Technical data sheet: NEMO hydronic terminal – DC Inverter

Card Code: XSCT00146- Date 17/11/2022
Family: Hydronic terminals

Description

NEMO is the 12-cm-thick hydronic terminal with a high-efficiency heat exchanger, tangential fan unit with DC Inverter motor, featuring an extremely quiet operation.
The stand-alone on-board digital control system has capacitive touch buttons and see-through display. It can be controlled by on-board touch control, remote control or 0-10V wall-mounted programmer thermostat.
The supporting structure and shell are made of white powder-coated steel. Aluminum air outlet flaps, with manually adjustable opening.
It is complete with a condensate collection pan for vertical and horizontal installation, and a removable fine-mesh filter. Left side connections ¾"M

Each unit is equipped with:

Brushless modulating permanent magnet fans with inverters, for continuous use, energy-saving with low noise levels.

Cross-flow tangential fan with asymmetric blades, the quietest technology on the market

Electronic control in modulation of the fan speed to continuously adapt the thermal power to the needs of the room.

The "RADIANTor" technology conveys heat or cooling with minimal or no air movements, resulting in an unparalleled acoustic performance.

Advanced control options, with the possibility of external control with 0-10 V signal, with remote control or with integration into 0-10 V home automation systems.

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The following functions are available:

- **Super-silence mode**, for high thermal emission and extremely high levels of silence.
- **"Radiantor" technology** in heating and cooling, for gentle thermal emission by minimizing air movement.
- Dehumidification only or ventilation only operation.
- Four levels of fan speed (Maximum, minimum, medium, super-silence, automatic speed)
- Continuous modulation control algorithm selectable between PID or proportional only
- Anti-draft and anti-hot air function with adjustable temperature threshold.
- All the units, conforming to the European directives, are provided with the CE marking and the relative certificate of conformity.

Field of use

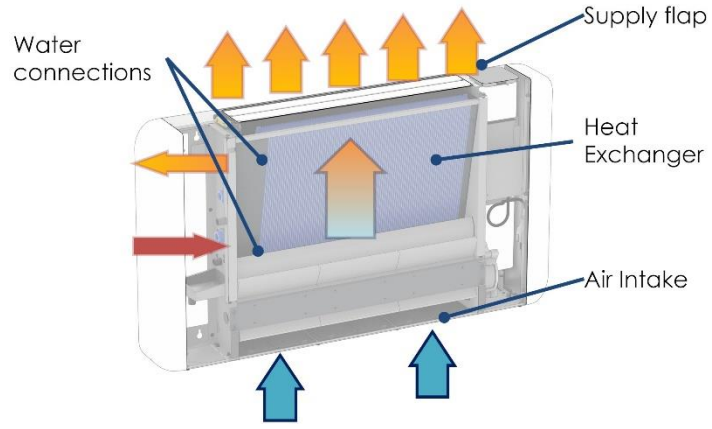
NEMO is designed to:

- Heat, cool and dehumidify.
- Emit power with high efficiency at high as well as low supply temperatures (excellent for heat pump systems).
- Allowing a traditional radiator system to be transformed into a hot/cold air conditioning system (especially when a heat pump is fitted).
- It combines with both traditional boilers, as well as condensing boilers, solar systems and heat pumps.
- It can also be installed in the quietest rooms (bedrooms, residential environments in general), thanks to the acoustic performance of the DC Inverter motor combined with the tangential fan and RADIANTone technology.
- Be combined with modulating 0-10 V thermostats, such as Vision, or with external 0-10 V controllers in thermodynamics, such as Integra Control Zone.

It is possible to connect NEMO to the hydraulic system using the connection kits with two or three-way valves with a by-pass.
NEMO hydronic terminals can be installed either vertically or horizontally on the ceiling.

Operation modes

Winter operation



In winter, the unit draws in cold air from below and filters it through the heat exchange coil. The hea exchanger transfers heat from the hydraulic circuit to the air, heating it. The heated air is supplied into the room through the upper flaps which allow you to adjust the direction of the air jet.
An asymmetrical tangential fan coupled with a DC Inverter motor ensures absolutely silent airflow,

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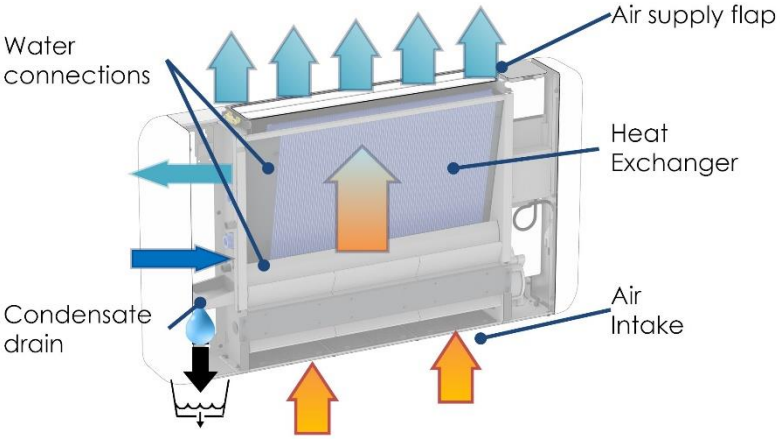
Summer operation



the unit draws in hot air from below and conveys it through the heat exchange coil. The coil transfers the heat from the air and transfers it to the hydraulic circuit, cooling it. The cooled air is introduced into the environment through the upper flaps, which allow you to adjust the direction of the air jet. An asymmetrical tangential fan coupled with a DC Inverter motor ensures absolutely silent airflow,

Condensate formed by the dehumidification process is collected in a tray and conveyed to the condensate drain.

Radiantor Technology

Thanks to the effect of the exchange battery and the passive plate coupled to this, the appliance emits heat, when necessary, in maximum silence.

Air profiles with patented Tripod technology

Thanks to the new "Tripod" technology, patented by Ideal Clima, Nemo operates in the quietest operation with air inlet exclusively from below.

This allows for a clean and elegant appearance with a thickness of only 120 mm and absolutely silent operation.

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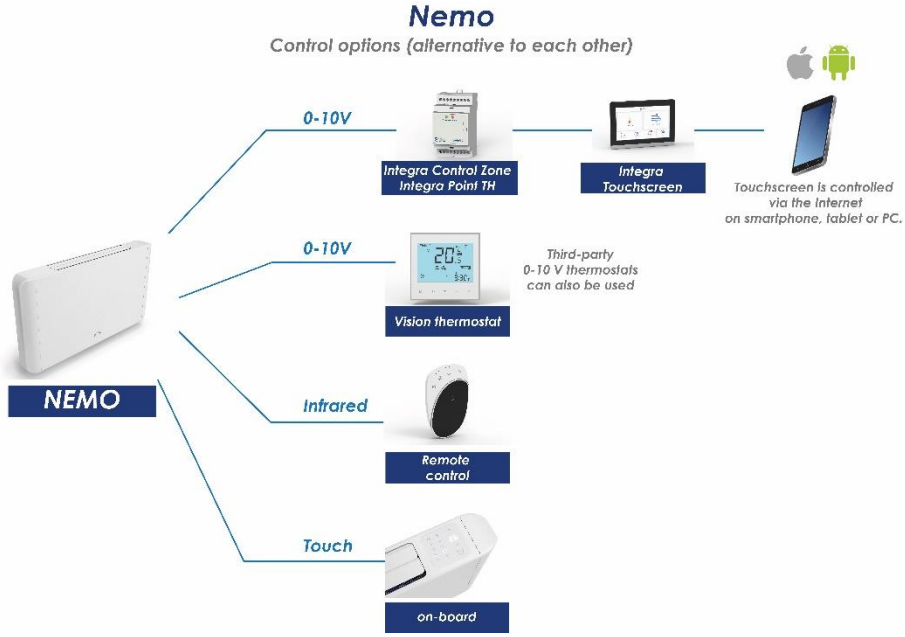
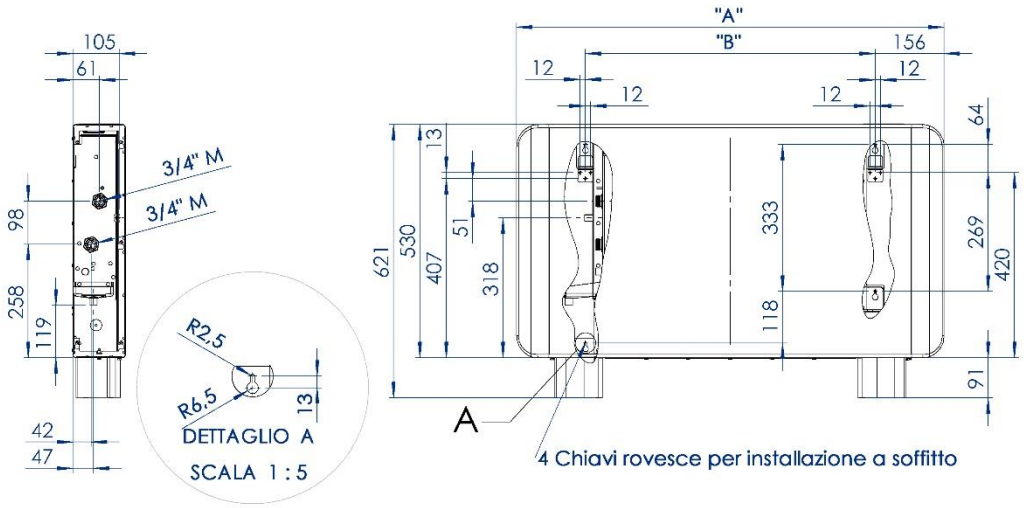
MODE OF CONTROL

The unit can be controlled in the following ways:

- on-board control
- remote control (cod. TQCT05 - optional)
- programmable chronothermostats or home automation that can provide a 0-10V signal
- "Integra Benessere" control system from Ideal Clima, with "Integra Control Zone" in between



Design



CODE	DESCRIPTION	A [mm]	B. [mm]
TNM02D	NEMO 250	780	468
TNM04D	NEMO 400	970	658
TNM06D	NEMO 600	1'160	848

All measurements are in mm

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Technical Data

Description		Nemo 250	Nemo 400	Nemo 600
Code		**TNM02D**	**TNM04D**	**TNM06D**
Heating power T=70-60 °C (1)	**W**	**2'260**	**3'840**	**5'370**
Water flow rate	l/min	3.24	5.51	7.71
Pressure drop	kPa	1.85	6.24	15.6
Heating power T=50-45 °C (2)	**W**	**1'400**	**2'380**	**3'330**
Water flow rate	l/min	4.18	6.83	9.56
Pressure drop	kPa	3.04	9.6	19.4
Heating power T=45-40 °C (3) (P_H)	**W**	**1'120**	**1'930**	**2'700**
Water flow rate	l/min	3.24	5.54	7.75
Pressure drop	kPa	1.8	6.32	15.72
Total cooling power T=7-12 °C (4) **(P_c)**	**W**	**815**	**1'620**	**2'515**
Water flow rate	l/min	2.34	4.65	7.22
Pressure drop	kPa	1.12	4.44	14.64
Air flow rate max speed	mc/h	160	330	460
Super Silent speed sound pressure (5)	dB(A)	16.6	15.2	16.2
Minimum speed sound pressure (5)	dB(A)	18.4	21.1	21.3
Maximum speed sound pressure (5)	dB(A)	30.5	36.6	37.0
Minimum speed sound power	dB(A)	32.4	35.1	35.3
Maximum speed sound power **(Lw)**	dB(A)	44.5	50.6	51
Power supply - Degree of protection	V/ph/Hz	230/1 + N/50------IP23		
Max electrical consumption **($Electric_{Power}$)**	W	10	13	17
Water content	L	0.7	1.0	1.3
Plumbing connections	thumbs	¾ M		
Condensate drainage pipe	mm	16		
Maximum working pressure	bar	10		
Empty weight	Kg	18	22	26
Size	mm	780x621x120	970x621x120	1160x621x120

(1) Temp. Inlet water 70°, Δ T 10°C, Temp. room 20 °C (UNI EN 1397)
(2) Temp. Inlet water 50°, Δ T 5°C Temp. Environment 20 °C (UNI EN 1397)
(3) Temp. Inlet water 45° Δ T 5°C Temp. Environment 20 °C (UNI EN 1397)
(4) Temp. Inlet water 7°, Δ T 5 °C, Temp. Ambient 27 °C - RH 62% (UNI EN 1397)
(5) Sound pressure (dBA) r=2 m Q=2

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Specification items

Cod. TNM02D- Nemo 250 radiator – DC Inverter

Hydronic terminal composed of a copper-aluminium exchange coil with finned pack, galvanized steel frame and powder-coated sheet metal cabinet. With very silent cross-flow tangential fan group. Continuously modulating DC Inverter motor mounted on EPDM anti-vibration supports. Patented technology air profiles and air intake exclusively from below. Air intake with aluminum flaps, manually adjustable. Condensate collection tray for both wall and ceiling mounting. On-board control panel with transparent display and touch buttons, equipped with infrared receiver for remote control and input for 0-10V command. Nominal air flow 160 m3/h, heating heat capacity 1120 W with water 45-40°C. cooling capacity of 815 W according to UNI EN 1397, max. power consumption. 11 W. Depth of 120 mm. Connections left side 3/4 " M.

Cod. TNM04D - Nemo 400 radiator – DC Inverter

Hydronic terminal composed of a copper-aluminium exchange coil with finned pack, galvanized steel frame and powder-coated sheet metal cabinet. With very silent cross-flow tangential fan group. Continuously modulating DC Inverter motor mounted on EPDM anti-vibration supports. Patented technology air profiles and air intake exclusively from below. Air intake with aluminum flaps, manually adjustable. Condensate collection tray for both wall and ceiling mounting. On-board control panel with transparent display and touch buttons, equipped with infrared receiver for remote control and input for 0-10V command. Nominal air flow rate 330 m3/h, heating heat capacity 1'930 W with water 45-40°C. Cooling capacity of 1'620 W according to EN 1397, max. power consumption. 13 W. Depth of 120 mm. Connections left side 3/4 " M.

Cod. TNM06D - Nemo 600 radiator – DC Inverter

Hydronic terminal composed of a copper-aluminium exchange coil with finned pack, galvanized steel frame and powder-coated sheet metal cabinet. With very silent cross-flow tangential fan group. Continuously modulating DC Inverter motor mounted on EPDM anti-vibration supports. Patented technology air profiles and air intake exclusively from below. Air intake with aluminum flaps, manually adjustable. Condensate collection tray for both wall and ceiling mounting. On-board control panel with transparent display and touch buttons, equipped with infrared receiver for remote control and input for 0-10V command. Nominal air flow rate 460 m3/h, heating heat capacity 2'700 W with water 45-40°C. cooling capacity of 2'515 W according to EN 1397, max. power consumption. 17 W. Depth of 120 mm. Connections left side 3/4 " M.

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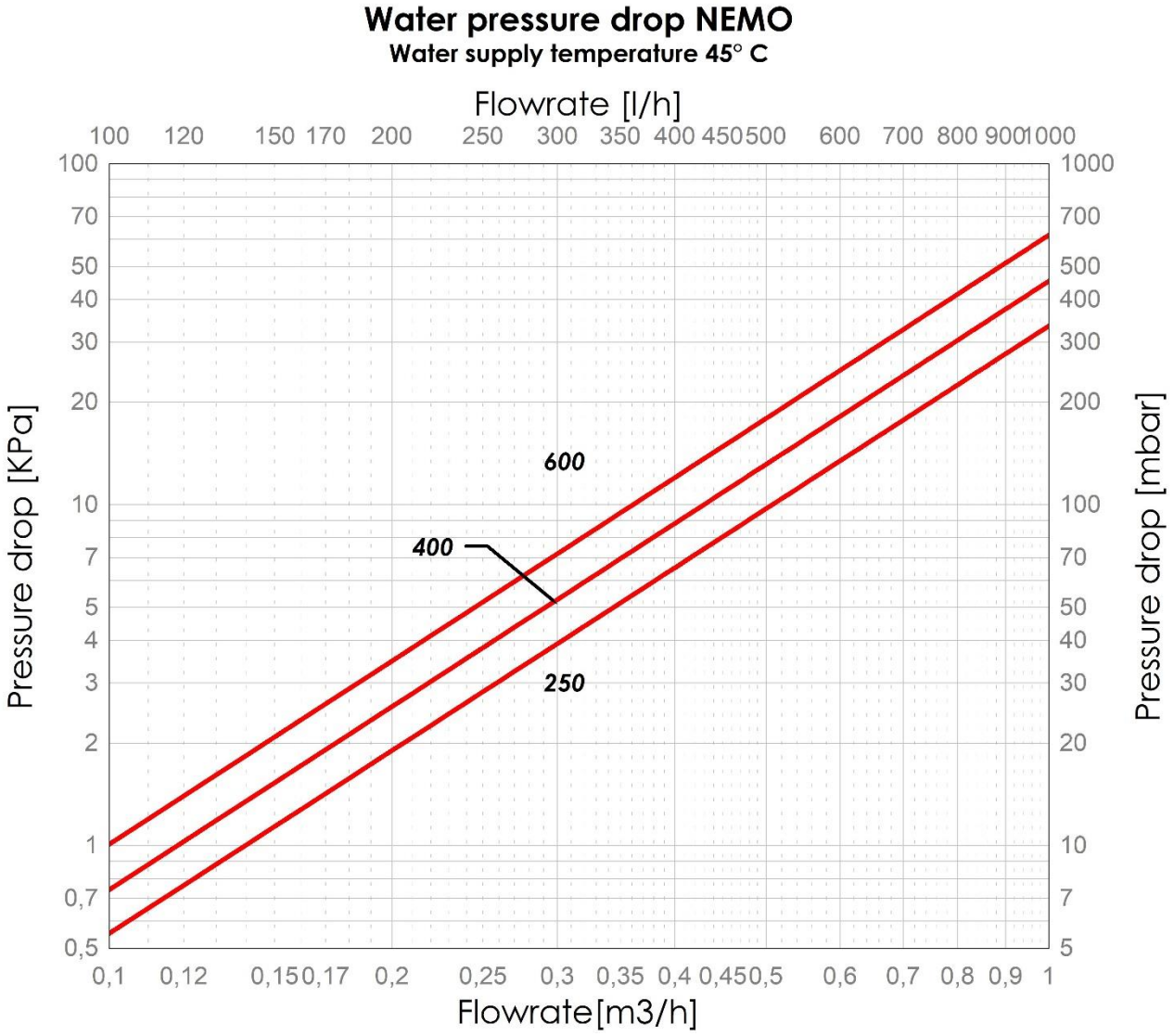
Notes and installation diagrams / Graphics

Water side pressure drop diagram



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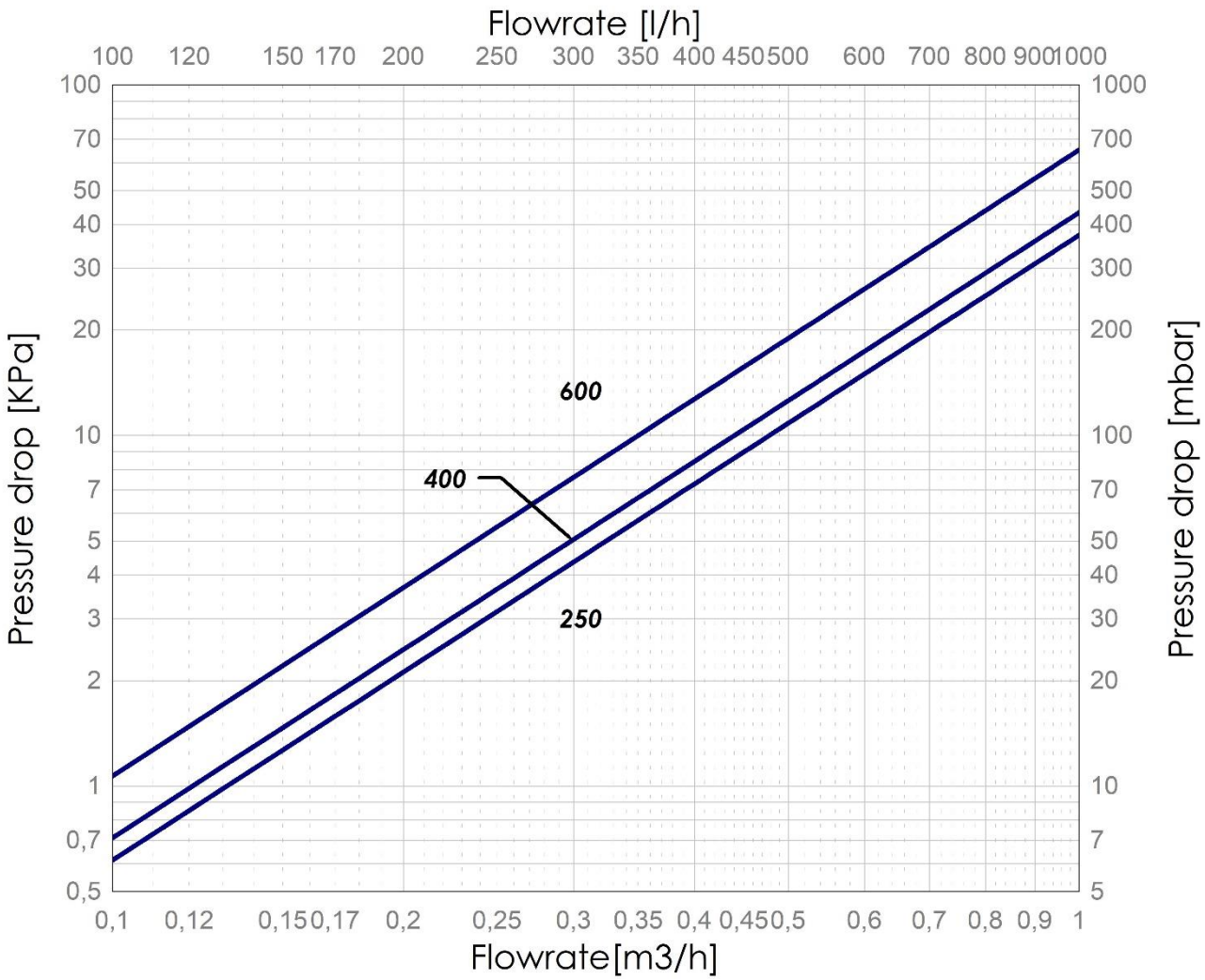
Water pressure drop NEMO

Water supply temperature 7° C



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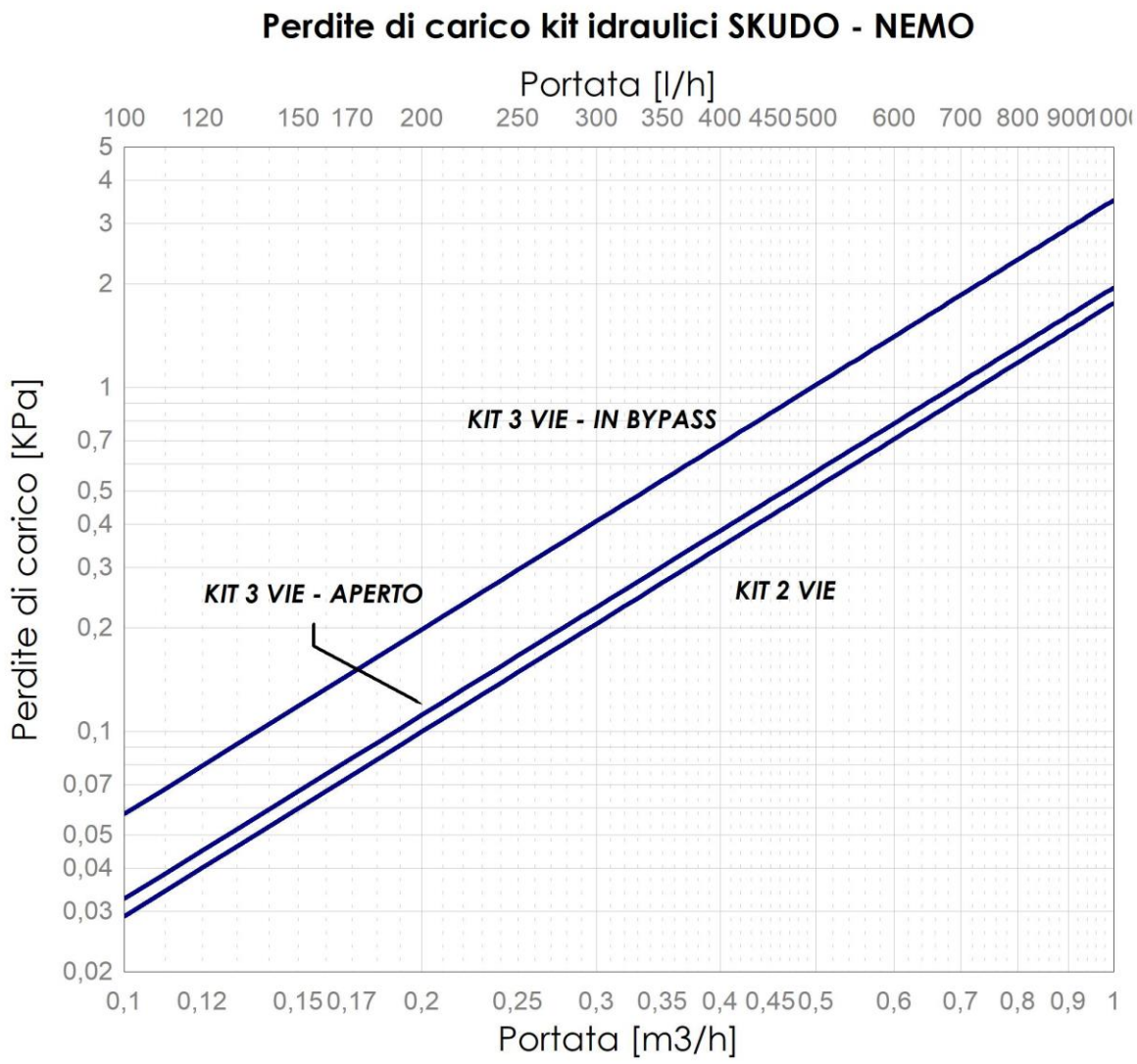
Pressure drop diagram Hydraulic kits



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