



NK 20

Sample Cooler

Installation, Operating and Maintenance Instructions



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Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

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1. Safety Information

Safe operation of these products can only be guaranteed if they are properly installed, commissioned, used and maintained by qualified personnel in compliance with the operating instructions. General installation and safety instructions for pipeline and plant construction, as well as the proper use of tools and safety equipment must also be complied with.



The name plate specifies the features of the equipment. Do not commission or operate any item of equipment that does not have its own specific name plate.

Referring to the Installation, Operating and Maintenance Instructions, name-plate and Technical Information sheet, check that the product is suitable for the intended use/application. The products comply with the requirements of the EU Pressure Equipment Directive and fall within category ‘SEP’.

It should be noted that products within this category are required by the directive not to carry the CE mark.

2. General Information

2.1 Description

The Vira NK20 sample cooler is used to cool samples of boiler water or steam. The cooler consists of a 304L stainless steel coil, through which the sample flows, and a 304L stainless steel body, through which cooling water flows and utilises a counter current flow to maximise cooler efficiency.

The NK20 is also available with a montage set including 2 * clamp adaptor, a needle valve, a street elbow, 50 cm pipe, connecting to an industry standard 1/2” sanitary clamp fitting.

2.2 Connections

Sample tube inlet connection : 1/4”

Sample tube outlet connection : 1/4”

Cooling water inlet connection : 1/2”

Cooling water outlet connection : 1/2”

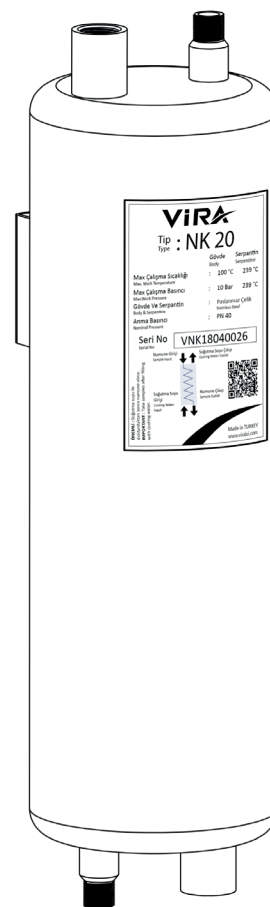


Figure 1 : Perspective Visual of NK 20

2.3 Connections

Note : Sample cooler montage set must be ordered separately.

Item	Description	Size
1	Sample Inlet Valve	1/4"
2	Cooling Water Inlet Valve	1/2"
3	Extension Pipe	50 cm - Ø6 mm
4	Street Elbow	1/4"
5	Adaptor Set	1/4"

Table 1 : Sample Cooler Montage Set

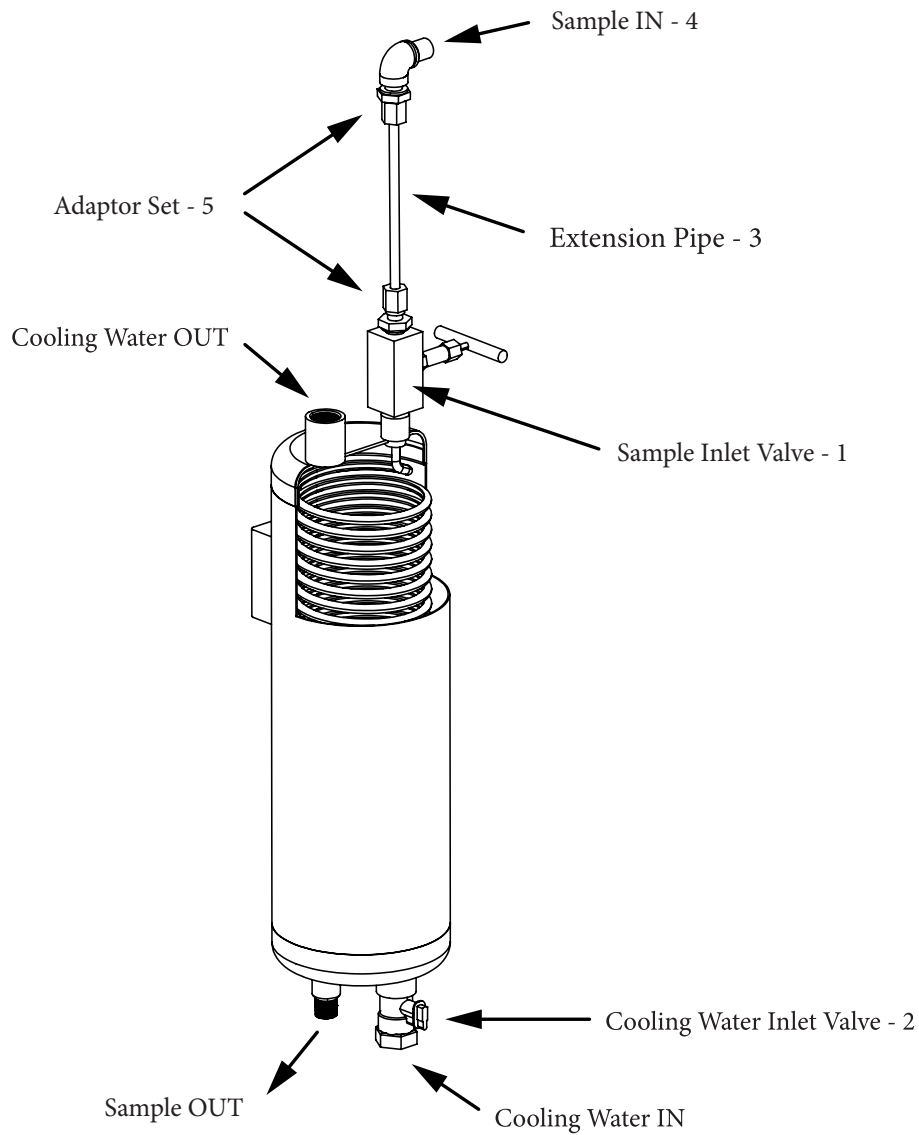


Figure 2 : Sample Cooler Overview

2.3 Name Plate



Figure 3 : NK 20 Name Plate

3. Mechanical Installation

3.1 Pressure and Temperature Limits

Coil (Seamless)

Max. Design Pressure	:	32 bar g @ 239 °C
Max. Design Temperature	:	239 °C @ 32 Bar g
Max. Cold Hydraulic Test Pressure	:	48 Bar g

Body

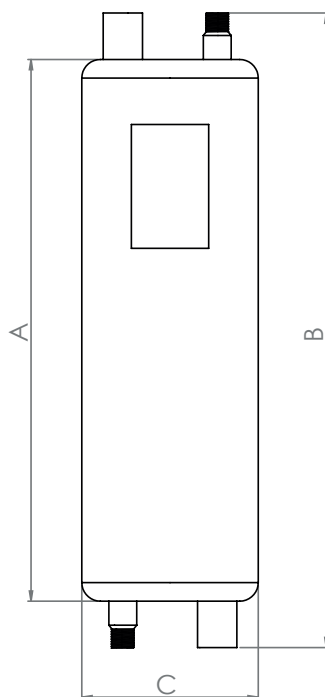
Max. Design Pressure	:	10 bar g @ 100 °C
Max. Design Temperature	:	100 °C @ 10 Bar g
Max. Cold Hydraulic Test Pressure	:	16 Bar g

Materials

Body	:	304 L Austenitic stainless steel (1.4307)
Coil	:	304 L Austenitic stainless steel (1.4307)

Note : Before actioning any installation observe the ‘Safety information’.

- We recommend the use of corrosion resistant pipework suitable for the fluid being sampled.
- Keep the length of all pipes to a minimum.
- Cooling water must be clean and free of scale forming salts.
- The sample cooler must be mounted vertically, using the pre-drilled top and bottom mounting brackets (see Figure 2).



	A	B	C
Size	340	400	114

Table 2 : Dimensions

Allow sufficient space below the NK20 for collection of the sample in a beaker or similar container.

- No connection is required on the sample OUT.
- Connect the pipework as shown in the drawing (Figure 3).
- The cooling water IN should be piped to the bottom of the sample cooler in ½” nominal bore pipe via the cooling water inlet valve. A ½” male/female elbow makes a suitable connector.
- Pipe the cooling water OUT from the top of the sample cooler to an open drain.

Caution : to avoid the possibility of an air lock at the top of the sample cooler, do not allow the thread of the cooling water OUT elbow to protrude into the sample cooler body - maximum thread engagement 15 mm.

- NK 20 with sample inlet adaptor - Install the clamp fitting and seal in accordance with the manufacturer’s instructions.

4. Commissioning

No special commissioning procedure is applicable.

After installation or maintenance carry out tests to ensure that the system is fully functional.

5. Operation

Follow this procedure for safe operation and accurate sampling:

- Open the cooling water inlet valve first and ensure that a full flow can be seen at the cooling water outlet.
- Gradually open the sample inlet valve and regulate the flow to achieve a cooled sample at about 25 °C.
- Allow the sample to run for a while before collection. This will ensure that a true sample is collected for analysis.
- When enough liquid has been collected close the sample inlet first, and then the cooling water inlet valve.
- After closing the sample inlet valve the sample OUT connection may drip for a few minutes while the coil drains.

Warning !

Sample pipework becomes very hot under normal working conditions, and will cause burns if touched to avoid the risk of scalding, it is essential that a full flow of cooling water is present before opening the sample inlet valve.

Always close the sample inlet valve before turning off the cooling water.

6. Maintenance

No routine maintenance is required.

7. Technical Assistance

For technical assistance or service requests, please directly contact Vira service center by making a phone call or sending an e-mail to **servis@viraisi.com**.

Return faulty or service items to Vira itself or authorized agency in your area. Ensure all items are suitably packed for transit (preferably in the original cartons).

Please provide the following information with any equipment being returned:

- Your name, company name, address and telephone number, order number and invoice and return delivery address.
- Description and the serial number of equipment.
- Full description of the fault or repair required.
- If the equipment is being returned under warranty, please indicate the date of purchase.

The manufacturer reserves the right to make change without prior notification.

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