IMPPUMPS®

NMT PLUS(D) (SAN) (ER) (PWM H/S) (SOL) -/40, 60, 80

- (SLO) Tehnična navodila
- (GB) Instruction for installation
- (D) Montage- und Betriebsanleitung
- (I) Manuale d'uso
- (PL) Informacja Techniczna
- (DK) Instruktion Installation
- (RU) Инструкция по установке
- (TR) Montaj ve kullanim kilavuzu
- (HR) Upute za uporabu
- (FI) Asennus- ja käyttöohje
- (FR) Instruction pour installation
- (ES) Instrucciones técnicas

Pumptype	EEI
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 15/40-130	EEI ≤ 0,17 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 15/60-130	EEI ≤ 0,19 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 15/80-130	EEI ≤ 0,21 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 20/40-130	EEI ≤ 0,16 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 20/60-130	EEI ≤ 0,18 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 20/80-130	EEI ≤ 0,20 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 20/40-180	EEI ≤ 0,16 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 20/60-180	EEI ≤ 0,18 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 20/80-180	EEI ≤ 0,20 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 25/40-130	EEI ≤ 0,16 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 25/60-130	EEI ≤ 0,18 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 25/80-130	EEI ≤ 0,20 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 25/40-180	EEI ≤ 0,16 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 25/60-180	EEI ≤ 0,18 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 25/80-180	EEI ≤ 0,20 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 32/40-180	EEI ≤ 0,17 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 32/60-180	EEI ≤ 0,19 - Part 2
NMT(SAN) PLUS (SOL) (ER) (PWM H/S) 32/80-180	EEI ≤ 0,20 - Part 2

PUMP-TYPE	EEI ≤
NMTD PLUS (SOL)(ER)(PWM H/S) 25/40-180	EEI ≤ 0,17 - Part 2
NMTD PLUS (SOL)(ER)(PWM H/S) 32/40-180	EEI ≤ 0,16 - Part 2
NMTD PLUS (SOL)(ER)(PWM H/S) 25/60-180	EEI ≤ 0,19 - Part 2
NMTD PLUS (SOL)(ER)(PWM H/S) 32/60-180	EEI ≤ 0,20 - Part 2
NMTD PLUS (SOL)(ER)(PWM H/S) 25/80-180	EEI ≤ 0,23 - Part 2
NMTD PLUS (SOL)(ER)(PWM H/S) 32/80-180	EEI ≤ 0,22 - Part 2

GB

1.USAGE
Pumps are designed for forced circulation of medium in central heating systems with possibility of constant adaptation the pump to current needs of system. Pump is continuously measuring pressure in system and adopting itself to selected curve.

2. PUMPED MEDIUM
For normal operating of pump is necessary to use medium such as clean water, or mixture of clean water and antifreeze. It has to be appropriate for central heating system and in accordance with standards of water quality as e.g. VDI 2035. Medium must not contain aggressive or explosive supplements, mineral oils and solid or long fibres parts. Pump must not be used for transfer of flammable and explosive liquids or in explosive atmosphere.
Temperature of medium should be higher or the same as temperature of surrounding. If not, humidity from air can condense in pump.

> Medium temperature from +5 °C to +110 °C, ambient temperature from 0°C to +40°C.
>
> Operation outside recommended conditions may shorten pump lifetime and void the warranty.

3. INSTALLATION
Pump must be built with electromotor shaft in horizontal position (fig. 3.1). Allowed and forbidden positions are shown in fig. 3.2. The arrow on pump plate shows direction of medium flow. Control box can be moved in position 12h, if there is not enough space for electric connection. Other positions of control box are not allowed. Moving of control box should be made like shown in fig. 3.3. Before moving control box pump must be emptied of medium.
Before starting, pump must be filled with medium and ventilated. For appropriate running the pressure must be provided on suction side of pump.

Pumps does not need to be ventilated. When the system is ventilated they ventilate by themselves. Air in pump causes noise. After short working period noise will disappears.
Maximum pressure in system is 1Mpa (10 bar)
Pump must not run dry!
In its operational phase the pump heats up or gets heated up by the pumped medium, therefore it must not be touched – burn hazard! The allowed operating area of the pump is determined by the diagram in these instructions.

4. ELECTRICAL CONNECTION
Electrical connection must be carried out by qualified person. Connection to current is shown on fig. 4.1. The electrical connection of pump to the current (1~230V, 50 Hz) must

be carried out with suitable connecting cable (equivalent to connecting cable 3G 1mm^2, H05RR-F).

- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The supply cord shall be connected so that the supply cord can not come into contact with parts of enclosure due to high temperature of the enclosure.
  If the insulation of the fixed wiring supplying an appliance for permanent connection to the supply mains can come into contact with parts having temperature rise exceeding 50 K during test of clause 11, the instructions shall state that fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

5. PUMP SETTINGS AND PUMP PERFORMANCE

Pump settings can be changed with button on electric box cover.
Pumps enables choice between three different preset curves with proportional pressure and three curves with constant power.
Switching between the levels is done by consecutively pressing the settings buttons. The button lights up with the color that indicetes the selected level. Blue indicates the lowest power, and yellow the highest. The sequence is blue-green-yellow, then once again blue. The unregulated performance can be achieved by pressing the settings button for some time (>5s) on settings button. Shortly pressing the settings button will return the pump back to the previously selected level. If the pump is operating in the regulated area, the button pulsates indicating that the duration of the pulse shortens with the diminution of the flow. Pump do not pulse but shines continuously, when unregulated performance is selected.

WHEN BUTTON IS PULSING, PUMP IS WORKING NORMALLY!
The hydraulic response in the regulated area is proportionate to the flow. The set peaks for single chosen level (look table) with inclination angle of 50%.

6. NMTD PLUS PUMPS

NMTD PLUS pumps have a double hydraulic housing in which there is a built-in no returning hatch, which opens regarding on the flow. NMTD PLUS pumps can work on two different ways:

- Alternating operation - Pumps with an external automatic (timer relay) operate alternately. While one pump is running, the other is stopped. Pump should be exchanged in the same period of time (e.g. every pump for 12 hours). This mode is recommended.
- Reserve operation - One pump is constantly on, while the other is stopped and in reserve. If an error occurs, the other pump should start either manually or by the help of external automatics. It is recommended that the reserve pump should be turned on at least once a month, and be immersed in medium.

7. STEERING PUMP NMT PLUS 40, 60, 80 WITH EXTERNAL SIGNALS
Pumps can be equipped with an ER or PMW module. NMT PLUS ER allows the control of pump with an analog input of 0 to 10V. NMT PLUS PWM allows the control of pump with pulse-width modulation (PWM input), with heating or solar system profile. The modules are fitted as standard and cannot be additionally installed.
Further connecting and using instructions and control data are added separately.

8. TECHNICAL DATA:

	NMT PLUS -/40		NMT PLUS -/60		NMT PLUS -/80	
speed	regulated [W]	unregulated [W]	regulated [W]	unregulated [W]	regulated [W]	unregulated [W]
I	3 - 21	9	4 - 36	12	6 - 57	21
II	4 - 21	15	5 - 36	24	7 - 57	36
III	5 - 21	21	7 - 36	36	8 - 57	57

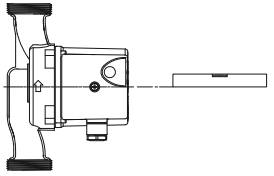
Supply voltage: 1~230V, 50Hz
Motor protection: Pump contains labyrinth in electromotor casting for draining of pump and isolating of the pump can cause serious damage.
Enclosure class: Ip44
Insulation class: F
Relative air humidity: 95%
Ambient temperature: 0-40°C
Medium temperature: 5-110°C (NMT PLUS SAN 5-65°C)
System pressure: up to 1 Mpa (10 bar).

9 .OVERVIEW OF POSSIBLE ERRORS
* Figures and graphs are on the end of these instructions!

DESCRIPTION OF THE ERROR	POSSIBLE CAUSES	PROPOSED SOLUTIONS
Indicator light is off, pump is not pumping any water.	No voltage applied.	Check electric installation and fuses.
Indicator light is permanently on.	The unregulated performance may have been chosen	Choose regulated performance.
Indicator light changes colors.	Pump is blocked.	Clean pump
Sounds and noises in the system.	Pump or system is not appropriately vented.	Vent the system
Too low water flow rate.	The selected setting is too low.	Select a higher performance.

If the pump is unresponsive, disconnect and connect it back to the electrical grid.

3.1



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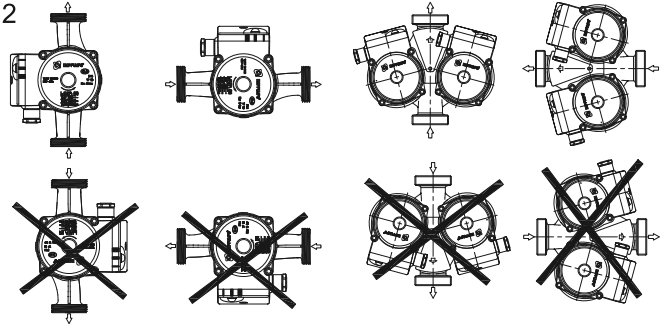

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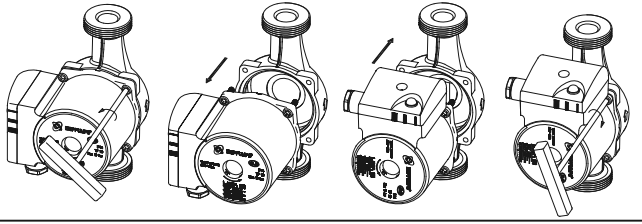
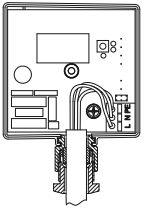
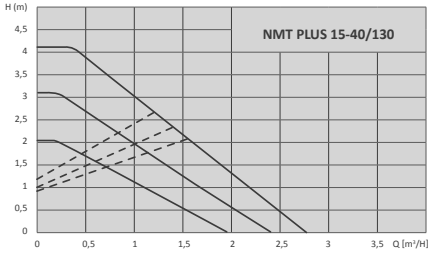
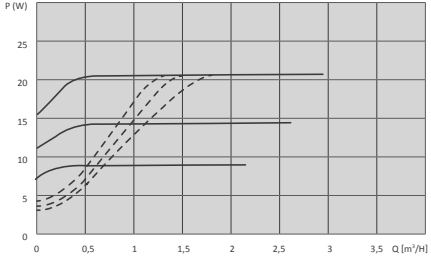
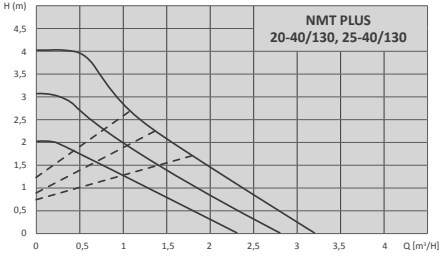


4.1




NMT PLUS 15-40/130
H (m)
4,5
4
3,5
3
2,5
2
1,5
1
0,5
0
0
0,5
1
1,5
2
2,5
3
3,5
Q [m³/H]


P (W)
25
20
15
10
5
0
0
0,5
1
1,5
2
2,5
3
3,5
Q [m³/H]


NMT PLUS
20-40/130, 25-40/130
H (m)
4,5
4
3,5
3
2,5
2
1,5
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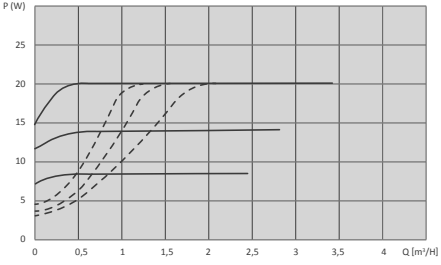
1
1,5
2
2,5
3
3,5
4
Q [m³/H]


P (W)
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20
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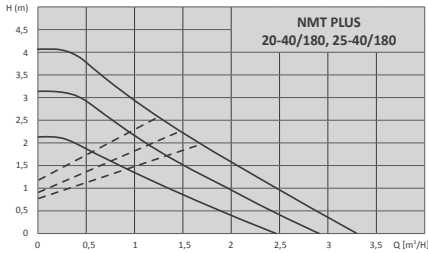
3
3,5
4
Q [m³/H]


H (m)
4,5
4
3,5
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2,5
2
1,5
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0
0
0,5
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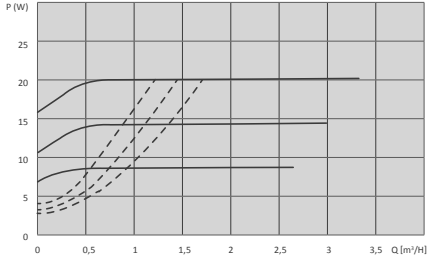
1,5
2
2,5
3
3,5
Q [m³/H]
NMT PLUS
20-40/180, 25-40/180


P (W)
25
20
15
10
5
0
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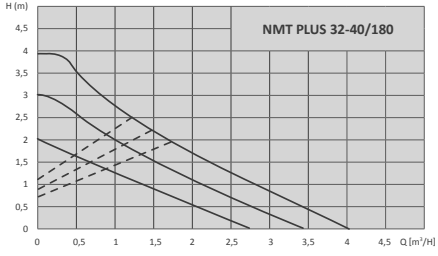
0,5
1
1,5
2
2,5
3
3,5
Q [m³/H]


H (m)
4,5
4
3,5
3
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2
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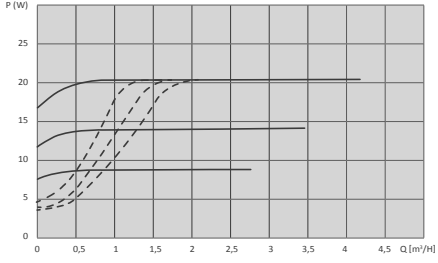
4
4,5
Q [m³/H]
NMT PLUS 32-40/180


P (W)
25
20
15
10
5
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1,5
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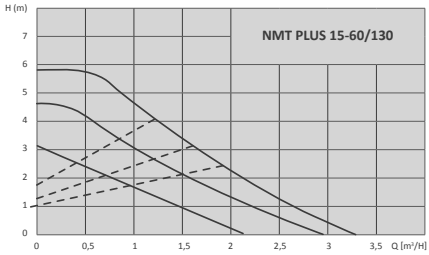
2,5
3
3,5
4
4,5
Q [m³/H]


NMT PLUS 15-60/130
H (m)
0
1
2
3
4
5
6
7
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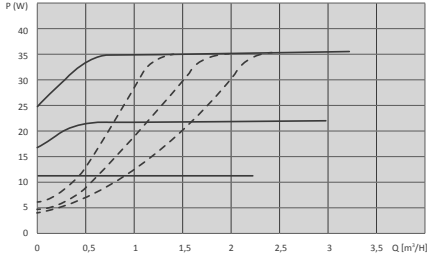
0,5
1
1,5
2
2,5
3
3,5
Q [m³/H]


P (W)
0
5
10
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20
25
30
35
40
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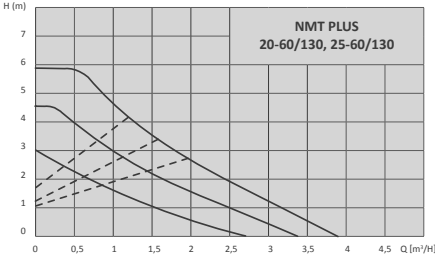
0,5
1
1,5
2
2,5
3
3,5
Q [m³/H]


NMT PLUS
20-60/130, 25-60/130
H (m)
0
1
2
3
4
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7
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0,5
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1,5
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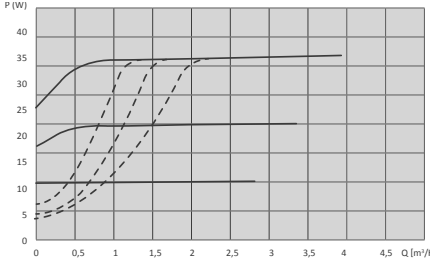
3
3,5
4
4,5
Q [m³/H]


P (W)
0
5
10
15
20
25
30
35
40
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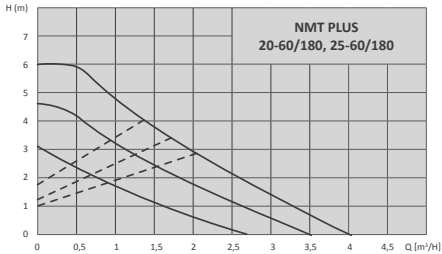
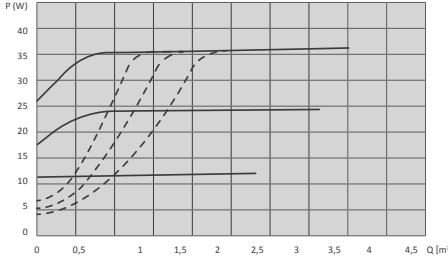
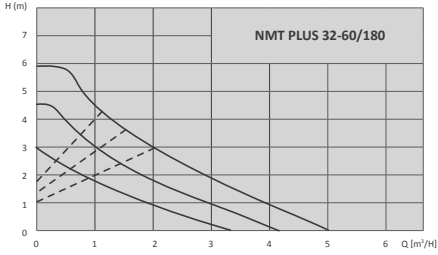
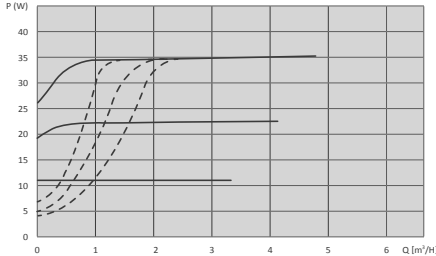
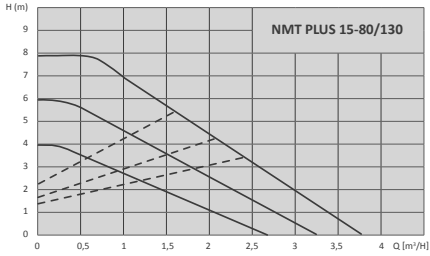
2,5
3
3,5
4
4,5
Q [m³/H]


H (m)
NMT PLUS
20-60/180, 25-60/180
Q [m³/H]


P (W)
Q [m


H (m)
NMT PLUS 32-60/180
Q [m³/H]


P (W)
Q [m³/H]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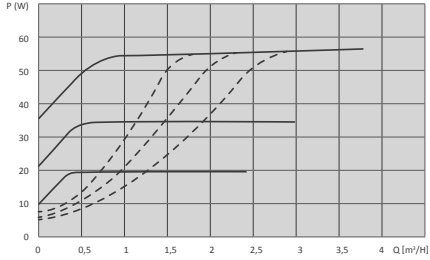
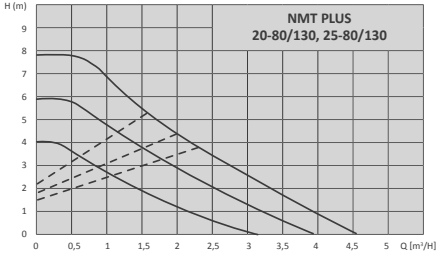
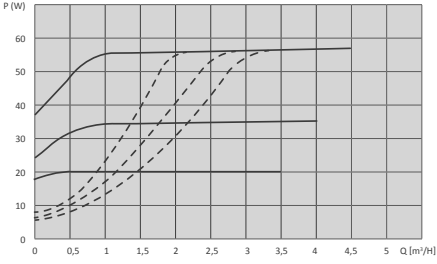
NMT PLUS 15-80/130
Q [m³/H]


P (W)
Q [m³/H]


H (m)
NMT PLUS
20-80/130, 25-80/130
Q [m³/H]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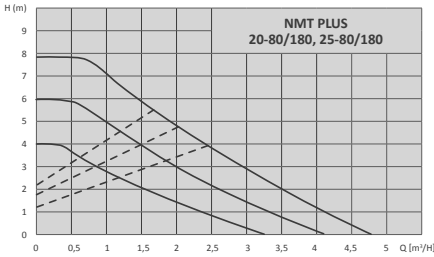
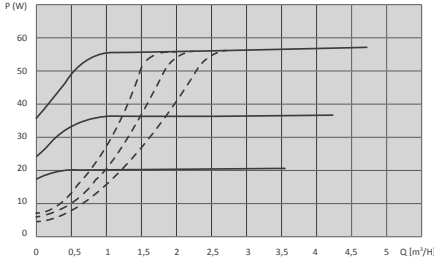
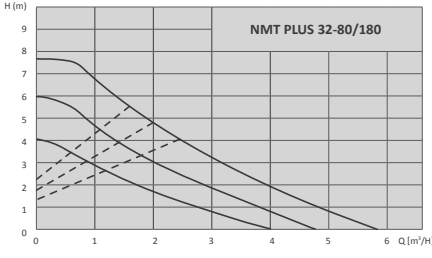
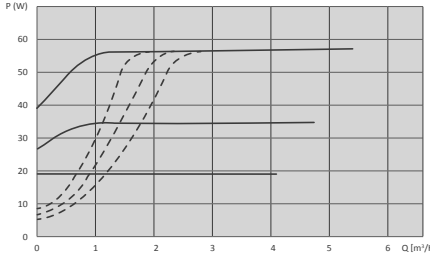
Q [m³/H]


H (m)
NMT PLUS
20-80/180, 25-80/180
Q [m³/H]


P (W)
Q [m³/H]


H (m)
NMT PLUS 32-80/180
Q [m³/H]


P (W)
Q [m³/H]