

 **KÄRCHER**

K 2.99 MH

5.961-527

12/04_2009684

Operating Instructions

PRESSURE WASHER



**Before first use of the unit read these operating instructions
and act in accordance with them**

THANK YOU FOR PURCHASING A **KARCHER** PRESSURE WASHER

PLEASE READ THIS LEAFLET CAREFULLY BEFORE OPERATING YOUR MACHINE.

WHAT IS A PRESSURE WASHER?

A Pressure Washer is essentially a powerful electric motor driving a set of pistons that force water through a small nozzle, thus creating a pressurised jet of water. This provides the cleaning power behind the **Karcher** Pressure Washer.

A **Karcher** Pressure Washer can be used for an endless list of applications around the home and garden. It provides an efficient, economical and labour saving way of cleaning with excellent results.

All **Karcher** domestic pressure washers are designed to run from a suitable cold water supply although some models will accept a water inlet temperature of between 40 °C and 60 °C.

Environmental Comment - Save water with high pressure.

*The **Karcher** Pressure Washer is environmentally friendly enabling you to reduce your water consumption compared to a normal garden hose. A definite advantage with a metered water supply*

OR

with the added benefit of suction mode, water can be drawn from an open container such as a water butt.

INDEX

1.	APPLICATIONS	4
2.	SAFETY INSTRUCTIONS	4 - 6
	Electrical Connection	
	Safety Instructions	
3.	GETTING STARTED	7
3.1	Contents	
3.2	Water Connection	
3.3	Electrical Connection	
3.4	Suction Mode	
3.5	Detergent	
4.	OPERATING YOUR PRESSURE WASHER	10
4.1	High Pressure Operation	
4.2	Low Pressure Operation with Detergent	
4.3	Low Pressure Operation with Brush	
4.4	End Of Operation	
5.	IMPORTANT – CARE AND MAINTENANCE	13
6.	ACCESSORIES / SPARE PARTS	14 - 15
7.	PROBLEM CHECKLIST / TROUBLESHOOTING ..	16
8.	AFTER SALES SERVICE	17
9.	TECHNICAL DATA	18
10.	ASSEMBLY	19

1. APPLICATIONS

The main applications for this product are **DOMESTIC** cleaning tasks:

- Cars, motorbikes, caravans, boats and bicycles
- Patio's, fences, garden walls, pathways, driveways and house facades – particularly useful for cleaning block driveways
- Removal of algae and moss from roofs, brickwork and guttering
- Garden tools and machinery, furniture and barbecues
- Hygienic cleaning of animal pens and their surroundings.

With the addition of **Karcher** accessories, the list continues

- Clearing blocked drains and pipes
- Removal of old paint and rust from garden furniture and gates
- Spraying insecticide onto trees, plants and lawns.

2. SAFETY INSTRUCTIONS

BEFORE STARTING UP YOUR PRESSURE WASHER PLEASE CHECK YOU HAVE THE FOLLOWING:

We recommend you purchase these items from a reputable store

- | |
|---|
| <ul style="list-style-type: none">• RCD plug and socket that will interrupt electrical supply in an emergency• A typical garden hose (minimum length 7.5 metres) with suitable hose connection (Hoselock/Gardena type) to match the coupling on the machine (hose and connector not supplied). |
|---|

Electrical Connection

- △ Never use defect connection or extension lines! If the connection line is damaged, it must be replaced with a special connection line that is available from the manufacturer or his customer service.
- △ Please make sure that the connection or extension lines are not damaged by being ran over, pulled or dragged. Protect the connection lines from heat, oil, and sharp edges.
- △ Never touch the mains plug and the socket with wet hands.
- △ The connection between connection line and extension line must not lie in the water.
- △ All current-carrying components within the working area must be jet-proof.
 - The appliance may only be connected to an electrical connection that was performed by an electrician according to IEC 60364.
 - Only connect the appliance to alternating current. The voltage must comply with the voltage specified on the typeplate.
 - To avoid electric accidents, we recommend to use sockets with a series connected residual current operated device (rated breaking current max. 30 mA).
 - **Warning:** Inappropriate extension lines may be dangerous. If you work outside, only use extension lines that are approved and specifically labelled and provide of a sufficient conductor cross section:
1 to 10 m: 1.5 mm² 10 to 30 m: 2.5 mm²
 - The plug and the coupling of an extension line must be waterproof.
 - Always unwind the extension line completely from the cable drum.

Safety Instructions

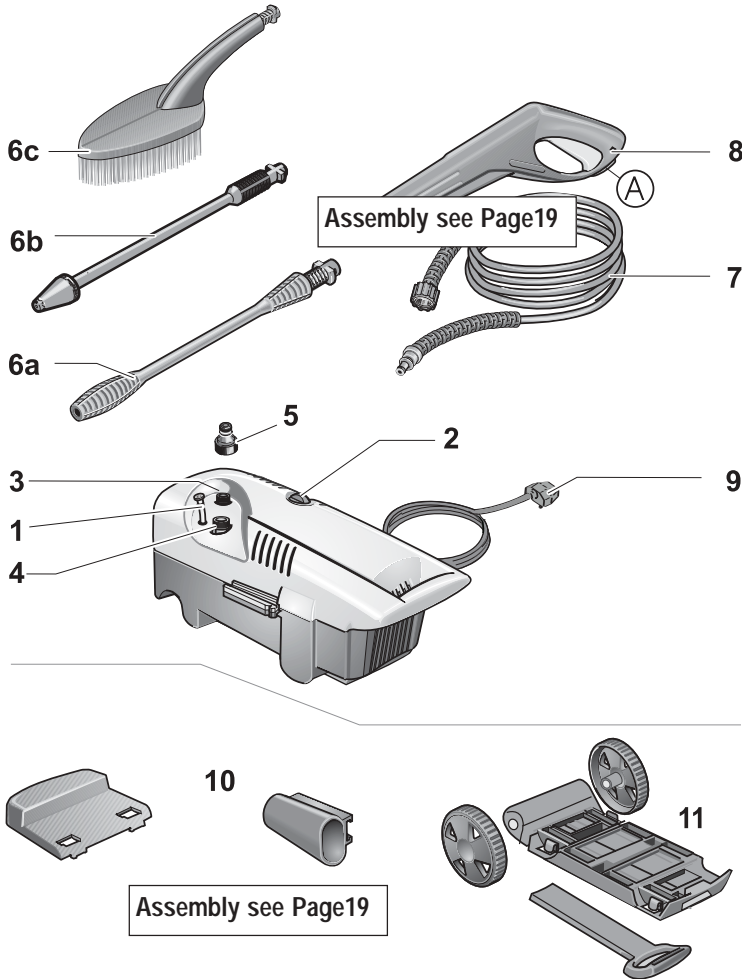
- △ The operation of the device in hazardous locations is not admissible.
- △ Please comply with the corresponding safety instructions if you use the appliance in danger areas (e.g. filling stations).
- △ Do not turn on the appliance if the power supply line or important components of the appliance, such as safety components, high-pressure hoses, spray jet, are damaged.
- △ **Warning:** High-pressure hoses, fittings, and couplings are of importance for the appliance safety. Only use high-pressure hoses, fittings, and couplings recommended by the manufacturer.

- △ The appliance is not intended for use by young children or infirm persons without supervision.
Young children should be supervised to ensure that they do not play with the appliance.
- △ The operator must use the appliance properly. He must take the local conditions into consideration and must pay attention to third persons, in particular children, while working with the appliance.
- △ **Warning:** Do not use the appliance if third persons are within the reach of the appliance unless such persons wear protective clothes.
- △ **Warning:** High-pressure jets may be dangerous if they are used improperly.
The jet must not be directed at people, animals, active electrical equipment, or the appliance itself.
- △ Never direct the jet at yourself or third persons to clean clothes or shoes.
- △ Never use the appliance to spray objects containing hazardous substances (e.g. asbestos).
- △ **Warning:** Vehicle tyres/tyre valves may be damaged and burst by the high-pressure jet. A first sign is the discoloration of the tyre. Damaged vehicle tyres/tyre valves are hazardous. Always perform the cleaning with a minimum distance of 30 cm.
- △ Cleaning operations during which oil saturated waste water is generated, such as engine cleaning and underbody cleaning, may only be performed in cleaning locations that are equipped with an oil separator.
- △ If you clean varnished surfaces, please respect a minimum distance of 30 cm to avoid damages.
- △ Never take in solvent-containing liquids or undiluted acids and solvents! These include, for example, benzene, paint thinner, or heating oil. The spray is highly inflammable, explosive, and toxic. Do not use acetone, undiluted acids, and solvents as they affect the materials used on the appliance.
- △ If required, wear appropriate protective clothes and glasses to protect yourself from return spray.
- △ Never leave the appliance unattended as long as it turned on.
- △ **Warning:** This appliance has been developed for the use of detergents that are supplied or recommended by the manufacturer. The use of other detergents or chemicals may affect the safety of the appliance.

3. GETTING STARTED

3.1 Contents

Upon opening the carton, if you do not have all the items as detailed please contact the Help-line on 0906 6800632 (calls to this number are charged at 25p per minute) from 8.30am to 5.00pm Monday - Friday.



- | | | |
|--------------------------------------|----------------------------------|-------------------------------------|
| 1 Detergent suction hose with filter | 5 Coupling | 8 Spray gun with safety ratchet (A) |
| 2 Power switch (ON/OFF) | 6a Spray lance | 9 Mains Electric Lead |
| 3 High-pressure outlet | 6b Spray lance with dirt blaster | 10 Accessory compartment |
| 4 Water connection with filter | 6c Wash Brush | 11 Transport cart |
| | 7 High-pressure hose | |

Please follow these instructions carefully for troublefree cleaning

Use the diagram on Page 7 for reference purposes

3.2 Water Connection

- The minimum length of supply hosepipe advised for maximum user convenience is 7.5 metres with a diameter of 12.5 mm (1/2") to avoid backpressure and any associated potential damage to your machine.
- Attach your supply hosepipe with its connector to the coupling on the machine (No. 5) and the other end should be connected to a suitable water supply

3.3 Electrical Connection

- Ensure the Power Switch (No. 2) is in the "OFF" position before connecting the factory fitted Plug attached to the Mains Electric Lead (No. 9) into an earthed socket.

If you are using an extension cable, it should always be completely unwound from the cable drum and have a sufficient cross-sectional area.

3.4 Suction Mode - *an added benefit of the Karcher Pressure Washer*

- If you are drawing water from an open container such as a water butt disconnect the high pressure hose from the machine.
- Disconnect the water connection/hosepipe with coupling (No. 5) from the machine and replace with a suction hose and filter (Part No. 4.440-238) that can be purchased as an accessory.
- Allow the pressure washer to operate without the high pressure hose fitted until water flows from the high pressure outlet **without bubbles**.
- Re-connect the high pressure hose to the high pressure outlet.

***Dirt in the drawn water could damage your Pressure Washer !
To avoid this risk please use a suitable filter - Part No. 4.730-059.***

3.5 Detergent

Only cleaning agents recommended by Karcher (UK) Ltd. should be used. Unsuitable detergents could damage your Pressure Washer and the object being cleaned.

Recommended Detergents

1. The following cleaning agent may be used undiluted:

Universal Cleaner **Profi RM 555 ASF**

2. The following cleaning agents are available as concentrate and must be diluted with 9 parts of water (1 : 9) before use:

Universal Cleaner **Profi RM 555 ULTRA**

Automotive Cleaner **Profi RM 565 ULTRA**

House & Garden Cleaner **Profi RM 570 ULTRA**

Boat Cleaner **Profi RM 575 ULTRA**

3. Detergent tablets are also available from some stores

Karcher Clean Tabs (10 tablets per box)

10 Tablets dissolved in clean water provide 5 litres of cleaning detergent.

DETAILS OF THE FULL RANGE OF DETERGENTS AND CHEMICALS ARE AVAILABLE BY CALLING THE HELP-LINE ON 0906 6800632 (calls at this number are charged at 25p per minute) from 8.30am to 5.00pm Monday - Friday.

4. OPERATING YOUR PRESSURE WASHER

If you have followed all the instructions so far, you are now ready to have fun cleaning the KARCHER way!!!

- Assembly the Spray Gun (No. 8) and the high-pressure hose (No. 7), shown on page 19.
- Attach the high-pressure hose to the high-pressure outlet (No. 3) of the unit.

- **Safety Assurance**

As an added precaution, your pressure washer is fitted with a safety locking device on the Spray Gun.

- Turn on the supply water and press the Spray Gun lever (No. 8) until the water flows freely and removes all air locks from the hoses.
- You may now attach the Spray Lance (No. 6a) or required accessory to the Spray Gun

All accessories are bayonet fit, simply push in and twist until they click into position !

- Once water is flowing through the machine, you may now switch on your Karcher Pressure Washer using the Power Switch (No. 2).

WHEN USING YOUR KARCHER PRESSURE WASHER ON THE HIGH PRESSURE SETTING, THE RECOMMENDED WORKING DISTANCE BETWEEN THE NOZZLE AND THE OBJECT OR SURFACE TO BE CLEANED IS 30 CM.

IT CAN BE CLOSER IF REQUIRED FOR PATIOS OR MASONERY
It is your responsibility to check the suitability of the surface to be cleaned.
Karcher (UK) Ltd. cannot be held responsible for any damaged caused.

4.1 High Pressure Operation

- Ensure the Spray Lance (No. 6a) or the Dirt Blaster (No. 6b) are attached securely to the Spray Gun (No. 8).
- Aim the lance towards the object to be cleaned making sure the recommended working distance is used for reference (See Page 9). Release the safety ratchet on the Spray Gun and squeeze the trigger.
- Switch on the pressure washer (No. 2)

The pressurised water jet alone is capable of fulfilling most cleaning tasks around the garden or on building work but detergent and wash brush are advantageous when cleaning vehicles or other paint finishes.

4.2 Low Pressure Operation with Detergent

- Dilute the detergent in a suitable container to the required concentration before using. (The correct dilution is dependent on the degree of soiling of surface and is best determined by experience).
- Hang the Detergent Suction Tube (No. 1) in the Detergent container.
- Remove lance from the spray gun. **Note that the Lance and Dirt Blaster are not for use in Low pressure Operation.**
- Aim the spray gun towards the object to be cleaned, release the Safety Locking Device on the Spray Gun and squeeze the trigger to apply the detergent to the working area.
- Switch on the pressure washer (No. 2)

4.3 Low Pressure Operation with Brush

When cleaning surfaces with a grease contamination - typically car paintwork that always has a greasy traffic film covering. Follow the procedure of:

- Washing loose dirt away with the clean water high pressure spray.
- Apply the detergent in low pressure mode by removing the bayonet fit spray lance and fitting the Wash Brush to the Spray Gun.
- Leave for 2-4 minutes for the detergent to have maximum effect.

- With or without the pressure washer switched on, brush down the surface being cleaned, this physical agitation removes all trace of traffic film. Finally revert to the high pressure operation with the spray lance and complete the wash down.

We recommend the following cleaning method:

Step 1:

Remove loose dirt by washing over the surface to be cleaned with the high pressure jet.

Step 2:

Spray on the detergent and leave for 1-4 minutes, so assisting the easy removal of fine dirt and associated greasy adhesions.

Step 3:

Finally, spray off the loosened dirt with the high pressure spray.

4.4 End Of Operation

ALWAYS REMEMBER TO RINSE YOUR PRESSURE WASHER AFTER USING DETERGENT BY HANGING THE DETERGENT SUCTION TUBE IN A CONTAINER WITH CLEAN WATER AND RUN THE PUMP FOR APPROXIMATELY ONE MINUTE IN LOW PRESSURE SETTING.

In the event of a break of 5 minutes in the operation of your Karcher Pressure Washer, always switch off the pump to avoid damage due to overheating.

- Switch off the pressure washer by the Power Switch (No. 2) and unplug the Mains Electric Lead (No. 9) from the socket
- Close the water inlet (tap) and disconnect the hosepipe
- **Press the trigger to remove all pressure from the machine and then secure the trigger with the Safety Locking Device to prevent accidental opening.**

AFTER USE, ALWAYS REMOVE THE PLUG FROM THE SOCKET BEFORE CLEANING YOUR PRESSURE WASHER.

5. IMPORTANT – CARE AND MAINTENANCE

To ensure prolonged life and trouble-free use of your Karcher Pressure Washer we strongly recommend that you always adopt the following procedures:

Water

- Before use, always check the inlet filter for dirt or debris.
- Visually check to see if the nozzle is blocked by dirt or grit, if so, remove the dirt from the nozzle hole with a needle and rinse with water from the front.

Failure to do this will seriously damage your machine and invalidate the warranty.

- Connect the water supply hose and, without the lance attached, squeeze the trigger gun to run water through your pressure washer until the water flow is constant. Then plug in to the electric supply.
- Unless drawing water from an open water source such as a water butt, always have a minimum of 10 metres (25 feet) of uncoiled hose between the water tap and your machine. The internal diameter of the feed water hose should be 12 mm (1/2”).
- Water Regulations require the use of a back-flow preventer valve at the tap end of the supply hose.
Only use a full flow connector to connect the hose to the machine.

Electricity

- If using an electrical extension lead it must be rated at a minimum of 13 amps.
- Always fully uncoil any extension lead when used.

Chemicals

Use of chemicals other than those recommended by Karcher could cause significant damage which may not be covered by your warranty.

- After using chemicals, always run fresh water through your machine.
- The high pressure hose of your Karcher Pressure Washer should not be mistreated. It is designed to withstand high pressure operation so vehicles should NOT run over it, nor should it be pulled across sharp or abrasive edges. These actions may weaken the hose and cause ballooning.

IMPORTANT

REMEMBER FROST WILL DAMAGE YOUR KARCHER PRESSURE WASHER IF IT IS NOT BEEN COMPLETELY EMP-TIED OF WATER AFTER USE. ALWAYS STORE IN A FROST FREE AREA.

6. ACCESSORIES

A wide range of popular accessories are available from your local store selling Karcher Pressure Washers

2.638-817 Underbody Lance

Extended lance with angled end and upward firing jet for cleaning under cars, gutters etc.

4.762-065 Rotary Wash Brush

Ideal for car bodywork and windows as the water forces the brush to rotate enhancing cleaning power.

4.760-262 Extension Lance

To add length to the standard lance.

2.637-729 Drain Kit (7.5 m Hose)

2.637-767 Drain Kit (15 m Hose)

A flexible hose with backwards firing high pressure jet to create turbulence and dislodge blockages.

4.760-272 Flexible Lance

A lance which can be angled to any degree to clean hard to reach areas such as wheel arches etc.

4.730-059 Water Filter

Protects pressure washer when you use dirt water

4.440-238 Suction Hose and Filter

Used to provide a water supply to the unit where a mains water supply is not available by placing the kit into a water butt.

2.637-214 Water Pump Kit

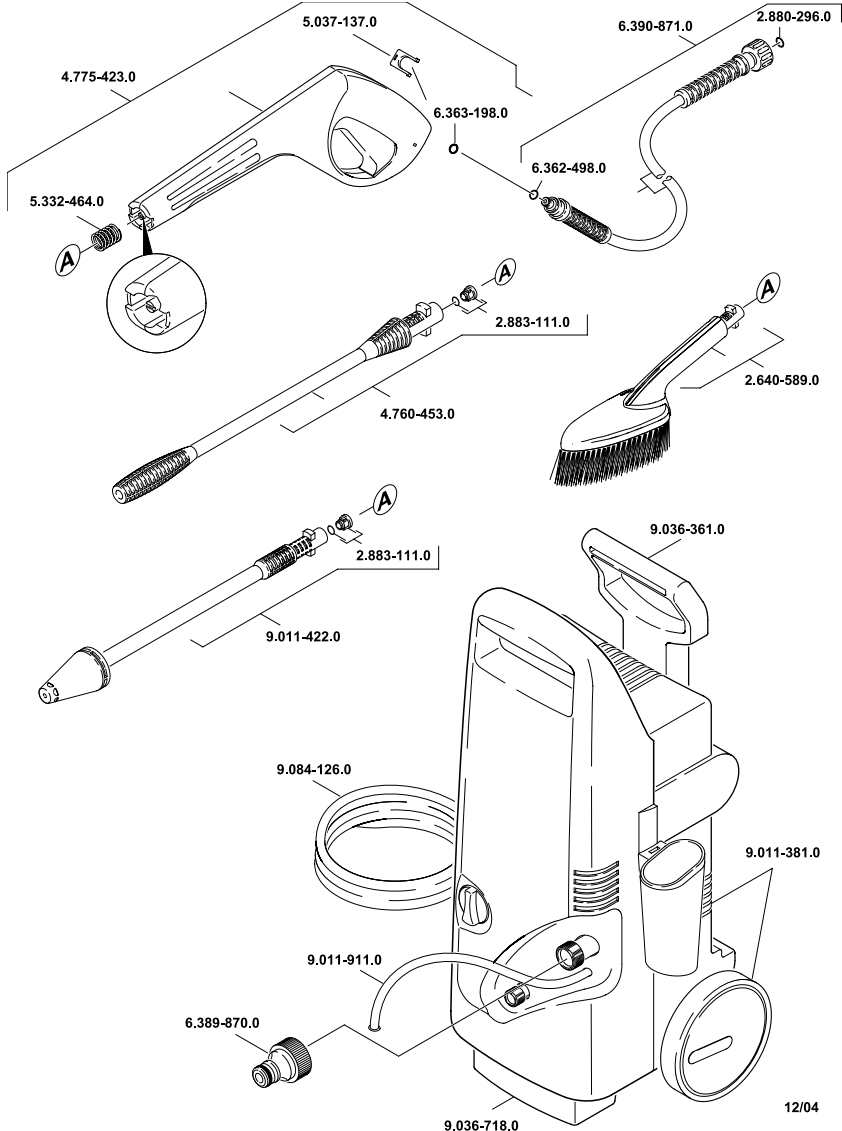
6.291-080 RM 555 (5 litre)

6.291-079 RM 555 (6 x 1 litre)

*Most accessories will be available from your local store selling **Karcher** Pressure Washers. If they are not stocked, most stores will raise a special order for you. If you have difficulty obtaining accessories please contact: **Help-line on 0906 6800632** (calls to this number are charged at 25p per minute) from 8.30am to 5.00pm Monday - Friday.*

6. SPARE PARTS

In the event that your Karcher Pressure Washer requires replacement parts – please refer to the diagram below AND identify the particular model of your machine by reference to the data plate on the underside. Then telephone **0906 6800632** for assistance (calls to this number are charged at 25p per minute) from 8.30am to 5.00pm Monday - Friday.



7. PROBLEM CHECKLIST

The machine you have chosen is of the highest quality. Correctly stored away from frost it should operate without problems. If a problem does arise, please check the following chart as a solution may be at hand.

PROBLEM	POSSIBLE CAUSE	CORRECTION
Machine refuses to start	Wrong mains voltage	Check mains voltage corresponds to specifications of machine
	Plug not connected	Connect plug
	Defective socket	Try another socket
	Fuse blown	Change the fuse
	Defective extension cable	Try without extension cable
Pump stops	Fuse blown	Change fuse and check size of extension cable
	Overheating due to poor water supply	Check inlet water flow rate - hose should fill a 10 litre bucket in one minute
Strong pressure fluctuations	Nozzle partly blocked	Clean dirt from nozzle hole with needle and rinse from the front
Machine does not reach operating pressure	Nozzle blocked/worn out	Clean/replace nozzle
	Inadequate mains water	Check inlet water flow rate
	Inlet hose squeezed	Straighten out hose
	Water filter clogged	Clean filter
	Inlet hose blocked	Check hose for leaks or blockages
No detergent suction	Wrong pressure	Remove spray lance from hand gun Note: <i>No detergent with high pressure</i>
	Blocked detergent filter	Unblock filter

In the unlikely event that you need to return your machine to your supplier, please ensure that this is returned, complete with hose, gun and all accessories.

8. Help-Line

Karcher (UK) Limited operate a help-line allowing customers to discuss any problems experienced with our products.

The help-line operates during normal business hours, if you have difficulty getting through, please understand that there are peak periods during the day when our consultants are unable to take all calls coming in. In these circumstances we would ask that you try to contact us again later in the day.

The help-line number is 0906 6800632 (calls to this number are charged at 25p per minute) from 8.30am to 5.00pm Monday - Friday.

It helps us if you have the model number and data plate details to hand before making your call as there are very many different models of Karcher Pressure Washers in use.

Alternatively you may write or e-mail to the address below:

Karcher (UK) Limited

Karcher House

Beaumont Road

Banbury

Oxon, OX16 1TB

E-mail: retail_inquiries@karcheruk.co.uk

9. TECHNICAL DATA

Power Connection

Voltage	..... 240	V -AC
Current	..... 1~50	Hz
Connected/Load	..... 1.5	KW
Mains Fuse	..... 13	AMP

Water Connection

Supply Temperature (Max)	..... 40	°C
Supply Rate (Min)	..... 8	litres per minute
Supply Pressure (Max)	(12 bar) 1,2	MPa
Supply Hose: Length	..... 7.5	metres
Diameter	..... 1/2	inch

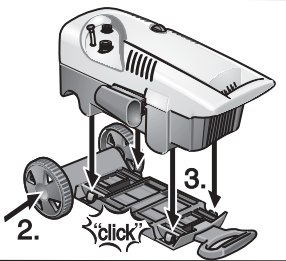
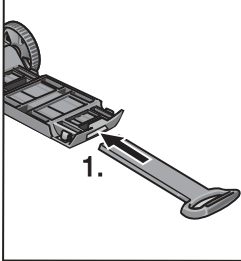
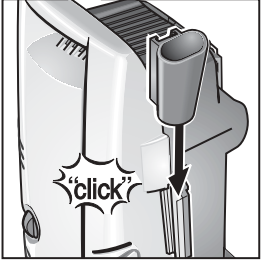
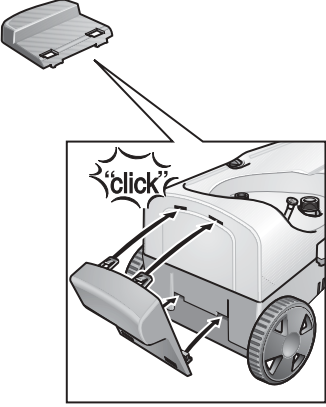
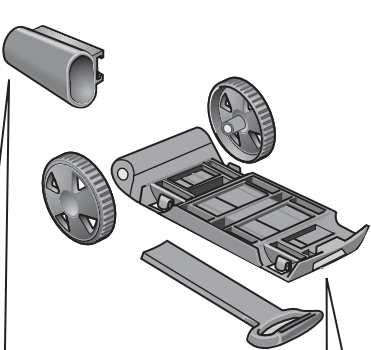
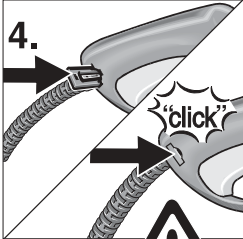
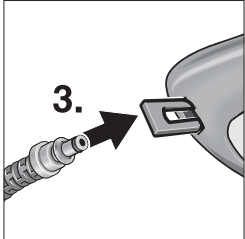
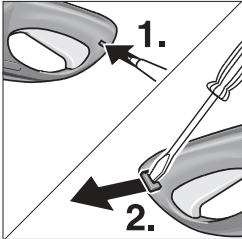
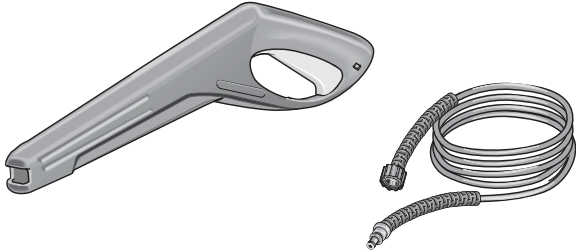
Performance Data

Pump Pressure (Max)	(110 bar) 11	MPa
Operating Pressure	(85 bar) 8.5	MPa
Flow Rate	(340 l/h) 5.7	litres per minute
Detergent Intake	..... 0.3	litres per minute
Recoil Force of Hand Held Spray Gun at Operating Pressure (Max)	..... 15	N
Unit vibrations	..... 0.8	m/s ²
Noise level L _{PA} (EN 60704-1)	..... 74	dB (A)
Noise level L _{WA} (2000/14/EEC)	..... 84	dB(A)
Optimum Working Distance on High Pressure	.... 30	cm

Dimensions:

Length/Width/Height	..... 240/300/555	mm
Weight	..... 10,5	kg

10. ASSEMBLY



EU Declaration of Conformity

We hereby declare that the equipment described below conforms to the relevant fundamental safety and health requirements of the appropriate EU Directives, both in its basic design and construction as well as in the version marketed by us. This declaration will cease to be valid if any modifications are made to the machine without our express approval.

Product: High-pressure cleaner

Model: 1.421-xxx

Relevant EU Directives:

98/37/EEC

73/23/EEC (+93/68/EEC)

89/336/EEC (+91/263/EEC, 92/31/EEC, 93/68/EEC)

2000/14/EEC

Harmonised standards applied:

DIN EN 60 335 – 1

DIN EN 60 335 – 2 – 79

DIN EN 55 014 – 1 : 2000 + A1: 2001 + A2: 2002

DIN EN 55 014 – 2 : 1997

DIN EN 61 000 – 3 – 2 : 2000

DIN EN 61 000 – 3 – 3 : 1995 + A1: 2001

Conformity assessment procedure followed: Annex V

Measured sound power level: 82 dB(A)

Guaranteed sound power level: 84 dB(A)

Appropriate internal measures have been taken to ensure that series-production units conform at all times to the requirements of current EU Directives and relevant standards. The signatories are empowered to represent and act on behalf of the company management.

Alfred Kärcher Kommanditgesellschaft. Sitz Winnenden.

Registergericht: Waiblingen, HRA 169.

Persönlich haftende Gesellschafterin: Kärcher Reinigungstechnik GmbH.

Sitz Winnenden, 2404 Registergericht Waiblingen, HRB

Geschäftsführer: Dr. Bernhard Graf, Hartmut Jenner, Georg Metz

Alfred Kärcher GmbH & Co. KG

Cleaning Systems

Alfred - Kärcher - Str. 28-40


P.O. Box 160

D - 71349 Winnenden

Tel.: +49 7195 14-0

Fax: +49 7195 14-2212


H. Jenner


S. Reiser

 **KÄRCHER**

www.karcher.com