



PRODUCT MANUAL

Cooler

Type 162 34

APPLICATION

- To decrease temperature of sample of liquids intended for measurement of conductivity and other parameters.

DESCRIPTION

The cooler consists of a cylindrical tank provided with a closing valve for inlet of cooling water and a screw-joint for the connection to the waste piping. Cooling water cools down the spiral piping that is located inside, through which the measured sample flows. The construction solution of the coolers ensures that suitable temperature of measured sample can be achieved in dependency on temperature and quantity of cooling water even in case of maximum input parameters of the reduction chamber.

TECHNICAL DATA

Operation position:	vertical
Type of operation:	continuous
Weight:	approx. 6.7 kg
Used materials:	
Weld-on cones (cooling water)	steel 1.4541
Weld-on cones (measured sample)	steel 1.4571
Tank of steel cooler	steel 1.0308, painted
Tank of completely stainless cooler	steel 1.4301
Spiral of cooler	steel 1.4571
Discharge screw	steel 1.4541
Water valve	brass
Sealing of lid	rubber 7748
Sealing of discharge screw	aluminium

OPERATION CONDITIONS

The armatures are designed for the environment defined by the group of parameters and their severity grades IE34 pursuant to the standard EN 60721-3-3 and the following operation conditions.

Ambient temperature: +5 to 60 °C

Relative ambient humidity:

10 to 95 % with condensation with upper limit of water content 29 g H₂O/kg of dry air

Atmospheric pressure: 70 to 106 kPa

Level of vibrations only in class: 3M1

Operation (measured) liquid:

Supply water, steam, boiler wastewater, breakdown, return condensate etc. without mechanical impurities

Parameters of measured liquid:

Overpressure	max. 0.5 MPa
Temperature	max. 270 °C
Flow	max. 40 l/hour

:

Overpressure	for design 115	max. 0.25 MPa
	for design 215	max. 0.5 MPa

Temperature 10 to 25 °C

Flow 2 to 12 l/min

Structure Cooling water is recommended to suitably adapt

Outlet temperature of sample at max. inlet parameters:
max. 80 °C

RELIABILITY

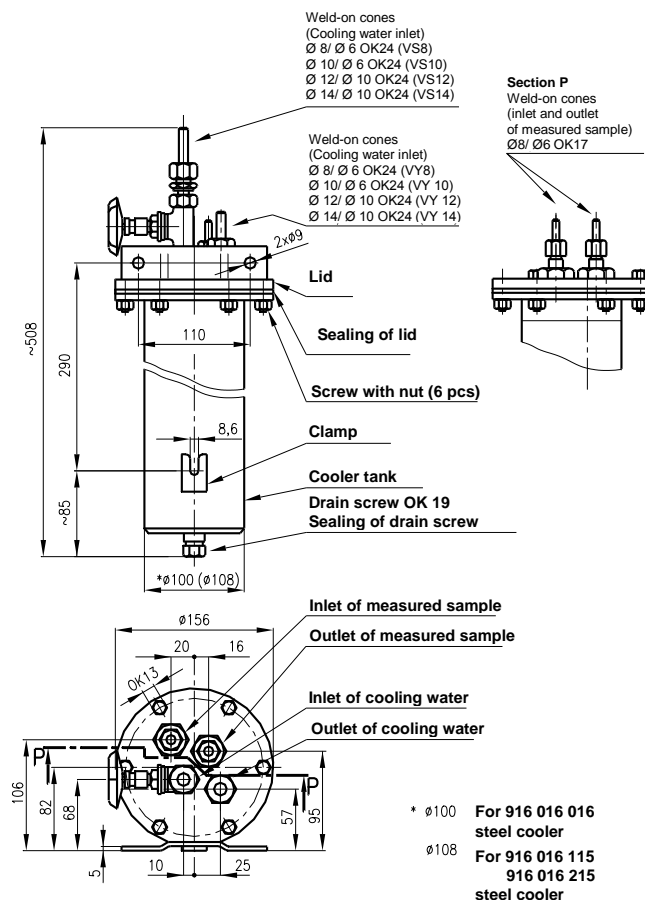
Reliability indicators in operation conditions and ambient conditions specified herein

- Mean time of operation between failures 96 000 hours (inf. value)
- Expected service life 10 years

DESIGNATION

Data on the product

- Trademark of the manufacturer
- Made in Czech Republic
- Product ordering number
- Serial number



* ϕ 100 For 916 016 016 steel cooler
 ϕ 108 For 916 016 115 916 016 215 steel cooler

DELIVERY

Unless agreed otherwise with the customer, each delivery includes

- Delivery note
- Products pursuant to purchase order
- Accompanying technical documentation in Czech:
 - o Product manual
 - o Product quality and completeness certificate, which also serves as the warranty certificate
 - o Test report

If it is established in the purchase contract or agreed otherwise, the following documentation can be also delivered with the product:

- Copy of inspection certificate 3.1 pursuant to EN 10204 for individual materials with casting number
- Declaration of Conformity with purchase order 2.1 pursuant to EN 10204

PLACING AN ORDER

The purchase order shall specify:

- Name
- Product ordering number
- Other (special) requests
- Number of pieces

PURCHASE ORDER EXAMPLE

Standard design:

1. Cooler
916 016 015
20 pcs
2. Cooler
916 016 115 VS14 VY14
20 pcs

DESIGN OF COOLERS TYPE 162 34

SPECIFICATIONS		ORDERING NUMBER				
		916	016	xxx	xxxx	xxxx
Steel cooler for overpressure of the cooling water max. 0.25 MPa				015		
Completely stainless cooler for overpressure of the cooling water max. 0.25 MPa				115		
Completely stainless cooler for overpressure of the cooling water max. 0.5 MPa				215		
Weld-on cone of cooling water inlet	Ø8/ Ø6				VS8	
	Ø10/ Ø6				VS10	
	Ø12/ Ø10 *)				VS12	
	Ø14/ Ø10				VS14	
Weld-on cone of cooling water outlet	Ø8/ Ø6					VY8
	Ø10/ Ø6					VY10
	Ø12/ Ø10 *)					VY12
	Ø14/ Ø10					VY14

*) Unless codes VS and VY are specified behind the ordering number, the cooler is delivered in design VS12 VY12
Weld-on cones for inlet and outlet of the measured sample are always Ø8 / Ø6 (it cannot be changed).

PACKING

Both the products and accessories are delivered in a packing ensuring resistance to the impact of thermal effects and mechanical effects according to controlled packing regulations.

TRANSPORT

The products may be transported on conditions corresponding to the set of combinations of classes IE 21 pursuant to EN 60721-3-2 (i.e. by airplanes and trucks, in premises that are ventilated and protected against atmospheric conditions).

STORAGE

The products may be stored on conditions corresponding to the set of combinations of classes IE 12 pursuant to EN 60721-3-1 (i.e. in places without regulation of temperature and humidity, with a threat of occurrence of condensation, dripping water and formation of ice, without a special threat of an attack with biological agents, with vibrations of small significance and not situated close to sources of dust and sand).

INSTALLATION AND CONNECTION

During the installation, the following principles shall be complied with.

- Interconnecting pieces between the reduction chamber and the cooler, the cooler and the conductivity sensor and drain from the conductivity sensor shall be short and pressure on the outlet from the reduction chamber at the required flow may not exceed the value of permitted inlet pressure applicable to the cooler.
- From the inlet to the reduction chamber to the outlet of condensate from the conductivity sensor to the collecting duct, there may be no inbuilt closing or throttle valve.

COMMISSIONING

When using the cooler, such flow of the cooling medium shall be adjusted to achieve suitable temperature of the measured sample or, as the case may be, the flow of the sample shall be modified by the number of orifices of the reduction chamber.

OPERATION AND MAINTENANCE

To clean the cooler, you need to unscrew 6 screws with a nut connecting the lid with the tank of the cooler and release 1 screw in the clamp and remove the cylindrical tank. To avoid deteriorating the function of the cooler due to deposit of scale on the cooler, the cooler shall be cleaned within max. three-month period (depending on quality of cooling water). Sodium phosphate or approx. 5% nitric acid is used for cleaning.

SPARE PARTS

SPECIFICATIONS	ORDERING NUMBER
Steel tank without lid	018 949 715
Stainless tank without lid	018 727 515
Sealing of the lid of the tank	018 965 115
Discharge screw	018 964 015
Sealing of the discharge screw	047 461 715

WARRANTY

The warranty period shall be 24 months from the receiving of the product by the customer, unless established otherwise in the contract. The rejection of defects shall be enforced in writing at the manufacturer within the warranty period. The rejecting side shall identify the product name, ordering and manufacturing numbers, date of issue and number of the delivery note, clear description of the occurring defect and the subject of the claim. If the rejecting side is invited to send the device for repair, it shall do so in the original package of the manufacturer and/or in another package ensuring safe transport.

The warranty shall not apply to defects caused by unauthorized intervention into the device, its forced mechanical damage or failure to comply with operation conditions of the product and the product manual.

REPAIRS

The repairs shall be performed by the manufacturer. The devices shall be sent for repair in the original or equal package without accessories.

DISABLING AND LIQUIDATION

Both the product and its package do not include any parts that could impact the environment.

The products that are withdrawn from operation (including their packages) may be disposed of to the sorted or unsorted waste pursuant to the type of waste.

The package of the product can be recycled completely. Metal parts of the product are recycled, non-recyclable plastic materials shall be disposed of in accordance with applicable legislation.

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