Ultra-High-Pressure Water Jetting Systems up to 3000 bar

High-pressure cold water jetting systems
Ecocold® 280 E
Ecocold® 350 E/B
Ecocold® 500 E/B/D
Hotbox 350/500

High-pressure hot water jetting systems
Ecotherm® 600
Ecotherm® 800
The milestone for high-pressure hot water jetting systems

High-pressure cold water jetting systems
Ecocold®
Twin-Jet 1000 / 3000
Eco Pro® 2500
Ecomaster MK3
Water as a tool for a clean environment

... that is the fundamental consideration behind the innovative and highly topical technology, originating from the very old idea of making suitable use of the mechanical effects of flowing water.

WOMA Apparatebau GmbH in Duisburg has been consistently engaged in the research and application of the cleaning and shaping power of high-pressure water jets for nearly 40 years. High-pressure water is defined here as water pressures up to 400 MPa (58,000 psi) — a value several times higher than the water pressure at the deepest parts of the ocean.

WOMA’s compact units are specially conceived for professional applications in industry and commerce: for cleaning concrete, masonry, natural stone, plastered and brickwork surfaces and cast concrete, to remove paint, for fire damage clean-up, for decontamination and many other specific applications.

WOMA’s compact unit programme encompasses hot water units of the Ecotherm® series and cold water units of the Ecocold® series. Ecotherm® 800 is the first hot water jet system to generate an operating pressure up to 800 bar (11,600 psi) at a water temperature of up to 98°C.

WOMA and the environment:
WOMA sets new standards in the reduction of exhaust emission for combustion engines in utility vehicles: The new powerful (63 kW) VW AVIM TDI industrial engine according to Euro III Standard fulfils the strictest exhaust regulations without an additional exhaust treatment system. This not only extends the service life, but also minimises the costs of service and maintenance.
Ultra-high-pressure cold water jetting systems

The Twin-Jet 3000 is an extremely variable ultra-high-pressure water jet system, exclusively developed for both cleaning and the rehabilitation/maintenance of technical and structural works. The diesel-driven high-pressure system delivers operating pressures up to 3,000 bar.

The Twin-Jet 3000 can be supplied in a number of variants. A maximum of reliability is provided by horizontal triplex plunger pumps with their innovative patented central valve design and high-grade materials. An economical six-cylinder diesel engine is used to operate the high-pressure pumps and generate compressed air as auxiliary energy for the water tools. Header tank and booster pump are included in the standard equipment. The pressure-related speed control is coupled to an automatic operating state monitoring system. Control and monitoring via a proven SPC can be supplied on request.

**Technical data**

- **Operating pressure** max. 3,000 bar (43,500 psi)
- **Flow rate** max. 2 x 26 l/min
- **2 high-pressure pump Type 250 M** 182 kW
- **System** 291 kW

**Dimensions stationary**

- Length: 3,800 mm
- Width: 1,600 mm
- Height: 1,900 mm

**Dimensions mobile with sound proof hood**

- Length: 5,600 mm
- Width: 2,300 mm
- Height: 2,800 mm

- **Weight stationary with sound proof hood** 4,400 kg
- **Weight stationary without sound proof hood** 3,700 kg
- **Weight mobile with sound proof hood** 4,850 kg

- **Engine** Volvo Diesel

**Highlights**

- Overload protection of operating pressure
- Electrical pressure monitoring
- Suction flow stabilizer with single filter
- Pneumatic device for water tools
- Pressure/speed system control
- Header tank with booster pump
- Base frame made of light steel sections
- Sound proof hood 85 dB(A), 7 m
- Optionally with tandem-axle road trailer and multi-consumption valve system for 2 guns

**Accessories (included)**

- 2 HP-guns with nozzle tube, hand guard, nozzle protection
- 2 round jet nozzles
- 2 HP-hoses, 20 m each
- 2 cable drums with each 30 m cable
Ecomaster MK3

Ultra-high-pressure cold water jetting systems

The Ecomaster MK 3 is an extremely variable ultra-high-pressure water jet system, exclusively developed for both cleaning and the rehabilitation/maintenance of technical and structural works. The diesel-driven high-pressure system delivers operating pressures up to 3,000 bar.

The Ecomaster MK 3 can be supplied in a number of variants.
A maximum of reliability is provided by a horizontal triplex plunger pump with its innovative patented central valve design and high-grade materials. An economical six-cylinder diesel engine is used to operate the high-pressure pump and generate compressed air as auxiliary energy for the water tools. Header tank and booster pump are included in the standard equipment.
The pressure-related speed control is coupled to an automatic operating state monitoring system. Control and monitoring via a proven SPC can be supplied on request.

Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tr>
<td>Operating pressure</td>
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<tr>
<td>Flow rate</td>
<td>max. 26 l/min</td>
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<td>1 high pressure pump type 250M</td>
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<td>System</td>
<td>115 kW</td>
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<td>Dimensions stationary</td>
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<tr>
<td>Length</td>
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<tr>
<td>Width</td>
<td>1,419 mm</td>
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<td>Height</td>
<td>1,640 mm</td>
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<tr>
<td>Dimensions mobile with sound proof hood</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>4,100 mm</td>
</tr>
<tr>
<td>Width</td>
<td>1,940 mm</td>
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<tr>
<td>Height</td>
<td>2,000 mm</td>
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<tr>
<td>Weight stationary with sound proof hood</td>
<td>2,310 kg</td>
</tr>
<tr>
<td>Weight stationary without sound proof hood</td>
<td>2,050 kg</td>
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<tr>
<td>Weight mobile with sound proof hood</td>
<td>2,440 kg</td>
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<tr>
<td>Engine</td>
<td>KHD Diesel</td>
</tr>
</tbody>
</table>

Accessories (included)
- High-pressure gun with nozzle tube, hand guard, nozzle protection
- Round jet nozzle
- HP-hoses, 20 m
- Cable drum with 30 m cable

Highlights
- Overload protection of operating pressure
- Electrical pressure monitoring
- Suction flow stabilizer with single filter
- Pneumatic device for water tools
- Pressure/speed system control
- Header tank with booster pump
- Base frame made of light steel sections
- Sound proof hood 85 dB(A), 7 m
- Tandem-axle road trailer with ball headed coupling
Eco Pro® 2500

Ultra-high-pressure cold water jetting systems

The Professional under the compact units is multifunctional and almost universal in use.

The latest innovation of the WOMA-compact series is called „Eco Pro® 2500“.

The Eco Pro® 2500 got all amenities of the premium-class of the high-pressure cleaning technique. Safety and efficiently work in consideration of ergonomically facets e.g. the exposure reduction of the operator while operating process for articulate exhaustion work.

WOMAs CI-appliance-concept assures a trouble-free administration because of using approved appliance-direction. With the matured technical expertise, WOMA offers long-term competitiveness from which you can profit.

Compact, top technology for efficient work.

Technical data

<table>
<thead>
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<th>Operating pressure</th>
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<tr>
<td>Flow rate</td>
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<td>1 high-pressure pump Type</td>
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<tr>
<td>System</td>
<td>49 kW</td>
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<tr>
<td>System</td>
<td>60 kW</td>
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<tr>
<td>Length</td>
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<tr>
<td>Width</td>
<td>1,940 mm</td>
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<tr>
<td>Height</td>
<td>2,000 mm</td>
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<tr>
<td>Dry weight</td>
<td>1,200 kg</td>
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<tr>
<td>Capacity of the tanks</td>
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<tr>
<td>Water</td>
<td>200 liters</td>
</tr>
<tr>
<td>Diesel</td>
<td>200 liters</td>
</tr>
<tr>
<td>Antifreeze</td>
<td>25 liters</td>
</tr>
<tr>
<td>Noise level</td>
<td>70 dB(A)</td>
</tr>
<tr>
<td>Engine</td>
<td>VW 1.9 liters</td>
</tr>
<tr>
<td>EURO 3 standard (Com II)</td>
<td>VW AVM TDI-industrial engine</td>
</tr>
</tbody>
</table>

Art.-No. 690.2383

Highlights

- Pressure monitoring
- Overload protection of operating pressure
- Pressure/speed system control
- High-power compressor for use with water tools
- Safety tub with tanks for water, diesel and antifreeze
- Storage box integrated in the safety tub
- Powder-coated chassis
- Sound proof hood 70 dB(A), 7 m

Accessories (included)

- High-pressure gun with nozzle tube, hand guard, nozzle protection
- Round jet nozzle
- HP-hoses, 20 m
- Cable drum with 30 m cable

Mobile and flexible: Easy to manoeuvre single axle trailer.
Ecocold® Twin-Jet 1000

High-pressure cold water jetting systems

Multifunctional and almost universal in use. The future-oriented innovation of the WOMA-compact series is called “Ecocold® Twin-Jet 1000”. At 1,200 kg, it is not only the lightest in its class, but also the most flexible. With this matured technical expertise, WOMA offers long-term competitiveness from which you can profit. Compact, top technology for efficient work. Two high-pressure pumps can be operated independently in the Ecocold® Twin-Jet. Therefore, the system provides two workplaces with water tools in one compact unit. This 100% increase in performance in comparison with conventional units saves valuable time and reduces costs.

Technical data

<table>
<thead>
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<th>Operating pressure</th>
<th>1,000 bar (14,500 psi)</th>
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<tbody>
<tr>
<td>Flow rate</td>
<td>2 x 16 l/min</td>
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<td></td>
<td>max. 1 x 32 l/min</td>
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<tr>
<td>2 x high-pressure pump Type 55 Y</td>
<td>57 kW (2 x 28,5 kW)</td>
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<tr>
<td>System</td>
<td>60 kW</td>
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<tr>
<td>Dimensions</td>
<td>Length 4,200 mm</td>
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<tr>
<td></td>
<td>Width 1,940 mm</td>
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<tr>
<td></td>
<td>Height 2,000 mm</td>
</tr>
<tr>
<td>Dry weight</td>
<td>1,200 kg</td>
</tr>
<tr>
<td>Capacity of the tanks</td>
<td>Water 200 liters</td>
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<tr>
<td></td>
<td>Diesel 200 liters</td>
</tr>
<tr>
<td></td>
<td>Antifreeze 25 liters</td>
</tr>
<tr>
<td></td>
<td>Softener 10 liters</td>
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<tr>
<td>Noise level</td>
<td>70 dB(A)</td>
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<tr>
<td>Engine</td>
<td>VW AVM TDI</td>
</tr>
<tr>
<td></td>
<td>EURO 3 standard AVIM TDI-industrial engine</td>
</tr>
</tbody>
</table>

Art.-No. 690.2381

Highlights
- 2 high-pressure pumps with suction valve lifting
- Pressure monitoring
- Overload protection of operating pressure
- Pressure/speed system control
- Safety tub with tanks for water, diesel and antifreeze
- Storage box integrated in the safety tub
- Powder-coated chassis
- Sound proof hood 70 db(A), 7 m

Accessories (included)
- HP-gun with nozzle tube, hand guard, nozzle protection
- Fan jet nozzle
- Hose reel with 20 m HP-hose
- Cable drum with 30 m cable and adapter for the operation with 1 consumer

Mobile and flexible: Easy to manoeuvre single axle trailer.
High-pressure hot water jetting systems

High performance, low water consumption – functional benefits.

Ecotherm® 800 is the first 800-bar hot water jetting system world-wide. For our customers, this means an increase in the operating pressure by 60% in comparison with conventional systems and thereby a giant increase in efficiency.

The newly developed safety tray, integrated by WOMA as the first manufacturer in all compact units, prevents leaks of water and fuel. This provides better protection to the user and the environment. An additional technical innovation by WOMA is the new “Digi-Con”, a customer and user-friendly consumption-independent pressure/speed control system (12 Volt), which reduces fuel consumption by up to 30%.

Safety tray; prevents leaks of heavy fuel, diesel and water.

Technical data

| Operating pressure | 100 – 800 bar (1,450 to 11,600 psi) |
| Flow rate          | up to 21 l/min                      |
| High-pressure pump | 30 kW                                |
| System             | 34 kW                                |
| Water temperature  | max. 98°C                            |
| Heating capacity   | 132 kW                               |
| Dimensions         | Length: 4100 mm                      |
|                    | Width: 1,940 mm                      |
|                    | Height: 2,000 mm                     |
| Dry weight         | 1,200 kg                             |
| Capacity of the tanks |
| Water              | 200 liters                           |
| Diesel             | 100 liters                           |
| Heavy fuel         | 100 liters                           |
| Antifreezer        | 25 liters                            |
| Softener           | 10 liters                            |
| Noise level        | 70 dB(A)                             |
| Engine             | VW ADG 1,9 liters                    |

For your safety: Installed floatingly in the safety tray, the fuel and water tanks are safely protected in the case of accidents or leaks. (Capacity up to 200 liters).

Contained in the practical storage box, the accessories are easily accessed at all times. Short set-up times save time and money.

Art.-Nr. 690.6000
Ecotherm® 600

High-pressure hot water jetting systems

Matured technology, rugged quality, modern design. With the new series of compact units, WOMA has integrated everything under a shock-resistant, acoustically insulated hood which is indispensable for quiet work in residential areas.

User-friendly, multilingual display. Convenient pressure adjustment, intelligent engine management and system monitoring.

With WOMA, you are always in the top bracket. Environmentally friendly and economical: up to 30 % fuel savings.

Technical data

<table>
<thead>
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<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Operating pressure</td>
<td>100 – 600 bar (1,450 to 8,700 psi)</td>
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<td>Flow rate</td>
<td>up to 28 l/min</td>
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<td>High-pressure pump Type 55 Y</td>
<td>30 kW</td>
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<tr>
<td>System</td>
<td>34 kW</td>
</tr>
<tr>
<td>Water temperature</td>
<td>max. 98 °C</td>
</tr>
<tr>
<td>Heating capacity</td>
<td>132 kW</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>4,100 mm</td>
</tr>
<tr>
<td>Width</td>
<td>1,940 mm</td>
</tr>
<tr>
<td>Height</td>
<td>2,000 mm</td>
</tr>
<tr>
<td>Dry weight</td>
<td>1,200 kg</td>
</tr>
<tr>
<td>Capacity of the tanks</td>
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</tr>
<tr>
<td>Water</td>
<td>200 liters</td>
</tr>
<tr>
<td>Diesel</td>
<td>100 liters</td>
</tr>
<tr>
<td>Heavy fuel</td>
<td>100 liters</td>
</tr>
<tr>
<td>Antifreezer</td>
<td>25 liters</td>
</tr>
<tr>
<td>Softener</td>
<td>10 liters</td>
</tr>
<tr>
<td>Noise level</td>
<td>70 dB(A)</td>
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<tr>
<td>Engine</td>
<td>VW ADG 1,9 liters</td>
</tr>
<tr>
<td>Art.-No.</td>
<td>690.6060</td>
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</tbody>
</table>

Mobile and flexible:
All WOMA-compact units are mounted on an easy to manoeuvre, single axle trailer with an overrunning brake. Due to the low weight of only 1,200 kg, the units can be towed by nearly any mid-size car.

- Chassis with high-quality powder-coating and 5-chamber tank system.
- Series equipped with antifreeze tank, water softening system, watertank and safety tray as prevents leaks.

Accessories (included)
- HP-gun with nozzle tube, hand guard, nozzle protection
- fan jet nozzle
- hose reel with 20 m HP-hose
- cable drum with 30 m cable
Ecocold® 280 E
High-pressure cold water jetting systems

Matured technology, rugged quality, modern design. Compact High Pressure Unit for professionals’ cleaning building facades, industrial floors etc.

Advantages:
• Heavy duty industrial high pressure pump
• Separate main switch
• Unit plug
• Inlet pressure monitoring optional
• Thermo valve
• Flexible coupling between motor and pump
• Integrated hose rack

Accessories (included):
• High pressure gun with nozzle pipe, 350 mm long and hand protection
• Fan jet nozzle
• HP-Hose 10 m long
• Feed line with water filter
• High pressure gauge

Technical data

<table>
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<th>Operating pressure</th>
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<tr>
<td>Flow rate</td>
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<tr>
<td>Drive</td>
<td>Electric motor</td>
</tr>
<tr>
<td>Performance</td>
<td>7.5 kW</td>
</tr>
<tr>
<td>Nominal current</td>
<td>15 A</td>
</tr>
<tr>
<td>Voltage</td>
<td>400 V / 50 Hz</td>
</tr>
<tr>
<td>Weight</td>
<td>105 kg</td>
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<tr>
<td>HP-Connection</td>
<td>M22 x 1,5 WGA</td>
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50 Hz
Art.-No. 690.7130

60 Hz
Art.-No. 690.7131

Ecocold® 350 E / 500 E

Technical data

<table>
<thead>
<tr>
<th>Operating pressure</th>
<th>350 bar (5,000 psi)</th>
<th>500 bar (7,250 psi)</th>
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</thead>
<tbody>
<tr>
<td>Flow rate</td>
<td>up to 21 l/min</td>
<td>up to 15 l/min</td>
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<tr>
<td>Drive</td>
<td>Electric motor</td>
<td>Electric motor</td>
</tr>
<tr>
<td>Performance</td>
<td>15 kW</td>
<td>15 kW</td>
</tr>
<tr>
<td>Nominal current</td>
<td>15 A</td>
<td>15 A</td>
</tr>
<tr>
<td>Voltage</td>
<td>400 V / 50 Hz</td>
<td>400 V / 50 Hz</td>
</tr>
<tr>
<td>Weight</td>
<td>105 kg</td>
<td>105 kg</td>
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<tr>
<td>HP-Connection</td>
<td>M22 x 1,5 WGA</td>
<td>M22 x 1,5 WGA</td>
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</table>

50 Hz
Art.-No. 690.7132
Art.-No. 690.7135

60 Hz
Art.-No. 690.7133
Art.-No. 690.7136

Accessories (included):
• High pressure gun with nozzle pipe, 350 mm long and hand protection
• Fan jet nozzle
• HP-Hose 10 m long
• Feed line with water filter
• High pressure gauge

Advantages:
• Heavy duty industrial high pressure pump
• Separate main switch
• Unit plug
• Inlet pressure monitoring optional
• Thermo valve
• Flexible coupling between motor and pump
• Integrated hose rack
Ecocold® 350 B

High-pressure cold water jetting systems

Matured technology, rugged quality, modern design.
Compact High Pressure Unit for professional’s cleaning building facades, industry, industrial floors etc.

Technical data

<table>
<thead>
<tr>
<th>Operating pressure</th>
<th>350 bar (5,000 psi)</th>
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</thead>
<tbody>
<tr>
<td>Flow rate</td>
<td>up to 21 l/min</td>
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<tr>
<td>Drive</td>
<td>Fuel engine</td>
</tr>
<tr>
<td>Performance</td>
<td>16,4 kW</td>
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<tr>
<td>Fuel tank</td>
<td>20 l</td>
</tr>
<tr>
<td>Dry weight</td>
<td>130 kg</td>
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<tr>
<td>HP-Connection</td>
<td>M22 x 1,5 WGA</td>
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Art.-No. 690.7134

Ecocold® 500 B

Technical data

<table>
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<th>Operating pressure</th>
<th>500 bar (7,250 psi)</th>
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<tbody>
<tr>
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<td>up to 15 l/min</td>
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<tr>
<td>Drive</td>
<td>Fuel engine</td>
</tr>
<tr>
<td>Performance</td>
<td>16,4 kW</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>20 l</td>
</tr>
<tr>
<td>Dry weight</td>
<td>130 kg</td>
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<td>HP-Connection</td>
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Art.-No. 690.7137

Ecocold® 500 D

Technical data

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<td>Drive</td>
<td>Hatz Diesel Motor</td>
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<tr>
<td>Performance</td>
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<tr>
<td>Fuel tank</td>
<td>7 l</td>
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<td>Dry weight</td>
<td>175 kg</td>
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<tr>
<td>HP-Connection</td>
<td>M22 x 1,5 WGA</td>
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</table>

Art.-No. 690.7144

Highlights
- Heavy duty industrial high pressure pump
- Vibration isolating motor mounts
- Electric start
- Inlet pressure monitoring optional
- Central lifting eye
- Integrated hose rack
- Quiet running
- Selfpriming
- Easy handling

Accessories (included):
- High pressure gun with nozzle pipe, 350 mm long and hand protection
- Fan jet nozzle
- HP-Hose 10 m long
- Feed line with water filter
- High pressure gauge

Single axle-trailer equipped with pneumatic tyres
Easy to service, compact high pressure water heating unit for professional’s cleaning building facades, industrial floors etc. The Hot-Box features a stainless steel burner and meets high safety standards. Suitable for all Ecocold®-units.

**Hotbox 350**

From COLD to HOT

Easy to service, compact high pressure water heating unit for professional’s cleaning building facades, industrial floors etc. The Hot-Box features a stainless steel burner and meets high safety standards. Suitable for all Ecocold®-units.

**Hotbox 500**

**Technical data**

<table>
<thead>
<tr>
<th></th>
<th>Hotbox 350</th>
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</thead>
<tbody>
<tr>
<td><strong>Operating pressure</strong></td>
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<td><strong>Flow rate</strong></td>
<td>up to 11-28 l/min</td>
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<td><strong>Heating power</strong></td>
<td>appr. 90 kW</td>
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<tr>
<td><strong>Voltage</strong></td>
<td>230 V / 50 Hz</td>
</tr>
<tr>
<td><strong>Fuse protection</strong></td>
<td>16 A</td>
</tr>
<tr>
<td><strong>Fuel oil tank</strong></td>
<td>20 l</td>
</tr>
<tr>
<td><strong>Dry weight</strong></td>
<td>110 kg</td>
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<tr>
<td><strong>Water temperature</strong></td>
<td>max. 98°C</td>
</tr>
</tbody>
</table>

50 Hz Art.-No. 690.7138
60 Hz Art.-No. 690.7139

* depending on water-supply temperature

**Highlights**

- Easy to service
- High safety standard

With the Hotbox 350 / 500 you can extend your Ecocold-Line to a high-quality hot water-system.

**Technical data**

<table>
<thead>
<tr>
<th></th>
<th>Hotbox 500</th>
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</thead>
<tbody>
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<tr>
<td><strong>Flow rate</strong></td>
<td>up to 11-28 l/min</td>
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<tr>
<td><strong>Heating power</strong></td>
<td>appr. 90 kW</td>
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<tr>
<td><strong>Voltage</strong></td>
<td>230 V / 50 Hz</td>
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<td><strong>Fuse protection</strong></td>
<td>16 A</td>
</tr>
<tr>
<td><strong>Fuel oil tank</strong></td>
<td>20 l</td>
</tr>
<tr>
<td><strong>Dry weight</strong></td>
<td>110 kg</td>
</tr>
<tr>
<td><strong>Water temperature</strong></td>
<td>max. 98°C</td>
</tr>
</tbody>
</table>

50 Hz Art.-No. 690.7140
60 Hz Art.-No. 690.7141

* depending on water-supply temperature

**Accessories (included):**

- Connecting hose, 1,5 m long
- Safety valve
- Flow control
- Optical flame monitoring
- Fuel filter
Fully equipped with functional accessories and special protective clothing.

The coloured symbols show at a glance which equipment can be combined with which system. Numerous accessories are equally suitable for hot and cold water units.

**Round jet nozzles/fan jet nozzles**
- 340.0401 F 4 Ø 1,00 ET 800
- 340.0428 F 4 Ø 1,10 ET 800
- 340.0421 F 4 Ø 1,30 ET 500/600/800
- 340.0418 F 4 Ø 1,40 ET 500/800
- 340.0402 F 4 Ø 1,20 20° EC 1000

**Extension lances** (from 300 to 6,000 mm)
- 2 x 9/16” – 18 UNF left
- 445.3346 Nozzle pipe 300 mm
- 445.3347 Nozzle pipe 500 mm
- 445.3348 Nozzle pipe 750 mm
- 445.3349 Nozzle pipe 1000 mm
- 445.3584 Nozzle pipe 1500 mm
- 320.3027 Hand-guard for nozzle pipe
- 010.8086 Nozzle connection

**Whirl jet nozzles for internal pipe cleaning**
- Only for lance insert
- 341.0245 Type F/R 18, ET 500, 31 l/min
- 341.0234 Type R 12, IG 1/8”, ET 500
- 341.0246 Type F/R 22, ET 800, 17 l/min
- 341.0237 Type R 18, IG 1/4”, ET 600
- 341.0235 Type R 18, IG 1/4”, ET 800
- 341.0232 Type R 12, IG 1/8”, EC 1000
- 011.0717 DSA turnable hose connection

**Connecting nipples**
- (double nipples)
- 180.2013 M22X1, WGA
- M22X1, SWGA, ET 500
- 180.0669 M24X1, 5DK-M24X1, 5DK, ET 800/600, EC 1000
- Connecting nipples (Reducing nipple)
- 180.2027 M24X1, 5DK-M22X1, SWGA
- 180.2028 M22X1, SWGA-G1/4”DK
- 180.0711 M24X1, 5DK-G1/4”DK

**Rotor nozzles**
- OrbiMaster®
- 341.0312 350 bar, IG 1/4”
- 341.0398 500 bar, 19/16” – UNF
- 341.0311 500 bar, IG 1/4”
- 341.0429 800 bar
- 341.0434 600 bar, 9/16” – UNF
- 341.0352 1000 bar

**Rotor repair kits**
- 320.3570 nozzle set Ø 1,10 mm, 800 bar
- 320.3572 nozzle set Ø 1,20 mm, 1000 bar
- 320.3575 nozzle set Ø 1,35 mm, 600 bar
- 320.3783 nozzle set Ø 1,42 mm, 500 bar
- 320.3579 nozzle set Ø 1,55 mm

**Water filter small**
- 010.8600 with fittings, 100 μm, brass
- 010.9600 with fittings, 50 μm, plastic
- 320.3028 Filter insert 50 μm
- 360.3504 Filter insert 100 μm

**Primary pressure hose**
- 010.9537 DN19-20M-10 bar with plastic reel

**HP-gun with radio control**

**HP-guns**
- 001.1623 HP1000-1-E-24V-ET-M24
- 001.1426 HP1000-1-E-24V-ET-WGA
- 011.0717 DSA turnable hose connection

**Foot switch**
- 380.6031

**Connecting nipples** (Reducing nipple)
- 180.2027 M24X1, 5DK-M22X1, SWGA
- 180.2028 M22X1, SWGA-G1/4”DK
- 180.0711 M24X1, 5DK-G1/4”DK

**Water fittings, GK-coupling**

**Auxiliary pressure hose**
- 010.9537 DN19-20M-10 bar with plastic reel
High-pressure hoses
360.3719 DN6 3m 1000 bar
360.3720 DN6 6m 1000 bar
360.3721 DN6 10m 1000 bar
360.3722 DN6 12m 1000 bar

Control cable
380.6169 50m with cable drum
Switchbox
380.6179

PreventMaster®
001.1324 SFV 1200-1

FlexLanceMaster®
001.1400

Storage box
ET 500, ET 800, EC 1000

Primary pressure pump
320.3483 Gasoline engine

Control cable
380.6169 50m with cable drum

Floor-Master for floor cleaning
001.1436

Boots according to EN 345 / EN 344, yellow
320.0803 Size 42
320.0804 Size 44
320.0805 Size 46
Gloves according to EN 374, black
320.0802 Size 10

Power Master ®
011.0701 500 bar with nozzle
340.9852 Nozzle set ET 600
011.0723 600 bar with nozzle
340.9851 Nozzle set ET 800
011.0701 1000 bar with nozzle
340.9852 Nozzle set ET 1000

Protective equipment, helmet
320.3452 Helmet according to EN 397, blue
320.3453 Ear protectors according to EN 352, blue
320.0791 Visor
320.0790 Helmet visor holder

Special protective clothing
up to 2500 bar
320.3582 Anklets
320.3838 Ankle and leggings

Protective Overall
320.3108 XL
320.3109 XXL

Floor-Master for floor cleaning
001.1436
High-Pressure Hoses

WOMA’s high-pressure hose programme contains hoses with the following technical parameters:

<table>
<thead>
<tr>
<th>Nominal width in mm</th>
<th>Maximum operating pressure in bar</th>
<th>Maximum delivery length in m</th>
<th>Specific weight in kg/m</th>
<th>Bend radius in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 4</td>
<td>1,000 / 2,800</td>
<td>200</td>
<td>0.10 / 0.29</td>
<td>75 / 140</td>
</tr>
<tr>
<td>DN 5</td>
<td>1,000 / 1,400</td>
<td>200</td>
<td>0.20 / 0.25</td>
<td>95 / 120</td>
</tr>
<tr>
<td>DN 6</td>
<td>1,000</td>
<td>200</td>
<td>0.25</td>
<td>110</td>
</tr>
<tr>
<td>DN 8</td>
<td>750 / 1,000</td>
<td>200</td>
<td>0.22 / 0.40</td>
<td>120 / 175</td>
</tr>
<tr>
<td>DN 10</td>
<td>1,250 / 2,000</td>
<td>100 / 200</td>
<td>0.87 / 1.01</td>
<td>180 / 250</td>
</tr>
<tr>
<td>DN 12</td>
<td>1,100 / 1,400</td>
<td>100 / 200</td>
<td>1.22 / 1.36</td>
<td>200 / 300</td>
</tr>
<tr>
<td>DN 20</td>
<td>1,000 / 1,400</td>
<td>100 / 200</td>
<td>2.10 / 1.82</td>
<td>280 / 350</td>
</tr>
<tr>
<td>DN 25</td>
<td>700</td>
<td>100</td>
<td>2.08</td>
<td>350</td>
</tr>
<tr>
<td>DN 32</td>
<td>560</td>
<td>100</td>
<td>2.59</td>
<td>460</td>
</tr>
</tbody>
</table>

1 mm = 0.04 in 1 bar = 14.5 psi 1 m = 3.28 ft 1 kg = 2.205 lb

Estimation of pressure losses in high-pressure hoses

The WOMA Pressure Loss-Chart enables the estimation of relative pressure losses in hoses depending on water volume flow rate and nominal hose width. Attention: Pressure losses in armatures are not considered!

Application of the WOMA Pressure Loss-Chart:

Example: Volume flow rate: 100 l/min, Nominal width: 12 mm, Hose length: 40 m, Complete pressure loss?

Solution: Mark the volume flow rate value at the horizontal axis → go upward up to the inclined DN 12-line → from the intersection point go to the left meeting the pressure loss-axis → read value: 1.3 bar/m → complete pressure loss: 1.3 bar/m → 40 m = 52 bar (755 psi)

Delivery Programme
High-pressure plunger pumps
High-pressure water jet systems
High-pressure water tools and accessories

Fields of Application
Agriculture
Automotive and aviation industry
Beverage industry
Chemical industry
Construction and concrete industry
Engineering industry
Food industry
Glass, porcelain, ceramic industry
Iron, steel and metal industry
Mining
Municipal services
Offshore industry
Power industry
Public transport
Pulp and paper industry
Ship building
Wood working industry
Applications of High-Pressure Water Jetting Systems

WOMA designs and manufactures high-pressure water jetting systems for the following applications:

- Internal cleaning of vessels, autoclaves and containers.
- Cleaning of sewers, pipelines, tube bundles, etc.
- Paint stripping from gridirons and body skids.
- Rehabilitation of structures and buildings.
- Maintenance of buildings and heavy technical equipment.
- Environmentally-friendly surface preparation for corrosion protection.
- Heavy concrete removal and reinforcement bar exposing.
- Emission-free enamel stripping and surface decoating.
- On-site cutting and demolition of constructions and heavy equipment.

1. Cutting and demolition with abrasive water jets, surface preparation with hand-held water tools, decontamination of buildings, cleaning of mortar joints, tube bundle cleaning, paint stripping with robot-guided water tools
2. Surface preparation with Twin Jet-units, exposing of reinforcement bars, concrete hydrodemolition
3. Paint stripping of gridirons and body skids with mechanized water tools
4. Heavy concrete hydrodemolition, Surface preparation with mechanized water tools
5. Cleaning of autoclaves, containers and vessels
6. Cleaning of pipes, high-pressure soil cleaning, water jet assisted pile driving
7. Cleaning of sewers, soil strengthening and stabilization
8. Cleaning with hot-water systems

<table>
<thead>
<tr>
<th>System name (Power rating)</th>
<th>Operating pressure in bar (1 bar = 14.5 psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kW = 1.34 hp:</td>
<td></td>
</tr>
<tr>
<td>600 (450 kW)</td>
<td>300</td>
</tr>
<tr>
<td>480 (360 kW)</td>
<td>2,000</td>
</tr>
<tr>
<td>325 (245 kW)</td>
<td>1,500</td>
</tr>
<tr>
<td>225 (170 kW)</td>
<td>1,000</td>
</tr>
<tr>
<td>180 (135 kW)</td>
<td>750</td>
</tr>
<tr>
<td>150 (110 kW)</td>
<td>500</td>
</tr>
<tr>
<td>75 (55 kW)</td>
<td>250</td>
</tr>
<tr>
<td>45 (35 kW)</td>
<td>200</td>
</tr>
<tr>
<td>25 (20 kW)</td>
<td>100</td>
</tr>
</tbody>
</table>

System name (Power rating)

1 kW = 1.34 hp:
- 600 (450 kW)
- 480 (360 kW)
- 325 (245 kW)
- 225 (170 kW)
- 180 (135 kW)
- 150 (110 kW)
- 75 (55 kW)
- 45 (35 kW)
- 25 (20 kW)

Volume flow rate in l/min

1 l/min = 0.264 US gal/min = 0.22 Imp. gal/min

The control technique that is integrated in the high-pressure water jetting systems makes sure that this area can also be covered if required.