

ENERGY
EFFICIENT



HAMMELMANN®



ENERGY EFFICIENT CUTTING WITH QUICKLY REACTING PLUNGER PUMPS

Cut your energy bill!

Matched power requirement

Top-quality components

Big savings on energy costs

High parts availability

High-performance continuous duty

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.

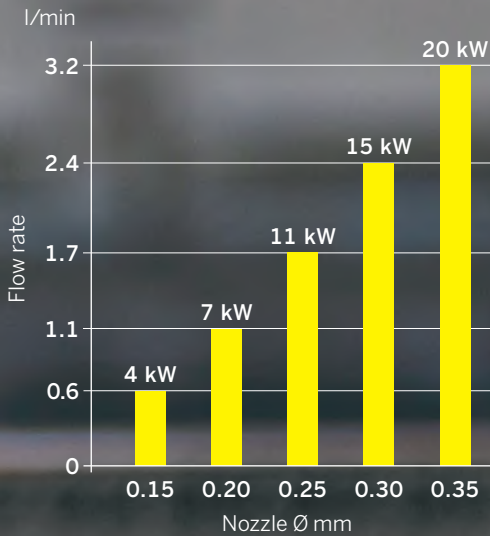


MATCHED POWER REQUIREMENT

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.



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



LONG SERVICE LIFE

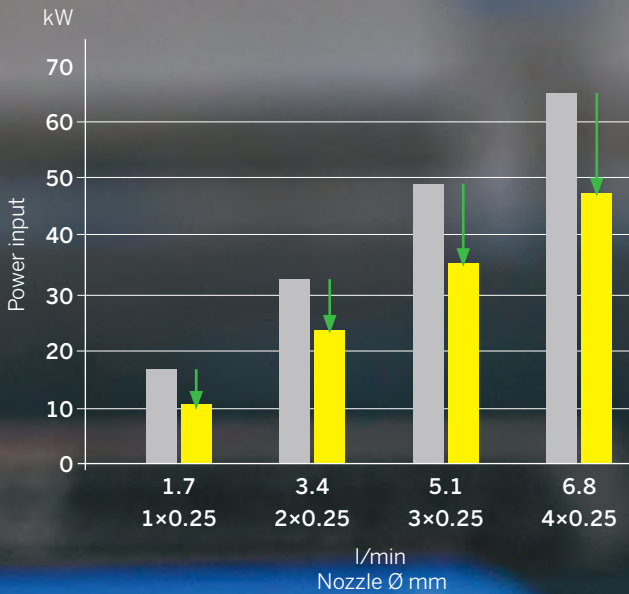
Intelligent design, the use of high-strength materials and precision manufacturing of the components result in a long service life at pressures up to 4500 bar.

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%.



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.



- Power requirement intensifier
- Power requirement Hammelmann plunger pump system
- Power savings with the plunger pump system



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



COMMON RAIL

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
- ENERGY EFFICIENT

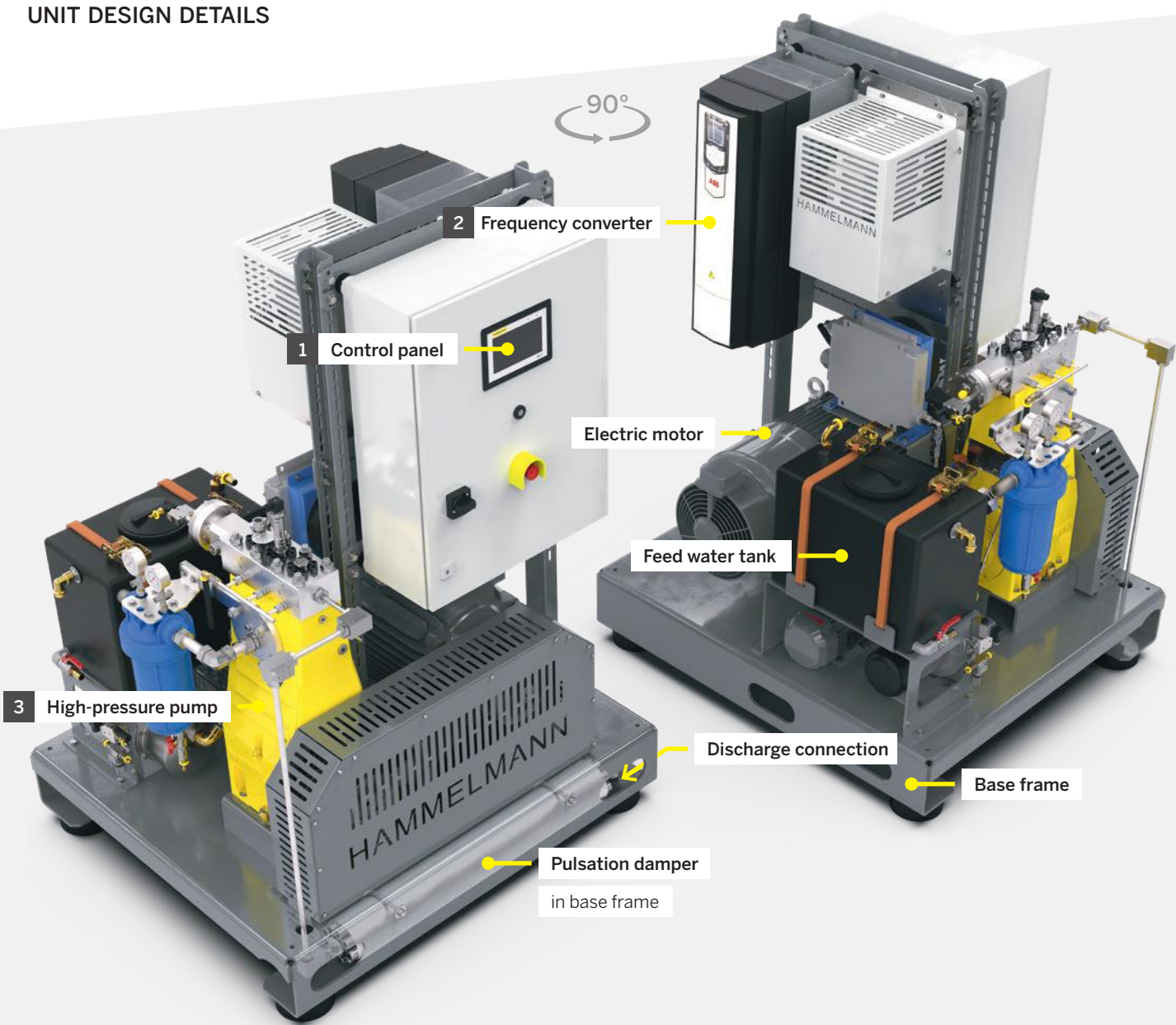


MASTER CONTROL UNIT

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.





1
CONTROL PANEL

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

2
FREQUENCY CONVERTER

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

3
THE PUMP DESIGN 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.

THE HIGH PERFORMANCE,
CONTINUOUS DUTY UNITS



TECHNICAL DATA

High-pressure pump	HDP 44							HDP 74			HDP 144	HDP 204
Continuous operating pressure [bar]	3800	3800	3800	3800	4500	4500	4500	3800	3800	4500	4200	4200
Plunger diameter [mm]	8	12	12	12	10	10	10	12	12	10	15	15
Flow rate [l/min]	1.5	4.4	5.3	6.4	3.5	4.3	5.3	8.4	10.1	7.0	13.6	18.6
Shaft power [kW]	10.4	30.8	37.0	44.6	30.4	37.4	46.1	64.0	77.1	66.4	114.8	157.7
Installed power [kW]	15	40	71	71	40	71	71	71	86	71	155	205
Max. number of cutting nozzles ¹ with Ø 0,20 mm	1	3	4	5	2	3	4	7	8	5	/	/
Max. number of cutting nozzles ¹ with Ø 0,25 mm	1	2	3	3	1	2	2	4	5	3	7	10
Max. number of cutting nozzles ¹ with Ø 0,30 mm	/	1	2	2	1	1	1	3	4	2	5	7
Max. number of cutting nozzles ¹ with Ø 0,35 mm	/	1	1	1	/	1	1	2	3	1	3	5

¹ Number of possible nozzles depending on nozzle factor

**HAMMELMANN - DISCOVER
THE MARKET LEADER**

Hammelmann has been a successful manufacturer of high-pressure systems for over 70 years, which are used for cleaning and cutting purposes as well as in production processes. With over 500 employees in the Hammelmann Group, in Oelde and the subsidiaries in the USA, Australia, Spain, China, France and Switzerland as well as 40 other agencies, we are a company that operates worldwide.

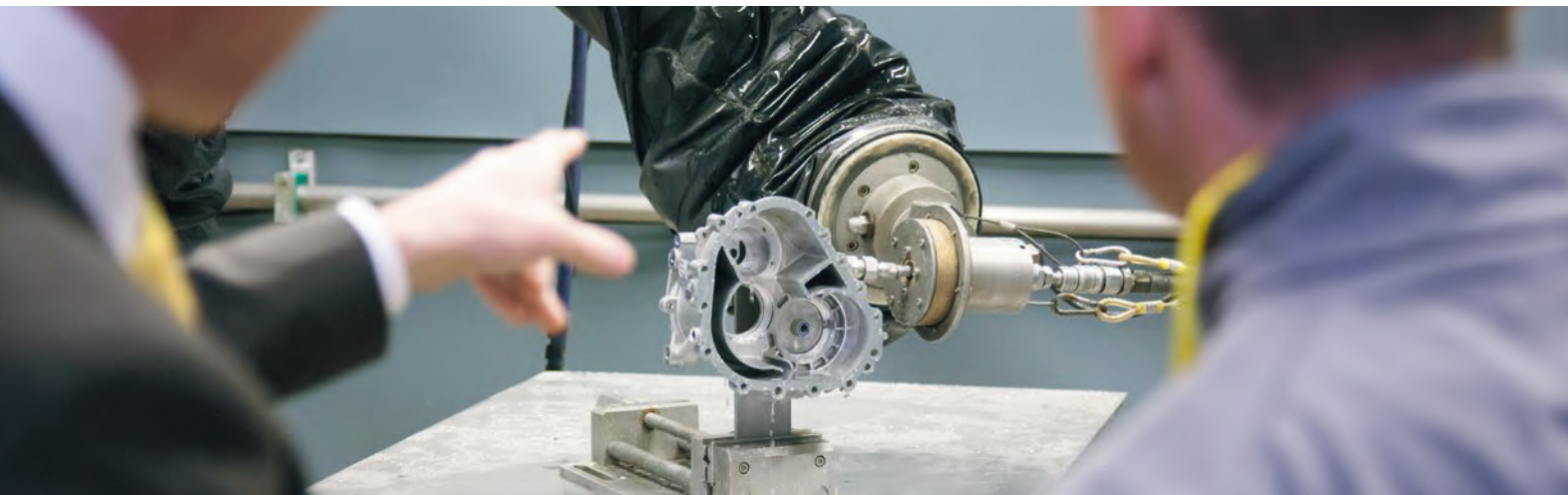
**STATE-OF-THE-ART
TECHNOLOGY CENTER**

For you and for our own R&D we run extensive tests in our modern Technology Center to see how and where water jet technology can be used in an economical, beneficial and ecological way. This is where modern technology and our innovative spirit go hand in hand to test product developments, new ideas, and specific customer requests in a practical setting and to put them through their paces.

Product quality and customer satisfaction are most important to Hammelmann. For this reason, products are not only tested under ideal conditions and then sold, but put to the test under extreme conditions.

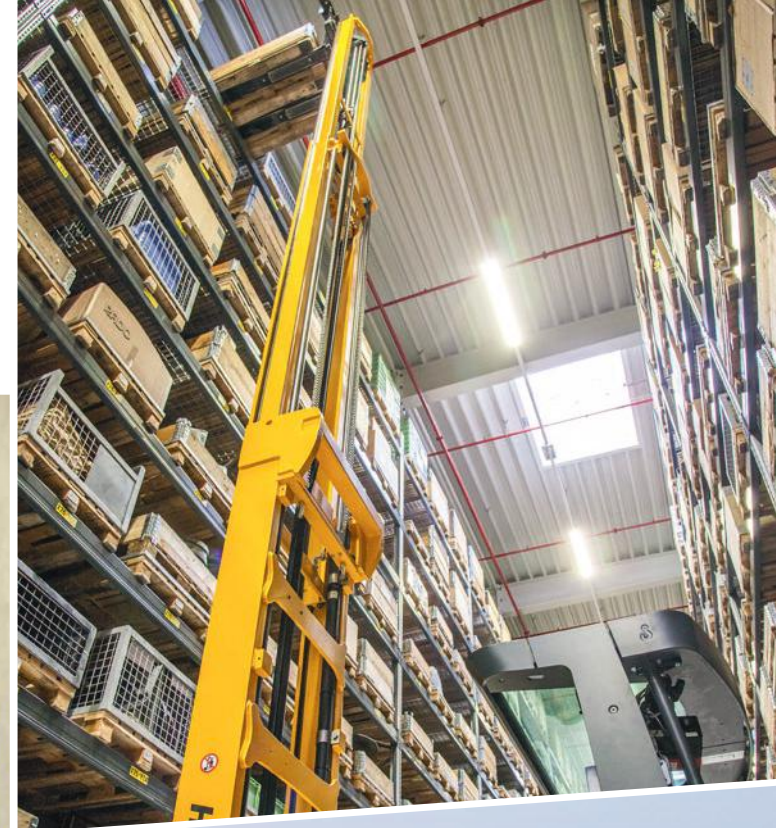
In order to simulate the toughest and most demanding conditions possible at your site, we have a number of tanks and containers, concrete and metal walls, pipes, lines and components that we prepare and then process accordingly. The extensive tests can be carried out indoors with the help of automated robots and systems, or outdoors.

If desired, simulations can also be developed in cooperation with you. Together we will examine possible solutions for your particular application and provide you with fully documented test protocols and reproducible results. We are looking forward to your challenge.



**SPARE PARTS SERVICE IN A CLASS OF ITS
OWN, AVAILABLE AROUND THE CLOCK**

Hammelmann's unique spare parts service offers you many advantages - a state-of-the-art logistics center, same-day dispatch and short delivery times.



SAME DAY DISPATCH

of spare parts



23,000 STORAGE SLOTS

in a fully automated storage system



500 EMPLOYEES

in the Hammelmann Group

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✉ mail@hammelmann.de

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☎ +49 (0) 25 22 / 76 - 408
✉ mail@hammelmann.de

**24-HOUR
SERVICE-HOTLINE**

☎ +49 (0) 171 / 470 72 65
(Outside regular service hours)



CERTIFICATES

- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- ISO 50001:2018
- Achilles Certificate
- ASME Certificate
- SIR Certificate
- Others



The free Hammelmann app

For iOS, Android and your browser

Water Jetting Calculator: hammelmann.com/app

Hammelmann GmbH
Carl-Zeiss-Straße 6-8
D-59302 Oelde

☎ (0) 25 22 / 76 - 0
✉ mail@hammelmann.de
🌐 www.hammelmann.com



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