

A large white wind turbine stands in a field of yellow rapeseed flowers under a blue sky with scattered clouds. The turbine's blades are partially visible, and its tower extends from the field. The background is a bright blue sky with soft white clouds. The overall scene is clean and modern, emphasizing renewable energy.

BIJUR DELIMON
INTERNATIONAL

Wind Power

Wind power - 
lubrication

Wind Power

There is a noticeable boom in the use of renewable energy, in particular wind power.

Wind turbines can be used to generate electricity in all climate zones, off-shore and on-shore (coast, inland, mountains).

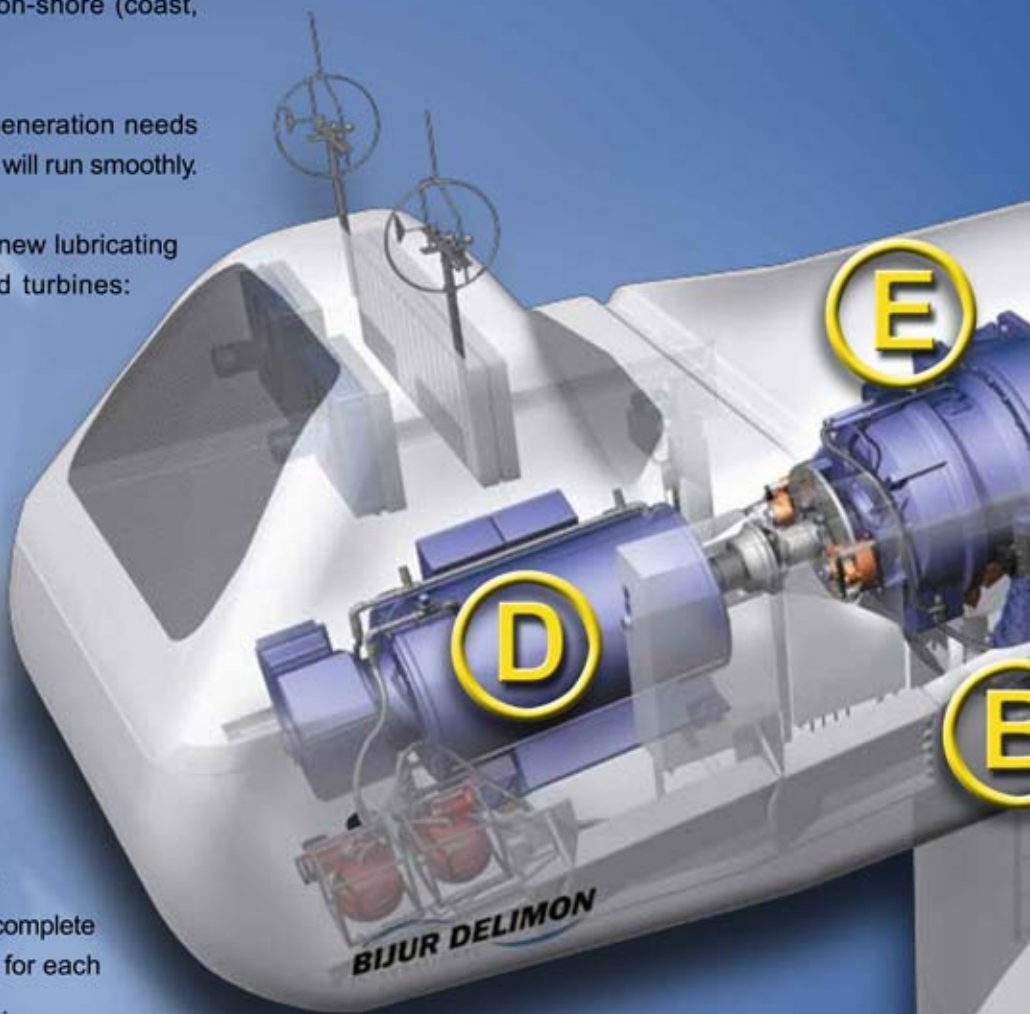
However, this kind of the power generation needs the right lubrication to ensure that it will run smoothly.

We have developed a completely new lubricating pump specifically for use in wind turbines:

DYNAMIS

- works in rotating systems
- provides "overhead" delivery of lubricant
- can be used with a variety of different lubrication systems
- allows for differing lubricant requirements and
- varying number of lubrication points possible

Along with other BIJUR DELIMON products it allows the production of complete wind power systems – customised for each application. Please turn the page...



1



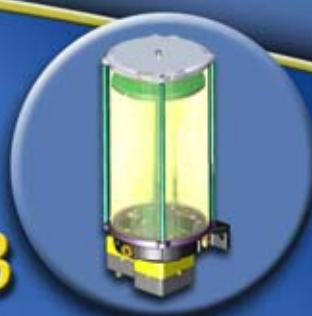
Dynamis

2



gear lubrication pinion

3



Autolub 8 liter



(A) Pitch bearing / blade adjustment

Dynamis (1) / PVB (4) / gear lubrication pinion (2) / SDU (6) / CXL (7) in progressive lubrication systems, gear lubrication pinion systems, spray lubrication systems, single line lubrication systems.

(B) Yaw motor and bearing

Autolub 8 liter (3) / PVB (4) / gear lubrication pinion (2) / SDU (6) / CXL (7) in progressive lubrication systems, gear lubrication pinion systems, spray lubrication systems, single line lubrication systems.

(C) Main bearing

Autolub 8 liter (3) / PVB (4) / CXL (7) in progressive lubrication systems and single line lubrication systems.

(D) Generator

Autolub 8 liter (3) / PVB (4) in progressive lubrication systems.

(E) Gear

Oil unit (5) in oil-recirculation systems.

4

5

6

7

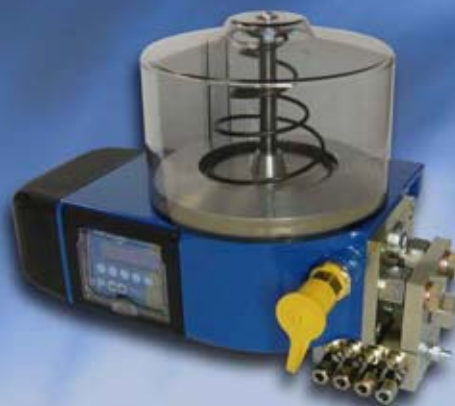
PVB

oil-recirculation unit

SDU

CXL

Pumps



Dynamis

Output max.	3.8 cm ³ /min.
Operation pressure	350 bar
Temperature range	-40 to +75°C
Reservoir size	1.6 and 3.3 liter
Number of outlets	1 or 2
Power supply	12 / 24 / 48 V DC 115 / 230 V AC, 50 / 60 Hz
Lubricant	NLGI class 000 to 2
Description	<p>The Dynamis pump is characterised by innovative technology and a modular and compact design.</p> <p>Product features:</p> <ul style="list-style-type: none"> • easy installation • distributor and control already integrated • suitable for single-line, progressive, gear pinion lubrication and spray systems • easy monitoring of all functions • robust and reliable even when used in vertically rotating systems • energy-saving, only 30 W
Function	The Dynamis pump can be equipped with up to 2 pump elements which individually or in combination can deliver the lubricant to the lubricating point. An internal swash plate provides the driving force.

Autolub 8 liter

Output max.	1.8 / 2.7 / 3.6 cm ³ /min.
Operation pressure	250 bar
Temperature range	-40 to +80°C
Reservoir size	8 liter
Number of outlets	1, 2 or 3
Power supply	24 V DC
Lubricant	NLGI class 000 to 2
Description	<p>The Autolub pump is primarily designed for wind industry applications but is also usable in industrial applications like the plants and machinery sector.</p> <p>Product characteristics:</p> <ul style="list-style-type: none"> • Multi-line pump • D.C. voltage drive • Output volume: at choice • Lubricant: oil, grease, liquid grease
Function	The drive shaft of the geared motor drives the eccentric and the scraper. The spring loaded follower plate in the reservoir assures an optimal lubricant feed to the pump housing. The eccentric actuates up to 3 force guided pump elements. The lubricant is sucked by the pump elements and carried via connected pipes directly to the lube points or by means of downstream divider.



Distributor/ spray nozzle



PVB



CXL



Spray nozzle SDU

System	Progressive
Operation pressure	160 / 300 bar
Temperature range	-20 to +80°C
Metering volume	0.17 cm ³
Number of outlets	up to 20
electrical monitoring	optional
Lubricant	Grease: up to NLGI class 3 Oil: ISO VG 68 - 1500 (at +20°C)
Description	<p>The PVB-type distributors in buildingblock design are used in small-size progressive lubrication systems representing a cost-saving and effective solution for the central supply of lubricating points with relatively low pressure and small metered quantities.</p> <ul style="list-style-type: none"> • reasonably-priced and robust • electronic monitoring possible • for grease, liquid grease and oil
Function	<p>The PVB progressive distributors deliver the fed lubricant continuously in metered quantities from the lubricating-point connections until the lubricant flow is interrupted. The hydraulic forced control makes it easy to monitor the entire lubrication system. The distributor outlets can be combined in vertical and horizontal direction to realize different output quantities.</p>

System	Single line
Operation pressure	250 bar
Temperature range	-25 up to +175°C
Metering volume	0.05 to 0.4 cm ³
Number of outlets	up to 12
electrical monitoring	not available
Lubricant	Grease: NLGI class 000 to 2
Description	<p>The CXL distributor is fitted into high-pressure single-line systems and is characterized by simple assembly and maintenance. The metering quantities are variable and adjustable.</p>
Function	<p>The lubricant supplied to the CXL distributor is delivered in metered quantities to the lubricating points. By means of an integrated spring the metering piston is returned to its starting position during the relieving phase. The metered and stored quantity of lubricant is fed to the delivery chamber and the distributor is ready for the next lubrication cycle.</p>

System	Air consumption: nozzle- and pressure-dependent
Operation pressure	
Temperature range	
Metering volume	
Number of outlets	
electrical monitoring	
Lubricant	
Description	<p>The spray nozzle is suitable for spraying lubricants onto sliding surfaces and tooth flanks and for spraying release agents.</p> <p>Product features:</p> <ul style="list-style-type: none"> • Heating • Media: grease and oil • separate monitoring of air and grease
Function	<p>The spray nozzle is a mixing block in which grease or oil are blown out through a nozzle by means of compressed air. Lubricant and compressed-air are fed through 10-mm-diameter tubes. A non-return valve with an opening pressure of 1 bar serves as an inlet. For monitoring purposes the hole for the lubricant or air flow also has a piston with a pin which activates the monitoring switch. The heated nozzle has a thermodynamic heating mounted on the side of the housing.</p>

Accessories



Gear lubrication pinion

Description:

The mechanical lubrication pinion serves to transfer lubricant to open gear rims. The driving force comes from the drive pinion to be lubricated. Metering boreholes arranged at different levels assure an even film of lubricant on the tooth flanks. The lubrication pinion is easy to install and handle and is distinguished by low maintenance requirements. It can be integrated into almost every lubrication system and with its different widths and modules it can be adapted to the different applications.

Function:

The lubricant is supplied centrally through the axis mounted in the middle. The lubricant is fed through internal boreholes on different levels to the tooth flanks. The lubrication pinion is designed so that only the tooth on the driving pinion that is in use at that point in time is lubricated.



Oil aggregat

Description:

The oil circulation lubrication serves to lubricate, cool and carry away dirt from bearings and gears. The aggregates are available with different tank sizes, cooling or heating capacities and delivery volumes. The units can be equipped with a large number of control and monitoring components. We offer both standard and customized solutions.

Function:

The oil circulation units are usually equipped with gear pumps, which supply the prepared oil to the lubrication points either directly or through the progressive distributors. They are operated by means of their own electrical control or the customer's own control. The lubricant returned from the bearings or gears is prepared in the unit, heated or cooled and fed into the oil circuit again.



Special for one for all



Electrical control

Description:

Our control offers a comfortable solution for various lubrication systems. The components in the control are adapted to the respective application by means of various combinations. The complete control is permanently mounted in a steel cabinet. It is operated easily from outside by using the operating unit integrated in the door. The settings and parameters can be read in the text display.



Select between
different electrical
connections

Dynamis pump



Integrated electrical
control



Different
refilling
connections
available

wind turbines:

Function plate

Accessories

+



+



=

*Single line
lubrication
system*

+



+

=

*Progressive
lubrication
system*

+



+



=

*Gear pinion
lubrication
system*

+



+



=

*Spray
lubrication
system*

Numerous function
plates for different
systems and
applications

A large wind turbine is visible at the top of the frame, set against a blue sky with light clouds. The background of the entire page is a deep blue with a subtle pattern of wind turbines and water ripples at the bottom.

**Spare-Part-
Service**



**Maintenance-
Service**



**Retrofit-
Service**



Training



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