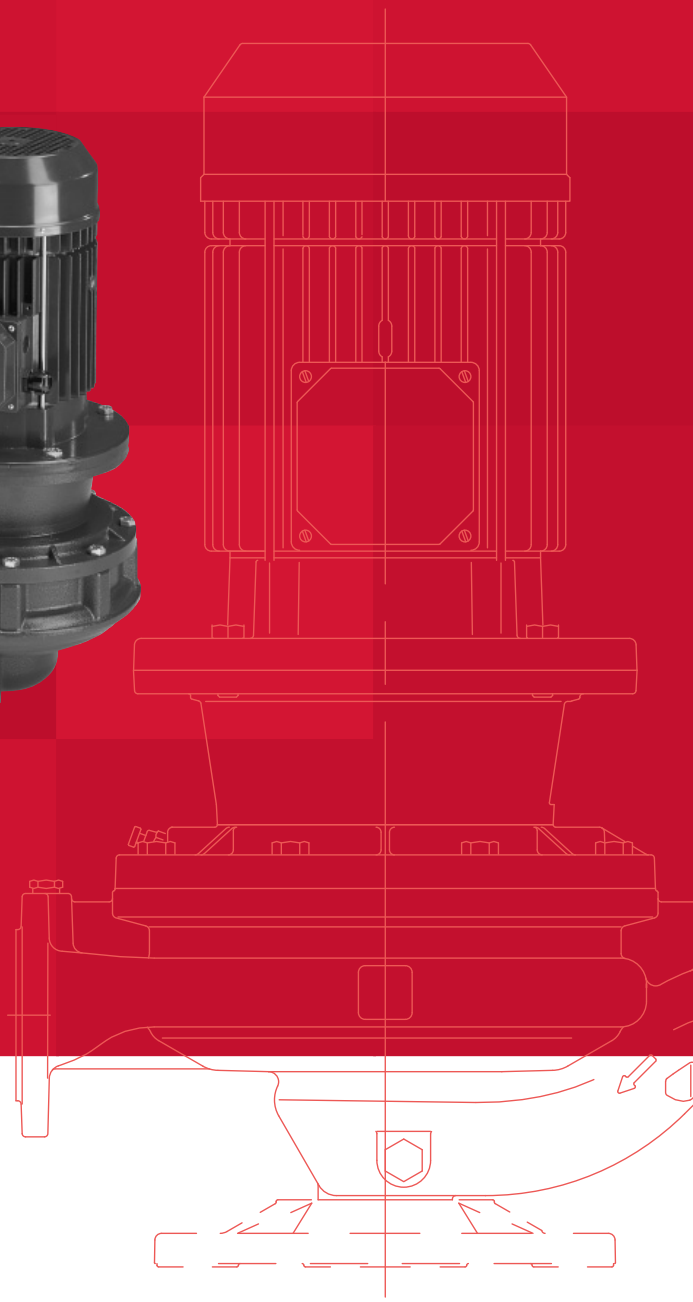
FL Series

Technical Guide

In-Line electric pumps
single and twin

50 Hz



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Innovative Solutions

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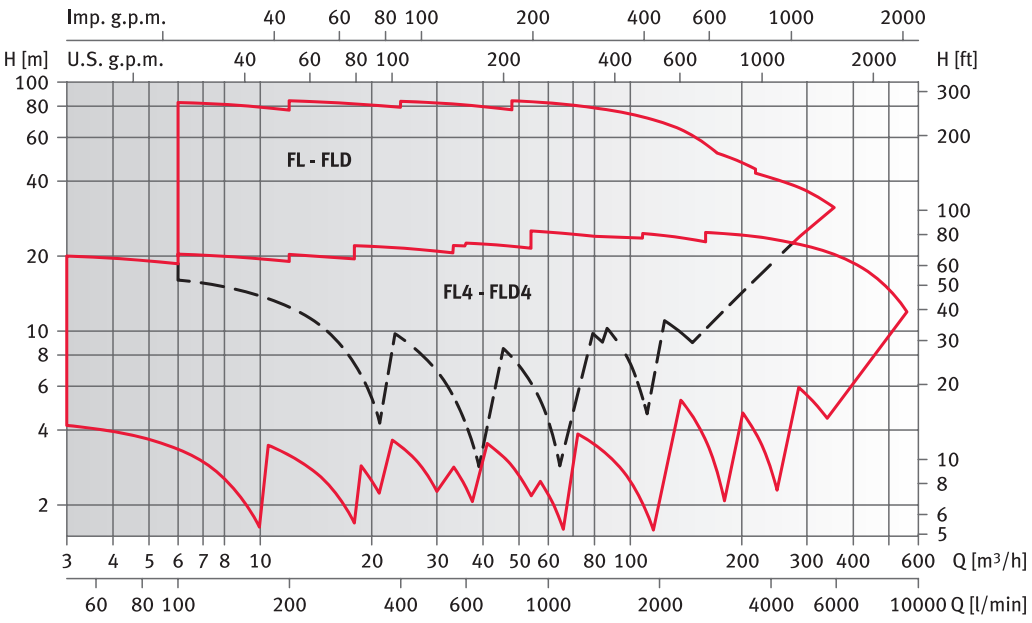
In-line single and twin centrifugal electric pumps with dry-rotor

The FL pump is a centrifugal pump with a single impellor and aspiration and impulsion orifices clamped in-line.

Market sectors: Civil, industry.

- ›› Water circulation in heating and air conditioning systems
- ›› Handling of water and clean, chemically non-aggressive liquids.
- ›› Hydraulic supplies

Field of application ⇢ FL at 2900 rpm and 1450 rpm



Curves obtained in accordance with ISO9906 appendix A.

Specifications

⇢ The **FL** is a centrifugal pump with a single impellor and aspiration and impulsion orifices clamped in-line.

Technical data

⇢ Delivery up to 190 m³/h. 2 poles. 330 m³/h for 4 poles.
⇢ Head up to 89 m. 2 poles. 35 m for 4 poles.
⇢ Temperature of pumped liquid:
-10 ÷ 130 °C for the "E" version,
-20 ÷ 140 °C for the "S" version (depending on working pressure).
⇢ Maximum working pressure:
10 bar (PN10) for the "E" version, 16 bar (PN 16) for the "S" version up to 120°C, 13 bar from 120°C and 140°C.
⇢ Impeller made of AISI 316L stainless steel, laser technology welded, up to size 80-160. Cast iron impeller for bigger sizes. Bronze impeller available on request for **FLD** 80-200 and bigger, in both the "E" and "S" versions.
⇢ Wear rings made of AISI 316L stainless steel, up to **FL** 100, on the impeller's front and rear wear plates, to ensure high performance and easy replacement.
⇢ Mechanical seal according to EN 12756 (ex DIN 24960), lubricated by internal recirculation of pumped liquid to seal housing (up to **FL** 100).
Mechanical seal locking pin slot on models up to **FL** 100 (on request.
⇢ Air valve on models up to **FL** 100.
⇢ Counterflange kits available on request.

Electrical and motor specifications

⇢ Three-phase asynchronous, squirrel cage rotor, enclosed construction, external ventilation.
⇢ IP55 protection.
⇢ Class F insulation.
⇢ Performances according to EN 60034-1.
⇢ Maximum ambient temperature: 40°C.
⇢ Continuous duty
⇢ Standard voltage:
Single-phase version 220-240 V 50 Hz, with built-in automatic reset overload protection up to 1,5 kW.
For higher powers the protection to be provided by the user.
Three-phase version 230-400 V 50 Hz for powers up to 4 kW; 400-690 V 50 Hz for powers above 4 kW.
Overload protection to be provided by the user.
⇢ The ESPA surface motors have efficiency values that fall within the range normally referred to as efficiency class 2.

Construction features

- Single-impeller centrifugal pump with in-line suction and delivery flanges.
- Flanges in compliance with UNI EN 1092-2 (ex UNI 2236) and DIN 2532.
- Back pull-out design (impeller, adapter and motor can be extracted without disconnecting the pump body from the pipes).

FL series characteristics

- Pump coupling: close-coupled by means of an adapter, with impeller keyed directly to the motor shaft extension.
- Maximum operating pressure: 10 bar (PN 10)
- Temperature of pumped liquid: -10ºC to 130ºC.

FLS series characteristics

- Pump coupling: by adapter, with bracket and rigid coupling keyed to the shaft extension of standard motor.
- Maximum operating pressure: 16 bar (PN 16) up to 120ºC to 140ºC.
- Temperature of pumped liquid: -20ºC to 140ºC.

FL..H series characteristics

- Variable speed control, using the Hydrovar® (on request), is recommended for managing pump operation according to system conditions. This ensures energy savings, lower operating costs, greater comfort and environmental protection.
- This option is available for both the **FL** and **FLS** series, and includes the Hydrovar® (on request) and sensors.

Accessories on request

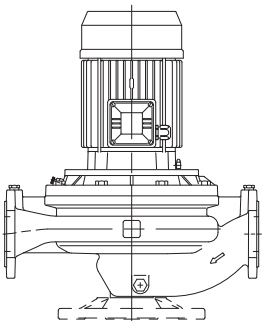
- Threaded steel or galvanized iron counterflanges.
- Pump support

Optional features

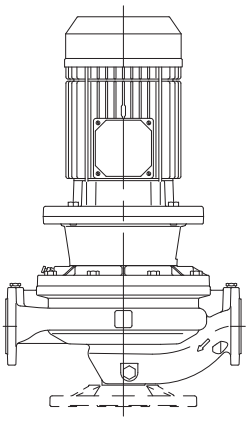
- Different voltages and frequencies.
- Different materials for the mechanical seal and pump body seal.
- Support available for vertical mounting (where added).
- Motors Eff.1 (for **FLS** series).

Installation

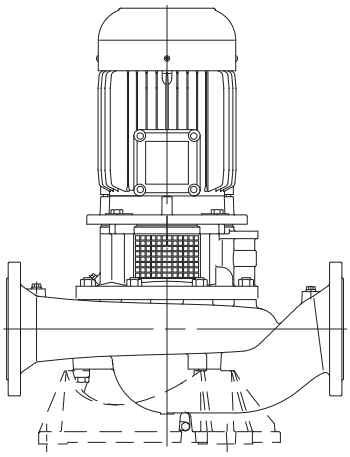
- Installed in horizontal or vertical piping, in any position except with motor or terminal box facing downward.
- Motor powers 5.5 kW and higher, for installations with motor shaft in the vertical position, the electric pump should be mounted on a base, the pump should rest on its feet or on the support foot (optional accessory). For installations with motor shaft in the horizontal position, use a support foot for the motor.



FL - FL4 40-100



FLS - FLS4 40-100



FLS4 125-150

Specifications

⇢ The **FLD** pump is a twin centrifugal pump with a single impellor and aspiration and impulsion orifices clamped in-line.

Technical data

⇢ Delivery with one pump running: up to 190 m³/h with 2 poles motor, up to 330 m³/h with 4 poles motor; with two pumps running: up to 350 m³/h with 2 poles motor, up to 610 m³/h with 4 poles motor.
⇢ Head up to 89 m with 2 poles motor, up to 35 m with 4 poles motor.
⇢ Temperature of pumped liquid:
-10 ÷ 130 °C for the "E" version,
-20 ÷ 140 °C for the "S" version (depending on working pressure).
⇢ Maximum working pressure:
10 bar (PN10) for the "E" version,
16 bar (PN 16) for the "S" version up to 120°C, 13 bar from 120°C and 140°C.
⇢ Impeller: made of AISI 316L stainless steel, laser technology welded, up to size 80-160. Cast iron impeller for bigger sizes. Bronze impeller available on request for FLD 80-200 and bigger, in both the "E" and "S" versions.
⇢ Wear rings made of AISI 316L stainless steel, up to **FL** 100, on the impeller's front and rear wear plates, to ensure high performance and easy replacement.
⇢ Mechanical seal according to EN 12756 (ex DIN 24960), lubricated by internal recirculation of pumped liquid to seal housing (up to **FL** 100) (on request).
⇢ Air valve on models up to **FL** 100.
⇢ Counterflange kit available on request.

Electrical and motor specifications

⇢ Three-phase asynchronous, squirrel cage rotor, enclosed construction, external ventilation.
⇢ Protection class IP55.
⇢ Class F insulation.
⇢ Performances according to EN 60034-1.
⇢ Maximum ambient temperature: 40°C.
⇢ Continuous duty.
⇢ Standard voltage:
Single-phase version 220-240 V 50 Hz, with built-in automatic reset overload protection up to 1,5 kW. For higher powers the protection to be provided by the user.
Three-phase version 230/400 V 50 Hz for powers up to 4 kW, 400/690 V 50 Hz for powers above 4 kW. Overload protection to be provided by the user.
⇢ The ESPA surface motors have efficiency values that fall within the range normally referred to as efficiency class 2.

Construction features

- Two single-impeller centrifugal pumps featuring in-line suction and delivery flanges, with automatic changeover valve.
- The two pumps can operate separately or in parallel.
- Flanges in compliance with UNI EN 1092-2 (ex UNI 2236) and DIN 2532.
- Back pull-out design; (impeller, adapter and motor can be extracted without disconnecting the pump body from the pipes).

FLD series characteristics

- Pump coupling: close-coupled by means of an adapter, with impeller keyed directly to the motor shaft extension.
- Maximum operating pressure: 10 bar (PN 10)
- Temperature of pumped liquid: -10ºC to 130ºC.

FLSD series characteristics

- Pump coupling; by adapter, with bracket and rigid coupling keyed to the shaft extension of standard motors.
- Maximum operating pressure: 16 bar (PN 16) up to 120ºC, 13 bar from 120ºC to 140ºC.
- Temperature of pumped liquid: -20ºC to 140ºC.

FLD..H series characteristics

- Variable speed control, using the Hydrovar®, is recommended for managing pump operation according to system conditions. This ensures energy savings, lower operating costs, greater comfort and environmental protection.
- This option is available for both the **FLD** and **FLSD** series, and includes the Hydrovar® and sensors.

Accessories on request

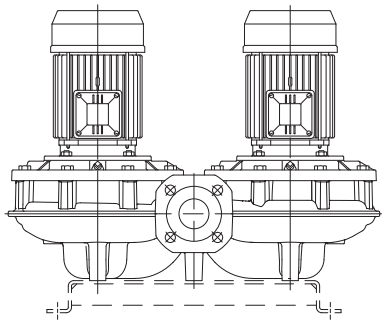
- Threaded steel or galvanized iron counterflanges.
- Stand.

Optional features

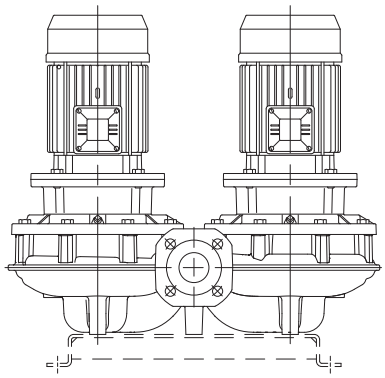
- Different voltages and frequencies.
- Different materials for the mechanical seal and pump body seal.
- Stand available for vertical mounting.
- Version with frequency converter (variable speed).
- Motors Eff. 1 (for **FLS** series).

Installation

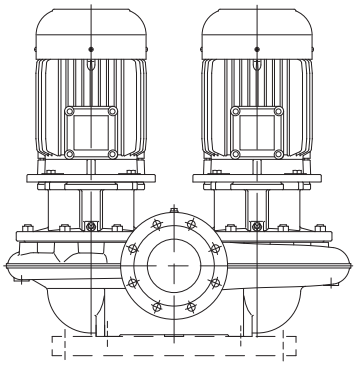
- Can be installed on horizontal or vertical piping, in any position except with motor or terminal board facing downward.
- With motor powers 5.5. kW and up, for installations with motor shaft in the vertical position, the electric pump should be mounted on a base, the pump should rest on its feet or on the support foot (optional accessory). For installations with motor shaft in the horizontal position, use a support for the motor.



FLD - FLD4 40-100

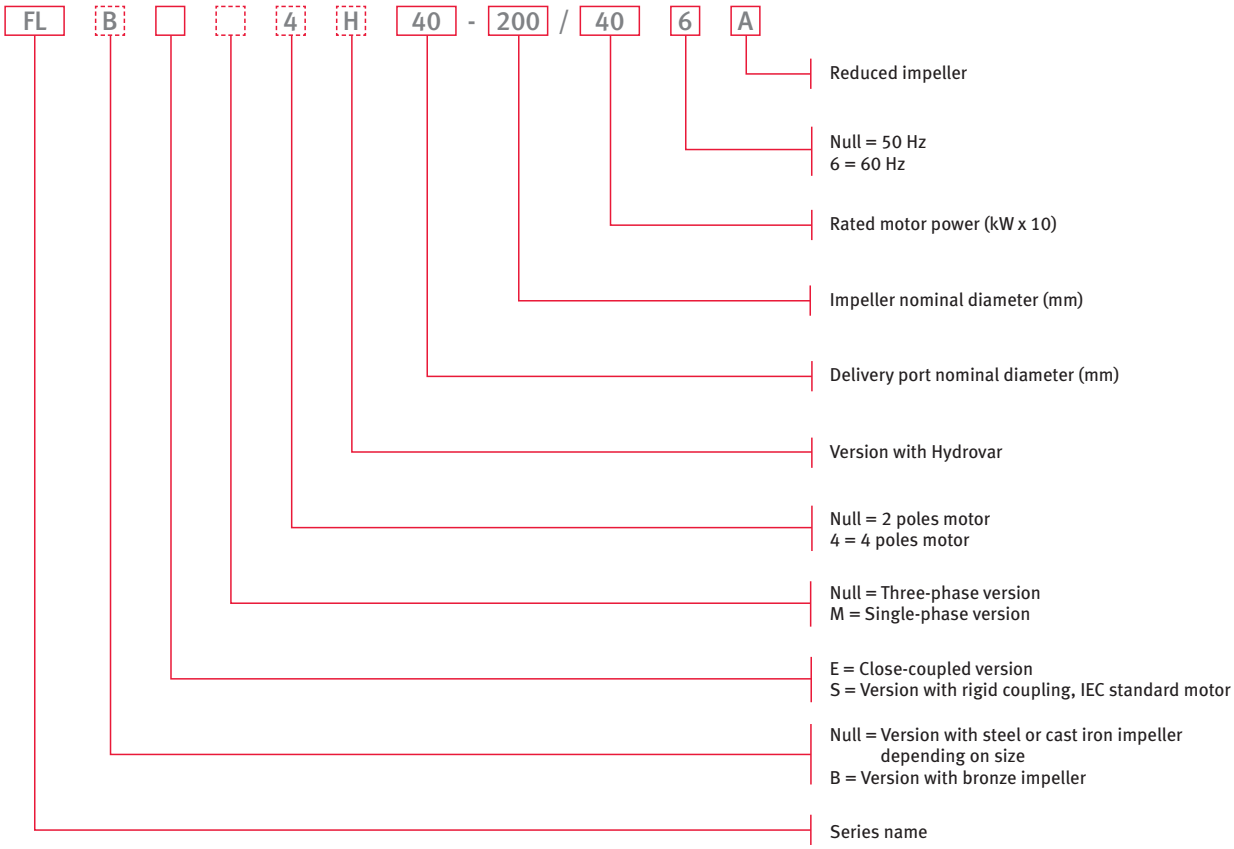


FLSD - FLSD4 40-100

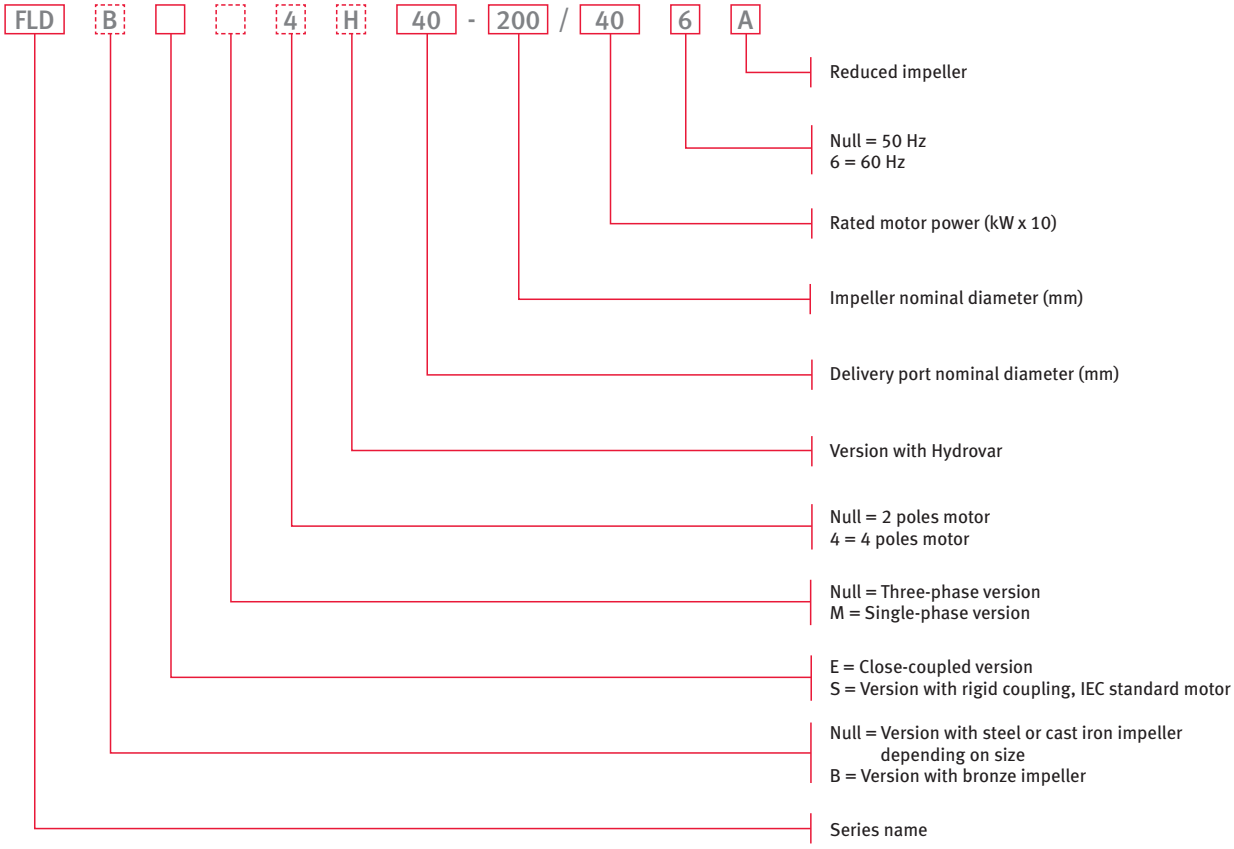


FLSD4 125-150

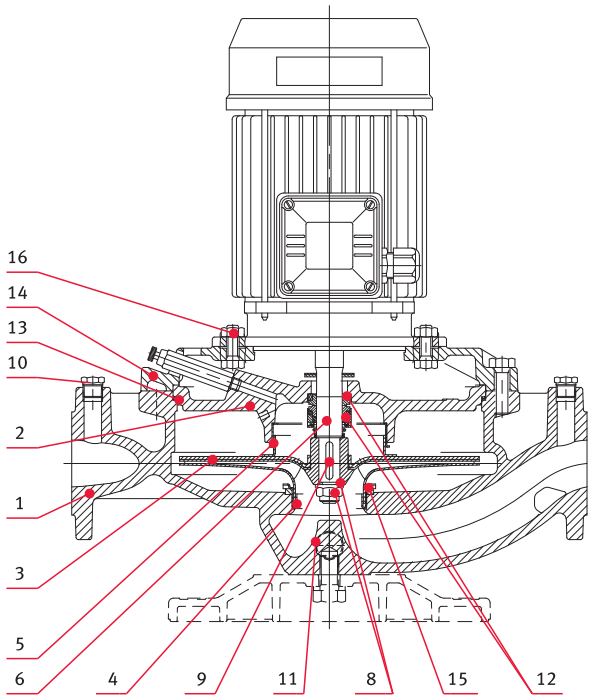
FL series identification code



FLD series identification code



FL - FL4 series



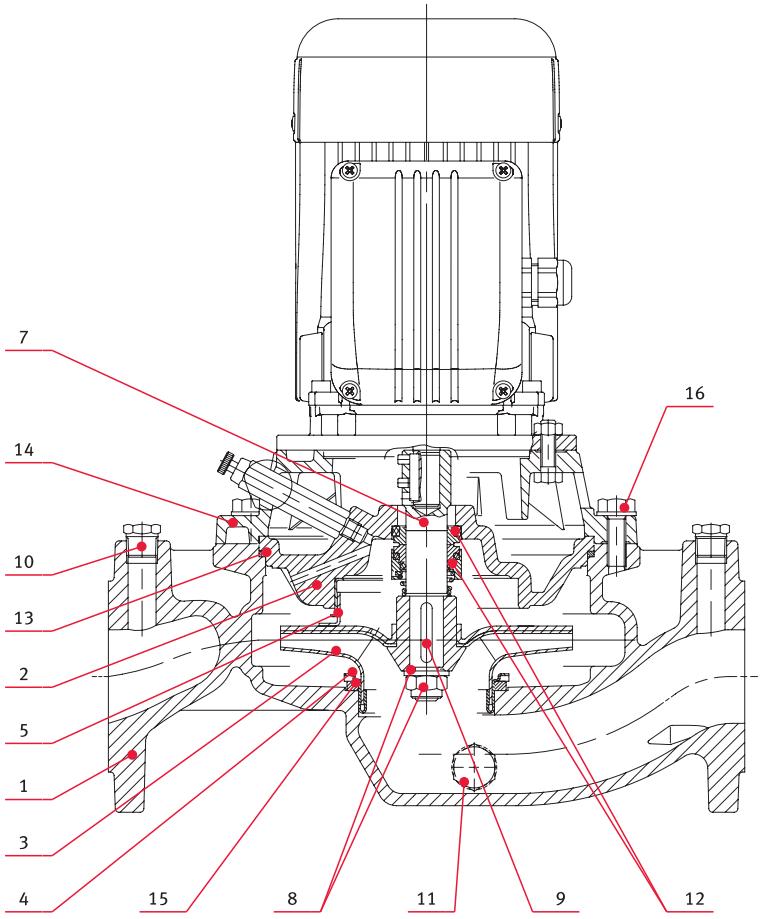
VERSION 2 POLES			
FL 40-125/07	FL 50-125/15	FL 65-125/30	FL 80-125/40
FL 40-125/11	FL 50-160/22	FL 65-125/40	FL 80-125/55
FL 40-160/15	FL 50-160/30	FL 65-160/55	FL 80-160/75
FL 40-160/22	FL 50-160/40	FL 65-160/75	FL 80-200/110
FL 40-200/40A	FL 50-200/55	FL 65-200/92	FL 80-200/150
FL 40-200/40	FL 50-200/75	FL 65-200/110	FL 80-200/185
FL 40-200/55	FL 50-250/92	FL 65-250/150	FL 80-200/220
FL 40-250/75	FL 50-250/110	FL 65-250/185	FL 100-160/110
FL 40-250/110	FL 50-250/150	FL 65-250/220	FL 100-200/185
FL 50-125/11	FL 65-125/22	FL 80-125/30	FL 100-200/220

VERSION 4 POLES		
FL4 40-200/05	FL4 65-160/07	FL4 80-250/40
FL4 40-200/07	FL4 65-160/11	FL4 80-250/55
FL4 40-250/11	FL4 65-200/15	FL4 100-160/15
FL4 40-250/15	FL4 65-250/22	FL4 100-200/22
FL4 50-160/05	FL4 65-250/30	FL4 100-200/30
FL4 50-200/07	FL4 80-125/07	FL4 100-250/40
FL4 50-200/11	FL4 80-125/11	FL4 100-250/55
FL4 50-250/15	FL4 80-200/15	FL4 100-250/75
FL4 50-250/22	FL4 80-200/22	
FL4 65-125/05	FL4 80-200/30	

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
2	Seal housing	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Impeller	Bronze	EN 1982-CuSn10-C (CC480K)	UNS C90700
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
6	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Key	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Plugs and air valve	Nickel-plated brass	EN 12164-CuZn39Pb3 (CW614N)	
11	Gaskets for fill and drain plugs	Aluminium	EN 573-AW-Al99.5 (AW1050A)	
12	Mechanical seal	Ceramic/Carbon/EPDM (standard version)		
13	Elastomers	EPDM (standard version)		
14	Adapter*	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Spacer ring	Painted steel		
16	Pump body fastening bolts and screws	Galvanized steel		

* For 40/50-125 2/4 poles, 40/50-160 2/4 poles versions

FL4 series

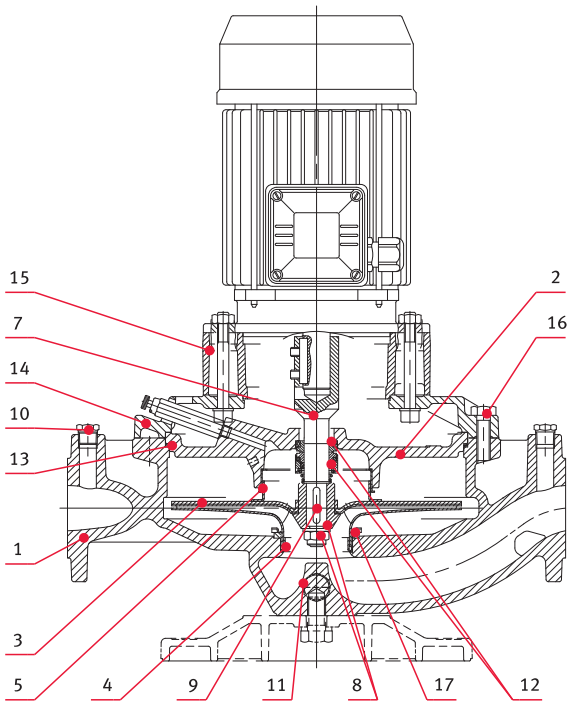


VERSION 4 POLES
FL4 40-125/02A
FL4 40-125/02
FL4 40-160/02
FL4 40-160/03
FL4 50-125/02
FL4 50-125/03
FL4 65-125/03

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
2	Seal housing	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Shaft rigid	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Key	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Plugs and air valve	Nickel-plated brass	EN 12164-CuZn39Pb3 (CW614N)	
11	Gaskets for fill and drain plugs	Aluminium	EN 573-AW-Al99.5 (AW1050A)	
12	Mechanical seal	Ceramic/Carbon/EPDM (standard version)		
13	Elastomers	EPDM (standard version)		
14	Adapter*	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Spacer ring	Painted steel		
16	Pump body fastening bolts and screws	Galvanized steel		

* For 40/50-125 2/4 poles, 40/50-160 2/4 poles versions

FLS - FLS4 series



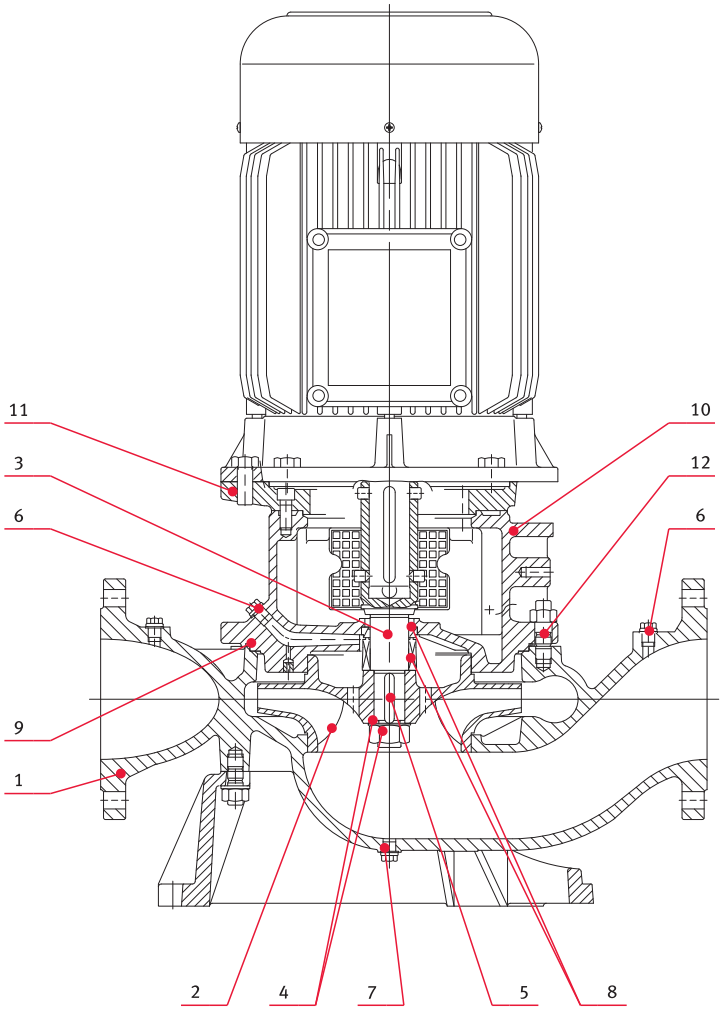
VERSION 2 POLES			
FLS 40-125/07	FLS 50-125/15	FLS 65-125/30	FLS 80-125/40
FLS 40-125/11	FLS 50-160/22	FLS 65-125/40	FLS 80-125/55
FLS 40-160/15	FLS 50-160/30	FLS 65-160/55	FLS 80-160/75
FLS 40-160/22	FLS 50-160/40	FLS 65-160/75	FLS 80-200/110
FLS 40-200/30	FLS 50-200/55	FLS 65-200/110A	FLS 80-200/150
FLS 40-200/40	FLS 50-200/75	FLS 65-200/110	FLS 80-200/185
FLS 40-200/55	FLS 50-250/110A	FLS 65-250/150	FLS 80-200/220
FLS 40-250/75	FLS 50-250/110	FLS 65-250/185	FLS 100-160/110
FLS 40-250/110	FLS 50-250/150	FLS 65-250/220	FLS 100-200/185
FLS 50-125/11	FLS 65-125/22	FLS 80-125/30	FLS 100-200/220

VERSION 4 POLES		
FLS4 40-200/05	FLS4 65-200/15	FLS4 100-160/15
FLS4 40-200/07	FLS4 65-250/22	FLS4 100-200/22
FLS4 40-250/11	FLS4 65-250/30	FLS4 100-200/30
FLS4 40-250/15	FLS4 80-125/07	FLS4 100-250/40
FLS4 50-200/07	FLS4 80-125/11	FLS4 100-250/55
FLS4 50-200/11	FLS4 80-200/15	FLS4 100-250/75
FLS4 50-250/15	FLS4 80-200/22	
FLS4 50-250/22	FLS4 80-200/30	
FLS4 65-160/07	FLS4 80-250/40	
FLS4 65-160/11	FLS4 80-250/55	

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
2	Seal housing	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Impeller	Bronze	EN 1982-CuSn10-C (CC480K)	UNS C90700
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Shaft rigid coupling	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Key	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Plugs and air valve	Nickel-plated brass	EN 12164-CuZn39Pb3 (CW614N)	
11	Gaskets for fill and drain plugs	Aluminium	EN 573-AW-Al99.5 (AW1050A)	
12	Mechanical seal	Carbon/Silicon carbide/EPDM (standard version)		
13	Elastomers	EPDM (standard version)		
14	Adapter*	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Motor adapter coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
16	Pump body fastening bolts and screws	Galvanized steel		
17	Spacer ring	Painted steel		

* For 40/50-125 2/4 poles, 40/50-160 2/4 poles versions

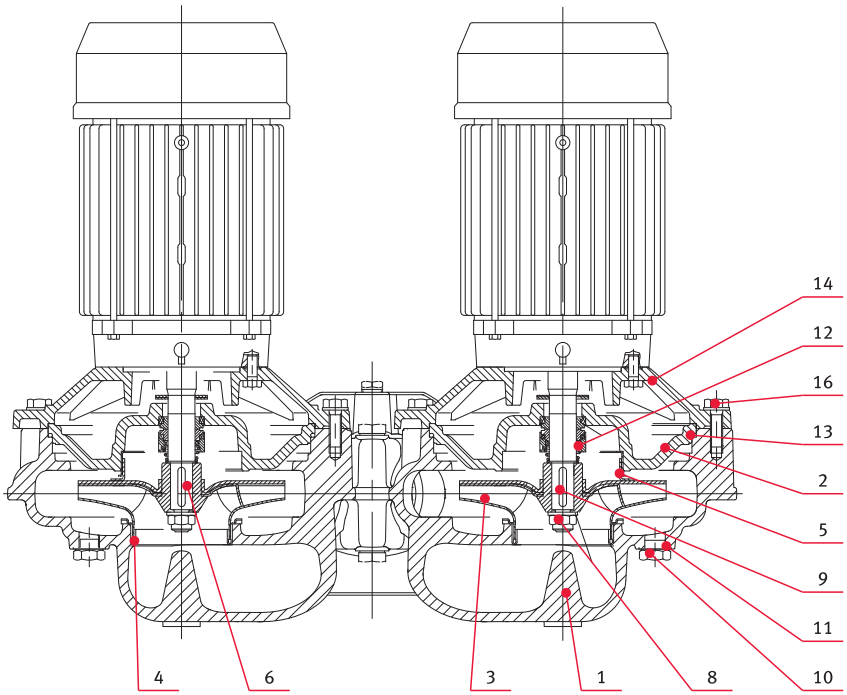
FLS4 series



VERSION 4 POLES
FLS4 125-160/30
FLS4 125-200/40
FLS4 125-200/55
FLS4 125-250/75
FLS4 125-250/110
FLS4 125-315/150
FLS4 125-315/185
FLS4 125-315/220
FLS4 150-200/55
FLS4 150-200/75
FLS4 150-250/110
FLS4 150-250/150
FLS4 150-250/185

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Impeller	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
	Impeller	Bronze	EN 1982- CuSn10-C (CC480K)	UNS C90700
3	Rigid coupling	Stainless steel	EN 10088-1-X20Cr13 (1.4021)	AISI 420
4	Impeller lock nut and washer	Steel		
5	Key	Steel	EN 10083-1-C45E (1.1191)	
6	Plugs and air valve	Steel		
7	Gaskets for plugs	Asbestos-free synthetic fibre AFM34®		
8	Mechanical seal	Silicon carbide/Carbon/EPDM (standard version)		
9	Elastomers	EPDM (standard version)		
10	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
11	Motor adapter coupling	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
12	Pump body fastening bolts and screws	Steel		

FLD - FLD4 series



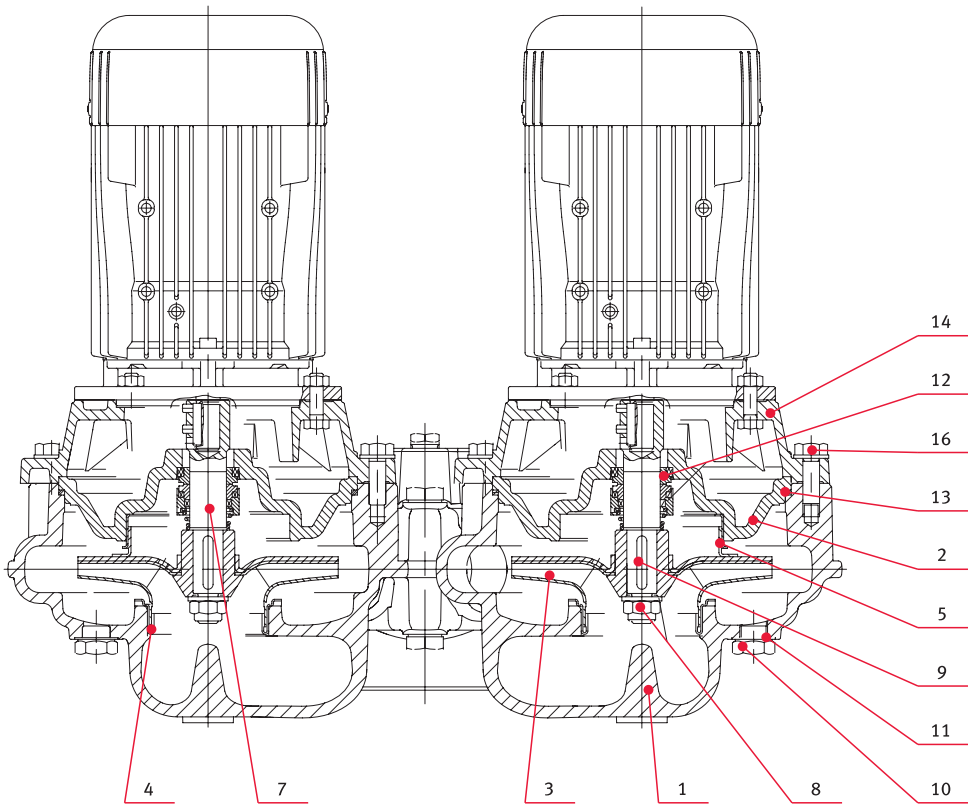
VERSION 2 POLES			
FLD 40-125/07	FLD 50-125/15	FLD 65-125/30	FLD 80-125/40
FLD 40-125/11	FLD 50-160/22	FLD 65-125/40	FLD 80-125/55
FLD 40-160/15	FLD 50-160/30	FLD 65-160/55	FLD 80-160/75
FLD 40-160/22	FLD 50-160/40	FLD 65-160/75	FLD 80-200/110
FLD 40-200/40A	FLD 50-200/55	FLD 65-200/92	FLD 80-200/150
FLD 40-200/40	FLD 50-200/75	FLD 65-200/110	FLD 80-200/185
FLD 40-200/55	FLD 50-250/92	FLD 65-250/150	FLD 80-200/220
FLD 40-250/75	FLD 50-250/110	FLD 65-250/185	FLD 100-160/110
FLD 40-250/110	FLD 50-250/150	FLD 65-250/220	FLD 100-200/185
FLD 50-125/11	FLD 65-125/22	FLD 80-125/30	FLD 100-200/220

VERSION 4 POLES		
FLD4 40-200/05	FLD4 65-160/07	FLD4 80-250/40
FLD4 40-200/07	FLD4 65-160/11	FLD4 80-250/55
FLD4 40-250/11	FLD4 65-200/15	FLD4 100-160/15
FLD4 40-250/15	FLD4 65-250/22	FLD4 100-200/22
FLD4 50-160/05	FLD4 65-250/30	FLD4 100-200/30
FLD4 50-200/07	FLD4 80-125/07	FLD4 100-250/40
FLD4 50-200/11	FLD4 80-125/11	FLD4 100-250/55
FLD4 50-250/15	FLD4 80-200/15	FLD4 100-250/75
FLD4 50-250/22	FLD4 80-200/22	
FLD4 65-125/05	FLD4 80-200/30	

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Seal housing	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Impeller	Bronze	EN 1982-CuSn10-C (CC480K)	UNS C90700
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
6	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Key	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Plugs and air valve	Nickel-plated brass	EN 12164-CuZn39Pb3 (CW614N)	
11	Gaskets for fill and drain plugs	Aluminium	EN 573-AW-Al99.5 (AW1050A)	
12	Mechanical seal	Carbon/Ceramic/EPDM (standard version)		
13	Elastomers	EPDM (standard version)		
14	Adapter*	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
16	Pump body fastening bolts and screws	Galvanized steel		
	Changeover valve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L

* For 40/50-125 2/4 poles, 40/50-160 2/4 poles versions

FLD4 series

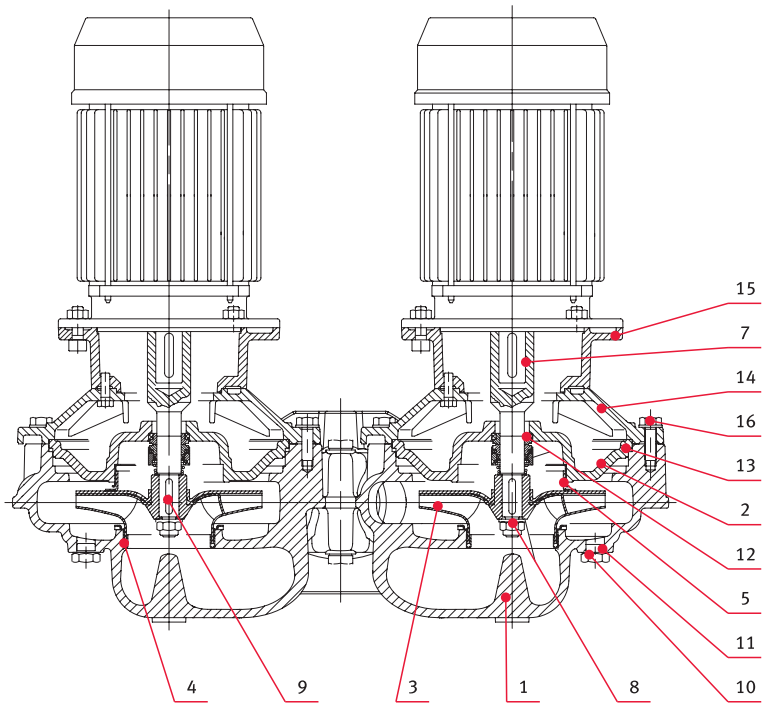


VERSION 4 POLES
FLD4 40-125/02A
FLD4 40-125/02
FLD4 40-160/02
FLD4 40-160/03
FLD4 50-125/02
FLD4 50-125/03
FLD4 65-125/03

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Seal housing	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Shaft rigid coupling	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316L
8	Impeller lock nut and washer	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316
9	Key	Stainless steel	EN 12164-CuZn39Pb3 (CW614N)	AISI 316L
10	Plugs and air valve	Nickel-plated brass	EN 573-AW-Al99.5 (AW1050A)	
11	Gaskets for fill and drain plugs	Aluminium		
12	Mechanical seal	Carbon/Ceramic/EPDM (standard version)		
13	Elastomers	EPDM (standard version)		
14	Adapter*	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
16	Pump body fastening bolts and screws	Galvanized steel		
	Changeover valve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L

* For 40/50-125 2/4 poles, 40/50-160 2/4 poles versions

FLSD - FLSD4 series



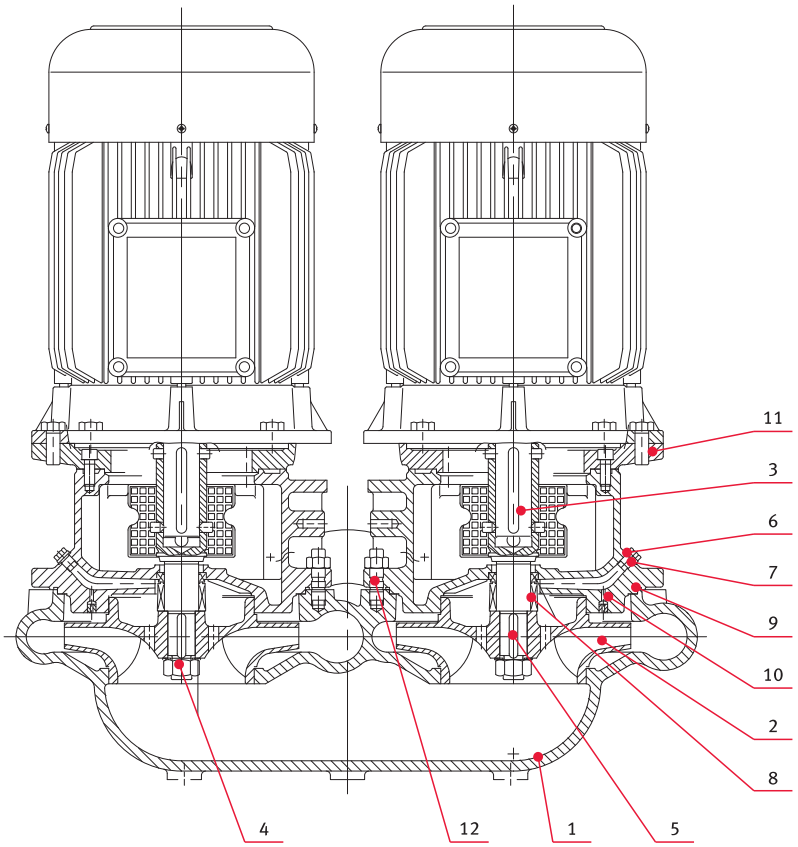
VERSION 2 POLES			
FLSD 40-125/07	FLSD 50-125/15	FLSD 65-125/30	FLSD 80-125/40
FLSD 40-125/11	FLSD 50-160/22	FLSD 65-125/40	FLSD 80-125/55
FLSD 40-160/15	FLSD 50-160/30	FLSD 65-160/55	FLSD 80-160/75
FLSD 40-160/22	FLSD 50-160/40	FLSD 65-160/75	FLSD 80-200/110
FLSD 40-200/30	FLSD 50-200/55	FLSD 65-200/110A	FLSD 80-200/150
FLSD 40-200/40	FLSD 50-200/75	FLSD 65-200/110	FLSD 80-200/185
FLSD 40-200/55	FLSD 50250/110A	FLSD 65-250/150	FLSD 80-200/220
FLSD 40-250/75	FLSD 50-250/110	FLSD 65-250/185	FLSD 100-160/110
FLSD 40-250/110	FLSD 50-250/150	FLSD 65-250/220	FLSD 100-200/185
FLSD 50-125/11	FLSD 65-125/22	FLSD 80-125/30	FLSD 100-200/220

VERSION 4 POLES		
FLSD4 40-200/05	FLSD4 65-200/15	FLSD4 100-160/15
FLSD4 40-200/07	FLSD4 65-250/22	FLSD4 100-200/22
FLSD4 40-250/11	FLSD4 65-250/30	FLSD4 100-200/30
FLSD4 40-250/15	FLSD4 80-125/07	FLSD4 100-250/40
FLSD4 50-200/07	FLSD4 80-125/11	FLSD4 100-250/55
FLSD4 50-200/11	FLSD4 80-200/15	FLSD4 100-250/75
FLSD4 50-250/15	FLSD4 80-200/22	
FLSD4 50-250/22	FLSD4 80-200/30	
FLSD4 65-160/07	FLSD4 80-250/40	
FLSD4 65-160/11	FLSD4 80-250/55	

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Seal housing	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Impeller	Bronze	EN 1982-CuSn10-C (CC480K)	UNS C90700
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Shaft rigid coupling	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Key	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Plugs and air valve	Nickel-plated brass	EN 12164-CuZn39Pb3 (CW614N)	
11	Gaskets for fill and drain plugs	Aluminium	EN 573-AW-Al99.5 (AW1050A)	
12	Mechanical seal	Carbon/Ceramic/EPDM (standard version)		
13	Elastomers	EPDM (standard version)		
14	Adapter*	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Motor adapter coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
16	Pump body fastening bolts and screws	Galvanized steel		
	Changeover valve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L

* For 40/50-125 2/4 poles, 40/50-160 2/4 poles versions

FLSD4 series



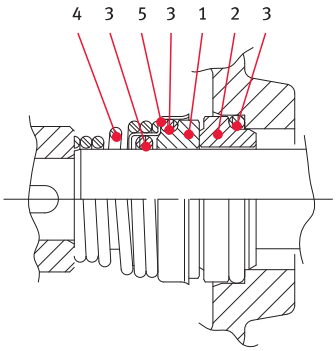
VERSION 4 POLES
FLSD4 125-160/30
FLSD4 125-200/40
FLSD4 125-200/55
FLSD4 125-250/75
FLSD4 125-250/110
FLSD4 150-200/55
FLSD4 150-200/75
FLSD4 150-250/110
FLSD4 150-250/150
FLSD4 150-250/185

REF. No	DESCRIPTION	MATERIAL	REF. STANDARDS EUROPE	REF. STANDARDS USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Impeller	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
	Impeller	Bronze	EN 1982-CuSn10-C (CC4480K)	UNS C90700
3	Rigid coupling	Stainless steel	EN 10088-1-X20Cr13 (1.4021)	AISI 420
4	Impeller lock nut and washer	Steel		
5	Key	Steel	EN 10083-1-C45E (1.1191)	
6	Plugs and air valve	Steel		
7	Gaskets for plugs	Asbestos-free synthetic fibre AFM34 ®		
8	Mechanical seal	Silicon carbide/Carbon/EPDM (standard version)		
9	Elastomers	EPDM (standard version)		
10	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
11	Motor adapter coupling	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
12	Pump body fastening bolts and screws	Steel		
	Changeover valve	Steel		

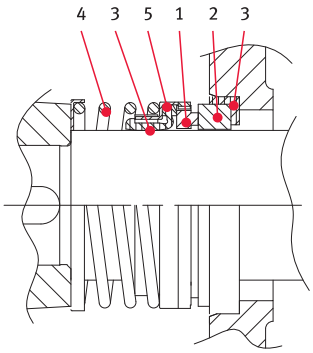
FL-FLD mechanical seal, according to EN 12756

⇢ Mechanical seal mounting dimensions according to EN 12756 (ex DIN 24960) and ISO 3069. (A version with anti-rotation lockpin is available on request).

FL/FLD 40 ÷ 100



FL/FLD 125 ÷ 150



List of materials

POSITION 1-2	POSITION 3	POSITION 4-5
Q1: Silicon carbide	E: EPDM	G: AISI 316
B : Resin impregnated carbon	V: FPM	
V : Ceramic		

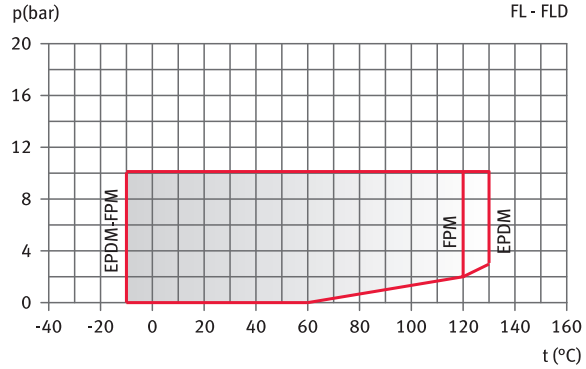
FL, FLD seal type

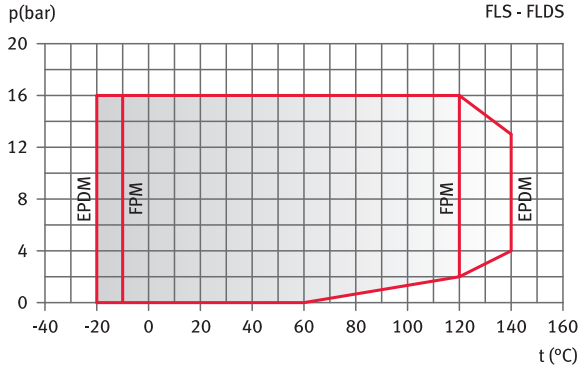
TYPE	POSITION 1 Rotating assembly	POSITION 2 Fixed assembly	POSITION 3 Elastomers	POSITION 4 Springs	POSITION 5 Other components	TEMPERATURE (° C)
STANDARD MECHANICAL SEAL						
V B E G G	V	B	E	G	G	-10 + 130
OTHER TYPES OF MECHANICAL SEAL						
Q1 B E G G	Q1	B	E	G	G	-10 + 130
Q1 Q1 E G G	Q1	Q1	E	G	G	-10 + 130
Q1 B V G G	Q1	B	V	G	G	-10 + 120
Q1 Q1 V G G	Q1	Q1	V	G	G	-10 + 120

FLS, FLSD seal type

TYPE	POSITION 1 Rotating assembly	POSITION 2 Fixed assembly	POSITION 3 Elastomers	POSITION 4 Springs	POSITION 5 Other components	TEMPERATURE (° C)
STANDARD MECHANICAL SEAL						
Q1 B E G G	Q1	B	E	G	G	-20 + 140
OTHER TYPES OF MECHANICAL SEAL						
Q1 Q1 E G G	Q1	Q1	E	G	G	-20 + 140
Q1 B V G G	Q1	B	V	G	G	-10 + 120
Q1 Q1 V G G	Q1	Q1	V	G	G	-10 + 120

Pressure/Temperature application limits for complete pump (with any of the seals listed above)





2 Poles

SIZE	kW	FLM / FLDM	FL / FLD	FLS / FLSD
40 125/07	0.75	•	•	•
40 125/11	1.1	•	•	•
40 160/15	1.5	•	•	•
40 160/22	2.2	•	•	•
40 200/30	3			•
40 200/40A	4		•	
40 200/40	4		•	•
40 200/55	5.5		•	•
40 250/75	7.5		•	•
40 250/110	11		•	•
50 125/11	1.1	•	•	•
50 125/15	1.5	•	•	•
50 160/22	2.2	•	•	•
50 160/30	3		•	•
50 160/40	4		•	•
50 200/55	5.5		•	•
50 200/75	7.5		•	•
50 250/92	9.2		•	
50 250/110A	11			•
50 250/110	11		•	•
50 250/150	15		•	•
65 125/22	2.2	•	•	•
65 125/30	3		•	•
65 125/40	4		•	•
65 160/55	5.5		•	•
65 160/75	7.5		•	•
65 200/92	9.2		•	
65 200/110A	11			•
65 200/110	11		•	•
65 250/150	15		•	•
65 250/185	18.5		•	•
65 250/220	22	•	•	•
80 125/30	3		•	•
80 125/40	4		•	•
80 125/55	5.5		•	•
80 160/75	7.5		•	•
80 200/110	11		•	•
80 200/150	15		•	•
80 200/185	18.5		•	•
80 200/220	22		•	•
100 160/110	11		•	•
100 200/185	18.5		•	•
100 200/220	22		•	•

• Available

4 Poles

SIZE	kW	FL4 / FLD4	FLS4	FLSD4
40 125/02A	0.25	•		
40 125/02	0.25	•		
40 160/02	0.25	•		
40 160/03	0.37	•		
40 200/05	0.55	•	•	•
40 200/07	0.75	•	•	•
40 250/11	1.1	•	•	•
40 250/15	1.5	•	•	•
50 125/02	0.25	•		
50 125/03	0.37	•		
50 160/05	0.55	•		
50 200/07	0.75	•	•	•
50 200/11	1.1	•	•	•
50 250/15	1.5	•	•	•
50 250/22	2.2	•	•	•
65 125/03	0.37	•		
65 125/05	0.55	•		
65 160/07	0.75	•	•	•
65 160/11	1.1	•	•	•
65 200/15	1.5	•	•	•
65 250/22	2.2	•	•	•
65 250/30	3	•	•	•
80 125/07	0.75	•	•	•
80 125/11	1.1	•	•	•
80 200/15	1.5	•	•	•
80 200/22	2.2	•	•	•
80 200/30	3	•	•	•
80 250/40	4	•	•	•
80 250/55	5.5	•	•	•
100 160/15	1.5	•	•	•
100 200/22	2.2	•	•	•
100 200/30	3	•	•	•
100 250/40	4	•	•	•
100 250/55	5.5	•	•	•
100 250/75	7.5	•	•	•
125 160/30	3		•	•
125 200/40	4		•	•
125 200/55	5.5		•	•
125 250/75	7.5		•	•
125 250/110	11		•	•
125 315/150	15		•	
125 315/185	18.5		•	
125 315/220	22		•	
150 200/55	5.5		•	•
150 200/75	7.5		•	•
150 250/110	11		•	•
150 250/150	15		•	•
150 250/185	18.5		•	•

• Available

Motor

- Squirrel cage motor in short circuit (TEFC), aluminium casing, enclosed construction with external ventilation. The standard supply features motors for powers up to 7.5 kW (included) in the 4 poles version, and up to 22 kW (included) in the 2 poles version. Other motor brands are used for higher powers.
- The Espa surface motors have efficiency values that fall within the range normally referred to as efficiency class 2.
- Cooling is ensured by a fan according to EN 60034-6.
- The terminal bus is made of aluminium alloy.
- The cable gland has standard passage dimensions according to EN 50262 (metric size).
- The standard protection is IP 55, insulation class F.
- Standard voltage:
  Single-phase version: 220-240 V 50 Hz, with incorporated automatic-reset overload protection up to 1,5 kW.
  Three-phase version: 230/400 V 50 Hz for powers up to 4 kW.
  400/690 V 50 Hz for powers above 4 kW.
  Overload protection to be provided by the user.

FL, FLD series. Single-phase 50 Hz, 2 poles motors

MOTOR TYPE			INPUT CURRENT	CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE					
kW	SIZE IEC	CONSTRUCTION DESIGN	In (A) 220-240 V	µF	V	min^{-1}	Is/In	η %	cosφ	Cn Nm	Cs/Cn
0.75	90	B14	5.02-5.39	30	450	2875	5.10	70.6	0.91	2.49	0.71
1.1	90	B14	7.07-6.81	30	450	2800	3.80	73.8	0.95	3.75	0.47
1.5	90	B14	9.32-8.63	40	450	2780	3.45	75.5	0.97	5.15	0.47
2.2	90	B14	13.3-12.6	50	450	2785	3.45	76.9	0.97	7.54	0.36

FL, FLD series. Three-phase 50 Hz, 2 poles motors

MOTOR TYPE			INPUT CURRENT In (A) THREE-PHASE				DATA FOR 400 V 50 Hz VOLTAGE					
kW	SIZE IEC	CONSTRUCTION DESIGN	Δ 220-240 V	Y 380-415 V	Δ 380-415 V	Y 660-690 V	min^{-1}	Is/In	η %	cosφ	Cn Nm	Cs/Cn
0.75	90	B14	3.74	2.16			2915	8.23	77.7	0.65	2.45	5.2
1.1	90	B14	4.52	2.61			2875	6.78	78.9	0.77	3.65	3.49
1.5	90	B14	5.98	3.45			2875	7.04	80.1	0.78	4.98	3.83
2.2	90	B14	8.71	5.03			2860	7.32	81.1	0.78	7.34	4.12
3	90	B14	10.4	6.01			2860	6.38	84.3	0.85	10	2.77
4	112	B14			8.09	4.67	2890	7.7	85.3	0.84	13.2	2.8
5.5	112	B14			10.1	5.83	2900	9.62	87	0.9	18.1	3.91
7.5	112	B14			13.7	7.91	2900	9.73	88.1	0.9	24.7	3.99
9.2	132	B14			16.8	9.7	2930	9.15	89.7	0.88	30	4.31
11	132	B14			20	11.5	2925	8.98	89.7	0.88	35.9	3.43
15	160	B14			26.7	15.4	2940	8.72	89.7	0.9	48.7	3.49
18.5	160	B14			32.8	18.9	2945	9.49	90.7	0.9	60	3.27
22	160	B14			38.7	22.3	2940	9.16	91.3	0.9	71.4	3.2

FLS, FLSD series. Three-phase 50 Hz, 2 poles motors

MOTOR TYPE			INPUT CURRENT In (A) THREE-PHASE				DATA FOR 400 V 50 Hz VOLTAGE					
	SIZE	CONSTRUCTION	Δ	Y	Δ	Y					Cn	
kW	IEC	DESIGN	220-240 V	380-415 V	380-415 V	660-690 V	min^{-1}	Is/In	η %	cos	Nm	Cs/Cn
0.75	80	B5	3.5	2.02			2855	5.81	74.3	0.72	2.51	3.76
1.1	80	B5	4.52	2.61			2875	6.78	78.9	0.77	3.65	3.49
1.5	90	B5	5.98	3.45			2875	7.04	80.1	0.78	4.98	3.83
2.2	90	B5	8.71	5.03			2860	7.32	81.1	0.78	7.34	4.12
3	100	B5	10.4	6.01			2860	6.38	84.3	0.85	10	2.77
4	112	B5			8.09	4.67	2890	7.7	85.3	0.84	13.2	2.8
5.5	132	B5			10.1	5.83	2900	9.62	87	0.9	18.1	3.91
7.5	132	B5			13.7	7.91	2900	9.73	88.1	0.9	24.7	3.99
11	160	B5			20	11.5	2925	8.98	89.7	0.88	35.9	3.43
15	160	B5			26.7	15.4	2940	8.72	89.7	0.9	48.7	3.49
18.5	160	B5			32.8	18.9	2945	9.49	90.7	0.9	60	3.27
22	160	B5			38.7	22.3	2940	9.16	91.3	0.9	71.4	3.2

FL4, FLD4 series. Three-phase 50 Hz, 4 poles motors

MOTOR TYPE			INPUT CURRENT In (A) THREE-PHASE				DATA FOR 400 V 50 Hz VOLTAGE					
	SIZE	CONSTRUCTION	Δ	Y	Δ	Y					Cn	
kW	IEC	DESIGN	220-240 V	380-415 V	380-415 V	660-690 V	min^{-1}	Is/In	η %	cosφ	Nm	Cs/Cn
0.25	71	B5	1.71	0.99			1390	3.58	62	0.59	1.71	3.16
0.37	71	B5	2.53	1.46			1370	3.39	61.4	0.6	2.57	3.4
0.55	90	B14	3.03	1.75			1390	3.95	68.2	0.67	3.77	2.45
0.75	90	B5	4.04	2.33			1395	4.06	70.1	0.66	5.13	2.73
1.1	90	B5	4.42	2.55			1415	4.48	78.2	0.8	7.42	2.14
1.5	90	B5	5.84	3.37			1415	5.1	81	0.79	10.1	2.43
2.2	100	B5	8.16	4.71			1420	5.52	83.1	0.81	14.8	2.36
3	100	B5	11.1	6.38			1425	6.13	84.1	0.81	20.1	2.69
4	112	B5			8.39	4.84	1440	6.47	85.5	0.81	26.5	2.69
5.5	132	B14			11.4	6.58	1450	5.71	87.2	0.8	36.2	2.56
7.5	132	B14			15.3	8.83	1445	6.14	88	0.81	49.5	2.93

FLS4, FLSD4 series. Three-phase 50 Hz, 4 poles motors

MOTOR TYPE			INPUT CURRENT In (A) THREE-PHASE				DATA FOR 400 V 50 Hz VOLTAGE					
	SIZE	CONSTRUCTION	Δ	Y	Δ	Y					Cn	
kW	IEC	DESIGN	220-240 V	380-415 V	380-415 V	660-690 V	min^{-1}	Is/In	η %	cosφ	Nm	Cs/Cn
0.55	80	B5	3.03	1.75			1390	3.95	68.2	0.67	3.77	2.45
0.75	80	B5	4.04	2.33			1395	4.06	70.1	0.66	5.13	2.73
1.1	90	B5	4.42	2.55			1415	4.48	78.2	0.8	7.42	2.14
1.5	90	B5	5.84	3.37			1415	5.1	81	0.79	10.1	2.43
2.2	100	B5	8.16	4.71			1420	5.52	83.1	0.81	14.8	2.36
3	100	B5	11.1	6.38			1425	6.13	84.1	0.81	20.1	2.69
4	112	B5			8.39	4.84	1440	6.47	85.5	0.81	26.5	2.69
5.5	132	B5			11.4	6.58	1450	5.71	87.2	0.8	36.2	2.56
7.5	132	B5			15.3	8.83	1445	6.14	88	0.81	49.5	2.93
11	160	B5			22.5	13	1460	5.2	88.6	0.8	72	2
15	160	B5			30	17.3	1460	5.9	89.8	0.8	98	2.3
18.5	180	B5			37	21.4	1465	6.2	90.2	0.8	120	2.3
22	180	B5			42	24.2	1465	6.3	90.8	0.83	143	2.4

Motor noise

⇢ The tables show the mean sound pressure (Lp) measured at 1 meter distance in free field according to the A curve (according to ISO standard 1680).
⇢ The noise values are measured with idling 50 Hz motor with a tolerance of 3 dB (A).

Motor noise FL, FLS, FLD and FLSD 2 poles 50 Hz

POWER	MOTOR TYPE SIZE	NOISE LpA
kW	IEC	dB
0.75	90	‹70
1.1	90	‹70
1.5	90	‹70
2.2	90	‹70
3	90	‹70
4	112	‹70
5.5	112	‹70
7.5	112	‹70
9.2	132	73
11	132	73
15	160	75
18.5	160	75
22	160	75

Motor noise FL4, FLS4, FLD4 and FLSD4 4 poles 50 Hz

POWER	MOTOR TYPE SIZE	NOISE LpA
kW	IEC	dB
0.25	71	‹70
0.37	71	‹70
0.55	90	‹70
0.75	90	‹70
1.1	90	‹70
1.5	90	‹70
2.2	100	‹70
3	100	‹70
4	112	‹70
5.5	132	‹70
7.5	132	‹70
11	160	‹70
15	160	‹70
18.5	180	‹70
22	180	‹70

Specifications

- We recommend the use of the **FL**-**FLD** series electric pumps combined with the Hydrovar®.
- Hydrovar® are microprocessor controlled devices for pumping systems, designed to control pump operation according to system conditions and requirements.
- This way the simple electric pump is transformed into a complete pumping system principally designed for air-conditioning and heating applications, adapting the differential pressure of the closed circuit to the requested load.

No special pumps or motors

- Hydrovar® is mounted directly onto a standard three-phase TEFC motor with class F insulation.
- Hydrovar® enables the control of an electric circulator pump by monitoring the power control, without requiring a differential pressure transmitter.

No separate control panels or converters

- Hydrovar® performs all the functions of a pump control panel, incorporating protections against overload, short circuit, high temperature, etc. The only external device required is a fuse on the power supply line that will depend upon any local electrical installation regulations.

No by-pass lines or safety systems

- With Hydrovar® the pump switches off immediately when demand is zero or exceeds the maximum capacity of the pump. This way there is no need to install additional safety devices.
- The pump's operation at the correct speed based on system requirements enables energy consumption to be substantially reduced.

General operating principles of the Hydrovar® system

⇢ The basic function of the Hydrovar® device is to control the pump to meet the system demands.
⇢ For the **FL** and **FLD** series electric pumps, typical operation consists in system regulation based on the characteristic curve (B).

Hydrovar® performs these functions by

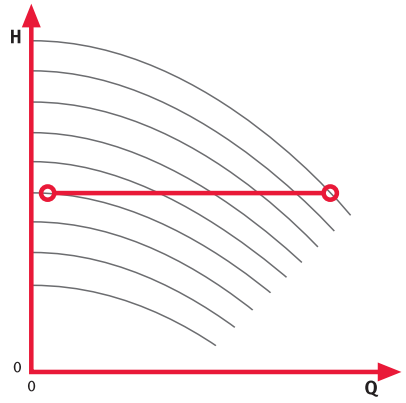
⇢ Measuring the system pressure or flow via a transmitter mounted on the pump's delivery side.
⇢ Calculating the motor speed to maintain the correct flow or pressure.
⇢ Sending out a signal to the pump to start the motor, increase speed, decrease speed or stop.
⇢ In the case of multiple pump installations, Hydrovar® will automatically provide for the cyclic changeover of the pump's starting sequence.

Control systems operations

⇢ In addition to these basic functions, Hydrovar® can do things only by the most advanced computerised control systems, such as:

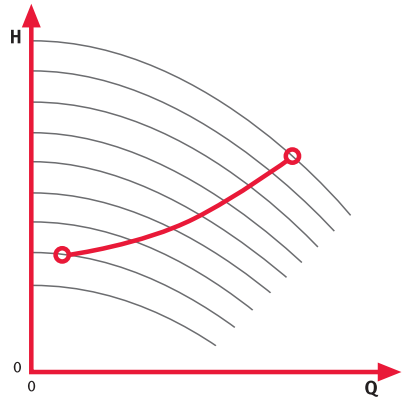
– Stop the pump(s) at zero demand.
– Stop the pump(s) in case of water failure on the suction side (protection against dry running).
– Stop the pump if the required delivery exceeds the pumps's capacity (protection against cavitation caused by excessive demand), or automatically switch on the next pump in a multiple series.
– Protect the pump and motor from overvoltage, undervoltage, overload and earth fault.
– Vary the pump speed acceleration and deceleration time.
– Compensate for increased flow resistance at high flow rates.
– Conduct automatic test starts at set intervals.
– Monitor the converter and motor operating hours.
– Display all functions on an LCD in different languages (Italian, English, French, German, Spanish, Portuguese, Dutch).
– Send a signal to a remote control system which is proportional to the pressure and frequency.
– Communicate with another Hydrovar or control system via an RS 485 interface.

A



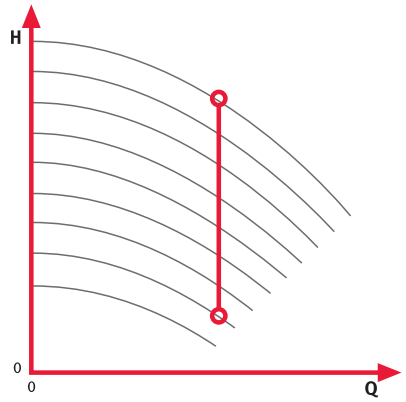
Control for constant pressure

B



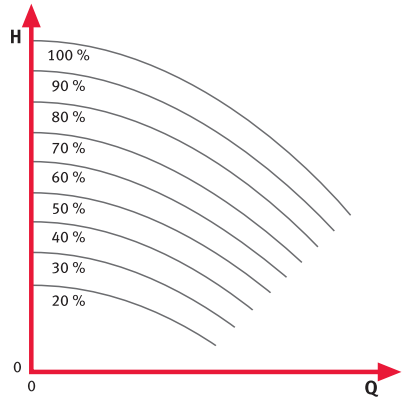
Control to match a system curve

C



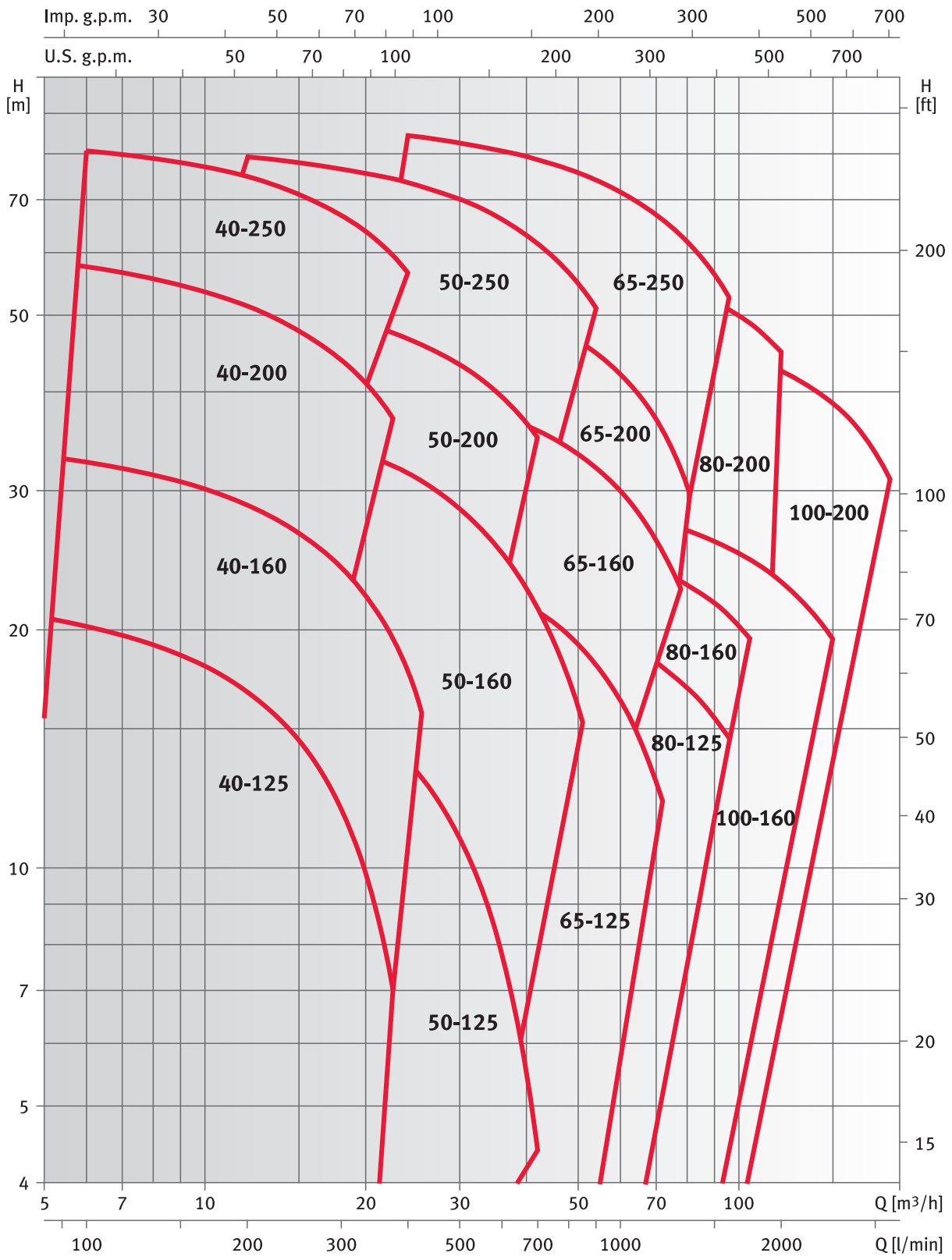
Control for constant flow

D



Control according to an external signal

FL and FLS series



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL and FLS series

PUMP	P2		l/min	0	100	200	350	375	400	600	700	800	850
TYPE	kW	HP	m³/h	0	6	12	21	22.5	24	36	42	48	51
40-125/07	0.75	1		17	15.1	11.8	3.6						
40-125/11	1.1	1.5		22.5	20	16.7	8.8	7					
40-160/15	1.5	2		27.3	24.7	20.9	13.1	11.2	9.3				
40-160/22	2.2	3		35.3	32.5	29	21	19.5	17.7				
40-200/*	*	*		42.5	39	34							
40-200/40	4	5.5		51	47	41.5	30.5						
40-200/55	5.5	7.5		62	57.5	51.5	39.5	37					
40-250/75	7.5	10		75	71	65	53	51					
40-250/110	11	15		85	81	75	62	59.5	57				
50-125/11	1.1	1.5		15.3		13.5	11.1	10.6	10.1	5.4			
50-125/15	1.5	2		19.1		17.5	14.9	14.4	13.8	8.6	5.5		
50-160/22	2.2	3		26		24	21	20.6	20	14.7	11.6		
50-160/30	3	4		32.5		30.5	27.2	26.5	26	20	16.6	13	
50-160/40	4	5.5		38		36	38.9	32.2	31.5	25	21.4	17.3	15.5
50-200/55	5.5	7.5		47		43.5	39.5	39	38	30.5			
50-200/75	7.5	10		56		52	48	47.5	46.5	39.5	35		
50-250/**	**	**		63.2		59.4	55.2	54.5	54	46.5	42.8	38	
50-250/110	11	15		69.5		65.5	61.3	60.5	60	53.5	49.3	45	42.5
50-250/150	15	20		83		79.3	75	74.5	73.5	66	61.5	56.5	54

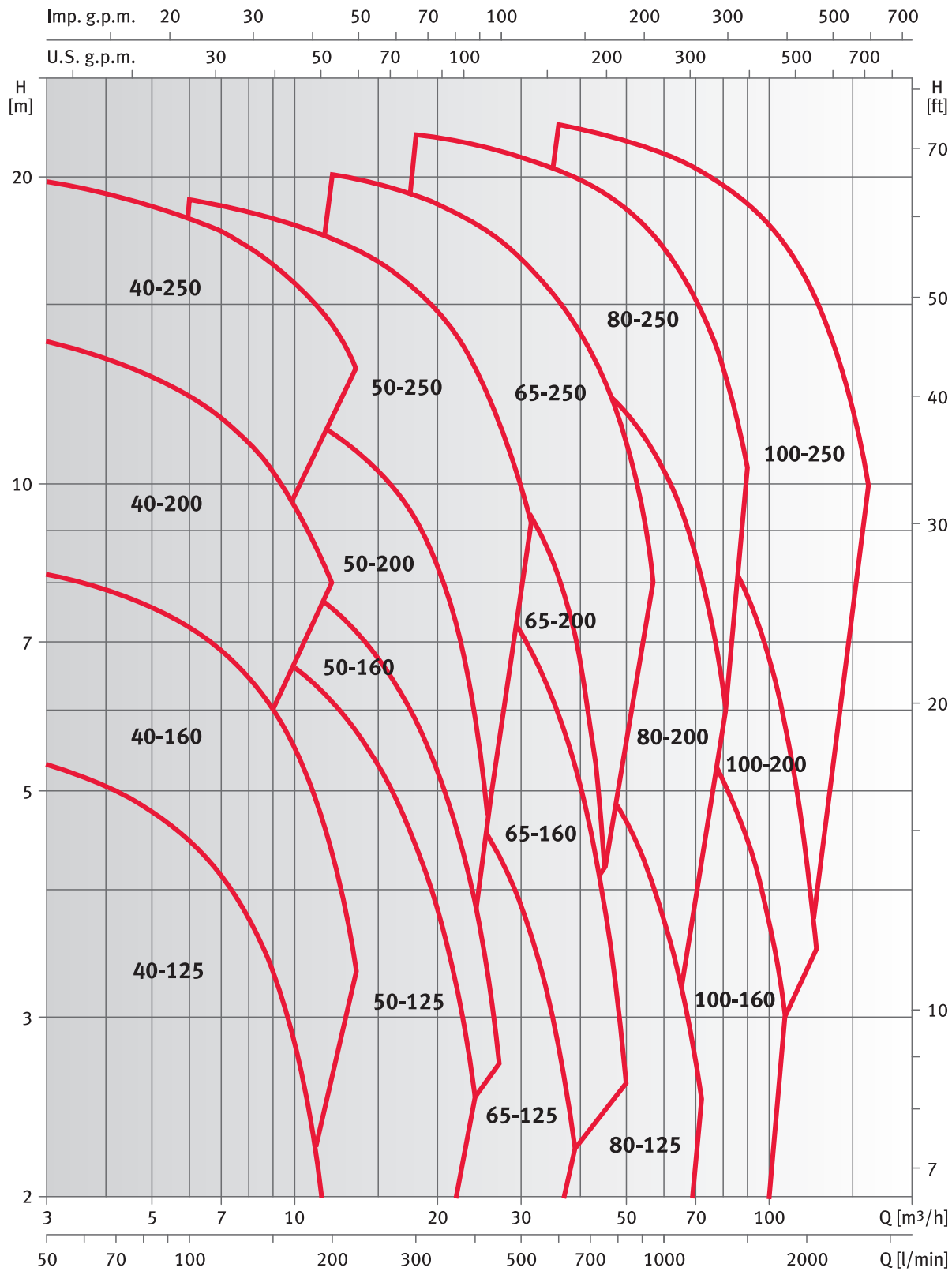
* FL40-200/40A: 4 (kW) - 5.5 (HP) / FLS40-200/30: 3 (kW) - 4 (HP)
** FL50-250/92: 9.2 (kW) - 12.5 (HP) / FLS50-250/110A: 11 (kW) - 15 (HP)
Performances according to ISO 9906 - Annex A

FL and FLS series

PUMP	P2		l/min	0	400	600	700	800	850	1000	1200	1300	1500	1600	1750	1950	2500	3000
TYPE	kW	HP	m³/h	0	24	36	42	48	51	60	72	78	90	96	105	117	150	180
65-125/22	2.2	3		18.5	16.5	14.3	13	11.3	10.5	7.9								
65-125/30	3	4		23	20.5	18.1	16.8	15	14.5	11.6								
65-125/40	4	5.5		26.5	24.5	22.5	21.2	19.3	18.8	16.3	12							
65-160/55	5.5	7.5		35	32.5	30	28.8	27	26.2	23.5	19							
65-160/75	7.5	10		42.5	40	37.5	36	34	33	30	25	22.5						
65-200/**	**	**		53	47.6	44	42	40	39	35	28.5	23.9						
65-200/110	11	15		61	55.3	51.5	49	47	46	42	36	31						
65-250/150	15	20		70	66.3	63	61	59	57.5	54	49	46	40					
65-250/185	18.5	25		80	75.3	72	70	67.5	66.5	63	57.5	54	48					
65-250/220	22	30		89	84.3	80.5	79	76.5	75.5	71.5	66	63	57	52.7				
80-125/30	3	4		15.5		14.5	14	13.5	13.2	12.5	11	10						
80-125/40	4	5.5		19		18	17.5	17	16.7	16	14	13.5	11.5					
80-125/55	5.5	7.5		23		21.5	21	20.5	20.2	19.5	18	17.3	15.5	14.5				
80-160/75	7.5	10		28		26.5	26	25.7	25.4	24.5	23.5	23	21.7	21	19.5			
80-200/110	11	15		41		37	36	35.2	34.8	33	30.5	29.5	26.2	24.5	22			
80-200/150	15	20		49.5		46.4	45.5	44.7	44.3	43	41	40	37.5	36.5	34	30.5		
80-200/185	18.5	25		57		53.5	52.5	51.5	51.2	50	48	47	44.7	43.5	41	38		
80-200/220	22	30		65		61.1	60	59.3	58.8	57.5	55.5	54	52	51	49	45.8		
100-160/110	11	15		29						28	27.3	26.8	26	25.4	24.6	23.4	19.5	
100-200/185	18.5	25		45							39.5	39	37.5	37	36	34.5	30.5	25
100-20/220	22	30		53							48	47	46	45	44	42.8	38.7	33.5

** FL65-200/92: 9.2 (kW) - 12.5 (HP) / FLS65-200/110A: 11 (kW) - 15 (HP)
Performances according to ISO 9906 - Annex A

FL4 and FLS4 series



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL4 and FLS4 series

PUMP	P2		l/min	0	50	100	150	175	200	300	350	400	500	600	650	750	900
TYPE	kW	HP	m³/h	0	3	6	9	10.5	12	18	21	24	30	36	39	45	54
40-125/02A *	0.25	0.33		4.7	4.1	3.3	2										
40-125/02 *	0.25	0.33		5.8	5.3	4.5	3.3	2.6									
40-160/02 *	0.25	0.33		7.1	6.4	5.5	4.3	3.6	2.6								
40-160/03 *	0.37	0.5		8.8	8.1	7.2	6	5.2	4.4								
40-200/05	0.55	0.75		12.4	11.4	10	8.2	7									
40-200/07	0.75	1		15	13.8	12.2	10.3	9.1	8								
40-250/11	1.1	1.5		18.5	17.5	15.7	13.8	12.8	11.5								
40-250/15	1.5	2		21	19.5	18.2	16.4	15.4	14.3								
50-125/02 *	0.25	0.33		6.2		5.5	4.9	4.6	4.3	2.8	1.8						
50-125/03 *	0.37	0.5		8		7.4	6.8	6.5	6.1	4.4	3.5	2.5					
50-160/05 *	0.55	0.75		9.4		8.8	8.2	7.9	7.5	5.8	4.9	3.9					
50-200/07	0.75	1		11.4		10.5	9.9	9.6	9.1	7.1	5.7	3.7					
50-200/11	1.1	1.5		13.6		12.6	12	11.7	11.1	9.2	7.8	6					
50-250/15	1.5	2		17		15.9	15.2	14.8	14.4	12.6	11.4	10	7				
50-250/22	2.2	3		20.2		19	18.2	17.8	17.4	15.5	14.3	13	10				
65-125/03 *	0.37	0.5		5.6					4.9	4.3	3.9	3.5	2.6	1.6			
65-125/05 *	0.55	0.75		6.7					5.9	5.4	5.1	4.7	3.8	2.8	2.2		
65-160/07	0.75	1		8.6					7.8	7.2	6.8	6.4	5.4	4.3	3.7	2.4	
65-160/11	1.1	1.5		10.4					9.6	9	9	8.2	7.2	5.9	5.3	3.8	
65-200/15	1.5	2		14.7					13.2	12.2	11.7	11	9.7	8	7	4.2	
65-250/22	2.2	3		19					17.6	16.5	16	15.4	14	12.7	12	10	6.5
65-250/30	3	4		21.5					20.1	19.2	18.7	18	16.6	15	14.3	12.7	9.4

* FL4 version only

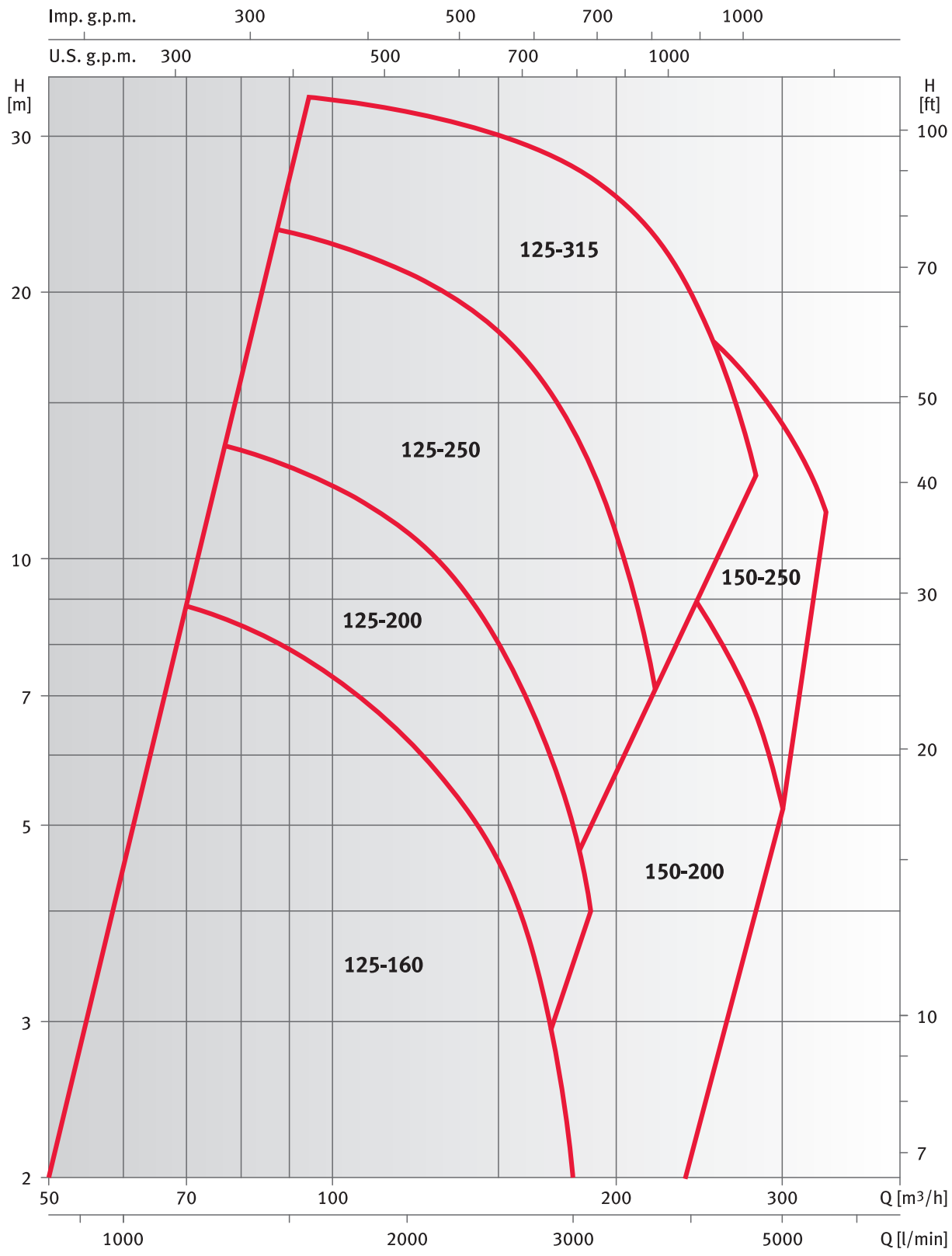
Performances according to ISO 9906 - Annex A

FL4 and FLS4 series

PUMP	P2		l/min	0	300	350	400	500	600	650	750	900	1100	1200	1500	1800	2000	2500
TYPE	kW	HP	m³/h	0	18	21	24	30	36	39	45	54	66	72	90	108	120	150
80-125/07	0.75	1		5.6	5.2	5.1	4.9	4.6	4.3	4	3.6	2.8	1.6					
80-125/11	1.1	1.5		6.8	6.4	6.3	6.2	6	5.6	5.4	5.1	4.3	3.2	2.5				
80-200/15	1.5	2		10.5	9.6	9.4	9.2	8.7	8.1	7.9	7.1	5.8	3.3					
80-200/22	2.2	3		13.7	12.7	12.6	12.3	11.8	11.3	11	10.2	8.9	6.8	5.5				
80-200/30	3	4		15.8	14.7	14.5	14.3	13.8	13.2	13	12.3	11.2	9.3	8				
80-250/40	4	5.5		19.9	18.7	18.5	18.2	17.7	17	16.7	16	14.6	12.5	11.2				
80-250/55	5.5	7.5		23.2	22	21.8	21.5	21	20.3	20	19.2	18	16	14.8	10.4			
100-160/15	1.5	2		7.8				7.4	7.2	7.1	6.9	6.6	5.9	5.6	4.5	3		
100-200/22	2.2	3		10.5					9.3	9.2	8.9	8.3	7.5	7	5.4	3.5	2	
100-200/30	3	4		12.8					11.5	11.3	11	10.6	9.8	9.3	7.8	5.8	4.2	
100-250/40	4	5.5		17					15.5	15.3	15	14.3	13.3	12.8	11.1	9.2	7.8	
100-250/55	5.5	7.5		20.5					19	18.8	18.5	17.8	17	16.5	14.9	13.1	11.8	8
100-250/75	7.5	10		24					22.5	22.3	22	21.5	20.7	20.3	18.9	17.1	15.8	11.8

Performances according to ISO 9906 - Annex A

FLS4 series



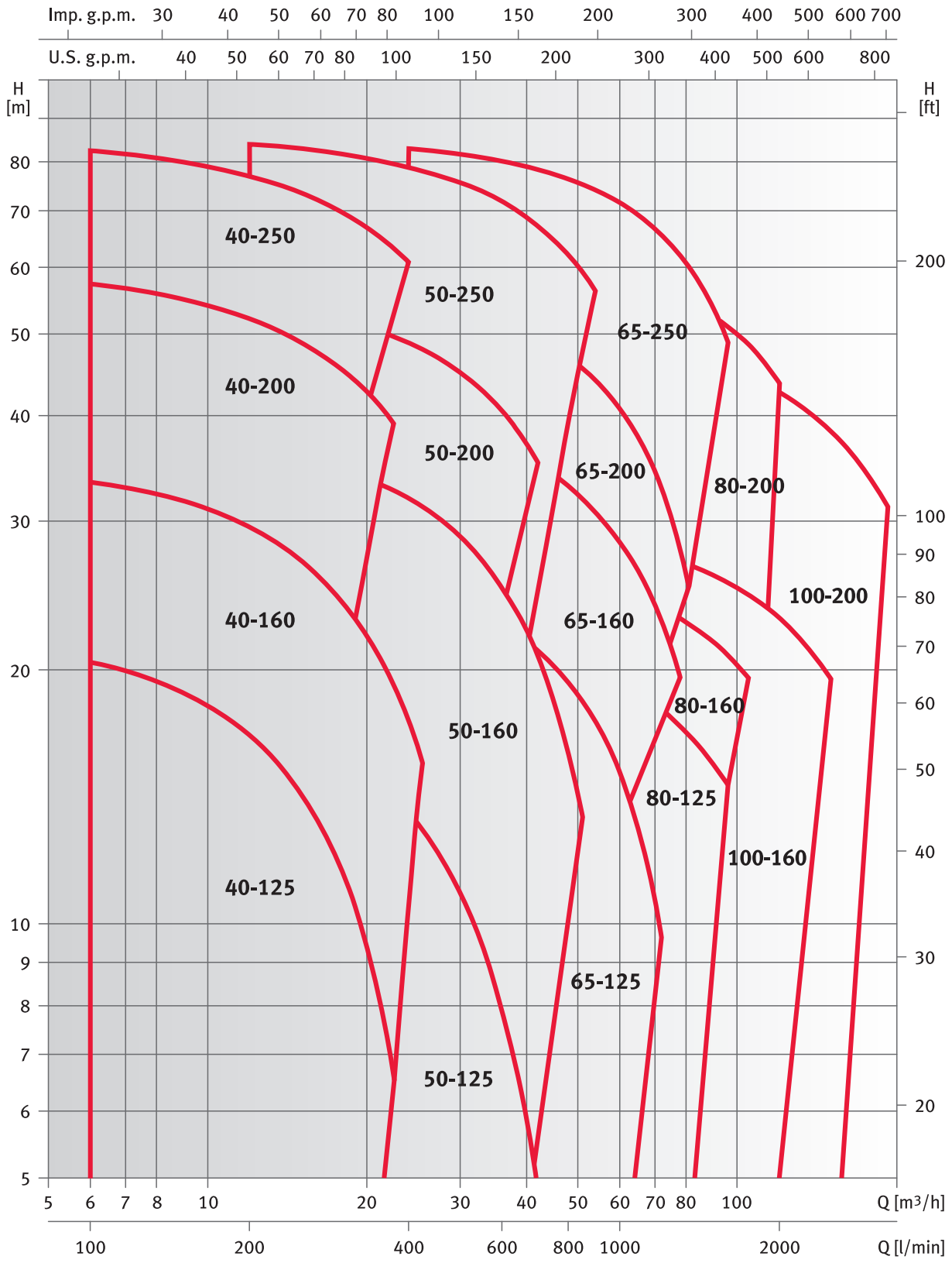
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLS4 series

PUMP	P2		l/min	0	1000	1083	1167	1333	1500	1667	2000	2333	2667	3000	3333	3667	4167	4667	5000	5333	5500
TYPE	kW	HP	m³/h	0	60	65	70	80	90	100	120	140	160	180	200	220	250	280	300	320	330
125-160/30	3	4		10.5	9.3	9.1	8.8	8.4	7.8	7.3	6.3	5.2	3.8	2							
125-200/40	4	5.5		12.7	11.4	11.2	11	10.5	9.9	9.3	7.7	5.7	3.4								
125-200/55	5.5	7.5		15.1	14.2	13.9	13.7	13.3	12.7	12.2	10.7	9	7	4.9							
125-250/75	7.5	10		20.5	19	18.8	18.6	18	17.3	16.6	14.8	12.3	9.7	6.8							
125-250/110	11	15		26.1	24.8	24.6	24.4	24	23.4	22.8	21.1	19	16.8	14	10.8	7					
125-315/150	15	20		27	26	25.9	25.8	25.4	25	24.6	23.6	22.2	20.3	18.3	16	13	7.8				
125-315/185	18.5	25		31	30	29.9	29.8	29.5	29.2	28.9	28	26.8	25	23	20.8	18	13.5	8			
125-315/220	22	30		35	34	33.9	33.8	33.5	33.2	32.9	32	31	29.5	27.8	25.5	23	18.3	13	8.9		
150-200/55	5.5	7.5		11.2	10.2	10	9.8	9.6	9.3	9	8.3	7.5	6.7	5.8	4.7	3.5					
150-200/75	7.5	10		15.6	13.8	13.7	13.6	13.4	13.1	12.8	12.1	11.4	10.5	9.6	8.4	7.2	4.8				
150-250/110	11	15		17.2			16.8	16.7	16.5	16.3	15.8	15.2	14.3	13.4	12.3	11.2	9.3	7	5.2		
150-250/150	15	20		21.1			20.7	20.6	20.5	20.4	20	19.5	18.8	18	17	16	14.2	12	10.3	8.5	
150-250/185	18.5	25		24.6			24	23.9	23.8	23.7	23.3	22.9	22.2	21.5	20.7	19.7	17.9	15.7	14.2	12.5	11.5

Performances according to ISO 9906 - Annex A

FLD and FLSD series



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLD and FLSD series

PUMP	P2		l/min	0	100	200	300	350	400	600	700	900
TYPE	kW	HP	m³/h	0	6	12	18	21	24	36	42	54
40-125/07	0.75	1		17.9	16	12.5	7.4	4.3				
40-125/11	1.1	1.5		22.6	20.4	16.7	11.5	8.3				
40-160/15	1.5	2		28.2	26	22.3	17.2	14.1	10.6			
40-160/22	2.2	3		35.3	33.4	29.5	24	20.8	17.4			
40-200/*	*	*		43.2	39.3	33.9	27.1					
40-200/40	4	5.5		52.4	48.8	43.7	37	33.1				
40-200/55	5.5	7.5		61	57.4	52.1	45.3	41.4				
40-250/75	7.5	10		75.7	71.4	66.1	59.4	55.3				
40-250/110	11	15		86.2	82.50	76.9	69.7	65.4	60.7			
50-125/11	1.1	1.5		14.4		13.2	11.6	10.5	9.4	4.2		
50-125/15	1.5	2		18.4		17.6	15.9	14.8	13.6	7.9	4.8	
50-160/22	2.2	3		26.2		24.4	22.4	21.3	19.9	13.7	10.1	
50-160/30	3	4		33.1		30.3	28.3	27.1	25.7	19.3	15.4	
50-160/40	4	5.5		39.1		36.6	34.5	33.3	31.9	25	20.7	
50-200/55	5.5	7.5		47.9		44.9	42.6	41.2	39.7	31.7		
50-200/75	7.5	10		57.4		54.3	51.9	50.4	48.8	40.5	35.1	
50-250/**	**	**		64.4		60.9	58.7	57.4	56.1	49.2	44.8	
50-250/110	11	15		75		71.3	69	67.7	66.2	59.2	54.9	
50-250/150	15	20		87.4		83.9	81.6	80.2	78.7	71.5	67.1	56.3

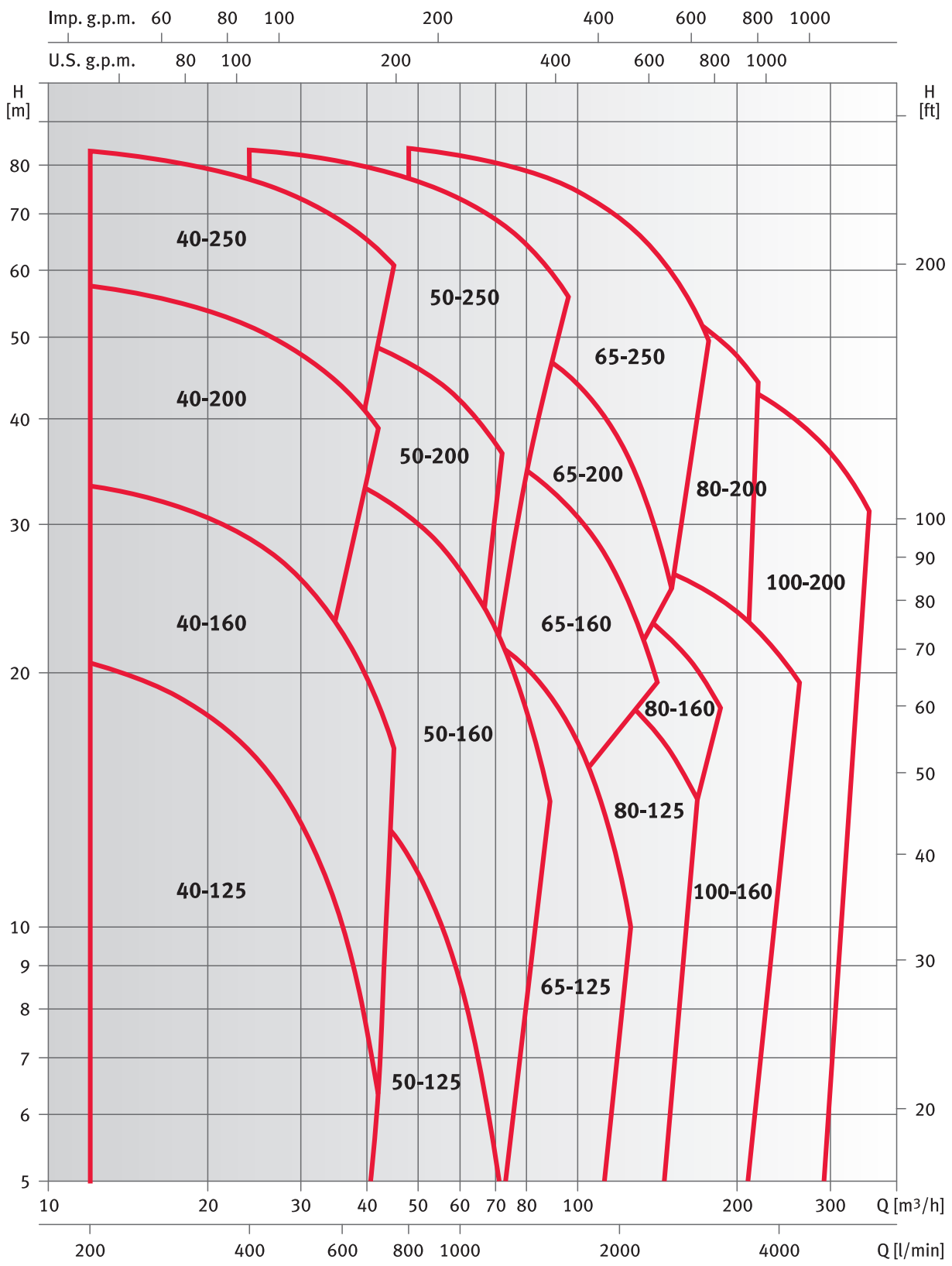
* FLD40-200/40A: 4 (kW) - 5.5 (HP) / FLSD40-200/30: 3 (kW) - 4 (HP)
** FLD50-250/92: 9.2 (kW) - 12.5 (HP) / FLSD50-250/110A: 11 (kW) - 15 (HP)
Performances according to ISO 9906 - Annex A

FLD and FLSD series

PUMP	P2		l/min	0	400	600	700	900	1000	1200	1300	1400	1600	1750	2000	2500	3000
TYPE	kW	HP	m³/h	0	24	36	42	54	60	72	78	84	96	105	120	150	180
65-125/22	2.2	3		17.8	16.3	13.9	12.3	8.3	5.9								
65-125/30	3	4		21.8	20.3	17.9	16.3	12.3	10								
65-125/40	4	5.5		25.7	24.6	22.5	21.1	17.3	15.1	9.6							
65-160/55	5.5	7.5		34.1	32.8	30.6	29.1	25-.2	22.9	17.4							
65-160/75	7.5	10		41.6	39.3	36.7	34.9	30.8	28.3	22.7	19.6						
65-200/**	**	**		52	48.7	45.8	43.9	38.9	35.8	28.1	23.4						
65-200/110	11	15		58.8	54.3	51.1	49.1	44	40.8	32.7	27.8						
65-250/150	15	20		69.8	65.5	62.7	61.1	56.9	54.4	48.1	44.4	40.1					
65-250/185	18.5	25		78.6	73.7	70.8	69.1	65	62.5	56.5	52.9	48.8					
65-250/220	22	30		86.8	82.9	80.1	78.3	74.1	71.5	65.5	62	58.1	49				
80-125/30	3	4		15.8		14.4	13.8	12.2	11.3	9.3	8.2	7.1					
80-125/40	4	5.5		19		17.8	17.3	15.9	15.1	13.3	12.3	11.2					
80-125/55	5.5	7.5		23.6		22.3	21.8	20.7	20	18.3	17.4	16.4	14				
80-160/75	7.5	10		28.2		26.7	26.3	25.4	24.9	23.5	22.7	21.8	19.7	17.8			
80-200/110	11	15		40.7		38.1	37.5	35.9	35	32.9	31.7	30.4	27.5	25			
80-200/150	15	20		51.1		48	47.3	45.7	44.7	42.6	41.5	40.2	37.3	34.8			
80-200/185	18.5	25		57.2		54	53.3	51.8	50.9	49	47.8	46.6	43.8	41.4			
80-200/220	22	30		63.9		60.9	60.3	58.8	58	56.1	55	53.8	51	48.6	43.8		
100-160/110	11	15		29					27.6	26.8	26.3	25.7	24.5	23.4	21.4	16.5	
100-200/185	18.5	25		39.8						37.9	37.5	37	36	35.2	33.5	29.5	24.5
100-200/220	22	30		47.5						45.3	44.9	44.4	43.4	42.5	40.8	36.7	31.6

** FLD65-200/92: 9.2 (kW) - 12.5 (HP) / FLSD65-200/110A: 11 (kW) - 15 (HP)
Performances according to ISO 9906 - Annex A

FLD and FLSD series



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLD and FLSD series

PUMP	P2		l/min	0	200	400	600	700	800	1000	1200	1600
TYPE	2 x kW	2 x HP	m³/h	0	12	24	36	42	48	60	72	96
40-125/07	0.75	1		17.9	15.9	11.7	5.6					
40-125/11	1.1	1.5		23	20.5	16.2	10	6.3				
40-160/15	1.5	2		28.4	26	21.6	15.4	11.7				
40-160/22	2.2	3		35.3	33.3	28.9	22.3	18.4				
40-200/*	*	*		43.4	39.2	33.3	25.6					
40-200/40	4	5.5		52.5	48.5	42.8	35.3					
40-200/55	5.5	7.5		61.2	57.5	51.5	43.6	39				
40-250/75	7.5	10		75.1	69.5	62.8	54.6	49.9				
40-250/110	11	15		86.8	83	76.8	68.5	63.6				
50-125/11	1.1	1.5		14.2		12.7	10.6	9.3	7.8	4.4		
50-125/15	1.5	2		18.4		17.1	15	13.6	12.1	8.6	4.6	
50-160/22	2.2	3		26.4		24	21.6	20.1	18.5	14.8	10.4	
50-160/30	3	4		33.3		30.1	27.5	26	24.3	20.4	15.8	
50-160/40	4	5.5		39.5		36.8	34.1	32.5	30.7	26.5	21.6	
50-200/55	5.5	7.5		47.6		44.2	41.4	39.6	37.7	33.2		
50-200/75	7.5	10		56.9		53.3	50.4	48.6	46.6	42	36.4	
50-250/**	**	**		64.6		61	58.3	56.7	54.8	50.6	45.6	
50-250/110	11	15		75.1		71.2	68.4	66.7	64.9	60.8	55.9	
50-250/150	15	20		87.3		83.5	80.7	79	77.2	73	68.1	55.9

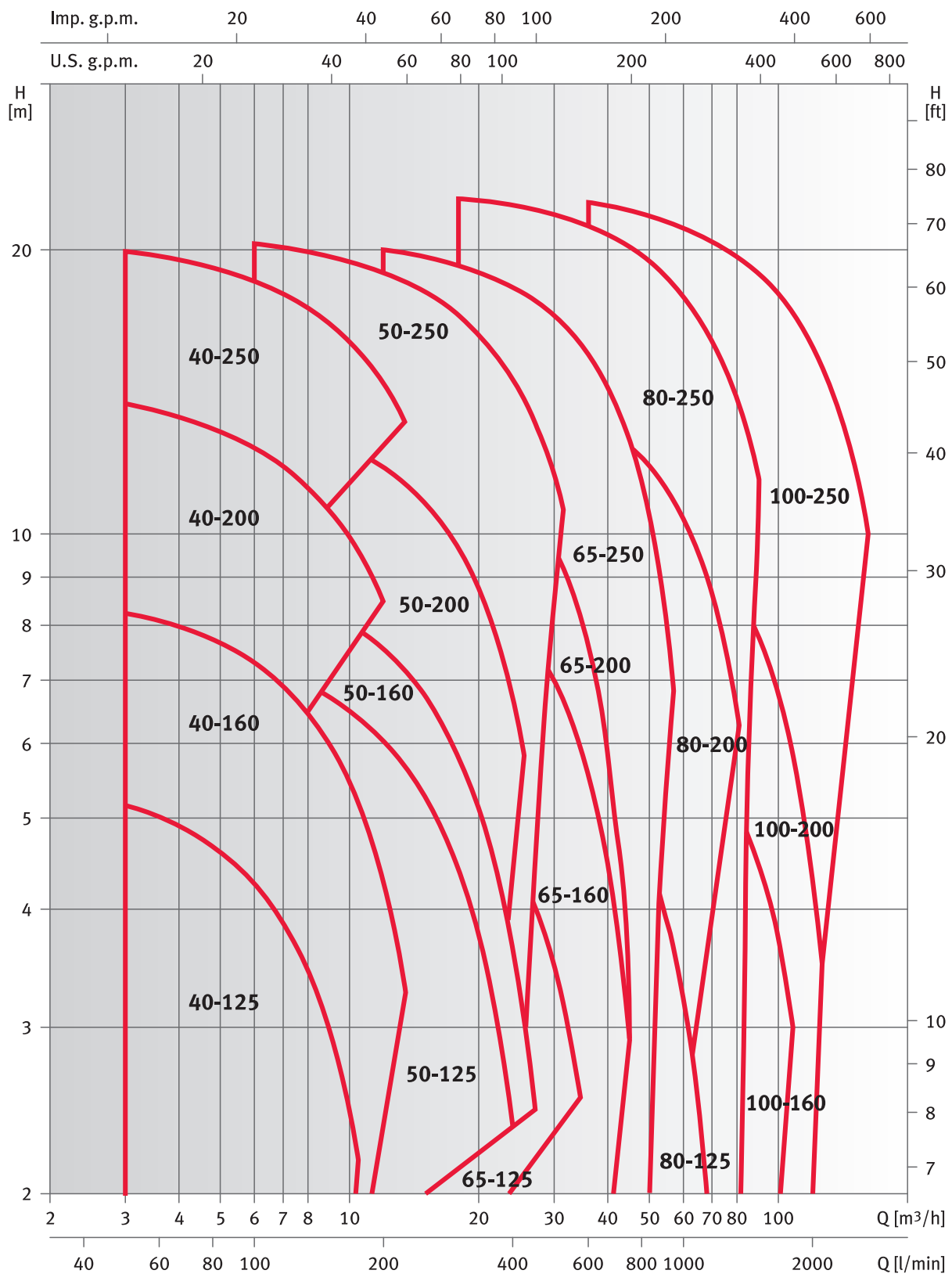
* FLD40-200/40A: 4 (kW) - 5.5 (HP) / FLSD40-200/30: 3 (kW) - 4 (HP)
** FLD50-250/92: 9.2 (kW) - 12.5 (HP) / FLSD50-250/110A: 11 (kW) - 15 (HP)
Performances according to ISO 9906 - Annex A

FLD and FLSD series

PUMP	P2		l/min	0	800	1000	1200	1600	1800	2000	2200	2400	2800	3200	3500	4250	5550
TYPE	2 x kW	2 x HP	m³/h	0	48	60	72	96	108	120	132	144	168	192	210	255	333
65-125/22	2.2	3		18.1	15.8	14.5	12.8	8.3	5.4								
65-125/30	3	4		22.1	19.8	18.4	16.8	12.4	9.6								
65-125/40	4	5.5		25.7	24.2	23	21.5	17.4	14.7	11.7							
65-160/55	5.5	7.5		34	32.4	31.1	29.4	25.1	22.4	19.4							
65-160/75	7.5	10		41.8	39.4	37.9	36.1	31.6	28.8	25.7	22.3						
65-200/**	**	**		52	48.5	46.9	44.9	39.7	36.3	32.5	28						
65-200/110	11	15		58.7	54.2	52.5	50.4	45.1	41.7	37.7	33.2	27.9					
65-250/150	15	20		69.6	65.7	64.2	62.4	57.8	54.9	51.7	48	43.8					
65-250/185	18.5	25		78.3	74.1	72.5	70.7	66	63.2	60	56.4	52.4	43				
65-250/220	22	30		87.3	83.8	82.1	80.2	75.3	72.4	69.2	65.7	61.8	53.2				
80-125/30	3	4		15.7			14.1	12.4	11.3	10.2	9	7.8					
80-125/40	4	5.5		18.9			17.7	16.2	15.2	14.2	13.1	11.9					
80-125/55	5.5	7.5		23.6			21.7	20.4	19.6	18.8	17.8	16.7	14.2				
80-160/75	7.5	10		28.4			26.8	25.7	25	24.3	23.4	22.4	20.2				
80-200/110	11	15		40.9			38.2	36.5	35.5	34.3	33.1	31.8	28.7	25.1	22.1		
80-200/150	15	20		50.4			47.4	45.7	44.7	43.6	42.4	41.1	38	34.5	31.5		
80-200/185	18.5	25		57.8			54.5	52.8	51.8	50.7	49.5	48.2	45.3	41.9	39		
80-200/220	22	30		63.6			61.3	59.7	58.7	57.6	56.4	55.1	52.1	48.7	45.8		
100-160/110	11	15		28.8					27.7	27.3	26.8	26.3	25	23.5	22.3	18.5	
100-200/185	18.5	25		39.7							37.8	37.4	36.4	35.2	34.1	31	23.4
100-200/220	22	30		47.5							45.3	44.9	43.9	42.8	41.8	38.7	30.9

** FLD65-200/92: 9.2 (kW) - 12.5 (HP) / FLSD65-200/110A: 11 (kW) - 15 (HP)
Performances according to ISO 9906 - Annex A

FLD4 and FLSD4 series



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLD4 and FLSD4 series

PUMP	P2		l/min	0	50	100	150	175	200	300	400	500
TYPE	kW	HP	m³/h	0	3	6	9	10.5	12	18	24	30
40-125/02A *	0.25	0.33		4.6	4.2	3.3	2.1					
40-125/02 *	0.25	0.33		5.7	5.2	4.3	3	2.2				
40-160/02 *	0.25	0.33		7	6.4	5.5	4.2	3.4	2.6			
40-160/03 *	0.37	0.5		8.8	8.3	7.3	6	5.2	4.3			
40-200/05	0.55	0.75		12.8	11.8	10.5	8.7	7.7				
40-200/07	0.75	1		14.5	13.6	12.2	10.3	9.3	8.1			
40-250/11	1.1	1.5		18.5	17.6	16.2	14.4	13.3	12.2			
40-250/15	1.5	2		20.9	20	18.6	16.7	15.6	14.4			
50-125/02 *	0.25	0.33		6.3		5.7	5.2	4.9	4.6	3		
50-125/03 *	0.37	0.5		7.9		7.3	6.8	6.4	6	4.3	2.4	
50-160/05 *	0.55	0.75		9.4		8.8	8.2	7.9	7.5	5.8	3.6	
50-200/07	0.75	1		11.7		10.7	10	9.6	9.2	7.1	4.2	
50-200/11	1.1	1.5		14.1		13.2	12.5	12.2	11.8	9.6	6.7	
50-250/15	1.5	2		18.1		17	16.3	16	15.6	13.7	11.3	8.1
50-250/22	2.2	3		21.3		20.3	19.7	19.3	18.9	17	14.6	11.5

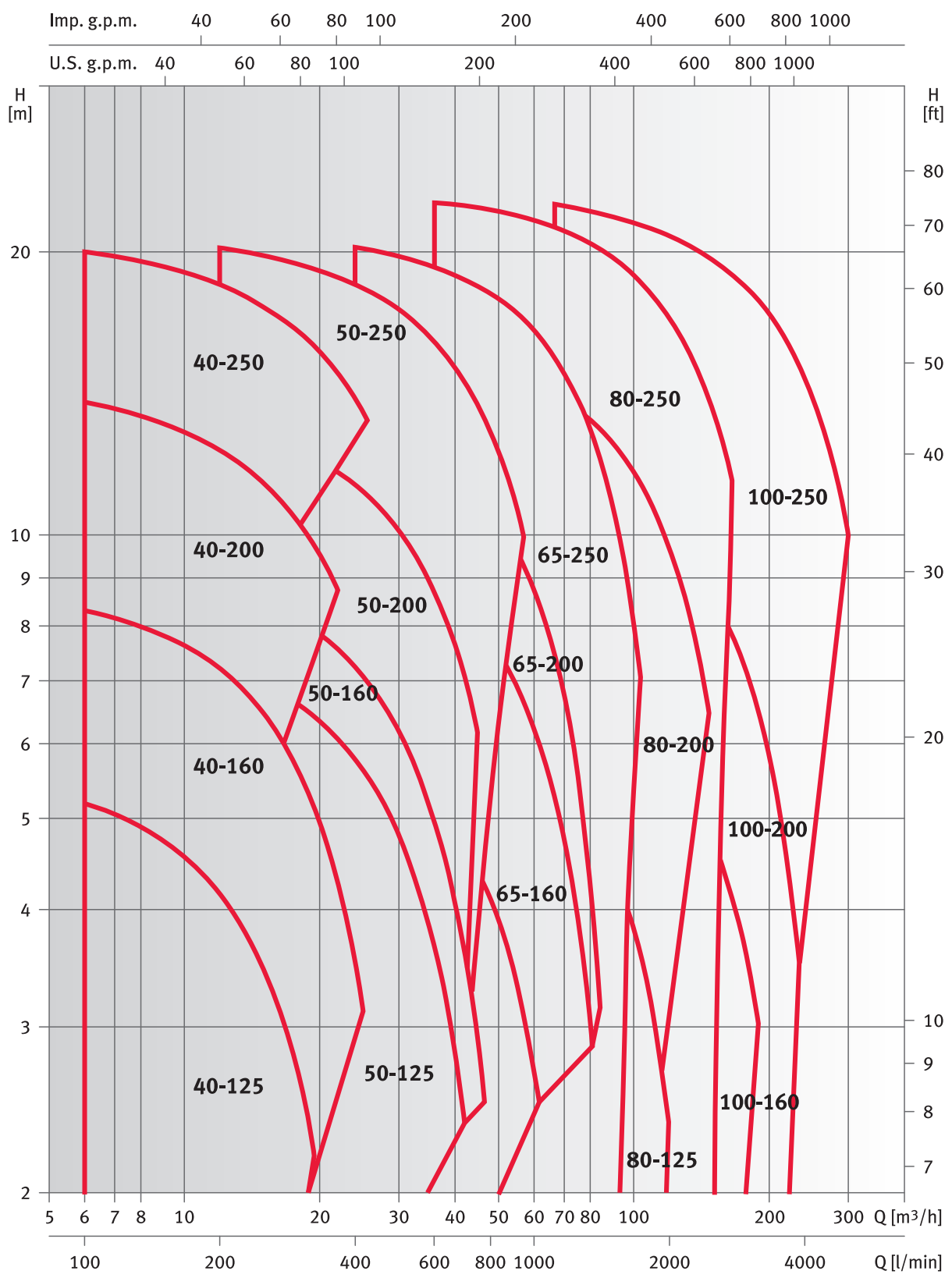
* FLD4 version only
Performances according to ISO 9906 - Annex A

FLD4 and FLSD4 series

PUMP	P2		l/min	0	200	300	400	500	600	700	900	1200	1400	1600	1750	2000	2500
TYPE	kW	HP	m³/h	0	12	18	24	30	36	42	54	72	84	96	105	120	150
65-125/03 *	0.37	0.5		5.6	4.9	4.3	3.4	2.3									
65-125/05 *	0.55	0.75		6.4	6	5.4	4.5	3.5									
65-160/07	0.75	1		8.4	8	7.3	6.3	5.2	3.8	2.3							
65-160/11	1.1	1.5		10.3	9.7	9.1	8.2	7	5.6	3.9							
65-200/15	1.5	2		14.3	13.2	12.3	11.2	9.7	7.6	4.8							
65-250/22	2.2	3		19	17.6	16.7	15.7	14.4	12.8	10.7	4.9						
65-250/30	3	4		21.4	20.1	19.3	18.3	17.1	15.5	13.6	8.5						
80-125/07	0.75	1		5.6		5.3	5	4.7	4.2	3.7	2.4						
80-125/11	1.1	1.5		7		6.6	6.3	6	5.7	5.2	4						
80-200/15	1.5	2		11.7		10.2	9.7	9.1	8.5	7.8	6.1						
80-200/22	2.2	3		14.7		13.3	12.8	12.2	11.5	10.8	9.2	6.3					
80-200/30	3	4		16.7		15.1	14.6	14	13.4	12.8	11.3	8.2					
80-250/40	4	5.5		19.6		19.1	18.6	18.1	17.4	16.7	14.8	11.2	8.2				
80-250/55	5.5	7.5		23.3		22.7	22.3	21.8	21.2	20.5	18.9	15.6	12.9				
100-160/15	1.5	2		7.9				7.6	7.4	7.1	6.4	5	4	2.9	2.1		
100-200/22	2.2	3		9.7					9.1	8.9	8.2	7	6	4.9	4	2.3	
100-200/30	3	4		11.6					10.9	10.7	10	8.8	7.8	6.6	5.6	3.8	
100-250/40	4	5.5		15.2					14.4	14.2	13.6	12.3	11.3	10.1	9.1	7.2	
100-250/55	5.5	7.5		18.7					17.8	17.6	17	15.7	14.8	13.6	12.7	10.9	6.7
100-250/75	7.5	10		21.6					21.2	20.9	20.4	19.2	18.2	17.1	16.1	14.4	10

* FLD4 version only
Performances according to ISO 9906 - Annex A

FLD4 and FLSD4 series



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLD4 and FLSD4 series

PUMP	P2		l/min	0	100	200	300	350	400	600	700	900
TYPE	kW	HP	m³/h	0	6	12	18	21	24	36	42	54
40-125/02A *	0.25	0.33		4.6	4.1	3.2	1.7					
40-125/02 *	0.25	0.33		5.8	5.2	4.2	2.6					
40-160/02 *	0.25	0.33		7	6.4	5.4	3.8	2.9				
40-160/03 *	0.37	0.5		8.8	8.3	7.2	5.6	4.6	3.5			
40-200/05	0.55	0.75		12.9	11.8	10.3	8.4					
40-200/07	0.75	1		14.8	13.6	12.1	10.2	9				
40-250/11	1.1	1.5		18.5	17.6	16.1	14	12.8				
40-250/15	1.5	2		21.1	20	18.5	16.4	15.2	13.9			
50-125/02 *	0.25	0.33		6.3		5.6	5	4.6	4.2	2.2		
50-125/03 *	0.37	0.5		8.1		7.2	6.5	6.1	5.7	3.6	2.3	
50-160/05 *	0.55	0.75		9.6		8.8	8.1	7.7	7.2	5	3.6	
50-200/07	0.75	1		11.5		10.6	9.8	9.3	8.8	6.3	4.7	
50-200/11	1.1	1.5		14		13	12.3	11.8	11.3	8.7	7.1	
50-250/15	1.5	2		18.1		17	16.2	15.7	15.3	12.9	11.5	7.9
50-250/22	2.2	3		21.3		20.2	19.4	19	18.5	16	14.6	11

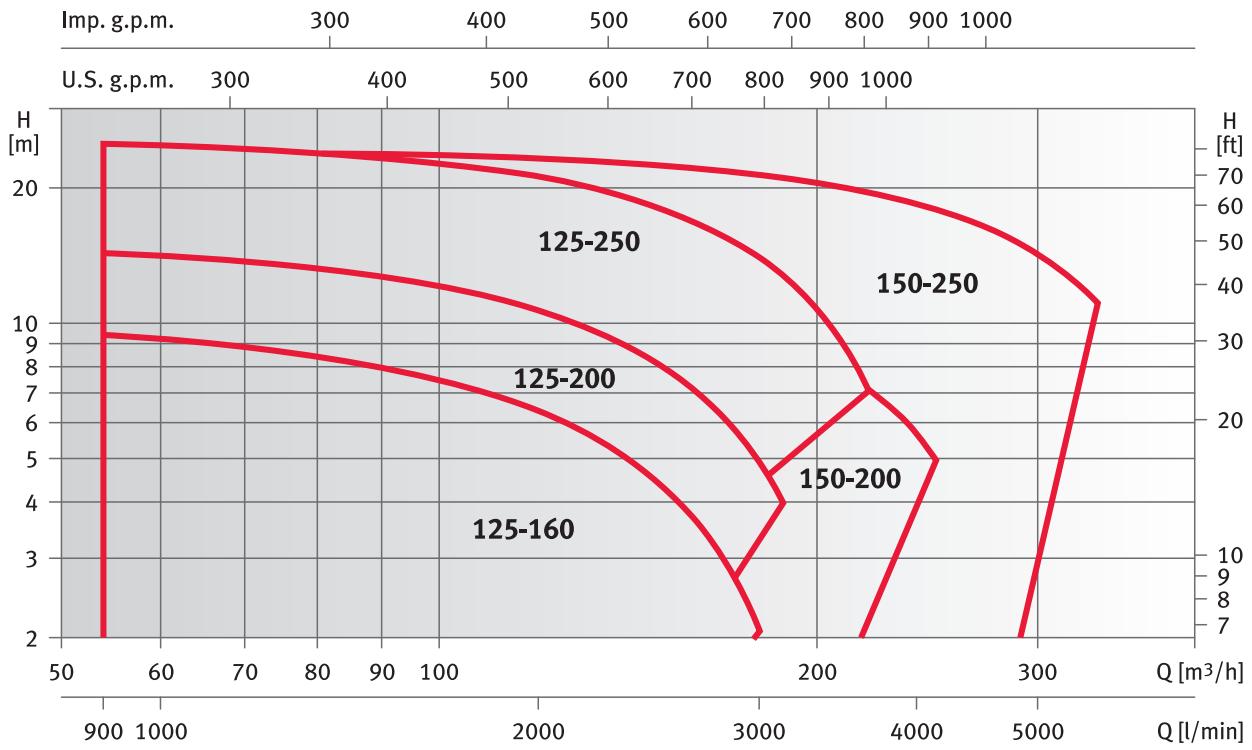
* FLD4 version only
Performances according to ISO 9906 - Annex A

FLD4 and FLSD4 series

PUMP	P2		l/min	0	400	600	700	900	1000	1100	1600	1800	2400	3000	3500	4000	4600
TYPE	kW	HP	m³/h	0	24	36	42	54	60	66	96	108	144	180	210	240	276
65-125/03 *	0.37	0.5		5.5	4.7	4	3.5	2.2									
65-125/05 *	0.55	0.75		6.3	5.9	5.2	4.7	3.4	2.7								
65-160/07	0.75	1		8.5	7.8	7	6.5	5.3	4.5	3.7							
65-160/11	1.1	1.5		10.2	9.7	8.9	8.3	7	6.2	5.4							
65-200/15	1.5	2		14.4	13.1	12.1	11.4	9.8	8.8	7.6							
65-250/22	2.2	3		19.3	17.7	16.6	16.1	14.6	13.8	12.8	5.9						
65-250/30	3	4		21.6	20.2	19.3	18.7	17.3	16.5	15.5	9.2						
80-125/07	0.75	1		5.7		5.2	5	4.6	4.4	4.1	2.4						
80-125/11	1.1	1.5		7		6.6	6.4	6.1	5.9	5.6	4.1	3.3					
80-200/15	1.5	2		11.5		10.1	9.8	9.2	8.9	8.6	6.5	5.5					
80-200/22	2.2	3		14.8		13.2	12.9	12.3	12	11.7	9.7	8.7					
80-200/30	3	4		16.7		15.7	15.4	14.9	14.6	14.2	12	10.9	6.8				
80-250/40	4	5.5		19.8		19.1	18.8	18.3	17.9	17.6	15.3	14.1	9.9				
80-250/55	5.5	7.5		23.2		22.6	22.4	21.9	21.6	21.3	19.2	18.2	14.3				
100-160/15	1.5	2		7.8				7.5	7.4	7.3	6.5	6.1	4.5	2.5			
100-200/22	2.2	3		9.7						9.1	8.3	7.9	6.4	4.5	2.6		
100-200/30	3	4		11.6						11	10.2	9.8	8.3	6.4	4.5	2.1	
100-250/40	4	5.5		15.1						14.4	13.7	13.3	11.8	9.9	7.9	5.5	
100-250/55	5.5	7.5		18.7						17.8	17.1	16.7	15.5	13.7	11.8	9.5	6
100-250/75	7.5	10		21.6						21.1	20.4	20.1	18.8	17.1	15.3	13.1	9.9

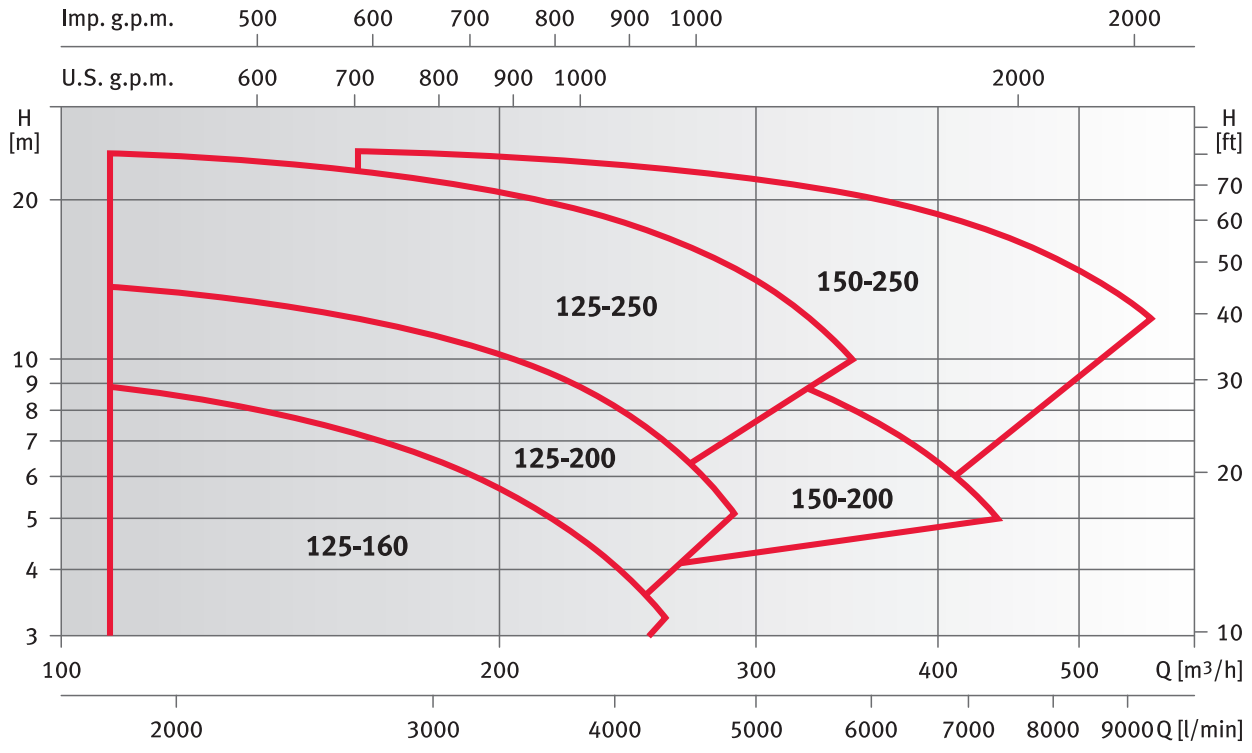
* FLD4 version only
Performances according to ISO 9906 - Annex A

FLSD4 series (single operation)



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLSD4 series (parallel operation)



The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLSD4 series (single operation)

PUMP	P2		l/min	0	900	1100	1333	1583	1667	1833	1917	2000	2333	2500	3000	3167	3667	4150	4500	5000	5333
TYPE	kW	HP	m³/h	0	54	66	80	95	100	110	115	120	140	150	180	190	220	249	270	300	320
125-160/30	3	4		10.5	9.4	9	8.4	7.7	7.5	6.9	6.7	6.4	5.1	4.4	2.1						
125-200/40	4	5.5		12.7	11.7	11.2	10.5	9.6	9.3	8.5	8.1	7.7	5.7	4.6							
125-200/55	5.5	7.5		15.1	14.3	13.9	13.2	12.4	12.1	11.4	11.1	10.7	9	8.1	4.9						
125-250/75	7.5	10		20.5	19.4	18.8	18	16.9	16.5	15.6	15.1	14.6	12.4	11.1	6.7	5					
125-250/110	11	15		26.1	25.1	24.6	23.9	23	22.7	21.9	21.5	21.1	19.1	18	14	12.5	7.1				
150-200/55	5.5	7.5		11.8			9.6	9.1	9	8.6	8.5	8.3	7.5	7.1	5.7	5.2	3.5				
150-200/75	7.5	10		15.4			13.4	12.9	12.8	12.5	12.3	12.1	11.4	11	9.6	9	7.1	4.9			
150-250/110	11	15		17.2			16.6	16.4	16.2	16	15.9	15.7	15.1	14.8	13.5	13	11.3	9.4	7.8	5.2	
150-250/150	15	20		21.1			20.7	20.4	20.3	20.1	20	19.9	19.4	19.1	18	17.6	16.1	14.3	12.8	10.4	8.5
150-250/185	18.5	25		24.6			24	23.7	23.7	23.5	23.4	23.3	22.7	22.5	21.4	21	19.6	17.9	16.6	14.3	12.5

Performances according to ISO 9906 - Annex A

FLSD4 series (parallel operation)

PUMP	P2		l/min	0	1800	2200	2667	3000	3250	3500	3750	4000	4333	4833	5200	5667	6500	7333	7667	8333	9000
TYPE	2 x kW	2 x HP	m³/h	0	108	132	160	180	195	210	225	240	260	290	312	340	390	440	460	500	540
125-160/30	3	4		10.5	8.9	8.2	7.2	6.5	5.9	5.3	4.7	4.1	3.2								
125-200/40	4	5.5		12.9	10.7	9.9	8.8	8	7.3	6.6	5.8	5	3.9								
125-200/55	5.5	7.5		15.4	13.7	13	11.9	11.1	10.4	9.7	9	8.1	7	5.1							
125-250/75	7.5	10		20.9	18.7	17.9	16.7	15.7	14.9	13.9	12.9	11.8	10.1	7.2							
125-250/110	11	15		26.1	24.6	23.8	22.7	21.8	21	20.2	19.3	18.4	17.1	14.9	13.2	10.8					
150-200/55	5.5	7.5		11.6			9	8.6	8.2	7.9	7.5	7.1	6.6	5.8	5.2	4.5					
150-200/75	7.5	10		15.4			13.1	12.7	12.4	12	11.6	11.2	10.7	9.9	9.2	8.3	6.7	5			
150-250/110	11	15		18.7			17.5	17.2	16.9	16.6	16.3	16	15.5	14.7	14	13.1	11.2	9	8		
150-250/150	15	20		22.7			21.8	21.5	21.3	21	20.7	20.4	20	19.2	18.6	17.7	15.9	13.8	12.9	10.9	8.7
150-250/185	18.5	25		25.4			24.8	24.5	24.3	24	23.7	23.4	23	22.2	21.6	20.8	19.1	17.2	16.4	14.7	12.9

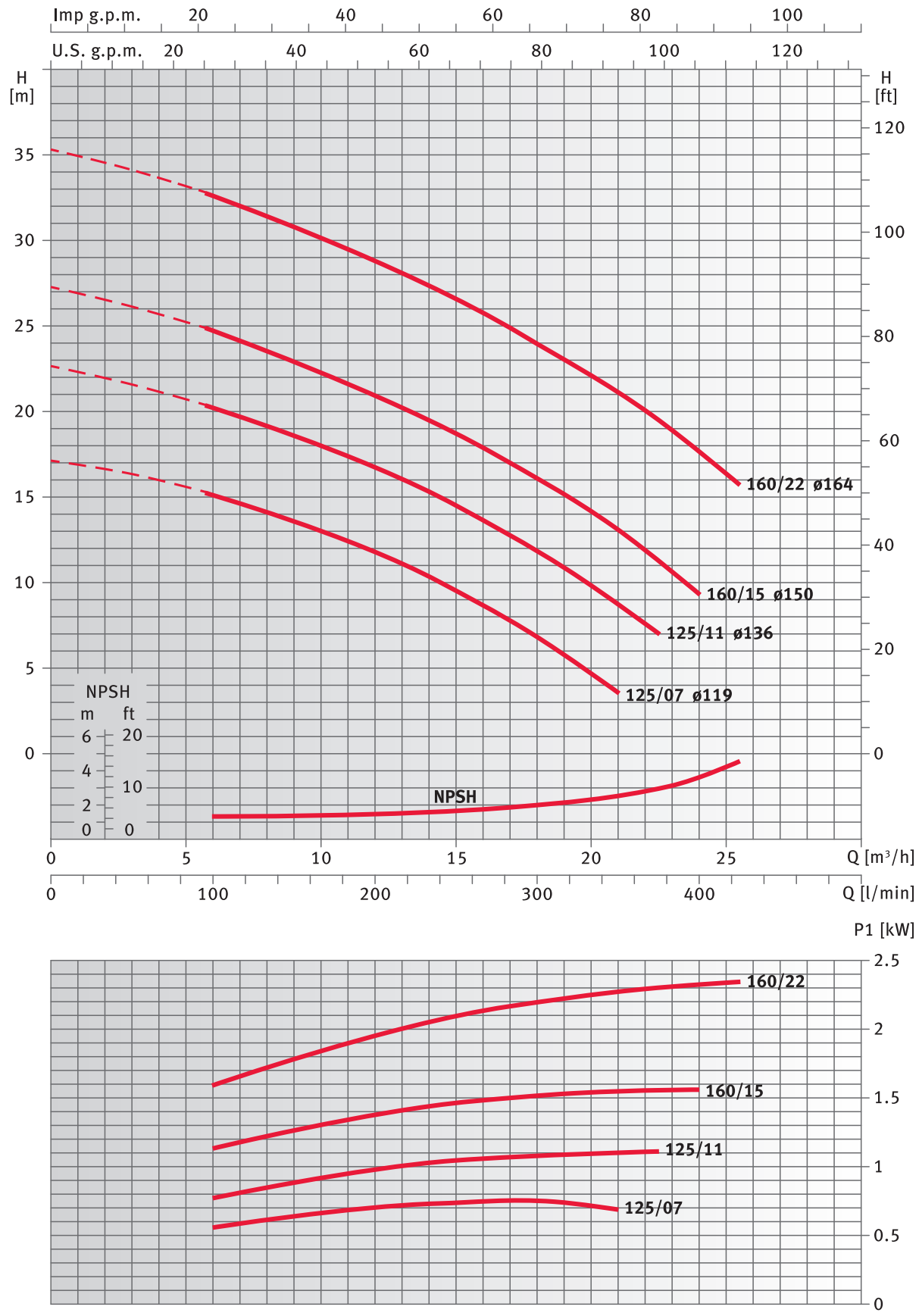
Performances according to ISO 9906 - Annex A

FL Serie

Operating curves

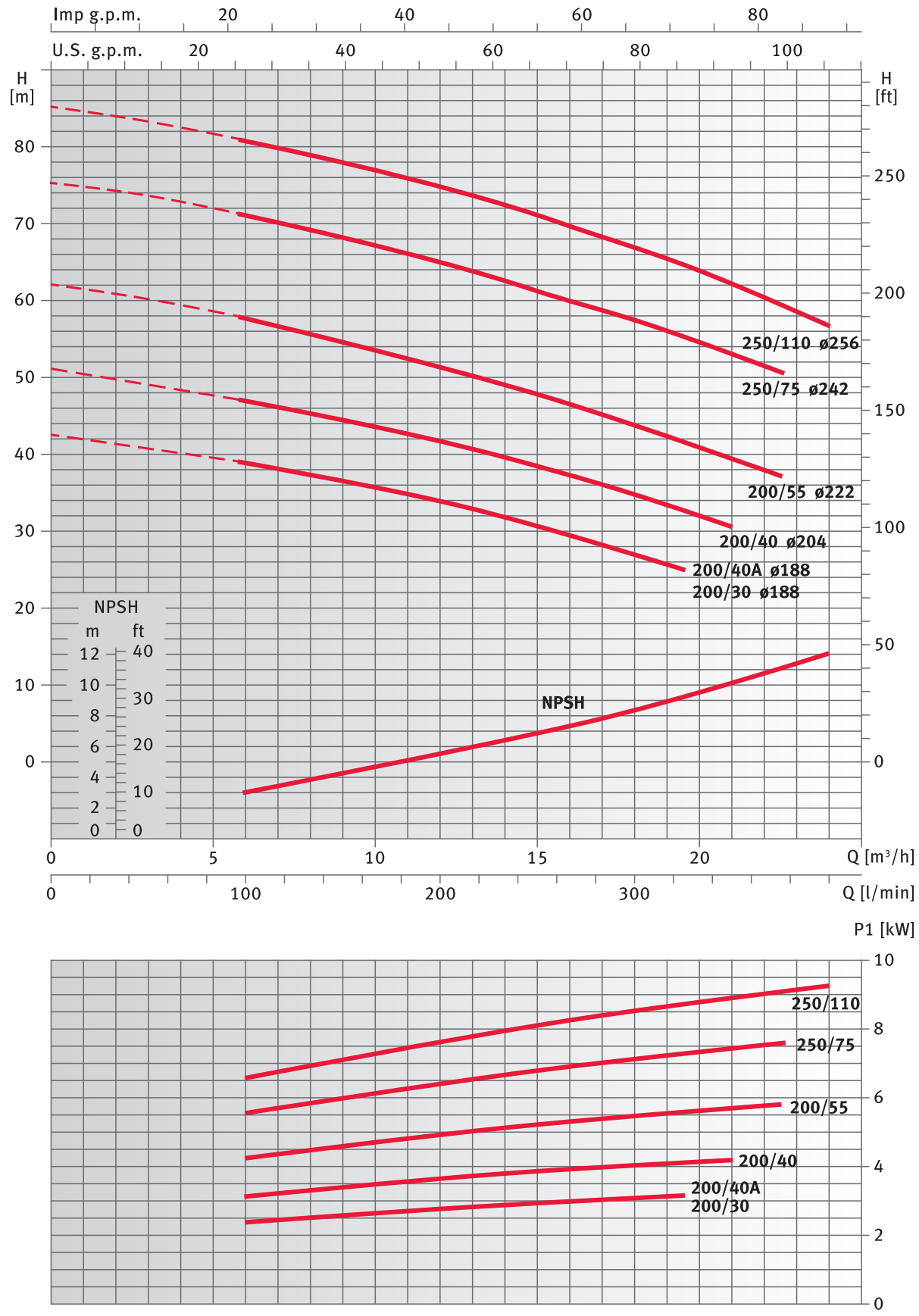
50 Hz

FL and FLS series 40 - 125/160



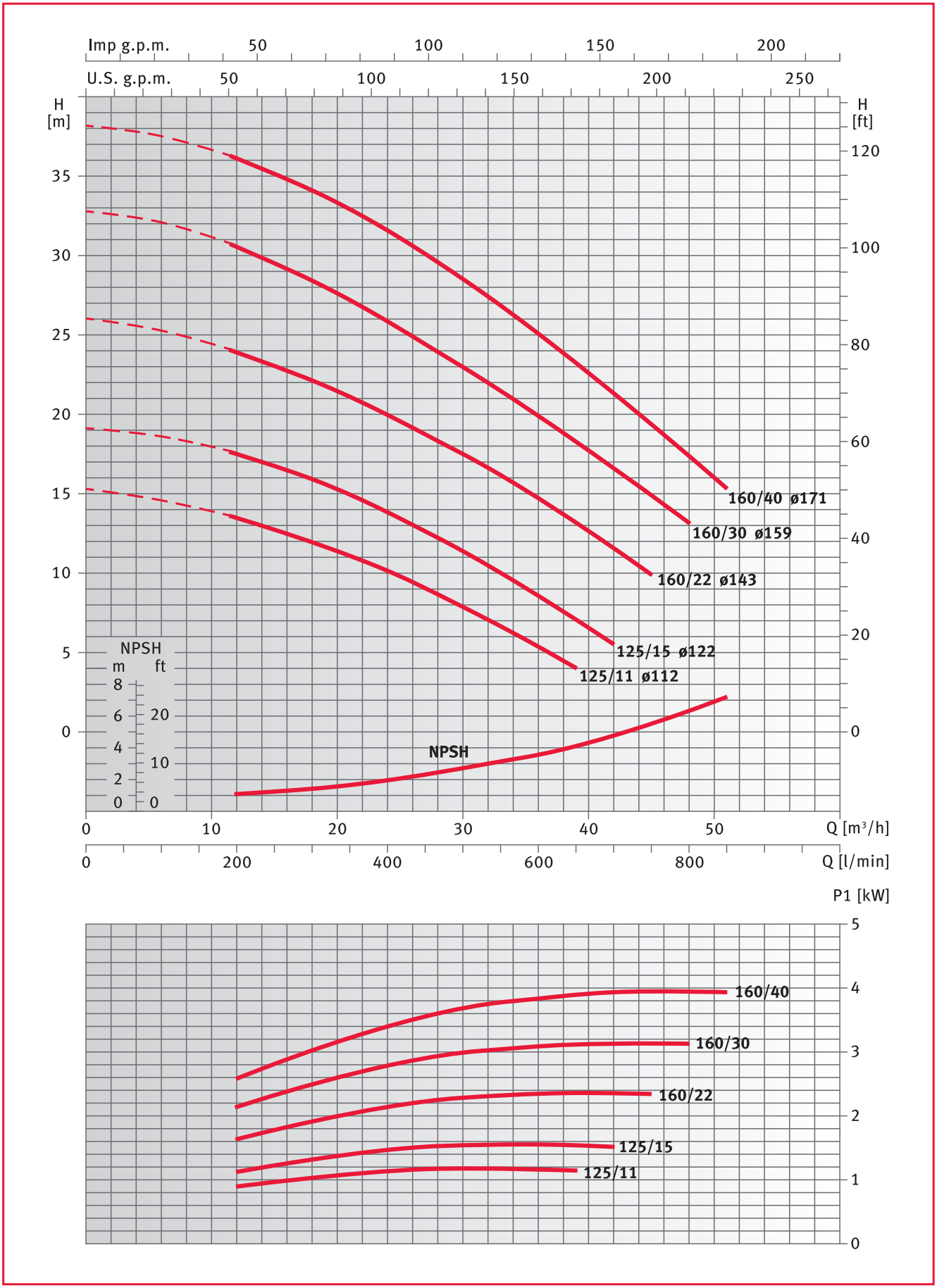
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL and FLS series 40 - 200/250



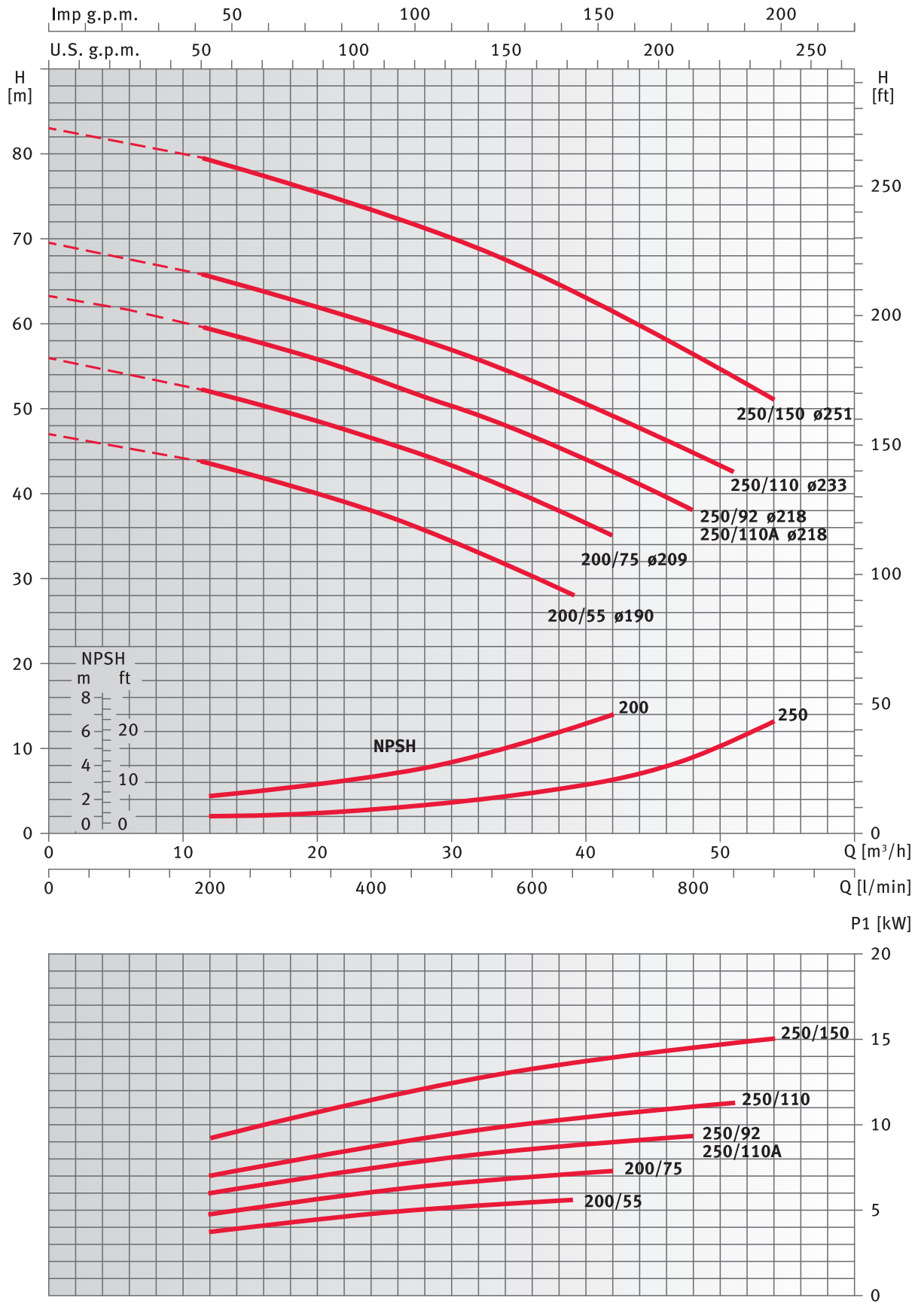
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL and FLS series 50 - 125/160



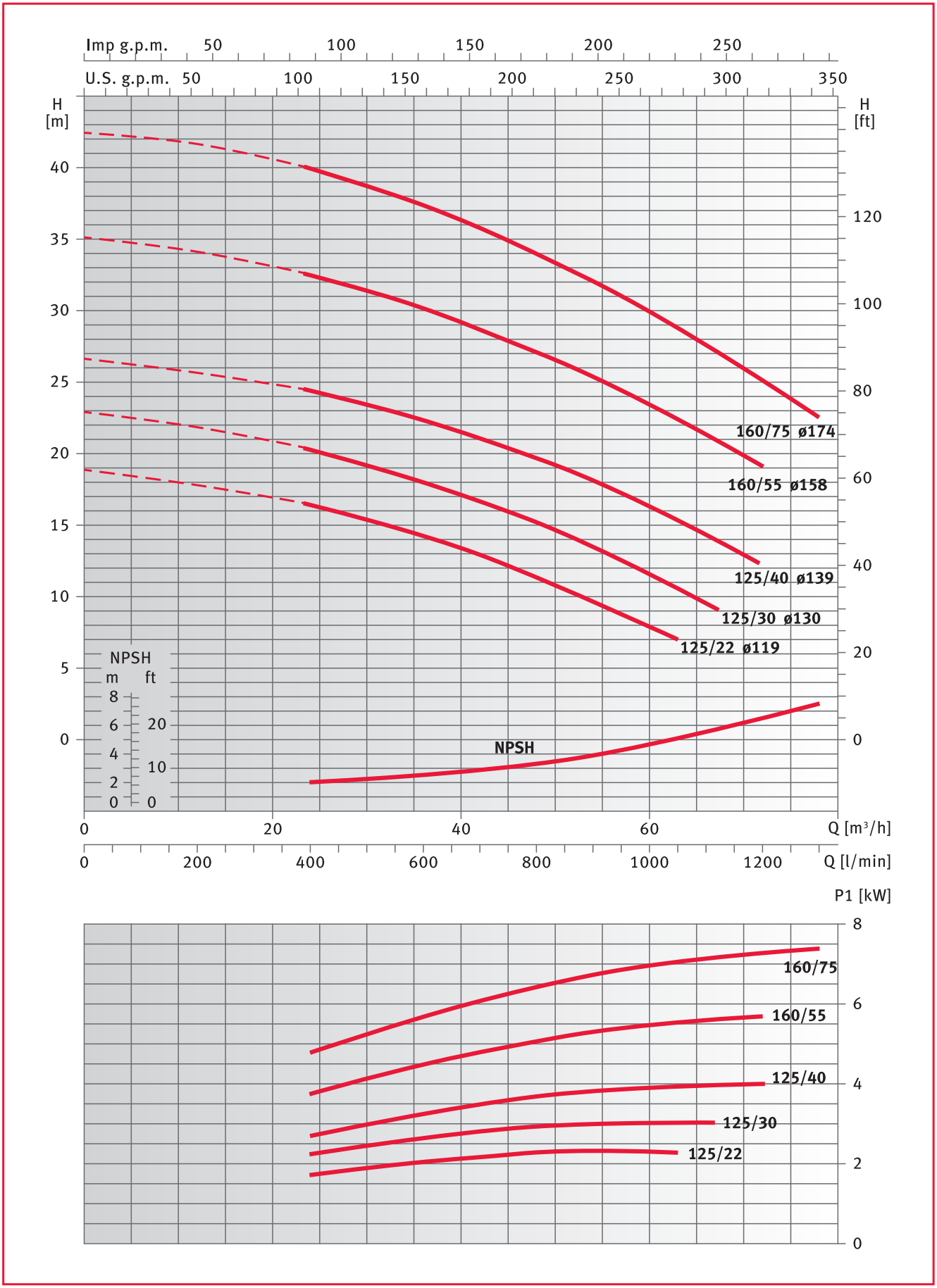
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL and FLS series 50 - 200/250



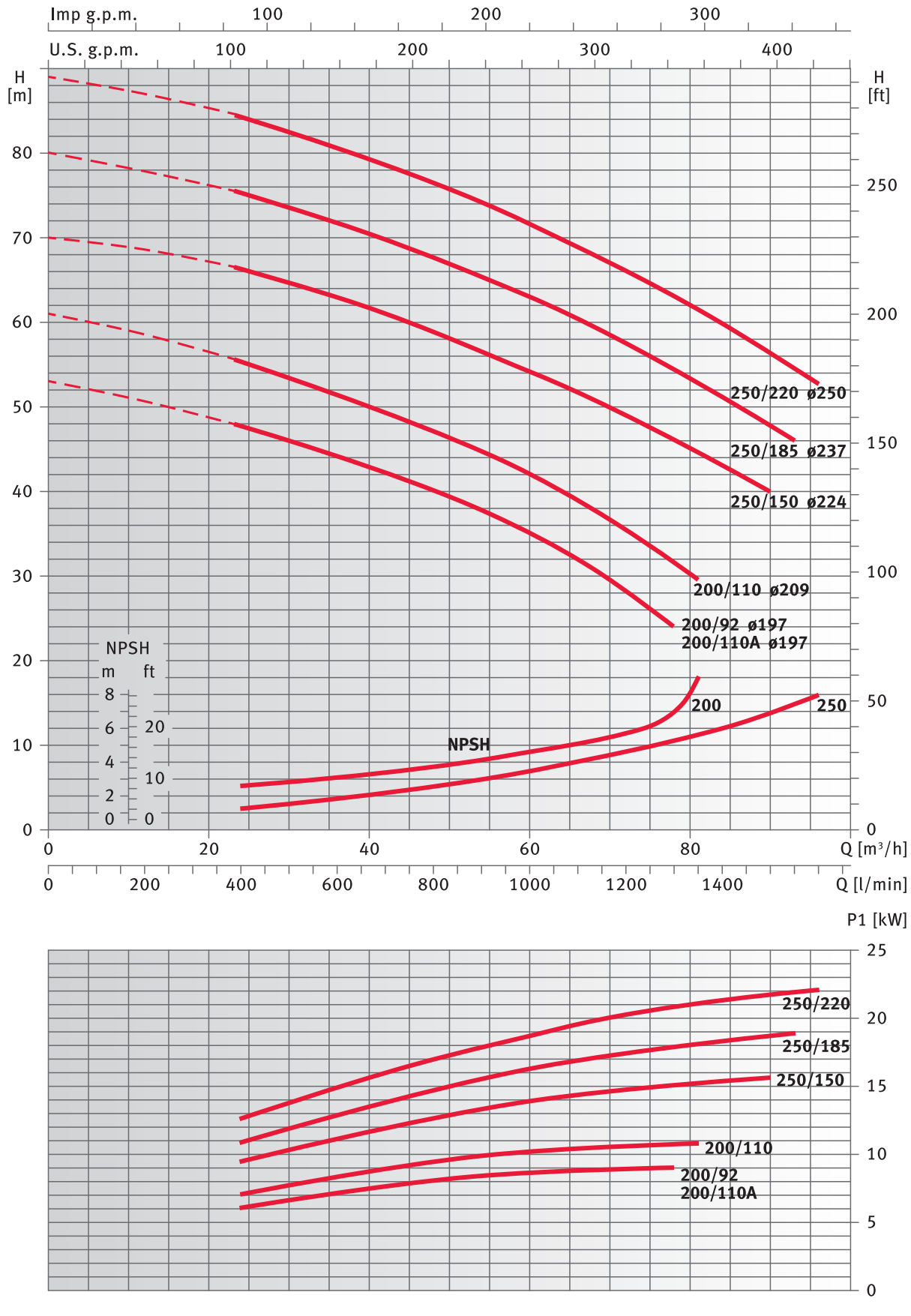
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL and FLS series 65 - 125/160



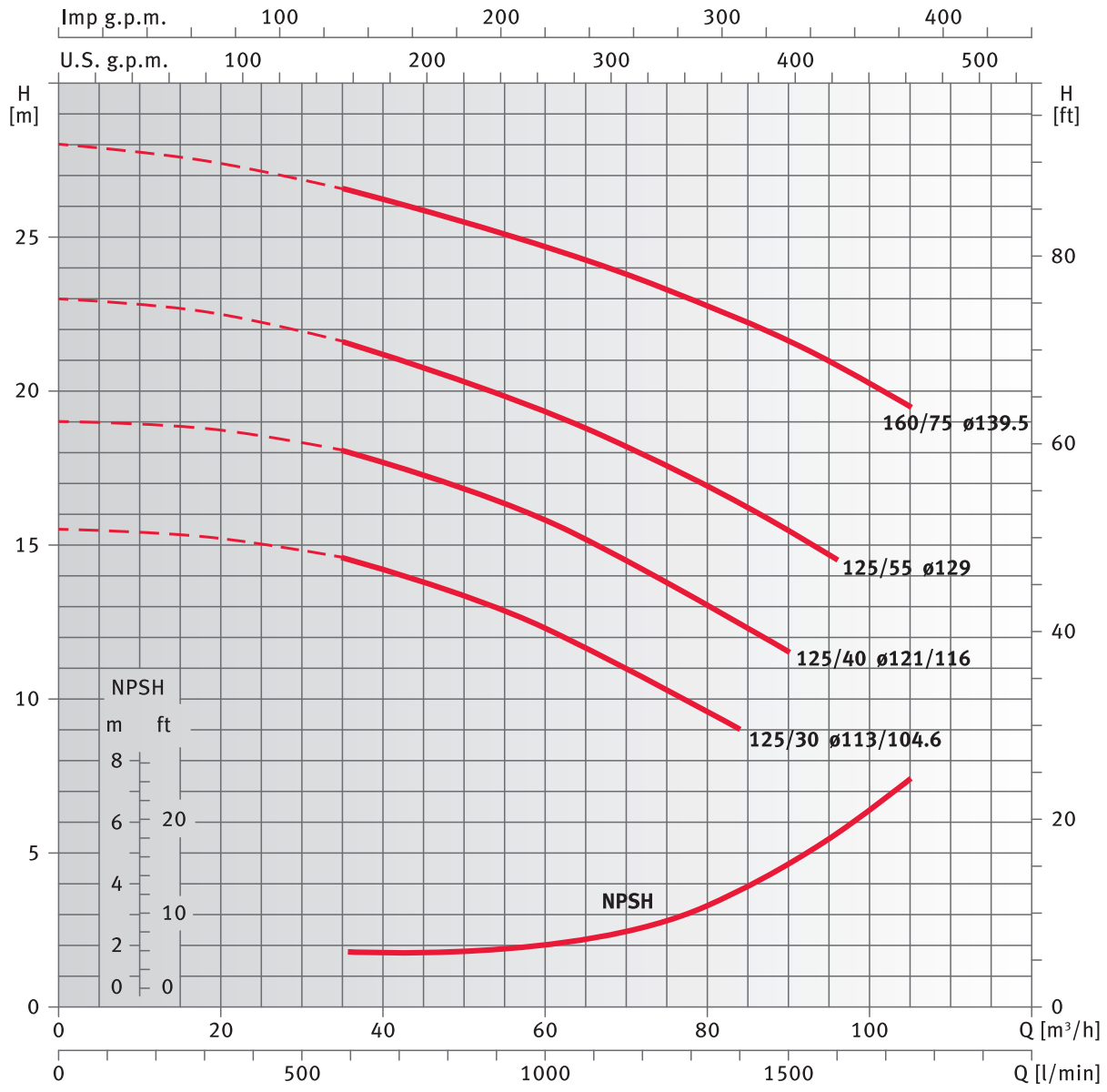
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

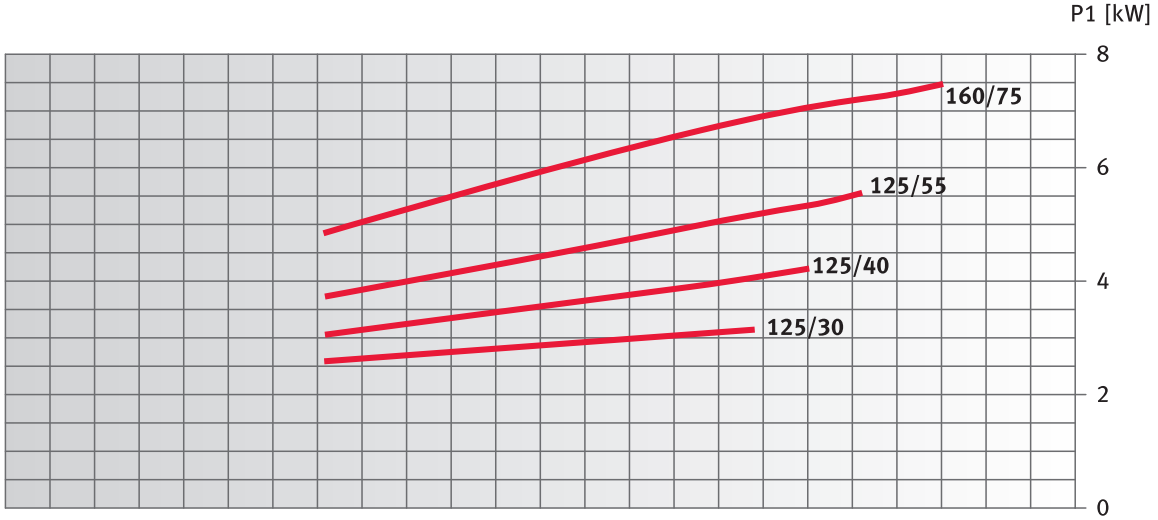
FL and FLS series 65 - 200/250



The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

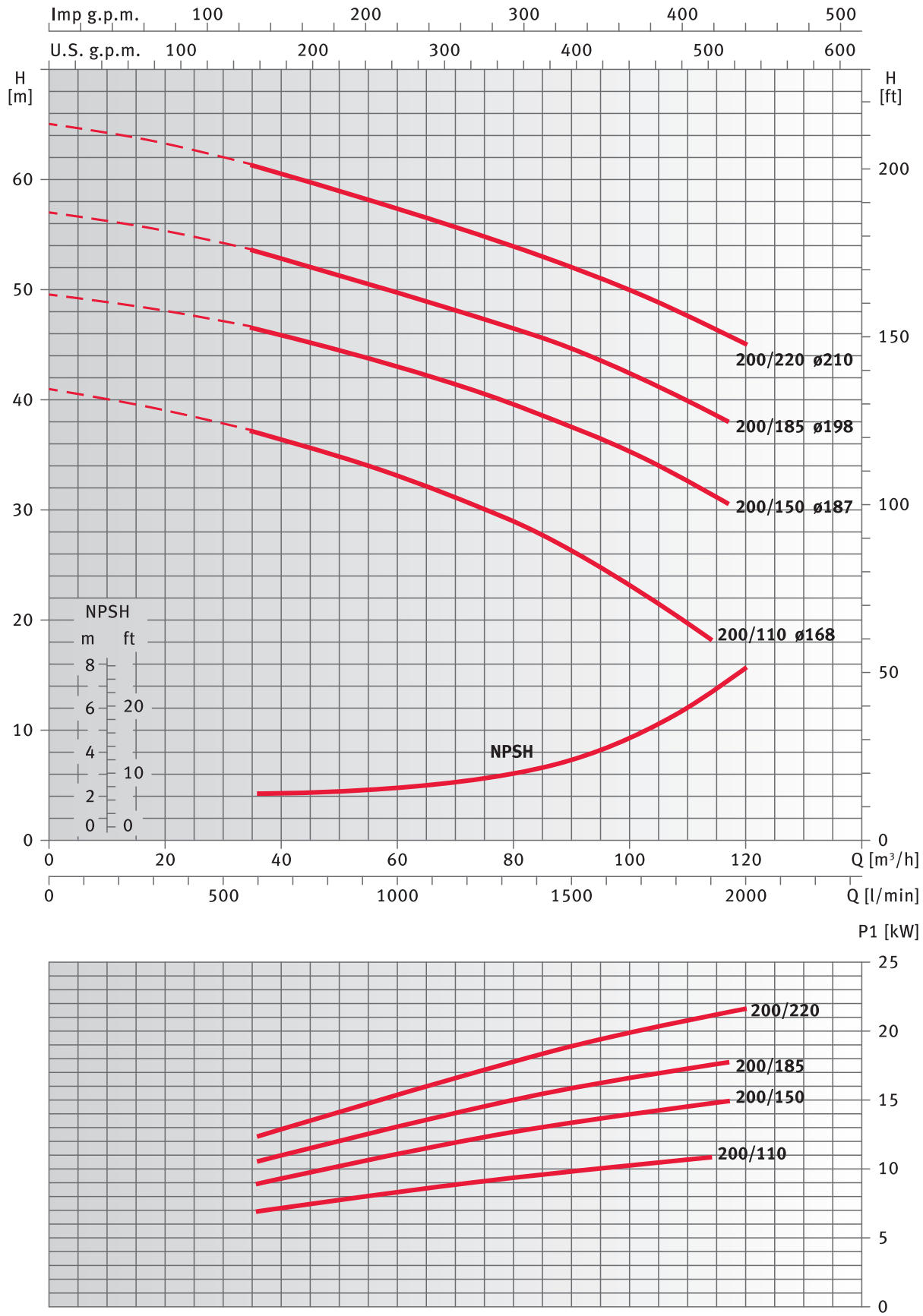
FL and FLS series 80 - 125/160





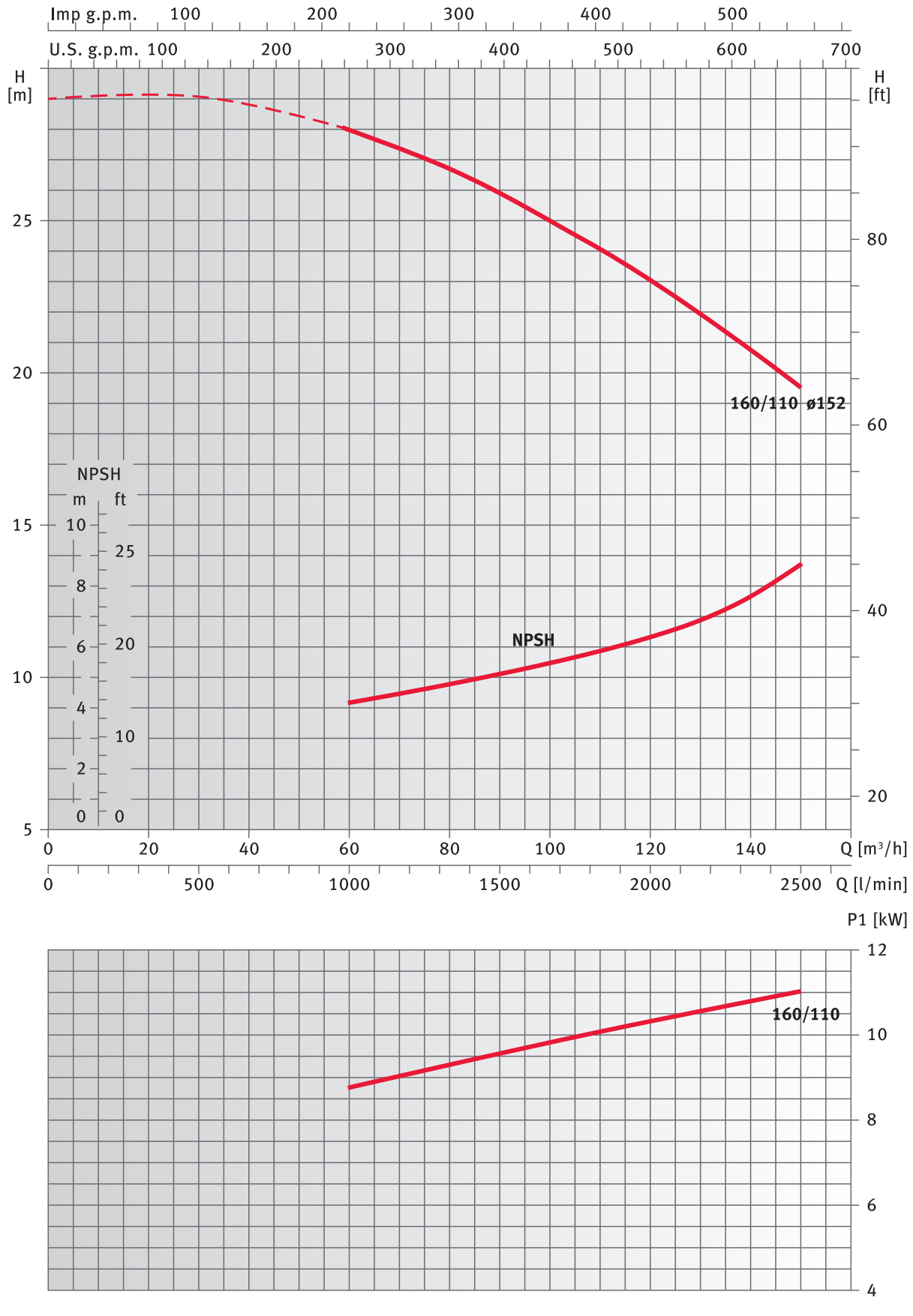
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL and FLS series 80 - 200



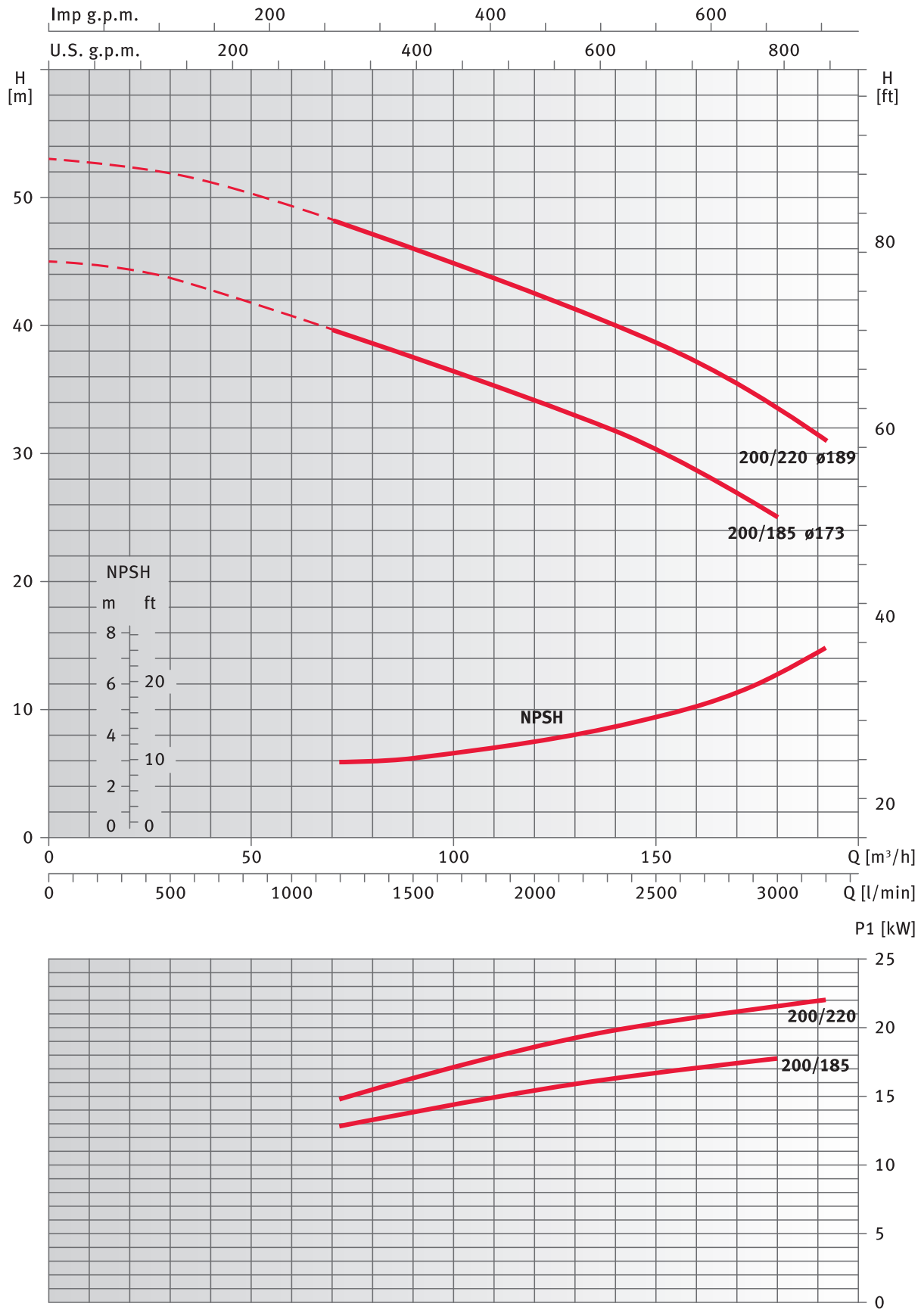
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL and FLS series 100 - 160



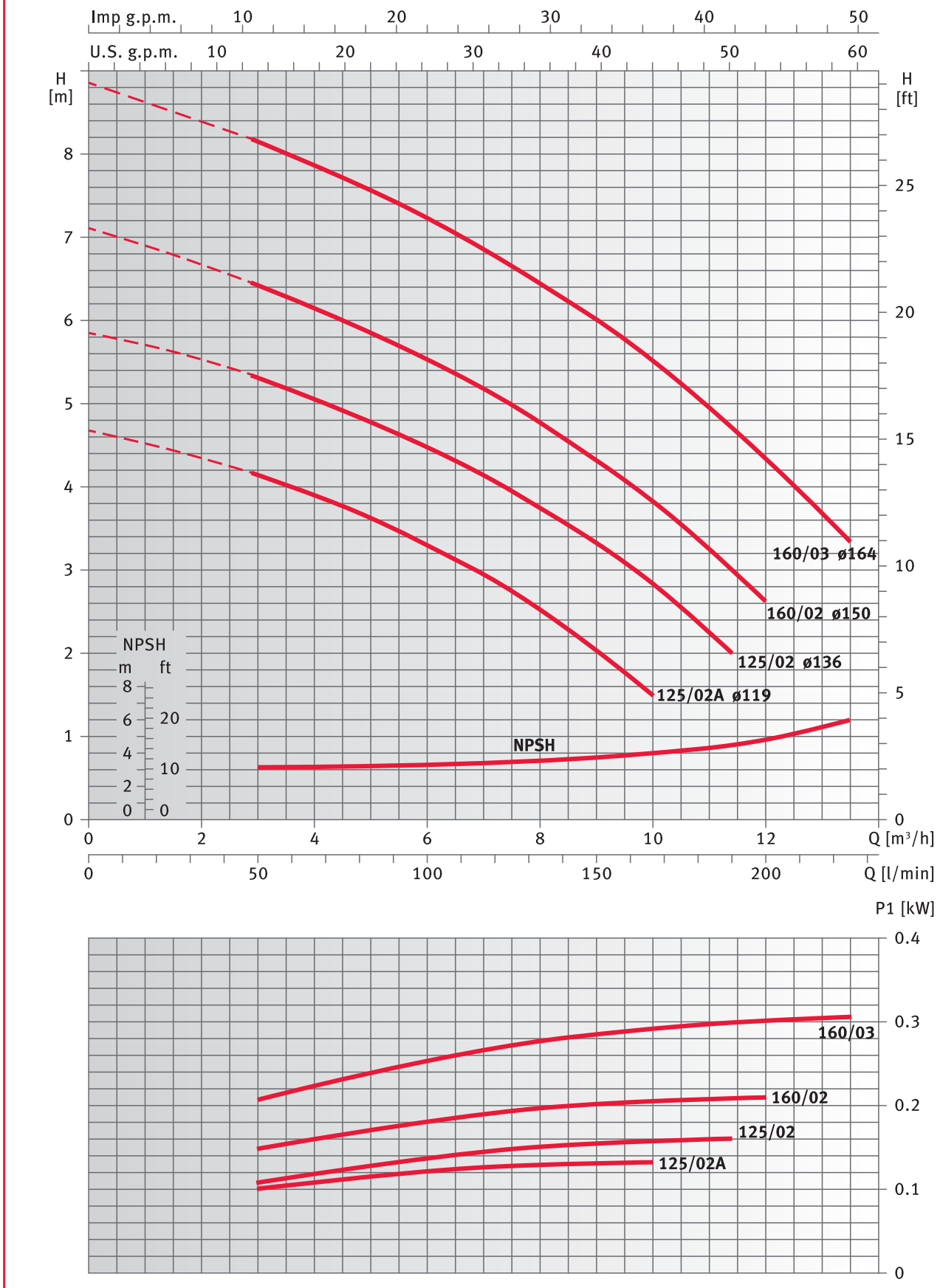
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL and FLS series 100 - 200



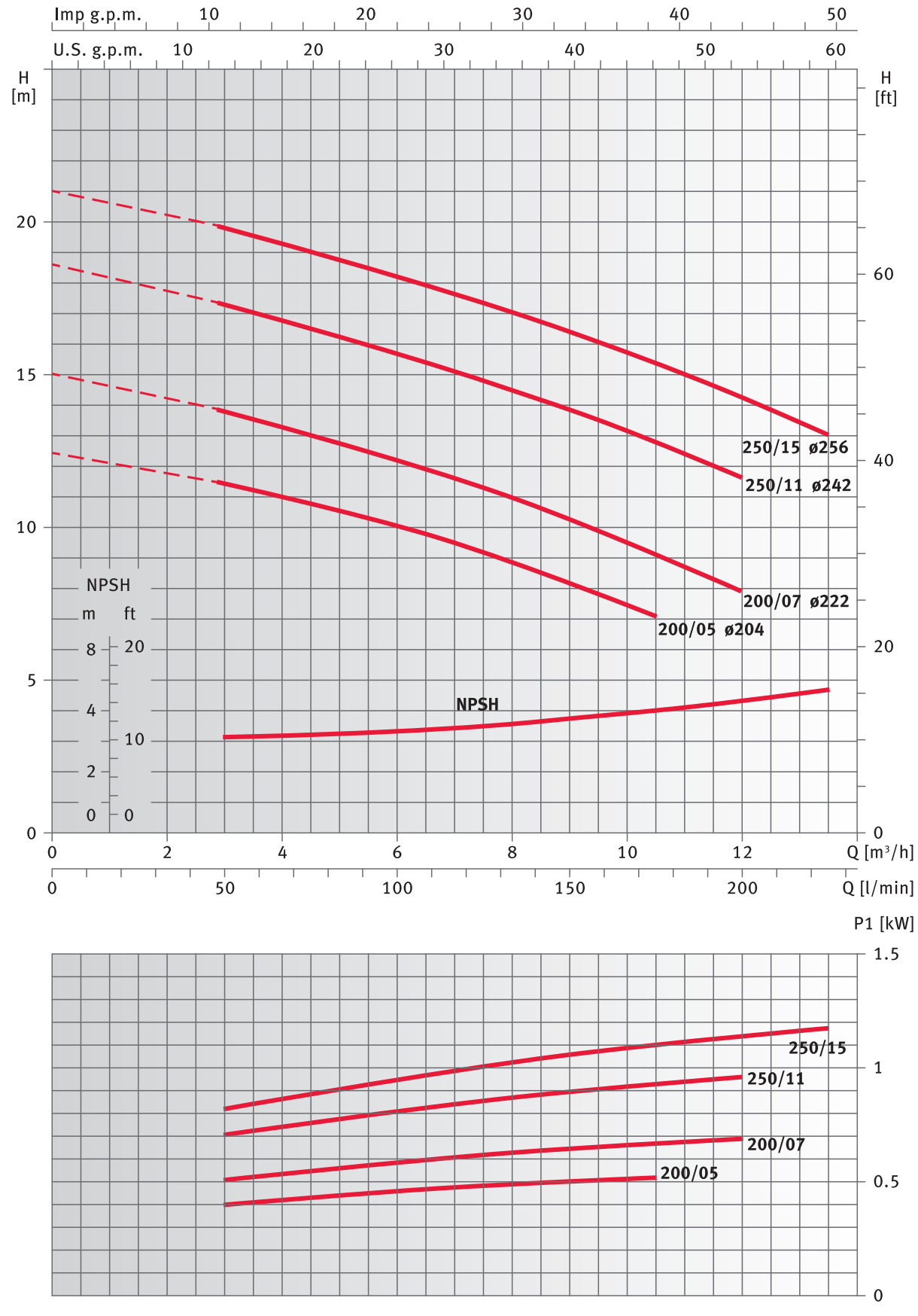
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 series 40 - 125/160



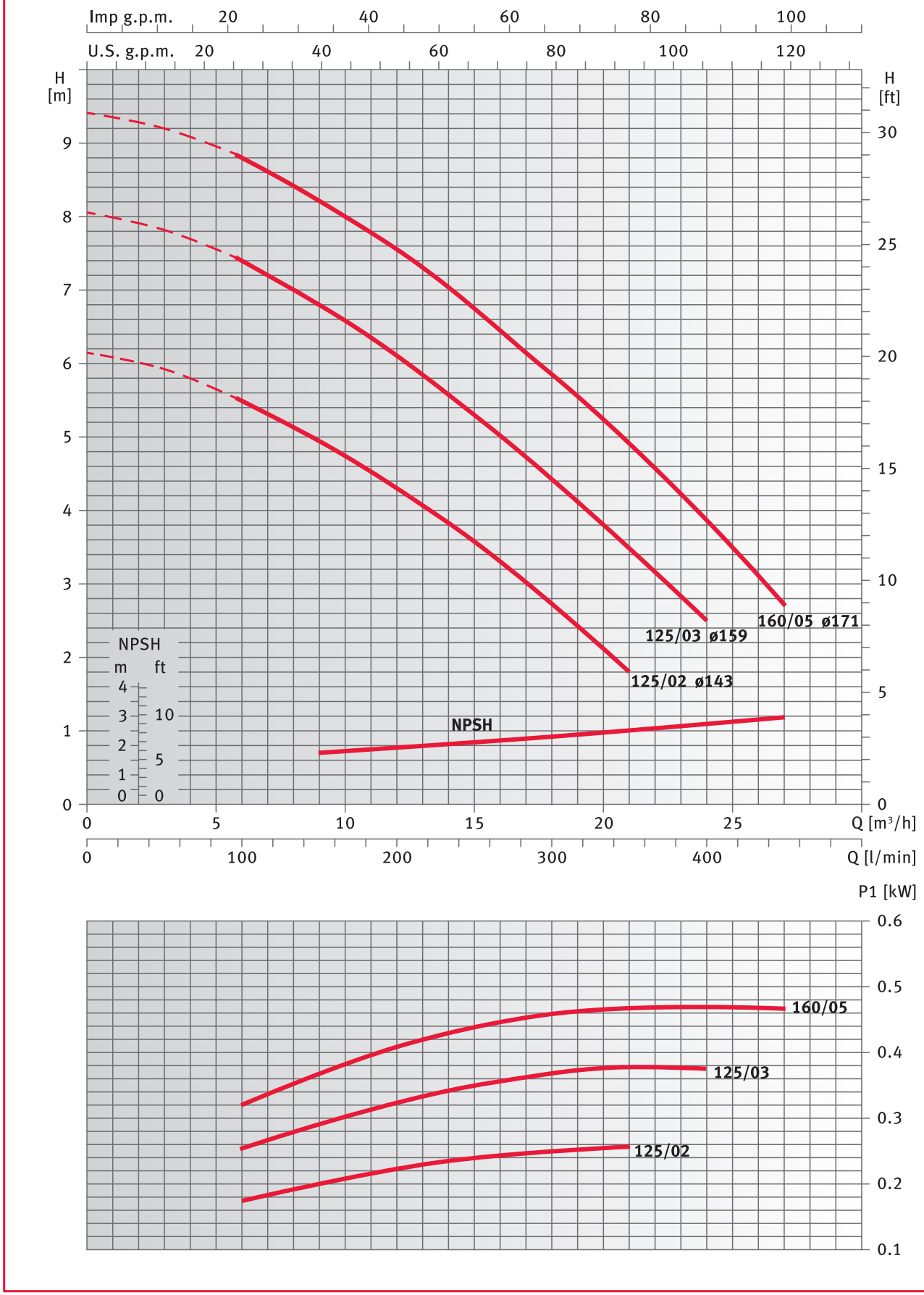
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL4 and FLS4 series 40 - 200/250



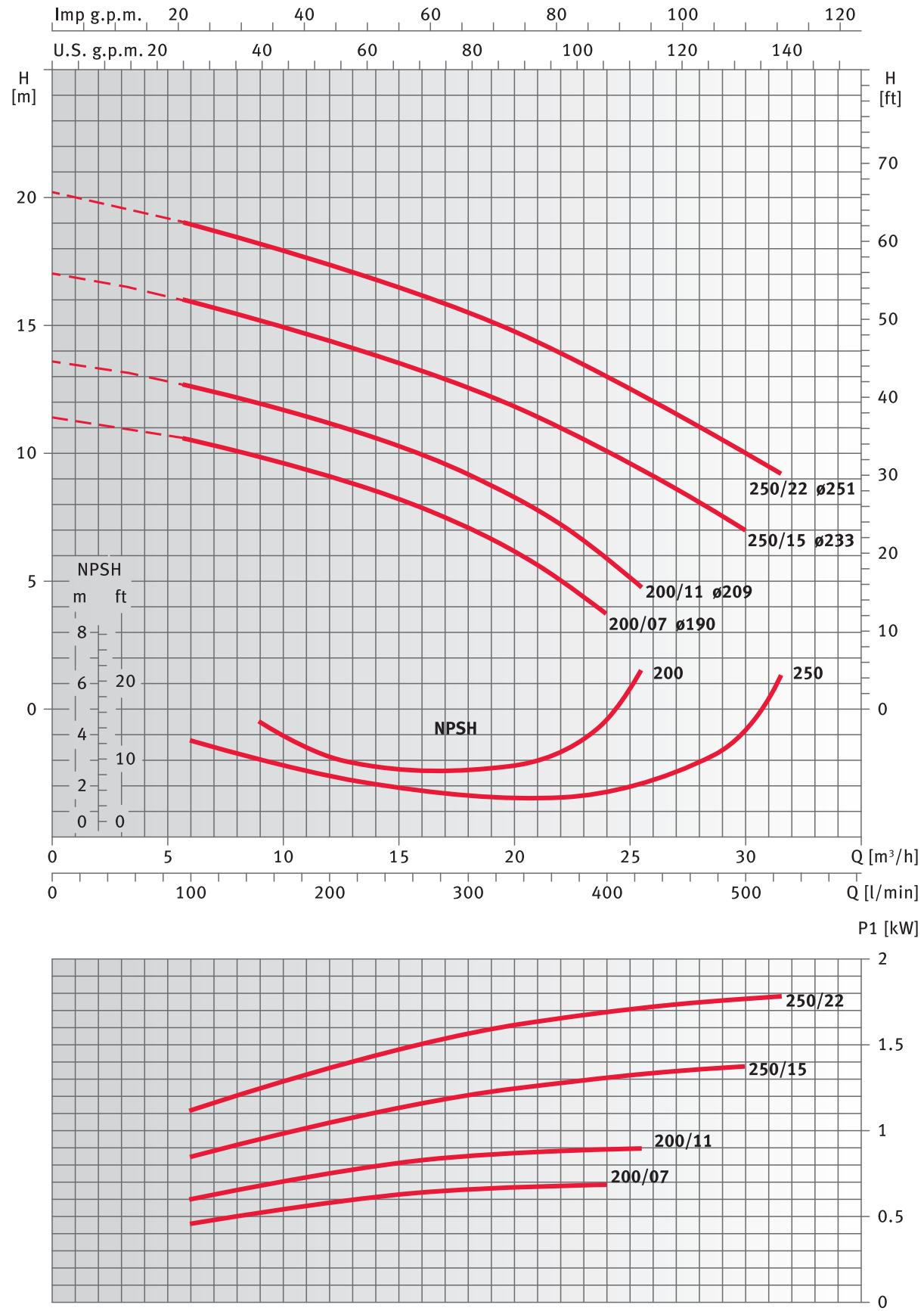
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 series 50 - 125/160



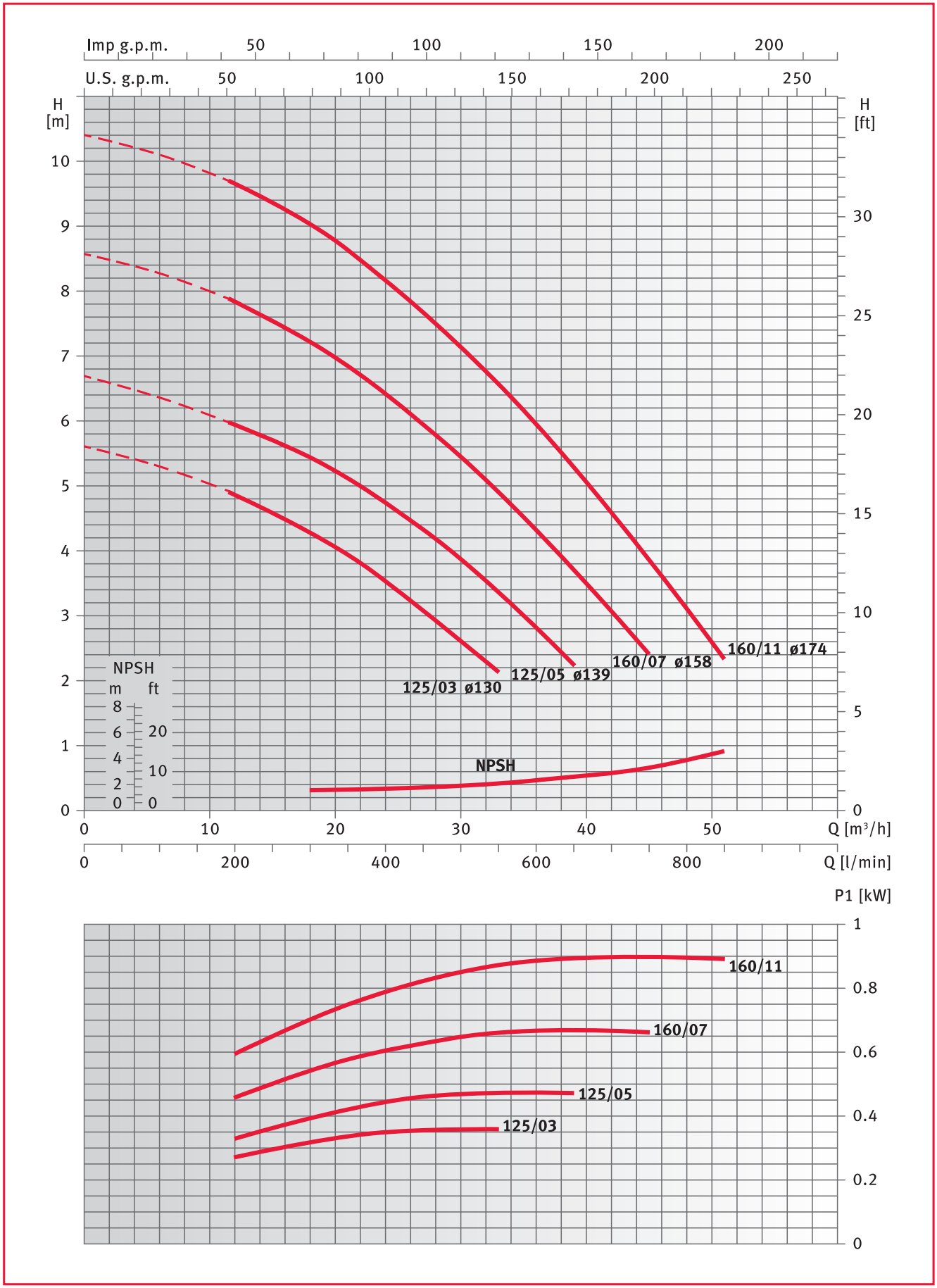
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL4 and FLS4 series 50 - 200/250



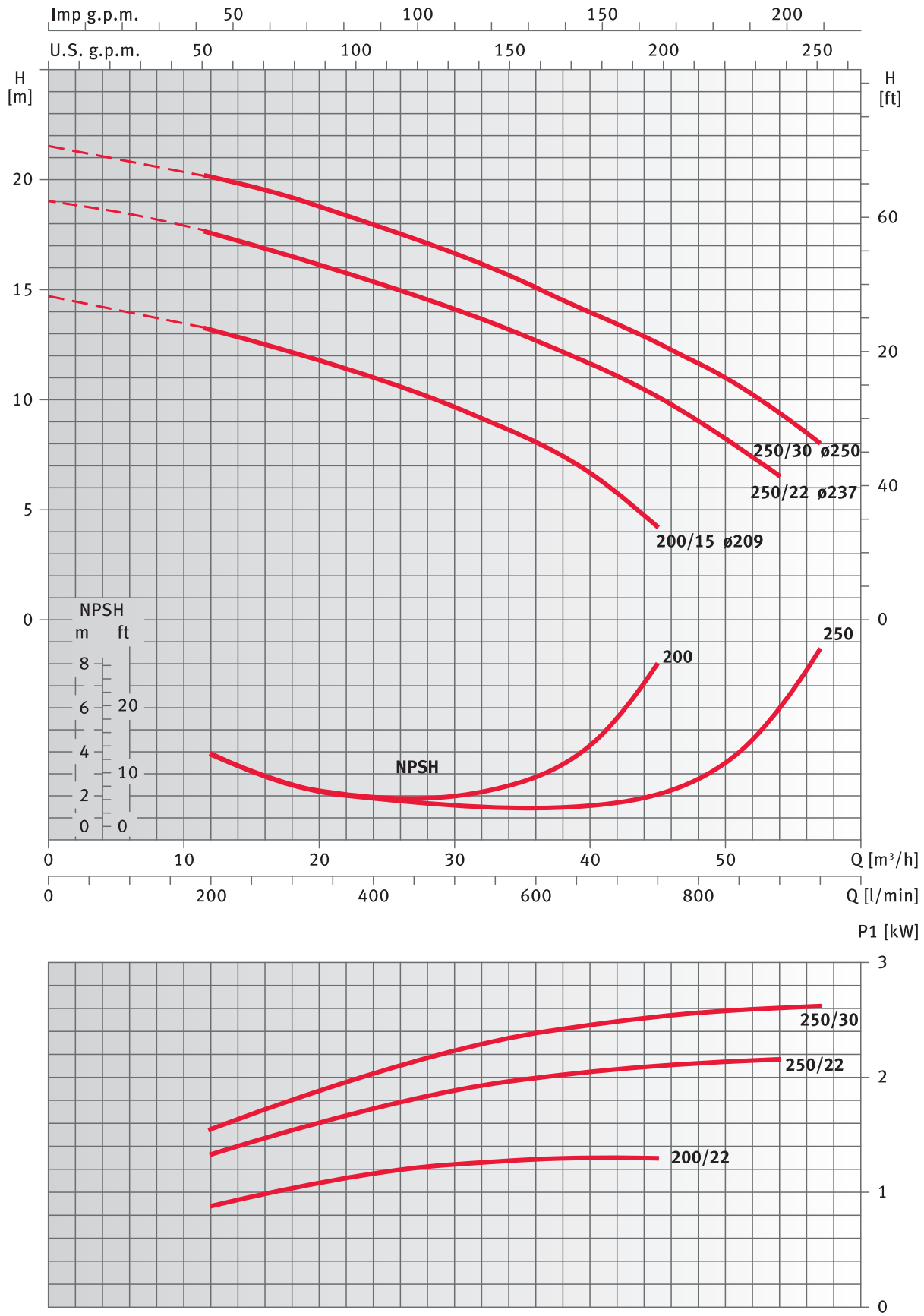
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 and FLS4 series 65 - 125/160



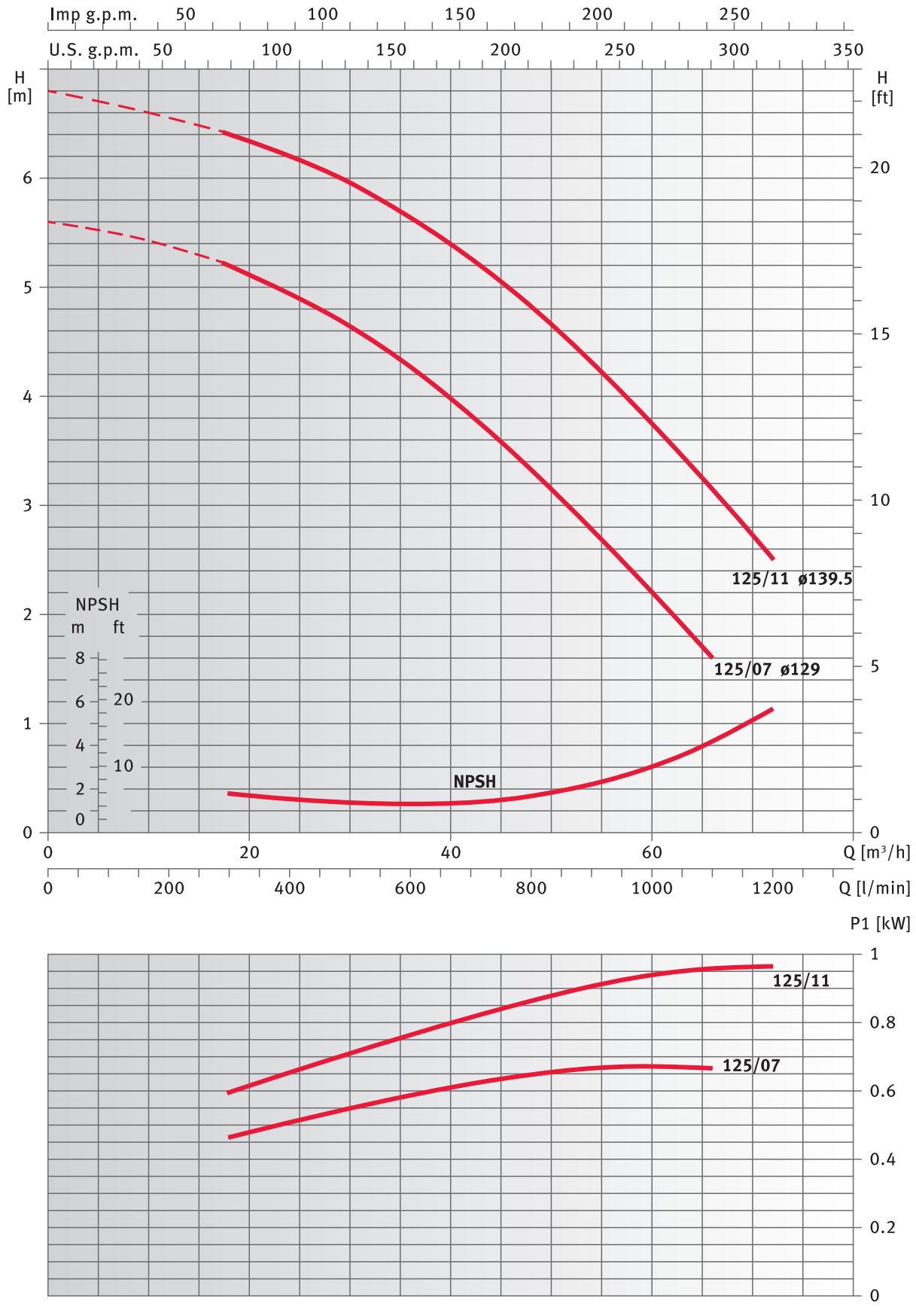
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL4 and FLS4 series 65 - 200/250



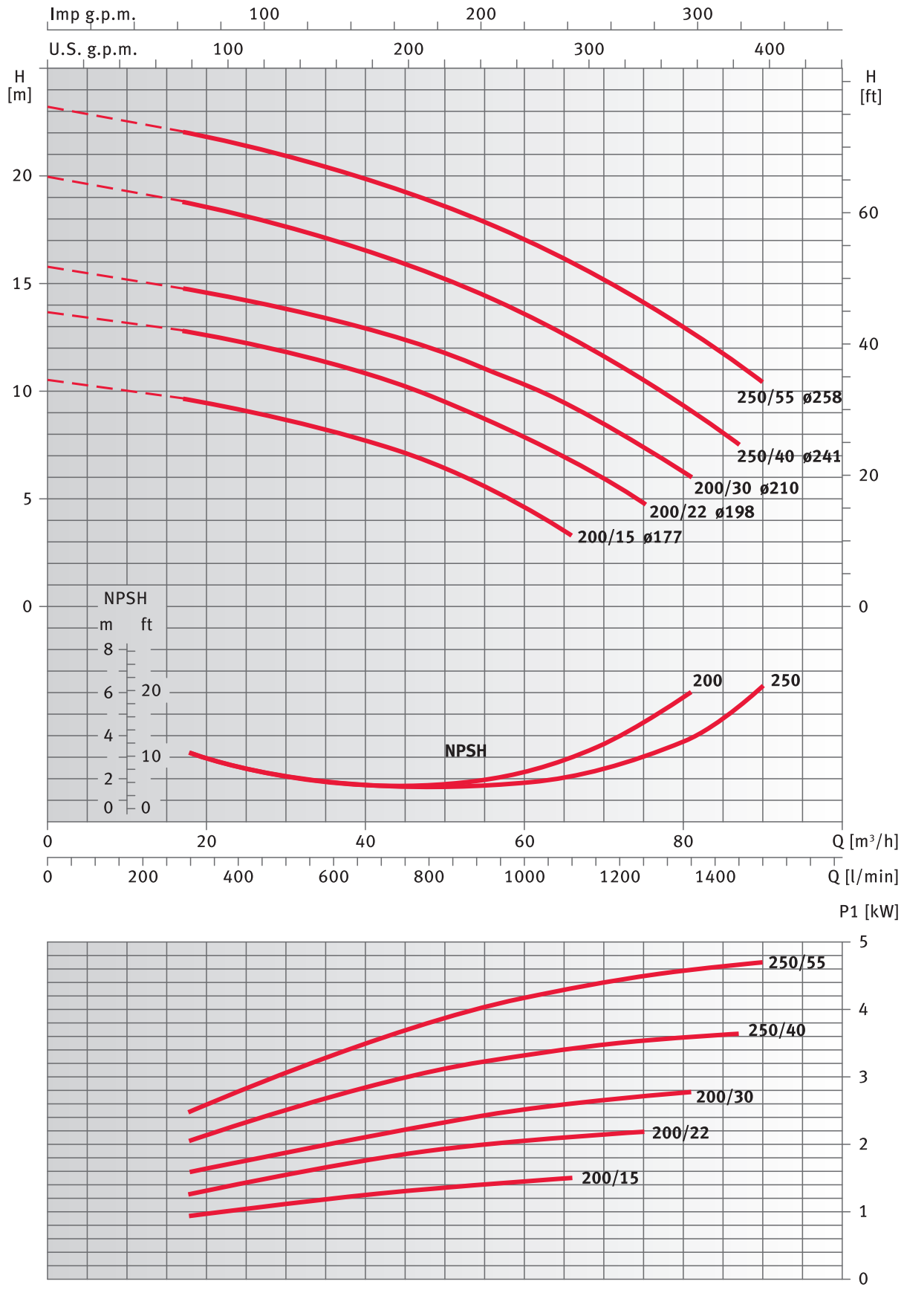
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 and FLS4 series 80 - 125



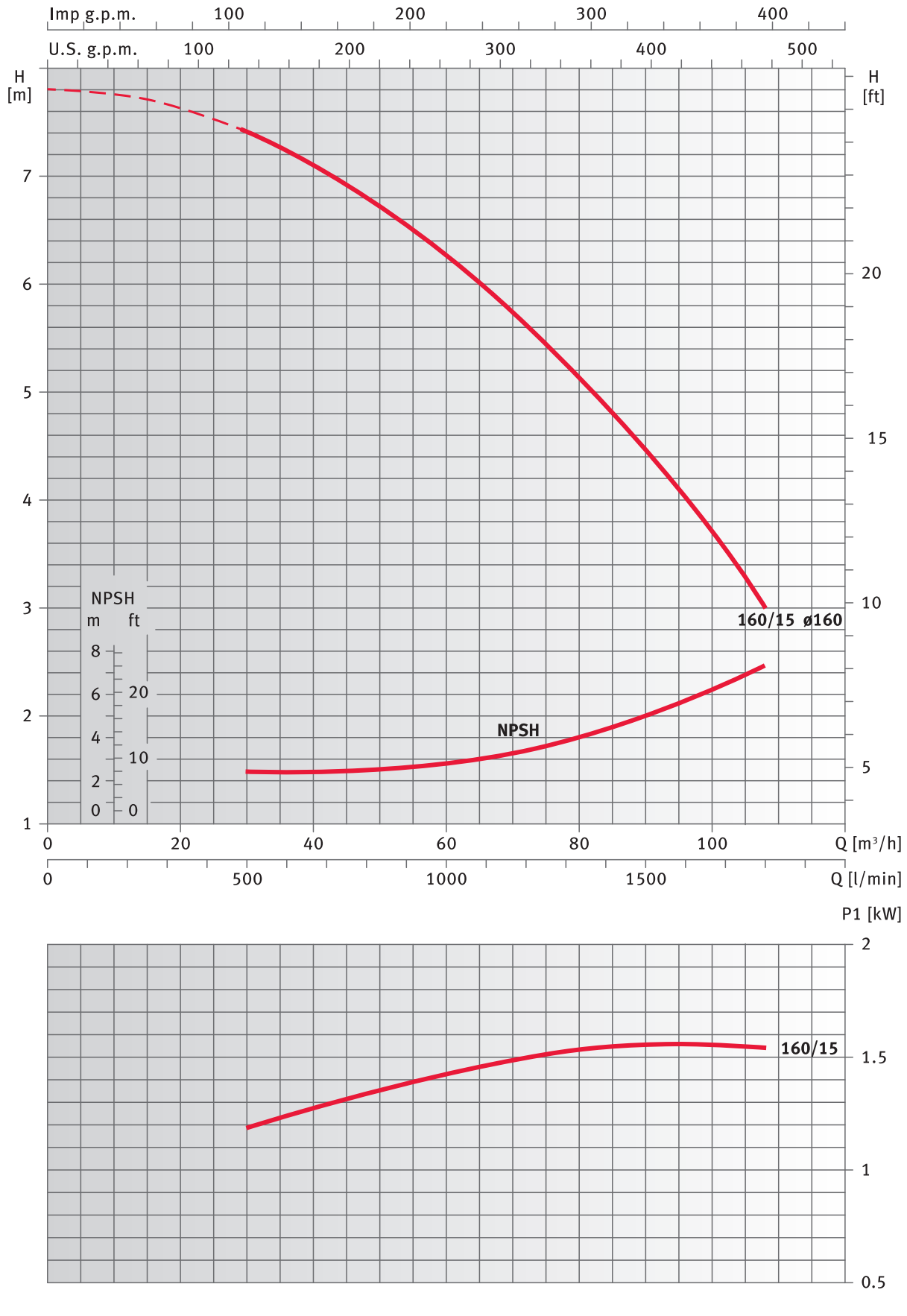
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 and FLS4 series 80 - 200/250



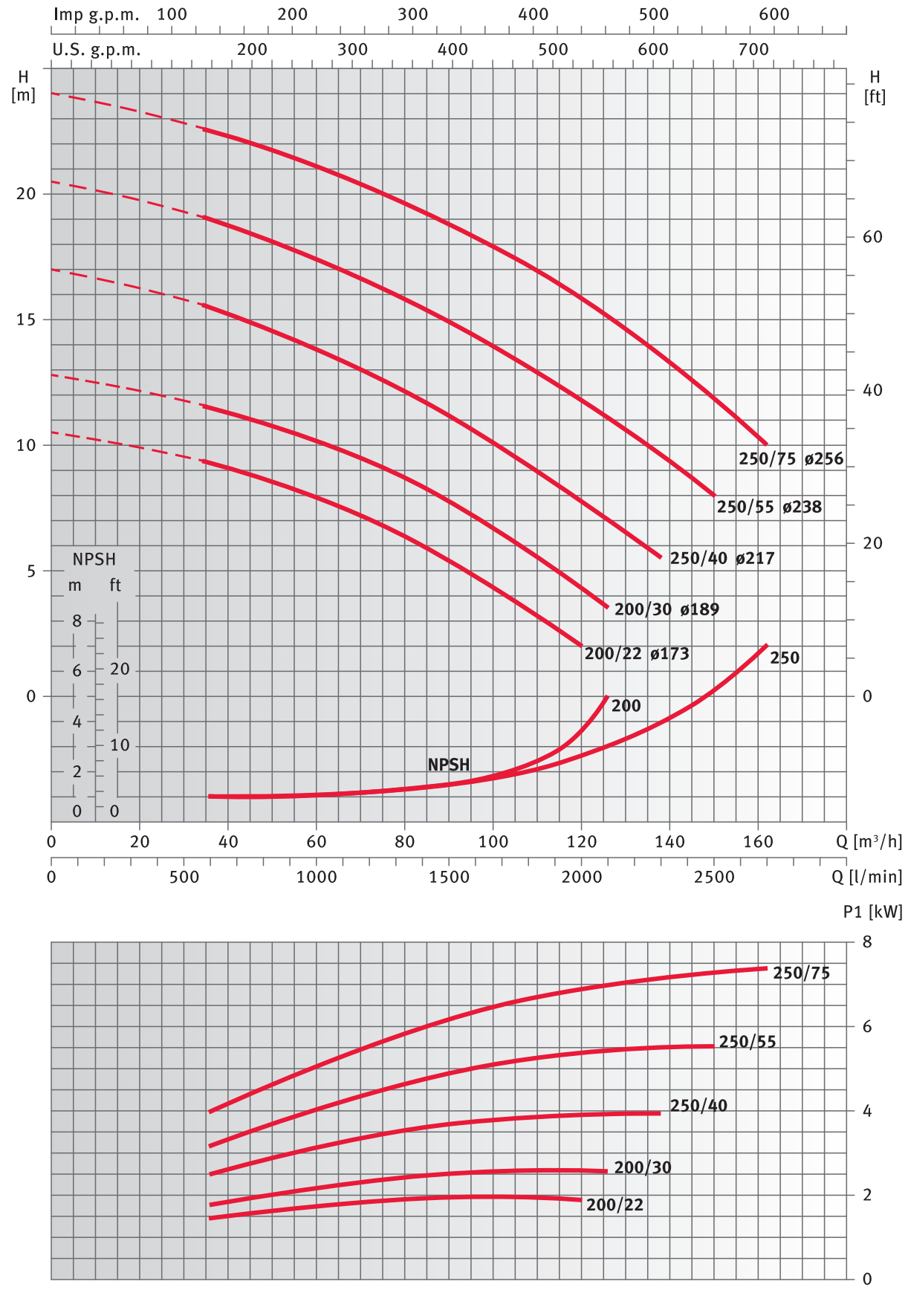
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 and FLS4 series 100 - 160



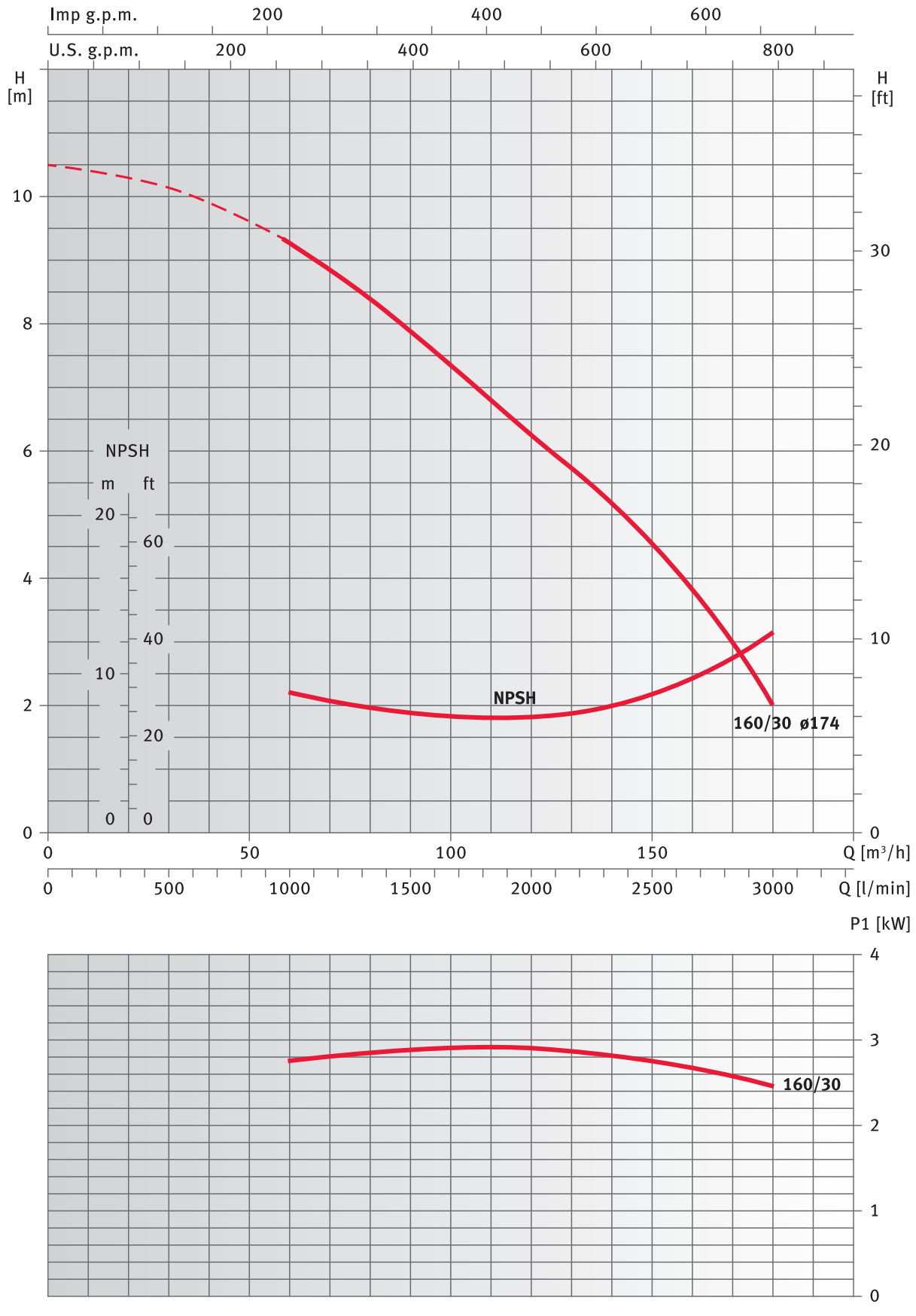
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FL4 and FLS4 series 100 - 200/250



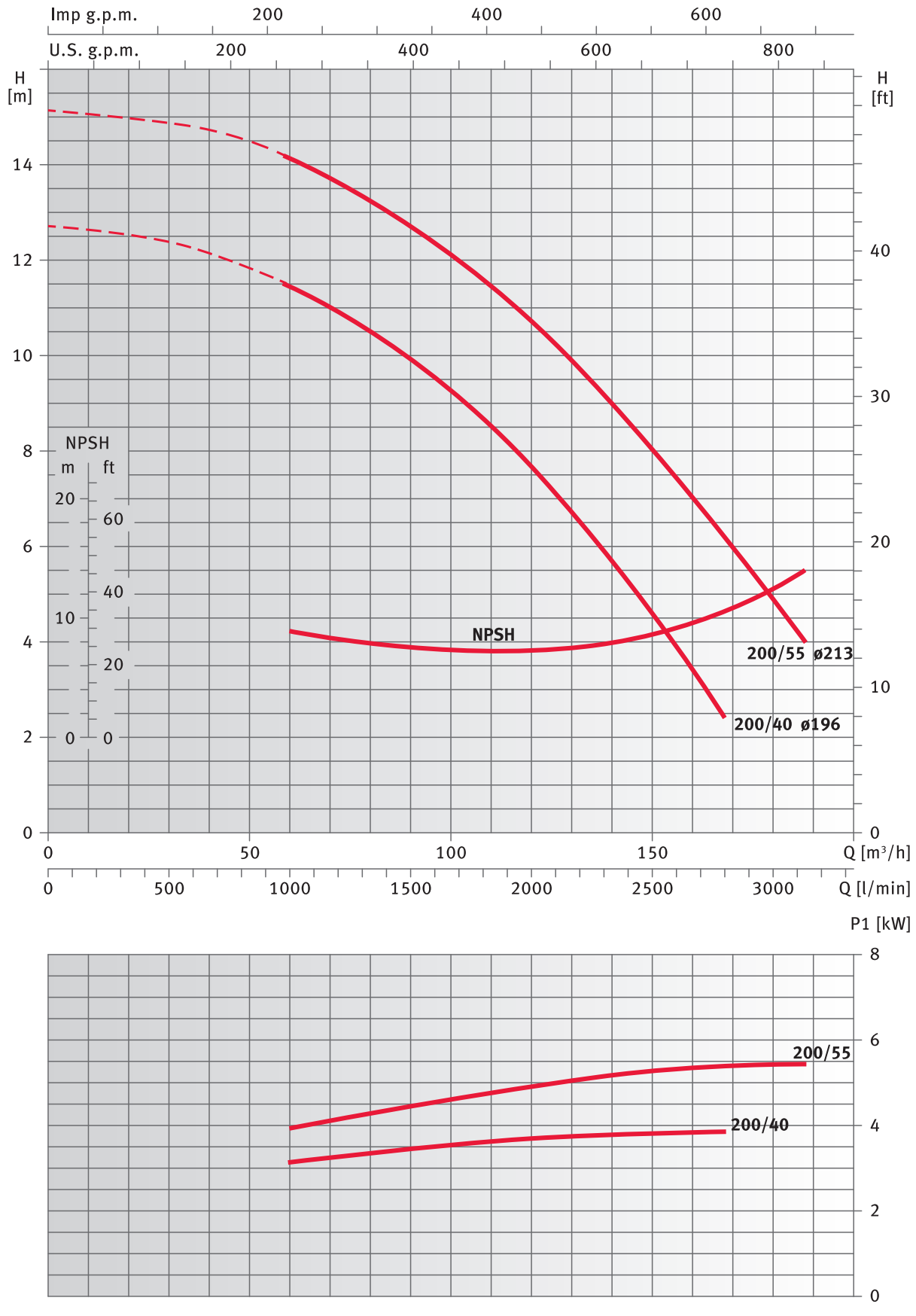
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FL4 series 125 - 160



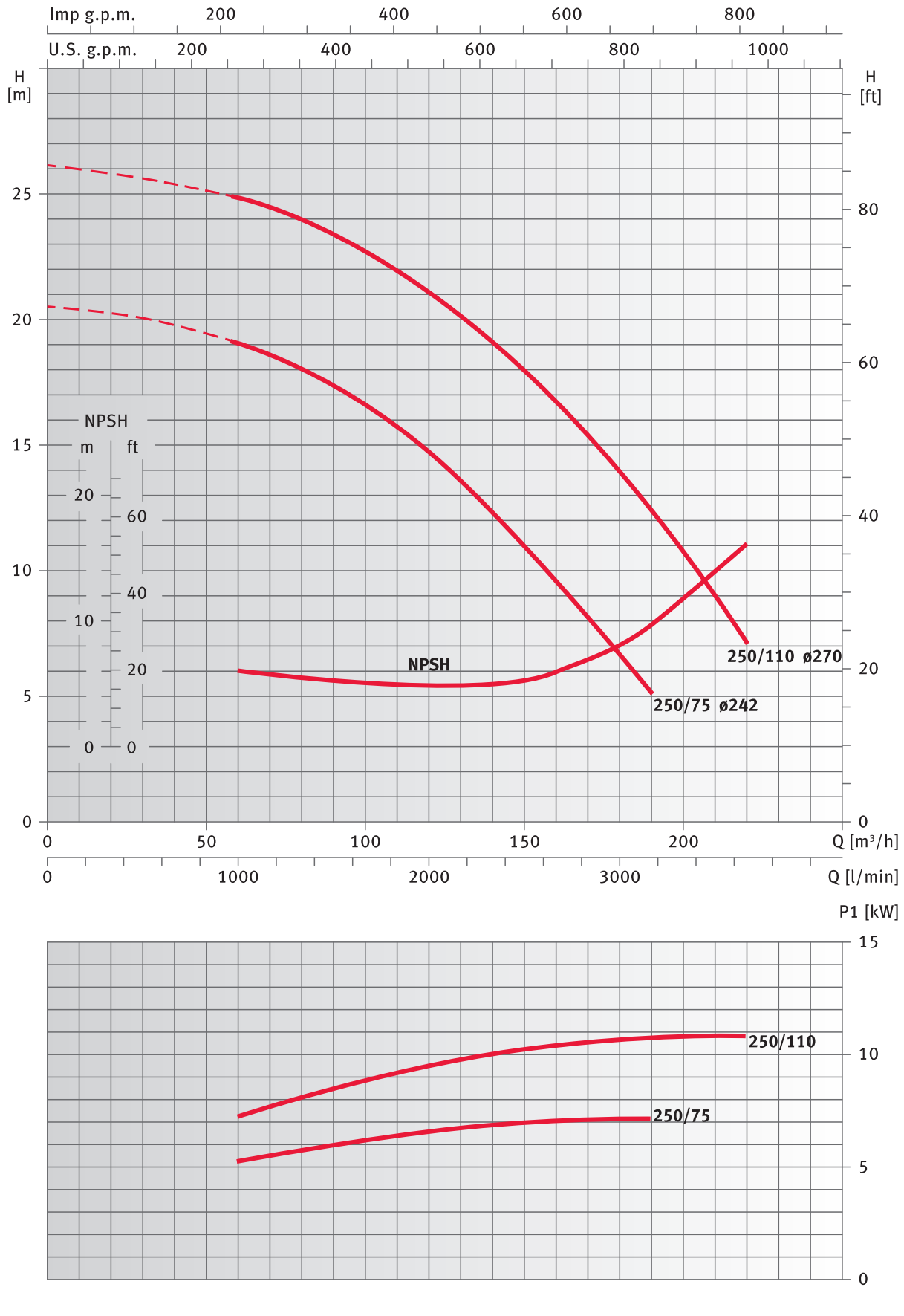
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLS4 series 125 - 200



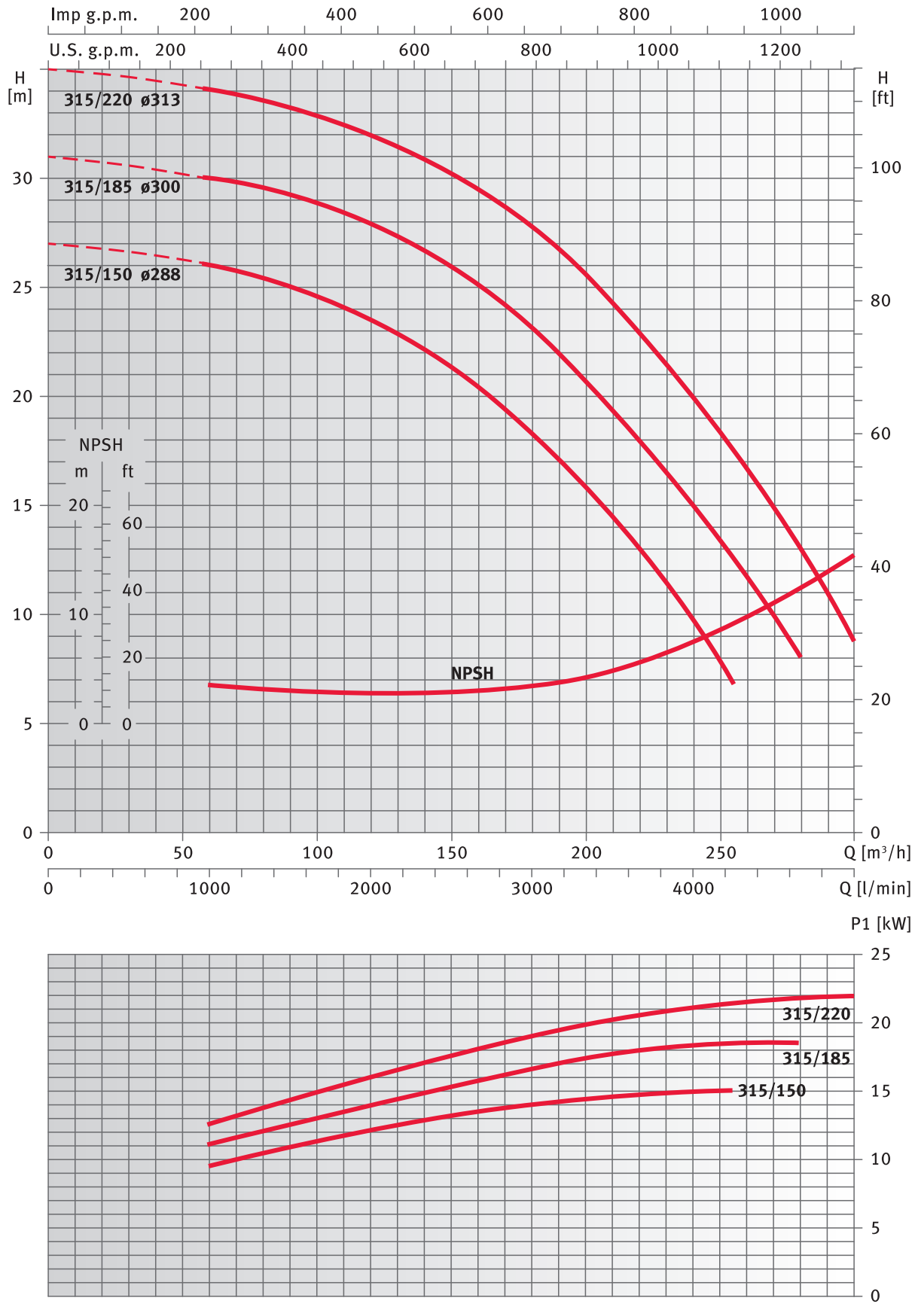
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLS4 series 125 - 250



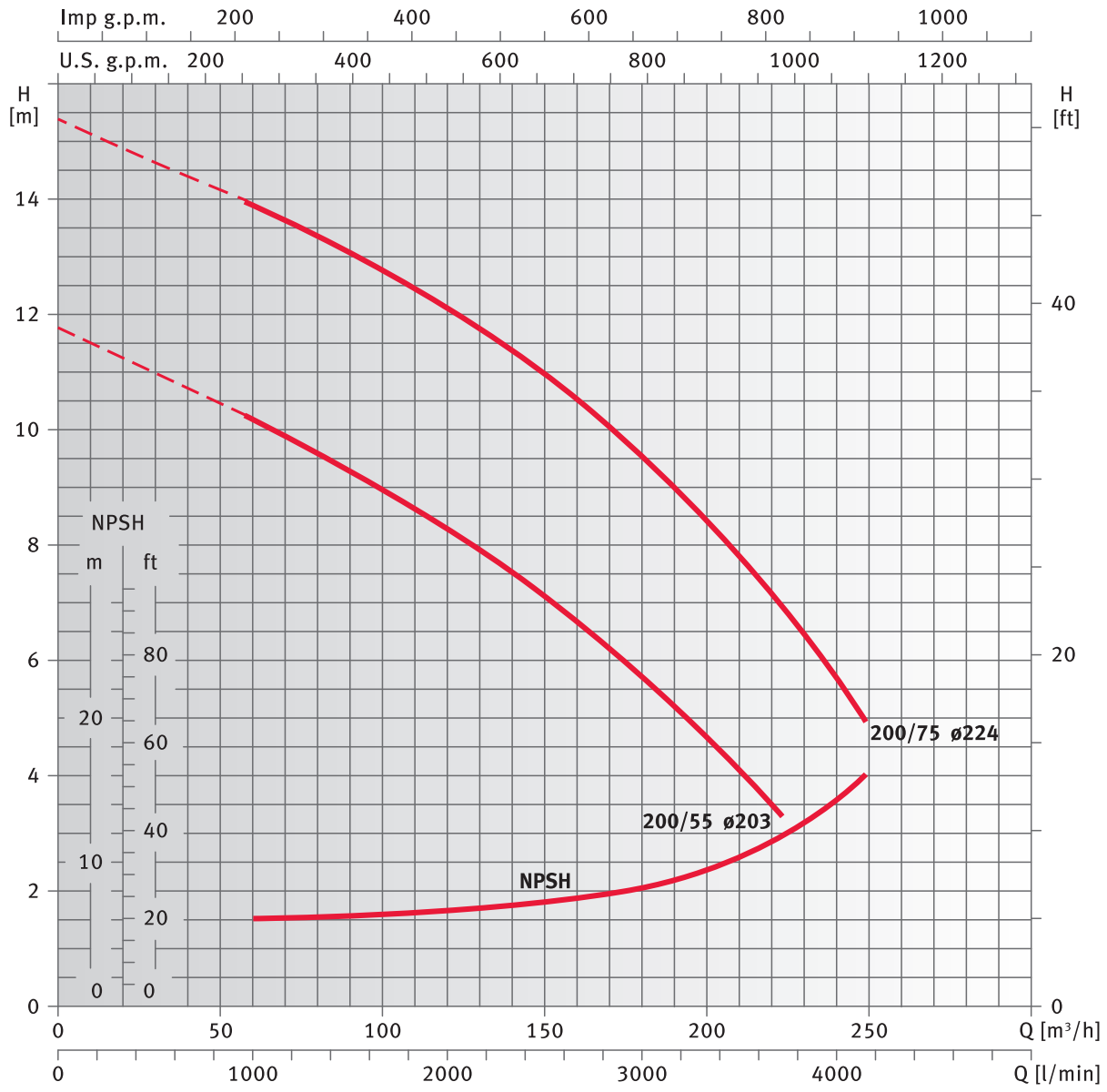
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

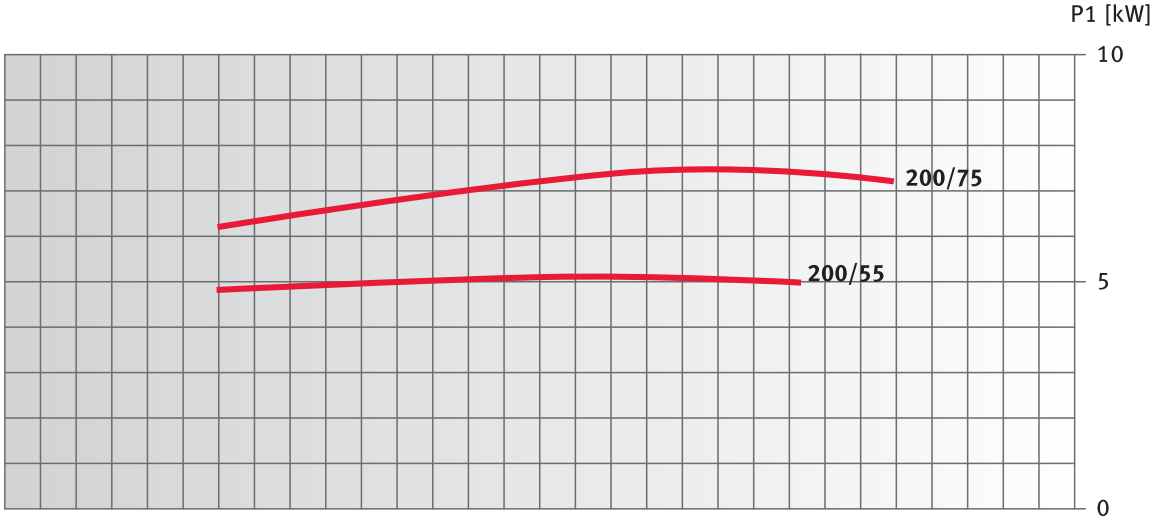
FLS4 series 125 - 315



The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

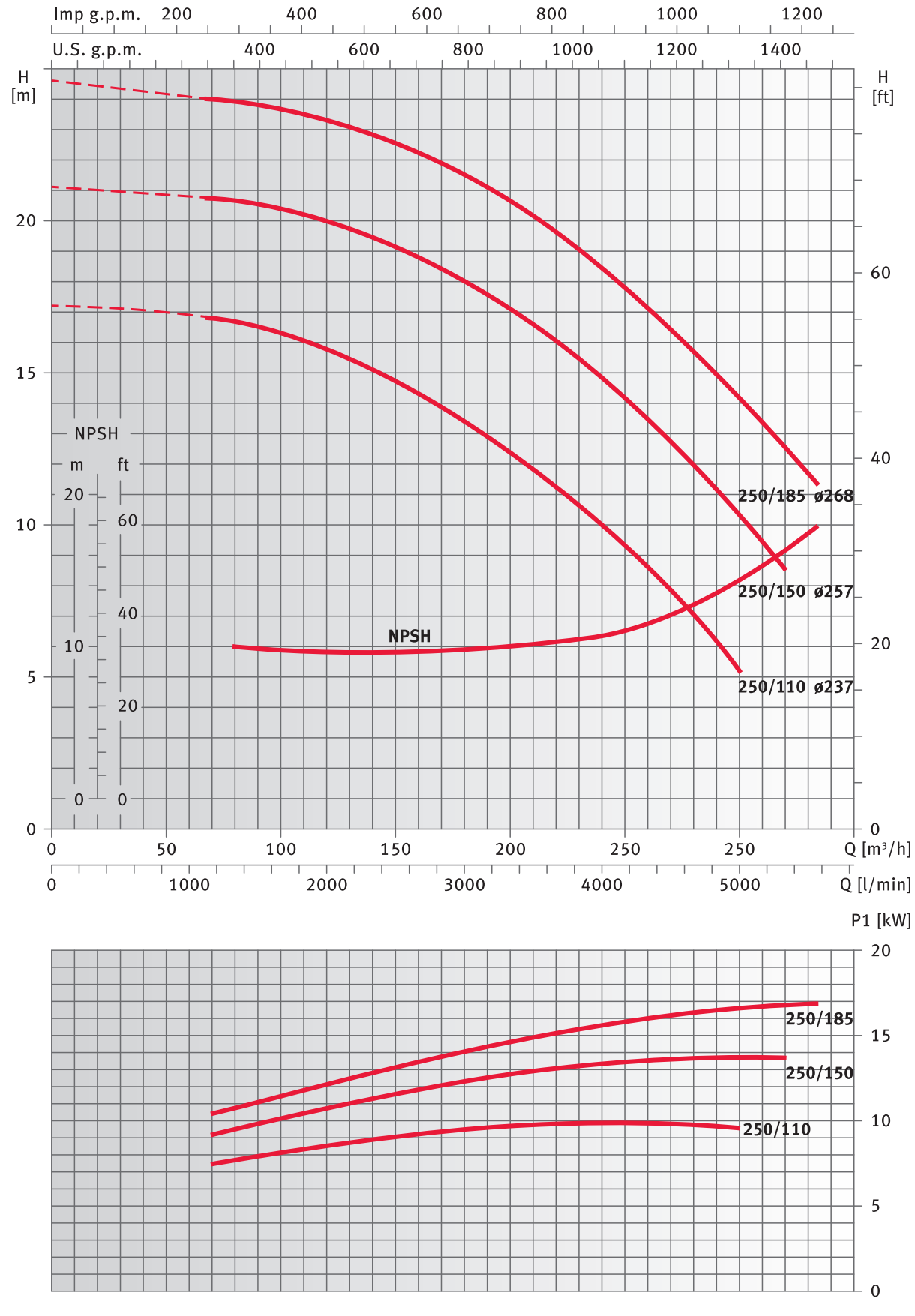
FLS4 series 150 - 200





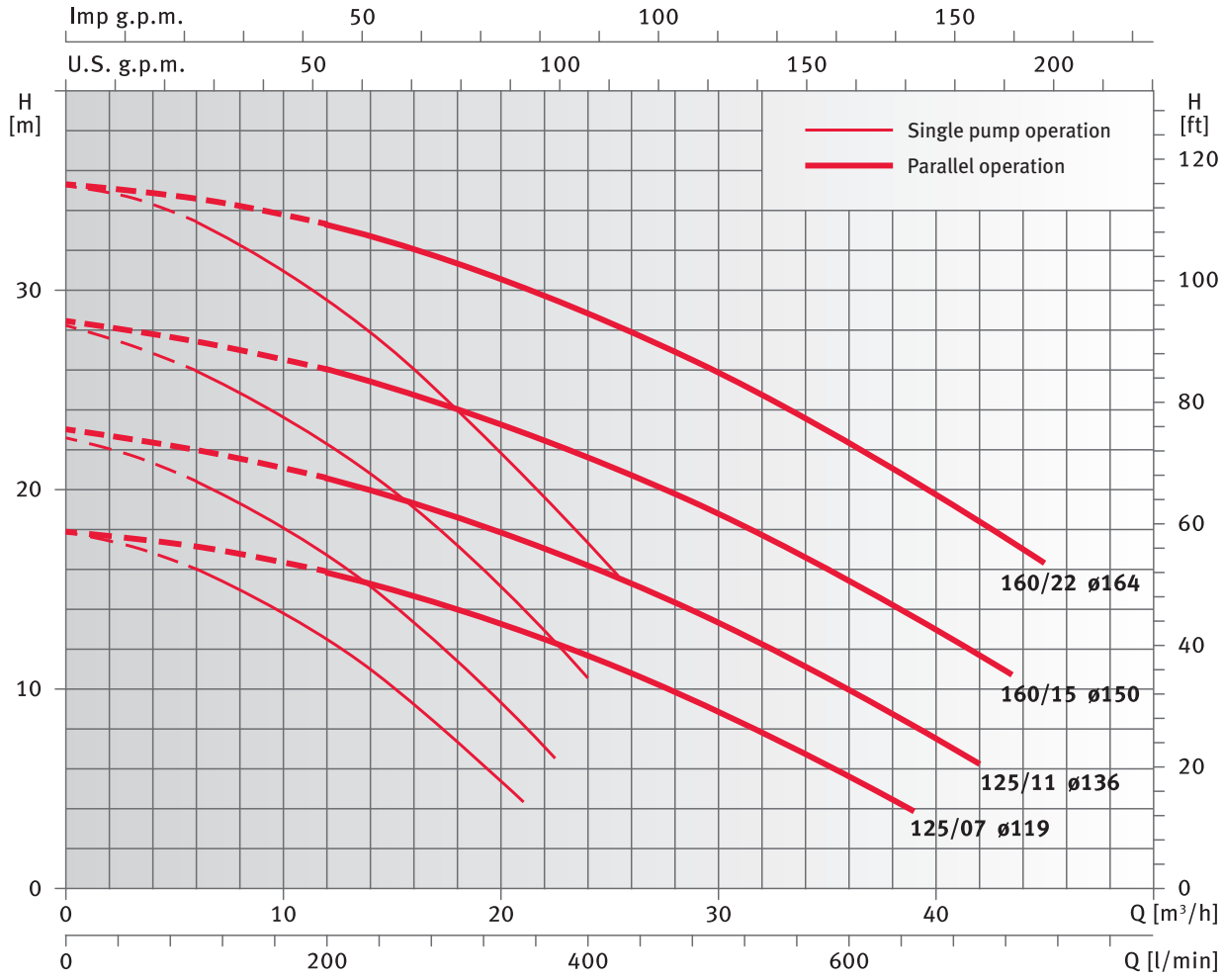
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

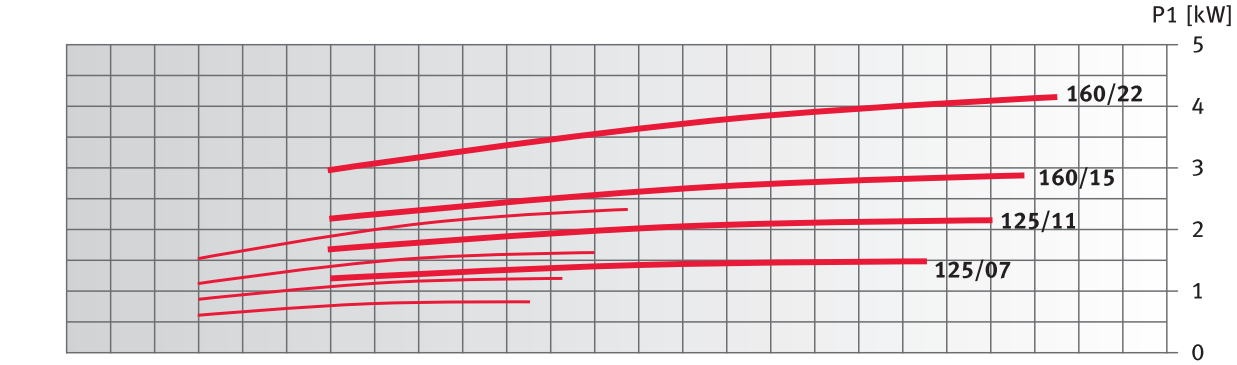
FLS4 series 150 - 250

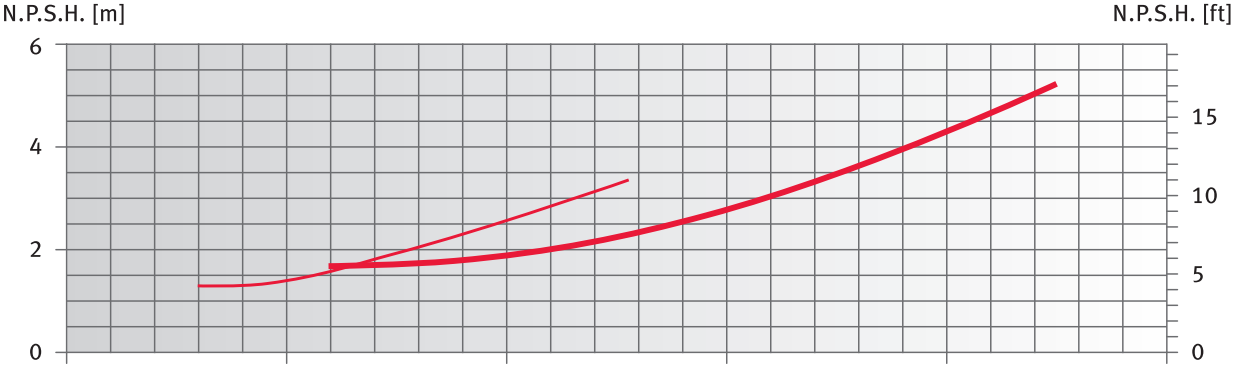


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 40 - 125/160

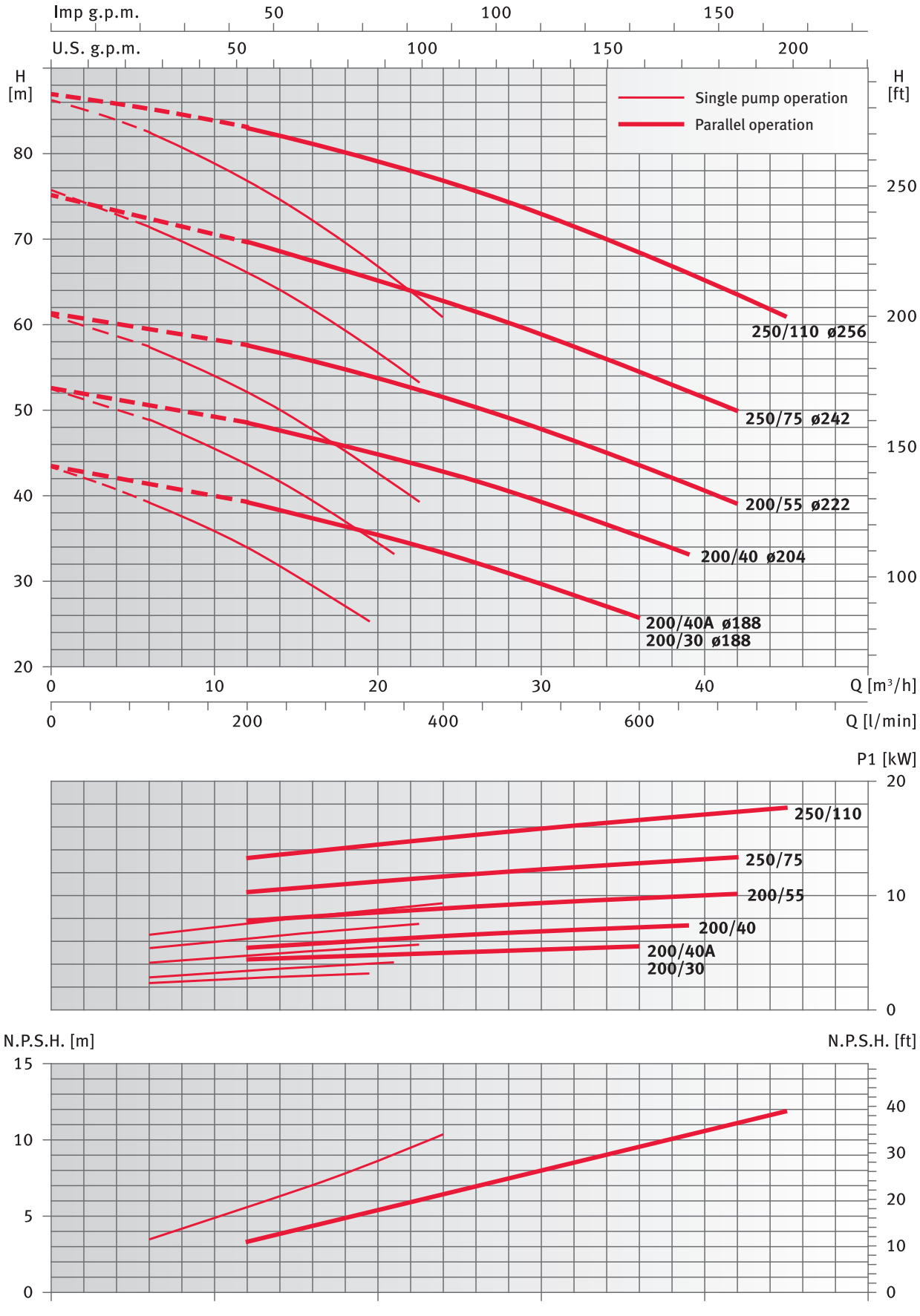






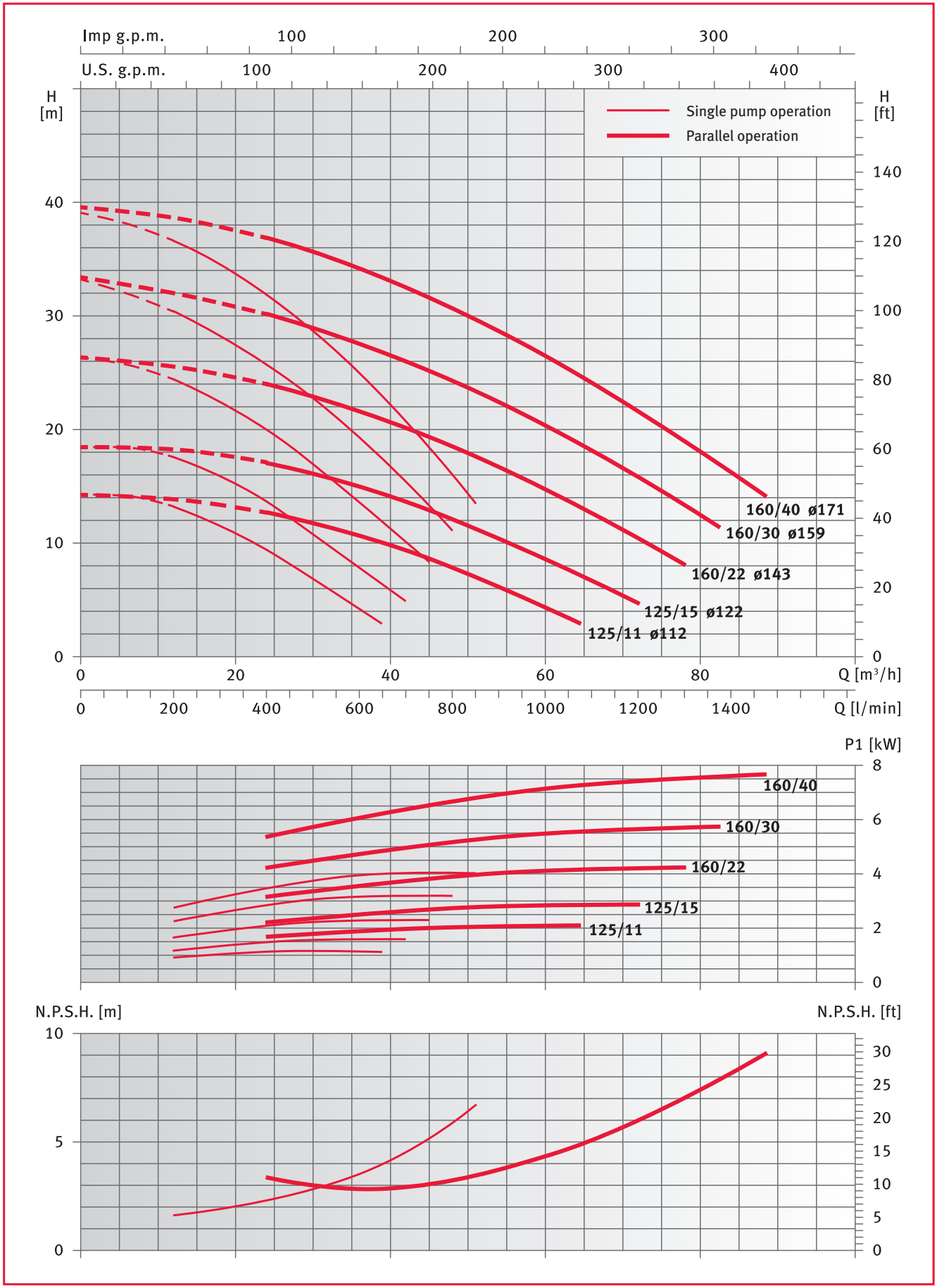
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLD and FLSD series 40 - 200/250



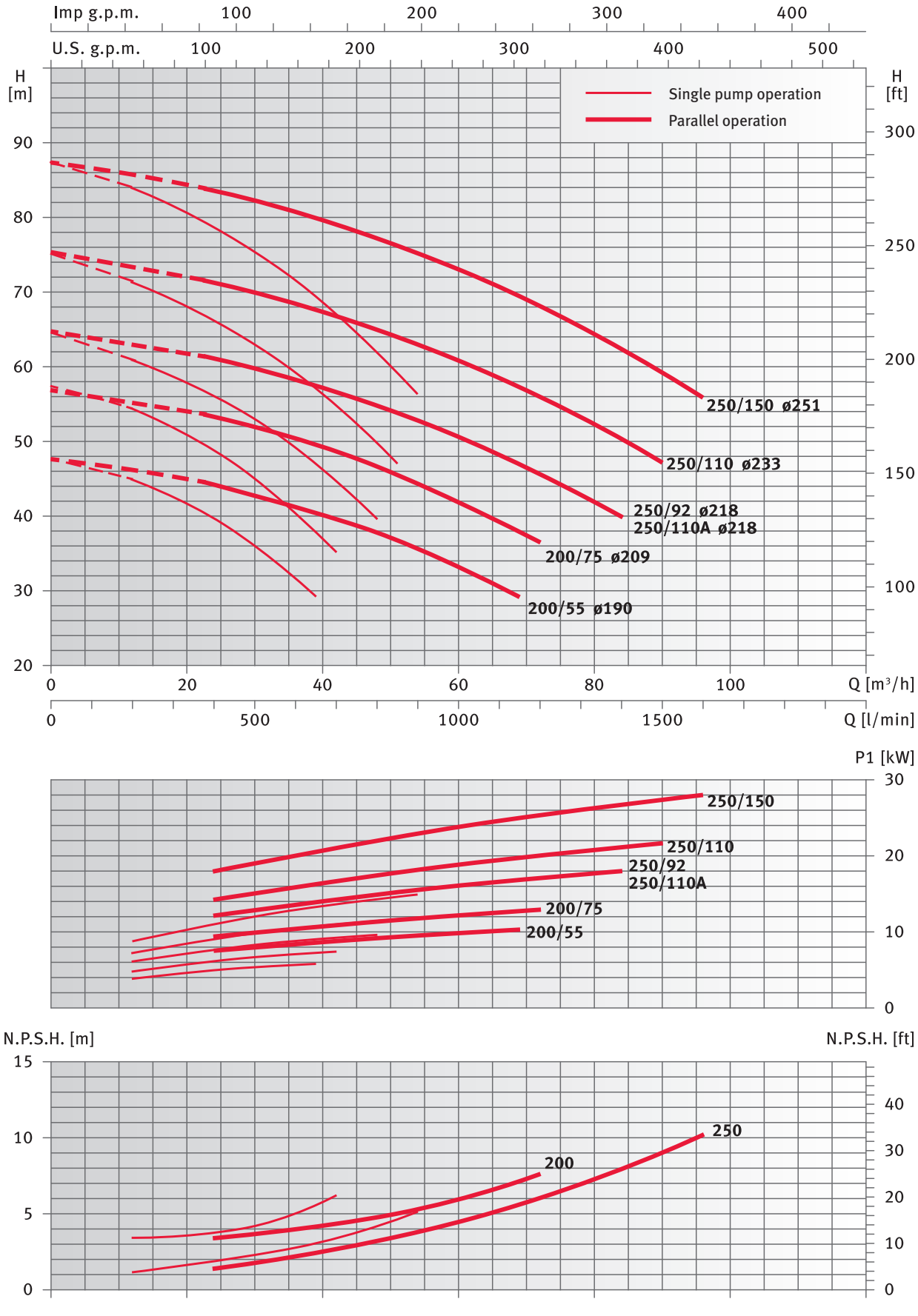
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 50 - 125/160



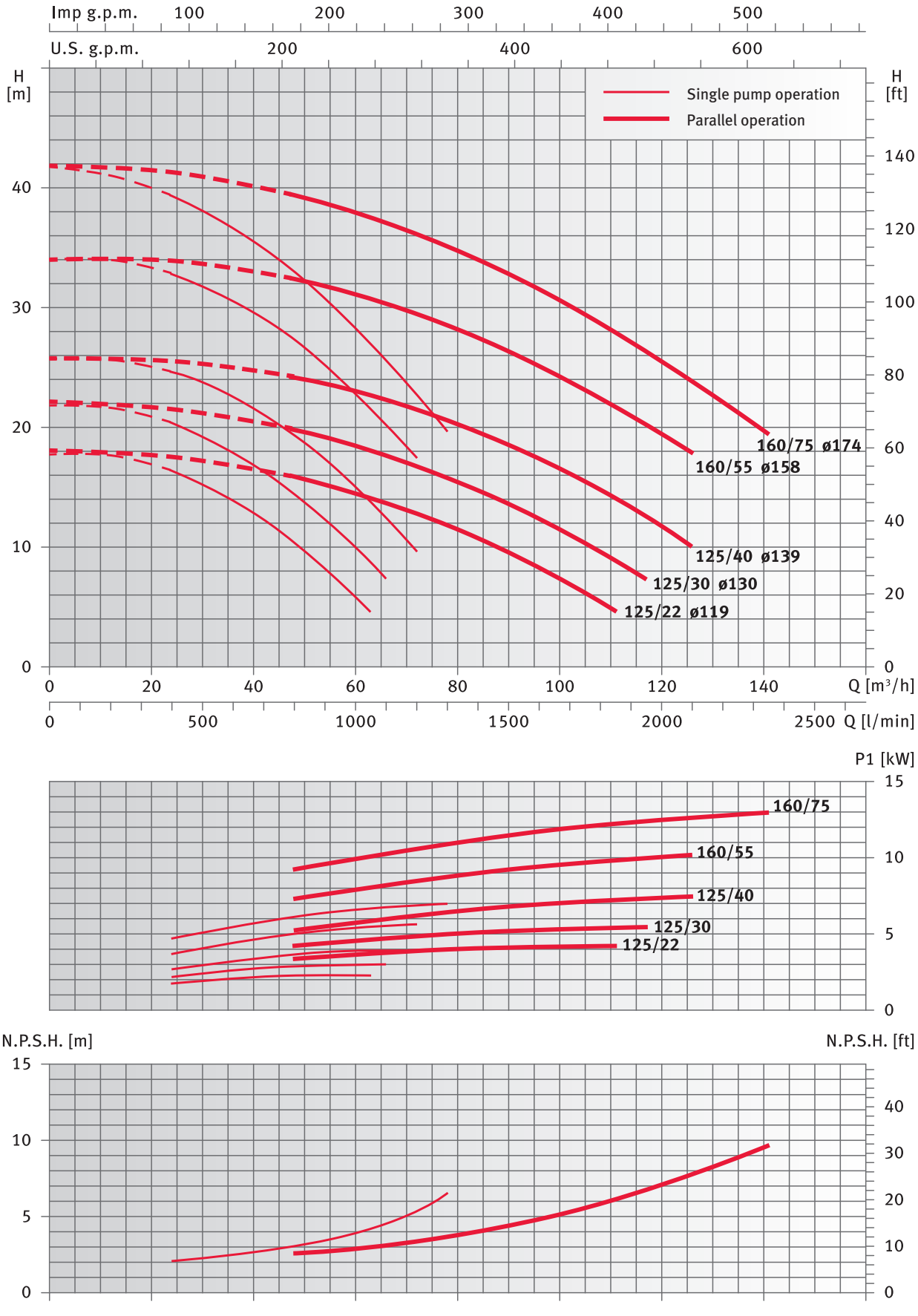
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 50 - 200/250



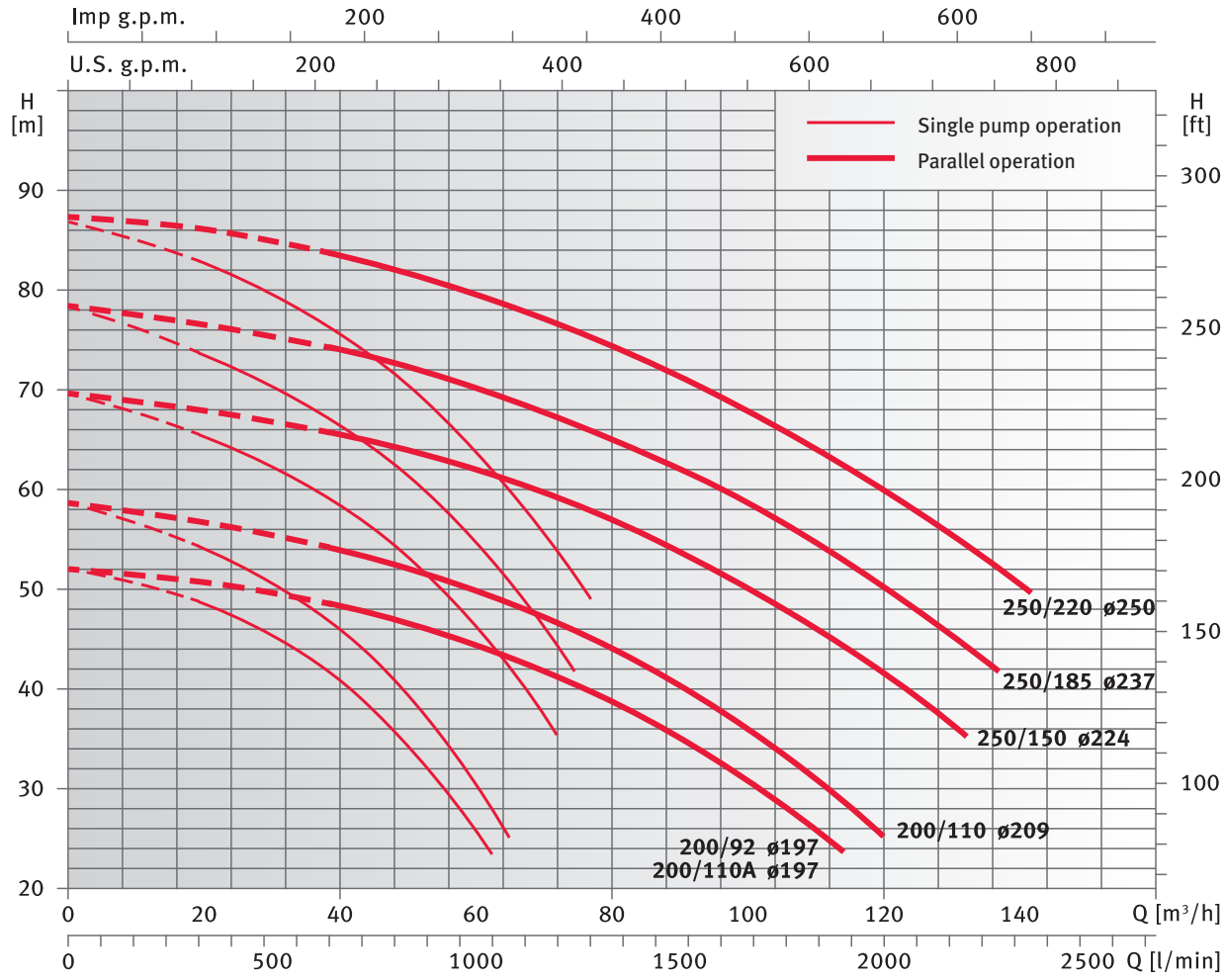
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

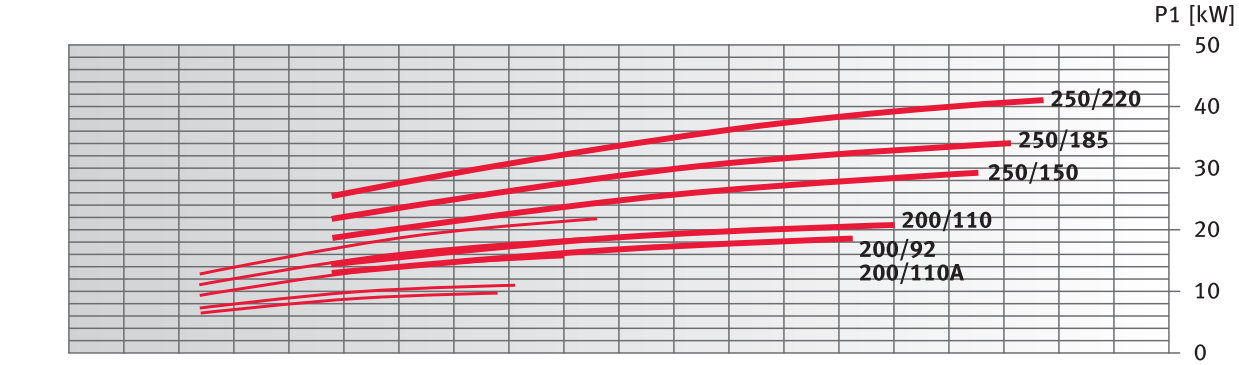
FLD and FLSD series 65 - 125/160

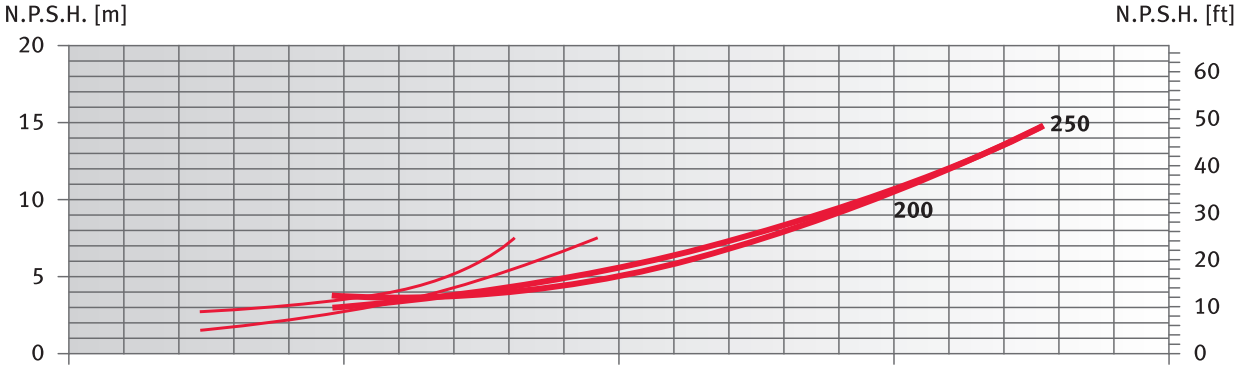


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 65 - 200/250

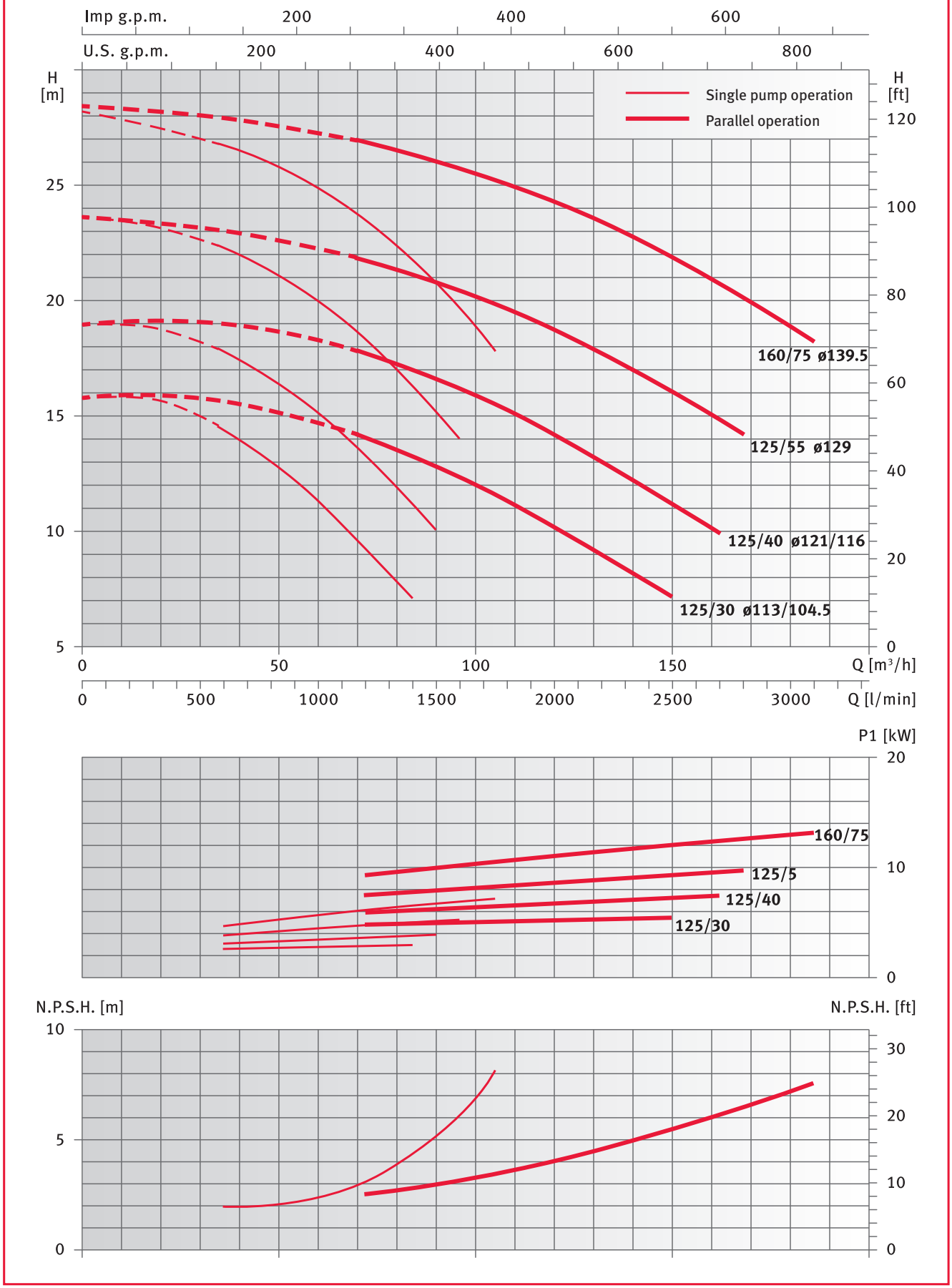






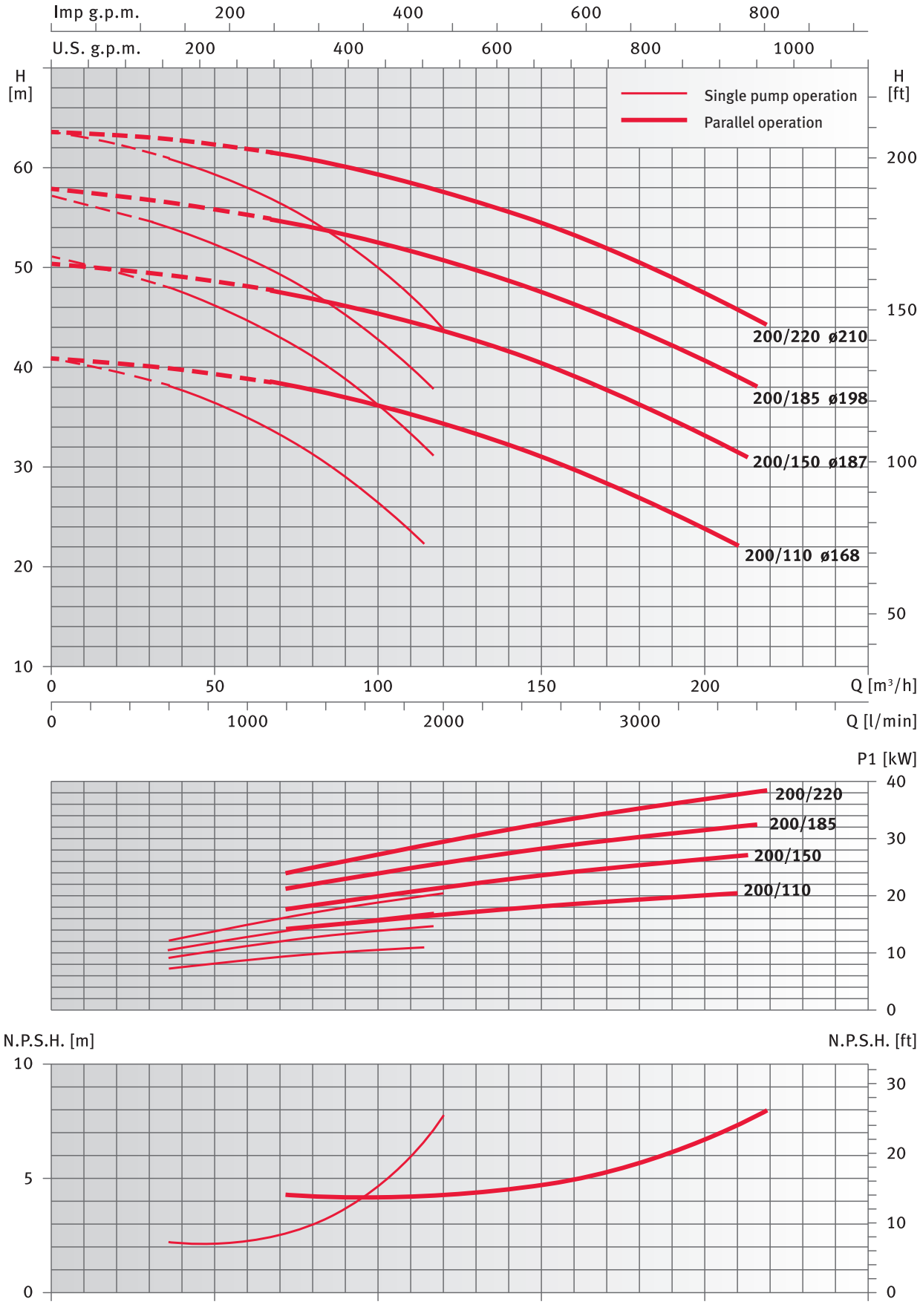
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 80 - 125/160



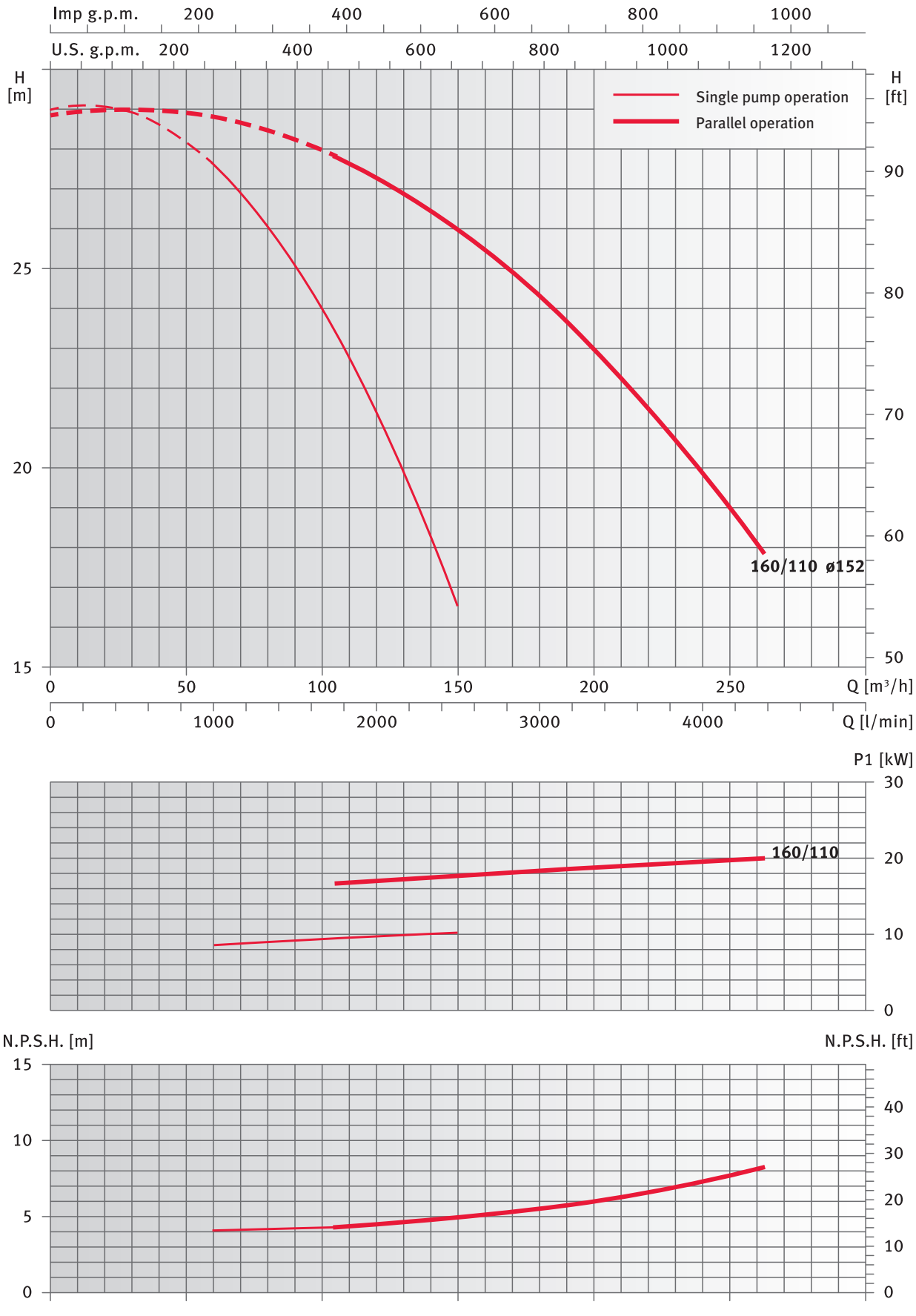
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 80 - 200



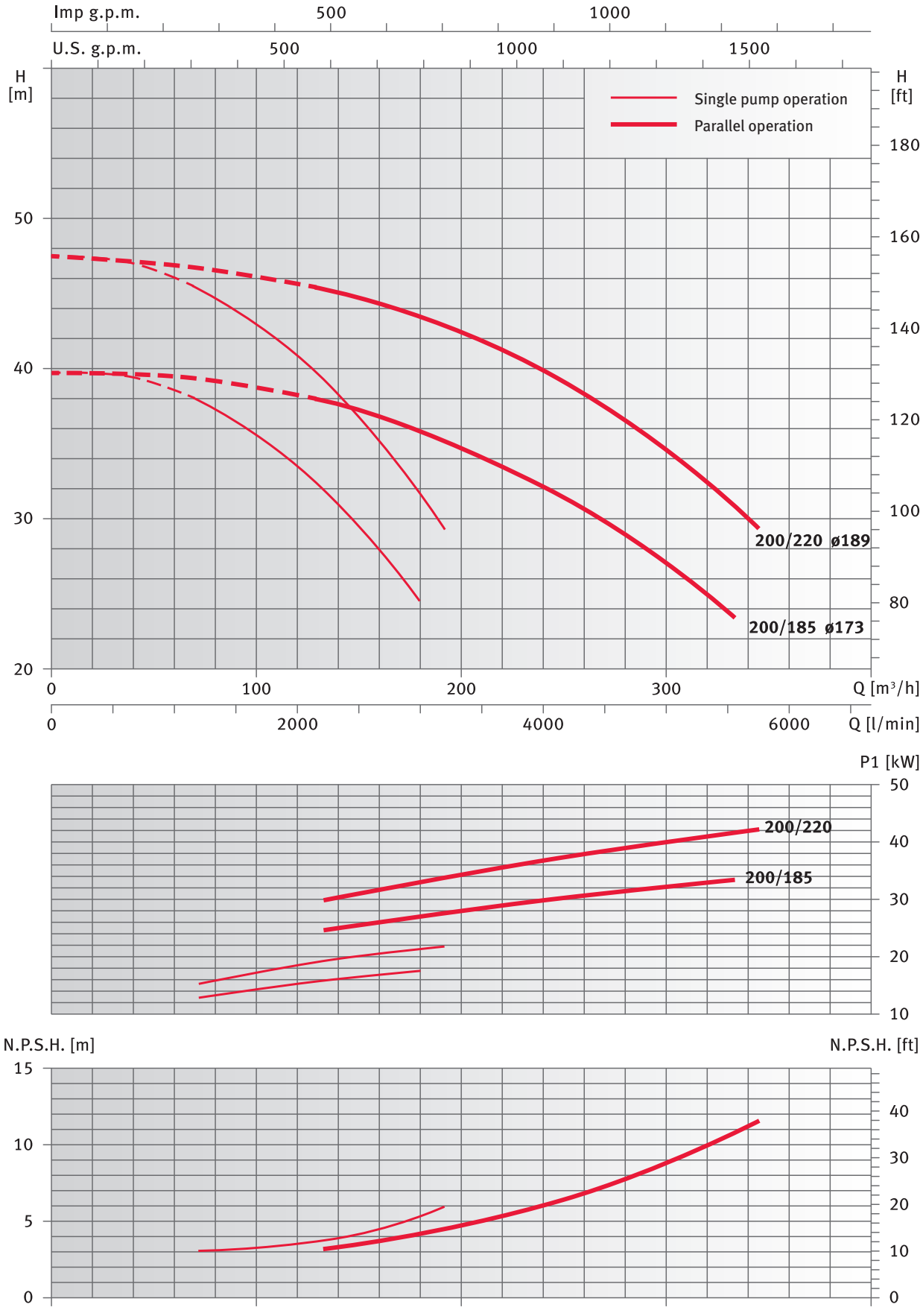
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD and FLSD series 100 - 160



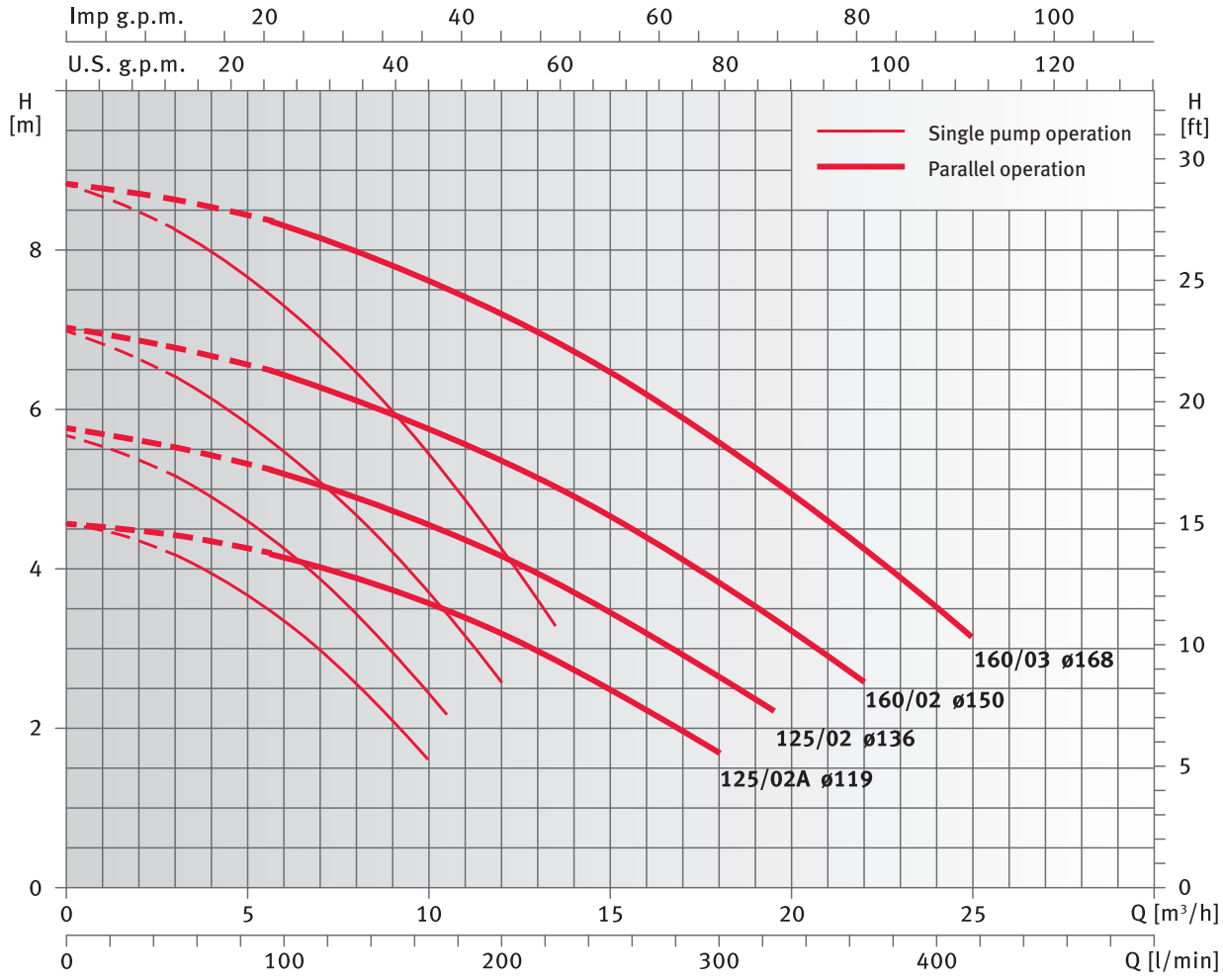
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

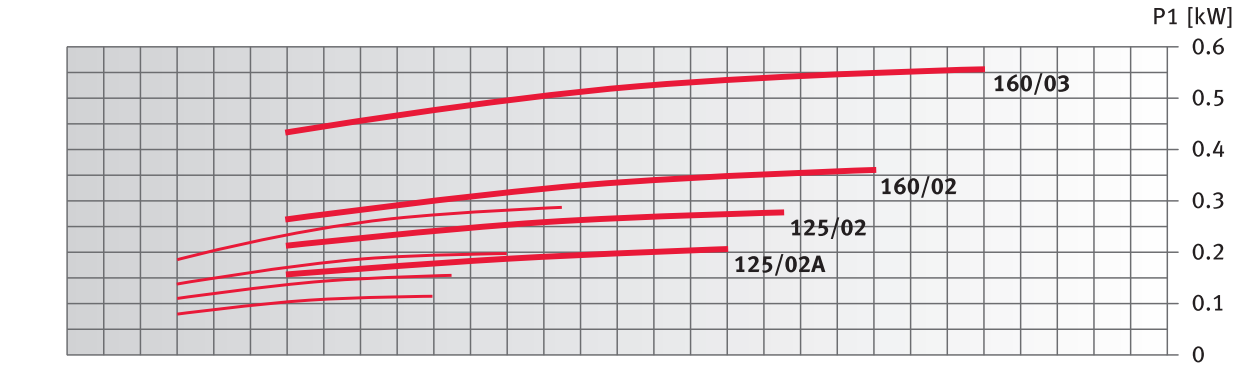
FLD and FLSD series 100 - 200

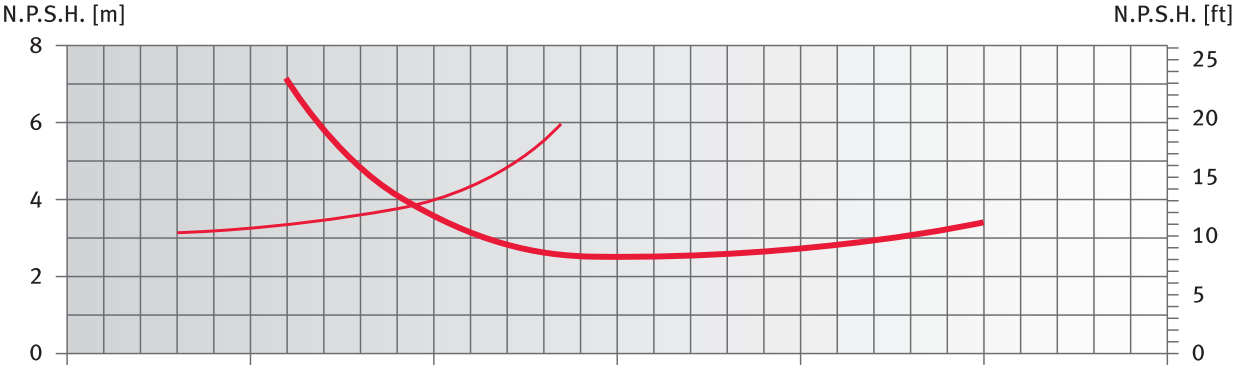


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD4 series 40 - 125/160

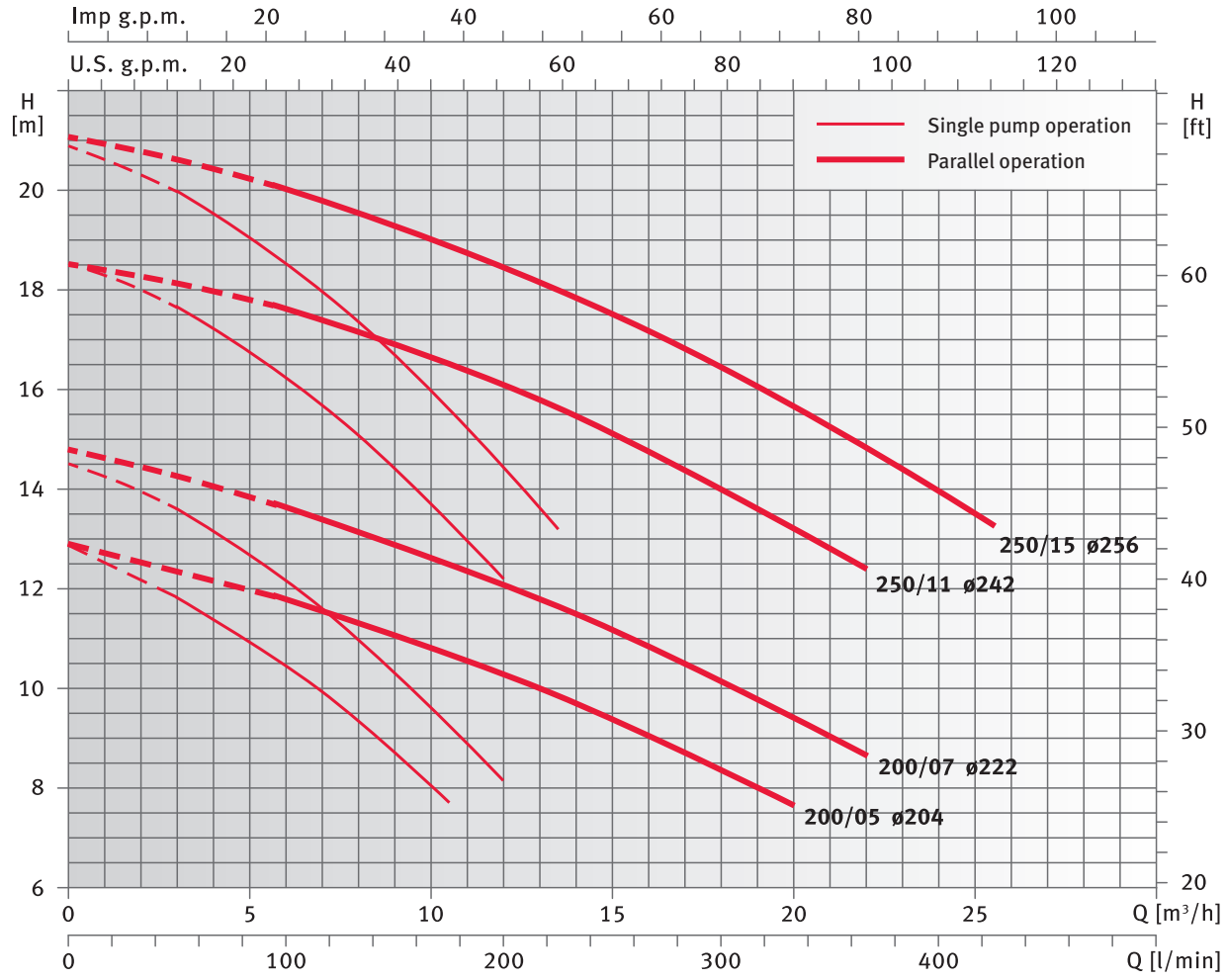


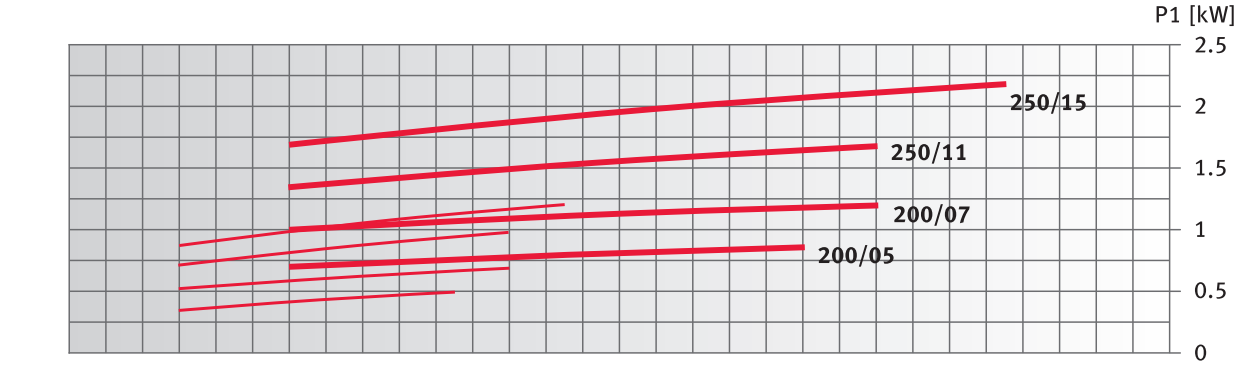


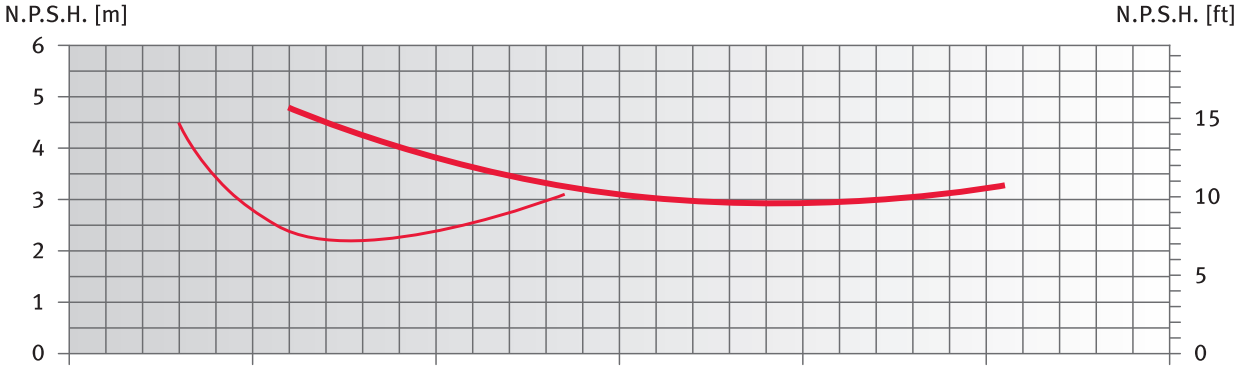


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD4 and FLSD4 series 40 - 200/250

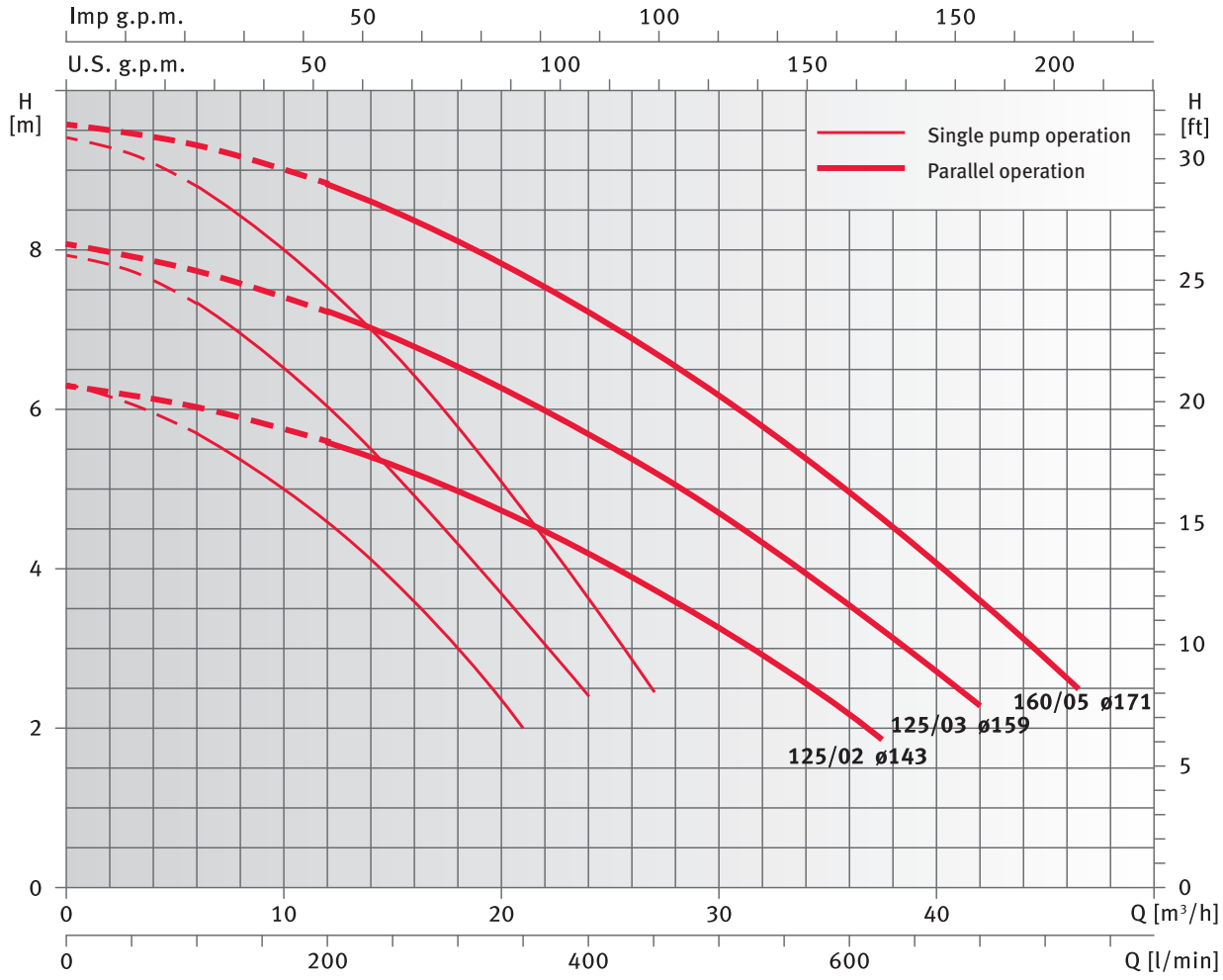


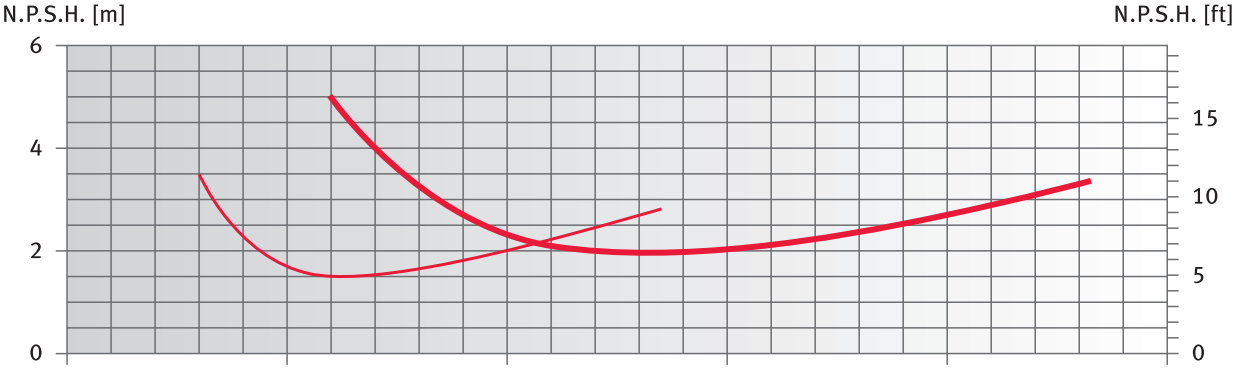




The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

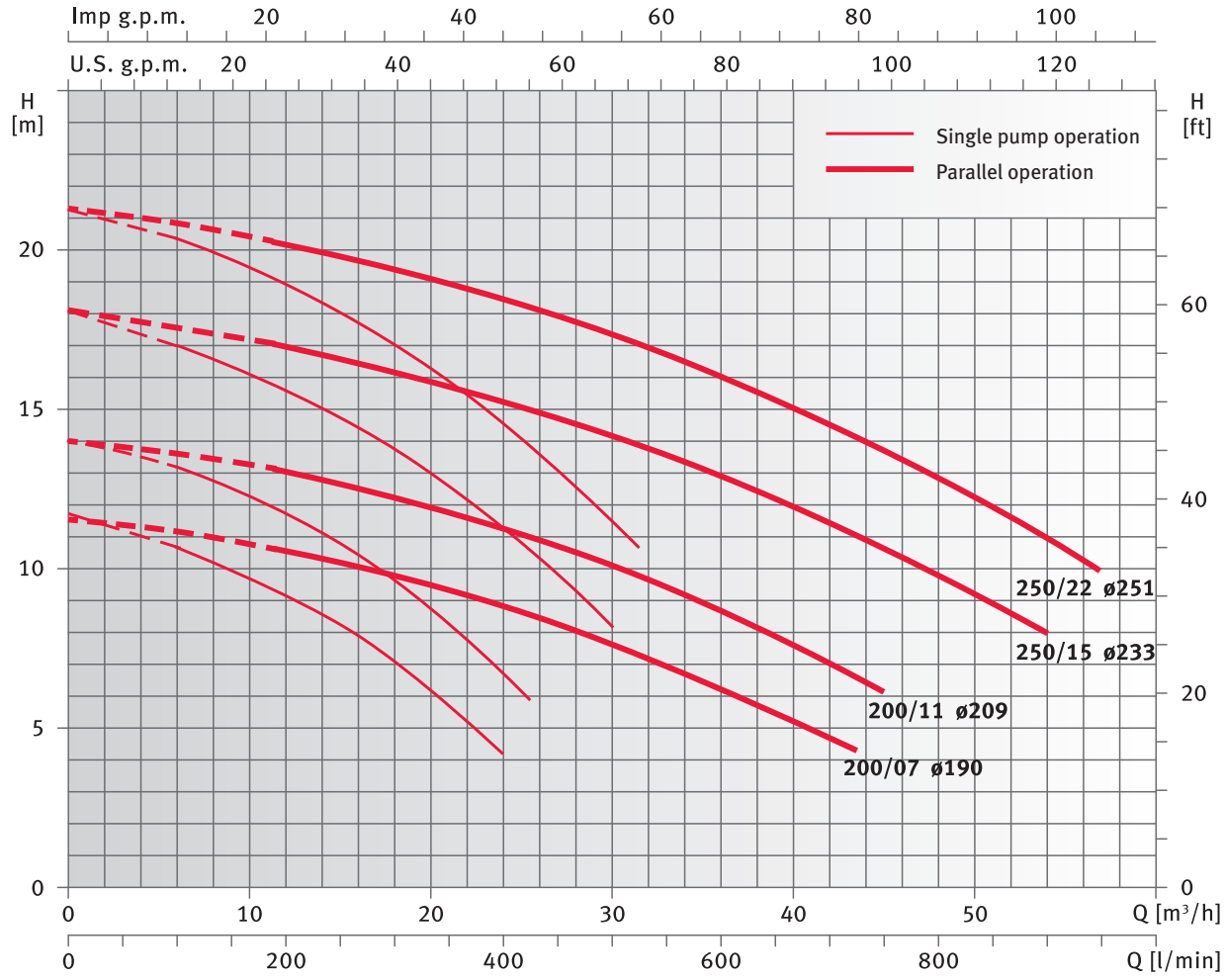
FLD4 series 50 - 125/160

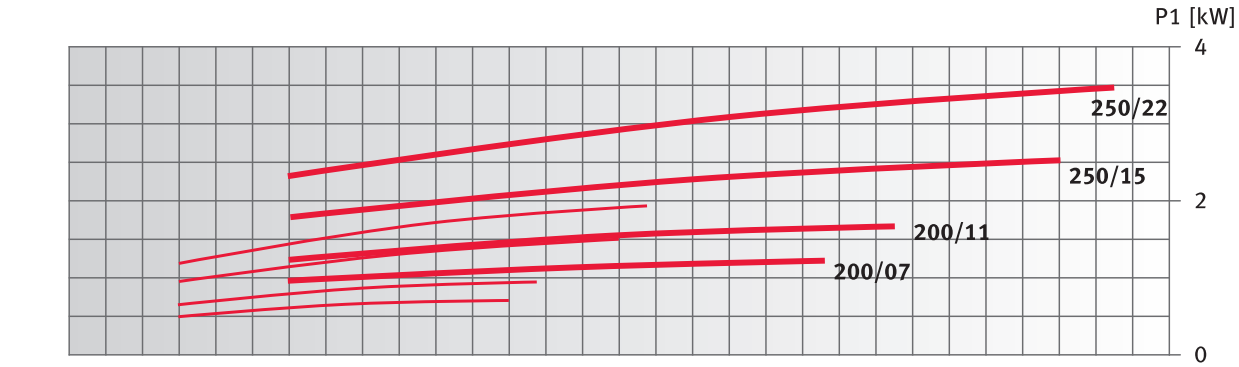


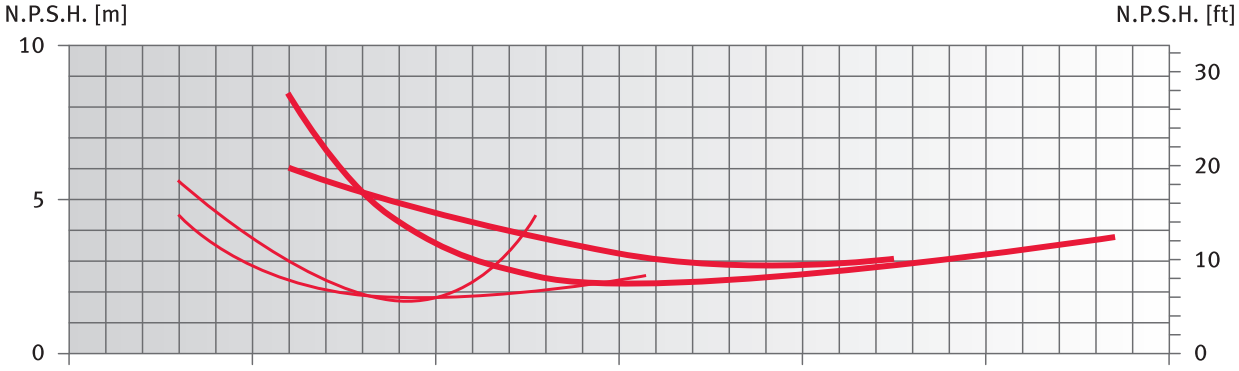


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLD4 and FLSD4 series 50 - 200/250

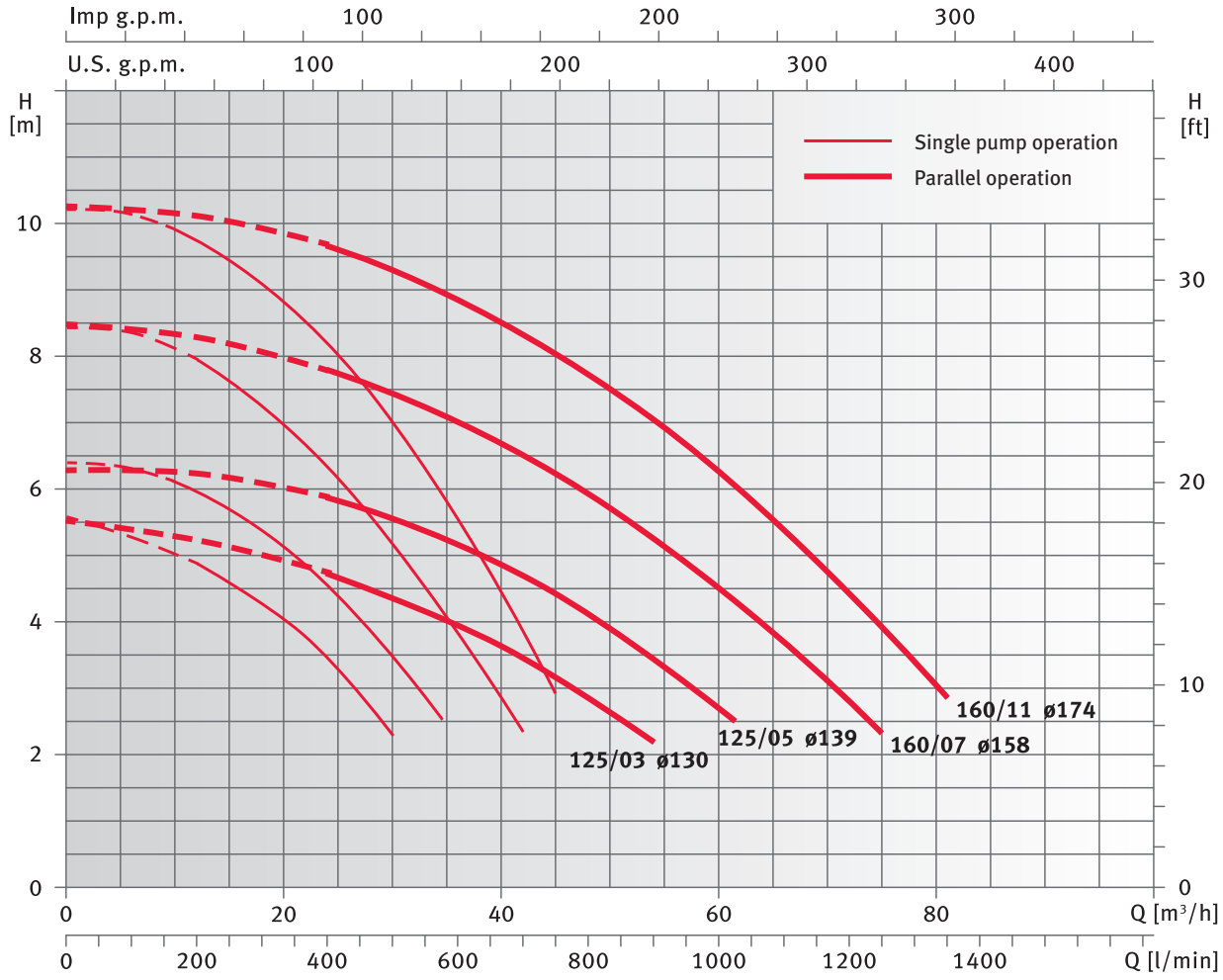


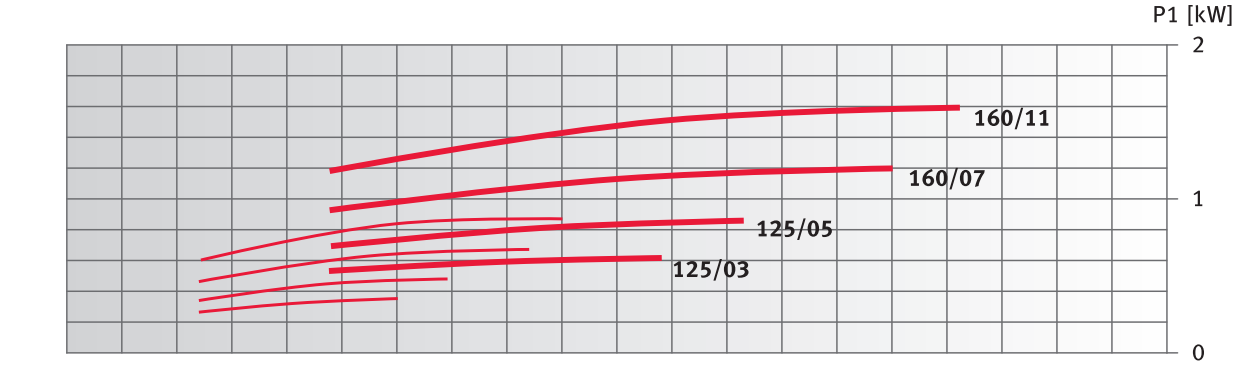


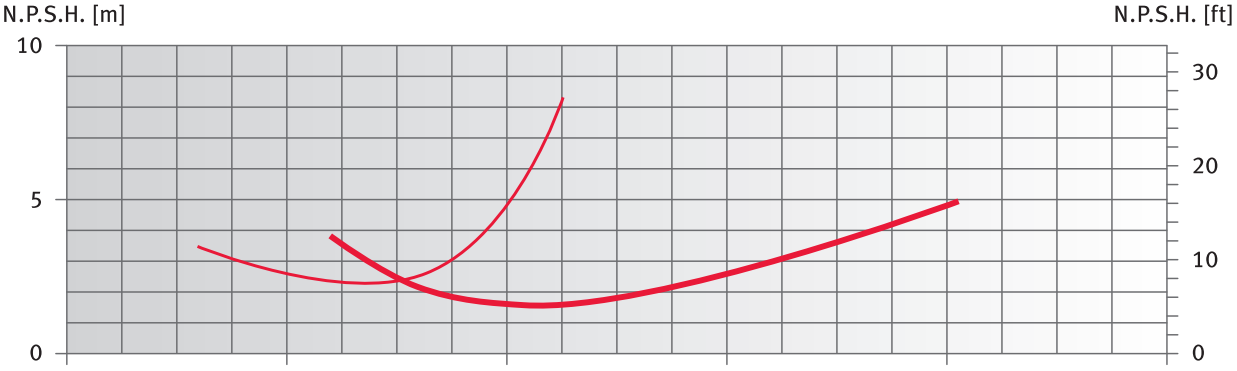


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD4 and FLSD4 series 65 - 125/160

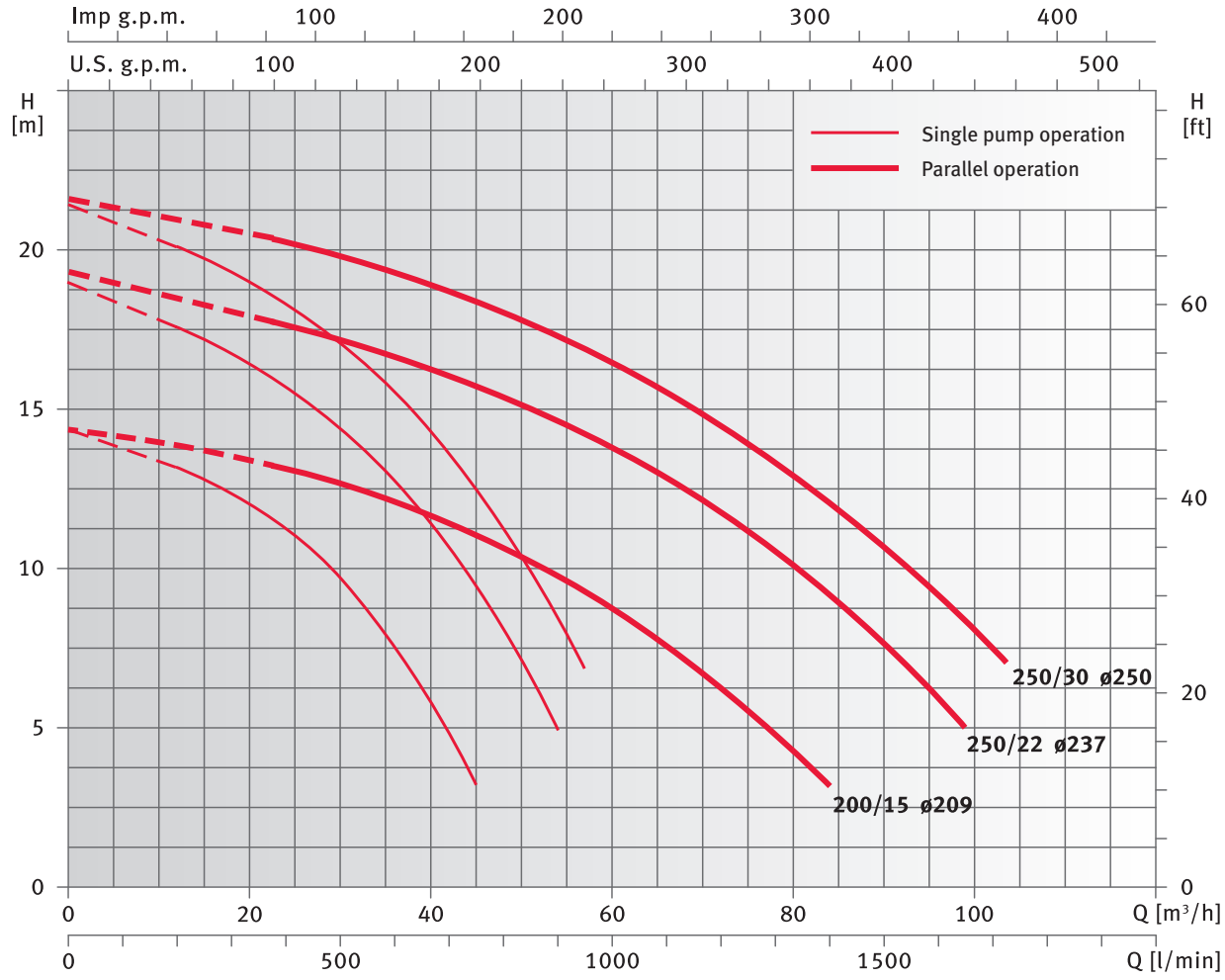


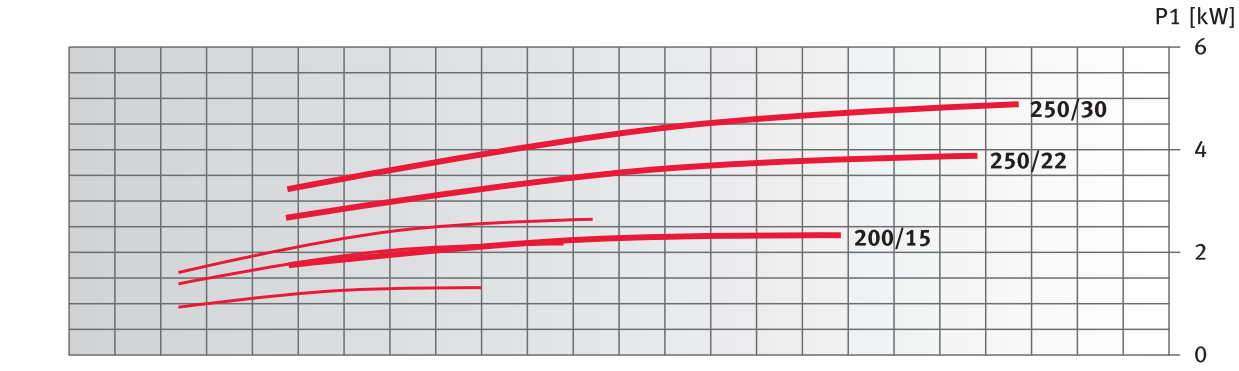


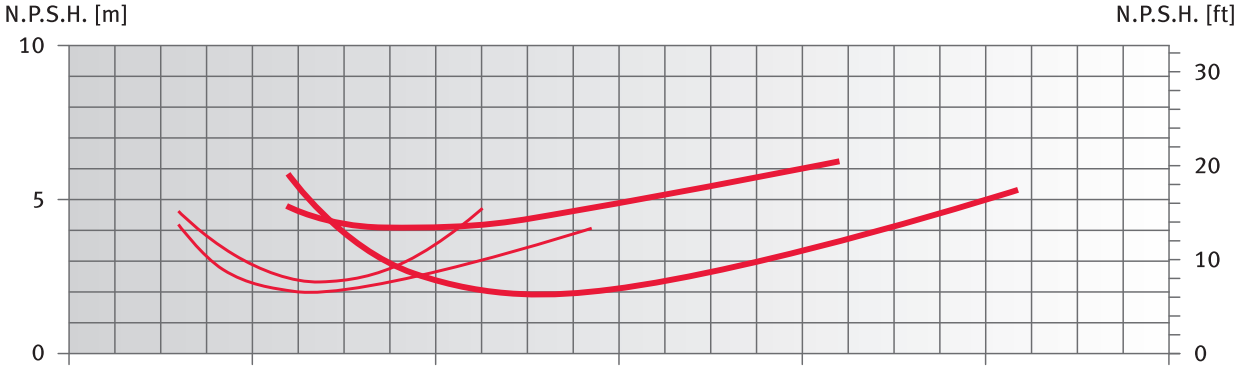


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD4 and FLSD4 series 65 - 200/250

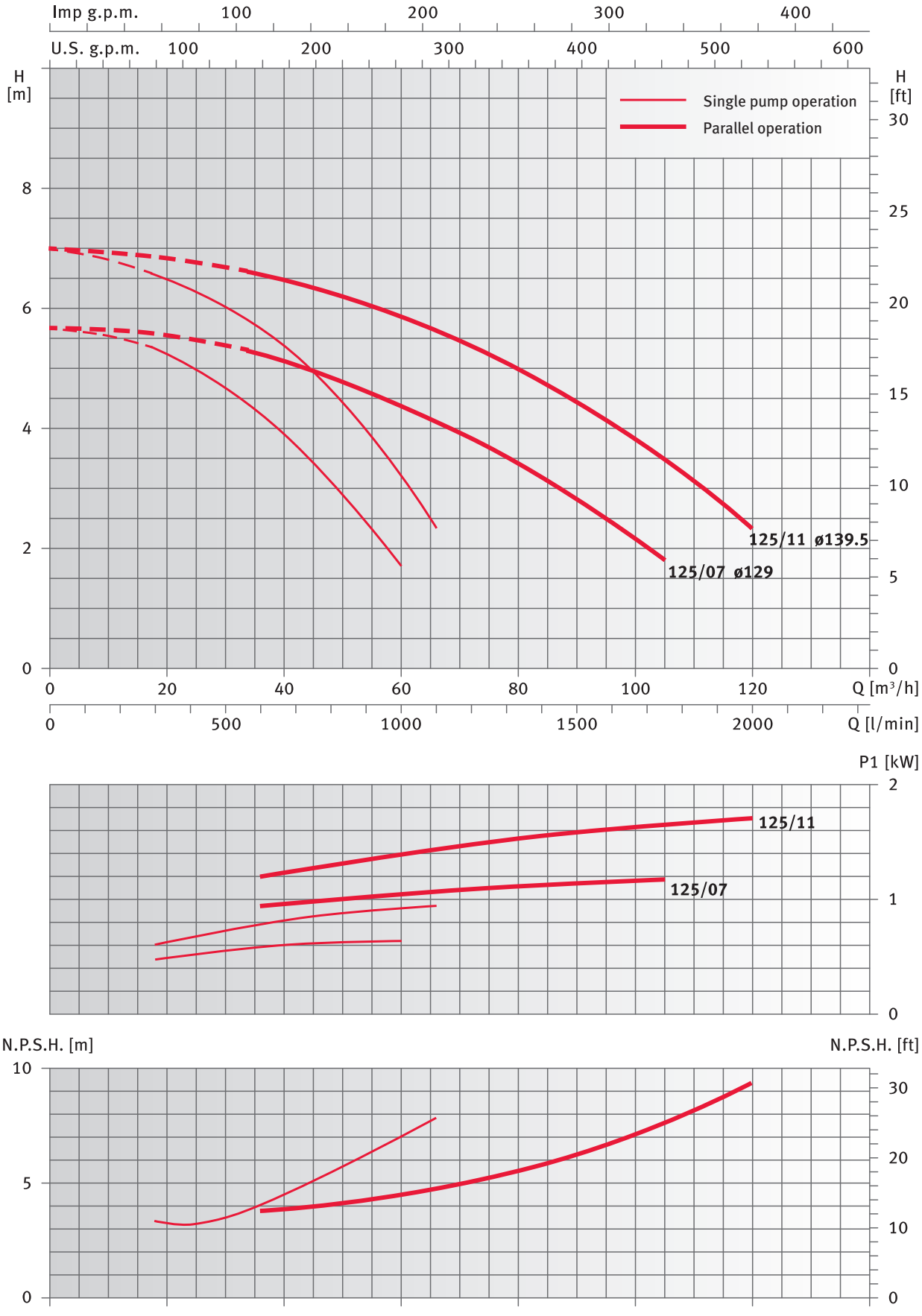






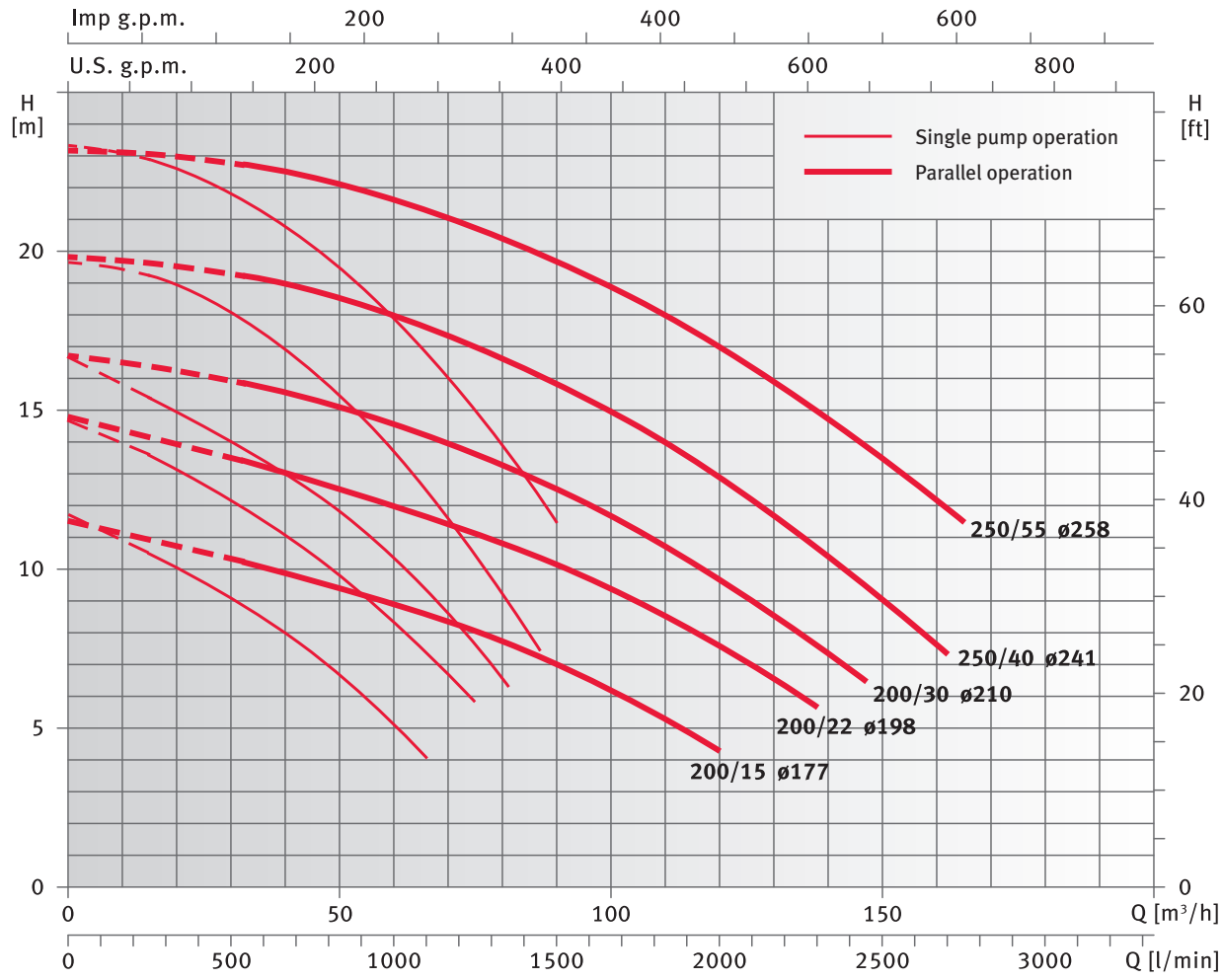
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

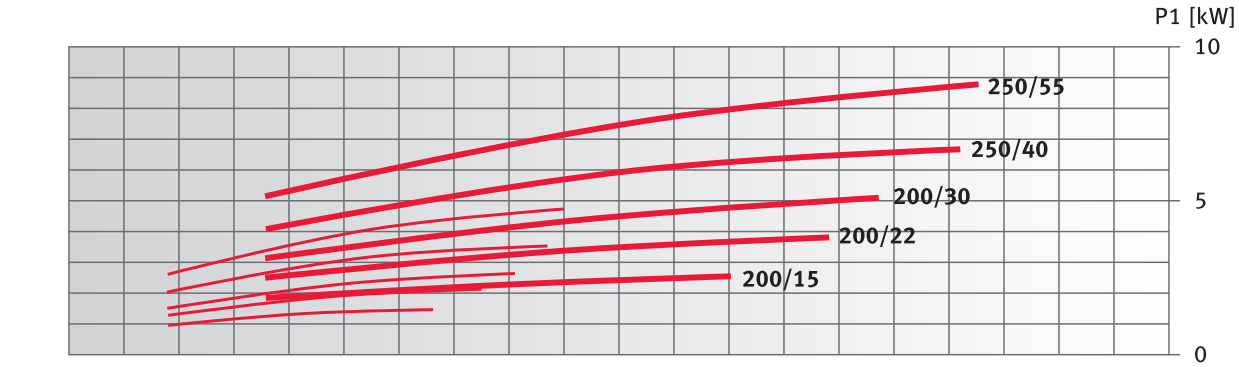
FLD4 and FLSD4 series 80 - 125

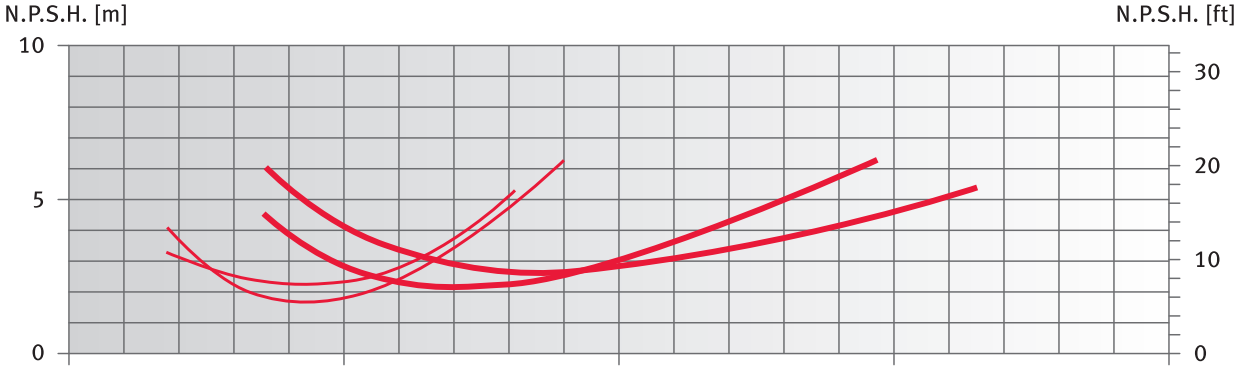


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD4 and FLSD4 series 80 - 200/250

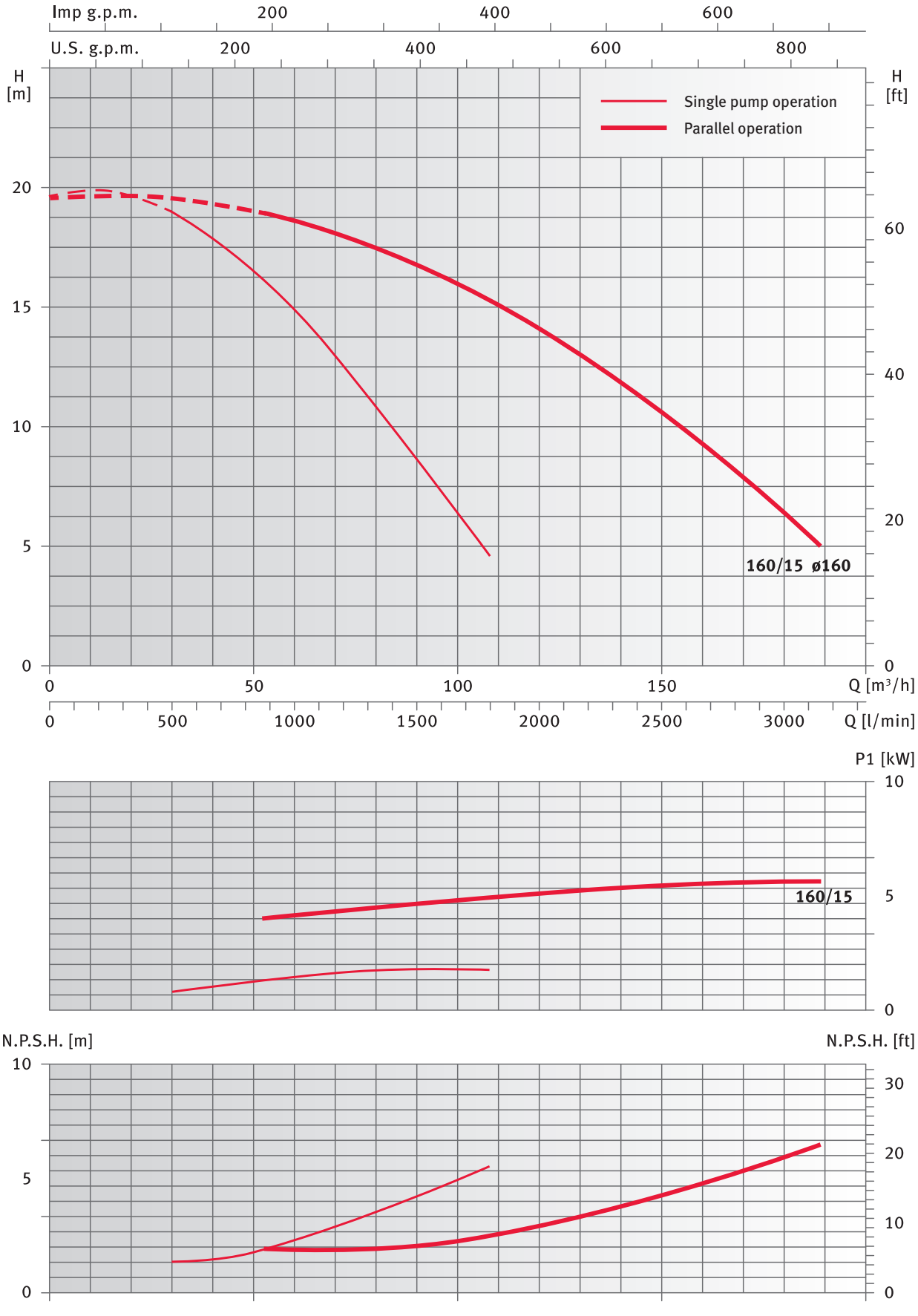






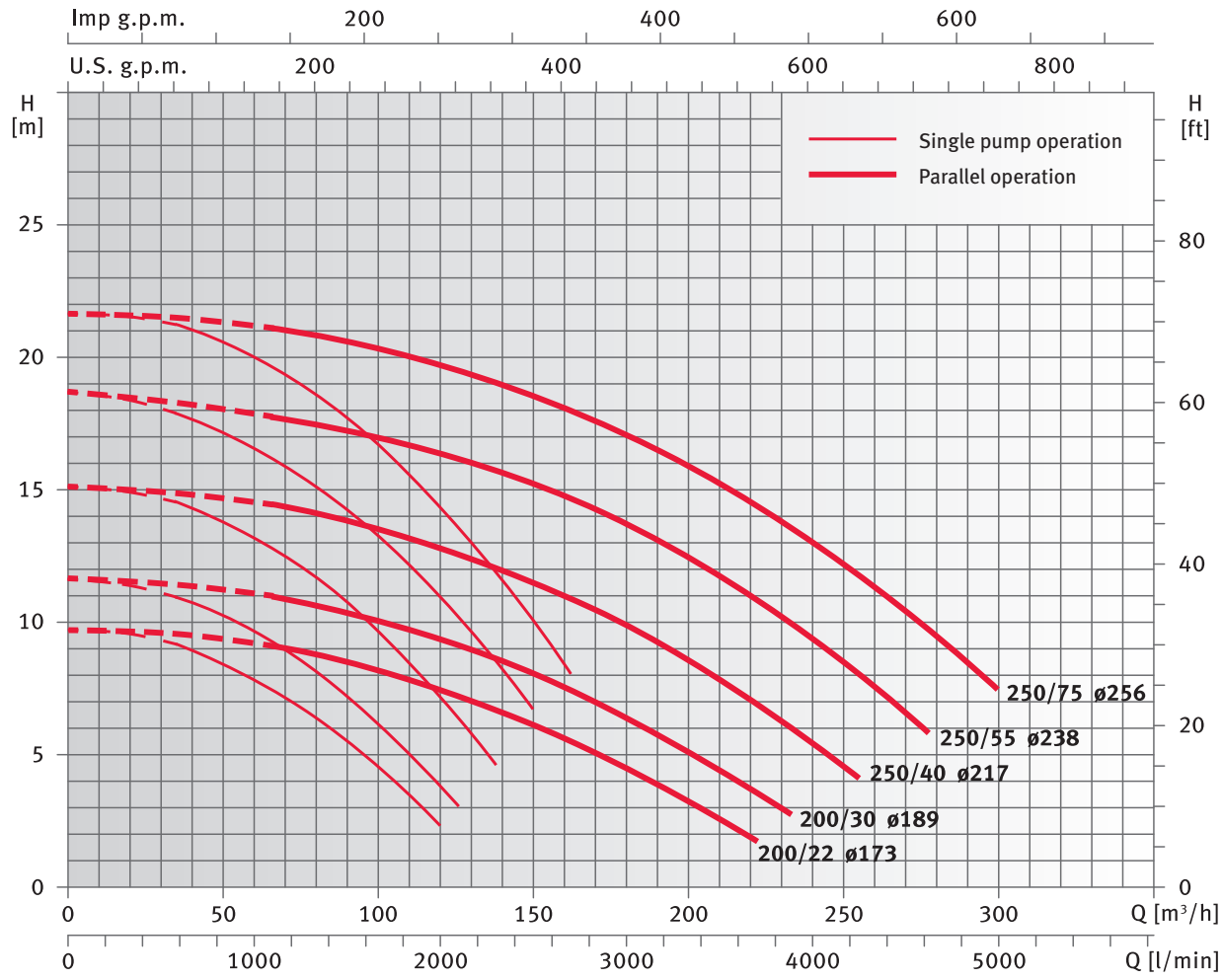
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

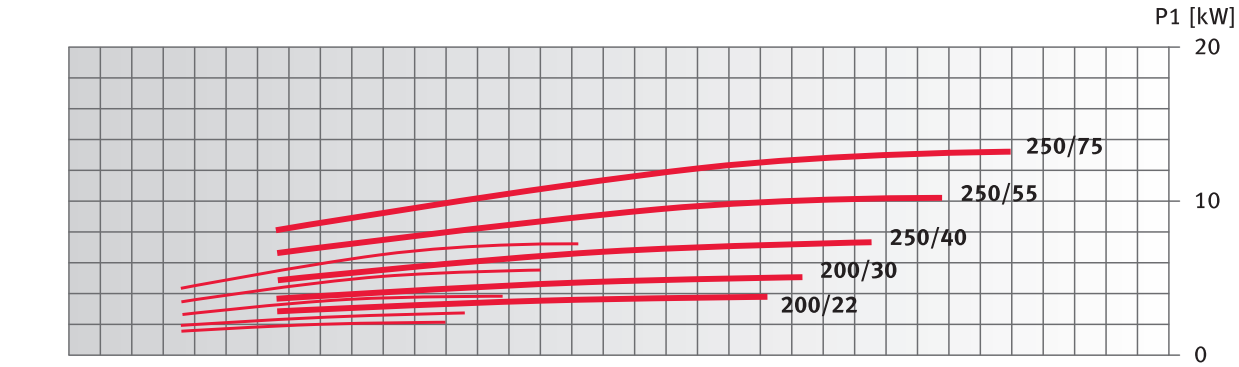
FLD4 and FLSD4 series 100 - 160

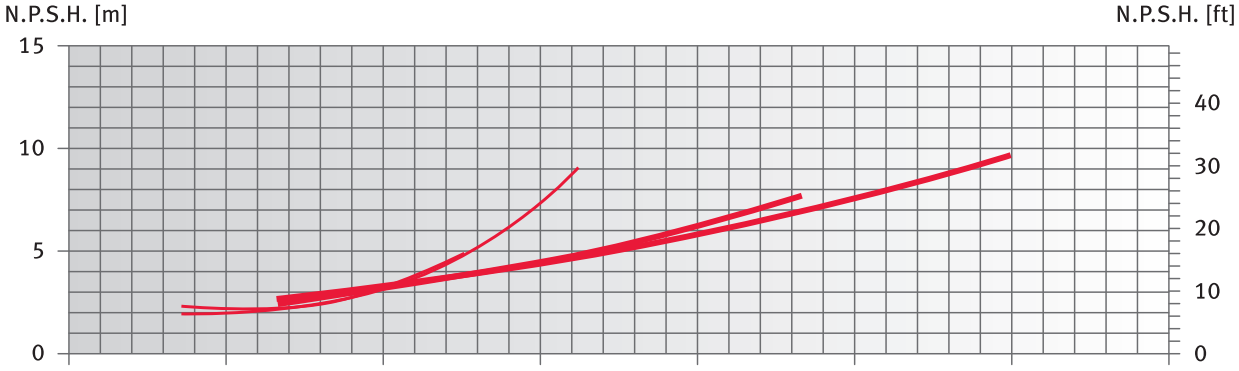


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLD4 and FLSD4 series 100 - 200/250

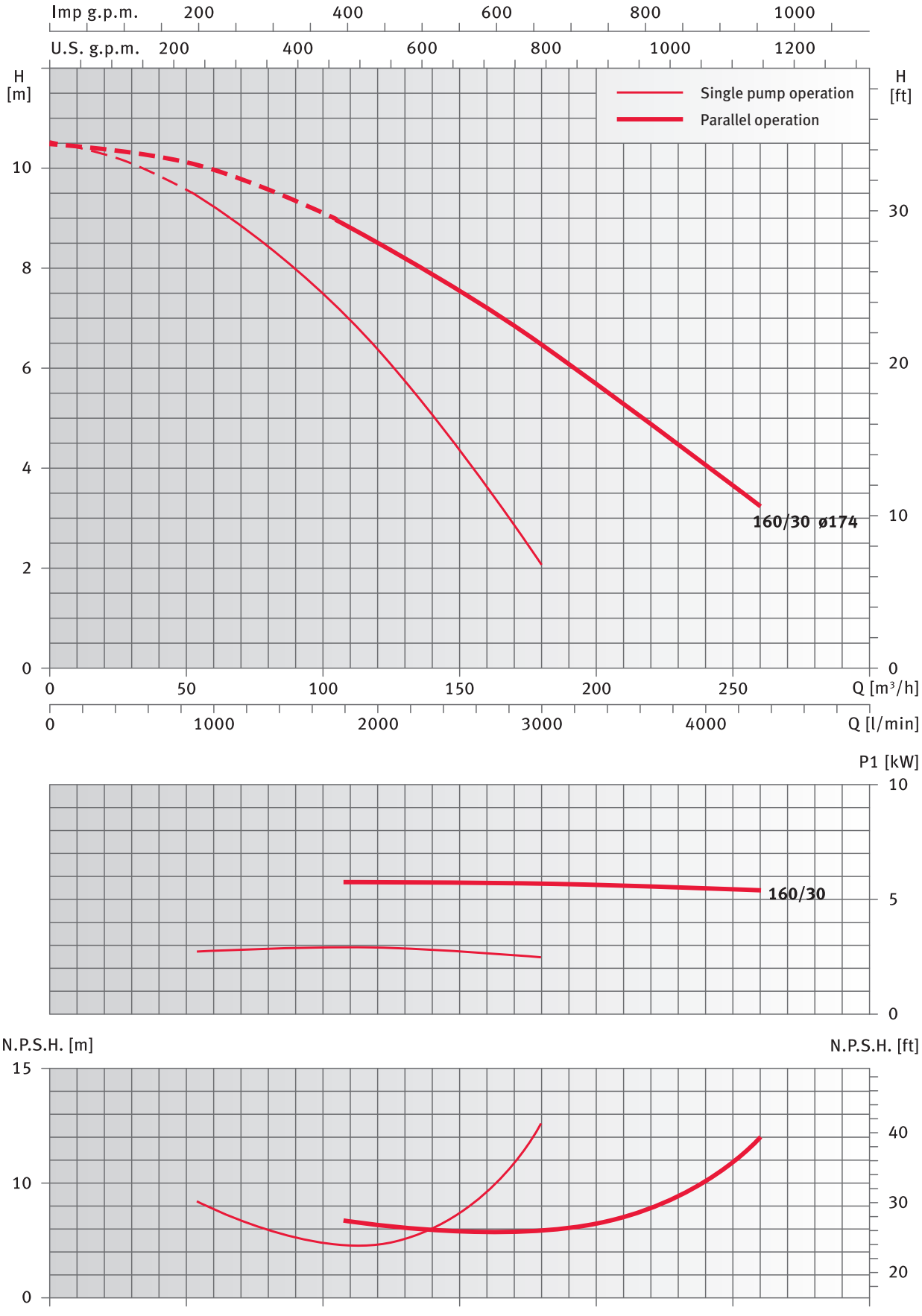






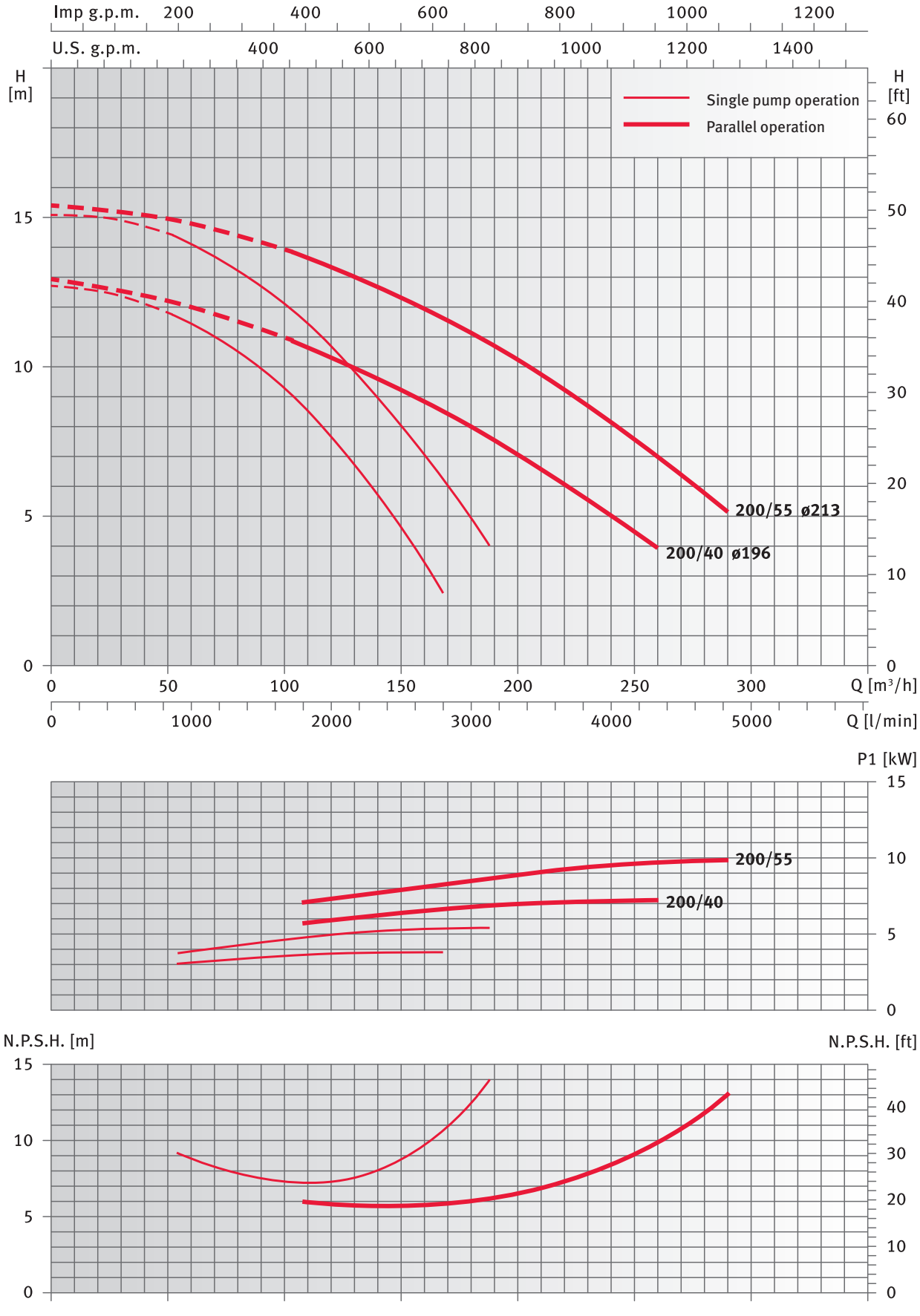
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLSD4 series 125 - 160



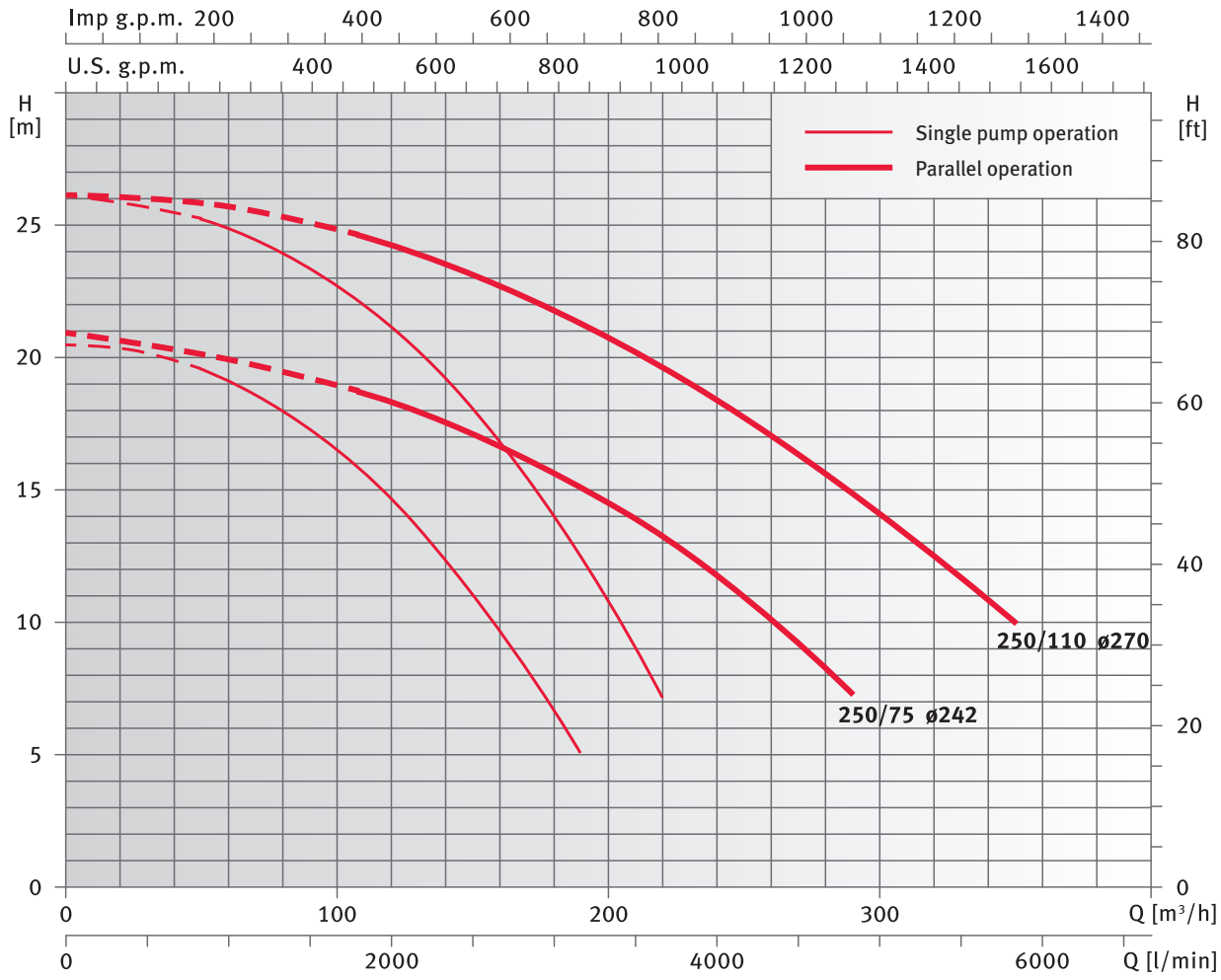
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

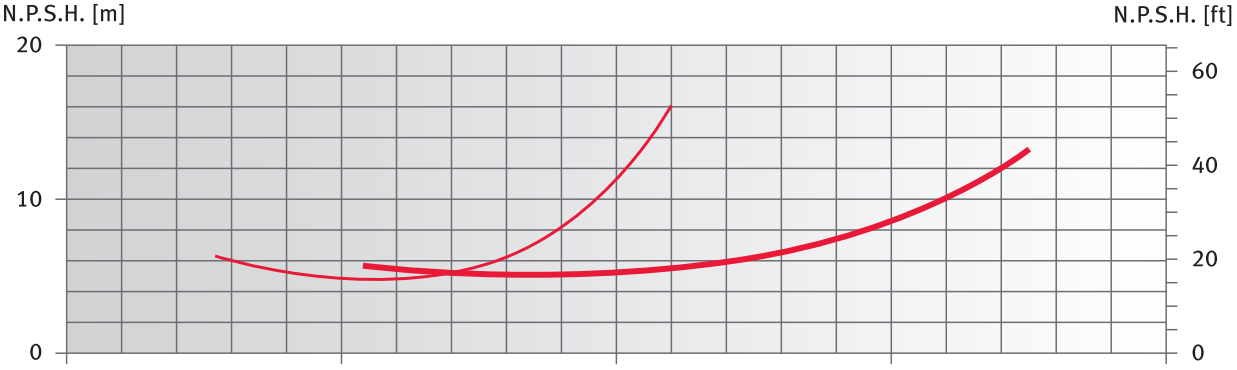
FLSD4 series 125 - 200



The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

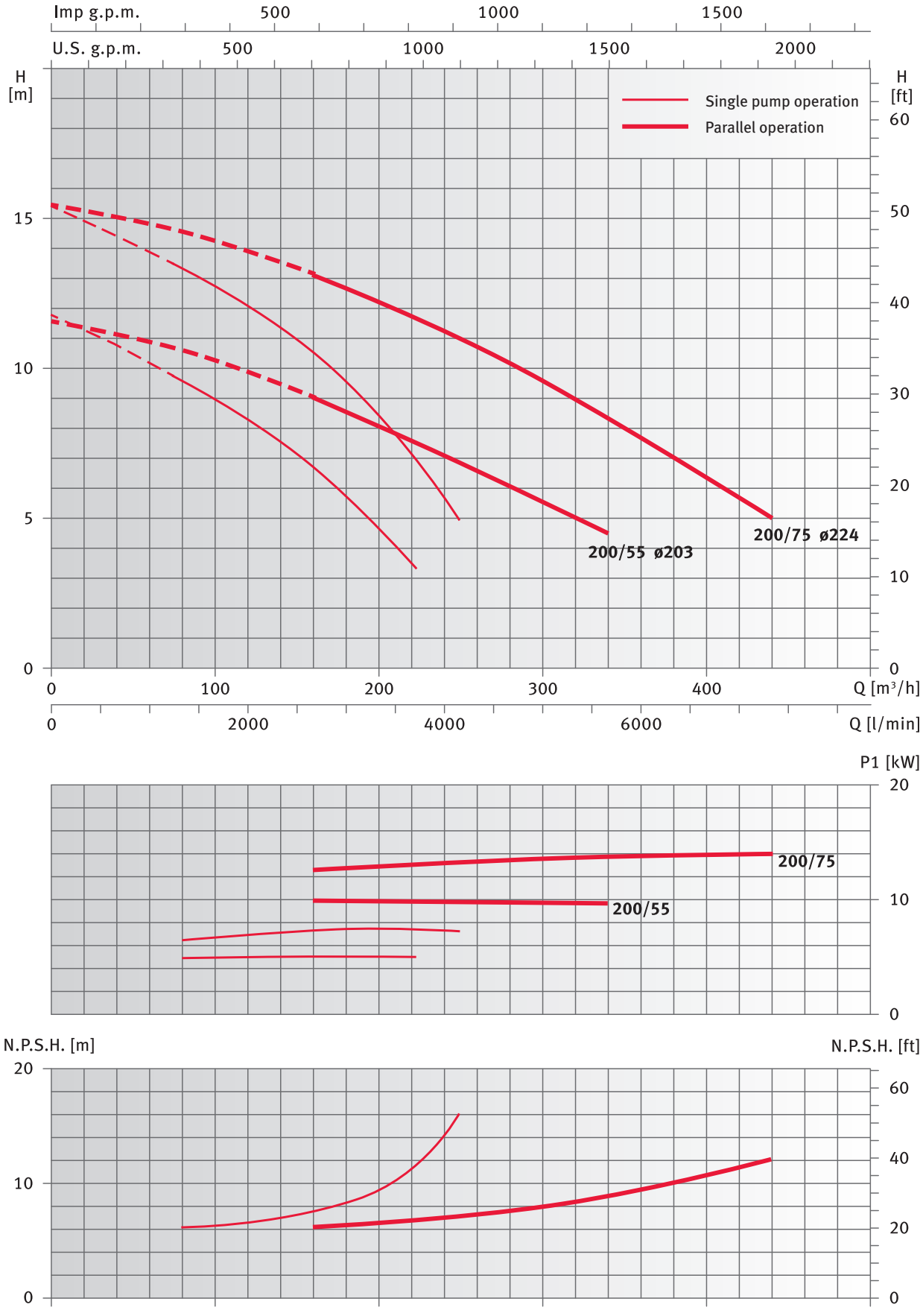
FLSD4 series 125 - 250





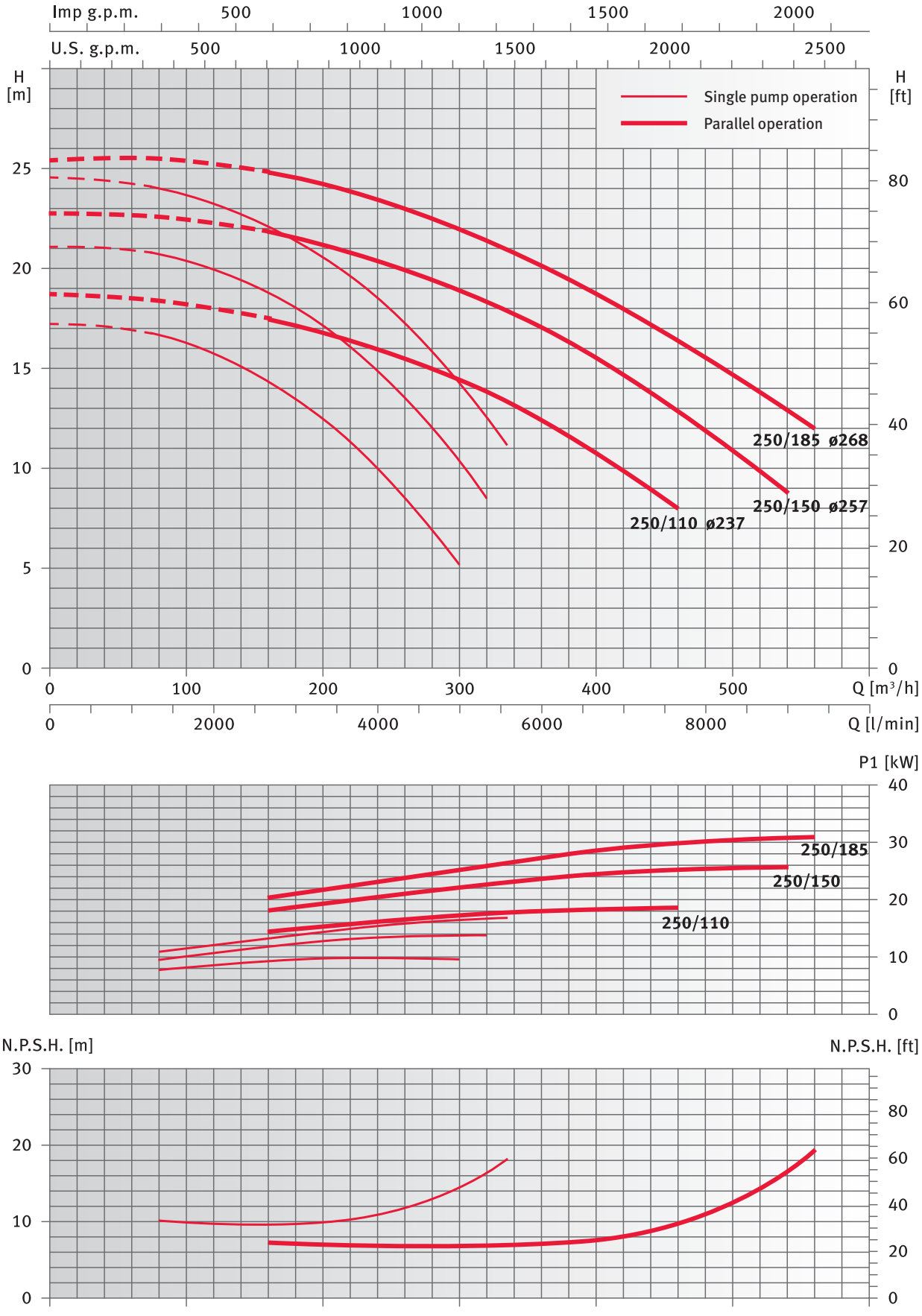
The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity υ = 1 mm²/s.

FLSD4 series 150 - 200



The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

FLSD4 series 150 - 250

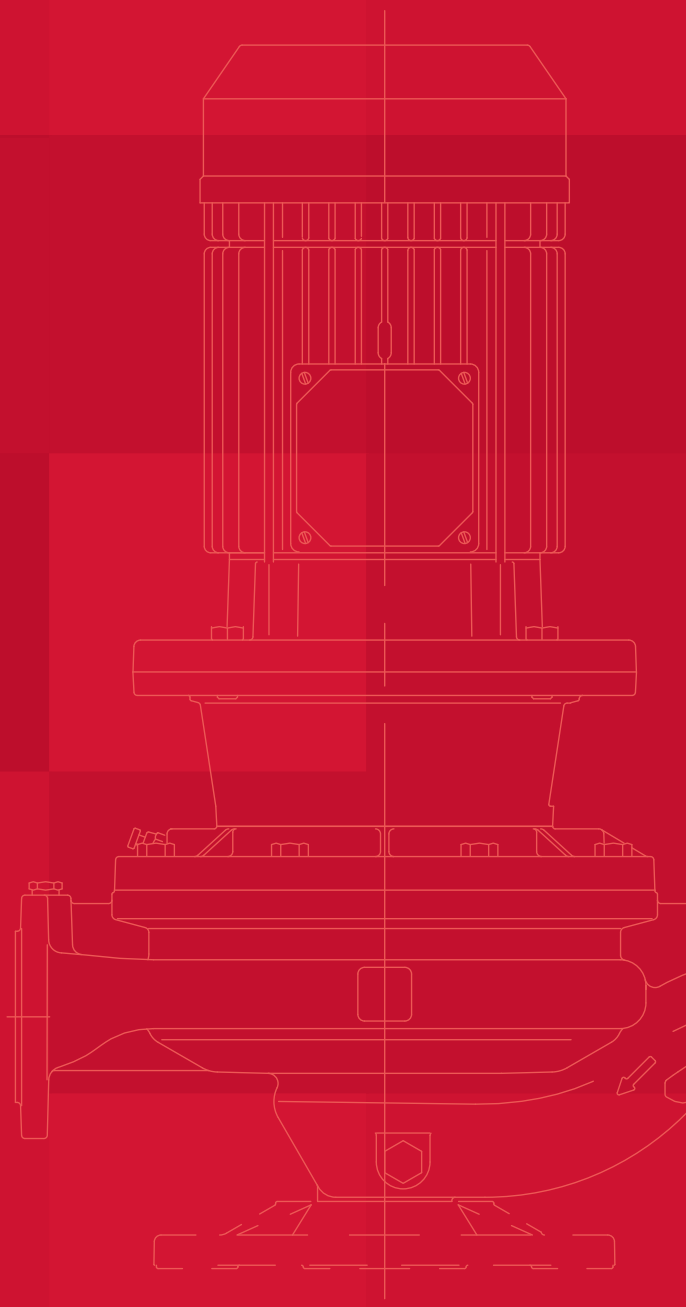


The declared NPSH values are laboratory values: for practical use we suggest increasing these values by 0,5 m.
The declared performances are valid for liquids with density $\rho = 1{,}0$ kg/dm³ and kinematic viscosity $\upsilon = 1$ mm²/s.

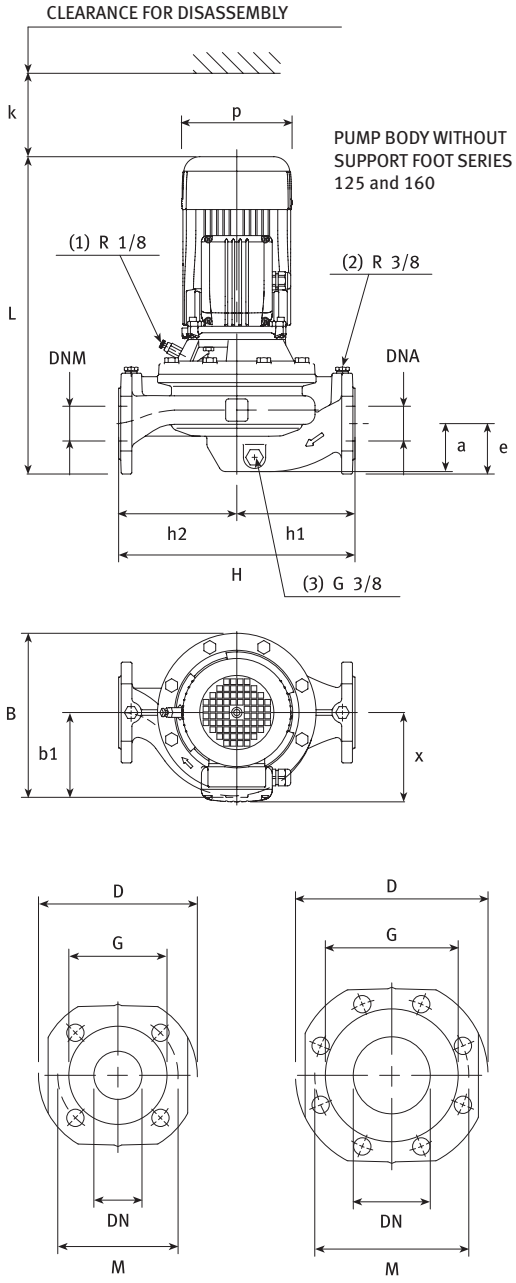
FL Serie

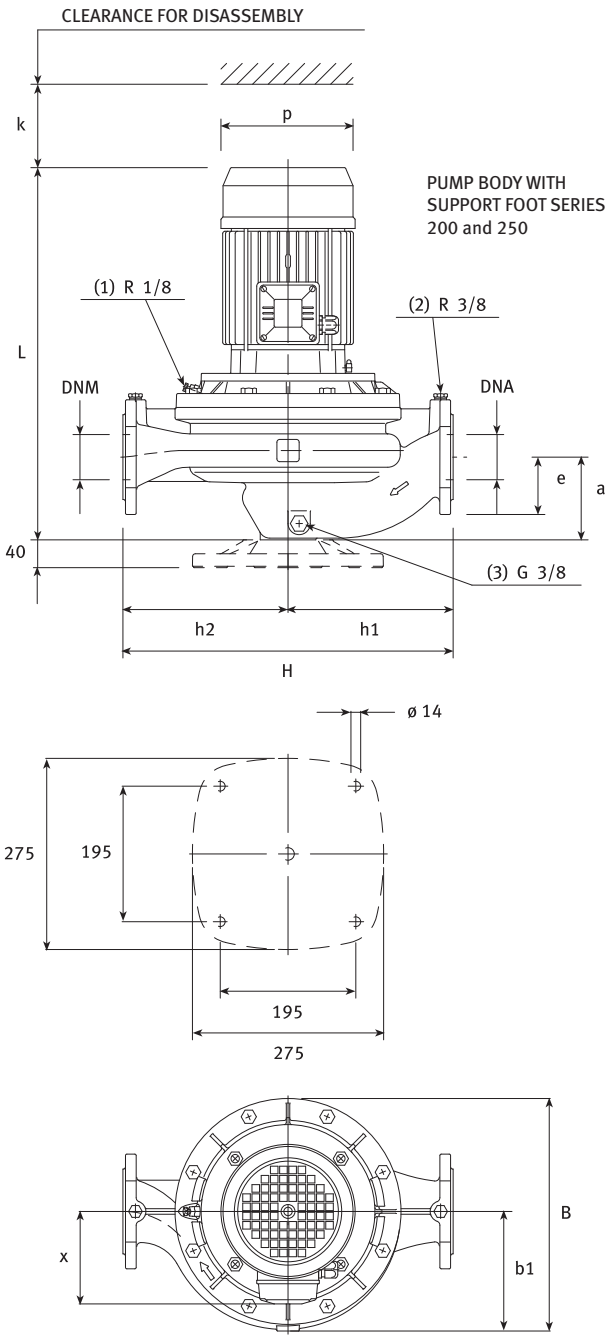
Dimensions, weights and accessories

50 Hz



FL series





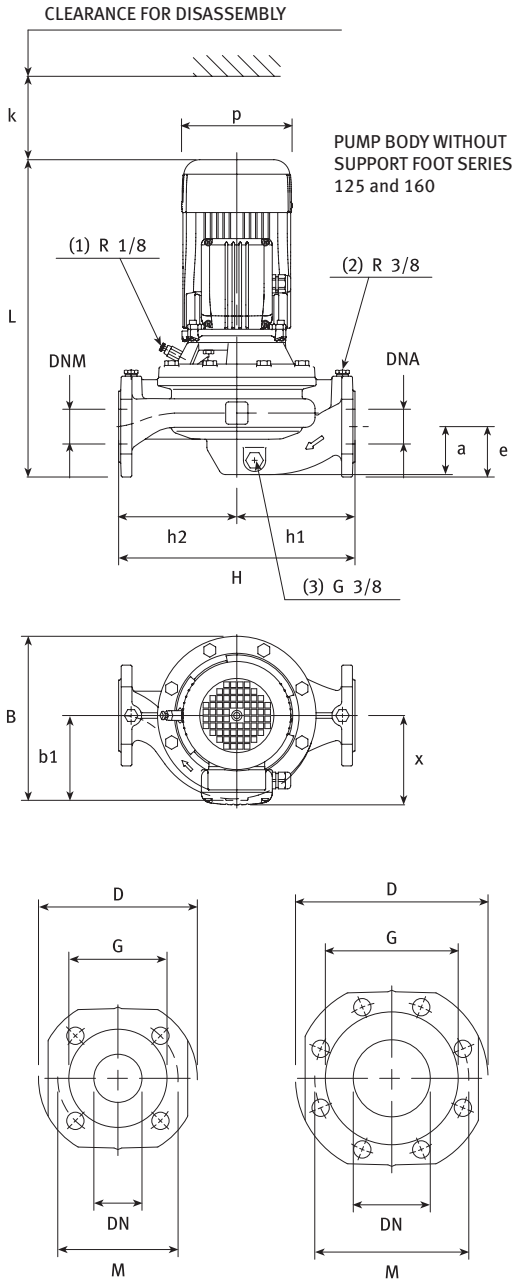
DN	D	M	G	HOLES		Thickness
				Nº	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

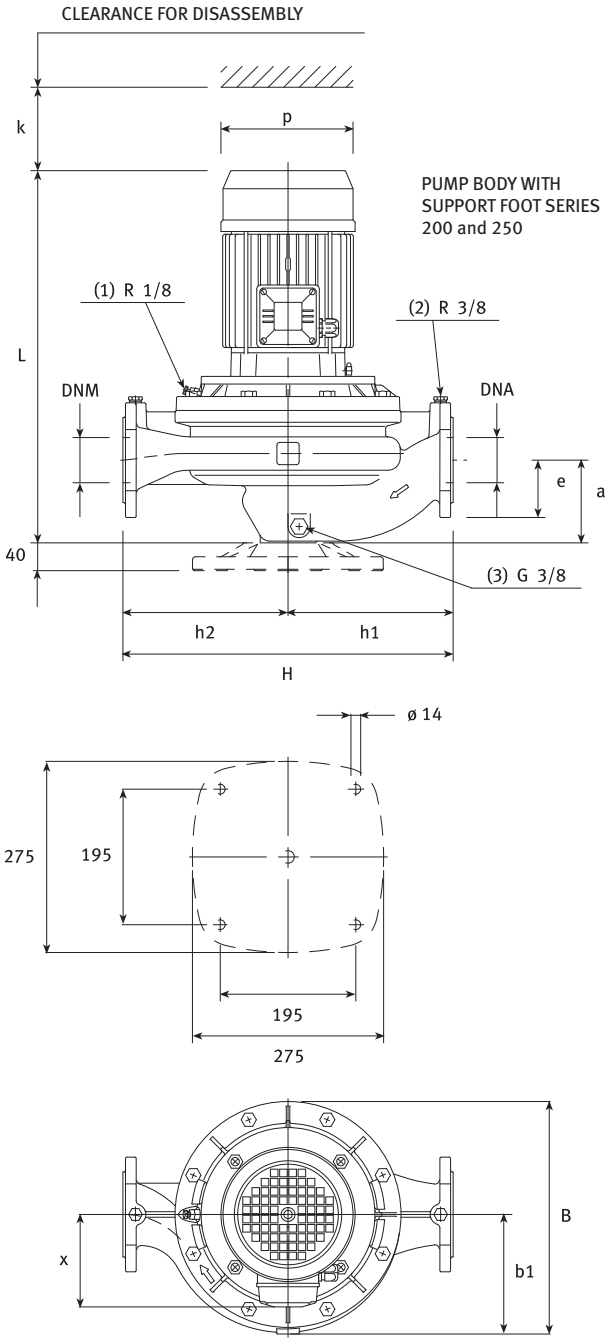
(1) R 1/8 AIR VALVE
(2) R 3/8 PRESSURE GAUGE CONNECTOR
(3) G 3/8 DRAIN

FL series

PUMP	DIMENSIONS (mm)									B	H	L	K	WEIGHT
TYPE	DNA	DNM	a	e	h1	h2	x	b1	p		max			kg
FL 40-125/07	40	40	70	70	160	160	137	116	158	243	320	472	86	26.1
FL 40-125/11	40	40	70	70	160	160	137	116	158	243	320	435	86	27.7
FL 40-160/15	40	40	70	70	160	160	181	116	177	243	320	445	86	25
FL 40-160/22	40	40	70	70	160	160	181	116	177	243	320	500	86	28
FL 40-200/40A	40	40	95	65	220	220	180	163	197	325	440	530	98	55.7
FL 40-200/40	40	40	95	65	220	220	180	163	197	325	440	530	98	55.7
FL 40-200/55	40	40	95	65	220	220	193	163	253	325	440	530	98	62.5
FL 40-250/75	40	40	95	65	220	220	193	163	253	325	440	594	98	68
FL 40-250/110	40	40	95	65	220	220	230	163	314	354	440	702	98	77
FL 50-125/11	50	50	69	73	170	170	137	122	158	243	340	444	88	29.7
FL 50-125/15	50	50	69	73	170	170	181	122	177	243	340	454	88	29
FL 50-160/22	50	50	69	73	170	170	181	122	177	243	340	509	88	37
FL 50-160/30	50	50	69	73	170	170	152	122	197	236	340	498	88	42.3
FL 50-160/40	50	50	69	73	170	170	180	122	197	247	340	529	88	32.7
FL 50-200/55	50	50	110	73	220	220	193	163	253	326	440	559	100	45.5
FL 50-200/75	50	50	110	73	220	220	193	163	253	326	440	623	100	49
FL 50-250/92	50	50	110	73	220	220	194	163	257	354	440	628	100	96
FL 50-250/110	50	50	110	73	220	220	230	163	314	354	440	731	100	92
FL 50-250/150	50	50	110	73	220	220	230	163	314	395	440	754	100	106
FL 65-125/22	65	65	77	83	170	170	280	137	177	274	340	528	92	47
FL 65-125/30	65	65	77	83	170	170	152	137	197	274	340	517	92	53.3
FL 65-125/40	65	65	77	83	170	170	180	137	197	274	340	548	92	44.7
FL 65-160/55	65	65	77	83	170	170	193	137	253	288	340	548	92	58.5
FL 65-160/75	65	65	77	83	170	170	193	137	253	288	340	612	92	63
FL 65-200/92	65	65	119	83	237.5	237.5	194	172	257	354	475	633	104	100
FL 65-200/110	65	65	119	83	237.5	237.5	230	172	314	354	475	736	104	97
FL 65-250/150	65	65	119	83	237.5	237.5	230	172	314	395	475	759	104	119
FL 65-250/185	65	65	119	83	237.5	237.5	230	172	314	395	475	759	104	113
FL 65-250/220	65	65	119	83	237.5	237.5	280	172	354	395	475	819	104	182
FL 80-125/30	80	80	90	90	175	185	152	148	197	287	360	551	102	60.3
FL 80-125/40	80	80	90	90	175	185	180	148	197	287	360	582	102	50.7
FL 80-125/55	80	80	90	90	175	185	193	148	253	290	360	582	102	58.5
FL 80-160/75	80	80	90	90	175	185	193	148	253	290	360	646	102	62
FL 80-200/110	80	80	130	90	250	250	230	184	314	354	500	763	112	105
FL 80-200/150	80	80	130	90	250	250	230	184	314	395	500	786	112	121
FL 80-200/185	80	80	130	90	250	250	230	184	314	395	500	786	112	123
FL 80-200/220	80	80	130	90	250	250	280	184	354	395	500	846	112	194
FL 100-160/110	100	100	105	105	225	225	230	172	314	330	450	778	117	112
FL 100-200/185	100	100	140	105	275	275	230	196	314	398	550	807	129	164
FL 100-200/220	100	100	140	105	275	275	280	196	354	398	550	867	129	234

FL4 series





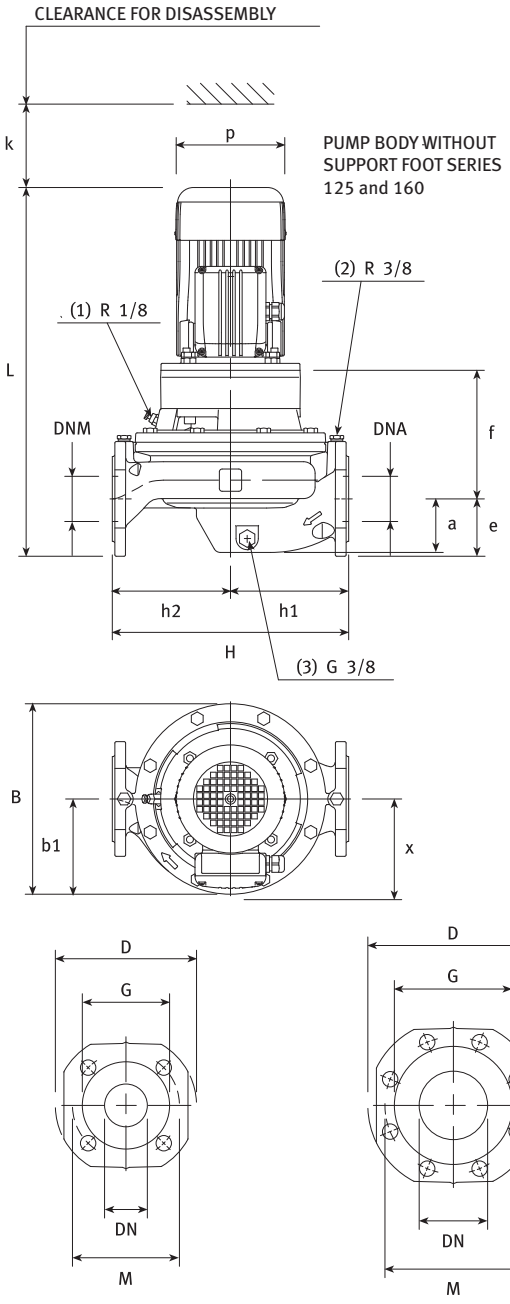
DN	D	M	G	HOLES		Thickness
				Nº	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

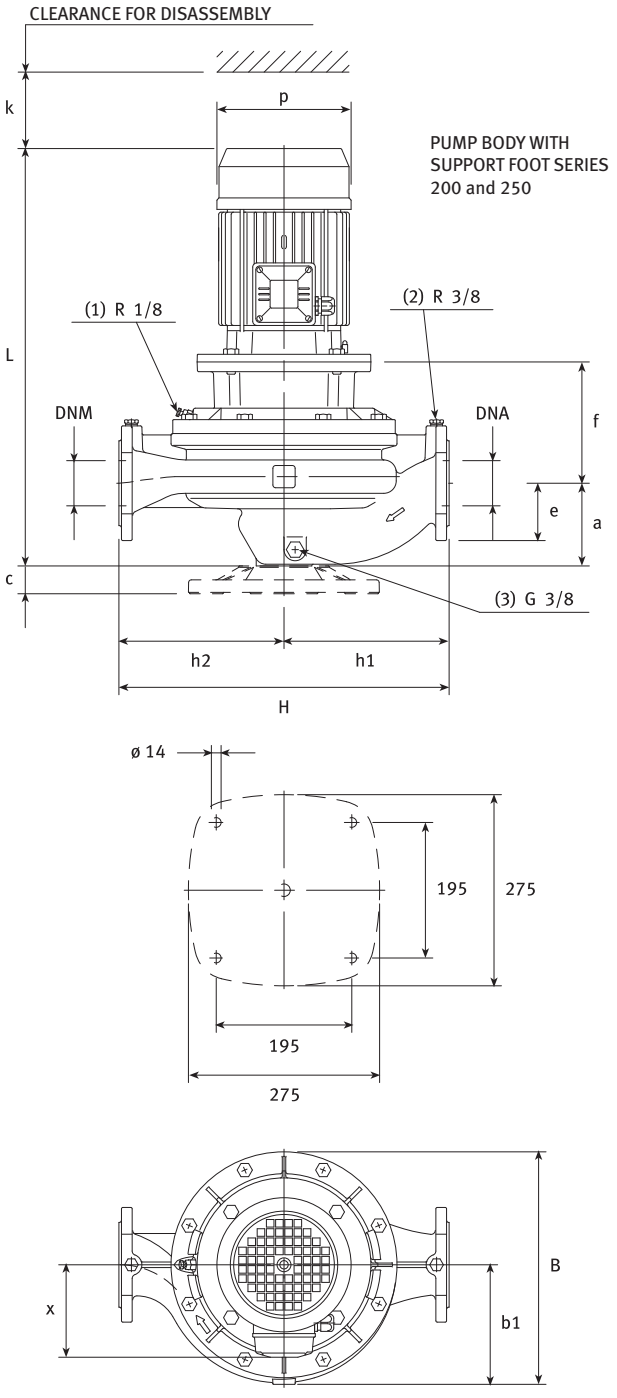
(1) R 1/8 AIR VALVE
(2) R 3/8 PRESSURE GAUGE CONNECTOR
(3) G 3/8 DRAIN

FL4 series

PUMP	DIMENSIONS (mm)									B	H	L	K	WEIGHT
TYPE	DNA	DNM	a	e	h1	h2	x	b1	p		max			kg
FL4 40-160/03	40	40	70	70	160	160	117	116	137	235	320	431	86	26
FL4 40-200/05	40	40	95	65	220	220	117	163	137	325	440	451	98	44
FL4 40-200/07	40	40	95	65	220	220	137	163	158	325	440	482	98	44
FL4 40-250/11	40	40	95	65	220	220	137	163	158	325	440	463	98	58
FL4 40-250/15	40	40	95	65	220	220	181	163	177	325	440	473	98	59
FL4 50-125/03	50	50	69	73	170	170	117	122	137	236	340	440	88	29
FL4 50-160/05	50	50	69	73	170	170	117	122	137	243	340	450	88	31
FL4 50-200/07	50	50	110	73	220	220	137	163	158	326	440	511	100	53
FL4 50-200/11	50	50	110	73	220	220	137	163	158	326	440	492	100	57
FL4 50-250/15	50	50	110	73	220	220	181	163	177	326	440	502	100	60
FL4 50-250/22	50	50	110	73	220	220	181	163	177	326	440	583	100	63
FL4 65-125/03	65	65	77	83	170	170	117	137	137	274	340	459	92	38
FL4 65-125/05	65	65	77	83	170	170	117	137	137	274	340	469	92	42
FL4 65-160/07	65	65	77	83	170	170	137	137	158	274	340	500	92	46
FL4 65-160/11	65	65	77	83	170	170	137	137	158	274	340	481	92	48
FL4 65-200/15	65	65	119	83	237.5	237.5	181	172	177	335	475	507	104	63
FL4 65-250/22	65	65	119	83	237.5	237.5	181	172	177	335	475	588	104	71
FL4 65-250/30	65	65	119	83	237.5	237.5	152	172	197	335	475	559	104	73
FL4 80-125/07	80	80	90	90	175	185	137	148	158	287	360	534	102	50
FL4 80-125/11	80	80	90	90	175	185	137	148	158	287	360	515	102	53
FL4 80-200/15	80	80	130	90	250	250	181	184	177	347	500	534	112	75
FL4 80-200/22	80	80	130	90	250	250	181	184	177	347	500	615	112	78
FL4 80-200/30	80	80	130	90	250	250	152	184	197	347	500	586	112	82
FL4 80-250/40	80	80	130	90	250	250	180	184	197	347	500	614	112	97
FL4 80-250/55	80	80	130	90	250	250	193	184	253	354	500	604	112	106
FL4 100-160/15	100	100	105	105	225	225	181	172	177	311	450	549	117	68
FL4 100-200/22	100	100	140	105	275	275	181	196	177	362	550	636	129	90
FL4 100-200/30	100	100	140	105	225	275	152	196	197	362	550	607	129	92
FL4 100-250/40	100	100	140	105	275	275	180	196	197	362	550	635	129	105
FL4 100-250/55	100	100	140	105	275	275	193	196	253	362	550	625	129	112
FL4 100-250/75	100	100	140	105	275	275	193	196	253	362	550	727	129	128

FLS series





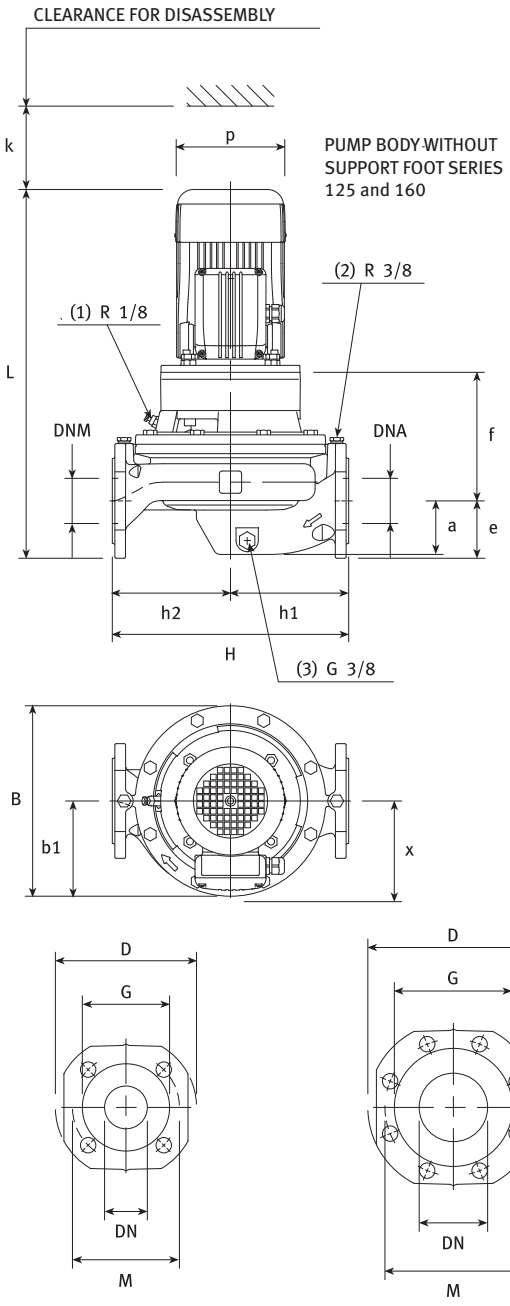
DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

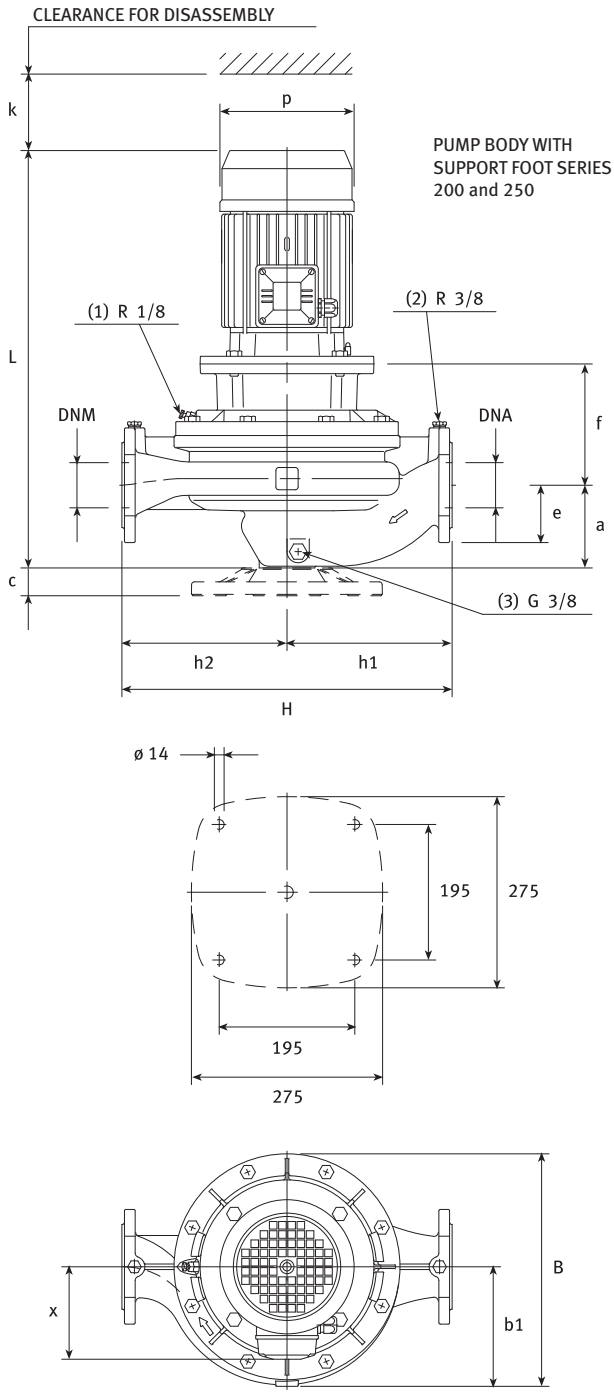
(1) R 1/8 AIR VALVE
(2) R 3/8 PRESSURE GAUGE CONNECTOR
(3) G 3/8 DRAIN

FLS series

PUMP	DIMENSIONS (mm)										B	H	L	K	WEIGHT
TYPE	DNA	DNM	a	e	f	h1	h2	x	b1	p		max			kg
FLS 40-125/07	40	40	70	70	170	160	160	137	116	158	235	320	490	86	26.1
FLS 40-125/11	40	40	70	70	170	160	160	137	116	158	243	320	490	86	27.7
FLS 40-160/15	40	40	70	70	170	160	160	181	116	177	243	320	500	86	25
FLS 40-160/22	40	40	70	70	170	160	160	181	116	177	243	320	555	86	28
FLS 40-200/30	40	40	95	65	165	220	220	152	163	197	325	440	586	98	42.3
FLS 40-200/40	40	40	95	65	165	220	220	180	163	197	325	440	595	98	55.7
FLS 40-200/55	40	40	95	65	192	220	220	193	163	253	325	440	643	98	62.5
FLS 40-250/75	40	40	95	65	192	220	220	193	163	253	325	440	707	98	68
FLS 40-250/110	40	40	95	65	222	220	220	230	163	314	366	440	847	98	77
FLS 50-125/11	50	50	69	73	176	170	170	137	122	158	243	340	499	88	29.7
FLS 50-125/15	50	50	69	73	176	170	170	181	122	177	243	340	509	88	29
FLS 50-160/22	50	50	69	73	176	170	170	181	122	177	243	340	564	88	37
FLS 50-160/30	50	50	69	73	186	170	170	152	122	197	247	340	585	88	42.3
FLS 50-160/40	50	50	69	73	186	170	170	180	122	197	258	340	594	88	32.7
FLS 50-200/55	50	50	110	73	206	220	220	193	163	253	326	440	672	100	45.5
FLS 50-200/75	50	50	110	73	206	220	220	193	163	253	326	440	736	100	49
FLS 50-250/110A	50	50	110	73	236	220	220	230	163	314	366	440	876	100	92
FLS 50-250/110	50	50	110	73	236	220	220	230	163	314	366	440	876	100	92
FLS 50-250/150	50	50	110	73	236	220	220	230	163	314	407	440	876	100	106
FLS 65-125/22	65	65	77	83	185	170	170	280	137	177	274	340	583	92	47
FLS 65-125/30	65	65	77	83	195	170	170	152	137	197	274	340	604	92	53.3
FLS 65-125/40	65	65	77	83	195	170	170	180	137	197	274	340	613	92	44.7
FLS 65-160/55	65	65	77	83	222	170	170	193	137	253	301	340	661	92	58.5
FLS 65-160/75	65	65	77	83	222	170	170	193	137	253	301	340	725	92	63
FLS 65-200/110A	65	65	119	83	232	237.5	237.5	230	172	314	366	475	881	104	97
FLS 65-200/110	65	65	119	83	232	237.5	237.5	230	172	314	366	475	881	104	97
FLS 65-250/150	65	65	119	83	232	237.5	237.5	230	172	314	407	475	881	104	119
FLS 65-250/185	65	65	119	83	232	237.5	237.5	230	172	314	407	475	881	104	113
FLS 65-250/220	65	65	119	83	232	237.5	237.5	280	172	354	407	475	941	104	182
FLS 80-125/30	80	80	90	90	222	175	185	152	148	197	287	360	638	102	60.3
FLS 80-125/40	80	80	90	90	222	175	185	180	148	197	287	360	647	102	50.7
FLS 80-125/55	80	80	90	90	249	175	185	193	148	253	301	360	695	102	58.5
FLS 80-160/75	80	80	90	90	248	175	185	193	148	253	301	360	759	102	62
FLS 80-200/110	80	80	130	90	248	250	250	230	184	314	366	500	908	112	105
FLS 80-200/150	80	80	130	90	248	250	250	230	184	314	407	500	908	112	121
FLS 80-200/185	80	80	130	90	248	250	250	230	184	314	407	500	908	112	123
FLS 80-200/220	80	80	130	90	248	250	250	280	184	354	407	500	968	112	194
FLS 100-160/110	100	100	105	105	288	225	225	230	172	314	366	450	923	117	112
FLS 100-200/185	100	100	140	105	259	275	275	230	196	314	407	550	929	129	164
FLS 100-200/220	100	100	140	105	259	275	275	280	196	354	407	550	989	129	234

FLS4 series





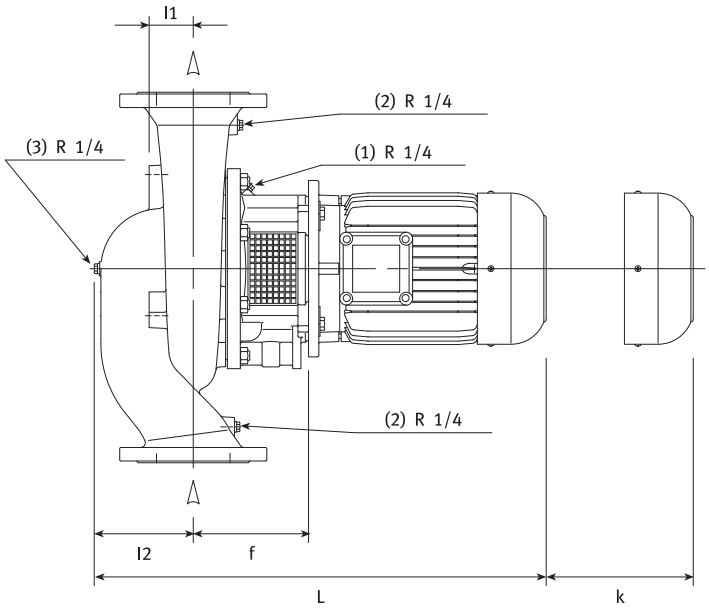
DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

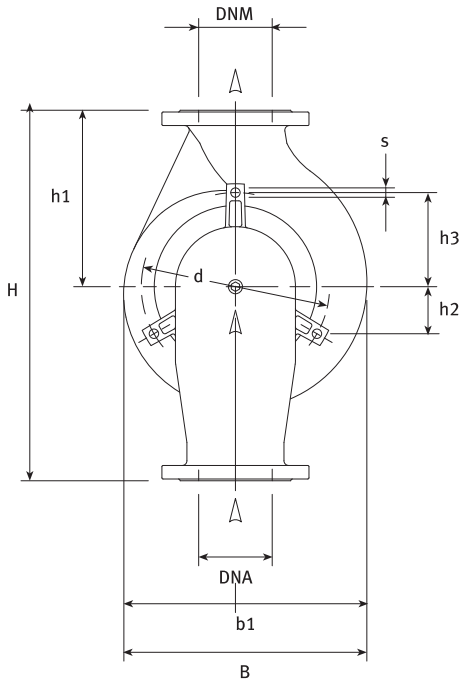
(1) R 1/8 AIR VALVE
(2) R 3/8 PRESSURE GAUGE CONNECTOR
(3) G 3/8 DRAIN

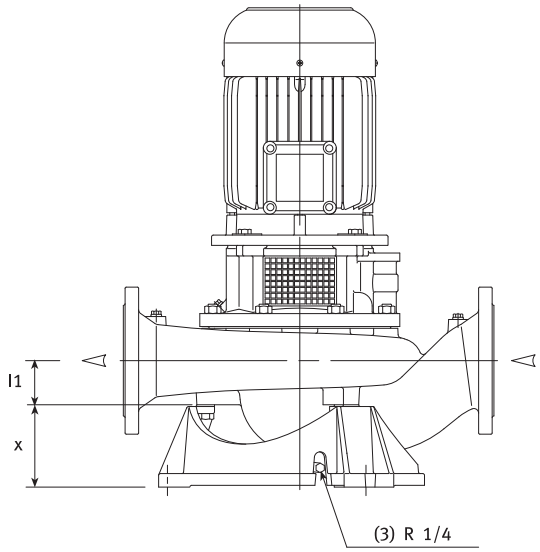
FLS4 series

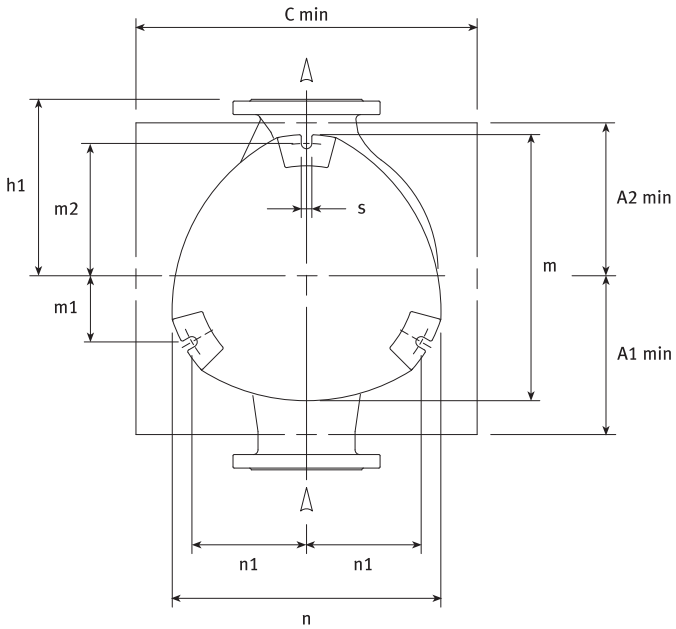
PUMP	DIMENSIONS (mm)										B	H	L	K	WEIGHT
TYPE	DNA	DNM	a	e	f	h1	h2	x	b1	p		max			kg
FLS4 40-200/05	40	40	95	65	155	220	220	117	163	137	325	440	506	98	56
FLS4 40-200/07	40	40	95	65	155	220	220	137	163	158	325	440	537	98	59
FLS4 40-250/11	40	40	95	65	155	220	220	137	163	158	325	440	518	98	61
FLS4 40-250/15	40	40	95	65	155	220	220	181	163	177	325	440	528	98	63
FLS4 50-200/07	50	50	110	73	169	220	220	137	163	158	326	440	566	100	62
FLS4 50-200/11	50	50	110	73	169	220	220	137	163	158	326	440	547	100	66
FLS4 50-250/15	50	50	110	73	169	220	220	181	163	177	326	440	557	100	67
FLS4 50-250/22	50	50	110	73	179	220	220	181	163	177	326	440	648	100	69
FLS4 65-160/07	65	65	77	83	185	170	170	137	137	158	274	340	555	92	48
FLS4 65-160/11	65	65	77	83	185	170	170	137	137	158	274	340	536	92	49
FLS4 65-200/15	65	65	119	83	165	237.5	237.5	181	172	177	335	475	562	104	66
FLS4 65-250/22	65	65	119	83	175	237.5	237.5	181	172	177	335	475	653	104	75
FLS4 65-250/30	65	65	119	83	175	237.5	237.5	152	172	197	335	475	624	104	78
FLS4 80-125/07	80	80	90	90	212	175	185	137	148	158	287	360	589	102	54
FLS4 80-125/11	80	80	90	90	212	175	185	137	148	158	287	360	570	102	60
FLS4 80-200/15	80	80	130	90	181	250	250	181	184	177	347	500	589	112	86
FLS4 80-200/22	80	80	130	90	191	250	250	181	184	177	347	500	680	112	86
FLS4 80-200/30	80	80	130	90	191	250	250	152	184	197	347	500	651	112	88
FLS4 80-250/40	80	80	130	90	191	250	250	180	184	197	347	500	649	112	105
FLS4 80-250/55	80	80	130	90	218	250	250	193	184	253	354	500	696	112	110
FLS4 100-160/15	100	100	105	105	221	225	225	181	172	177	311	450	604	117	72
FLS4 100-200/22	100	100	140	105	202	275	275	181	196	177	362	550	701	129	76
FLS4 100-200/30	100	100	140	105	202	225	275	152	196	197	362	550	672	129	79
FLS4 100-250/40	100	100	140	105	202	275	275	180	196	197	362	550	700	129	120
FLS4 100-250/55	100	100	140	105	229	275	275	193	196	253	362	550	717	129	123
FLS4 100-250/75	100	100	140	105	229	275	275	193	196	253	362	550	819	129	134

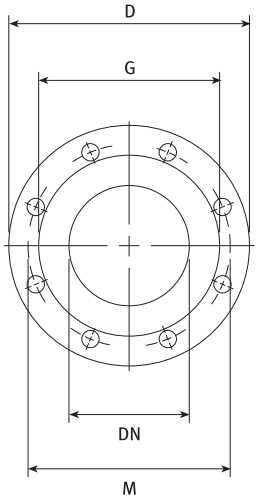
FLS4 series (125÷150)











(1) R 1/8 AIR VALVE
(2) R 3/8 PRESSURE GAUGE CONNECTOR
(3) G 3/8 DRAIN

DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
125	250	210	188	8	18	26
150	285	240	212	8	23	26

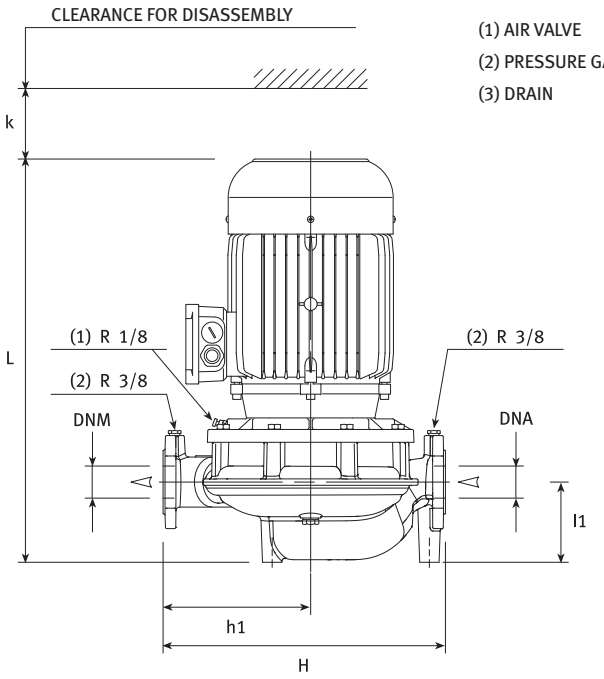
FLS4 series (125÷150)

PUMP	DIMENSIONS (mm)										B	H	L	K	WEIGHT
TYPE	DNA	DNM	b1	d	f	h1	h2	h3	l1	l2		max			kg
FLS4 125-160/30	125	125	234	274	196	315	68	137	85	161	418	630	651	143	123
FLS4 125-200/40	125	125	202	274	196	290	68	137	80	164	378	620	687	153	113
FLS4 125-200/55	125	125	202	274	196	290	68	137	80	164	378	620	778	153	135
FLS4 125-250/75	125	125	220	320	196	300	80	160	75	168	422	630	791	150	154
FLS4 125-250/110	125	125	220	320	226	300	80	160	75	168	422	630	1035	150	180
FLS4 125-315/150	125	125	262	320	226	350	80	160	130	229	503	775	1035	160	258
FLS4 125-315/185	125	125	262	320	226	350	80	160	130	229	503	775	991	160	270
FLS4 125-315/220	125	125	262	320	226	350	80	160	130	229	503	775	1126	160	292
FLS4 150-200/55	150	150	260	320	211	340	80	160	90	178	468	720	807	160	107
FLS4 150-200/75	150	150	260	320	211	340	80	160	90	178	468	720	816	160	164
FLS4 150-250/110	150	150	276	320	226	365	80	160	85	188	504	755	1055	158	204
FLS4 150-250/150	150	150	276	320	226	365	80	160	85	188	504	755	994	158	218
FLS4 150-250/185	150	150	276	320	226	365	80	160	85	188	504	755	950	158	230

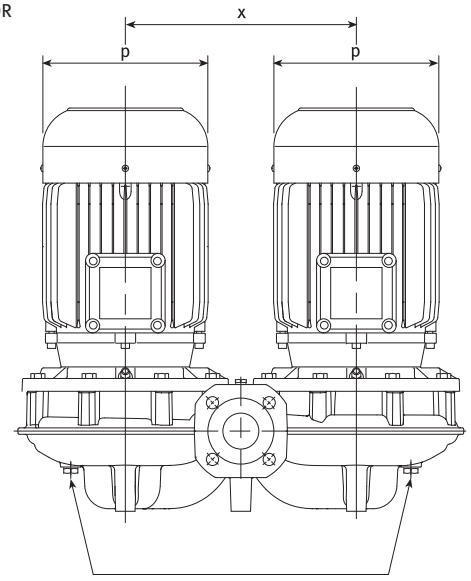
FLS4 series (125÷150)

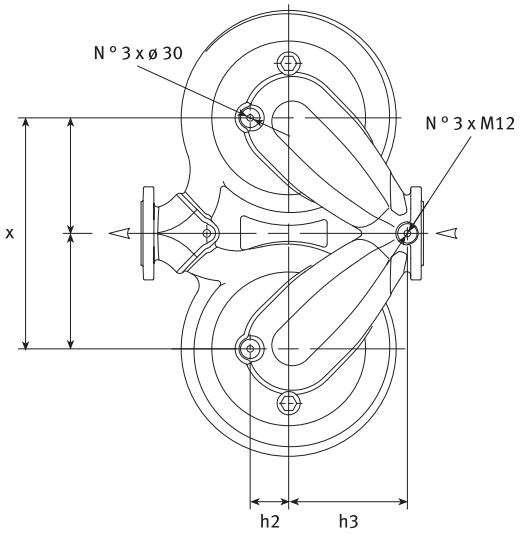
PUMP	DIMENSIONS (mm)									
TYPE	A1	A2	C	M	m1	m2	n	n1	s	x
FLS4 125-160/30	230	250	480	388	96	192	389	166	M16	120
FLS4 125-200/40	230	250	480	388	96	192	389	166	M16	120
FLS4 125-200/55	230	250	480	388	96	192	389	166	M16	120
FLS4 125-250/75	270	300	580	453	112	225	457	195	M16	140
FLS4 125-250/110	270	300	580	453	112	225	457	195	M16	140
FLS4 125-315/150	270	300	580	453	112	225	457	195	M16	140
FLS4 125-315/185	270	300	580	453	112	225	457	195	M16	140
FLS4 125-315/220	270	300	580	453	112	225	457	195	M16	140
FLS4 150-200/55	270	300	580	453	112	225	457	195	M16	140
FLS4 150-200/75	270	300	580	453	112	225	457	195	M16	140
FLS4 150-250/110	270	300	580	453	112	225	457	195	M16	140
FLS4 150-250/150	270	300	580	453	112	225	457	195	M16	140
FLS4 150-250/185	270	300	580	453	112	225	457	195	M16	140

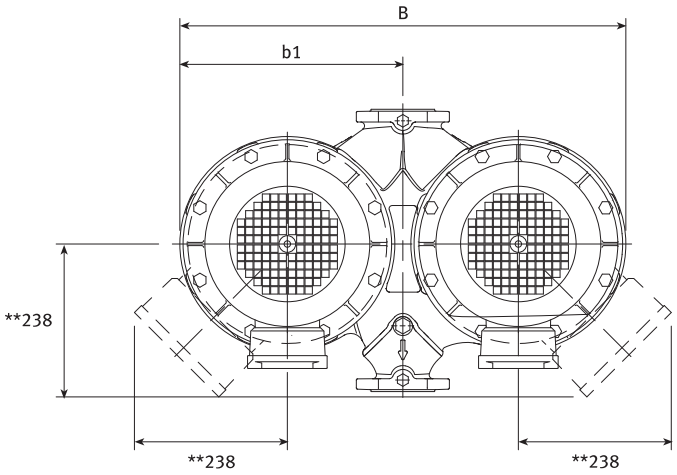
FLD series



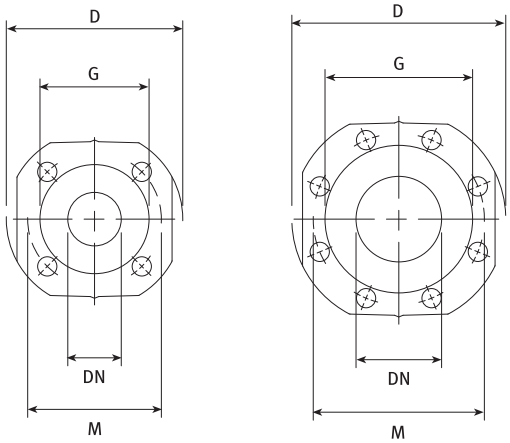
(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN







** ONLY FOR MODELS WITH
15-18.5-22Kw MOTORS

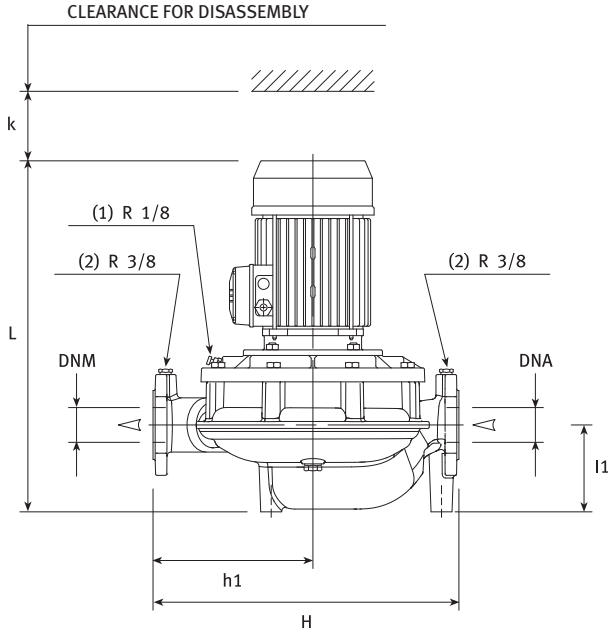


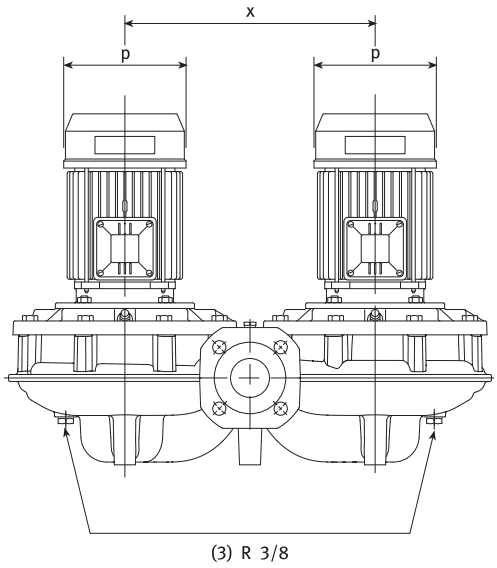
DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

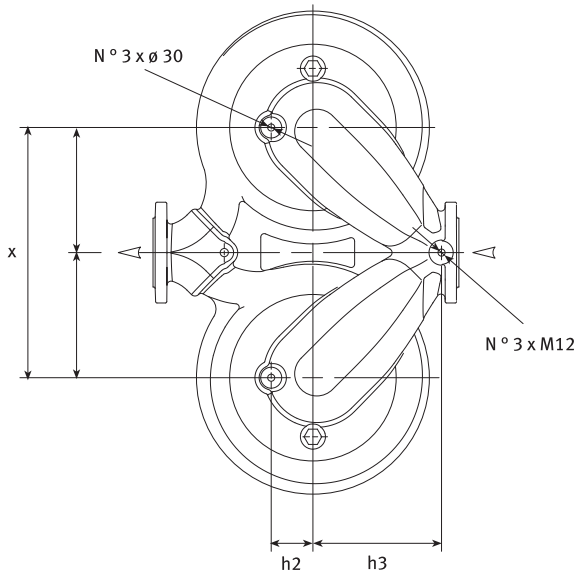
FLD series

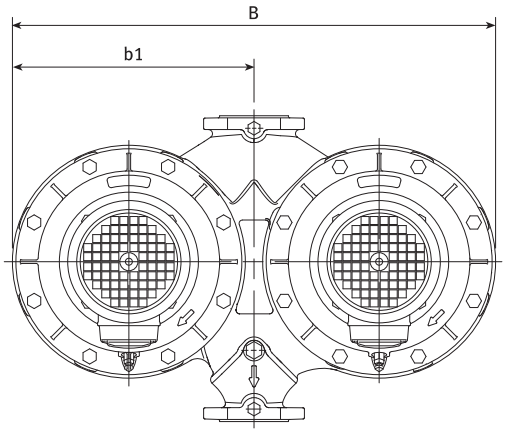
PUMP	DIMENSIONS (mm)									B	H	L	K	WEIGHT
TYPE	DNA	DNM	b1	h1	h2	h3	l1	p	x					kg
FLD 40-125/07	40	40	245	170	50	120	89	158	250	490	320	476	90	50.2
FLD 40-125/11	40	40	245	170	50	120	89	158	250	490	320	439	90	53.4
FLD 40-160/15	40	40	245	170	50	120	89	177	250	490	320	449	90	48
FLD 40-160/22	40	40	245	170	50	120	89	177	250	490	320	504	90	54
FLD 40-200/40A	40	40	348	220	50	190	97	197	360	695	440	527	101	130
FLD 40-200/40	40	40	348	220	50	190	97	197	360	695	440	532	101	106
FLD 40-200/55	40	40	348	220	50	190	97	253	360	695	440	532	101	120
FLD 40-250/75	40	40	348	220	50	190	97	253	360	695	440	596	101	131
FLD 40-250/110	40	40	348	220	50	190	97	314	360	695	440	704	101	149
FLD 50-125/11	50	50	250	180	55	130	92	158	260	500	340	444	91	52.4
FLD 50-125/15	50	50	250	180	55	130	92	177	260	500	340	454	91	51
FLD 50-160/22	50	50	250	180	55	130	92	177	260	500	340	509	91	67
FLD 50-160/30	50	50	250	180	55	130	92	197	260	500	340	498	91	77.6
FLD 50-160/40	50	50	250	180	55	130	92	197	260	500	340	529	91	58.4
FLD 50-200/55	50	50	348	230	60	185	125	253	360	695	440	560	110	87
FLD 50-200/75	50	50	348	230	60	185	125	253	360	695	440	624	110	94
FLD 50-250/110	50	50	348	230	60	185	125	314	360	695	440	732	110	180
FLD 50-250/150	50	50	348	230	60	185	125	314	360	695	440	755	110	208
FLD 65-125/22	65	65	297	185	55	125	108	177	310	593	340	526	96	93
FLD 65-125/30	65	65	297	185	55	125	108	197	310	593	340	515	96	106
FLD 65-125/40	65	65	297	185	55	125	108	197	310	593	340	546	96	88.4
FLD 65-160/55	65	65	297	185	55	125	108	253	310	593	340	546	96	116
FLD 65-160/75	65	65	297	185	55	125	108	253	310	593	340	610	96	125
FLD 65-200/110	65	65	348	260	59	185	130	314	360	695	475	737	109	186
FLD 65-250/150	65	65	348	260	59	185	130	314	360	695	475	760	109	230
FLD 65-250/185	65	65	348	260	59	185	130	314	360	695	475	760	109	218
FLD 65-250/220	65	65	348	260	59	185	130	354	360	695	475	820	109	356
FLD 80-125/30	80	80	304	210	70	110	141	197	320	607	400	554	106	120
FLD 80-125/40	80	80	304	210	70	110	141	197	320	607	400	585	106	100
FLD 80-125/55	80	80	304	210	70	110	141	253	320	607	400	585	106	116
FLD 80-160/75	80	80	304	210	70	110	141	253	320	607	400	649	106	123
FLD 80-200/110	80	80	368	280	80	140	157	314	380	722	500	764	112	201
FLD 80-200/150	80	80	368	280	80	140	157	314	380	722	500	787	112	233
FLD 80-200/185	80	80	368	280	80	140	157	314	380	722	500	787	112	237
FLD 80-200/220	80	80	368	280	80	140	157	354	380	722	500	847	112	379
FLD 100-160/110	100	100	340	270	72	150	175	314	360	670	500	783	118	222
FLD 100-200/185	100	100	408	310	80	150	180	314	410	798	550	810	128	331
FLD 100-200/220	100	100	408	310	80	150	180	354	410	798	550	870	128	471

FLD4 series

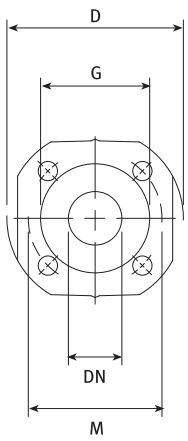


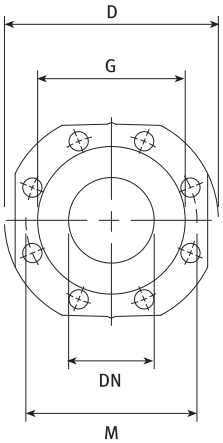






(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



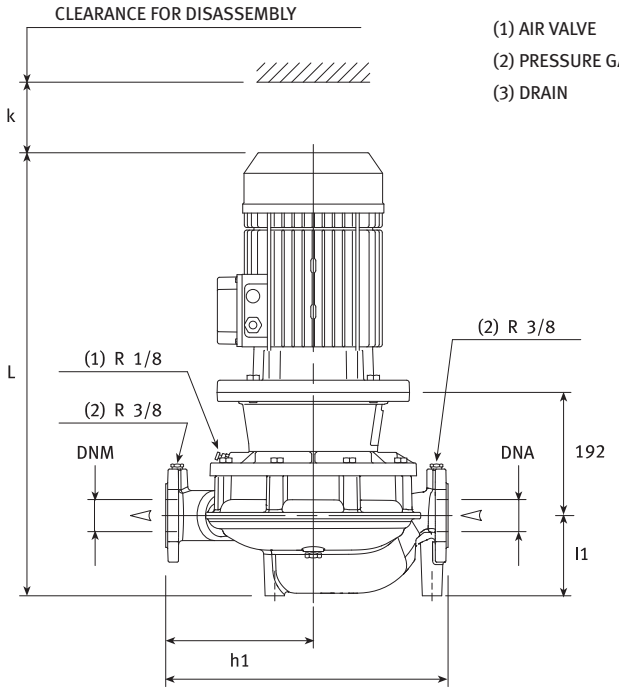


DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

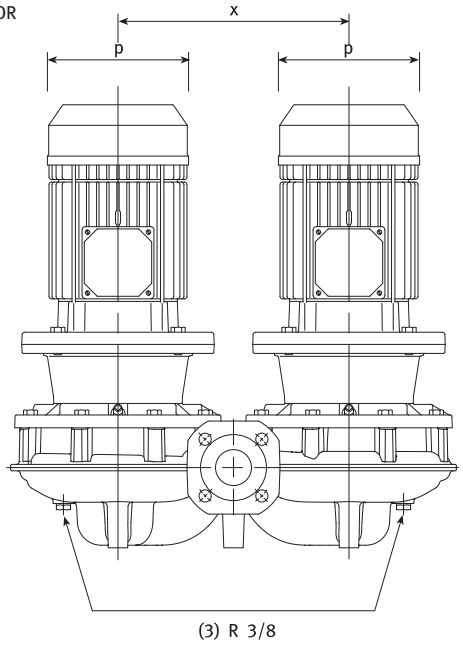
FLD4 series

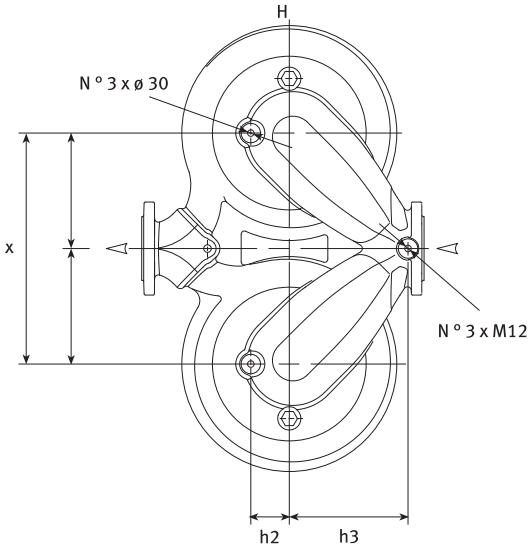
PUMP	DIMENSIONS (mm)									B	H	L	K	WEIGHT
TYPE	DNA	DNM	b1	h1	h2	h3	l1	p	x					kg
FLD4 40-160/03	40	40	245	170	50	120	89	137	250	490	320	435	90	50
FLD4 40-200/05	40	40	348	220	50	190	97	137	360	695	440	453	101	83
FLD4 40-200/07	40	40	348	220	50	190	97	158	360	695	440	484	101	83
FLD4 40-250/11	40	40	348	220	50	190	97	158	360	695	440	465	101	111
FLD4 40-250/15	40	40	348	220	50	190	97	177	360	695	440	475	101	113
FLD4 50-125/03	50	50	250	180	55	130	92	137	260	500	340	440	91	51
FLD4 50-160/05	50	50	250	180	55	130	92	137	260	500	340	450	91	53
FLD4 50-200/07	50	50	348	230	60	185	125	158	360	695	440	512	110	102
FLD4 50-200/11	50	50	348	230	60	185	125	158	360	695	440	493	110	110
FLD4 50-250/15	50	50	348	230	60	185	125	177	360	695	440	503	110	116
FLD4 50-250/22	50	50	348	230	60	185	125	177	360	695	440	584	110	122
FLD4 65-125/03	65	65	297	185	55	125	108	137	310	593	340	457	96	75
FLD4 65-125/05	65	65	297	185	55	125	108	137	310	593	340	467	96	83
FLD4 65-160/07	65	65	297	185	55	125	108	158	310	593	340	498	96	91
FLD4 65-160/11	65	65	297	185	55	125	108	158	310	593	340	479	96	95
FLD4 65-200/15	65	65	348	260	59	185	130	177	360	695	475	508	109	118
FLD4 65-250/22	65	65	348	260	59	185	130	177	360	695	475	589	109	134
FLD4 65-250/30	65	65	348	260	59	185	130	197	360	695	475	560	109	138
FLD4 80-125/07	80	80	304	210	70	110	141	158	320	607	400	537	106	98
FLD4 80-125/11	80	80	304	210	70	110	141	158	320	607	400	518	106	104
FLD4 80-200/15	80	80	368	280	80	140	157	177	380	722	500	535	112	141
FLD4 80-200/22	80	80	368	280	80	140	157	177	380	722	500	616	112	147
FLD4 80-200/30	80	80	368	280	80	140	157	197	380	722	500	587	112	155
FLD4 80-250/40	80	80	368	280	80	140	157	197	380	722	500	615	112	185
FLD4 80-250/55	80	80	368	280	80	140	157	253	380	722	500	605	112	203
FLD4 100-160/15	100	100	340	270	72	150	175	177	360	670	500	554	118	134
FLD4 100-200/22	100	100	408	310	80	150	180	177	410	798	550	639	128	183
FLD4 100-200/30	100	100	408	310	80	150	180	197	410	798	550	610	128	187
FLD4 100-250/40	100	100	408	310	80	150	180	197	410	798	550	638	128	213
FLD4 100-250/55	100	100	408	310	80	150	180	253	410	798	550	628	128	227
FLD4 100-250/75	100	100	408	310	80	150	180	253	410	798	550	692	128	259

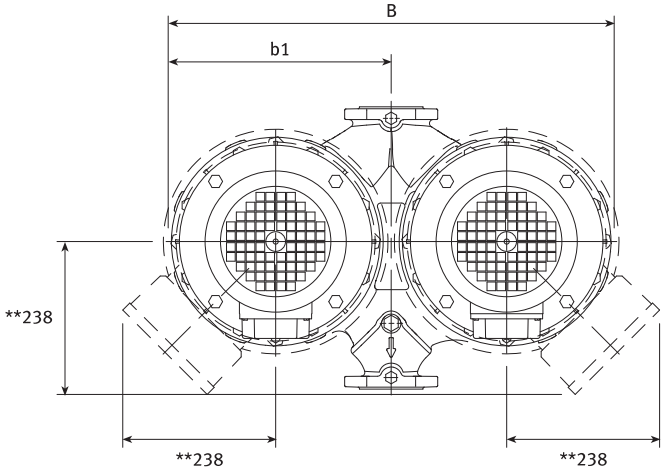
FLSD series



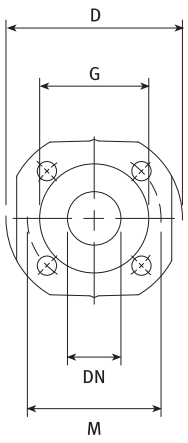
(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN

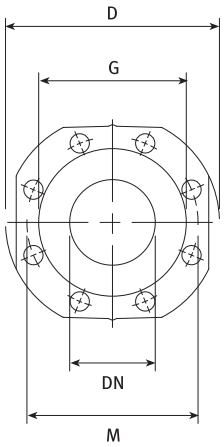






** ONLY FOR MODELS WITH
11-15-18.5-22Kw MOTORS



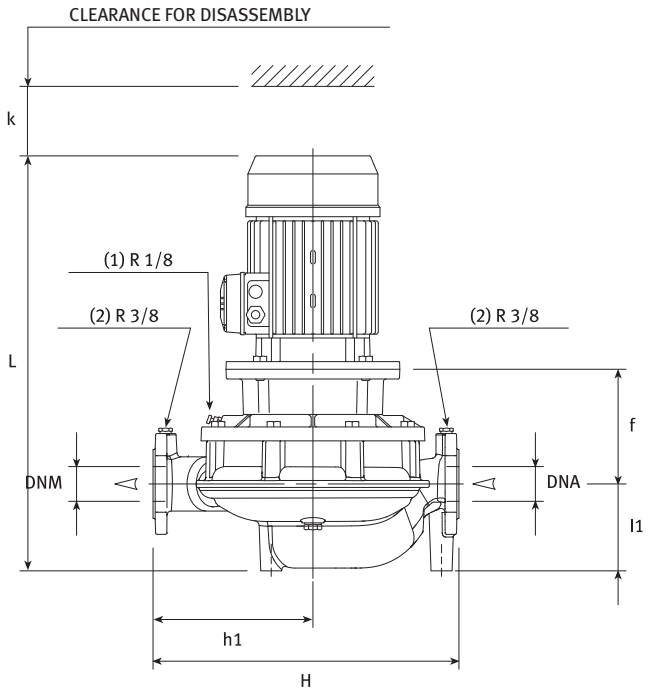


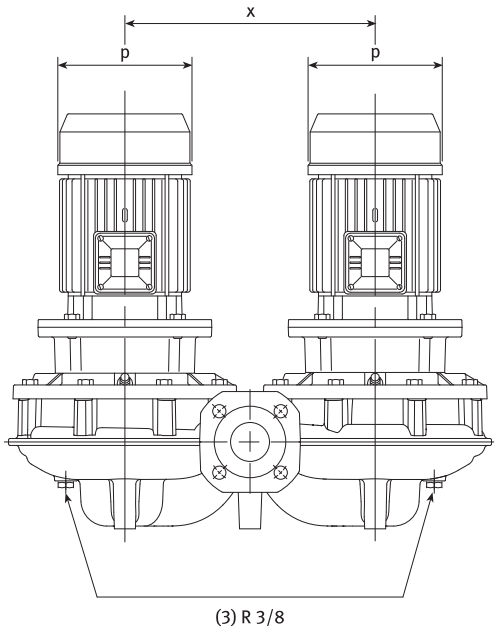
DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

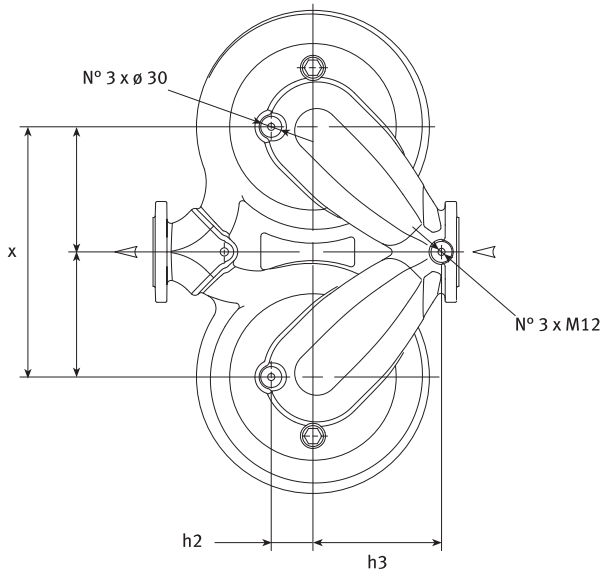
FLSD series

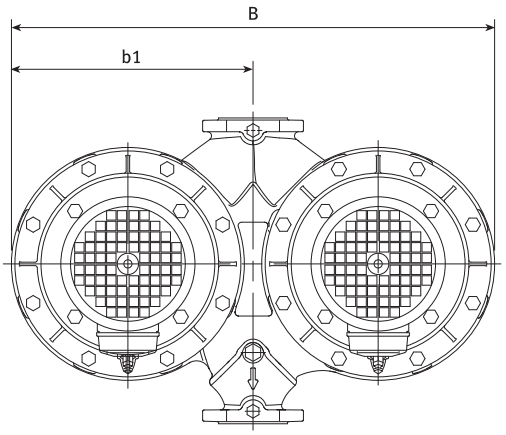
PUMP	DIMENSIONS (mm)										B	H	L	K	WEIGHT
TYPE	DNA	DNM	b1	f	h1	h2	h3	l1	p	x		max			kg
FLSD 40-125/07	40	40	245	155	170	50	120	89	158	250	490	320	494	90	56.2
FLSD 40-125/11	40	40	245	155	170	50	120	89	158	250	490	320	494	90	59.4
FLSD 40-160/15	40	40	245	155	170	50	120	89	177	250	490	320	504	90	54
FLSD 40-160/22	40	40	245	155	170	50	120	89	177	250	490	320	559	90	62
FLSD 40-200/30	40	40	348	165	220	50	190	97	197	360	695	440	588	101	125.6
FLSD 40-200/40	40	40	348	165	220	50	190	97	197	360	695	440	597	101	112.4
FLSD 40-200/55	40	40	348	192	220	50	190	97	253	360	695	440	645	101	150
FLSD 40-250/75	40	40	348	192	220	50	190	97	253	360	695	440	709	101	161
FLSD 40-250/110	40	40	348	222	220	50	190	97	314	360	695	440	849	101	205
FLSD 50-125/11	50	50	250	157	180	55	130	92	158	260	500	340	499	91	62.4
FLSD 50-125/15	50	50	250	157	180	55	130	92	177	260	500	340	509	91	59
FLSD 50-160/22	50	50	250	157	180	55	130	92	177	260	500	340	564	91	79
FLSD 50-160/30	50	50	250	167	180	55	130	92	197	260	500	340	585	91	87.6
FLSD 50-160/40	50	50	250	167	180	55	130	92	197	260	500	340	594	91	76.4
FLSD 50-200/55	50	50	348	192	230	60	185	125	253	360	695	440	673	110	157
FLSD 50-200/75	50	50	348	192	230	60	185	125	253	360	695	440	737	110	166
FLSD 50-250/110A	50	50	348	222	230	60	185	125	314	360	695	440	877	110	196
FLSD 50-250/110	50	50	348	222	230	60	185	125	314	360	695	440	877	110	196
FLSD 50-250/150	50	50	348	222	230	60	185	125	314	360	695	440	877	110	228
FLSD 65-125/22	65	65	297	158	185	55	125	108	177	310	593	340	581	96	123
FLSD 65-125/30	65	65	297	168	185	55	125	108	197	310	593	340	602	96	115.6
FLSD 65-125/40	65	65	297	168	185	55	125	108	197	310	593	340	611	96	100.4
FLSD 65-160/55	65	65	297	195	185	55	125	108	253	310	593	340	659	96	138
FLSD 65-160/75	65	65	297	195	185	55	125	108	253	310	593	340	723	96	143
FLSD 65-200/110A	65	65	348	222	260	59	185	130	314	360	695	475	882	109	228
FLSD 65-200/110	65	65	348	222	260	59	185	130	314	360	695	475	882	109	228
FLSD 65-250/150	65	65	348	222	260	59	185	130	314	360	695	475	882	109	242
FLSD 65-250/185	65	65	348	222	260	59	185	130	314	360	695	475	882	109	238
FLSD 65-250/220	65	65	348	222	260	59	185	130	354	360	695	475	942	109	376
FLSD 80-125/30	80	80	304	174	210	70	110	141	197	320	607	400	641	106	154.6
FLSD 80-125/40	80	80	304	174	210	70	110	141	197	320	607	400	650	106	131.4
FLSD 80-125/55	80	80	304	201	210	70	110	141	253	320	607	400	698	106	149
FLSD 80-160/75	80	80	304	201	210	70	110	141	253	320	607	400	762	106	156
FLSD 80-200/110	80	80	368	222	280	80	140	157	314	380	722	500	909	112	221
FLSD 80-200/150	80	80	368	222	280	80	140	157	314	380	722	500	909	112	253
FLSD 80-200/185	80	80	368	222	280	80	140	157	314	380	722	500	909	112	255
FLSD 80-200/220	80	80	368	222	280	80	140	157	354	380	722	500	969	112	399
FLSD 100-160/110	100	100	340	223	270	72	150	175	314	360	670	500	928	118	238
FLSD 100-200/185	100	100	408	222	310	80	150	180	314	410	798	550	932	128	350
FLSD 100-200/220	100	100	408	222	310	80	150	180	354	410	798	550	992	128	491

FLSD4 series

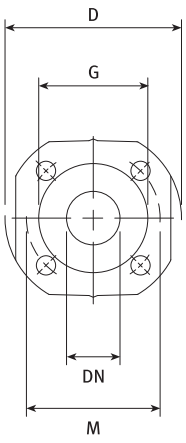


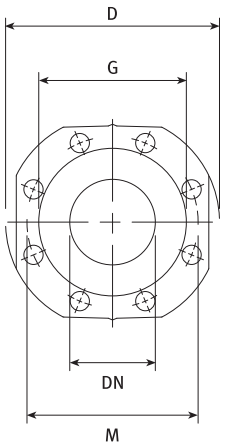






(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



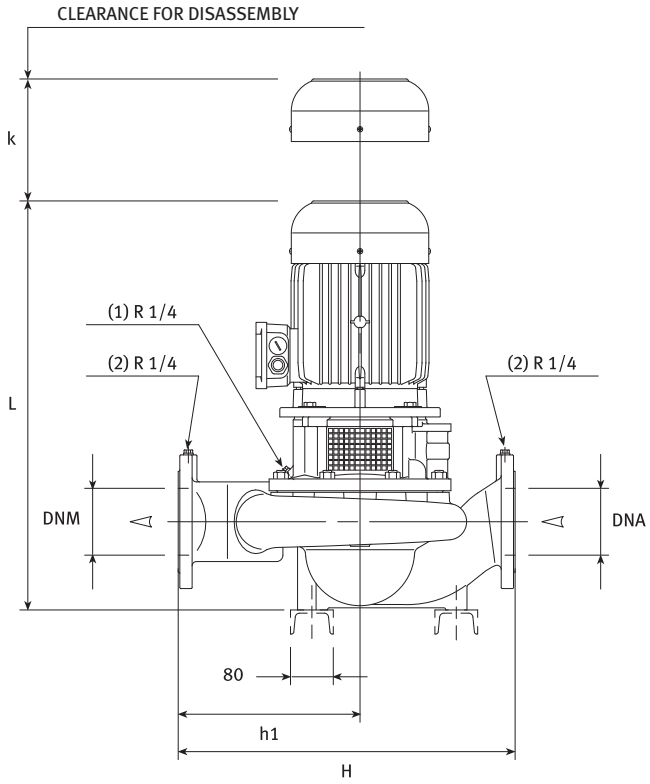


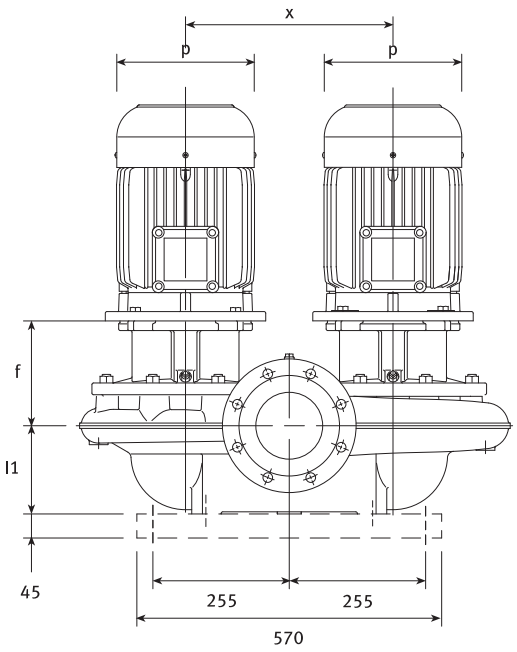
DN	D	M	G	HOLES		Thickness
				Nº	Ø	MAX.
40	150	110	88	4	18	18
50	165	125	102	4	18	20
65	185	145	122	4	18	20
80	200	160	138	8	18	22
100	220	180	158	8	18	22

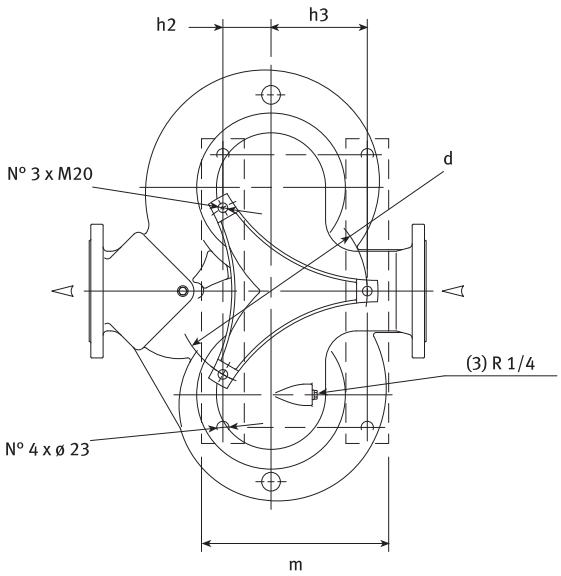
FLSD4 series

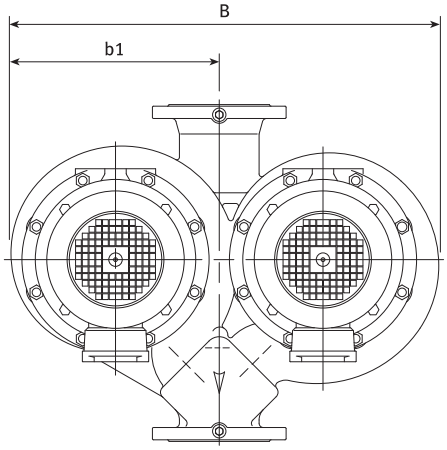
PUMP	DIMENSIONS (mm)										B	H	L	K	WEIGHT
TYPE	DNA	DNM	b1	f	h1	h2	h3	l1	p	x		max			kg
FLSD4 40-200/05	40	40	348	155	220	50	190	97	137	360	695	440	508	101	107
FLSD4 40-200/07	40	40	348	155	220	50	190	97	158	360	695	440	539	101	113
FLSD4 40-250/11	40	40	348	155	220	50	190	97	158	360	695	440	520	101	117
FLSD4 40-250/15	40	40	348	155	220	50	190	97	177	360	695	440	530	101	121
FLSD4 50-200/07	50	50	348	155	230	60	185	125	158	360	695	440	567	110	120
FLSD4 50-200/11	50	50	348	155	230	60	185	125	158	360	695	440	548	110	128
FLSD4 50-250/15	50	50	348	155	230	60	185	125	181	360	695	440	558	110	130
FLSD4 50-250/22	50	50	348	165	230	60	185	125	177	360	695	440	649	110	134
FLSD4 65-160/07	65	65	297	158	185	55	125	108	158	310	593	340	553	96	95
FLSD4 65-160/11	65	65	297	158	185	55	125	108	158	310	593	340	534	96	97
FLSD4 65-200/15	65	65	348	155	260	59	185	130	181	360	695	475	563	109	124
FLSD4 65-250/22	65	65	348	165	260	59	185	130	177	360	695	475	654	109	142
FLSD4 65-250/30	65	65	348	165	260	59	185	130	197	360	695	475	625	109	148
FLSD4 80-125/07	80	80	304	164	210	70	110	141	158	320	607	400	592	106	106
FLSD4 80-125/11	80	80	304	164	210	70	110	141	158	320	607	400	573	106	118
FLSD4 80-200/15	80	80	368	155	280	80	140	157	181	380	722	500	590	112	163
FLSD4 80-200/22	80	80	368	165	280	80	140	157	177	380	722	500	681	112	163
FLSD4 80-200/30	80	80	368	165	280	80	140	157	197	380	722	500	652	112	167
FLSD4 80-250/40	80	80	368	165	280	80	140	157	197	380	722	500	680	112	201
FLSD4 80-250/55	80	80	368	192	280	80	140	157	253	380	722	500	697	112	211
FLSD4 100-160/15	100	100	340	156	270	72	150	175	181	360	670	500	609	118	142
FLSD4 100-200/22	100	100	408	165	310	80	150	180	177	410	798	550	704	128	155
FLSD4 100-200/30	100	100	408	165	310	80	150	180	197	410	798	550	675	128	161
FLSD4 100-250/40	100	100	408	165	310	80	150	180	197	410	798	550	703	128	243
FLSD4 100-250/55	100	100	408	192	310	80	150	180	253	410	798	550	720	128	249
FLSD4 100-250/75	100	100	408	192	310	80	150	180	193	410	798	550	822	128	271

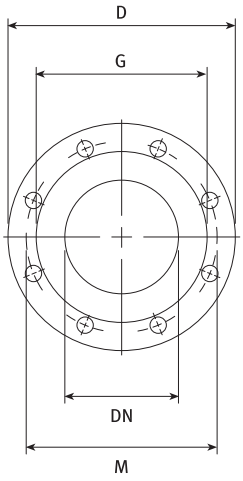
FLSD4 series (125÷150)











(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN

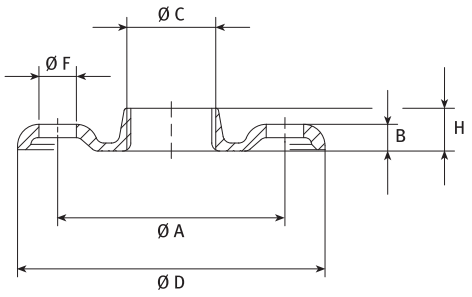
DN	D	M	G	HOLES		Thickness
				N°	Ø	MAX.
125	250	210	188	8	18	26
150	285	240	212	8	23	26

FLSD4 series (125÷150)

PUMP	DIMENSIONS (mm)												B	H	L	K	WEIGHT
TYPE	DNA	DNM	b1	d	f	h1	h2	h3	l1	m	p	x		max			kg
FLSD4 125-160/30	125	125	422	360	196	350	90	180	175	350	197	386	800	630	701	143	236
FLSD4 125-200/40	125	125	368	360	196	330	90	180	160	350	197	349	716	620	714	153	212
FLSD4 125-200/55	125	125	368	360	196	330	90	180	160	350	253	349	716	620	704	153	256
FLSD4 125-250/75	125	125	412	360	196	340	90	180	165	350	253	388	805	630	811	150	299
FLSD4 125-250/110	125	125	412	360	226	340	90	180	165	350	253	388	805	630	1032	150	351
FLSD4 150-200/55	150	150	471	460	211	400	115	230	175	425	253	440	900	720	734	160	318
FLSD4 150-200/75	150	150	471	460	211	400	115	230	175	425	193	440	900	720	836	160	324
FLSD4 150-250/110	150	150	498	460	226	405	115	230	200	425	314	466	963	755	1067	158	430
FLSD4 150-250/150	150	150	498	460	226	405	115	230	200	425	314	466	963	755	1006	158	458
FLSD4 150-250/185	150	150	498	460	226	405	115	230	200	425	314	466	963	755	962	158	482

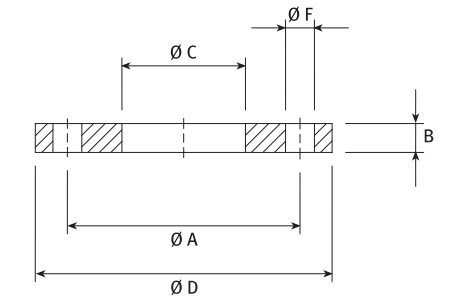
FL and FLD series. Round threaded counterflanges according to EN 1092-1

		DIMENSIONS (mm)				HOLES		
DN	Ø C	Ø A	B	Ø D	H	Ø F	Nº	PN
40	Rp 1 1/2	110	14	150	19	18	4	16
50	Rp 2	125	16	165	24	18	4	16
65	Rp 2 1/2	145	16	185	23	18	4	16
80	Rp 3	160	17	200	27	18	8	16
100	Rp 4	180	18	220	31	18	8	16



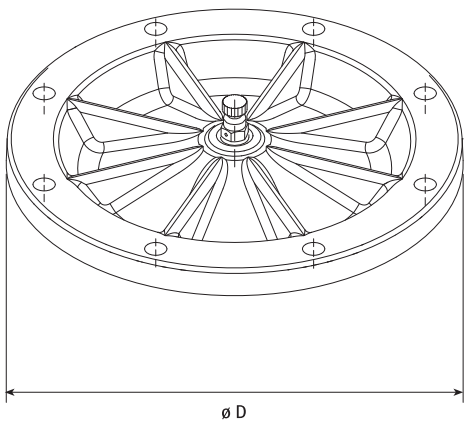
FL and FLD series. Round weld counterflanges according to EN 1092-1

		DIMENSIONS (mm)			HOLES		
DN	Ø C	Ø A	B	Ø D	Ø F	Nº	PN
65	77	145	18	185	18	4	16
80	90	160	20	200	18	8	16
100	115.5	180	22	220	18	8	16
125	141.5	210	22	250	18	8	16
150	170.5	240	24	285	22	8	16



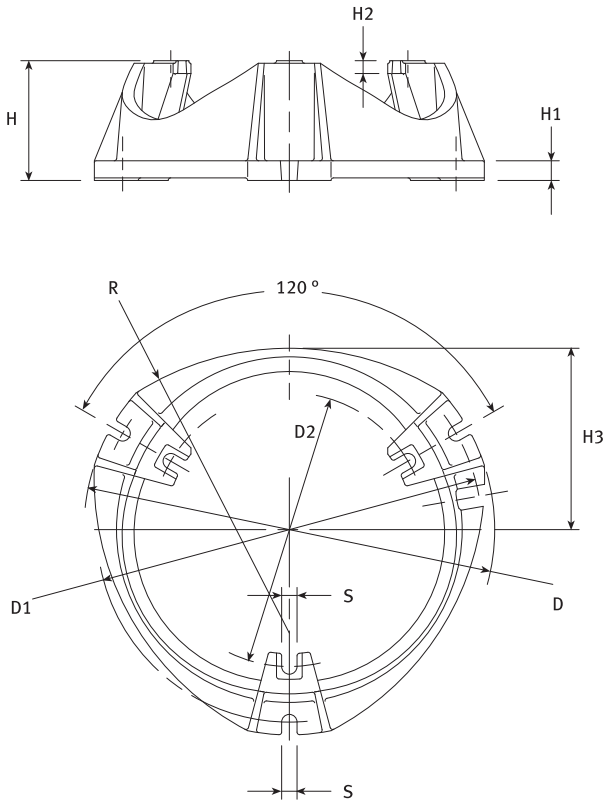
FLD series. Blind flange kit

FLANGE KIT		
TIPO TYPE	CODE	ø D
FLD 40-125 / FLD 40-160 FLD 50-125 / FLD 50-160	109393750	225
FLD 65-125 / FLD 65-160 FLD 80-125 / FLD 80-160 FLD 100-160	109393760	274
FLD 40-200 / FLD 40-250 FLD 50-200 / FLD 50-250 FLD 65-200 / FLD 65-250 FLD 80-200 / FLD 80-250 FLD 100-200 / FLD 100-250	109393770	322
FLD 125-160 / FLD 125-200	109393800	280
FLD 150-200	109393810	305
FLD 125-250 / FLD 150-250	109393820	350



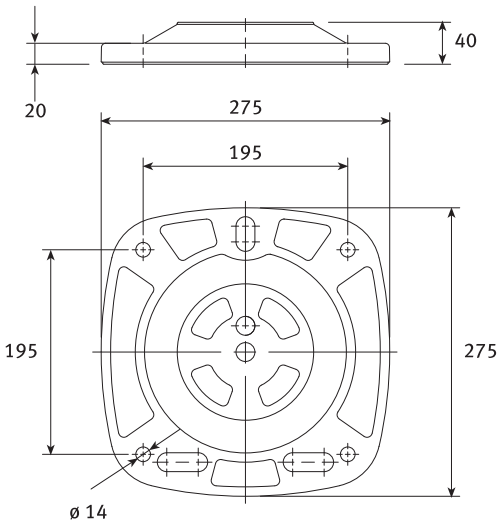
FL and FLD series. Mounting base kit

FL series (125÷150)



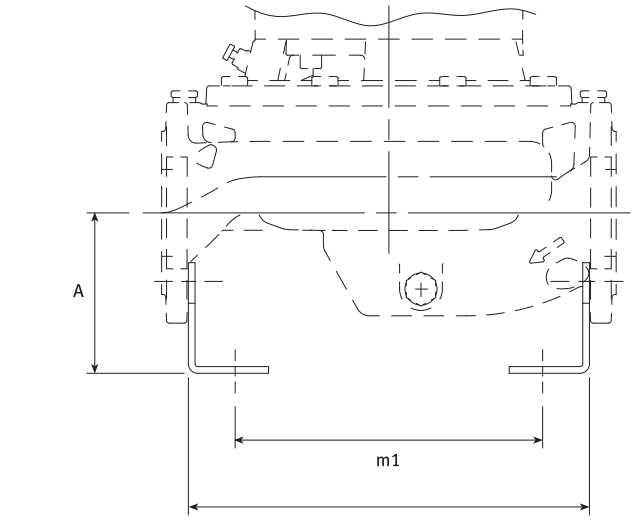
TIPO TYPE	DIMENSIONS (mm)								
	R	D	D1	D2	H	H1	H2	H3	S
FLS4 125-160, 125-200	273	410	384	274	120	20	14	183	14
FLS4 125-250, 125-315, 150-200, 150-250	333	480	450	320	140	23	15	212	18

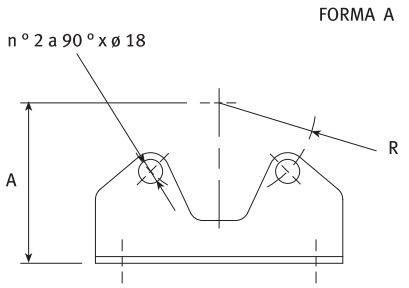
FL series (40÷100)

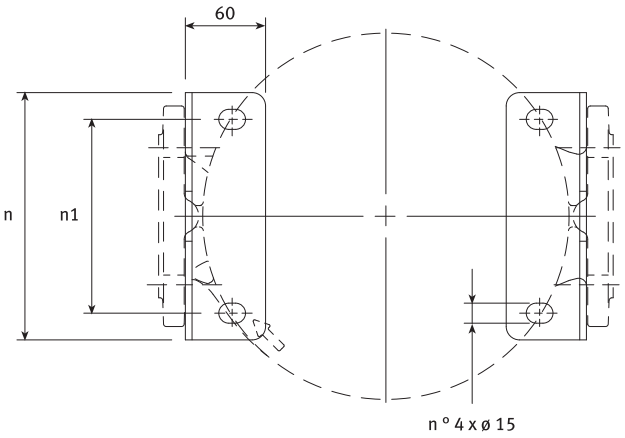


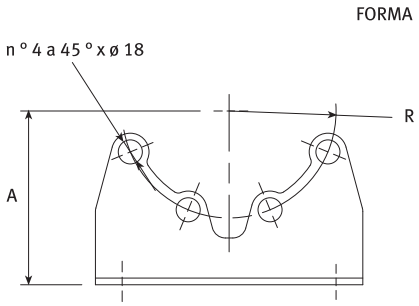
TIPO TYPE
FL-FLS 40-200, 40-250
FL-FLS 50-200, 50-250
FL-FLS 65-200, 65-250
FL-FLS 80-200, 80-250
FL-FLS 100-200, 100-250

FL series. Brackets. Kit support (40÷100)







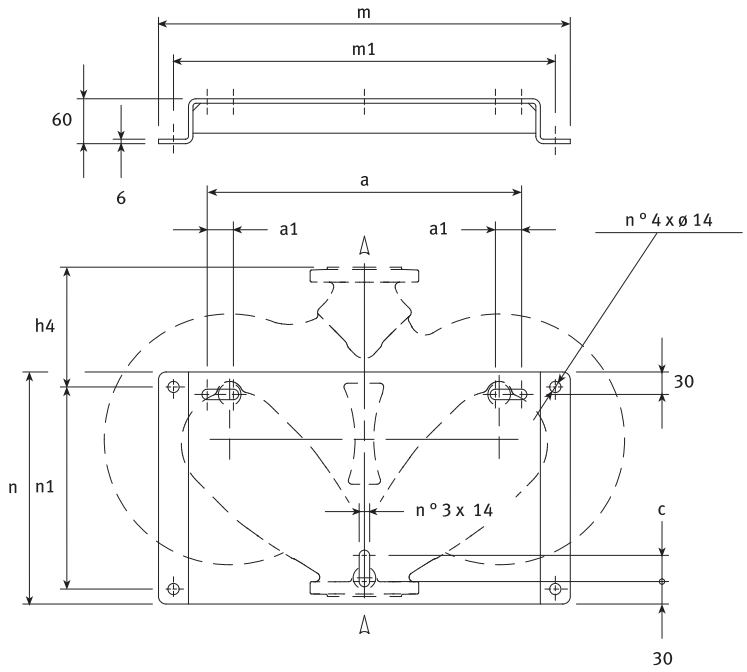


Kit Staffe (40÷100)

TIPO TYPE		SHAPE	DIMENSIONS (mm)				
			A	m	m1	n	n1
FL 40-125 / FL 40-160 FLS 40-125 / FLS 40-160	FL4 40-125 / FL4 40-160	A	100	284	210	150	110
FL 40-200 / FL 40-250 FLS 40-200 / FLS 40-250	FL4 40-200 / FL4 40-250 FLS4 40-200 / FLS4 40-250	A	100	404	330	150	110
FL 50-125 / FL 50-160 FLS 50-125 / FLS 50-160	FL4 50-125 / FL4 50-160	A	110	300	230	165	125
FL 50-200 / FL 50-250 FLS 50-200 / FLS 50-250	FL4 50-200 / FL4 50-250 FLS4 50-200 / FLS4 50-250	A	110	400	330	165	125
FL 65-125 / FL 65-160 FLS 65-125 / FLS 65-160	FL4 65-125 / FL4 65-160 FLS4 65-160	A	120	300	230	185	145
FL 65-200 / FL 65-250 FLS 65-200 / FLS 65-250	FL4 65-200 / FL4 65-250 FLS4 65-200 / FLS4 65-250	A	120	435	365	185	145
FL 80-125 / FL 80-160 FLS 80-125 / FLS 80-160	FL4 80-125 FLS4 80-125	B	130	316	250	200	160
FL 80-200 FLS 80-200	FL4 80-200 / FL4 80-250 FLS4 80-200 / FLS4 80-250	B	130	456	390	200	160
FL 100-160 FLS 100-160	FL4 100-160 FLS4 100-160	B	140	402	330	220	180
FL 100-200 FLS 100-200	FL4 100-200 / FL4 100-250 FLS4 100-200 / FLS4 100-250	B	140	502	430	220	180

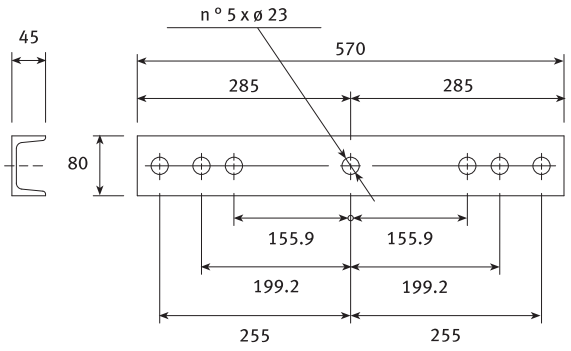
FLD series. Mounting base kit

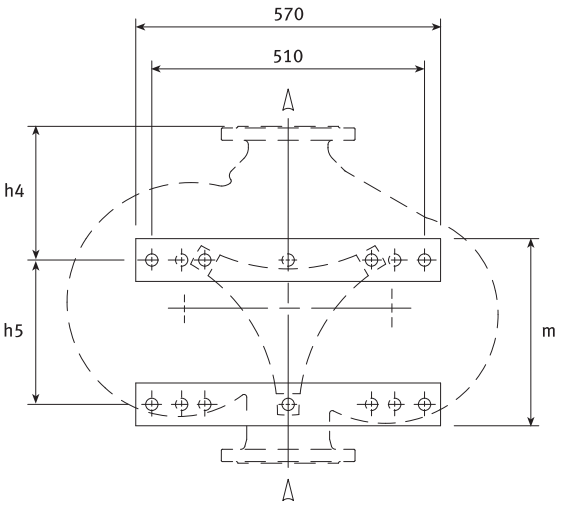
FLD series (40÷100)



PUMP TYPE	DIMENSIONS (mm)							
	a	a1	c	h4	m	m1	n	n1
40-125 /40-160	330	45	25	110	460	420	250	210
50-125 / 50-160	330	45	25	115	460	420	250	210
65-125 / 65-160	330	45	25	120	460	420	250	210
80-125 / 80-160	330	45	25	130	460	420	250	210
100-160	420	35	35	188	550	510	310	270
40-200 / 40-250	420	35	35	160	550	510	310	270
50-200 / 50-250	420	35	35	160	550	510	310	270
65-200 / 65-250	420	35	35	191	550	510	310	270
80-200 / 80-250	420	35	35	190	550	510	310	270
100-200 / 100-250	420	35	35	220	550	510	310	270

FLD series (125÷150)





TIPO DE TYPE	DIMENSIONS (mm)		
	h4	h5	m
FLSD4 125-160	260	270	350
FLSD4 125-200	240	270	350
FLSD4 125-250	250	270	350
FLSD4 150-200	285	345	425
FLSD4 150-250	290	345	425

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