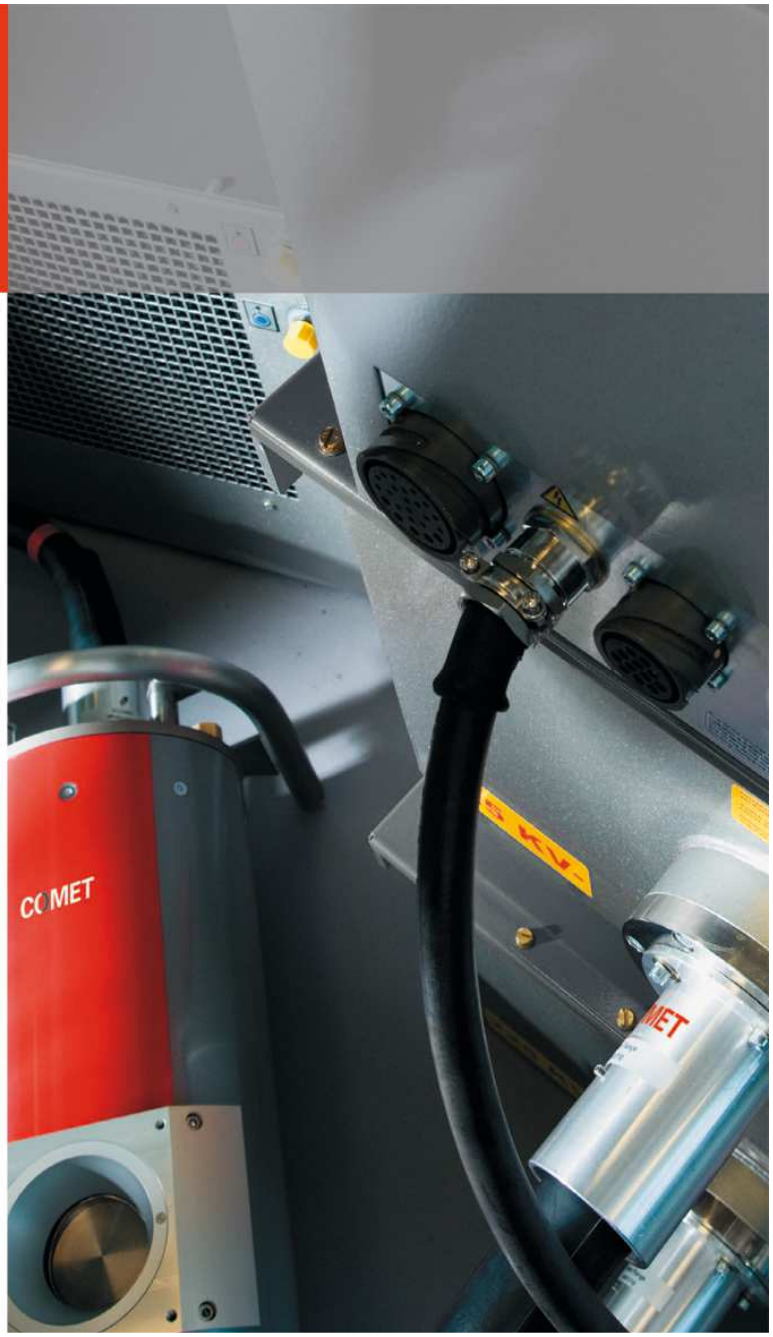
Industrial X-Ray

Cooler Manual XRC-1001-WA
1000 Watt water to air cooler



Document information

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Document history

Version	Date	Author	Amendment(s)	Status
1.0	19.08.2010	M. Schmid	Layout / Logo	
2.0	14.10.2010	M. Schmid	add of Electrical drawings	
3.0	26.11.2010	M. Schmid	Correction from Klüver → Spare part list and Pictures	
4.0	30.10.2012	R. Moser	Storage temperature	
5.0	01.07.2013	R. Moser	Update Chapter 3	
6.0	01.12.2015	M. Schmid	New electrical drawing	

Contents

Caution:

- **Read manual before setting to work!**
- **Power supply 230 V 50/60 Hz!**
- **Run cooling unit always with coorect coolant level and clean filter regulary otherwise damage of pump may occur!**
- **Never operate damaged or leaking equipment!**
- **Only use cooling hoses with sufficient pressure and coolant resistance!**
- **Before starting any service work disconnect the cooling unit from the power source!**

1. Description

The cooling unit XRC-1001-WA is intended for thr cooling of a water circuit. The coolant can be water or a mixture of water and antifreeze (water glycol). Coolant circulates between the cooling unit and the heat source. The coolant is re-cooled by an air-cooled heat exchanger. The cooling capacity of the unit depends on the ambient temperature. It is 1000W related to a temperature difference of 11.6°C between water outlet and ambient temperature.
Cooling hoses are connected to the cooling unit via hose nipples. Water inlet and water outlet are marked with symbols:

The maximum system pressure is limited by an adjustable bypass valve which is integrated into the pump. The water flow is controlled by a flow switch, which opens when the flow falls below an adjusted quantity. The message takes place, as the safety circuit is interrupted.

2. Technical data

2.1 Physical dimensions

Length:	330 mm
Width:	292 mm
Height:	300 mm
Weight:	17,0 kg without water filling
Coolant capacity:	appr. 1,5 l

2.2 Performance data

Cooling capacity:	1000 W (ΔT ≤ 15°K)
Water flow:	≥ 4,4 l/min bei 4,0 bar
Supply voltage:	230 V 50/60 Hz
Current consuption:	≤ 2 A
Noise level:	≤ 70 dB(A), 1m Distance
Airflow at 50Hz (60Hz):	360 m3/h (275 m3/h)
Safety class:	IP 33

2.3 Environment specification

Operating temperature:	+ 10°C ... + 40°C (use antifreeze if ambient temperature is below 10°C)
Storage temperature:	- 25°C ... + 70°C (store with antifreeze)
Air humidity:	20% ... 90% non condensing

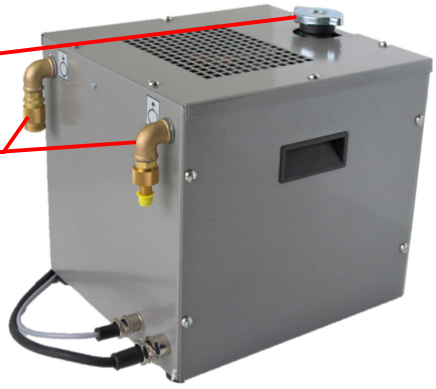
2.4 Settings*

Maximim system pressure:	6,0 bar
Flow switch open:	< 4,0 l/min
Flow switch close:	> 4,2 l/min
Thermal switch open:	> 50°C
Thermal switch close:	< 45°C

* This setting value is optimized for our XRS modules

3. Setting to work

- The cooling unit must be positioned in a free-standing position with good air circulation
- Remove cap of reservoir
- Connect hoses
- Establish electrical connectionsaccording to wiring diagram, use suitable leads
- Fill the cooling unit with water up to 3 cm above coolin fins
- Run water cooler up to 10 minutes to deaerate the coolant circuit
- Check the coolant level. If necessary refill coolant
- Close plug of reservoir



4. Settings

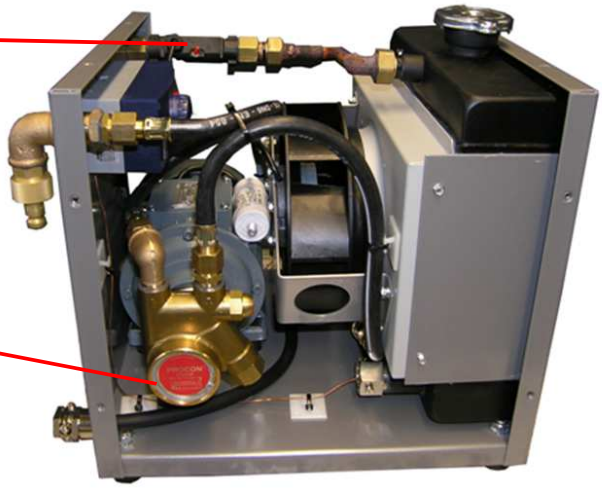
Notice: The bypass valve and the flow switch are adjusted according the specification. If it is necessary to change these settings refer to the following:

2.5 Flow switch

- Open setscrew
- To increase open value:
  Shift plate in flow direction
- To decrease open value:
  Shift plate against drection of flow
- Fix setscrew

2.6 System pressure

- Increase pressure:
  Turn screw clockwise
- Decrease pressure:
  Turn screw counterclockwise



5. Maintenance

Check coolant level and antifreeze regulary and refill if necassary.

Heat exchanger

In order toachieve maximum cooling capacity keep the condenser of the cooling unit clean Check heat exchanger every 3 months or more often if necessary.

- Remove cooling unit from power supply
- Uncrew top and side cover
- Clean fins of heat exchanger. A vacuum cleaner is helpfull
- Mount covers

Pump

About every 3 months check the filter of the pump for clean condition, if necessary more often. For this proceed as following:

Notice:
If the filter is not in clean condition damage of pump and motor may occur!

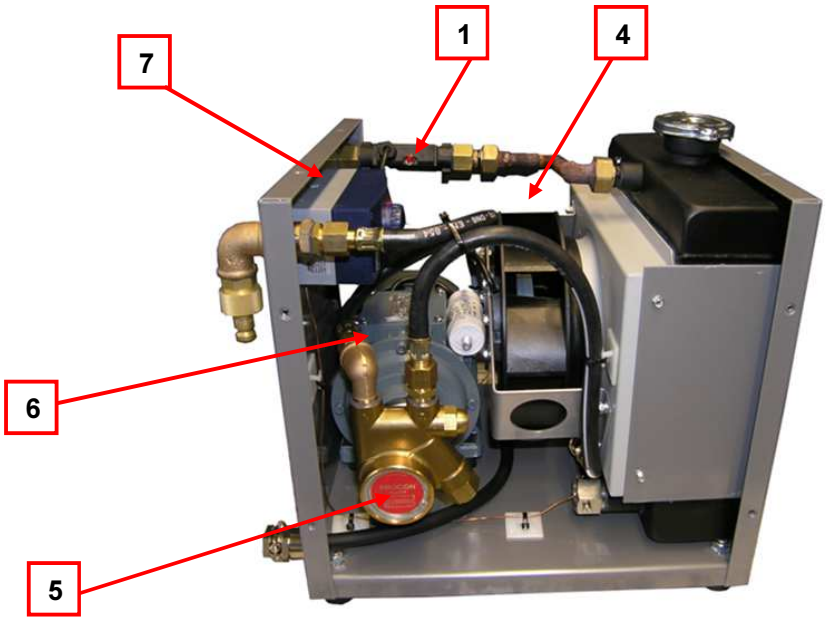
- Disconnect cooling unit from the mains
- Remove pump side cover
- To prevent leaking of water put cooling unit on side opposite to pump
- Unscrew filter cap (24 mm nut)

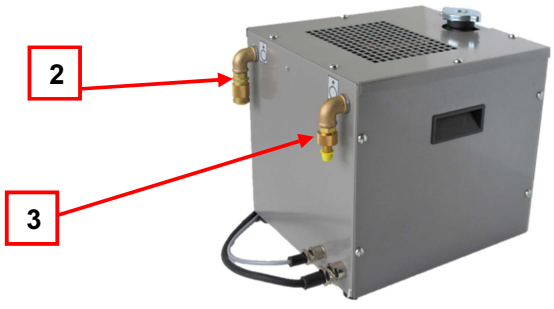
Notice:
Some water will run out of pump. Collect the water with suitable vessel!

- Clean filter if necessary or replace filter
- Insert filter and mount cap
- Put up cooling unit
- Run cooling unit to deaerate cooling circuit and check water level and refill if necessary
- Mount cover

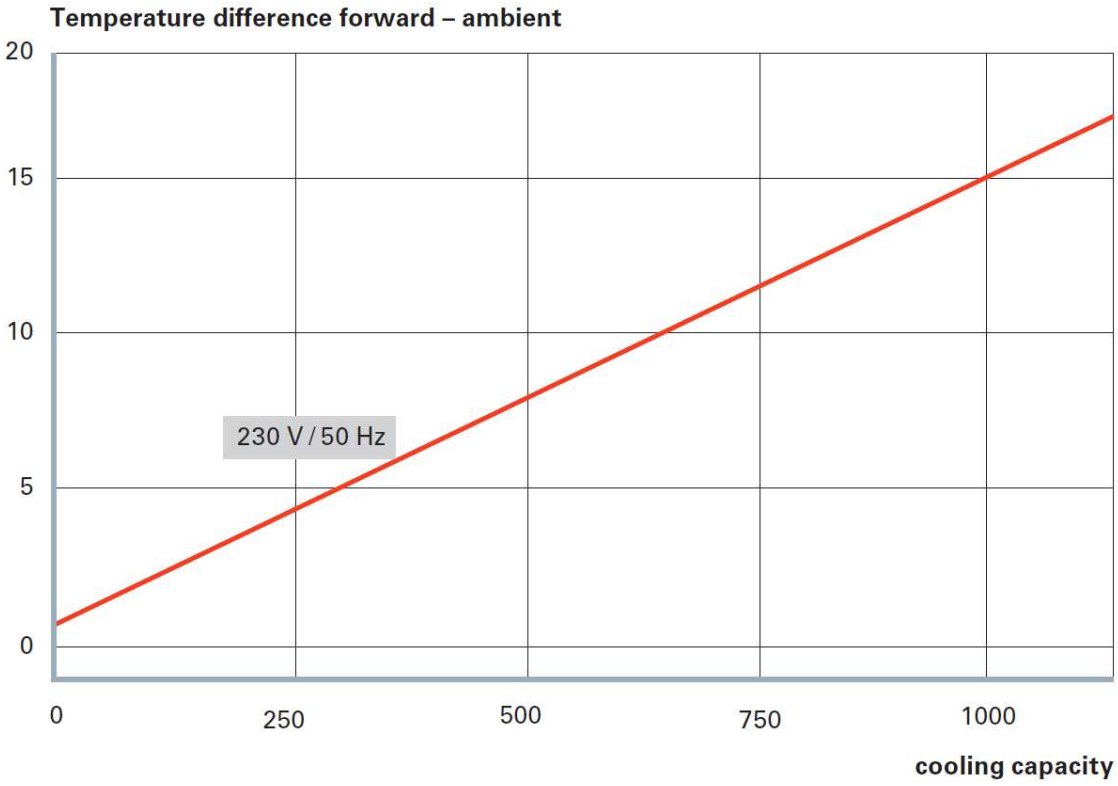
6. Spare part list

No.	Description
1	Flow switch Novafix FW1-15
2	Set of hose nipples complett Ø 12mm
3	Looking nipple MS
4	Fan R2S175
5	Pump CO 1333 PXHF
6	Motor 17C
7	Temperature regulator

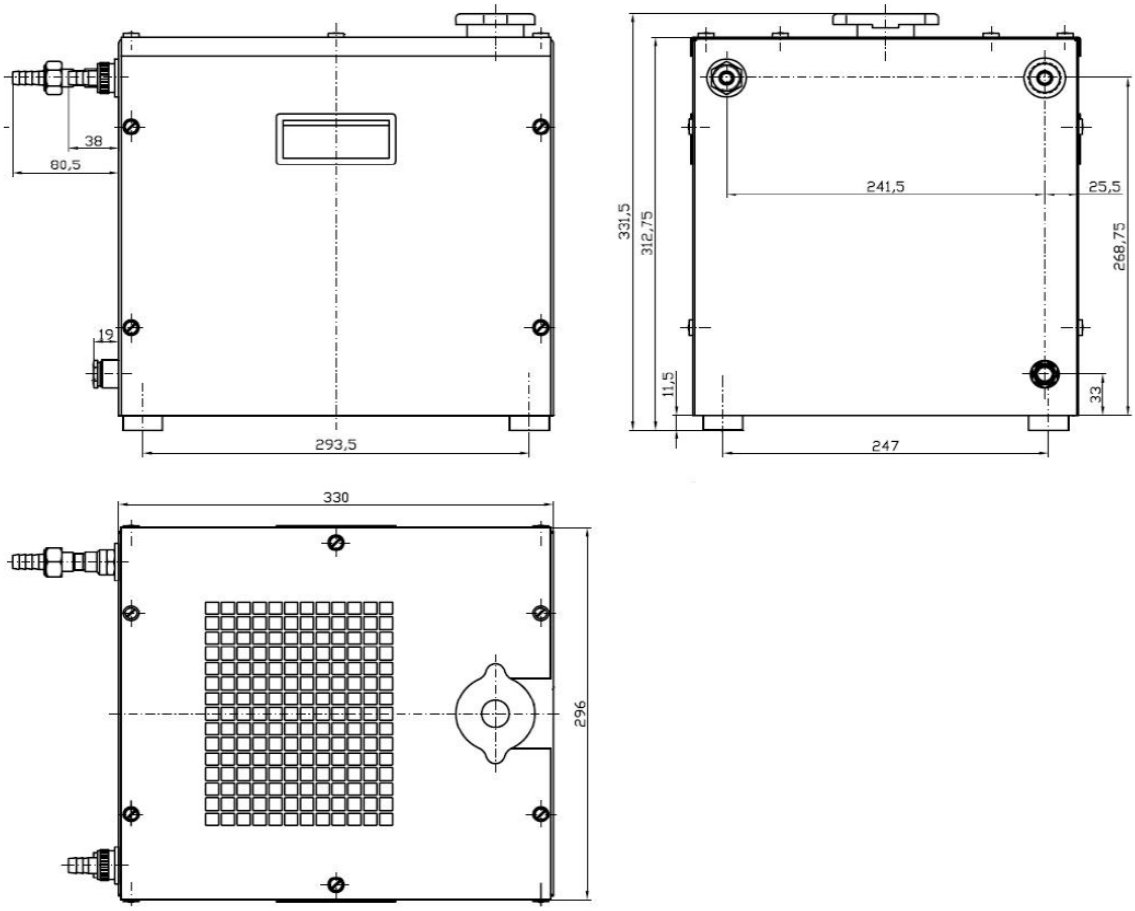




7. Performance diagram



8. Outline drawing



9. Declaration of conformity

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

CE

Hersteller / Adresse: *Manufacturer / Address:* Fabricant / Adresse:	**COMET AG** **Herrengasse 10** **CH-3175 Flamatt**	
Produkte: *Products:* Produits:	**Kühler** ***Cooler*** **Refroidisseur**	
Bezeichnung / Bestell- Nr. *Type / Reference no.* Type / No. de référence	**XRC-3001-WA** **XRC-3001-WW** **XRC-4501-OA** **XRC-4501-OW** **XRC-1001-WA** **XRCA-3001-WA** **XRCA-5001-OA** **XRC-3012-WA** **XRC-3012-WW**	**10008640** **10008641** **10008642** **10008643** **20033773** **20033337** **20033338 / 20032910** **20049308** **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

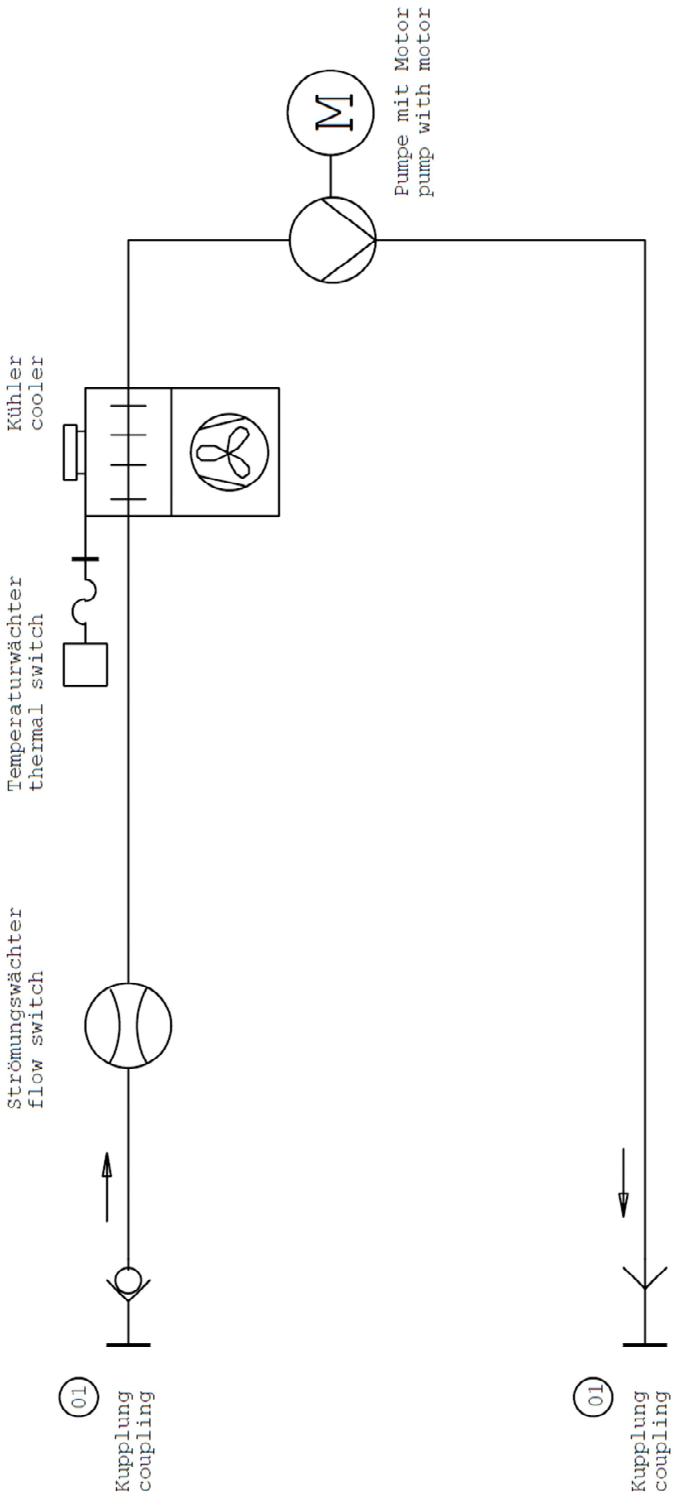
DIN EN ISO 12100-1 (2004-04)
DIN EN ISO 12100-2 (2004-04)
DIN EN 60204-1 (2009-10)
DIN EN 349 (2008-09)

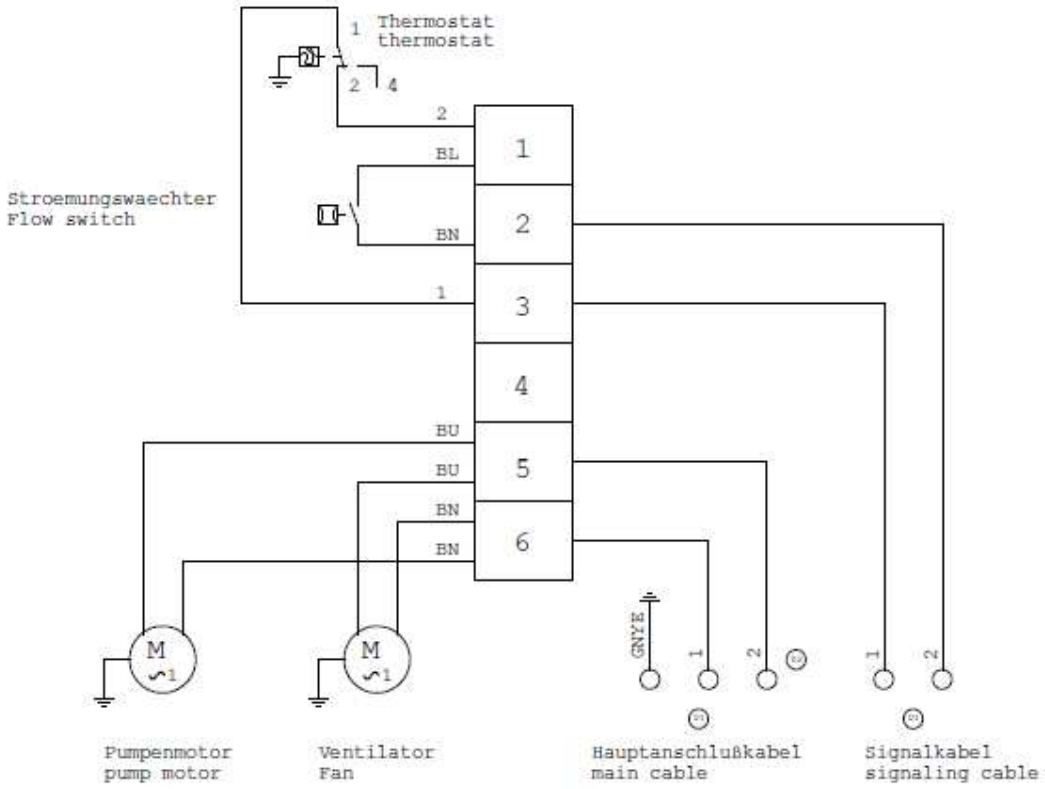
Datum:	**Dezember 2010**
Date:	***December 2010***
Date:	**Décembre 2010**

Charles Flükiger
Manager Business Unit X-Ray

Dominique Corpataux
Manager R&D X-Ray Generators, BU X-Ray

10. Flow chart, Wiring diagram




Thermostat
thermostat
1
2
4
Stroemungswaechter
Flow switch
2
BL
BN
1
1
2
3
4
5
6
BU
BU
BN
BN
M
M
GNYE
1
2
1
2
Pumpenmotor
pump motor
Ventilator
Fan
Hauptanschlußkabel
main cable
Signalkabel
signaling cable