

Industrial X-Ray

Cooler Manual XRC-4501-OA 4500 Watt oil to air cooler



Document history

Version	Date	Author	Amendment(s)	Status
	12/15/2008	S. Haferl		released
1.0	07/22/2010	M. Schmid	Layout / Structure	
	07/22/2010	S. Haferl		released
2.0	08/19/2010	M. Schmid	Outline drawing	
3.0	10/28/2011	M. Schmid	Bypass installation	
4.0	10/30/2012	R. Moser	Layout / Structure	
5.0	07/01/2013	R. Moser	Update Chapter 3	

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1 Before you start

- Read manual before setting into operation!
- Coolant: Oil, Shell Diala S3 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 aggregate XRC-4501-OA serves for cooling the oil circulation system. Oil circulates in a circuit between the heat source and the cooling unit. The oil is re-cooled by means of an air-cooled heat exchanger.

Cooling hoses are connected to the cooling unit using screwed connections (M26 x 1.5).

Oil inlet and oil outlet are identified with Oil In (red) and Oil Out (blue)

The flow monitor, with two adjustable switch selector heads, monitors the circulation quantity. The oil outlet temperature is monitored by means of a thermostat. In case of oil temperature, oil level or oil flow exceeding setted values, the safety circuit opens.

The cooling capacity depends on the ambient temperature. It has a value of 4500 W, with a difference between oil outlet and ambient temperature of 11 °K.

3 Technical data

3.1 Physical dimensions

Length:	770 mm
Width:	340 mm
Height:	535 mm
Weight	53 kg, without filling
Filling volume:	12.5 l, operation filling 7.2 l (6.3 kg)

3.2 Performance data

Cooling capacity:	4500 W ($\Delta T \leq 11 \text{ }^\circ\text{K}$)
Pump performance:	> 14 l/min at < 8 bar (max. 25 l/min at 3.5 bar)
Mains connection:	230 V (-15% to +10%) 48 to 62 Hz
Input power:	0.785 kW (P_{max} ; 230 V; 50 Hz) 1.058 kW (P_{max} ; 230 V; 60 Hz)
Noise level:	65 dB(A) at 1 m distance
Airflow at 50Hz (60Hz):	2200 m ³ /h (2600 m ³ /h)
Safety class:	IP 33

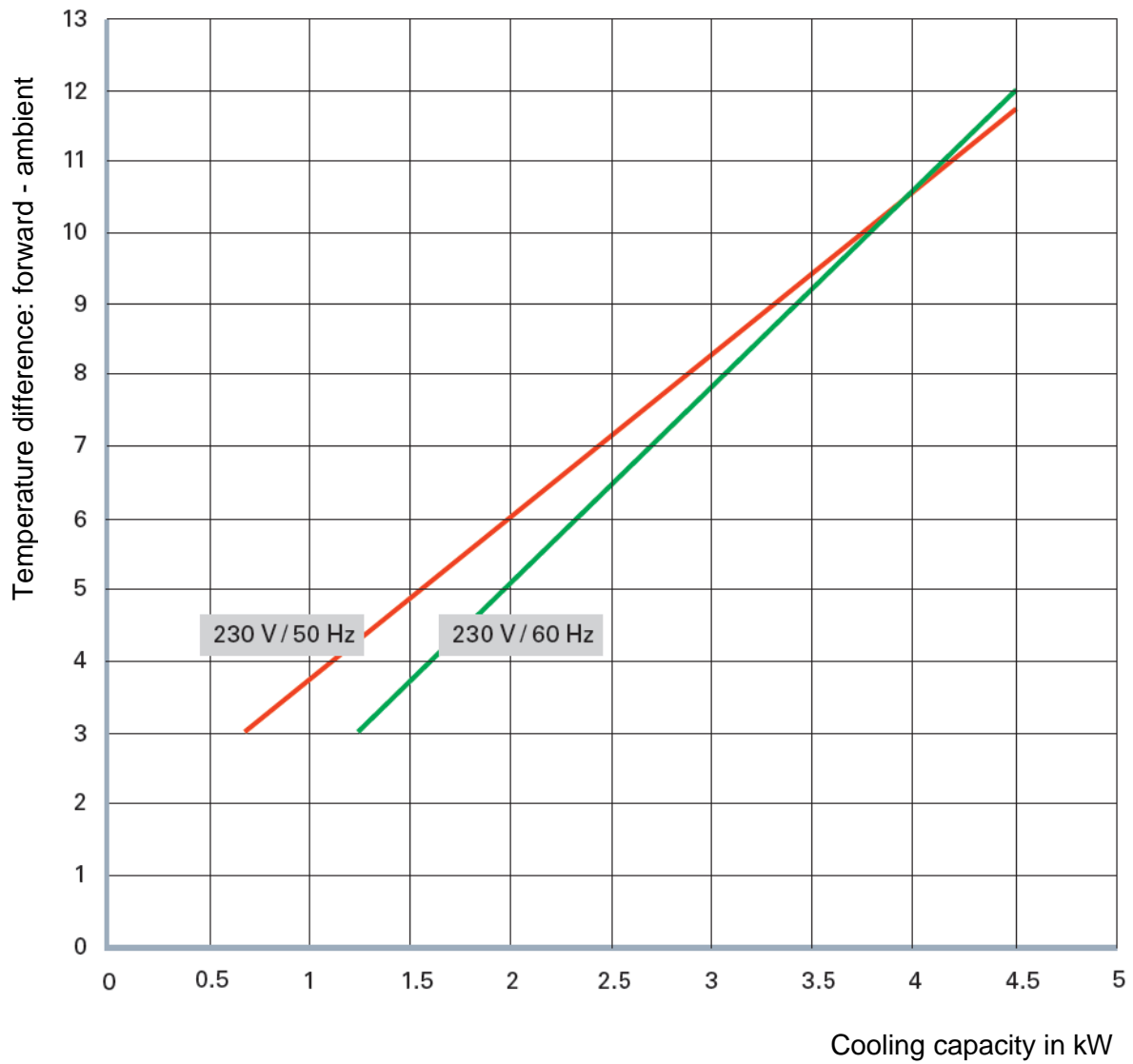
3.3 Environmental specifications

Operational temperature:	-10°C...+ 40 °C
Storage temperature without oil:	-25°C...+ 70 °C
Relative 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

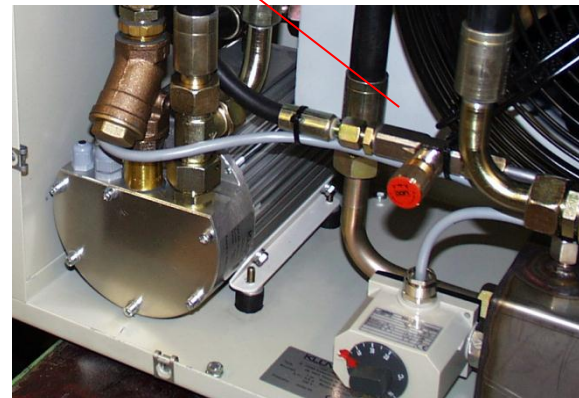
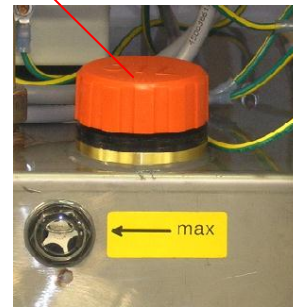
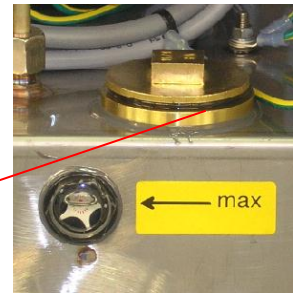
3.5 Performance data and overview



4 Installation

Install the device so that the air intake and exit are not covered (otherwise impairment of the cooling capacity occurs). A minimum distance of 0.80 m must be kept free on the air outlet side.

- Remove covers from connection hose nipples (red and blue)
- Connect cooling hoses. When tightening up the hose fittings, tighten the connections to the aggregate with an open-ended wrench; likewise when loosening.
- Establish electrical connection of the aggregate to the Comet generator power module
- Open back facing
- Remove transport plugs and close off with ventilation plug (labeled OIL)
- Open bypass
- Let the system run for 10 minutes to vent air
- Close bypass
- If necessary, refill oil until level is higher than black line of inspection glass
- Close back facing

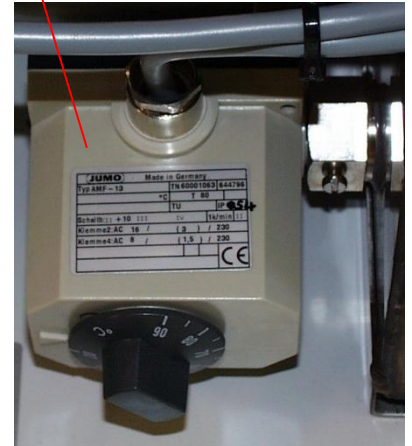


4.1 Thermostat

- Temperature increase: Rotate clockwise
- Temperature decrease: Rotate anti-clockwise



Please note that the thermostat is factory adjusted and sealed.



4.2 OMF Filter

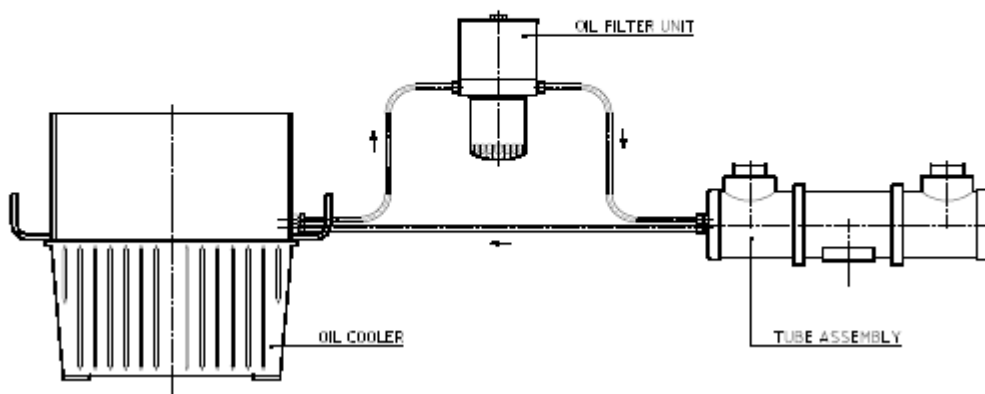
We highly recommend using the OMF oil molecular filter unit with the XRC-4501 OA cooler.

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



5 Maintenance

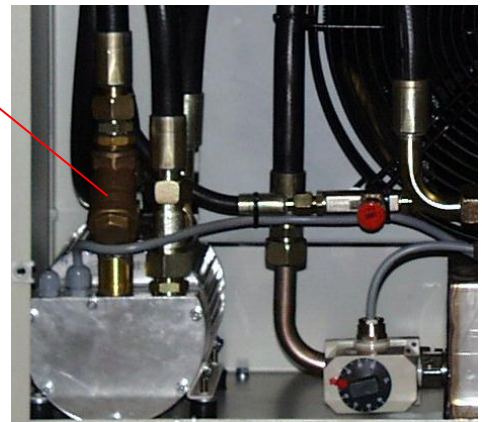
The cooling capacity is significantly impaired by dirt accumulation of the cooling lamellae. The heat exchangers are to be regularly examined for soiling (if required daily, approx. 1x weekly) and, if necessary, cleaned.

- Remove back panel covering
- Remove any accumulated dirt from the heat exchanger, working towards the inlet direction (if compressed air is available, blow out from inside to outside, otherwise use a vacuum cleaner).

The cooling circuit is an open system. Evaporation of the refrigerant is therefore possible. Check the filling level in the container regularly and refill where appropriate.

- Check dirt filters in the suction pipe of the pumps and clean if required
- Change oil filters

The filter should be changed corresponding to the red/green differential pressure display. Check the display at every maintenance interval and change if necessary.

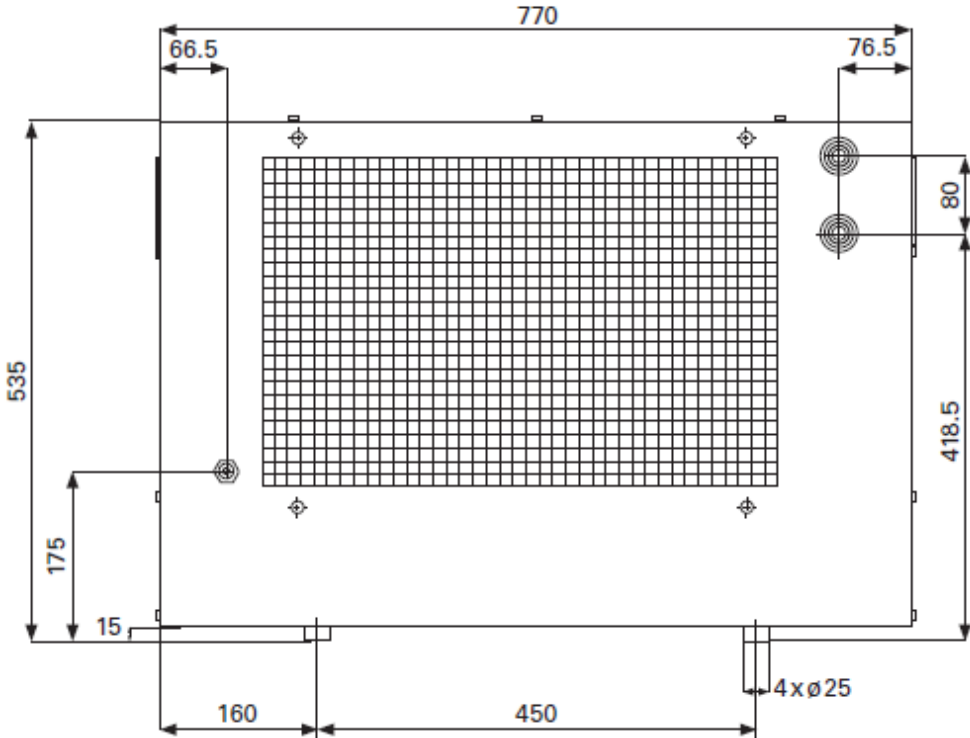
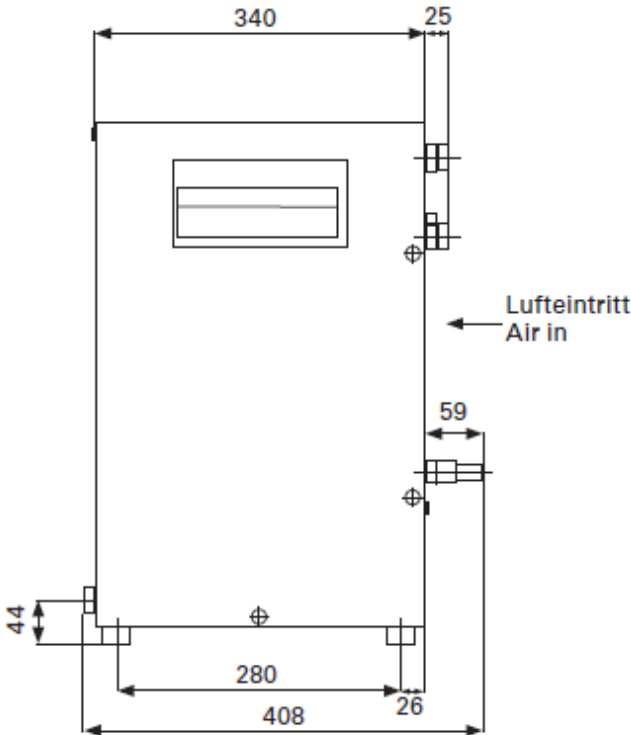


Indication display

Early warning of the filter status

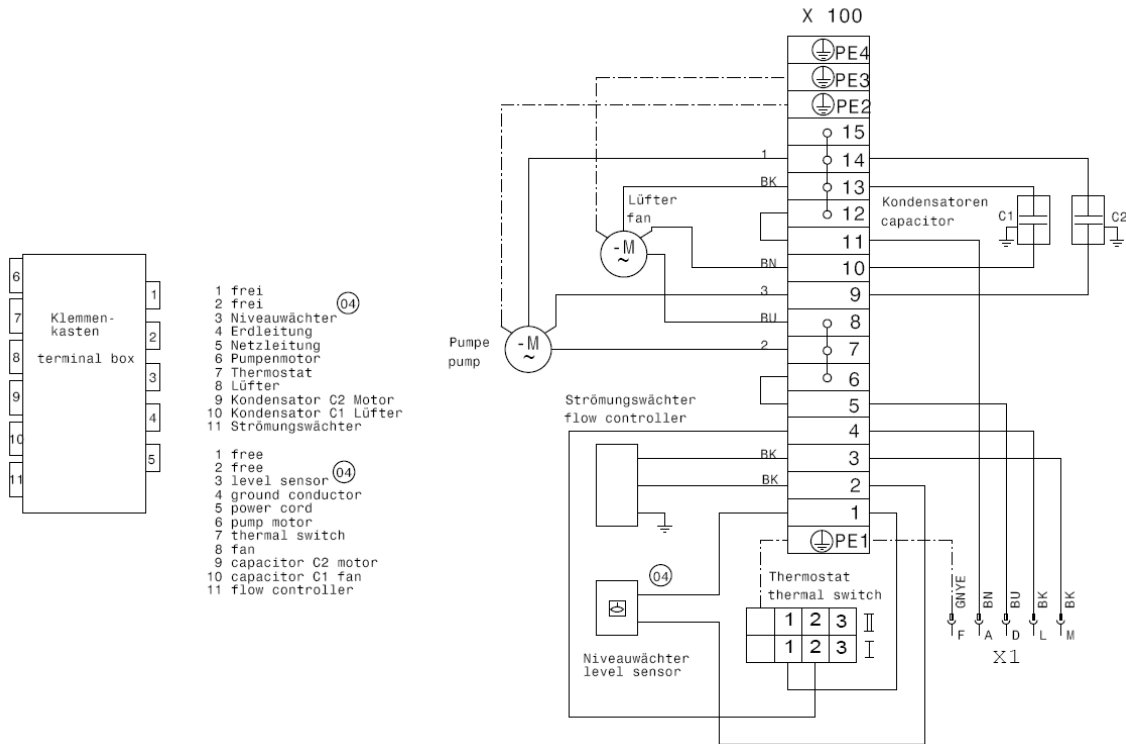


6 Outline Drawing



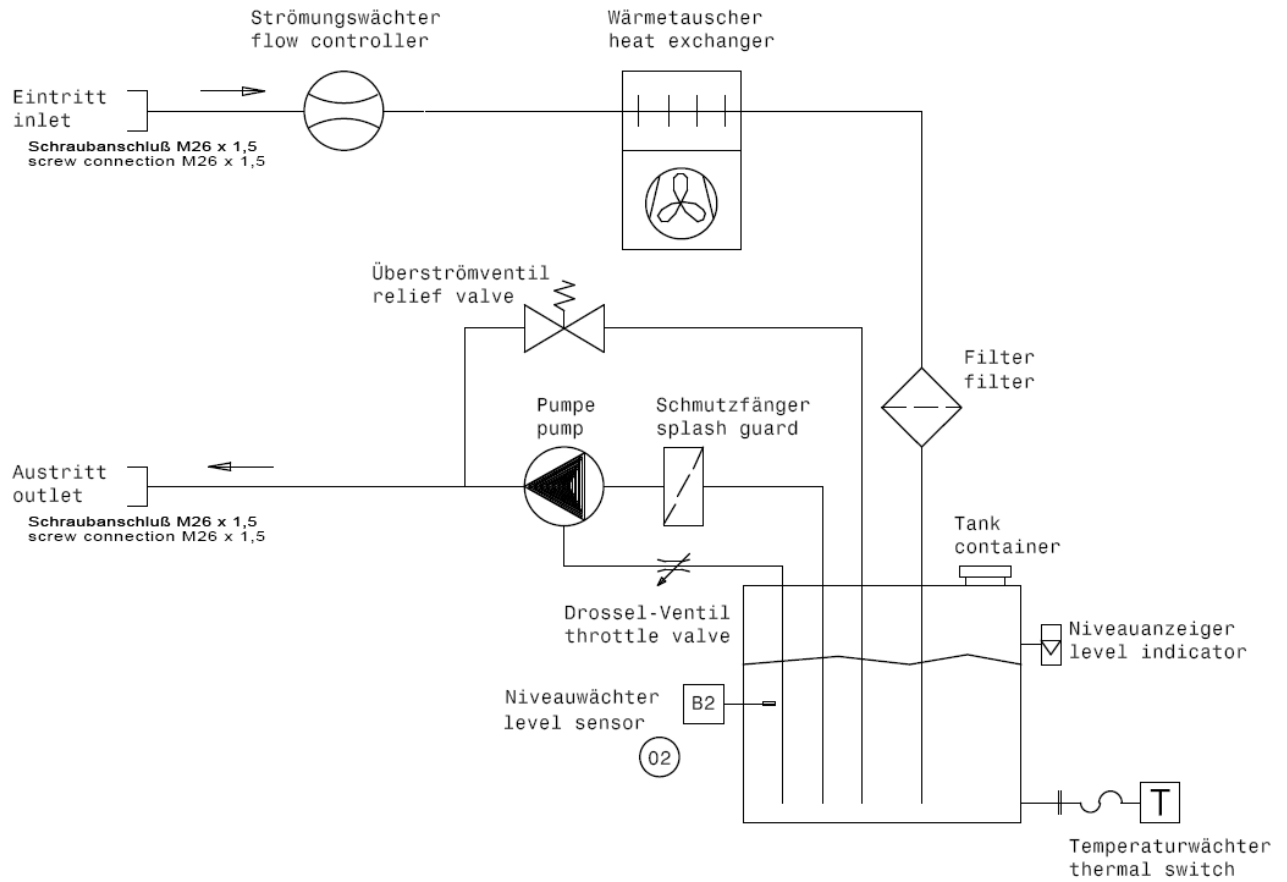
7 Circuit Diagrams

7.1 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.

7.2 Flow diagram



8 Declaration of conformity

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



Hersteller / Adresse: **COMET AG**
Manufacturer / Address: **Herrengasse 10**
Fabricant / Adresse: **CH-3175 Flamatt**

Produkte: **Kühler**
Products: **Cooler**
Produits: **Refrroidisseur**

Bezeichnung / Bestell- Nr.	XRC-3001-WA	10008640
Type / Reference no.	XRC-3001-WW	10008641
Type / No. de référence	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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