11,00	19,50	IE3	160M	115
050-050-160	-	-	15,00	26,30	IE3	160M	115
050-050-250	7,50	14,60	-	-	IE3	132S	112
050-050-250	11,00	22,00	11,00	19,50	IE3	160M	129
050-050-250	15,00	29,40	15,00	26,30	IE3	160M	129
050-050-250	18,50	35,60	18,50	32,90	IE3	160L	162
050-050-250	22,00	41,20	22,00	38,00	IE3	180M	218
050-050-250	30,00	56,50	30,00	55,70	IE3	200L	309
050-050-250	37,00	68,70	37,00	65,20	IE3	200L	309
065-065-160	4,00	8,00	-	-	IE3	112M	72
065-065-160	5,50	10,50	5,50	10,00	IE3	132S	100
065-065-160	7,50	14,60	7,50	13,80	IE3	132S	100
065-065-160	11,00	22,00	11,00	19,50	IE3	160M	117
065-065-160	15,00	29,40	15,00	26,30	IE3	160M	117
065-065-160	18,50	35,60	18,50	32,90	IE3	160L	150
065-065-160	-	-	22,00	38,00	IE3	180M	206
065-065-250	11,00	22,00	-	-	IE3	160M	133
065-065-250	15,00	29,40	15,00	26,30	IE3	160M	133
065-065-250	18,50	35,60	18,50	32,90	IE3	160L	166
065-065-250	22,00	41,20	22,00	38,00	IE3	180M	222
065-065-250	30,00	56,50	30,00	55,70	IE3	200L	313

18 Refer to the pump data sheet for details.

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Size	n = 2900 rpm		n = 3500 rpm		Efficiency class	Motor	Weight[18)]
	P_N	I_N	P_N	I_N			
	[kW]	3~400 V	[kW]	3~400 V			[kg]
065-065-250	37,00	68,70	37,00	65,20	IE3	200L	313
080-080-160	5,50	10,50	-	-	IE3	132S	106
080-080-160	7,50	14,60	7,50	13,80	IE3	132S	106
080-080-160	11,00	22,00	11,00	19,50	IE3	160M	123
080-080-160	15,00	29,40	15,00	32,90	IE3	160M	123
080-080-160	18,50	35,60	18,50	32,90	IE3	160L	156
080-080-160	22,00	41,20	22,00	38,00	IE3	180M	212
080-080-160	-	-	30,00	55,70	IE3	200L	303
080-080-160	-	-	37,00	65,20	IE3	200L	303,02
080-080-200	11,00	22,00	-	-	IE3	160M	132
080-080-200	15,00	29,40	15,00	26,30	IE3	160M	132
080-080-200	18,50	35,60	18,50	32,90	IE3	160L	165
080-080-200	22,00	41,20	22,00	38,00	IE3	180M	221
080-080-200	30,00	56,50	30,00	55,70	IE3	200L	312
080-080-200	37,00	68,70	37,00	65,20	IE3	200L	312
100-100-125	5,50	10,50	-	-	IE3	132S	112
100-100-125	7,50	14,60	-	-	IE3	132S	112
100-100-125	11,00	22,00	11,00	19,50	IE3	160M	129
100-100-125	-	-	15,00	26,30	IE3	160M	129
100-100-160	11,00	22,00	-	-	IE3	160M	135
100-100-160	15,00	29,40	15,00	26,30	IE3	160M	135
100-100-160	18,50	35,60	18,50	32,90	IE3	160L	168
100-100-160	22,00	41,20	22,00	38,00	IE3	180M	224
100-100-160	30,00	56,50	30,00	55,70	IE3	200L	315
100-100-160	-	-	37,00	65,20	IE3	200L	315
125-125-160	18,50	35,60	-	-	IE3	160L	212,48
125-125-160	22,00	41,20	-	-	IE3	180M	279
125-125-160	30,00	56,50	30,00	55,70	IE3	200L	370
125-125-160	37,00	68,70	37,00	65,20	IE3	200L	370
125-125-160	-	-	45,00	81,60	IE3	225M	435,81
125-125-200	22,00	41,20	-	-	IE3	180M	276
125-125-200	30,00	56,50	-	-	IE3	200L	367
125-125-200	37,00	68,70	-	-	IE3	200L	367
125-125-200	45,00	81,90	-	-	IE3	225M	539

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Motor (fixed speed version), n = 1450 rpm, n = 1750 rpm

Table 14: 50 Hz / 60 Hz, technical data of the motor, n = 1450 rpm, n = 1750 rpm (fixed speed version)

Size	n = 1450 rpm		n = 1750 rpm		Efficiency class	Motor	Weight[19]
	P_N	I_N[19]	P_N	I_N[19]			
		3~400 V		3~460 V			
	[kW]	[A]	[kW]	[A]			[kg]
032-032-160	0,25[20]	[20]	[20]	[20]	IE3	071M	28,68
032-032-160	0,37[20]	[20]	[20]	[20]	IE3	071M	29,88
032-032-160	0,55[20]	[20]	[20]	[20]	IE3	080M	42
032-032-160	0,75	1,93	[20]	[20]	IE3	080M	41
032-032-160	-	-	[20]	[20]	IE3	090S	49
032-032-200	0,37[20]	[20]	-	-	IE3	071M	39,01
032-032-200	0,55[20]	[20]	-	-	IE3	080M	51
032-032-200	0,75	1,93	[20]	[20]	IE3	080M	50
032-032-200	1,10	2,60	[20]	[20]	IE3	090S	58
032-032-200	-	-	1,50	3,50	IE3	090L	57
032-032-200	-	-	[20]	[20]	IE3	100L	70
040-040-160	0,37[20]	[20]	[20]	[20]	IE3	071M	30,4
040-040-160	0,55[20]	[20]	[20]	[20]	IE3	080M	42
040-040-160	0,75	1,93	[20]	[20]	IE3	080M	41
040-040-160	1,10	2,60	[20]	[20]	IE3	090S	49
040-040-160	-	-	1,50	3,50	IE3	090L	48
040-040-250	0,75	1,93	-	-	IE3	080M	56
040-040-250	1,10	2,60	[20]	[20]	IE3	090S	65
040-040-250	1,50	3,47	1,50	3,50	IE3	090L	64
040-040-250	2,20	4,80	[20]	[20]	IE3	100L	77
040-040-250	3,00	6,20	3,00	9,70	IE3	100L	77
040-040-250	4,00	8,60	4,00	8,50	IE3	112M	86
040-040-250	-	-	[20]	[20]	IE3	132S	113
050-050-160	0,37[20]	[20]	-	-	IE3	071M	34,69
050-050-160	0,55[20]	[20]	-	-	IE3	080M	47
050-050-160	0,75	1,93	[20]	[20]	IE3	080M	45
050-050-160	1,10	2,60	[20]	[20]	IE3	090S	54
050-050-160	1,50	3,47	1,50	3,50	IE3	090L	53
050-050-160	-	-	[20]	[20]	IE3	100L	66
050-050-250	1,10	2,60	-	-	IE3	090S	68
050-050-250	1,50	3,47	-	-	IE3	090L	67
050-050-250	2,20	4,80	[20]	[20]	IE3	100L	80
050-050-250	3,00	6,20	3,00	9,70	IE3	100L	80
050-050-250	4,00	8,60	4,00	8,50	IE3	112M	89
050-050-250	5,50	11,00	[20]	[20]	IE3	132S	116
050-050-250	-	-	[20]	[20]	IE3	132M	117
065-065-160	0,55[20]	[20]	-	-	IE3	080M	49
065-065-160	0,75	1,93	[20]	[20]	IE3	080M	48
065-065-160	1,10	2,60	[20]	[20]	IE3	090S	56
065-065-160	1,50	3,47	1,50	3,50	IE3	090L	55
065-065-160	2,20	4,80	[20]	[20]	IE3	100L	68
065-065-160	-	-	3,00	9,70	IE3	100L	68
065-065-250	1,50	3,47	-	-	IE3	090L	71
065-065-250	2,20	4,80	[20]	[20]	IE3	100L	84
065-065-250	3,00	6,20	3,00	9,70	IE3	100L	84
065-065-250	4,00	8,60	4,00	8,50	IE3	112M	93
065-065-250	5,50	11,00	[20]	[20]	IE3	132S	120

19 Refer to the pump data sheet for details.

20 Motor to KSB's choice not available; other motors are possible.

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Size	n = 1450 rpm		n = 1750 rpm		Efficiency class	Motor	Weight[19]
	P_N	I_N[19]	P_N	I_N[19]			
		3~400 V		3~460 V			
	[kW]	[A]	[kW]	[A]			[kg]
065-065-250	7,50	15,00	[20]	[20]	IE3	132M	121
065-065-250	-	-	11,00	22,60	IE3	160M	146
080-080-160	0,55[20]	[20]	-	-	IE3	080M	55
080-080-160	0,75	1,93	-	-	IE3	080M	54
080-080-160	1,10	2,60	[20]	[20]	IE3	090S	62
080-080-160	1,50	3,47	1,50	3,50	IE3	090L	61
080-080-160	2,20	4,80	[20]	[20]	IE3	100L	74
080-080-160	3,00	6,20	3,00	9,70	IE3	100L	74
080-080-160	-	-	4,00	8,50	IE3	112M	83
080-080-200	1,10	2,60	-	-	IE3	090S	71
080-080-200	1,50	3,47	-	-	IE3	090L	70
080-080-200	2,20	4,80	[20]	[20]	IE3	100L	83
080-080-200	3,00	6,20	3,00	9,70	IE3	100L	83
080-080-200	4,00	8,60	4,00	8,50	IE3	112M	92
080-080-200	5,50	11,00	[20]	[20]	IE3	132S	119
080-080-200	-	-	[20]	[20]	IE3	132M	120
080-080-250	2,20	4,80	-	-	IE3	100L	104
080-080-250	3,00	6,20	3,00	9,70	IE3	100L	104
080-080-250	4,00	8,60	4,00	8,50	IE3	112M	113
080-080-250	5,50	11,00	[20]	[20]	IE3	132S	139
080-080-250	7,50	15,00	[20]	[20]	IE3	132M	140
080-080-250	11,00	22,80	11,00	22,60	IE3	160M	165
080-080-250	-	-	15,00	30,80	IE3	160L	195
100-100-125	0,75	1,93	-	-	IE3	080M	59
100-100-125	1,10	2,60	[20]	[20]	IE3	090S	67
100-100-125	1,50	3,47	1,50	3,50	IE3	090L	66
100-100-125	-	-	[20]	[20]	IE3	100L	80
100-100-160	1,50	3,47	-	-	IE3	090L	73
100-100-160	2,20	4,80	[20]	[20]	IE3	100L	86
100-100-160	3,00	6,20	3,00	9,70	IE3	100L	86
100-100-160	4,00	8,60	4,00	8,50	IE3	112M	95
100-100-160	-	-	[20]	[20]	IE3	132S	122
100-100-200	2,20	4,80	-	-	IE3	100L	119
100-100-200	3,00	6,20	3,00	9,70	IE3	100L	119
100-100-200	4,00	8,60	4,00	8,50	IE3	112M	128
100-100-200	5,50	11,00	[20]	[20]	IE3	132S	154
100-100-200	7,50	15,00	[20]	[20]	IE3	132M	155
100-100-200	-	-	11,00	22,60	IE3	160M	180
100-100-250	3,00	6,20	-	-	IE3	100L	131
100-100-250	4,00	8,60	-	-	IE3	112M	140
100-100-250	5,50	11,00	[20]	[20]	IE3	132S	166
100-100-250	7,50	15,00	[20]	[20]	IE3	132M	167
100-100-250	11,00	22,80	11,00	22,60	IE3	160M	192
100-100-250	15,00	30,10	15,00	30,80	IE3	160L	222
100-100-250	-	-	18,50	35,00	IE3	180M	273
125-125-160	2,20	4,80	-	-	IE3	100L	128,37
125-125-160	3,00	6,20	3,00	9,70	IE3	100L	142
125-125-160	4,00	8,60	4,00	8,50	IE3	112M	151
125-125-160	5,50	11,00	[20]	[20]	IE3	132S	177
125-125-160	-	-	[20]	[20]	IE3	132M	178
125-125-200	3,00	6,20	-	-	IE3	100L	139
125-125-200	4,00	8,60	-	-	IE3	112M	148
125-125-200	5,50	11,00	[20]	[20]	IE3	132S	174
125-125-200	7,50	15,00	[20]	[20]	IE3	132M	175

Size	n = 1450 rpm		n = 1750 rpm		Efficiency class	Motor	Weight[19]
	P_N	I_N[19]	P_N	I_N[19]			
		3~400 V		3~460 V			
	[kW]	[A]	[kW]	[A]			[kg]
125-125-200	11,00	22,80	11,00	22,60	IE3	160M	200
125-125-200	-	-	15,00	30,80	IE3	160L	230
125-125-250	5,50	11,00	-	-	IE3	132S	186
125-125-250	7,50	15,00	[20]	[20]	IE3	132M	187
125-125-250	11,00	22,80	11,00	22,60	IE3	160M	212
125-125-250	15,00	30,10	15,00	30,80	IE3	160L	242
125-125-250	-	-	18,50	35,00	IE3	180M	293
125-125-250	-	-	22,00	41,30	IE3	180L	303
150-150-200	5,50	11,00	-	-	IE3	132S	206
150-150-200	7,50	15,00	[20]	[20]	IE3	132M	207
150-150-200	11,00	22,80	11,00	22,60	IE3	160M	232
150-150-200	15,00	30,10	15,00	30,80	IE3	160L	262
150-150-200	-	-	18,50	35,00	IE3	180M	312
150-150-250	7,50	15,00	-	-	IE3	132M	221
150-150-250	11,00	22,80	11,00	22,60	IE3	160M	247
150-150-250	15,00	30,10	15,00	30,80	IE3	160L	277
150-150-250	18,50	36,80	18,50	35,00	IE3	180M	327
150-150-250	22,00	43,10	22,00	41,30	IE3	180L	337
150-150-250	-	-	30,00	55,80	IE3	200L	403
150-150-250	-	-	37,00	69,30	IE3	225S	561
200-200-250	11,00	22,80	-	-	IE3	160M	285,87
200-200-250	15,00	30,10	-	-	IE3	160L	332
200-200-250	18,50	36,80	18,50	35,00	IE3	180M	383
200-200-250	22,00	43,10	22,00	41,30	IE3	180L	393
200-200-250	30,00	59,20	30,00	55,80	IE3	200L	458
200-200-250	37,00	70,10	37,00	69,30	IE3	225S	617
200-200-250	-	-	45,00	86,90	IE3	225M	645
200-200-315	22,00	43,10	-	-	IE3	180L	428,08
200-200-315	30,00	59,20	30,00	55,80	IE3	200L	493
200-200-315	37,00	70,10	37,00	69,30	IE3	225S	651
200-200-315	45,00	85,00	45,00	86,90	IE3	225M	679
200-200-315	55,00	103,60	55,00	102,00	IE3	250M	774

Motor (variable speed version), n = 3000 rpm

Table 15: 50 Hz, technical data of the motor, n = 3000 rpm (variable speed version)

Size	P_N	I_N	Efficiency class	Motor	[kg]
PumpDrive 2		3~400 V			
n = 3000 rpm	[kW]	[A]			
032-032-160	1,10	3,70	IE5	080M	49
032-032-160	1,50	5,20	IE5	090S	53
032-032-160	2,20	6,30	IE5	090L	57
032-032-160	3,00	8,40	IE5	100L	64
032-032-160	4,00	10,40	IE5	112M	70
032-032-160	5,50	14,60	IE5	132S	88
032-032-160	7,50	18,70	IE5	132S	98,5
032-032-160	11,00	25,90	IE5	160M	120,7
032-032-160	15,00	35,70	IE5	160M	144,7
032-032-200	2,20	6,30	IE5	090L	57,8
032-032-200	3,00	8,40	IE5	100L	66,6
032-032-200	4,00	10,40	IE5	112M	76
032-032-200	5,50	14,60	IE5	132S	94
032-032-200	7,50	18,70	IE5	132S	94
032-032-200	11,00	25,90	IE5	160M	127
032-032-200	15,00	35,70	IE5	160M	153,8

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Size PumpDrive 2 n = 3000 rpm	P_N [kW]	I_N 3~400 V [A]	Efficiency class	Motor	[kg]
040-040-160	1,50	5,20	IE5	090S	46,2
040-040-160	2,20	6,30	IE5	090L	49,2
040-040-160	3,00	8,40	IE5	100L	62
040-040-160	4,00	10,40	IE5	112M	68
040-040-160	5,50	14,60	IE5	132S	85
040-040-160	7,50	18,70	IE5	132S	85
040-040-160	11,00	25,90	IE5	160M	121,2
040-040-250	5,50	14,60	IE5	132S	101,4
040-040-250	7,50	18,70	IE5	132S	101
040-040-250	11,00	25,90	IE5	160M	134
040-040-250	15,00	35,70	IE5	160M	158
040-040-250	18,50	45,40	IE5	160L	175
040-040-250	22,00	52,40	IE4	180M	236
040-040-250	30,00	69,70	IE4	200L	329
040-040-250	37,00	85,90	IE4	200L	370,1
050-050-160	3,00	8,40	IE5	100L	66
050-050-160	4,00	10,40	IE5	112M	72
050-050-160	5,50	14,60	IE5	132S	90
050-050-160	7,50	18,70	IE5	132S	90
050-050-160	11,00	25,90	IE5	160M	123
050-050-160	15,00	35,70	IE5	160M	149,5
050-050-160	18,50	45,40	IE5	160L	177,9
050-050-160	22,00	52,40	IE4	180M	242,6
050-050-160	30,00	69,70	IE4	200L	292,5
050-050-250	7,50	18,70	IE5	132S	117,4
050-050-250	11,00	25,90	IE5	160M	140
050-050-250	15,00	35,70	IE5	160M	161
050-050-250	18,50	45,40	IE5	160L	178
050-050-250	22,00	52,40	IE4	180M	239
050-050-250	30,00	69,70	IE4	200L	332
050-050-250	37,00	85,90	IE4	200L	367
065-065-160	4,00	10,40	IE5	112M	74
065-065-160	5,50	14,60	IE5	132S	92
065-065-160	7,50	18,70	IE5	132S	92
065-065-160	11,00	25,90	IE5	160M	125
065-065-160	15,00	35,70	IE5	160M	149
065-065-160	18,50	45,40	IE5	160L	166
065-065-160	22,00	52,40	IE4	180M	244,9
065-065-160	30,00	69,70	IE4	200L	294,8
065-065-160	37,00	85,90	IE4	200L	361,3
065-065-250	11,00	25,90	IE5	160M	144,0
065-065-250	15,00	34,50	IE5	160M	165
065-065-250	18,50	45,40	IE5	160L	182
065-065-250	22,00	52,40	IE4	180M	243
065-065-250	30,00	69,70	IE4	200L	336
065-065-250	37,00	85,90	IE4	200L	371
080-080-160	4,00	10,40	IE5	112M	81,8
080-080-160	5,50	14,60	IE5	132S	101
080-080-160	7,50	18,70	IE5	132S	98
080-080-160	11,00	25,90	IE5	160M	131
080-080-160	15,00	34,50	IE5	160M	155
080-080-160	18,50	44,00	IE5	160L	172
080-080-160	22,00	52,40	IE4	180M	251,0
080-080-160	30,00	69,70	IE4	200L	301,0
080-080-160	37,00	85,90	IE4	200L	367,5
080-080-200	7,50	18,70	IE5	132S	120,7
080-080-200	11,00	25,90	IE5	160M	144

Size PumpDrive 2	P_N	I_N 3~400 V	Efficiency class	Motor	[kg]
n = 3000 rpm	[kW]	[A]			
080-080-200	15,00	34,50	IE5	160M	164
080-080-200	18,50	45,40	IE5	160L	181
080-080-200	22,00	52,40	IE4	180M	242
080-080-200	30,00	69,70	IE4	200L	335
080-080-200	37,00	85,90	IE4	200L	370
100-100-125	3,00	8,40	IE5	100L	76,1
100-100-125	4,00	10,40	IE5	112M	87,1
100-100-125	5,50	14,60	IE5	132S	104
100-100-125	7,50	18,70	IE5	132S	104
100-100-125	11,00	25,90	IE5	160M	137
100-100-125	15,00	35,70	IE5	160M	163,4
100-100-125	18,50	45,40	IE5	160L	191,8
100-100-125	22,00	52,40	IE4	180M	256,4
100-100-125	30,00	69,70	IE4	200L	306,3
100-100-160	7,50	18,70	IE5	132S	123,7
100-100-160	11,00	25,90	IE5	160M	143
100-100-160	15,00	35,70	IE5	160M	167
100-100-160	18,50	45,40	IE5	160L	184
100-100-160	22,00	52,40	IE4	180M	245
100-100-160	30,00	69,70	IE4	200L	338
100-100-160	37,00	85,90	IE4	200L	379,4
125-125-160	11,00	25,90	IE5	160M	200,8
125-125-160	15,00	35,70	IE5	160M	224,8
125-125-160	18,50	45,40	IE5	160L	242
125-125-160	22,00	52,40	IE4	180M	300
125-125-160	30,00	69,70	IE4	200L	393
125-125-160	37,00	85,90	IE4	200L	428
125-125-160	45,00	103,10	IE4	225M	490,8
125-125-160	55,00	122,40	IE4	250M	608,2
125-125-200	22,00	69,70	IE4	180M	314,9
125-125-200	30,00	69,70	IE4	200L	364,6
125-125-200	37,00	85,90	IE4	200L	431,1
125-125-200	45,00	103,10	IE4	225M	487,9
125-125-200	55,00	122,40	IE4	250M	605,3

Motor (variable speed version), n = 1500 rpm

Table 16: 50 Hz, technical data of the motor, n = 1500 rpm (variable speed version)

Size PumpDrive 2	P_N	I_N 3~400 V	Efficiency class	Motor	[kg]
n = 1500 rpm	[kW]	[A]			
032-032-160	0,25	1,50	IE5	071M	-
032-032-160	0,37	1,50	IE5	071M	-
032-032-160	0,55	2,00	IE5	080M	41,2
032-032-160	0,75	2,70	IE5	080M	43,2
032-032-160	1,10	3,70	IE5	090S	45,6
032-032-160	1,50	5,20	IE5	090L	48,6
032-032-200	0,37	1,50	IE5	071M	-
032-032-200	0,55	2,00	IE5	080M	50,4
032-032-200	0,75	2,70	IE5	080M	52,4
032-032-200	1,10	3,70	IE5	090S	59
032-032-200	1,50	5,20	IE5	090L	57,8
032-032-200	2,20	6,30	IE5	100L	67,1
040-040-160	0,37	1,50	IE5	71M	-
040-040-160	0,55	2,70	IE5	080M	41,8
040-040-160	0,75	2,70	IE5	080M	43,8

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Size PumpDrive 2 n = 1500 rpm	P_N [kW]	I_N 3~400 V [A]	Efficiency class	Motor	[kg]
040-040-160	1,10	3,70	IE5	090S	53
040-040-160	1,50	5,20	IE5	090L	49,2
040-040-160	2,20	6,30	IE5	100L	58,5
040-040-250	0,55	2,00	IE5	080M	54,9
040-040-250	0,75	2,70	IE5	080M	58,1
040-040-250	1,10	3,70	IE5	090S	66
040-040-250	1,50	5,20	IE5	090L	70
040-040-250	2,20	6,30	IE5	100L	80
040-040-250	3,00	8,40	IE5	100L	80
040-040-250	4,00	10,40	IE5	112M	86
040-040-250	5,50	14,60	IE5	132S	103,4
040-040-250	7,50	18,70	IE5	132M	118,4
050-050-160	0,37	1,50	IE5	071M	-
050-050-160	0,55	2,00	IE5	080M	46,1
050-050-160	0,75	2,70	IE5	080M	48,1
050-050-160	1,10	3,70	IE5	090S	55
050-050-160	1,50	5,20	IE5	090L	59
050-050-160	2,20	6,30	IE5	100L	62,8
050-050-160	3,00	8,40	IE5	100L	65,3
050-050-160	4,00	10,40	IE5	112M	74,3
050-050-250	0,75	2,70	IE5	080M	61,2
050-050-250	1,10	3,70	IE5	090S	64,6
050-050-250	1,50	5,20	IE5	090L	76
050-050-250	2,20	6,30	IE5	100L	83
050-050-250	3,00	8,40	IE5	100L	83
050-050-250	4,00	10,40	IE5	112M	86
050-050-250	5,50	14,60	IE5	132S	104
050-050-250	7,50	18,70	IE5	132M	121,4
050-050-250	11,00	25,90	IE5	160M	147,6
065-065-160	0,55	2,00	IE5	080M	48,3
065-065-160	0,75	2,70	IE5	080M	50,3
065-065-160	1,10	3,70	IE5	090S	60
065-065-160	1,50	5,20	IE5	090L	55,3
065-065-160	2,20	6,30	IE5	100L	68
065-065-160	3,00	8,40	IE5	100L	67,6
065-065-160	4,00	10,40	IE5	112M	76,6
065-065-160	5,50	14,60	IE5	132S	94,7
065-065-250	1,10	3,70	IE5	090S	68,9
065-065-250	1,50	5,20	IE5	090L	71,9
065-065-250	2,20	6,30	IE5	100L	88
065-065-250	3,00	8,40	IE5	100L	84
065-065-250	4,00	10,40	IE5	112M	90
065-065-250	5,50	14,60	IE5	132S	111
065-065-250	7,50	18,70	IE5	132M	128
065-065-250	11,00	25,90	IE5	160M	152,0
065-065-250	15,00	35,70	IE5	160L	193,0
080-080-160	0,55	2,00	IE5	080M	52,4
080-080-160	0,75	2,70	IE5	080M	56,3
080-080-160	1,10	3,70	IE5	090S	66
080-080-160	1,50	5,20	IE5	090L	70
080-080-160	2,20	6,30	IE5	100L	78
080-080-160	3,00	8,40	IE5	100L	78
080-080-160	4,00	10,40	IE5	112M	82,8
080-080-160	5,50	14,60	IE5	132S	100,8
080-080-200	1,10	3,70	IE5	090S	67,8
080-080-200	1,50	5,20	IE5	090L	76
080-080-200	2,20	6,30	IE5	100L	86

Size PumpDrive 2 n = 1500 rpm	P_N [kW]	I_N 3~400 V [A]	Efficiency class	Motor	[kg]
080-080-200	3,00	8,40	IE5	100L	86
080-080-200	4,00	10,40	IE5	112M	92
080-080-200	5,50	14,60	IE5	132S	110
080-080-200	7,50	18,70	IE5	132M	124,7
080-080-200	11,00	25,90	IE5	160M	150,9
080-080-250	2,20	6,30	IE5	100L	100,5
080-080-250	3,00	8,40	IE5	100L	107
080-080-250	4,00	10,40	IE5	112M	113
080-080-250	5,50	14,60	IE5	132S	130
080-080-250	7,50	18,70	IE5	132M	147
080-080-250	11,00	25,90	IE5	160M	163
080-080-250	15,00	35,70	IE5	160L	211,7
080-080-250	18,50	45,40	IE4	180M	301,7
100-100-125	0,37	1,50	IE5	071M	-
100-100-125	0,55	2,00	IE5	080M	57,7
100-100-125	0,75	2,70	IE5	080M	61,3
100-100-125	1,10	3,70	IE5	090S	72
100-100-125	1,50	5,20	IE5	090L	72
100-100-125	2,20	6,30	IE5	100L	76,6
100-100-125	3,00	8,40	IE5	100L	79,1
100-100-125	4,00	10,40	IE5	112M	88,1
100-100-160	0,75	2,70	IE5	080M	67,5
100-100-160	1,10	3,70	IE5	090S	70,9
100-100-160	1,50	5,20	IE5	090L	79
100-100-160	2,20	6,30	IE5	100L	89
100-100-160	3,00	8,40	IE5	100L	86
100-100-160	4,00	10,40	IE5	112M	92
100-100-160	5,50	14,60	IE5	132S	112,7
100-100-160	7,50	18,70	IE5	132M	127,7
100-100-160	11,00	25,90	IE5	160M	153,9
100-100-200	2,20	6,30	IE5	100L	115,6
100-100-200	3,00	8,40	IE5	100L	122
100-100-200	4,00	10,40	IE5	112M	128
100-100-200	5,50	14,60	IE5	132S	145
100-100-200	7,50	18,70	IE5	132M	162
100-100-200	11,00	25,90	IE5	160M	185,8
100-100-200	15,00	35,70	IE5	160L	226,8
100-100-200	18,50	45,40	IE4	180M	316,9
100-100-250	2,20	6,30	IE5	100L	127,5
100-100-250	3,00	8,40	IE5	100L	130,0
100-100-250	4,00	10,40	IE5	112M	137
100-100-250	5,50	14,60	IE5	132S	154
100-100-250	7,50	18,70	IE5	132M	171
100-100-250	11,00	25,90	IE5	160M	190
100-100-250	15,00	35,70	IE5	160L	228
100-100-250	18,50	45,40	IE4	180M	328,8
100-100-250	22,00	52,40	IE4	180L	342,8
100-100-250	30,00	69,70	IE4	200L	290,5
125-125-160	2,20	6,30	IE5	100L	138,5
125-125-160	3,00	8,40	IE5	100L	142
125-125-160	4,00	10,40	IE5	112M	148
125-125-160	5,50	14,60	IE5	132S	168
125-125-160	7,50	18,70	IE5	132M	182,6
125-125-160	11,00	25,90	IE5	160M	208,8
125-125-160	15,00	35,70	IE5	160L	249,8
125-125-200	2,20	6,30	IE5	100L	135,6
125-125-200	3,00	8,40	IE5	100L	138,1

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Size PumpDrive 2 n = 1500 rpm	P_N [kW]	I_N 3~400 V [A]	Efficiency class	Motor	[kg]
125-125-200	4,00	10,40	IE5	112M	145
125-125-200	5,50	14,60	IE5	132S	162
125-125-200	7,50	18,70	IE5	132M	179
125-125-200	11,00	25,90	IE5	160M	199
125-125-200	15,00	35,70	IE5	160L	246,9
125-125-200	18,50	45,40	IE4	180M	336,9
125-125-200	22,00	52,40	IE4	180L	350,9
125-125-200	30,00	67,90	IE4	200L	298,6
125-125-250	4,00	10,40	IE5	112M	159,2
125-125-250	5,50	14,60	IE5	132S	174
125-125-250	7,50	18,70	IE5	132M	194
125-125-250	11,00	25,90	IE5	160M	207
125-125-250	15,00	35,70	IE5	160L	252
125-125-250	18,50	45,40	IE4	180M	349,0
125-125-250	22,00	52,40	IE4	180L	363,0
125-125-250	30,00	69,70	IE4	200L	310,7
125-125-250	37,00	85,90	IE4	225S	532,6
125-125-250	45,00	103,10	IE4	225M	538,1
150-150-200	3,00	8,40	IE5	100L	169,6
150-150-200	4,00	10,40	IE5	112M	178,6
150-150-200	5,50	14,60	IE5	132S	197
150-150-200	7,50	18,70	IE5	132M	214
150-150-200	11,00	25,90	IE5	160M	230
150-150-200	15,00	35,70	IE5	160L	271
150-150-200	18,50	45,40	IE4	180M	368,4
150-150-200	22,00	52,40	IE4	180L	382,4
150-150-200	30,00	69,70	IE4	200L	330,1
150-150-200	37,00	85,90	IE4	225S	552,0
150-150-250	5,50	14,60	IE5	132S	210,9
150-150-250	7,50	18,70	IE5	132M	225,9
150-150-250	11,00	25,90	IE5	160M	242
150-150-250	15,00	35,70	IE5	160L	286
150-150-250	18,50	45,40	IE4	180M	343
150-150-250	22,00	52,40	IE4	180L	370
150-150-250	30,00	69,70	IE4	200L	344,9
150-150-250	37,00	85,90	IE4	225S	566,8
150-150-250	45,00	103,10	IE4	225M	572,3
200-200-250	7,50	18,70	IE5	132M	281,4
200-200-250	11,00	25,90	IE5	160M	307,7
200-200-250	15,00	35,70	IE5	160L	338
200-200-250	18,50	45,40	IE4	180M	402
200-200-250	22,00	52,40	IE4	180L	423
200-200-250	30,00	69,70	IE4	200L	495
200-200-250	37,00	85,90	IE4	225S	645
200-200-250	45,00	103,10	IE4	225M	627,8
200-200-315	18,50	45,40	IE4	180M	473,0
200-200-315	22,00	52,40	IE4	180L	487,0
200-200-315	30,00	69,70	IE4	200L	529
200-200-315	37,00	85,90	IE4	225S	679
200-200-315	45,00	103,10	IE4	225M	724
200-200-315	55,00	122,40	IE4	250M	-

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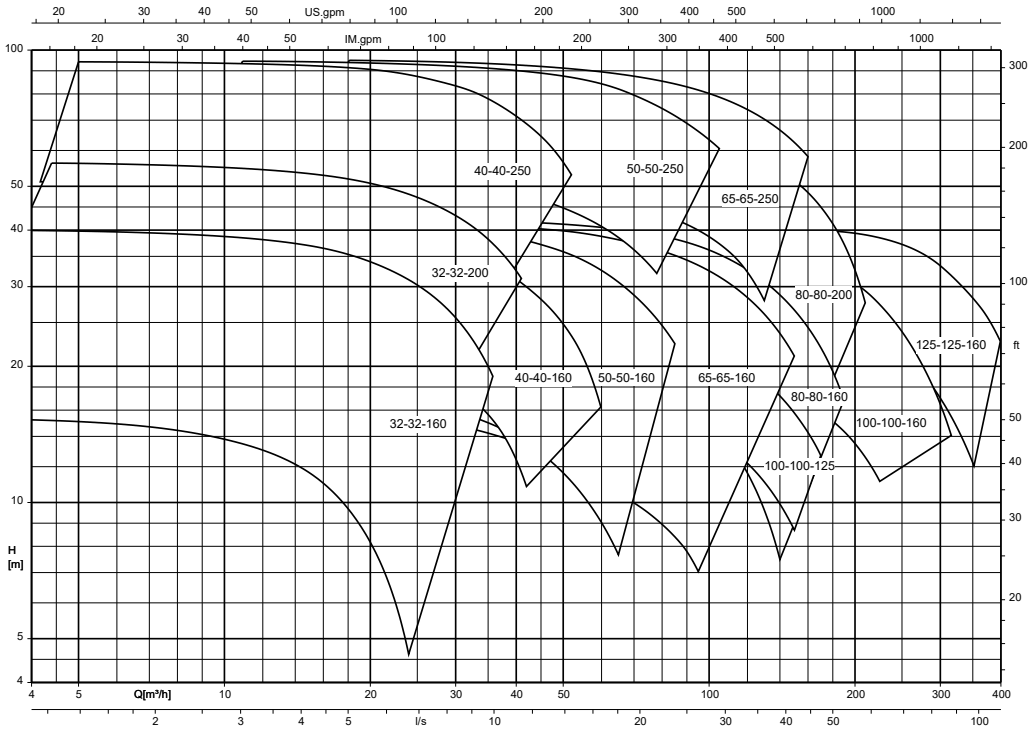
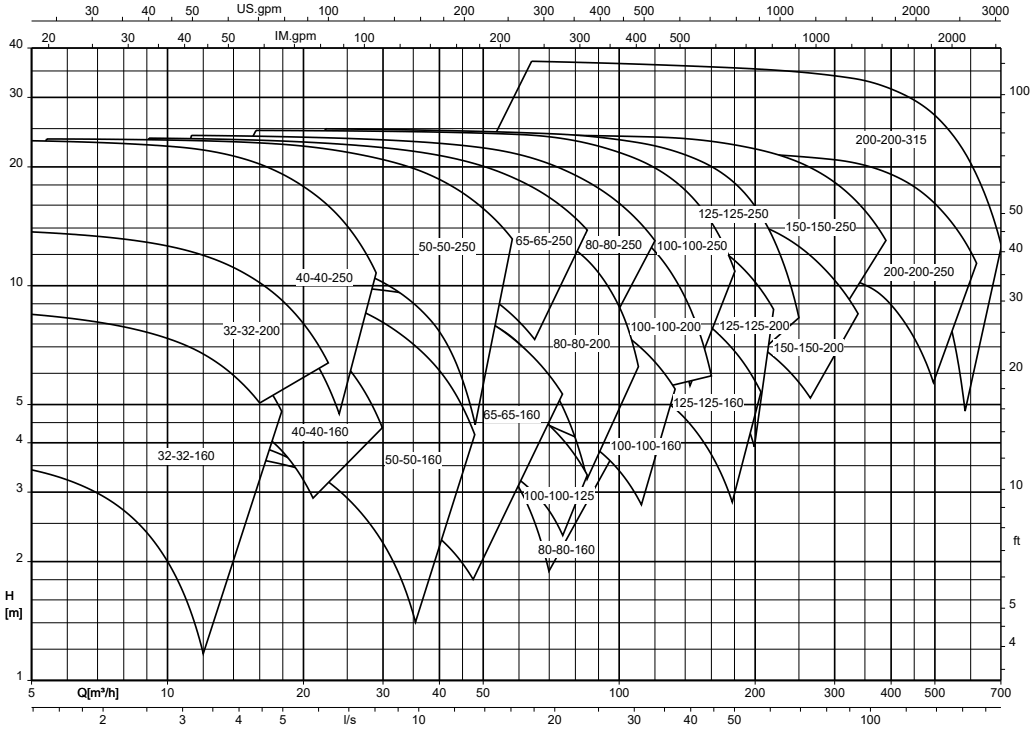
Selection charts

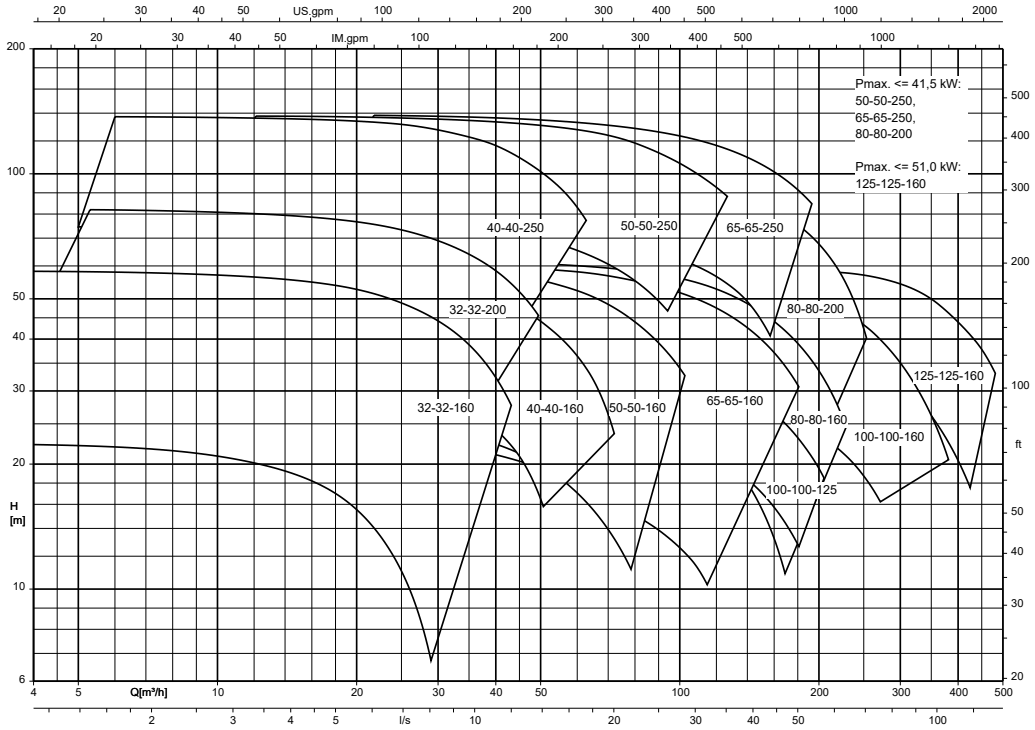
Etaline (fixed speed version), n = 2900 rpm



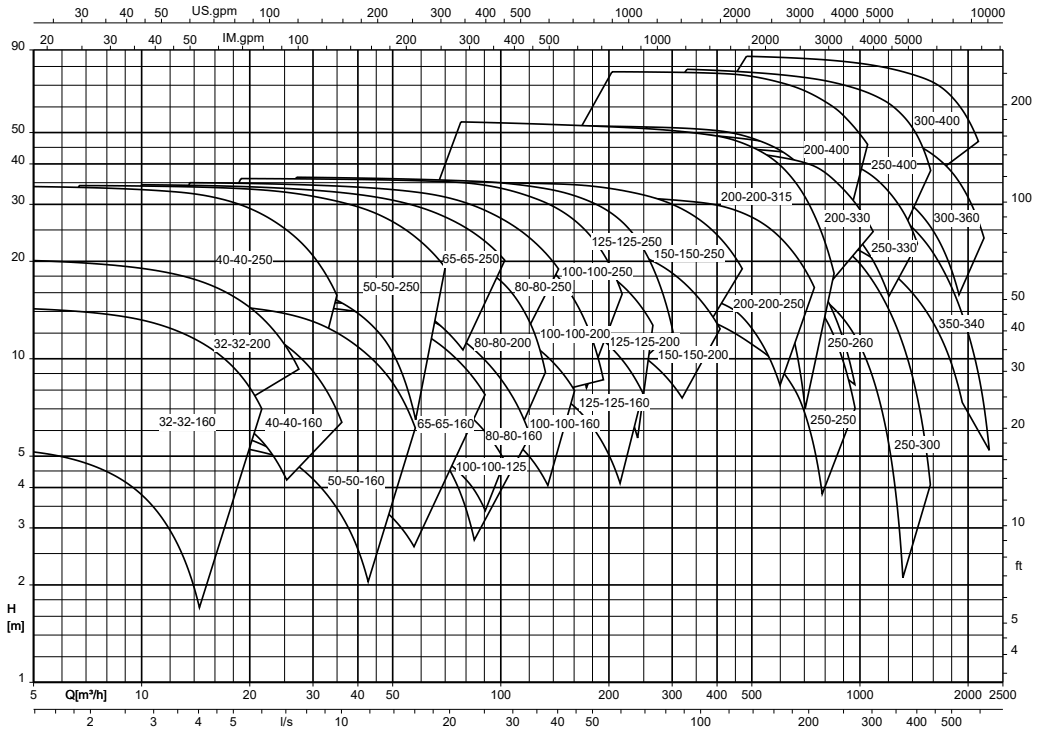
Etaline (fixed speed version), n = 1450 rpm



Etaline (fixed speed version), n = 3500 rpm



Etaline / Etaline-R (fixed speed version), n = 1750 rpm



Characteristic curves

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 x 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 ρ = 1.0 kg/dm³ and a kinematic viscosity of up to 20 mm²/s max. If the density ≠ 1.0, the performance data must be multiplied by ρ. For a viscosity > 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.

Correction factors
The characteristic curves apply to pumps with cast iron or bronze impellers. When using an impeller made of cast steel materials the efficiency and pump power of the corresponding pump sizes have to be multiplied by the correction factors indicated in the characteristic curves.

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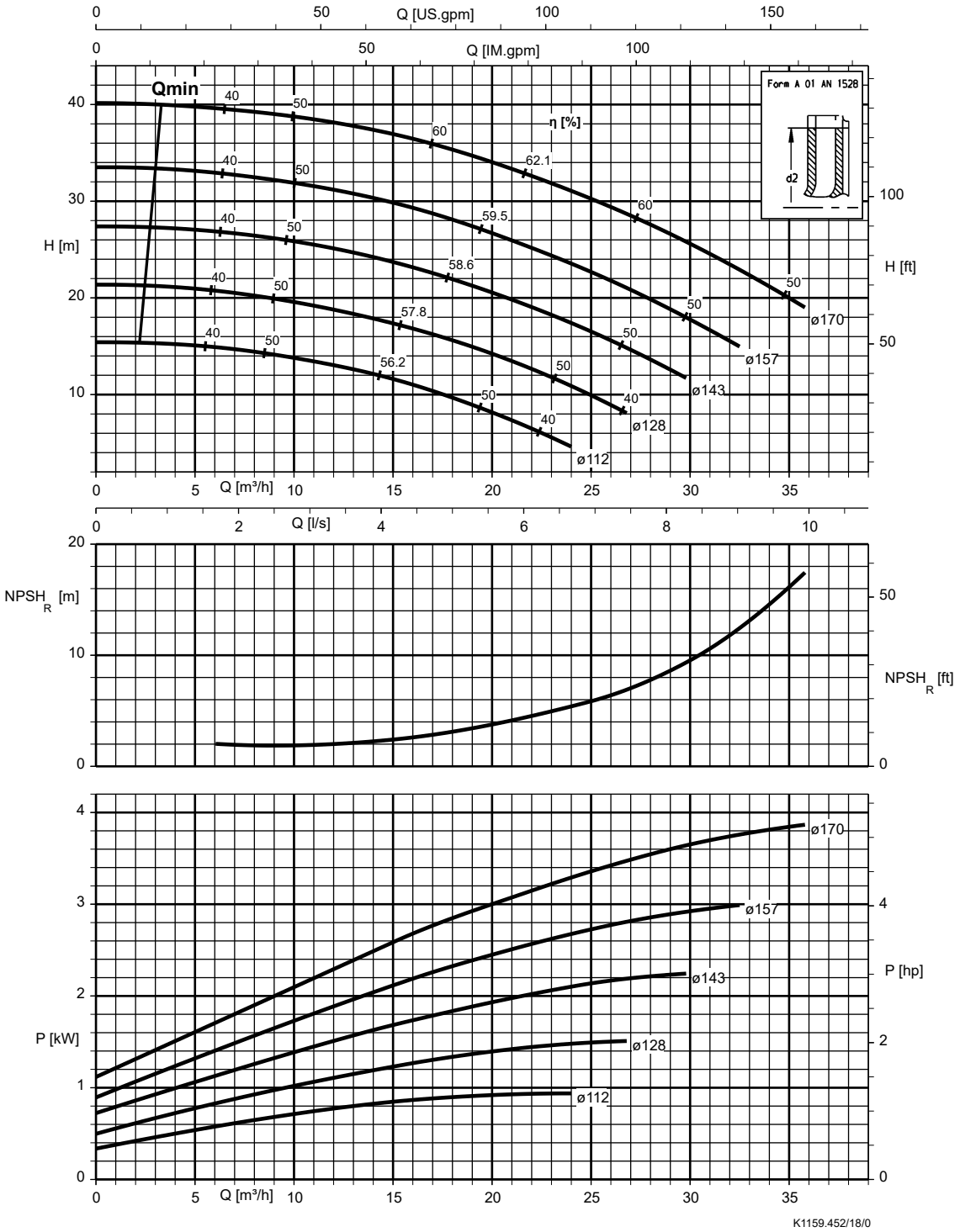
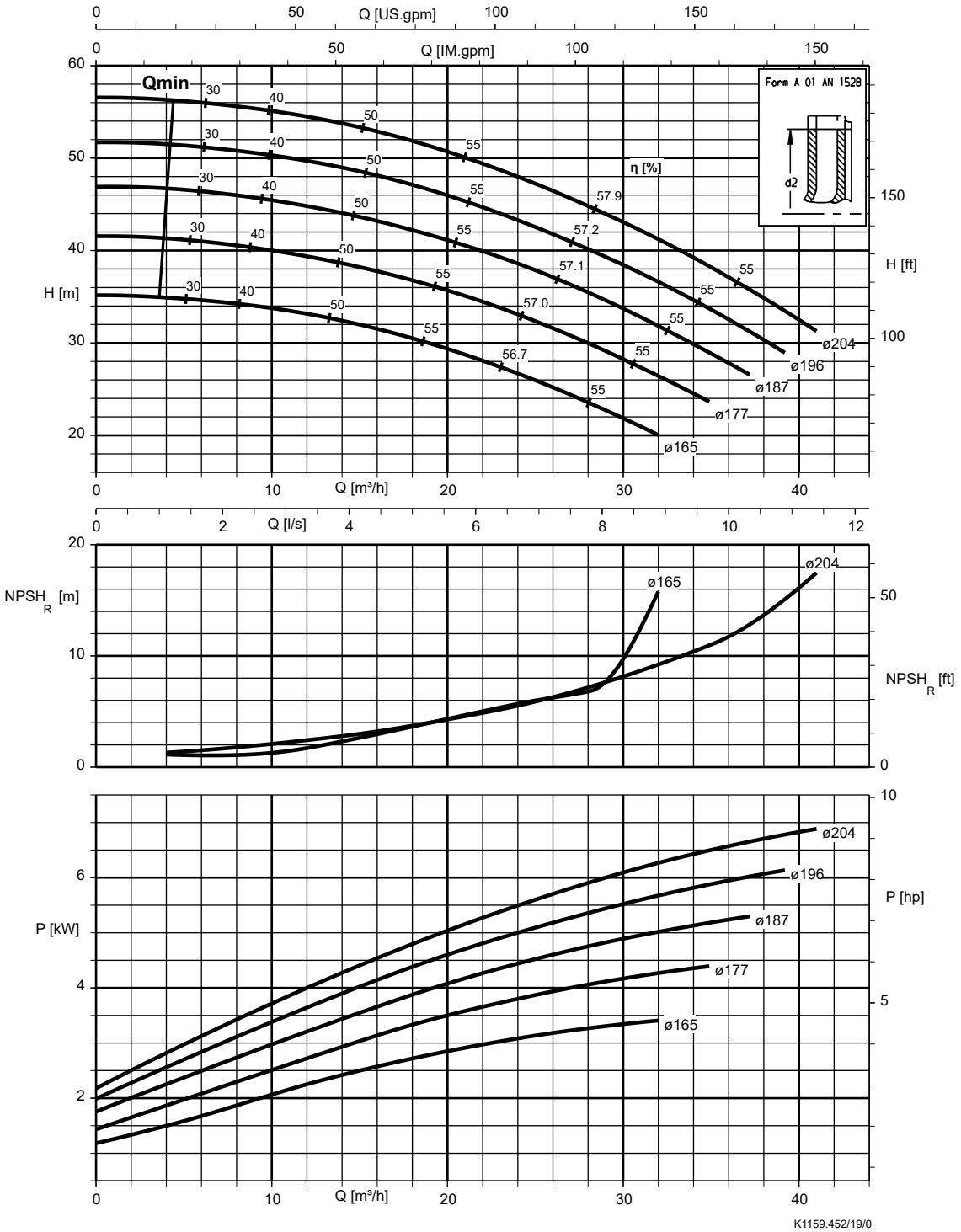
Etaline (fixed speed version), n = 2900 rpm

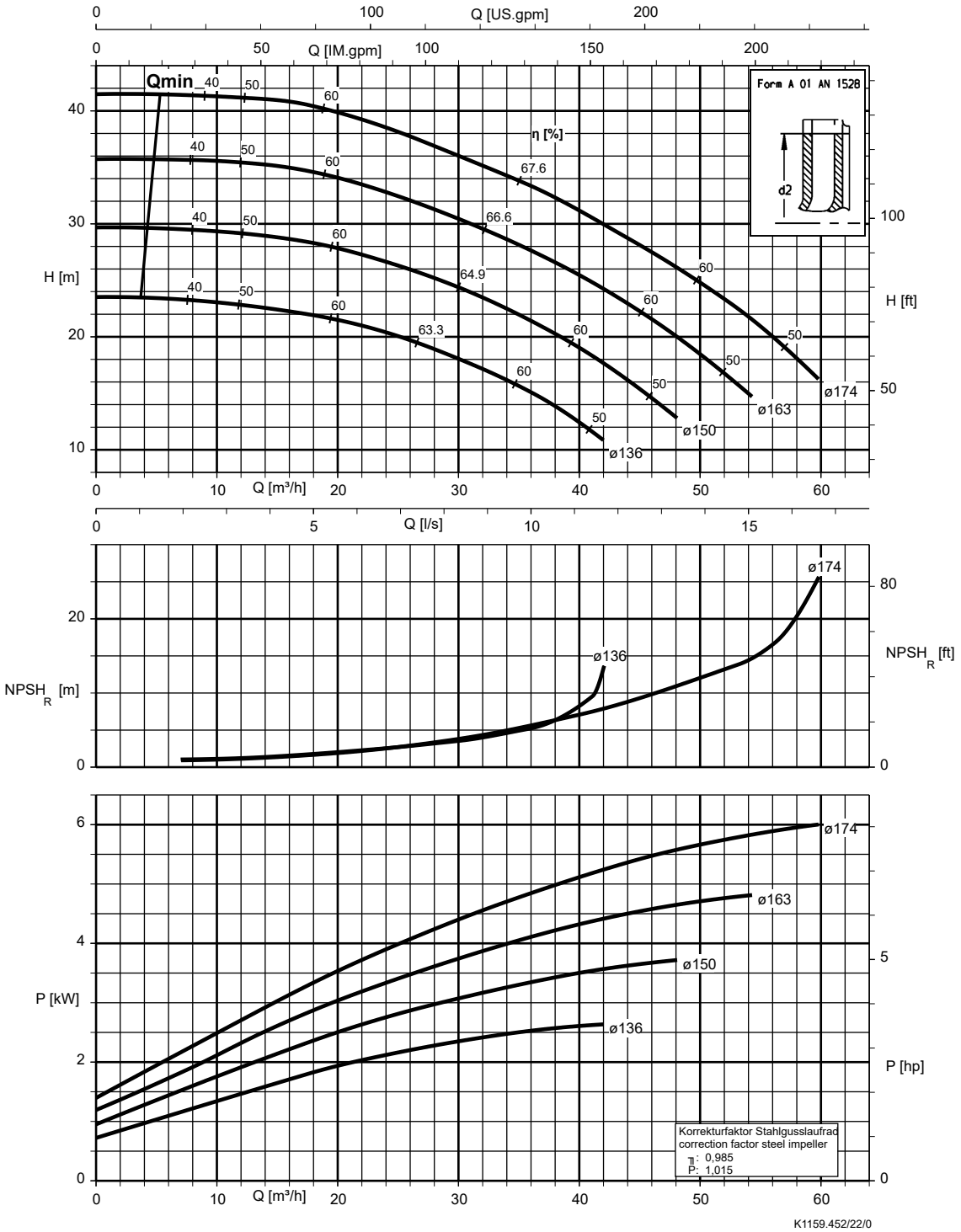
Etaline 032-032-160, n = 2900 rpm



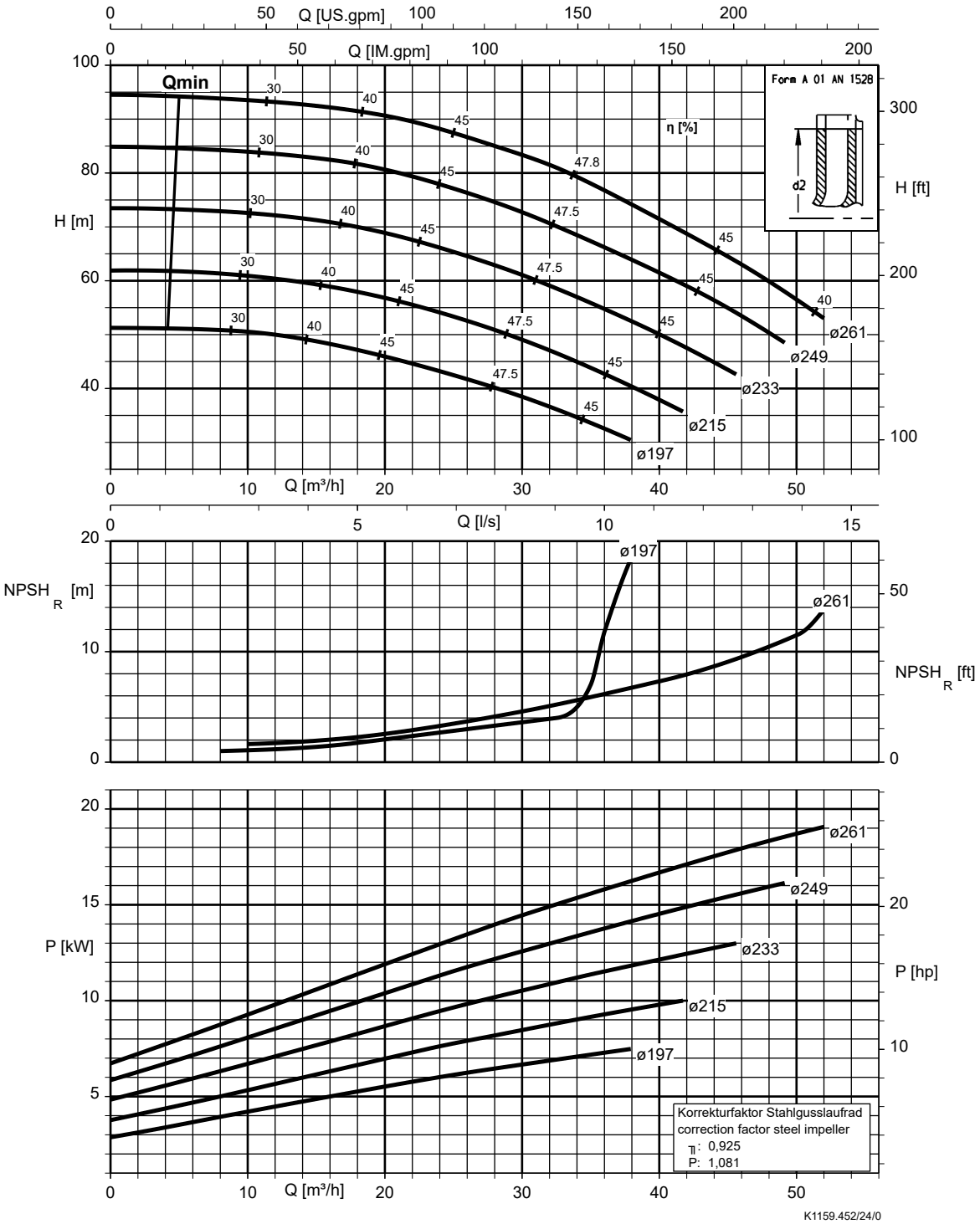
Etaline 032-032-200, n = 2900 rpm



Etaline 040-040-160, n = 2900 rpm



Etaline 040-040-250, n = 2900 rpm



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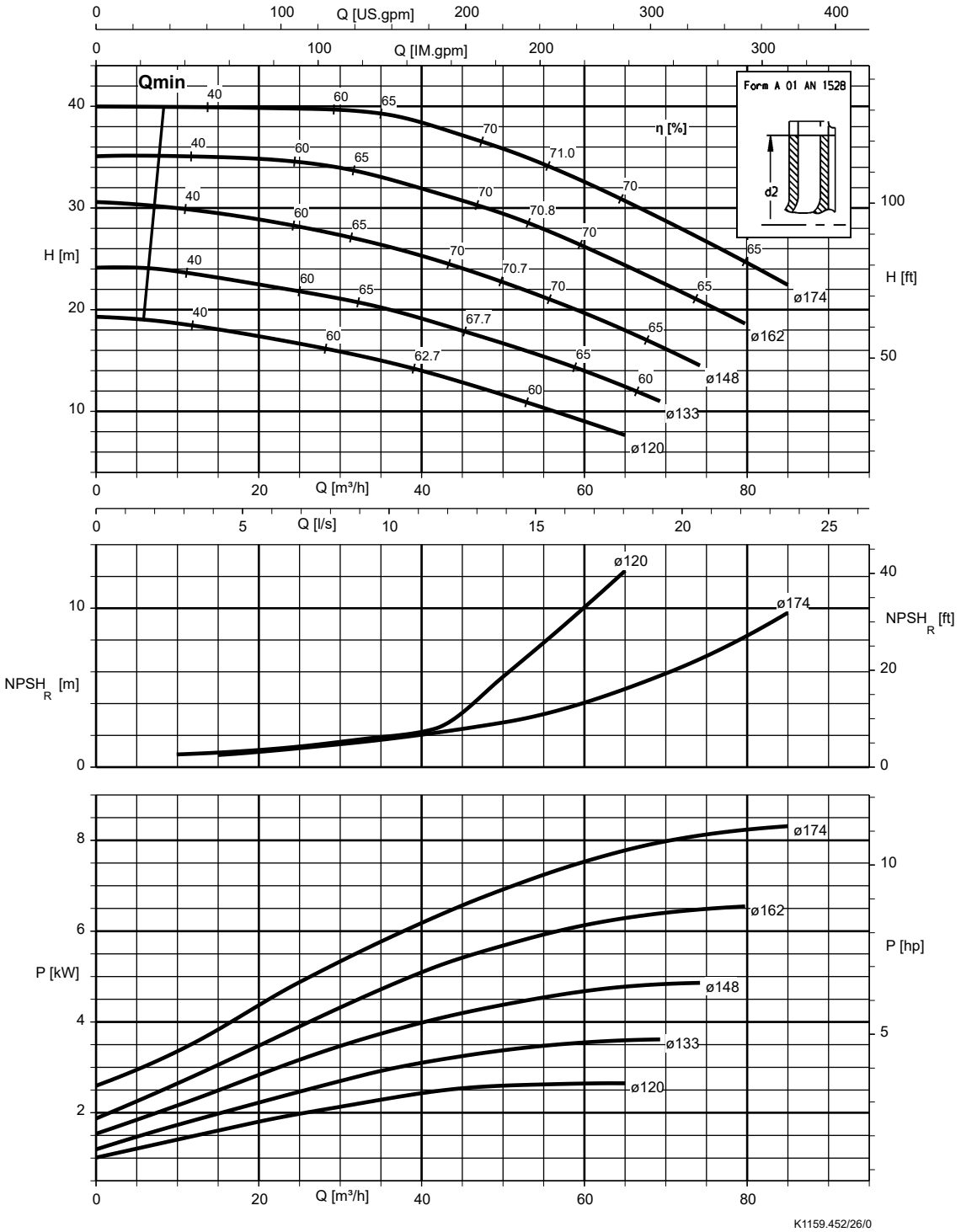
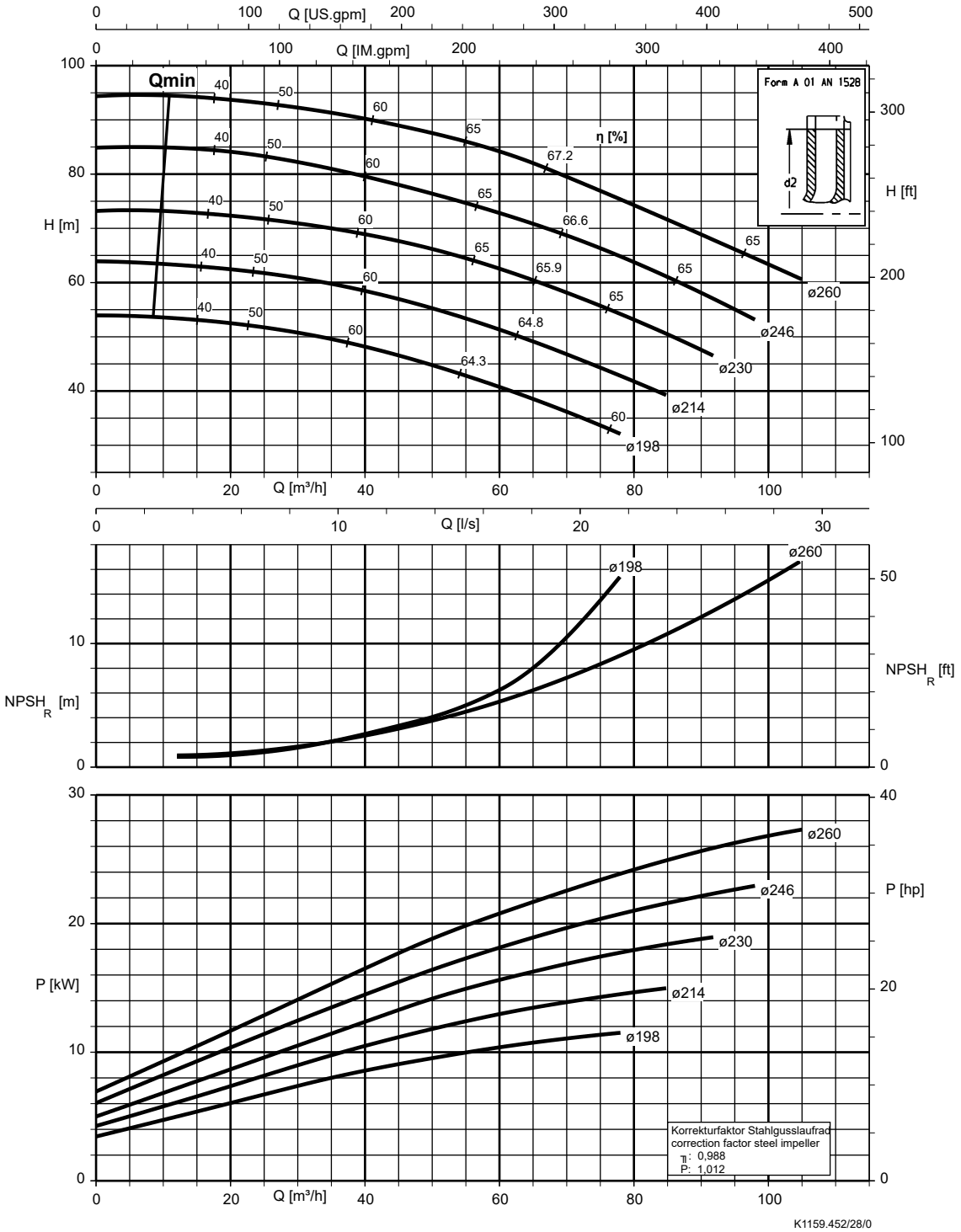
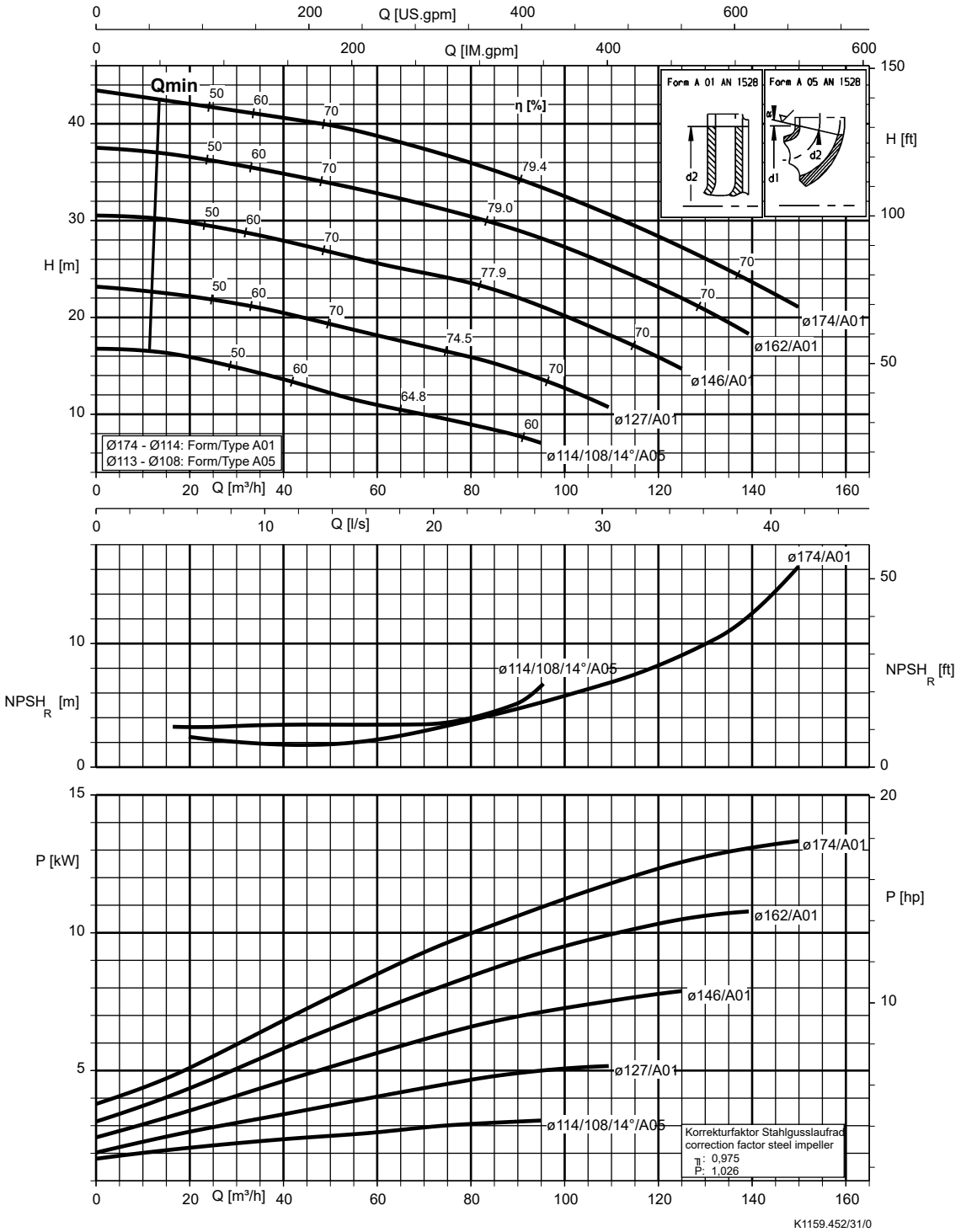
Etaline 050-050-160, n = 2900 rpm



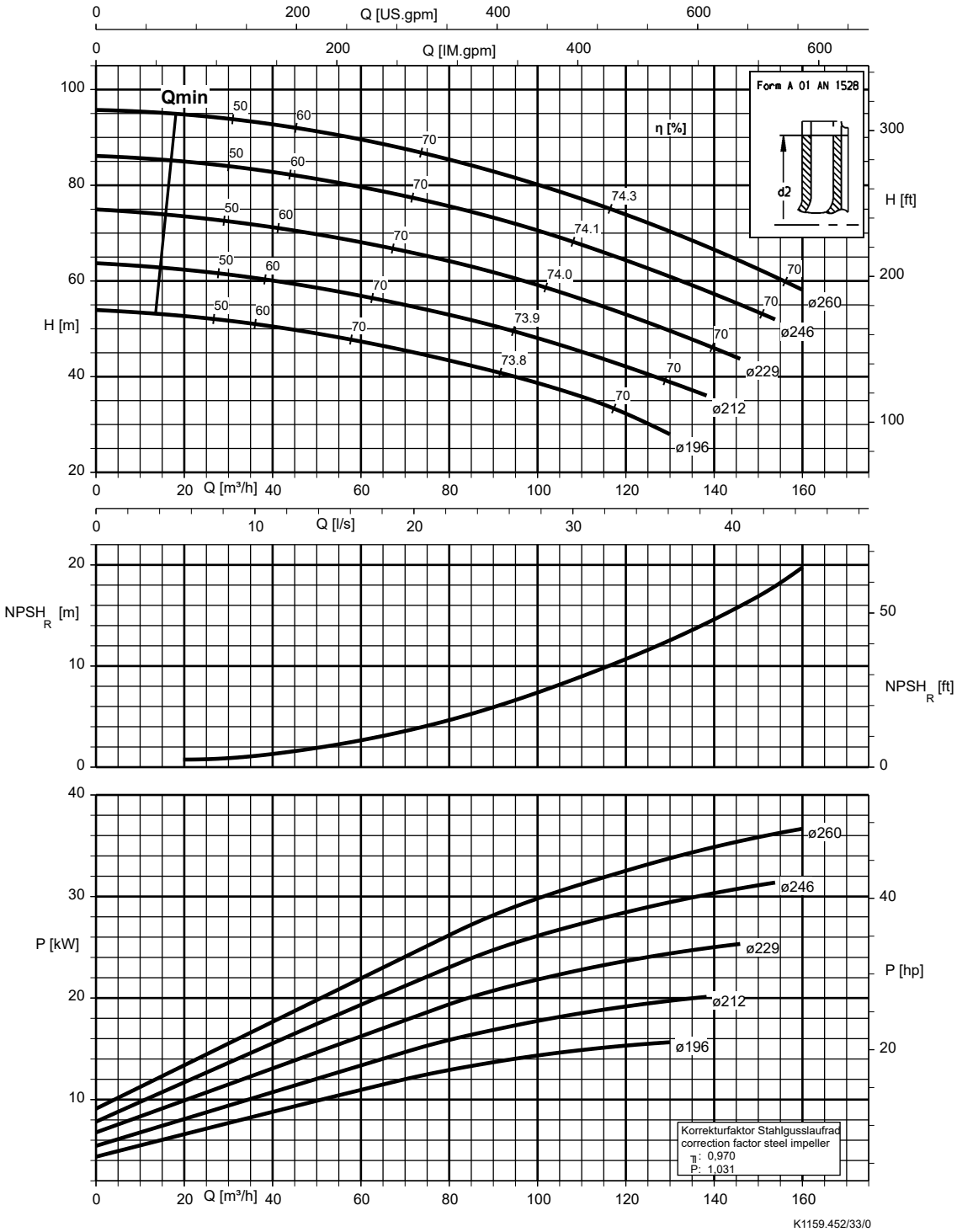
Etaline 050-050-250, n = 2900 rpm



Etaline 065-065-160, n = 2900 rpm



Etaline 065-065-250, n = 2900 rpm



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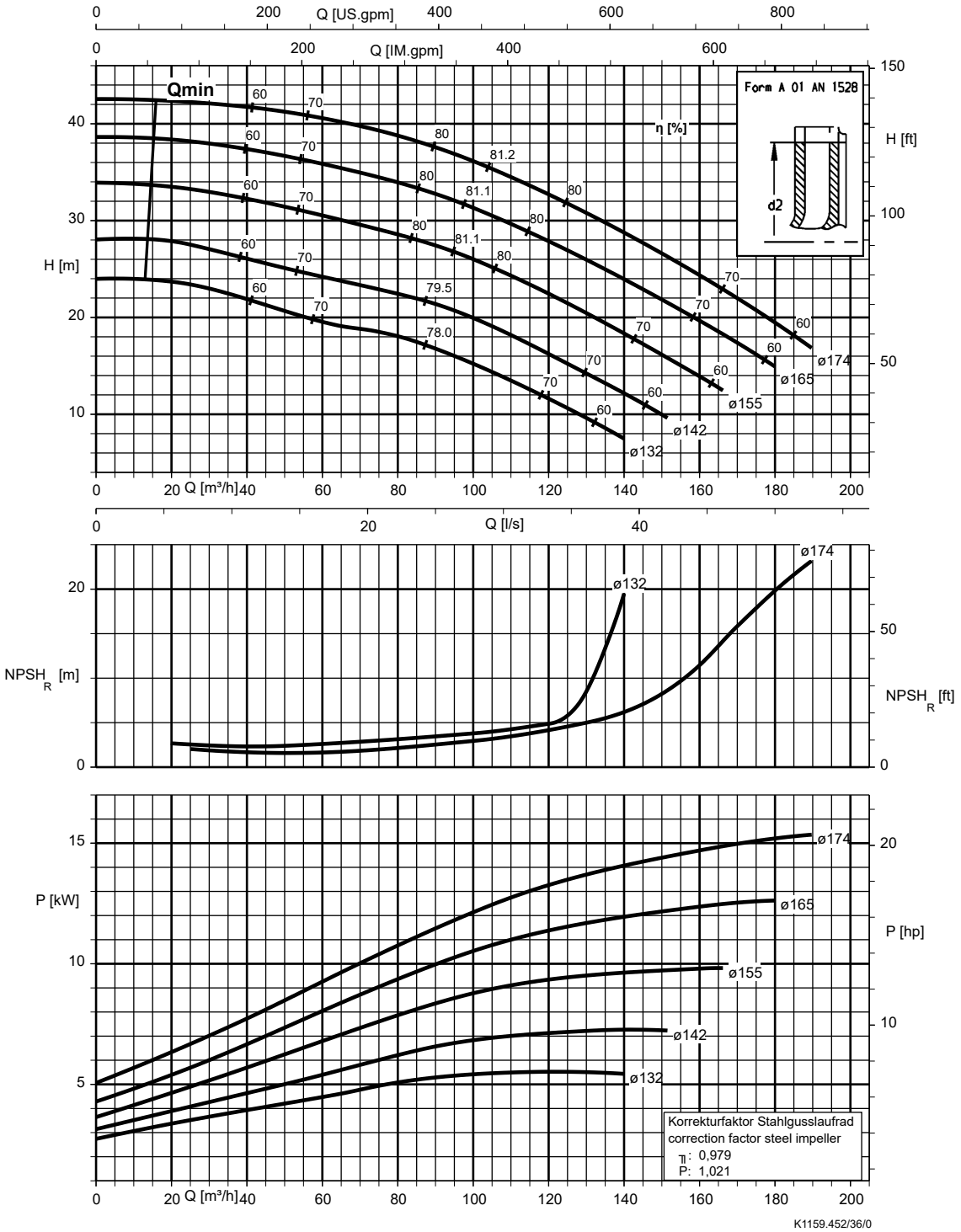
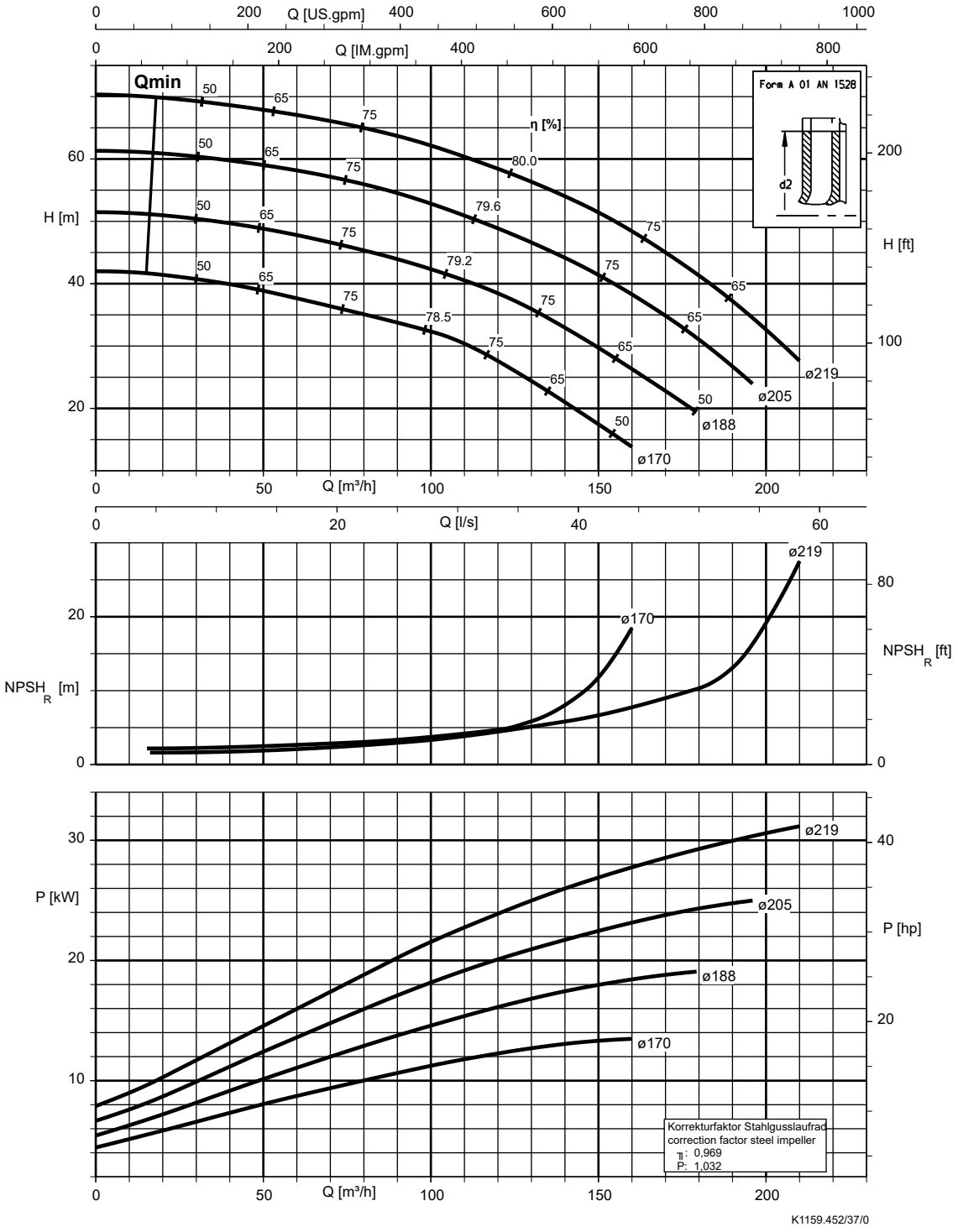
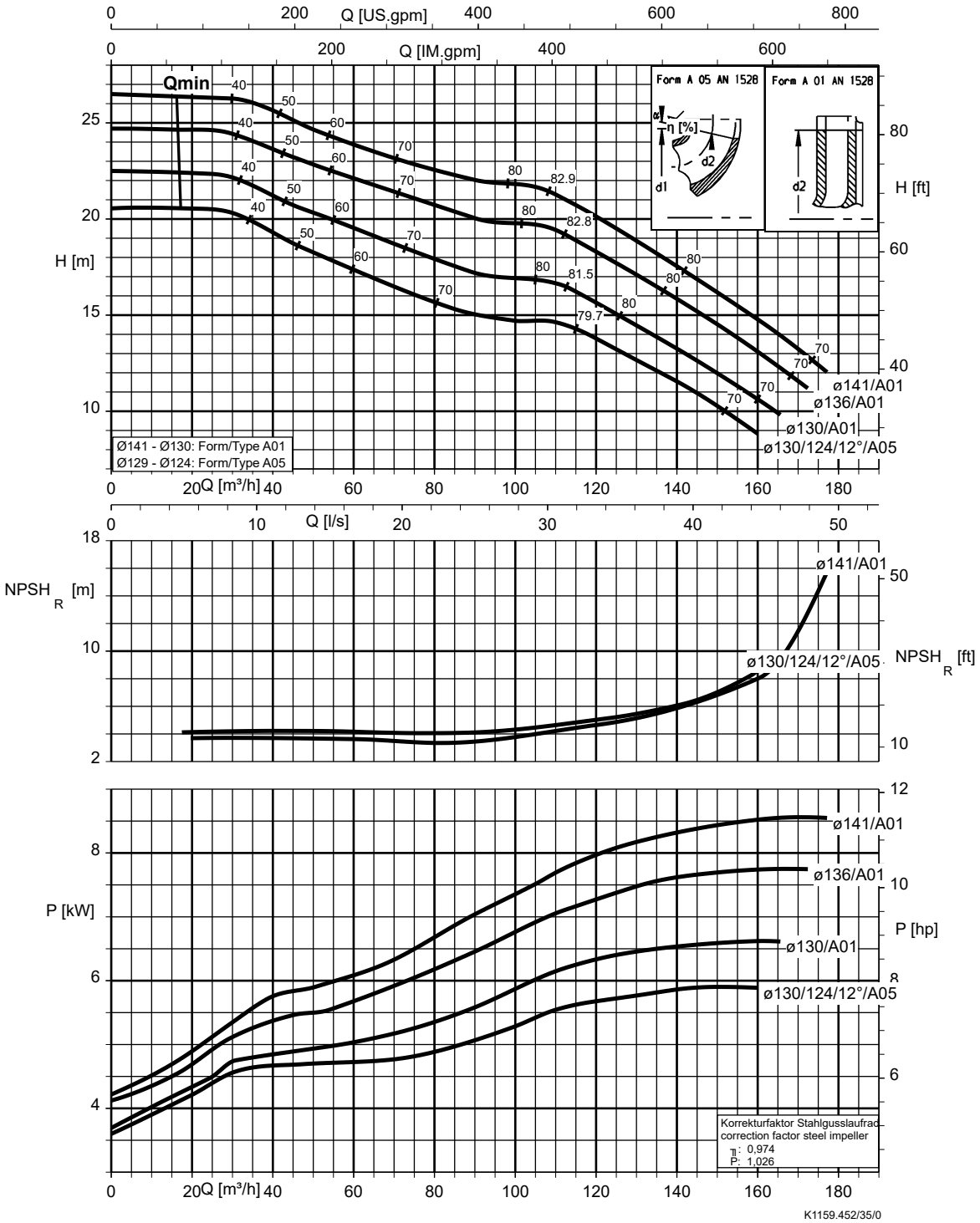
Etaline 080-080-160, n = 2900 rpm



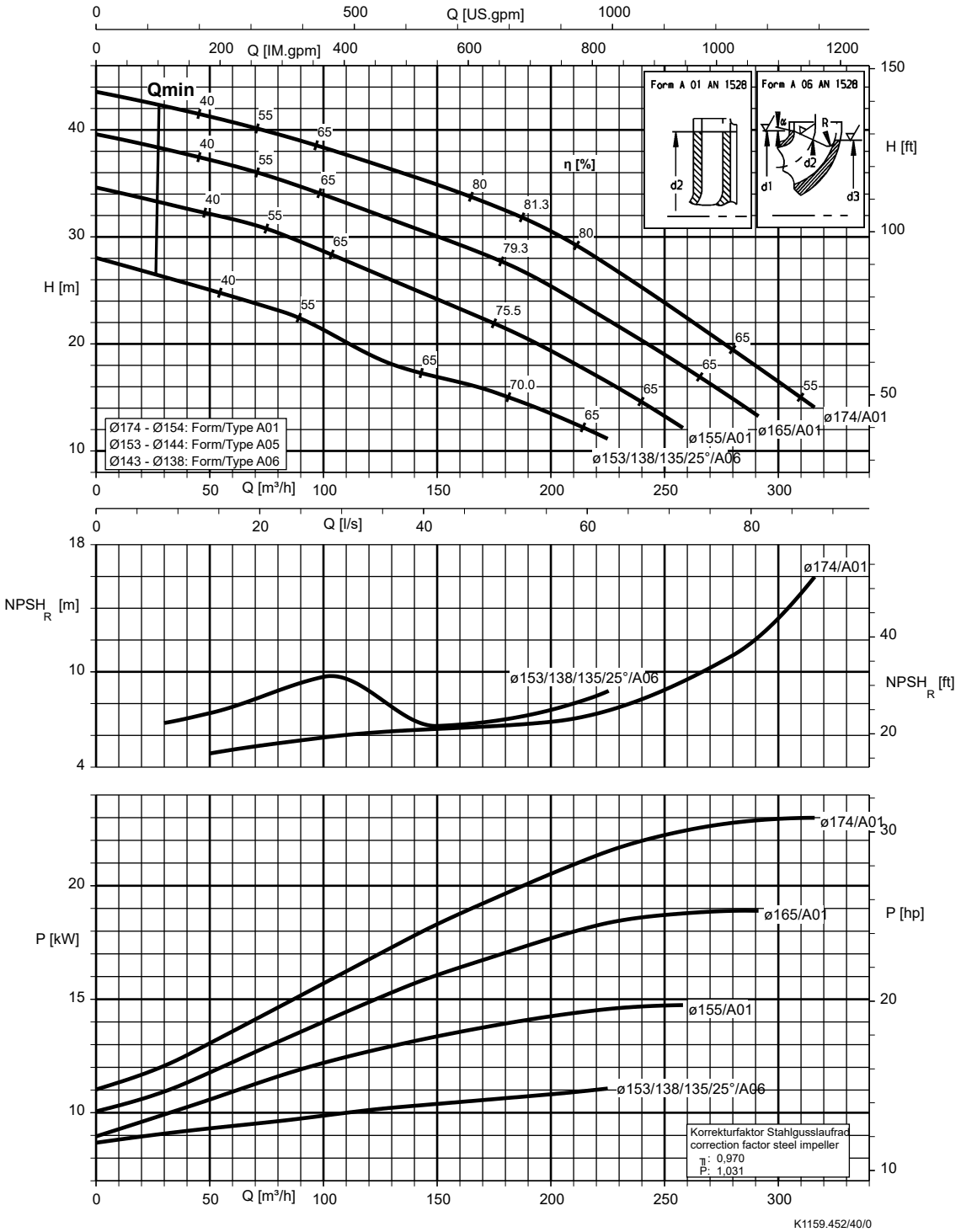
Etaline 080-080-200, n = 2900 rpm



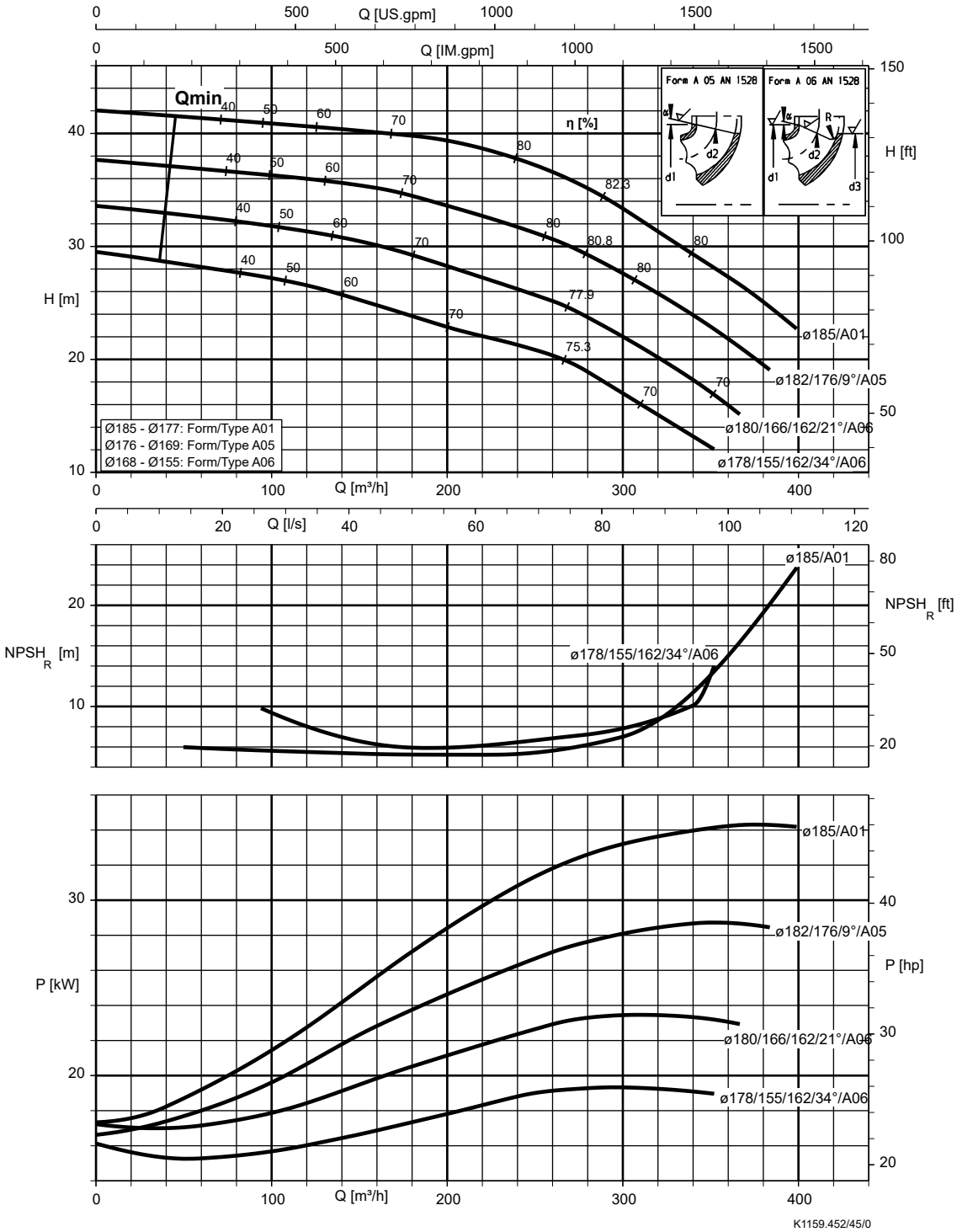
Etaline 100-100-125, n = 2900 rpm



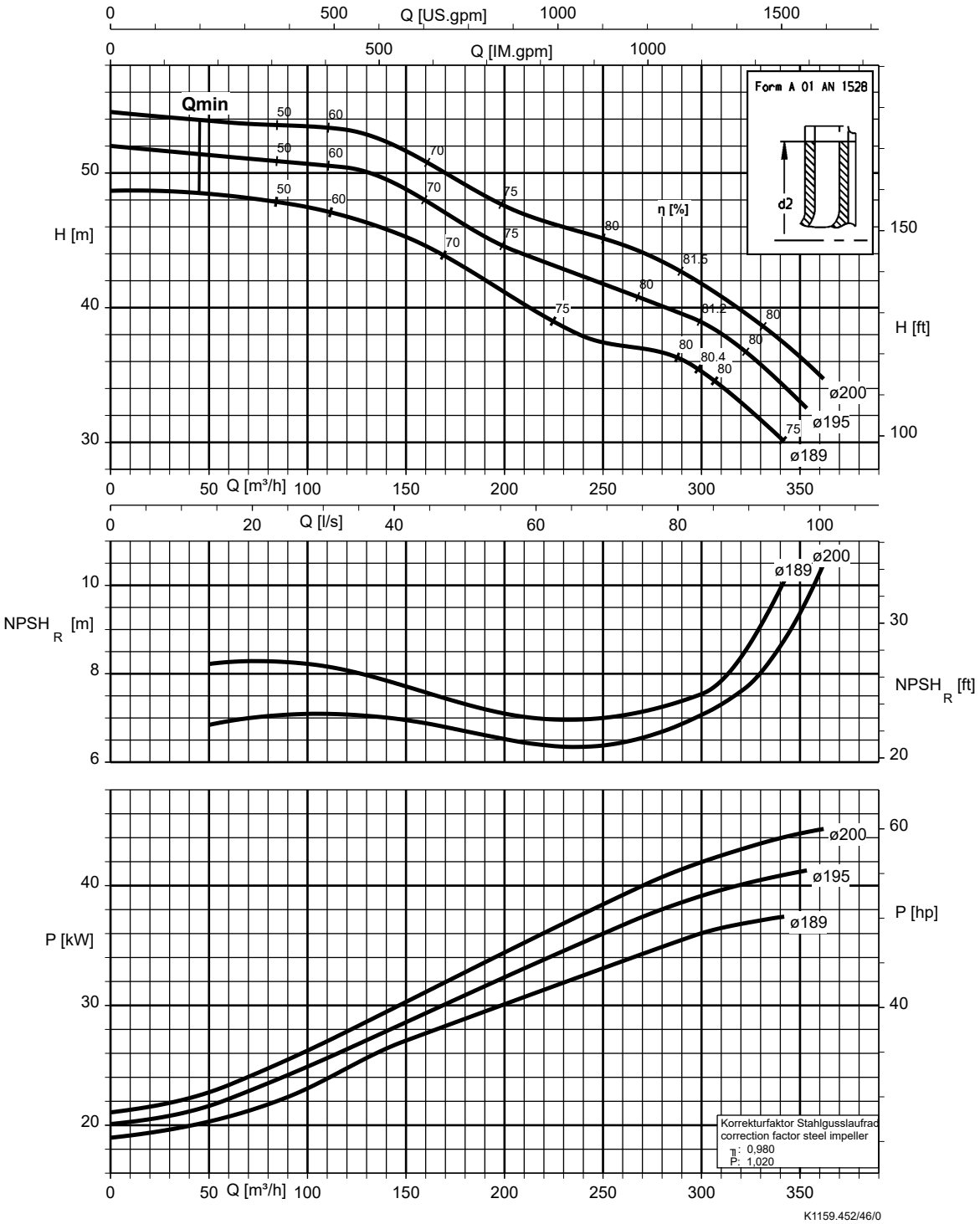
Etaline 100-100-160, n = 2900 rpm



Etaline 125-125-160, n = 2900 rpm

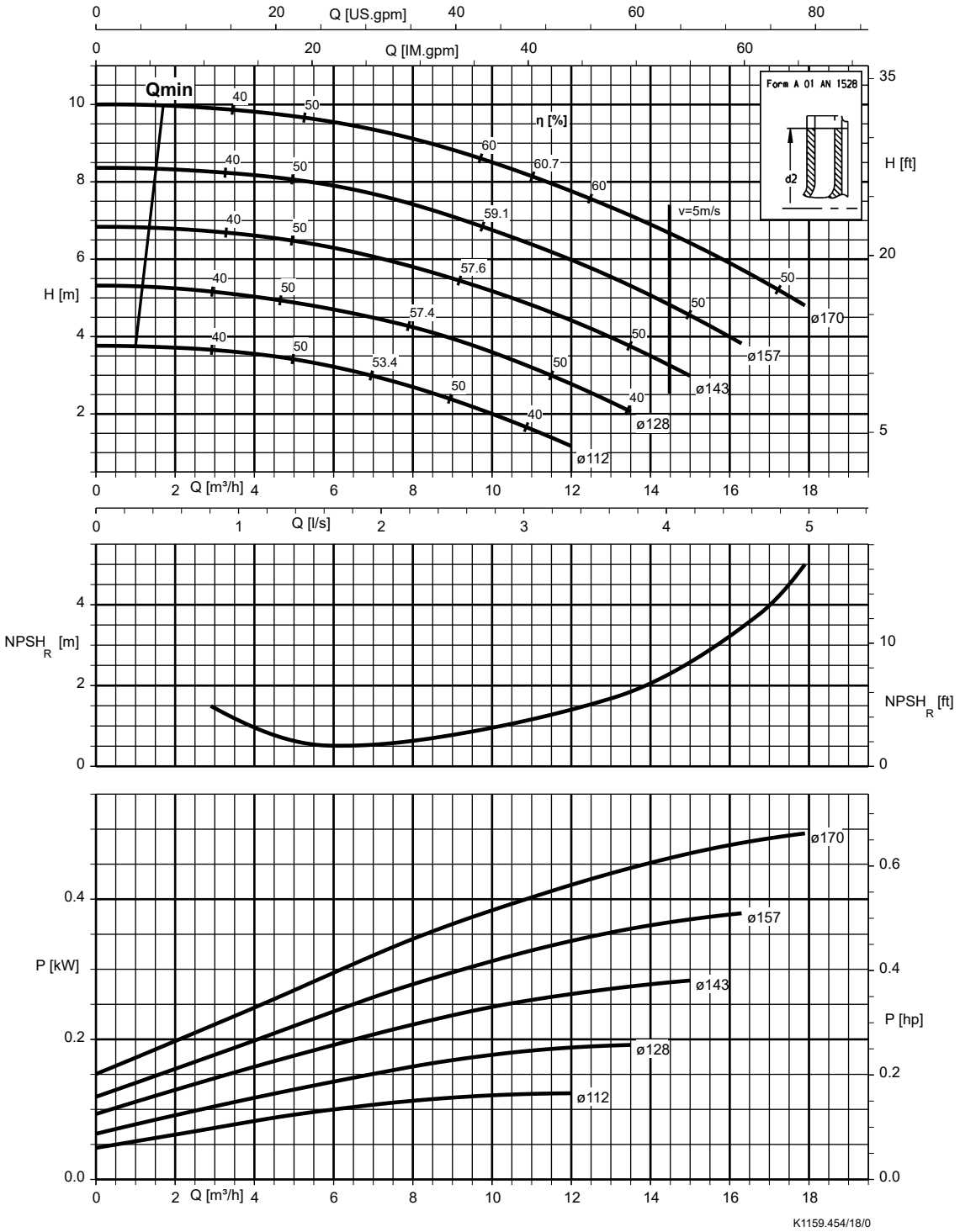


Etaline 125-125-200, n = 2900 rpm

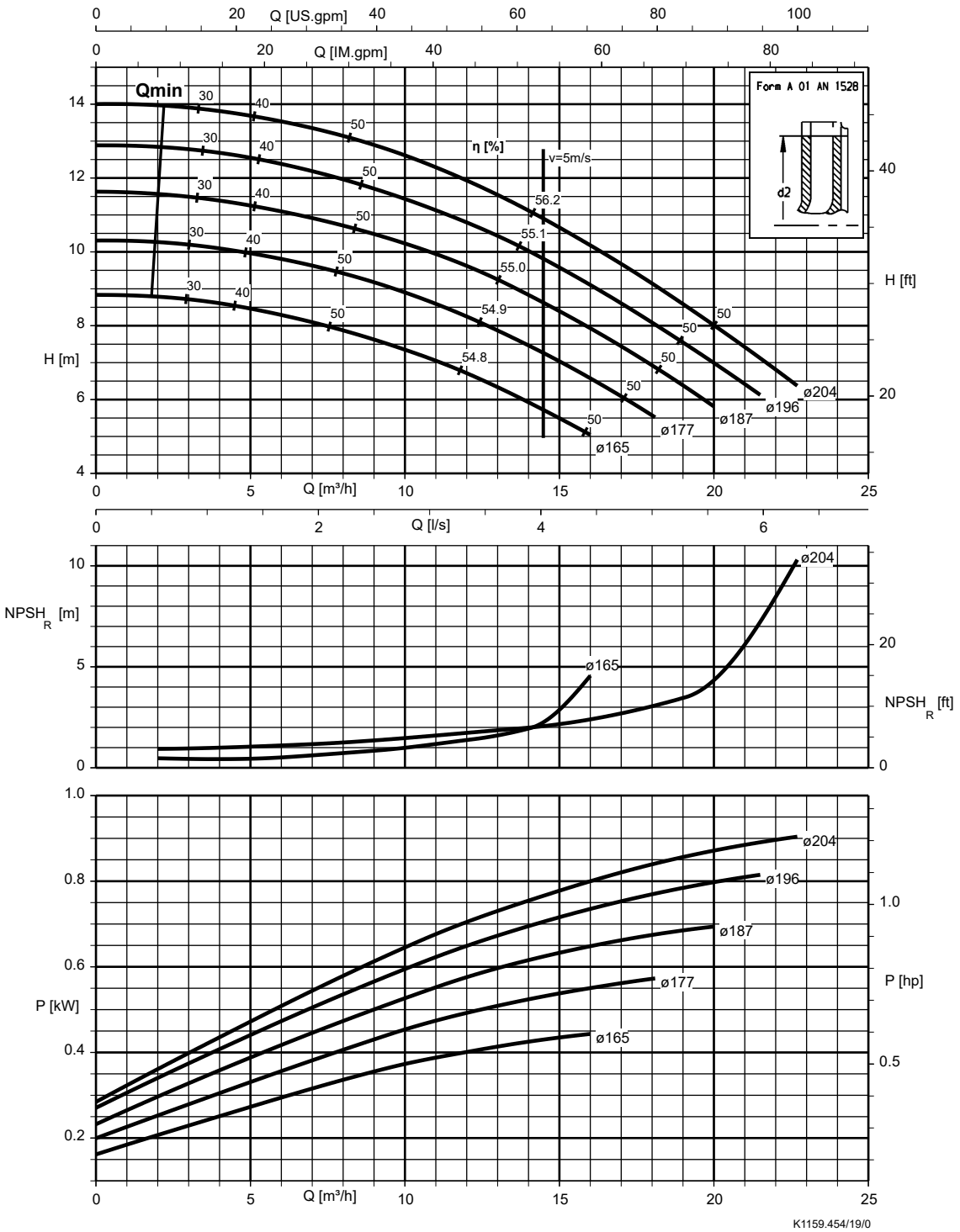


Etaline (fixed speed version), n = 1450 rpm

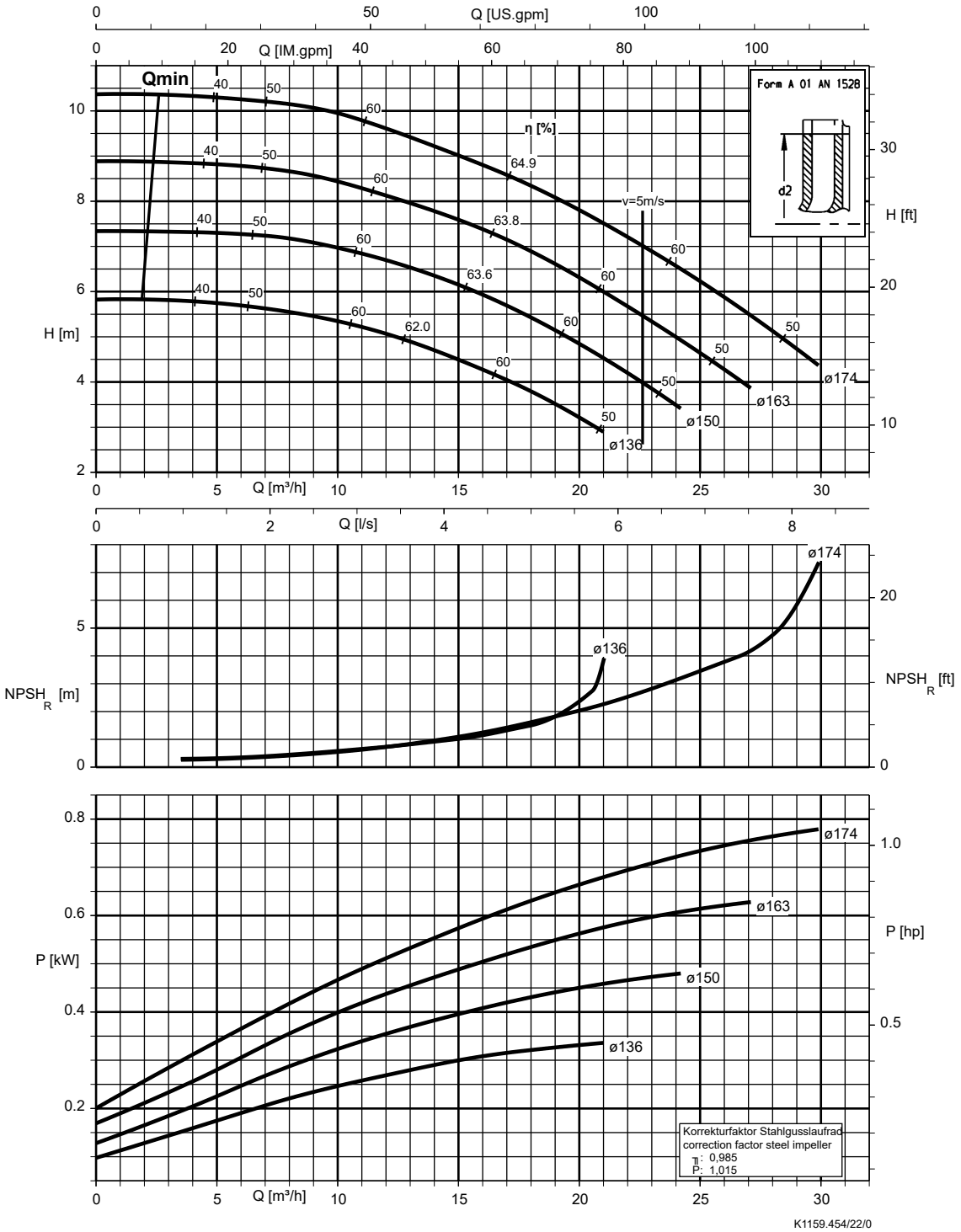
Etaline 032-032-160, n = 1450 rpm



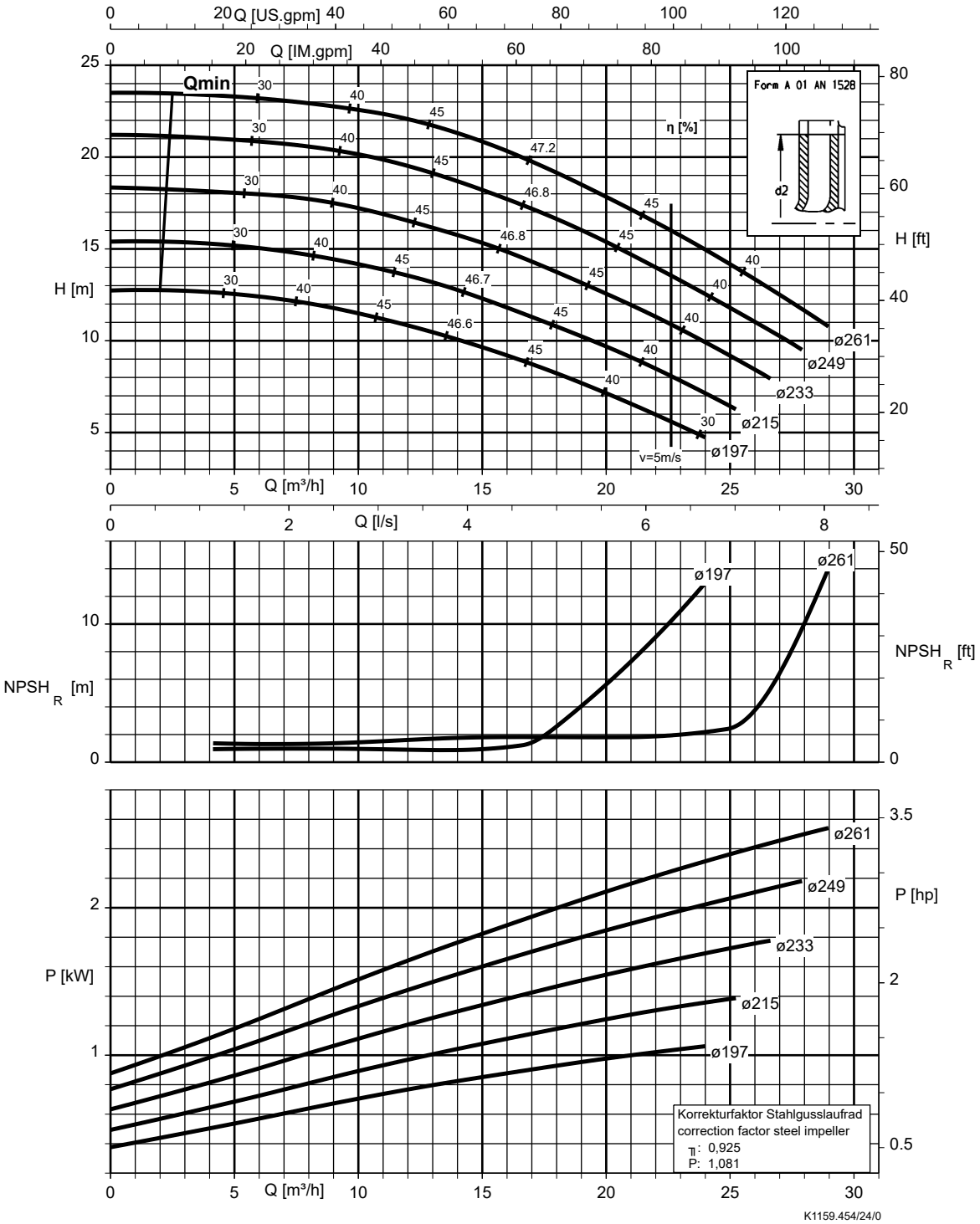
Etaline 032-032-200, n = 1450 rpm



Etaline 040-040-160, n = 1450 rpm



Etaline 040-040-250, n = 1450 rpm



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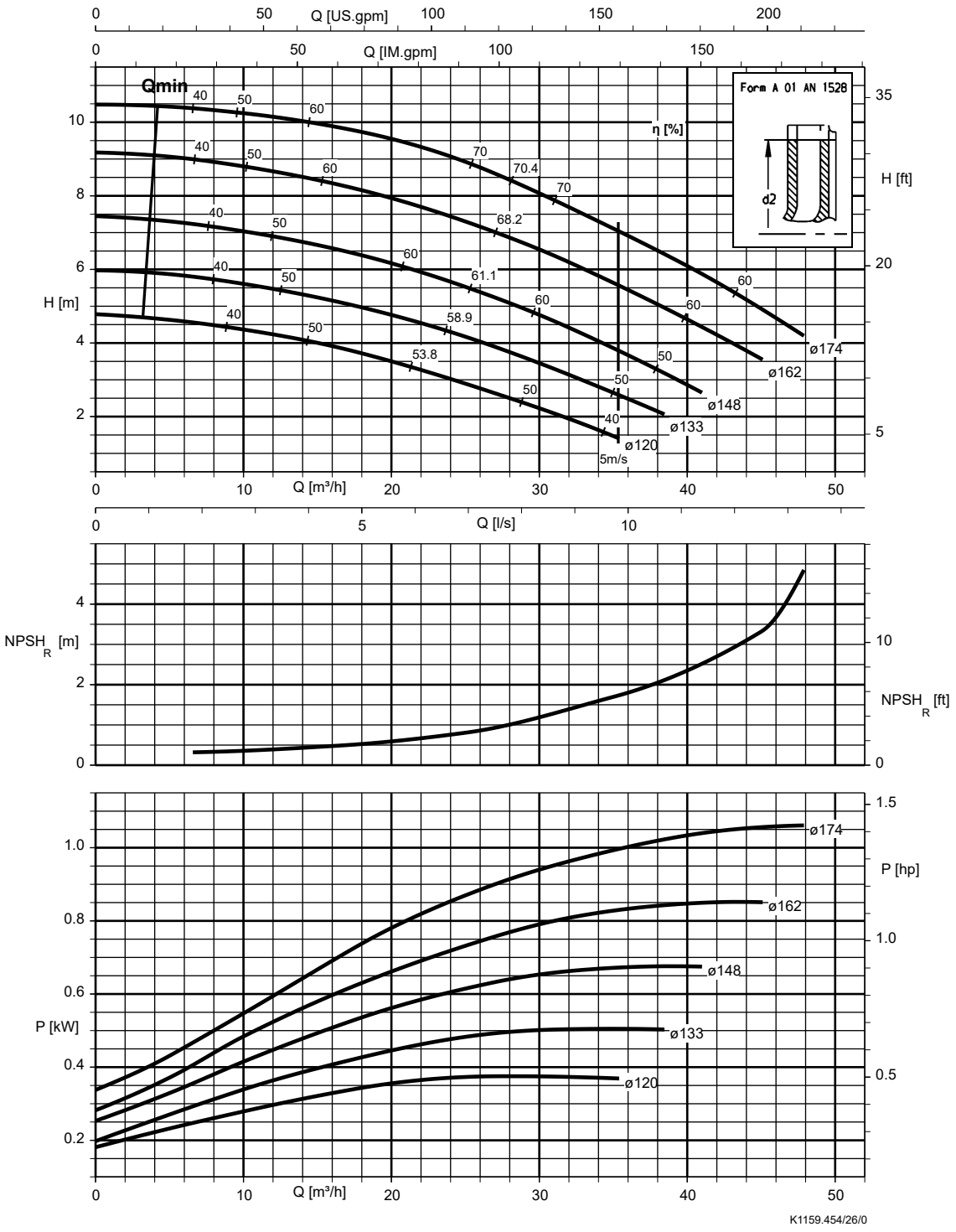
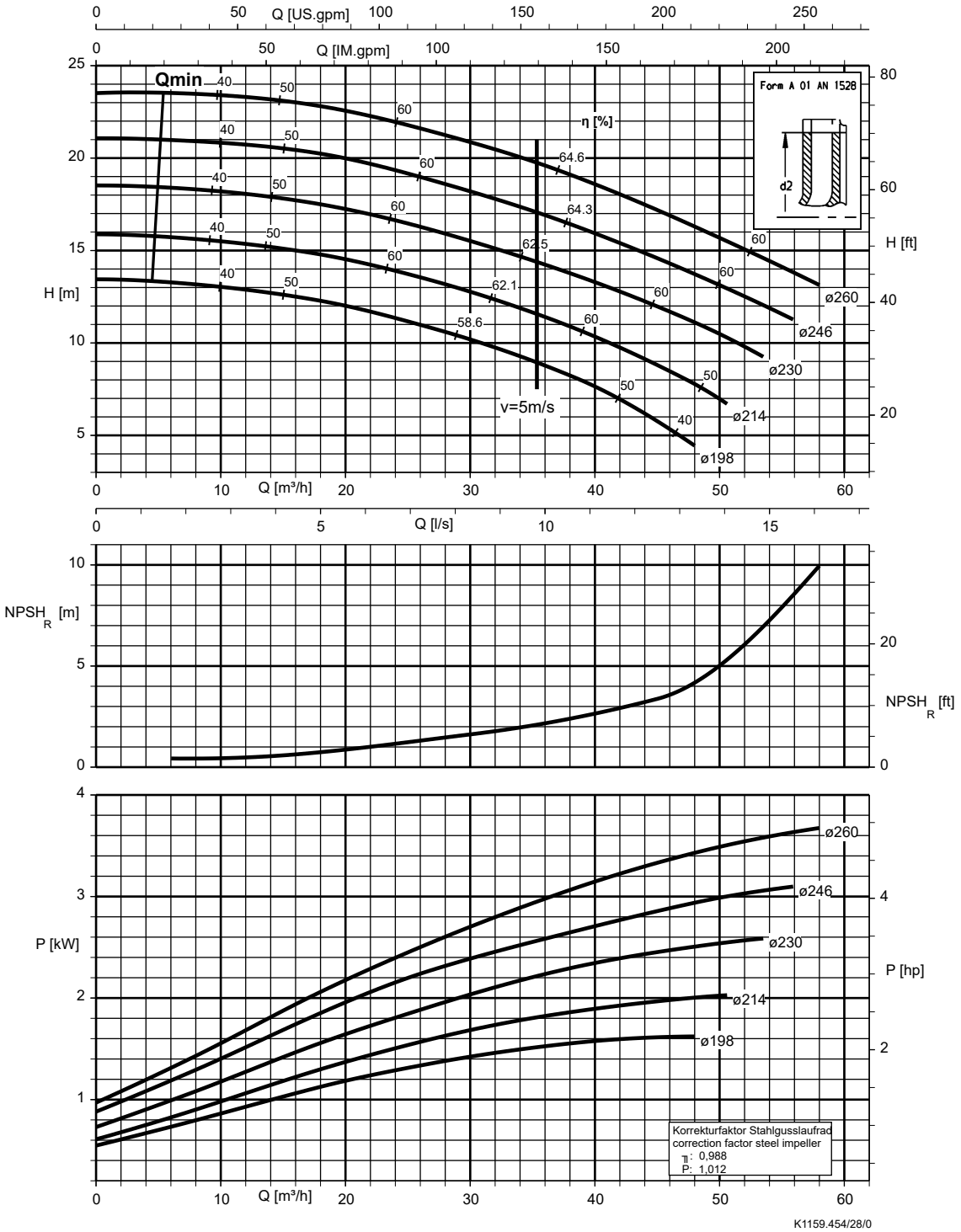
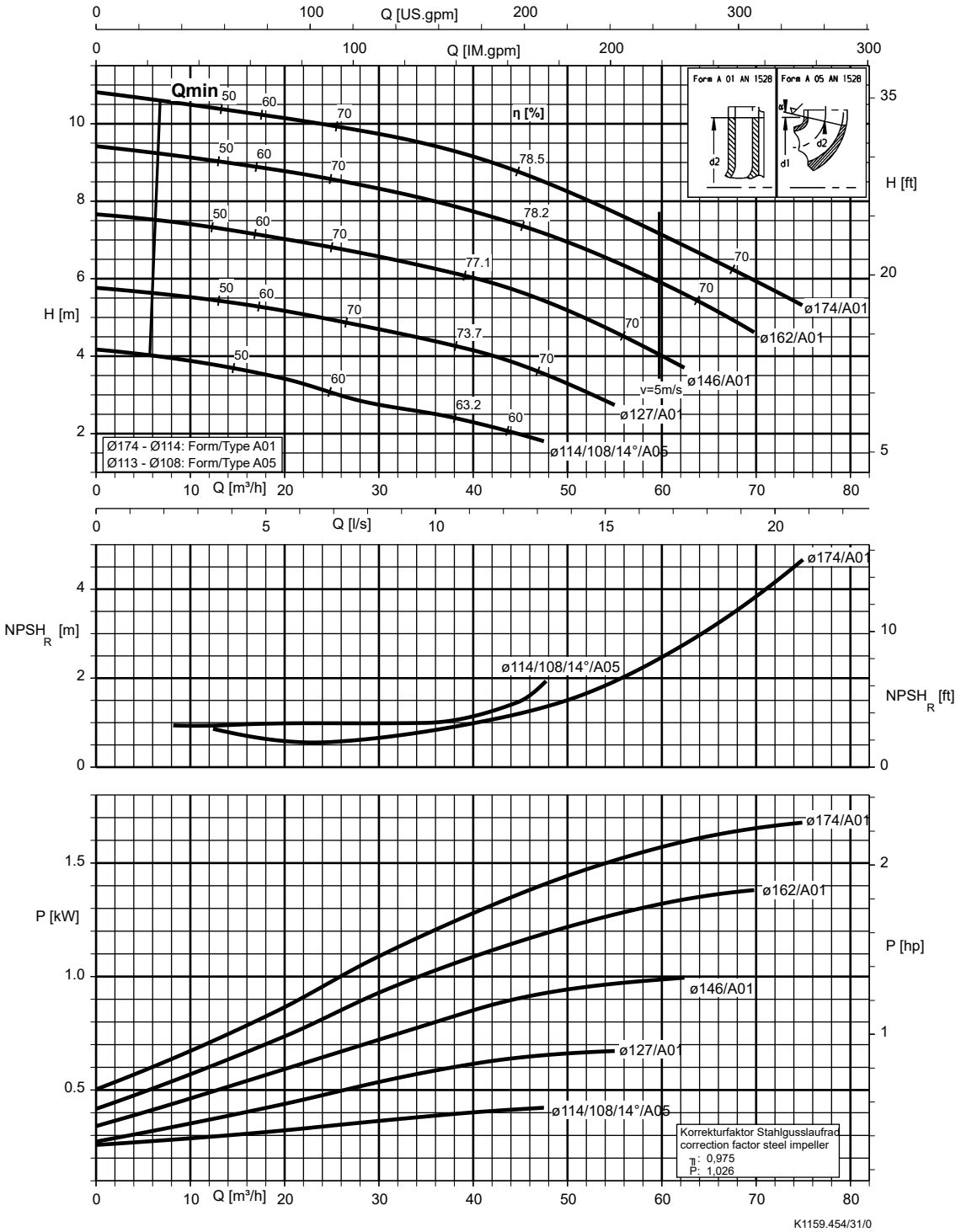
Etaline 050-050-160, n = 1450 rpm



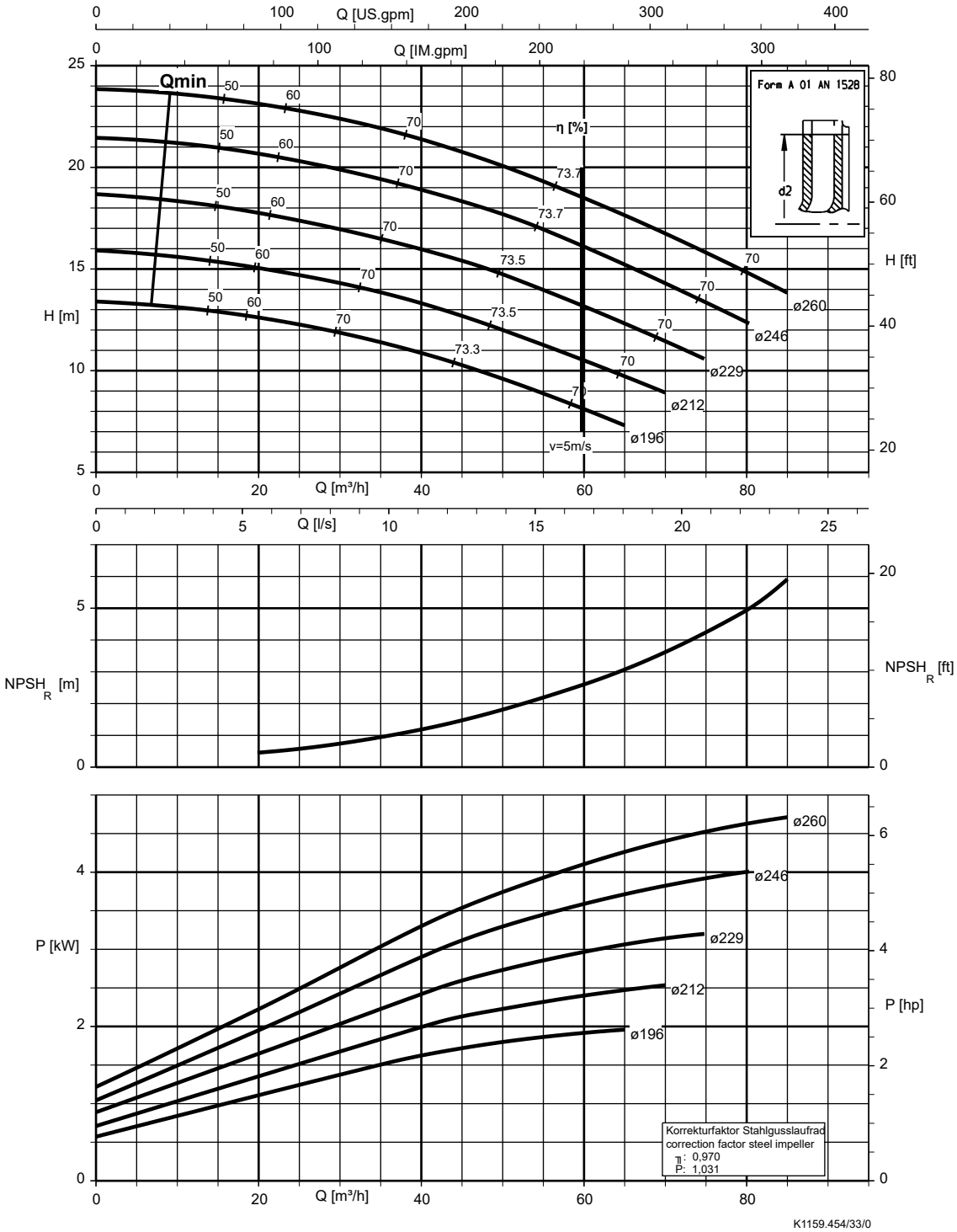
Etaline 050-050-250, n = 1450 rpm



Etaline 065-065-160, n = 1450 rpm



Etaline 065-065-250, n = 1450 rpm



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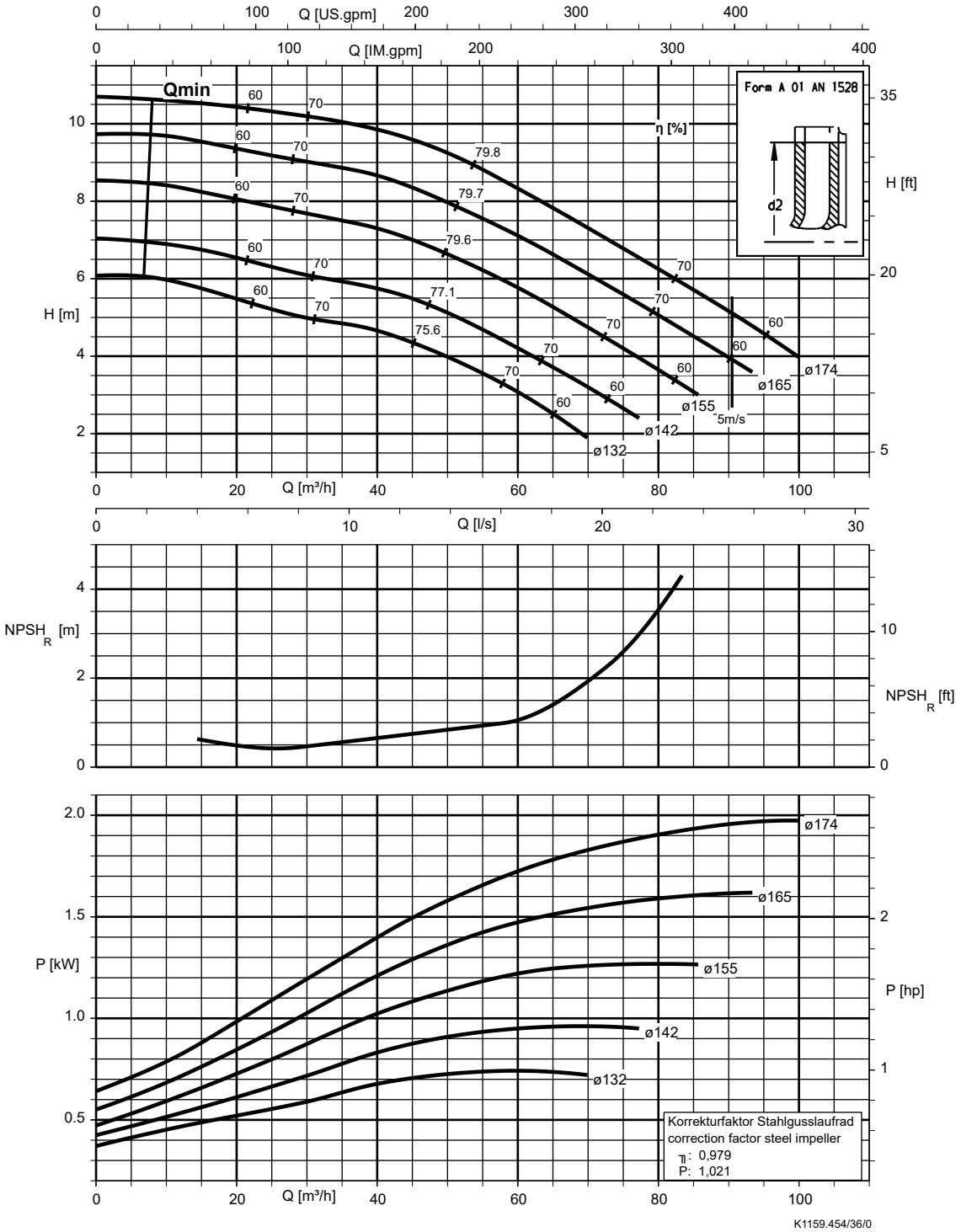
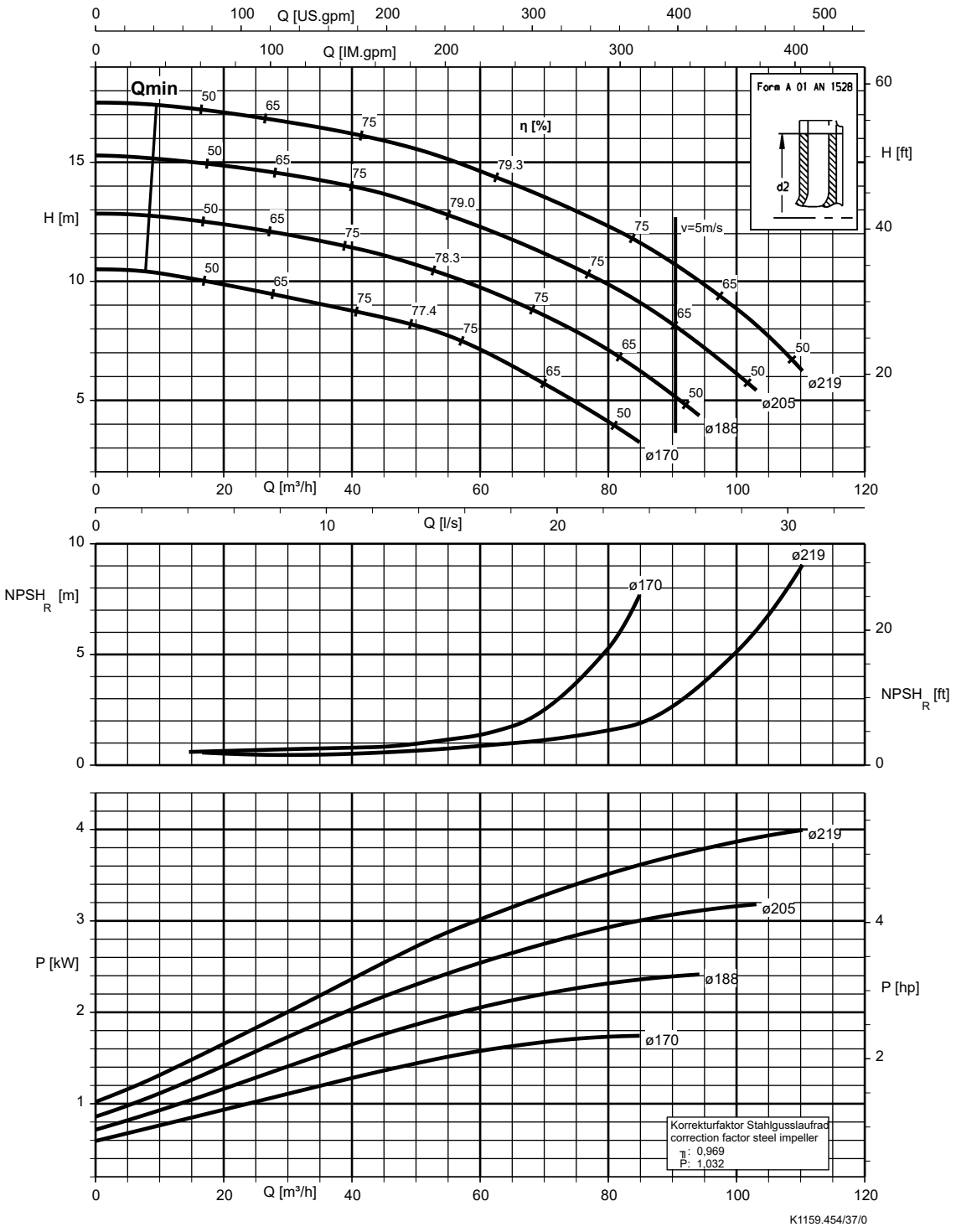
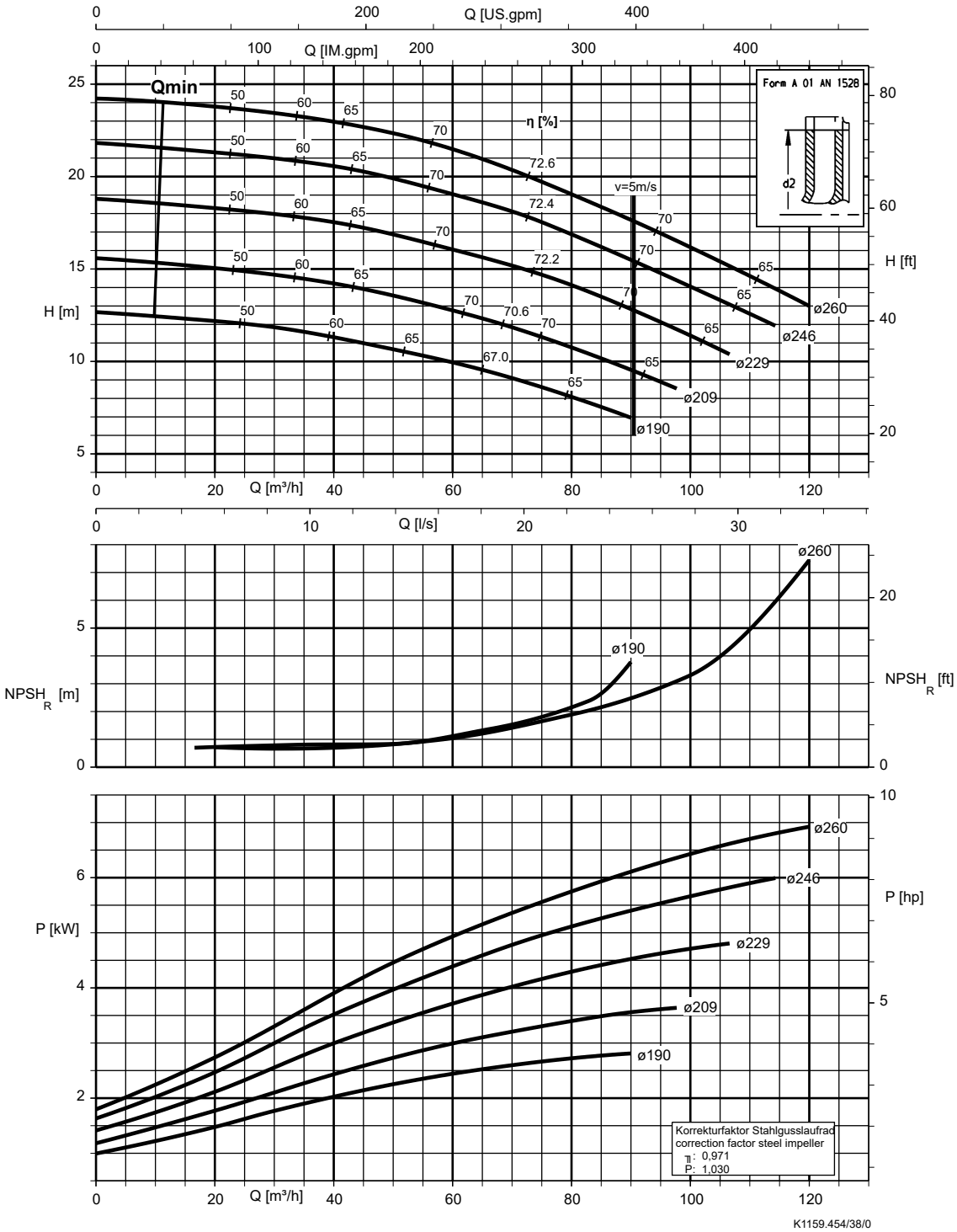
Etaline 080-080-160, n = 1450 rpm



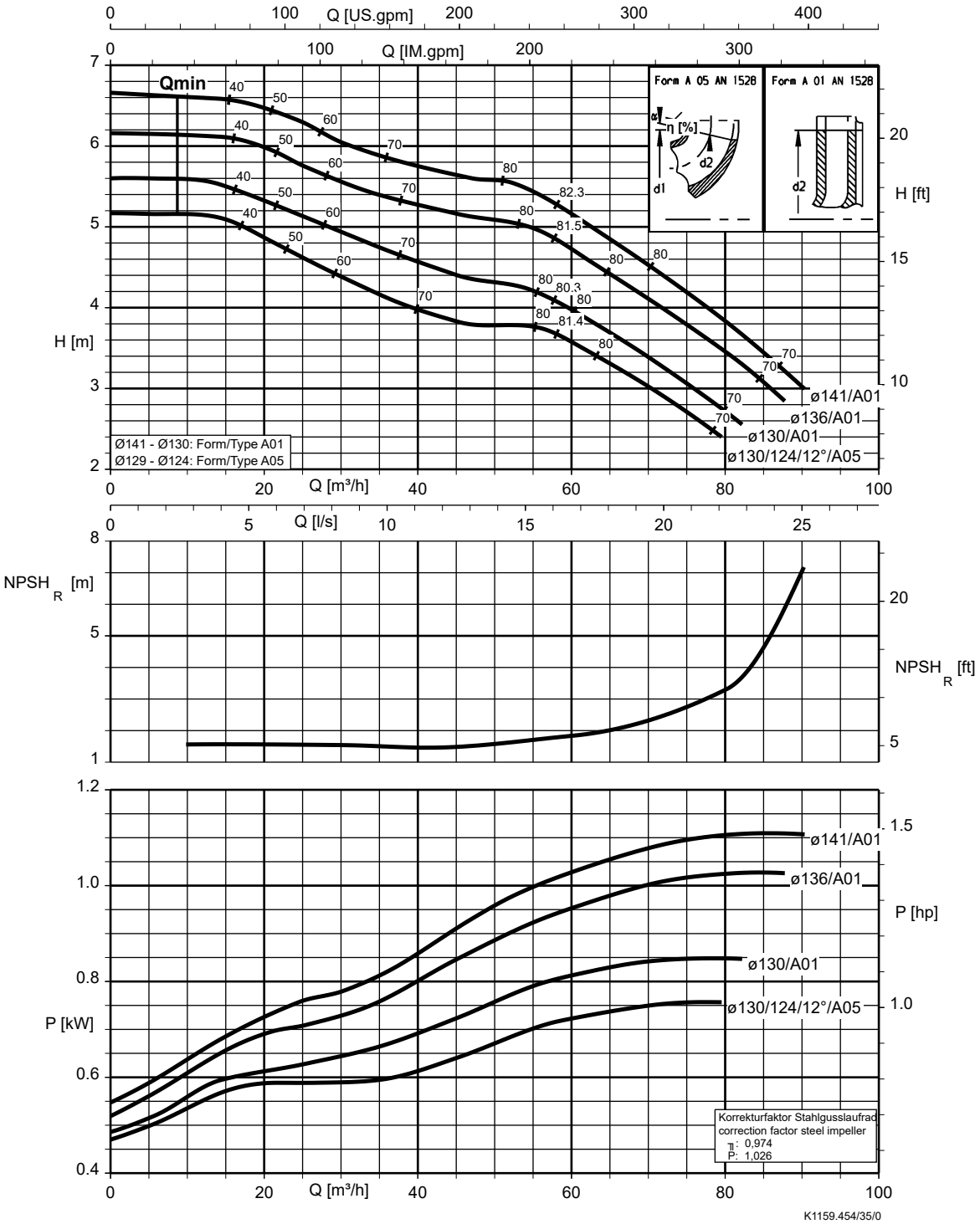
Etaline 080-080-200, n = 1450 rpm



Etaline 080-080-250, n = 1450 rpm



Etaline 100-100-125, n = 1450 rpm



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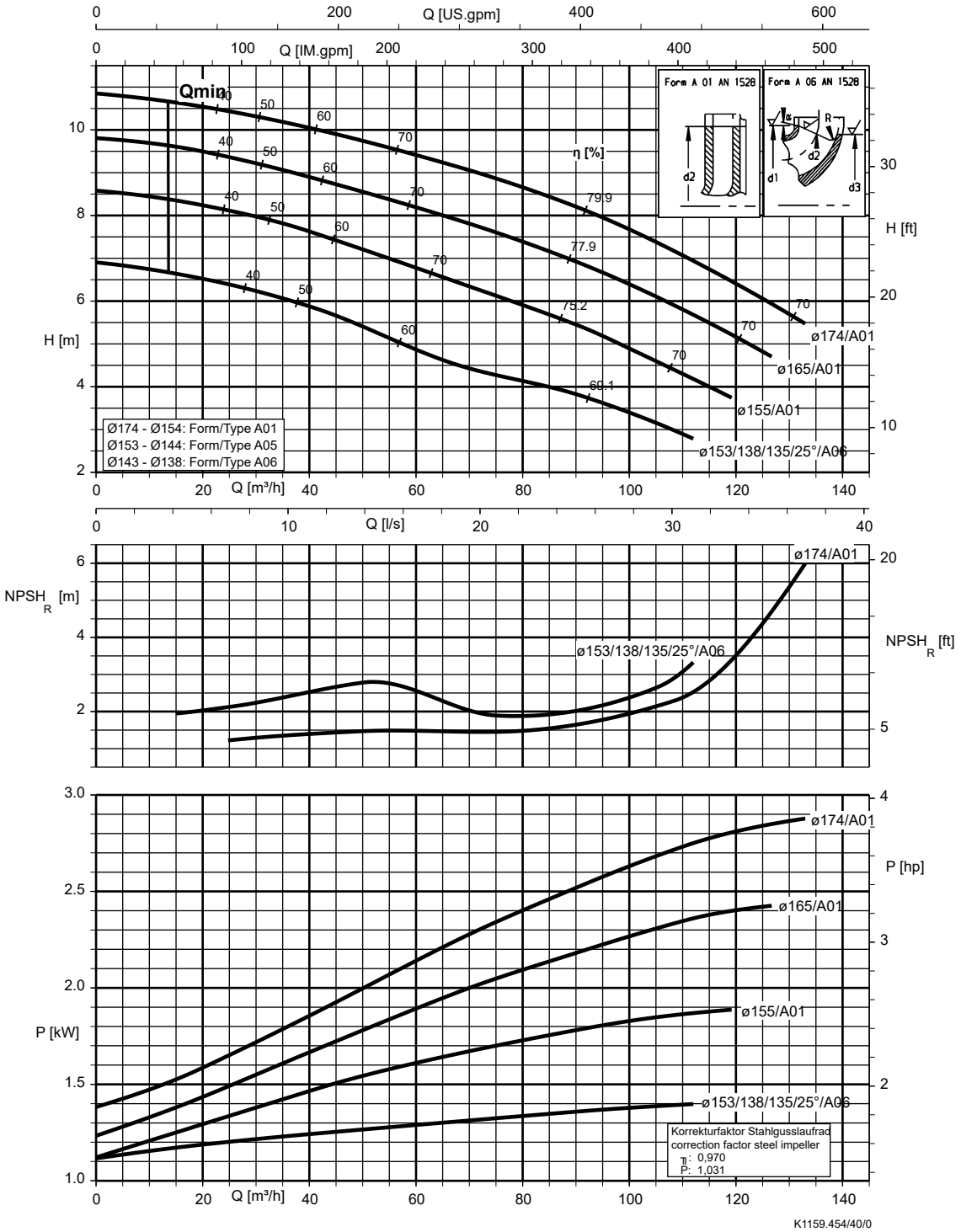
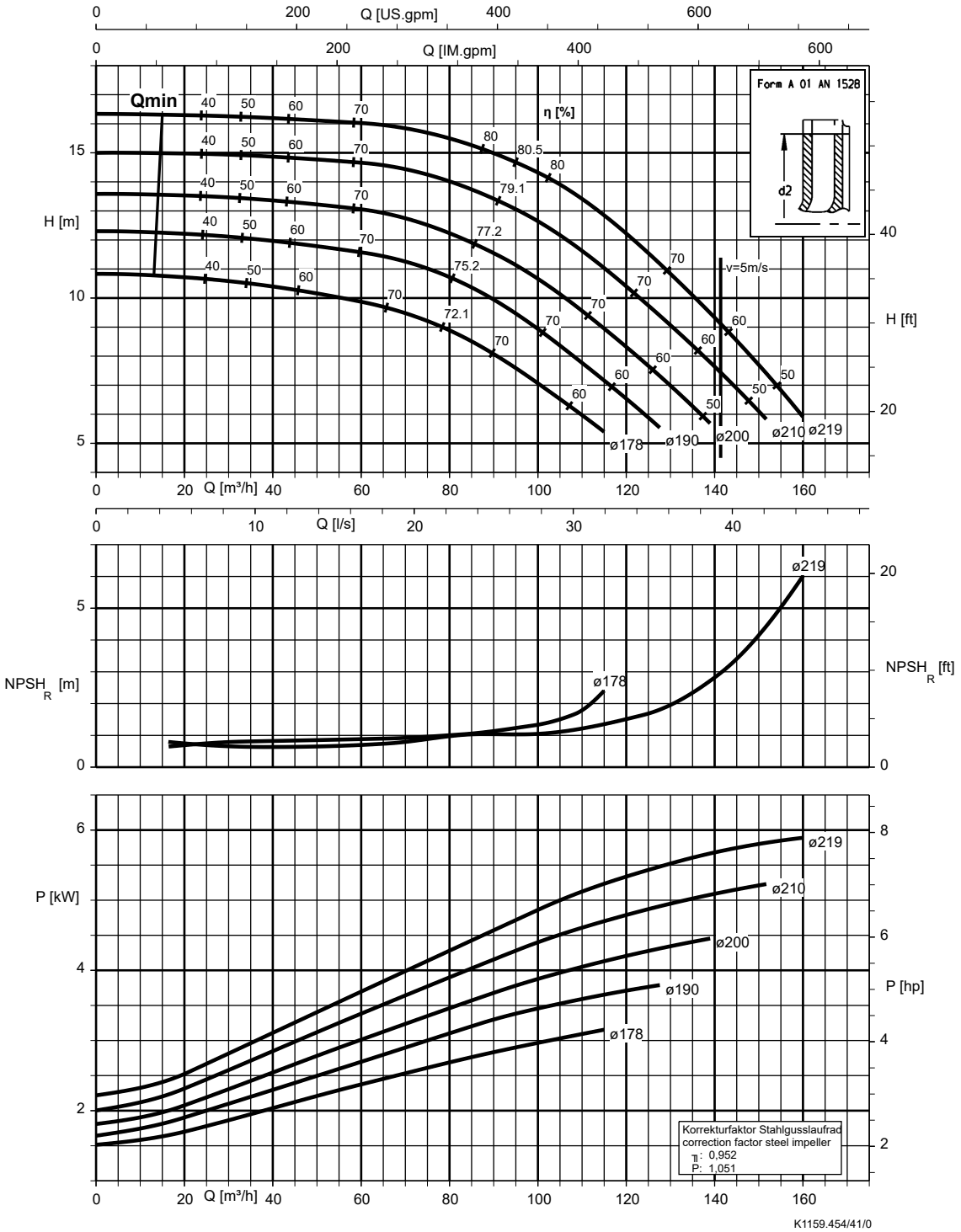
Etaline 100-100-160, n = 1450 rpm



Etaline 100-100-200, n = 1450 rpm



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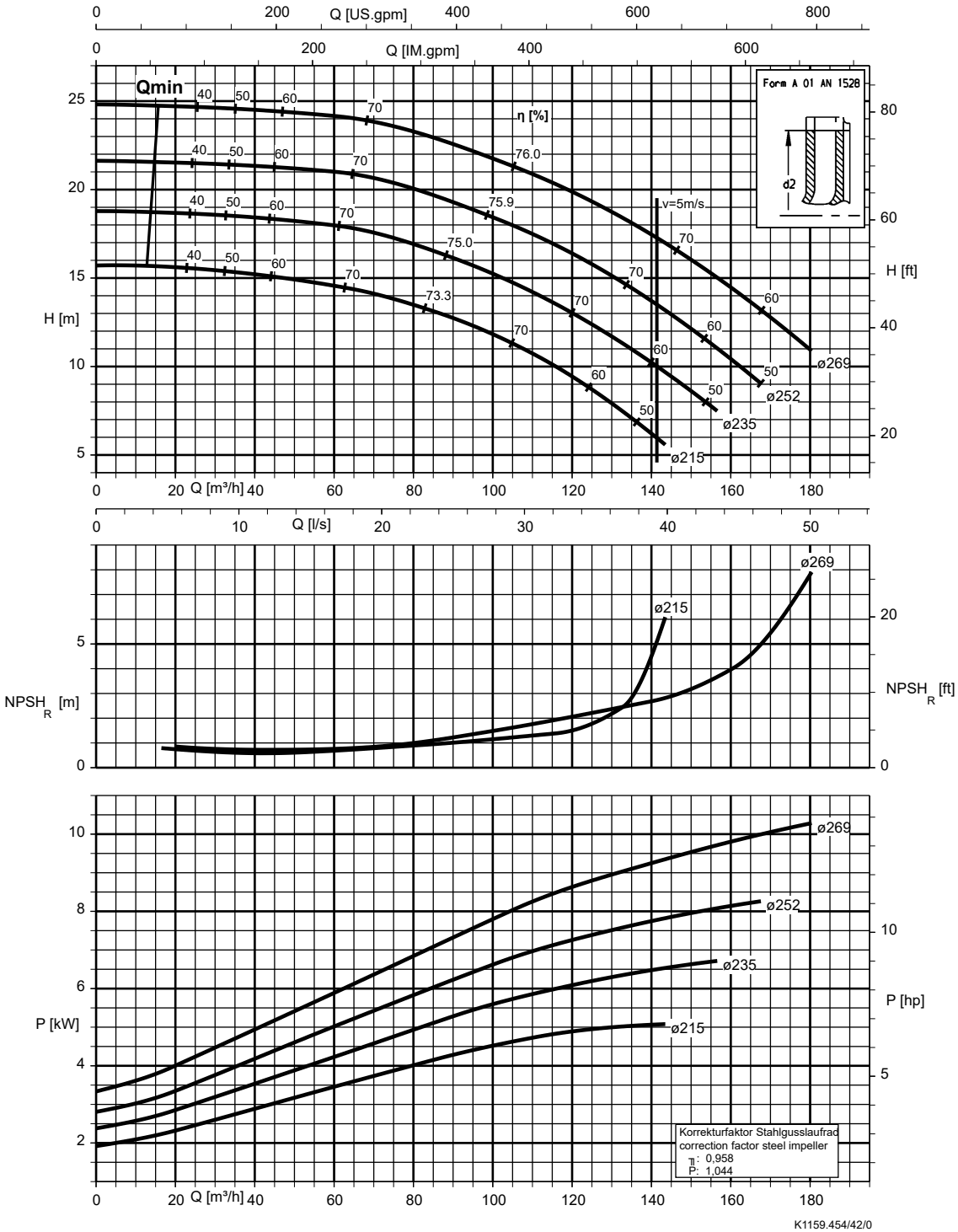
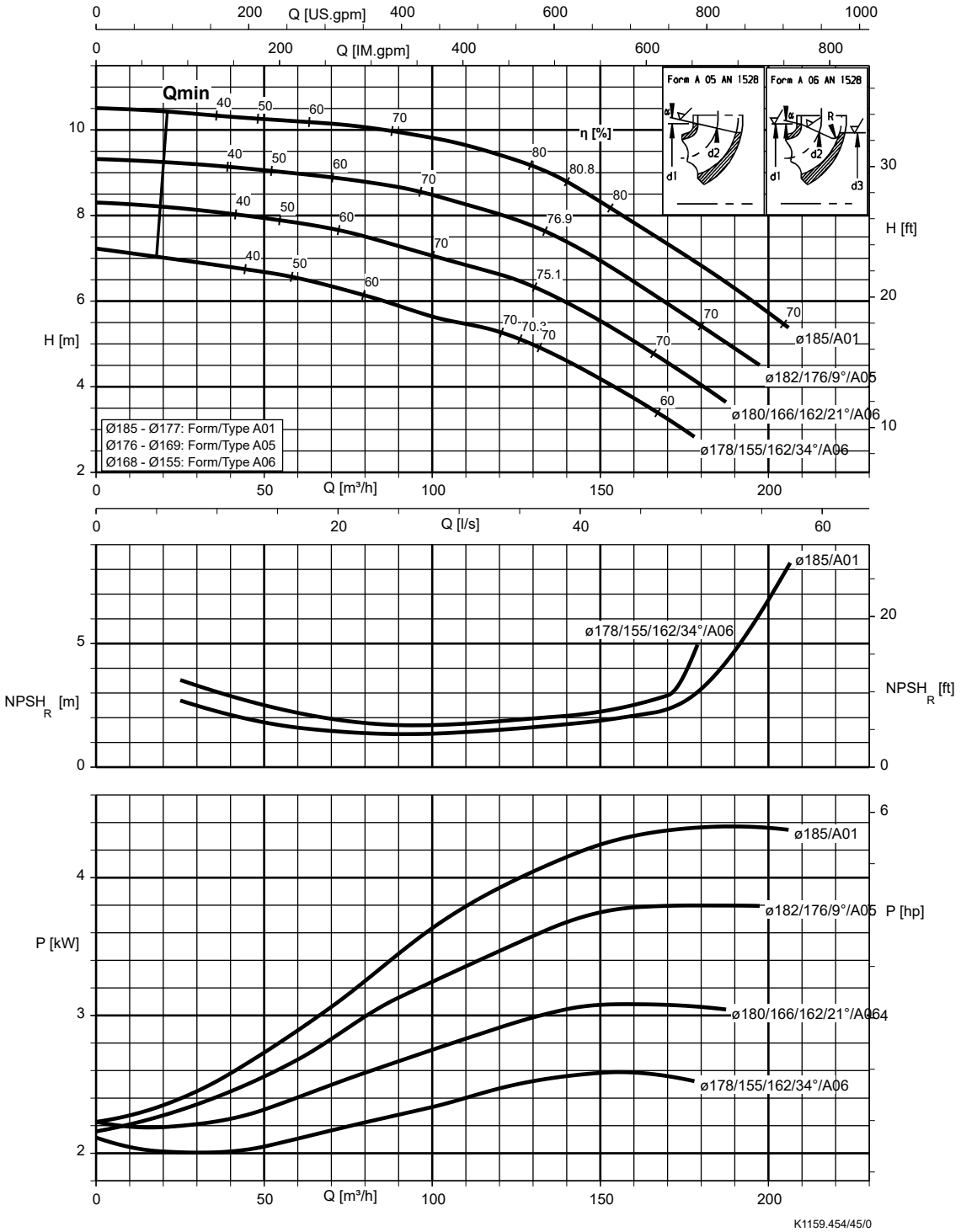
Etaline 100-100-250, n = 1450 rpm



Etaline 125-125-160, n = 1450 rpm



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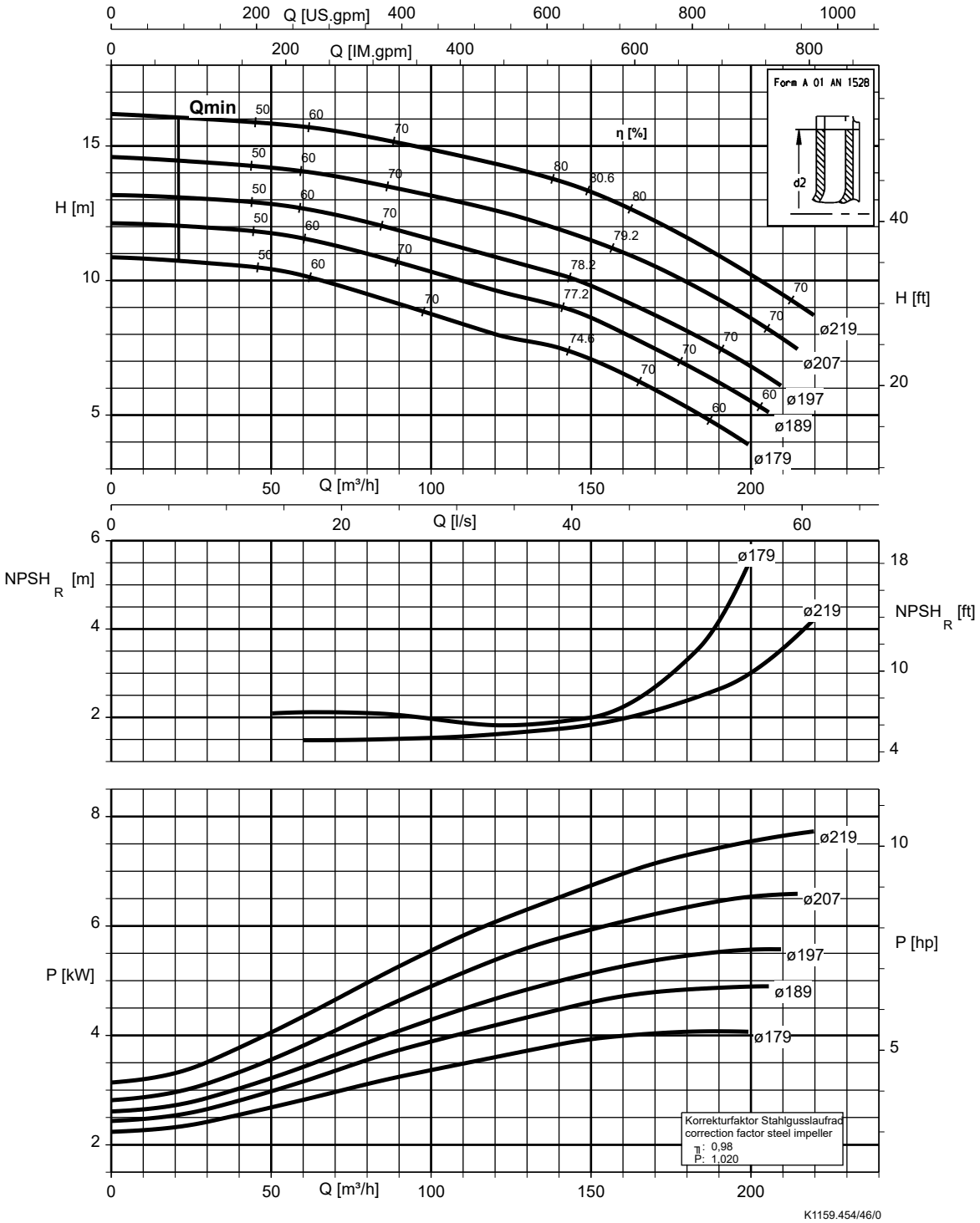
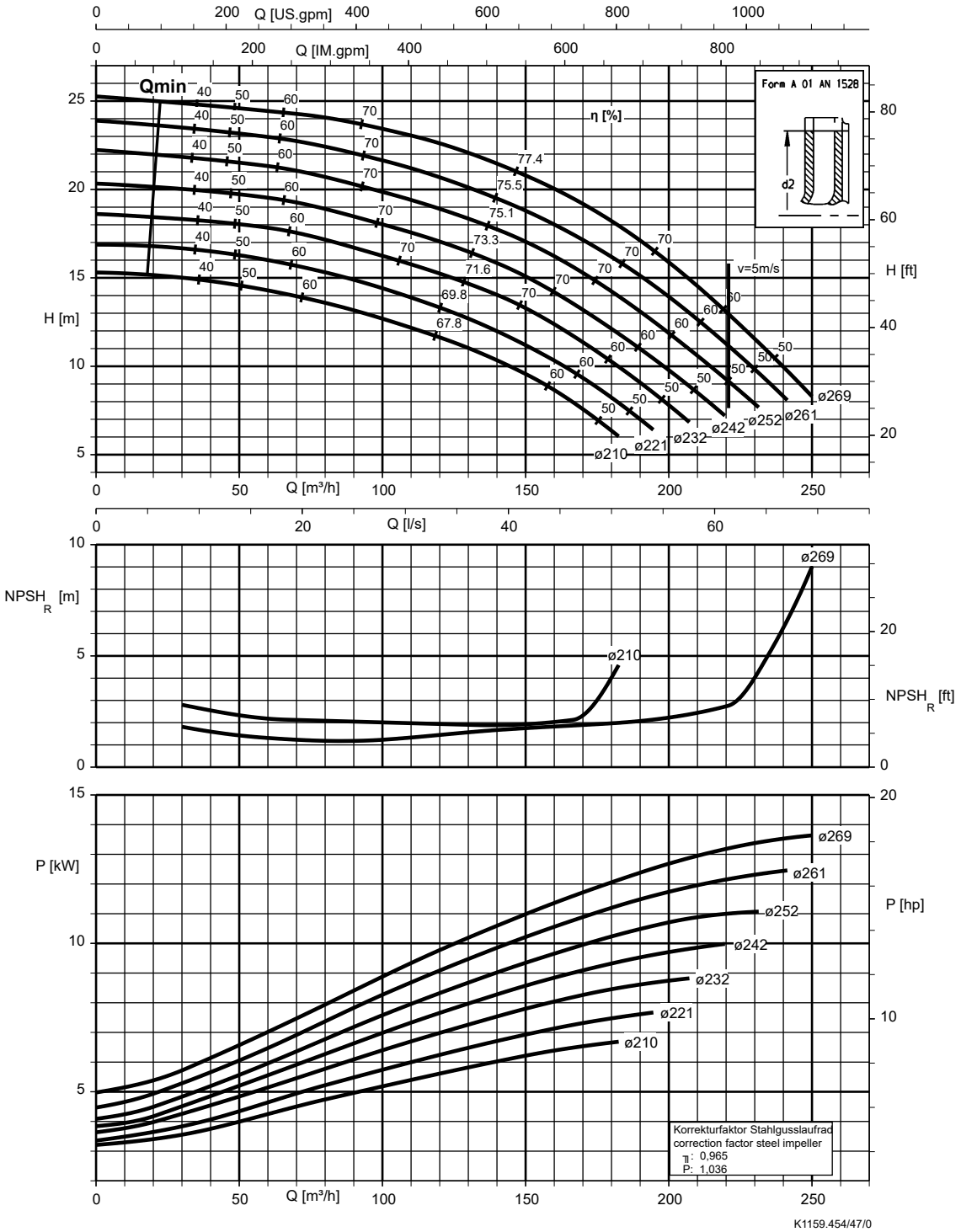
Etaline 125-125-200, n = 1450 rpm



Etaline 125-125-250, n = 1450 rpm



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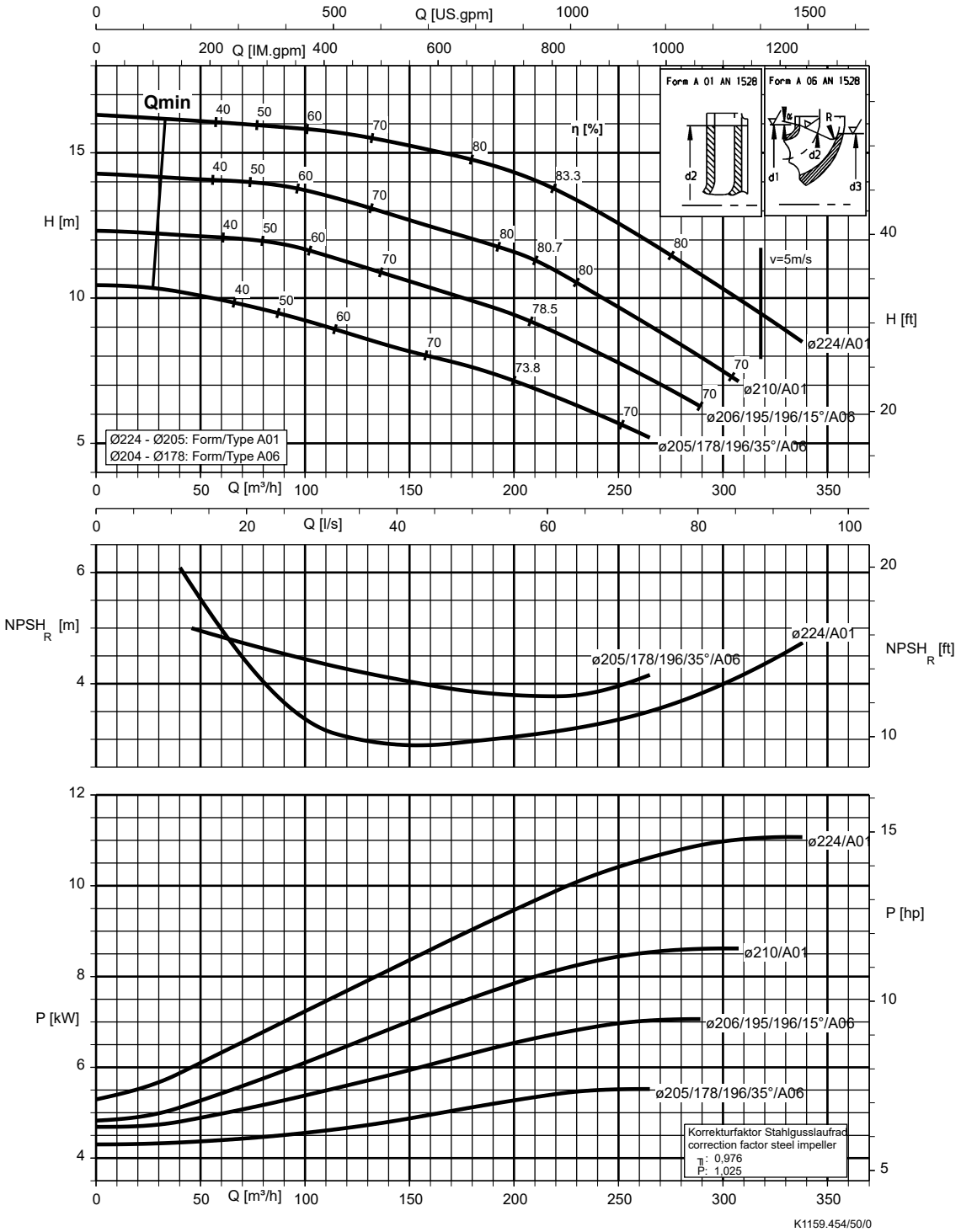
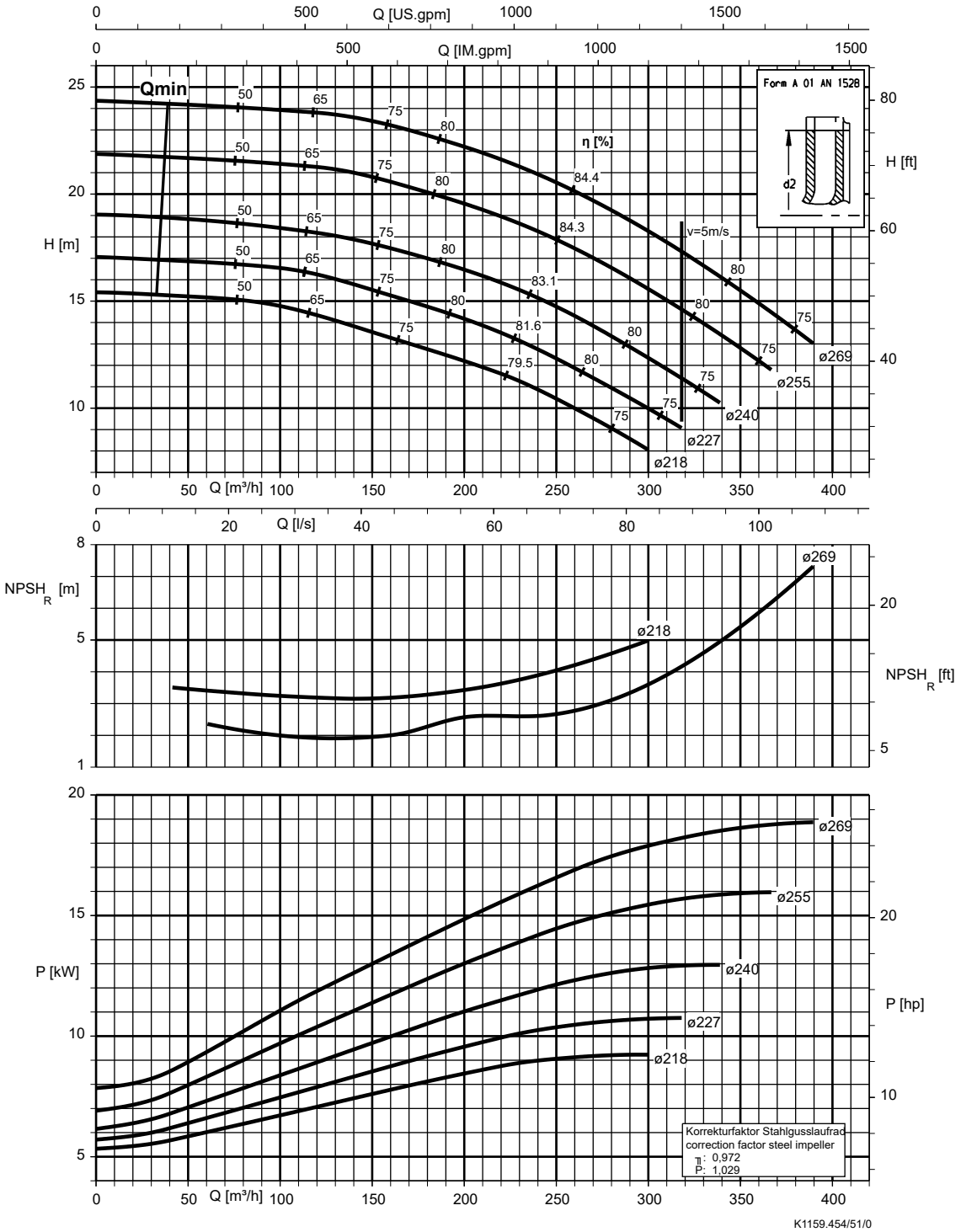
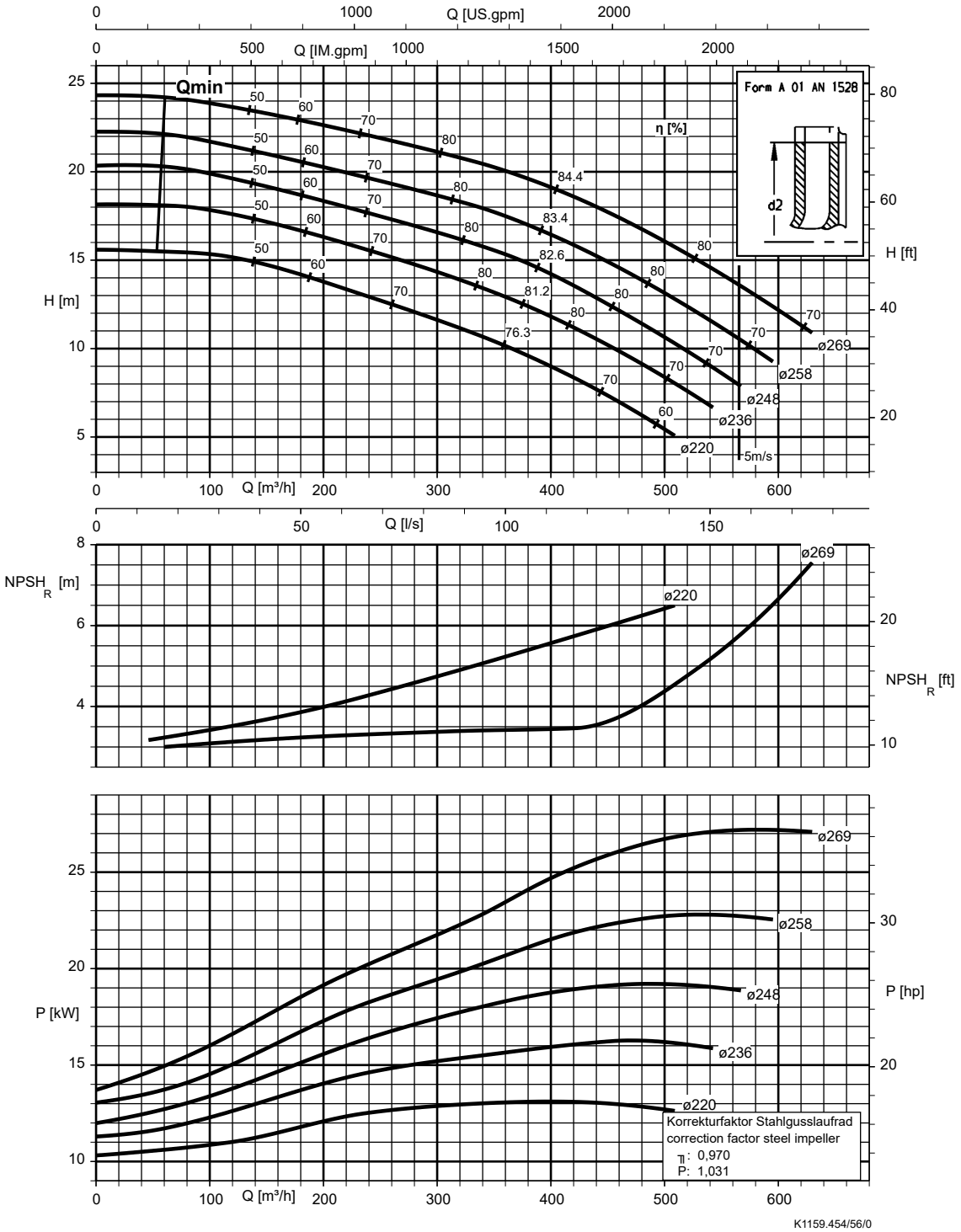
Etaline 150-150-200, n = 1450 rpm



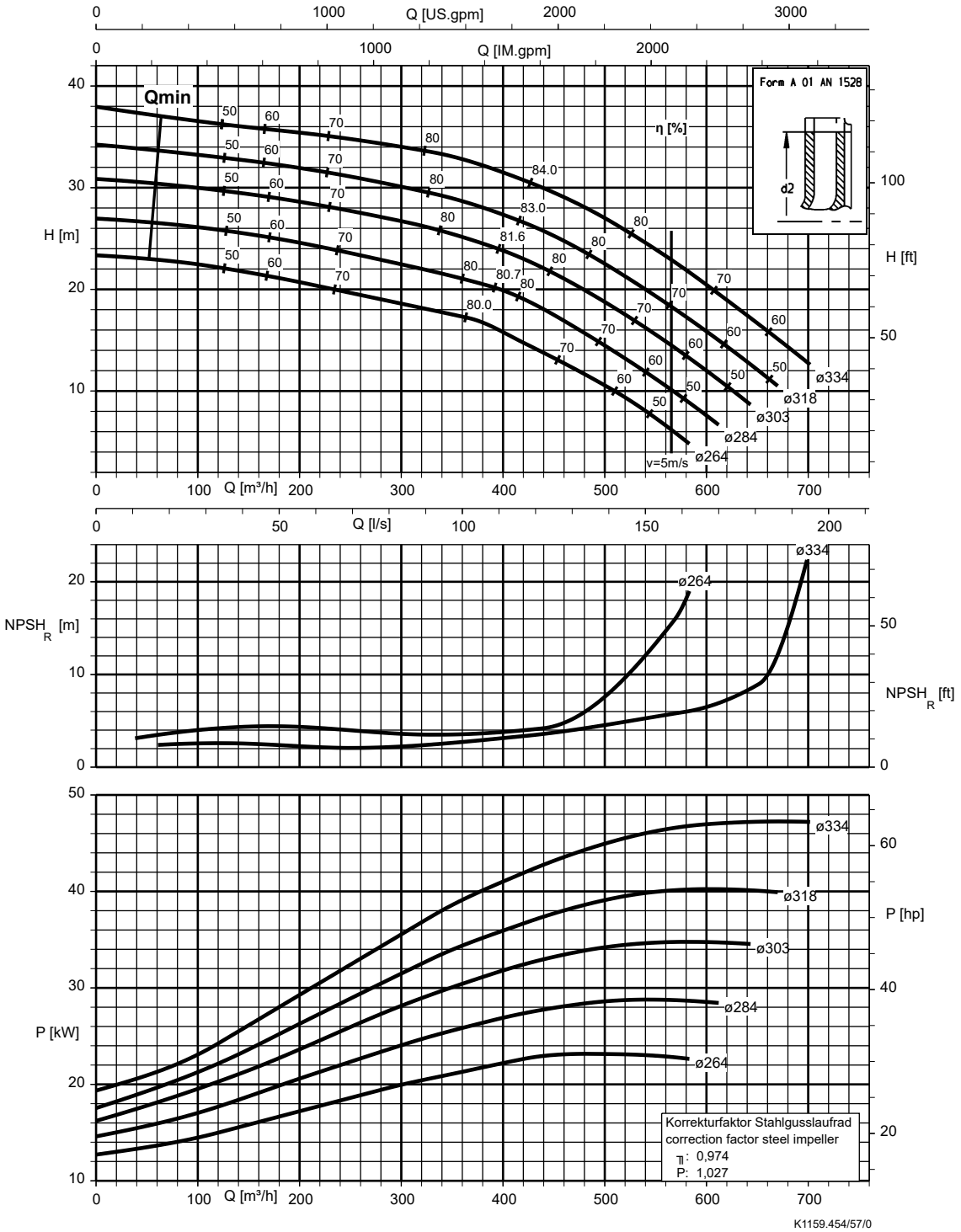
Etaline 150-150-250, n = 1450 rpm



Etaline 200-200-250, n = 1450 rpm



Etaline 200-200-315, n = 1450 rpm



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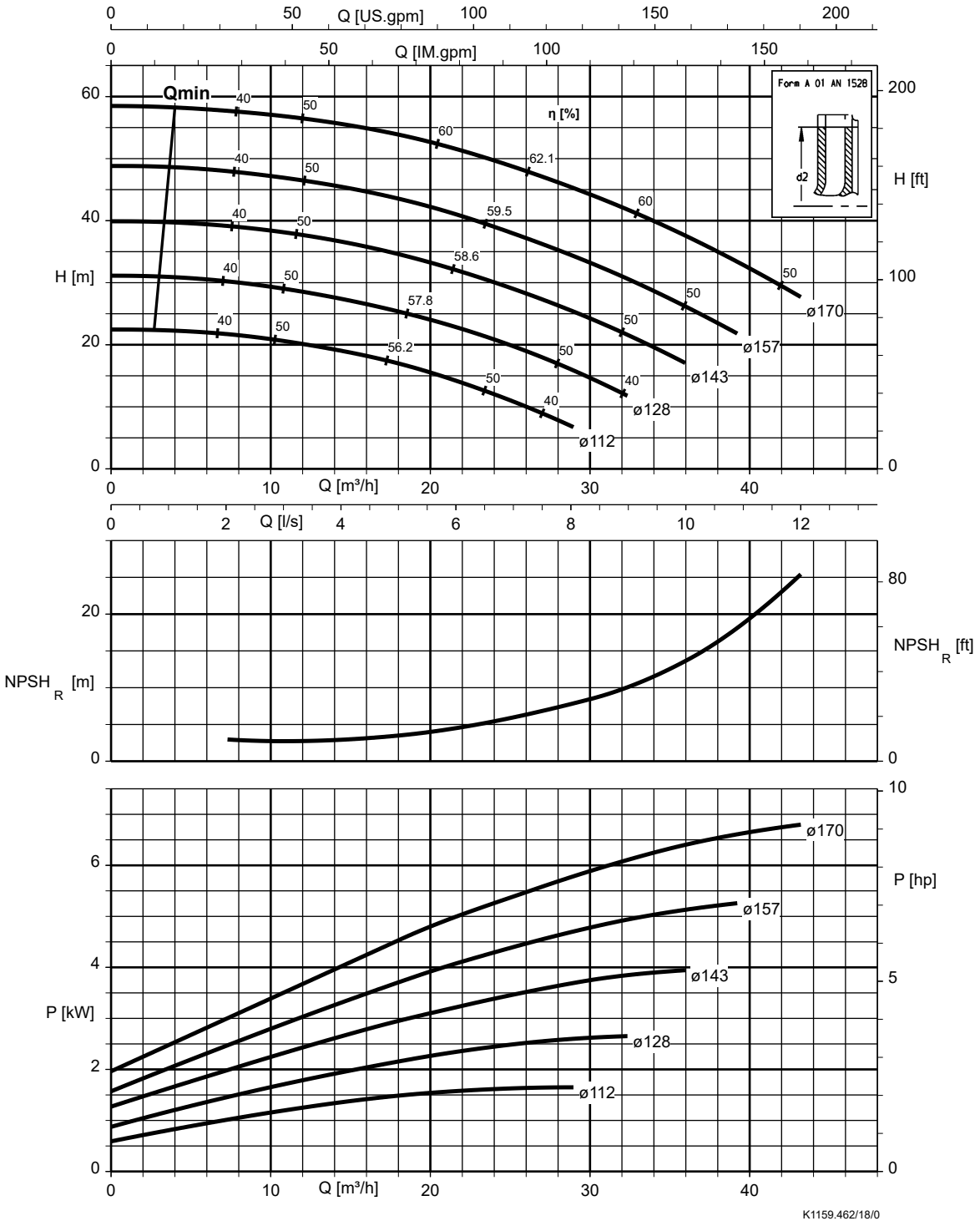
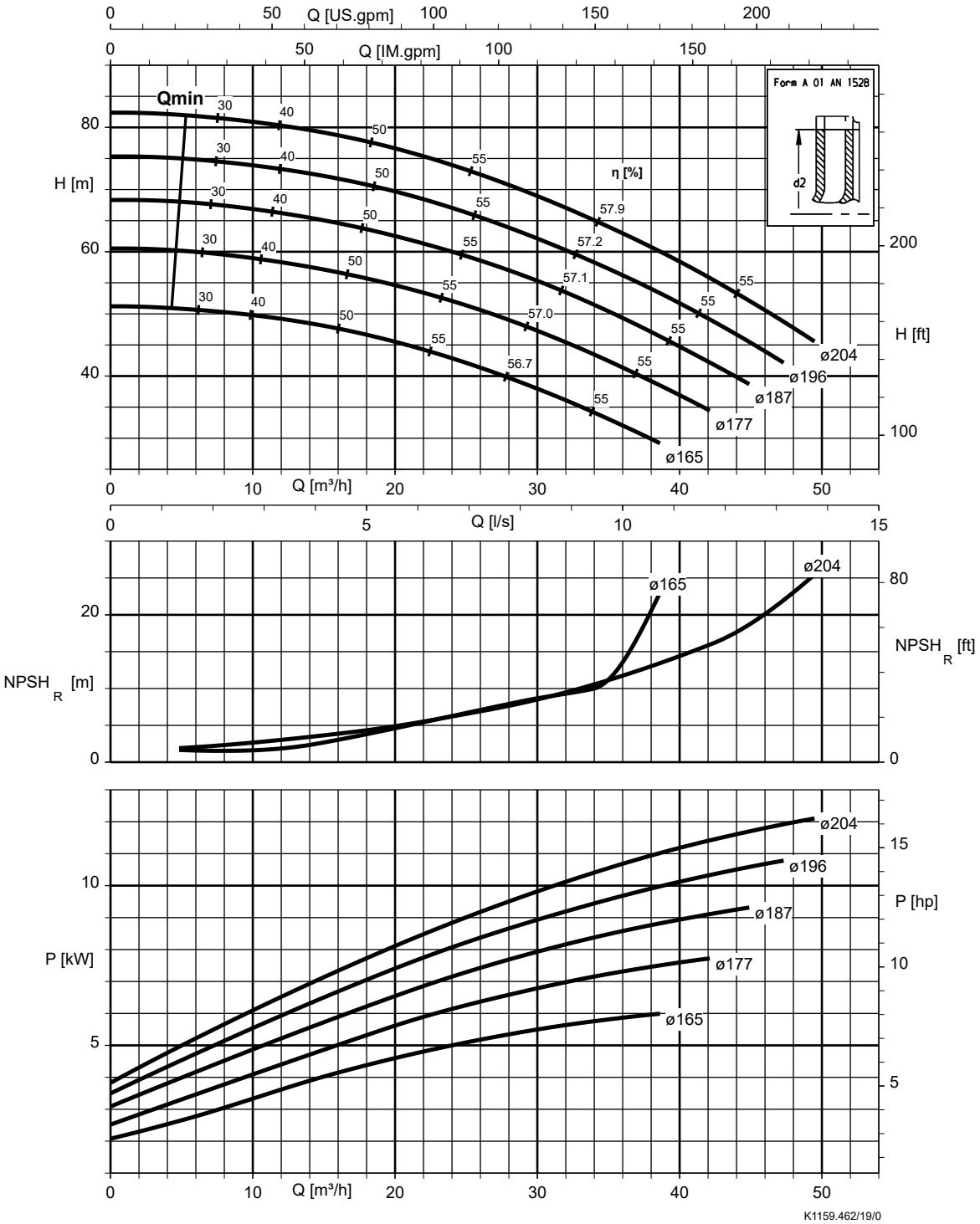
Etaline (fixed speed version), n = 3500 rpm

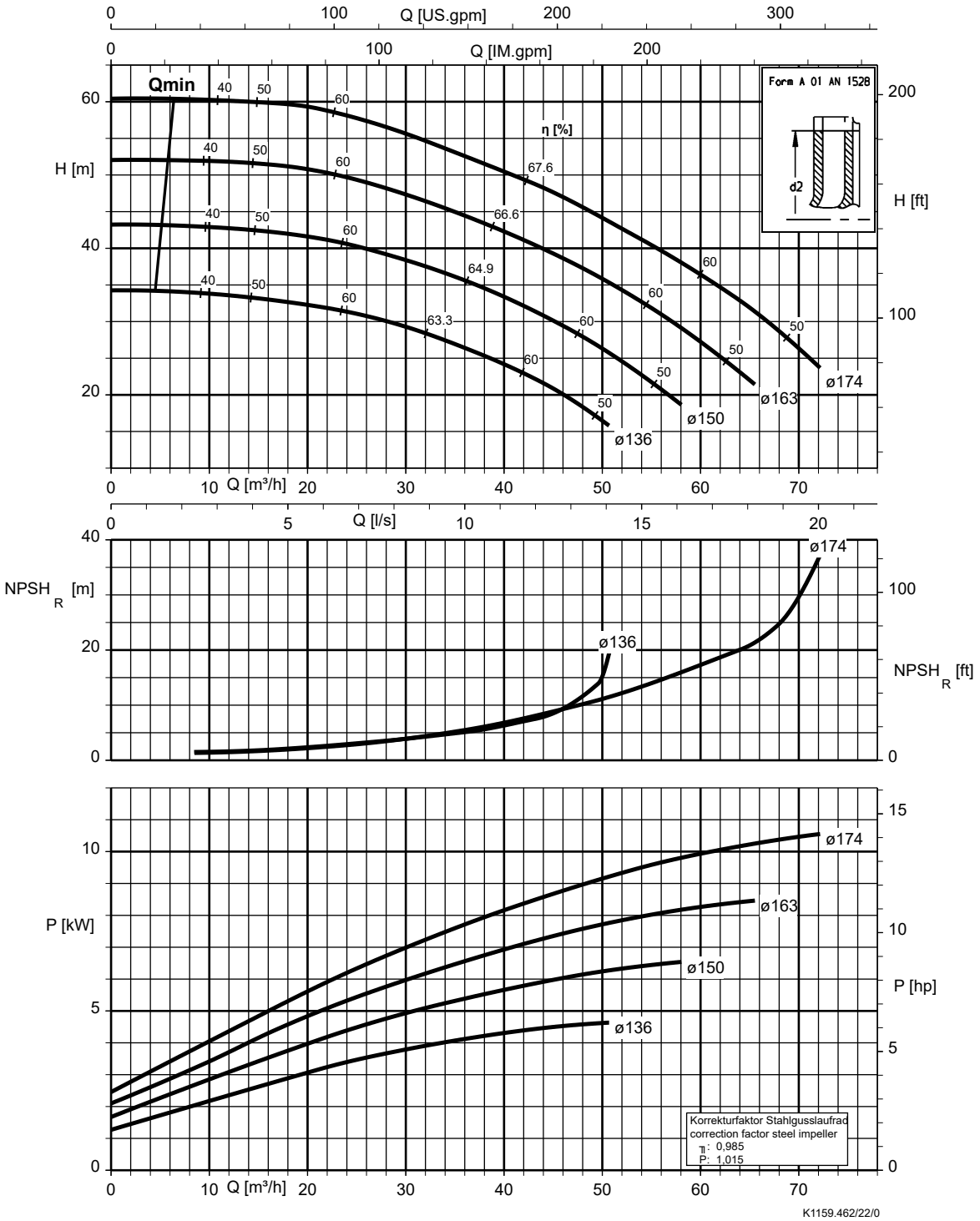
Etaline 032-032-160, n = 3500 rpm



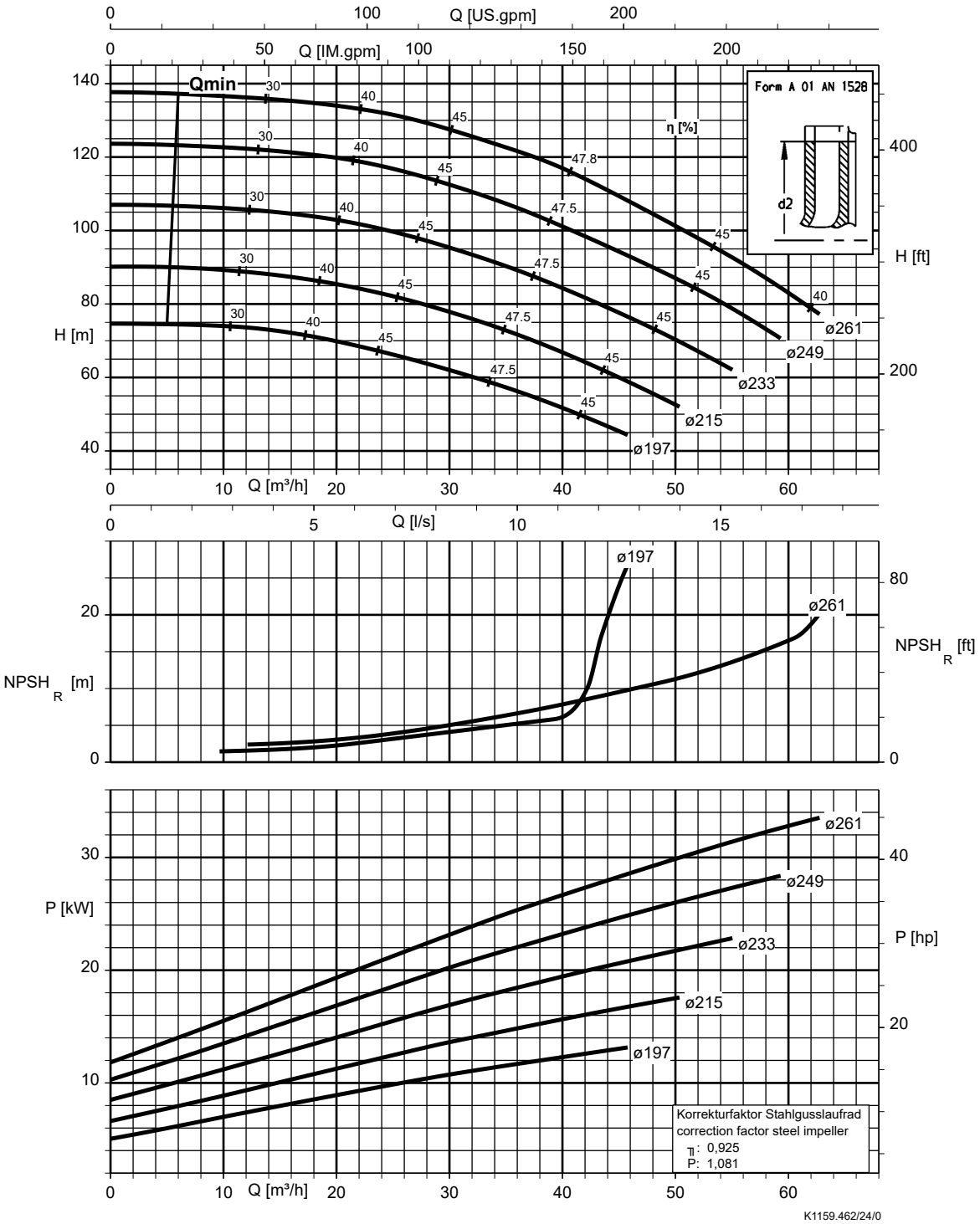
Etaline 032-032-200, n = 3500 rpm



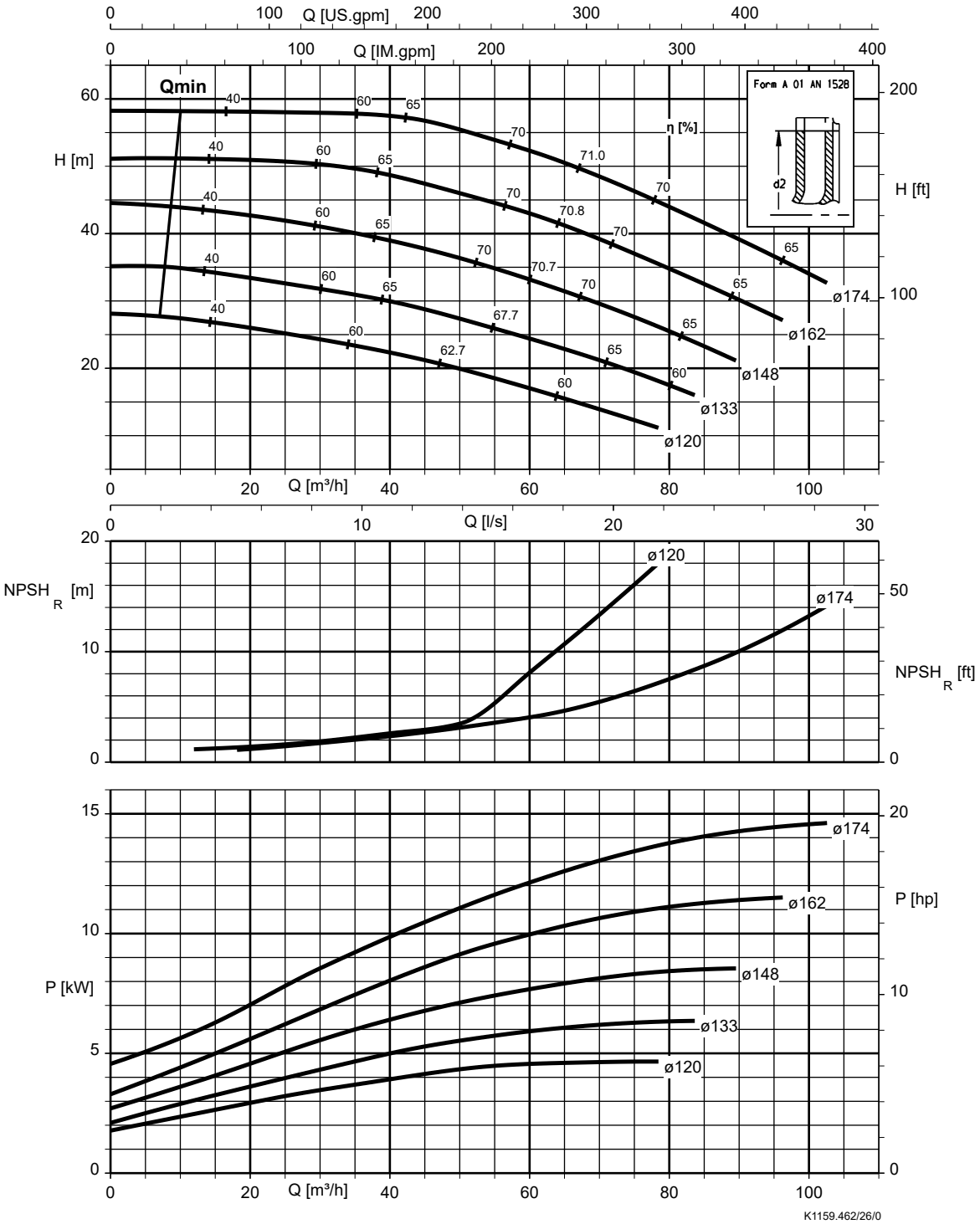
Etaline 040-040-160, n = 3500 rpm



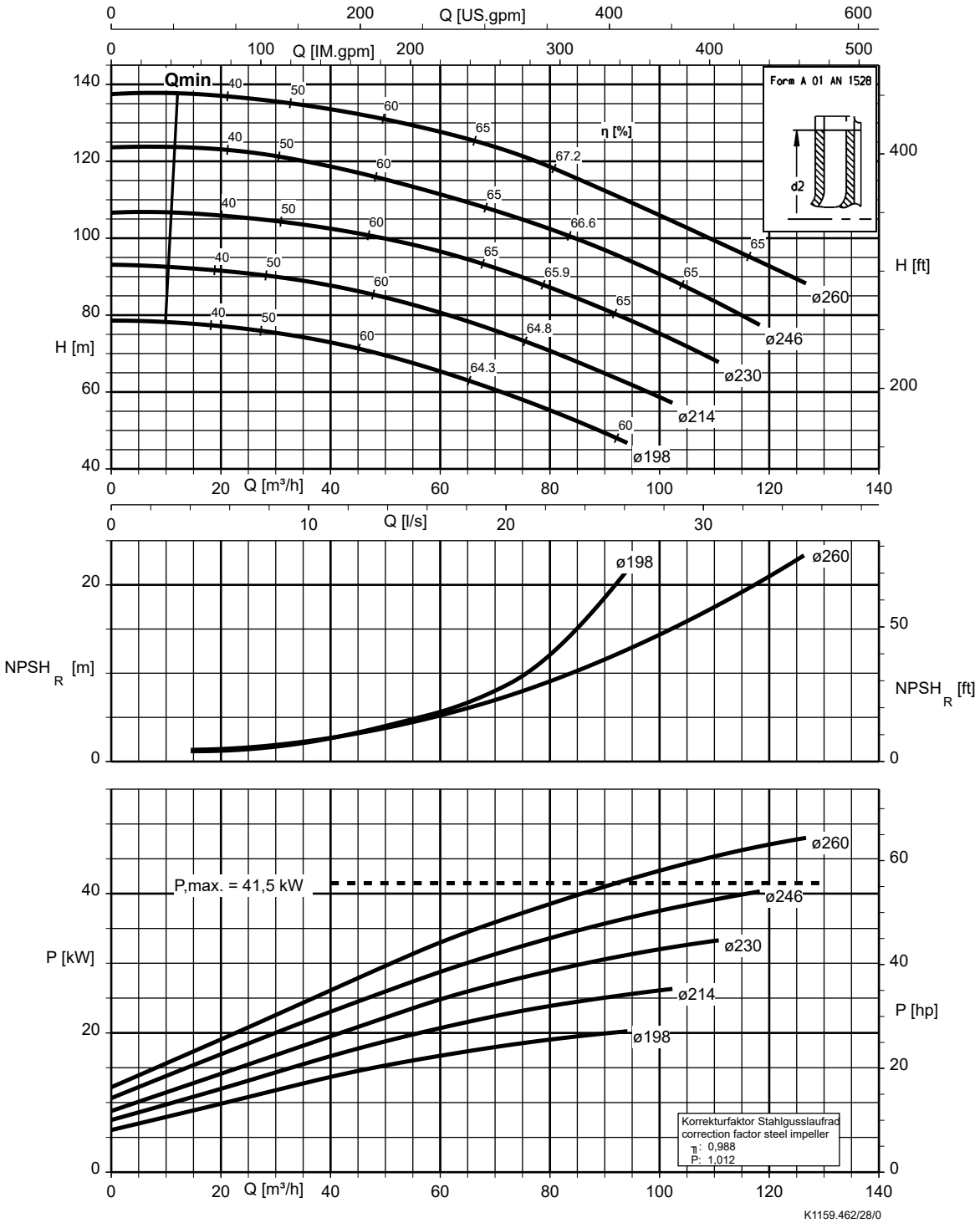
Etaline 040-040-250, n = 3500 rpm



Etaline 050-050-160, n = 3500 rpm



Etaline 050-050-250, n = 3500 rpm



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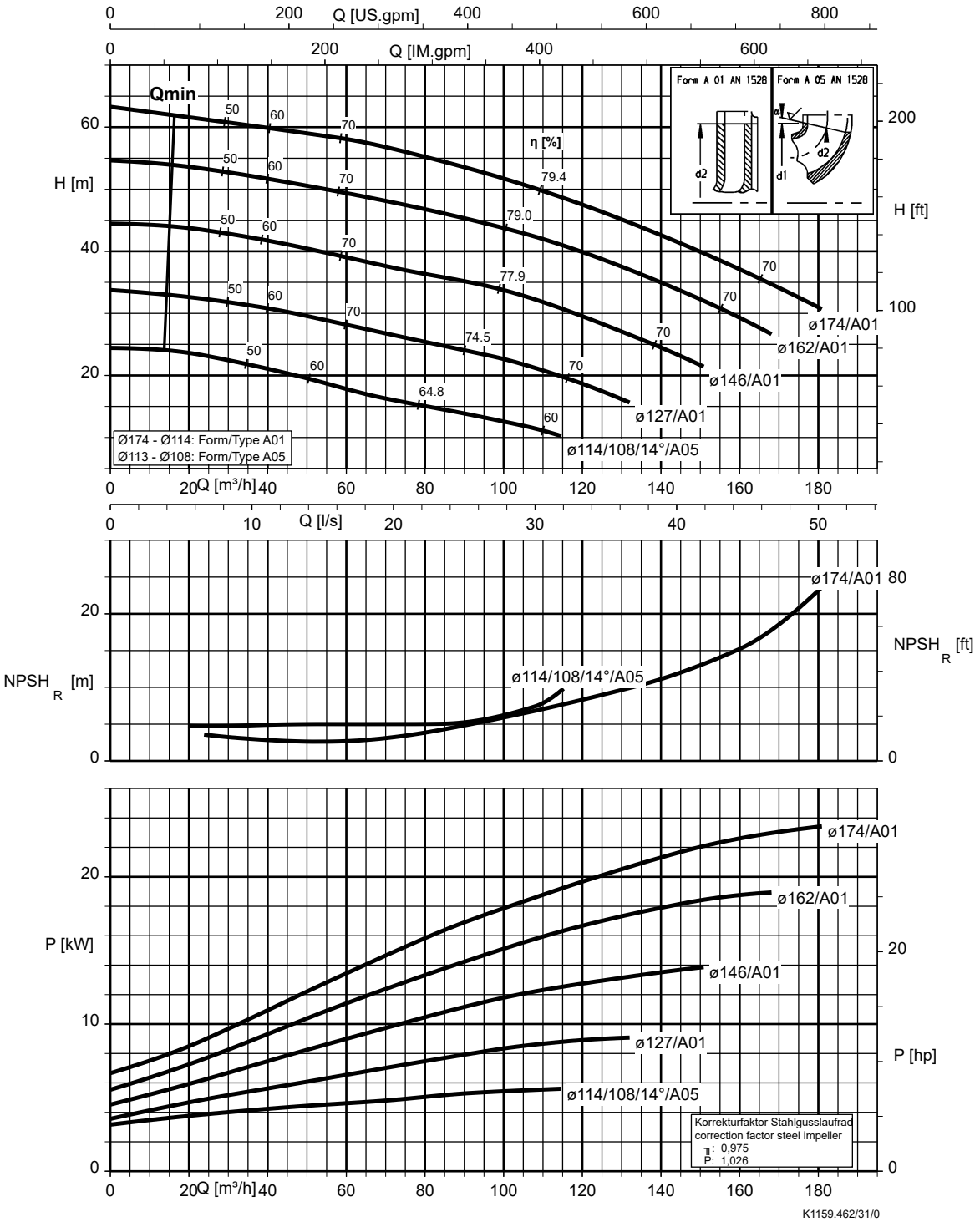
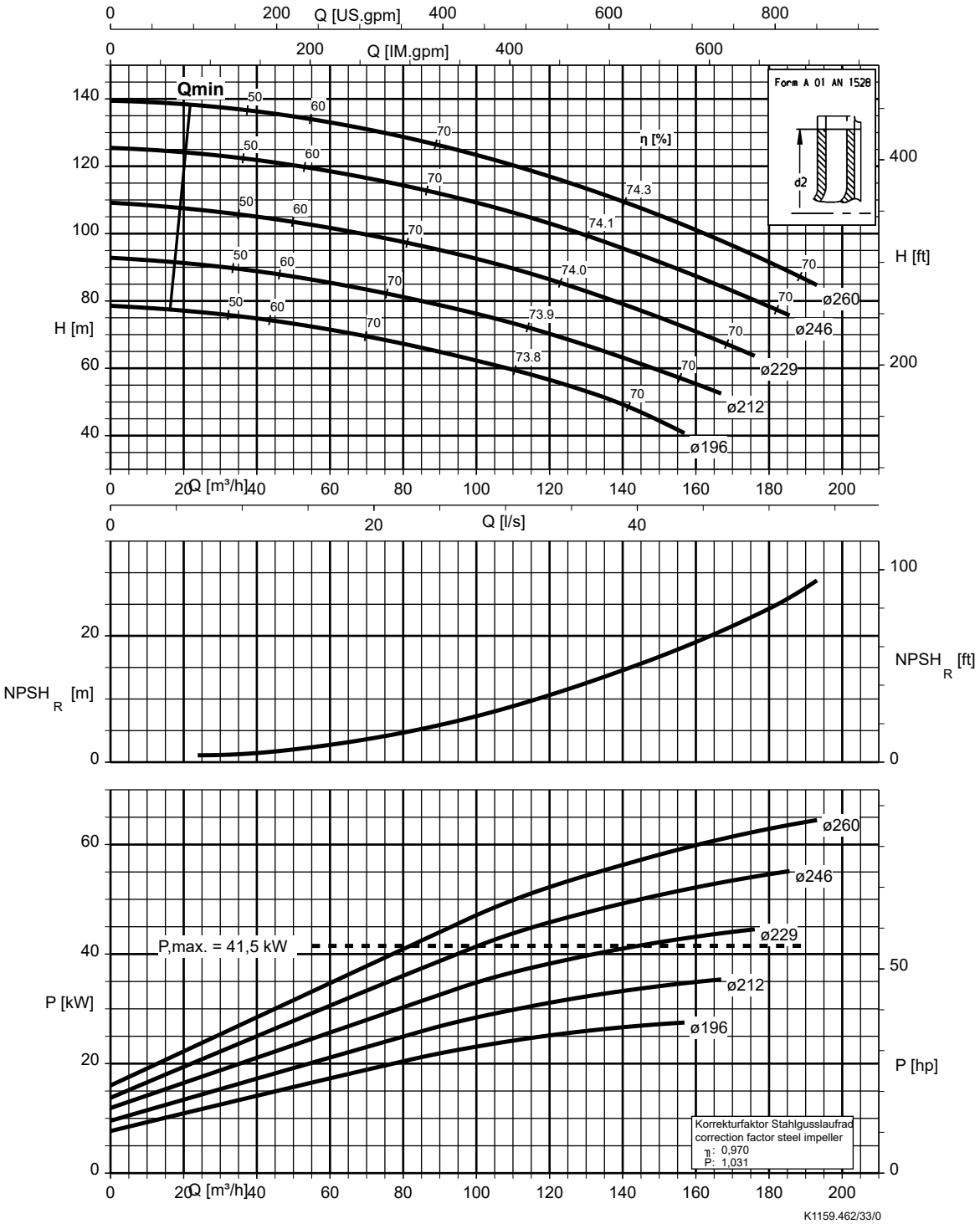
Etaline 065-065-160, n = 3500 rpm



Etaline 065-065-250, n = 3500 rpm



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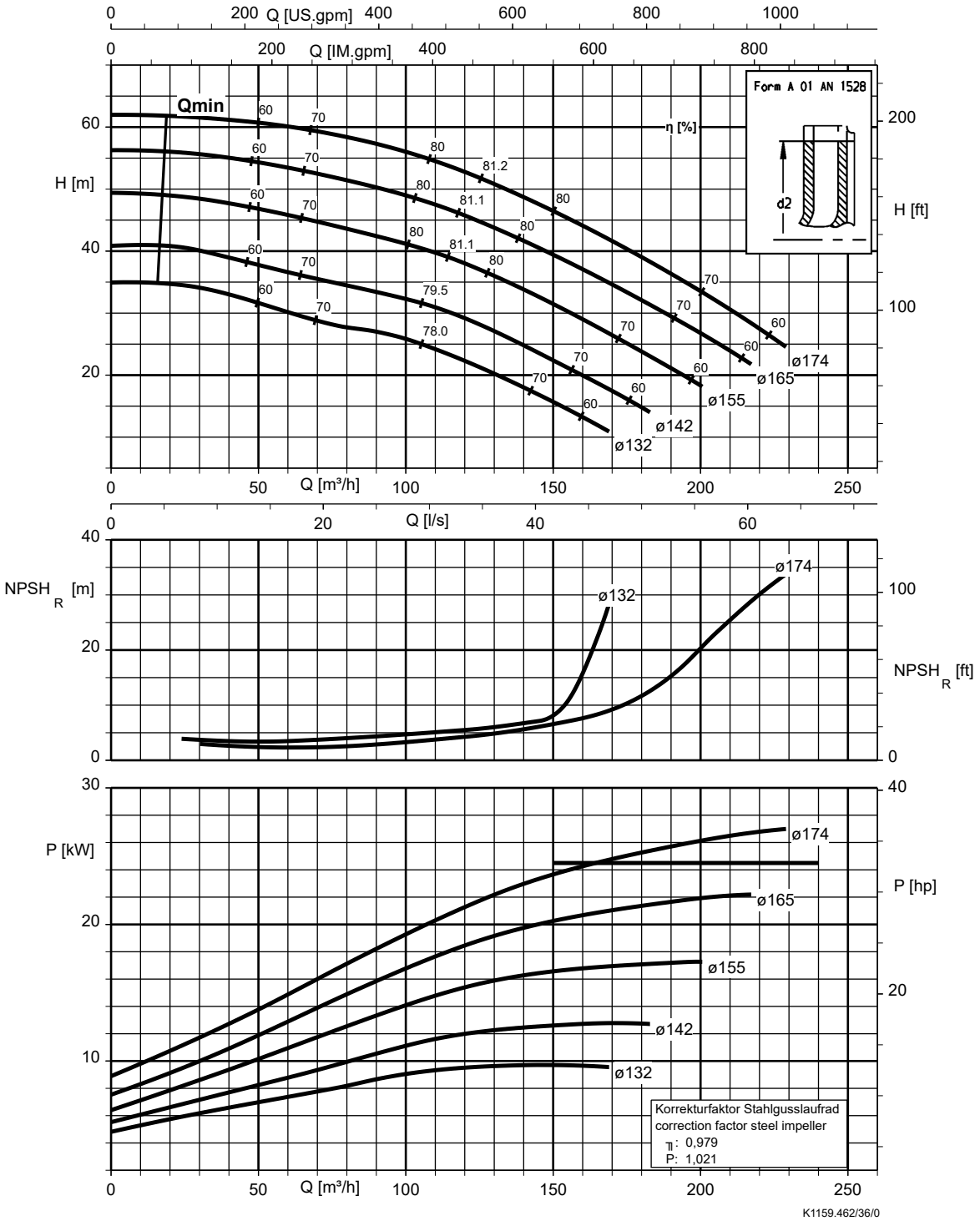
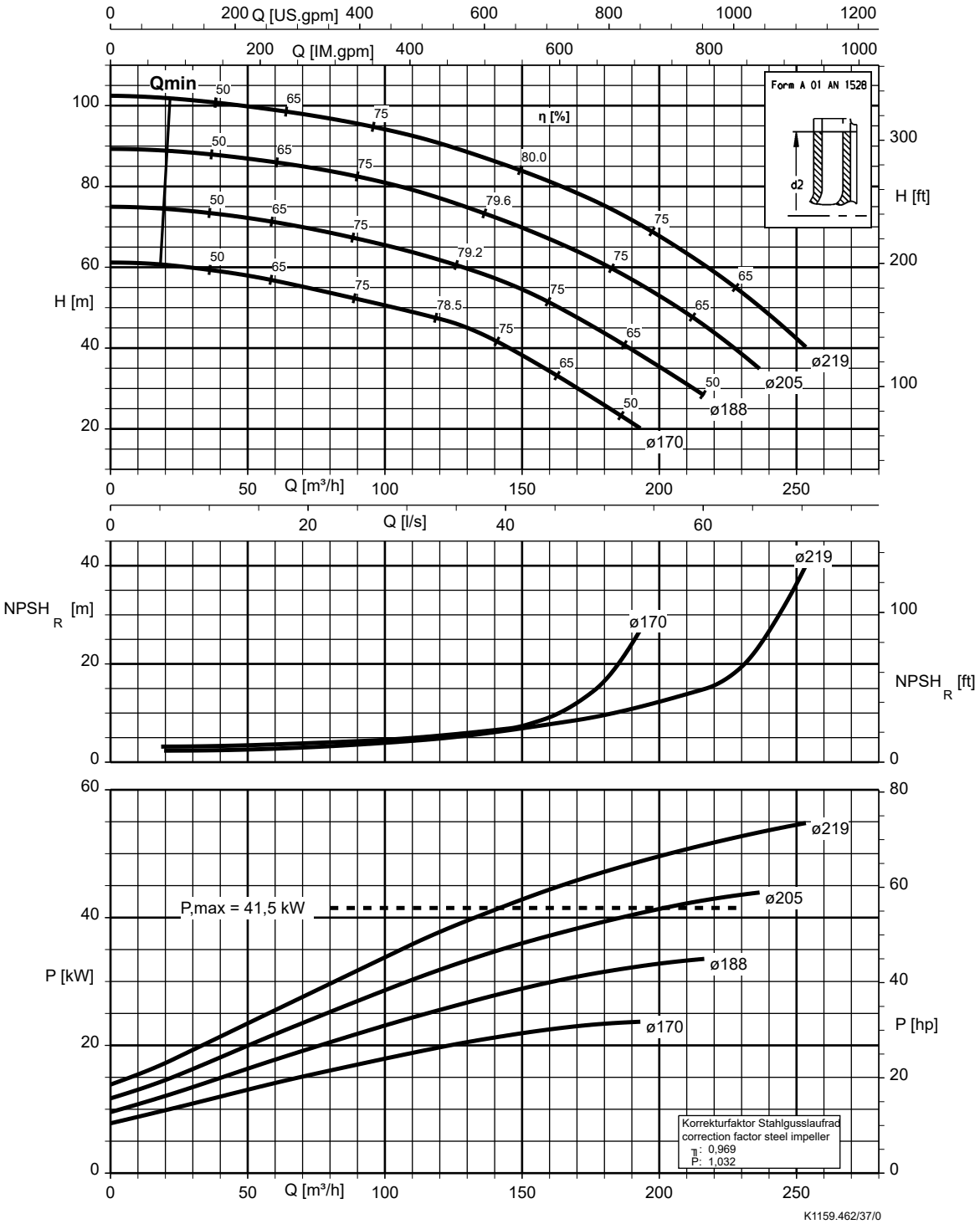
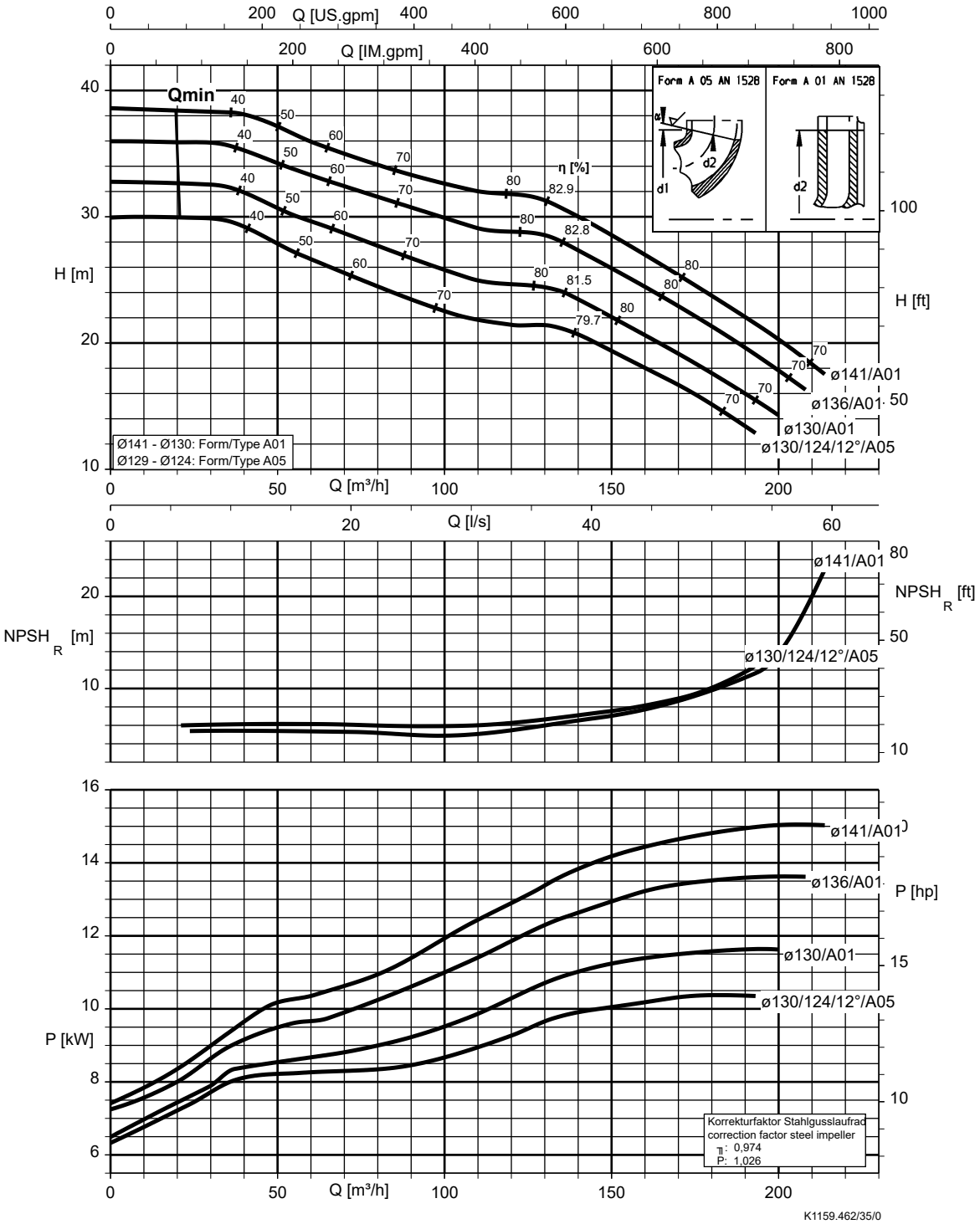
Etaline 080-080-160, n = 3500 rpm



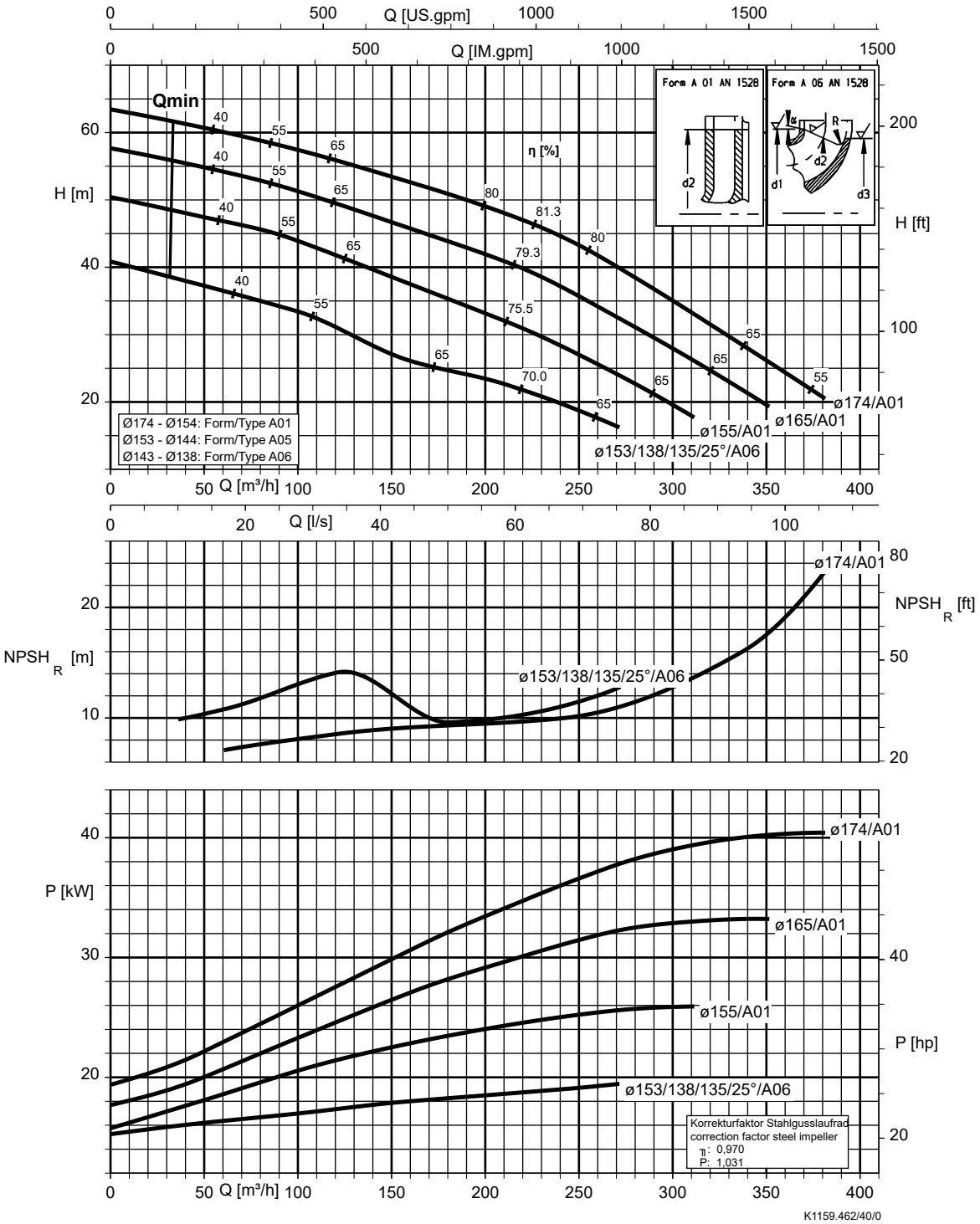
Etaline 080-080-200, n = 3500 rpm



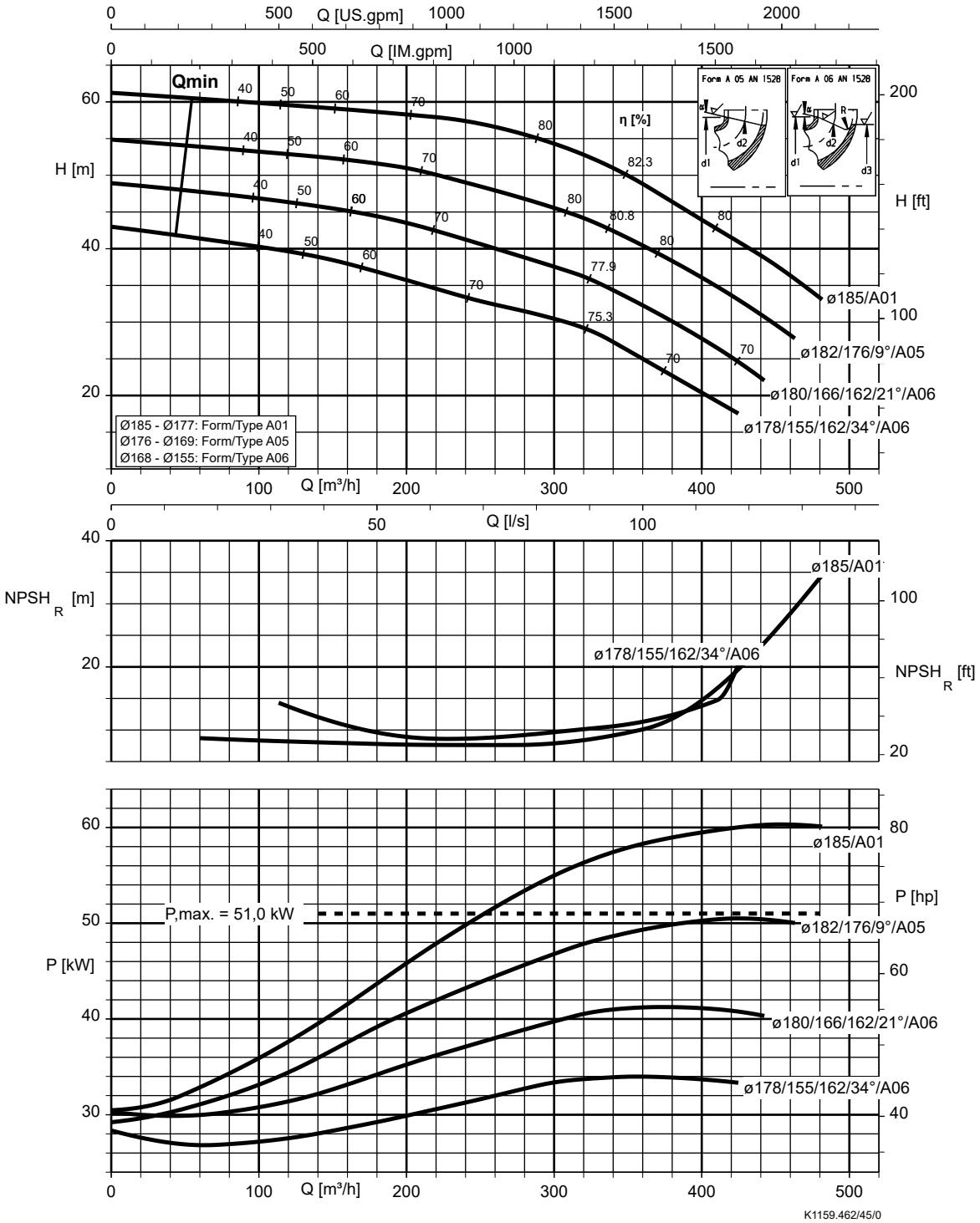
Etaline 100-100-125, n = 3500 rpm



Etaline 100-100-160, n = 3500 rpm

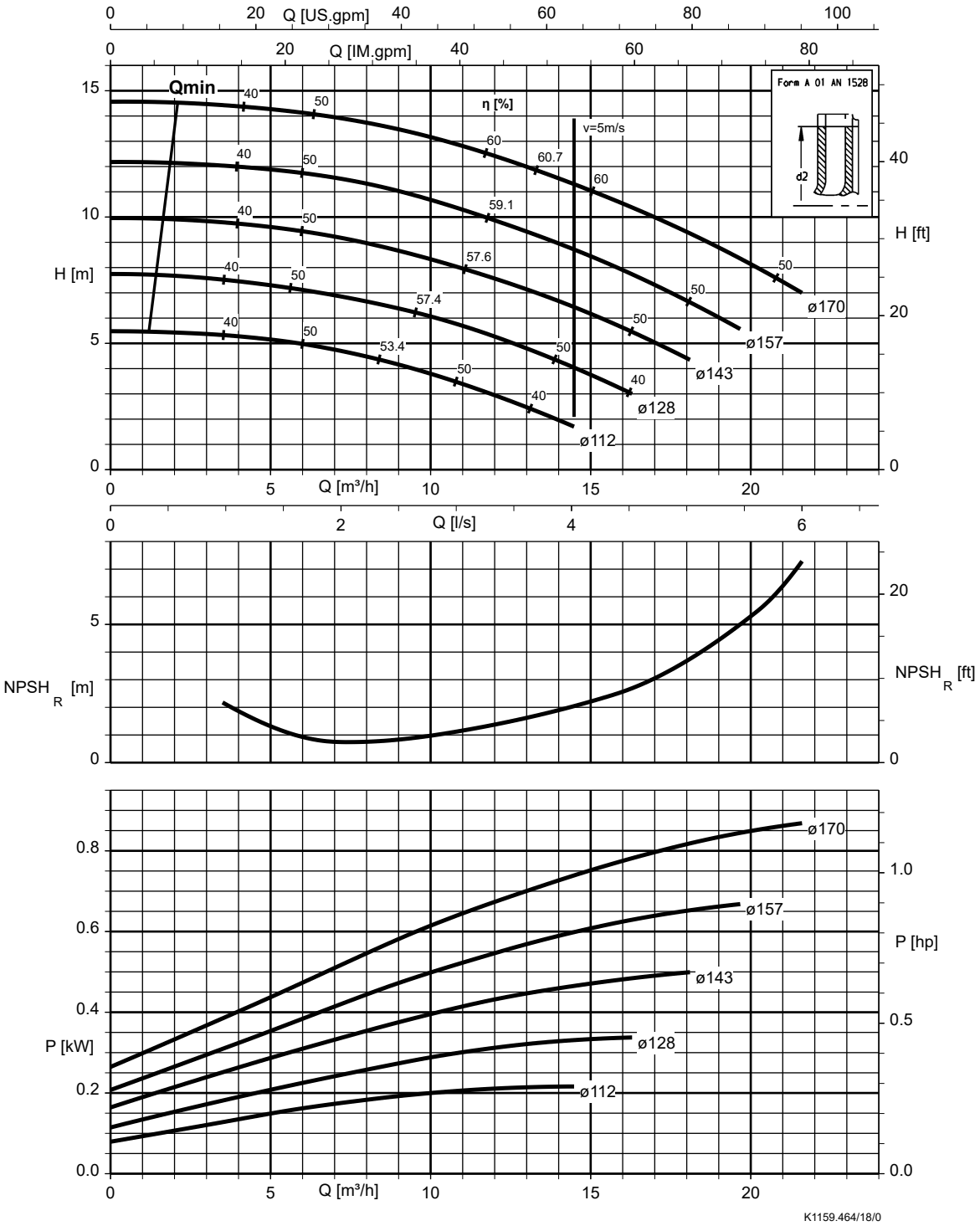


Etaline 125-125-160, n = 3500 rpm



Etaline (fixed speed version), n = 1750 rpm

Etaline 032-032-160, n = 1750 rpm



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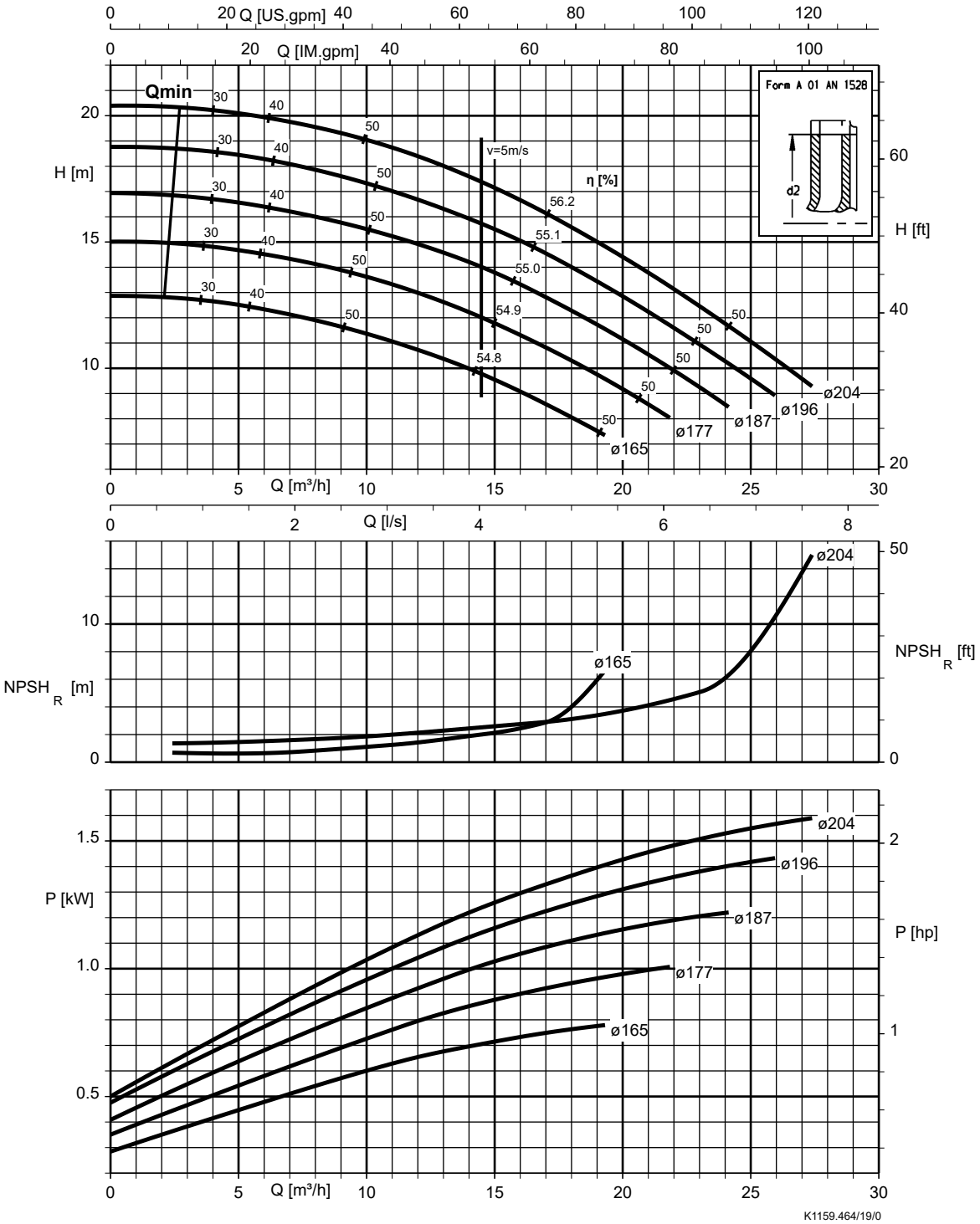
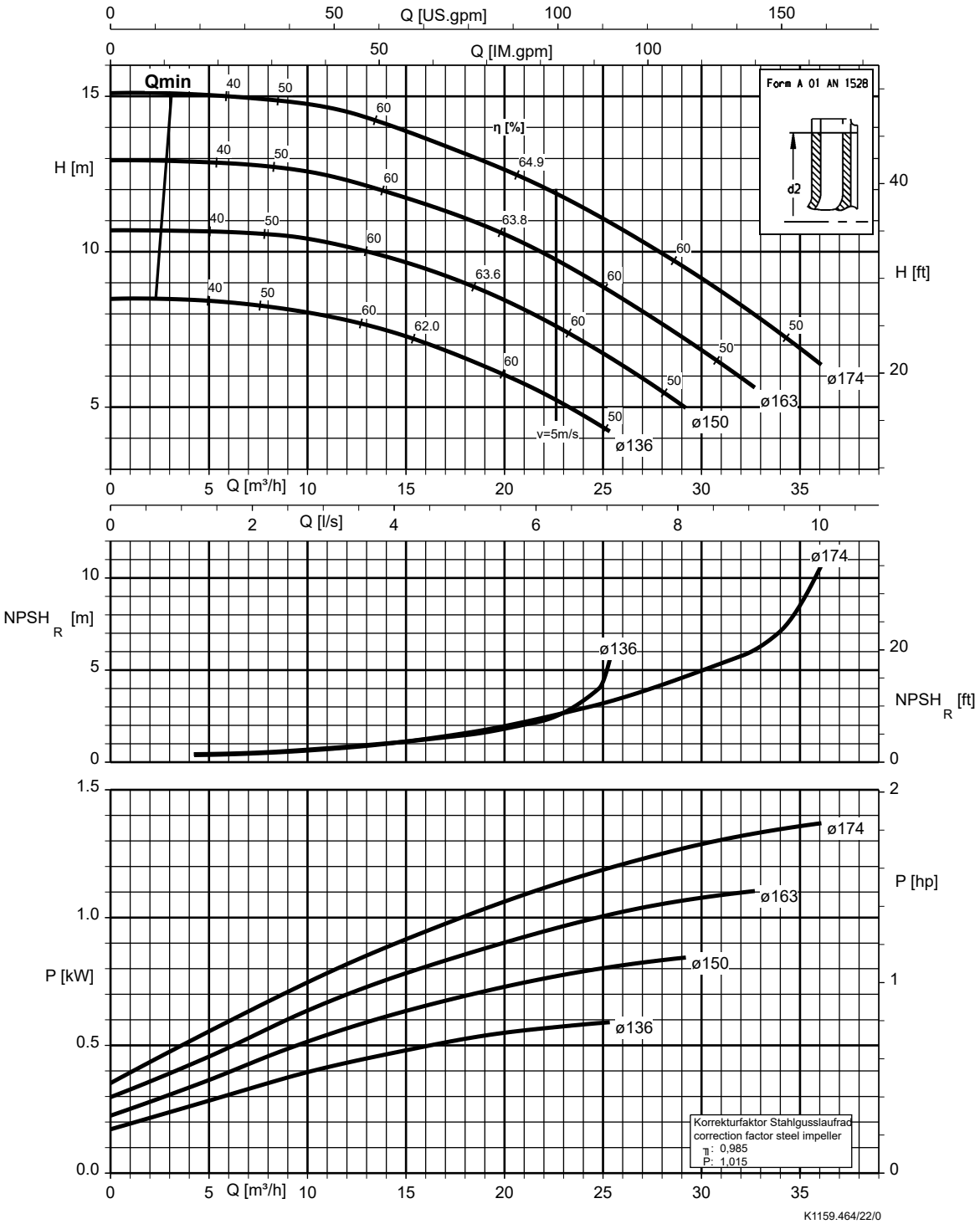
Etaline 032-032-200, n = 1750 rpm



Etaline 040-040-160, n = 1750 rpm



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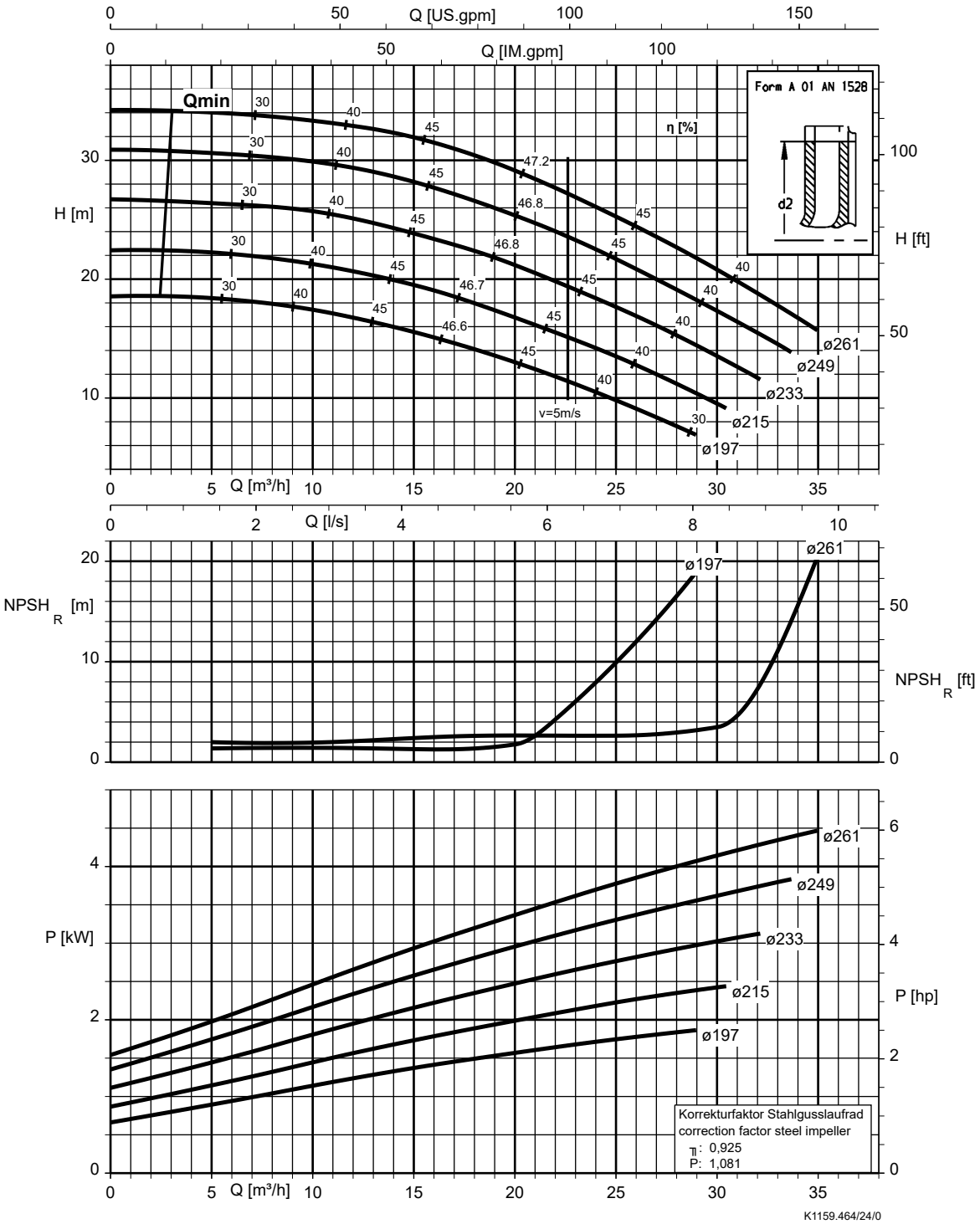
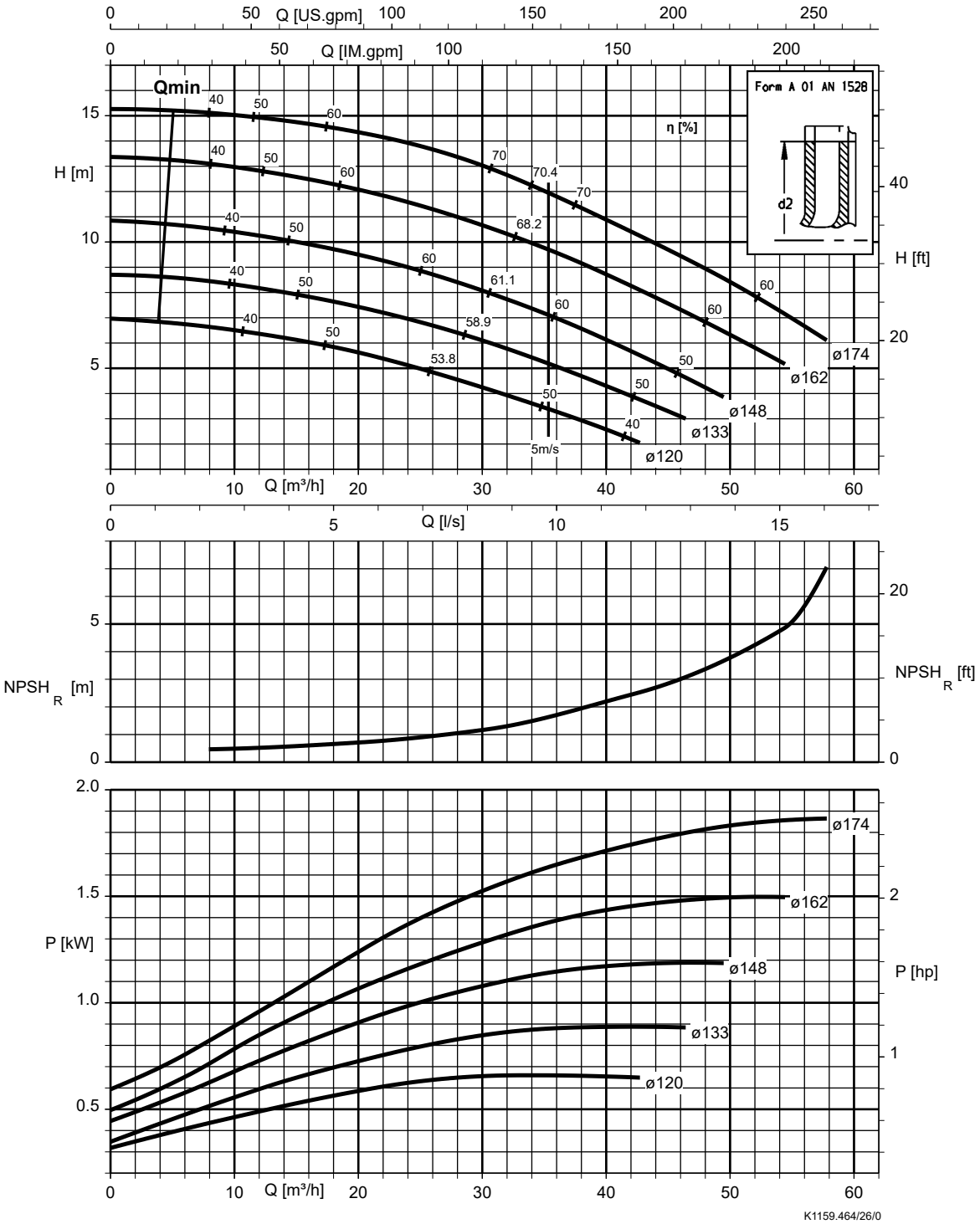
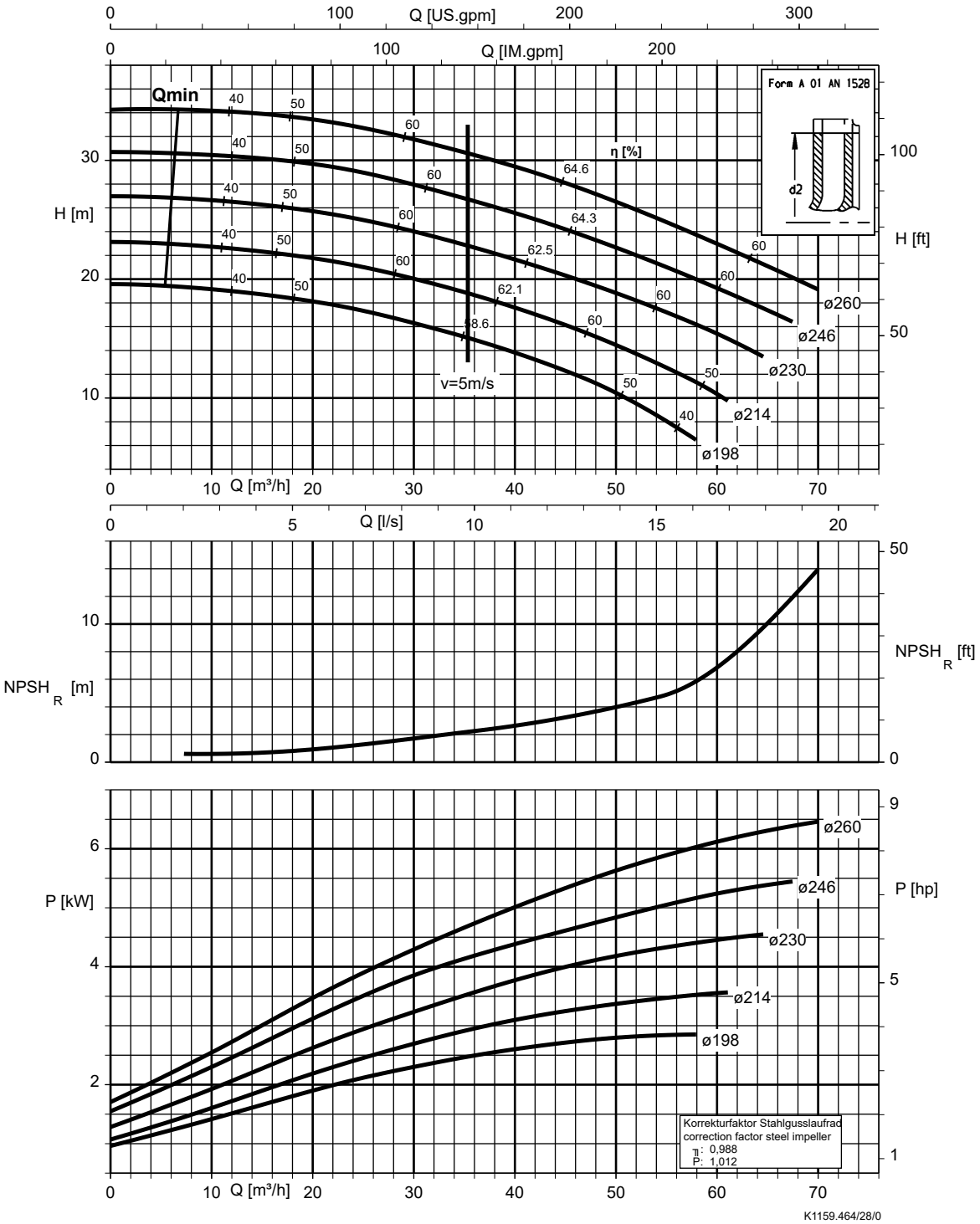
Etaline 040-040-250, n = 1750 rpm



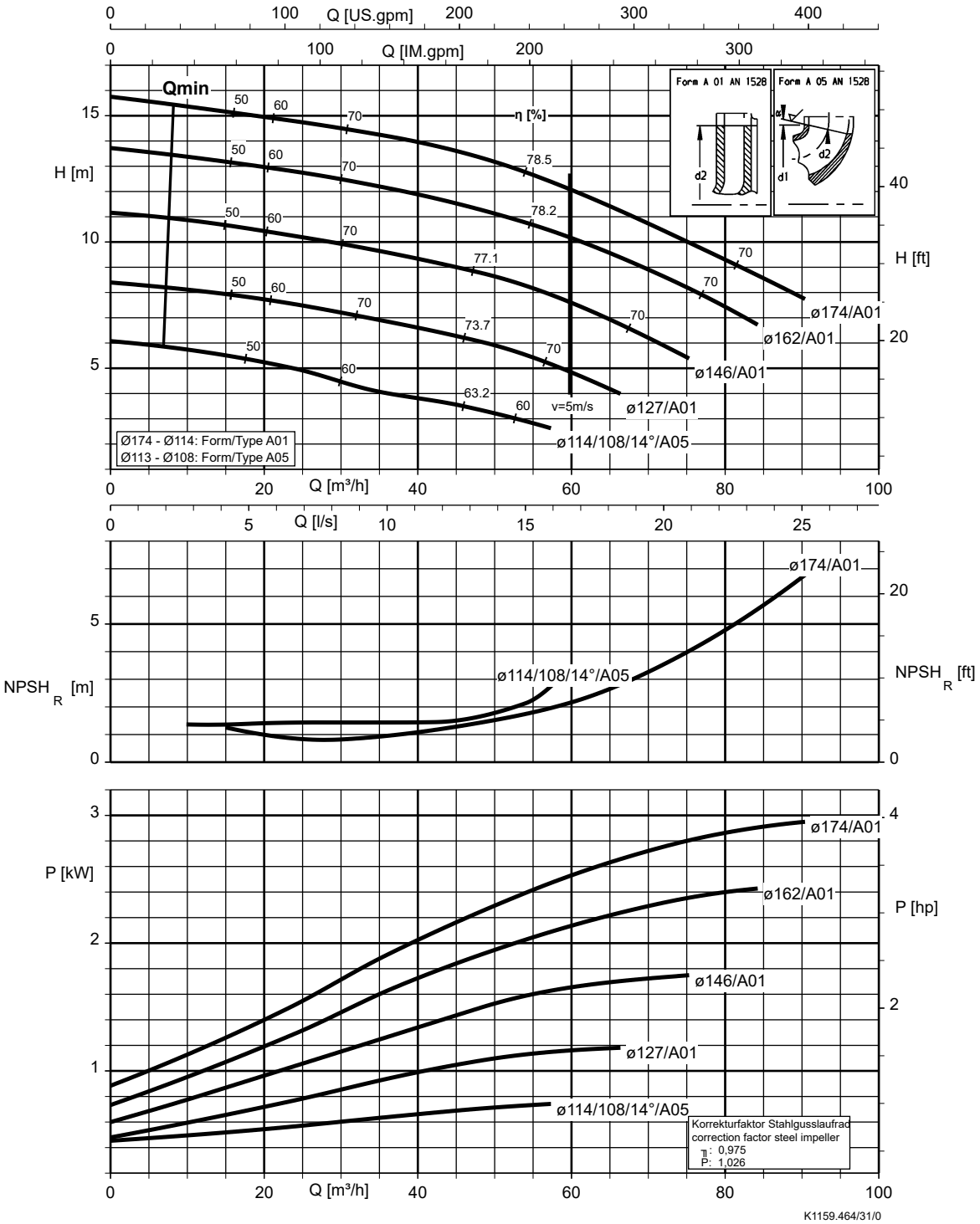
Etaline 050-050-160, n = 1750 rpm



Etaline 050-050-250, n = 1750 rpm



Etaline 065-065-160, n = 1750 rpm



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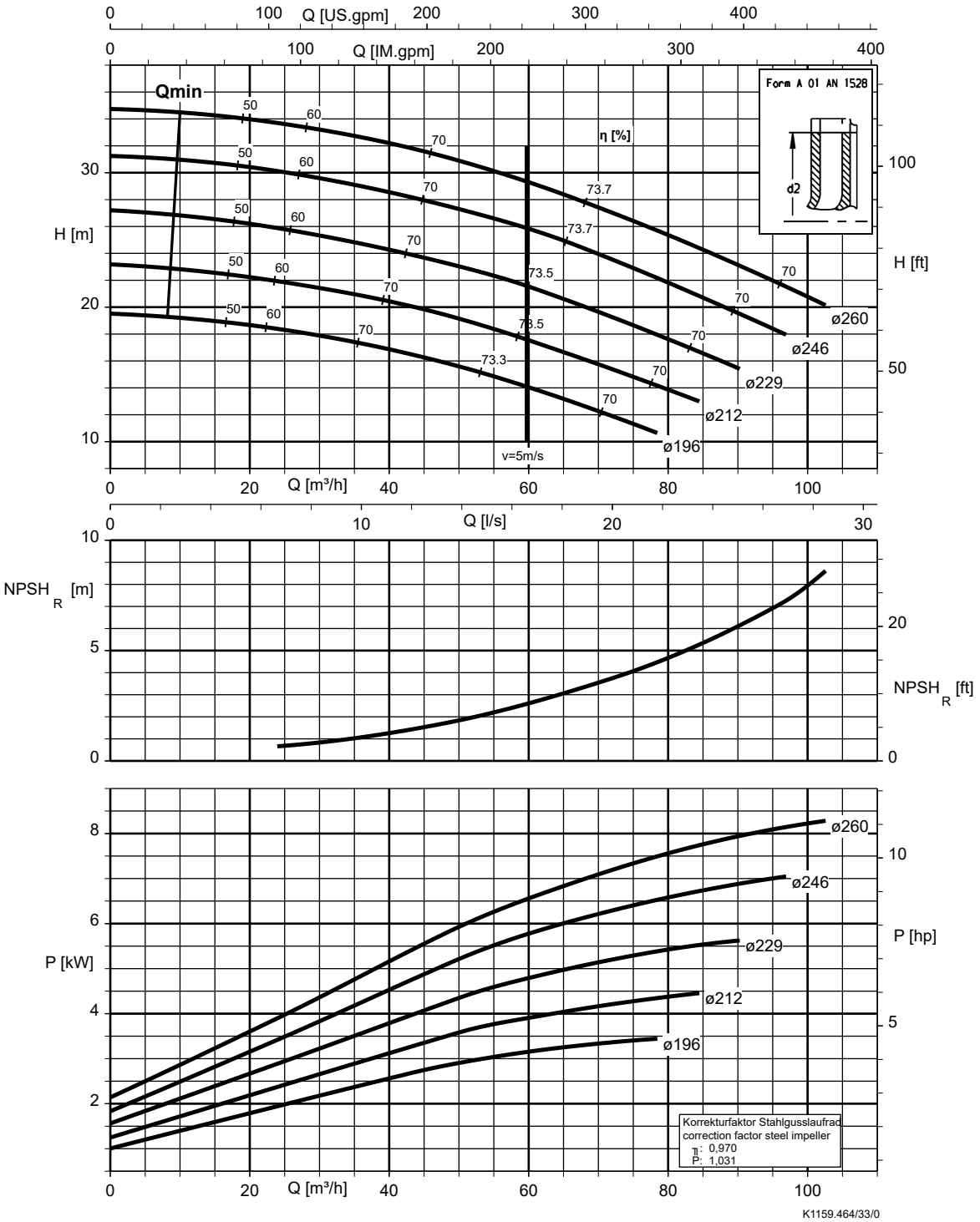
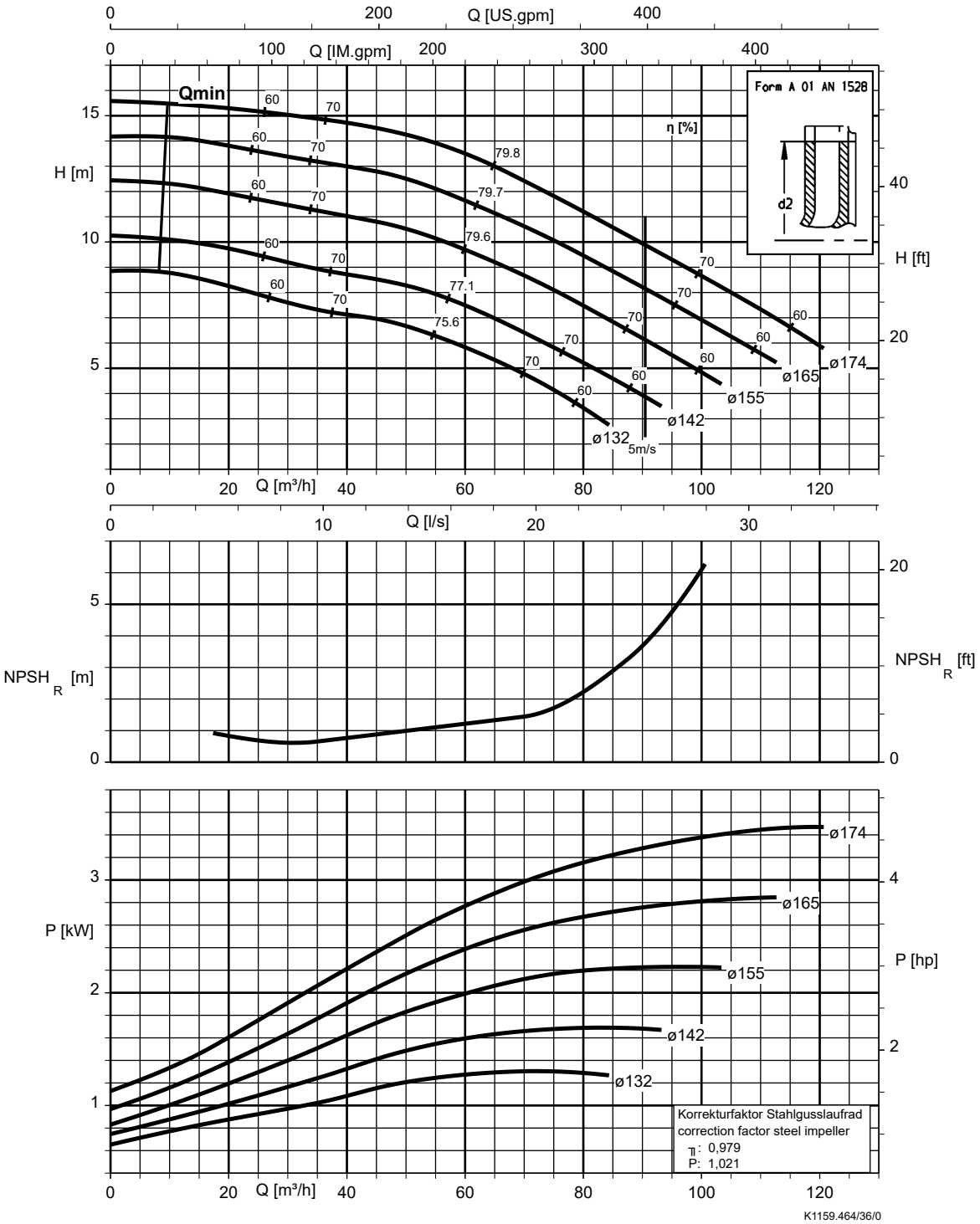
Etaline 065-065-250, n = 1750 rpm



Etaline 080-080-160, n = 1750 rpm



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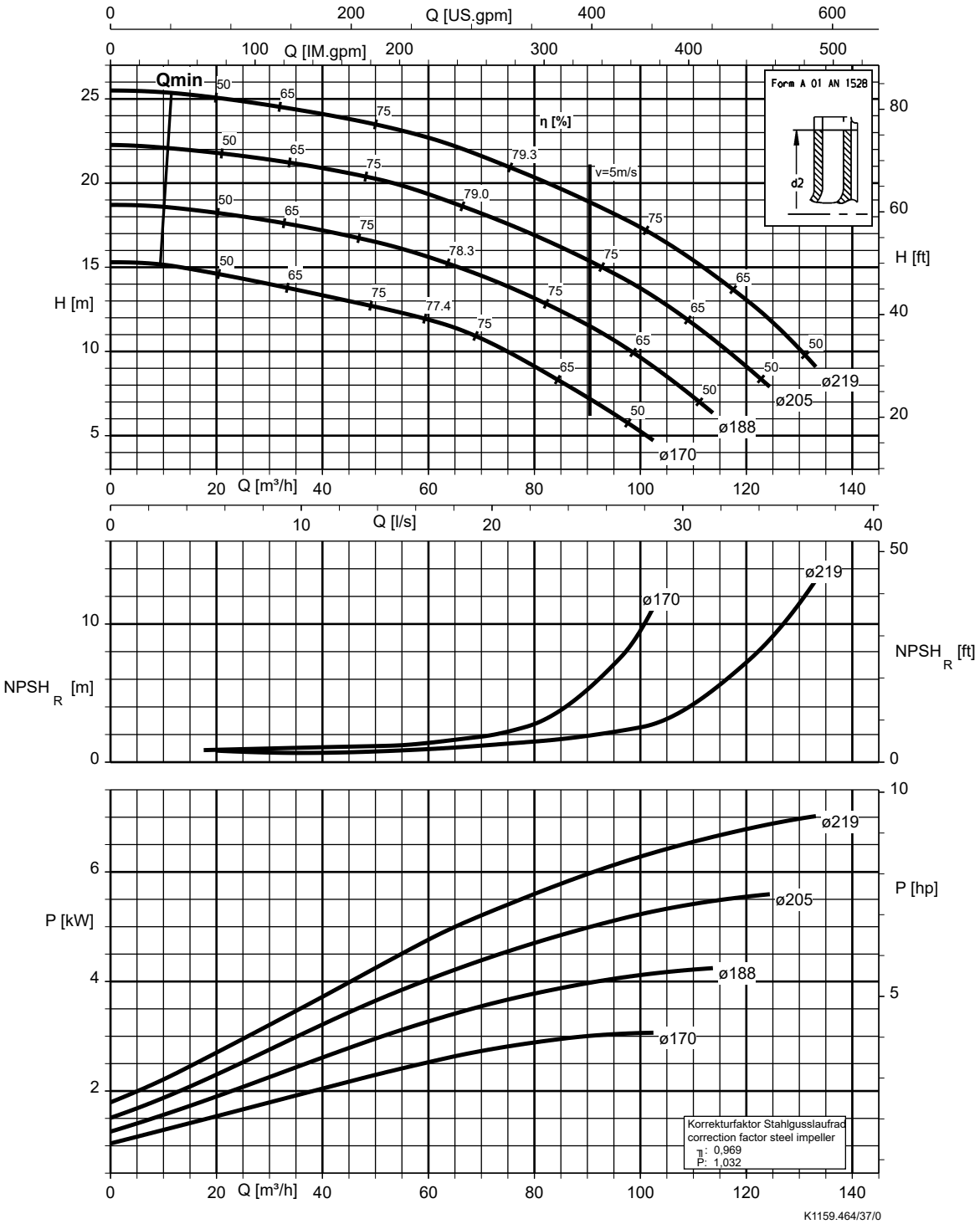
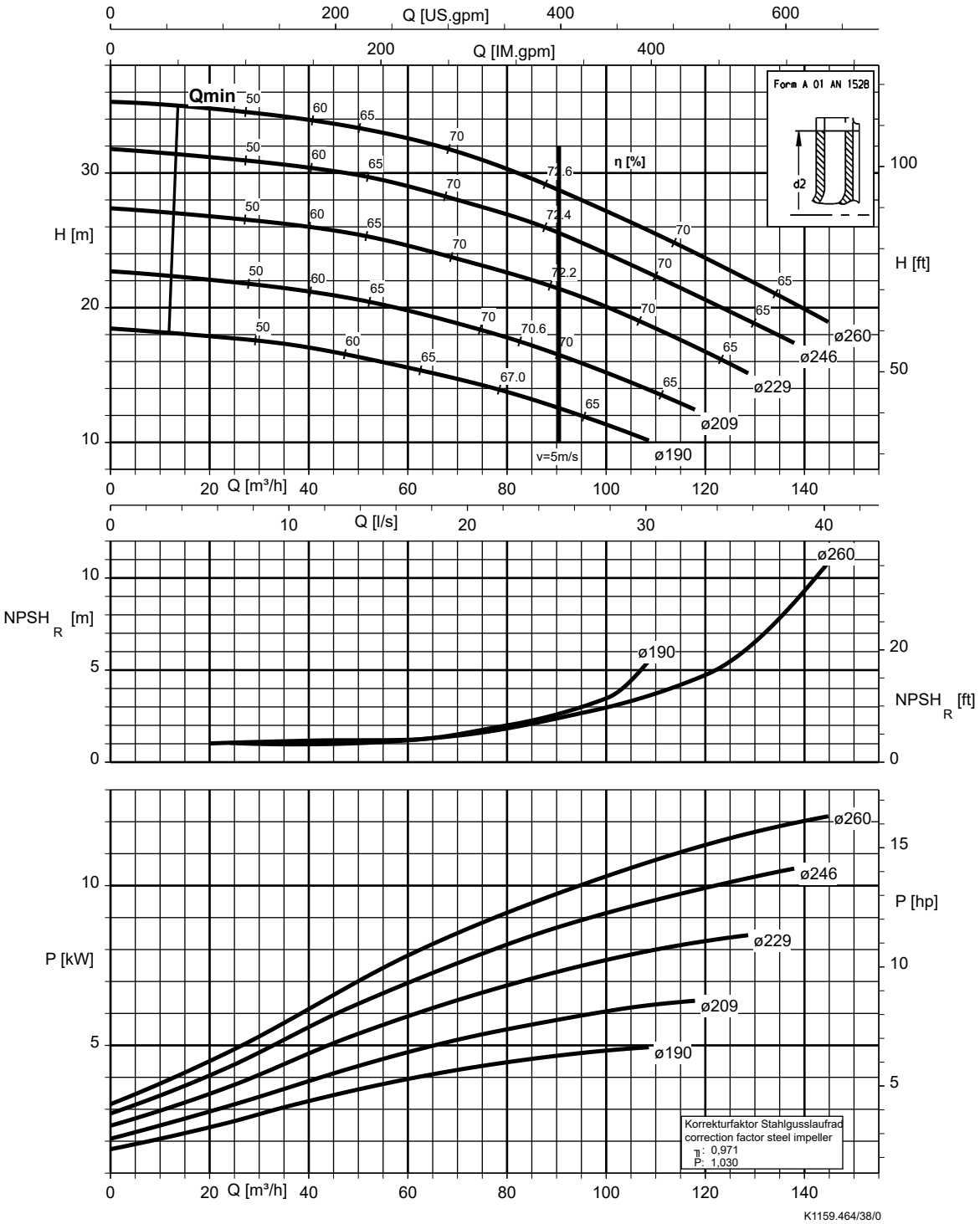
Etaline 080-080-200, n = 1750 rpm

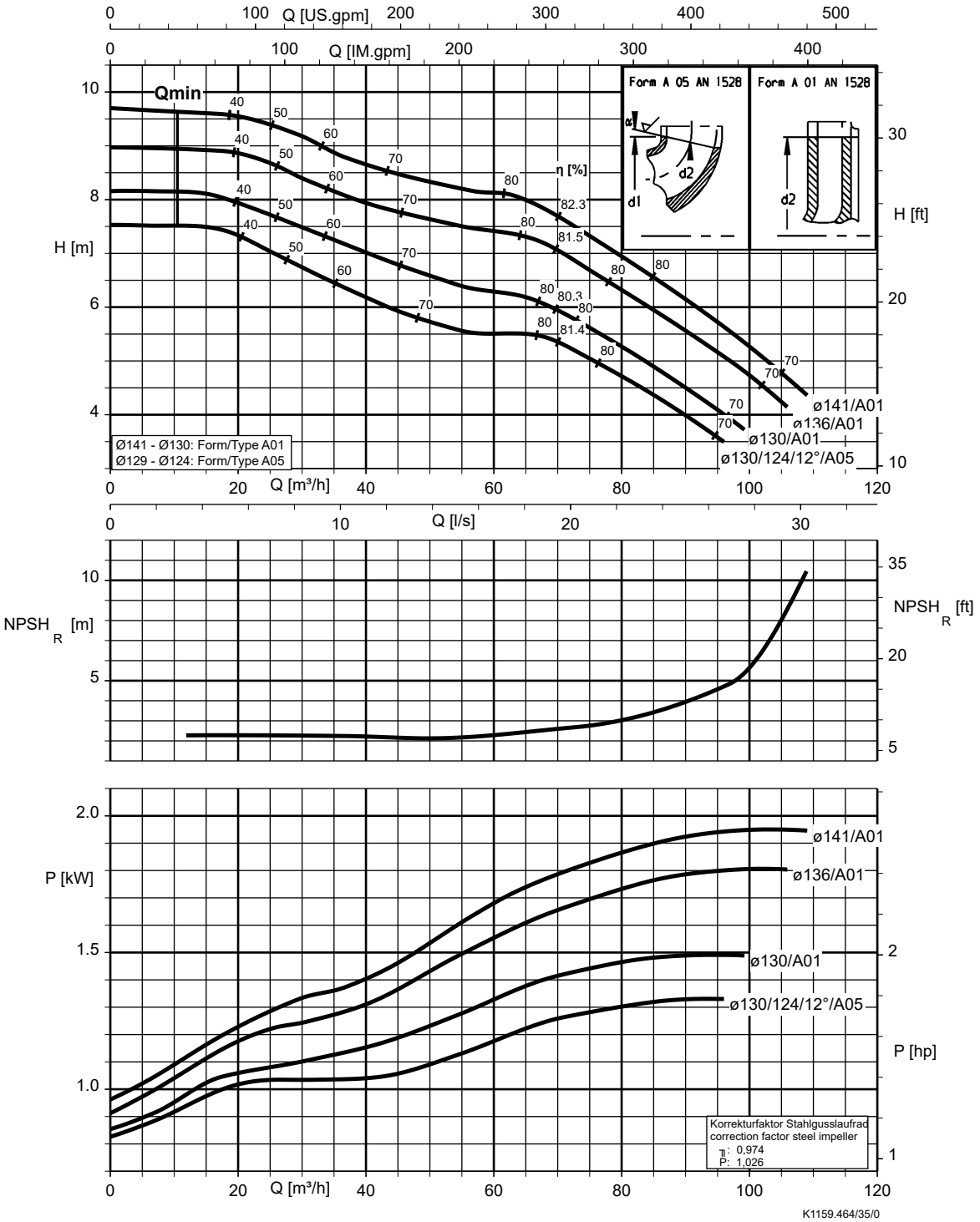


Etaline 080-080-250, n = 1750 rpm

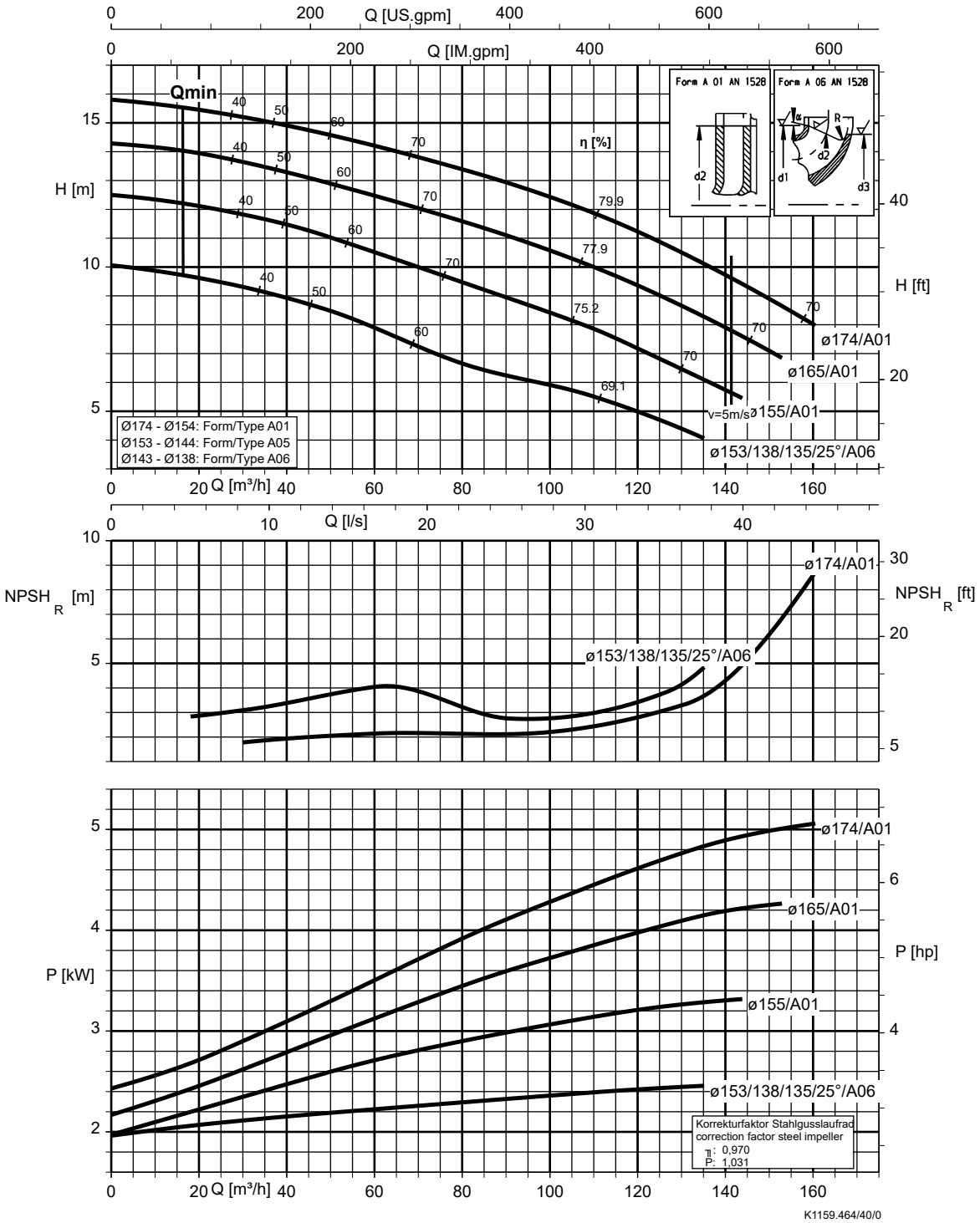


1159.5/08-EN

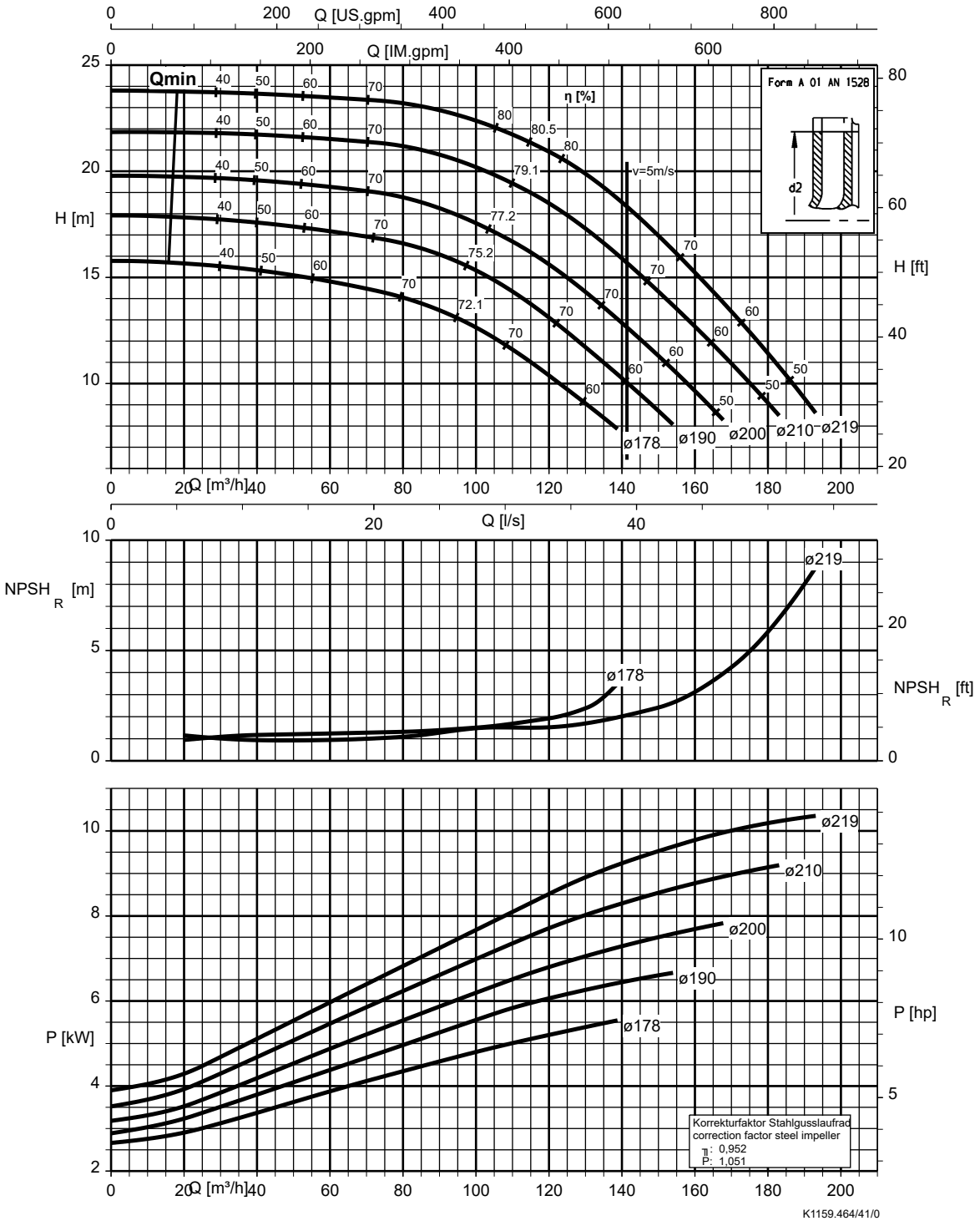
Etaline 100-100-125, n = 1750 rpm



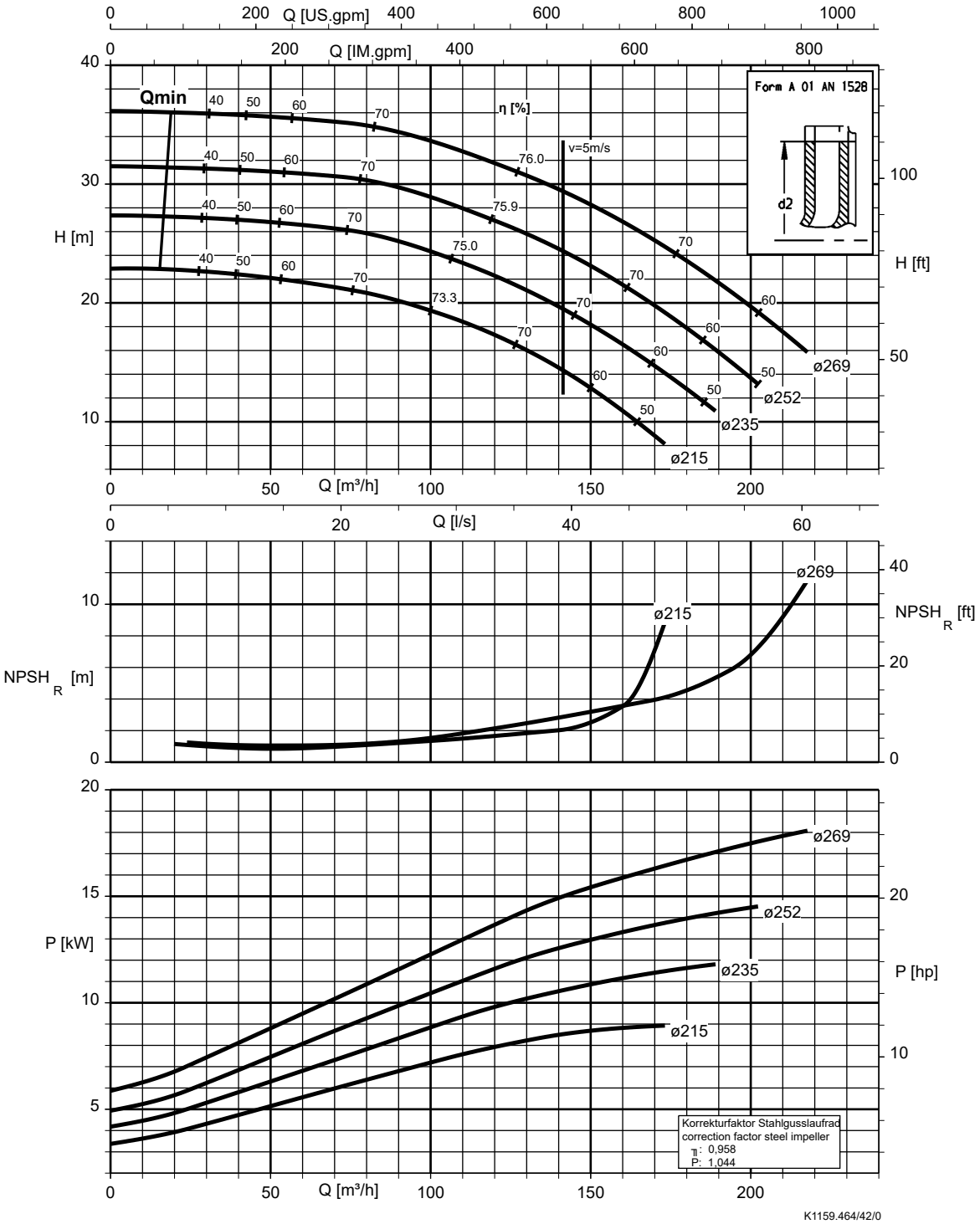
Etaline 100-100-160, n = 1750 rpm



Etaline 100-100-200, n = 1750 rpm

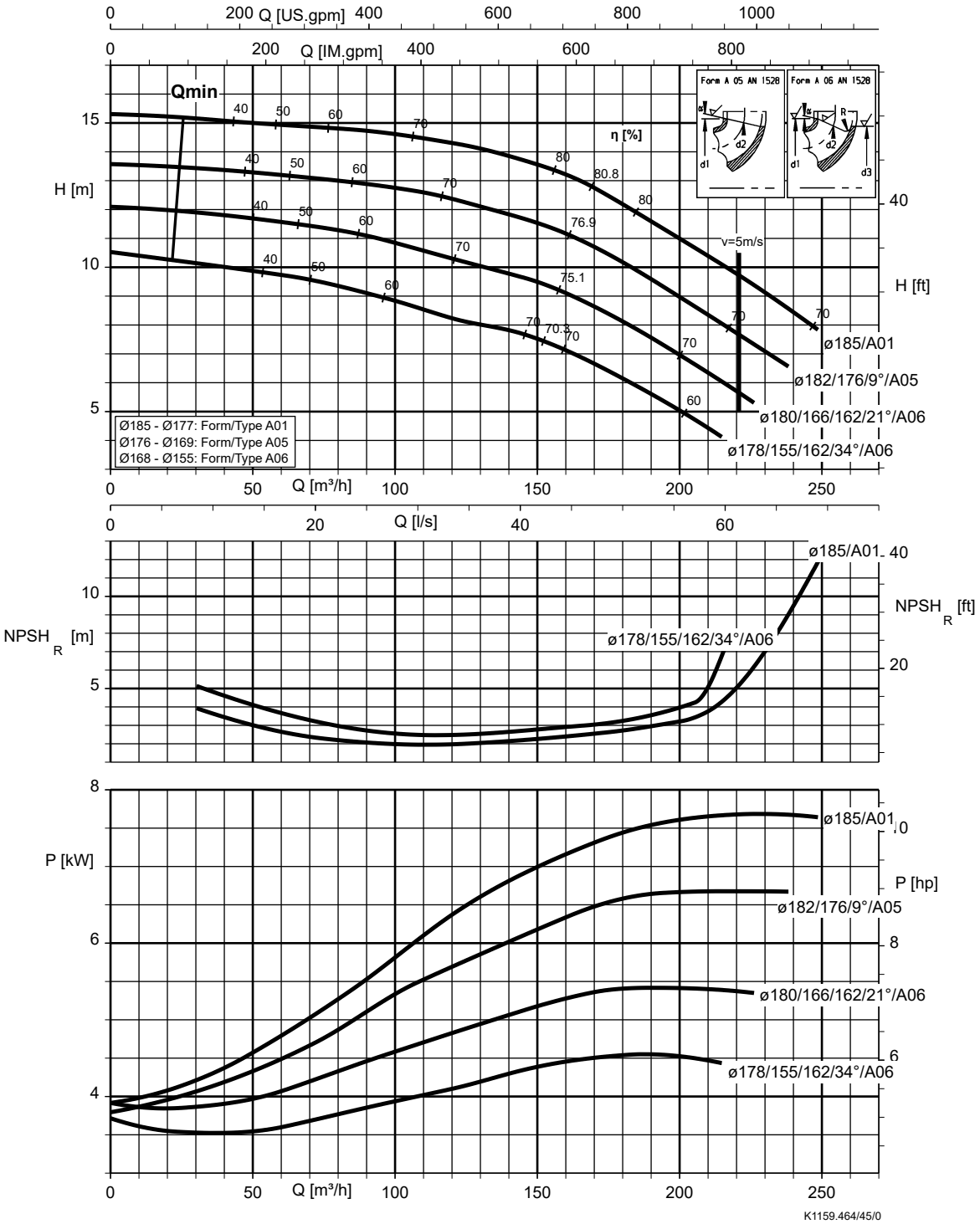


Etaline 100-100-250, n = 1750 rpm

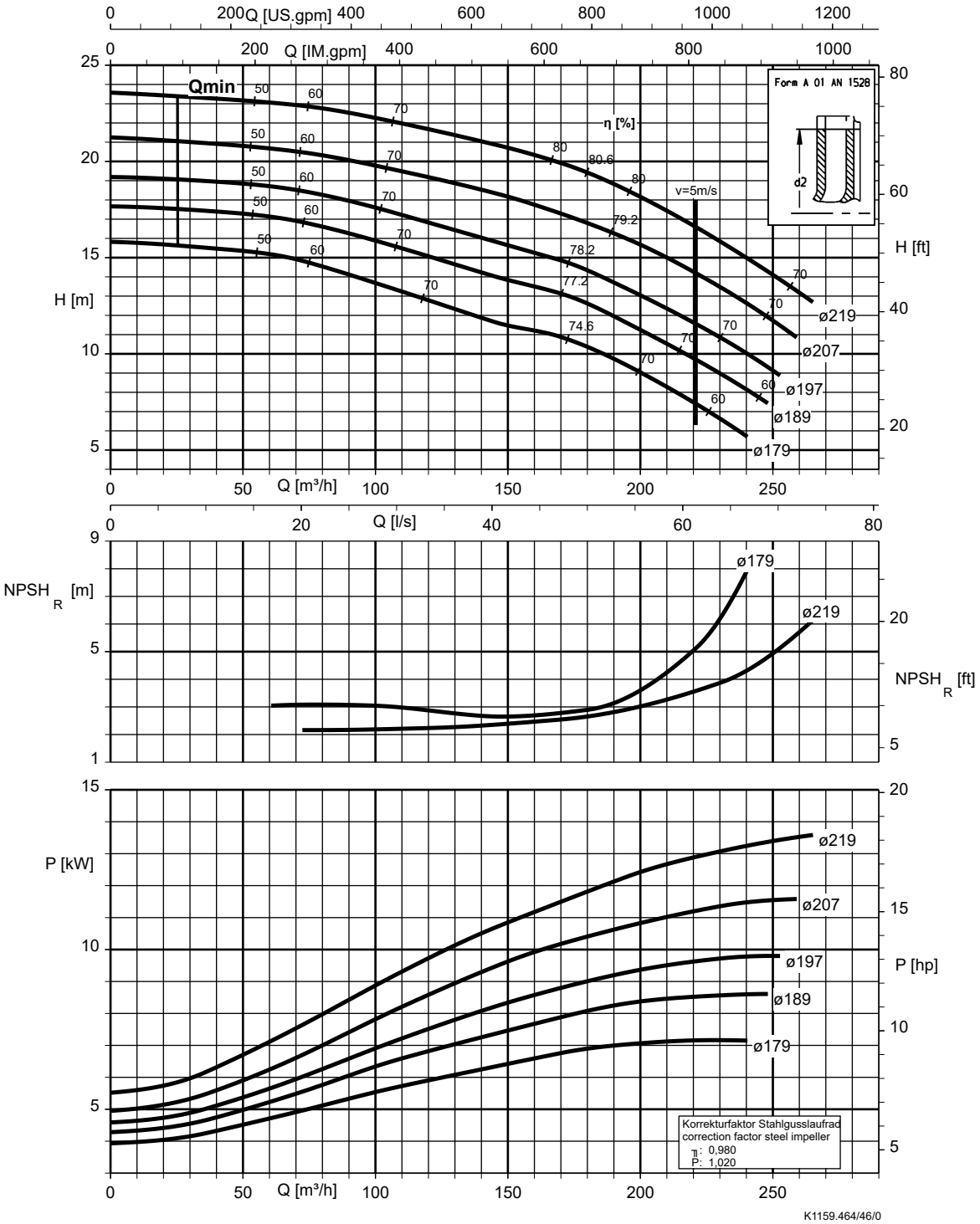


1159.5/08-EN

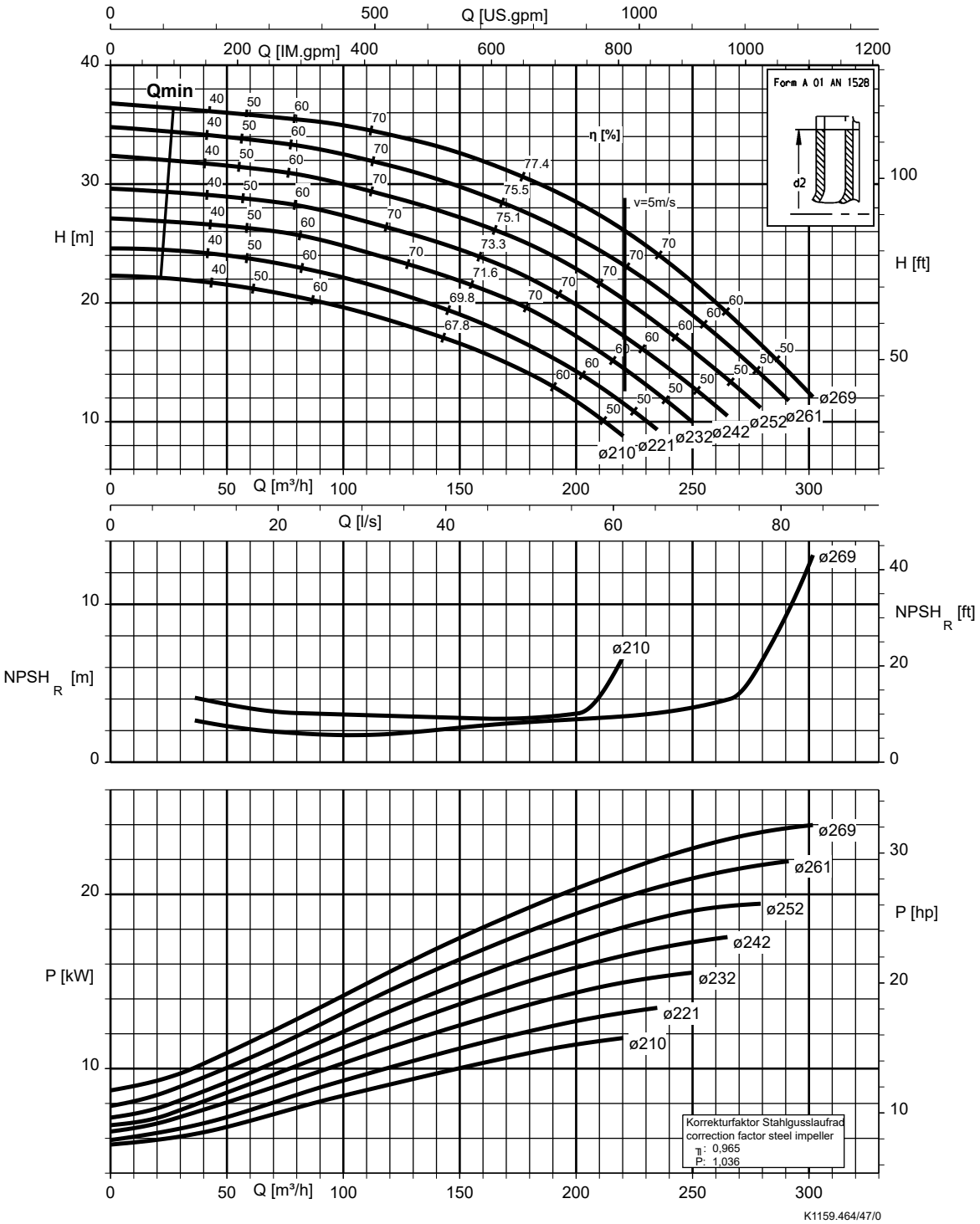
Etaline 125-125-160, n = 1750 rpm



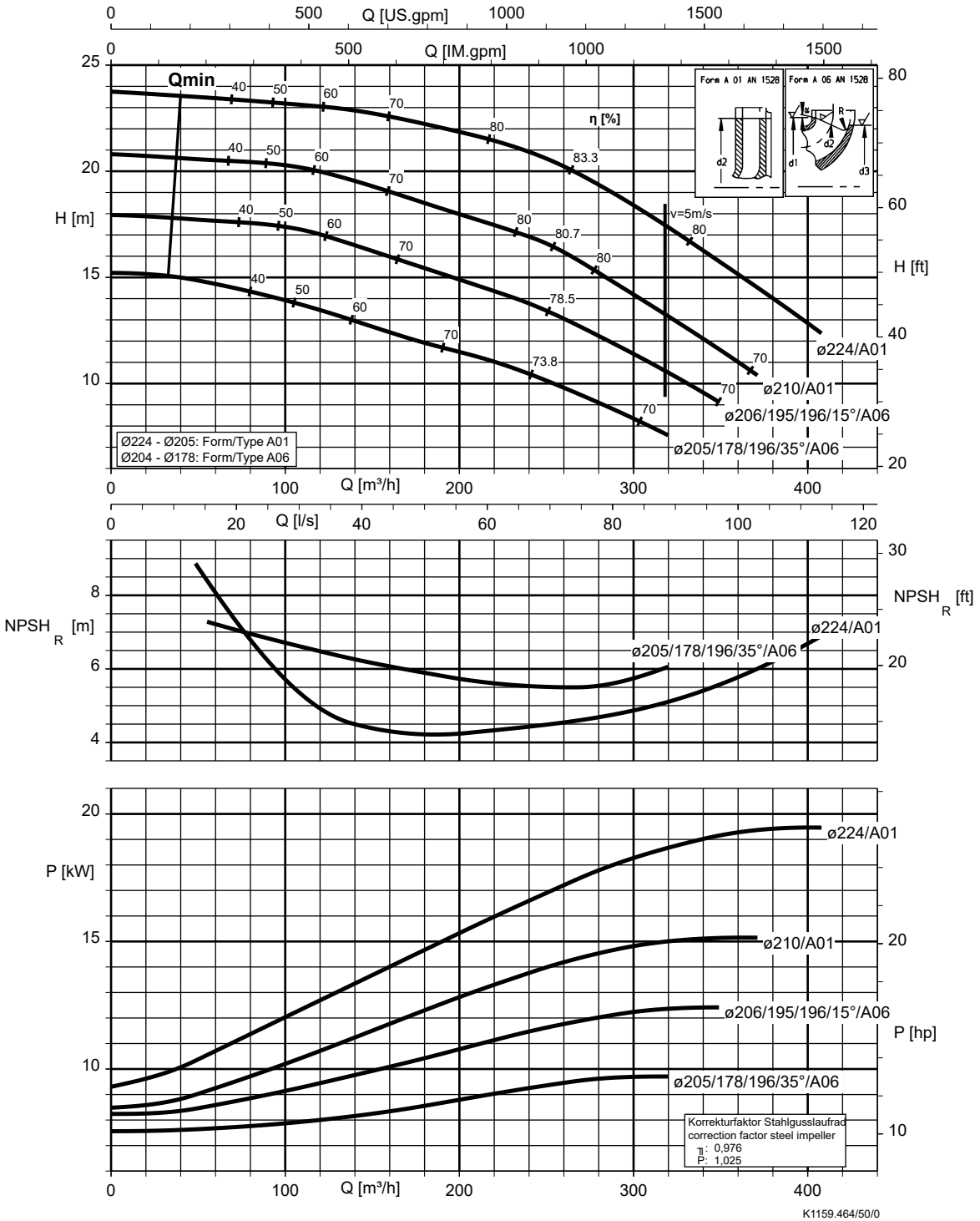
Etaline 125-125-200, n = 1750 rpm



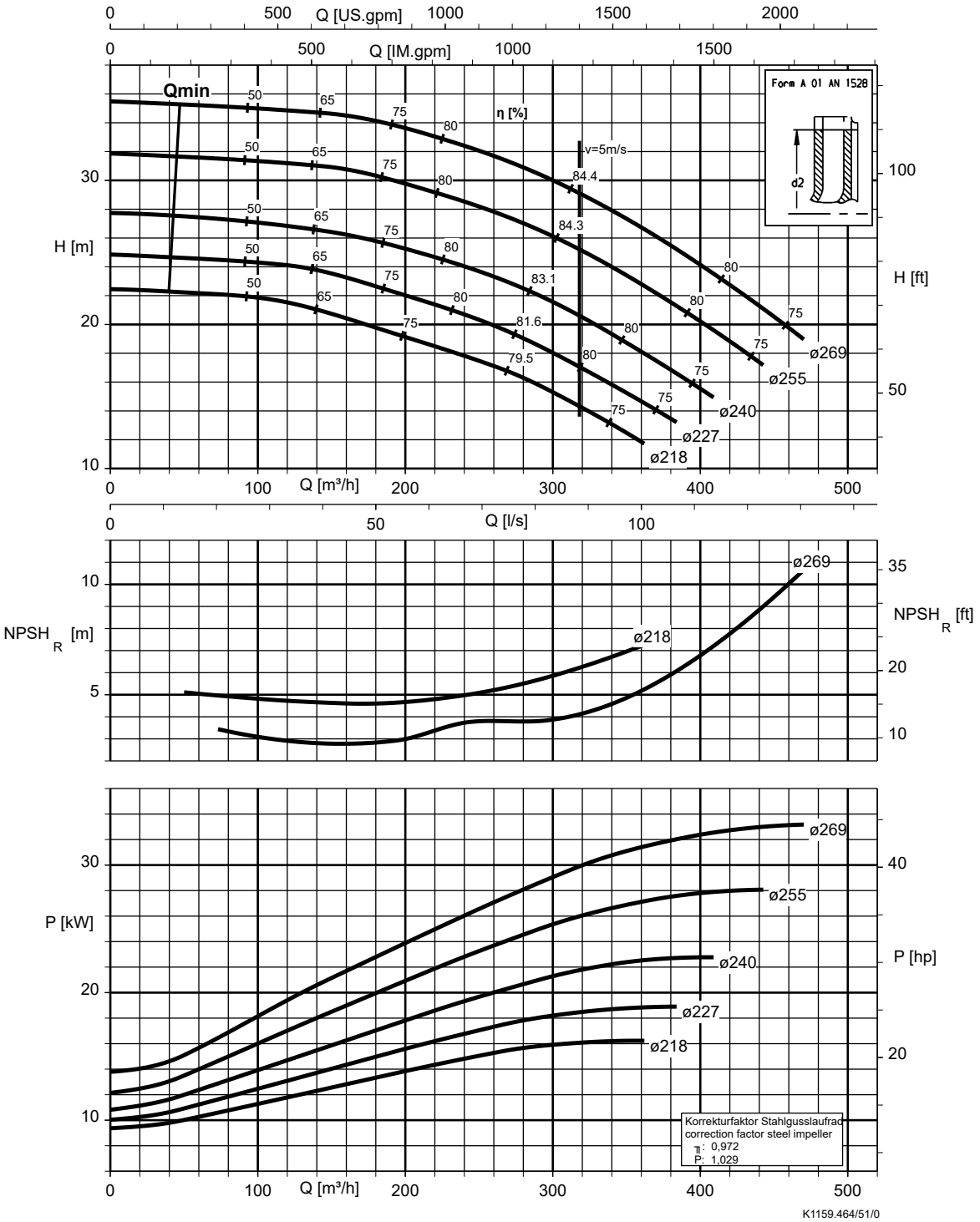
Etaline 125-125-250, n = 1750 rpm



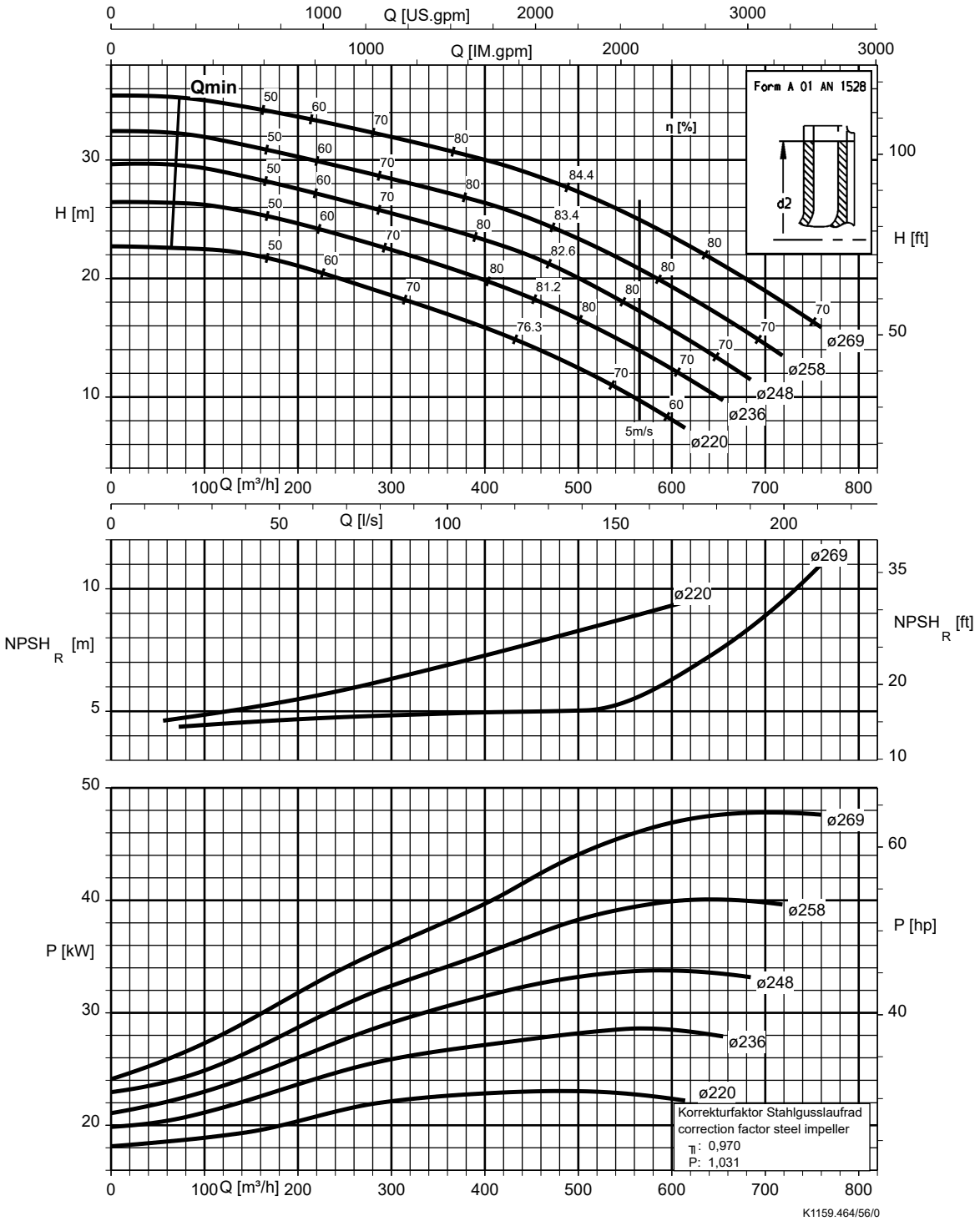
Etaline 150-150-200, n = 1750 rpm



Etaline 150-150-250, n = 1750 rpm

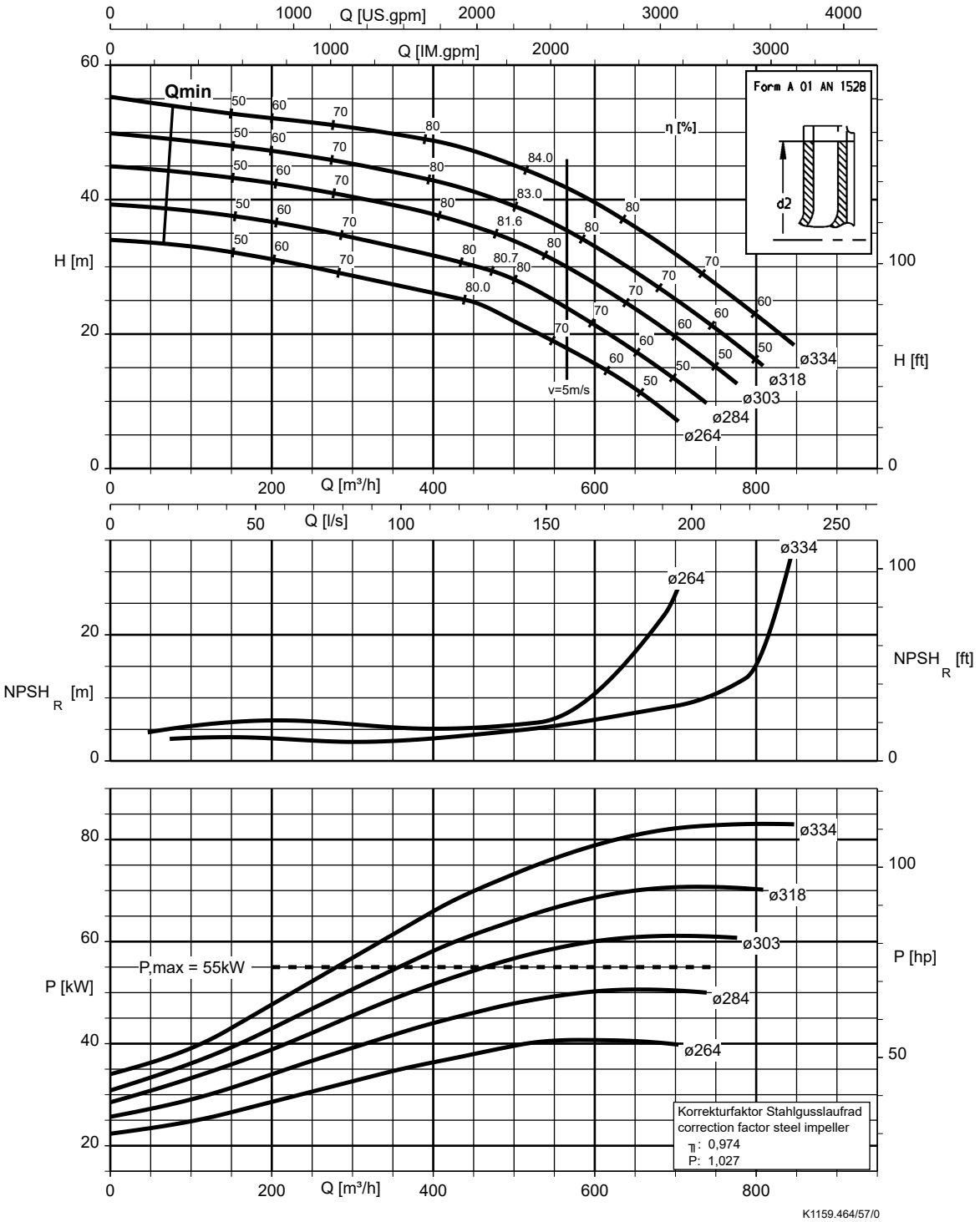


Etaline 200-200-250, n = 1750 rpm



1159.5/08-EN

Etaline 200-200-315, n = 1750 rpm



Dimensions

Pump set (fixed speed version), n = 2900 rpm (50 Hz) / n = 3500 rpm (60 Hz) / variable speed, 2-pole

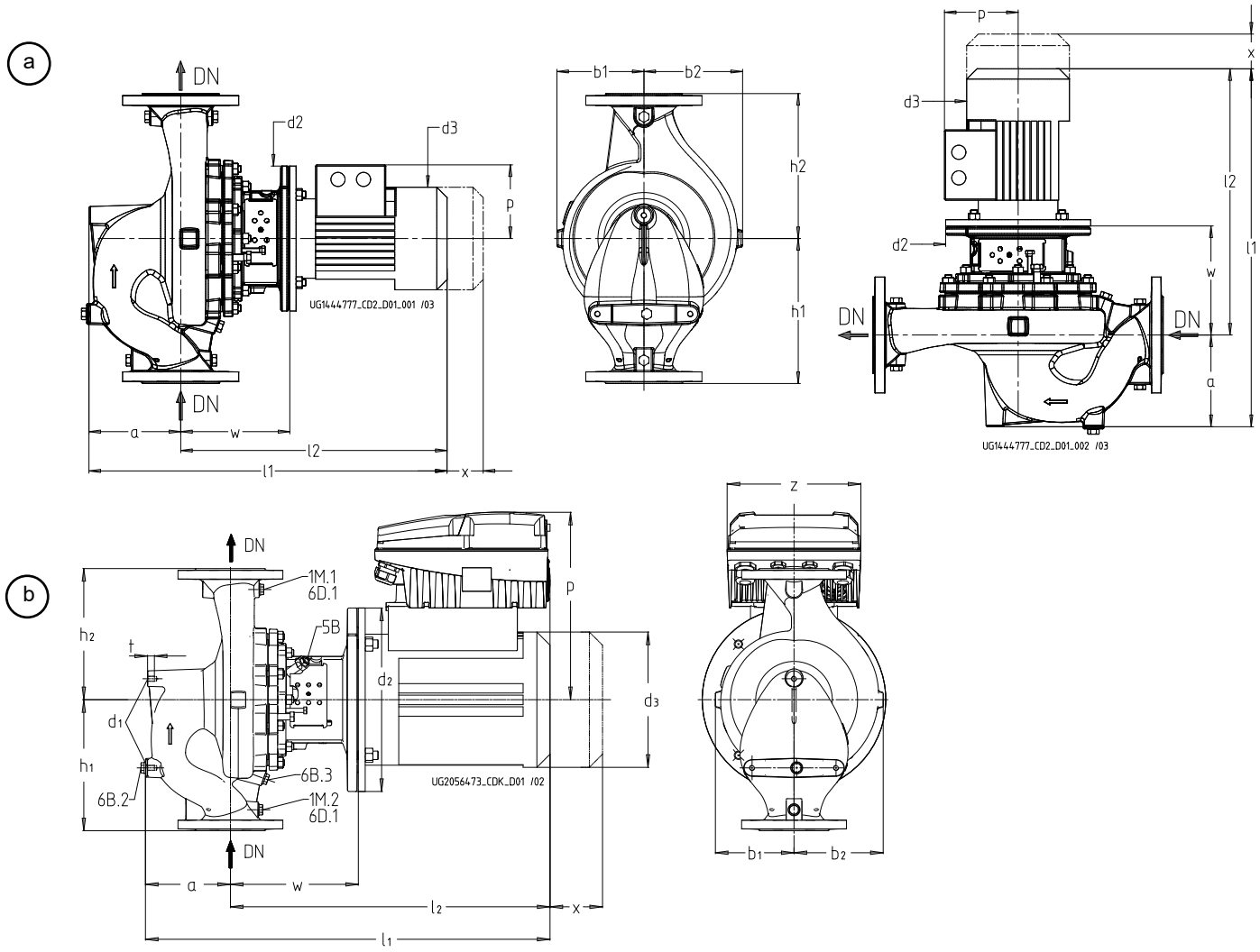


Fig. 2: Dimensions

a	Pump set	b	Pump set with PumpDrive 2

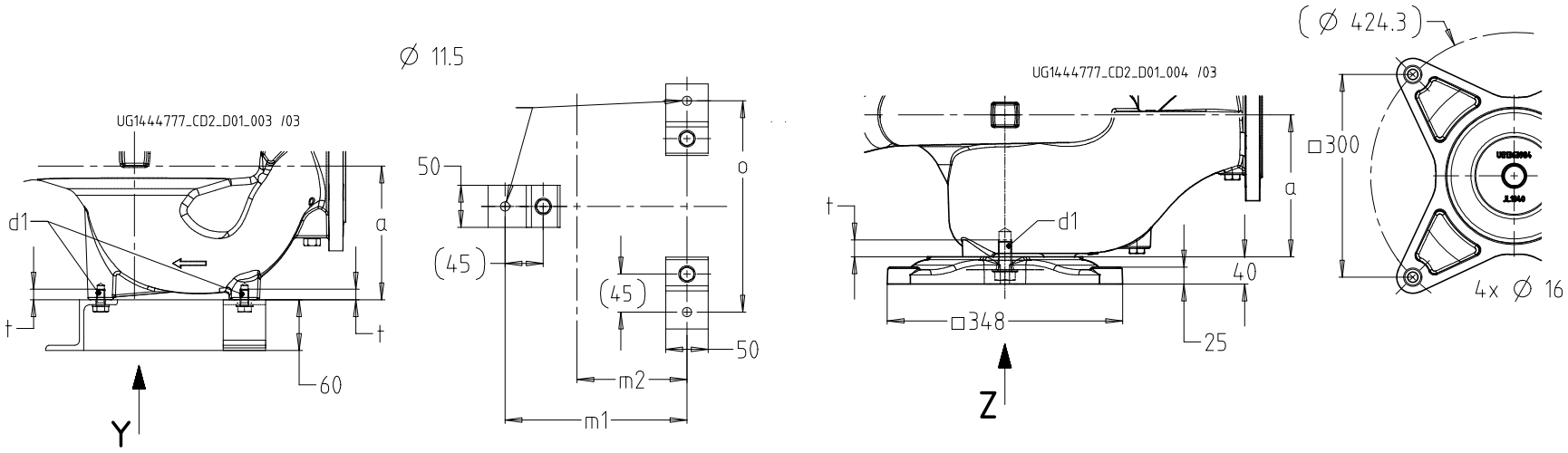


Fig. 3: Foundation fastening dimensions

Table 17: Pump set dimensions (fixed speed version), n = 2900 rpm (50 Hz) / n = 3500 rpm (60 Hz)/variable speed, 2-pole

Size	P_N [21]	Motor (IEC)	Variable speed, 2-pole	n		DN [22]	a	≈b_1	≈b_2	d_1	d_2	d_3 [23]	p^{23}	h_1	h_2	≈l_1 [24]	≈l_2 [24]	t	≈x^{25}	w	m_1	m_2	o	Variable speed version				
				2900	3500																			d_3 [26]	p^{26}	≈l_1 [26]	≈l_2 [26]	z^{26}
	[kW]			rpm		[mm]																						
32-32-160	1,1	80M	✗	✗	-	32	87	119	131	M10	200	162	163	180	160	544	457	12,5	100	156	175	100	190	154	258	528	441	220
32-32-160	1,5	90S	✗	✗	✗	32	87	119	131	M10	200	190	170	180	160	597	510	12,5	100	156	175	100	190	174	265	530	443	220
32-32-160	2,2	90L	✗	✗	✗	32	87	119	131	M10	200	190	170	180	160	597	510	12,5	100	156	175	100	190	174	255	554	467	220
32-32-160	3	100L	✗	✗	✗	32	87	119	131	M10	250	213	216	180	160	647	560	12,5	100	170	175	100	190	192	267	597	510	220
32-32-160	4	112M	✗	✗	✗	32	87	119	131	M10	250	235	230	180	160	629	542	12,5	100	170	175	100	190	216	315	622	535	211
32-32-160	5,5	132S	✗	✗	✗	32	87	119	131	M10	300	274	222	180	160	693	606	12,5	100	193	175	100	190	258	340	681	594	280
32-32-160	7,5	132S	✗	-	✗	32	87	119	131	M10	300	274	222	180	160	737	650	12,5	100	193	175	100	190	258	340	681	594	280
32-32-160	11	160M	✗	-	-	32	87	119	131	M10	350	325	261	180	160	859	772	12,5	100	226	175	100	190	310	369	816	729	280
32-32-160	15	160L	✗	-	-	32	87	119	131	M10	350	325	261	180	160	859	772	12,5	100	226	175	100	190	310	458	835	748	350
32-32-200	2,2	90L	✗	-	-	32	100	134	146	M10	200	190	170	250	190	610	510	12,5	100	156	175	100	190	174	255	567	467	220

21 Motor rating at 50 Hz
22 DN = EN 1092-2, PN 16
23 Standard IEC motor
24 For the exact motor-related dimensions refer to the general arrangement drawing in the pump data sheet.
25 The dimensions of IE3, IE4, and IE5 drives may differ slightly.
26 SuPremE motor (variable speed)

Size	P_N [21]	Motor (IEC)	Variable speed, 2-pole	n		DN [22]	a	≈b_1	≈b_2	d_1	d_2	d_3 [23]	p [23]	h_1	h_2	≈l_1 [24]	≈l_2 [24]	t	≈x [25]	w	m_1	m_2	o	Variable speed version				
				2900	3500																			d_3 [26]	p [26]	≈l_1 [26]	≈l_2 [26]	z [26]
	[kW]			rpm		[mm]																						
32-32-200	3	100L	✗	✗	-	32	100	134	146	M10	250	213	216	250	190	660	560	12,5	100	170	175	100	190	192	267	610	510	220
32-32-200	4	112M	✗	✗	-	32	100	134	146	M10	250	235	230	250	190	642	542	12,5	100	170	175	100	190	216	315	635	535	211
32-32-200	5,5	132S	✗	✗	✗	32	100	134	146	M10	300	274	222	250	190	706	606	12,5	100	193	175	100	190	258	340	694	594	280
32-32-200	7,5	132S	✗	✗	✗	32	100	134	146	M10	300	274	222	250	190	750	650	12,5	100	193	175	100	190	258	340	694	594	280
32-32-200	11	160M	✗	✗	✗	32	100	134	146	M10	350	325	261	250	190	872	772	12,5	100	226	175	100	190	310	369	829	729	280
32-32-200	15	160M	✗	-	✗	32	100	134	146	M10	350	325	261	250	190	872	772	12,5	100	226	175	100	190	310	458	848	748	350
40-40-160	1,5	90S	✗	-	-	40	114	118	132	M10	200	190	170	180	160	624	510	12,5	100	156	165	90	190	174	265	557	443	220
40-40-160	2,2	90L	✗	✗	-	40	114	118	132	M10	200	190	170	180	160	624	510	12,5	100	156	165	90	190	174	255	581	467	220
40-40-160	3	100L	✗	✗	✗	40	114	118	132	M10	250	213	216	180	160	674	560	12,5	100	170	165	90	190	192	267	624	510	220
40-40-160	4	112M	✗	✗	✗	40	114	118	132	M10	250	235	230	180	160	656	542	12,5	100	170	165	90	190	216	315	649	535	211
40-40-160	5,5	132S	✗	✗	✗	40	114	118	132	M10	300	274	222	180	160	720	606	12,5	100	193	165	90	190	258	340	708	594	280
40-40-160	7,5	132S	✗	✗	✗	40	114	118	132	M10	300	274	222	180	160	764	650	12,5	100	193	165	90	190	258	340	708	594	280
40-40-160	11	160M	✗	-	✗	40	114	118	132	M10	350	325	261	180	160	886	772	12,5	100	226	165	90	190	310	369	843	729	280
40-40-250	5,5	132S	✗	✗	-	40	104	163	173	M10	300	274	222	220	220	714	610	12,5	100	197	175	100	190	258	340	702	598	280
40-40-250	7,5	132S	✗	✗	-	40	104	163	173	M10	300	274	222	220	220	758	654	12,5	100	197	175	100	190	258	340	702	598	280
40-40-250	11	160M	✗	✗	✗	40	104	163	173	M10	350	325	261	220	220	880	776	12,5	100	230	175	100	190	310	369	837	733	280
40-40-250	15	160M	✗	✗	✗	40	104	163	173	M10	350	325	261	220	220	880	776	12,5	100	230	175	100	190	310	458	856	752	350
40-40-250	18,5	160L	✗	✗	✗	40	104	163	173	M10	350	325	261	220	220	916	812	12,5	100	230	175	100	190	310	458	882	778	350
40-40-250	22	180M	✗	✗	✗	40	104	163	173	M10	350	370	285	220	220	951	847	12,5	100	230	175	100	190	347	463	969	865	350
40-40-250	30	200L	✗	✗	✗	40	104	163	173	M10	400	422	326	220	220	1003	899	12,5	100	230	175	100	190	381	480	1070	966	350
40-40-250	37	200L	✗	-	✗	40	104	163	173	M10	400	422	326	220	220	1003	899	12,5	100	230	175	100	190	381	535	1122	1018	455
50-50-160	3	100L	✗	✗	✗	50	134	116	135	M10	250	213	216	250	190	694	560	12,5	100	170	175	100	190	192	267	644	510	220
50-50-160	4	112M	✗	✗	✗	50	134	116	135	M10	250	235	230	250	190	676	542	12,5	100	170	175	100	190	216	315	669	535	211
50-50-160	5,5	132S	✗	✗	✗	50	134	116	135	M10	300	274	222	250	190	740	606	12,5	100	193	175	100	190	258	340	728	594	280
50-50-160	7,5	132S	✗	✗	✗	50	134	116	135	M10	300	274	222	250	190	784	650	12,5	100	193	175	100	190	258	340	728	594	280
50-50-160	11	160M	✗	✗	✗	50	134	116	135	M10	350	325	261	250	190	906	772	12,5	100	226	175	100	190	310	369	863	729	280
50-50-160	15	160M	✗	-	✗	50	134	116	135	M10	350	325	261	250	190	906	772	12,5	100	226	175	100	190	310	458	882	748	350
50-50-160	18,5	160L	✗	-	-	50	134	116	135	M10	350	325	261	250	190	942	808	12,5	100	226	175	100	190	310	458	908	774	350
50-50-160	22	180M	✗	-	-	50	134	116	135	M10	350	370	285	250	190	977	843	12,5	100	226	175	100	190	347	463	995	861	350
50-50-160	30	200L	✗	-	-	50	134	116	135	M10	400	422	326	250	190	1029	895	12,5	100	226	175	100	190	381	480	1096	962	350
50-50-250	7,5	132S	✗	✗	-	50	129	167	182	M10	300	274	222	220	220	789	660	12,5	100	203	175	100	190	258	340	733	604	280
50-50-250	11	160M	✗	✗	✗	50	129	167	182	M10	350	325	261	220	220	911	782	12,5	100	236	175	100	190	310	369	868	739	280
50-50-250	15	160M	✗	✗	✗	50	129	167	182	M10	350	325	261	220	220	911	782	12,5	100	236	175	100	190	310	458	887	758	350
50-50-250	18,5	160L	✗	✗	✗	50	129	167	182	M10	350	325	261	220	220	947	818	12,5	100	236	175	100	190	310	458	913	784	350
50-50-250	22	180M	✗	✗	✗	50	129	167	182	M10	350	370	285	220	220	982	853	12,5	100	236	175	100	190	347	463	1000	871	350
50-50-250	30	200L	✗	✗	✗	50	129	167	182	M10	400	422	326	220	220	1034	905	12,5	100	236	175	100	190	381	480	1101	972	350
50-50-250	37	200L	✗	✗	✗	50	129	167	182	M10	400	422	326	220	220	1034	905	12,5	100	236	175	100	190	381	535	1153	1024	455
65-65-160	4	112M	✗	✗	-	65	150	114	135	M10	250	235	230	270	170	692	542	12,5	100	170	175	110	210	216	315	685	535	211
65-65-160	5,5	132S	✗	✗	✗	65	150	114	135	M10	300	274	222	270	170	756	606	12,5	100	193	175	110	210	258	340	744	594	280
65-65-160	7,5	132S	✗	✗	✗	65	150	114	135	M10	300	274	222	270	170	800	650	12,5	100	193	175	110	210	258	340	744	594	280

Size	P_N [21]	Motor (IEC)	Variable speed, 2-pole	n		DN [22]	a	≈b_1	≈b_2	d_1	d_2	d_3 [23]	p^{23}	h_1	h_2	≈l_1 [24]	≈l_2 [24]	t	≈x^{25}	w	m_1	m_2	o	Variable speed version				
				2900	3500																			d_3 [26]	p^{26}	≈l_1 [26]	≈l_2 [26]	z^{26}
	[kW]			rpm		[mm]																						
65-65-160	11	160M	✗	✗	✗	65	150	114	135	M10	350	325	261	270	170	922	772	12,5	100	226	175	110	210	310	369	879	729	280
65-65-160	15	160M	✗	✗	✗	65	150	114	135	M10	350	325	261	270	170	922	772	12,5	100	226	175	110	210	310	458	898	748	350
65-65-160	18,5	160L	✗	✗	✗	65	150	114	135	M10	350	325	261	270	170	958	808	12,5	100	226	175	110	210	310	458	924	774	350
65-65-160	22	180M	✗	-	✗	65	150	114	135	M10	350	370	285	270	170	993	843	12,5	100	226	175	110	210	347	463	1011	861	350
65-65-160	30	200L	✗	-	-	65	150	114	135	M10	400	422	326	270	170	1045	895	12,5	100	226	175	110	210	381	480	1112	962	350
65-65-160	37	200L	✗	-	-	65	150	114	135	M10	400	422	326	270	170	1045	895	12,5	100	226	175	110	210	381	535	1164	1014	455
65-65-250	11	160M	✗	✗	-	65	134	174	196	M10	350	325	261	225	250	936	802	12,5	100	256	175	100	220	310	369	893	759	280
65-65-250	15	160M	✗	✗	✗	65	134	174	196	M10	350	325	261	225	250	936	802	12,5	100	256	175	100	220	310	458	912	778	350
65-65-250	18,5	160L	✗	✗	✗	65	134	174	196	M10	350	325	261	225	250	972	838	12,5	100	256	175	100	220	310	458	938	804	350
65-65-250	22	180M	✗	✗	✗	65	134	174	196	M10	350	370	285	225	250	1007	873	12,5	100	256	175	100	220	347	463	1025	891	350
65-65-250	30	200L	✗	✗	✗	65	134	174	196	M10	400	422	326	225	250	1059	925	12,5	100	256	175	100	220	381	480	1126	992	350
65-65-250	37	200L	✗	✗	✗	65	134	174	196	M10	400	422	326	225	250	1059	925	12,5	100	256	175	100	220	381	535	1178	1044	455
80-80-160	4	112M	✗	-	-	80	176	119	147	M10	250	235	230	260	180	718	542	12,5	100	170	175	100	230	216	315	711	535	211
80-80-160	5,5	132S	✗	✗	-	80	176	119	147	M10	300	274	222	260	180	782	606	12,5	100	193	175	100	230	258	340	770	594	280
80-80-160	7,5	132S	✗	✗	✗	80	176	119	147	M10	300	274	222	260	180	826	650	12,5	100	193	175	100	230	258	340	770	594	280
80-80-160	11	160M	✗	✗	✗	80	176	119	147	M10	350	325	261	260	180	948	772	12,5	100	226	175	100	230	310	369	905	729	280
80-80-160	15	160M	✗	✗	✗	80	176	119	147	M10	350	325	261	260	180	948	772	12,5	100	226	175	100	230	310	458	924	748	350
80-80-160	18,5	160L	✗	✗	✗	80	176	119	147	M10	350	325	261	260	180	984	808	12,5	100	226	175	100	230	310	458	950	774	350
80-80-160	22	180M	✗	-	✗	80	176	119	147	M10	350	370	285	260	180	1019	843	12,5	100	226	175	100	230	347	463	1037	861	350
80-80-160	30	200L	✗	-	✗	80	176	119	147	M10	400	422	326	260	180	1071	895	12,5	100	226	175	100	230	381	480	1138	962	350
80-80-160	37	200L	✗	-	-	80	176	119	147	M10	400	422	326	260	180	1071	895	12,5	100	226	175	100	230	381	535	1190	1014	455
80-80-200	7,5	132S	✗	-	-	80	158	150	170	M10	300	274	222	250	250	826	668	12,5	140	211	215	130	250	258	340	770	612	280
80-80-200	11	160M	✗	✗	-	80	158	150	170	M10	350	325	261	250	250	948	790	12,5	140	244	215	130	250	310	369	905	747	280
80-80-200	15	160M	✗	✗	✗	80	158	150	170	M10	350	325	261	250	250	948	790	12,5	140	244	215	130	250	310	458	924	766	350
80-80-200	18,5	160L	✗	✗	✗	80	158	150	170	M10	350	325	261	250	250	984	826	12,5	140	244	215	130	250	310	458	950	792	350
80-80-200	22	180M	✗	✗	✗	80	158	150	170	M10	350	370	285	250	250	1019	861	12,5	140	244	215	130	250	347	463	1037	879	350
80-80-200	30	200L	✗	✗	✗	80	158	150	170	M10	400	422	326	250	250	1071	913	12,5	140	244	215	130	250	381	480	1138	980	350
80-80-200	37	200L	✗	✗	✗	80	158	150	170	M10	400	422	326	250	250	1071	913	12,5	140	244	215	130	250	381	535	1190	1032	455
100-100-125	3	100L	✗	-	-	100	129	112	160	M10	250	213	216	230	220	698	569	12,5	100	179	195	100	230	192	267	648	519	220
100-100-125	4	112M	✗	-	-	100	129	112	160	M10	250	235	230	230	220	680	551	12,5	100	179	195	100	230	216	315	673	544	211
100-100-125	5,5	132S	✗	✗	-	100	129	112	160	M10	300	274	222	230	220	744	615	12,5	100	202	195	100	230	258	340	732	603	280
100-100-125	7,5	132S	✗	✗	-	100	129	112	160	M10	300	274	222	230	220	788	659	12,5	100	202	195	100	230	258	340	732	603	280
100-100-125	11	160M	✗	✗	✗	100	129	112	160	M10	350	325	261	230	220	910	781	12,5	100	235	195	100	230	310	369	867	738	280
100-100-125	15	160M	✗	-	✗	100	129	112	160	M10	350	325	261	230	220	910	781	12,5	100	235	195	100	230	310	458	886	757	350
100-100-125	18,5	160L	✗	-	-	100	129	112	160	M10	350	325	261	230	220	946	817	12,5	100	235	195	100	230	310	458	912	783	350
100-100-125	22	180M	✗	-	-	100	129	112	160	M10	350	370	285	230	220	981	852	12,5	100	235	195	100	230	347	463	999	870	350
100-100-125	30	200L	✗	-	-	100	129	112	160	M10	400	422	326	230	220	1033	904	12,5	100	235	195	100	230	381	480	1100	971	350
100-100-160	7,5	132S	✗	-	-	100	156	128	163	M20	300	274	222	245	205	832	676	25	140	219	---	---	---	258	340	776	620	280
100-100-160	11	160M	✗	✗	-	100	156	128	163	M20	350	325	261	245	205	954	798	25	140	252	---	---	---	310	369	911	755	280
100-100-160	15	160M	✗	✗	✗	100	156	128	163	M20	350	325	261	245	205	954	798	25	140	252	---	---	---	310	458	930	774	350

Size	P_N [21]	Motor (IEC)	Variable speed, 2-pole	n		DN [22]	a	≈b_1	≈b_2	d_1	d_2	d_3 [23]	p [23]	h_1	h_2	≈l_1 [24]	≈l_2 [24]	t	≈x [25]	w	m_1	m_2	o	Variable speed version				
				2900	3500																			d_3 [26]	p [26]	≈l_1 [26]	≈l_2 [26]	z [26]
	[kW]			rpm		[mm]																						
100-100-160	18,5	160L	✗	✗	✗	100	156	128	163	M20	350	325	261	245	205	990	834	25	140	252	---	---	---	310	458	956	800	350
100-100-160	22	180M	✗	✗	✗	100	156	128	163	M20	350	370	285	245	205	1025	869	25	140	252	---	---	---	347	463	1043	887	350
100-100-160	30	200L	✗	✗	✗	100	156	128	163	M20	400	422	326	245	205	1077	921	25	140	252	---	---	---	381	480	1144	988	350
100-100-160	37	200L	✗	-	✗	100	156	128	163	M20	400	422	326	245	205	1077	921	25	140	252	---	---	---	381	535	1196	1040	455
125-125-160	11	160M	✗	-	-	125	203	182	226	M20	350	325	261	420	280	995	792	25	140	246	---	---	---	310	369	952	749	280
125-125-160	15	160M	✗	-	-	125	203	182	226	M20	350	325	261	420	280	995	792	25	140	246	---	---	---	310	458	971	768	350
125-125-160	18,5	160L	✗	✗	-	125	203	182	226	M20	350	325	261	420	280	1031	828	25	140	246	---	---	---	310	458	997	794	350
125-125-160	22	180M	✗	✗	-	125	203	182	226	M20	350	370	285	420	280	1066	863	25	140	246	---	---	---	347	463	1084	881	350
125-125-160	30	200L	✗	✗	✗	125	203	182	226	M20	400	422	326	420	280	1118	915	25	140	246	---	---	---	381	480	1185	982	350
125-125-160	37	200L	✗	✗	✗	125	203	182	226	M20	400	422	326	420	280	1118	915	25	140	246	---	---	---	381	535	1237	1034	455
125-125-160	45	225M	✗	-	✗	125	203	182	226	M20	450	468	372	420	280	1235	1032	25	140	277	---	---	---	431	556	1268	1065	455
125-125-160	55	250M	✗	-	-	125	203	182	226	M20	550	520	451	420	280	1309	1106	25	140	289	---	---	---	---	---	---	---	---
125-125-200	22	180M	✗	✗	-	125	205,5	175	214	M20	350	370	285	380	320	1068,5	863	25	140	246	---	---	---	347	463	1086,5	881	350
125-125-200	30	200L	✗	✗	-	125	205,5	175	214	M20	400	422	326	380	320	1120,5	915	25	140	246	---	---	---	381	480	1187,5	982	350
125-125-200	37	200L	✗	✗	-	125	205,5	175	214	M20	400	422	326	380	320	1120,5	915	25	140	246	---	---	---	381	535	1239,5	1034	455
125-125-200	45	225M	✗	✗	-	125	205,5	175	214	M20	450	468	372	380	320	1237,5	1032	25	140	277	---	---	---	431	556	1270,5	1065	455
125-125-200	55	250M	✗	-	-	125	205,5	175	214	M20	550	520	451	380	320	1311,5	1106	25	140	289	---	---	---	---	---	---	---	---

Pump set (fixed speed version), n = 1450 rpm (50 Hz) / n = 1750 rpm (60 Hz) / variable speed, 4-pole

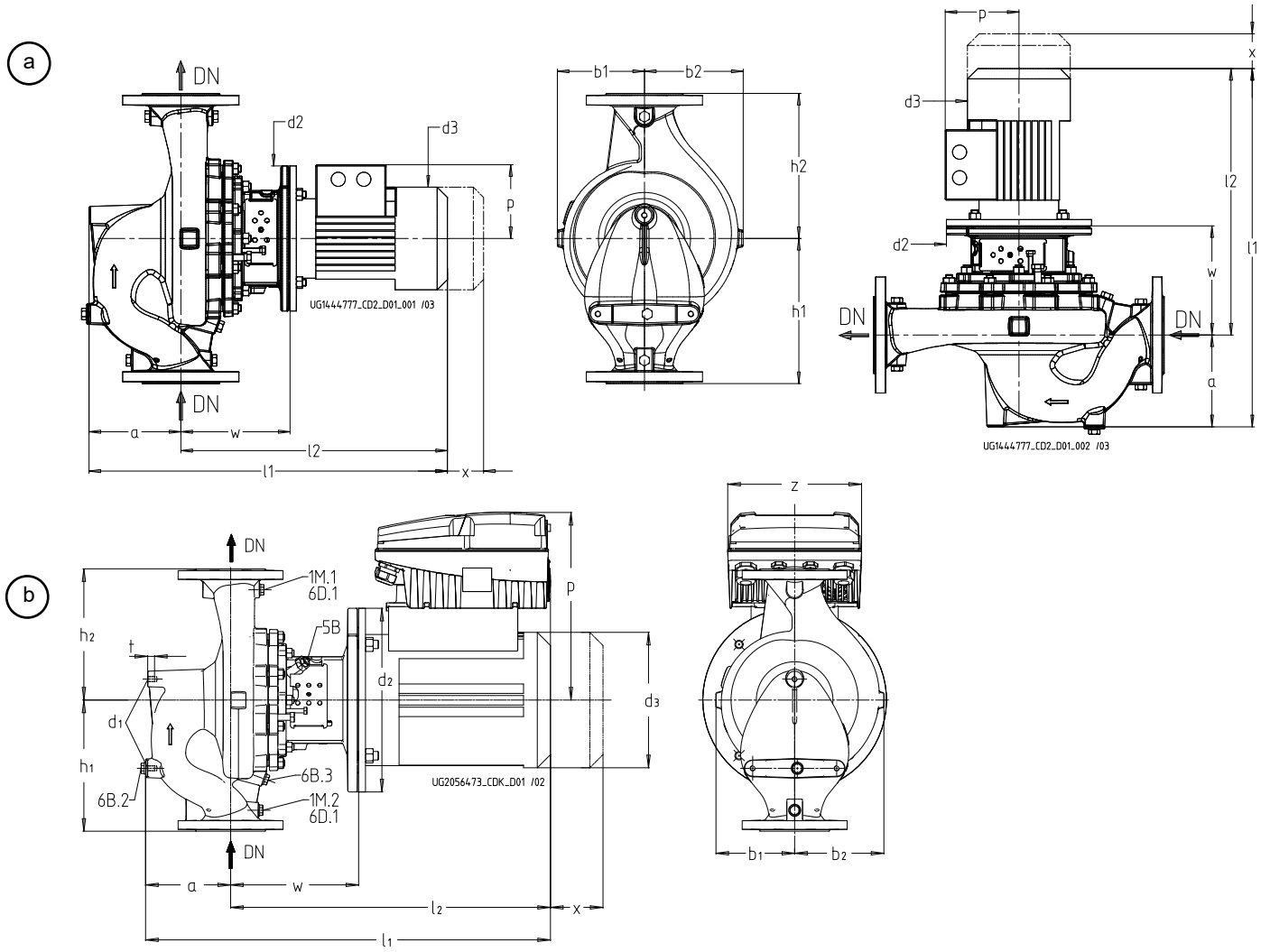


Fig. 4: Dimensions

a	Pump set	b	Pump set with PumpDrive 2

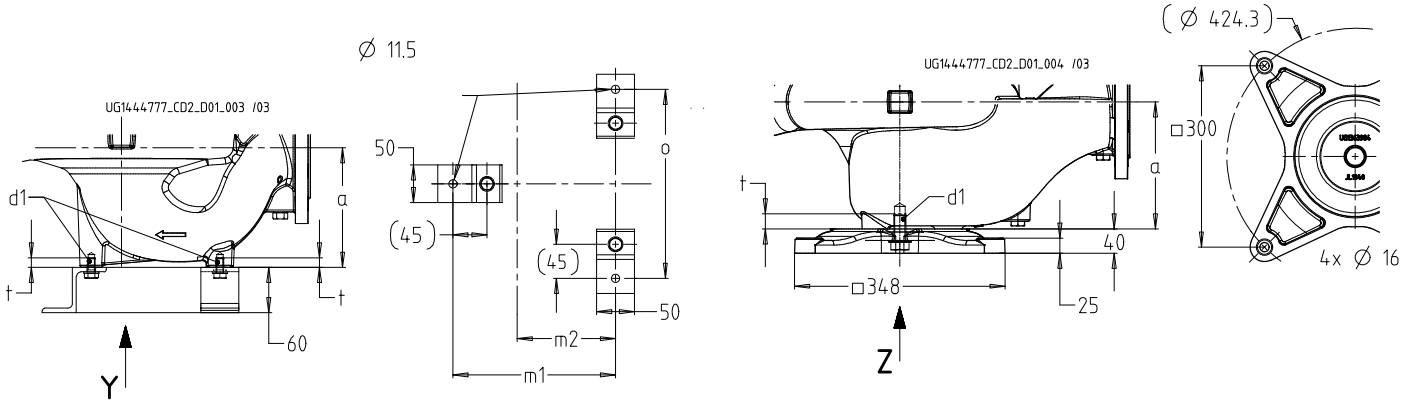


Fig. 5: Foundation fastening dimensions

Table 18: Pump set dimensions (fixed speed version), n = 1450 rpm (50 Hz) / n = 1750 rpm (60 Hz) / variable speed, 4-pole

Size	P_N [27]	Motor (IEC)	Variable speed, 4-pole	n		DN [28]	a	≈b_1	≈b_2	d_1	d_2	d_3 [29]	p [29]	h_1	h_2	≈l_1 [30]	≈l_2 [30]	t	≈x [31]	w	m_1	m_2	o	Variable speed version				
				1450	1750																			d_3 [32]	p [32]	l_1 [32]	l_2 [32]	z [32]
	[kW]			rpm		[mm]																						
32-32-160	0,25	71M	✗	✗	✗	32	87	119	131	M10	160	145	111	180	160	460	373	12,5	100	136	175	100	190	---	---	---	---	---
32-32-160	0,37	71M	✗	✗	✗	32	87	119	131	M10	160	145	111	180	160	460	373	12,5	100	136	175	100	190	---	---	---	---	---
32-32-160	0,55	80M	✗	✗	✗	32	87	119	131	M10	200	162	163	180	160	512	425	12,5	100	156	175	100	190	154	258	528	441	220
32-32-160	0,75	80M	✗	✗	✗	32	87	119	131	M10	200	162	163	180	160	544	457	12,5	100	156	175	100	190	154	258	528	441	220
32-32-160	1,1	90S	✗	-	✗	32	87	119	131	M10	200	190	170	180	160	597	510	12,5	100	156	175	100	190	174	265	542	455	220
32-32-160	1,5	90L	✗	-	-	32	87	119	131	M10	200	190	170	180	160	597	510	12,5	100	156	175	100	190	174	265	554	467	220
32-32-200	0,37	71M	✗	✗	-	32	100	134	146	M10	160	145	111	250	190	473	373	12,5	100	136	175	100	190	---	---	---	---	---
32-32-200	0,55	80M	✗	✗	-	32	100	134	146	M10	200	162	163	250	190	525	425	12,5	100	156	175	100	190	154	258	541	441	220
32-32-200	0,75	80M	✗	✗	✗	32	100	134	146	M10	200	162	163	250	190	557	457	12,5	100	156	175	100	190	154	258	541	441	220
32-32-200	1,1	90S	✗	✗	✗	32	100	134	146	M10	200	190	170	250	190	610	510	12,5	100	156	175	100	190	174	265	555	455	220
32-32-200	1,5	90L	✗	-	✗	32	100	134	146	M10	200	190	170	250	190	610	510	12,5	100	156	175	100	190	174	265	567	467	220
32-32-200	2,2	100L	✗	-	✗	32	100	134	146	M10	250	213	216	250	190	660	560	12,5	100	170	175	100	190	192	267	610	510	220
40-40-160	0,37	71M	✗	✗	✗	40	114	118	132	M10	160	145	111	180	160	487	373	12,5	100	136	165	90	190	---	---	---	---	---

27 Motor rating at 50 Hz
28 DN = EN 1092-2, PN 16
29 Standard IEC motor
30 For the exact motor-related dimensions refer to the general arrangement drawing in the pump data sheet.
31 The dimensions of IE3, IE4, and IE5 drives may differ slightly.
32 SuPremE motor (variable speed)

Size	P_N [27]	Motor (IEC)	Variable speed, 4-pole	n		DN [28]	a	≈b_1	≈b_2	d_1	d_2	d_3 [29]	p [29]	h_1	h_2	≈l_1 [30]	≈l_2 [30]	t	≈x [31]	w	m_1	m_2	o	Variable speed version				
				1450	1750																			d_3 [32]	p [32]	l_1 [32]	l_2 [32]	z [32]
	[kW]			rpm		[mm]																						
40-40-160	0,55	80M	✗	✗	✗	40	114	118	132	M10	200	162	163	180	160	539	425	12,5	100	156	165	90	190	154	258	555	441	220
40-40-160	0,75	80M	✗	✗	✗	40	114	118	132	M10	200	162	163	180	160	571	457	12,5	100	156	165	90	190	154	258	555	441	220
40-40-160	1,1	90S	✗	✗	✗	40	114	118	132	M10	200	190	170	180	160	624	510	12,5	100	156	165	90	190	174	265	569	455	220
40-40-160	1,5	90L	✗	-	✗	40	114	118	132	M10	200	190	170	180	160	624	510	12,5	100	156	165	90	190	174	265	581	467	220
40-40-160	2,2	100L	✗	-	-	40	114	118	132	M10	250	213	216	180	160	674	560	12,5	100	170	165	90	190	192	267	624	510	220
40-40-250	0,55	80M	✗	-	-	40	104	163	173	M10	200	162	163	220	220	533	429	12,5	100	160	175	100	190	154	258	549	445	220
40-40-250	0,75	80M	✗	✗	-	40	104	163	173	M10	200	162	163	220	220	565	461	12,5	100	160	175	100	190	154	258	549	445	220
40-40-250	1,1	90S	✗	✗	✗	40	104	163	173	M10	200	190	170	220	220	618	514	12,5	100	160	175	100	190	174	265	563	459	220
40-40-250	1,5	90L	✗	✗	✗	40	104	163	173	M10	200	190	170	220	220	618	514	12,5	100	160	175	100	190	174	265	575	471	220
40-40-250	2,2	100L	✗	✗	✗	40	104	163	173	M10	250	213	216	220	220	668	564	12,5	100	174	175	100	190	192	267	618	514	220
40-40-250	3	100L	✗	✗	✗	40	104	163	173	M10	250	213	216	220	220	668	564	12,5	100	174	175	100	190	192	267	618	514	220
40-40-250	4	112M	✗	✗	✗	40	104	163	173	M10	250	235	230	220	220	650	546	12,5	100	174	175	100	190	216	315	643	539	211
40-40-250	5,5	132S	✗	-	✗	40	104	163	173	M10	300	274	222	220	220	758	654	12,5	100	197	175	100	190	258	340	702	598	280
40-40-250	7,5	132M	✗	-	-	40	104	163	173	M10	300	298	222	220	220	758	654	12,5	100	197	175	100	190	258	340	740	636	280
50-50-160	0,37	71M	✗	✗	-	50	134	116	135	M10	160	145	111	250	190	507	373	12,5	100	136	175	100	190	---	---	---	---	---
50-50-160	0,55	80M	✗	✗	-	50	134	116	135	M10	200	162	163	250	190	559	425	12,5	100	156	175	100	190	154	258	575	441	220
50-50-160	0,75	80M	✗	✗	✗	50	134	116	135	M10	200	162	163	250	190	591	457	12,5	100	156	175	100	190	154	258	575	441	220
50-50-160	1,1	90S	✗	✗	✗	50	134	116	135	M10	200	190	170	250	190	644	510	12,5	100	156	175	100	190	174	265	589	455	220
50-50-160	1,5	90L	✗	✗	✗	50	134	116	135	M10	200	190	170	250	190	644	510	12,5	100	156	175	100	190	174	265	601	467	220
50-50-160	2,2	100L	✗	-	✗	50	134	116	135	M10	250	213	216	250	190	694	560	12,5	100	170	175	100	190	192	267	644	510	220
50-50-160	3	100L	✗	-	-	50	134	116	135	M10	250	213	216	250	190	694	560	12,5	100	170	175	100	190	192	267	644	510	220
50-50-160	4	112M	✗	-	-	50	134	116	135	M10	250	235	230	250	190	676	542	12,5	100	170	175	100	190	216	315	669	535	211
50-50-250	0,75	80M	✗	-	-	50	129	167	182	M10	200	162	163	220	220	596	467	12,5	100	166	175	100	190	154	258	580	451	220
50-50-250	1,1	90S	✗	✗	-	50	129	167	182	M10	200	190	170	220	220	649	520	12,5	100	166	175	100	190	174	265	594	465	220
50-50-250	1,5	90L	✗	✗	-	50	129	167	182	M10	200	190	170	220	220	649	520	12,5	100	166	175	100	190	174	265	606	477	220
50-50-250	2,2	100L	✗	✗	✗	50	129	167	182	M10	250	213	216	220	220	699	570	12,5	100	180	175	100	190	192	267	649	520	220
50-50-250	3	100L	✗	✗	✗	50	129	167	182	M10	250	213	216	220	220	699	570	12,5	100	180	175	100	190	192	267	649	520	220
50-50-250	4	112M	✗	✗	✗	50	129	167	182	M10	250	235	230	220	220	681	552	12,5	100	180	175	100	190	216	315	674	545	211
50-50-250	5,5	132S	✗	✗	✗	50	129	167	182	M10	300	274	222	220	220	789	660	12,5	100	203	175	100	190	258	340	733	604	280
50-50-250	7,5	132M	✗	-	✗	50	129	167	182	M10	300	298	222	220	220	789	660	12,5	100	203	175	100	190	258	340	771	642	280
50-50-250	11	160M	✗	-	-	50	129	167	182	M10	350	325	261	220	220	911	782	12,5	100	236	175	100	190	310	369	868	739	280
65-65-160	0,55	80M	✗	✗	-	65	150	114	135	M10	200	162	163	270	170	575	425	12,5	100	156	175	110	210	154	258	591	441	220
65-65-160	0,75	80M	✗	✗	✗	65	150	114	135	M10	200	162	163	270	170	607	457	12,5	100	156	175	110	210	154	258	591	441	220
65-65-160	1,1	90S	✗	✗	✗	65	150	114	135	M10	200	190	170	270	170	660	510	12,5	100	156	175	110	210	174	265	605	455	220
65-65-160	1,5	90L	✗	✗	✗	65	150	114	135	M10	200	190	170	270	170	660	510	12,5	100	156	175	110	210	174	265	617	467	220
65-65-160	2,2	100L	✗	✗	✗	65	150	114	135	M10	250	213	216	270	170	710	560	12,5	100	170	175	110	210	192	267	660	510	220
65-65-160	3	100L	✗	-	✗	65	150	114	135	M10	250	213	216	270	170	710	560	12,5	100	170	175	110	210	192	267	660	510	220
65-65-160	4	112M	✗	-	-	65	150	114	135	M10	250	235	230	270	170	692	542	12,5	100	170	175	110	210	216	315	685	535	211
65-65-160	5,5	132S	✗	-	-	65	150	114	135	M10	300	274	222	270	170	800	650	12,5	100	193	175	110	210	258	340	744	594	280
65-65-250	1,1	90S	✗	-	-	65	134	174	196	M10	200	190	170	225	250	674	540	12,5	100	186	175	100	220	174	265	619	485	220

Size	P_N [27]	Motor (IEC)	Variable speed, 4-pole	n		DN [28]	a	≈b_1	≈b_2	d_1	d_2	d_3 [29]	p [29]	h_1	h_2	≈l_1 [30]	≈l_2 [30]	t	≈x [31]	w	m_1	m_2	o	Variable speed version				
				1450	1750																			d_3 [32]	p [32]	l_1 [32]	l_2 [32]	z [32]
	[kW]			rpm		[mm]																						
65-65-250	1,5	90L	✗	✗	-	65	134	174	196	M10	200	190	170	225	250	674	540	12,5	100	186	175	100	220	174	265	631	497	220
65-65-250	2,2	100L	✗	✗	✗	65	134	174	196	M10	250	213	216	225	250	724	590	12,5	100	200	175	100	220	192	267	674	540	220
65-65-250	3	100L	✗	✗	✗	65	134	174	196	M10	250	213	216	225	250	724	590	12,5	100	200	175	100	220	192	267	674	540	220
65-65-250	4	112M	✗	✗	✗	65	134	174	196	M10	250	235	230	225	250	706	572	12,5	100	200	175	100	220	216	315	699	565	211
65-65-250	5,5	132S	✗	✗	✗	65	134	174	196	M10	300	274	222	225	250	814	680	12,5	100	223	175	100	220	258	340	758	624	280
65-65-250	7,5	132M	✗	✗	✗	65	134	174	196	M10	300	298	222	225	250	814	680	12,5	100	223	175	100	220	258	340	796	662	280
65-65-250	11	160M	✗	-	✗	65	134	174	196	M10	350	325	261	225	250	936	802	12,5	100	256	175	100	220	310	369	893	759	280
65-65-250	15	160L	✗	-	-	65	134	174	196	M10	350	325	261	225	250	972	838	12,5	100	256	175	100	220	310	458	938	804	350
80-80-160	0,55	80M	✗	✗	-	80	176	119	147	M10	200	162	163	260	180	601	425	12,5	100	156	175	100	230	154	258	617	441	220
80-80-160	0,75	80M	✗	✗	-	80	176	119	147	M10	200	162	163	260	180	633	457	12,5	100	156	175	100	230	154	258	617	441	220
80-80-160	1,1	90S	✗	✗	✗	80	176	119	147	M10	200	190	170	260	180	686	510	12,5	100	156	175	100	230	174	265	631	455	220
80-80-160	1,5	90L	✗	✗	✗	80	176	119	147	M10	200	190	170	260	180	686	510	12,5	100	156	175	100	230	174	265	643	467	220
80-80-160	2,2	100L	✗	✗	✗	80	176	119	147	M10	250	213	216	260	180	736	560	12,5	100	170	175	100	230	192	267	686	510	220
80-80-160	3	100L	✗	✗	✗	80	176	119	147	M10	250	213	216	260	180	736	560	12,5	100	170	175	100	230	192	267	686	510	220
80-80-160	4	112M	✗	-	✗	80	176	119	147	M10	250	235	230	260	180	718	542	12,5	100	170	175	100	230	216	315	711	535	211
80-80-160	5,5	132S	✗	-	-	80	176	119	147	M10	300	274	222	260	180	826	650	12,5	100	193	175	100	230	258	340	770	594	280
80-80-200	1,1	90S	✗	✗	-	80	158	150	170	M10	200	190	170	250	250	686	528	12,5	140	174	215	130	250	174	265	631	473	220
80-80-200	1,5	90L	✗	✗	-	80	158	150	170	M10	200	190	170	250	250	686	528	12,5	140	174	215	130	250	174	265	643	485	220
80-80-200	2,2	100L	✗	✗	✗	80	158	150	170	M10	250	213	216	250	250	736	578	12,5	140	188	215	130	250	192	267	686	528	220
80-80-200	3	100L	✗	✗	✗	80	158	150	170	M10	250	213	216	250	250	736	578	12,5	140	188	215	130	250	192	267	686	528	220
80-80-200	4	112M	✗	✗	✗	80	158	150	170	M10	250	235	230	250	250	718	560	12,5	140	188	215	130	250	216	315	711	553	211
80-80-200	5,5	132S	✗	✗	✗	80	158	150	170	M10	300	274	222	250	250	826	668	12,5	140	211	215	130	250	258	340	770	612	280
80-80-200	7,5	132M	✗	-	✗	80	158	150	170	M10	300	298	222	250	250	826	668	12,5	140	211	215	130	250	258	340	808	650	280
80-80-200	11	160M	✗	-	-	80	158	150	170	M10	350	325	261	250	250	948	790	12,5	140	244	215	130	250	310	369	905	747	280
80-80-250	2,2	100L	✗	✗	-	80	187	173	193	M10	250	213	216	350	270	767	580	12,5	140	190	180	105	230	192	267	717	530	220
80-80-250	3	100L	✗	✗	✗	80	187	173	193	M10	250	213	216	350	270	767	580	12,5	140	190	180	105	230	192	267	717	530	220
80-80-250	4	112M	✗	✗	✗	80	187	173	193	M10	250	235	230	350	270	749	562	12,5	140	190	180	105	230	216	315	742	555	211
80-80-250	5,5	132S	✗	✗	✗	80	187	173	193	M10	300	274	222	350	270	857	670	12,5	140	213	180	105	230	258	340	801	614	280
80-80-250	7,5	132M	✗	✗	✗	80	187	173	193	M10	300	298	222	350	270	857	670	12,5	140	213	180	105	230	258	340	839	652	280
80-80-250	11	160M	✗	✗	✗	80	187	173	193	M10	350	325	261	350	270	979	792	12,5	140	246	180	105	230	310	369	936	749	280
80-80-250	15	160L	✗	-	✗	80	187	173	193	M10	350	325	261	350	270	1015	828	12,5	140	246	180	105	230	310	458	981	794	350
80-80-250	18,5	180M	✗	-	-	80	187	173	193	M10	350	370	285	350	270	1050	863	12,5	140	246	180	105	230	347	463	1068	881	350
100-100-125	0,37	71M	✗	-	-	100	129	112	160	M10	160	145	111	230	220	511	382	12,5	100	145	195	100	230	---	---	---	---	---
100-100-125	0,55	80M	✗	-	-	100	129	112	160	M10	200	162	163	230	220	563	434	12,5	100	165	195	100	230	154	258	579	450	220
100-100-125	0,75	80M	✗	✗	-	100	129	112	160	M10	200	162	163	230	220	595	466	12,5	100	165	195	100	230	154	258	579	450	220
100-100-125	1,1	90S	✗	✗	✗	100	129	112	160	M10	200	190	170	230	220	648	519	12,5	100	165	195	100	230	174	265	593	464	220
100-100-125	1,5	90L	✗	✗	✗	100	129	112	160	M10	200	190	170	230	220	648	519	12,5	100	165	195	100	230	174	265	605	476	220
100-100-125	2,2	100L	✗	-	✗	100	129	112	160	M10	250	213	216	230	220	698	569	12,5	100	179	195	100	230	192	267	648	519	220
100-100-125	3	100L	✗	-	-	100	129	112	160	M10	250	213	216	230	220	698	569	12,5	100	179	195	100	230	192	267	648	519	220
100-100-125	4	112M	✗	-	-	100	129	112	160	M10	250	235	230	230	220	680	551	12,5	100	179	195	100	230	216	315	673	544	211

Size	P_N [27]	Motor (IEC)	Variable speed, 4-pole	n		DN [28]	a	≈b_1	≈b_2	d_1	d_2	d_3 [29]	p [29]	h_1	h_2	≈l_1 [30]	≈l_2 [30]	t	≈x [31]	w	m_1	m_2	o	Variable speed version				
				1450	1750																			d_3 [32]	p [32]	l_1 [32]	l_2 [32]	z [32]
	[kW]			rpm		[mm]																						
100-100-160	0,75	80M	✗	-	-	100	156	128	163	M20	200	162	163	245	205	639	483	25	140	182	---	---	---	154	258	623	467	220
100-100-160	1,1	90S	✗	-	-	100	156	128	163	M20	200	190	170	245	205	692	536	25	140	182	---	---	---	174	265	637	481	220
100-100-160	1,5	90L	✗	✗	-	100	156	128	163	M20	200	190	170	245	205	692	536	25	140	182	---	---	---	174	265	649	493	220
100-100-160	2,2	100L	✗	✗	✗	100	156	128	163	M20	250	213	216	245	205	742	586	25	140	196	---	---	---	192	267	692	536	220
100-100-160	3	100L	✗	✗	✗	100	156	128	163	M20	250	213	216	245	205	742	586	25	140	196	---	---	---	192	267	692	536	220
100-100-160	4	112M	✗	✗	✗	100	156	128	163	M20	250	235	230	245	205	724	568	25	140	196	---	---	---	216	315	717	561	211
100-100-160	5,5	132S	✗	-	✗	100	156	128	163	M20	300	274	222	245	205	832	676	25	140	219	---	---	---	258	340	776	620	280
100-100-160	7,5	132M	✗	-	-	100	156	128	163	M20	300	298	222	245	205	832	676	25	140	219	---	---	---	258	340	814	658	280
100-100-160	11	160M	✗	-	-	100	156	128	163	M20	350	325	261	245	205	954	798	25	140	252	---	---	---	310	369	911	755	280
100-100-200	2,2	100L	✗	✗	-	100	179,5	172	202	M20	250	213	216	305	245	759,5	580	25	140	190	---	---	---	192	267	709,5	530	220
100-100-200	3	100L	✗	✗	✗	100	179,5	172	202	M20	250	213	216	305	245	759,5	580	25	140	190	---	---	---	192	267	709,5	530	220
100-100-200	4	112M	✗	✗	✗	100	179,5	172	202	M20	250	235	230	305	245	741,5	562	25	140	190	---	---	---	216	315	734,5	555	211
100-100-200	5,5	132S	✗	✗	✗	100	179,5	172	202	M20	300	274	222	305	245	849,5	670	25	140	213	---	---	---	258	340	793,5	614	280
100-100-200	7,5	132M	✗	✗	✗	100	179,5	172	202	M20	300	298	222	305	245	849,5	670	25	140	213	---	---	---	258	340	831,5	652	280
100-100-200	11	160M	✗	-	✗	100	179,5	172	202	M20	350	325	261	305	245	971,5	792	25	140	246	---	---	---	310	369	928,5	749	280
100-100-200	15	160L	✗	-	-	100	179,5	172	202	M20	350	325	261	305	245	1007,5	828	25	140	246	---	---	---	310	458	973,5	794	350
100-100-200	18,5	180M	✗	-	-	100	179,5	172	202	M20	350	370	285	305	245	1042,5	863	25	140	246	---	---	---	347	463	1060,5	881	350
100-100-250	2,2	100L	✗	-	-	100	158	196	222	M20	250	213	216	290	260	762	604	25	140	214	---	---	---	192	267	712	554	220
100-100-250	3	100L	✗	✗	-	100	158	196	222	M20	250	213	216	290	260	762	604	25	140	214	---	---	---	192	267	712	554	220
100-100-250	4	112M	✗	✗	-	100	158	196	222	M20	250	235	230	290	260	744	586	25	140	214	---	---	---	216	315	737	579	211
100-100-250	5,5	132S	✗	✗	✗	100	158	196	222	M20	300	274	222	290	260	852	694	25	140	237	---	---	---	258	340	796	638	280
100-100-250	7,5	132M	✗	✗	✗	100	158	196	222	M20	300	298	222	290	260	852	694	25	140	237	---	---	---	258	340	834	676	280
100-100-250	11	160M	✗	✗	✗	100	158	196	222	M20	350	325	261	290	260	974	816	25	140	270	---	---	---	310	369	931	773	280
100-100-250	15	160L	✗	✗	✗	100	158	196	222	M20	350	325	261	290	260	1010	852	25	140	270	---	---	---	310	458	976	818	350
100-100-250	18,5	180M	✗	-	✗	100	158	196	222	M20	350	370	285	290	260	1045	887	25	140	270	---	---	---	347	463	1063	905	350
100-100-250	22	180L	✗	-	-	100	158	196	222	M20	350	370	285	290	260	1045	887	25	140	270	---	---	---	347	463	1091	933	350
100-100-250	30	200L	✗	-	-	100	158	196	222	M20	400	422	326	290	260	1097	939	25	140	270	---	---	---	381	480	1164	1006	350
125-125-160	2,2	100L	✗	✗	-	125	203	182	226	M20	250	213	216	420	280	783	580	25	140	190	---	---	---	192	267	733	530	220
125-125-160	3	100L	✗	✗	-	125	203	182	226	M20	250	213	216	420	280	783	580	25	140	190	---	---	---	192	267	733	530	220
125-125-160	4	112M	✗	✗	✗	125	203	182	226	M20	250	235	230	420	280	765	562	25	140	190	---	---	---	216	315	758	555	211
125-125-160	5,5	132S	✗	✗	✗	125	203	182	226	M20	300	274	222	420	280	873	670	25	140	213	---	---	---	258	340	817	614	280
125-125-160	7,5	132M	✗	-	✗	125	203	182	226	M20	300	298	222	420	280	873	670	25	140	213	---	---	---	258	340	855	652	280
125-125-160	11	160M	✗	-	-	125	203	182	226	M20	350	325	261	420	280	995	792	25	140	246	---	---	---	310	369	952	749	280
125-125-160	15	160L	✗	-	-	125	203	182	226	M20	350	325	261	420	280	1031	828	25	140	246	---	---	---	310	458	997	794	350
125-125-200	2,2	100L	✗	-	-	125	205,5	175	214	M20	250	213	216	380	320	785,5	580	25	140	190	---	---	---	192	267	735,5	530	220
125-125-200	3	100L	✗	✗	-	125	205,5	175	214	M20	250	213	216	380	320	785,5	580	25	140	190	---	---	---	192	267	735,5	530	220
125-125-200	4	112M	✗	✗	-	125	205,5	175	214	M20	250	235	230	380	320	767,5	562	25	140	190	---	---	---	216	315	760,5	555	211
125-125-200	5,5	132S	✗	✗	✗	125	205,5	175	214	M20	300	274	222	380	320	875,5	670	25	140	213	---	---	---	258	340	819,5	614	280
125-125-200	7,5	132M	✗	✗	✗	125	205,5	175	214	M20	300	298	222	380	320	875,5	670	25	140	213	---	---	---	258	340	857,5	652	280
125-125-200	11	160M	✗	✗	✗	125	205,5	175	214	M20	350	325	261	380	320	997,5	792	25	140	246	---	---	---	310	369	954,5	749	280

Size	P_N [27]	Motor (IEC)	Variable speed, 4-pole	n		DN [28]	a	≈b_1	≈b_2	d_1	d_2	d_3 [29]	p [29]	h_1	h_2	≈l_1 [30]	≈l_2 [30]	t	≈x [31]	w	m_1	m_2	o	Variable speed version				
				1450	1750																			d_3 [32]	p [32]	l_1 [32]	l_2 [32]	z [32]
	[kW]			rpm		[mm]																						
125-125-200	15	160L	✗	-	✗	125	205,5	175	214	M20	350	325	261	380	320	1033,5	828	25	140	246	---	---	---	310	458	999,5	794	350
125-125-200	18,5	180M	✗	-	-	125	205,5	175	214	M20	350	370	285	380	320	1068,5	863	25	140	246	---	---	---	347	463	1086,5	881	350
125-125-200	22	180L	✗	-	-	125	205,5	175	214	M20	350	370	285	380	320	1068,5	863	25	140	246	---	---	---	347	463	1114,5	909	350
125-125-200	30	200L	✗	-	-	125	205,5	175	214	M20	400	422	326	380	320	1120,5	915	25	140	246	---	---	---	381	480	1187,5	982	350
125-125-250	4	112M	✗	-	-	125	210	188	219	M20	250	235	230	380	320	772	562	25	140	190	---	---	---	216	315	765	555	211
125-125-250	5,5	132S	✗	✗	-	125	210	188	219	M20	300	274	222	380	320	880	670	25	140	213	---	---	---	258	340	824	614	280
125-125-250	7,5	132M	✗	✗	✗	125	210	188	219	M20	300	298	222	380	320	880	670	25	140	213	---	---	---	258	340	862	652	280
125-125-250	11	160M	✗	✗	✗	125	210	188	219	M20	350	325	261	380	320	1002	792	25	140	246	---	---	---	310	369	959	749	280
125-125-250	15	160L	✗	✗	✗	125	210	188	219	M20	350	325	261	380	320	1038	828	25	140	246	---	---	---	310	458	1004	794	350
125-125-250	18,5	180M	✗	-	✗	125	210	188	219	M20	350	370	285	380	320	1073	863	25	140	246	---	---	---	347	463	1091	881	350
125-125-250	22	180L	✗	-	✗	125	210	188	219	M20	350	370	285	380	320	1073	863	25	140	246	---	---	---	347	463	1119	909	350
125-125-250	30	200L	✗	-	-	125	210	188	219	M20	400	422	326	380	320	1125	915	25	140	246	---	---	---	381	480	1192	982	350
125-125-250	37	225S	✗	-	-	125	210	188	219	M20	450	460	372	380	320	1182	972	25	140	277	---	---	---	431	556	1275	1065	455
125-125-250	45	225M	✗	-	-	125	210	188	219	M20	450	468	372	380	320	1230	1020	25	140	277	---	---	---	431	556	1275	1065	455
150-150-200	3	100L	✗	-	-	150	230	187	240	M20	250	213	216	385	315	810	580	25	140	190	---	---	---	192	267	760	530	220
150-150-200	4	112M	✗	-	-	150	230	187	240	M20	250	235	230	385	315	792	562	25	140	190	---	---	---	216	315	785	555	211
150-150-200	5,5	132S	✗	✗	-	150	230	187	240	M20	300	274	222	385	315	900	670	25	140	213	---	---	---	258	340	844	614	280
150-150-200	7,5	132M	✗	✗	✗	150	230	187	240	M20	300	298	222	385	315	900	670	25	140	213	---	---	---	258	340	882	652	280
150-150-200	11	160M	✗	✗	✗	150	230	187	240	M20	350	325	261	385	315	1022	792	25	140	246	---	---	---	310	369	979	749	280
150-150-200	15	160L	✗	✗	✗	150	230	187	240	M20	350	325	261	385	315	1058	828	25	140	246	---	---	---	310	458	1024	794	350
150-150-200	18,5	180M	✗	-	✗	150	230	187	240	M20	350	370	285	385	315	1093	863	25	140	246	---	---	---	347	463	1111	881	350
150-150-200	22	180L	✗	-	-	150	230	187	240	M20	350	370	285	385	315	1093	863	25	140	246	---	---	---	347	463	1139	909	350
150-150-200	30	200L	✗	-	-	150	230	187	240	M20	400	422	326	385	315	1145	915	25	140	246	---	---	---	381	480	1212	982	350
150-150-200	37	225S	✗	-	-	150	230	187	240	M20	450	460	372	385	315	1202	972	25	140	277	---	---	---	431	556	1295	1065	455
150-150-250	5,5	132S	✗	-	-	150	222	226	275	M20	300	274	222	370	330	907	685	25	140	228	---	---	---	258	340	851	629	280
150-150-250	7,5	132M	✗	✗	-	150	222	226	275	M20	300	298	222	370	330	907	685	25	140	228	---	---	---	258	340	889	667	280
150-150-250	11	160M	✗	✗	✗	150	222	226	275	M20	350	325	261	370	330	1029	807	25	140	261	---	---	---	310	369	986	764	280
150-150-250	15	160L	✗	✗	✗	150	222	226	275	M20	350	325	261	370	330	1065	843	25	140	261	---	---	---	310	458	1031	809	350
150-150-250	18,5	180M	✗	✗	✗	150	222	226	275	M20	350	370	285	370	330	1100	878	25	140	261	---	---	---	347	463	1118	896	350
150-150-250	22	180L	✗	✗	✗	150	222	226	275	M20	350	370	285	370	330	1100	878	25	140	261	---	---	---	347	463	1146	924	350
150-150-250	30	200L	✗	-	✗	150	222	226	275	M20	400	422	326	370	330	1152	930	25	140	261	---	---	---	381	480	1219	997	350
150-150-250	37	225S	✗	-	✗	150	222	226	275	M20	450	460	372	370	330	1209	987	25	140	292	---	---	---	431	556	1302	1080	455
150-150-250	45	225M	✗	-	-	150	222	226	275	M20	450	468	372	370	330	1257	1035	25	140	292	---	---	---	431	556	1302	1080	455
200-200-250	7,5	132M	✗	-	-	200	222	233	303	M20	300	298	222	400	400	945	723	25	140	266	---	---	---	258	340	927	705	280
200-200-250	11	160M	✗	✗	-	200	222	233	303	M20	350	325	261	400	400	1067	845	25	140	299	---	---	---	310	369	1024	802	280
200-200-250	15	160L	✗	✗	-	200	222	233	303	M20	350	325	261	400	400	1103	881	25	140	299	---	---	---	310	458	1069	847	350
200-200-250	18,5	180M	✗	✗	✗	200	222	233	303	M20	350	370	285	400	400	1138	916	25	140	299	---	---	---	347	463	1156	934	350
200-200-250	22	180L	✗	✗	✗	200	222	233	303	M20	350	370	285	400	400	1138	916	25	140	299	---	---	---	347	463	1184	962	350
200-200-250	30	200L	✗	✗	✗	200	222	233	303	M20	400	422	326	400	400	1190	968	25	140	299	---	---	---	381	480	1257	1035	350
200-200-250	37	225S	✗	✗	✗	200	222	233	303	M20	450	460	372	400	400	1247	1025	25	140	330	---	---	---	431	556	1340	1118	455

Size	P_N [27]	Motor (IEC)	Variable speed, 4-pole	n		DN [28]	a	≈b_1	≈b_2	d_1	d_2	d_3 [29]	p [29]	h_1	h_2	≈l_1 [30]	≈l_2 [30]	t	≈x [31]	w	m_1	m_2	o	Variable speed version				
				1450	1750																			d_3 [32]	p [32]	l_1 [32]	l_2 [32]	z [32]
	[kW]			rpm		[mm]																						
200-200-250	45	225M	✘	-	✘	200	222	233	303	M20	450	468	372	400	400	1295	1073	25	140	330	---	---	---	431	556	1340	1118	455
200-200-315	18,5	180M	✘	-	-	200	255	259	318	M20	350	370	285	490	410	1148	893	25	140	276	---	---	---	347	463	1166	911	350
200-200-315	22	180L	✘	✘	-	200	255	259	318	M20	350	370	285	490	410	1148	893	25	140	276	---	---	---	347	463	1194	939	350
200-200-315	30	200L	✘	✘	✘	200	255	259	318	M20	400	422	326	490	410	1200	945	25	140	276	---	---	---	381	480	1267	1012	350
200-200-315	37	225S	✘	✘	✘	200	255	259	318	M20	450	460	372	490	410	1257	1002	25	140	307	---	---	---	431	556	1350	1095	455
200-200-315	45	225M	✘	✘	✘	200	255	259	318	M20	450	468	372	490	410	1305	1050	25	140	307	---	---	---	431	556	1350	1095	455
200-200-315	55	250M	✘	✘	✘	200	255	259	318	M20	550	520	451	490	410	1391	1136	25	140	319	---	---	---	---	---	---	---	---

Connections

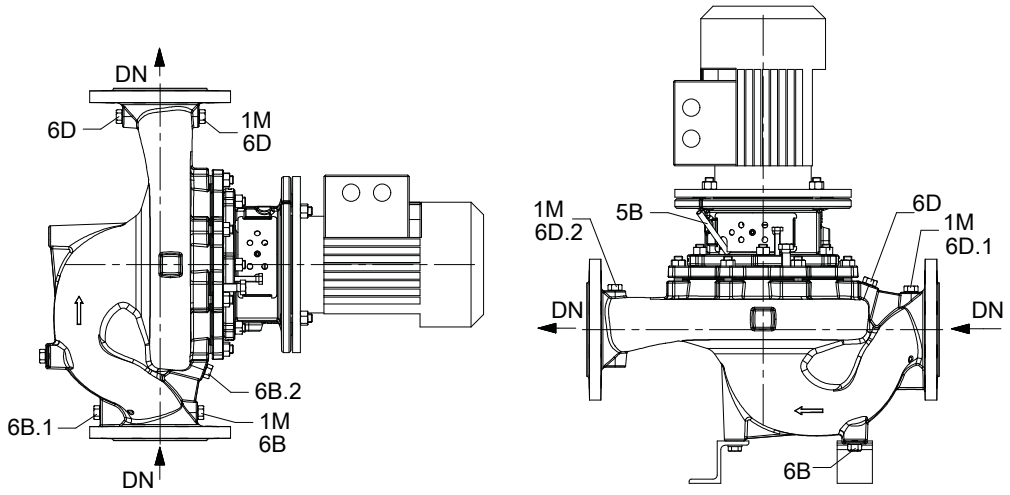


Fig. 6: Connections

Table 19: Connection types

Connection	Description	Configuration	Position
1M	Connection for pressure gauge	Drilled and closed, or pressure sensor for PumpMeter (if selected)	Suction flange and discharge flange
5B	Vent connection for the mechanical seal chamber	Plugged with vent plug	Casing cover
6B, 6B.1, 6B.2	Fluid drain	Drilled and closed	Volute casing
6D, 6D.1, 6D.2	Fluid priming and venting	Drilled and closed	Volute casing

Table 20: Connection [mm]

Etaline	1M, 6B, 6D	5B
032-032-160	G 1/4	G 1/4
032-032-200	G 1/4	G 1/4
040-040-160	G 1/4	G 1/4
040-040-250	G 1/4	G 1/4
050-050-160	G 1/4	G 1/4
050-050-250	G 1/4	G 1/4
065-065-160	G 1/4	G 1/4
065-065-250	G 1/4	G 1/4
080-080-160	G 3/8	G 1/4
080-080-200	G 3/8	G 1/4
080-080-250	G 3/8	G 1/4
100-100-125	G 3/8	G 1/4
100-100-160	G 3/8	G 1/4
100-100-200	G 3/8	G 1/4
100-100-250	G 3/8	G 1/4
125-125-160	G 1/2	G 1/4
125-125-200	G 1/2	G 1/4
125-125-250	G 1/2	G 1/4
150-150-200	G 1/2	G 1/4
150-150-250	G 1/2	G 1/4
200-200-250	G 1/2	G 1/4
200-200-315	G 1/2	G 1/4

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Flange design

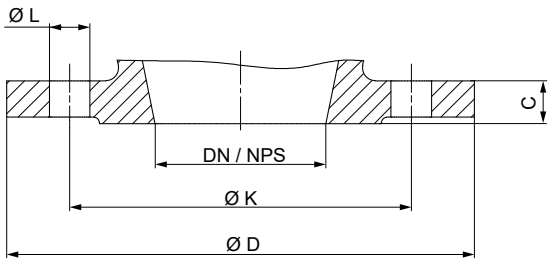

Fig. 7: Flange dimensions

Table 21: Flange dimensions [mm]

DN / NPS	Standard					
	EN 1092-2			ASME B 16.1		
	Material					
	G			G		
	PN 16			Class 125		
	Ø K	Ø D	Number of holes L	Ø K	Ø D	Number of holes L
32 / NPS 1 1/4	100	140	4×∅19	88,9	140	4×∅15,7
40 / NPS 1 1/2	110	150	4×∅19	98,6	150	4×∅15,7
50 / NPS 2	125	165	4×∅19	120,7	165	4×∅19,1
65 / NPS 2 1/2	145	185	4×∅19	139,7	185	4×∅19,1
80 / NPS 3	160	200	8×∅19	152,4	200	4×∅19,1
100 / NPS 4	180	229	8×∅19	190,5	229	8×∅19,1
125 / NPS 5	210	254	8×∅19	215,9	254	8×∅22,4
150 / NPS 6	240	285	8×∅23	241,3	285	8×∅22,4
200 / NPS 8	295	343	12×∅23	298,5	343	8×∅22,4

Table 22: Flange design by materials

Material variant	Standard	Nominal size	Pressure class
GG, GB, GC	EN 1092-2	DN 32 - DN 200	PN 16
	Drilled to ASME B16.1	DN 32 - DN 200	Class 125

Installation types

Horizontal installation

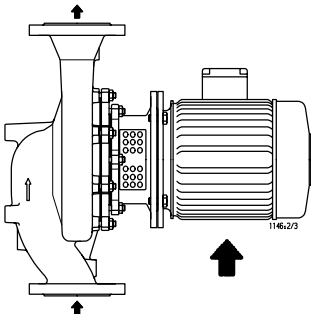

Fig. 8: Horizontal installation, direction of flow from bottom to top

Motors of size 180 (18.5 kW) and above on pump sets with horizontal motor axis need to be supported without transmitting any stresses or strains. Use the foot fastening holes at the motor housing for this purpose.

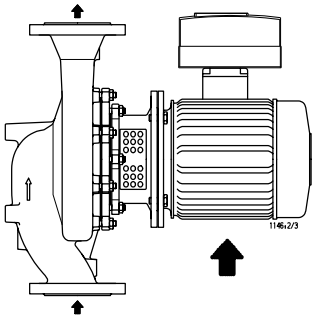

Fig. 9: Horizontal installation of pump sets with PumpDrive, direction of flow from bottom to top

Motors of size 160 (11 kW) and above on pump sets with horizontal motor axis need to be supported without transmitting any stresses or strains. Use the foot fastening holes at the motor housing for this purpose.

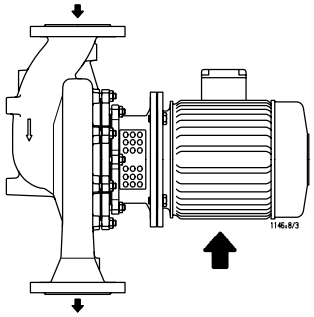

Fig. 10: Horizontal installation, direction of flow from top to bottom

Turn the volute casing and/or back pull-out unit by 180° so that the terminal box remains in its current position on top. Motors of size 180 (18.5 kW) and above on pump sets with horizontal motor axis need to be supported without transmitting any stresses or strains. Use the foot fastening holes at the motor housing for this purpose.

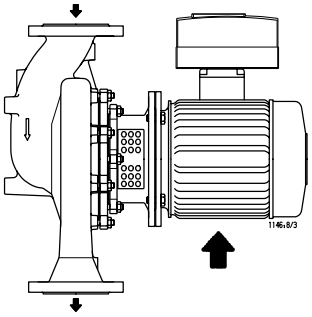

Fig. 11: Horizontal installation of pump sets with PumpDrive, direction of flow from top to bottom

Turn the volute casing and/or back pull-out unit by 180° so that the terminal box remains in its current position on top. Motors of size 160 (11 kW) and above on pump sets with horizontal motor axis need to be supported without transmitting any stresses or strains. Use the foot fastening holes at the motor housing for this purpose.

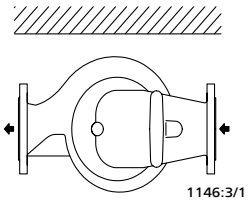

Fig. 12: Horizontal installation (for example under the ceiling)

Turn the volute casing and/or back pull-out unit by 90° so that the terminal box remains in its current position on top.

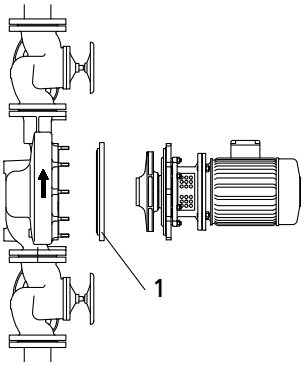

Fig. 13: Horizontal installation with blind flange (1 = blind flange, accessory)

If one of the pumps needs to be serviced, shut the pump chamber off with a blind flange. The pump installation will remain functional.

Vertical installation

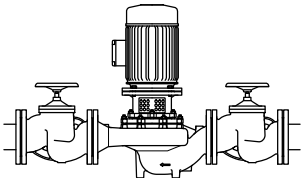

Fig. 14: Vertical installation / mounted without pump foot, sizes 032-032-160 to 100-100-125

Pumps up to size 100-100-125 can be installed directly in the piping without requiring any additional supports. Always anchor the pipes in close proximity to the pump.

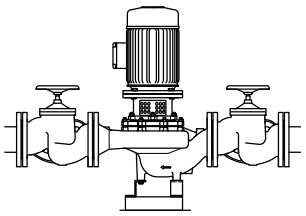

Fig. 15: Vertical installation / mounted on three angle feet (steel 37, accessory), sizes 032-032-160 to 100-100-125

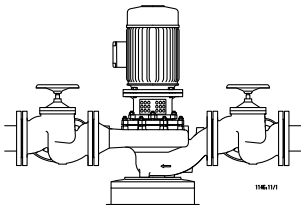

Fig. 16: Vertical installation / mounted on pump foot (grey cast iron, accessory), sizes 100-100-160 to 200-200-315

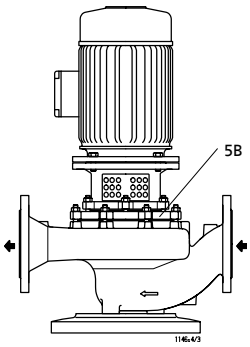

Fig. 17: Vertical installation

Provide a vent valve to prevent dry running of the mechanical seal. Pumps which have been ordered for vertical installation are supplied with a vent valve. For vertical installation with the motor on top, use connection 5B for venting.

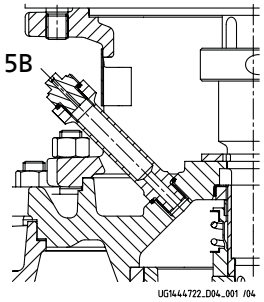

Fig. 18: Vent, mechanical seal chamber

Mechanical seal chamber can be vented with vent valve 5B.

Accessories

Pump accessories

Table 23: Pump accessories

Item		Description	Connection	Mat. No.	[kg]
-	-	Pump foot	Etaline 032-032–160 to 100-100–125 Three pump feet with bolts	47077960	1,5
			Etaline 100-100–160 to 200-200–315 One pump foot with bolt	01614068	12,4
-	-	Vent valve 5B[33)] for vertical installation	-	-	-
	-	Blind flange with sealing element	Etaline 032/040/050/065/080/100-160, 100-125	01621012	6,7
			Etaline 032/080/100/125/150-200, 125-160	01621013	12,4
			Etaline 040/050/065/080/100/125/150/200-250	01621014	14,7
			Etaline 200-315	01621015	22,2

33 Can only be processed via KSB EasySelect (configurable range)

General assembly drawings

General assembly drawing with list of components

Table 24: This view applies to the following pump sizes with bolted casing cover:

032-032-200	040-040-250	050-050-250	065-065-250	080-080-200 080-080-250	100-100-250	125-125-250	150-150-250	200-200-250 200-200-315

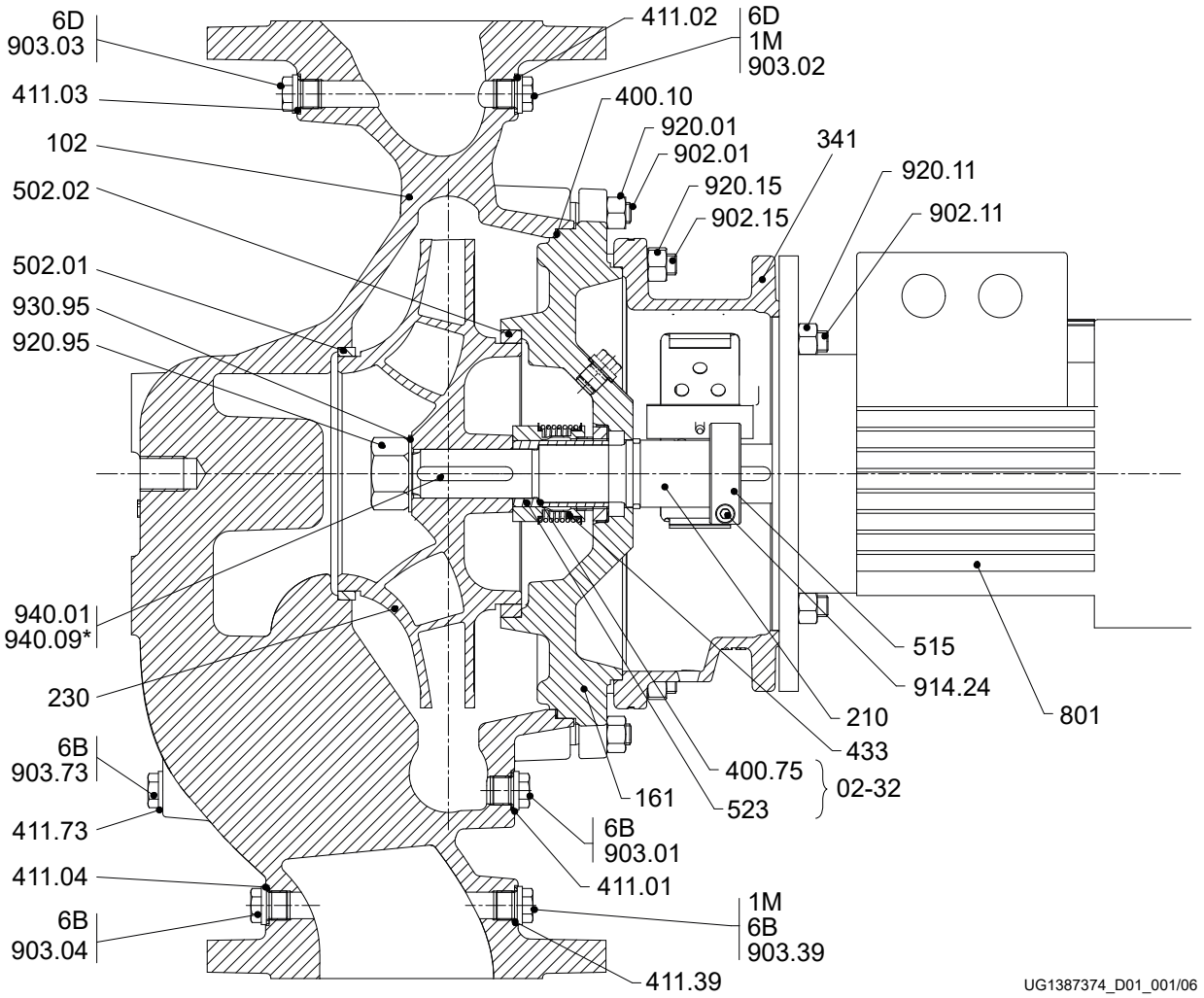

Fig. 19: General assembly drawing (* Second key for WS 55 only)

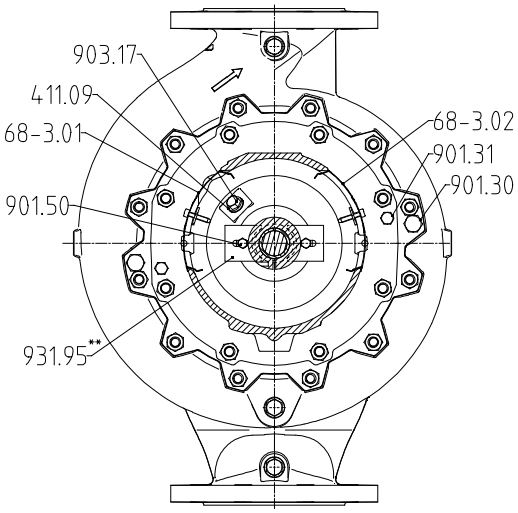

Fig. 20: General assembly drawing: side view (** pump in operation)

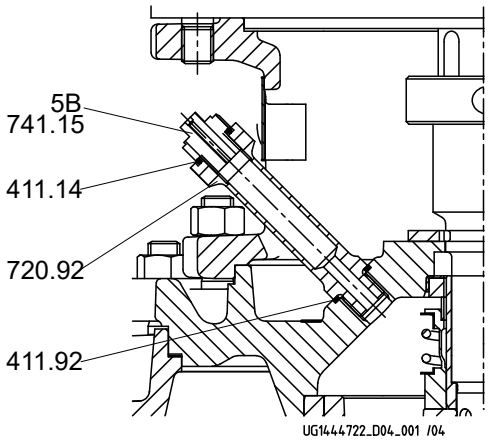

Fig. 21: Fastening elements for the impeller, WS 25

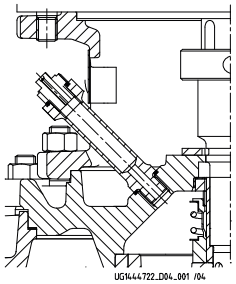

Fig. 22: Vent valve 5B for vertical installation

Table 25: This view applies to the following pump sizes with clamped casing cover:

032-032-160	040-040-160	050-050-160	065-065-160	080-080-160	100-100-125 100-100-160 100-100-200	125-125-160 125-125-200	150-150-200

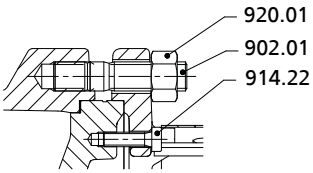

Fig. 23: Fastening elements for the clamped casing cover

Table 26: List of components

Part No.	Description	Part No.	Description
102	Volute casing	68-3.01/.02	Cover plate
161	Casing cover	720.92	Fitting
210	Shaft	741.15	Vent valve
230	Impeller	801	Flanged motor
341	Drive lantern	901.31/.31/.50	Hexagon head bolt
400.10/.75	Gasket	902.01/.11/.15	Stud
411.01/.02/.03/.04/.09/.14/.39/.73/.92	Joint ring	903.01/.02/.03/.04/.17/.39/.73	Screw plug
433	Mechanical seal	914.22/.24	Hexagon socket head cap screw
502.01/.02	Casing wear ring	920.01/.11/.15/.95	Hexagon nut
515	Locking ring	930.95	Safety device
523	Shaft sleeve	931.95	Lock washer
550.95[34)]	Disc	940.01/.09	Key

34 For shaft unit 25 only

Table 27: Connections

Part No.	Description	Part No.	Description
1M	Pressure gauge	6B	Fluid drain
5B[35)]	Vent, mechanical seal chamber	6D	Fluid priming and venting

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35 Only for vertically installed pump sets

Glossary

ACS

French drinking water regulations (ACS = Attestation de Conformité Sanitaire)

Back pull-out design

The complete back pull-out unit can be pulled out without having to remove the pump casing from the piping.

Close-coupled design

Motor directly fitted to the pump via a flange or a drive lantern

IE2

Efficiency class to IEC 60034-30: 2 = High Efficiency (IE = International Efficiency)

IE3

Efficiency class to IEC 60034-30: 3 = Premium Efficiency (IE = International Efficiency)

IE4

Efficiency class to IEC TS 60034-30-2:2016 = Super Premium Efficiency (IE = International Efficiency)

IE5

Efficiency class to IEC TS 60034-30-2:2016 = Ultra Premium Efficiency (IE = International Efficiency)

IE5

Efficiency class for rotating electrical machinery to IEC TS 60034-30-2:2016 = Ultra Premium Efficiency (IE = International Efficiency)

In-line design

A pump whose suction and discharge nozzle are arranged opposite each other and have the same nominal diameter.

Mat. No.

This identification number is composed of an 8-digit numerical code that uniquely identifies a product entered in SAP.

Mech. seal

Mechanical seal

SU

Shaft unit

UBA

German drinking water regulations to German Environment Agency

WRAS

Approved by all water suppliers in the UK (WRAS = Water Regulations Advisory Scheme)

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