

Instructions for use for high pressure cooler



Neomeris part nr. 880812

Certification PED 2014/68 UE
Original language italian

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1. General safety instructions

1.1. Symbols and clarifications



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The symbol indicates: a direct danger to the health and life of the individual.
Failure to comply with the instructions can create fundamental damage to health.



Attenzione

The symbol indicates: a possible danger to the health and life of the individual.
Failure to comply with the instructions can cause damage to health.



Prudenza

The symbol indicates: a probable dangerous situation.
Failure to comply with the instructions can damage material (or the plant itself) and can cause situations to arise that lead to slight injuries to people

1.2. Other safety instructions

Respect the relevant national and company regulations in force.

1.3. Intended use of the cooler

The cooler is intended to lower the temperature of the boiler water before performing the analysis.

The cooler should only be used when in normal conditions. Any faults must be strictly and immediately eliminated.

Unsuitable use: do not use the cooler as a boiler to heat the water, neither in an open circuit, nor in a closed circuit.

Do not use copper pipes.

Do not close or reduce the outflow of cold water (drain).

Do not close or reduce the flow of water taken from the manual coolers.

1.4. Cooler staff

The cooler must be used exclusively by those persons in the company who have first of all read the instructions for use, and have fully understood the meaning of these instructions for use.

In any case, observe the safety instructions.

1.5. Use of the cooler: residual dangers



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- damage resulting from water leakage
- burns
- mechanical energy
- to avoid the damage caused by the leakage of water, it is necessary to mount a probe (on the floor) that gives an alarm signal should this occur.
- never touch the hot parts of the cooler
- before starting any work, close the hot water in the boiler and the cold water in the cooling system.
- maximum allowed pressure 40 bar (steam) and 8 bar for cold water. Before proceeding to repair and/or maintenance make sure that there is no part under any pressure or in any of its parts.

1.6. Disposal of the cooler

Dispose of the cooler parts in accordance with national legislation.

1.7. Warranty and liability of the manufacturer

The product corresponds to the current level and techniques in relation to the date of construction. The cooler is built and produced in compliance with the technical rules in force. It has undergone final testing and quality control.

In the event of a claim, the manufacturer's sales conditions are valid.

2. Operation

The cooler is used to decrease the temperature of the hot water before the analysis.

The water to be cooled is cooled by the flow of cold water.

The model is intended to cool water before a water analyzer.

3. Transport and storage

- The coolers must be transported only in the specific container with the terminals closed to prevent the packaging material from entering them.

4. Use limits

Water must comply with the following parameters:



Parameter	Unit	Maximum value
Free chlorine *	mg/l	0,2
Iron **	mg/l	0,2
Mangano **	mg/l	0,05
Silicate ***	mg/l	25
chlorite ****	mg/l	0
PH value	-	4-8

* Free chlorine / chlorine dioxide / ozone: it damages the inner surface of the cooler.

** Iron / manganese: can be melted or dissolved. If melted, filter to remove suspended substances. If dissolved, oxidize the iron/manganese with a filtration system or use a specific antiscaling dosage. The incrustations on the inner surface can normally be eliminated by washing with chemical products.

*** Silicate, can encrust the inner surface.

**** Chlorite can damage the inner surface.

5. Technical data

	High pressure automatic
Neomeris part nr.	880812
Max water pressure to be cooled	40 bar
Max. Pressure of the cooling water	8 bar
Hot water temperature	0 – 200°C
Dimension	546 x 128 mm
Weight (empty)	2,3 kg
Hydraulic connection	
Cold water inlet	1/2"
Cold water outlet (drain)	1/2"
Water inlet to cool	8 mm
Cooled water outlet	8 mm
Length of the cooling coil	5,1 metri
Material	titanium steel AISI316Ti4, EN 1.4571 (mounting support: AISI316L, EN 1.4404)
Lowering temperature	<40 ° C with cooling water <25 ° C with a water flow to be analyzed approximately 12 ltr/h
Classification of the fluid	Class 2 – not dangerous fluids
Classification of the appliance (in respect of PED 2014/68 EU)	Class A

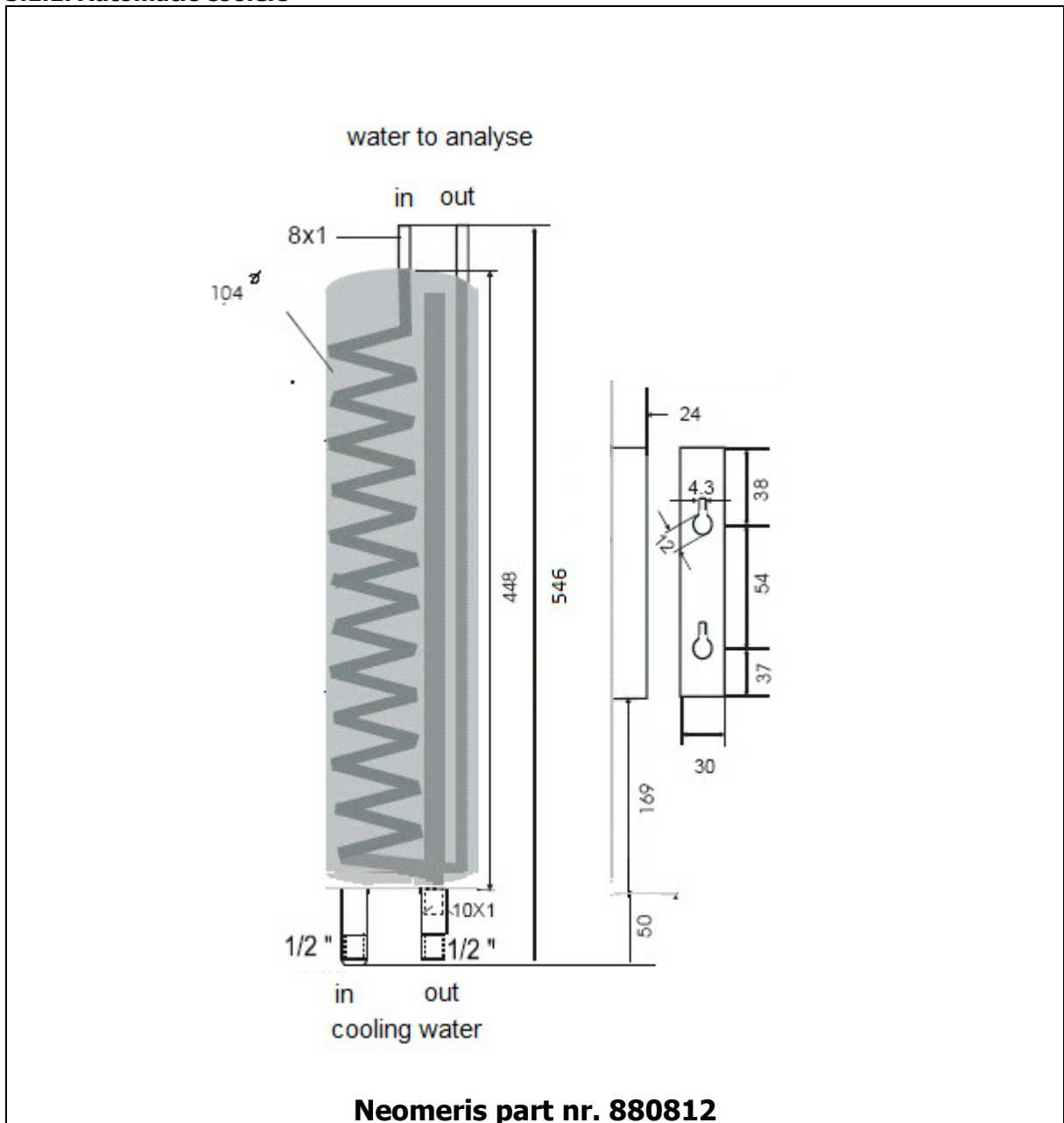
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5.1. Assembly and hydraulic connections

5.1.1. Automatic coolers



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5.2. Commands

In order not to consume water during downtime of the analyzer, you can mount a solenoid valve entering the cold water.



ATTENTION: if a cold water inlet solenoid valve is fitted, the analyzer must be equipped with a command signal to cool the water before the analysis.

Analyzers with signal before the analysis: Testomat 2000, Testomat ECO, Titromat.



ATTENTION: observe the analyzer's instructions for use, before connect the analyzer check the time required for reach a temperature $<40^{\circ}\text{C}$ of the water to be examined. Water that is too hot can damage the measurement chamber analyzer.

6. Condition on site

6.1. Place of installations

6.1.1. Situation on site

- fit a pressure relief valve on the hot water supply line
- fit a micrometric valve in the steam inlet
- provide a mounting space (cooler dimensions: see technical data) greater than 50 cm in each direction, to protect against radiation temperature.
- do not expose to frost.
- to avoid damage caused by water leaks: install a "water" alarm probe on the floor.
- fit a valve to the cold and hot water supply respectively.
- Check that the drain is free and without pressure

6.2. Hydraulic connection

6.2.1. Personnel qualifications



The cooler can only be connected by qualified personnel. Comply with current legislation and company regulations.

6.2.2. Water connection

For the connection: see chapter 5.1 and/or 6.3

Cold water on entry

- * Remove the cold water inlet cap
- * Install a shut-off valve
- * Connect cold water

Sample water (hot water to cool)

- * Remove the hot water inlet cap
- * Install a pressure relief valve
- * Fit a micrometric valve at the steam inlet
- * Remove the cap on the water to be analyzed
- * Connect to hot water

Drain

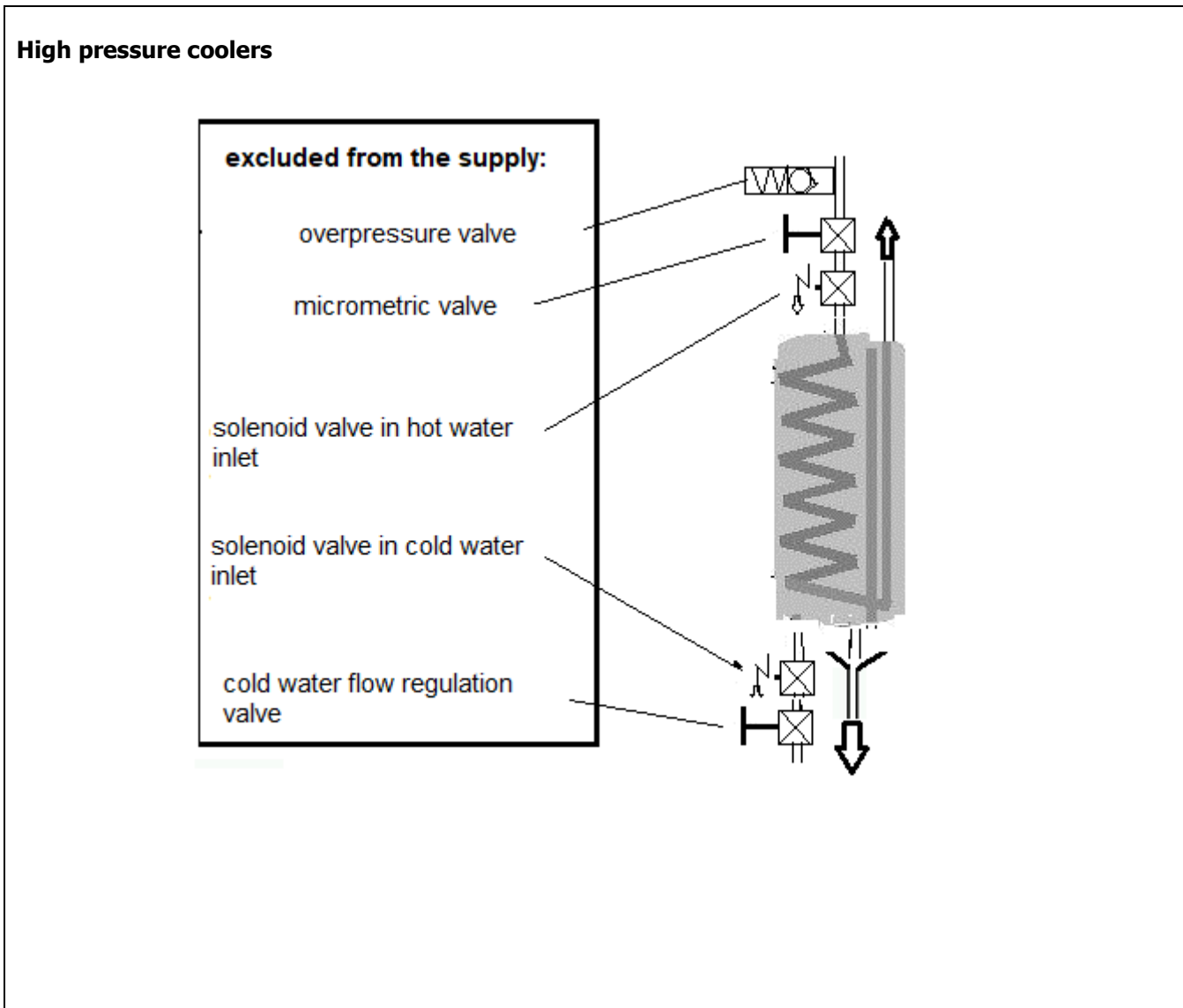
- * Remove the tube cap of the drain



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Do not reduce the flow of cooling water at the outlet (no valve, no reduction, no solenoid valve).

6.3. Installation example



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7. Start

7.1. Personnel qualifications



The start-up must be performed exclusively by a certified and authorized person.

7.2 Preparation of the appliance



Remove all caps inserted for transport and shipping.

With manual coolers, don't forget to remove the cap in the cup holder!



* connect the cooler as described in chapter 6.3.

Fit an overpressure valve to the hot water inlet.

Fit a flow adjustment valve to the cold water and one entering the hot water (the valves are not included in the supply).

*electromagnetic valves can be fitted to the analyzer cooler, both inlet to cold and hot water.

*when leaving the cooling water (drain), no valves of any kind must be fitted.

*open the cold water valve (at maximum) and check its tightness.

*slowly open the micrometric valve of the steam, avoid beating/sudden changes in pressure and check its tightness. Check the outlet water temperature (water to be analyzed).

*adjust the valves so that the outgoing water (to be analyzed) has a temperature <math><40\text{ }^\circ\text{C}</math>.

* check its tightness



The cooler is ready for use, if the water to be tested has a temperature <math><40\text{ }^\circ\text{C}</math>.

Check the temperature once a week.

8. Maintenance



Visually check the cooler at least once a week, this to rule out any leakage of fluid or steam.

The surface of the cooler must be cleaned with a soft cloth.

In the event of water or steam leakage:

Immediately close hot water and cooling water. Report the damage (also by applying a warning (sign) on the cooler) to prevent any unknowing person from putting the cooler back into operation.

Repair the damage only if it is a leaking water / steam coming from the fittings.

In the event of water or steam coming out of a weld, replace the cooler.



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Never perform welding on the cooler or on the fittings.



The overpressure valve must be checked periodically and annually, check its functionality!



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An oxidized cooler must be replaced.

9. Put out of service



Empty the cooler completely and leave the valves completely open (if possible).

No conservation work is required.

10. Restarting

Respect chapter 5 and 6.



Pericolo

A cooler or components of the same oxidized must be replaced.



Pericolo

The pressure relief valve must be tested before putting it back into operation!