

TP, TPD, TPE, TPED, TPE2, TPE2 D, TPE3, TPE3 D

In-line circulator pumps

50 Hz



be
think
innovate

LENNTECH

GRUNDFOS 

7. TP Series 300 pumps



Gr8259

Fig. 12 TP Series 300

Technical data

	PN 16 version	PN 25 version
Flow rate [m ³ /h]	Up to 2000	Up to 4500
Head [m]	Up to 93	Up to 140
Liquid temperature [°C]	-25 to +140	-40 to +150*
Maximum operating pressure [bar]	16	25
Direction of rotation	Clockwise	

* At 120 to 150 °C, the maximum operating pressure is less than 23 bar.

Construction

Grundfos TP, TPD Series 300 pumps are single-stage, close-coupled pumps with in-line inlet and outlet ports of identical diameter.

The pumps are fitted with a fan-cooled asynchronous motor. Motor and pump shafts are connected via a rigid sleeve coupling.

Most TP Series 300 pumps are available as single-head, TP, and twin-head, TPD pumps.

TP Series 300 pumps have PN 16 flanges or PN 25 flanges.

The largest pumps have DN 500, PN 40 inlet flanges and DN 400, PN 40 outlet flanges and a maximum operating pressure of 25 bar.

The pumps are fitted with an unbalanced or a balanced mechanical shaft seal.

The pumps are of the top-pull-out design, that is you can remove the power head (motor, pump head and/or motor stool and impeller) for maintenance or service while the pump housing remains in the pipes.

The pump housing is provided with a replaceable wear ring to ensure high pump efficiency for life.

The twin-head pumps are designed with two parallel power heads. A non-return flap valve in the common outlet port is opened by the flow of the pumped liquid and prevents backflow of liquid into the idle pump head.

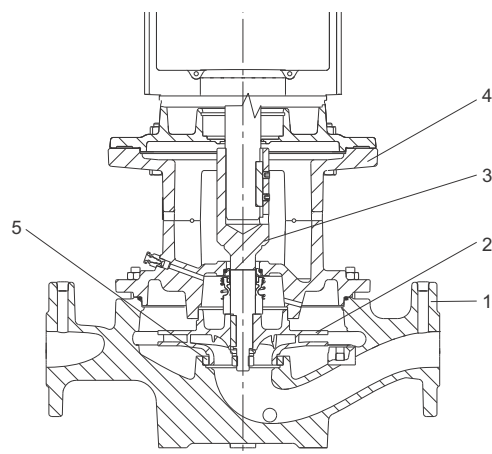
As radial and axial forces are absorbed by the fixed bearing in the motor drive-end, the pump requires no bearing.

The impeller is hydraulically balanced to minimise axial forces.

TP, TPD Series 300 pumps are fitted with high-efficiency motors.

TP Series 300 pumps with bronze impeller are suitable for pumping brine.

Materials



TM04 9586 2115

Fig. 13 Sectional drawing of TP Series 300

Material specification

TP Series 300, PN 16

Pos.	Component	Material	EN/DIN
1	Pump housing	Cast iron EN-GJL-250	EN-JL 1040
2	Impeller	Cast iron EN-GJL-200, bronze CuSn10	EN-JL 1030 2.1093
3	Stub shaft	Stainless steel	1.4301
	Two-part stub shaft	Stainless steel/steel	1.4301/1.0301
4	Pump head/motor stool	Cast iron EN-GJL-250	EN-JL 1040
	Secondary seals	EPDM	
	Rotating seal face	Metal-impregnated carbon Silicon carbide	
	Stationary seat	Silicon carbide	
5	Wear ring	Bronze CuSn10/brass CuZn34Mn3Al2Fe1-C	2.1093

TP Series 300, PN 25

Pos.	Component	Material	EN/DIN
1	Pump housing	Ductile cast iron EN-GJS-400-18-LT	EN-JS 1025
2	Impeller	Cast iron EN-GJL-200, bronze CuSn10	EN-JL 1030 2.1093
3	Stub shaft	Stainless steel	1.4301
	Two-part stub shaft	Stainless steel/steel	1.4301/1.0301
4	Motor stool	Cast iron EN-GJL-250	EN-JL 1040
	Secondary seals	EPDM FXM	
	Rotating seal face	Metal-impregnated carbon Silicon carbide	
	Stationary seat	Silicon carbide	
5	Wear ring	Bronze CuSn10/brass CuZn34Mn3Al2Fe1-C	2.1093

TP Series 300, DN 400, PN 25

Pos.	Component	Material	EN/DIN
1	Pump housing	Ductile cast iron EN-GJS-400-18 (A-LT)	EN-JS1020
2	Impeller	Ductile cast iron EN-GJS-400 Bronze CuSn10	EN-JS1030 2.1093
3	Pump shaft	Stainless steel	1.4436
4	Coupling	Cast iron EN-GJL-250	EN-JL1040
5	Motor stool	Cast iron EN-GJL-250	EN-JL1040
	Secondary seals	EPDM rubber	
	Rotating seal face	Resin-impregnated carbon	
	Stationary seat	Tungsten carbide	

Mechanical shaft seal

For 16-bar versions, these types of unbalanced mechanical shaft seals are available as standard:

- **BAQE**
The BAQE shaft seal is a rubber bellows seal with carbon/silicon carbide seal faces and secondary seals of EPDM.

- **BQQE**
The BQQE shaft seal is a rubber bellows seal with silicon carbide/silicon carbide seal faces and secondary seals of EPDM.

For 25-bar versions, these types of balanced mechanical shaft seals are available as standard:

- **DAQF**
The DAQF shaft seal is a balanced O-ring seal with carbon/silicon carbide seal faces and secondary seals of FXM.
- **DQQE**
The DQQE shaft seal is a balanced O-ring seal with silicon carbide/silicon carbide seal faces and secondary seals of EPDM.
- **DBUE**
The DBUE shaft seal is a balanced O-ring seal with carbon/tungsten carbide seal faces and secondary seals of EPDM.

For further information about common pumped liquids with recommended shaft seals, .

Special shaft seals are available for partly conditioned water or other liquids containing abrasive or crystallising particles. .

Connections

TP Series 300 pumps have PN 16 or PN 25 flanges. All dimensions are according to ISO 7005-2 or EN 1092-2.

Features and benefits

TP Series 300 pumps have these features and benefits:

Optimised hydraulics for high efficiency

- Reduced power consumption.

High-efficiency motors

- TP pumps are fitted with high-efficiency motors. High-efficiency motors offer reduced energy consumption. TP pumps are primarily fitted with motors that meet the legislative requirements of the EuP IE3 grade. TP pumps are also available with motors from 2.2 to 132 kW that meet the legislative requirements of the EuP IE4 grade. For further information, .

Top-pull-out design

- Easy dismantling in case of service.

In-line design

- Contrary to end-suction pumps, in-line pumps allow straight pipes and thus often reduced installation costs.

Motor-pump shaft with sleeve coupling

- Stable and quiet operation.
- Easy dismantling in case of service.

Hydraulically and mechanically balanced impeller

- The impeller is hydraulically and mechanically balanced to increase the life of motor bearings and shaft seal.

Surface treatment

TP Series 300 pumps are given the following surface treatment:

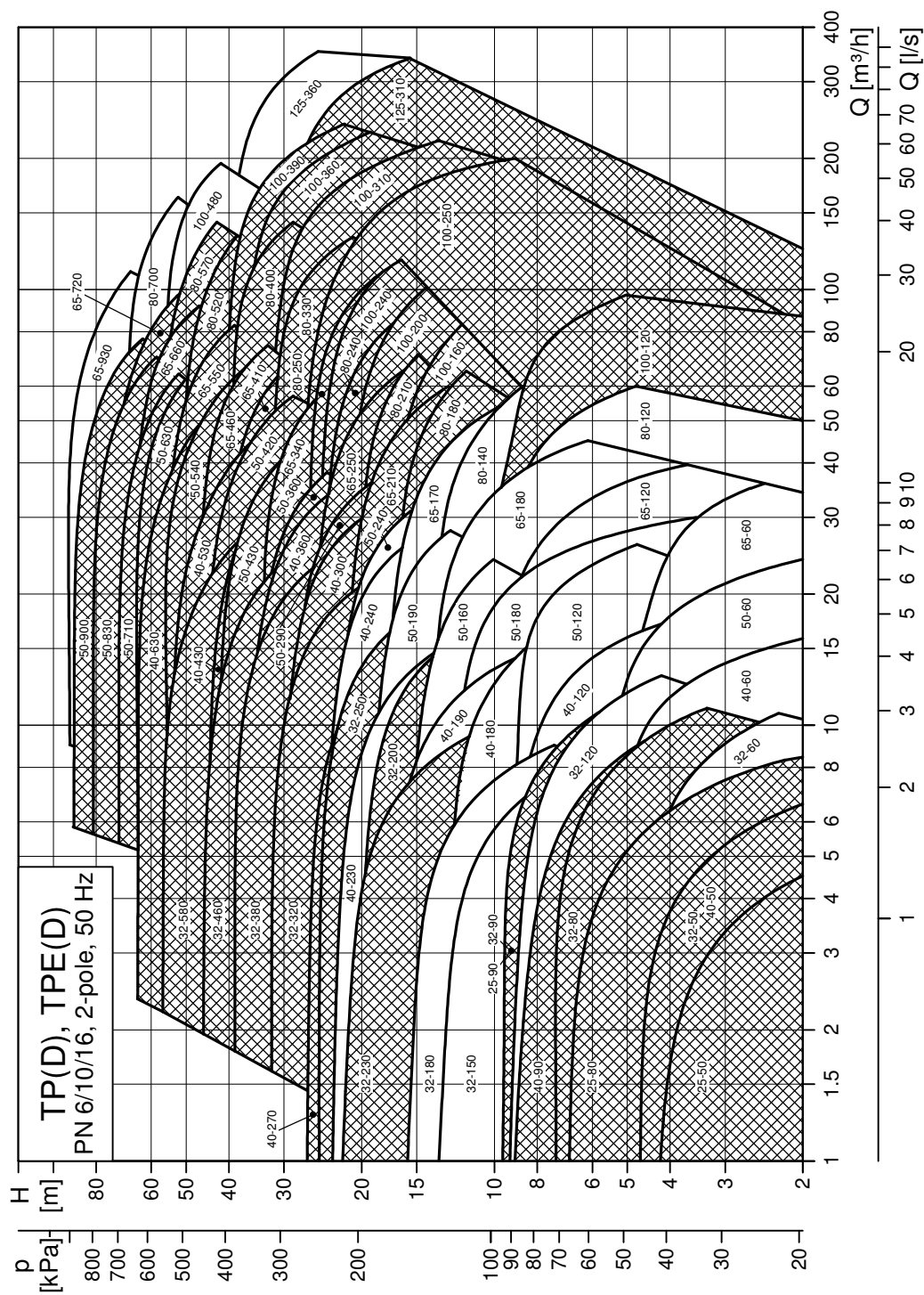
Pump type	Electrocoating	Spray painting
TP Series 300 from DN 32 to DN 350	x	
TP Series 300, DN 400		2x

Electrocoating includes:

1. Alkaline cleaning.
2. Pretreatment with zinc phosphate coating.
3. Cathodic electrocoating, epoxy.
4. Curing of paint film at 200-250 °C.

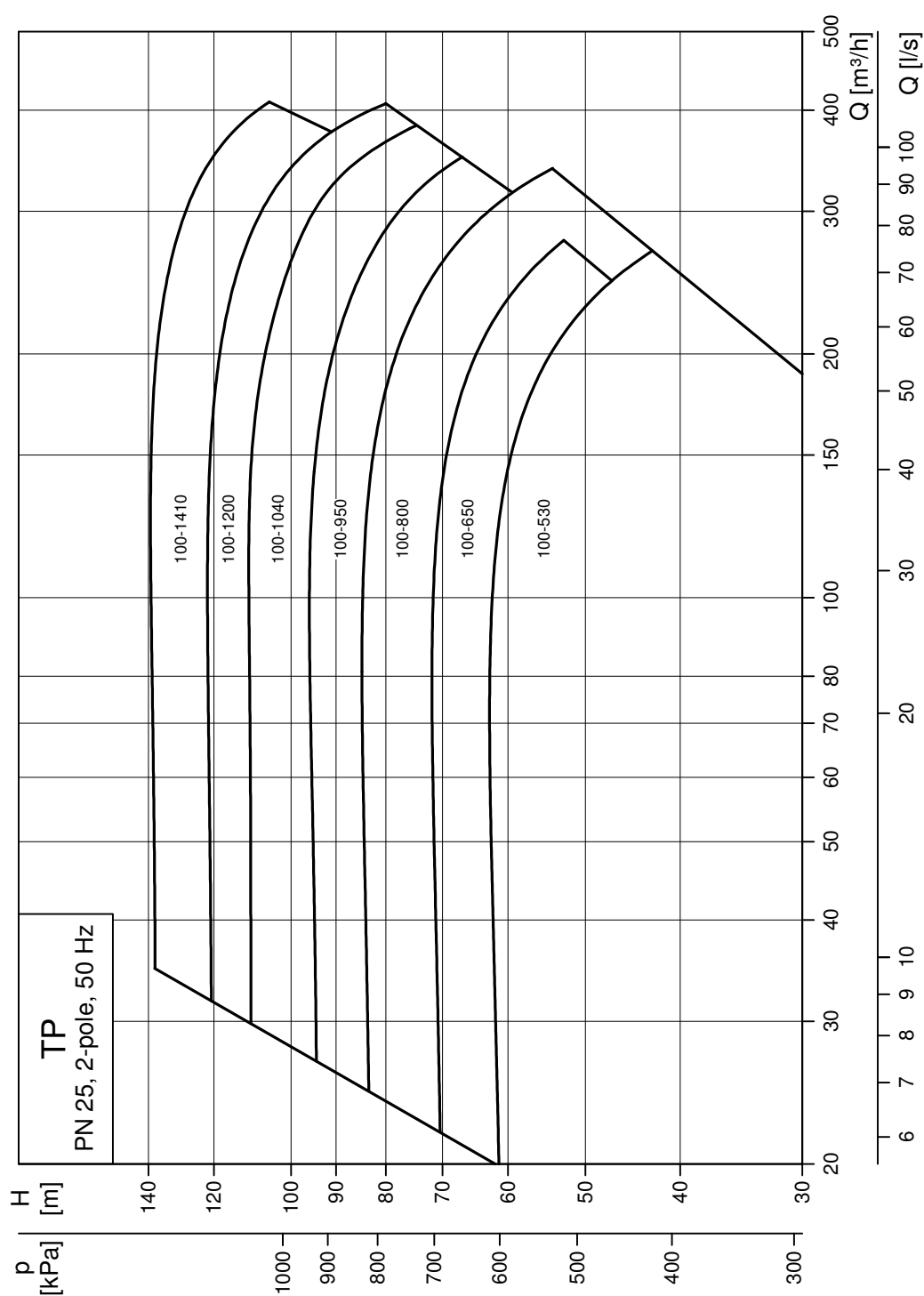
For low-temperature applications at a high humidity, Grundfos offers TP pumps with extra surface treatment to avoid corrosion. These pumps are available on request.

Performance range, 2-pole, PN 6, 10, 16

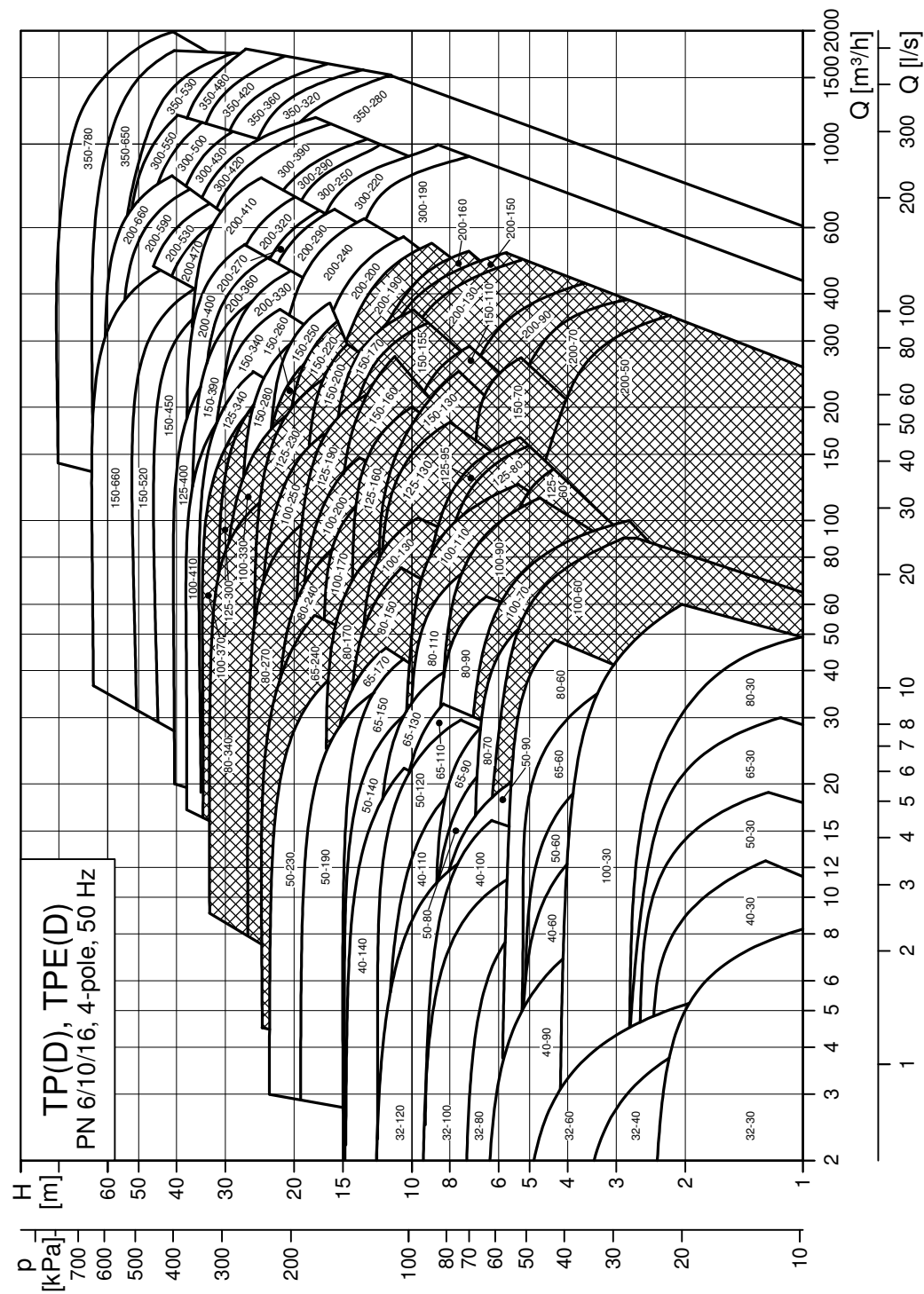


TM02 7550 4617

Performance range, 2-pole, PN 25

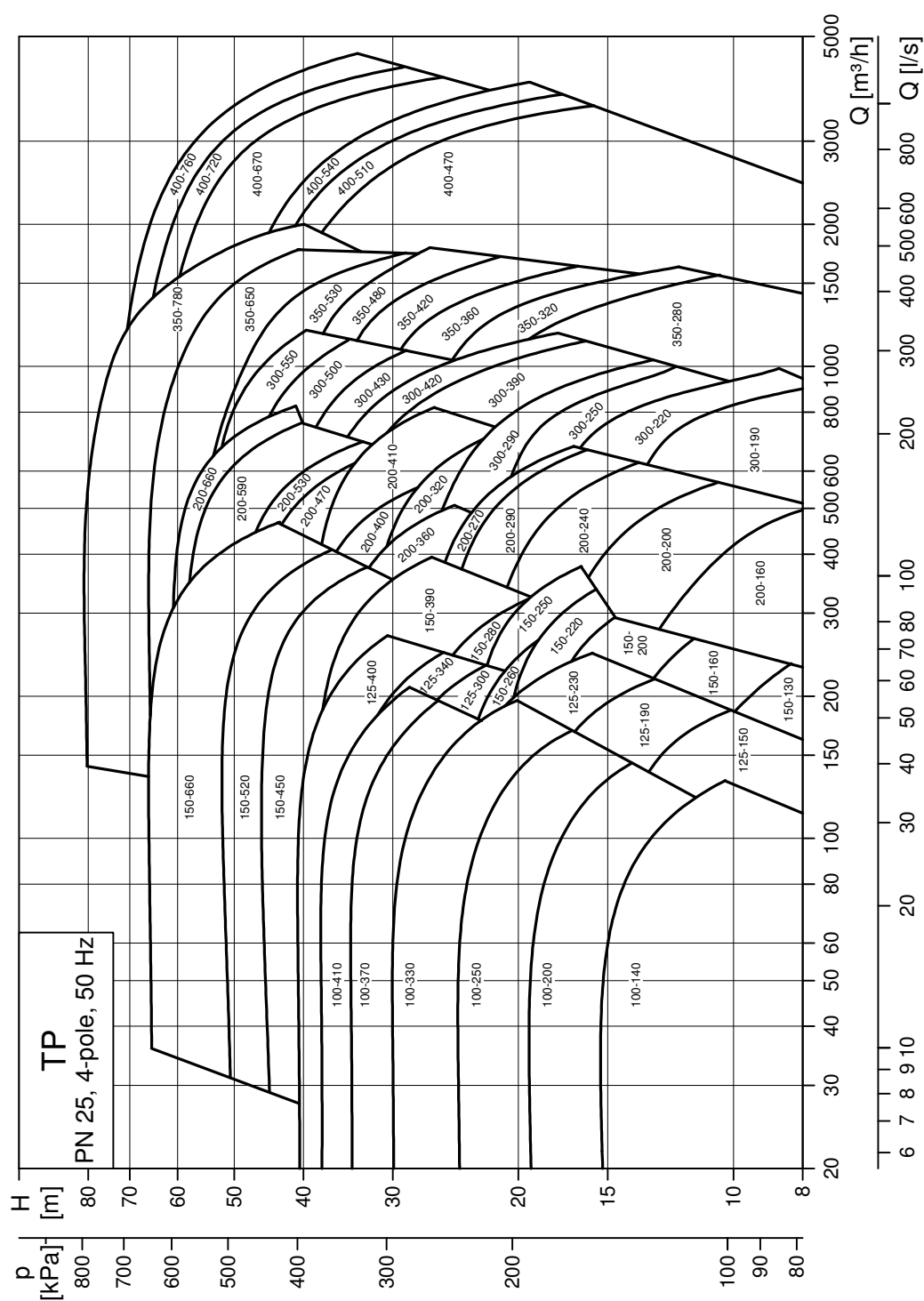


Performance range, 4-pole, PN 6, 10, 16

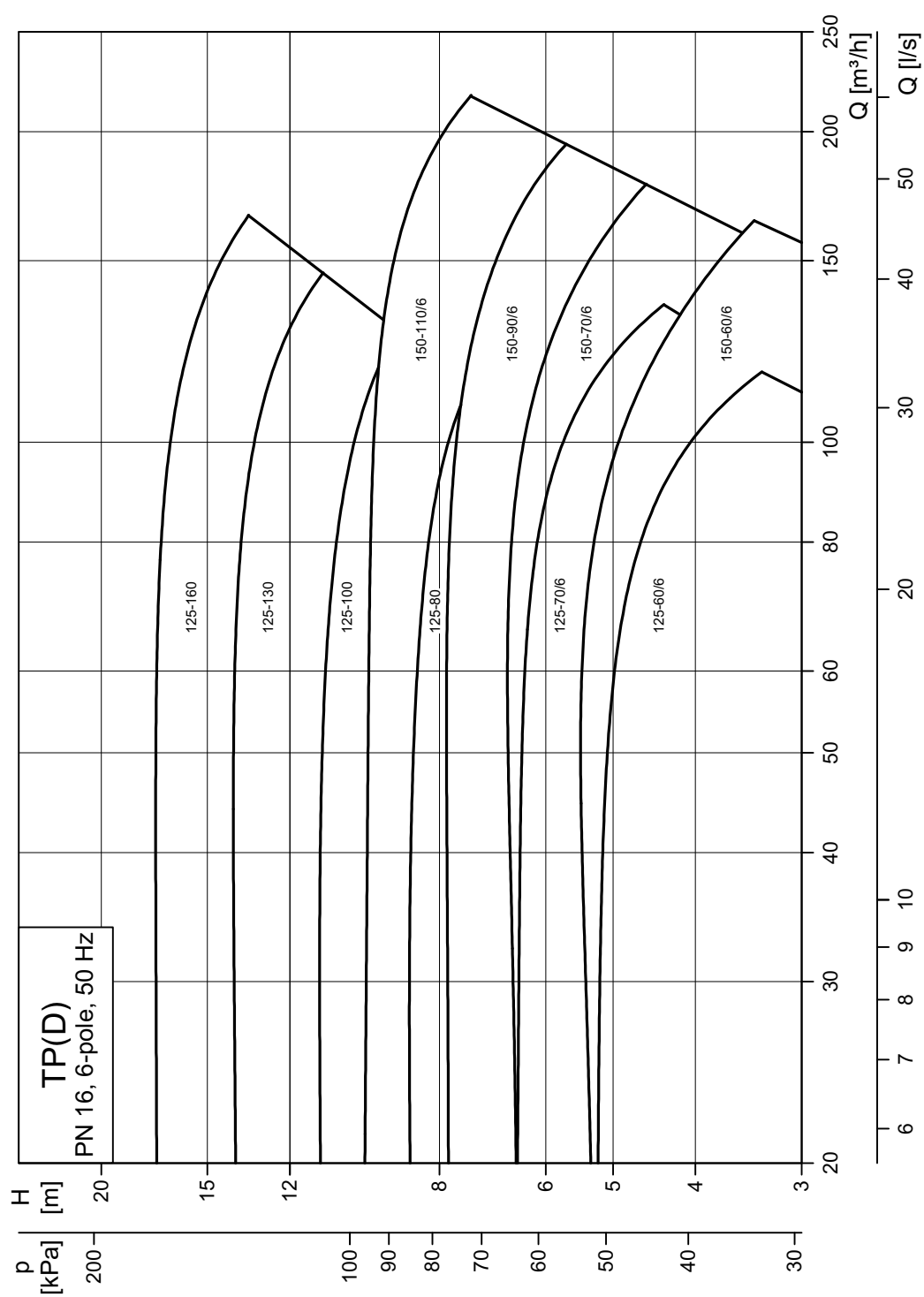


TM02 7551 4217

Performance range, 4-pole, PN 25



Performance range, 6-pole, PN 16



Note: All QH curves apply to single-head pumps. For further information about curve conditions, see page [138](#).

TM02 8768 3814

V7124417 1117

ECM: 1222592

LENNTECH

info@lennotech.com Tel. +31-152-610-900
www.lennotech.com Fax. +31-152-616-289

GRUNDFOS 