

HAMMELMANN®



HIGH-PERFORMANCE PRODUCTS FOR INDUSTRIAL CLEANING

Efficient cleaning of industrial plants, machines, components and more.

Reliable, turnkey solutions

Mobile jetting stations

Heat exchanger cleaning

Pipe cleaning

Safe and ergonomic

Resource-saving and economical



**CLEANING OF SURFACES,
PARTS, AND COMPONENTS**

MASTERJET ROTOR JET

Rotor jets convert the high effectiveness of round jet nozzles into area performance through rotating nozzle heads. Various nozzle configurations and adjustable speeds open up many possibilities for surface treatment. The lightweight and compact design also enables work in areas that are difficult to access.



OUTSTANDING PERFORMANCE

Operating pressures up to 3200 bar.



HIGH WORK ERGONOMICS

Due to the very low weight (~ 1.0 kg), compact design, and low-vibration operation.



GREAT ENERGY-EFFICIENCY

The optimum internal flow allows the pump's total performance to be used without loss of energy.



VERSATILE IN USE

Many configuration options guarantee optimal design for a wide variety of applications.



MANUAL SPEED CONTROL

Full control over the speed by simply sliding the protective cover. No tools required!



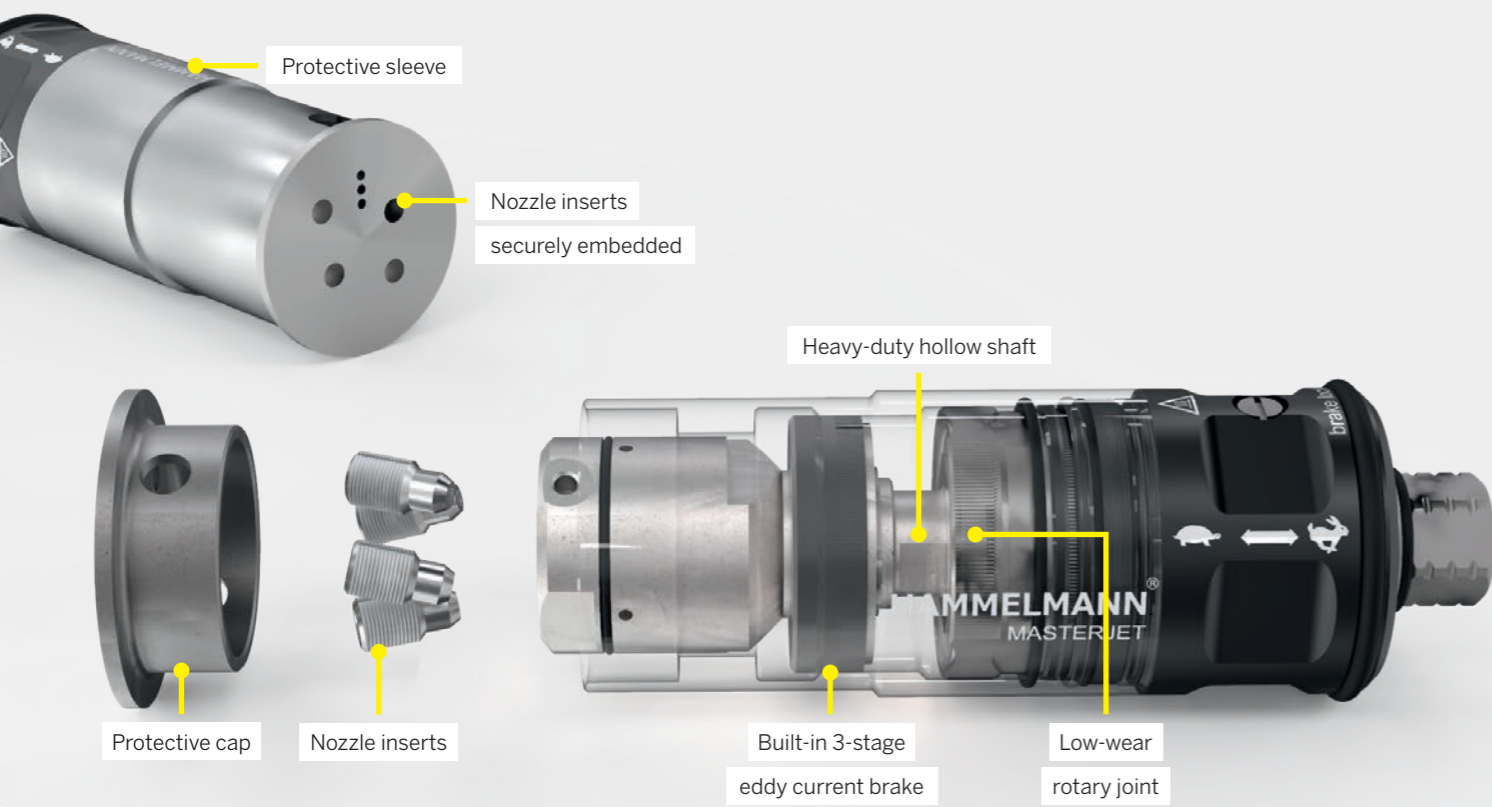
UNSURPASSED SERVICE LIFE

HPS (High Performance Sealing) is a patented sealing system for MASTERJET rotor jets that work with the highest operating pressures.



EASY MAINTENANCE

Service friendly design with few components.



AFFECT THE REMOVAL RESULT


The great advantages of the MASTERJET can be seen in the ability to quickly adapt to changing work situations as well as in the controlled influence on the removal results. From gentle cleaning to strong removal, everything is possible. In order to adapt the removal result to the job requirements, two different work steps can be followed, which can be carried out independently of one another.


Option 1: Hammelmann offers various nozzle holders with different configurations and designs. The rotor jet can then be equipped with 2 or 4, 3 or 6 or 5 nozzles, depending on the nozzle holder. **Option 2:** The rotational speed can be adjusted independently of the nozzle configuration simply by moving the outer sleeve (magnetic brake).




OVERVIEW OF MASTERJET MODELS (OTHER MODELS ON REQUEST)

Model	Variant	Operating pressure	Flow rate
MASTERJET	2/4 nozzles	up to 1800 bar	up to 60 l/min.
MASTERJET	2/4 nozzles	up to 3200 bar	up to 50 l/min.
MASTERJET	2/4 nozzles "Low Flow"	up to 3200 bar	up to 20 l/min.
MASTERJET	5 nozzles	up to 3200 bar	up to 50 l/min.
MASTERJET	3/6 nozzles	up to 1800 bar	up to 60 l/min.
MASTERJET	3/6 nozzles	up to 3200 bar	up to 50 l/min.
MASTERJET Compact	2 nozzles	up to 1800 bar	up to 50 l/min.
MASTERJET Compact	2 nozzles	up to 3200 bar	up to 30 l/min.

MASTERJET Pipe  MASTERJET variants for pipe cleaning can be found on page 50

 Variants for pipe cleaning

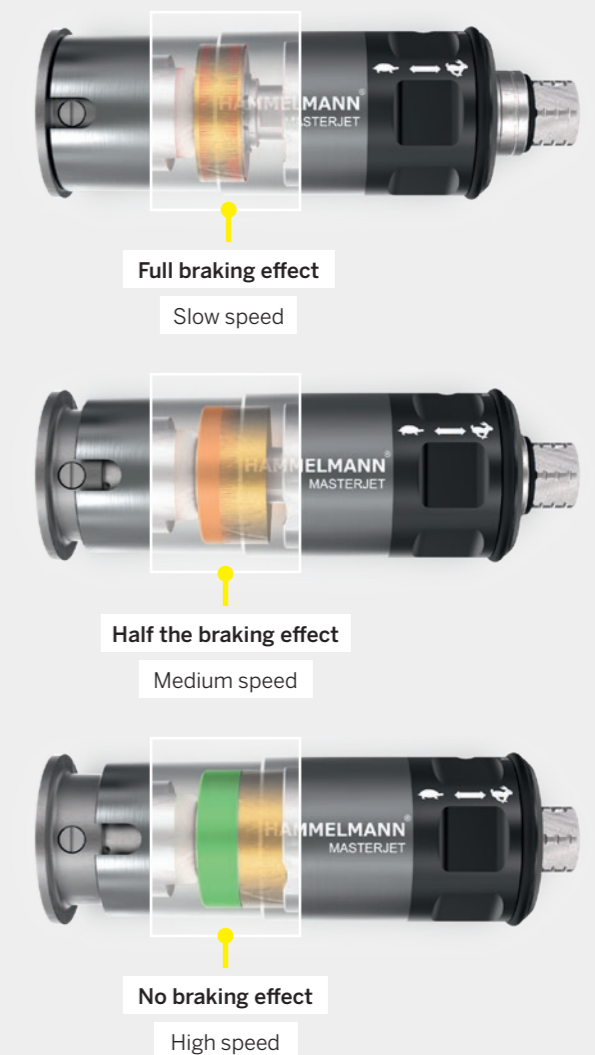
 All MASTERJETS are also available as a hot water version

THE RIGHT NOZZLE CONFIGURATION

The different nozzle configuration of the MASTERJET allows the use of 2, 3, 4, 5 or 6 nozzle inserts. The MASTERJET rotor jet thus offers a wide range of possible uses and proves to be a unique all-rounder in practice. The following rule applies here: the more nozzles there are, the more the force is distributed over the surface being processed. The force acting on the surface is therefore less with a 6-jet application than with a 2-jet application. With just one MASTERJET, sensitive surfaces can be gently cleaned and concrete surfaces in need of renovation can be roughened and removed.

SIMPLY ADJUST THE SPEED BY HAND

The speed is set by simply moving the outer sleeve. A copper strip in the outer sleeve then overlaps a rotating magnet inside either completely (high braking effect 🛑), halfway (medium braking effect 🚦) or not at all (no braking effect 🏃). With this simple movement, the speed can be adjusted quickly and easily, regardless of the nozzle hub. The further the outer sleeve is pulled towards the nozzle hub, the slower the nozzle holder rotates and the more the surface is processed, as the water jets stay longer in one place.





TREAT A WIDE VARIETY OF SURFACES GENTLY AND THOROUGHLY

Cleaning surfaces of all kinds gently and thoroughly is one of the regular tasks in a wide variety of industries. The removal of dirt, residues and deposits with high-pressure water offers many advantages. The process has low impact on the surfaces and is environmentally sound, and cleaning with high-pressure water in combination with our manually operated rotor jets offers more application options than almost any other system.

- ENVIRONMENTALLY FRIENDLY CLEANING WITHOUT CHEMICAL ADDITIVES OR CLEANING AGENTS
- FROM HEAVY CLEANING TO STRIPPING AND ROUGHENING
- A HIGHLY FLEXIBLE AND ADAPTABLE SYSTEM, EVEN FOR PLACES THAT ARE DIFFICULT TO ACCESS
- CLEANING OF ALL TYPES OF SURFACES, FLANGES AND SMALL PARTS, COLUMNS AND GRATING AS WELL AS GRAFFITI REMOVAL
- ERGONOMIC WORK AIDS AVAILABLE



MASTERJET COMPACT

The light-weight yet powerful MASTERJET Compact converts the high effectiveness of round jet nozzles into area performance through rotating nozzle heads. The compact design also enables work in areas that are difficult to access. The patented HPS seal completes the system.

LOW WEIGHT

The low weight of the MASTERJET Compact makes manual operation of the rotor jet easier.

COMPACT DESIGN

Thanks to its compact design, MASTERJET Compact can also be used in difficult-to-access environments.

- BUILT-IN EDDY CURRENT BRAKE
- NOZZLE INSERTS SUNK INTO THE NOZZLE HEAD

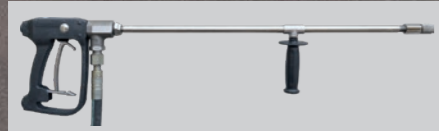
- WITH IMPACT PROTECTION
- LOW-WEAR ROTARY UNION

MASTERJET COMPACT IN COMPARISON:

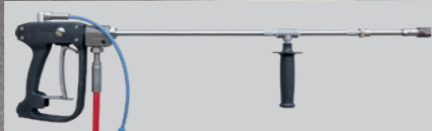
Model	Weight	Length	Diameter	Flow rate	Operating pressure
MASTERJET COMPACT	~ 920 g	171 mm	39 mm	up to 30 l/min	up to 3200 bar
MASTERJET	~ 1400 g	174 mm	58 mm	up to 50 l/min	up to 3200 bar

HIGH-PRESSURE BLASTING GUNS

Hammelmann high-pressure blasting guns are designed for demanding industrial use. The ergonomically shaped handle and various extensions are easy to assemble - so every operator can find the optimal working posture for them, which saves energy and at the same time increases work safety. A simple lever effect makes it easy to pull and hold the trigger. The operator can operate the blasting gun with little effort and less physical strain and can work persistently and with concentration.



SP 1000 M
Mechanical
Operating pressure: up to 1000 bar
Weight: 3,6 kg



SP 1000 ME
Mechanical / Electrical
Operating pressure: up to 1000 bar
Weight: 4,6 kg



SP 3200 E
Electrical
Operating pressure: up to 3200 bar
Weight: 3,5 kg



SP 3200 EH
Electrical / With continuous flow channel
Operating pressure: up to 3200 bar
Weight: 5,0 kg



SP 3200 MB
Mechanical bypass
Operating pressure: up to 3200 bar
Weight: 3,7 kg



SP 3200 MBE
Electrical
Operating pressure: up to 3200 bar
Weight: 4,2 kg



SP 3200 MB - 2H
Mechanical bypass / Zweihandbetrieb
Operating pressure: up to 3200 bar
Weight: 6,5 kg



SP 3200 E - 2H
Electrical / Two-hand operation
Operating pressure: up to 3200 bar
Weight: 4,6 kg



HOT WATER HIGH-PRESSURE BLASTING GUN
Mechanical; for operation with THERMOJET hot water unit



HOT WATER HIGH-PRESSURE BLASTING GUN
Electrical; for operation with THERMOJET hot water unit

More about the THERMOJET hot water unit on page 72.

A SMALL LEVER WITH A GREAT EFFECT

A simple lever mechanism makes the trigger of our blasting guns child's play to operate. The operator can use the gun without feeling strain and physical stress which enables longer, more concentrated working periods.

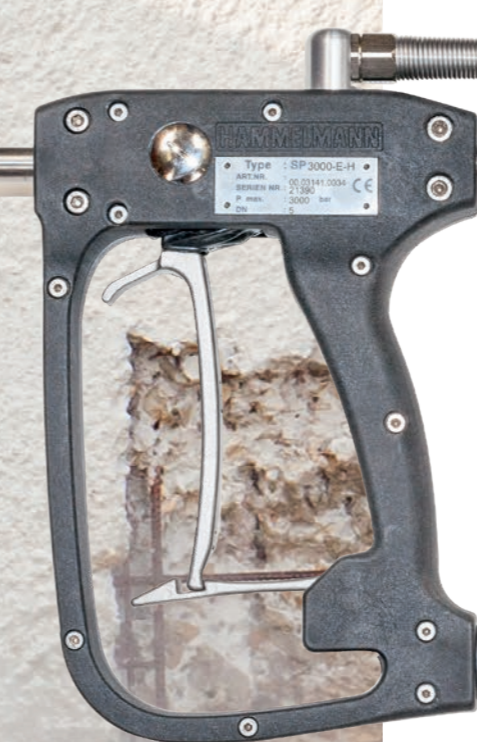


SHOULDER STOCK - CAN BE ADJUSTED TO INDIVIDUAL REQUIREMENTS



ERGONOMICS

An ergonomically formed handle and various extensions can be easily combined. Each operator can find the working posture that best suits him, saving him effort and increasing workplace health and safety.



CONTINUOUS FLOW CHANNEL (BACKWARDS)





JETBOY

JETBOYS are ergonomic working tools in various configurations for fatigue-free water jetting - adjustable for a wide range of working positions.

JETBOY S

Jetboy S is an ergonomic water tool with an adjustable handle and a variable working height for a secure standing position when working overhead.

JETBOY L

You can adapt Jetboy L to a wide range of different work positions. For cleaning ceilings, floors, and corners.

JETBOY XL

Jetboy XL makes virtually effortless work possible. This results in a significantly greater area performance.





JETMATE

JETMATES are ergonomic, free-floating work aids that can clean in all directions, and offer great operational safety and causing less physical stress on the body. They come with their own carrier system or can be mounted to other structures.

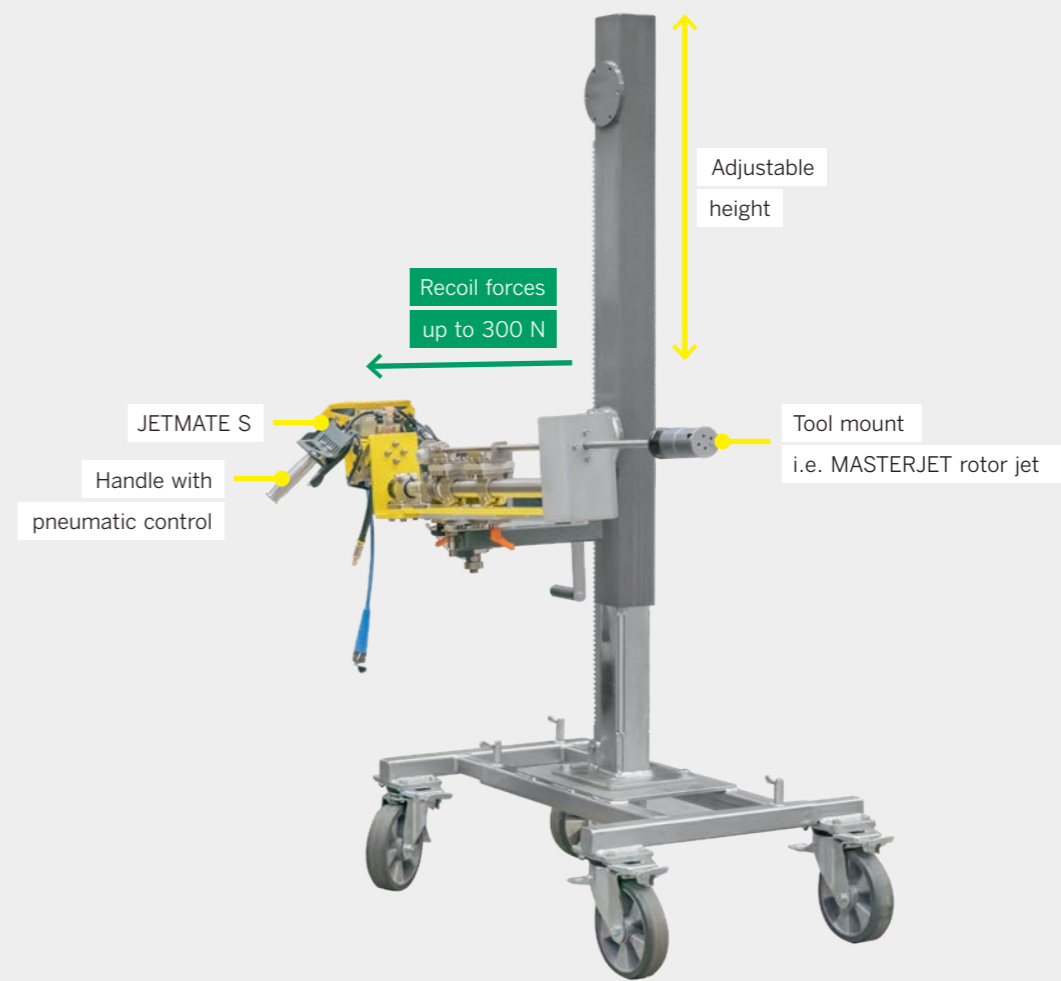
- ABSORPTION OF RECOIL FORCES
- FATIGUE-FREE WORK
- FLEXIBLE DESIGN, FLEXIBLE APPLICATIONS

BENEFITS

- High freedom of movement due to two freely movable rotary axes and one pneumatically driven linear axis.
- Fatigue-free and safe work, even with the highest recoil forces (300 N).
- Low effort required for operation due to floating bearing of lance and tool.
- Variable use through mounting on various carrier systems.
- Flexible application possibilities thanks to modular design.

AREAS OF APPLICATION

The JETMATE enables recoil-free operation during the cleaning process, is easy to handle and ensures increased occupational safety. Simple handling and increased occupational safety – these are the demands seen in the modern working environment. We are able to meet these requirements thanks to the continuous, practical development of our high-pressure systems. Ease of use and safety are always Hammelmann's first priority.

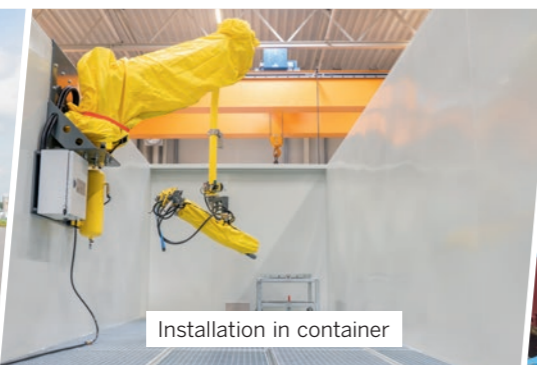


SAFE WITH LOW IMPACT ON THE BODY THANKS TO RECOIL-FREE OPERATION

The recoil forces are absorbed by the holding device. An additional partition for the interior of the container is available.



Mobile JETMATE container



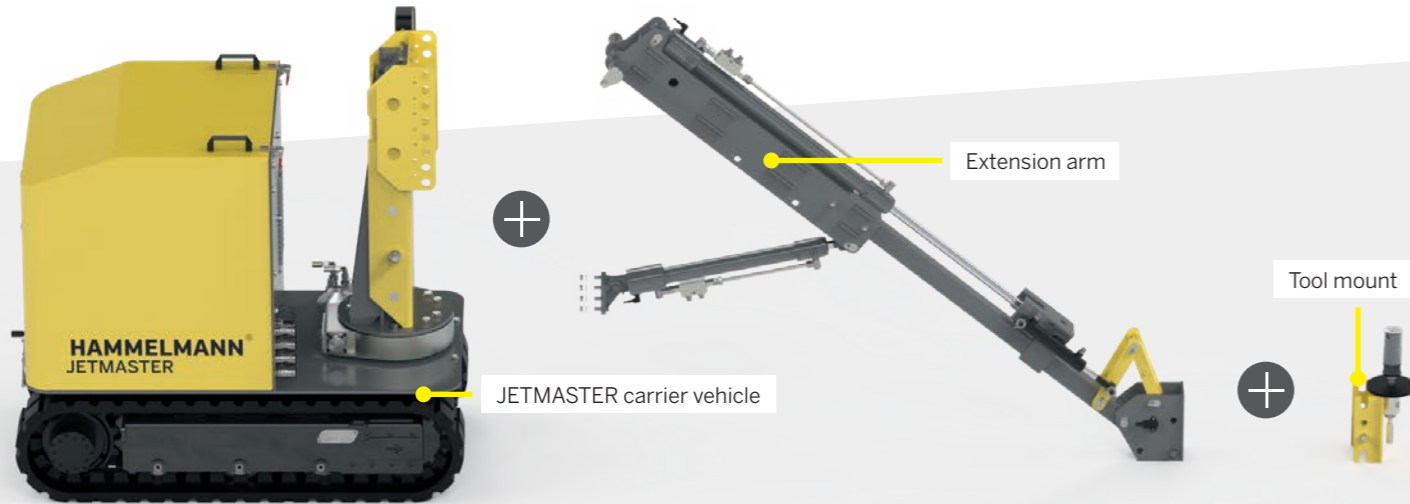
Installation in container



Mounted on carrier system

THE JETMASTER HIGH-PRESSURE APPLICATIONS ROBOT

The JETMASTER is a radio-controlled, semi-automatic work aid. Built on a mobile carrier vehicle the unit can be equipped with a flexible boom that can be used in a variety of ways, on which various water tools such as a MASTERJET rotary nozzle or an AQUABLAST® surface cleaner can be mounted, depending on the application. With its highly flexible working positions, the JETMASTER reliably eliminates recoil forces and is a real all-rounder, regardless of water pressure and flow rate - from cleaning and roughening to removing a wide variety of surfaces.



CARRIER VEHICLE

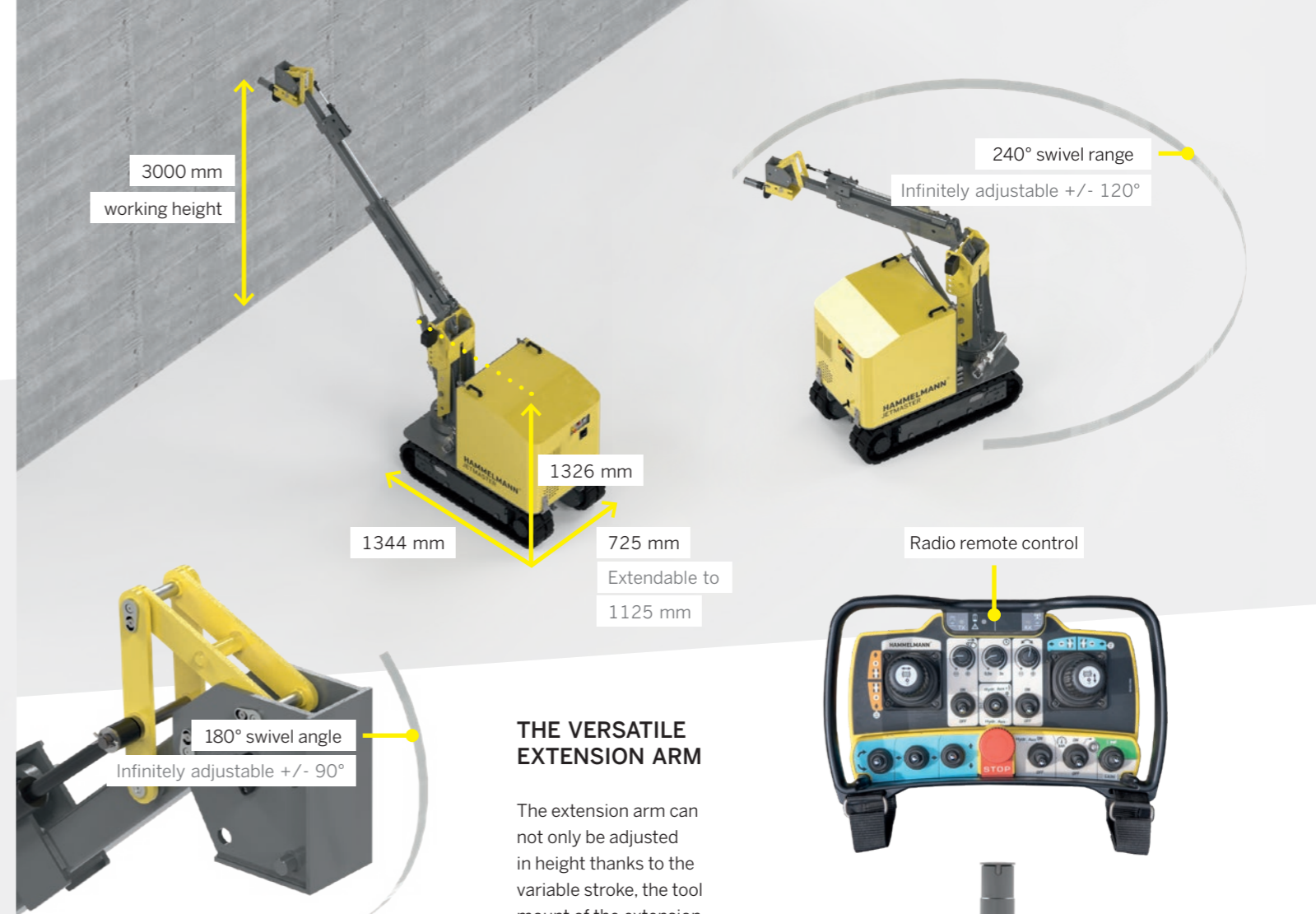
The base of the JETMASTER is a carrier vehicle with a powerful hydraulic drive and 2-speed gearshift. The mount for the extension arm has a large swivel range of +/- 120°.

EXTENSION ARM

A flexible and variable extension arm on which various water tools can be mounted. Thanks to the telescopic stroke, a working height of up to 3000 mm can be achieved.

TOOL MOUNT

The water tool is attached on the tool mount. This can be connected to the extension arm in different positions. A simple and quick adjustment to the working conditions is possible at any time.



THE VERSATILE EXTENSION ARM

The extension arm can not only be adjusted in height thanks to the variable stroke, the tool mount of the extension arm can also be swiveled up or down by +/- 90°.

FOR A WIDE VARIETY OF WATER TOOLS AND UP TO ANY CHALLENGE!

Thanks to the universal tool mount, a large selection of water tools can be connected to the JETMASTER. For example MASTERJET rotor jets, AQUABLAST® surface cleaners, hydraulically driven rotary nozzles, round and fan jet nozzles, and much more.

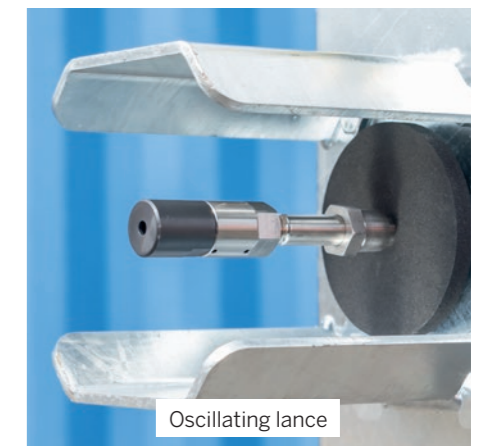
The tool mount can also be attached in different positions, so that it can be adapted to the working conditions easily and quickly. With the JETMASTER, almost all surfaces can be treated thoroughly and effectively.



MASTERJET Rotor jet



AQUABLAST® Surface cleaner



Oscillating lance



AQUABLAST® AND AQUABLAST® PLUS SURFACE CLEANERS

Clean, demarcate and strip surfaces with high-pressure water: AQUABLAST® surface cleaners utilize the full potential of high-pressure water for efficient, effective and gentle surface processing. Easy handling and outstanding cleaning performance mean Aquablast® surface cleaners are the perfect solution for a range of applications. Operation is possible on all substrates.

CLEANING, DECOATING, REMOVING MATERIAL AND MARKINGS, AND ROUGHENING

The AQUABLAST® can be used in numerous applications on every substrate. Different results are achieved here depending on the pressure and flow rate. Applications range from thorough surface cleaning all the way through to the targeted removal of material.



THE AQUABLAST® PLUS SYSTEM

The removed waste and jet water are immediately vacuumed away to a combined vacuum/filter unit, where they are separated and sent on for further disposal. Direct suction allows the use of high-pressure water in machine halls without halting production, in multistory buildings and on roads while traffic is flowing. Ongoing work can continue and unnecessary costs as a result of standstills and production downtimes are prevented.

CLEANING AND VACUUMING IN A SINGLE SYSTEM = A LOT OF TIME AND EFFORT SAVED

Thanks to direct suction, subsequent extra work, drying times and waiting times are kept to a minimum. Contamination of the surrounding area by water spray, mist and removed material is noticeably reduced. There are no additional set-up costs and complex preparation of the work area is not necessary.



TECHNICAL DETAILS

Model	Working width	Operating pressure	Flow rate	Rotation speed	Vacuum suction
FR 1500	400 mm	up to 1500 bar	up to 150 l/min	1000 rpm	–
FR 3000	215 mm	up to 3000 bar	up to 40 l/min	3000 rpm	–
FR 3000 HD	275 mm	up to 3000 bar	up to 40 l/min	3000 rpm	–
FRV 1000	500 mm	up to 1000 bar	up to 160 l/min	1500 rpm	✓
FRV 3000	215 mm	up to 3000 bar	up to 40 l/min	3000 rpm	✓
FRWV 3000	140 mm	up to 3000 bar	up to 19 l/min	2500 rpm	✓



AQUABLAST® BASIC AND AQUABLAST® BASIC E

The hand-held floor cleaner is designed for universal use and allows a wide range of applications. The rotating spray bar ensures an optimal cleaning performance.

- 500 BAR – 30 L/MIN
- 1000 BAR – 16 L/MIN
- AT 500 BAR
MAX. TEMPERATURE 95 °C

ADVANTAGES AT A GLANCE

- Suitable for use with 4 nozzles, type A, B, M
- Ergonomic hand valve with relief lever
- Adjustable position of the handles
- Optional hose connection:
M 22 x 1,5 DKO oder M 24 x 1,5 DKO
- Height of the drawbar individually adjustable
- Splash guard via installed brush
- High-pressure hose between handle and swivel connection
- Electric hand valves optionally available

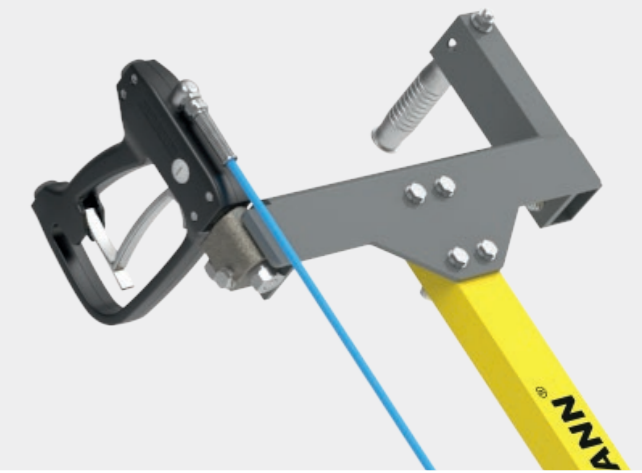
DETAILS

The AQUABLAST® Basic is controlled by a mechanical (AQUABLAST® Basic) or electrical manual valve (AQUABLAST® Basic E). The chassis has four swivel castors for easy handling. The rear castors can be locked for straight running.



MECHANICAL MANUAL VALVE

Default connection M 22 x 1,5 i hose connection:
Optional: M 22 x 1,5 DKO or M 24 x 1,5 DKO



ELECTRICAL MANUAL VALVE

The pressure control of the pump is carried out electrically by the control cable.



Height of drawbar adjustable



Adjustable handles



Ergonomic hand valve



AQUABLAST® CLEANING LINE

A wide variety of components are exposed to massive load and dirt in professional industrial use. This leads to increased wear, often to higher weight of the parts, and an exchange of the components is necessary frequently. Regular cleaning of the elements noticeably extends the service life, handling is improved by the lower weight and physical stress is reduced.

The elements are usually cleaned manually with a high-pressure gun. A manual process that is time-consuming and certainly has the potential for injury. Hammelmann's unique cleaning line is a semi-automatic system that makes cleaning easier, faster and easier to plan. Occupational safety is significantly improved and the costs for wages and energy use are also reduced.

BENEFITS

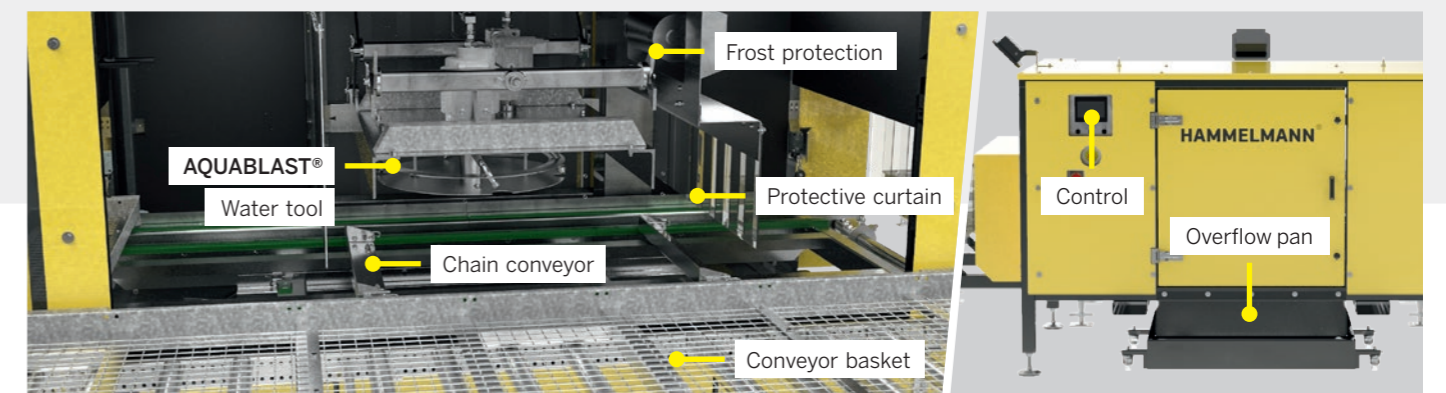
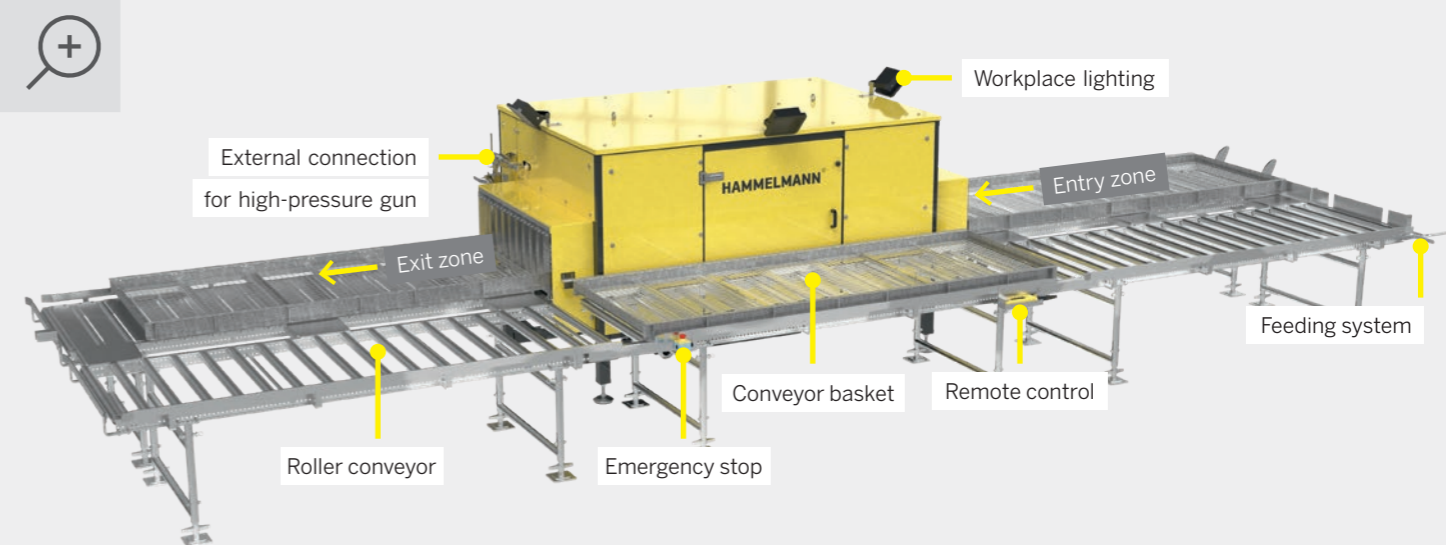
- Higher occupational safety both on the construction site as well as during cleaning
- No time-consuming gun work
- Less energy consumption
- Lower cleaning costs due to lower personnel costs
- More time for productive work, less effort for cleaning
- Less need for replacement

CLEANING OF MANY ELEMENTS IN DIFFERENT SHAPES AND SIZES



AREAS OF APPLICATION

The overall system is based on a modular concept and can be adapted to individual requirements with little effort. In advance, the necessary parameters for optimal cleaning are determined in close cooperation with the customer. The cleaning line consists of taxiways, the cleaning chamber with spray bars and nozzles, baskets for storing the parts, the chain conveyor, the pump unit for supplying high-pressure water, and all the necessary control elements and sensors.



Interior view

Back view

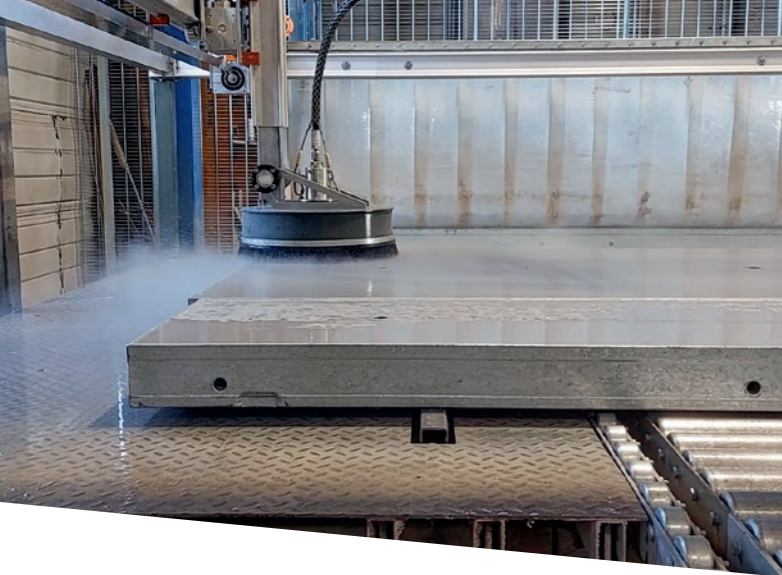
THE CONCEPT

The elements to be cleaned are conveyed through the cleaning chamber in the baskets. The feed can be adjusted in a range from 0 – 90 mm / sec. The elements are cleaned at high pressure in the cleaning chamber. The number of spray bars used is configured individually and determines the overall working width of the system. The seamless height adjustment allows optimal adaptation to the parts to be cleaned.

TECHNICAL DATA

Length	Width	Height	Working width
10 m	3.20 m or 4.10 m	1.95 m or 2.15 m	1 m or 1.50 m

Weight and dimensions depend on accessories and water tools. Binding dimensional drawings and weights available on request.



AQUABLAST® FRAME

Clean a wide variety of construction and formwork elements effectively, quickly, and without burdening or tiring the operator with blasting work.

AQUABLAST®-SURFACE CLEANER

The working width is 500 mm with 4 nozzles. The spray bar is designed for use at 1,000 bar and a flow rate of 16 l/min. The AQUABLAST® is driven by the recoil forces of the hp water and fitted with a brush seal against splash water.

LINEAR UNITS

The base frame and the linear units are made of robust aluminum profiles. The axes are equipped with roller guides. The guides are largely insensitive to dirt. It is driven by servo geared motors via a toothed rack profile integrated into the aluminum profile. The length and width of the device can be modularly expanded and adapted to individual needs.

HOW DOES THE SYSTEM WORK?

- The construction and formwork elements are put into the system. This can be done manually or the AQUABLAST® Frame can be integrated into an existing loading system using roller or conveyor belts.
- The AQUABLAST® is adjusted to the correct height.
- With the press of a button, the cleaning device starts up slowly and the high-pressure switches on. The AQUABLAST® does not halt over the workpiece.
- The cleaning device starts cleaning the elements within its defined path.
- After cleaning, the AQUABLAST® returns to its starting position.
- The workpiece can then be moved out via the customer's system.

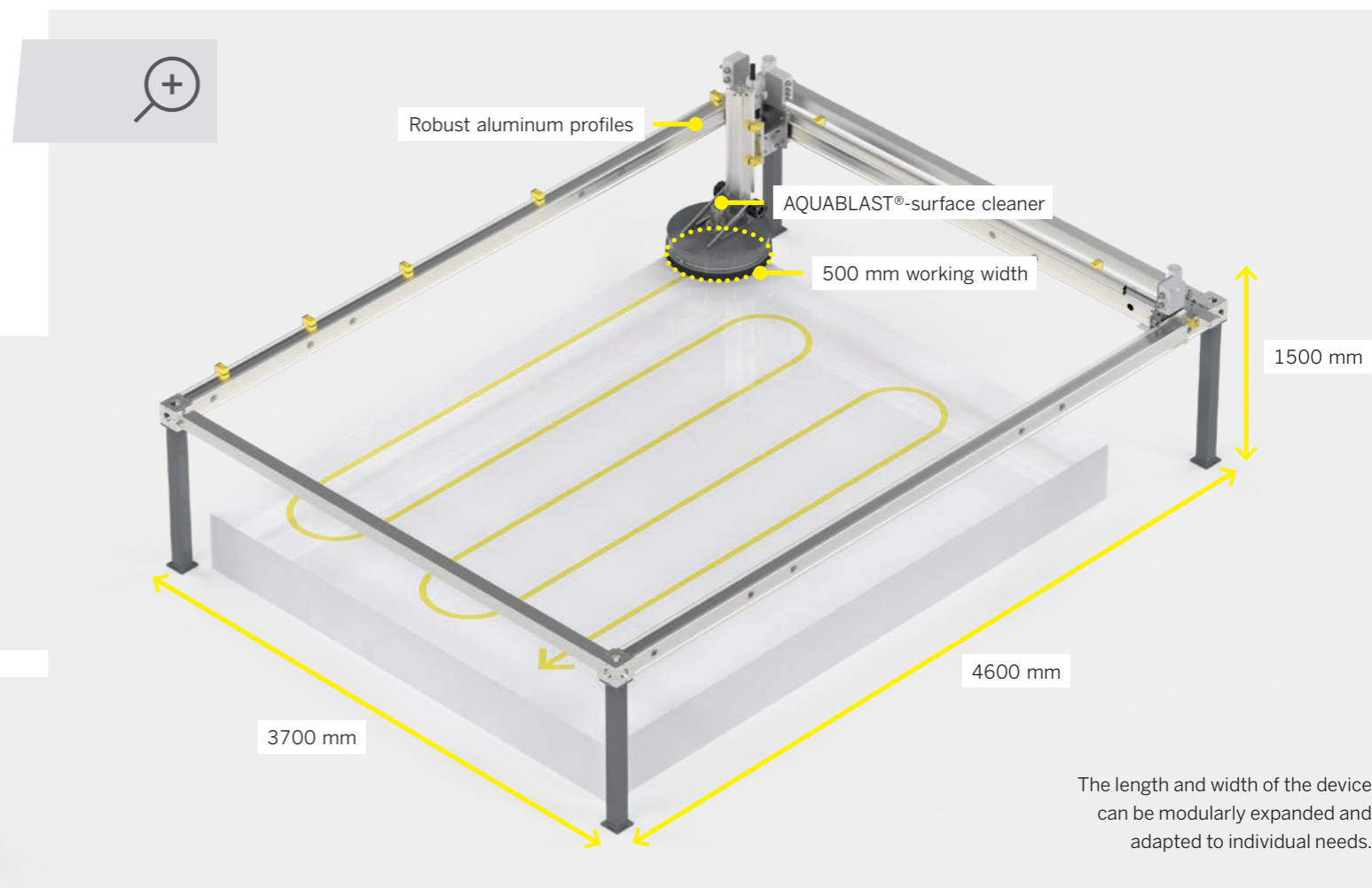
CONTROLS

The electric components are housed in a control cabinet and installed in the immediate proximity and within sight of the system. You have the parameters under control at all times via the integrated touch display.



AREAS OF APPLICATION

The AQUABLAST® Frame is a device for cleaning various construction and formwork elements. To do this, the workpieces are placed inside the frame and the powerful AQUABLAST® surface cleaner navigates across the area to clean the elements automatically. The cleaning device can also be optimally integrated into existing work processes and effectively upgraded, e.g. by roller or conveyor belts.



The length and width of the device can be modularly expanded and adapted to individual needs.

TECHNICAL DATA

Feed rate	Traversing speed	Min. workpiece height	Max. workpiece height
~ 50 mm/s	~ 165 mm/s	50 mm	350 mm

Weight and dimensions depend on accessories and water tools. Binding dimensional drawings and weights available on request.



**CLEANING OF TANKS
AND CONTAINERS**

CLEAN TANKS AND CONTAINERS THOROUGHLY AND QUICKLY

Hammelmann tank cleaning units remove deposits and incrustations from the inner and outer walls of tanks and tank installations at operating pressures of up to 1800 bar. The units operate solely using the recoil force of the water jet. Hammelmann offers a wide range of nozzle holders for various applications. The tank cleaning units can be fitted with one or two nozzle holders.

AQUAMAT S 600

Cleaning of an ASF container



EXTREMELY POWERFUL

Efficient cleaning performance thanks to high operating pressures (up to 1800 bar) and high flow rates (up to 700 l/min).



EFFECTIVE AND ENVIRONMENTALLY FRIENDLY

Hammelmann tank cleaning units are developed with performance and sustainability in mind. The high efficiency of the systems makes their use particularly energy-efficient.



GREAT RELIABILITY

Great reliability and long service life thanks to the well thought-out, low-maintenance design and compact housing.



SAFE AND PROTECTED

Wear-resistant, infinitely variable braking system. The adjustment mechanism is protected from dirt and debris.



SUITED FOR ANY APPLICATION

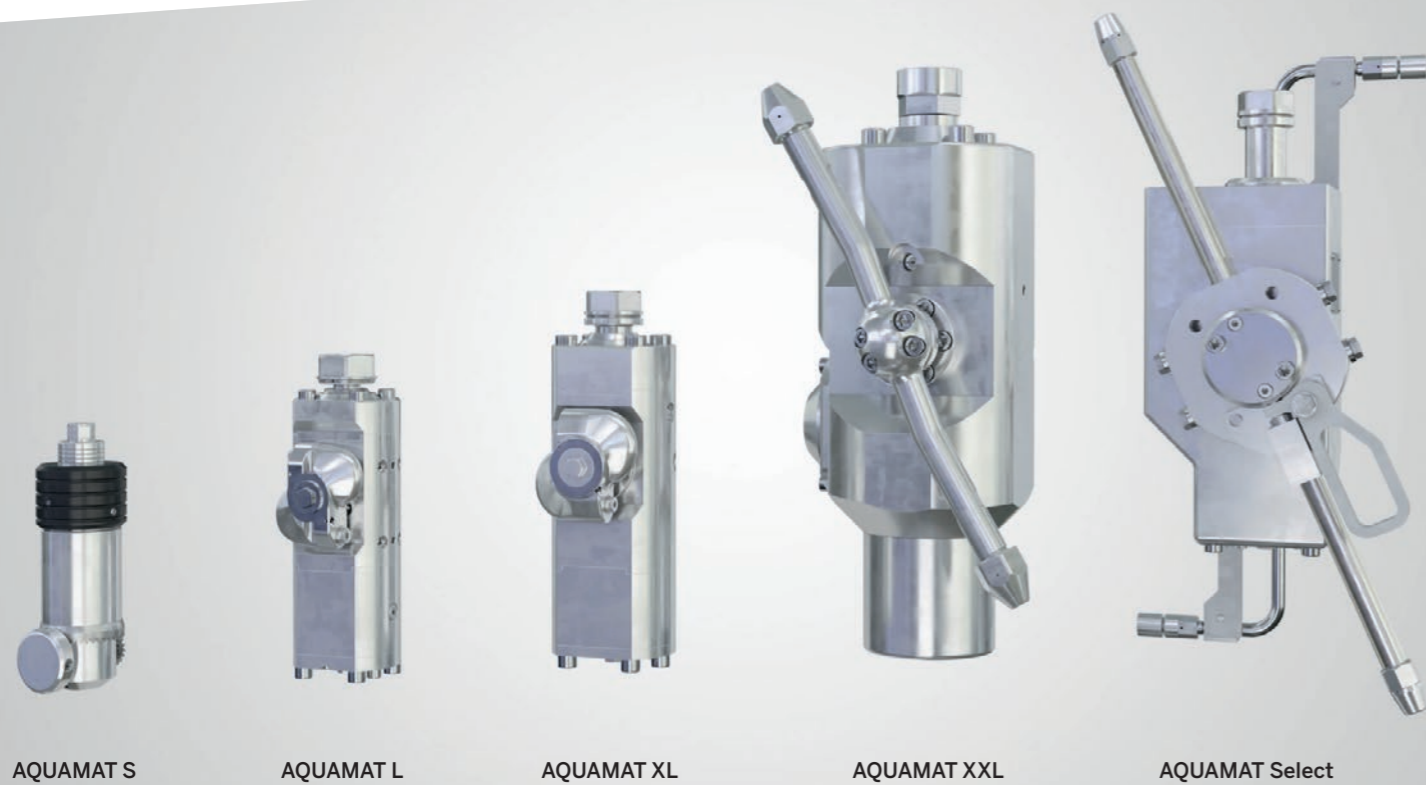
Available in different versions, such as explosion-proof, gas-tight encapsulated, pressure-resistant or for chemical media.



FLEXIBLE, ADAPTABLE, COMBINABLE

Various nozzle holders and other accessories and configuration features adapt the device to any challenge.

AQUAMAT TANK CLEANING UNITS



AQUAMAT S





AQUAMAT L

AQUAMAT XL

AQUAMAT XXL

AQUAMAT Select

OVERVIEW OF AQUAMAT MODELS (MORE MODELS ON REQUEST)

Model	Operating pressure	Flow rate*	Tank opening	Weight
S 600	up to 600 bar	up to 100 l/min.	from Ø 98 mm	~ 4,9 kg
L 500 Plus EX 	up to 500 bar	up to 300 l/min.	from Ø 130 mm	~ 11,8 kg
L 1500 Plus	up to 1500 bar	up to 300 l/min.	from Ø 130 mm	~ 11,5 kg
L 1500 Plus Titan	up to 1500 bar	up to 300 l/min.	from Ø 130 mm	~ 8,1 kg
L 1800 Plus	up to 1800 bar	up to 200 l/min.	from Ø 135 mm	~ 11,5 kg
XL 1600 Plus	up to 1600 bar	up to 450 l/min.	from Ø 150 mm	~ 18,4 kg
XL 1600 Plus Duo 	up to 1600 bar	up to 450 l/min.	from Ø 150 mm	~ 19,1 kg
XL 1600  	up to 1600 bar	up to 250 l/min.	from Ø 205 mm	~ 38,5 kg
XXL 1600	up to 1600 bar	up to 700 l/min.	from Ø 300 mm	~ 93,0 kg
AQUAMAT Select	up to 1600 bar	up to 500 l/min.	from Ø 400 mm	~ 72,0 kg

*Energy-efficient flow rates with low pressure loss. Higher flow rates however are possible.



ATEX: II 1G Ex h IIC T4 Ga
IECEx: Ex h IIC T4 Ga



Pumping of chemical media possible



Pressure-resistant / Gas tight



Duo version with 2 actively cleaning nozzle holders



AQUAMAT L 1500 Plus
with "S"-type nozzle holder

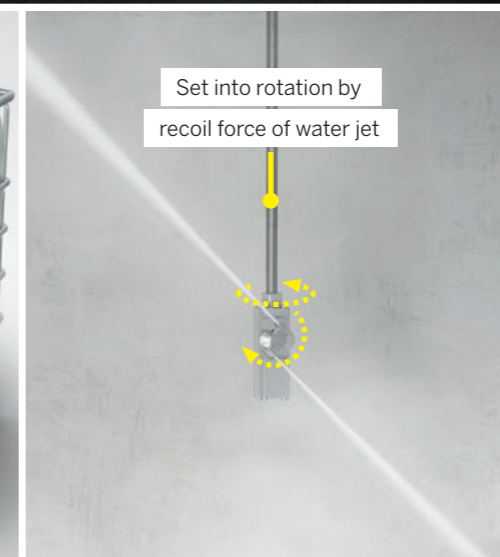


AQUAMAT L 1500 Plus
with "S"-type nozzle holder

CLEANING OF SMALL AND MEDIUM-SIZED CONTAINERS

For small and medium-sized containers, the AQUAMAT tank cleaning unit (TCU) is positioned centrally and set into rotation by the recoil of the water jets. Depending on the container, the AQUAMAT can be moved into different positions. An ideal ratio of the rotational movements and the adjustable speed ensure an even and complete cleaning result. The rotation speed is set and kept constant by a maintenance-free eddy current brake.

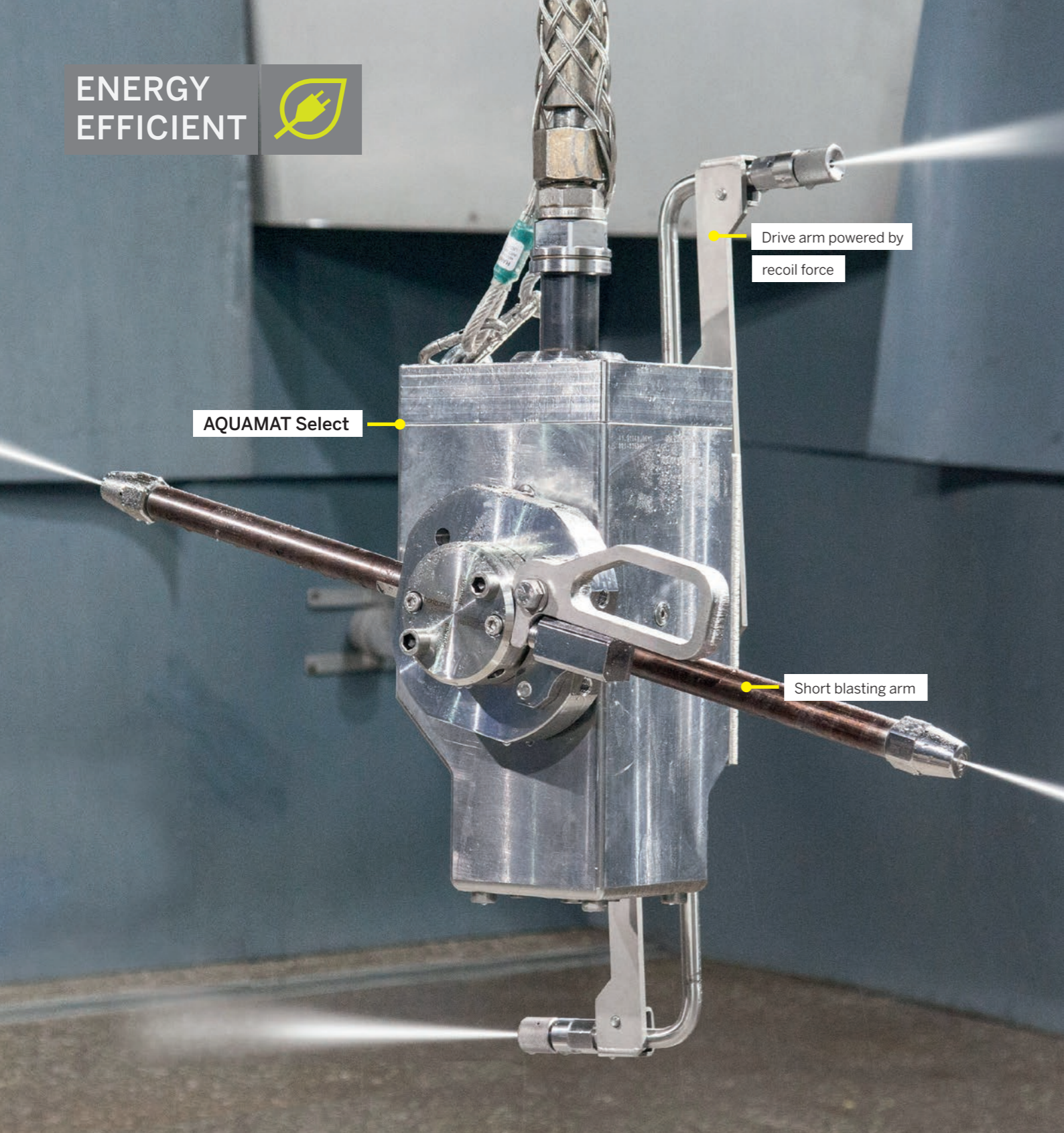
- DEVICES FOR CLEANING IBC CONTAINERS
- TANK TRUCK LID FOR CLEANING THE INSIDE OF TANK TRUCKS



Set into rotation by
recoil force of water jet



ENERGY
EFFICIENT



AQUAMAT Select

Drive arm powered by recoil force

Short blasting arm

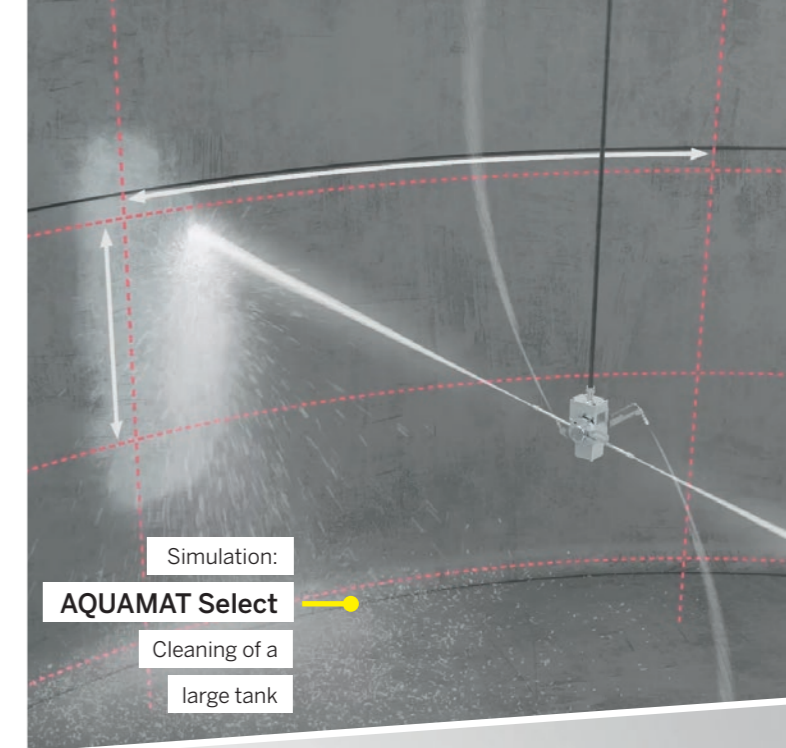


Long blasting arm

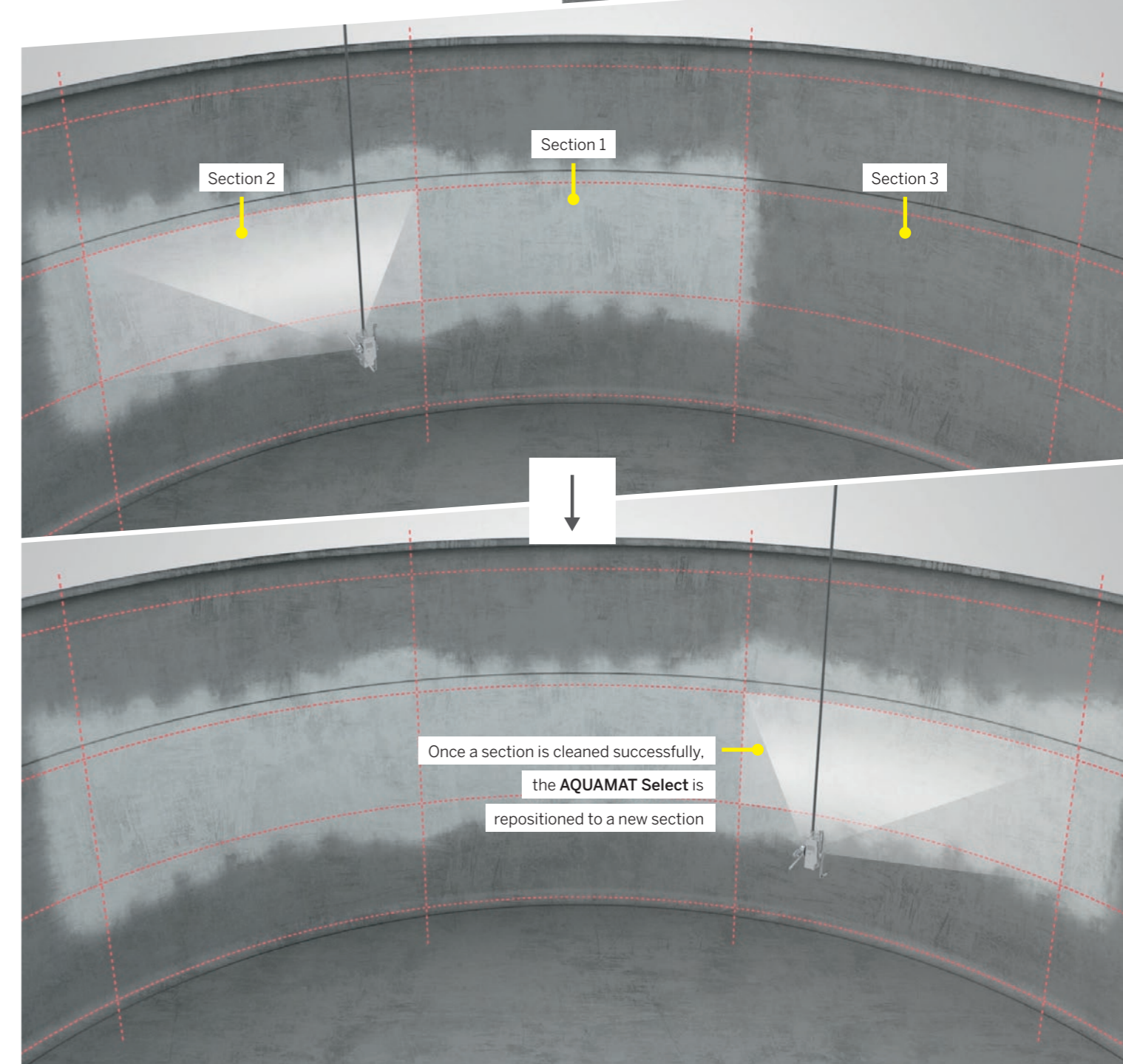
CLEANING OF LARGE CONTAINERS

The cleaning time is reduced by an oscillating movement of the nozzle arms. The oscillation angle can be limited to 35° or 83°. The rotation around the vertical device axis can be preselected to 36° or 81°. When used in large tanks, the tank cleaning device is positioned on the tank wall and offset in sections.

The drive of the AQUAMAT Select is generated by a second, recoil-driven nozzle arm. For its permanent rotation, different nozzle diameters are used depending on the operating pressure. This allows the cleaning time or cleaning performance to be optimized. Further variants for adaptation to the cleaning situation (floor, ceiling) are possible.

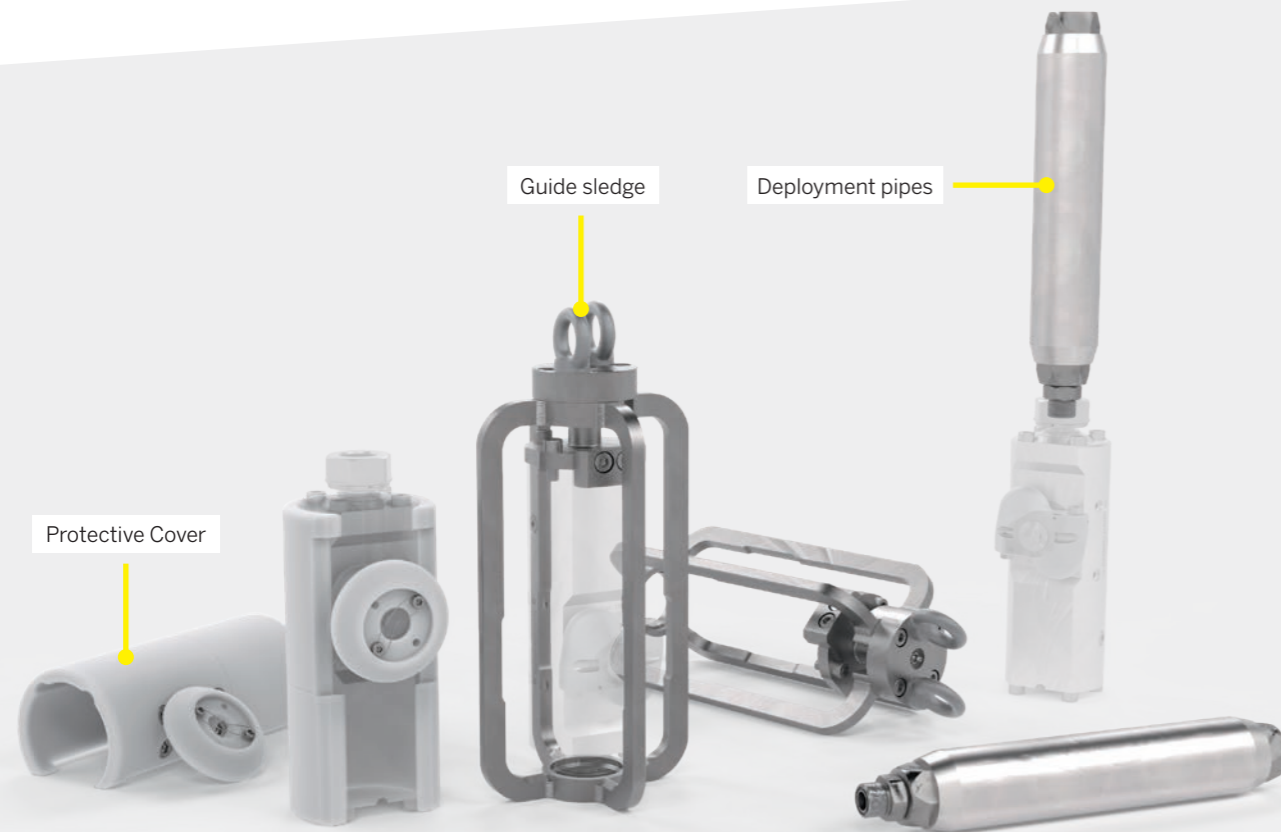


Simulation:
AQUAMAT Select
Cleaning of a
large tank



Once a section is cleaned successfully,
the AQUAMAT Select is
repositioned to a new section

OPTIONS AND ACCESSORIES FOR AQUAMAT TANK CLEANING UNITS



Protective Cover

Guide sledge

Deployment pipes

GUIDE SLEDGE

Guides enable AQUAMAT tank cleaning units to be used for pipe cleaning. The unit is mounted in the centre and a swivelling pulling device is provided. Optional „kick plate“ available so that the assembly self-propels through the pipe.

DEPLOYMENT PIPES

Deployment pipes stabilise the tank cleaning unit. Recommended for use when the unit is freely suspended by the hose with the unit brake adjusted to maximum (max. 1800 bar).

PROTECTIVE COVER

Impact resistant plastic covers for tank cleaning units and nozzle holder arms.



CLEAN PIPES WITH THE AQUAMAT

When combined with a guide sledge, the units can be used for pipe cleaning. They move forward in the pipe automatically thanks to an additional kick plate. Particularly hard deposits and incrustations are removed here.

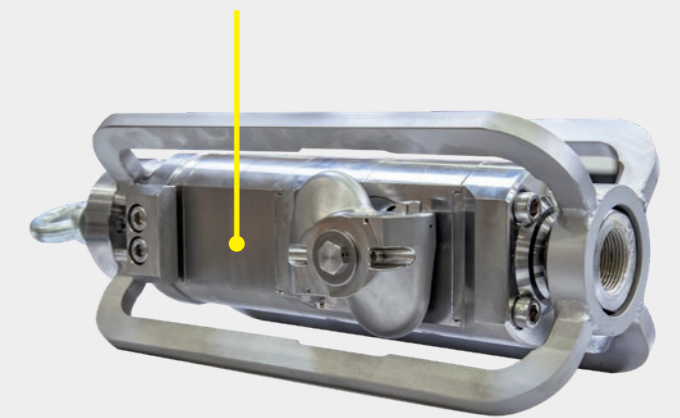


Pulling device with eyelet

Guide sledge for pipe cleaning with AQUAMAT units

Central positioning of the AQUAMAT in the guide sledge

Optional kick plate for self-propelling forward motion



TECHNICAL DETAILS

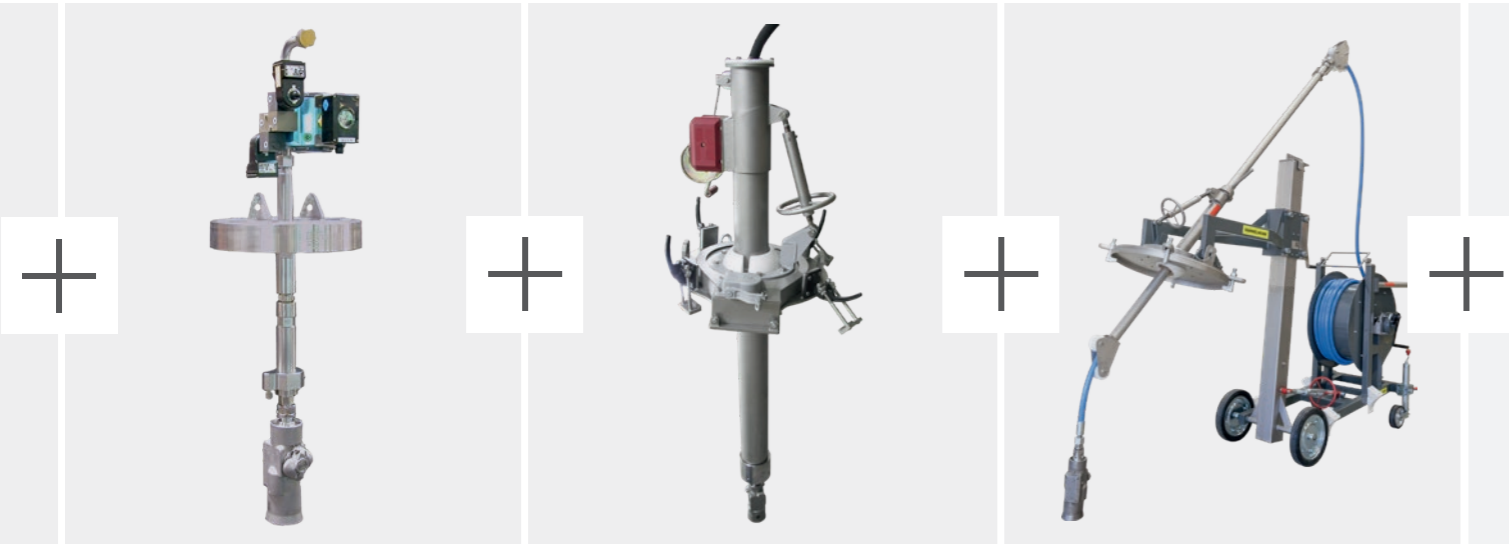
Model	Nozzle holder type	Operating pressure	Flow rate	Min. pipe Ø
L 1500 Plus	18 mm S-type, 2 nozzles	up to 1500 bar	up to 300 l/min.	200 mm
XL 1600 Plus	35 mm S-type, 2 nozzles	up to 1600 bar	up to 450 l/min.	320 mm
XXL 1600 Plus	13 mm S-type, 2 nozzles	up to 1600 bar	up to 700 l/min.	470 mm

AQUAREX® TAILOR-MADE TANK CLEANING DEVICES

Hammelmann's highly customized tank cleaning devices are tailor-made to perfectly clean the inside of even the most unique tanks and vessels.



HERE ARE A FEW EXAMPLES OF TAILOR-MADE AQUAREX® TANK CLEANING DEVICES



LANCE SYSTEM

With integrated ball valve for permanent installation. The automatic tank cleaning unit remains in the vessel during production.

TELESCOPIC LANCE SYSTEM

The lance is attached onto a manhole. It can be manually rotated, swivelled, retracted and extended. It is pulled out by its own weight.

LANCE HOSE SYSTEM

The lance is positioned over the manhole by the mobile chassis. The lance can be manually rotated, swivelled, retracted and extended.



GAS-TIGHT LANCE SYSTEM

Four-stage telescopic lance driven by high pressure water. The cleaning device is controlled and monitored by a freely programmable PLC.



HOSE REEL SYSTEM WITH WEATHERPROOF CABINET

The cleaning positions are freely programmable and controlled by the process plant controller.



GAS-TIGHT HOSE REEL SYSTEM

The system is controlled by PLC with a frequency converter for the reel electric motor.



CLOSE TO UNLIMITED POSSIBILITIES!



AQUAREX® tank cleaning devices are individually developed and manufactured based on your unique requirements. Give us a call or send us an e-mail and we will work with you to find a system that is tailored to meet your challenges!

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

You can find many other examples online at www.hammelmann.com



3

**CLEANING OF HEAT EXCHANGERS,
PIPES, AND LINES**

EFFECTIVE CLEANING OF HEAT EXCHANGERS AND TUBE BUNDLES

Cleaning heat exchangers and tube bundles is a regular task in many industries. High quality standards require intensive, thorough and reliable cleaning of all components. Downtimes must be kept as short as possible and the workload kept to a minimum. Hammelmann offers a variety of automatic, semi-automatic or manual product solutions for cleaning heat exchangers.





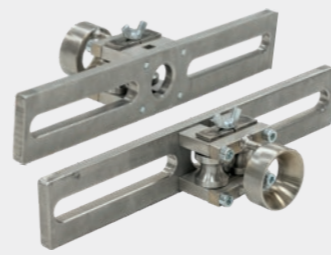
HOSE CATCHER SAFETY DEVICE

The hose catcher is installed as a protective measure when cleaning the inside of tube bundles (heat exchangers) especially when cleaning is carried out using flexible high-pressure lances (high-pressure hoses). The device serves as a safety and positioning device for the high-pressure lances. The lance and nozzle are secured in a protective funnel and stopped by a barrier in case of recoil or other unforeseen circumstances.

GREAT CUSTOMIZATION OPTIONS AND FLEXIBILITY

- Universal hose fixture for a wide range of water tools
- Versatile boom with a long reach
- Reliably secure various working positions
- Safe, precise operation and a clear view thanks to sleek design

MANY COMPONENTS FOR VARIOUS TUBE AND TUBE BUNDLE CONFIGURATIONS



FIND THE PERFECT SECURITY DEVICE FOR YOUR JOB

Adjustable rollers for a wide range of hose diameters and an angle adapter ensure maximum flexibility. Adapt the device to all your available pipe diameters, whether large or small, you can secure everything with a single system.





MASTERJET FLANGE CLEANER

The flange cleaner for use with rotor jets makes work safety and quality a simple and repeatable task when cleaning flanges. With the adjustable centering bar and the exchangeable high-pressure water tool, the system can be ideally adapted to the cleaning task without great effort.

- **HIGH WORK SAFETY THROUGH REMOTE CONTROL**
- **MATERIAL-FRIENDLY DEEP CLEANING OF THE FLANGE GROOVE PROFILE**
- **RECOIL FORCES ARE FULLY ABSORBED**

BENEFITS

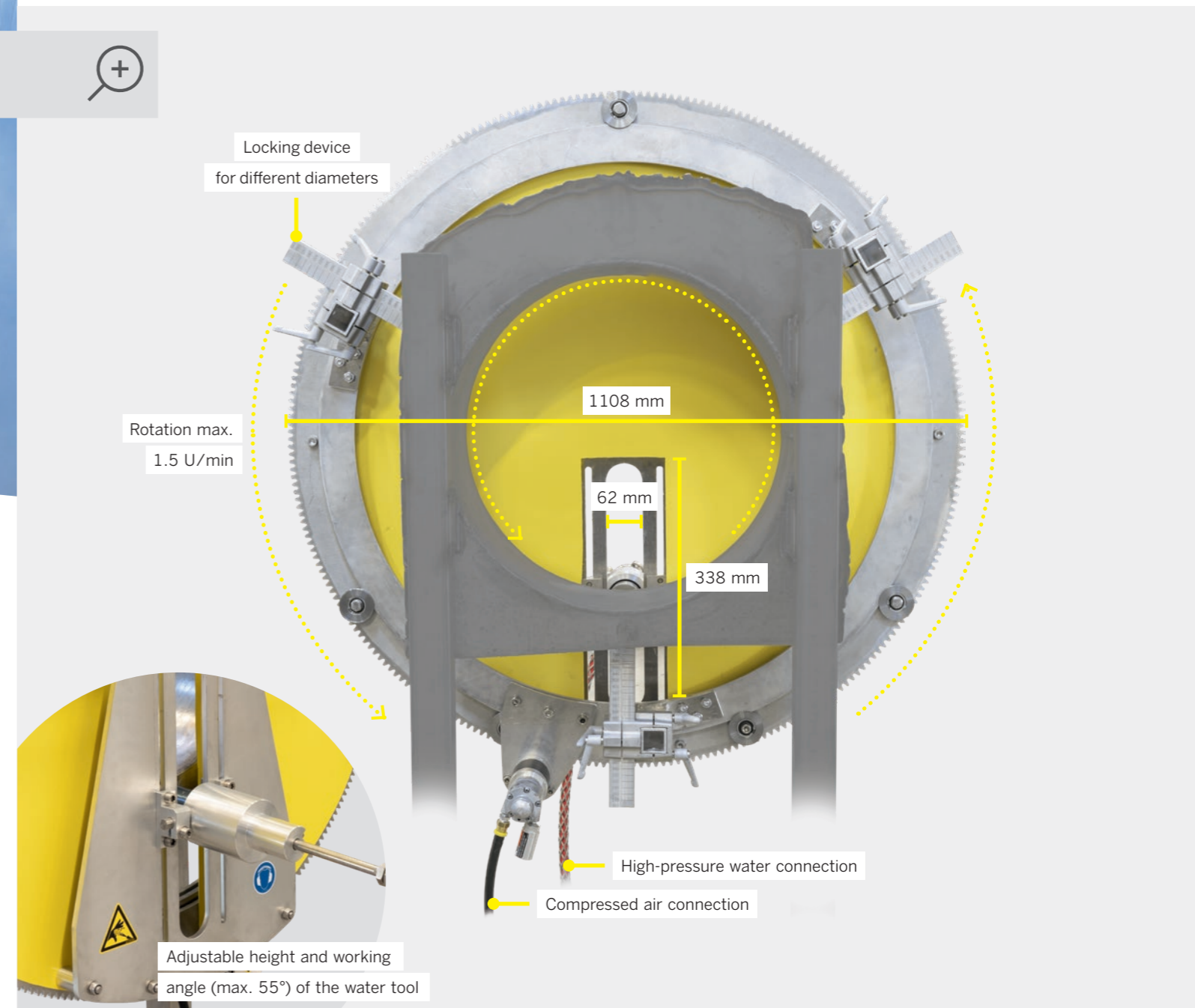
- High safety standard thanks to completely pressure-resistant hoses and lances up to 3200 bar
- There is no danger to the operator as the cleaning process can be controlled from a safe distance
- High-pressure hose is connected via rotary joint
- Replacement of manual work on site with a low installation height
- Light-weight due to high number of aluminum parts
- Easy alignment thanks to centering bar with mm scales matching suitable pipe diameters
- Working angle and height adjustable via quick release lever
- Many areas of application on heat exchangers and pipes

TECHNICAL DATA

Operating pressure depending on high-pressure hose	Flow rate	Hose connection	Connection thread for the water tool
up to 3200 bar	up to 30 l/min	M 14 x 1.5 LH	M 14 x 1.5 LH

AREAS OF APPLICATION

Mounted on the pipe, the adjustable working position and the rotary-drive by compressed air offer many areas of application on the pipe flange and sockets to ensure the thorough cleaning of material. The flange cleaner with a rotor jet is also suitable for polished high-pressure flanges, as the consistent working position ensures a safe distance from the flange.





ROTOR JETS FOR PIPE CLEANING

For different pipe diameters and even the most severe contamination, Hammelmann offers a large selection of tried and tested rotor jets for pipes and pipe bundles.

- SUITABLE FOR USE WITH MECHANICALLY DRIVEN CLEANING DEVICES
- STAINLESS STEEL HOUSING
- BUILT-IN EDDY CURRENT BRAKE AND COOLING JACKET IN DUST-PROOF ENCLOSURE
- WEAR-RESISTANT ROTARY CONNECTION WITH LABYRINTH SEAL
- AXIAL NOZZLE ARRANGEMENT. A RADIAL NOZZLE ARRANGEMENT IS POSSIBLE SPECIALLY FOR PIPE CLEANING
- PROTECTIVE COVER AVAILABLE AS AN OPTION



PROVEN SEALING SYSTEM

The sealing systems of our Masterjet Pipe variants are in no way inferior to those of the surface variants; the compacts are also available in two sealing system versions and offer impressive performance and service life. The Compacts are larger than Turbojet nozzles, but much smaller than the Masterjet Pipes, and are also kept at the perfect rotation speed by an eddy current brake.

TECHNICAL DETAILS

Ø Rotor jet	Length	Operating pressure	Flow rate
53 mm	186 mm	up to 1000 bar	up to 60 l/min
58 mm	238 mm	up to 1600 bar	up to 200 l/min
78 mm	170 mm	up to 1600 bar	up to 50 l/min
	170 mm	up to 2500 bar	up to 32 l/min
58 mm	174 mm	up to 3200 bar	up to 50 l/min
128 mm	303 mm	up to 1500 bar	up to 120 l/min
	247 mm	up to 3000 bar	up to 60 l/min
130 mm	418 mm	up to 1500 bar	up to 200 l/min
166 mm	635 mm	up to 1600 bar	up to 400 l/min

MASTERJET COMPACT PIPE

Rotor jets convert the high effectiveness of round jet nozzles into area performance through rotating nozzle heads. Various nozzle configurations and adjustable speeds open up many possibilities for pipe cleaning. The lightweight and compact design also enables work in areas that are difficult to access.

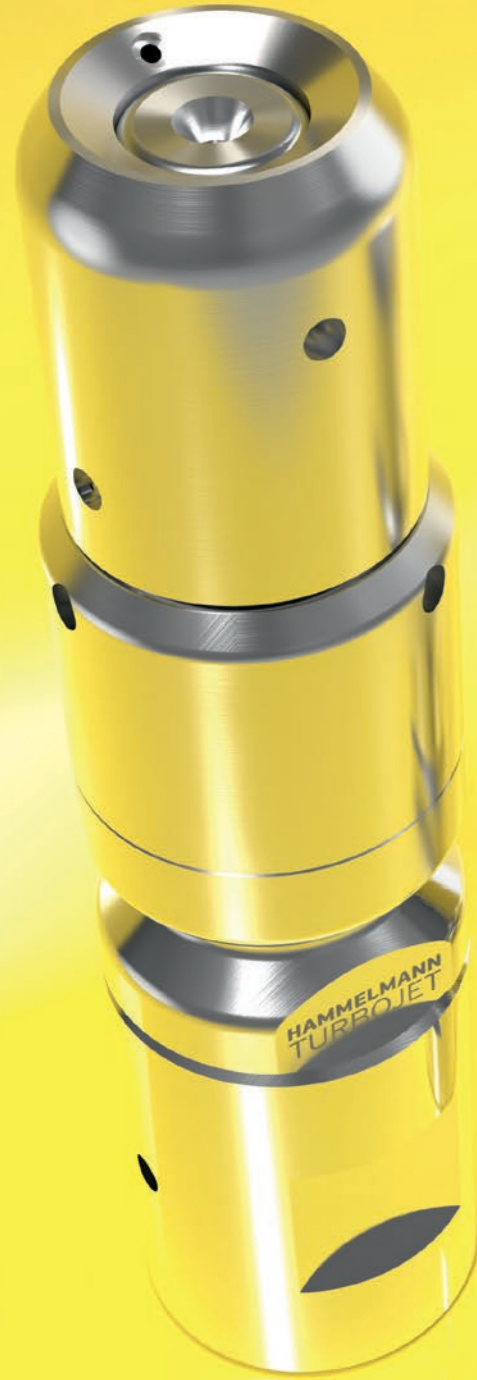


MASTERJET Compact Pipe is the bridge between the MASTERJET Pipe for large pipes and the Turbojet nozzles for pipe bundles.

Various high-pressure nozzle holders give you the option of either only cleaning the inner walls of the pipes (1) or also removing blockages (2).

Ø Rotor jet	Length	Operating pressures	Flow rated
36 mm	186 mm	up to 3200 bar	up to 50 l/min

TURBOJET TURBO NOZZLES



- 


OUTSTANDING PERFORMANCE

Innovative nozzle arrangement with a powerful clearing nozzle.
- 


HIGH ENERGY EFFICIENCY

Thanks to the optimal, internal flow design, the entire pump performance is utilized.
- 


LONG SERVICE LIFE

The Turbojet's patented sealing system is designed from the ground up for a long service life.
- 


VERSATILE

Many configuration options guarantee the optimal design for a wide range of applications.
- 

CONSISTENT SPEED

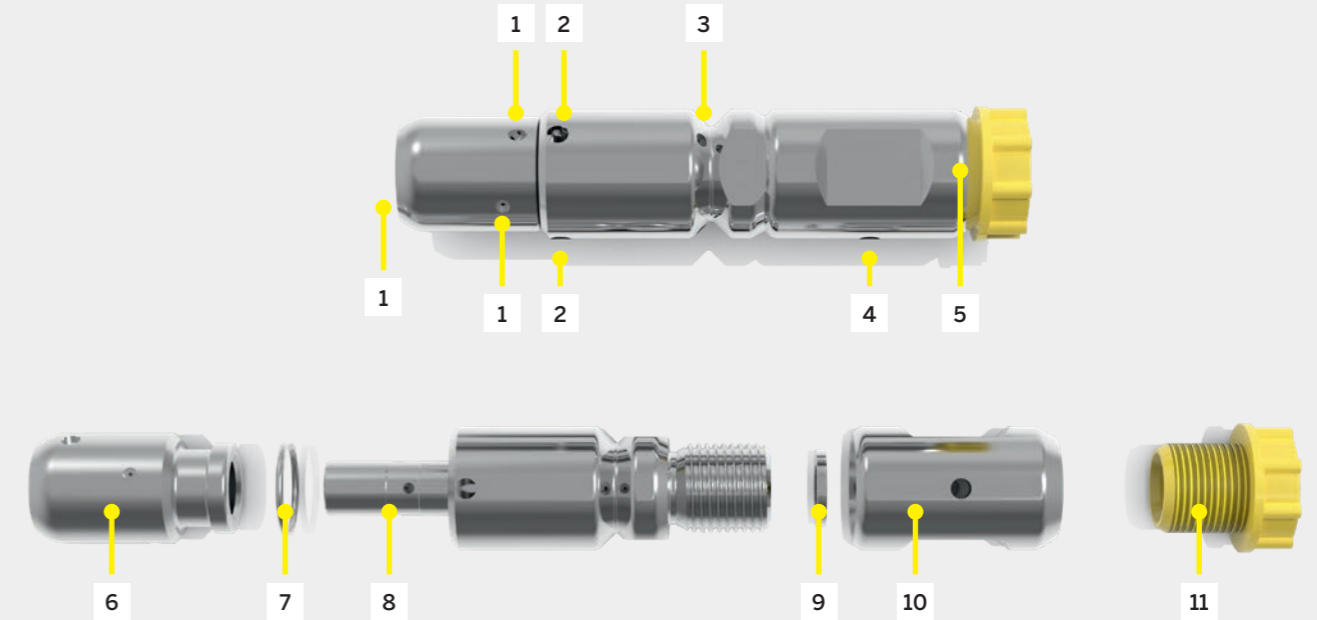
Constant speed for streak-free and thorough cleaning results.
- 

GREAT WORKING ERGONOMICS

Compact design, low vibration, and low weight (~ 0.13 kg).
- 

3-MODULE SYSTEM

The three-part structure impresses with its service-friendly design and high level of configurability.



THE DESIGN OF THE TURBOJET

The Turbojet is easy to maintain and consists of just a few parts that can be easily separated from each other.

- 1 Clearing nozzle
- 5 Connection thread
- 9 Sealing ring
- 2 Dismantling holes
- 6 Rotor head
- 10 Connection sleeve
- 3 Drive nozzles
- 7 Round wire snap ring
- 11 Protective plug
- 4 Relief bore
- 8 Carrier

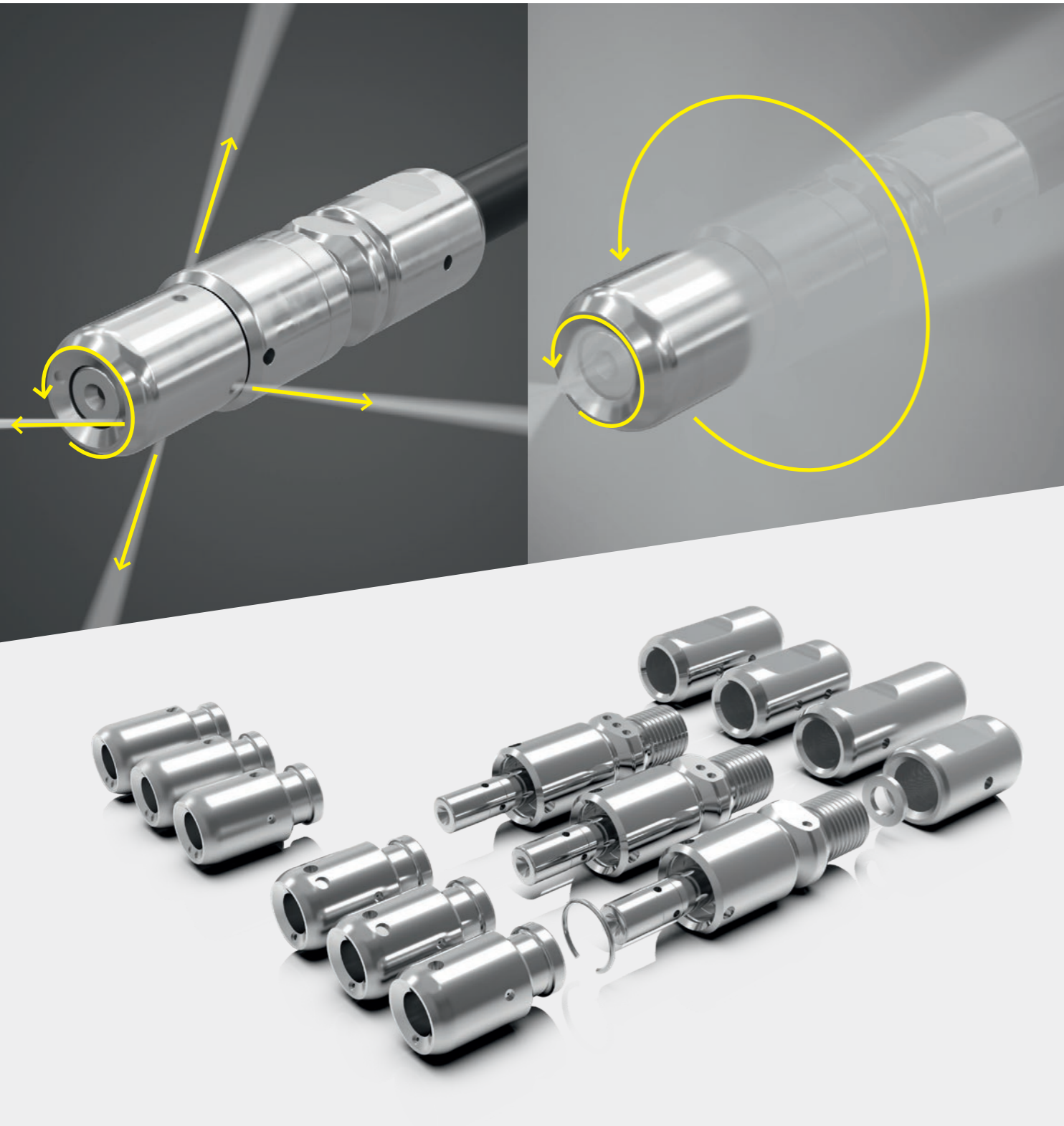
TECHNICAL DATA

	Turbojet	
	DN 13,5	DN 19
Recommended operating pressure	800 - 1650 bar	800 - 1650 bar
Flow rate	17 - 40 l/min	17 - 45 l/min
Suitable for inner pipe diameter	15 - 24 mm	22 - 34 mm
Standard connection thread*	G 1/8	G 1/4
Thread position	inside	inside
Nominal diameter DN	3,2 mm	5 mm
Max. diameter	13,5 mm	19 mm
Length	60 mm	77 mm
Weight	0,06 kg	0,13 kg

* Optional threaded connection sleeves: DN 13.5: 1/8 NPT, M8, M10x1, 3/8 - 24 UNC • DN 19: 1/4 - 18 NPT, M14x1.5 - LH, M10x1, 9/16 - 18 UNC

CLEAN RELIABLY

The basic principle of the Turbojet series is always the same: each nozzle setup consists of three components, the combination of which determines the operating pressure, cleaning intensity, thrust force, and - via the connecting sleeve - thread type.



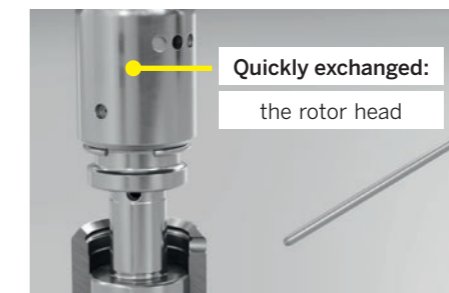
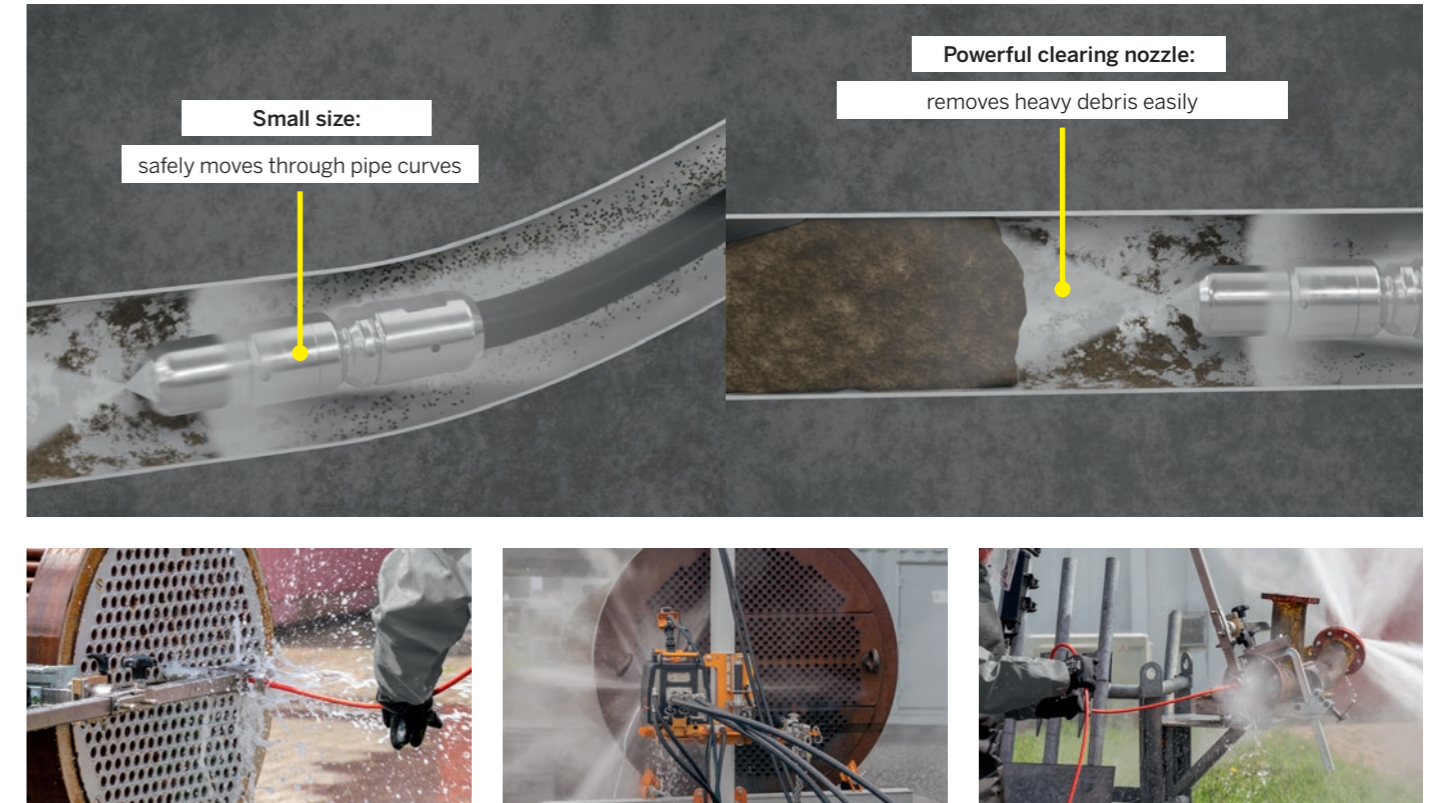
COMBINE ALL AVAILABLE CLEANING HEADS, THRUST NOZZLES AND CONNECTION ADAPTERS

Intensive pipe cleaning, thanks to the evenly rotating head, is carried out by the recoil force of the nozzles. Adapt the cleaning pattern precisely to your applications using the many possible combinations of the three modules.

Do you want a strong boost, do you want intensive cleaning performance, or do you want to use as little water as possible to dispose of less contaminated wastewater? You have the choice.

ADVANTAGES AT A GLANCE

The powerful clearing nozzle cleans even severe blockages easily and reliably. The small size makes it easy for the turbojet to go through slight pipe curves. The constant speed leads to streak-free, homogeneous removal results.



QUICKLY ADAPT TO YOUR USE CASE

Whether on-site requirements change or you want to run a test with different heads to figure out the best set-up: Simply replace your rotor head on site and adapt the work result to your requirements. The swap is quick and easy, using a simple tool.

The other modules can be opened with open-end wrenches and changed easily, giving you full control over the three product properties - operating pressure, cleaning intensity, and thrust force - to achieve perfect work results.

The alternative connection sleeves allow you to create a reliable connection to your high-pressure hose. Many alternative connection threads are available.

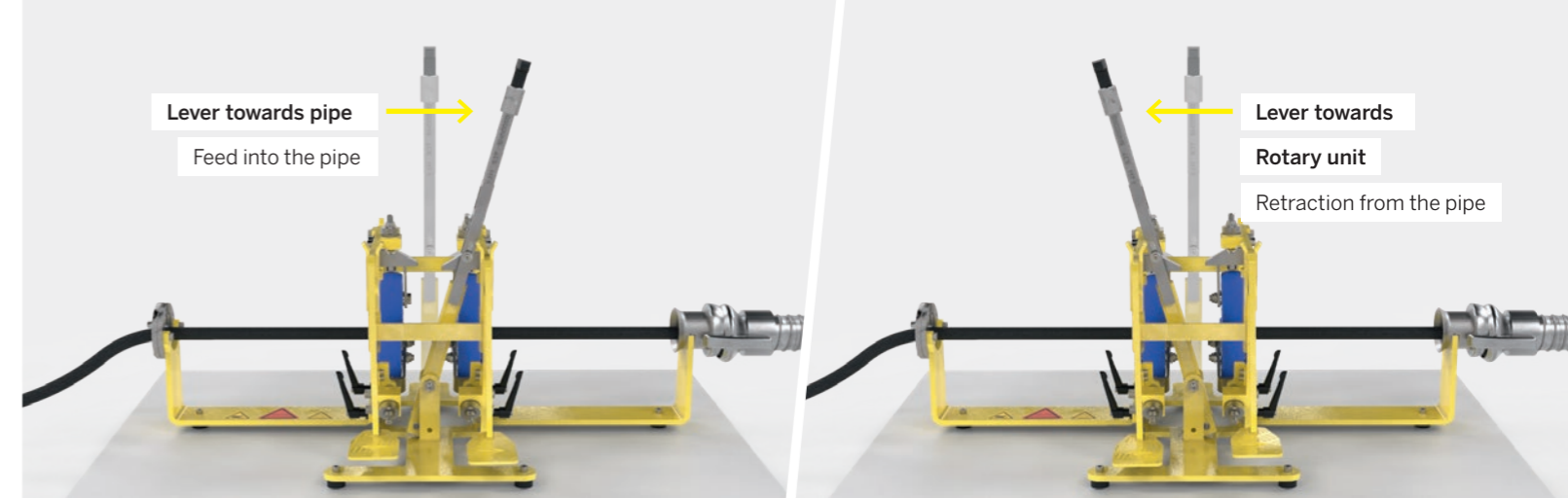
PIPEMASTER PIPE CLEANING SYSTEM

The PIPEMASTER is a manually operated rotating unit for high-pressure hoses. It is used in combination with cleaning nozzles to remove both soft and particularly hard deposits in straight or bent pipes and pipelines. As an alternative to self-rotating cleaning nozzles, rotation is achieved by the rotary motion of the high-pressure hose. Due to the low rotational speeds of the high-pressure hose, particularly hard deposits can be removed. The device can be handled easily and safely.



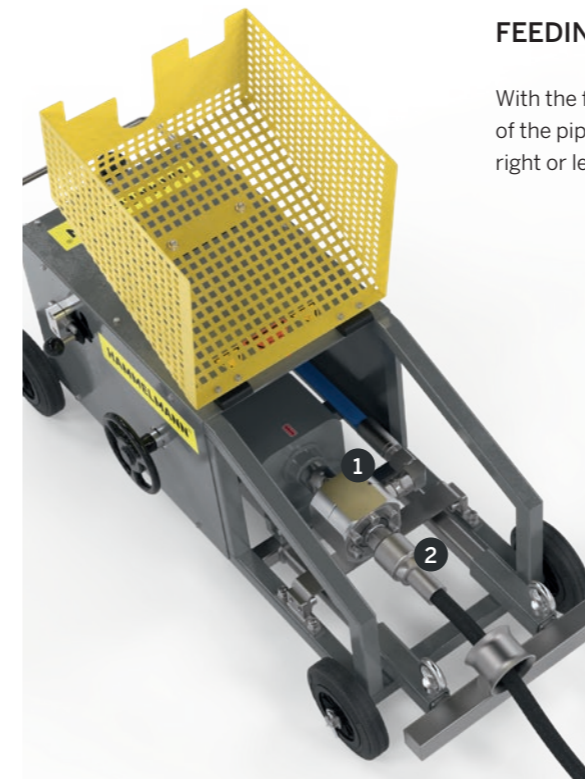
Model	Operating pressure	Weight	Pipe diameter	Air pressure
PIPEMASTER DN 8	up to 3200 bar	8 mm	80 – 300 mm	5 – 7 bar
PIPEMASTER DN 12	up to 1100 bar	12 mm		
PIPEMASTER DN 20	up to 1600 bar	20 mm		

Motor power: 0,4 - 2,5 kW. Air pressure consumption at max. motor power: 47 - 195 m³/h.



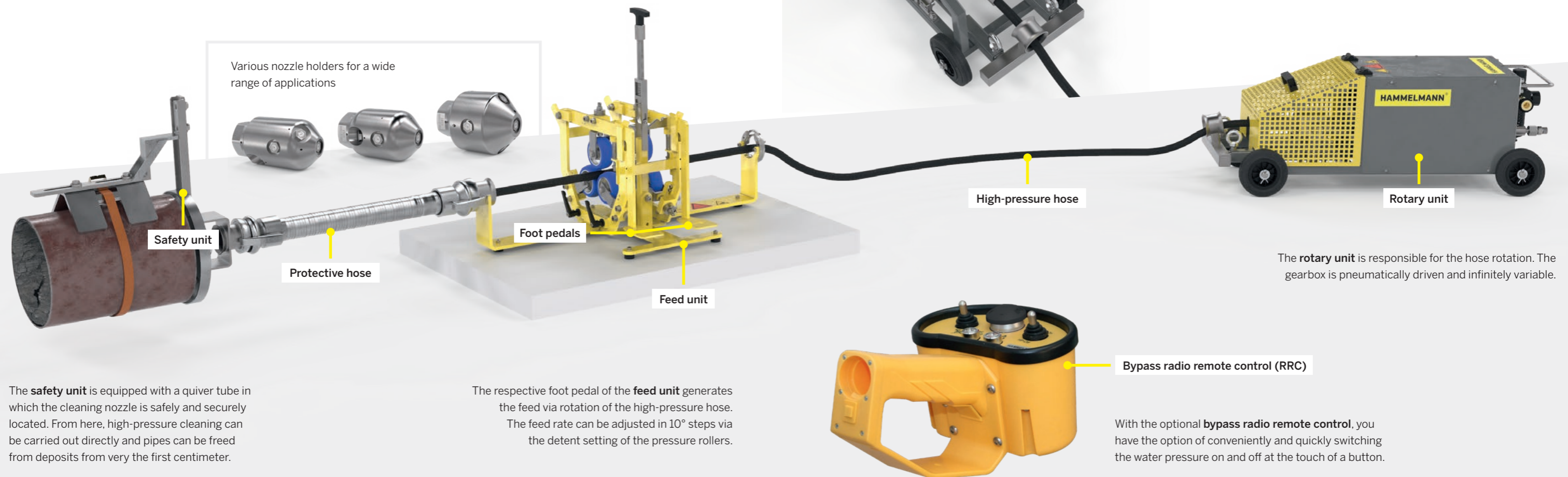
FEEDING AND RETRACTING THE HIGH-PRESSURE HOSE

With the feed unit, the rotating high-pressure hose can be easily moved into and out of the pipe. To do this, the lever must be adjusted from the neutral position to the right or left accordingly. This is done quickly and easily during operation.



ROTARY CONNECTION AND ROTARY JOINT

The **rotating connection** ① is safely located under the protective hood. The rotating connection is available as DN8, DN12 and DN20 version and offers operating pressures up to 3200 bar. For maximum safety, a **rotary joint** ② prevents the hose from running over the residue in the pipeline and being damaged in the event of a pump failure. The rotary joint only allows the hose to rotate above 300 bar. The hose is only set into rotation when sufficient water pressure is switched on.



The **safety unit** is equipped with a quiver tube in which the cleaning nozzle is safely and securely located. From here, high-pressure cleaning can be carried out directly and pipes can be freed from deposits from very the first centimeter.

The respective foot pedal of the **feed unit** generates the feed via rotation of the high-pressure hose. The feed rate can be adjusted in 10° steps via the detent setting of the pressure rollers.

The **rotary unit** is responsible for the hose rotation. The gearbox is pneumatically driven and infinitely variable.

Bypass radio remote control (RRC)

With the optional **bypass radio remote control**, you have the option of conveniently and quickly switching the water pressure on and off at the touch of a button.

MOBILE CLEANING SYSTEMS AND CONTAINERS

MOBILE CLEANING SYSTEMS AND CONTAINERS

Mobile cleaning systems combine the proven power of Hammelmann products with the unique flexibility of being able to use them anywhere. Sometimes it may be necessary to clean tanks, containers or components directly on the construction site to save time and money. Hammelmann offers various mobile cleaning systems and containers for this application.



**JETMATE - MOBILE
CLEANING CONTAINER**

page 60



**MOBILE CLEANING
CONTAINER FOR ASF
AND ASP CONTAINERS**

page 62



JETMATE - MOBILE CLEANING CONTAINER

The mobile JETMATE is an ergonomic, free-floating work aid that is installed in a container and driven to the construction site on a carrier vehicle. The components placed in the container can be cleaned from all sides. The wastewater drains directly through the grid floor. The mobile JETMATE container enables recoil-free work throughout the entire cleaning process, is easy to handle and ensures increased work safety - directly on site!

- ABSORPTION OF RECOIL FORCES
- FATIGUE-FREE WORK
- MOBILE DESIGN
- WORK DIRECTLY ON SITE

ADVANTAGES AT A GLANCE

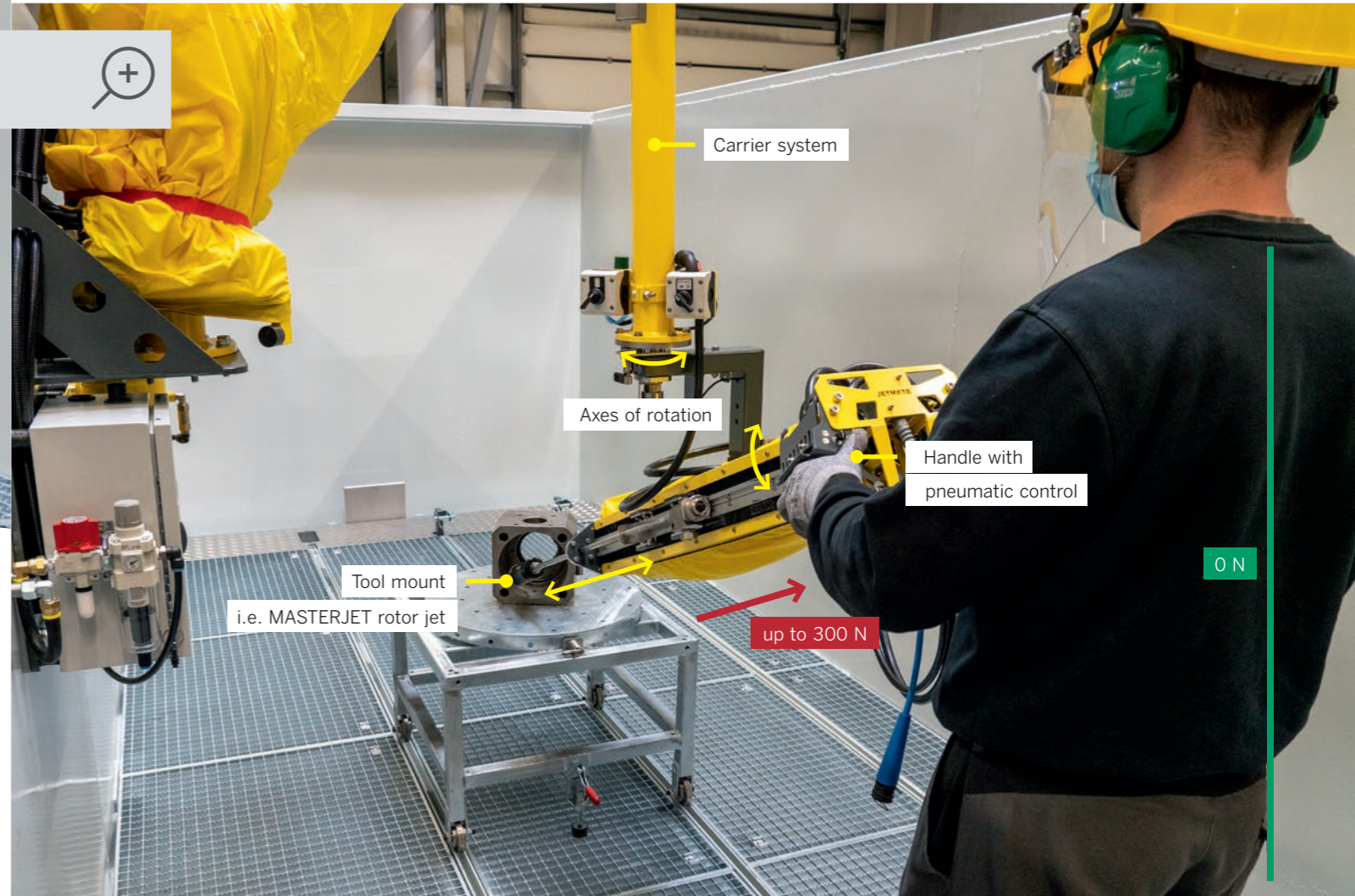
- High freedom of movement due to two freely movable rotary axes and one pneumatically driven linear axis
- Fatigue-free and safe work, even with the highest recoil forces (300 N)
- Low effort required for operation due to floating bearing of lance and tool
- Variable use thanks to high mobility
- Flexible application options - suitable for cleaning of a wide range of components



The JETMATE container is ready for use at the construction site within a few minutes.

SIMPLY SAFE

Simple handling and increased occupational safety – these are the demands seen in the modern working environment. We are able to meet these requirements thanks to the continuous, practical development of our high-pressure systems. Ease of use and safety are always Hammelmann's first priority.



SAFE WITH LOW IMPACT ON THE BODY THANKS TO RECOIL-FREE OPERATION

The recoil forces are absorbed by the holding device. An additional partition for the interior of the container is available.





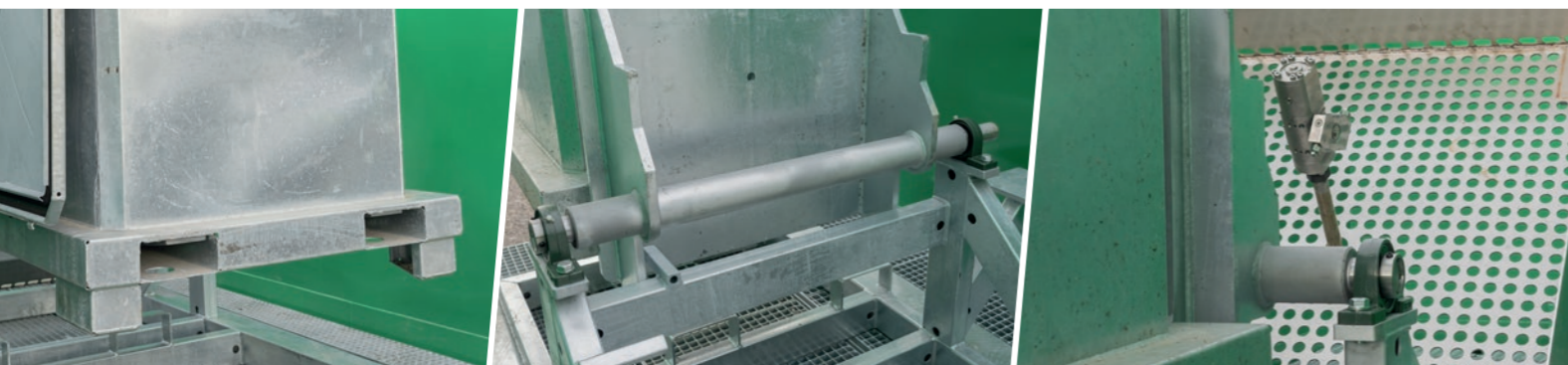
MOBILE CLEANING CONTAINER FOR ASF AND ASP CONTAINERS

The basis of this mobile cleaning container is a 36 m³ hook lift container according to DIN 30722 with an integrated collecting tray to collect and transport cleaned solids and pollutants from ASF and ASP containers directly on site. The cleaned containers remain in the area of use and can be used again immediately after cleaning. That saves time and money!

- QUICK CLEANING THANKS TO FAST INSTALLATION AND REMOVAL
- 4.5 M³ STAINLESS STEEL COLLECTION TRAY, WELDED TO THE CONTAINER
- CENTRALLY MOUNTED TANK CLEANING DEVICE, HEIGHT ADJUSTABLE, WITH 1500 BAR AND UP TO 250 L/MIN.

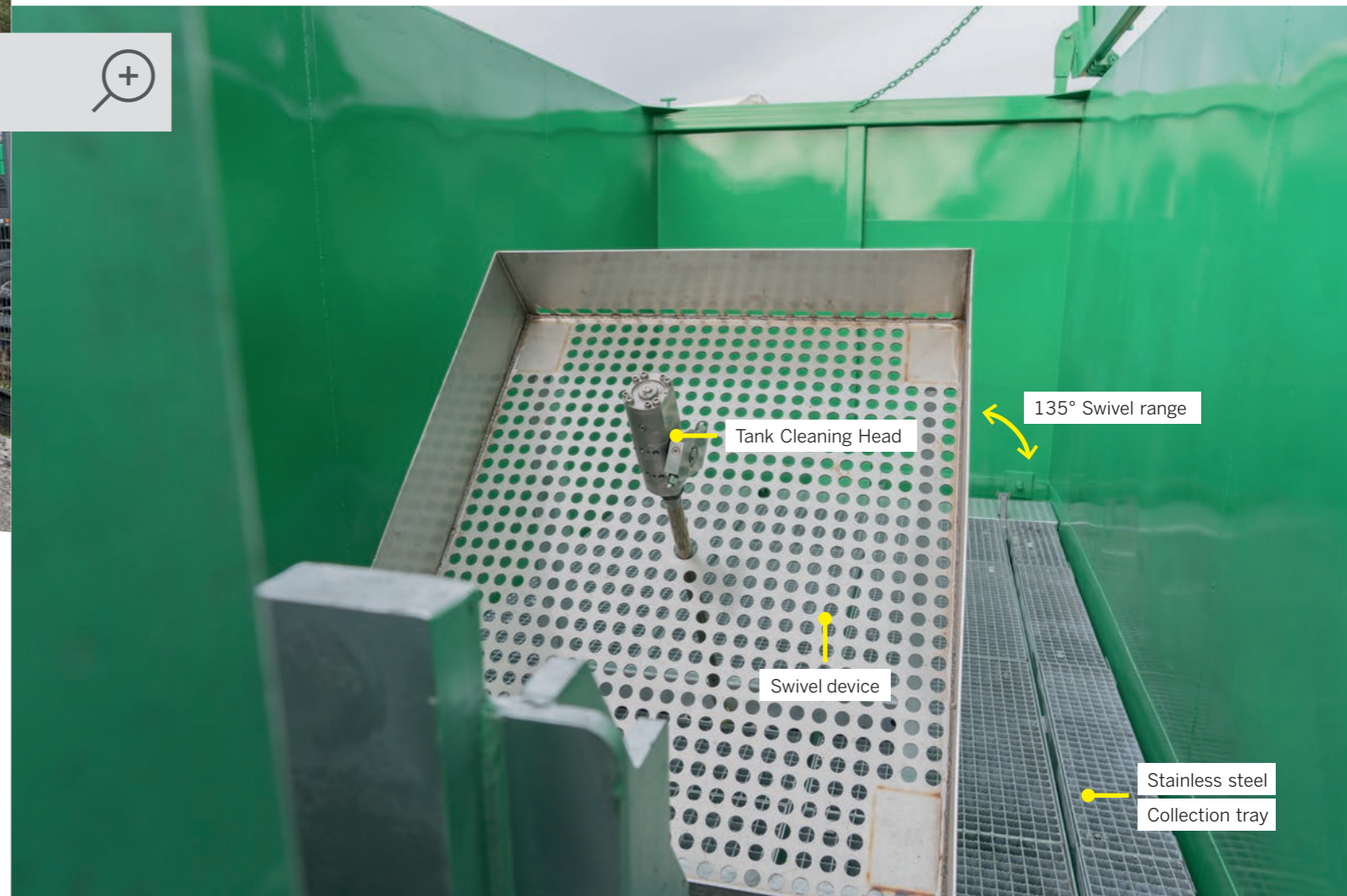
QUICK CLEANING

The galvanized swivel device is equipped with a forklift mount. This enables quick installation and removal of ASF and ASP containers to guarantee high cleaning volume in just a few steps.



AREA OF APPLICATION

The mobile cleaning container can be set up quickly and easily at the desired location. This makes it possible to clean ASF and ASP containers directly on site. There is no need to transport contaminated containers. Thanks to the integrated collection tray, containers can be quickly cleaned and reused. The mobile cleaning container is then simply transported away from the site of use.



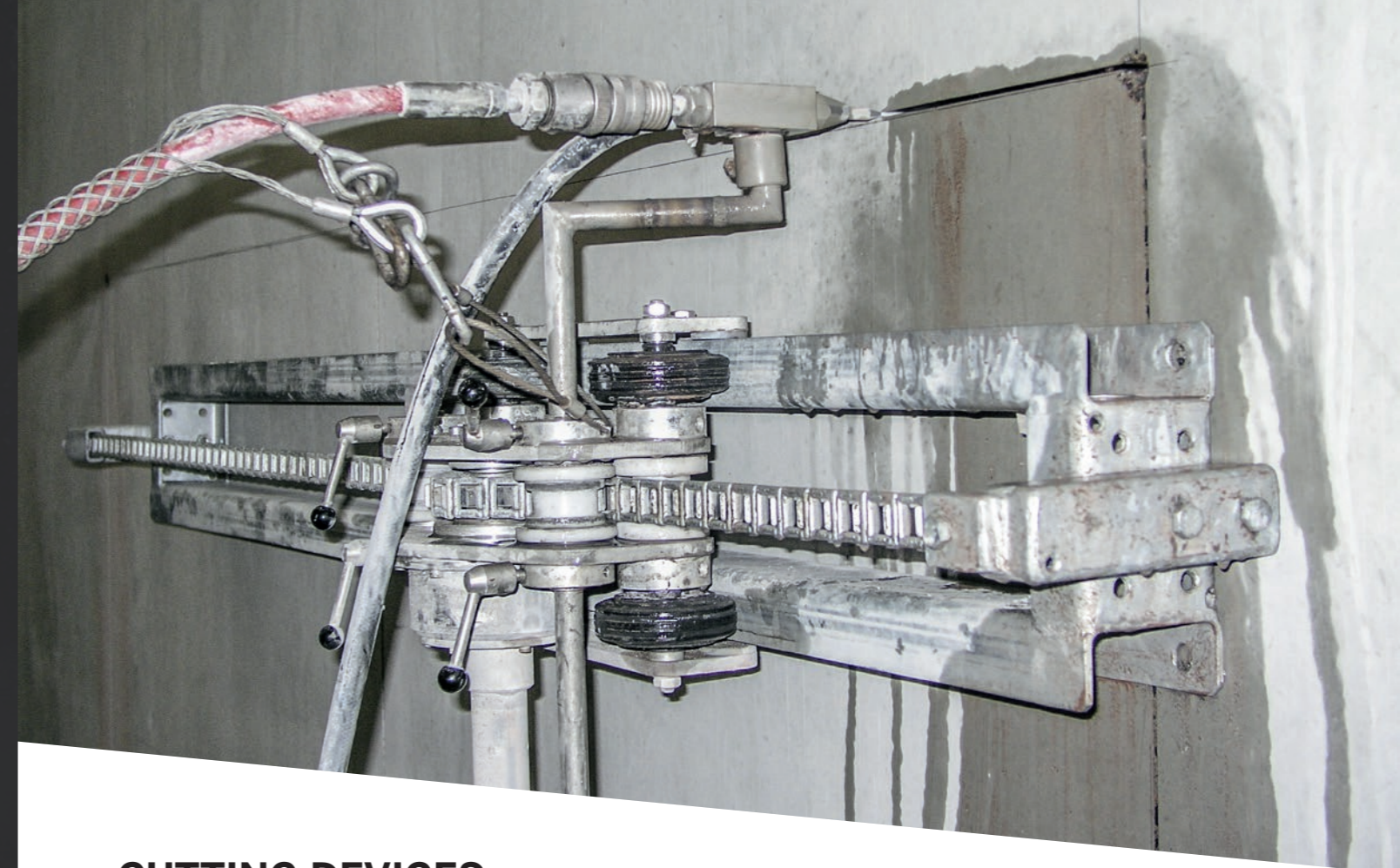
MAXIMUM SECURITY, DIRECTLY ON SITE

The swivel device in the container is secured so that it is not possible to enter the system during high-pressure operation! In addition, high pressure can only be engaged if a container is placed on the swivel device and completely covers the tank cleaning unit. In addition, the stainless steel holder for the containers offers protection from water jets emerging from the sides and serves as a dirt trap for large waste items.

ENVIRONMENTALLY FRIENDLY AND ECONOMICAL

The solids and toxins removed are safely collected in the collecting tray. The construction of the container does not release anything into the environment. In addition, the cleaning water can be easily extracted, processed and reused without any solids. The structure enables a rough separation of solids and the skimming of substances that float on the wastewater.

MOBILE WATER JET CUTTING



CUTTING DEVICES AND NOZZLES

Materials that are difficult to cut require the use of a water jetting nozzle with an abrasive entrainment chamber. A high pressure water nozzle inside the assembly creates a water jet. This pressurised water jet travels through the entrainment chamber at high speed to a focusing nozzle dragging the air in the chamber with it and creating a vacuum. Abrasive material is fed into the side of the chamber under air pressure. The abrasive particles are sucked into the air around the water jet and accelerated into the water stream to emit from the focusing nozzle.



GUIDE RAIL

For horizontal cuts, the link chain is attached to a 2 m long guide rail.

CARRIER TROLLEY

The carrier trolley speed is manually controlled by a pneumatic system. Cutting speed and positioning speed are individually controlled.

FEED UNIT

The abrasive entrainment nozzle assembly is mounted on a pneumatically driven carrier trolley which runs on a tensioned guide chain allowing a constant traverse speed to be achieved.

4

PUMPS
AND UNITS



THE AQUAJET® HIGH-PRESSURE PUMP UNIT

The heart of the AQUAJET® 140 series is an HDP 140 3-plunger high-pressure pump. The unit is driven by a sturdy industrial diesel engine from established manufacturers. The well thought-out system brings innumerable advantages and is available in different versions and performance classes. Find the right system for your individual applications!



HIGH ENERGY SAVINGS

The AQUAJET® ultra high-pressure pump converts 95% of the shaft power into hydraulic energy.



FULL CONTROL

All important operating data is available at a glance. Easy operation, monitoring and nozzle calculation thanks to the innovative ES 4 control - intuitive and in many languages.



GREAT LONGEVITY

Long lifetime of all high-pressure components, optimal valve and sealing technology, use of top quality materials and precise series production with most modern machines.



HIGH MOBILITY

High-quality tandem chassis with overrun brake and completely galvanized chassis and optional four-point lifting eyes for optimal positioning of the system.



VARIOUS VERSIONS

AQUAJET® high-pressure pump units are available in a wide variety of designs and performance classes and are up to any challenge.



ADVANTAGES AT A GLANCE

All AQUAJET® high-pressure pump units are characterized by a variety of powerful features that make your everyday life easier:

- MORE ENVIRONMENTAL PROTECTION: FULL-AREA FLOOR TRAY PROTECTS AGAINST CONTAMINATION.
- OPERATIONAL SAFETY: NO PIPELINES AND FLEXIBLE CONNECTIONS BETWEEN THE FUEL FILLER CAP AND THE TANK.
- VERY GOOD GROUND CLEARANCE AND THE POSSIBILITY OF A 100 KM/H APPROVAL.
- GOOD ACCESSIBILITY THROUGH ENLARGED SIDE FLAPS AND REMOVABLE ROOF ELEMENT.
- EXCELLENT SOUND INSULATION.
- UNSURPASSED VALUE FOR MONEY.
- OPTIMIZED CENTER OF GRAVITY.

- REINFORCED PUMP FRAME AND FULLY GALVANIZED CHASSIS.
- INNOVATIVE ES 4 CONTROL.

The splash-proof and glare-free ES 4 control impresses with its large, high-resolution 10" touch display (1280 x 800 px), excellent clarity and intuitive operation!



ALSO AVAILABLE AS AN ELECTRIC UNIT

Our AQUAJET® pump units are also available in powerful, electric versions. Get in touch and we will find the right unit for your challenge.

ENERGY SAVINGS THROUGH HIGH EFFICIENCY

- **High efficiency**
Hammelmann high pressure pumps convert 95% of the shaft power into hydraulic energy.
- **Very smooth running** due to low speed at maximum performance.
- **Low diesel consumption** due to modern engines.

SAFE OPERATION

- **Everything under control!**
Monitoring, control and nozzle calculation via the Hammelmann ES 4 control unit. Intuitive navigation in many languages. All important operating data at a glance.
- **Easy set-up** due to easily accessible supply and high pressure connections.

THE ENDURANCE RUNNER IN TOP QUALITY

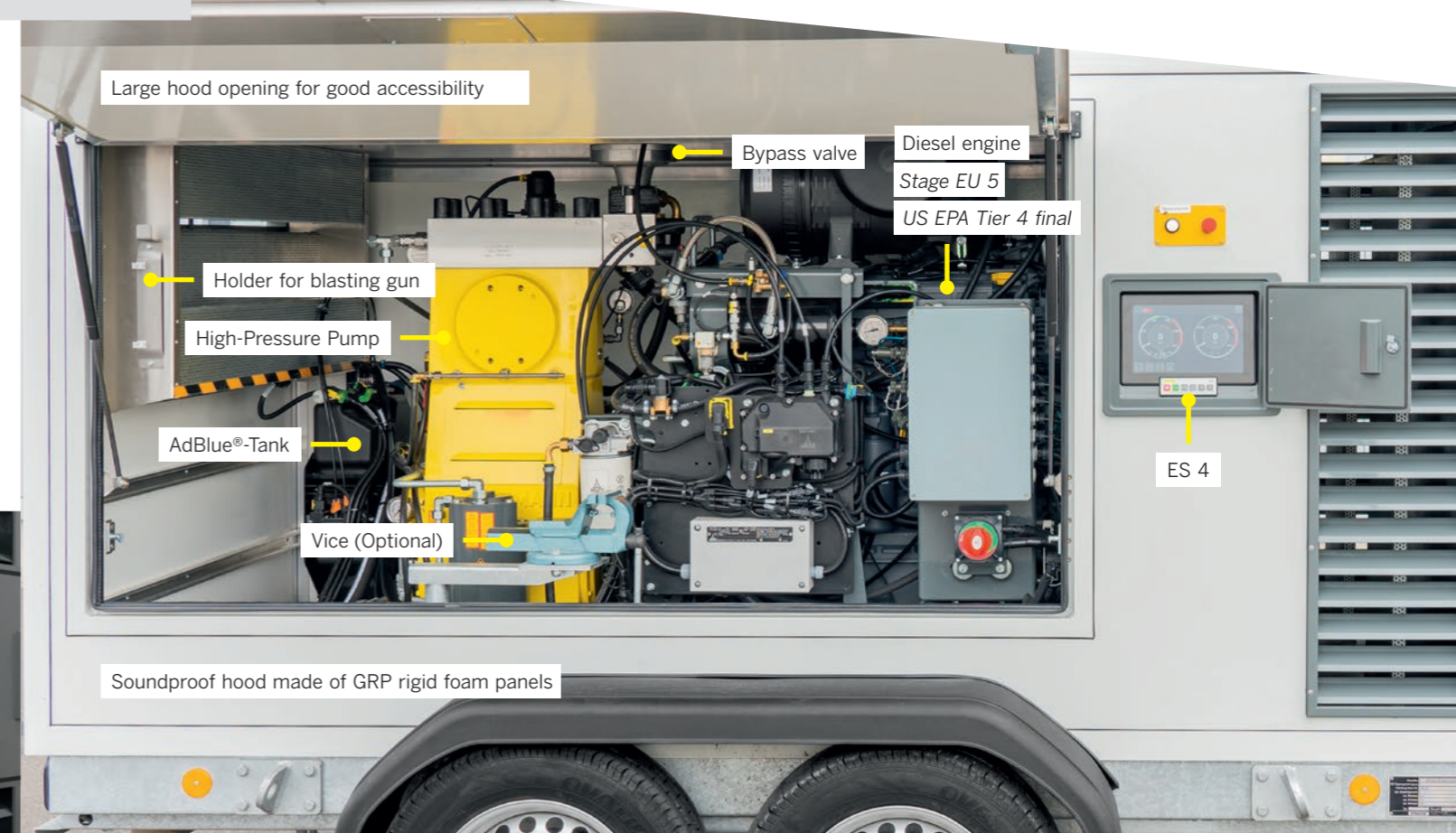
- **Long lifetime of all high-pressure components** due to optimal valve and sealing technology, use of top quality materials and precise series production with most modern machines.
- **Ideal corrosion protection** thanks to high-quality materials.
- **High operational reliability** and long maintenance intervals through the hermetical sealing of the gear end by a patented bellows sealing system.
- **„Dry pump design“:** thanks to the arrangement of all pressurized high pressure components inside the pump housing no water is wasted.
- **Significant operating cost advantage** thanks to the crank section with pressurized lubrication system which is designed for at least 25,000 operating hours under full load.
- **High reliability in continuous duty** due to the performance reserves of the high-pressure pump, drive engine and all components.

STURDY INDUSTRIAL ENGINE

- **Economical industrial engines** in accordance with the current exhaust emission certification stage 5.
- Ample power reserves in all versions.

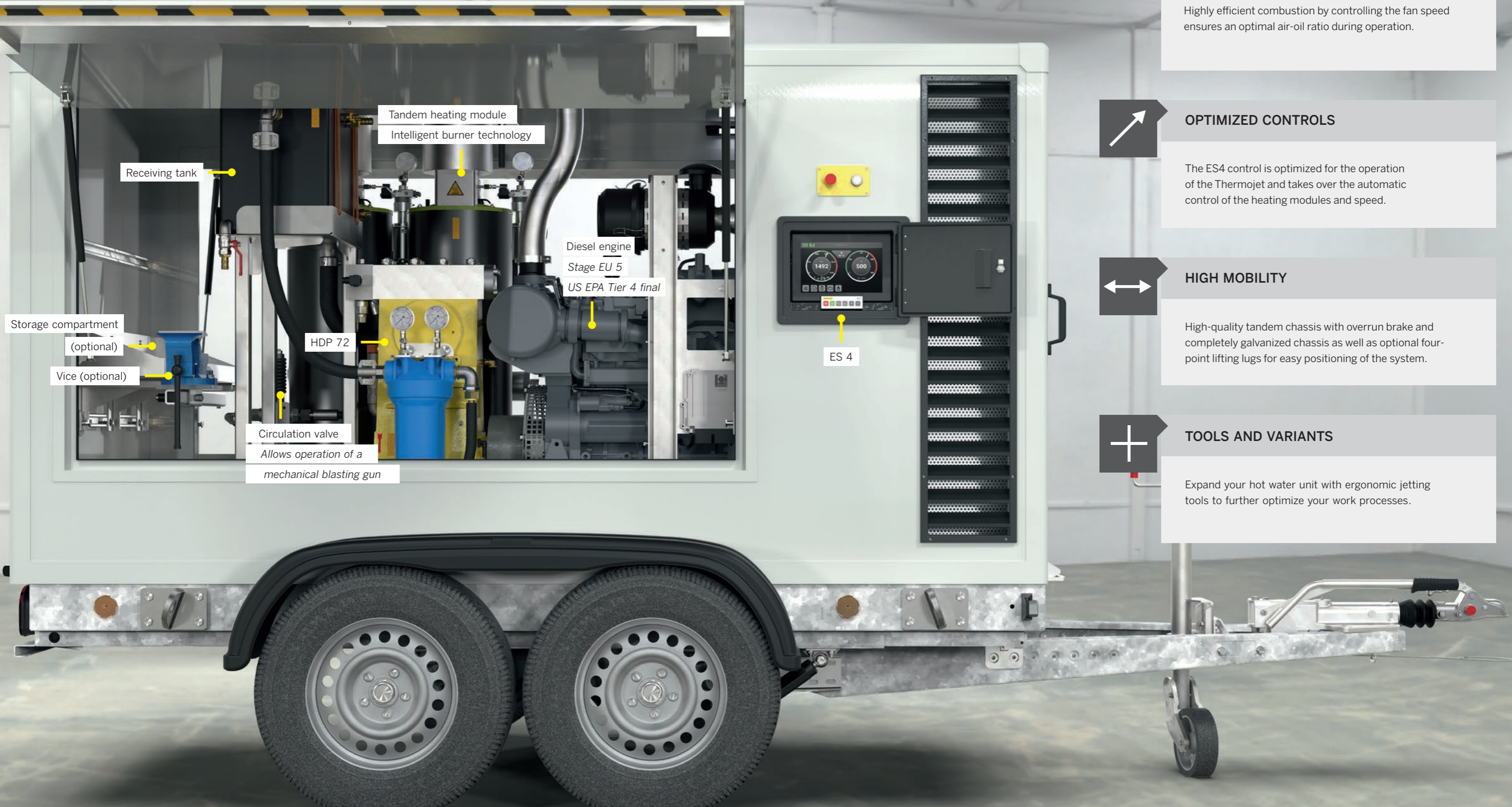
HIGH MOBILITY

- **Low noise pump unit** due to super soundproofing.
- **Environmentally safe operation** due to totally enclosed bottom tray made of aluminum.
- **Large fuel reserve.** Minimum of 8 hours operation possible due to the large internal fuel tank.
- **High quality tandem chassis** with overrun brake. Chassis is completely galvanized.
- **Easy to position** by means of 4 point lifting lugs or central single point lifting device (optional).
- **Very good ground clearance.**
- **100 km/h approval possible.**



THE THERMOJET HOT WATER UNIT

The THERMOJET hot water unit cleans debris with water temperatures of over 95 °C. Two heating modules, in conjunction with an HDP 72, ensure operating pressures of up to 500 bar and consistent water temperature. The Thermojet combines the extensive know-how from the development of the Aquajet® series with the special heating module.



Receiving tank

Tandem heating module
Intelligent burner technology

Storage compartment (optional)
Vice (optional)

HDP 72

Circulation valve
Allows operation of a mechanical blasting gun

Diesel engine
Stage EU 5
US EPA Tier 4 final



OPTIMIZED CLEANING EFFECTIVENESS

Hot water jet hits the surface at over 95 °C - well suited for removing oily residue and debris.



CLEVER AND INTUITIVE

Highly efficient combustion by controlling the fan speed ensures an optimal air-oil ratio during operation.



OPTIMIZED CONTROLS

The ES4 control is optimized for the operation of the Thermojet and takes over the automatic control of the heating modules and speed.



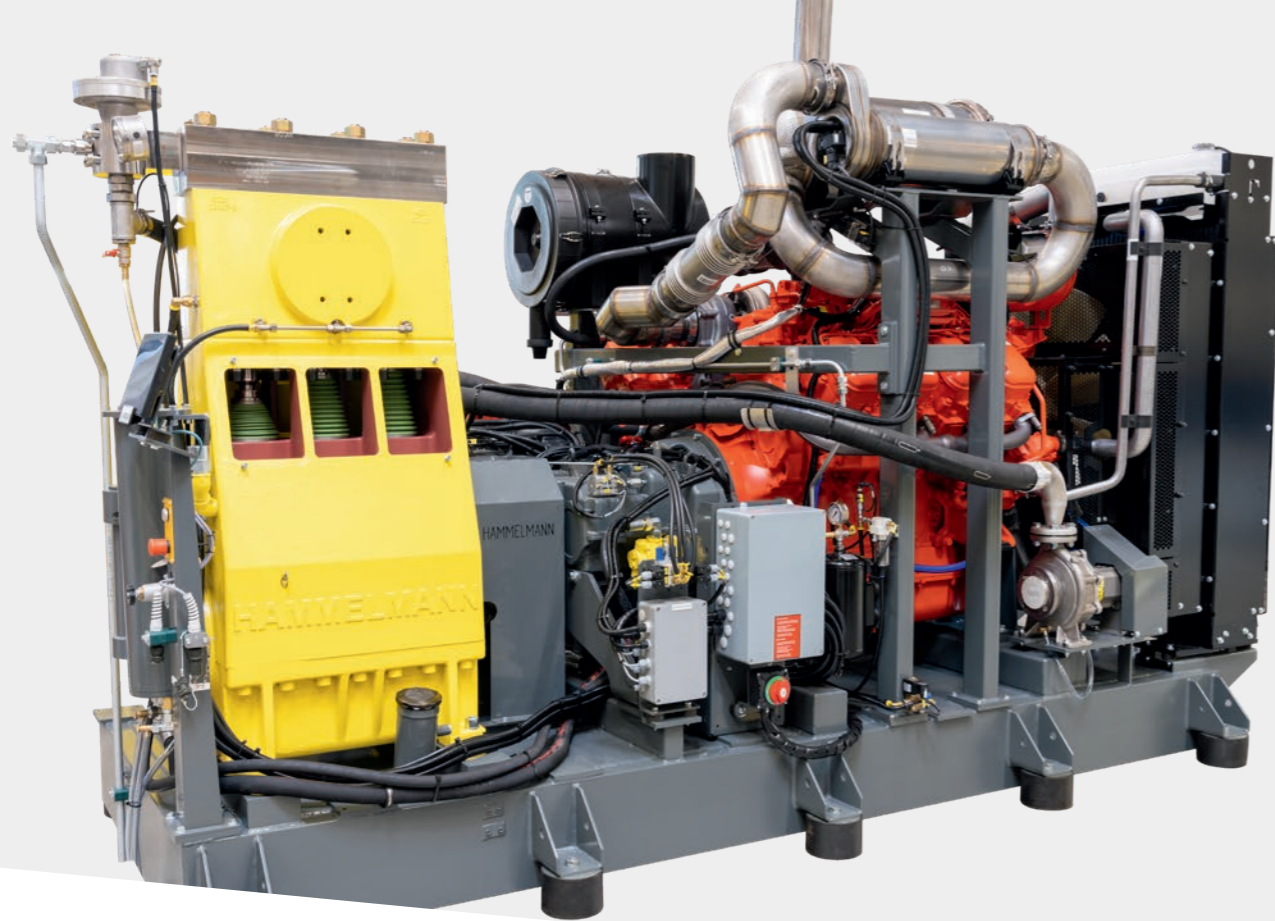
HIGH MOBILITY

High-quality tandem chassis with overrun brake and completely galvanized chassis as well as optional four-point lifting lugs for easy positioning of the system.



TOOLS AND VARIANTS

Expand your hot water unit with ergonomic jetting tools to further optimize your work processes.



HDP 500 DIESEL UNIT WITH 3-SPEED TRANSMISSION

As variable as your cleaning applications: HDP 500 Diesel driven pump unit with manual 3 speed transmission only uses that energy needed for the job to be done.

TECHNICAL DETAILS

Engine speed	Gear	Pump speed	Pump power	Flow rate	Specific fuel consumption	Motor power rating	Fuel consumption
1800 1/min	3	1800 1/min	500 kW	262 l/min	205 g/kw h	520 kW	125 l/h
1100 1/min	3	1100 1/min	305 kW	160 l/min	193 g/kw h	315 kW	72 l/h
1800 1/min	2	900 1/min	250 kW	132 l/min	210 g/kw h	265 kW	65 l/h
1100 1/min	2	550 1/min	152 kW	80 l/min	200 g/kw h	165 kW	39 l/h
1800 1/min	1	300 1/min	83 kW	44 l/min	250 g/kw h	95 kW	28 l/h
1100 1/min	1	183 1/min	51 kW	27 l/min	240 g/kw h	62 kW	18 l/h



FUEL SAVING WITH TRANSMISSION WHEN WORKING WITH A MANUAL BLASTING GUN
54 L/HOUR, CO2 REDUCTION 140 KG/HOUR

3rd GEAR

FULL PUMP POWER AS TYPICALLY EMPLOYED FOR TANK CLEANING

This pump unit enables to you adapt the flow rate to suit the work you are doing. The 3 transmission ratios 1:1, 1:2 and 1:6 cover the most important areas of industrial cleaning.

The biggest benefit for you is the reduced diesel fuel consumption as you only generate the power you actually need.

2nd GEAR

MEDIUM PUMP POWER FOR PIPE AND TUBE BUNDLE CLEANING

For manual blasting gun work the high pressure pump shaft only rotates at 1/6 th of maximum engine speed thereby saving up to 54 litres of fuel per hour.*

The low speed reduces wear on the pump and engine by operating in the partial load range.

**HDP 500 fuel consumption, Piston/ Plunger-Ø 50 mm, with VOLVO TAD 1672 VE TIER 4 FINAL and 3 speed manual transmission*

1st GEAR

LOW PUMP POWER FOR MANUAL BLASTING GUN WORK

- The environmental benefits include lower CO₂ and noise emissions
- Lower torque on the engine in gears 2 and 3 at the same pressure.
- No hot overflow water to be returned to tank.
- Each gear is simply selected when the engine is not running.

FURTHER BENEFITS

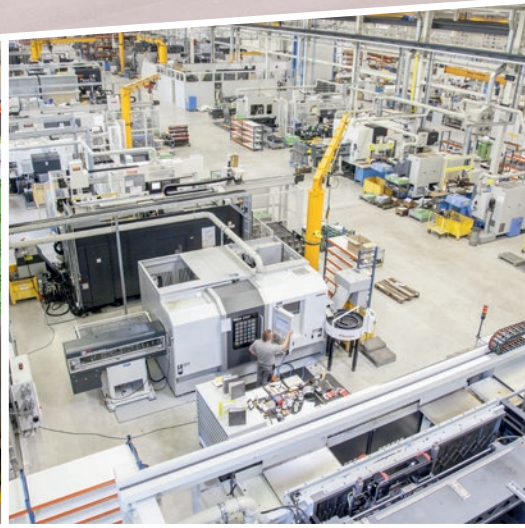
- Rigid base frame with anti vibration mounting feet.
- Insulated spiral silencer installation (32 dB(A) reduction) with exhaust and rain cap, particle filter or Ad Blue.
- ES 4 electronic control and monitoring system with digital display for pump and diesel engine.
- Pneumatic system with shaft driven compressor, air tank and bypass control.
- Pneumatic pressure regulating valve or bypass valve.
- Stainless steel suction side installation with boost pump and water filter.



HDP 500 with electrical 3-speed transmission



ES 4 control



CERTIFICATES

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



The free Hammelmann app

For iOS, Android and your browser

Water Jetting Calculator: hammelmann.com/app

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