

Industrial X-Ray

Cooler Manual XRC-4501-OW 4500 Watt oil to water cooler



Document history

Version	Date	Author	Amendment(s)	Status
	12/15/2008	St. Haferl		released
1.0	07/22/2010	M. Schmid	Layout / Structure	
	07/22/2010	St. Haferl		released
2.0	05/19/2011	M. Schmid	Oil description	
3.0	10/30/2012	R. Moser	Layout / Structure	
4.0	07/01/2013	R. Moser	Update Chapter 3	
5.0	07/09/2015	M. Schmid	Change Shell Diala	
6.0	01/12/2015	M. Schmid	New electrical drawing	

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1 Before you start

- Read manual before setting into operation!
- Coolant: Oil, Shell Diala S4 ZX-I
- Power supply 230 V 50/60 Hz!
- Run cooling unit always with correct coolant level otherwise cooling capacity is reduced!
- Clean filter regularly according to maintenance instructions, otherwise damage of pump may occur!
- Never operate cooling unit when ball cock is closed, otherwise damage of pump may occur!
- Only use cooling hoses with sufficient pressure resistance and with resistance to used coolant!
- Never operate damaged or leaking equipment!
- Before starting any service work disconnect the cooling unit from the mains.



2 Product Description

The cooling unit XRC-4501-OW is intended for the cooling of an oil circuit. Oil circulates between the cooling unit and the heat source. The oil is re-cooled by a water-cooled heat exchanger. Cooling hoses are connected to the cooling unit via screw connections (M 26 x 1.5). Coolant inlet and oil outlet are marked with symbols:

Inlet Oil: \downarrow \circ **Outlet Oil:** \uparrow \circ

The oil flow is monitored by an adjustable flow switch, the oil temperature by an adjustable thermal switch. The signals of the flow switch and the thermal switch are available at a potential free safety circuit. The oil pressure is limited by an adjustable bypass valve.

The capacity of the cooling unit depends on the temperature difference between the Cooling water temperature and the oil outlet temperature.

You can take it from diagram on page 7

3 Technical data

3.1 Physical dimensions

Length:	621 mm
Width:	350 mm
Height:	551 mm
Weight:	65 kg with cooling agent
Coolant capacity:	23 l

3.2 Performance data

Cooling capacity:	4500 W ($\Delta T \leq 20 \text{ }^\circ\text{K}$)
Oil flow:	> 25 l/min at 3,5 bar
Mains Voltage:	230V \pm 10%, 50/60Hz
Input power:	0,55 kW
Noise level:	60 dB(A) at 1 m distance
Safety class:	IP 33

3.3 Environmental specifications

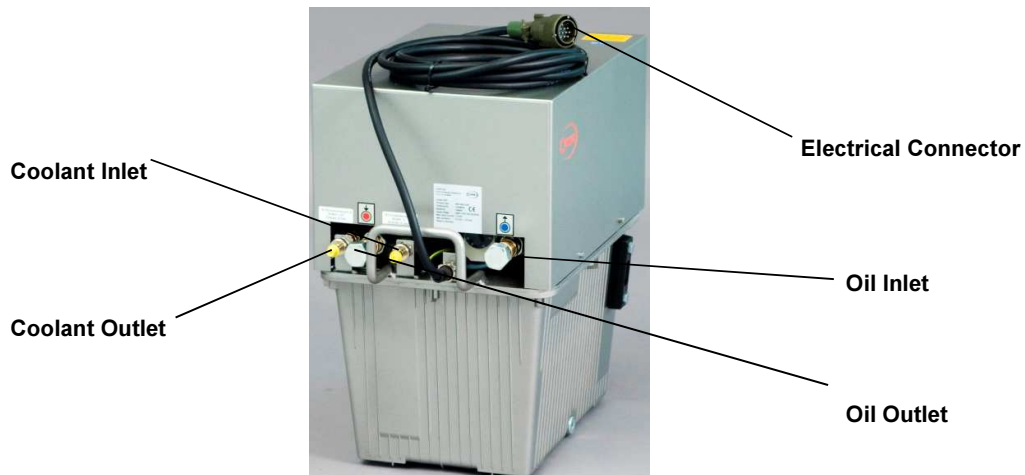
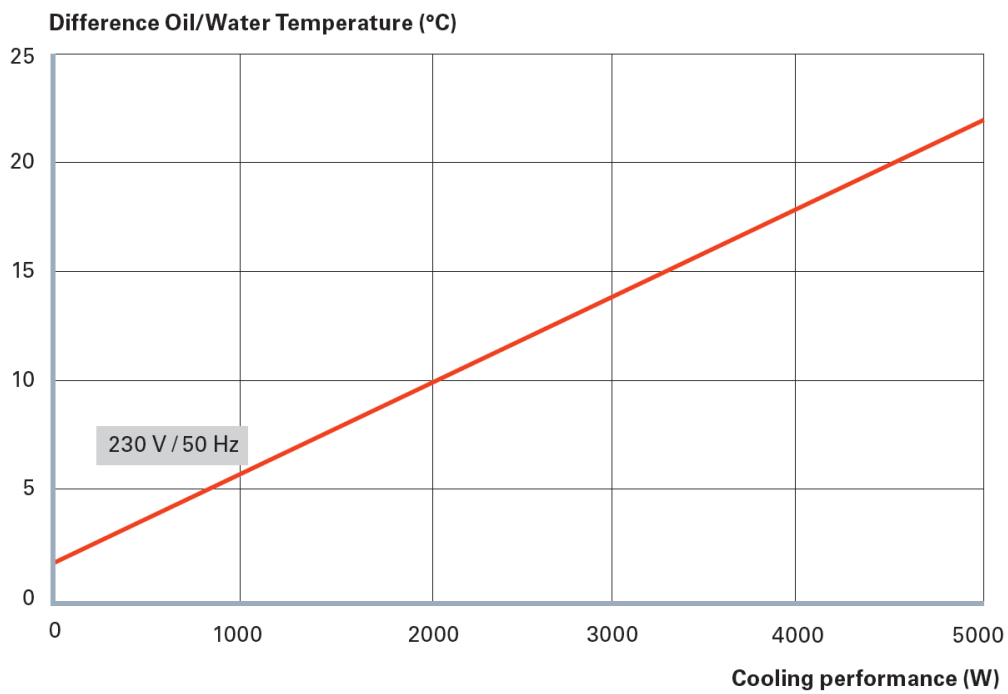
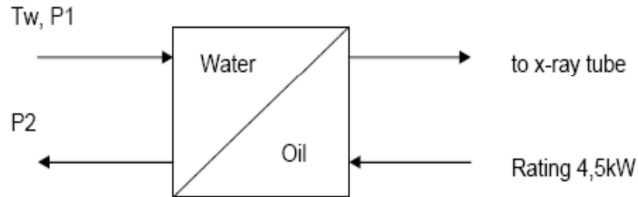
Operational temperature:	0°C... +40°C
Storage temperature:	-25°C...+70°C (without water)
Air humidity:	20%...90% non condensing

3.4 Settings

Maximum forward pressure:	9.5 bar
Flow switch open:	< 14.0 l/min
Flow switch close:	> 15.5 l/min
Thermal switch open:	> 50°C
Thermal switch close:	< 47°C

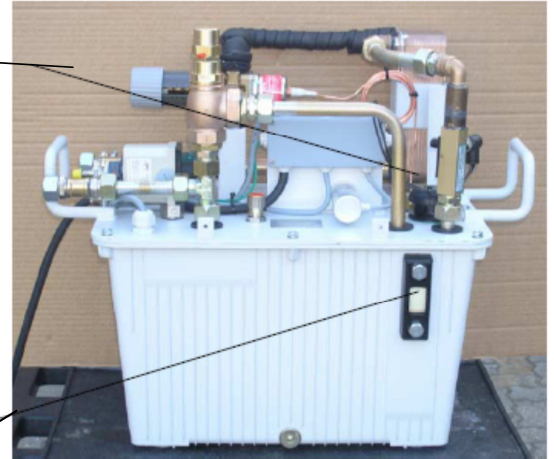
3.5 Performance data and overview

Cooling performance 4,5 kW, oil temperature vs. water temperature

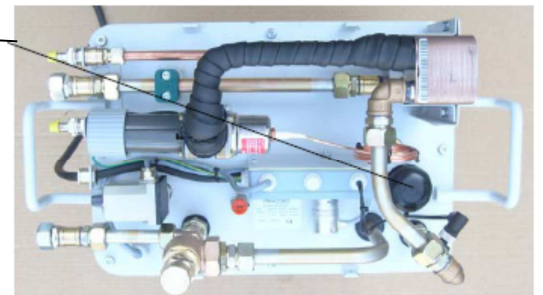


4 Installation

- Remove cover
- Remove cap of oil reservoir and fill with oil up to the visible mark
Connect oil hoses to cooler.
- Connect water supply to cooler.
- Establish electrical connections according wiring diagram, use suitable leads.
- Start water supply to cooler.
- Start power supply for cooler
- Run oil cooler for approximately 10 minutes to remove air from the oil circuit.



- Check oil level and refill if necessary
- Stop cooling unit
- Close cap of oil reservoir.
- Mount cover.
- Cooling unit is ready for use



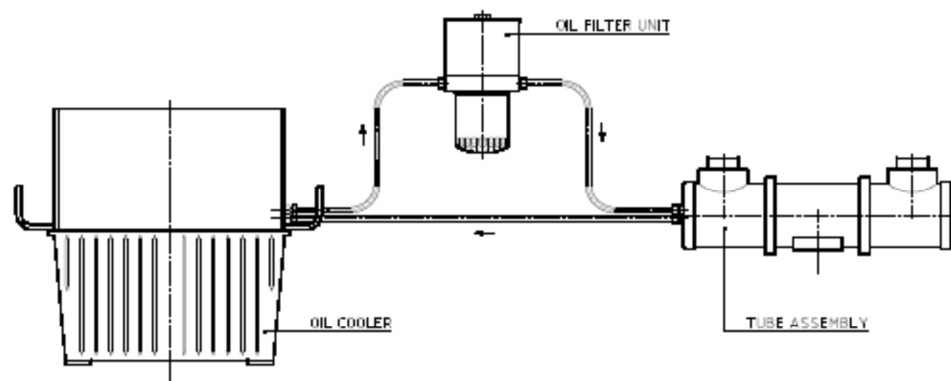
4.1 OMF Filter

We highly recommend using the OMF oil molecular filter unit with the XRC-4501-OW cooler.

We supply our bipolar XRS-Modules with OMF filter as a standard.
For detailed information please refer to the corresponding manual of the OMF filter.

Schaltbild für den Einbau des Ölfilters

Schematic for the installation of the oil filter unit



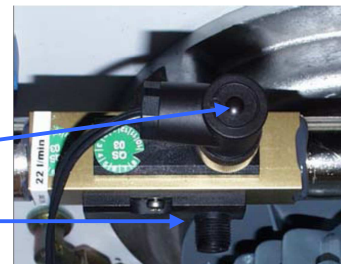
4.2 Changing the switching point of the flow switch 1 and 2

The flow switch and the temperature controller are factory adjusted and locked according to specification. In order to change the switching point, proceed as follows:

Changing from 22 l/min to 14 l/min

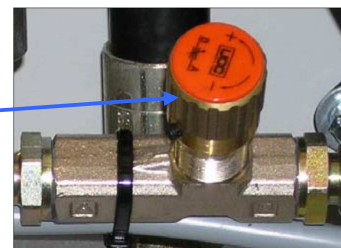
- unlock finger screw at r/a plug
- take plug off the 22 l - switch
- put plug on 14 l/min - switch
- lock finger screw again

to change from 14 l/min to 22 l/min reverse above instructions.



Venting System

- Open bypass valve
- Let system run for a few minutes
- Close bypass valve
- Check oil level and refill if necessary



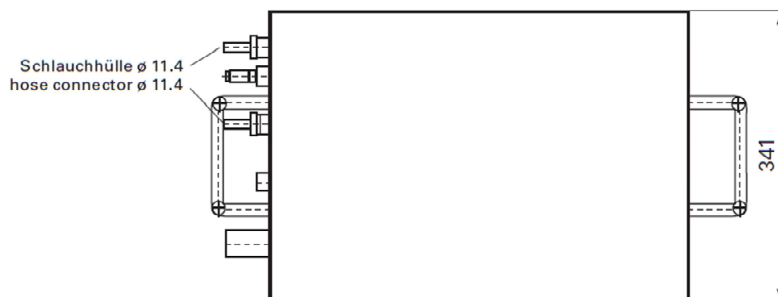
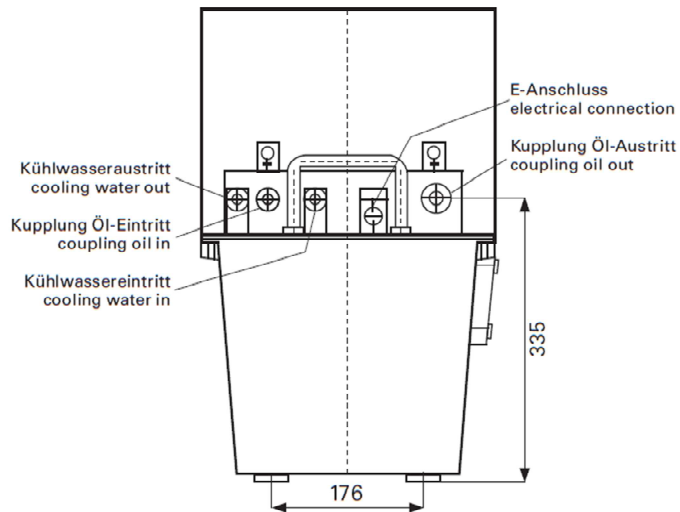
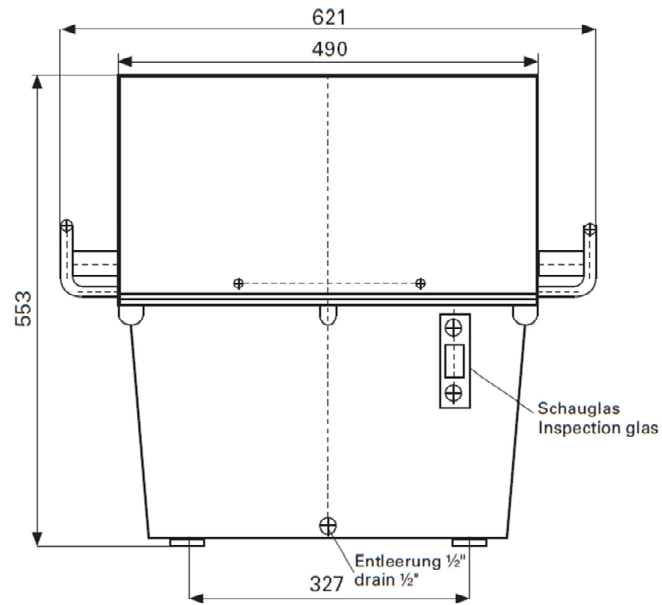
5 Maintenance

Check oil level at inspection glass monthly, or if necessary more often and refill oil

6 Putting out of operation

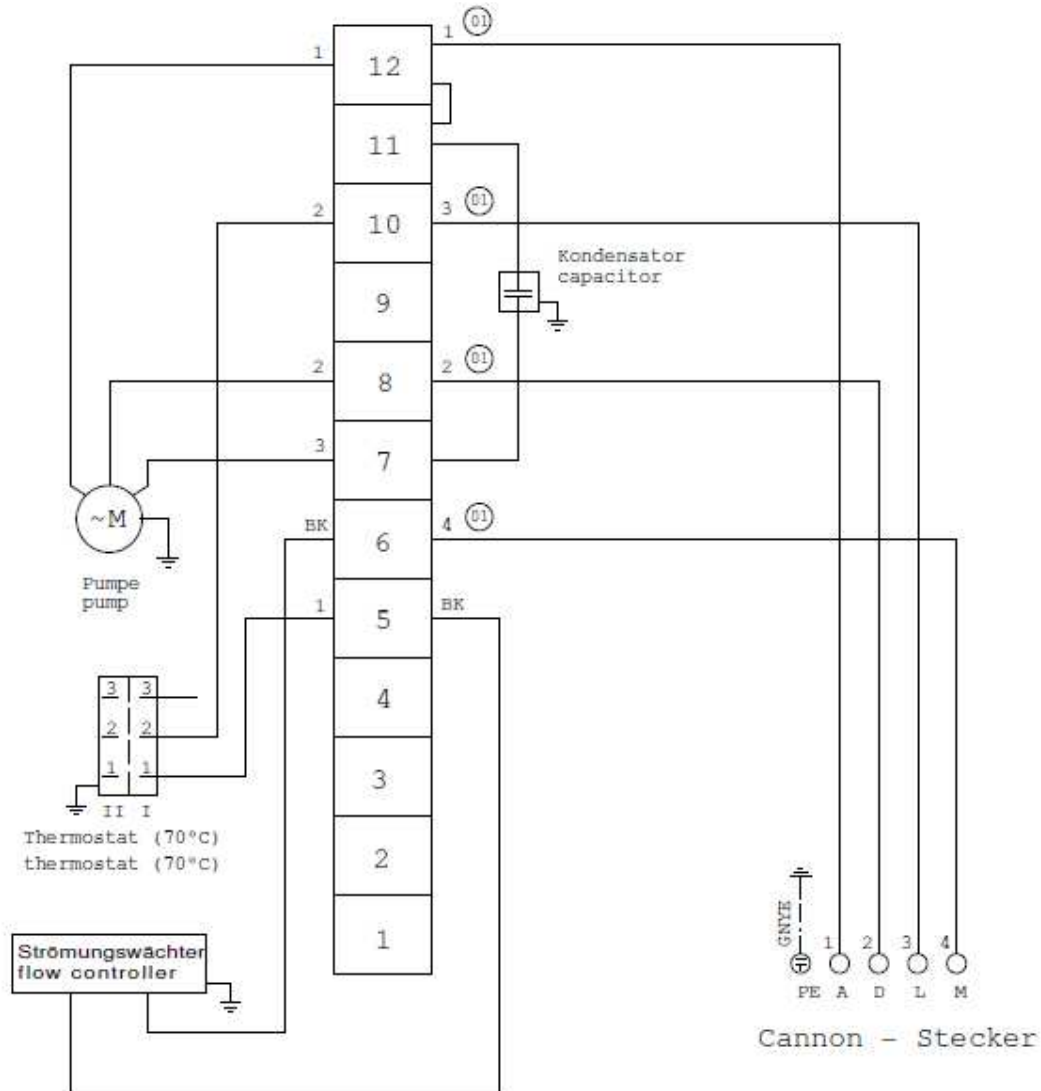
- - Stop oil circulation by switching off pump.
- - Disconnect equipment from mains
- - Lock oil supply and return pipes.
- - Lock cooling water supply and return pipes.
- - Drain water off the cooling system for frost protection

7 Outline Drawing



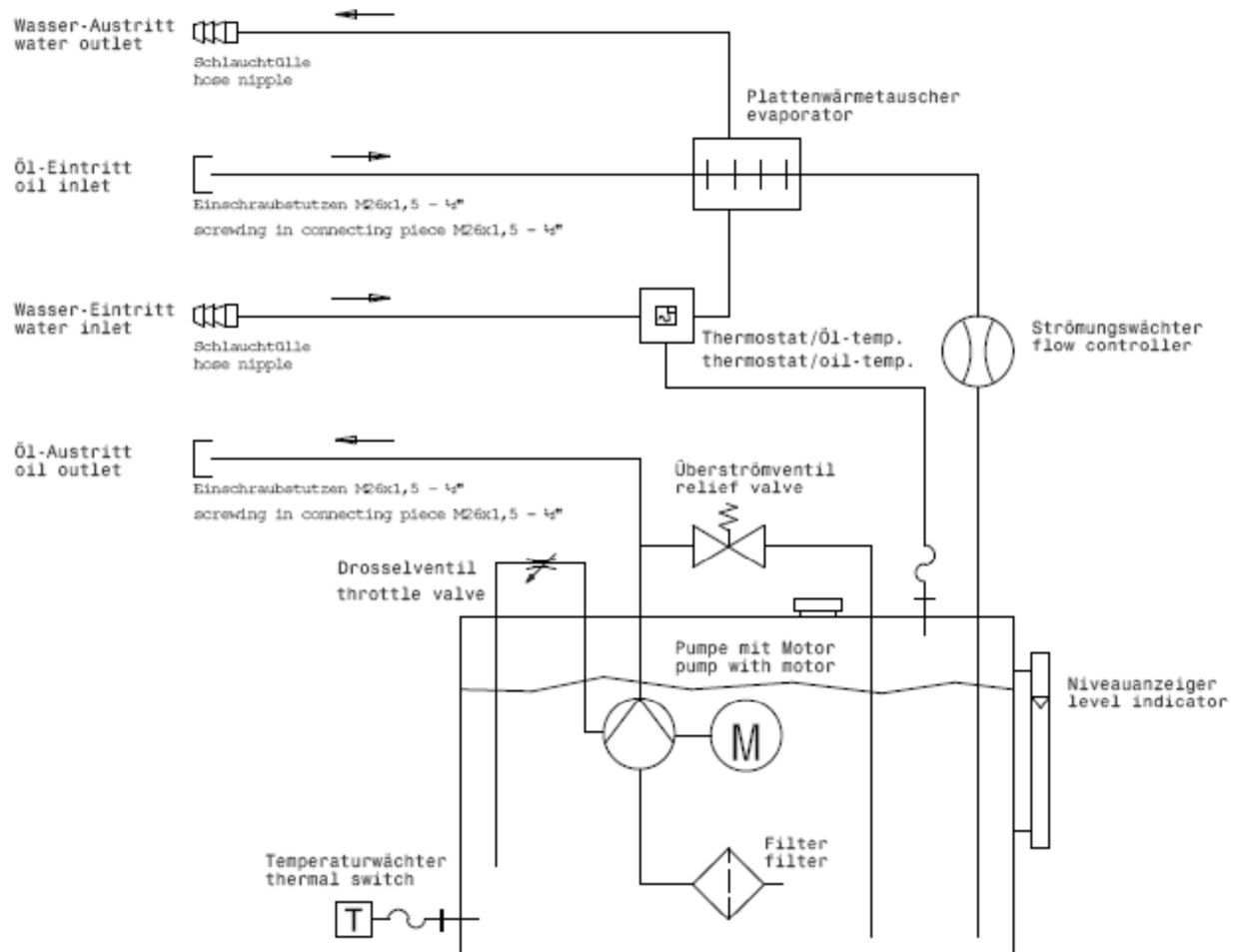
8 Circuit Diagrams

8.1 Electrical Diagram



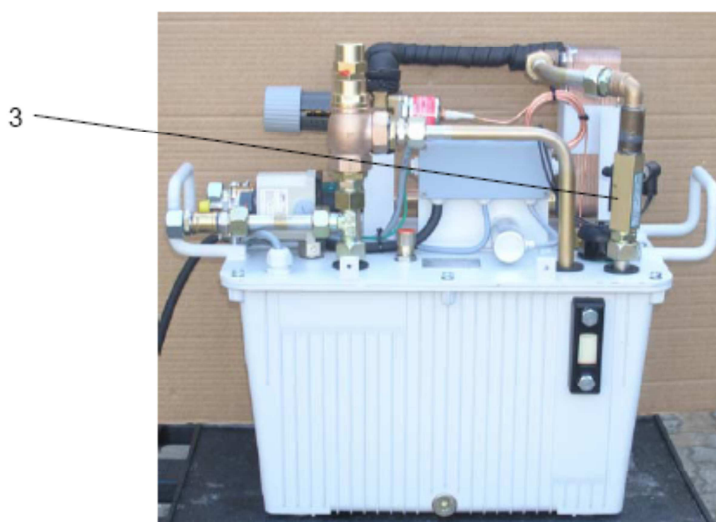
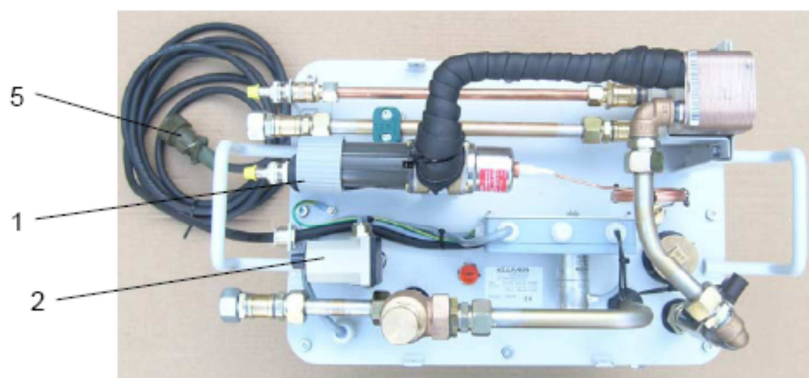
Caution: The cooler has to be fused when used as a stand alone unit with 6 A, slow blow type. The default plug is a Cannon plug.

8.2 Flow diagram



9 Illustration Cooler

No.	Description
1	Cooling water regulator
2	Thermo switch
3	Flow switch
4	Oil pump with pump motor (not shown)
5	Plug, male 12 poles
6	Oil case, 5 liters (not shown)



10 Declaration of conformity

EINBAUERKLÄRUNG FÜR UNVOLLSTÄNDIGE MASCHINE
DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY
DÉCLARATION D'INCORPORATION DE QUASI-MACHINE



Hersteller / Adresse:
Manufacturer / Address:
Fabricant / Adresse:

COMET AG
Herrengasse 10
CH-3175 Flamatt

Produkte:
Products:
Produits:

Kühler
Cooler
Refrroidisseur

Bezeichnung / Bestell- Nr.
Type / Reference no.
Type / No. de référence

XRC-3001-WA	10008640
XRC-3001-WW	10008641
XRC-4501-OA	10008642
XRC-4501-OW	10008643
XRC-1001-WA	20033773
XRCA-3001-WA	20033337
XRCA-5001-OA	20033338 / 20032910
XRC-3012-WA	20049308
XRC-3012-WW	20049309

Wir erklären hiermit dass die oben aufgeführte unvollständige Maschine den grundlegenden Sicherheits- und Gesundheitsanforderungen der **Maschinenrichtlinie 2006/42/EG** Anhang I entspricht. Die speziellen Technischen Unterlagen gemäss Anhang VII Teil B wurden erstellt.

We hereby declare that the partly completed machinery named above satisfies the relevant essential health and safety requirements set out in the Annex I of the Machinery Directive 2006/42/EC. The technical file according to the Annex VII part B is available.

Nous déclarons que la quasi-machine mentionnées ci-dessus satisfait aux exigences essentielles de santé et de sécurité pertinentes énoncées à l'annexe I de la **directive machines 2006/42/CE**. Le dossier technique conforme à l'annexe VII, section B est disponible.

Angewandete Normen
Standards applied
Normes appliqués

DIN EN ISO 12100-1 (2004-04)
DIN EN ISO 12100-2 (2004-04)
DIN EN 60204-1 (2009-10)
DIN EN 349 (2008-09)

Datum: **Dezember 2010**
Date: December 2010
Date: **Décembre 2010**

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