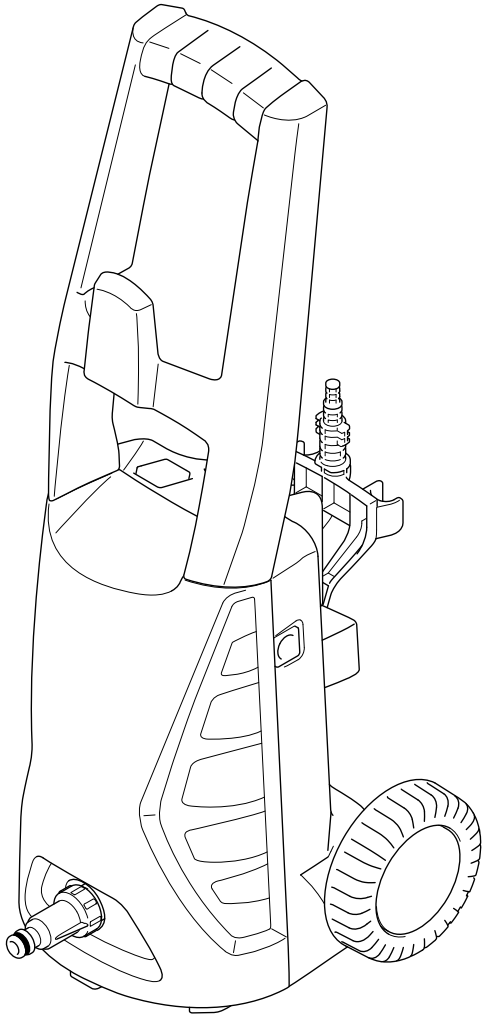
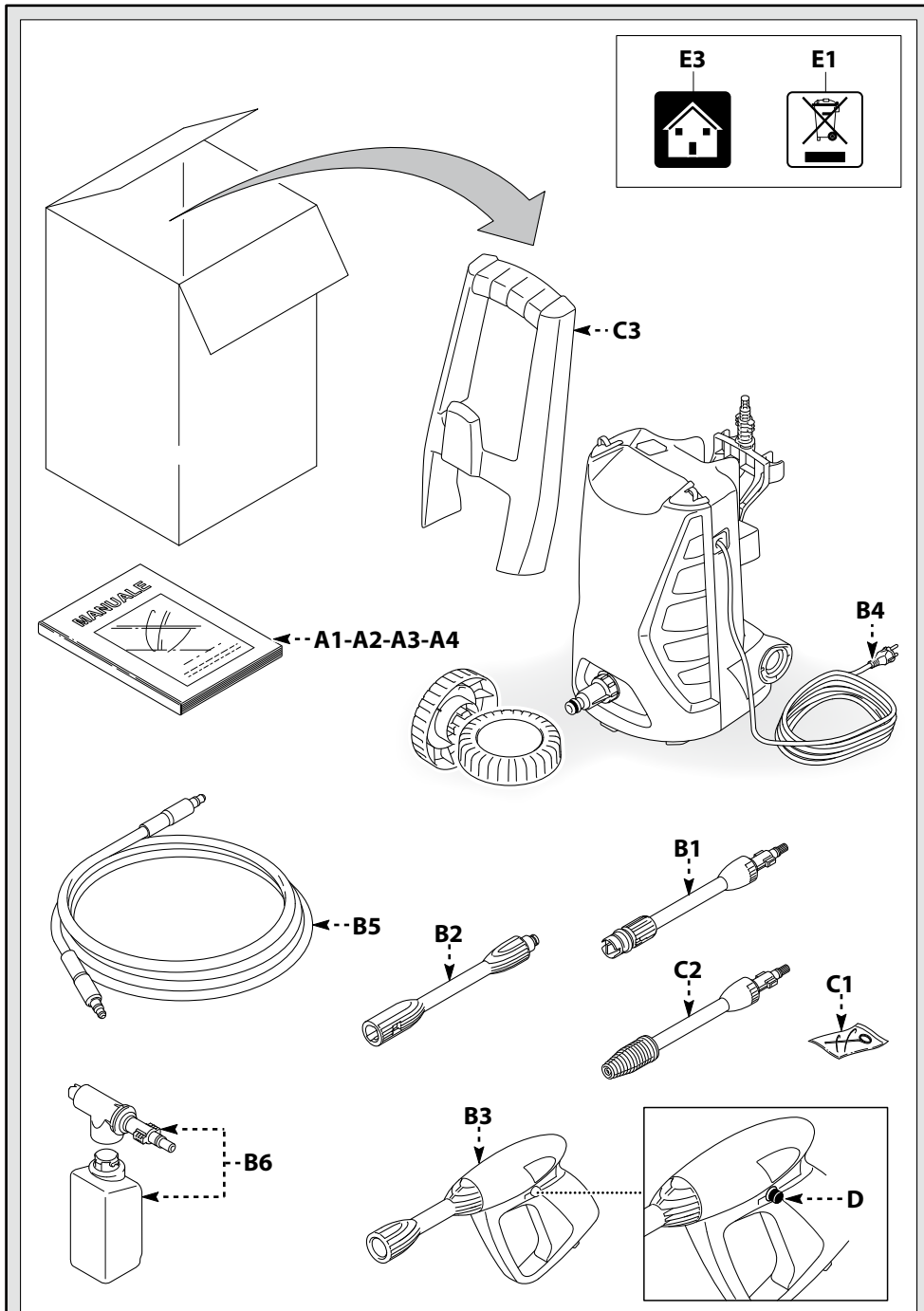
BLACK & DECKER®

PW1570 TD



EN *Read this manual through carefully before installing/using the cleaner, paying special attention to the SAFETY INSTRUCTIONS*

TW 安裝/使用清洗機前，請仔細通讀本手冊，並特別注意“安全須知”內容。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E1
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B4
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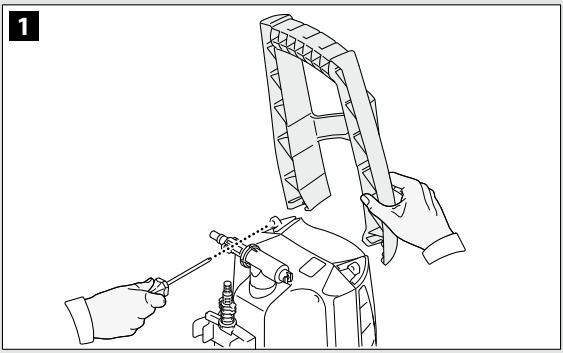
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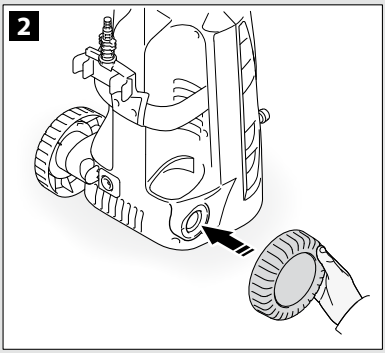
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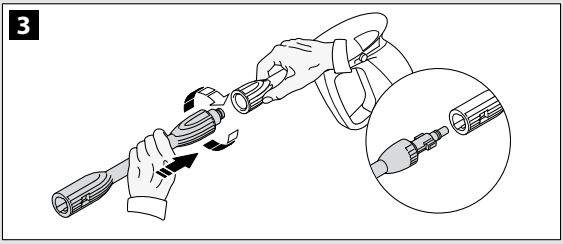
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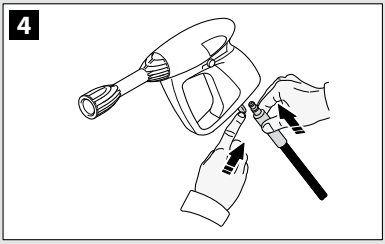
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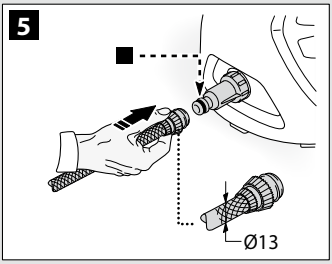
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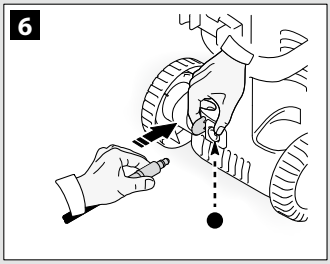
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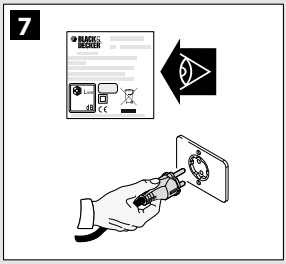
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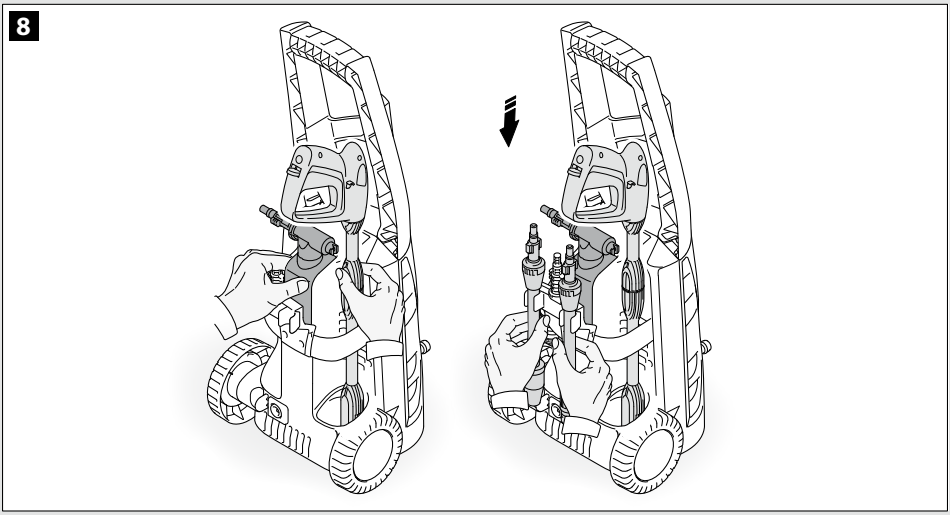
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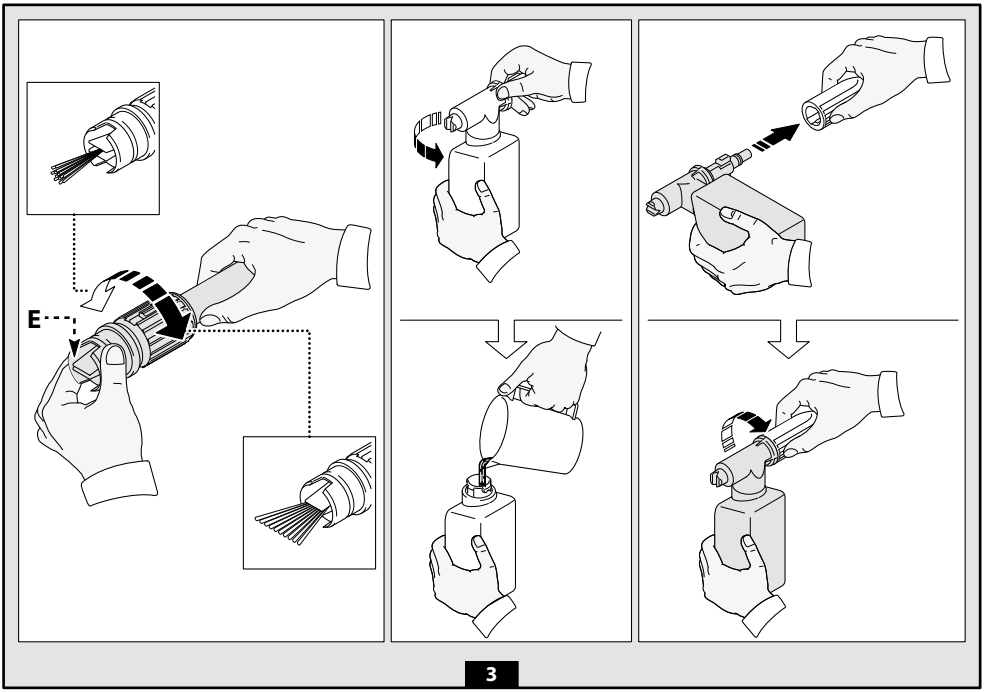

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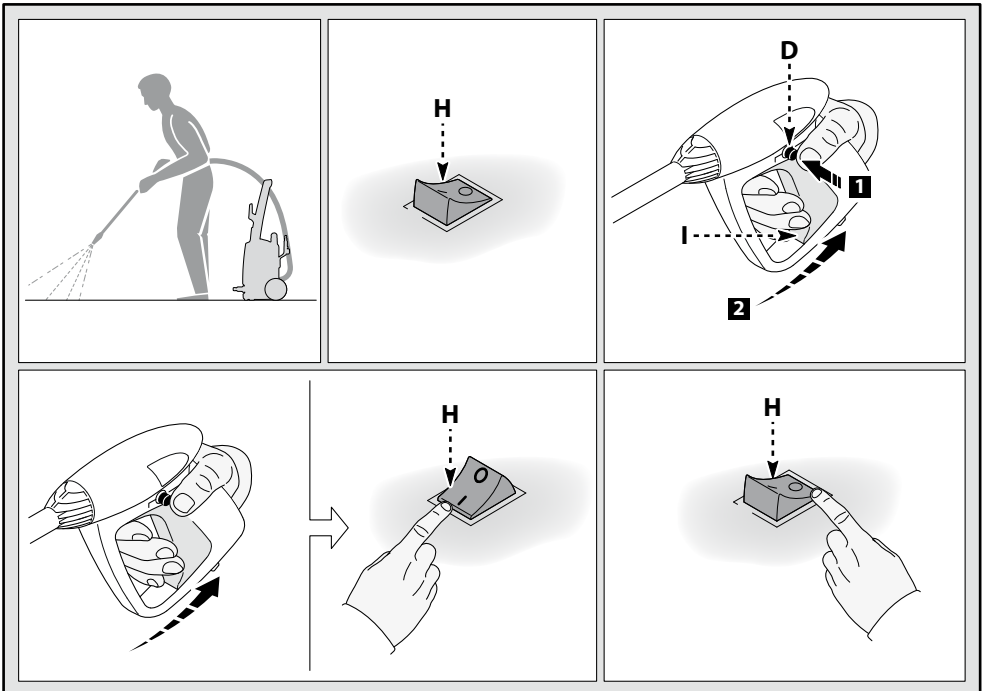

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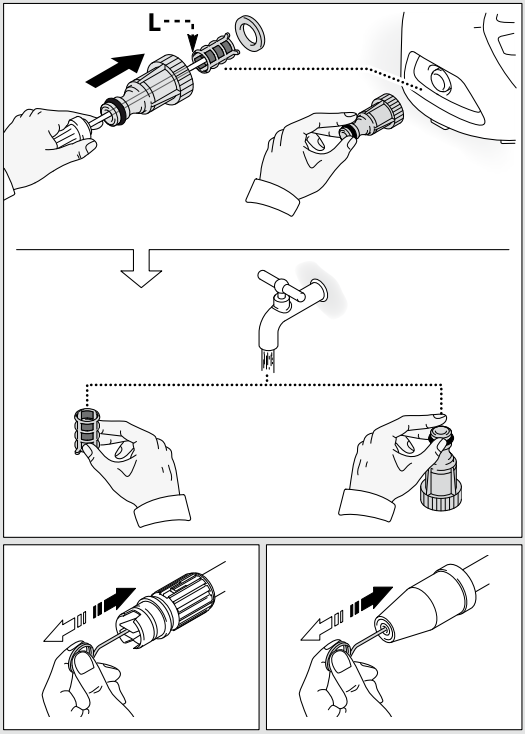

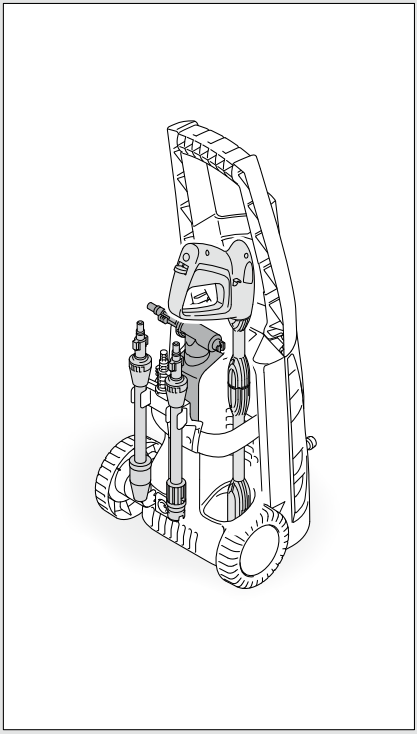

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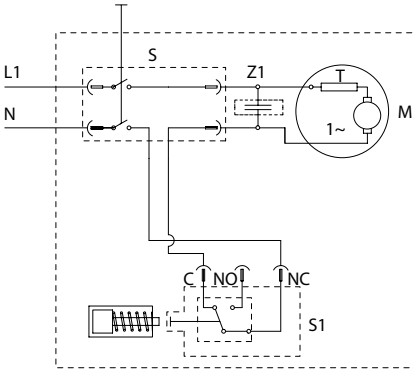
	Volt	⇨ 1 ÷ 25 m	⇨ 25 ÷ 50 m
	115	2 x 1,5 mm^2	2 x 2,5 mm^2



S = Switch
Z1 = Capacitor suppressor
T = Thermal protection
M = Motor
S1 = Pressure switch

I

1 SAFETY INSTRUCTIONS

1.1 The appliance you have purchased is a technologically advanced product designed by one of the leading European manufacturers of high pressure pumps. To obtain the best performance from your unit, read this booklet carefully and follow the instructions each time you use it. We congratulate you on your choice and wish you successful operation.

2 SAFETY RULES/RESIDUAL RISKS

2.1 SAFETY "MUST NOTS"

2.1.1  DO NOT use the appliance with inflammable or toxic liquids, or any products which are not compatible with the correct operation of the appliance. EXPLOSION OR POISONING HAZARD

2.1.2  DO NOT direct the water jet towards people or animals. INJURY HAZARD

2.1.3  DO NOT direct the water jet towards the unit itself, electrical parts or towards other electrical equipment. ELECTRIC SHOCK HAZARD

2.1.4  DO NOT use the appliance outdoors in case of rain. SHORT CIRCUIT HAZARD

2.1.5  DO NOT allow children or incompetent persons to use the appliance. INJURY HAZARD

2.1.6  DO NOT touch the plug and/or socket with wet hands. ELECTRIC SHOCK HAZARD

2.1.7  DO NOT use the appliance if the electrical cable is damaged. ELECTRIC SHOCK AND SHORT CIRCUIT HAZARD

2.1.8  DO NOT use the appliance if the high pressure hose is damaged. EXPLOSION HAZARD

2.1.9  DO NOT jam the trigger in the operating position. ACCIDENT HAZARD

2.1.10  Check that the data plates are affixed to the appliance, if not, inform your dealer. Units without plates must NOT be used as they are unidentifiable and potentially dangerous. ACCIDENT HAZARD

2.1.11  DO NOT tamper with or adjust the setting of the safety valve or the safety devices. EXPLOSION HAZARD

2.1.12  DO NOT alter the original diameter of the spray head nozzle. HAZARDOUS ALTERATION OF OPERATING PERFORMANCE

2.1.13  DO NOT leave the appliance unattended. ACCIDENT HAZARD

2.1.14  DO NOT move the appliance by pulling on the **ELECTRICAL CABLE**. SHORT CIRCUIT HAZARD

2.1.15 Make sure that cars do not drive over the high pressure hose.

2.1.16 DO NOT move the appliance by pulling on the high pressure hose. EXPLOSION HAZARD

2.1.17 When directed towards tyres, tyre valves or other pressurised components, the high pressure jet is potentially dangerous. Do not use the rotating nozzle kit, and always keep the jet at a distance of at least 30 cm during cleaning. EXPLOSION HAZARD

2.2 SAFETY "MUSTS"

2.2.1  All electrical conductors MUST BE PROTECTED against the water jet. SHORT CIRCUIT HAZARD

2.2.2  The appliance MUST ONLY BE CONNECTED to an adequate power supply in compliance with all applicable regulations. ELECTRIC SHOCK HAZARD

• Use of a safety residual current circuit-breaker (R.C.C.B.) will provide additional protection for the operator (30 mA).

Models supplied without plug must be installed by qualified staff. Use only authorized electrical extension leads with suitable conductor gauge.

2.2.3  High pressure may cause parts to rebound: wear all the protective clothing and equipment needed to ensure the operator's safety. INJURY HAZARD

2.2.4  Before doing work on the appliance, REMOVE the plug. ACCIDENTAL START-UP HAZARD

2.2.5  Before pressing the trigger, GRIP the gun firmly to counteract the recoil. INJURY HAZARD

2.2.6  COMPLY WITH the requirements of the local water supply company. According to EN 12729 (BA), the appliance may only be connected to the mains drinking water supply if a backflow preventer valve with drain facility is installed in the supply hose. CONTAMINATION HAZARD

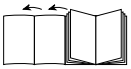
2.2.7  Maintenance and/or repair of electrical components MUST be carried out by qualified staff. ACCIDENT HAZARD

2.2.8  DISCHARGE residual pressure before disconnecting the unit hose. INJURY HAZARD

2.2.9  Before using the appliance, CHECK every time that the screws are fully tightened and that there are no broken or worn parts. ACCIDENT HAZARD

2.2.10  ONLY USE detergents which will not corrode the coating materials of the high pressure hose/electrical cable. EXPLOSION AND ELECTRIC SHOCK HAZARD

2.2.11  ENSURE that all people or animals keep a minimum distance of 16 yd. (15m) away. INJURY HAZARD



Technical Data (EN)	Unit	PW 1570
Output	L/min	6,2
Pressure	MPa	8
Maximum pressure	MPa	12
Power	kW	1,5
T° input	°C	50
Maximum input pressure	MPa	1
Repulsive force of the gun to the maximum pressure	N	9,3
Motor Insulation	-	Class F
Motor Protection	-	IPX5
Voltage	V/Hz	115/60
Sound level (K=3 dB(A)) :		
L_{PA} (EN 60704-1)	Db (A)	75,8
L_{WA} (EN 60704-1)	Db (A)	84
Unit vibrations (K=1.5M/s²)	M/s²	2,74
Weight	kg	6,4

EN

3 GENERAL INFORMATION (FIG.1)

3.1 Use of the manual

This manual forms an integral part of the appliance and should be kept for future reference. Please read it carefully before installing/using the unit. If the appliance is sold, the Seller must pass on this manual to the new owner along with the appliance.

3.2 Delivery

The appliance is delivered partially assembled in a cardboard box.
The supply package is illustrated in fig.1.

3.2.1 Documentation supplied with the appliance

- **A1** Use and maintenance manual
- **A2** Safety instructions
- **A3** Declaration of conformity
- **A4** Warranty regulations

3.3 Disposing of packaging

The packaging materials are not environmental pollutants but must still be recycled or disposed of in compliance with the relevant legislation in the country of use.

3.4 Safety signs

Comply with the instructions provided by the safety signs fitted to the appliance.
Check that they are present and legible; otherwise, fit replacements in the original positions.
E1 sign – Indicates that the appliance **must not be disposed of** as municipal waste; it may be handed in to the dealer on purchase of a new appliance. The appliance's electrical and electronic parts must not be reused for improper uses since they contain substances which constitute health hazards.

3.4.1 Symbols

E2 symbol – Indicates that the appliance is intended for professional use, i.e. for experienced people informed about the relative technical, regulatory and legislative aspects and capable of performing the operations necessary for the use and maintenance of the appliance.

E3 symbol – Indicates that the appliance is intended for non-professional (domestic) use.

4 TECHNICAL INFORMATION (FIG.1)

4.1 Envisaged use

This appliance has been designed for individual use for the cleaning of vehicles, machines, boats, masonry, etc, to remove stubborn dirt using clean water and biodegradable chemical detergents.
Vehicle engines may be washed only if the dirty water is disposed of as per regulations in force.

- Intake water temperature: **see data plate on the appliance**.
- Intake water pressure: **min. 0,1MPa-max 1MPa.**
- Operating ambient temperature: **above 0°C**.

The appliance is compliant with the EN 60335-2-79/A1 standard.

4.2 Operator

The symbol on the front cover identifies the appliance's intended operator (professional or non-professional).

4.3 Improper use

Use by unskilled persons or those who have not read and understood the instructions in the manual is forbidden.
The introduction of inflammable, explosive and toxic liquids into the appliance is prohibited.
Use of the appliance in a potentially inflammable or explosive atmosphere is forbidden.
The use of non-original spare parts and any other spare parts not specifically intended for the model in question is prohibited.
All modifications to the appliance are prohibited. Any modifications made to the appliance shall render the Declaration of Conformity null and void and relieve the manufacturer of all liability under civil and criminal law.

4.4 Main components

- **B1** Adjustable spray nozzle
- **B2** Lance
- **B3** Gun with safety catch
- **B4** Power supply cable with plug
- **B5** High pressure hose
- **B6** Detergent tank (on models with this feature)

4.4.1 Accessories (if included in the supply package – see fig.1).

- **C1** Nozzle cleaning tool
- **C2** Rotating nozzle kit
- **C3** Handle
- **C4** Brush
- **C5** Hose reel

4.5 Safety devices

Caution - Danger!
Do not tamper with or adjust the safety valve setting.

- Safety valve and/or pressure limiting valve.
  The safety valve is also a pressure limiting valve.
  When the gun trigger is released, the valve opens and the water recirculates through the pump inlet or is discharged onto the ground.
- **Thermostat valve** (**D1** where fitted)
  If the water temperature exceeds the temperature set by the manufacturer, the thermostat valve discharges the hot water and draws in an amount of cold water equal to the amount of water discharged, until the correct temperature is restored.
- Safety catch (**D**): prevents accidental spraying of water.

5 INSTALLATION (FIG.2)

5.1 Assembly

Caution - Danger!
All installation and assembly operations must be performed with the appliance disconnected from the mains power supply.
The assembly sequence is illustrated in **fig.2**.

5.2 Assembling the rotating nozzle

(For models with this feature)
The rotating nozzle kit delivers greater washing power.
Use of the rotating nozzle may cause of reduction in pressure of 25% compared to the pressure obtained with the adjustable nozzle. However, the rotating nozzle kit delivers greater washing power due to the rotation of the water jet.

5.3 Electrical connection

Caution - Danger!
Check that the electrical supply voltage and frequency (V-Hz) correspond to those specified on the appliance data plate (fig.2). The appliance should only be connected to a mains power supply equipped with an adequate earth connection and a differential security breaker (30 mA) to cut off the electricity supply in the instance of a short circuit.

5.3.1 Use of extension cables

Use cables featuring "IPX5" protection level.
The cross-section of the extension cable should be proportionate to its length; the longer it is, the greater its cross-section should be. See table I.

5.4 Water supply connection

Caution - Danger!
Only clean or filtered water should be used for intake. The delivery of the water intake tap should be equal to that of pump capacity.
Place the appliance as close to the water supply system as possible.

5.4.1 Connection points

- ● Water outlet (OUTLET)
- ■ Water inlet with filter (INLET)

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5.4.2 Connection to the mains water supply

The appliance can be connected directly to the mains drinking water supply only if the supply hose is fitted with a backflow preventer valve as per current regulations in force. Make sure that the hose is at least Ø 13 mm and that it is reinforced.

6 ADJUSTMENT INFORMATION (FIG.3)

6.1 Adjusting the spray nozzle (for models with this feature)
Water flow is adjusted by regulating the nozzle (**E**).

6.2 Adjusting the detergent (on models with this feature)
Detergent flow is adjusted using the regulator (**F**).

6.3 Adjusting the detergent pressure
Set the adjustable nozzle (**E**) on " ▬ " to deliver detergent at the correct pressure (on models with this feature).

6.4 Adjusting the pressure (on models with this feature)
The regulator (**G**) is used to adjust the working pressure. The pressure is shown on the pressure gauge (where fitted).

7 INFORMATION ON USE OF THE APPLIANCE (FIG.4)

7.1 Controls

- Starter device (**H**).

Set the starter switch on (ON/1) to:

a) start the motor (in models without TSS device);

b) set the motor ready to start (in models with TSS device).

If there is a pilot light on the starter device, it should light up.

If the "low/high" settings are available, use them as follows:

Low : low pressure washing

High : high pressure washing

Set the starter device switch on (OFF/0) to shut down the appliance.

If there is a pilot light on the starter device, it should go out.

- Water jet control lever (**I**).

Caution - Danger!

During operation the appliance must be positioned as shown in fig. 4 on a sturdy, stable surface.

7.2 Start-up

1) Turn on the water supply tap fully.
2) Release the safety catch (**D**).
3) Depress the gun trigger for a few seconds and start up the appliance using the starter device (ON/1).

Caution - Danger!

Before starting up the appliance check that the water supply hose is connected properly; use of the appliance without water will damage it; do not cover the ventilation grilles when the appliance is in use.

TSS models - In TSS models with automatic delivery flow cut-off system:

- when the gun trigger is **released** the dynamic pressure automatically cuts out the motor (see fig.4);
- when the gun trigger is **depressed** the automatic drop in pressure starts the motor and the pressure is restored after a very slight delay;
- if the TSS is to function correctly all gun **releasing** and **depressing** operations must be performed at intervals of **less** than 4-5 seconds.

On three-phase models **for professional use**, at first use start the appliance for a very short time to check that the motor is running in the correct direction. If the motor fan is turning anti-clockwise, exchange two of the three phase wires (L1, L2, L3) in the electrical plug.

To prevent damage to the appliance, do not allow it to operate dry and when running do not stop the water jet for more than 10 minutes at a time (for models without TSS device).

7.3 Stopping the appliance

1) Set the starter device switch on (OFF/0).
2) Depress the gun trigger and discharge the residual pressure inside the hoses.
3) Engage the gun safety catch (**D**).

7.4 Restarting

1) Release the safety catch (**D**).
2) Depress the gun trigger and discharge the residual air inside the hoses.
3) Set the starter device on (ON/1).

7.5 Storage

1) Switch the appliance off (OFF/0).
2) Remove the plug from the socket.
3) Turn off the water supply tap.
4) Discharge the residual pressure from the gun until all the water has come out of the nozzle.
5) Drain and wash out the detergent tank at the end of the working session. To wash out the tank, use clean water instead of the detergent.
6) Engage the gun safety catch (D).

7.6 Refilling and using detergent

When using detergent, the adjustable nozzle must be set on " ▬ " (on models with this feature).

Use of a high pressure hose longer than the one originally supplied with the cleaner, or the use of an additional hose extension, may reduce or completely halt the intake of detergent.

Fill the tank with highly degradable detergent.

7.7 Recommended cleaning procedure

Dissolve dirt by applying the detergent mixed with water to the surface while still dry.

When dealing with vertical surfaces work from the bottom upwards. Leave the detergent to act for 1-2 minutes but do not allow the surface to dry. Starting from the bottom, use the high pressure jet at a minimum distance of 30 cm. Do not allow the rinse water to run onto unwashed surfaces.

In some cases, scrubbing with brushes is needed to remove dirt.

High pressure is not always the best solution for good washing results, since it may damage some surfaces. The finest adjustable nozzle jet setting or the rotating nozzle should not be used on delicate or painted parts, or on pressurised components (e.g tyres, inflation valves, etc.).

Effective washing depends on both the pressure and volume of the water used, to the same degree.

8 MAINTENANCE (FIG.5)

Any maintenance operations not covered by this chapter should be carried out by an Authorized Sales and Service Centre.

Caution - Danger!

Always disconnect the plug from the power socket before carrying out any work on the appliance.

8.1 Cleaning the nozzle

1) Disconnect the lance from the nozzle.
2) Remove any dirt deposits from the nozzle hole using the tool (**C1**).

8.2 Cleaning the filter

Inspect the intake filter (**L**) and detergent filter (if fitted) before each use, and clean in accordance with the instructions if necessary.

8.3 Unjamming the motor (on models with this feature)

In case of lengthy stoppages, limescale sediments may cause the motor to seize. To unjam the motor, turn the drive shaft with a tool (**M**).

8.4 End-of-season storage

Treat the appliance with non-corrosive, non-toxic antifreeze before storing it away for winter.

Put the appliance in a dry place, protected from frost.

9 TROUBLESHOOTING

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Problem	Possible causes	Remedy
Pump does not reach working pressure	Nozzle worn	Replace nozzle
	Water filter fouled	Clean filter (fig.5)
	Water supply pressure low	Turn on water supply tap fully
	Air being sucked into system	Check tightness of hose fittings
	Air in pump	Switch off the appliance and keep depressing and releasing the gun trigger until the water comes out in a steady flow. Switch the appliance back on again.
	Adjustable nozzle not positioned correctly	Turn the adjustable nozzle (**E**) (+) (fig.3)
	Thermostatic valve tripped	Wait for correct water temperature to be restored
Pressure drops during use	Water intake from external tank	Connect appliance to the mains water supply
	Intake water too hot	Reduce temperature
	Nozzle clogged	Clean nozzle (fig.5)
	Intake filter (**L**) dirty	Clean filter (**L**) (fig.5)
Motor "sounds" but fails to start	Insufficient power supply	Check that the voltage of the mains power supply line is the same as that on the plate (fig.2)
	Voltage loss due to use of extension cable	Check characteristics of extension cable
	Appliance not used for a long period of time	Contact your nearest Authorized Service Centre
	Problems with TSS device	Contact your nearest Authorized Service Centre
Motor fails to start	No electrical power	Check that the plug is firmly in the socket and that the mains voltage supply is present (*)
	Problems with TSS device	Contact your nearest Authorized Service Centre
	Appliance not used for a long period of time	Using the tool (**L**) unjam the motor from the hole at the rear of the appliance (in models with this feature) (fig.5)
Water leakage	Seals worn	Have the seals replaced at your nearest Authorized Service Centre
	Safety valve tripped and discharging	Contact an Authorized Service Centre
Appliance noisy	Water too hot	Reduce temperature (see technical data
Oil leakage	Seals worn	Contact your nearest Authorized Service Centre
TSS versions only: motor starts even with gun trigger is released	Nozzle clogged	Clean nozzle (fig.5)
	High pressure system or pump hydraulic circuit not watertight	Contact your nearest Authorized Service Centre
TSS versions only: no water delivery when gun trigger is depressed (with supply hose connected)	Nozzle clogged	Clean nozzle (fig.5)
No detergent taken in	Adjustable nozzle on high pressure setting	Set nozzle on " ▬ " setting (fig.5)
	Detergent too dense	Dilute with water
	High pressure hose extension being used	Fit original hose
	Deposits or restriction in detergent circuit	Flush with clean water and eliminate any restrictions. If the problem persists, contact an Authorized Service Centre

(*) If the motor starts and does not restart during operation, wait 2-3 minutes before repeating the start-up procedure (**overload cutout has been tripped**). If the problem recurs more than once, contact your nearest Authorized Service Centre.

1 安全須知

1.1 您購買的產品技術先進，其設計出自歐洲領先的高壓泵製造商。為達到最佳使用效果，請仔細閱讀本手冊，並始終按手冊要求使用工具。歡迎您選擇本工具，祝您使用順利。

2 安全細則/殘留風險

2.1 安全“禁區”

2.1.1  本工具禁止使用易燃或有毒液體、或與本產品正確運行不兼容的任何產品，否則會導致爆炸或中毒事故。

2.1.2  禁止將噴水口對准人體或動物，否則會導致傷害事故。

2.1.3  禁止將噴水口對準工具自身、電氣部件或其它電氣設備，否則會導致觸電事故。

2.1.4  下雨時，禁止在室外使用本工具，否則會導致短路事故。

2.1.5  禁止兒童或不勝任人員使用本工具，否則會導致傷害事故。

2.1.6  禁止濕手接觸插頭和/或插座，否則會導致觸電事故。

2.1.7  電源線損壞時，禁止使用本工具，否則會導致觸電和短路事故。

2.1.8  高壓軟管損壞時，禁止使用本工具，否則會導致爆炸事故。

2.1.9  禁止將觸發開關卡在運行位置，否則會導致意外事故。

2.1.10  檢查工具是否帶有銘牌，如無銘牌，請通知相關零售商。禁止使用無銘牌的工具，因為工具無法識別並有潛在危險，否則會導致意外事故。

2.1.11  禁止擺弄或調節安全閥、安全裝置的設定，否則會導致爆炸事故。

2.1.12  禁止修改噴嘴的原始尺寸。否則會給工具性能帶來不利影響。

2.1.13  禁止疏於監管工具，否則會導致意外事故。

2.1.14  禁止通過拖拉電源線來移動工具，否則會導致短路事故。

2.1.15 請確保汽車不會軋過高壓軟管。

2.1.16 禁止通過拖拉高壓軟管來移動工具，否則會導致爆炸事故。

2.1.17 高壓射流對輪胎、輪胎閥門或其它充壓部件有潛在危害；如此操作時，不得使用旋轉噴嘴，並始終保持至少 30 厘米的清洗距離，否則會導致爆炸事故。

2.2 安全“禁區”

2.2.1  所有導電物體必須進行防噴水保護，否則會導致短路事故。

2.2.2  本工具僅可使用滿足相關規章要求的合適電源。否則會導致爆炸與觸電事故。

- 使用漏電斷路器（RCCB）可為操作人員提供額外保護（30毫安）。未提供插頭的型號必須由合格人員安裝。僅允許使用經認證的、導體面積合適的延長線纜。

2.2.3  高壓會導致部件產生回彈效應：必須佩戴所有必要的防護服和裝備，確保操作人員的安全，否則會導致傷害事故。

2.2.4  在工具上開展相關工作前，請拔下插頭，否則會導致意外啟動事故。

2.2.5  按下觸發開關前，應緊握噴槍來抵消回彈力，否則會導致傷害事故。

2.2.6  請遵守當地自來水公司的規定。根據EN12729（BA）規定，僅在給水軟管上裝有帶排水裝置的回路抑止閥的條件下，才允許本工具連接到飲用水主管網上，否則會導致污染事故。

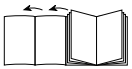
2.2.7  電氣部件的保養和/或維修必須由合格人員進行，否則會導致意外事故。

2.2.8  在斷開工具軟管前，必須釋放殘餘壓力，否則會導致傷害事故。

2.2.9  每次使用工具前，必須檢查螺釘是否完全緊固，部件是否破裂或磨損，否則會導致意外事故。

2.2.10  僅可使用不腐蝕高壓軟管/電氣線纜塗層材料的清潔劑，否則會導致爆炸與觸電事故。

2.2.11  確保所有人或動物保持至少16碼（15米）距離，否則會導致傷害事故。



技術數據 （繁體中文）	單位	PW1570
輸出	升/分鐘	6.2
壓力	兆帕	8
最大壓力	兆帕	12
功率	千瓦	1.5
輸入溫度	°C	50
最大輸入壓力	兆帕	1
噴槍達到最大壓力時的排斥力	牛	9.3
馬達絕緣等級	-	F 級
馬達防護等級	-	IPX5
電壓	伏/赫茲	115/60
噪聲等級（K=3 分貝（A））：		
L_{PA}（EN 60704-1）	分貝（A）	75.8
L_{WA}（EN 60704-1）	分貝（A）	84
單位振動加速度（K=1.5M/s²）	M/s²	3.72
重量	千克	6.4

3 一般信息（圖.1）

3.1 本手冊的使用

本手冊是設備的組成部分，應將它保存起來以備將來參考。在安裝/使用設備前，請仔細閱讀本手冊。如果要出售本設備，賣方務必將本手冊連同設備一起轉讓給新用戶。

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3.2 發貨
設備發貨時專門放在紙板箱中。提供的包裝如圖 1 所示。

3.2.1 *與設備一起提供的文檔*

A1 使用和維護手冊
A2 安全說明
A3 符合標準聲明
A4 質保規則

3.3 包裝的處理
包裝材料對環境無污染，但仍要循環使用，或按所在國家的相關法律處理。

3.4 安全標誌
請遵守安裝到設備上的安全標誌所提供的說明。
請檢查以確認安全標誌存在並且清晰易讀；否則，請在原位置安裝替代品。
E1 標誌 - 表示一定不要將設備按城市垃圾來處理；可以在購買新設備時將它交給經銷商。因為設備中含有的物質會對健康造成危害，所以設備的電氣和電子零件一定不要重新用於不正確的用途。

3.4.1 ***符號***

E2 符號 - 表示設備為專業人員的使用而設計的，即針對的是有經驗的人員，他們了解相關的技術、規章和法規，並能夠執行使用和維護設備所必需的操作。

E3 符號 - 表示設備是為非專業人員使用（家用）而設計的。

4 技術信息（圖.1）

4.1 設計用途
此設備是專為清洗車輛、機器、小艇、磚石建築等而設計，可使用乾淨的水和可生物降解的化學洗滌劑去除頑固污垢。
只有按現行法規處理污水時，才可以清洗車輛發動機。
- 注入水的溫度：請參見設備上的銘牌。
- 注入水的壓力：10 巴以下。
- 工作環境溫度：0°C 以上。

此設備符合 EN 60335-2-79/A1 標準。

4.2 操作人員
前蓋上的符號標識了設備的預期操作人員（專業人員或非專業人員）。

4.3 不當使用
禁止不熟練的人員或沒有閱讀和了解手冊中說明的人員使用此設備。
禁止將易燃、易爆和有毒液體引入此設備。
禁止在可能發生燃燒和爆炸的環境中使用此設備。
禁止使用非原始的備件或不是專門用於相關模型的備件。
禁止對設備進行任何修改。對設備所進行的任何修改都將導致“符合標準聲明”失效，製造商將不承擔任何民事和刑事責任。

4.4 主要元件
B1 可調噴嘴
B2 噴管
B3 具有安全制動裝置的噴槍
B4 帶有插頭的電源電纜
B5 高壓軟管
B6 洗滌劑箱（在具有此功能的模型上才有）

4.4.1 *附件（適用的位置 - 可參見圖 1）*

C1 噴嘴清洗工具
C2 旋轉噴嘴套件
C3 手柄
C4 毛刷
C5 軟管捲軸

4.5 安全裝置
小心 - 危險！
請不要禁改或調整安全閥設置。
- 安全閥和/或限壓閥
  安全閥同時也是限壓閥。
  釋放噴槍開關時，閥門打開，水通過泵入口回流或釋放到地面上。
- 調溫閥（D1，如有安裝）
  一旦水溫超過製造商的設定值，調溫閥會釋放熱水並吸入等量冷水，直至溫度恢復正常。
- 安全制動裝置（D）防止意外噴水

5 安裝（圖.2）

5.1 組裝
小心 - 危險！
所有安裝和組裝操作必須在此設備與主電源斷開連接的情況下執行。
組裝順序如圖 2 所示。

5.2 組裝旋轉噴嘴
（適用於具有此功能的模型）
旋轉噴嘴套件可產生更大的清洗功率。
與可調噴嘴所達到的壓力相比，使用旋轉噴嘴會降低25%的壓力。但是，由於噴嘴的旋轉作用，旋轉噴嘴能夠產生更強大的洗滌效力。

5.3 電氣連接
小心 - 危險！
請檢查電源電壓和頻率（V-Hz）是否符合設備銘牌上指定的電壓和頻率（圖2）。只應將設備連接到裝配有適當接地連接的主電源，且此電源遠應裝配了差分安全斷路器（30mA），以便在設備短路時切斷電源。

5.3.1 *使用延長電纜*
請使用具有“iPX5”保護級別的電纜。
延長電纜的橫截面應與電纜長度成正比；電纜越長，其橫截面應越大。請參見表 i。

5.4 供水系統連接
小心 - 危險！
只應注入乾淨或經過濾的水入口水龍頭的輸出量應等於泵容量的輸出量。
請將設備放置在盡可能接近供水系統的位置。

5.4.1 ***連接點***

● 出水口（OUTLET）
■ 帶有過濾器的進水口（INLET）

5.4.2 ***連接到自來水系統***
只有按現行條例在供水軟管上安裝了防回流閥後，此設備才可以直接連接到飲用自來水系統上。請確保軟管的直徑至少為 Ø13 mm，且該軟管經過加固。

6 調節信息（圖.3）

6.1 調節噴嘴（適用於具有此功能的模型）
通過調節噴嘴（E）調節水流。

6.2 調節洗滌劑（在具有此功能的模型上）
使用調整器（F）調節清洗劑流。

6.3 調節清洗劑壓力
設置（G）"■" 上的可調噴嘴，以正確的壓力提供清洗劑（在具有此功能的模型上）。

6.4 調節壓力（在具有此功能的模型上）
調節器（G）用於調節工作壓力。壓力顯示在壓力表上（在安裝位置）。

7 有關設備使用的信息（圖.4）

7.1 控件
- 啟動器設備開關（H）。

將啟動器開關設置為 ON/1，以便：
a）啟動電機（在不帶tss設備的模型中）；
b）設置電機以備啟動（在帶tss設備的模型中）。
如果啟動器設備上有指示燈，則應亮起。如果"低/高"設置可用，則按如下所述來使用它們：
低：低壓清洗
高：高壓清洗
將啟動器設備開關設置為OFF/0 以關閉設備。
如果啟動器設備上有指示燈，則應熄滅。
- 水射流控制級別（I）。

小心 - 危險！
操作期間，必須按圖 4 所示將設備放置在牢固且平穩的表面上。

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7.2 啟動

1) 完全打開水龍頭。
2) 釋放安全制動裝置 (D)。
3) 壓下噴槍扳機幾秒鐘，並使用啟動器設備 (ON/1) 啟動設備。

小心 – 危險!

啟動設備之前，檢查供水軟管是否已正確連接；在沒有水的情況下使用設備會損壞設備；當設備正在運行時，不要蓋住通風槽欄。

TSS 模型 – 在帶有自動輸送流切斷系統的tss模型中：
- 當噴槍扳機已鬆開時，動態壓力會自動關閉電機 (請參見圖4)；
- 壓下噴槍扳機時，自動降低的壓力會啟動電機，並且壓力在非常短的延遲之後將恢復；
- 如果tss正常運行，則所有鬆開噴槍和壓下噴槍的操作都必須在小於4-5秒的時間間隔內執行。

為防止損壞設備，當設備運行時，停止水射流的時間一次不得超過10分鐘。

對於供專業人員使用的三相模型，初次使用時，短時間啟動設備以檢查電機的運行方向是否正確。如果電機風扇按逆時針方向轉動，則交換電源插頭中三相電線 (L1、L2、L3) 中的兩相。

為防止損壞工具，禁止無水操作；在運行狀態下，每次停止噴水不得超過10分鐘 (適用於無TSS裝置的型號)。

7.3 停止設備

1) 將啟動器設備開關設置為 OFF/0。
2) 壓下噴槍扳機，並釋放軟管內的剩餘壓力。
3) 嗆合噴槍安全制動裝置 (D)。

7.4 重新啟動

1) 鬆開安全制動裝置 (D)。
2) 壓下噴槍扳機，並排出軟管內的剩餘空氣。
3) 將啟動器設備開關設置為 ON/1。

7.5 存儲

1) 關閉設備 (OFF/0)。
2) 壓下噴槍扳機，並排出軟管內的剩餘空氣。
3) 關閉水龍頭。
4) 釋放噴槍的剩餘壓力，直到噴嘴中的水都已溢出。
5) 每次收工時，應放空並清洗洗滌劑箱；為此，僅須使用清水而不加洗滌劑即可。
6) 嗆合安全制動裝置 (D)。

7.6 重新填充並使用洗滌劑

使用洗滌劑時，必須設置 " " 上的可調噴嘴 (在具有此功能的模型上)。

如果使用比原裝更長的高壓軟管，或使用延長軟管，會導致洗滌劑吸入量減少或完全停止。

向洗滌劑箱中添充具有高降解性的洗滌劑。

7.7 推薦的清潔過程

在仍然乾燥的表面上塗抹混合有水的洗滌劑以溶解污垢。處理垂直表面時，從底部向上進行處理。使洗滌劑在表面上停留1-2分鐘，但不允許表面變乾。從底部開始，在距表面至少30cm處利用高壓進行噴射。不能使沖洗水流到未清洗的表面上。

本章未涉及的所有維護操作都應由經授權的銷售和服務中心來執行。

某些情況下，需要使用刷子來清洗灰塵。要取得好的清洗效果，不能總是靠高壓來解決，因為高壓可能損壞某些表面。可調噴嘴的最精設定或旋轉噴嘴不得用於精緻部件或油漆部件，也不得用於受壓部件 (例如輪胎、膨脹閥等)。

高效的清洗有賴於壓力和用水量，兩者同等重要。

8 維護 (圖. 5)

本章未涉及的所有維護操作都應由經授權的銷售和服務中心來執行。

小心 – 危險!

對設備執行任何操作之前，務必將插頭從電源插座上拔下。

8.1 清潔噴嘴

1) 卸下噴嘴的噴管。
2) 使用工具 (C1) 去除噴嘴孔中的污垢。

8.2 清潔過濾器 (在具有此功能的模型上)

每工作50個小時，就清潔一次吸入過濾器 (L) 和洗滌劑過濾器。

8.3 排除電機阻塞 (在具有此功能的模型上)

如果電機長期停止運行，則石灰石沉澱物可能導致電機堵塞。要排除電機堵塞，使用工具 (M) 轉動驅動器軸。

8.4 季末存儲

要在冬季存儲設備，存儲前在設備上塗抹非腐蝕且無毒的防凍劑。將工具置於乾燥場所，注意防凍。

TW

9 故障排除

問題	可能原因	補救方法
泵沒有達到工作壓力	噴嘴用舊	更換噴嘴
	水過濾器變髒	清洗過濾器(圖. 5)
	供水系統壓力低	將供水系統水龍頭完全打開
	系統中吸入了空氣	檢查軟管配件的緊密性
	泵中有空氣	關閉設備，壓下再鬆開噴槍扳機，直至水穩定地流出。再次打開設備。
	可調噴嘴位置不正確	轉動可調噴嘴(E)(+)(圖. 3)
	調溫閥啟動	等待水溫恢復正常
使用期間壓力下降	水由外部水箱進入	將設備連接到自來水系統入口水
	過熱	降低溫度
	噴嘴阻塞	清洗噴嘴(圖. 5)
	入口過濾器(L)臟	清潔過濾器(L)(圖. 5)
電機"發出聲音"，但未能啟動	電源不足	檢查電源線上的電壓是否與銘牌(圖. 2)上的電壓相同
	由於使用了延長電纜電壓降低	檢查延長電纜的特徵
	設備長時間未使用	請與最近的經授權的服務中心聯繫
	TSS設備出現問題	請與最近的經授權的服務中心聯繫
電機啟動失敗	未通電	請檢查插頭是否在插座中插牢，電源電壓是否存在(*)
	TSS設備存在問題	請與最近的經授權的服務中心聯繫
	設備長時間未使用	使用工具(L)從設備後部的孔排除電機阻塞(在具有此功能的模型中)(圖. 5)
水滲漏	密封件用舊	在最近的經授權的服務中心更換密封件
設備有噪音	水太熱	降低溫度(請參見技術數據)
油滲漏	密封件用舊	請與最近的經授權的服務中心聯繫
僅適用於TSS版：即使鬆開噴槍扳機，電機也啟動	噴嘴阻塞	清洗噴嘴(圖. 5)
	高壓系統或泵液壓迴路不防水	請與最近的經授權的服務中心聯繫
僅適用於TSS版：壓下噴槍扳機時沒有水流過（供水軟管已連接）	噴嘴阻塞	清洗噴嘴(圖. 5)
未吸入洗滌劑	可調噴嘴的高壓設定	將噴嘴設為"—"(圖. 5)
	洗滌劑太濃	用水稀釋
	使用了高壓軟管延長管	安裝原配軟管
	洗滌劑迴路出現沉積物或阻塞	用清水沖洗，清除阻塞。如果仍不能解決，請聯繫授權維修中心。

(*) 如果在運行期間電機啟動後沒有重新啟動，請在重複啟動過程之前等2到3分鐘(過載斷路器已脫扣)。如果問題多次重現，請與最近的經授權的服務中心聯繫。