

HELMKE News

Issue 02/2006



Expertise and Flexibility

In the heavy industry the HELMKE Group of Companies is an experienced and highly estimated partner for high-quality products and a flexible and innovative supplier of drive systems. HELMKE's 24-hour delivery programme is unique in the world and offers brand-new motors from stock in a power range of 0.06 kW to 6000 kW in various designs, with various modification options and cooling methods and in the established types of protection (EExn, EExd, EExe, EExp).



Topics

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01

2 reserve motors for a combined heat and power plant of the Vattenfall Group

1 pc squirrel-cage motor, 3840 kW, 6000 V, 50 Hz, 4-pole

1 pc squirrel-cage motor, 6200 kW, 6000 V, 50 Hz, 8-pole

In January 2001 HELMKE received an enquiry from Bewag Berlin for the delivery of two reserve drives for a combined heat and power plant in Berlin.

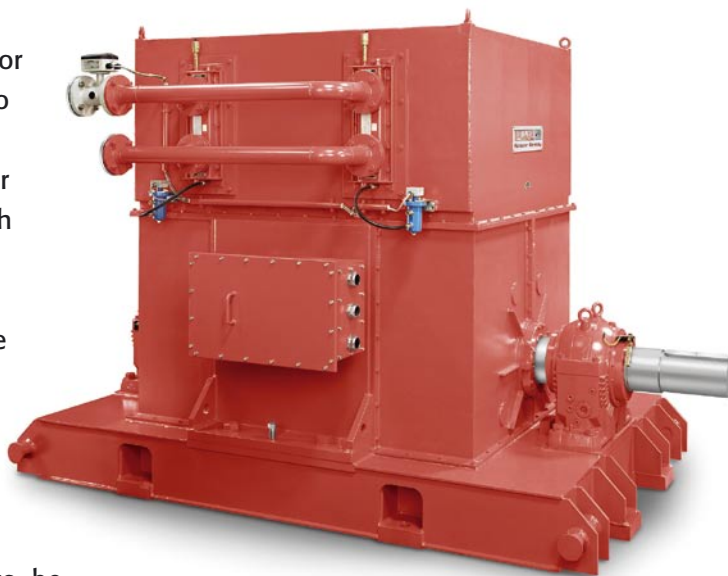
The 3840 kW squirrel-cage motor, 4-pole, is intended for the drive of a SO₂-compressor and drives an Atlas Copco centrifugal compressor.

The 6200 kW motor is to be used as reserve motor for a pure gas blower and drives an axial blower with adjustable wings.

Both drives had to be 100% exchangeable to the Laurence Scott motors in use and had to be designed in type of construction B3/D5 with a rugged and torsionally-rigid base frame.

In order to maintain the maximum foundation loads for the existing foundations the motors had to be manufactured with identical base frames. Moreover, all cooling water connections as well as the position of the terminal boxes and cable entries are identical.

The bearings were manufactured as pedestal-type sleeve bearings. On request of the customer they were designed as self-cooled, self-lubricated sleeve bearings without external oil connection.



3840 kW compressor drive
Cooling water connection with flow rate monitor
Position of connecting flanges according to customer's specifications



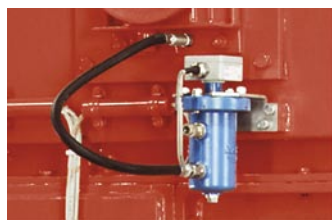
6200 kW drive motor pure gas blower

HELMKE got the order in September 2004 and manufactured the motors with following data:

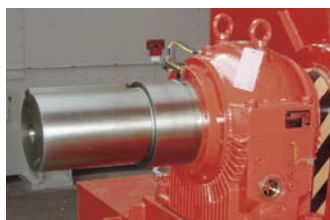
Technical specification: compressor	
Make:	HELMKE
Type:	DWK630-04-037
Output:	3840 kW
Voltage:	6000 V \pm 5 %
Frequency:	50 Hz
Poles:	4
Speed:	1492 1/min
Type of construction:	IM B3
Degree of protection:	IP 55
Cooling method:	IC 81W7
Thermal class / Temperature rise:	F / B
Type of bearings:	Sleeve bearings, self-cooled with ring-oil lubrication
Weight:	approx. 11500 kg
Standards:	IEC 34-1, EN 60034
Accessories:	<ul style="list-style-type: none"> - 6 x PT 100 winding - 2 x PT 100 bearing DE - 2 x PT 100 bearing NDE - Anti-condensation heater 230 V - Oil level indicator bearings - Leakage control water cooler - Flow rate monitor water cooler - Starpoint terminal box including current transformer

Technical specification: pure gas blower	
Make:	HELMKE
Type:	DWK900-08-037
Output:	6200 kW
Voltage:	6000 V \pm 5 %
Frequency:	50 Hz
Poles:	8
Speed:	744 1/min
Type of construction:	IM B3
Degree of protection:	IP 55
Cooling method:	IC 81W7
Thermal class / Temperature rise:	F / B
Type of bearings:	Sleeve bearings, self-cooled with ring-oil lubrication
Weight:	approx. 22000 kg
Standards:	IEC 34-1, EN 60034
Accessories:	<ul style="list-style-type: none"> - 6 x PT 100 winding - 2 x PT 100 bearing DE - 2 x PT 100 bearing NDE - Anti-condensation heater 230 V - Oil level indicator bearings - Leakage control water cooler - Flow rate monitor water cooler - Starpoint terminal box including current transformer

After delivery on schedule, the acceptance of both motors was carried out in May 2005 with a routine test in our testing station in Pulversheim/France to our customer's full satisfaction.



**Leakage water control
Water cooler**



Self-cooled ring-oil lubricated sleeve bearings, insulated, with earthing brush



Loading

02

Delivery of two three-phase squirrel-cage motors 200 kW, 10 kV, 50 Hz, 4-pole

In April 2005 HELMKE got the order from SIEMENS for the delivery of two three-phase squirrel-cage motors for the drive of booster pumps for a combined heat and power plant of BEWAG in Berlin.



Due to the reversal of the supply voltage from 6000 V to 10000 V in the ruled area of Berlin Westend in summer 2005, the existing booster station had to be altered as well.

SIEMENS got the order for the complete voltage reversal of the booster station including all medium-voltage devices, switchgears and cables but could not offer suitable 10000 V motors with an output of 200 kW from their own range of production.

In addition, the 10000 V motors had to be manufactured exchangeable to the old 6000 V AEG motors.

The acceptance of both motors was carried out in August 2005 with a load test in our testing station in Pulversheim/France to our customer's full satisfaction.

Representatives of the final customer BEWAG also attended the acceptance and could get an impression of the efficiency of our testing station and the professional execution of this order.

Technical specification:

Make:	HELMKE
Type:	DOR400-04-050
Output:	200 kW
Voltage:	10000 V \pm 5 %
Frequency:	50 Hz
Poles:	4
Speed:	1491 1/min
Type of construction:	IM B3
Degree of protection:	IP 55
Cooling method:	IC 411
Thermal class / Temperature rise:	F / B
Bearing type:	Rolling bearings
Weight:	approx. 4000 kg
Standards:	IEC 34-1, EN 60034
Accessories:	- 6 x PT 100 winding - 1 x PT 100 bearing DE - 1 x PT 100 bearing NDE

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