Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

Solutions for Wind Turbines.

EN

HAWE HYDRAULIK

Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

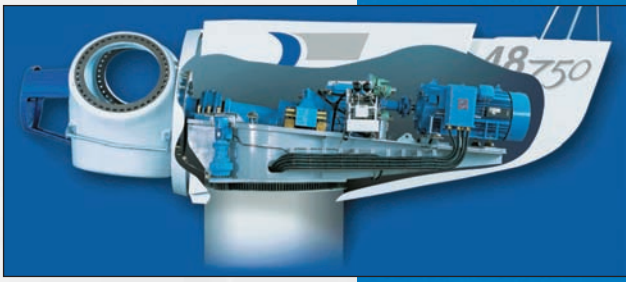
Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

The northern Spanish province of Navarra is a windy region. However, power has been generated there mainly from environmentally-polluting fossil fuels for decades. On top of this, the purchase of power from neighboring countries represented a serious economic factor. Today, the wind is harnessed by huge wind turbines. Complete hydraulic systems from HAWE Hydraulik help to control these wind turbines. Navarra is finally making use of its unlimited natural resources. The region has become cleaner and more independent.

Solutions for a World under Pressure

HAWE HYDRAULIK

Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com



We stay on the move – for you.

The air is clear:
The market for wind turbines.

The fast-growing, worldwide market for wind turbines is technically highly developed and extremely sophisticated. Among the most important countries in this regard are Germany, Spain, USA, Denmark and India.

In order to meet the high demands of the market, various preconditions must be fulfilled:

Essential for smooth running in the operation of wind turbines is a complete hydraulic system that can be integrated into the main unit. Of course, critical conditions, such as extreme temperature fluctuations, salty sea air in offshore operations, high humidity or safety provisions of German Lloyd, should not present an obstacle.

HAWE Hydraulik already provides numerous hydraulic functions for wind turbine units:

- Azimuth brake
- Blade tip brake
- Stall adjustment
- On-board handling crane
- Transmission brake
- Pitch adjustment
- Rotor blocking
- Nacelle roof hatch

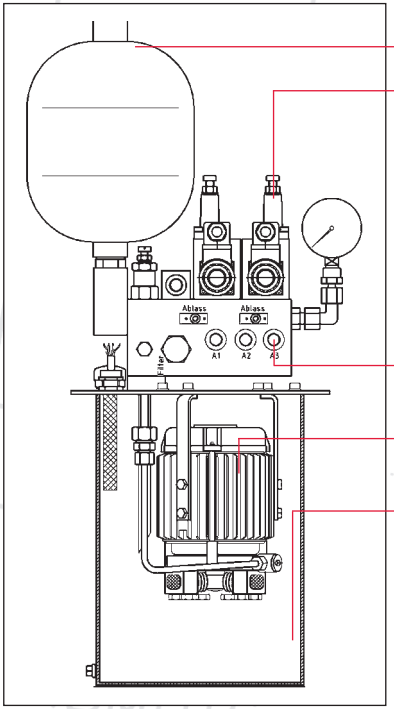
In each case, the hydraulic system plays a major role in the work cycle as it has a considerable influence on the service life of other, much more expensive wind turbine components, such as the rotor blades, gears, tower and foundation. The overall efficiency of the wind turbine is also governed by the components employed and by the nature of the hydraulic system. Thus, it is a prerequisite for any wind turbine that the hydraulic aggregate work reliably and/or be quickly and easily restarted in case of mechanical failure.

It is this knowledge that makes our hydraulic systems so intelligent and robust – and makes HAWE Hydraulik a reliable partner for the wind power industry.

Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

Aggregate in functional modular construction.



- Complete aggregates including reservoirs and cylinders
- Function modules:
  - Brake: s/w 2-stage proportional
  - Rotor blade: pitch adjustment; active stall control; blade tip brake
- Other advantages:
  - Each function is represented by a separate module, permitting quick and easy fault diagnosis and efficient repair
  - Function modules possess a flange form in accordance with DIN 24340-A6
- Connector block offers the flexibility for custom connection arrangements
- Motor pump combination of oil immersed motor and radial piston pump without flange and coupling
- Galvanised tank with optional drip tray
- No cost-intensive pressure filters or bypass filters required
- Ventilation filter with silica gel to prevent the penetration of moisture into the aggregate tank

Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

We have the skill.

All or nothing:
Hydraulic aggregates and their disadvantages.

Presently, the most common construction of hydraulic aggregates for the actuation of brakes or the control of the blade adjustment in wind turbines is based on a customer-specific control block, specially developed for these turbine types. Without sound expertise service and repair possibilities are very limited. Sometimes, the complete aggregate has to be replaced, which is an enormous cost factor, in view of the increasing size of aggregates and off-shore sites.

Piece by piece is good:
Construction using function modules.

With HAWE Hydraulics, you can count on proven, functional module construction. Module construction splits the hydraulic aggregate into the pump-motor combination, the tank, the connector block and the mounted function modules. Service friendliness at its best: Each function is represented by an individual module, which means, you can replace the element in question separately, simply by removing four bolts.

Standard modules that can be used for different wind turbine models guarantee two more advantages: low priced spare parts that are readily available.

Modules of this type are available from HAWE Hydraulik, for both brakes and pitch adjustments. The maximum pressure rating for the valves in these modules is over 400 bar. With wind turbine units operating at a maximum of 250 bar, this ensures long-term reliability and service life.

All parts are made of high-grade steel. In combination with a radial piston pump, the result is a very durable and service-friendly hydraulic aggregate. The intelligent control unit also has a positive effect on the other turbine components, thus increasing the cost-effectiveness of your whole system.

Why not see for yourself?

Please Contact us:
Egyptian Hydraulic Engineering
Tel.: 02-24501890
Fax.: 02-24501892
info@ehehydraulic.com

HAWE Hydraulik SE · Streitfeldstr. 25 · 81673 Munich · P.O. Box 80 08 04 · 81608 Munich · Germany
Telephone +49 89 37 91 00-0 · Fax +49 89 37 91 00-12 69 · www.hawe.de · info@hawe.de

P Wind energy-00

TÜV CERT
ISO 9001:2000
Zertifikat Nr. 12 100 4503

Solutions for a World under Pressure

HAWE HYDRAULIK