ECOTRON®
High Pressure Pumps for Waterjet Cutting
COMPANIES OF DR. AICHHORN GROUP

High pressure equipment and components for chemical and petrochemical industry with main application on fertilizer production up to 700 bar, LDPE plants up to 3,600 bar as well as oil and energy

High pressure pumps and components for waterjet cutting up to 6,000 bar, for injection of peroxides in LDPE plants up to 3,500 bar, as well as equipment for pressure testing equipment up to 5,500 bar and autofrettage up to 12,000 bar

Alternators, gensets for power plants from 70 kW to 3 MW, UPS systems, converter and airport equipment

Safety technology for hiway and railway tunnels, sheet metal processing, steel construction and metal working

Evaporation technology, vessels for pharmaceutical industry, thin film evaporator, special process equipment

Employees: 900
Turnover: €200 mill.
Why should you buy an European product?
Because a product made in the EU fits best for companies in the EU.
Because it is made for responsible treatment of energy and water and easy to maintain, because of the use of metric measurements and European manufacturing standard and quality.
Austria is proud about their quality.
HIGH PRESSURE PUMPS FOR WATERJET CUTTING UP TO 400 MPa

ECOTRON®
High Pressure Pumps
ECOTRON® - HIGH-TECH FOR A REASONABLE PRICE
For waterjet cutting up to 400 MPa

ECOTRON® 40.11/15/18.5/22/30/37/45
Power supply 11-45 kW
Operating pressure: 400 MPa
Flow rate: 1.2-4.3 l/min
ECOTRON® - FRONT VIEW

- Intensifier
- Hydraulic control block
- Bleed down valve
- Double filter unit 5 und 1,2 µm
- Booster pump (option)
- Asynchronous electric motor
- Axial piston pump
- Gauge for water pre-pressure and hydraulic pressure, oil filter-clogging indicator

ECOTRON® - FRONT VIEW
Opening for inlet and outlet connections

Electrical control unit

Oil/air or oil/water-cooler

Large volume accumulator with 1.6 Liter

Analog oil level and oil temperature sensor

Aluminum-hydraulic tank
Suction and pressure valves: Easy maintenance without opening the high pressure part.
The standard booster pump is necessary if the feed water pressure can fall under the required 3 bar. If the feed water pressure is too low, air bubbles can enter the intensifier. If compressed to 400 MPa, the air gets hot and burns the components of the intensifier. To have a booster pump secures a good life time of the intensifier components.

Color display to control the pump functions from the internal PLC. You can also control the pump from the machine controller by easy connection.

The pressure can be set electronically from 50 to 400 MPa from the internal or machine panel to pierce in brittle material like stone, tiles and glass.

Double filter unit with mesh size 5 and 1.2 μm is a standard to make sure that no hard substances can come into the intensifier with the cutting water and damage the sensible high pressure components. That minimizes unnecessary break down during operations.

The water pre pressure gauge and the hydraulic pressure gauge ensure an easy monitoring of the cutting water and make a control of the hydraulic pressure easy. The gauges are good visible and accessible installed under the intensifier. Useful for service and maintenance. In the middle the condition of the oil filter can be checked with a colored gauge...
In BFT pumps, the good accessible, service friendly installed dump valve has 2 important functions:
1. In case of an emergency stop, the pressure on the cutting system can be released within the pump.
2. For piercing with lower pressure, e.g. to cut brittle materials like glass, stone and tiles, it is possible to release the cutting pressure (high level) inside the pump. The pump provides the required piercing pressure (low level) at the cutting head, when starting a new cutting line automatically. This saves time compared to pumps, which have to use the cutting head to lower the pressure. BFT pumps allow to lower the pressure and to go to the new starting position with the cutting head in parallel. The result is more efficiency and higher productivity through time savings.

The axial piston pump creates the hydraulic pressure. It can be adjusted through the electronically steered proportional valve in the control. BFT pumps can adjust the pressure down to 50 MPa bar from 400 MPa without steps. This allows a very flexible optimization of the cutting program related to the cutted material.
Advantages of BFT ECOTRON® in Detail Part 3

The oil/air heat exchanger is at BFT pumps installed in the pump frame. This is a request according to CE because the pump frame can collect the oil in case of a leakage. Optional without additional cost the customer can choose an oil/water exchanger to cool down the hydraulic oil. If the ambience temperature is lower than 35°C; we recommend a oil/air heat exchanger because in countries with a high price for feed water, the saving can be up to €2,000.00 per year in favor to the air cooling.

The 1,6 liter accumulator which is standard on the BFT pumps, provide you an excellent cutting signal with only 14 Mpa pressure fluctuations. Pressure fluctuation on high pressure pumps can cause a marking on the cutting edge and a early wear of all HP components including tubes. Together with the connected cutting head signal the BFT pump as a very good HP signal which provide a excellent cutting result on your machine.

The oil tank on the ECOTRON® is made out of aluminum to avoid corrosion from condensation water inside the tank. Oil temperature and oil level is visible directly on the tank.

Even on the ECOTRON® pump BFT offers the possibility to connect the cutting head with the pump controlled proportional valve. This prevents the high pressure to create spikes when the cutting head closes. This saves money in less wear of all high pressure components and tubes.
The cutting head on/off signal can be connected with the ECOTRON. The pump reduces the pressure through the proportional valve when the cutting head closes. This avoid pressure peaks in the system.
AUXILIARIES INCLUDED
Spare Part Kit, Special Tools and Lubricants
FULL RANGE OF HIGH PRESSURE COMPONENTS

High quality tubings and fittings for operating pressures up to 4.550 bar