Cut your energy bill!
Energy efficient cutting with quickly reacting Hammelmann plunger pump systems

- Matched power requirement
- Big savings on energy costs
- High-performance continuous duty
- Top-quality components
- High parts availability
- Fast and comprehensive service
Industrial water jet cutting with high energy efficiency

The optimal use of available resources not only protects the environment, it is also a deciding factor for economic success. Fast-switching high pressure pumps from Hammelmann impress with their outstanding implementation of available energy and maximum reliability in daily operation.

Easy integration into existing systems and fast retrofitting

Hammelmann water jet cutting units with fast-switching high-pressure pumps have no need for complicated valve technology and are compatible with all cutting tables thanks to direct pressure control.

The use of particularly fast-reacting reluctance motors in combination with the high efficiency of Hammelmann high-pressure pumps enables the simultaneous and demand-oriented supply of several cutting heads without pressure losses or start-up times.

The pumps are controlled by their own control unit and an intervention in the existing control of the cutting table is not necessary.

A retrofit or an exchange of pressure intensifier systems, is not a problem. Your cutting tables are ready for use again in a very short time and immediately operate more economically and energy efficient than before.

Demand-oriented supply of high-pressure water

High energy efficiency

Capable of feeding 10 cutting heads with a single unit
Special advantages result from the combination of several pump units in a common rail system.

The intelligent, central controller freely defines which pumps are used as pressure generators. This ensures that use of all pumps takes place as uniform as possible and the pumps deliver the required power under optimal utilization. As a result, there is a homogeneous load on all pump units on a daily average. In this way, the wear of individual components is reduced and maintenance intervals are maximized, which leaves a positive impact on service and repair costs. Since individual pumps can be purposefully removed from the existing network, maintenance during operation is possible. This option also has a positive effect in the event of an incident. If a pump fails in the system, the power it provides is distributed without any delay in the network, without system shutdowns occurring.

No change in existing control needed

Master control unit

The master control is the control center in the common rail system. A touchscreen can manage and monitor up to eight pumps. Each integrated pump has its own data logger, which provides detailed information about the life cycle of the pump.

Pumps can be conveniently taken out of the system by the central control unit to make these available for service, for example.

Specially designed submenus ensure intuitive operation and clear presentation of the information provided.
Energy Efficiency

Matched power requirement

Hammelmann high-pressure pumps make particularly economical use of the energy employed. With these high-pressure systems it is possible to use the exact motor power necessary for the actual cutting task in progress. Additionally the high mechanical and volumetric efficiency of the cutting pump result in considerable energy savings.

Big savings on energy costs

Water jet cutting appliances often use oil hydraulically driven intensifiers. Whereby only about 60% of the energy drawn is in effect used for the regulation and provision of the actual required cutting performance. An enormous energy loss.

The directly driven Hammelmann plunger pumps distinguish themselves, in comparison to intensifiers with load sensing systems, by a higher degree of efficiency of up to 30%.

Energy usage of a cutting nozzle with a coefficient of discharge of 0.7 and an operating pressure of 3800 bar.

Comparing energy requirements of intensifiers with load sensing systems and Hammelmann plunger pumps using 1 to 4 cutting nozzles, each with an orifice diameter of 0.25 mm and an operating pressure of 3800 bar.

Long service life

Intelligent design, the use of high-strength materials and precision manufacturing of the components result in a long service life at pressures up to 4500 bar.
Unit design details

**Controls**
Purpose-built and experience orientated controls for cutting systems with enhanced software allow a tailor-made installation in existing cutting systems.

**Frequency converter**
A frequency converter enables electronic regulation of the drive motor speed so that the power input can be optimised to suit each particular cutting task.

1. High-pressure pump
2. Electric Motor
3. Base frame
4. Pulsation damper
5. Feed water tank
6. Frequency converter
7. Control panel

**Designed for reliability**
Ten thousand Hammelmann high-pressure pumps are in operation around the world in virtually all branches. Whether in use around the clock or when needed, our customers count on energy efficiency, reliability, performance, service and innovative solutions. We see it as our daily duty to meet these challenges.

**Compact, vertical design**
The vertical pump version has many advantages:

- Minimal installation space required
- Protection of the pump components through weight-neutral running
- Good flow of the conveyed medium
- Low stress on the installation frame due to prevention of undesirable lateral oscillations

**Maintenance**
Hammelmann high-pressure pumps are extremely maintenance-friendly. Wear parts can be replaced using conventional tools in just a few short steps. The design of the high-pressure pump has been well thought out, with the clear layout of the components simplifying the installation process.

To watch the video online, please scan the QR-Code above.
The high performance, continuous duty units

High-pressure pump unit HDP 44

High-pressure pump unit HDP 74

<table>
<thead>
<tr>
<th>Pump model</th>
<th>HDP 44</th>
<th>HDP 74</th>
<th>HDP 144</th>
<th>HDP 204</th>
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<tbody>
<tr>
<td>Continuous operating pressure max. [bar]</td>
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<td>3800</td>
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<tr>
<td>Plunger diameter [mm]</td>
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<td>Flow rate max. [l/min]</td>
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<td>4,4</td>
<td>5,3</td>
<td>6,4</td>
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<tr>
<td>Shaft power [kW]</td>
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<td>30,4</td>
<td>36,6</td>
<td>44,2</td>
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<tr>
<td>Installed power [kW]</td>
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<td>40</td>
<td>71</td>
<td>40</td>
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<tr>
<td>Max. number of cutting nozzles* Ø 0,20 mm</td>
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<tr>
<td>Max. number of cutting nozzles* Ø 0,25 mm</td>
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<td>3</td>
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<tr>
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<td>2</td>
<td>1</td>
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<tr>
<td>Max. number of cutting nozzles* Ø 0,35 mm</td>
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<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

*Number of possible nozzles depending on nozzle factor

High flow rates with just one unit

Depending on the design of the cutting system, two or more intensifiers can be replaced by a single high-pressure pump unit.
Service

Fast and comprehensive service

We’re in your locality

Our broad service network means that we can reach you quickly. Hammelmann high-pressure pumps are designed for a long working life. Maintenance intervals are governed by individual on site operational conditions such as continuous duty, performance parameters, and local conditions. We have flexible, competent and experienced technicians in readiness for all maintenance and repair works.

Competent advice

Hammelmann high-pressure pumps for cutting applications can be integrated with any cutting table.

Our team of experts will determine with you the optimal solution for your needs, and you will receive a system that is efficient, resource conserving, and works powerfully without foregoing ample performance reserves.

24 hour service hotline

Customer’s needs are paramount, whereby problems can often be solved over the telephone.

For this we offer a 24 hour service hotline: +49 (0) 171 4707 265

Our specialists can help you either with an instant fault analysis, or give you troubleshooting tips to point you in the right direction. They can also process any necessary spare parts orders.

High level availability of parts

Our logistics centre offers a first class parts service. With 18,000 automated small parts storing slots and 900 positions for standard Euro-pallets we can provide a fast delivery service.

Orders for stock items that reach us by 02:00 pm will be dispatched on the same day.

Practical experience orientated training

Based in the needs and prior knowledge of the participants we offer training courses and seminars on the professional operation, maintenance and repair of high-pressure pumps.
Hammelmann service worldwide
Subsidiaries in USA, China, Australia, Brazil, Spain, France, and Switzerland, and 40 agents and distributors worldwide