

IT • IDROPULTRICI ELETTRICHE AD ACQUA CALDA

MANUALE D'ISTRUZIONE - USO E MANUTENZIONE

KP STEEL

EN • Hot Water High-Pressure Cleaners	Instruction manual - Use and Maintenance
FR • Nettoyeurs Haute Pression à Eau Chaude	Notice technique - Utilisation et Entretien
ES • Hidrolavadoras de Agua Caliente	Manual de Instrucciones - Uso y Mantenimiento
CS • Elektrické vysokotlaké čističe bez ohřevu vody	Návod k používání - používání a Údržba
DA • Højtrykssensere Til Varmt Vand	Instruktionsmanual - Brug og Vedligeholdelse
DE • Heisswasser-Hochdruckreiniger	Bedienungs- und Wartungsanleitung
EL • Υδροκαθαριστικό Μηχάνημα Με Ζεστό Νερό	Εγχειρίδιο Οδηγιών - Χρήση και Συντήρηση
HU • Melegvizés Magasnyomású Tisztítógépek	Használati kézikönyv - Használat és Karbantartás
NL • Heetwater-hogedrukreiniger	Instructiehandleiding - Gebruik en Onderhoud
PL • Myjki Gorącowodne	Instrukcja - Obsługa i Konserwacja
PT • Hidrolimpadoras de Água Quente	Manual de Instruções - Uso e Manutenção
SK • Elektrické vodné čističe s ohrevom vody	Návod na použitie - použitie a Údržba
SL • Visokotlačni Vodni Čistilec	Priročnik z navodili - Uporaba in Vzdrževanje
FI • Kuumavesipainepesurit	Ohjekirja - Käyttö ja Huolto
SV • Hetvattentvättar	Bruks- och Underhållsansvisning
NO • Høytryksspylere Med Varmt Vann	Bruks- og Vedlikeholdsveiledning
RU • Гидроочистители Высокого Давления с Нагревом Воды	Руководство - Эксплуатация И Обслуживание

IT • ATTENZIONE. Leggere le istruzioni prima di utilizzare la macchina.

EN • WARNING. Read the instructions before using the machine

FR • ATTENTION. Lire les instructions avant d'utiliser l'appareil

ES • ATENCIÓN. Leer atentamente las instrucciones antes de utilizar la máquina.

CS • POZOR. Před použitím zařízení si přečtěte návod k použití.

DA • BEMÆRK. Læs instruktionerne, før maskinen anvendes.

DE • ACHTUNG. Vor der Verwendung der Maschine die Anweisungen lesen.

EL • ΠΡΟΣΧΝ. Διαβάστε προσεκτικά τις οδηγίες πριν από την χρήση της μηχανής.

HU • FIGYELEM. Olvassa el az utasításokat a gép használatá előtt.

NL • LET OP. Voor het gebruik van de machine de aanwijzingen aandachtig doorlezen.



PL • UWAGA. Przeczytać instrukcje przed użyciem maszyny.

PT • ATENÇÃO. Ler as instruções antes de utilizar a máquina.

SK • UPOZORNENIE. Pred použitím zariadenia si prečítajte návod na použitie

SL • POZOR. Pred uporabo naprave preberite navodila.

FI • HUOMIO. Älä käytä laitetta, ennen kuin olet lukenut ohjeet.

SV • OBSERVERA. Läs instruktionerna innan maskinen används.

NO • OBS. Les instruksjonene før du bruker maskinen.

RU • ВНИМАНИЕ. Перед использованием оборудования необходимо прочитать данные инструкции.

Italiano **IT**

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Suomi **FI**

Svenska **SV**

Norsk **NO**

Русский **RU**

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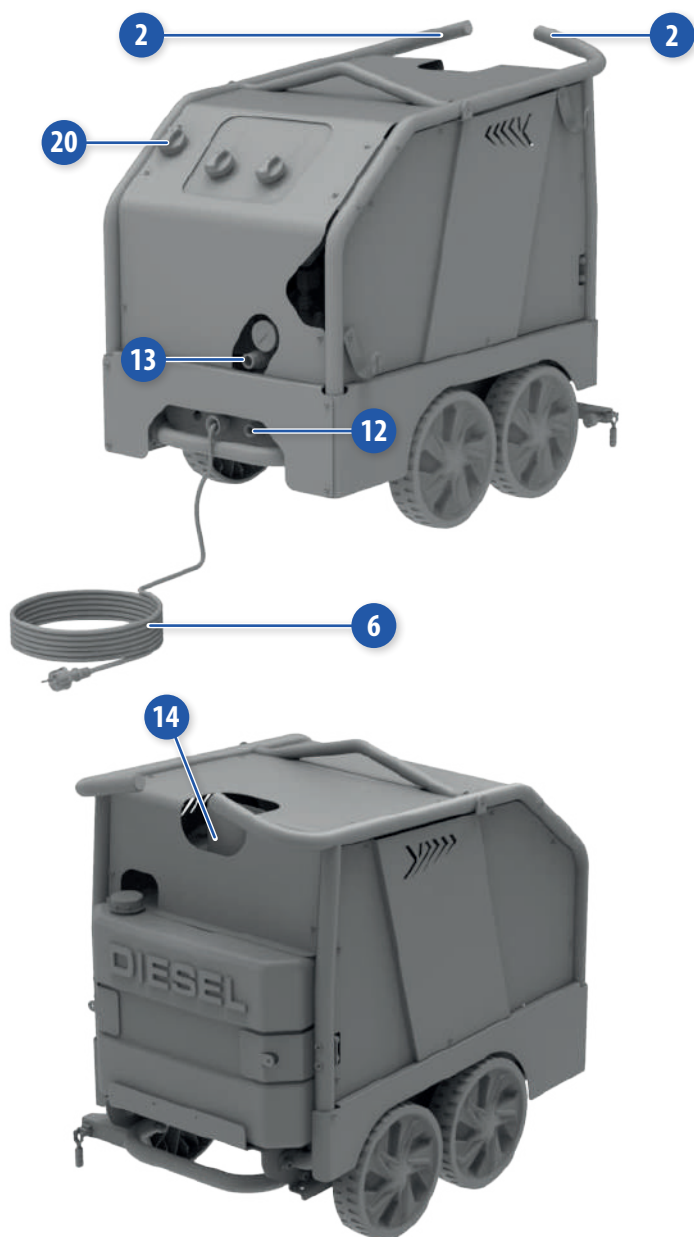
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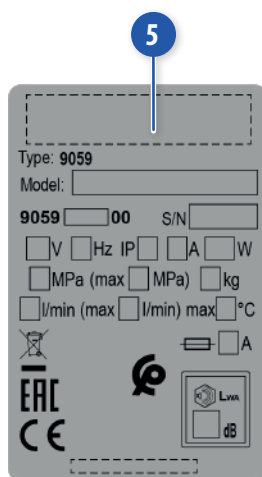
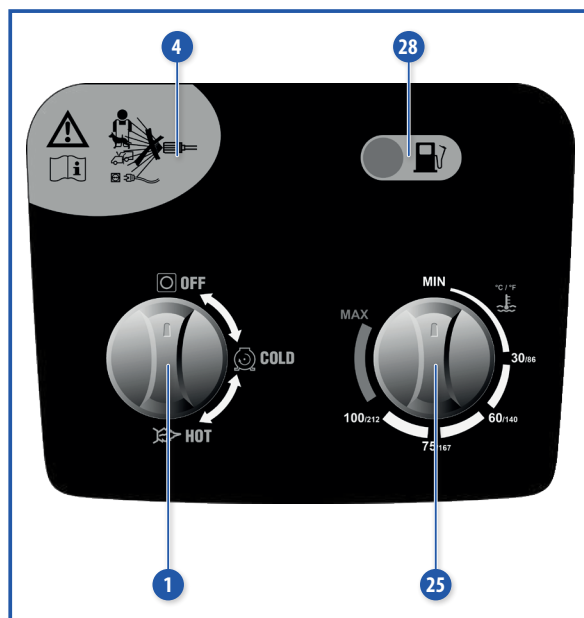
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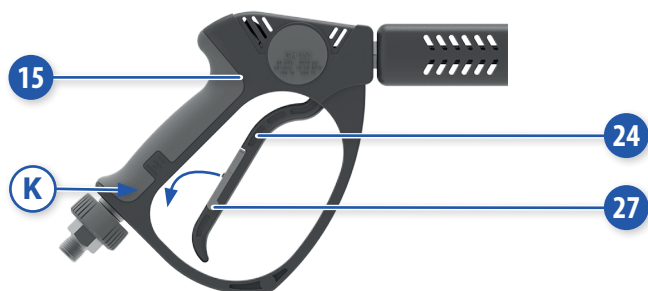
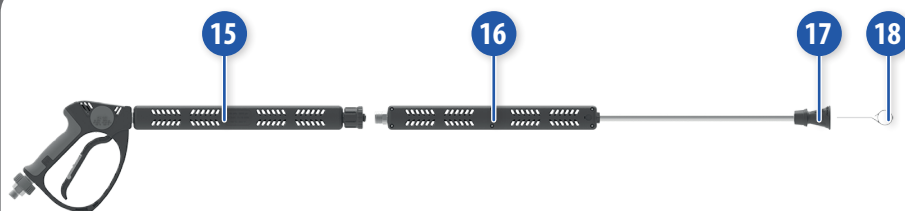
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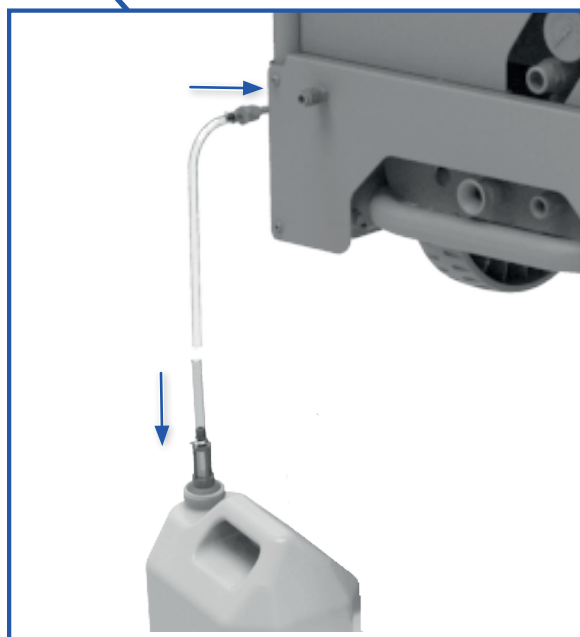
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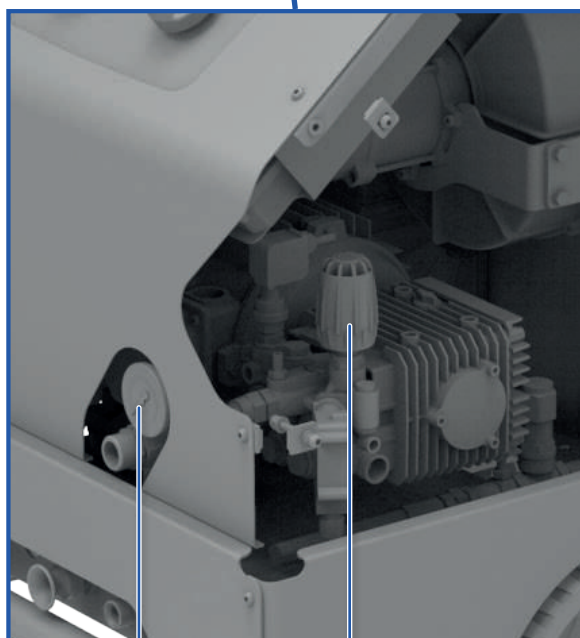
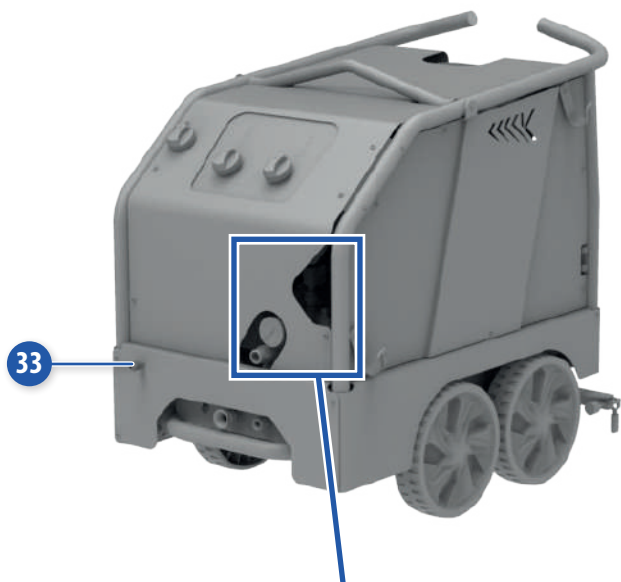
Русский **RU**





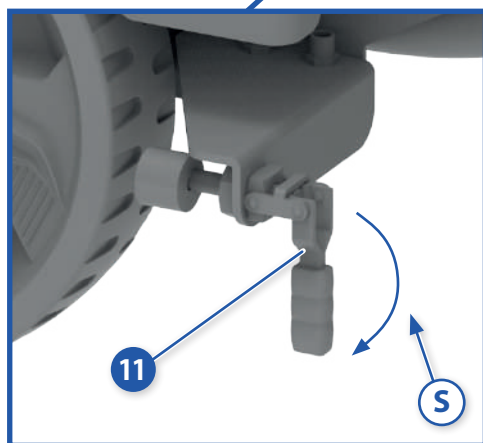
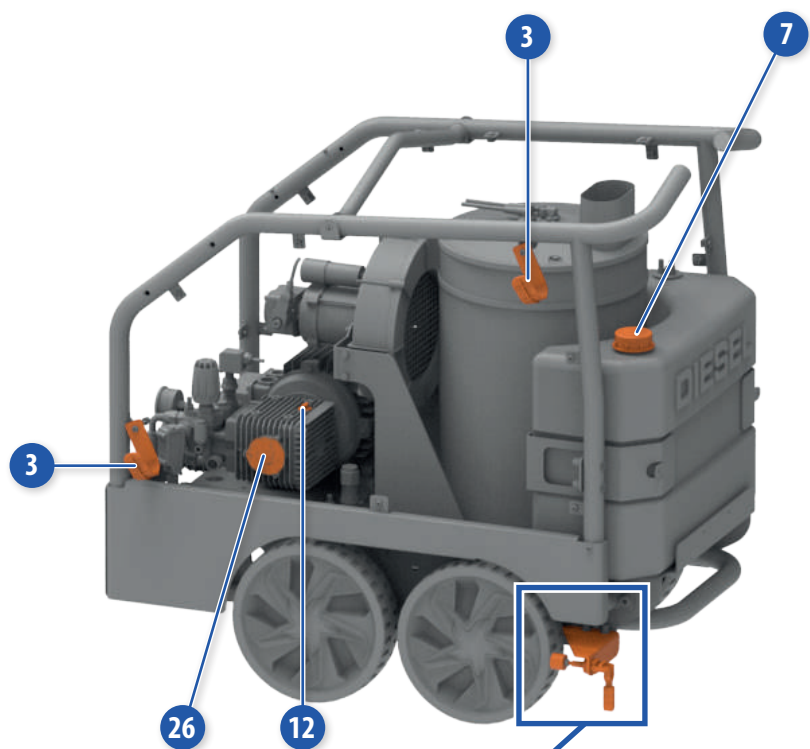


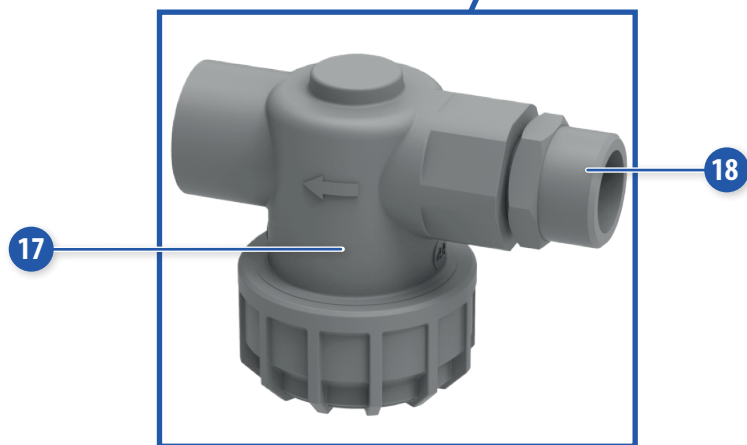
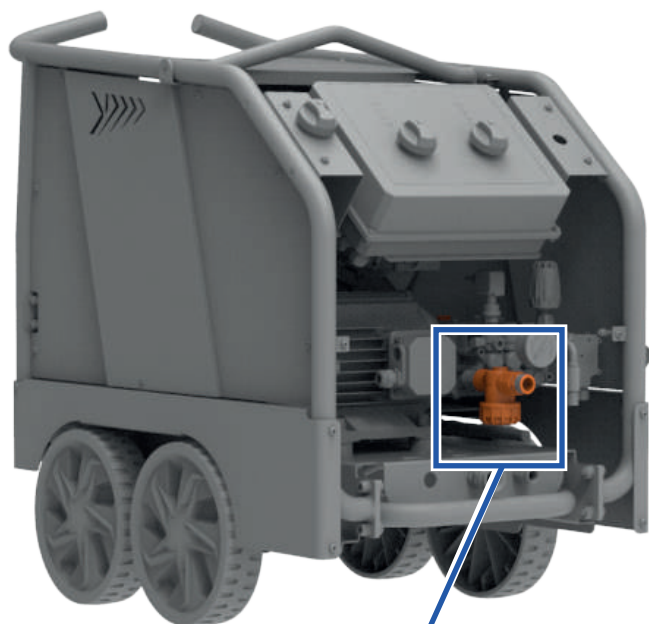


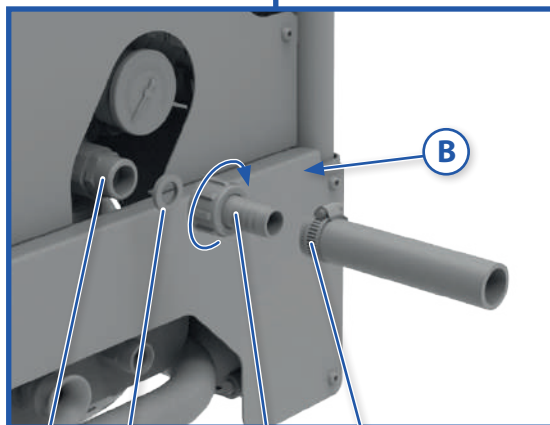
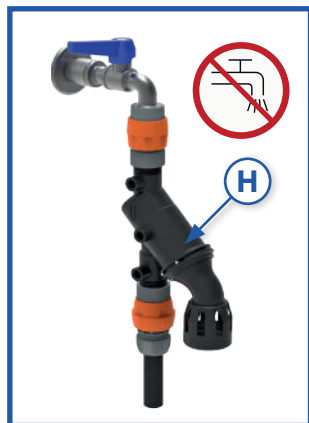


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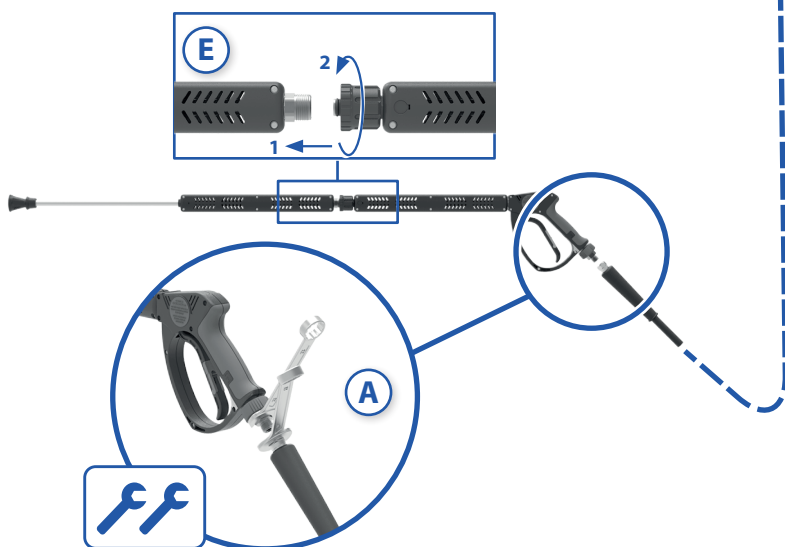
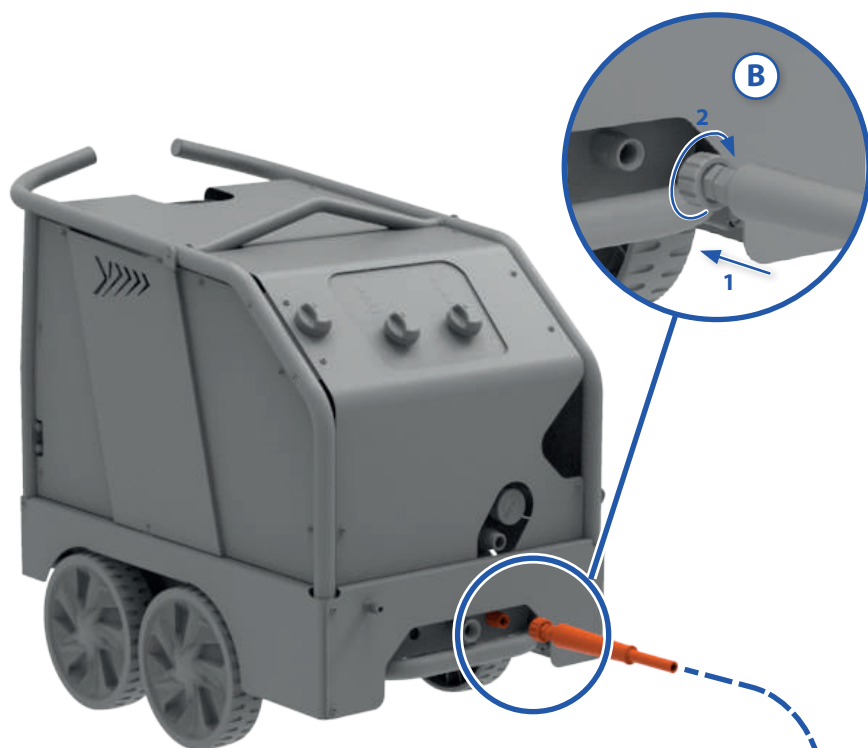


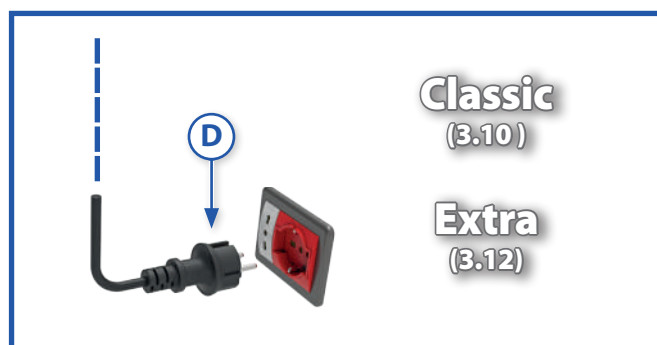
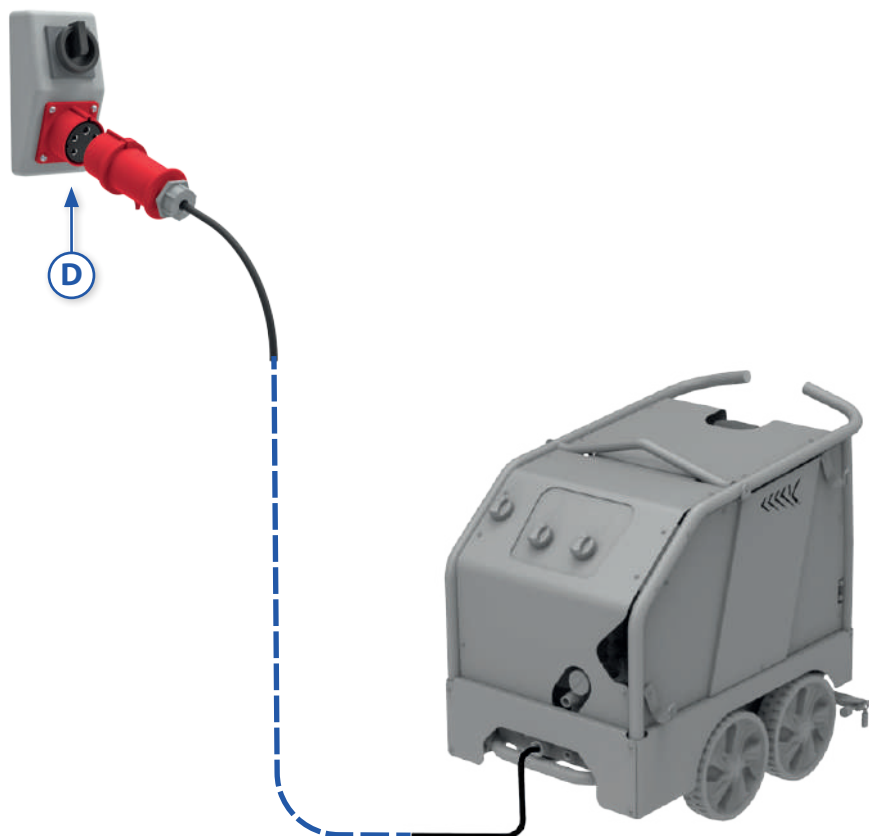
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34

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36





Classic
(3.10)

Extra
(3.12)



TECHNICAL CHARACTERISTICS AND SPECIFICATIONS

		KP STEEL	
		3.10	6.13
ELECTRICAL CONNECTIONS			
Power supply		230 V 1~50 Hz	400 V 3~50 Hz
Input	(kW - CV)	2,9 - 3,9	4,9 - 6,6
Fusibile		16 A	
HYDRAULIC CIRCUIT			
Maximum supply water temperature	(°C - °F)	60 - 140	
Minimum supply water temperature	(°C - °F)	5 - 41	
Minimum supply water flow rate	(l/min - USgpm)	13 - 3,4	16 - 4,2
Maximum supply water pressure	(bar - psi)	8 - 116	
Maximum priming depth	(m - ft)	0 - 0	
Inlet water box		NO	
PERFORMANCE			
Maximum flow rate	(l/min - USgpm)	11 - 2,9	13 - 3,4
Nominal flow rate	(l/min - USgpm)	10,2 - 2,7	12 - 3,2
Maximum pressure	(bar - psi)	120 - 1740	190 - 2755
Nominal pressure	(bar - psi)	105 - 1523	180 - 2610
Maximum water outlet temperature	(°C - °F)	110 - 230	
Maximum reaction force on the spray gun	(N)	24	38
Sound pressure level - Uncertainty	(dB(A))	84,9 - 0,7 ⁽¹⁾	
Sound power level	(dB(A))	92 ⁽¹⁾	
Operator hand-arm vibration - Uncertainty	(m/s ²)	2,0 - 0,24 ⁽¹⁾	
PUMP OIL		ENI MULTITECH THT ⁽²⁾	
WEIGHT AND DIMENSIONS			
Length x width x height	(mm - in)	900 x 570 x 870 - 35,5 x 22,5 x 34,3	
Weight	(kg - lb)	140 - 309	
Diesel tank	(l - USgal)	25 - 6,6	

⁽¹⁾ Measurements in agreement with EN 60335-2-79

⁽²⁾ Also see the corresponding oils table

The characteristics and specifications are guidelines only. The manufacturer reserves the right to make all modifications to the equipment deemed necessary.

ENI MULTITECH THT corresponding oils:

Mobil Mobilfluid 424	Mobil Mobilfluid 426	Petronas Arbor MTF Special 10W-30
Shell Spirax S4 TXM	Total Dynatrans MPV	Elf Tractelf BF16
Castrol Agri Trans Plus 80W	Chevron Textran THD Premium	Q8 Roloil Multivariax 35 HP

PARTS IDENTIFICATION

Refer to **figures 1, 2, 3, 4, 5, 6, 7 and 8.**

1. Main switch

2. Handle

3. Lance rest

4. Warning plates. Inform on residual risks and PPE to be used

5. Identification plate. Indicates the serial number, guaranteed sound power value (in compliance with Directive 2000/14/EC) and main technical characteristics

6. Electric power cable

7. Fuel tank cap

8. Pressure adjustment knob

9. Oil plug with vent for pump

10. Pressure gauge

11.Brake

12. Water outlet connector

13. Water inlet connector

14.Exhaust

15.Cleaner gun
- 16.Lance pipe

17. Nozzle support head

18.Nozzle cleaning pin

19.High pressure hose connector

20.Knob for adjusting detergent

21.High pressure hose

22.High pressure hose quick fit connector

24.Cleaner gun lever

25.Knob for temperature adjustment

26.Pump oil level indicator

27.Safety catch on cleaner gun lever

28.Low fuel warning light

29.Water inlet filter

30.Water inlet connector

34.Seal for water inlet hose support

35.Water inlet hose support

36.Suction hose grip

37.Detergent suction hose

MEANING OF GRAPHIC SYMBOLS USED

	"0" position (off) of main switch (1).
	"1" position (on) of main switch (1), with cold water operation of high pressure cleaner enabled.
	"1" position (on) of main switch (1), with hot water operation of high pressure cleaner enabled.

SAFETY DEVICES

• **Amperometric protector.**

This safety device stops the high-pressure cleaner in the event of electrical overcurrent.
If it trips, follow the instructions below:

- turn the main switch (1) to **"0"** and take the plug out of the mains socket;
- press the cleaner gun lever (24) to discharge any remaining pressure;
- wait 10 to 15 minutes for the high pressure cleaner to cool down;
- check that the requirements for the mains power connections have been followed correctly (see the **INSTRUCTIONS MANUAL – SAFETY INSTRUCTIONS**), paying particular attention to the extension lead used;

- reconnect the plug and repeat the start-up procedure described in “**OPERATION**”.
- **Safety valve.**
This duly calibrated maximum pressure valve discharges any excess pressure should an anomaly develop in the pressure adjustment system.
- **Boiler safety thermostat.**
This stops the burner working should the hydraulic circuit overheat as a result of an anomaly in the temperature adjustment system.
- **Burner Control.**
This stops the burner working should the combustion flame go out.
- **Pressure control/ adjustment valve**
This valve is calibrated by the Manufacturer so that the operating pressure can be adjusted using the knob (8). It enables the pumped liquid to return to the pump's suction unit, preventing the development of dangerous pressure levels when the gun is closed or when a pressure value is set over the maximum level allowed.
- **Dry-running control.**
This prevents the possibility of the burner running without water.
- **Gun Lever Blocking Device.**
This safety device (27) allows to lock the lever (24) on the cleaner gun (15) in the closed position, preventing accidental activation (**Fig.3, position K**).

STANDARD EQUIPMENT

Check the following parts are included in the packaging of the purchased product:

- high pressure cleaner
- high pressure delivery hose with the quick fit connector
- cleaner gun
- lance pipe
- suction unit connections kit
- hose for detergent suction from an external tank
- Instructions manual - safety notifications;
- instructions manual – operation and maintenance
- the declaration of conformity
- guarantee certificate
- booklet with details of service centers
- nozzle cleaning pin

If you encounter any difficulties, please get in touch with your dealer or an authorized customer service centre.

OPTIONAL ACCESSORIES

The following range of accessories can be added to the standard equipment supplied with the high pressure cleaner:

- hose reel
- sandblasting lance: designed for sanding surfaces, removing rust, paint and lime scale deposits, etc;
- pipe flushing probe: designed for unblocking pipes and ducts;
- rotating nozzle lance: designed for the removal of stubborn dirt;
- foaming lance: designed for a more efficient distribution of detergent
- various types of lances and nozzles.

INSTALLATION – FITTING THE ACCESSORIES

- Connect the quick fit connector (22) on the hose (21) to the water outlet connector (12) and secure the ring nut tightly by hand. **STEP B IN FIG. 9.**
- Screw the connector (19) on the high pressure hose onto the thread of the cleaner gun (15) and tighten it using two 22 mm spanners (not supplied). **STEP A IN FIG. 9.**

- Insert the seal (34) onto the water inlet hose support (35) and screw it onto the connector (13). **STEP C IN FIG. 8.**

PRELIMINARY OPERATIONS

- Use the handles (2) to move the high pressure cleaner to the area where it is to be used.
- Engage the brake (11). **STEP S IN FIG. 6**
- Unwind the high pressure hose completely (211).
- Use a collar clamp (not supplied) to secure a hose from the water supply, whose internal diameter must be 19 mm / 0.75", to the water inlet hose support (35). **STEP C IN FIG. 8.**
- Connect the water supply hose to a tap.
- Open the water tap (if connecting to the mains water supply, you must use a backflow hydraulic device: please refer to the relative instruction manual), making sure that there is no dripping (or place the suction pipe in a draft tank).
- Check the detergent adjustment knob (20) is closed properly.
- Check the master switch (1) is set at "0" and connect the plug. **STEP D IN FIG. 10.**
- Turn the master switch (1) to .
- Press the cleaner gun lever (24) and wait for an even stream of water to be produced.
- Turn the master switch (1) to "0" and connect the lance pipe (16) to the cleaner gun (15), securing it firmly. **STEP E IN FIG. 9.**

STANDARD OPERATION WITH COLD WATER (AT HIGH PRESSURE)

- Turn the high pressure cleaner on again by turning the master switch (1) to .
- Press the cleaner gun lever (24) and check the nozzle spray is even without dripping.
- If necessary, adjust the pressure using the knob (8). Turn it clockwise to increase the pressure; turn it anticlockwise to reduce the pressure.
- You can check the pressure level on the pressure gauge (10).

NOTE: If the level of fuel in the tank is below the minimum mark, the warning light (28) will remain lit, even if you are operating the cleaner with cold water.

STANDARD OPERATION WITH HOT WATER (AT HIGH PRESSURE)

- Unscrew the cap (7) and fill the tank with automotive gas oil, making sure the fuel does not spill over. We recommend using a funnel reserved exclusively for this purpose (maximum tank capacity 20 l / 5,3 US gal). Replace the cap.
- Turn the high pressure cleaner on again by turning the master switch (1) to .
- Select the temperature required using the temperature adjustment knob (25).
- Press the cleaner gun lever (24) and check the nozzle spray is even without dripping.
- If necessary, adjust the pressure using the knob (8). Turn it clockwise to increase the pressure; turn it anticlockwise to reduce the pressure.
- You can check the pressure level on the pressure gauge (10).
- When the fuel is low, the burner will stop working and the warning light (28) will light up.
- The burner will only start working approximately 3 seconds after the cleaner gun has been opened and will stop working when the cleaner gun is closed or after it has reached the set temperature.
- If you want to switch from hot water operation to cold water operation, turn the master switch (1) to  the position.

OPERATION WITH DETERGENT

The Manufacturer recommends the use of detergents which are at least 90% biodegradable. Refer to the label on the detergent for instructions on how to use it.

- Turn the master switch (1) to “0” .
- Put the hose (37) in the external tank (**FIG. 4**) which has already been prepared with detergent to the strength required: in this case too, follow the instructions given for the dosage on the detergent pack label.
- Turn the knob for adjusting the detergent (20) anticlockwise.
- Switch the cleaner on again by turning the master switch (1) to  or  ; operate the cleaner gun lever (24) to start distribution of detergent (these versions distribute the detergent at high pressure).

STOPPING THE CLEANER – TOTAL STOP MODE

- Release the cleaner gun lever (24) to stop the high pressure jet and the high pressure cleaner moves to by-pass operating mode, and if it remains in this condition it will stop automatically after approximately 13 seconds (Total Stop).
- The cleaner will resume normal operation the as soon as the lever on the gun is pressed.



WARNING

- *If you stop the high pressure jet and put the gun down, enable the locking handle (27). **STEP K IN FIG. 3.***

STOPPING

- Run the cleaner for a few minutes with cold water.
- Close the tap on the water supply off completely (or remove the suction pipe from the draft tank).
- Drain the water out of the cleaner by running it for a few seconds with the cleaner gun lever (24) pressed.
- Turn the master switch (1) to “0”.
- Take the plug out of the power socket.
- Eliminate any remaining pressure in the high pressure hose (21) by keeping the cleaner gun lever (24) pressed down for a few seconds.
- Wait for the cleaner to cool down.

STORAGE

- Wind up the high pressure hose (21) with due care, making sure it is not bent.
- Wind up the power cord (6).
- Store the high pressure cleaner in a clean, dry place. Make sure the power cord and the high pressure hose are not damaged.

ROUTINE MAINTENANCE

Follow the instructions for “**STOPPING WORK**” and those provided in the table below.

MAINTENANCE SCHEDULE	ACTION
Every time the cleaner is used	Check the power cord, the high pressure hose, the connectors, the cleaner gun and the lance pipe. Should any of these look damaged, do not use the cleaner for any reason and contact a QUALIFIED TECHNICIAN.
Once a Week	Check the water inlet filter and clean it if necessary. Unscrew the whole filter and remove the filter cartridge. Running water or compressed air is generally all that is needed to clean the filter cartridge. In difficult cases, use a lime scale remover or replace the filter cartridge. For tough cases, use a lime scale remover or replace it by contacting a QUALIFIED TECHNICIAN to buy the spare part. Replace the filter.
Once a Month	- Clean the nozzle. To clean the nozzle, it is generally sufficient to insert the pin (18) supplied into the nozzle's hole. If no appreciable results are obtained, contact a QUALIFIED TECHNICIAN to buy the spare part . The nozzle can be replaced using a 14 mm/0.55" spanner (not supplied). - Check the pump oil level.

SUPPLEMENTARY MAINTENANCE

Supplementary maintenance should only be carried out by a **QUALIFIED TECHNICIAN**, following the table below (guideline only).

MAINTENANCE SCHEDULE	ACTION
Every 200 hours	- Check the pump's hydraulic circuit (water). - Check the pump is firmly secured - Adjust the electrodes
Every 500 hours	- Change the pump oil - Replace the electrodes - Replace the fuel nozzle. - Check the pump delivery/suction valves. - Check the tightness of pump screws.
	- Clean the fuel nozzle. - Check/replace the fuel filter. - Check/replace the water filter
	- Check the pump's adjustment valve - Clean the boiler. - Check the safety devices

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The cleaner does not start when the master switch (1) is turned to  or  .	A safety device has been tripped on the system where the cleaner is connected (a fuse, circuit breaker, etc.).	Reset the safety device. SHOULD IT TRIP AGAIN, DO NOT USE THE CLEANER AND CONTACT A QUALIFIED TECHNICIAN.
	The plug has not been inserted properly in the power outlet	Disconnect the plug and reconnect it correctly.
The cleaner vibrates a lot and is noisy.	The water inlet filter is dirty	Follow the instructions in "ROUTINE MAINTENANCE" .
	The cleaner is taking in air.	Check there are no leaks in the suction circuit.
	Not enough water supply or priming too deep	Check that the tap is fully open and the mains water flow rate and priming depth comply with the data given in the paragraph "TECHNICAL CHARACTERISTICS AND SPECIFICATIONS" .
	The detergent tap is open.	Close the tap by turning the knob clockwise (20).
The cleaner fails to reach maximum pressure	The adjustment valve is set for a pressure below the maximum.	Turn the knob clockwise (8).
	The nozzle is worn.	Replace the nozzle as instructed in "ROUTINE MAINTENANCE" .
	Not enough water supply or priming too deep	Check the tap is fully open and that the mains water pressure or the priming depth comply with the data in "TECHNICAL CHARACTERISTICS AND SPECIFICATIONS" .
	Backflow hydraulic device fault.	Refer to the relative manual.
Poor intake of detergent.	The detergent adjustment knob (20) is not open enough.	Turn the knob anticlockwise.
	The detergent is too viscose.	Use one of the detergents recommended by the Manufacturer and dilute it as instructed on the label.
No water comes out of the nozzle or flow rate is poor.,	No water.	Check that the mains water tap is fully open or the suction pipe can prime.
	Priming too deep.	Check that the priming depth complies with the data given in the paragraph "TECHNICAL CHARACTERISTICS AND SPECIFICATIONS" .
	Clogged water nozzle.	Clean and/or replace the nozzle as instructed in "ROUTINE MAINTENANCE" .
	Backflow hydraulic device fault.	Refer to the relative manual.
Water leaking from under the high pressure cleaner.	Safety valve triggered.	IF THIS HAPPENS PERSISTENTLY DO NOT USE THE HIGH PRESSURE CLEANER BUT CONTACT A QUALIFIED TECHNICIAN.

(continues on the next page)

PROBLEM	CAUSE	SOLUTION
The cleaner stops working.	A safety device has been tripped in the system where the cleaner is connected (a fuse, differential switch, etc.).	Reset the safety device. SHOULD IT TRIP AGAIN, DO NOT USE THE CLEANER AND CONTACT A QUALIFIED TECHNICIAN.
	The amperometric protector has tripped.	Follow the instructions in “ SAFETY FEATURES ”.
The cleaner resumes operation spontaneously when it is in Total Stop mode.	Leaks and/or drips in the delivery circuit.	Inspect the delivery circuit for leaks.
When the master switch (1) is turned on, the engine hums but does not start up.	Unsuitable electrical system and/or extension lead	Check the instructions for connecting up to the mains power supply have been followed correctly (refer to the INSTRUCTIONS MANUAL – SAFETY INSTRUCTIONS), especially as regards the use of an extension lead.
The cleaner does not deliver hot water	There is not enough fuel in the tank (warning light 28 is lit).	Top up with fuel.
	The fuel filter is dirty.	Follow the instructions in “ SUPPLEMENTARY MAINTENANCE ”.
	The boiler’s safety thermostat has tripped.	Leave the cleaner to cool down for a few minutes so the safety device can reset. SHOULD IT TRIP AGAIN, DO NOT USE THE CLEANER AND CONTACT A QUALIFIED TECHNICIAN.