



73749/50/57

St.M.Tm

1.1 Technical Data

Job No. 393 650/59  
 Code Word "Belluft"  
 Year of Construction 1965

1.1.1 Compressor

Machine No 3910  
 Type G d 3 6/5  
 Nature of gas atmospheric air  
 Suction volume 36100 m<sup>3</sup>/h  
 Suction pressure 1.0 kg/cm<sup>2</sup> abs.  
 Suction temperature 20 °C  
 Spec. weight in suction condition 1.158 kg/m<sup>3</sup>  
 Discharge pressure 4.3 kg/cm<sup>2</sup> abs.  
 Discharge temperature 226 °C  
 Speed 7,670 rpm.  
 Critical speed I 2,990 rpm. 3000  
 Critical speed II 10,930 rpm. 15000

1.1.2 Turbine

Machine No.  
 Type TR 6/70  
 Live-Steam pressure 19 kg/cm<sup>2</sup> gg. 270 psi.  
 Live-Steam temperature 400 °C  
 Back pressure 0.065 kg/cm<sup>2</sup> abs.  
 Output max. 1,750 kW  
 Speed 7,670 rpm.  
 Tripping speed 8,500 rpm. /8479/8476/  
 Critical speed 4,510 rpm.  
 Steam consumption 6,800 kg/h

1.1.3 Expansion Turbine

Machine No. 3912  
 Type GTf n o 6/50  
 Nature of gas: residual gas  
 Gas volume upstream the turbine 25,900 Nm<sup>3</sup>/h  
 Gas temperature upstream the turbine 140 °C  
 Gas pressure upstream the turbine 3.8 kg/cm<sup>2</sup> abs.  
 Back pressure 1.12 kg/cm<sup>2</sup> abs.  
 Spec. weight of the gas 1.252 kg/Nm<sup>3</sup>  
 Speed 7,670 rpm.  
 Output 885 kW

73749/50/57

St.M.Tm

1/6  
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1.1.4 Surface Condenser

for an exhaust steam  
volume of norm. 6,800 kg/h  
max. 8,200 kg/h

Execution: 4 water ways  
1 automatic exhaust valve 200 NW

Data

Cooling surface 470 m<sup>2</sup>  
Number of cooling tubes a) 115 b) 968  
Diameter of cooling tubes a) 21x1.5mm b) 21x1 mm  
Length of cooling tubes 3000 mm  
Quantity of cooling water 470 m<sup>3</sup>/h  
Temperature of cooling water 25 °C  
Hydraulic test pressure of condenser steam side 1.5 kg/cm<sup>2</sup> gg.  
Hydraulic test pressure of condenser water side  
Resistance in the condenser 4.5 m WG

1.1.5 2 Condensate pumps

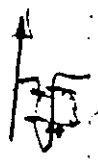
Type HO 65 x 4 (Halberg)  
Volume handled: 12 m<sup>3</sup>/h  
Delivery head including vacuum height 36 m WG  
Driving motor 5 HP, 440 V 1450 rpm.  
(to be supplied by customer)

1.1.6 2 Steam jet air ejectors

Type "Körting"  
Live-steam pressure, norm. 14 kg/cm<sup>2</sup> gg.  
Live-steam pressure, max. 19 kg/cm<sup>2</sup> gg.  
Live-steam consumption 120 kg/h

1.1.7 1 Quick-starting ejector

Type "Körting"  
Live-steam pressure, norm. 14 kg/cm<sup>2</sup> gg.  
Live-steam consumption, norm. 35 kg/h  
Live-steam pressure, max. 19 kg/cm<sup>2</sup> gg.

  
4.5 m H<sub>2</sub>O.  
15' H<sub>2</sub>O



73749/50/51

St.M.Tm

1.1.8 Main oil pump

for lube and control oil, three-shaft gear pump driven via wheel and pinion train by the shaft of the main turbine.

Manufacturer:	GHH Sterkrade AG
Volume handled, max.	605 l/min.
Control oil	95 l/min, at a control oil pressure of 6 kg/cm <sup>2</sup> gg
Lube oil	465 l/min. at a lube oil pressure of 2.5 kg/cm <sup>2</sup> gg.
Pump speed	2210 rpm.

These indications refer to the max. speed of the turbine of 8050 rpm.

1.1.9 Auxiliary oil pumpsa) auxiliary oil pump with motor drive

Manufacturer	Garbe-Lahmeyer
Type	AZnF 500/05-180 M
Volume handled	516 l/min. at a handling pressure of 6 kg/cm <sup>2</sup> gg
Output	18.5 kW
Speed	1,500 rpm.
Voltage	230 V
Frequency	50 cycles
Type of protection	P 33
Type of construction	B 3

b) auxiliary turbo oil pump

Manufacturer	GHH Sterkrade AG
Volume handled	450 l/min.
Live steam temperature	400 °C
Steam pressure, approx.	10 kg/cm <sup>2</sup> gg.
Speed, approx.	8,000 rpm.

1.1.10 Oil cooler

Manufacturer	GHH Sterkrade AG
Type	5 Ms 31,5-6, vertical
Heat to be evacuated	115000 Kcal/h
Cooling surface	31,5 m <sup>2</sup>
Cooling water quantity	15 m <sup>3</sup> /h
Cooling water inlet	25 °C
Cooling water outlet	~33 °C
Service pressure, oil side	2,5kg/cm <sup>2</sup> gg.
Cooling of the oil from 50 to 40 °C	

1.1.11 Oil filter

a) 1 Heavy duty Faudi filter for lube oil

Manufacturer	Faudi-Feinbau GmbH, Oberursel/Taunus
Type	HF 2/300/10
Size	No. 4, filter surface 2 m <sup>2</sup>

b) 1 Heavy duty Faudi filter for control oil

Manufacturer	Faudi-Feinbau GmbH, Oberursel/Taunus
Type	HF 0,72/210/10
Size	No. 2, filter surface 0.72 m <sup>2</sup>

1.1.12 Oil container

Manufacturer	GHH Sterkrade AG.
Capacity	3200 l
Dimensions	2000 x 1250 x 1600 high

*Handwritten notes:*  
- 1.1.11 a) 1 Heavy duty Faudi filter for lube oil  
- 1.1.11 b) 1 Heavy duty Faudi filter for control oil  
- 1.1.12 1 Oil container