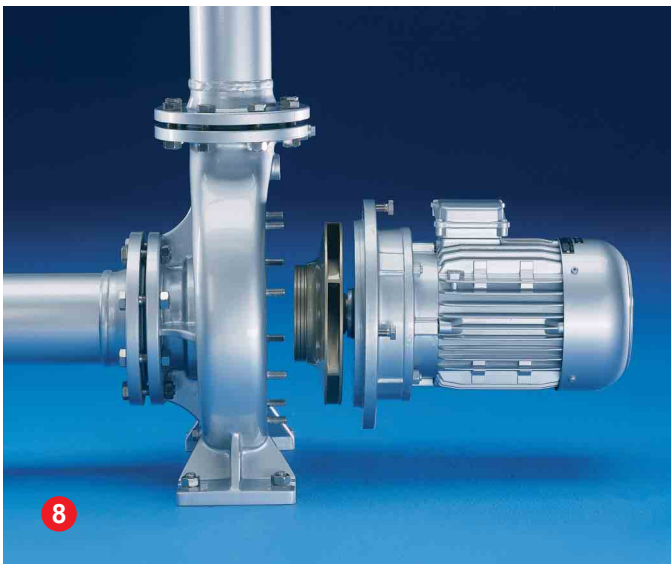
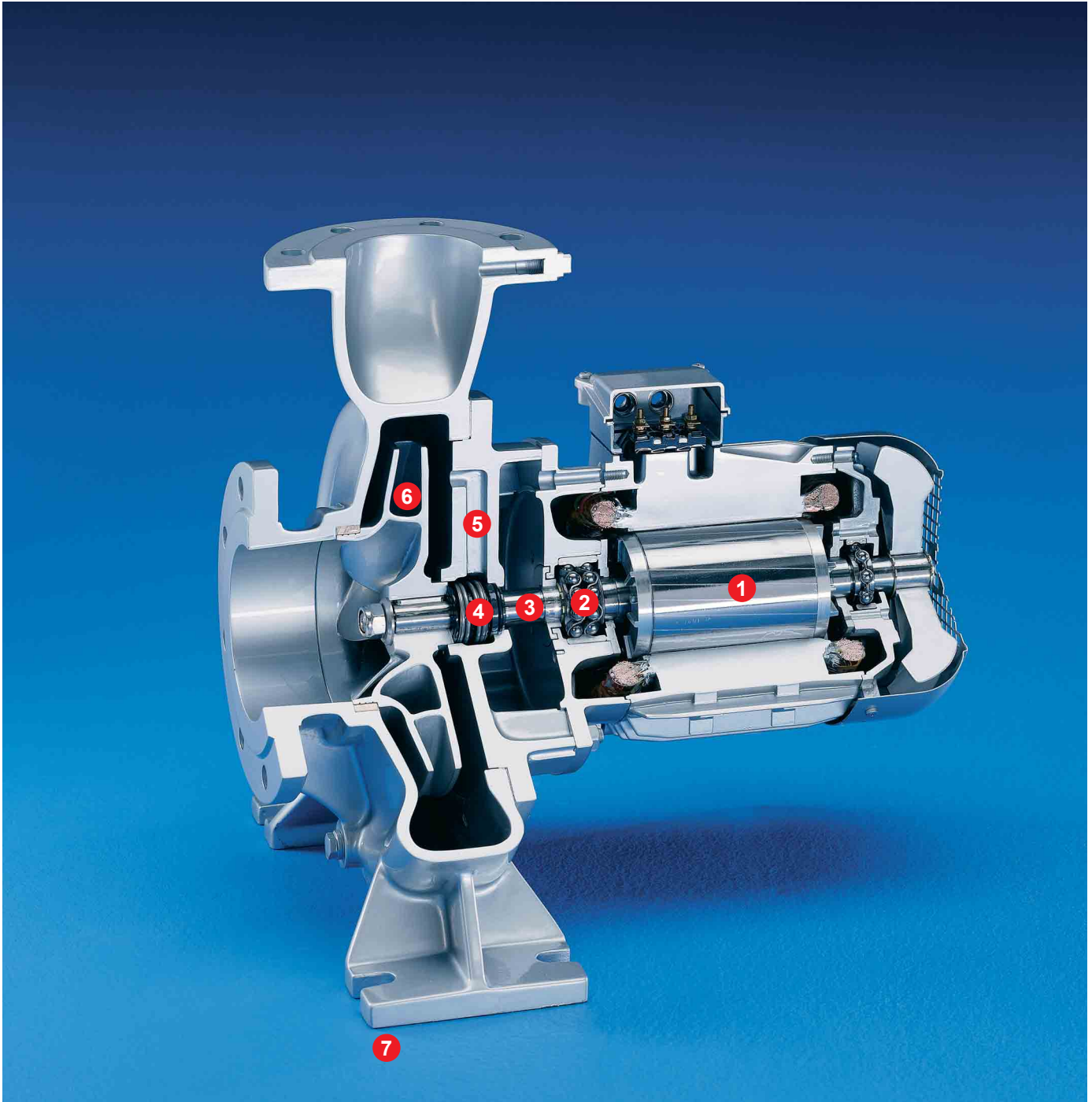




UNIBLOCK-GF

Close coupled centrifugal pump





UNIBLOCK-GF benefits that ensure operational safety and cost-effectiveness in continuous operation.

1 Motor

Overload-safe motors designed for continuous operation
Comes with a frequency converter for direct installation (up to 30/36 kW) or wall installation.

2 Cost-effectiveness

An extended lifetime is achieved through liberally dimensioned shafts and bearings.

3 Motor shaft

Rigid motor shafts made from high-alloy stainless steel for minimal deflection.

4 Shaft sealing

Wear-resistant mechanical seal that is adapted to the respective operating conditions.

Monitoring of mechanical seal possible using an ETS X4 to protect against dry running.

5 By-pass channel

For optimal flushing of mechanical seal by means of the pumped medium.
This is more efficient than annulus flushing.

6 Impellers

Open and closed multi vane impellers for reliable supply output.

7 Construction

Cast housing bases enable the support of the pipeline and a low spatial requirement for the mounting base.

8 Type of construction

Easy accessibility of the inside of the pump due to process-type construction.

9 Special configurations

Sophisticated solutions for customer-specific problems.

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Use

The centrifugal pump UNIBLOCK-GF is particularly suitable for pumping clean water, cooling water, bathing water, thermal brine, sea water, leaching solution and oils.

It is used in circulating systems, swimming pools, attractions, heating and air conditioning, condensate units, water supply, water treatment, sprinkling systems, irrigation systems, washing and cleaning equipment.

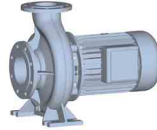


Construction

High circulation rates are achieved thanks to minimum space requirements and an easy-to-install and readily serviceable compact design. Variable flange positions offer specialist consultants and construction firms optimal design possibilities. It is possible to disassemble the interchangeable module of the pump without loosening the intake connection and pressure flange from the pipework. The interchangeable module consists of a block motor, intermediate casing, impeller and mechanical seal.

Installation

The pumps can be delivered in various installations.



Horizontal installation of the pump



Vertical installation of the pump with the motor at the top

Impellers

Dynamically balanced impellers ensure vibration-free running and contribute significantly to the long lifetime of the pump. All multi vane impellers can reach every duty point within the set of performance curves by correcting the diameter.



Open and closed multi vane impellers for clean to slightly soiled pumped media are used.

Range of performance

	Q [m ³ /h]	H [m]
1500 min ⁻¹ (50 Hz)	650	60
3000 min ⁻¹ (50 Hz)	270	52
1800 min ⁻¹ (60 Hz)	680	70
3600 min ⁻¹ (60 Hz)	290	67

Shaft sealing

The shaft sealing on the pump side is effected in all models via a wear-resistant, maintenance-free mechanical seal that is adapted to the respective operating conditions. All motors are equipped with a special seal for splash-proofing on the pump side. Monitoring of the mechanical seal is possible using an ETS X4 to protect against dry running.

Bearing

The pump and motor have a common shaft, which is supported by a strengthened bearing. The 4-pole drives are also equipped with a relubrication unit from 1.1 kW. In contrast to the standard motor, the pump-side rigid bearing is designed as a reinforced bearing for long life under extreme operating conditions. The high level of running accuracy of the motor shaft is achieved through the high flexural rigidity and short shaft length. This ensures vibration-free running of the mechanical shaft sealing.



Noise

The noise emission is determined by complex influencing factors such as size, materials, operating and installation conditions. Noise emission was contained using hydraulic measures and solid construction methods as early as in the development stage. The maximum sound pressure level is generally determined by the drive motors, being caused by air, magnetic and bearing noises. Noise levels are below the permissible limit curves specified for electrical motors as defined by DIN EN 60034-9. Minimum noise emission during operation in the area of Q_{optimal} (best efficiency).

Motor data

Surface-cooled three-phase motor with squirrel-cage.

Design	IM B5
Motor connection	Manufacturer-specific
Protection type	IP 55
Speed	1500 (1800) min ⁻¹ 3000 (3600) min ⁻¹
Frequency	50 (60) Hz
Connection ≤ 2.2 kW	230 Δ / 400 λ (460 λ) V
Connection ≥ 3.0 kW	400 Δ / 690 λ (460 Δ) V
Insulation class VDE 0530	F

Motors from 5.5 kW at 1500/1800 min⁻¹ have a PTC thermistor as standard.

General data

- Pump colour RAL 5010 (standard)
- Media temperature range from - 5 to + 120 °C (- 5 to + 40 °C in the explosion protection version)
- Ambient temperature range from - 5 to + 40 °C
- Density of the pumped medium max. 1000 kg/m³
- Viscosity of the pumped medium max. 1 mm²/s (1 cST)
- Frequency regulation of pumps depending on the operating conditions
 - from 30 to 50 Hz (400 V) and from 30 to 60 Hz (460 V)
- Performance verification according to DIN EN ISO 9906, Class 2.

Special configurations

- Different voltages and/or frequencies
- Different insulation class
- Elevated ambient temperature
- Elevated protection type
- Enhanced tropical and moisture protection
- Special materials (high-alloy cast steel, bronze) for parts coming into contact with the product
- Special paint finish
- Energy-saving pump with water-cooled motor (UNIBLOCK-GFC)
- Energy-saving motor IE2 (eff1)
- Explosion protection version (ATEX)
- Customer-specific solutions

Accessories

- Frequency converter for direct installation (up to 30/36 kW) or wall installation
- Dry running protection for mechanical seal (ETS X4)

Technical descriptions

Model designation

Example:

150-270/0554GF-EX-W1

Nominal diameter pressure flange DN [mm] _____

Design dimensions _____

Hydraulic version _____

Motor rating [kW] _____

E.g.: 055 = 5.5 kW

Number of poles of the motor _____

2-pole = 3000 (60 Hz: 3600) min⁻¹

4-pole = 1500 (60 Hz: 1800) min⁻¹

Model _____

Permitted use _____

= standard

EX = Explosion protection

Materials _____

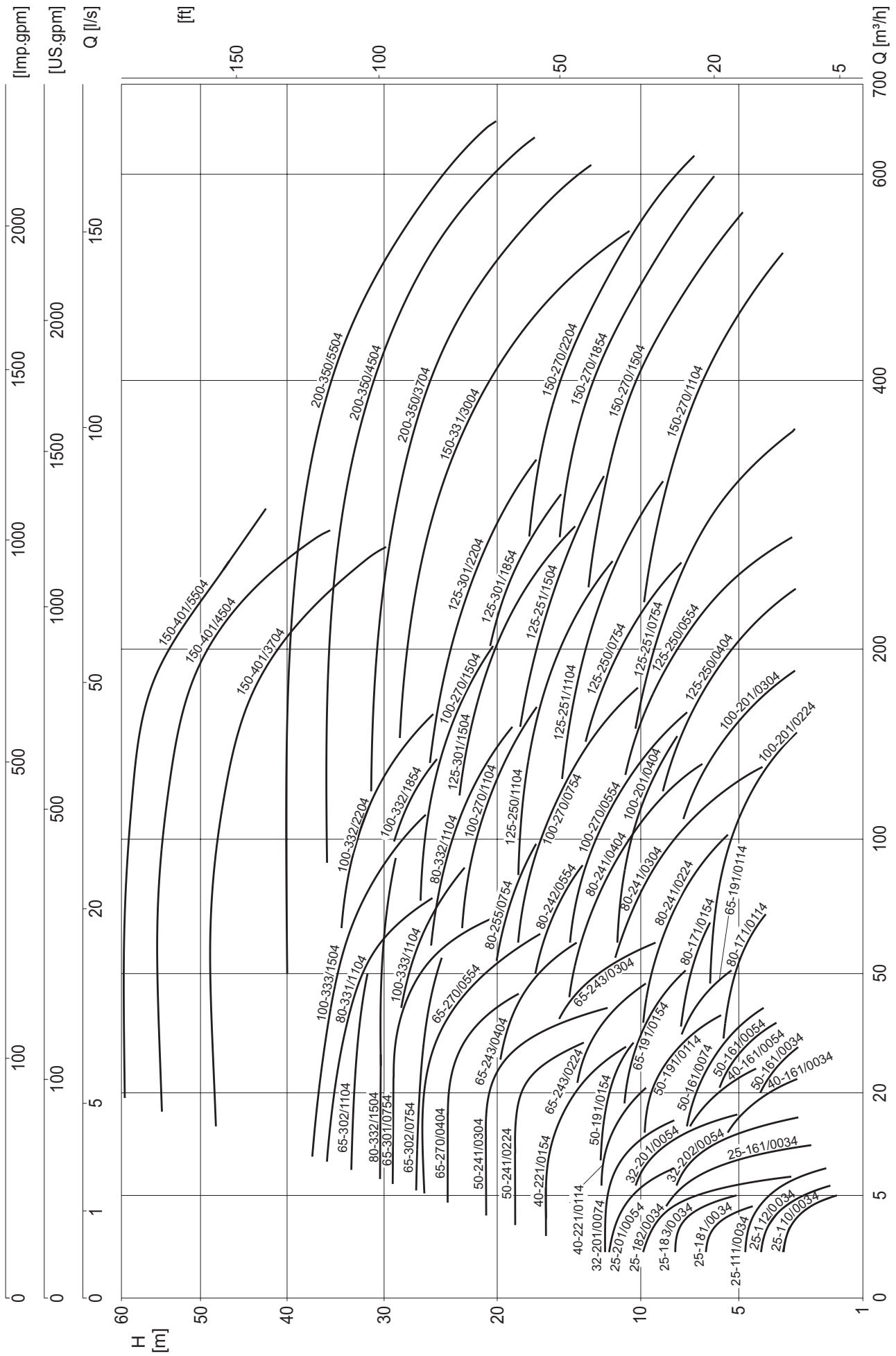
Materials ³⁾

1)	Individual components	W1/1 ²⁾	W1/2 ²⁾	W2	W3
101	Pump casing	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
113	Intermediate casing	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
162	Suction cover	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuSn10-C (CC480K)
230	Impeller	EN-GJL-250 (EN-JL1040)	EN-GJL-250 (EN-JL1040)	CuAl10Fe5Ni5-C (CC333G)	CuAl10Fe5Ni5-C (CC333G)
433	Mechanical seal	SiC/SiC	Coal/chromium molybdenum steel	SiC/SiC	SiC/SiC
502	Casing wear ring	–	–	–	CuSn7Pb15-C (CC496K)
819	Motor shaft	X6CrNiMoTi17-12-2 (1.4571)	X6CrNiMoTi17-12-2 (1.4571)	X6CrNiMoTi17-12-2 (1.4571)	X6CrNiMoTi17-12-2 (1.4571)

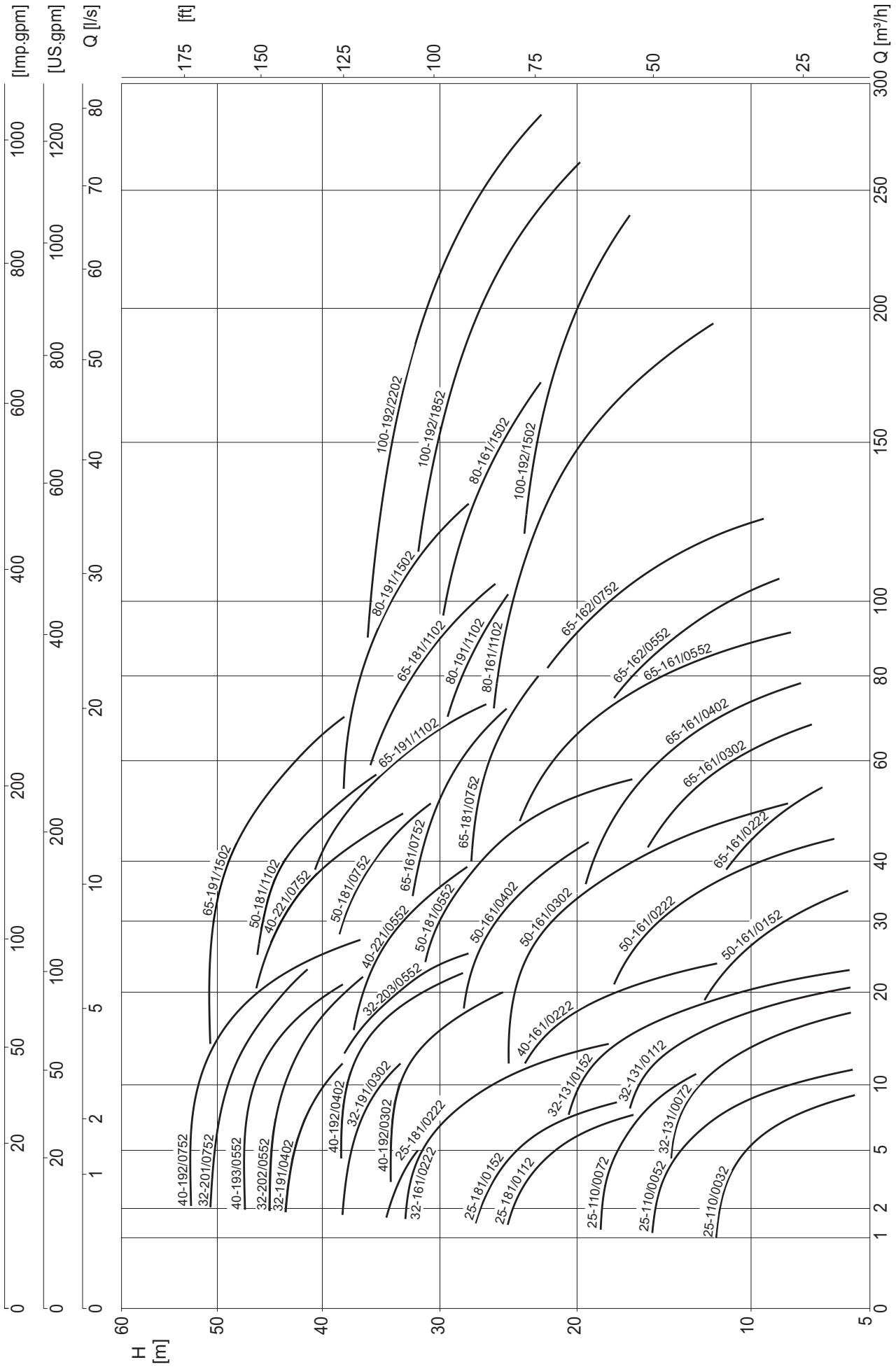
¹⁾ See exploded view (page 31)

²⁾ On request

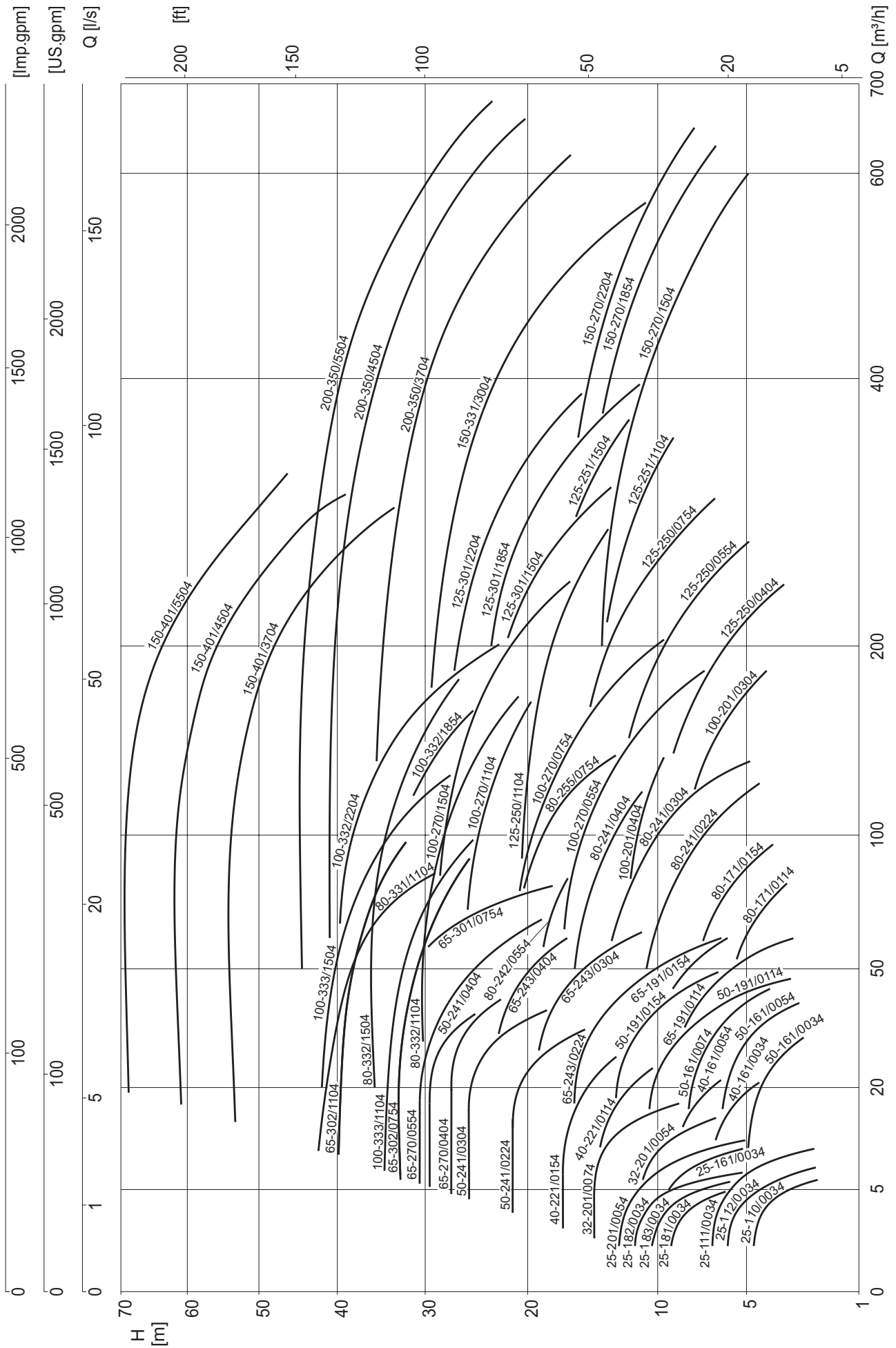
³⁾ Other material combinations depending on operating conditions, e.g. special bronzes and stainless steels.



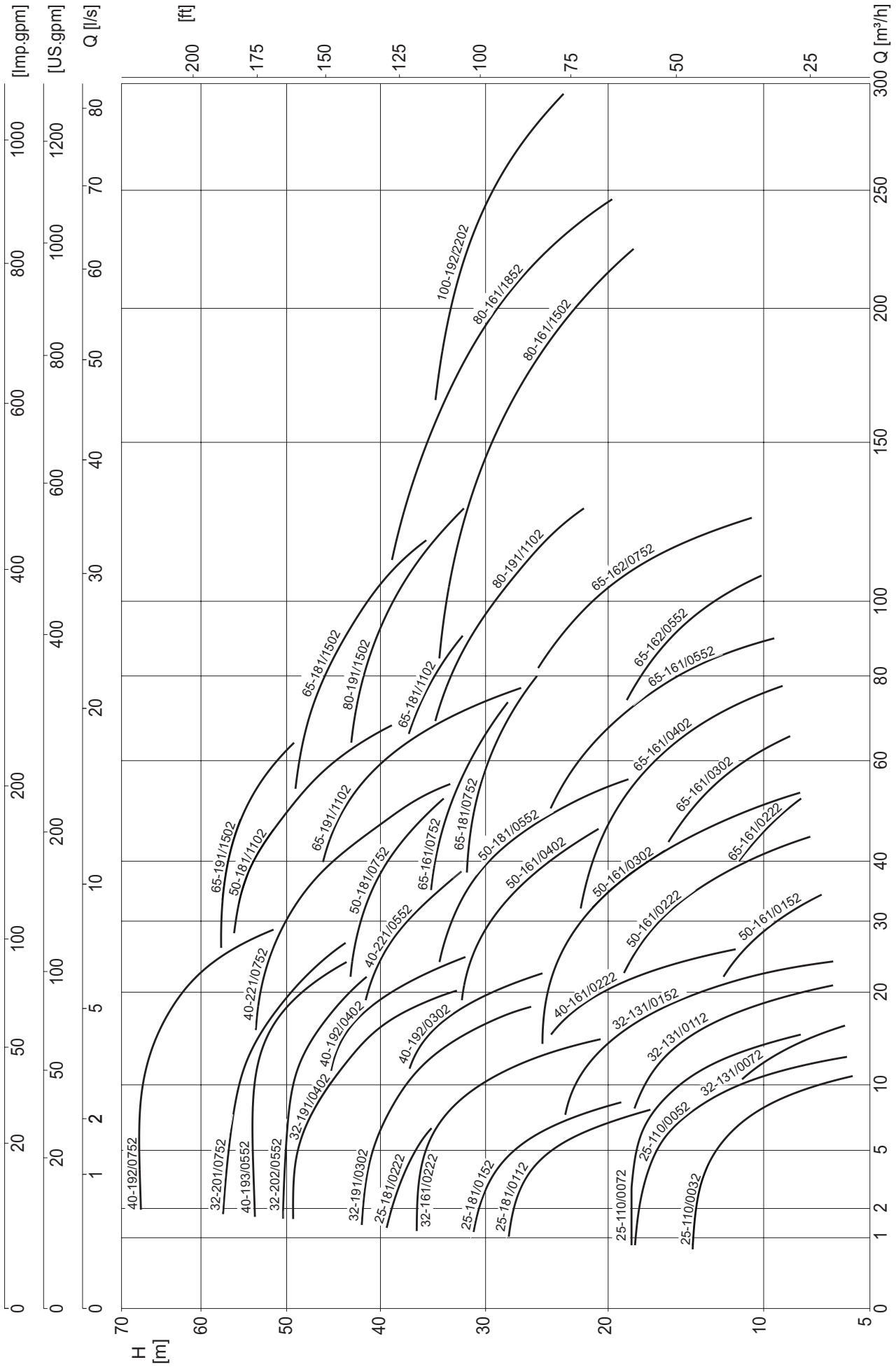
Technical information on the parallel connection of centrifugal pumps on request.



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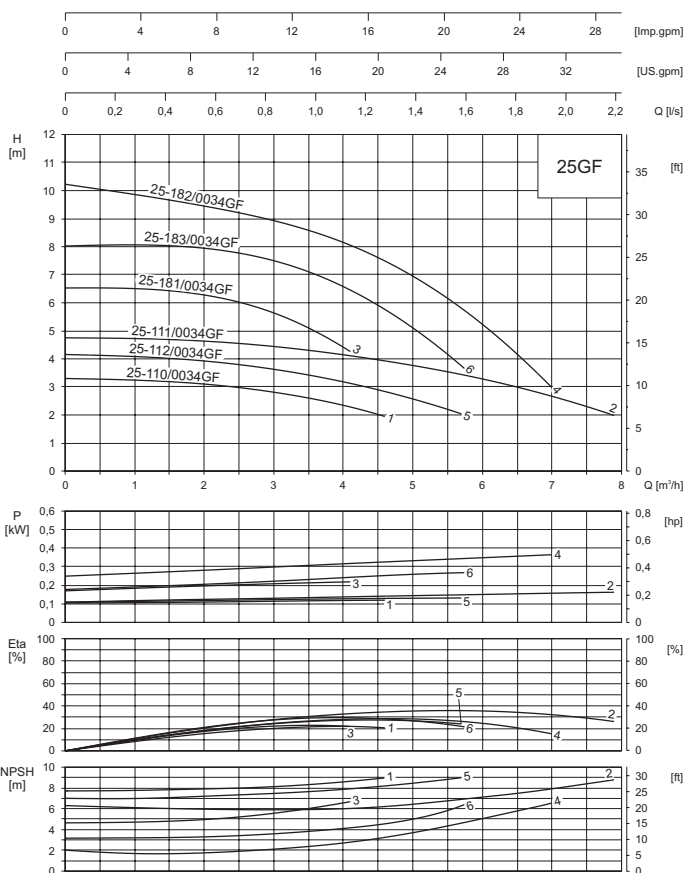


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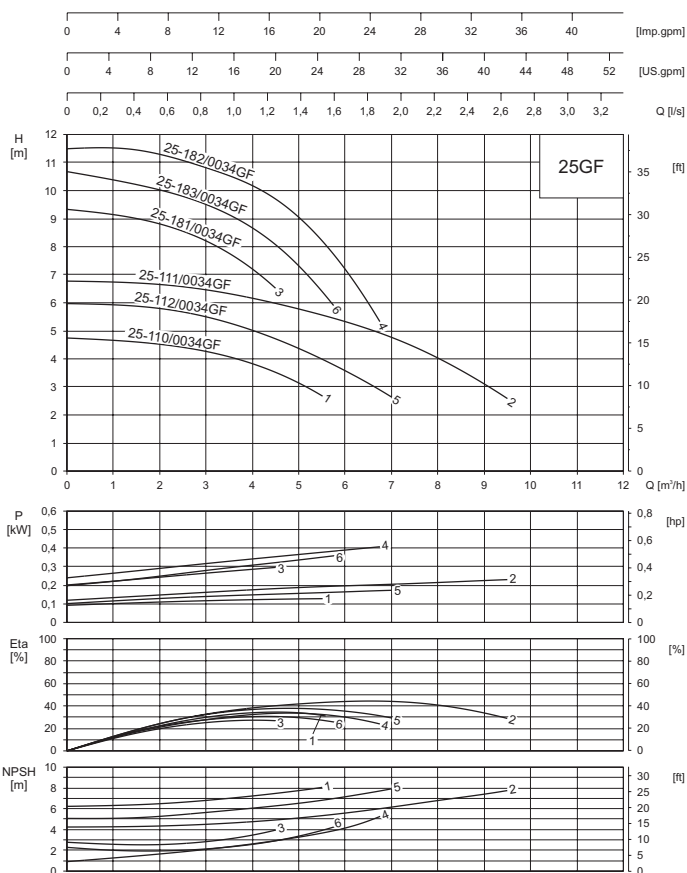


Technical information on the parallel connection of centrifugal pumps on request.

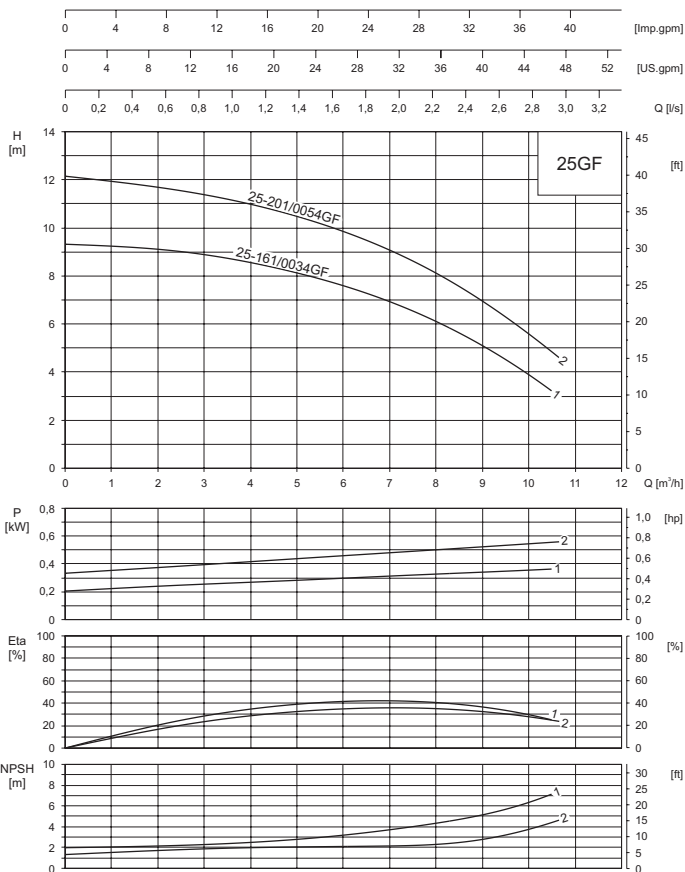
1500 min⁻¹ (400 V - 50 Hz)



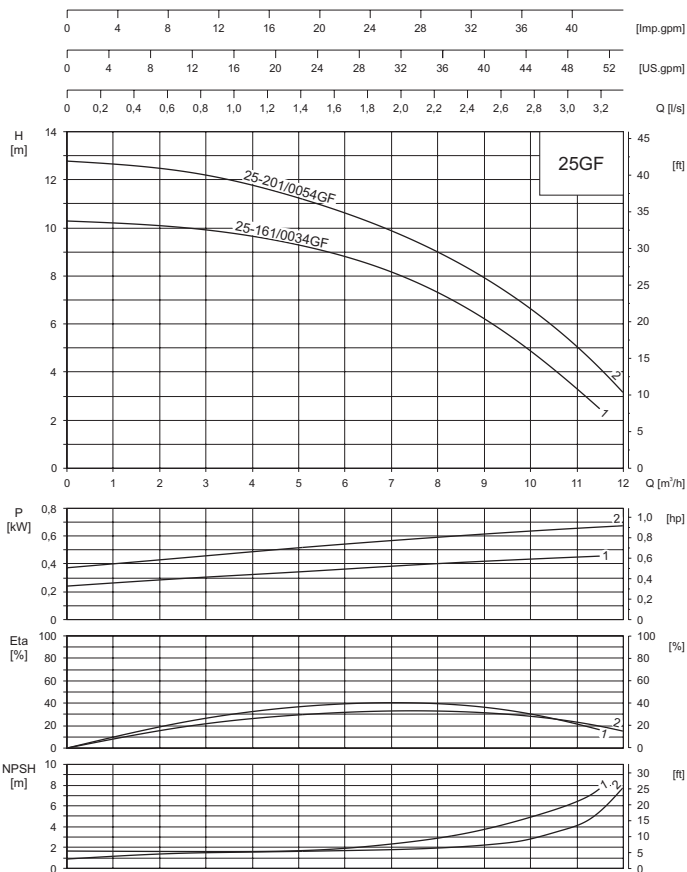
1800 min⁻¹ (460 V - 60 Hz)



1500 min⁻¹ (400 V - 50 Hz)

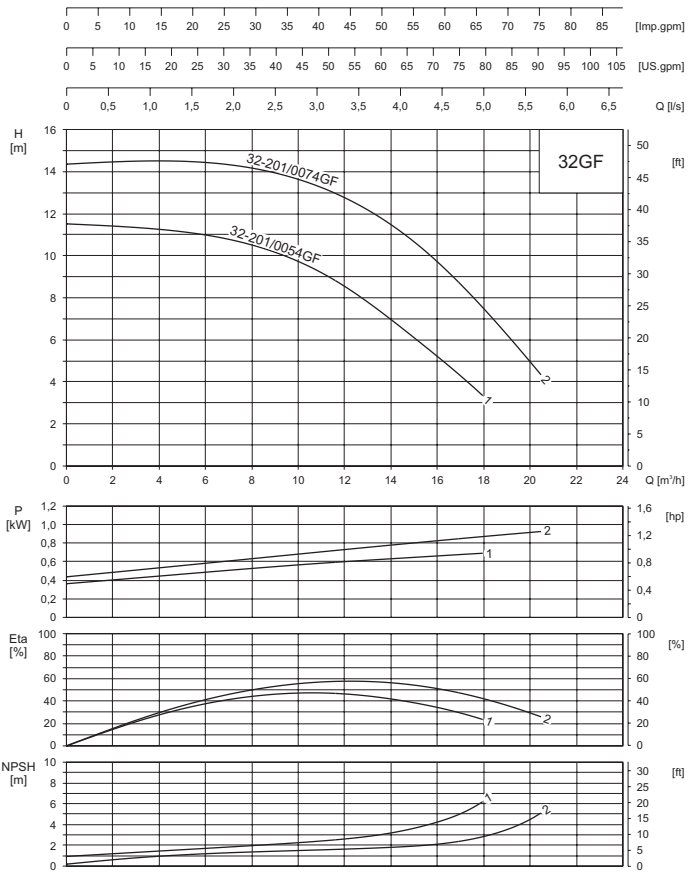
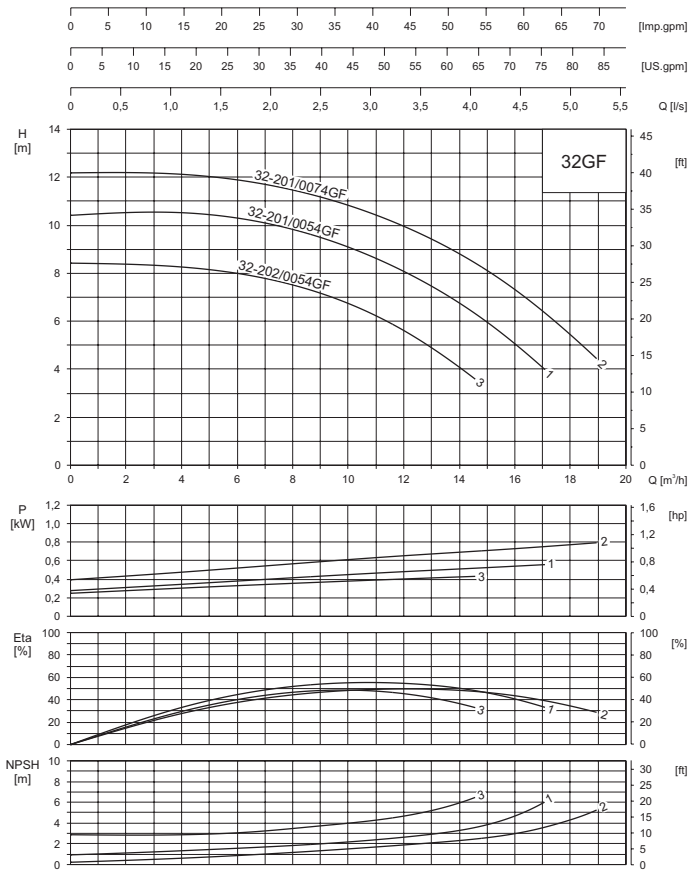


1800 min⁻¹ (460 V - 60 Hz)



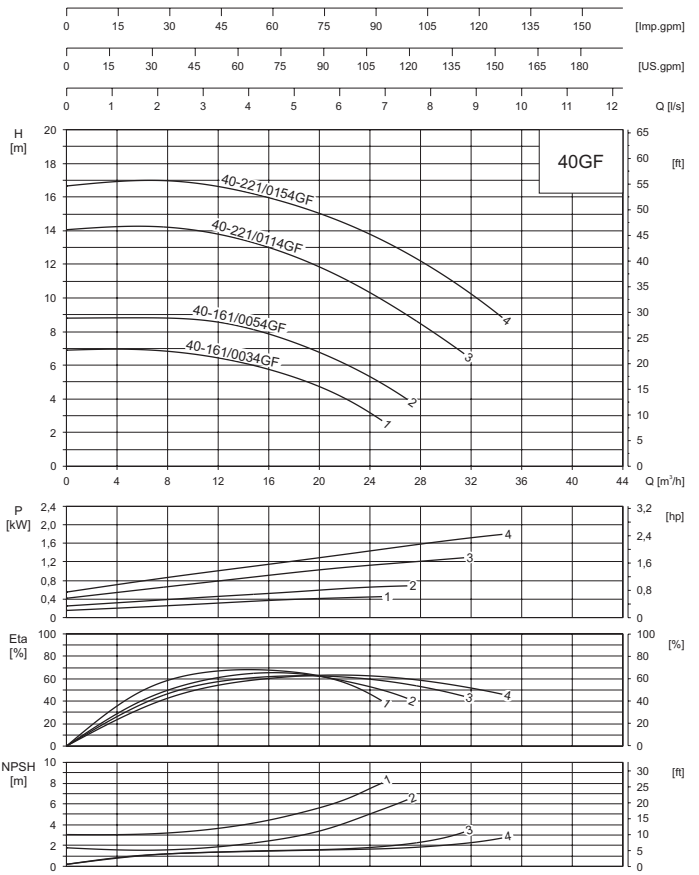
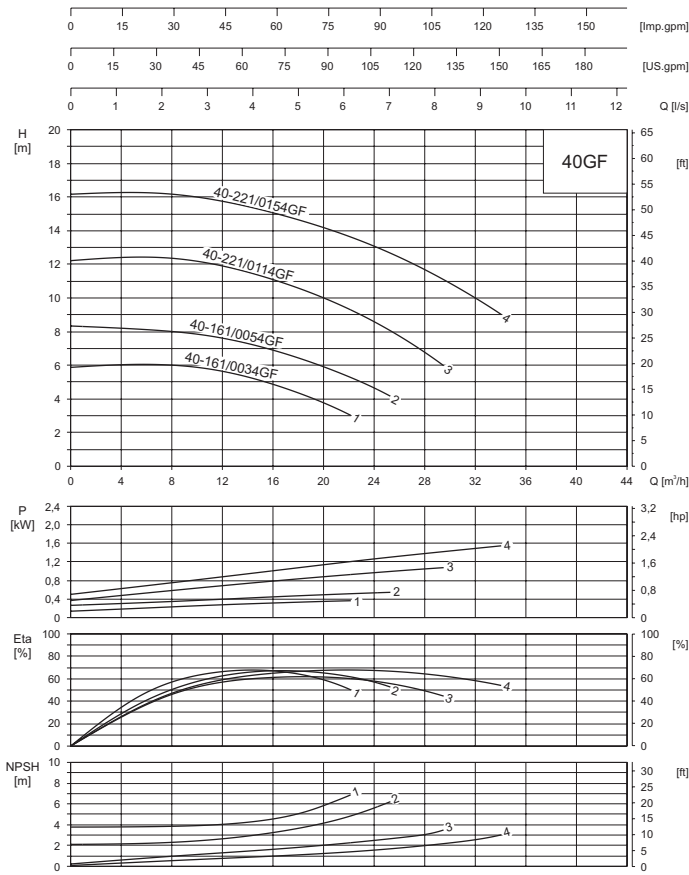
1500 min⁻¹ (400 V - 50 Hz)

1800 min⁻¹ (460 V - 60 Hz)

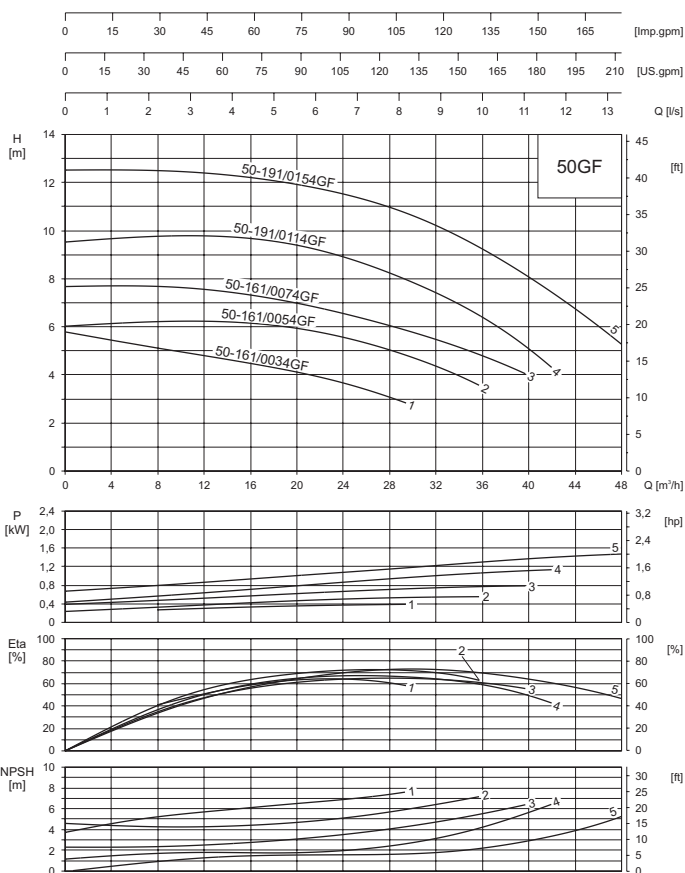


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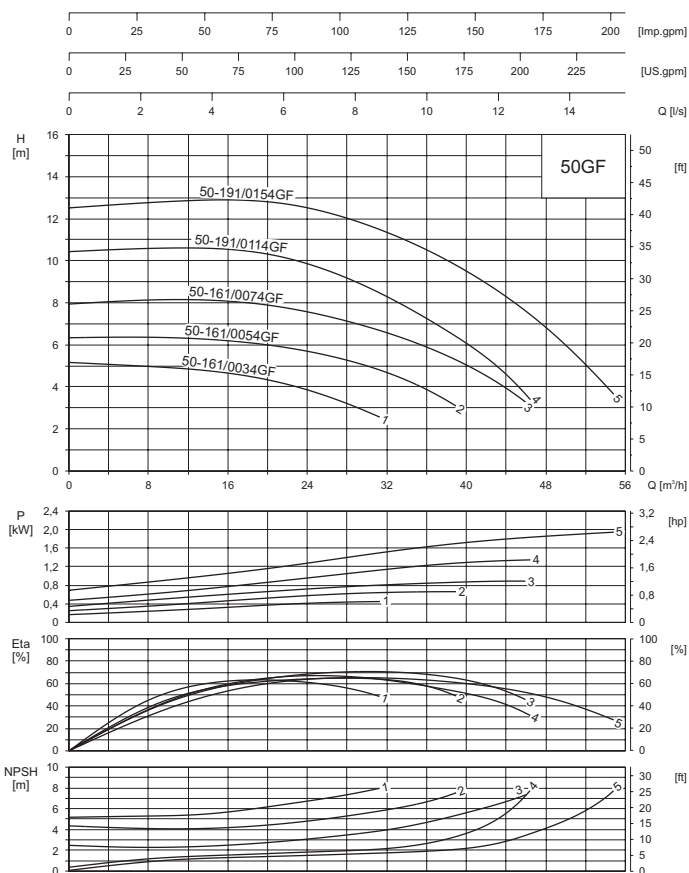
1800 min⁻¹ (460 V - 60 Hz)



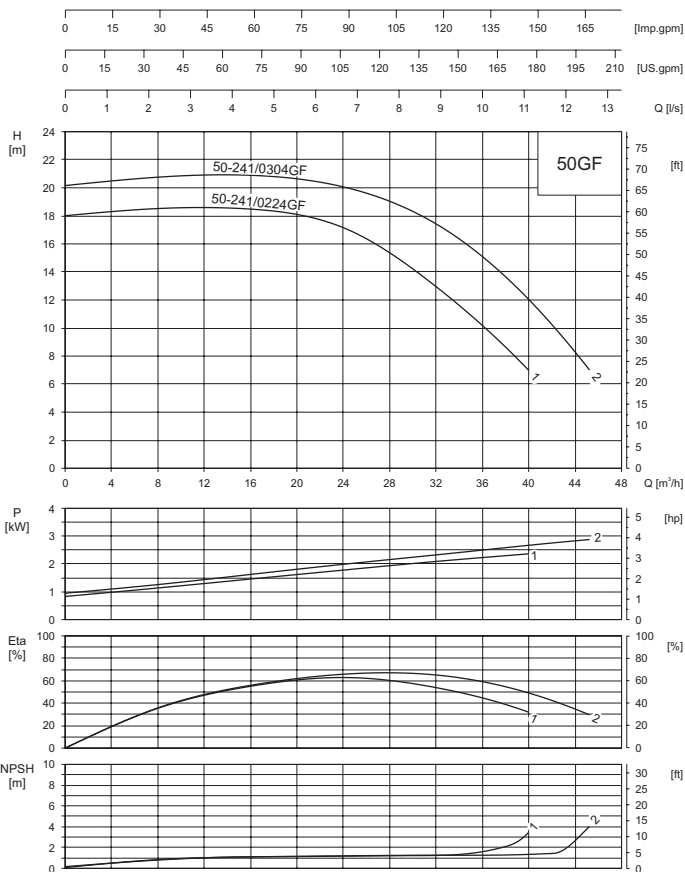
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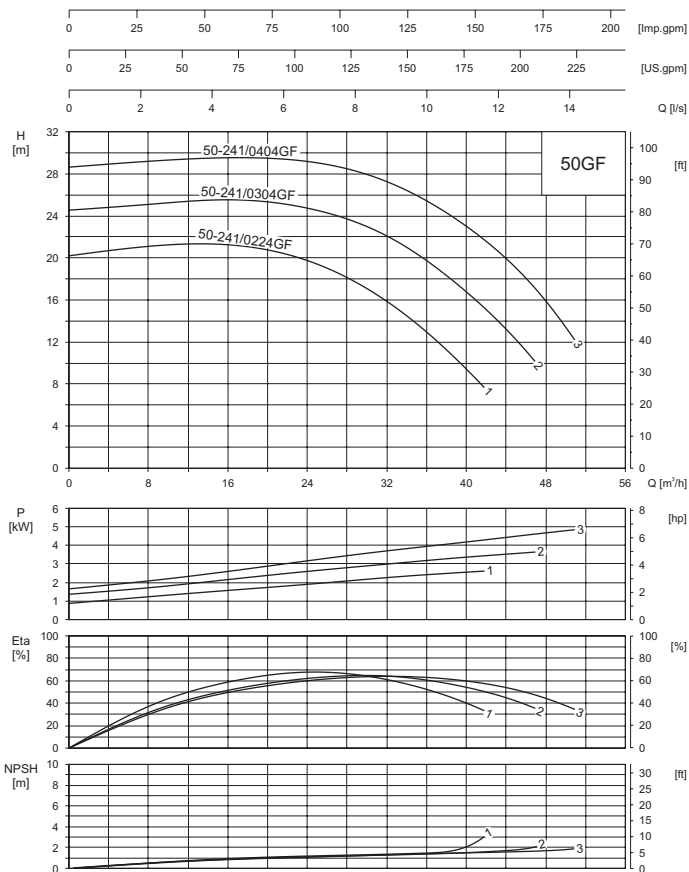
1800 min⁻¹ (460 V - 60 Hz)



1500 min⁻¹ (400 V - 50 Hz)

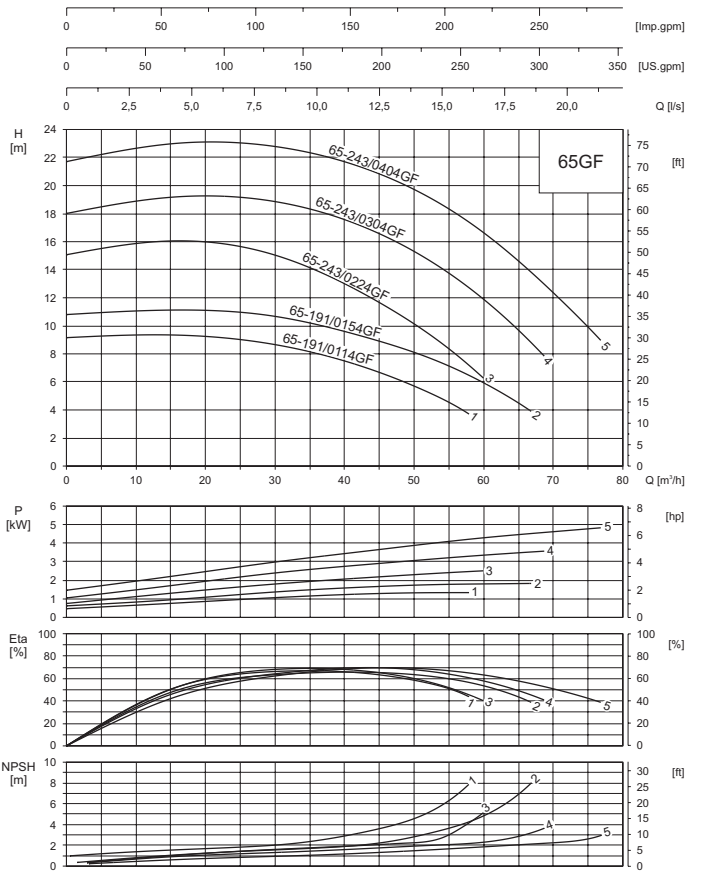
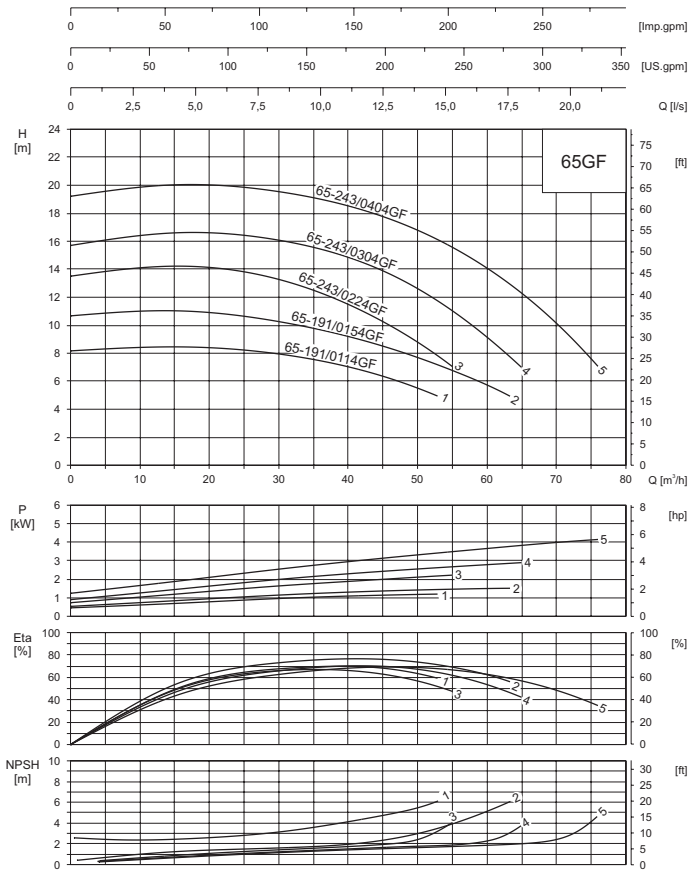


1800 min⁻¹ (460 V - 60 Hz)



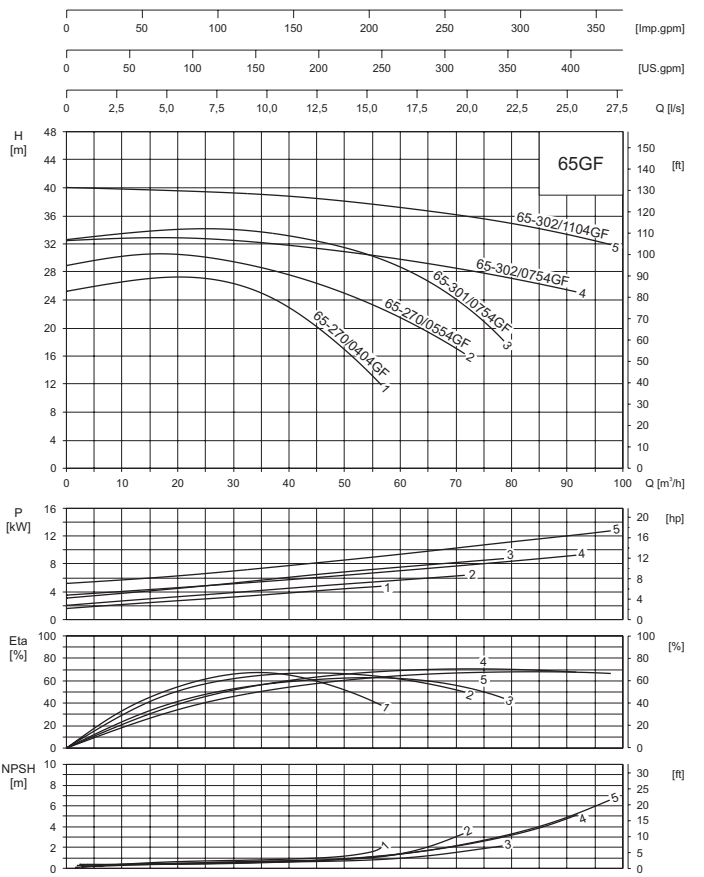
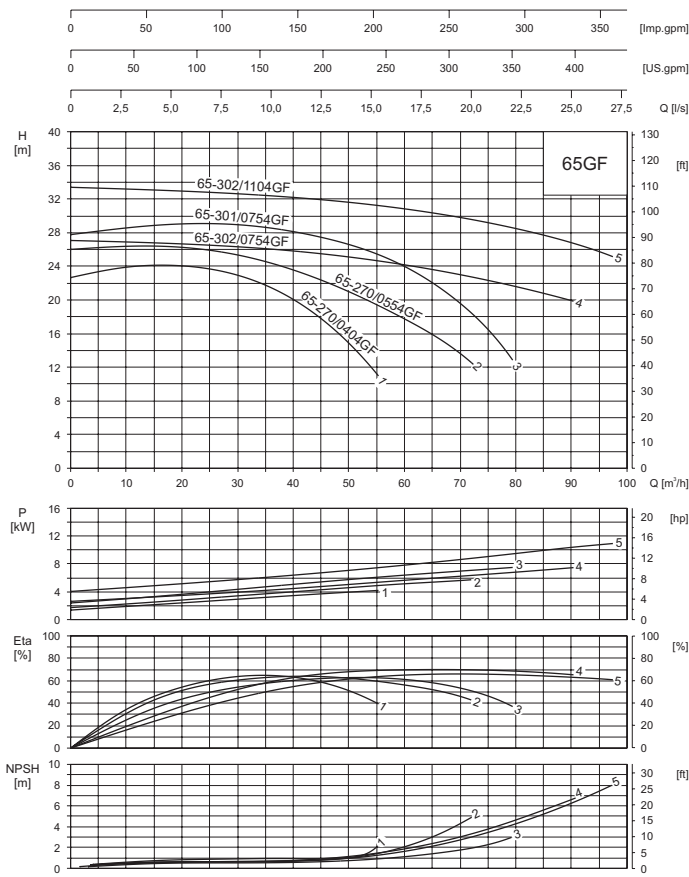
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1800 min⁻¹ (460 V - 60 Hz)



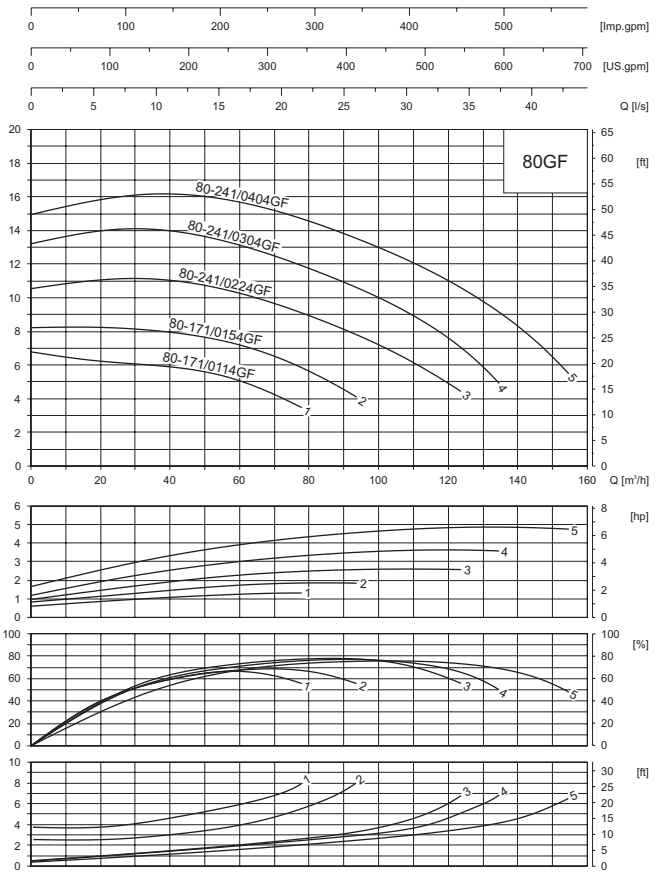
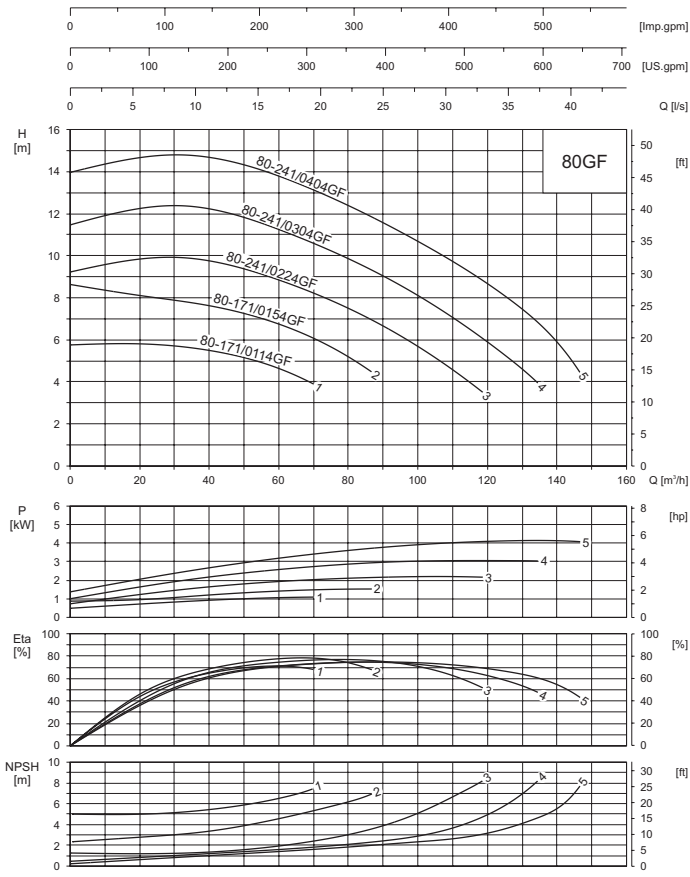
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1800 min⁻¹ (460 V - 60 Hz)



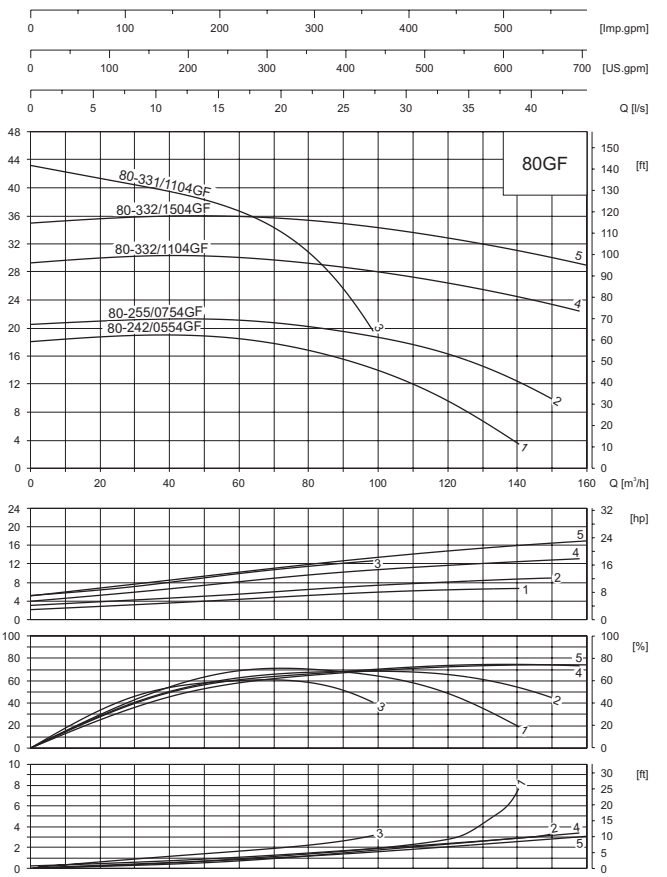
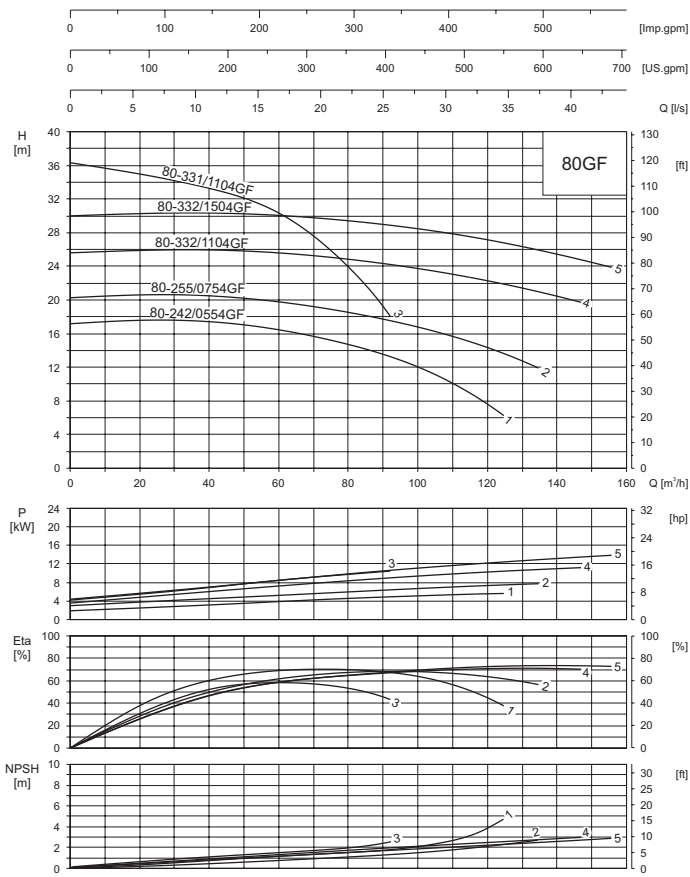
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1800 min⁻¹ (460 V - 60 Hz)



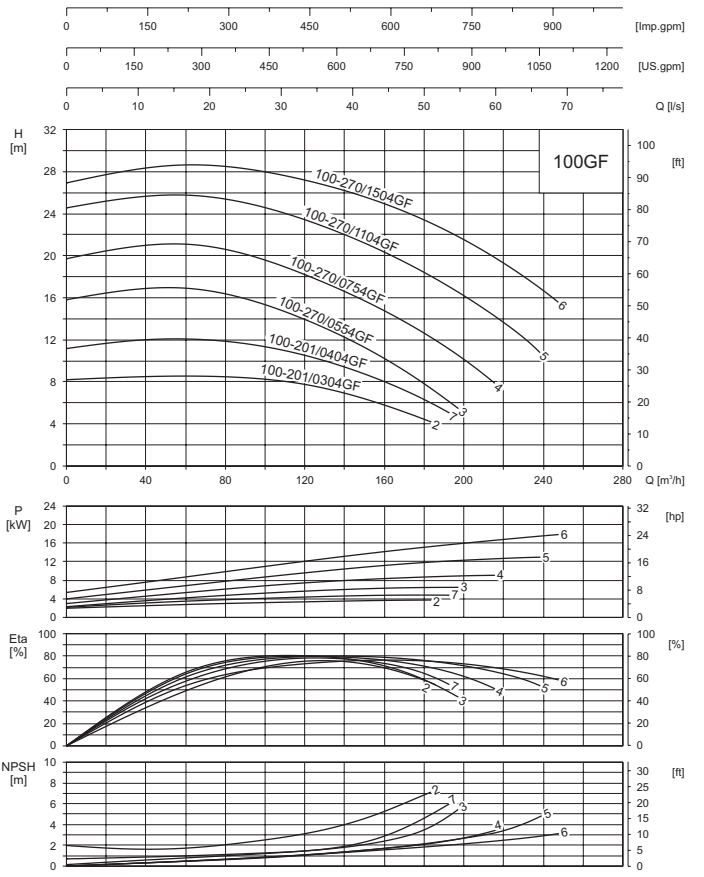
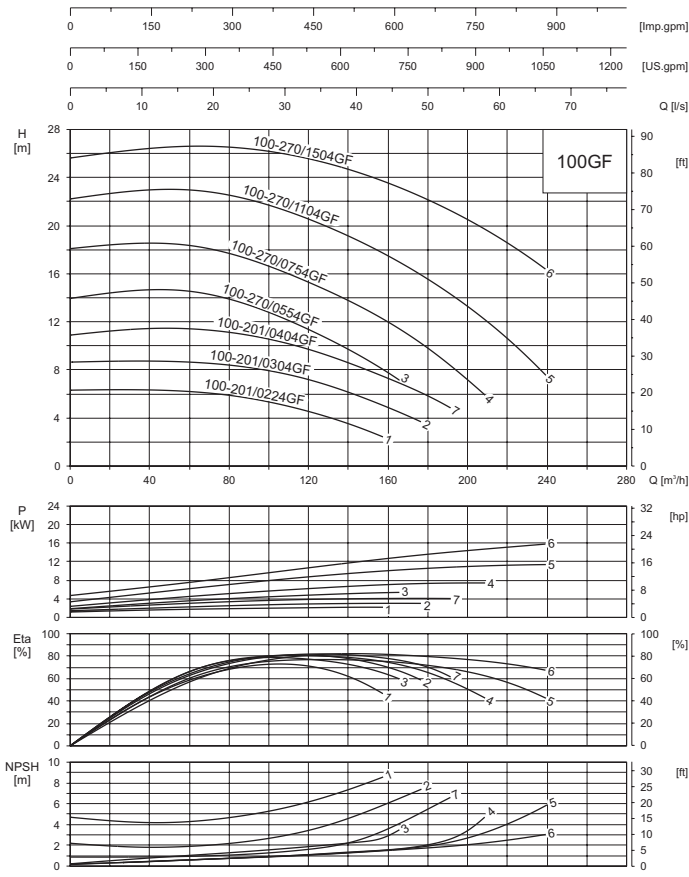
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1800 min⁻¹ (460 V - 60 Hz)



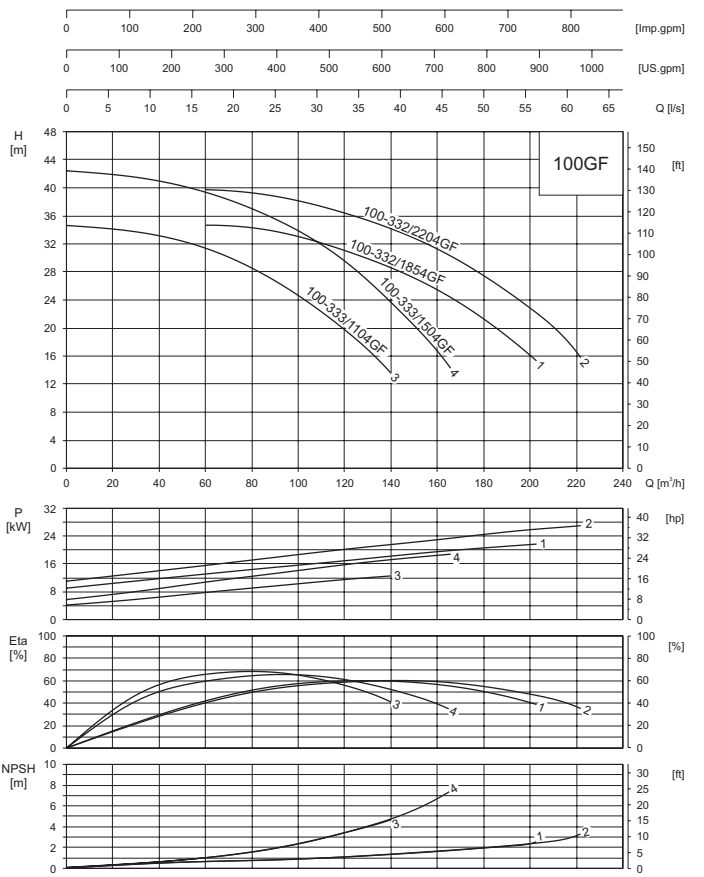
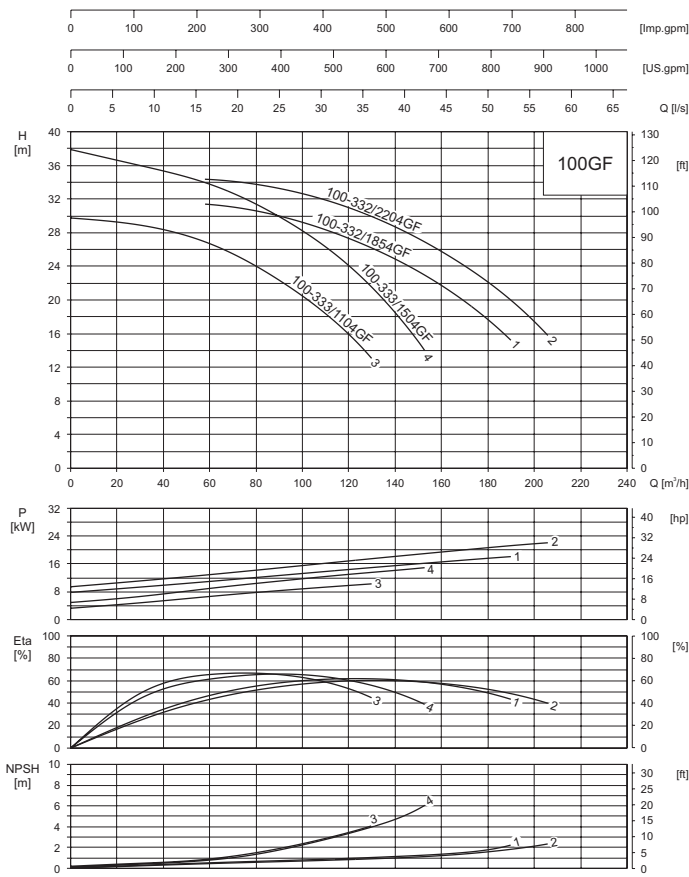
1500 min⁻¹ (400 V - 50 Hz)

1800 min⁻¹ (460 V - 60 Hz)



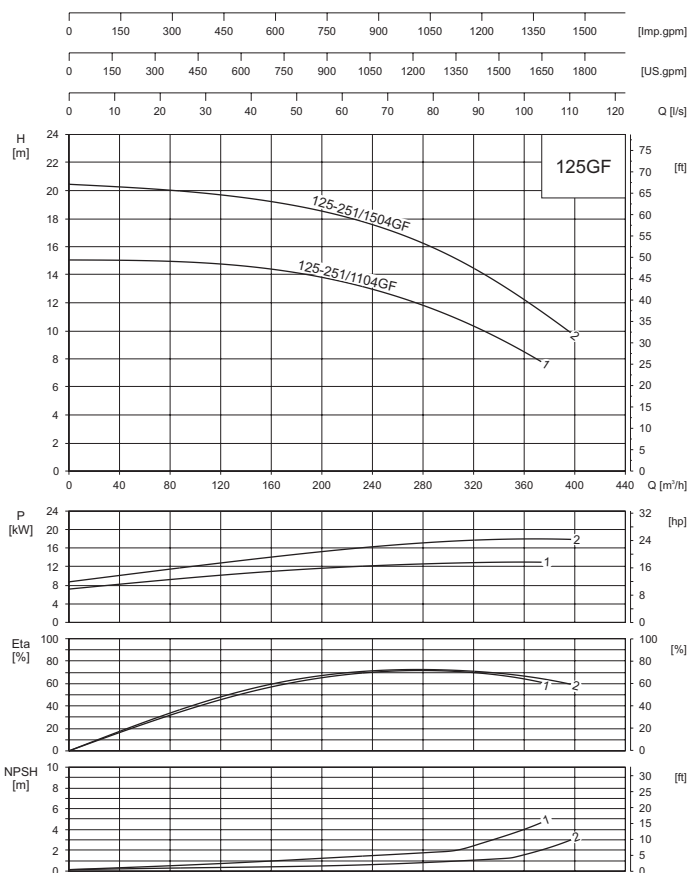
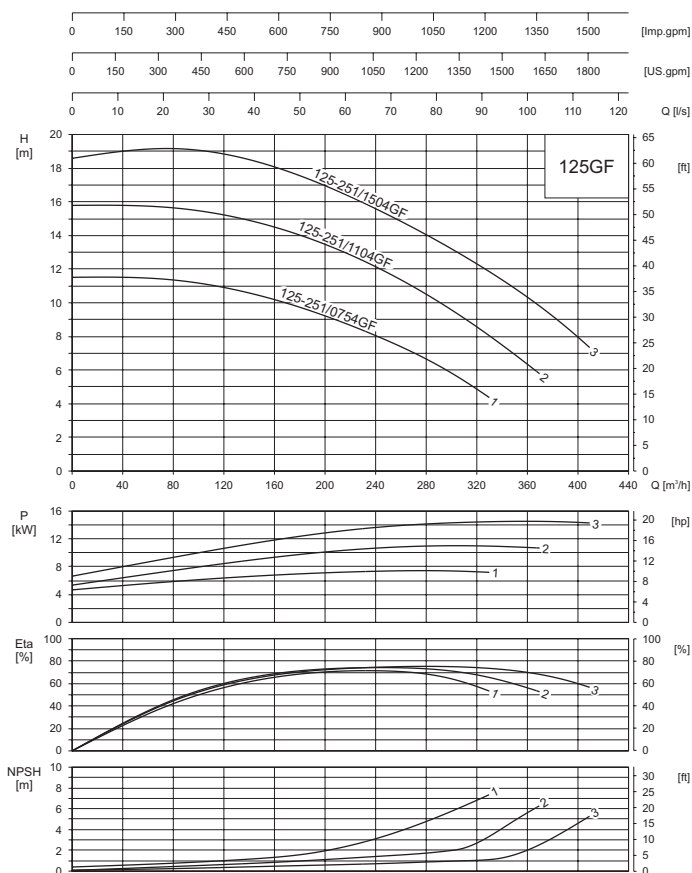
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1800 min⁻¹ (460 V - 60 Hz)



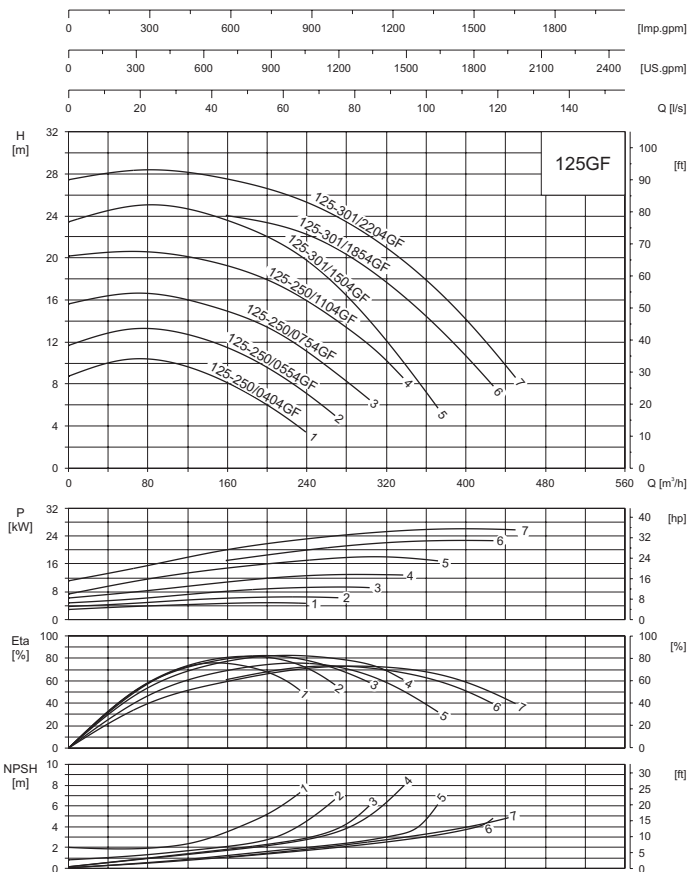
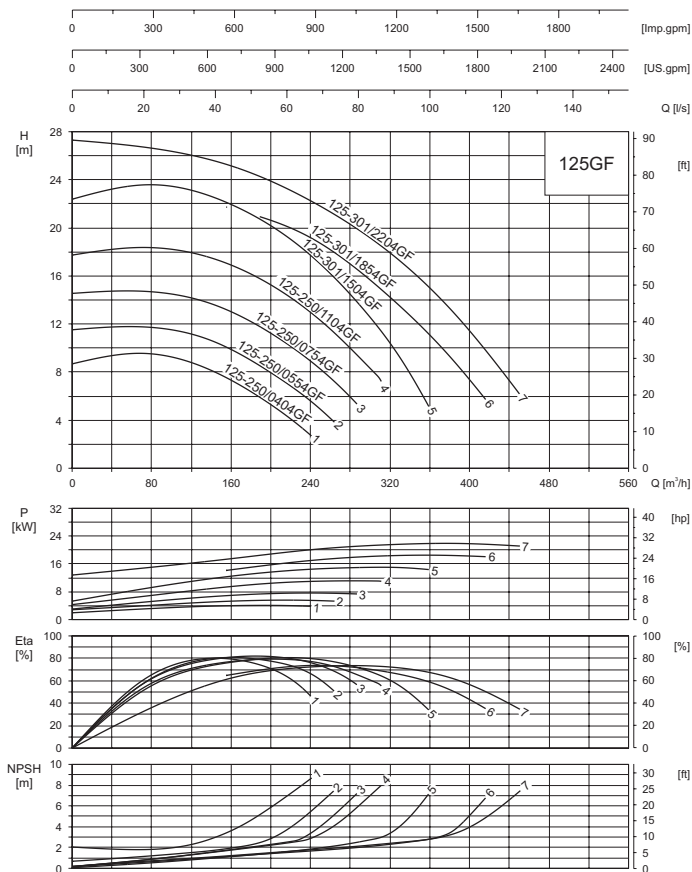
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1800 min⁻¹ (460 V - 60 Hz)



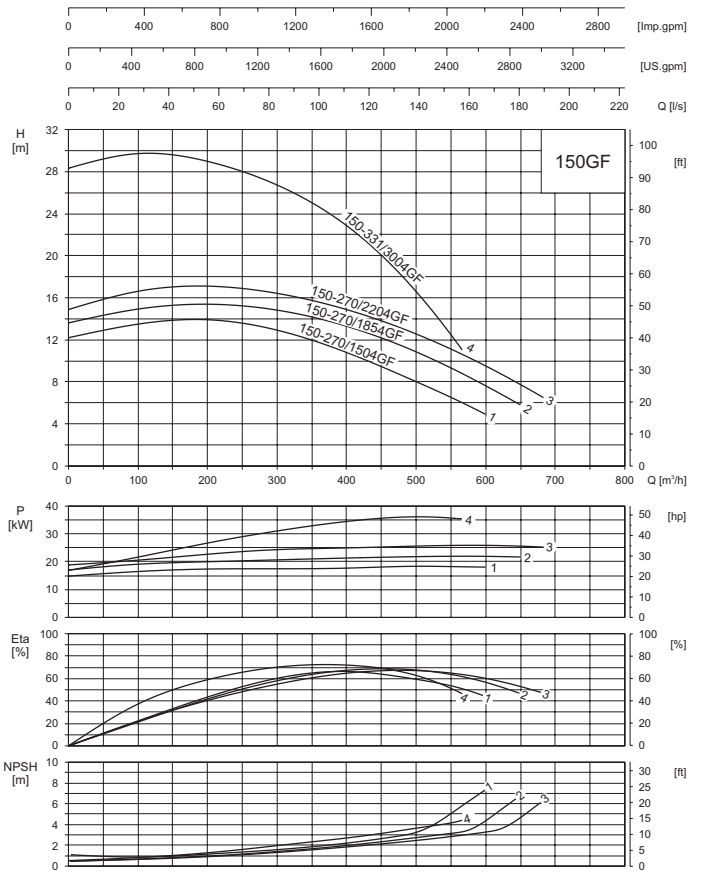
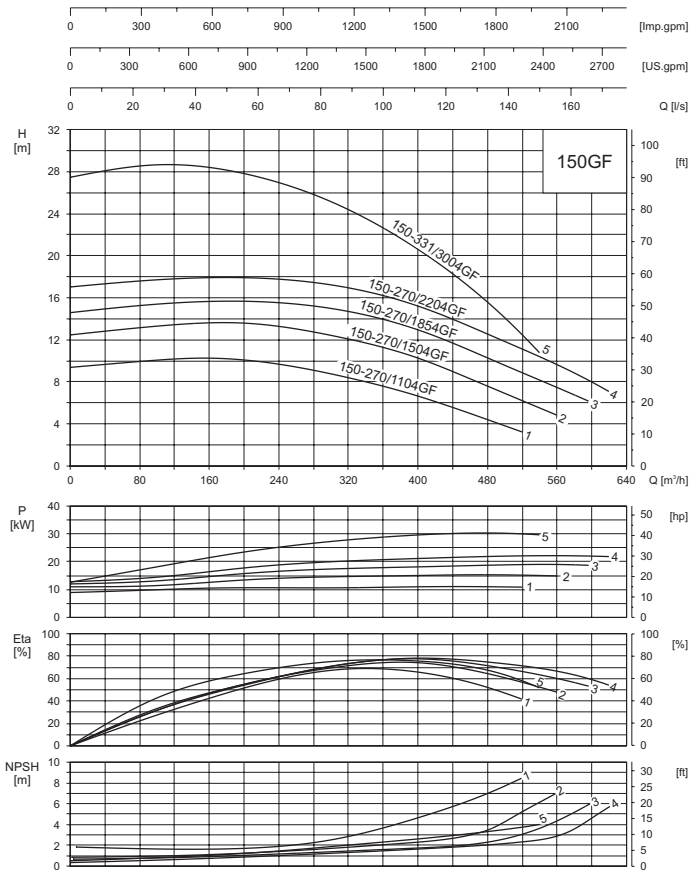
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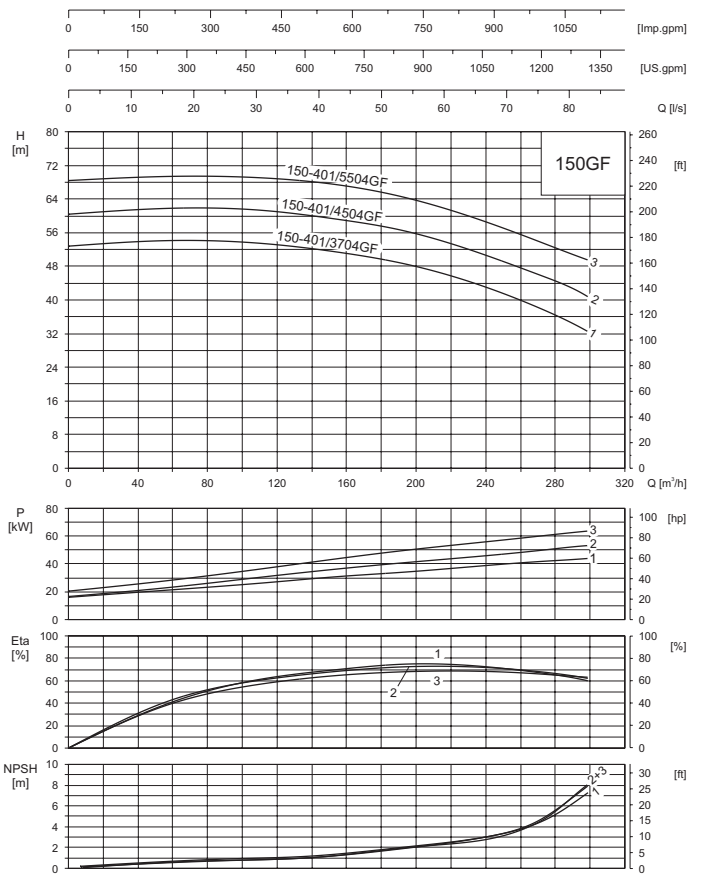
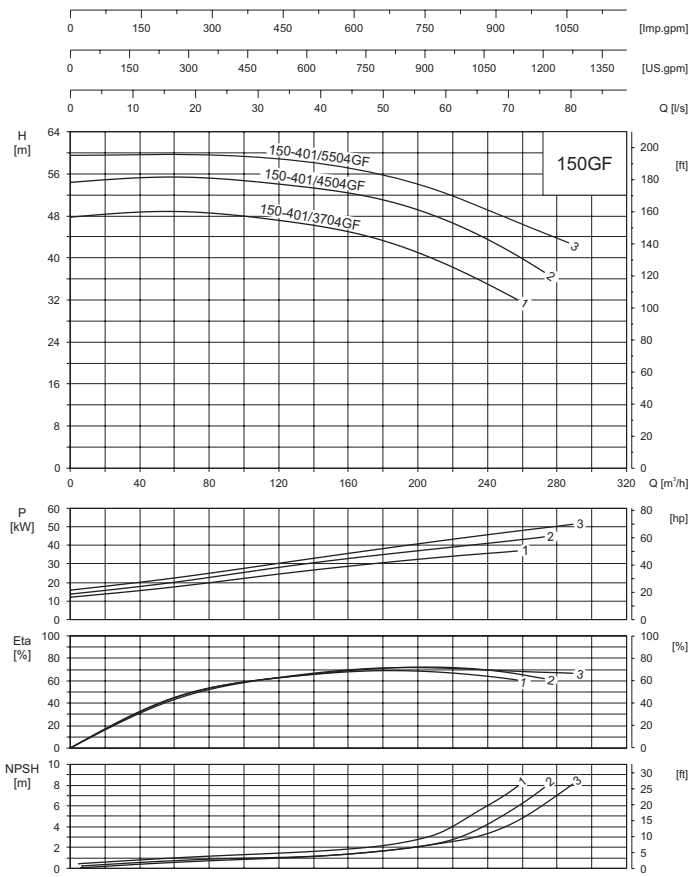
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1800 min⁻¹ (460 V - 60 Hz)



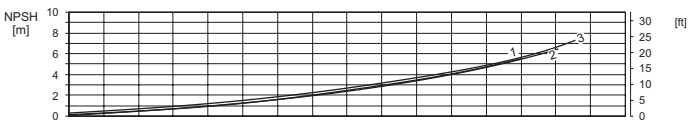
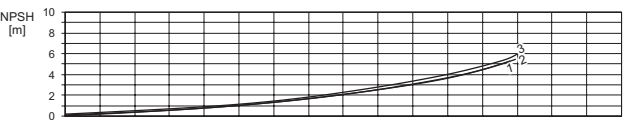
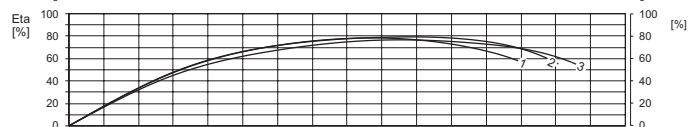
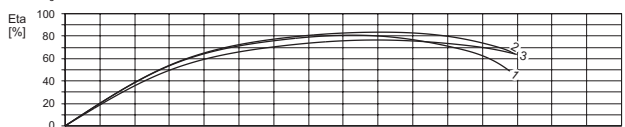
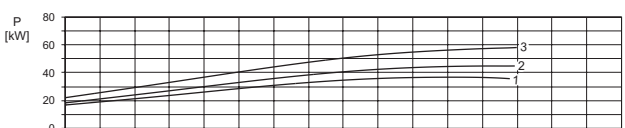
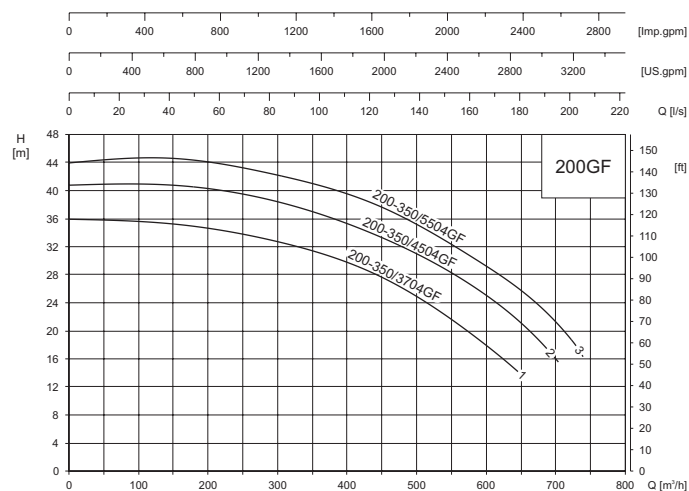
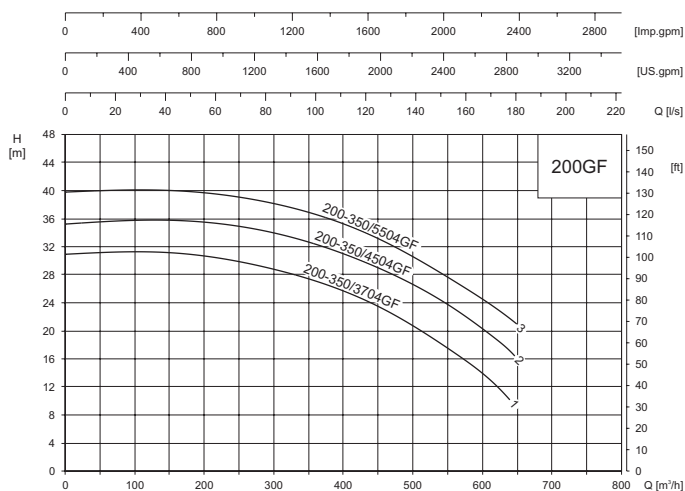
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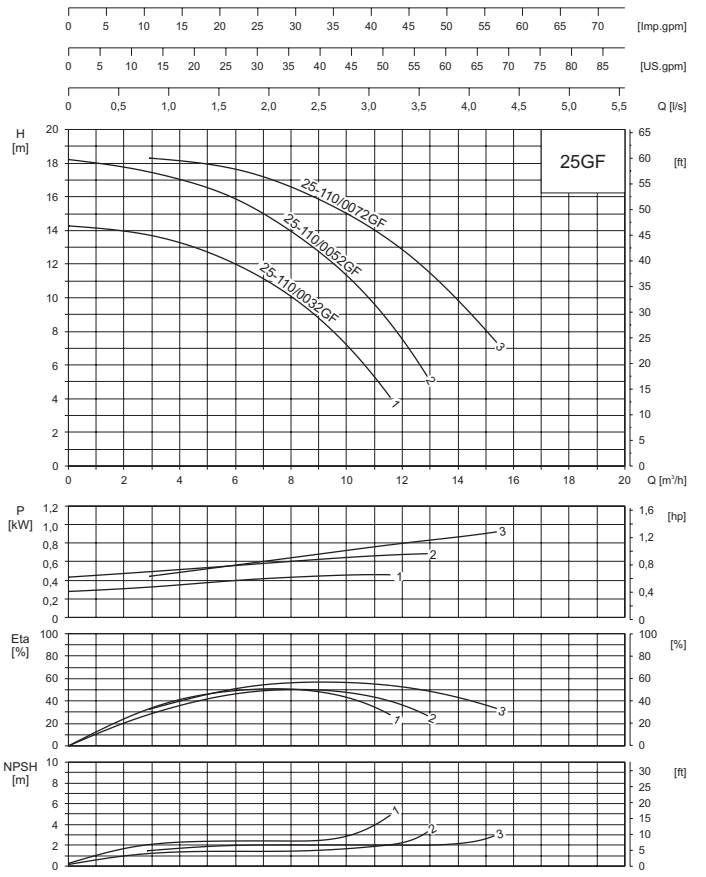
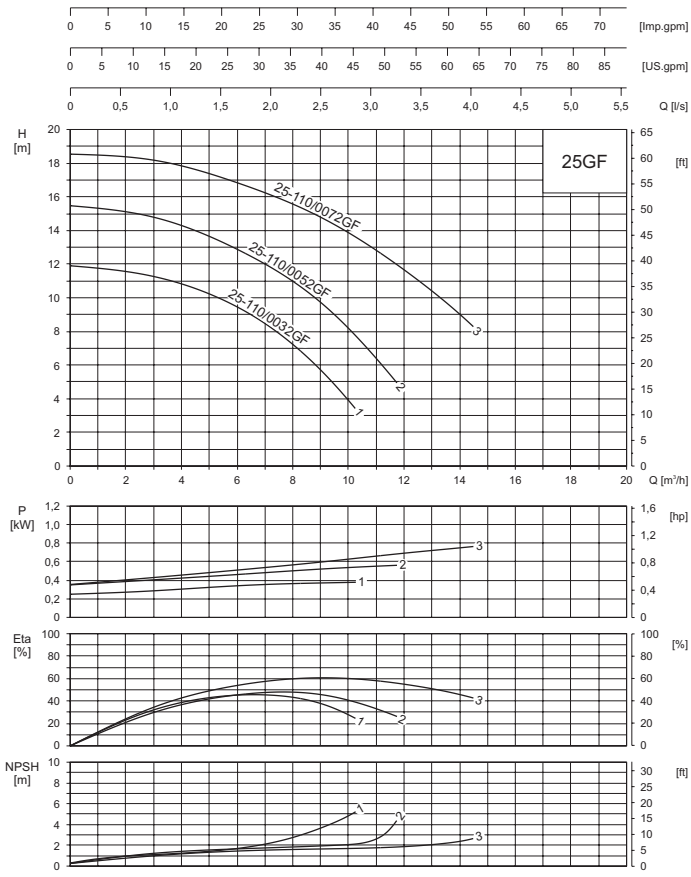
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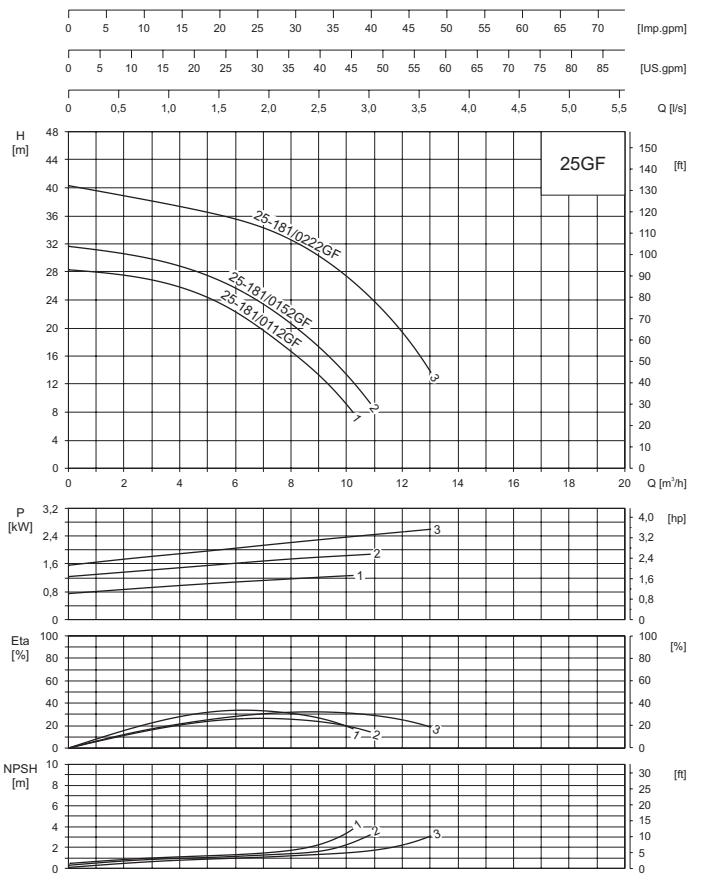
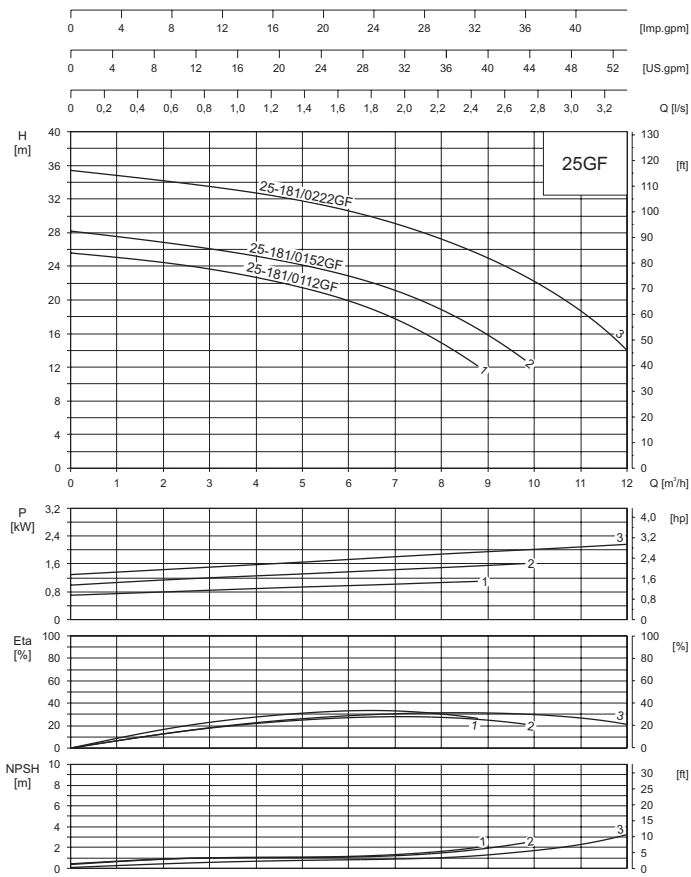
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



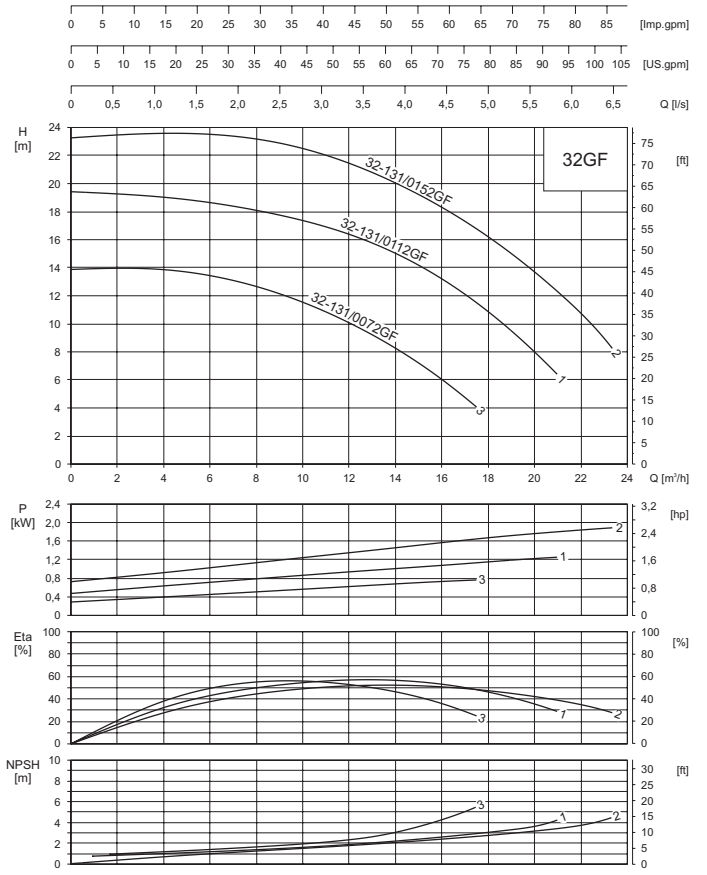
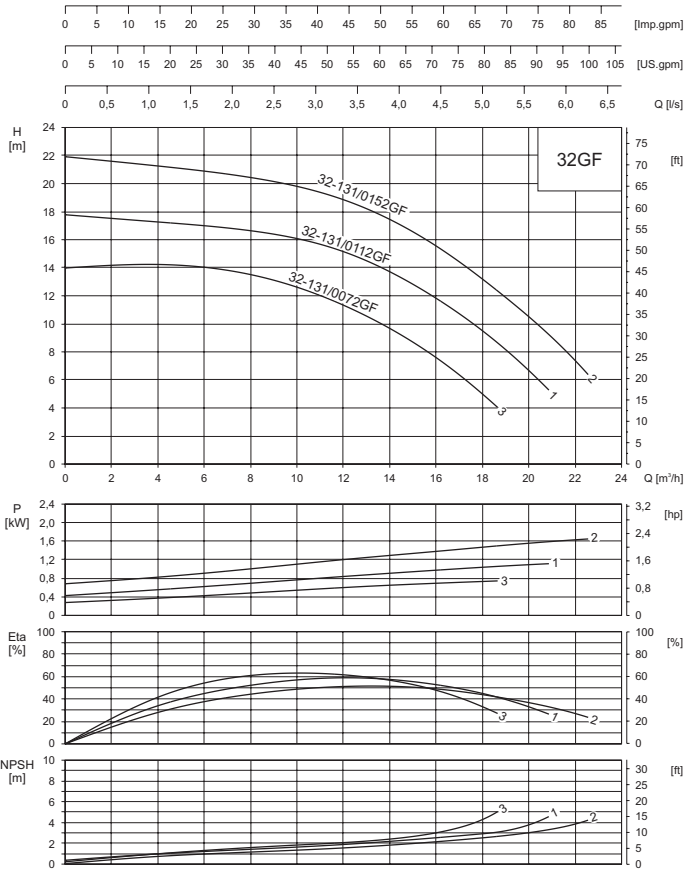
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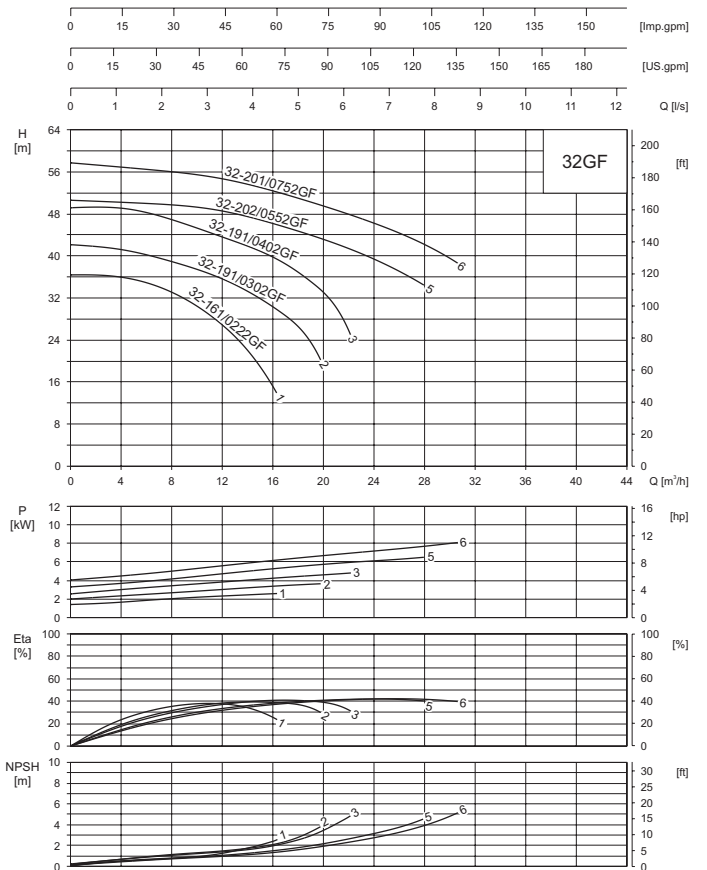
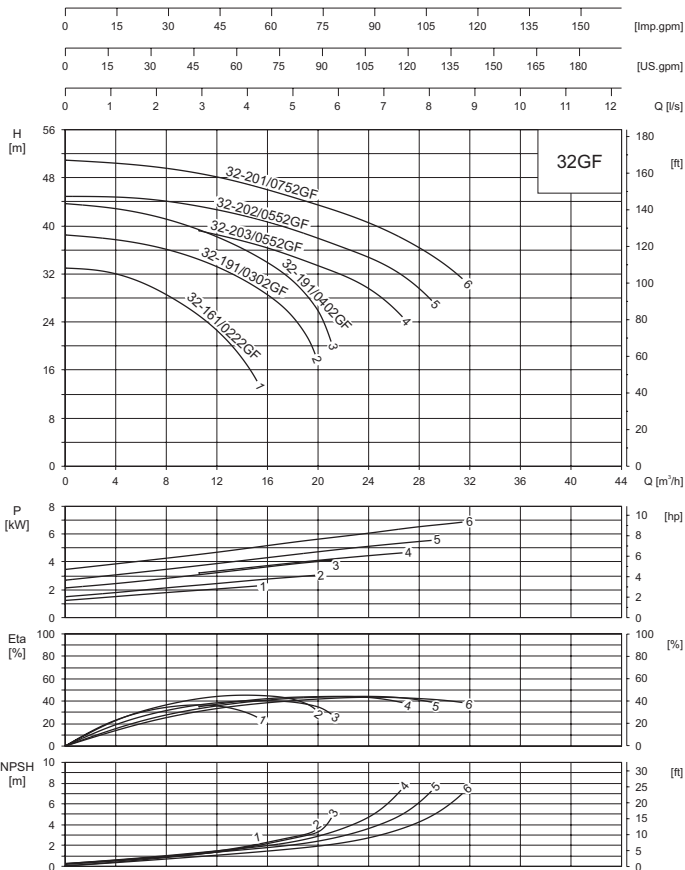
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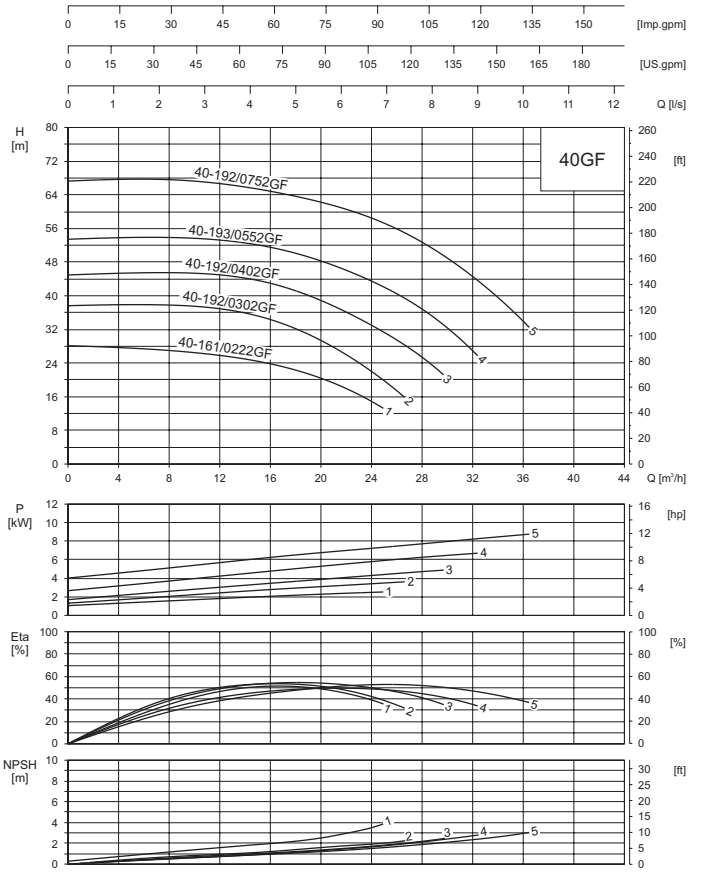
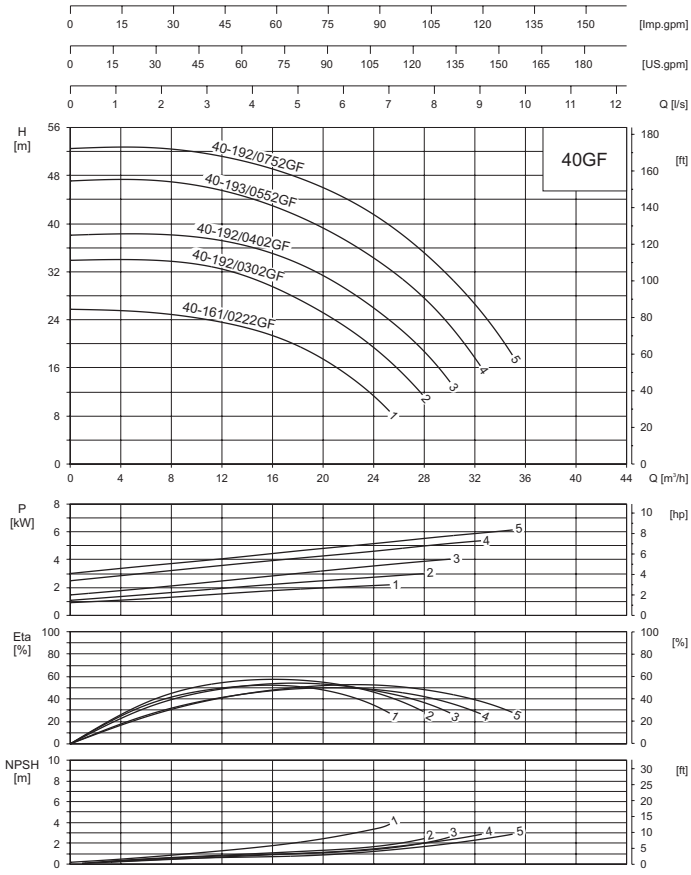
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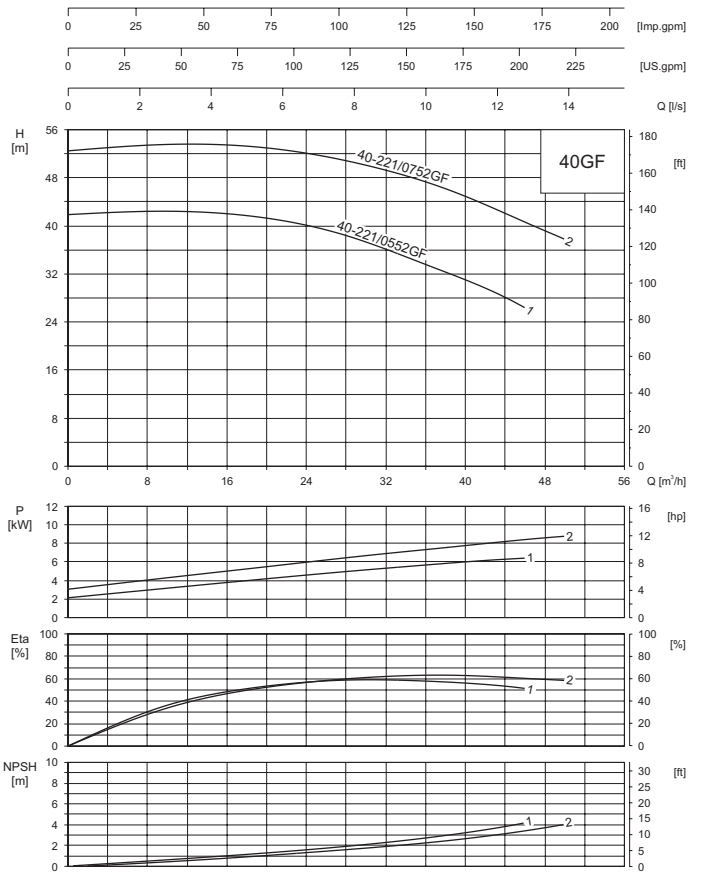
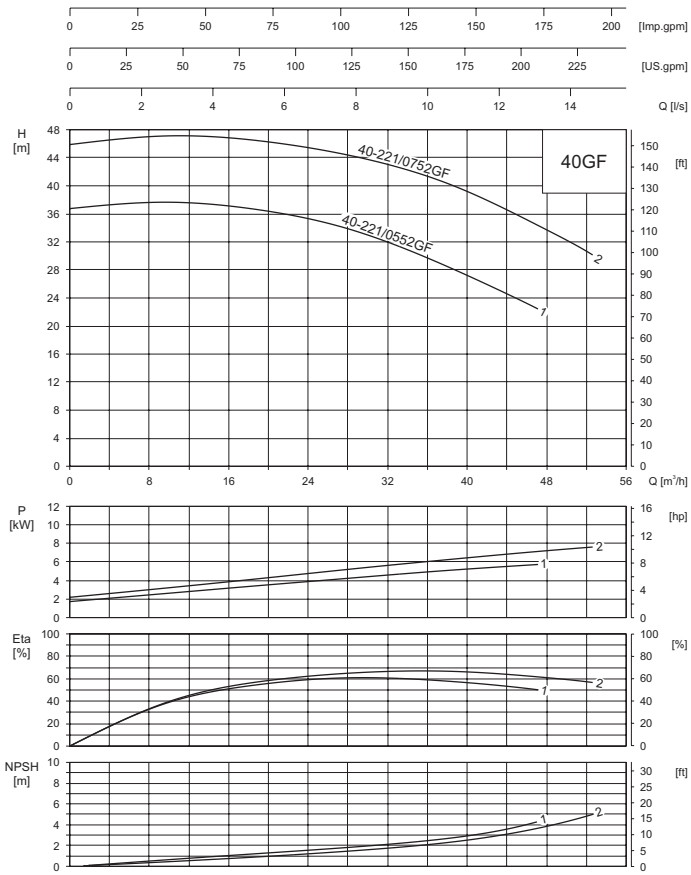
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



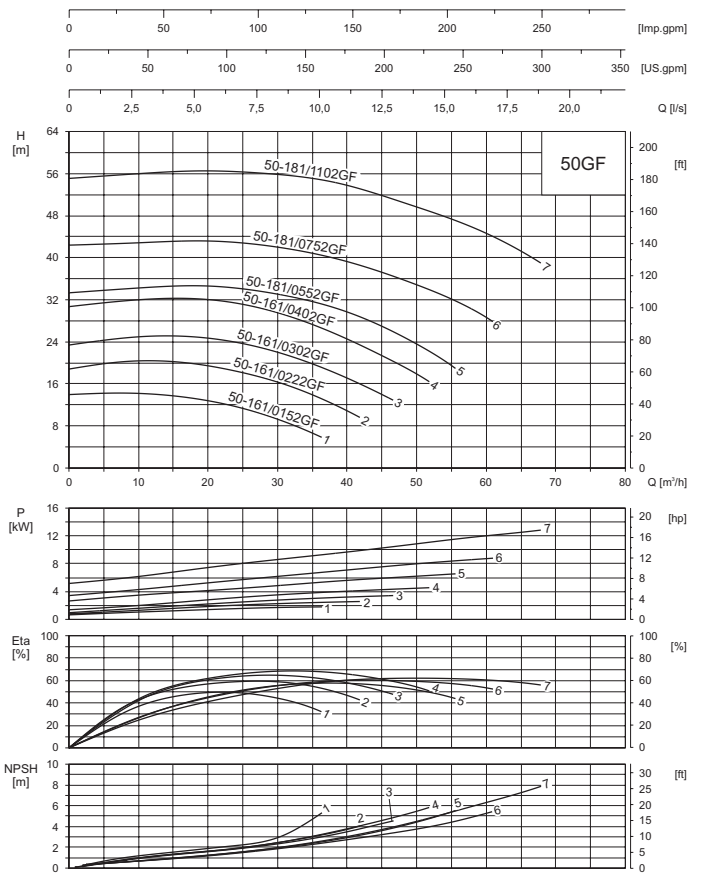
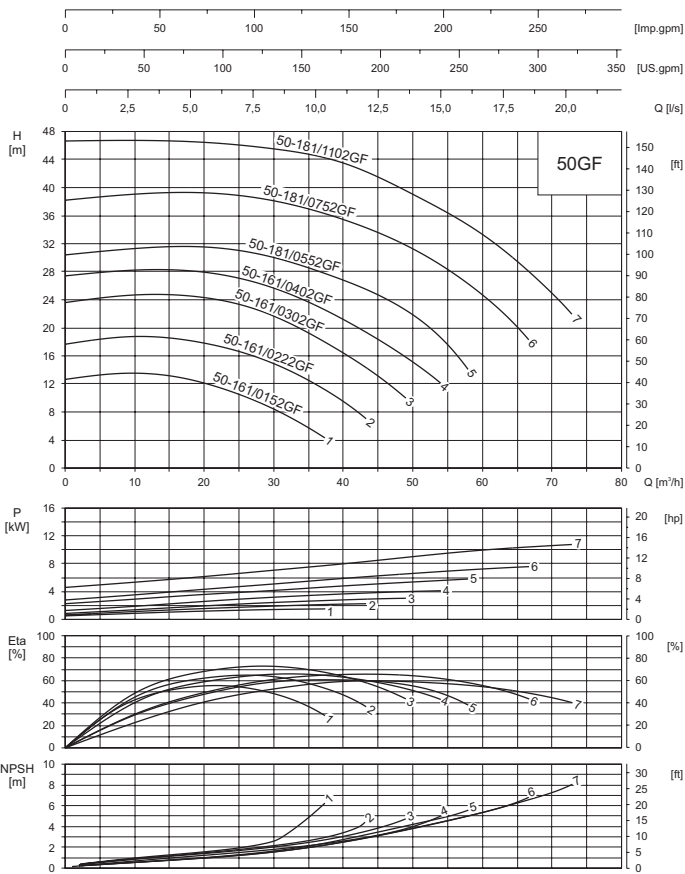
3000 min⁻¹ (400 V - 50 Hz)

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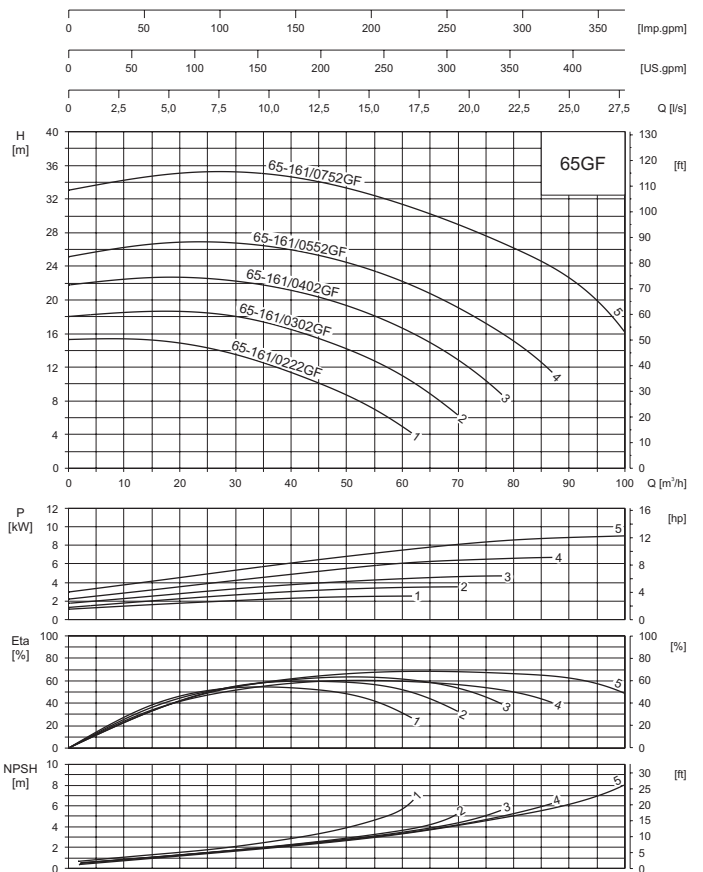
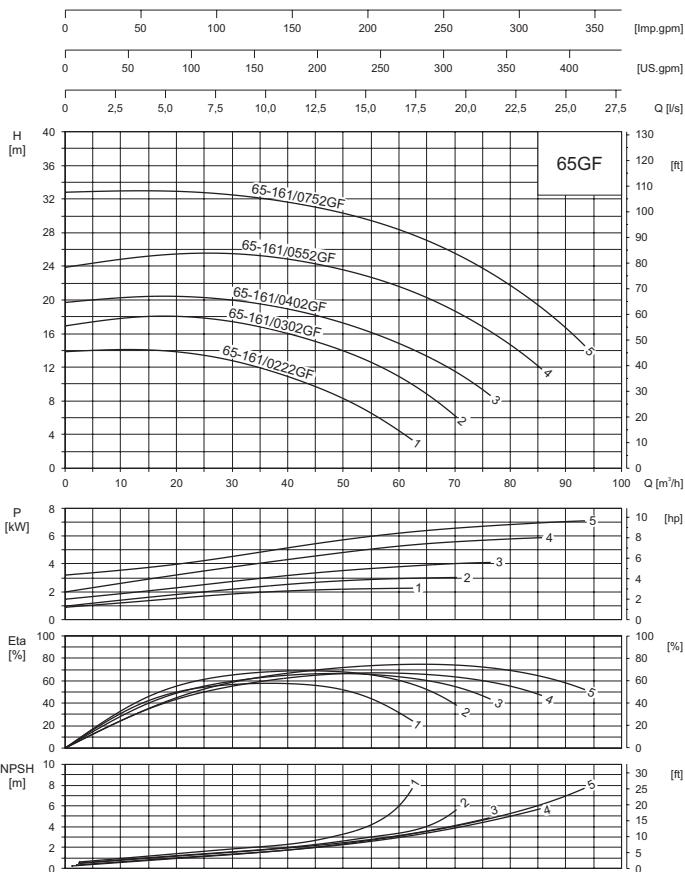
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



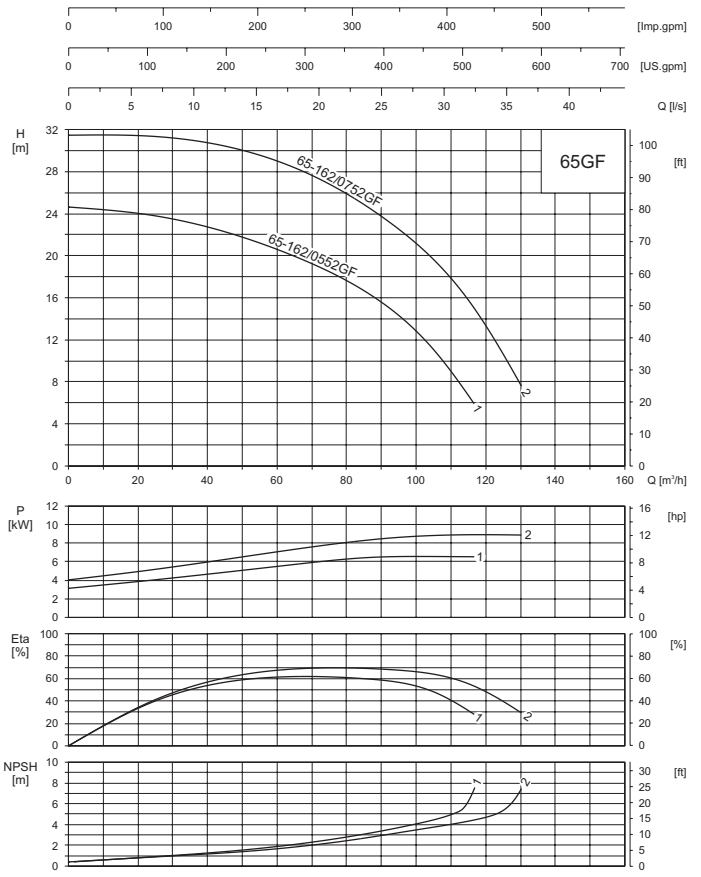
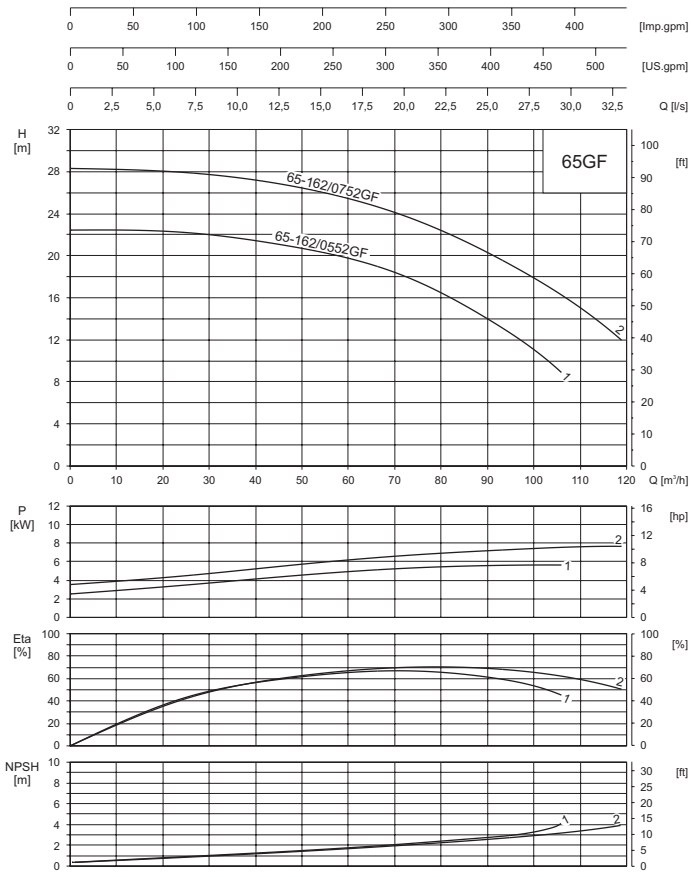
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



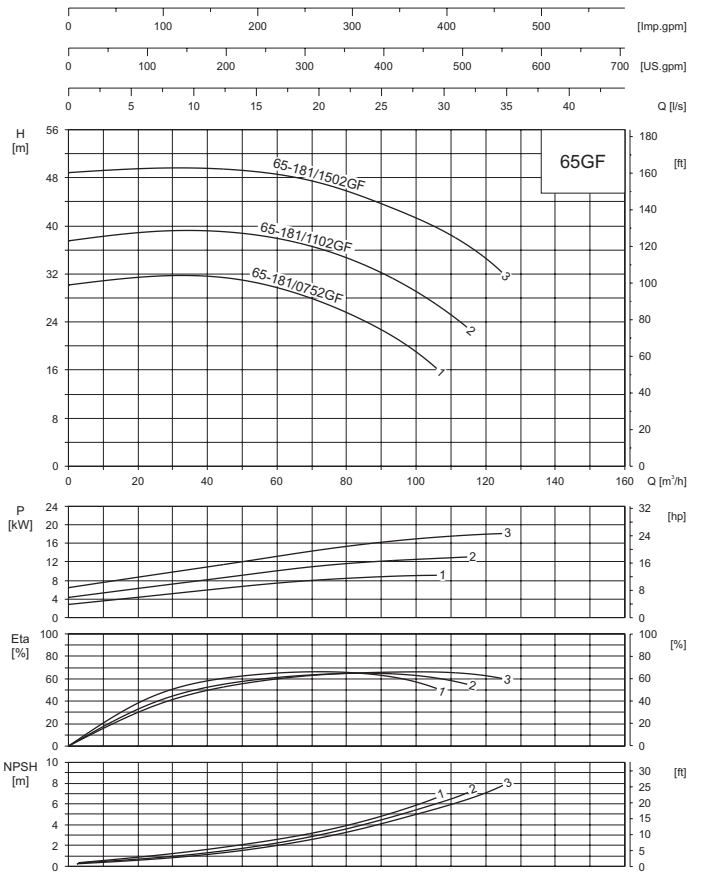
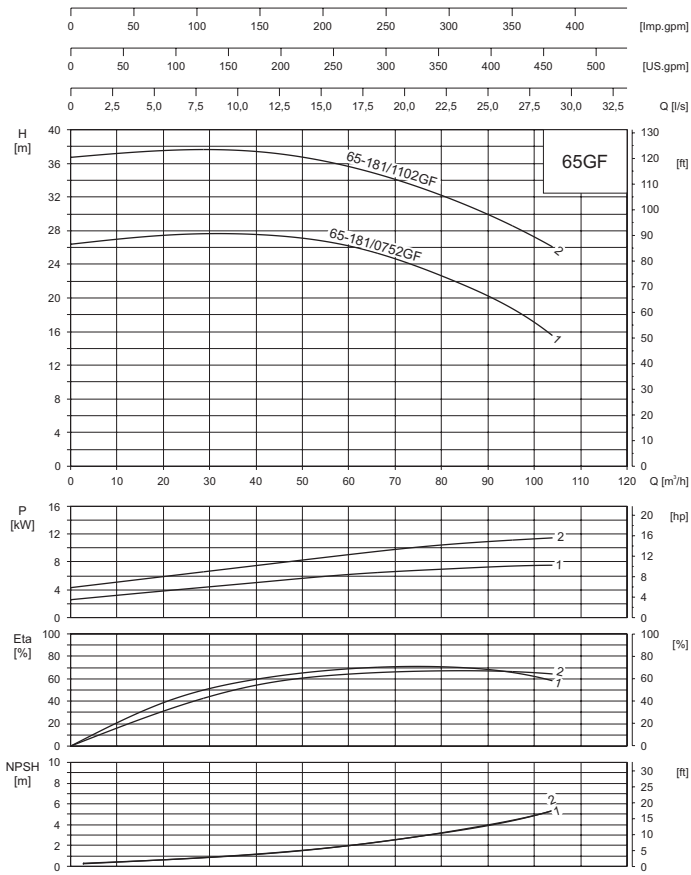
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



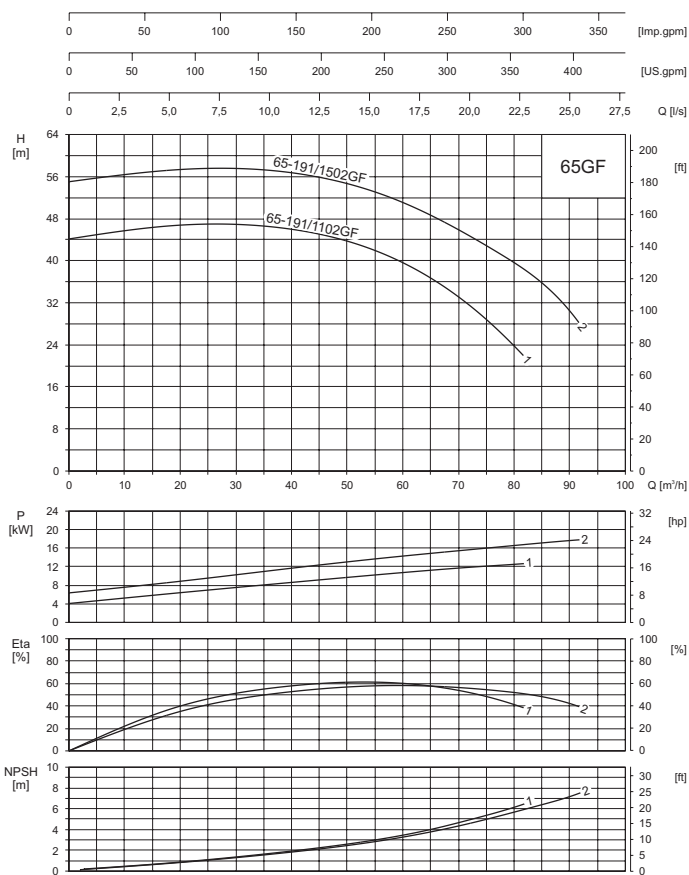
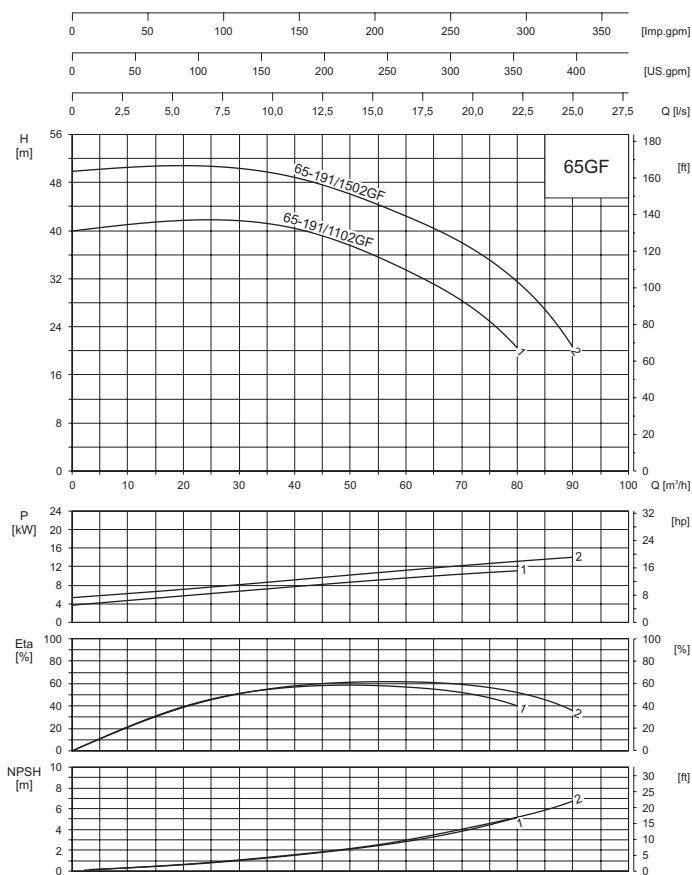
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



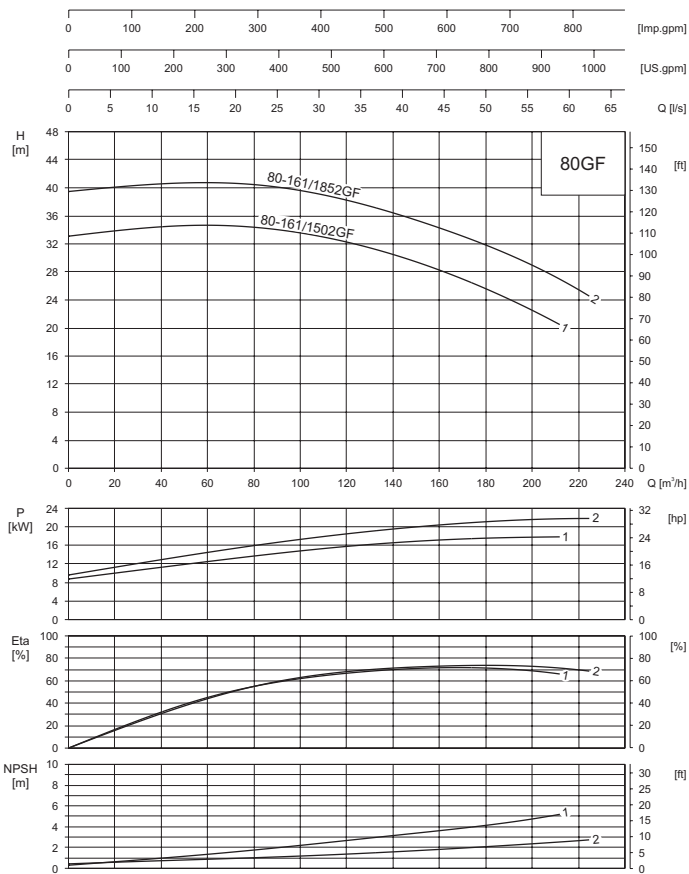
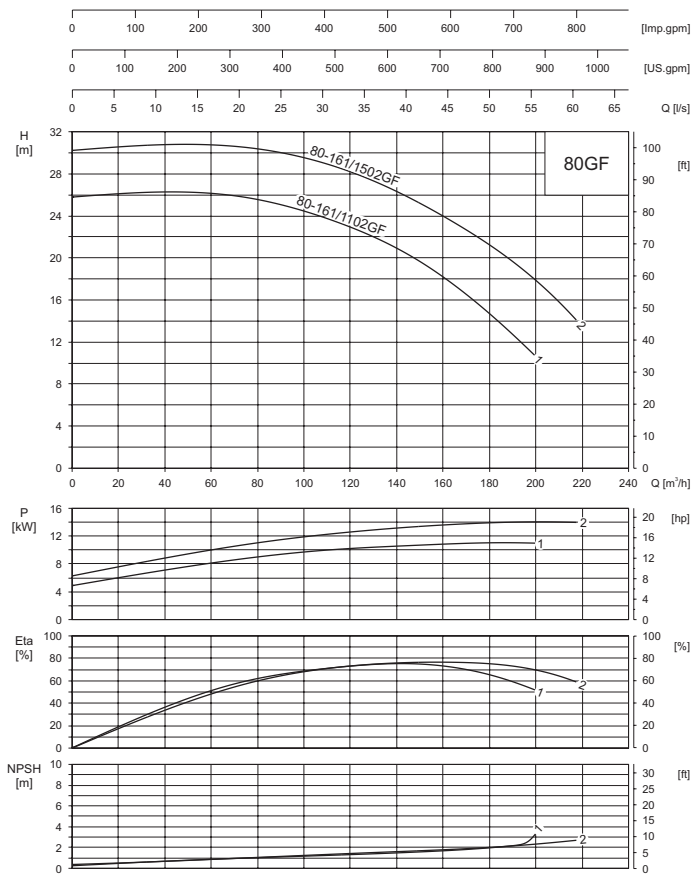
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



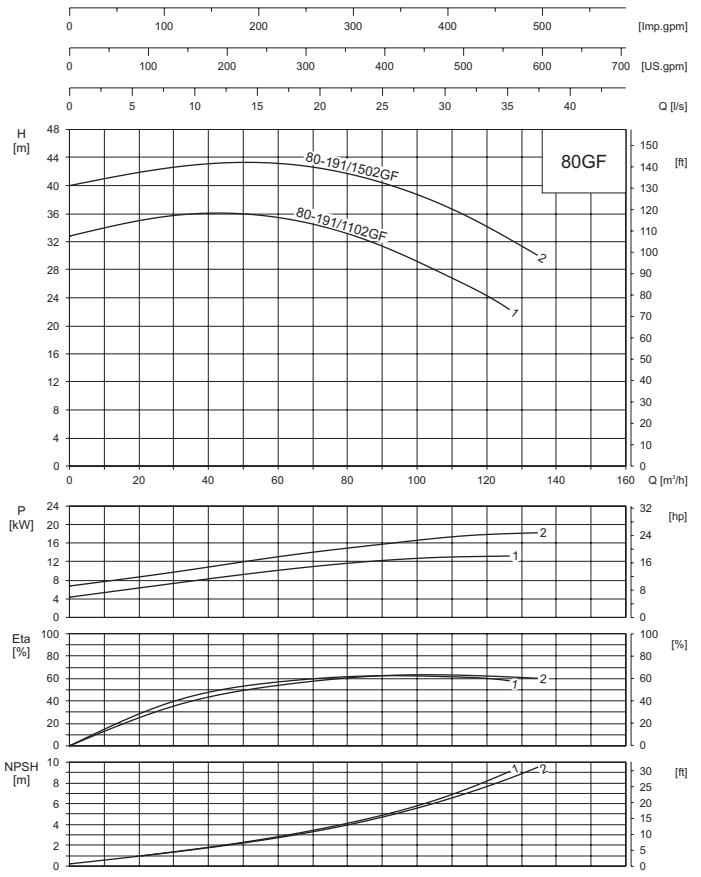
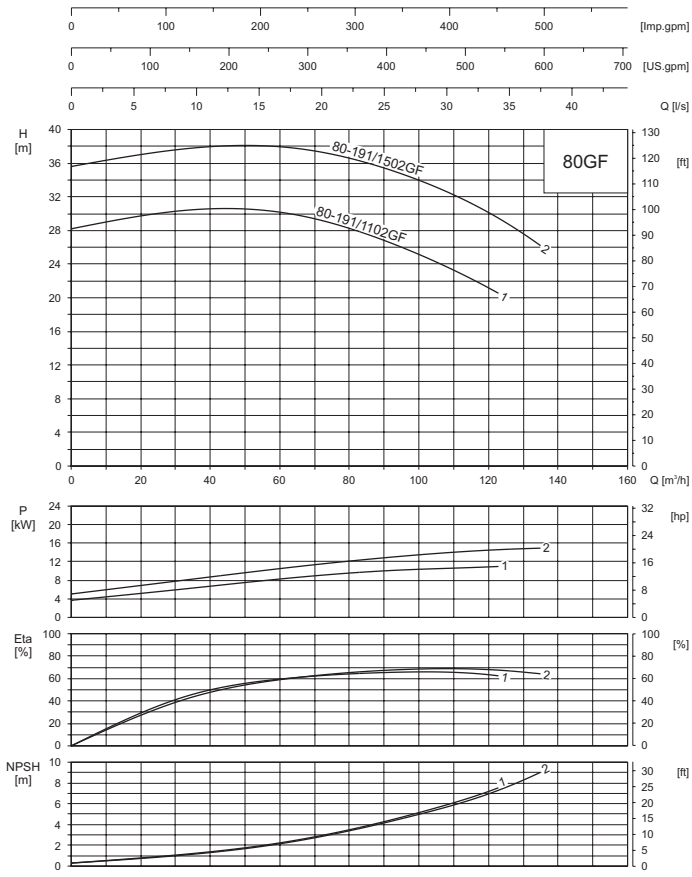
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



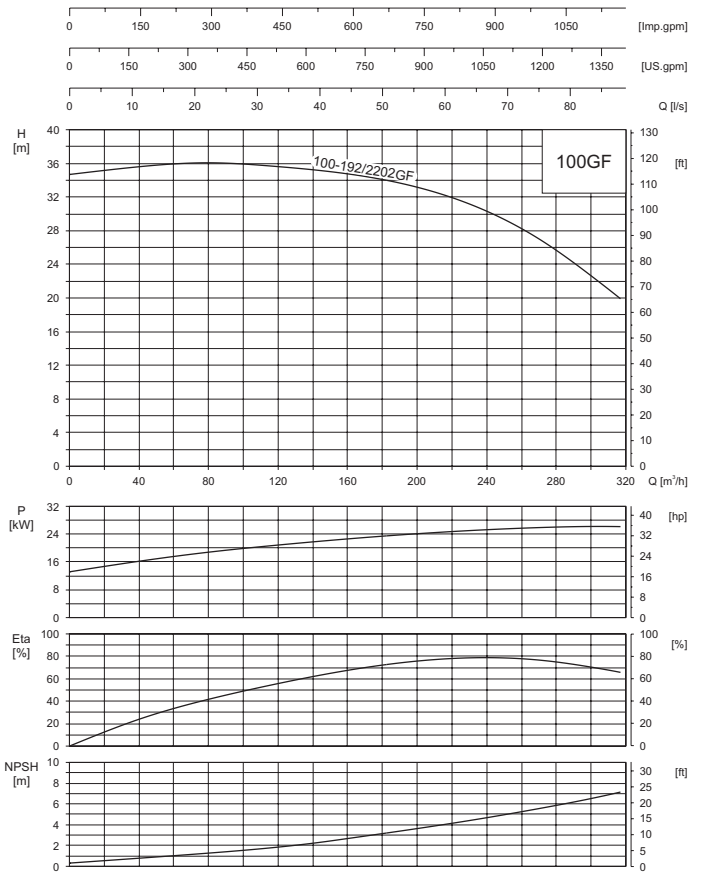
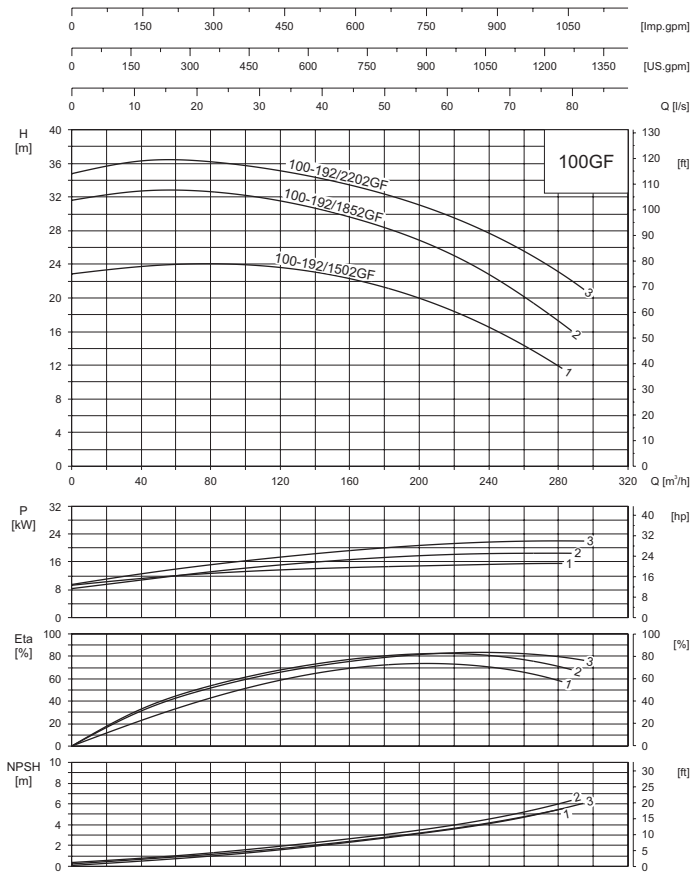
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)



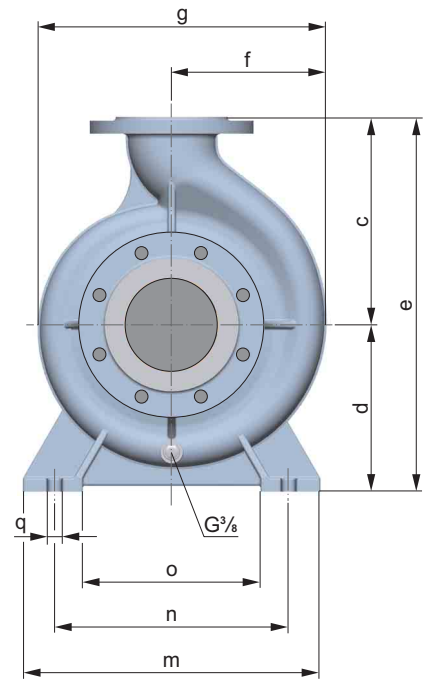
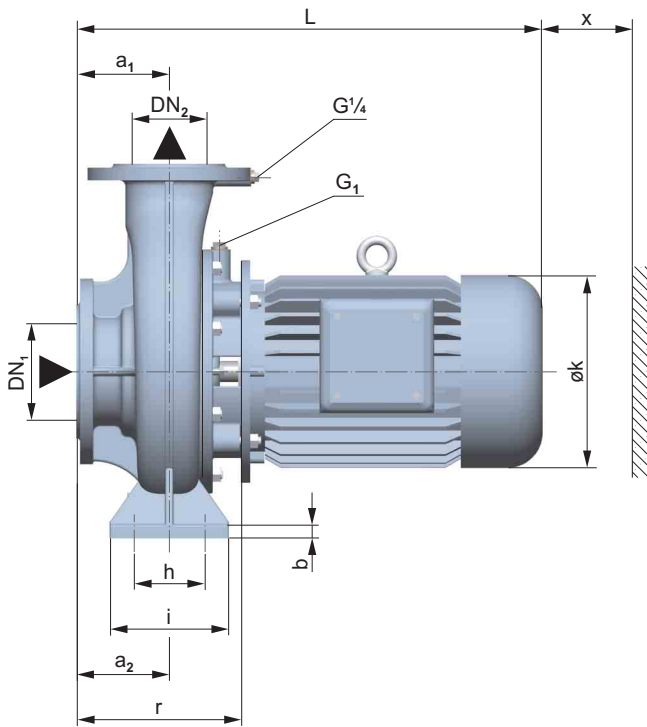
3000 min⁻¹ (400 V - 50 Hz)

3600 min⁻¹ (460 V - 60 Hz)

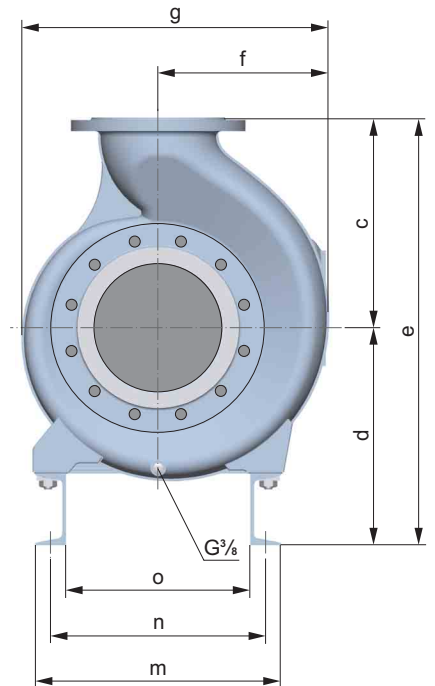
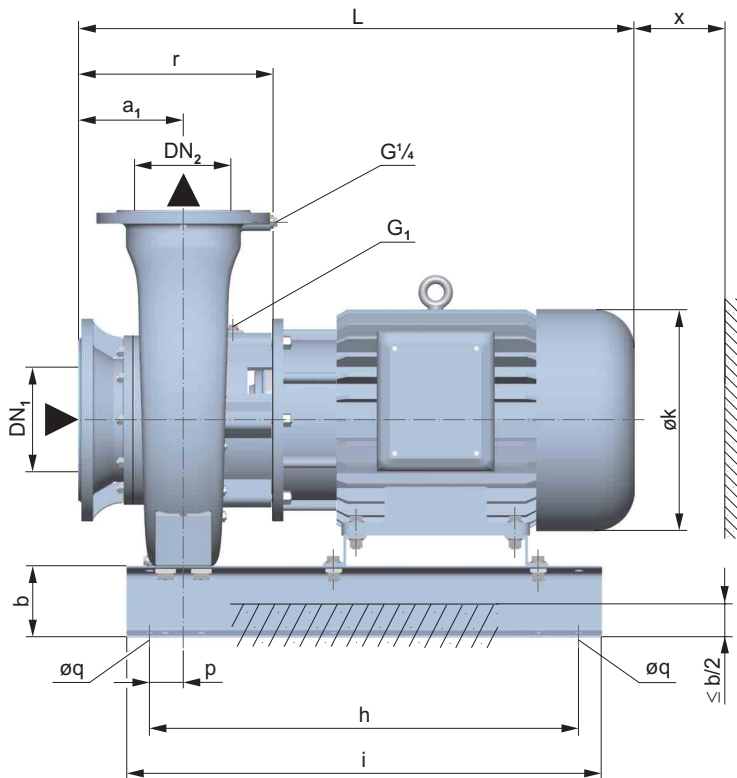


Dimensions

Standard



Base rail ≥ 37 kW



Flange connection dimensions according to DIN 2501 PN 10
 Dimensions with frequency converter for direct installation on request.

Technical specifications

50 Hz: 1500 min⁻¹ (400 V)

P ₂ [kW]	I [A]	I _A /I _N	↘/△	dB(A)
0.37	1.1	4.5	↘	52
0.55	1.7	4.8	↘	50
0.75	2.1	4.8	↘	50
1.1	2.8	5.2	↘	55
1.5	3.8	5.6	↘	55
2.2	5.3	5.9	↘	59
3.0	7.0	6.2	△	59
4.0	9.0	6.8	△	59
5.5	11.4	6.6	△	63
7.5	15.4	6.8	△	63
11.0	22.0	6.9	△	65
15.0	30.0	7.3	△	65
18.5	37.0	7.0	△	65
22.0	44.0	6.9	△	67
30.0	54.5	7.0	△	68
37.0	66.0	6.8	△	70
45.0	82.0	7.0	△	70
55.0	95.0	7.0	△	71

60 Hz: 1800 min⁻¹ (460 V)

P ₂ [kW]	I [A]	I _A /I _N	↘/△	dB(A)
0.44	1.1	4.3	↘	56
0.66	1.7	4.6	↘	54
0.9	2.2	4.8	↘	54
1.3	2.9	5.3	↘	59
1.8	3.7	5.4	↘	59
2.6	5.5	6.1	↘	63
3.6	7.2	6.6	△	63
4.8	9.1	7.0	△	63
6.6	11.9	6.3	△	67
9.0	16.1	6.5	△	67
13.2	23.0	6.6	△	69
18.0	30.3	7.3	△	69
22.2	38.6	6.7	△	69
26.4	44.9	6.6	△	71
36.0	58.4	6.7	△	72
44.4	68.9	6.5	△	74
54.0	85.6	6.7	△	74
66.0	99.1	6.7	△	75

50 Hz: 3000 min⁻¹ (400 V)

P ₂ [kW]	I [A]	I _A /I _N	↘/△	dB(A)
0.37	1.0	4.6	↘	61
0.55	1.3	5.3	↘	61
0.75	1.9	5.6	↘	63
1.1	2.7	6.1	↘	63
1.5	3.3	7.0	↘	67
2.2	4.6	7.5	↘	67
3.0	6.5	6.5	△	72
4.0	8.3	8.4	△	74
5.5	11.0	6.3	△	74
7.5	15.3	6.5	△	74
11.0	20.5	7.0	△	75
15.0	27.0	7.1	△	75
18.5	32.5	7.3	△	75
22.0	40.0	7.8	△	75

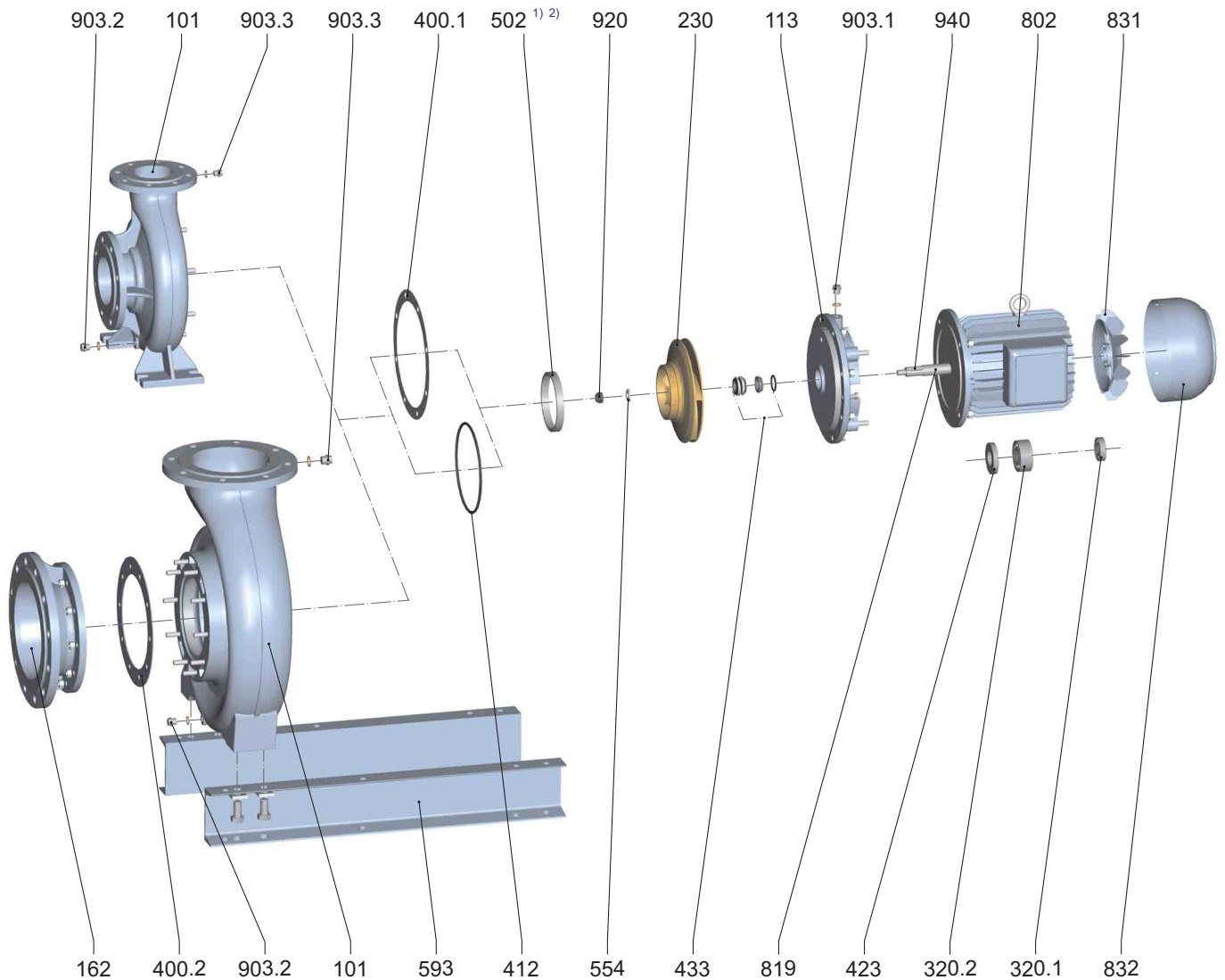
60 Hz: 3600 min⁻¹ (460 V)

P ₂ [kW]	I [A]	I _A /I _N	↘/△	dB(A)
0.44	1.0	4.4	↘	65
0.66	1.4	5.6	↘	65
0.9	1.8	6.1	↘	67
1.3	2.8	6.3	↘	67
1.8	3.4	6.7	↘	71
2.6	4.8	6.6	↘	71
3.6	6.7	6.2	△	76
4.8	8.7	8.1	△	78
6.6	11.5	6.0	△	78
9.0	15.1	6.3	△	78
13.2	21.4	6.7	△	79
18.0	28.2	6.8	△	79
22.2	33.9	7.0	△	79
26.4	41.7	7.5	△	79

Legend:

- P₂: Nominal output
- I_N: Nominal current
- I_A: Starting current
- dB(A): Sound pressure level (complete pump)

Exploded view



Individual components

101	Pump casing	554	Washer
113	Intermediate casing	593	Rail
162	Suction cover	802	Block motor
230	Impeller	819	Motor shaft
320.1	Anti-friction bearing (non drive side)	831	Fan
320.2	Anti-friction bearing (drive side)	832	Fan hood
400.1	Gasket	903.1	Screwed plug
400.2	Gasket	903.2	Screwed plug
412	O-ring	903.3	Screwed plug
423	Labyrinth ring	920	Nut
433	Mechanical seal	940	Key
502 ²⁾	Casing wear ring		

¹⁾ Only available in a construction with closed multi vane impeller in material version W3.

²⁾ In 150-401/... second casing wear ring available.



We reserve the right to make changes in line with technical further developments!

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