



KÄRCHER

HDS Super M Eco

HDS 695 M Eco

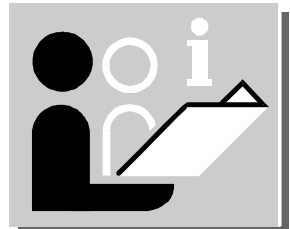
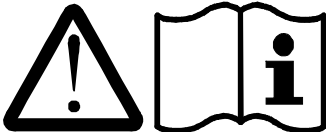
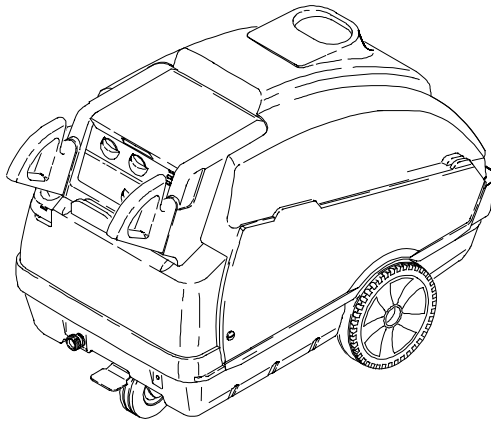
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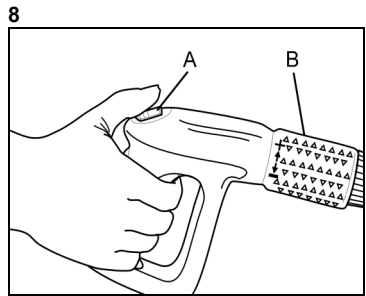
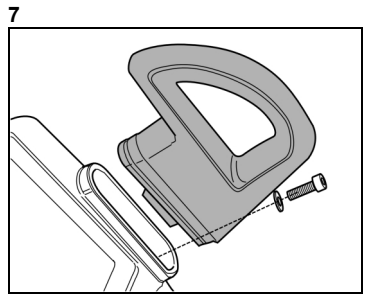
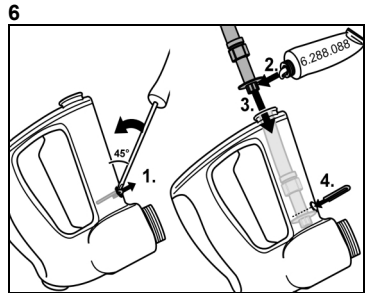
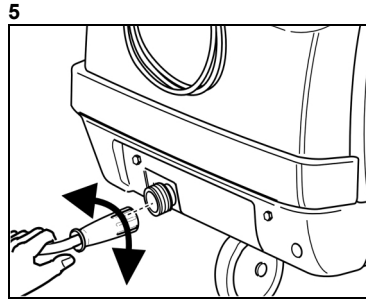
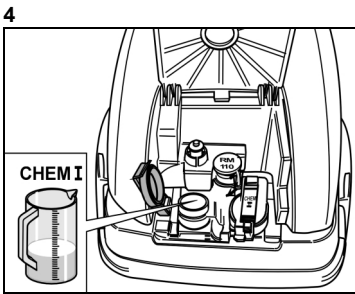
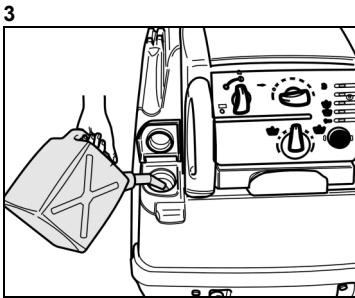
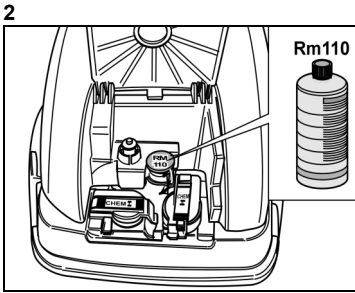
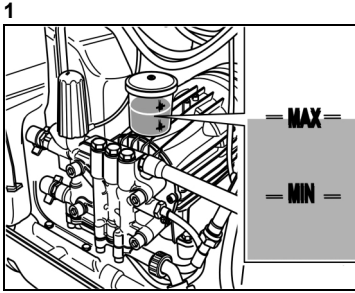
HDS 895 M Eco

HDS 995 M Eco

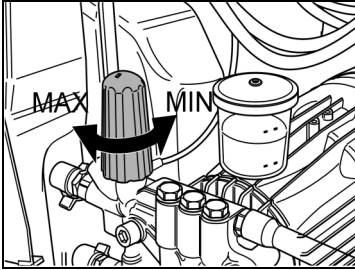
HDS 1195 S Eco

HDS 1295 S Eco

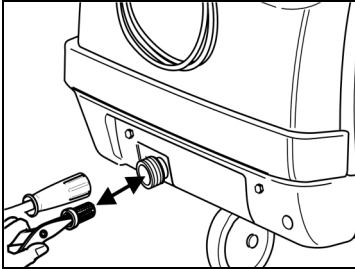




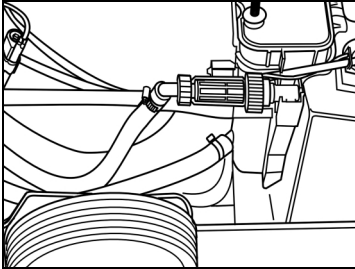
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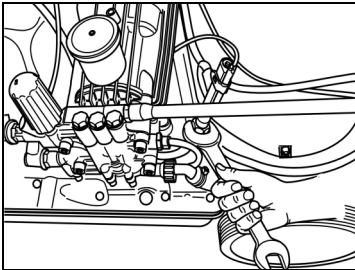
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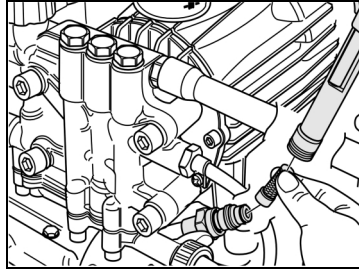
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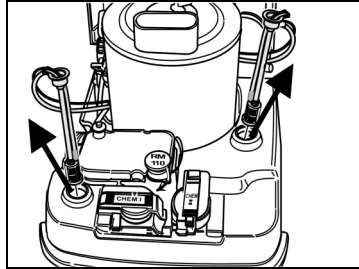
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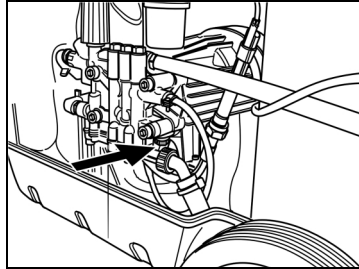
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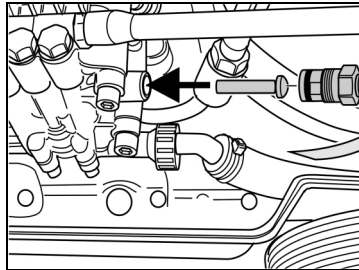
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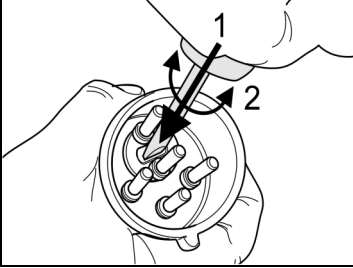
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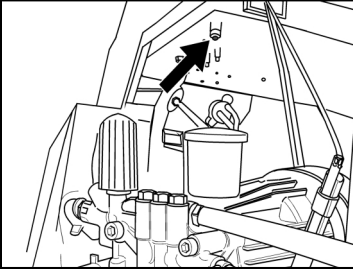
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Warning!

Prior to initial operation it is mandatory to read the operating instructions and the notes on safety no. 5.951-949!

Inform retailer immediately of any transportation damage.

Environmental protection

Please dispose of packaging environmentally responsibly



The packaging materials are recyclable. Please do not throw the packaging in with household rubbish but take it to a recycling centre.

Please dispose of scrapped units environmentally-responsibly



Scrapped units consist of valuable recyclable materials that should be taken to a recycling centre. Batteries, oil and similar products must not be allowed to contaminate the environment. Therefore, please dispose of scrapped units via appropriate disposal systems.

Please ensure engine oil, fuel oil, diesel and petrol

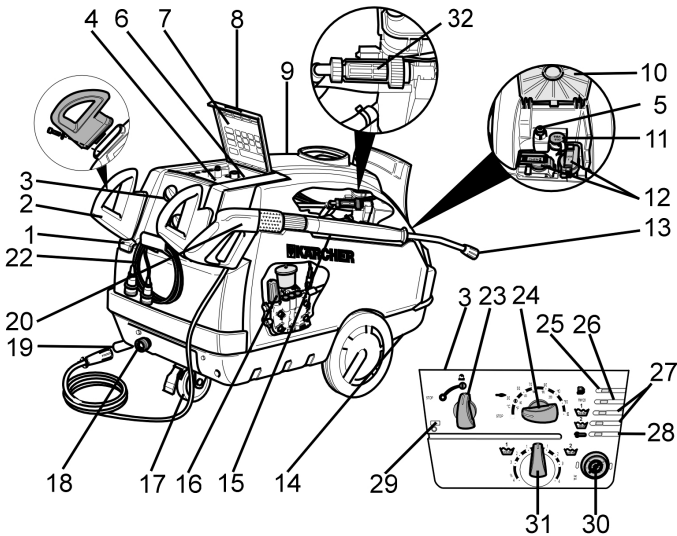
to contaminate the environment. Please protect the ground and dispose of used oil ecologically.



Danger: Steam!

Danger of scalding! Steam escapes here.

Unit illustration



Operating controls

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Fuel tank inlet 2 Handle 3 Instrument panel 4 Window with the maintenance/fault display
(only HDS 995 M Eco, HDS 1295 S Eco) 5 Cover latch 6 Compartment for accessories 7 Short operating instructions 8 Cover for compartment 9 Unit cover 10 Cover for tank inlet 11 Tank inlet for scale inhibitor 12 Tank inlet for cleaning agent 13 High-pressure nozzle 14 Handle grips in the chassis 15 Steel pipe 16 Pressure and flow control | <ul style="list-style-type: none"> 17 Swivel caster with parking brake 18 Water inlet with strainer (coarse) 19 High-pressure connection 20 Handgun with high-pressure hose 22 Electric power cord 23 Unit switch 24 Temperature regulator 25 Fuel indicator lamp 26 Scale inhibitor indicator lamp 27 Indicator lamp-CHEM 1, CHEM 2
(only HDS 1295 S Eco) 28 Indicator lamp-engine
(all machines, except HDS Super M Eco) 29 Ready for working indicator lamp 30 Pressure gauge 31 Metering valve for cleaning agent 32 Fine filter |
|--|---|

Reference to operating instructions

All of the item numbers described below in the operating instructions are referenced in the illustration of the unit.

Commissioning



Warning!

Unit, piping, high-pressure hose and connections must be in perfect working order!

- Lock the hand brake.

Checking oil level

Fig. 1



Warning!

Immediately consult the Kärcher service station when oil turns milky!

- If oil level is approaching MIN mark, fill up with oil as far as MAX mark.
- Seal oil filler inlet.

Refer to technical data for oil grade.

Filling with scale inhibitor

Fig. 2

(sample pack included with scope of delivery)

Scale inhibitor stops heating coil becoming calcified when using hard tap water. Is is metered in at the inlet in the water reservoir one drop at a time.

By the manufacturer metering is set to a mean water hardness.

- For other water hardnesses request services of a Kärcher service station and have it adapted to local conditions.

Filling with fuel



Warning!

Never operate unit with fuel tank empty! Fuel pump would otherwise be destroyed!



Warning!

Fig. 3

Only fill with diesel fuel or light fuel oil. It is forbidden to use unsuitable fuels, e.g. benzine (explosion hazard, damage to unit).

- Close tank cap
- Wipe off excess fuel



Fill with cleaning agent

- Use only Kärcher products.
- Never pour in solvent (petrol, acetone, thinner etc.)!
- Avoid contact with eyes and skin
- Pay attention to cleaning-agent manufacturer's instructions on safety and handling

Kärcher offers a customised cleaning and care agent range.

Your dealer will be pleased to advise you.

Fig. 4

Fill with cleaning agent

Mounting handgun

- Connect steel pipe (item 15) with handgun (item 20)
- Insert high-pressure nozzle in union nut
- Mount and tighten unit nut
- Mount the high-pressure hose to the high-pressure connection. (Fig. 5)

Mounting of spare high-pressure hose

Fig. 6

Mounting handle

Fig. 7

Water connection

- For connected loads, refer to Technical Data.
- Install supply hose at water connection (item 18) of unit.
(supply hose is not part of scope of delivery)

Drawing in water from tank

When you suction water out of an open container you should

- Remove water connection at pump head.
- Unscrew the top supply hose to the water tank and connect it to the pump head.
- Use a water suction hose with a suction filter and a diameter of at least 3/4".

Until the pump sucks up water you should:

- Turn the pressure and flow control to "MAX".
- Close the metering valve for the cleaning agent.



Warning!

Never suction up water out of a potable water tank.

Never suction up solvent-bearing liquids such as paint thinner, benzine, oil or unfiltered water. The seals in the unit are not resistant to solvents. The mist of solvents is highly inflammable, explosive and poisonous!

Mains connection

Refer to technical data and rating plate for connected loads.



Warning!

It is not permissible to exceed the maximum permissible mains impedance at the electrical terminal (see Technical Data).

**Warning!**

Whenever socket is changed, check direction of rotation of motor

- If direction of rotation is correct, powerful jet of air will be felt at exhaust-gas opening of burner.
- If the direction of rotation is wrong: Change the poles at the unit plug. See Fig. 17.
- When an extension cable is used it should always be completely unwound and have an adequate cross-section.

Operation**Warning! (only HDS Super M Eco)**

Lengthy operation of the unit can lead to vibration-related circulatory disturbances of the hands.

It is not possible to specify a generally applicable use duration, since this is dependent and influenced by a number of factors:

- Personal predisposition to bad circulation (frequent suffering from cold fingers, pins and needles in fingers).
- In low ambient temperatures. Wear warm gloves to keep hands warm.
- Gripping tightly impedes circulation.
- Continuous operation is more detrimental than operation interrupted by breaks.

We recommend a medical examination if the unit is regularly used for extensive, continuous operation and the corresponding symptoms (such as, for example, pins and needles in fingers or cold fingers) are recurrent.

Switch on the machine

- Set unit switch (item 23) to "I"
Ready for working indicator lamp (item 29) is lit

**Warning!**

The temperature regulator (item 24) must be set to "0", since it is otherwise possible that the burner turns itself on

Unit starts up briefly and is switched off as soon as operating pressure is reached.

Turn the unit off immediately if during its operation the indicator lamps (item 25 - item 28) light up. Eliminate fault, refer to Faults.

Fig. 8

- Release handgun (A)
Actuation of handgun switches unit back on again.

Bleed pump if no water emerges from high-pressure nozzle. Refer to Faults, "Unit does not build up pressure"

Setting cleaning temperature

- Set the temperature regulator (item 24) to the required temperature

30°C to 90°C
Hot water cleaning

100°C to 150°C
Cleaning with steam

- Replace high-pressure nozzle by the steam nozzle (see operating using steam)

Setting operating pressure and flow rate

Fig. 9

- Turning control spindle clockwise: Increasing operating pressure (MAX)
- Turning it counterclockwise: Reducing operating pressure (MIN)

Servopress control

- Set the temperature regulator (item 24) to max. 98°C.
- Set regulator to maximum operating pressure.

Fig. 8

Adjust operating pressure and flow rate by turning (infinitely variable) at the pressure and flow control (B) (+/-)

Set pressure on unit if use is to be made of reduced pressure for a lengthy period.

See Fig. 9

Measuring out cleaning agents

- Use cleaning agents sparingly to protect the environment
- The cleaning agent must be appropriate for the surface to be cleaned.
- Using the cleaning agent metering valve (item 31) set the concentration of the cleaning agent as specified by the manufacturer

Approximate values at maximum operating pressure

Intended use

For cleaning: machines, vehicles, buildings, tools, facades, patios, gardening implements, etc.



Warning!

- Heed appropriate safety regulations for use at petrol stations or in other hazardous environments.

Please ensure waste water containing mineral oil

does not contaminate soil, lakes and rivers or the sewerage system. Therefore, please wash engines and underbodies only in appropriate washing installations provided with oil traps.

Working with high-pressure nozzle

Spray angle is crucial to efficiency of high-pressure jet.

Use is normally made of 25° fan jet nozzle (included).

Recommended nozzles, available as accessories

- For stubborn dirt
0° full jet nozzle
- For delicate surfaces and slight contamination
40° fan jet nozzle
- For thick layers of stubborn dirt
dirt blaster
- Nozzle with variable spray angle, for adaptation to various cleaning tasks
variable-angle nozzle

Cleaning

- Set pressure/temperature and cleaning-agent concentration in line with surface to be cleaned

Always start by directing high-pressure jet from a good distance at object to be cleaned to avoid damage caused by excessive pressure.

Recommended cleaning method

Loosen up dirt:

- Spray on cleaning agent sparingly and allow to react for 1...5 min (do not allow to dry on).

Remove dirt:

- Spray off loosened-up dirt with high-pressure jet.

Operation with cold water

Removal of slight contamination and rinsing e.g: gardening implements, patio, tools, etc.

- Set operating pressure as required
- Set temperature regulator (item 24) to "0"

Operation with hot water



Warning!

Danger of scalding

- Set the temperature regulator (item 24) to the required temperature

We recommend the following cleaning temperatures

- Slight contamination 30-50°C
- Protein soiling, e.g. in foodstuffs industry max. 60°C
- Motor vehicle cleaning, machine cleaning 60-90°C

Safety deactivation (only HDS 995 M Eco and HDS 1295 S Eco)

If the handgun is not opened or closed for more than 30 minutes, for safety reasons the pump switches off automatically.

- To switch it on again turn the main switch to "0" and then back to "I".

(EPROM without shut down 6.682-595 available from service)

Operation with steam



Danger: Steam!

At operating temperatures above 98°C operating pressure must not exceed 32 bar (HDS 1195 S Eco and HDS 1295 S Eco: 28 bar).

Therefore the following steps must be taken without fail:

- Replace high-pressure nozzle by steam nozzle

Manufacture no.:

4.766-023	HDS Super M Eco
	HDS 695 M Eco
	HDS 745 M Eco
	HDS 895 M Eco
	HDS 995 M Eco

4.766-024	HDS 1195 S Eco
	HDS 1295 S Eco

- Fully open water delivery control at the handgun, in the + direction to the stop. See Fig. 8 (B)
- Set operating pressure to minimum value. See Fig. 9
- Set the temperature regulator (item 24) to min. 100°C



Danger: Steam!
Danger of scalding!

We recommend the following cleaning temperatures

- Preservative removal, extremely greasy dirt 100-110°C
- Thawing of aggregates, certain facade cleaning operations up to 140°C

After every operation



Warning!

*Danger of scalding with hot water.
After operating it with hot water or steam the unit must be cooled for at least two minutes by operating it with cold water and its open handgun.*

Following operation with cleaning agent

- Set cleaning agent metering valve (item 31) to "0"
- Set unit switch (item 23) to "I"
- Actuate handgun and flush unit for approx. 1 min

Stopping machine

- Set unit switch (item 23) to "0"
- Shut off water supply
- Switch the pump briefly on with the unit switch (item 23) (approx. 5 sec.)
- Remove mains plug from socket **ONLY** with dry hands
- Remove water connection
- Actuate handgun to depressurise unit
- Put on safety of handgun Fig. 8 (A)
- Engage spray lance in cover holder
- Reel up the high-pressure hose and electric cables and attach them to fastenings

Note!

Take care not to kink high-pressure hose and cable!

Note!

Frost will destroy unit if water is not drained off completely!

- Store unit in a frost-free location

Observe the following if the unit is connected to a flue:

Danger of damage caused by cold air entering through the flue.

Disconnect unit from flue at outside temperatures below 0°C.

Immobilise unit if frost-proof storage is not possible.

Reading the operating hours (only HDS 995 M Eco and HDS 1295 S Eco)

When you open the storage compartment cover flap, you will notice the electronic operation hours display in the viewing window, e.g.

h		2	4	5	= 245 hours
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Decommissioning

In the event of lengthy periods of non-use or if frost-free storage is not possible:

- Drain off water and flush out equipment with antifreeze
- Drain cleaning fluid tank

Drain off water

- Unscrew water supply hose and high-pressure hose
- Unscrew supply line at boiler base and allow heating coil to drain
- Run unit for max. 1 min until pump and lines are empty

Flushing unit with anti-freeze

- Fill the float tank with a commercially available antifreezing compound
- Switch the unit on (without the burner) until it is thoroughly purged
- Observe handling instructions of antifreeze manufacturer

By this means, a certain degree of corrosion protection is achieved

Maintenance**Warning!**

Disconnect unit from mains before carrying out any maintenance or repair work. Always use genuine spare parts

Switch off the unit prior to all work on it, see "AFTER EVERY OPERATION".

- Set unit switch (item 23) to "0"
- Pull power plug out of socket
- Shut off water supply
- Actuate handgun to depressurise unit.
- Remove water connection
- Allow unit to cool down

Your Kärcher dealer will be pleased to inform you on the performance of regular safety inspections and conclusion of a maintenance contract

Maintenance intervals**Once a week**

- Clean strainer in water connection
- Check oil level

Immediately consult the Kärcher service station when oil turns milky!

Once a month

- Clean strainer in low water protection
- Clean filter at cleaning-agent suction hose

After 500 hours of operation, at least once a year

- Change oil

Maintenance tasks**Engine/electronics indicator lamp (item 28) is lit**

(only HDS 995 M Eco and HDS 1295 S Eco)

Note:

- This warning lamp lights up when certain maintenance work is necessary due to accumulated operating hours.
- When you open the cover (item 8) of the compartment (item 6) the electronic display is visible in the window (item 4).
- When the necessary maintenance work has been completed you should depress the RESET button next to the display for at least 7 seconds until the warning lamp goes out.

Display**Necessary maintenance work**

- Visual inspection
- Check that the high-pressure connections do not leak
- Clean the fuel tank and the filter

Display**Necessary maintenance work**

- Check that the pump does not leak
- Change the pump's oil
- Clean strainer in water connection
- Clean the strainer (coarse) fitted in front of the low water protection

Display**Necessary maintenance work**

- Decarbonise the heating coil *
- Descale the heating coil *
- Clean/replace the ignition electrodes *
- Clean/replace the burner jet *
- Adjust the burner *

Display**Necessary maintenance work**

- Check the overflow valve for leaks *
- Check the high-pressure hose *
- Clean the handgun
- Check the pulsation damper *

* This maintenance work should be performed only by After-Sales Service.

Clean strainer in water connection

(all machines)

Fig. 10

- Remove strainer
- Clean in water and re-insert

Clean the fine filter

(all machines)

Fig. 11

- Cut pressure to unit
- Screw off cover with filter
- Clean filter with clean water or with compressed air
- Assemble in the reverse order

Clean strainer in low water protection

(all machines)

Fig. 12

- Unfasten union nut and detach hose

Fig. 13

- Take out strainer
- If necessary, screw in screw M8 by approx. 5 mm and pull strainer out with this screw*

- Clean strainer in water
- Slide in strainer
- Mount hose
- Tighten union nut

Clean filter at cleaning-agent suction hose

(all machines)

Fig. 14

- Pull the cleaning agent suction inlet pipe out
- Clean filter at cleaning-agent suction hose

Change oil

(all machines)

Fig. 15

- Provide a collecting container for approx. 1 litres of oil
- Loosen starting screw

Dispose of used oil ecologically or hand it in at a dump.

- Retighten drain plug
- Slowly fill with oil as far as MAX mark
Air bubbles must be able to escape. Refer to technical data for oil grade and quantity to be used.

Faults

Engine/electronics indicator lamp (item 28) flashes (only HDS 995 M Eco and HDS 1295 S Eco)

- This warning lamp flashes if there is a problem.
- When you open the cover (item 8) of the compartment (item 6) the electronic display is visible in the window (item 4).
- The warning lamp goes out when the problem has been resolved and the unit is switched on again.

Display



Troubleshooting

- Increase the water inlet volume
- Clean strainer in water connection
- Clean the strainer (coarse) fitted in front of the low water protection

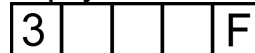
Display



Troubleshooting

- Replace the reed switch for the low water protection *
- Clean the low water protection *

Display



Troubleshooting

- Eliminate the leakage in the high-pressure system

Display**Troubleshooting**

- Motor is overloaded/overheated
- Set the monitoring switch to "0" and allow the motor to cool off at least 5 min.
- Have unit checked by After-Sales Service if this does not remedy fault
- Check exhaust gas temperature limiter, reset, if necessary (Fig. 18)

Display**Troubleshooting**

- This error code appears only on units equipped with the – accessory kit flame monitoring system -
- See the assembly instructions – accessory kit flame monitoring system -

* This maintenance work should be performed only by After-Sales Service.

Ready for working indicator lamp (item 29) goes out (all machines)

- Motor overloaded/overheated
- Set selector switch to "0" and allow engine to cool off for at least 5 min.
- Have unit checked by After-Sales Service if this does not remedy fault.
- No mains voltage (see – unit does not run -)
- Check exhaust gas temperature limiter, reset, if necessary (Fig. 18) (only HDS Super M Eco)

Fuel indicator lamp (item 25) lights up (all machines)

- Fuel tank empty
- Fill up

Scale inhibitor indicator lamp (item 26) lights up (all machines)

- Scale inhibitor reservoir empty; for technical reasons there is always a residual quantity in the reservoir.
- Fill up
- Dirt on electrodes in reservoir
- Clean electrodes

Motor indicator lamp (item 28) lights up (HDS 695 M Eco, HDS 745 M Eco, HDS 895 M Eco, HDS 1195 S Eco)

- Set unit switch (item 23) to "0"
- Allow unit to cool down
- Check exhaust gas temperature limiter, reset, if necessary (Fig. 18)
- Set unit switch (item 23) to "I"

Unit does not run (all machines)

- No mains voltage
- Check electric mains/power cord

**Unit does not build up pressure
(all machines)**

— Air in system

Bleed pump:

- Set cleaning agent metering valve (item 31) to "0"
- While the handgun is open switch the unit on and off several times with the unit switch.
- With handgun open, open and close regulator (Fig. 9).

Venting is accelerated by removing the high-pressure hose from the high-pressure connection.

- Fill up cleaning-agent tank if empty.
 - Check connections and lines
- Pressure set to MIN
- Set pressure to MAX
- Strainer in water connection is dirty
- Clean strainer
 - Clean fine filter, replace it if necessary
- Insufficient water supply
- Check water supply volume (refer to technical data)

**Unit leaking, water dripping out at bottom
(all machines)**

— Pump leaking

3 droplets/min are permitted.

- In the event of a major leak, have unit checked by After-Sales Service.

**Unit constantly switched on and off with handgun closed
(all machines)**

Leak in high-pressure system

- Check high-pressure system and connections for leaks

**Unit does not draw in cleaning agent
(all machines)**

- Operate the unit with an opened cleaning agent metering valve and a shut off water inlet until the float tank is suctioned empty and the pressure drops to 0.
- Now reopen the water inlet.

If the pump still does not suction up cleaning agent the reasons can be as follows:

- Filter in cleaning-agent suction hose dirty
 - Clean filter
- Non-return valve gummed up
 - Pull the cleaning agent hose off and detach the non-return valve with a blunt object, see Fig. 16.

**Burner not ignited
(all machines)**

- Fuel tank empty
 - Fill up

- Lack of water
 - Check water connection, check supply lines, clean low water protection.

- Fuel filter dirty
 - Replace fuel filter.

- Incorrect direction of rotation. If direction of rotation is correct, powerful jet of air will be felt at exhaust-gas opening of burner.
 - Check direction of rotation. If necessary change the poles at the unit plug. See Fig. 17.

- No ignition spark
 - Have unit checked by After-Sales Service if no ignition spark is visible through inspection glass during operation.

**Set temperature not attained
when working with hot water
(all machines)**

- Excessive operating pressure/flow rate
 - Reduce operating pressure/flow rate by way of regulator (Fig. 9)

- Soot deposits on heating coil
 - Have After-Sales Service remove soot deposits from unit

**The unit must be checked by
After-Sales Service if the problem
cannot be remedied.**

Warranty

The warranty terms and conditions issued by our responsible sales company apply in every country. Within the warranty period, any faults in the unit will be rectified free of charge provided that the problem was caused by a material defect or manufacturing error.

The warranty only applies if the dealer fills in, stamps and signs the enclosed reply card when the unit is sold and the purchaser then returns it to the appropriate local distributor.

In the event of a warranty claim, please contact your dealer or the nearest authorised After-Sales Service office and produce both accessories and proof of purchase.

General notes

Safety features

Overflow valve with two pressure switches

- When reducing water volume at pump head or with the servopress control, the overflow valve will open and part of the water will flow back to the pump suction side.
- If the handgun is closed off so that all the water flows back to the pump suction side, the pressure switch at the overflow valve turns off the pump.
- Reopening the handgun causes the pressure switch at the cylinder head to switch the pump back on again.

The overflow valve is set at the factory and lead-sealed. Adjustment can only be made by After-Sales Service.

Safety valve

- The safety valve opens if the overflow valve or pressure switch is defective.

The safety valve is set at the factory and sealed. Adjustment can only be made by After-Sales Service.

Low water protection

- The low water protection stops the burner being switched on in the event of a lack of water.
- A strainer prevents dirt accumulation on the protection and must be regularly cleaned.

Motor protection switch

- The motor protection switch interrupts the circuit should overloading occur.

Switching on procedures

- Switching on procedures generate brief voltage drops.
- Impairments of other appliances can occur in cases of unfavourable mains conditions.
- No problems are to be expected with a mains impedance of less than 0,15 ohm.

EC conformity declaration

We hereby declare that due to its concept and workmanship as well as the marketed design, the machine specified below complies with the relevant fundamental safety and health requirements of the EC directives listed below.

Modification of the machine without our approval invalidates this declaration.

Product: High-pressure cleaner
with a steam stage
Type: 1.025-xxx 1.026-xxx 1.027-xxx
1.028-xxx

Relevant EC directives

EC machine directive (98/37/EC)
EC low voltage directive (73/23/EEC)
amended by 93/68/EEC
EC directive on electromagnetic
compatibility (89/336/EEC) amended by
91/263/EEC, 92/31/EEC, 93/68/EEC
EC high-pressure equipment directive
(97/23/EG)
EC guideline on noise emissions
(2000/14/EU)

Applied harmonised standards

DIN EN 60335-1
DIN EN 60335-2-79
DIN EN 55014-1:2000 + A1:2001
DIN EN 55014-2:1997
DIN EN 61000-3-2:2000
DIN EN 61000-3-3:1995 +
A1:2001 (HDS 695/895/995 M Eco)
DIN EN 61000-3-11:2000
(HDS Super/745 M Eco,
HDS 1195 /1295 S Eco)

Applied national standards

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Applied conformity valuation method

Appendix V

Measured sound power level:

HDS Super M Eco	95 dB(A)
HDS 695 M Eco	88 dB(A)
HDS 745 M Eco	84 dB(A)
HDS 895 M Eco	89 dB(A)
HDS 995 M Eco	89 dB(A)
HDS 1195 S Eco	88 dB(A)
HDS 1295 S Eco	88 dB(A)

Guaranteed sound power level:

HDS Super M Eco	96 dB(A)
HDS 695 M Eco	89 dB(A)
HDS 745 M Eco	87 dB(A)
HDS 895 M Eco	91 dB(A)
HDS 995 M Eco	91 dB(A)
HDS 1195 S Eco	89 dB(A)
HDS 1295 S Eco	89 dB(A)

Internal company measures ensure that standard units always comply with the requirements of current EC directives and applied standards. The signatories act for and in authority of management.

5.957-649 (02/04)

Alfred Kärcher Limited Partnership.

Registered office: Winnenden. Registration court: Waiblingen, HRA 169.

Personally liable partner. Kärcher Reinigungstechnik GmbH. Registered office Winnenden, 2404 Waiblingen Company Register, HRB

Managing directors:

Dr. Bernhard Graf, Hartmut Jenner, Georg Metz

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Cleaning Systems

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(Reiser) (Jenner)

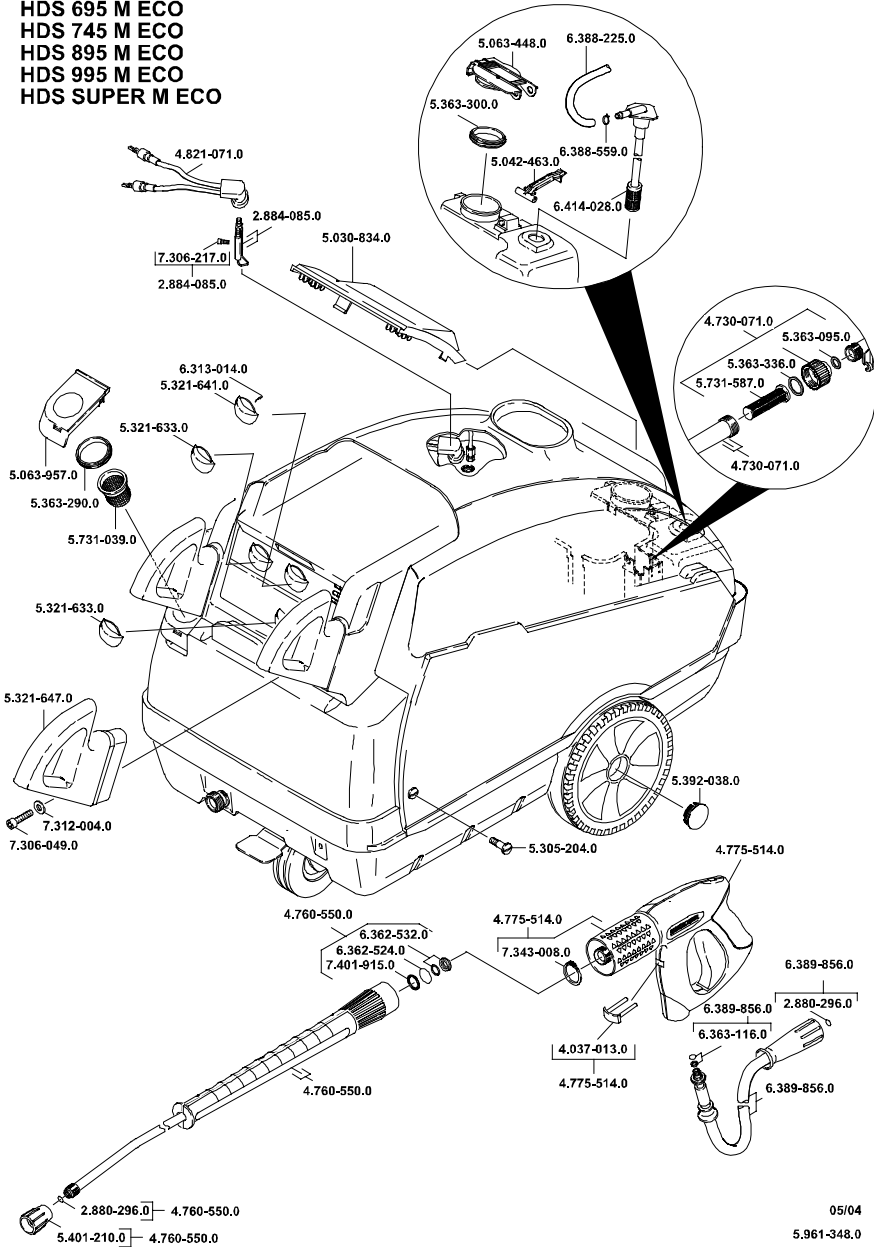
Type	HDS Super M Eco	HDS 695 M Eco
Mains connection	420 V 3~50 Hz 6,4 kW 16 A (0,307+ 0,192) Ω	420 V 3~50 Hz 5,8 kW 16 A ---
Water connection Supply temperature Suction height when drawn from open tank (at 20 °C water temperature)	max. 30 °C min. 1200 l/h (20 l/min) 0,5 m	max.30 °C min. 1000 l/h (16,7 l/min) 0,5 m
Performance data Flow rate: cold/hot water Operating pressure: cold/hot water (with standard nozzle supplied) Flow rate: steam Operating pressure: steam Steam nozzle part number Operating temperature - Hot water - Steam Cleaning-agent intake Burner output Maximum fuel oil consumption Recoil force of handgun Noise emission Sound pressure level (EN 60704-1) Guaranteed sound power level (2000/14/EC)	450-900 l/h (7,5-15 l/min) 3-18 MPa (30-180 bar) 450 l/h (6,7 l/min) max. 3,2 MPa (32 bar) 4,766-023 max. 95 °C 98-155 °C 0 - 35 l/h (0-0,6 l/min) 77 kW 6,3 kg/h 32 N 79 dB (A) 96 dB (A)	400-800 l/h (6,7-13,3 l/min) 3-17 MPa (30-170 bar) 400 l/h (6,7 l/min) max. 3,2 MPa (32 bar) 4,766-023 max. 95 °C 98-155 °C 0 - 32 l/h (0-0,5 l/min) 69 kW 5,6 kg/h 32 N 73 dB (A) 89 dB (A)
Machine vibration Rated vibration value (ISO 5349) Handgun Spray lance	2,6 m/s ² 2,3 m/s ²	1,4 m/s ² 0,8 m/s ²
Fuels Fuel Oil quantity Oil grade	Fuel oil EL or diesel 0,6 l Hypoid SAE90 (6,288-016)	Fuel oil EL or diesel 0,75 l Hypoid SAE90 (6,288-016)
Dimensions and weights Length x Width x Height Weight not incl. accessories Fuel tank Cleaning-agent tank	1285x690x835 mm 133 kg 25 l 20 l	1285x690x835 mm 130 kg 25 l 20 l

Type	HDS 745 M Eco	HDS 895 M Eco
Mains connection	240 V 1~50 Hz 3,2 kW 16 A (0,301+ 0,188) Ω	110 V 1~50 Hz 3,2 kW 30 A (0,301+ 0,188) Ω
Connected load		420 V 3~50 Hz 6,8 kW 16 A ---
Fuse (slow blow)		
Maximum permissible mains impedance		
Water connection		
Supply temperature	max.30 °C	max. 30 °C
Supply volume	min. 1000 l/h (16,7 l/min)	min. 1200 l/h (20 l/min)
Suction height when drawn from open tank (at 20 °C water temperature)	0,5 m	0,5 m
Performance data		
Flow rate: cold/hot water	350-700 l/h (5,8-11,7 l/min)	470-1000 l/h (7,8-16,7 l/min)
Operating pressure: cold/hot water (with standard nozzle supplied)	3-11 MPa (30-110 bar)	3-18 MPa (30-180 bar)
Flow rate: steam	350 l/h (5,8 l/min)	470 l/h (7,8 l/min)
Operating pressure: steam	max. 3,2 MPa (32 bar)	max. 3,2 MPa (32 bar)
Steam nozzle part number	4,766-023	4,766-023
Operating temperature		
- Hot water	max 95 °C	max 95 °C
- Steam	98-155 °C	98-155 °C
Cleaning-agent intake		
Burner output	0 - 35 l/h (0-0,6 l/min)	0 - 40 l/h (0-0,7 l/min)
Maximum fuel oil consumption	60 kW	86 kW
Recoil force of handgun	4,9 kg/h	6,9 kg/h
Noise emission	24 N	43 N
Sound pressure level (EN 60704-1)	71 dB (A)	75 dB (A)
Guaranteed sound power level (2000/14/EC)	87 dB (A)	91 dB (A)
Machine vibration		
Rated vibration value (ISO 5349)	2,0 m/s ²	1,9 m/s ²
Handgun	2,2 m/s ²	1,9 m/s ²
Spray lance		
Fuels		
Fuel	Fuel oil EL or diesel	Fuel oil EL or diesel
Oil quantity	0,75 l	0,75 l
Oil grade	Engine oil 15W40 (6.288-050)	Hypoid SAE90 (6.288-016)
Dimensions and weights		
Length x Width x Height	1285x690x835 mm	1285x690x835 mm
Weight not incl. accessories	130 kg	133 kg
Fuel tank	25 l	25 l
Cleaning-agent tank	20 l	20 l

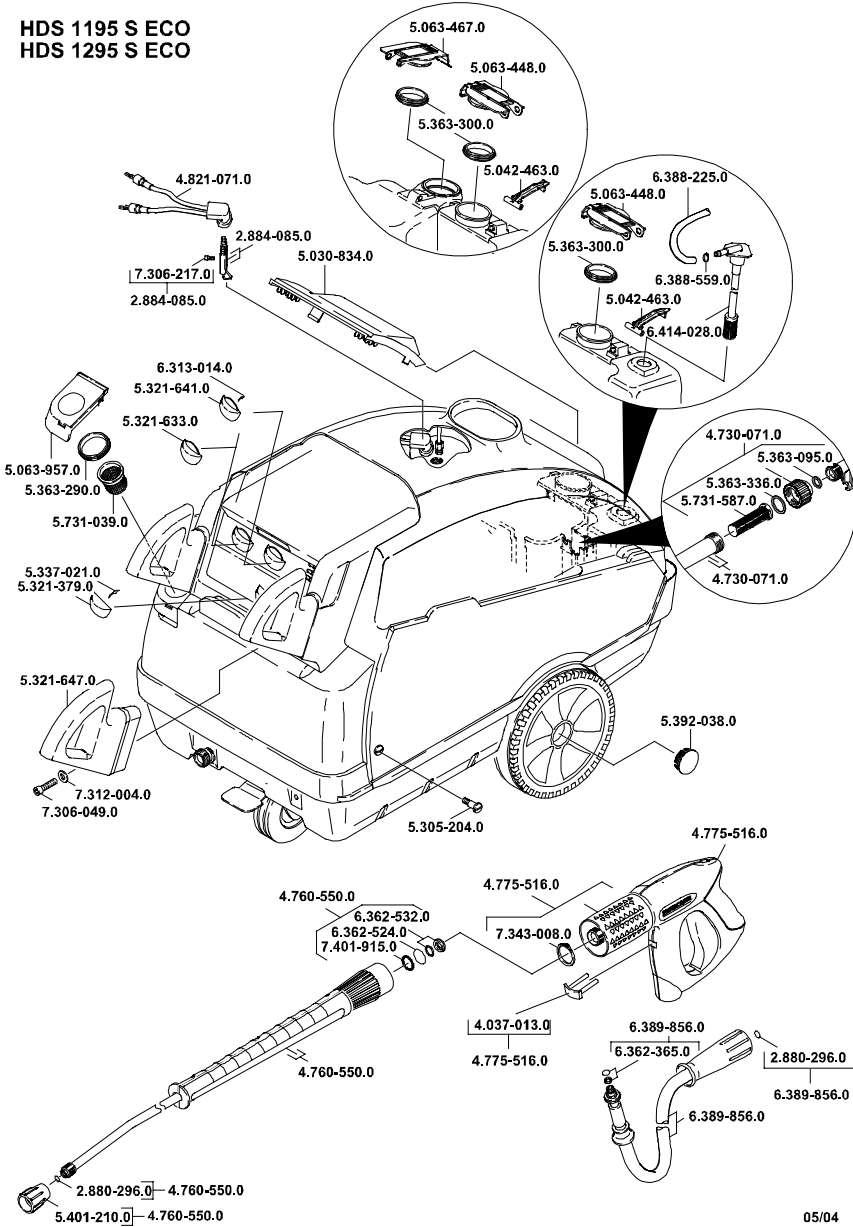
Type	HDS 995 M Eco	HDS 1195 S Eco
Mains connection	420 V 3~50 Hz 6,8 kW 16 A	420 V 3~50 Hz 8,2 kW 16 A (0.307+ j 0.192) Ω
Connected load Fuse (slow blow) Maximum permissible mains impedance		
Water connection		
Supply temperature Suction height when drawn from open tank (at 20°C water temperature)	max. 30 °C min. 1200 l/h (20 l/min) 0.5 m	max. 30 °C min. 1500 l/h (25 l/min) 0.5 m
Performance data		
Flow rate: cold/hot water Operating pressure: cold/hot water (with standard nozzle supplied) Flow rate: steam Operating pressure: steam Steam nozzle part number Operating temperature - Hot water - Steam Cleaning-agent intake Burner output Maximum fuel oil consumption Recoil force of handgun	470-1000 l/h (7,8-16,7 l/min) 3-18 MPa (30-180 bar) 470 l/h (7,8 l/min) max. 3,2 MPa (32 bar) 4.766-023 max. 95 °C 98-155 °C 0 - 40 l/h (0-0,7 l/min) 86 kW 6,9 kg/h 43 N	600-1200 l/h (10-20 l/min) 3-18 MPa (30-180 bar) 600 l/h (10 l/min) max. 2,8 MPa (28 bar) 4.766-024 max. 95 °C 98-155 °C 0 - 48 l/h (0-0,8 l/min) 103 kW 8,3 kg/h 60 N
Noise emission Sound pressure level (EN 60704-1) Guaranteed sound power level (2000/14/EC)	75 dB (A) 91 dB (A)	73 dB (A) 89 dB (A)
Machine vibration Rated vibration value (ISO 5349) Handgun Spray lance	2,5 m/s ² 1,8 m/s ²	2,5 m/s ² 2,3 m/s ²
Fuels Fuel Oil quantity Oil grade	Fuel oil EL or diesel 0,75 l Hypoid SAE90 (6..288-016)	Fuel oil EL or diesel 0,75 l Hypoid SAE90 (6..288-016)
Dimensions and weights Length x Width x Height Weight not incl. accessories Fuel tank Cleaning-agent tank	1285x690x835 mm 133 kg 25 l 20 l	1285x690x875 mm 155 kg 25 l 20 + 17 l

Type	HDS 1295 S Eco
Mains connection	420 V 3~50 Hz 8,2 kW 16 A (0,307+ 0,192) Ω
Water connection	max. 30 °C min. 1500 l/h (25 l/min) 0,5 m
Performance data	600-1200 l/h (10-20 l/min) 3-18 MPa (30-180 bar) 600 l/h (10 l/min) max. 2,8 MPa (28 bar) 4.766-024 max. 95 °C 98-155 °C 0 - 48 l/h (0-0,8 l/min) 103 kW 8,3 kg/h 60 N 73 dB (A) 89 dB (A)
Machine vibration	1,7 m/s ² 1,7 m/s ²
Fuels	Fuel oil EL or diesel 0,775 l Hypoid SAE90 (6.288-016)
Dimensions and weights	1285x690x875 mm 155 kg 25 l 20 + 17 l

HDS 695 M ECO
HDS 745 M ECO
HDS 895 M ECO
HDS 995 M ECO
HDS SUPER M ECO



HDS 1195 S ECO
HDS 1295 S ECO



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