

High Pressure Cleaners



HD 7/120

HD 10/120

Operating manual
Read and conform
safety instructions
before use

Description

Dear customer

We would like to congratulate you on your new high pressure cleaner and to thank you for the purchase.

To ease your introduction to the use of the cleaner, we have provided the following pages of explanations, tips and hints, which we ask you to read before using it for the first time.

The equipment will assist you professionally in all cleaning tasks, e.g.:

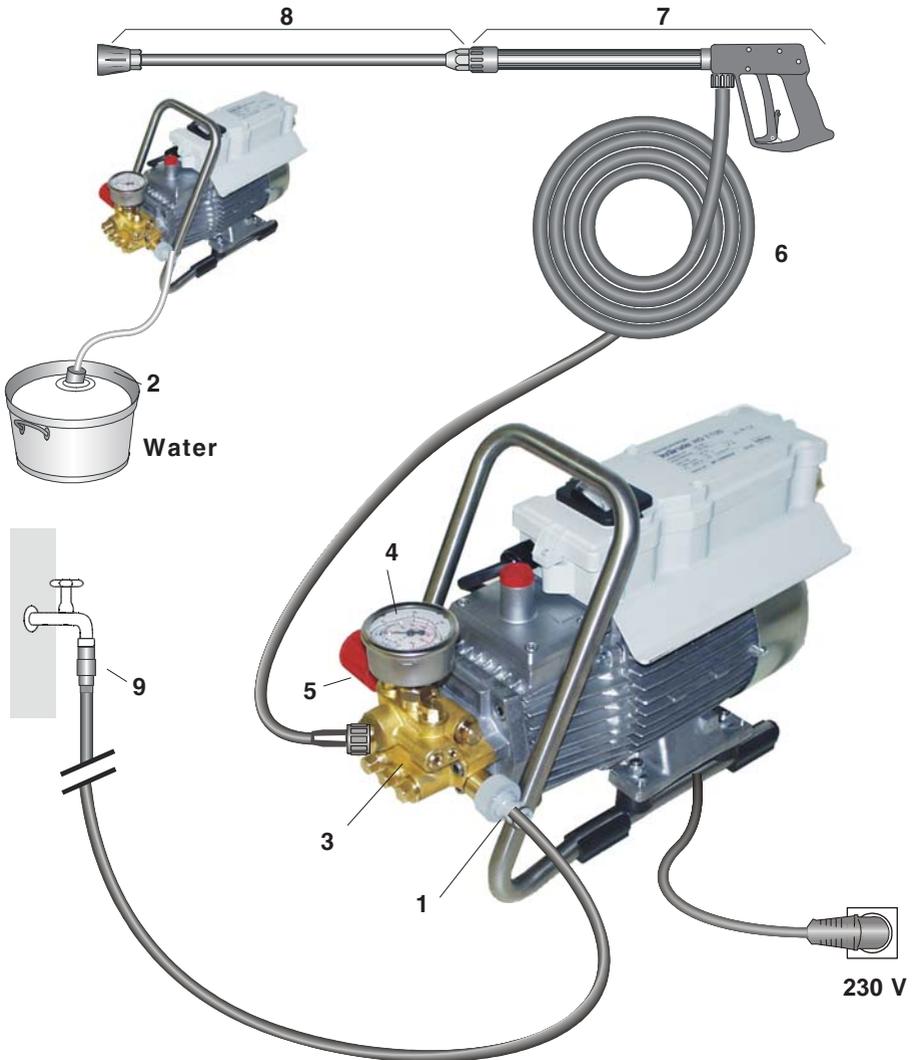
- facades**
- flagstones
- terraces
- vehicles of all types**
- containers
- machines etc.
- removing of old paint**

Technical data	Kränzle HD 7/120	Kränzle HD 10/120
Operating pressure, steplessly adjustable	10 - 120 bar	10 - 120 bar
Nozzle size	20 03	20 045
Perm. overpressure	135 bar	135 bar
* Water output	at 1400 rpm 7 l/min	at 2800 rpm 10 l/min
Hot water input (1-8 bar)	max. 60 °C	max. 60 °C
Suction height	1.0 m	1.0 m
High pressure hose	10 m	10 m
Electrical ratings	230V ; 50 Hz ; 7,5 A	230V ; 50 Hz ; 11 A
Connect. wattage	input output	
	P1: 1.6 kW P2: 1.0 kW	P1: 2.5 kW P2: 1.8 kW
Weight	18,5 kg	18,5 kg
Dimensions in mm	300 x 330 x 800	300 x 330 x 800
Sound level acc.to DIN 45 635 with dirtkiller	71 dB (A) 84dB (A)	71 dB (A) 91 dB (A)
Sound level L _{WA}	84 dB (A)	91 dB (A)
Recoil at lance	ca. 27 N	ca. 27 N
Vibrations at lance	1.9 m/s ²	1.9 m/s ²
	Order n°:	Order n°:
	41.720	41.721
with dirtkiller	41.720 1	41.721 1

* Muß dem Gerät mindestens zugeführt werden (Siehe Seite 7)

Zulässige Abweichung der Zahlenwerte ± 5 % nach VDMA Einheitsblatt 24411

Description



Connection principle

The KRÄNZLE HD7/120 + HD10/120 - high pressure cleaners are mobile machines. The design can be seen from the diagram.

Components

- | | | | |
|---|---|---|---|
| 1 | Water inlet connection with filter | 5 | Unloader valve - safety valve |
| 2 | Suction hose with filter (special accessory) Order no. 15.038 3 | 6 | High pressure hose |
| 3 | High pressure pump | 7 | Spray gun |
| 4 | Press. gauge with glycerin filling | 8 | Interchangeable lance with high pressure nozzle |
| | | 9 | Nonreturn valve (see page 8) |

Description

Water- and cleaning/detergent system

Water can be connected at mains pressure to the high pressure pump or it can be sucked directly from a storage tank. The water is then forced under pressure by the high pressure pump to the lance. The high pressure jet is formed by the nozzle at the end of the lance.

Lance with trigger gun

The machine can only be operated when the safety trigger is squeezed. The machine can only be operated when the safety trigger is squeezed. When the lever is squeezed, the spray gun opens. The liquid is then pumped to the nozzle. The spray pressure increases and quickly reaches the selected operating pressure.

When the trigger is released, the trigger gun closes and any further spraying of liquid from the lance is stopped.

The increase in pressure when the trigger gun is closed causes the unloader valve-safety valve to open. The pump remains switched on and continues to pump liquid through the pump at reduced pressure. When the trigger gun is opened, the unloader valve - safety valve closes and the pump resumes pressure spraying from the lance.



The trigger gun is a safety device. Repairs should only be performed by qualified persons. Should replacement parts be required, use only components authorized by the manufacturer.

Unloader valve - safety valve

The unloader valve - safety valve protects the machine from a build up of excess pressure, and is designed not to permit an excess pressure to be selected for operation. The limit nut on the handle is sealed with a spray coating.

*(see page 22:"Stopping leaks from the hose or gun".)

The operating pressure and spray rate can be steplessly adjusted by turning the handle.



Replacements, repairs, new adjustments and sealing should only be performed by qualified persons.



Motor protection switch

The motor is protected from overload by a motor protection switch, which automatically cuts out the motor in the event of overload. However should the switch trip frequently, the cause of the malfunction should be located and rectified (see page 6).



Replacements and inspection work should only be performed by qualified persons when the machine is disconnected from the power supply, i.e. pull out the plug from the electrical socket.

Setting up

Location



Neither set up and operate the machine in rooms where there is a risk of fire or explosion nor put it into puddles. Do not use the machine under water.

CAUTION !



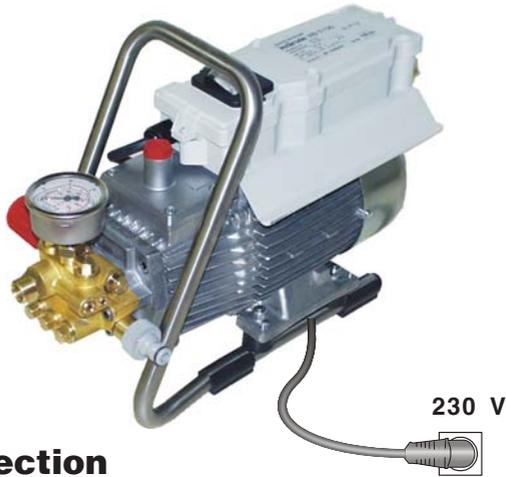
Never use liquid containing solvents such as paint thinners, petrol, oil or similar liquid matter. Pay attention to the instructions of the manufacturers of the cleaning agents. The seals in the machine are not resistant to solvents. The spray of solvents is inflammable, explosive and poisonous.

CAUTION !



When running your high pressure cleaner with hot water of 60° C raised temperatures occur. Do not touch the machine without safety gloves!

Description



Electrical connection

The machine is supplied with an electrical power cable with plug.

The mains plug must be fitted to a standard grounded socket with a **30mA** residual current operated device. The socket must be protected with a **16A** delay action fuse on the mains side.



KRÄNZLE HD 7/120 230 Volt / 50 Hz
KRÄNZLE HD 10/120 230 Volt / 50 Hz

When using an extension cable, this must have an earthed lead which is properly connected to the socket. The conductors in the extension cable must have a minimum cross section of 1.5 mm². Plug connections must be of a spray-proof design, and may not be located on a wet floor.

(with extension cables of more than 10 m - 2.5 mm²)

CAUTION !

The use of extension cables which are too long may lead to malfunctions and start up difficulty.

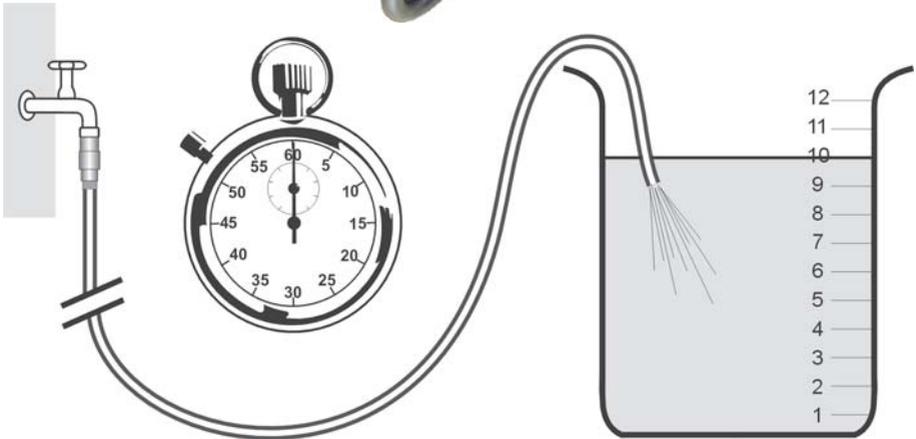
When using a cable drum, always keep the cable wound as far as possible.

Description



Water connection:

Please check that the high pressure cleaner has available the quantity of water specified on page 2 (techn. specifications) (Litres per minute).



Test:

Allow the water to run through the supply hose into a bucket for 1 minute.

The received quantity of water must be at least the quantity given on page 2 !!!



Lack of water causes fast wear on seals (no warranty)

Description



Brief operating instructions

When operating your high pressure cleaner pay attention that it is in a horizontal position.

- 1. Connect the high pressure hose with the spray gun.**
- 2. Connect to suitable water supply.**
- 3. Flush the air from the pump (open and close the spray gun several times)**
- 4. Make the electrical connection**
- 5. Switch on the machine with opened spray gun and commence cleaning.**
- 6. After completing the work, completely empty the pump (switch the motor on for approximately 20 seconds without the suction and spray gun).**
 - Only use clean water ! Protect from frost !**

CAUTION !

Please pay attention to the regulations of your waterworks company. In accordance with EN 61 770, the machine may not be directly connected to the public drinking water supply lines.

A brief connection however is permissible according to DVGW (German Association for Gas and Water Affairs) if a tube ventilator with check valve (Kränzle Order-No. 41.016 4) is built into the water supply.

Also indirect connection to the public drinking water supply lines is permissible by way of free emission in accordance with EN 61 770; e.g. by using a reservoir with a float valve.

Direct connection to a non-drinking water supply line is permissible.

High pressure hose and spray device

The high pressure hose and spraying device supplied with the machine are made of high grade material, they are also optimized for the machine and marked as required by the appropriate regulations.

- Hose length max. 20 m.



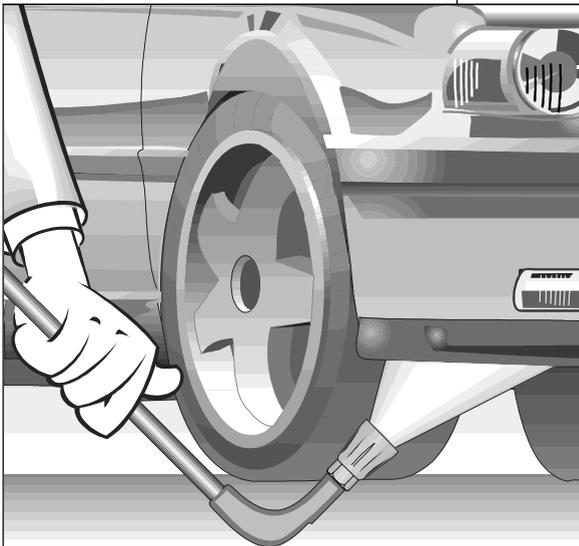
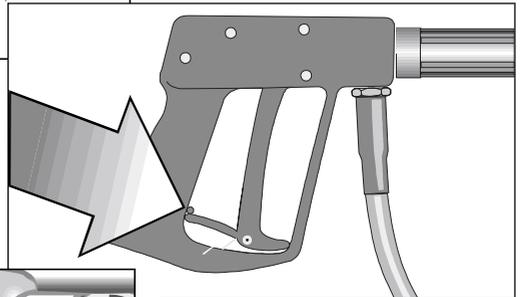
If replacement parts are required, only such parts that are authorized by the manufacturer and which bear the markings required by the appropriate regulations may be used. The high pressure hose and spray device must be connected in a pressure-tight manner (no leak). The high pressure hose may not be driven over, pulled excessively, or twisted. The hose may under no circumstances be pulled over sharp edges, since otherwise the guarantee is automatically void.

Safety notes



As to the recoil -
see notice on page 2!

Apply the safety catch on the
spray gun after each use, in
order to prevent uninten-
tional spraying!



Always aim the
underbody lance. Note
when using an angled
underbody lance, like
for example lance no.
41.075 1, that there is a
certain amount of
torque in the recoil.
(Amount of torque 26
Nm)

This is what you've purchased:



1. Spray lance with high pressure nozzle



2. Spray gun with insulated pistol grip and screw connection

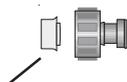
3. KRÄNZLE - High pressure cleaners HD7/120 / HD 10/120



4. Operating instructions



5. Water inlet components



is already installed

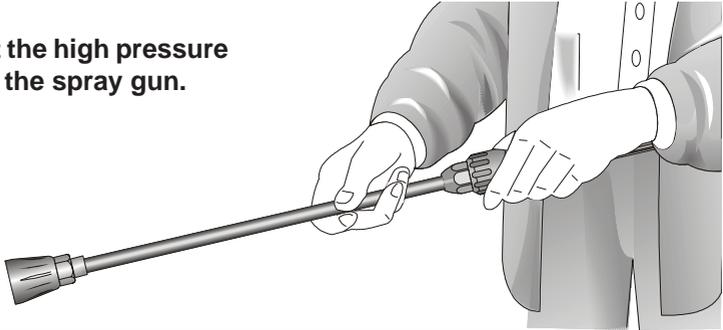
Preparation for use

1. Check oil level

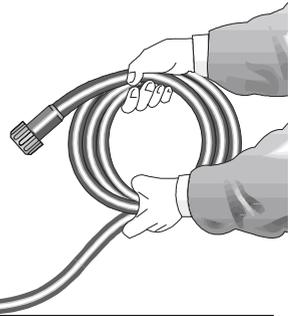
Oil has to be visible in the oil-level sight glass



2. Connect the high pressure lance to the spray gun.



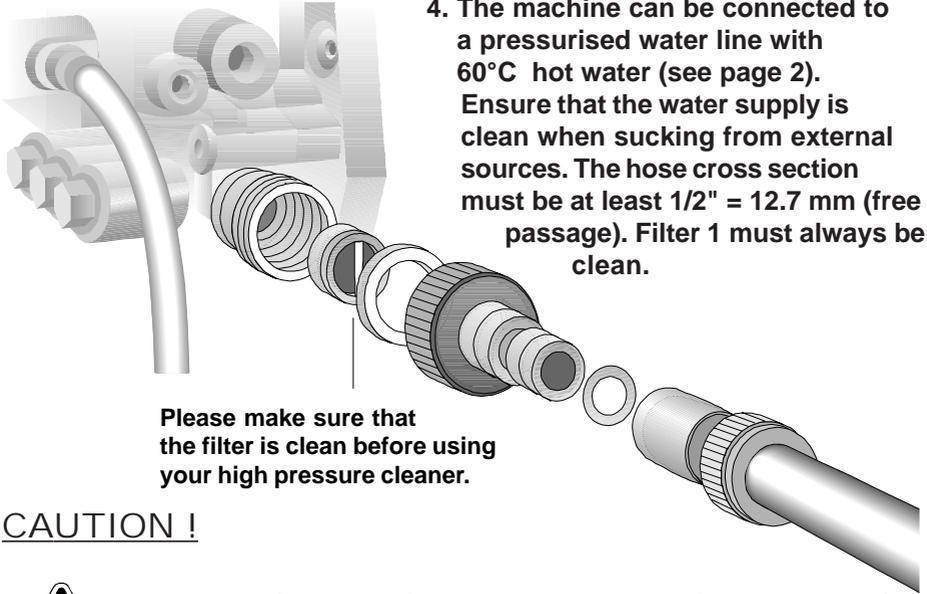
3. Unroll hose without kinks and connect with handgun and pump. Max. extension 20 m-HP hose or 2 x 10 m with hose connections.



High pressure hose connected to machine and spray gun.



Preparation for use



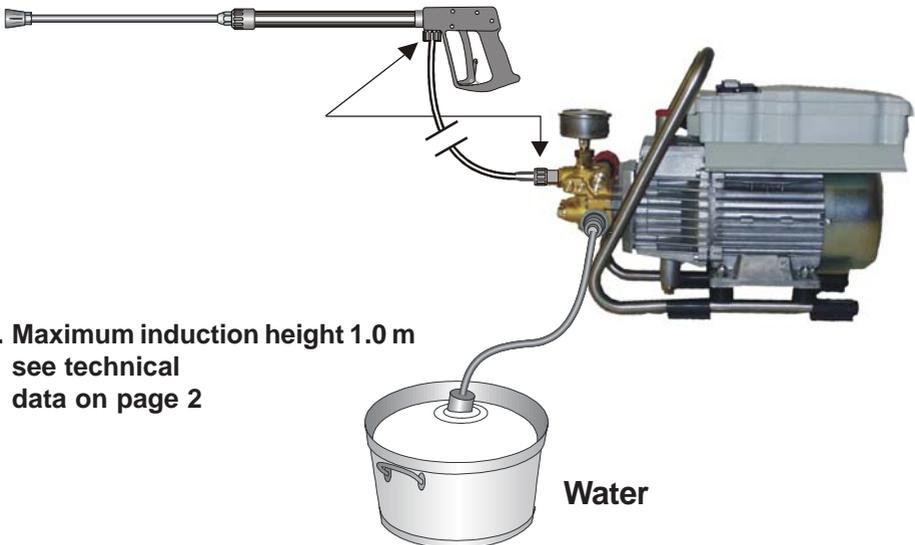
4. The machine can be connected to a pressurised water line with 60°C hot water (see page 2). Ensure that the water supply is clean when sucking from external sources. The hose cross section must be at least 1/2" = 12.7 mm (free passage). Filter 1 must always be clean.

Please make sure that the filter is clean before using your high pressure cleaner.

CAUTION !



When running your high pressure cleaner with hot water of 60° C raised temperatures occur.
Do not touch the pump without safety gloves!

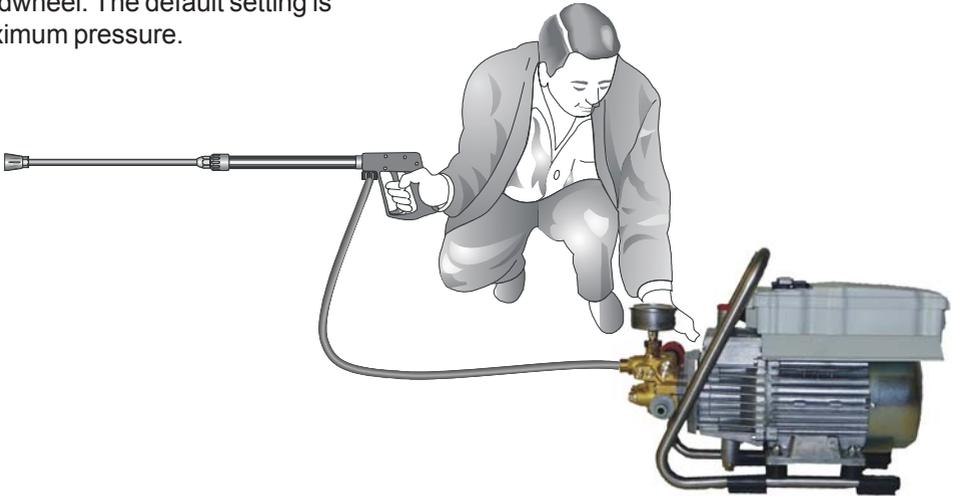


5. Maximum induction height 1.0 m
see technical data on page 2

Preparation for use

Adjusting the pressure

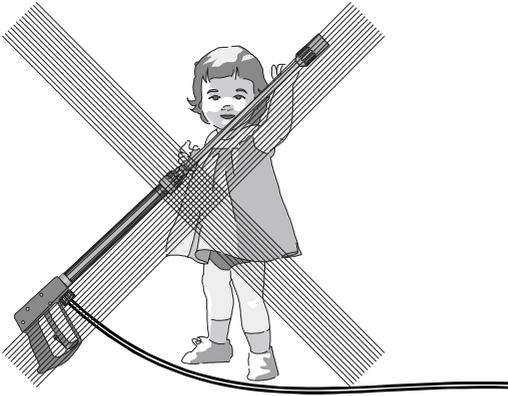
This is accomplished by turning the handwheel. The default setting is maximum pressure.



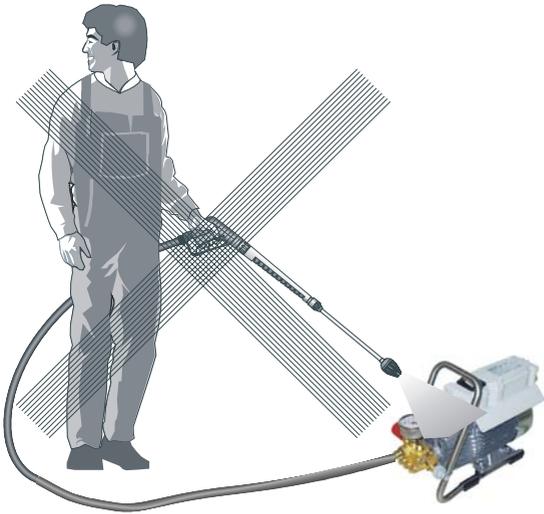
To shut down the pump:

1. **Switch off the machine.**
2. **Cut off the water supply.**
3. **Open the spray gun briefly until the pressure is released.**
4. **Apply the safety catch on the spray gun.**
5. **Remove the water hose and spray gun.**
6. **Drain the pump: switch on the motor for approx. 20 seconds.**
7. **Pull the plug from the socket.**
8. **Winter: store the pump in rooms above 0°C.**
9. **Clean the water filter.**

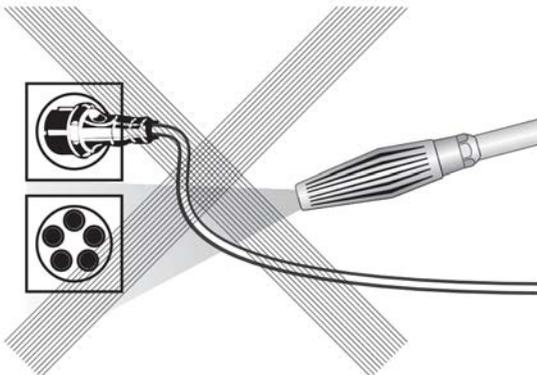
This is prohibited !



Never allow children to use the high pressure cleaner !

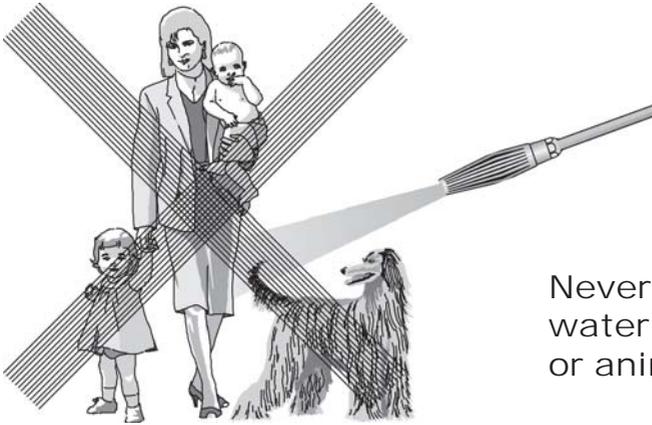


Never direct the water jet at the machine itself !

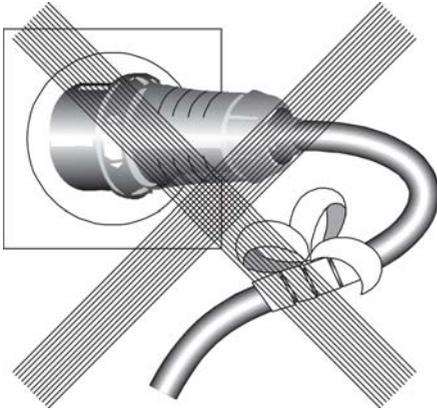


Never direct the water jet at a power socket !

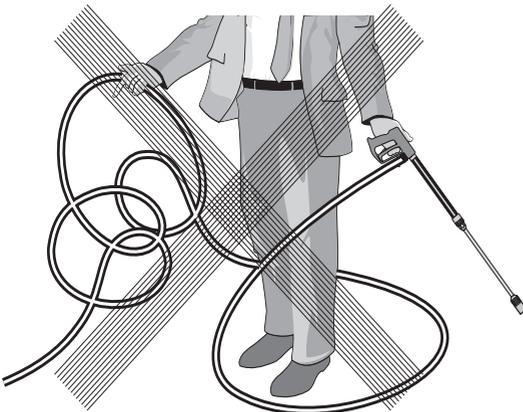
This is prohibited !



Never direct the water jet at people or animals !



**Do not damage the power cable or repair it incorrectly !
(Replace defective or damaged cables immediately !
Never work with a defective appliance !)**



**Never pull the high pressure hose if it has formed kinks or “nooses”!
Never pull the hose over sharp edges !**

Additional KRÄNZLE-accessories for ...



Rotary scrubbing brush
Order No. 41.050 1

Drain and pipe cleaning hose
10 m - Order No. 41.058 1
15 m - Order No. 41.058

Underbody lance
Order No. 41.075

Sandblaster
Order No. 41.068 1

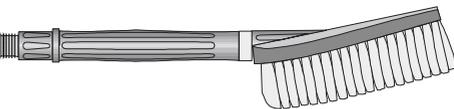
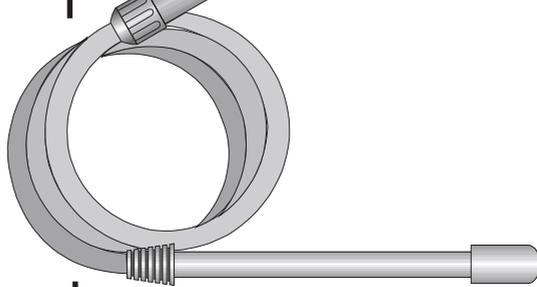
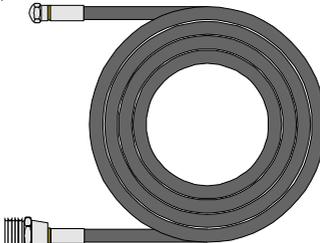
Flat brush
Order No. 41.073

Dirtkiller 03 (HD 7/120)

Order No. 41.073 8

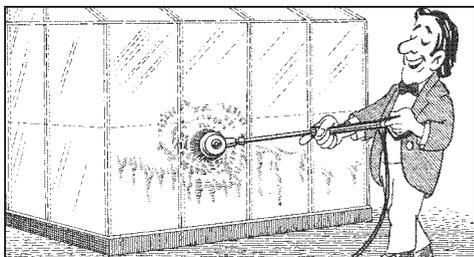
Dirtkiller 045 (HD 10/120)

Order No. 41.072 5

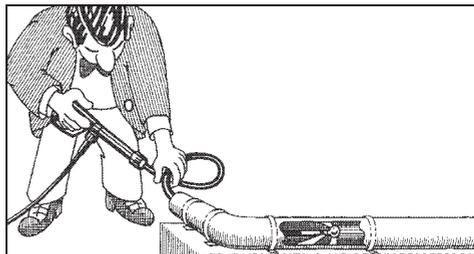


Environmental, refuse disposal and water protection regulations must be observed when using the accessories!

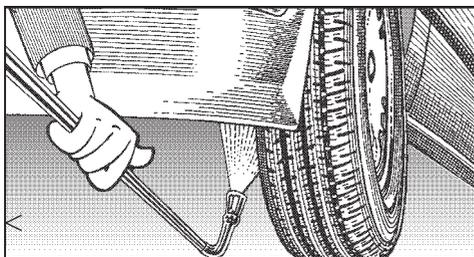
... for further combination possibilities



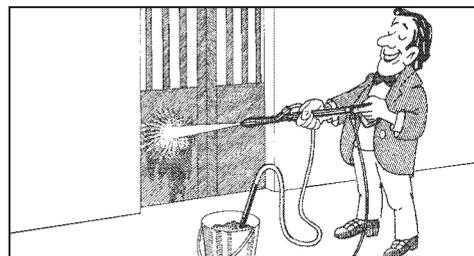
Car cleaning, glass, caravan, boat etc.
rotary washing brush with 40 cm extension
and ST 30 nipple M 22 x 1.5



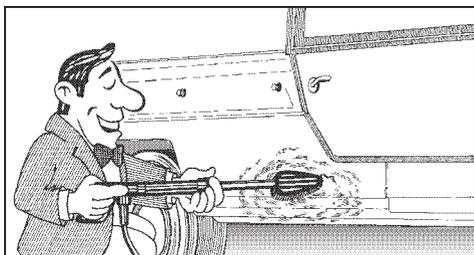
Cleaning pipes, channels and drains:
pipe cleaning hose with KN nozzle
and ST 30 nipple M 22 x 1.<<<<<5



Underbody cleaning of cars, trailers and
equipment: lance 90 cm with high pressure
nozzle and ST 30 nipple M 22 x 1.5.
The lance must be aimed when spraying.
(See page 9)



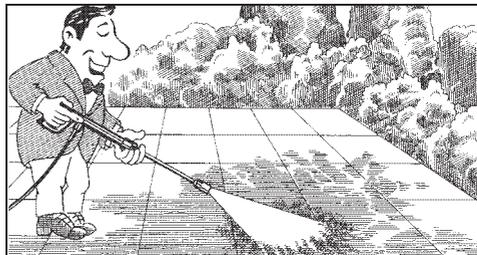
Blasting old paint, rust and facades:
sand-blasting injector with suction lance,
3 m PVC hose and ST 30 nipple.



Cleaning cars and all smooth surfaces:
brush with ST 30 nipple.



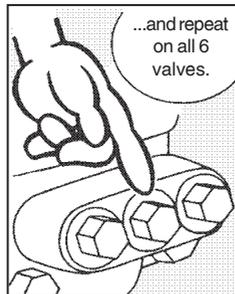
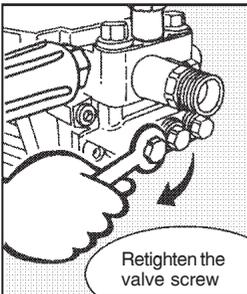
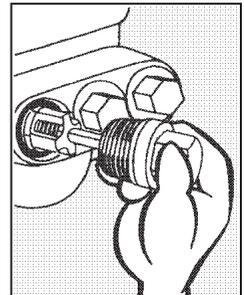
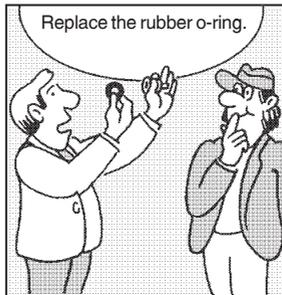
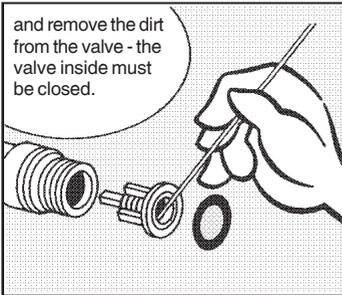
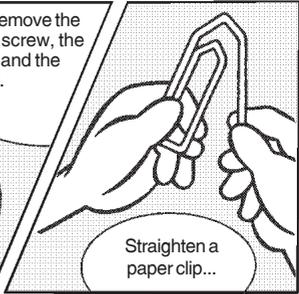
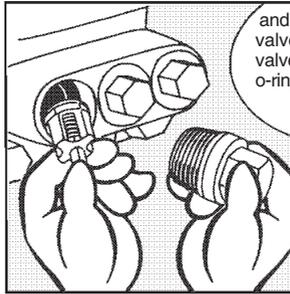
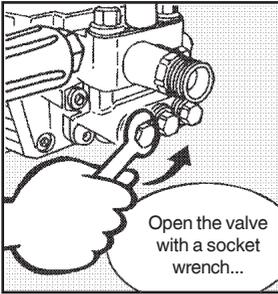
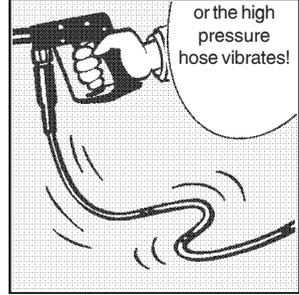
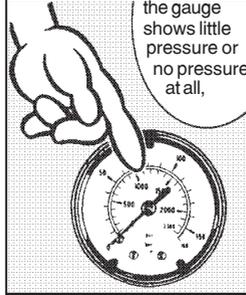
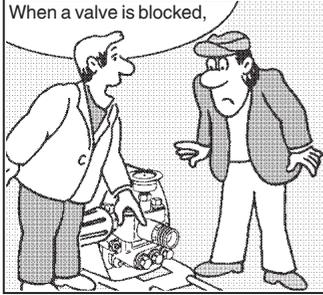
When sandblasting you must
wear protection clothes! Pay
attention to the instructions
of the manufacturer of the
abrasive!



Rotary point sprayer for extreme soiling.
Dirtkiller with 40 cm extension and ST 30
nipple.

Nozzle dirty or sticky!

- Pressure gauge does not show full pressure.
- Water comes out in spurts.
- If you do not use the high-pressure cleaner for some time the valves can stick
- The high-pressure hose vibrates.

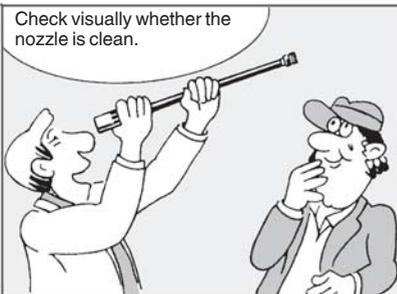
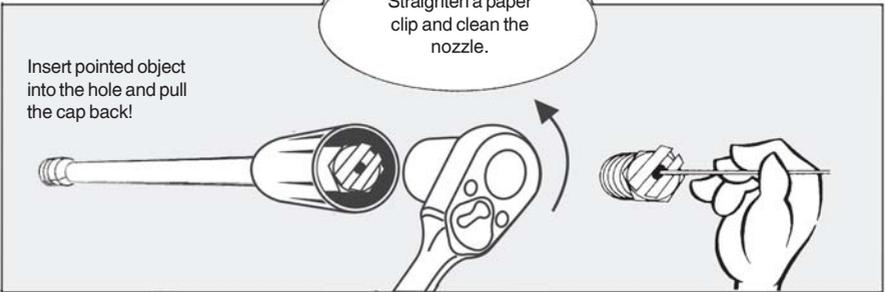
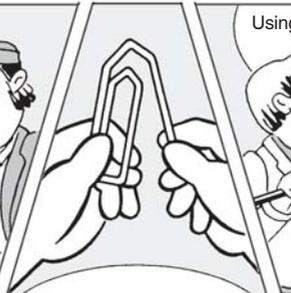


- Do it yourself!



The nozzle is blocked!

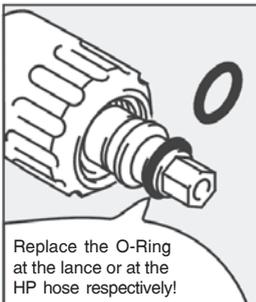
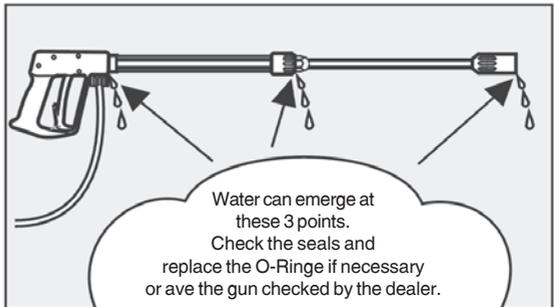
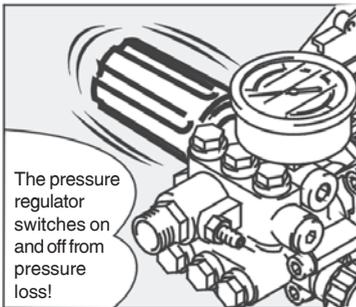
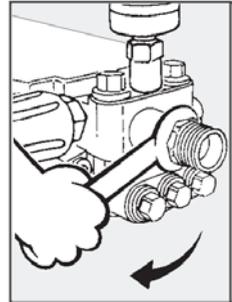
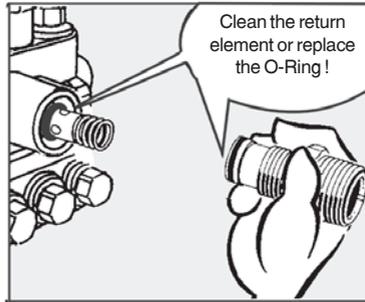
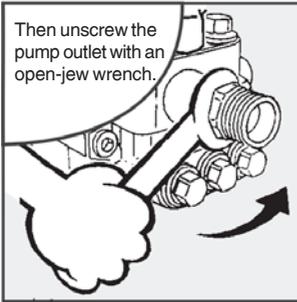
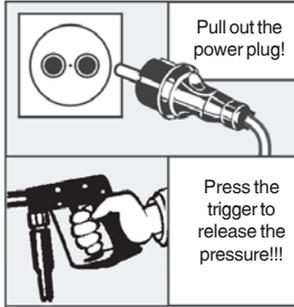
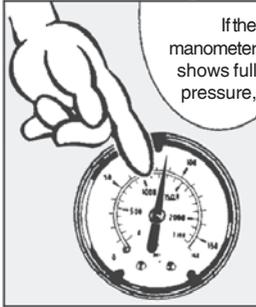
● No water but the gauge shows full pressure !



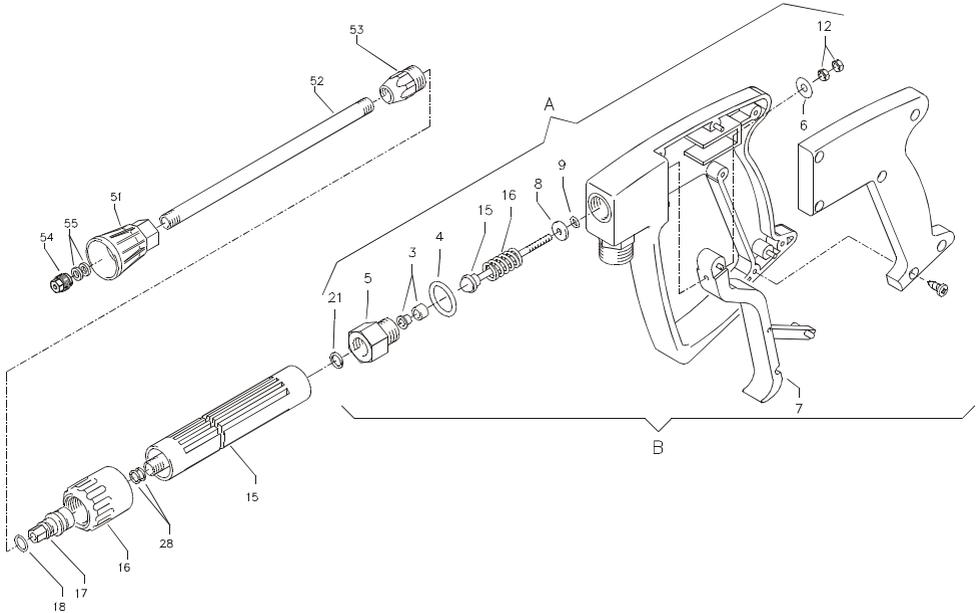
Small repairs - Do it yourself!

Stopping leaks from hose or gun

- After closing the gun the manometer shows full pressure !
- The pressure regulator switches on and off continuously!

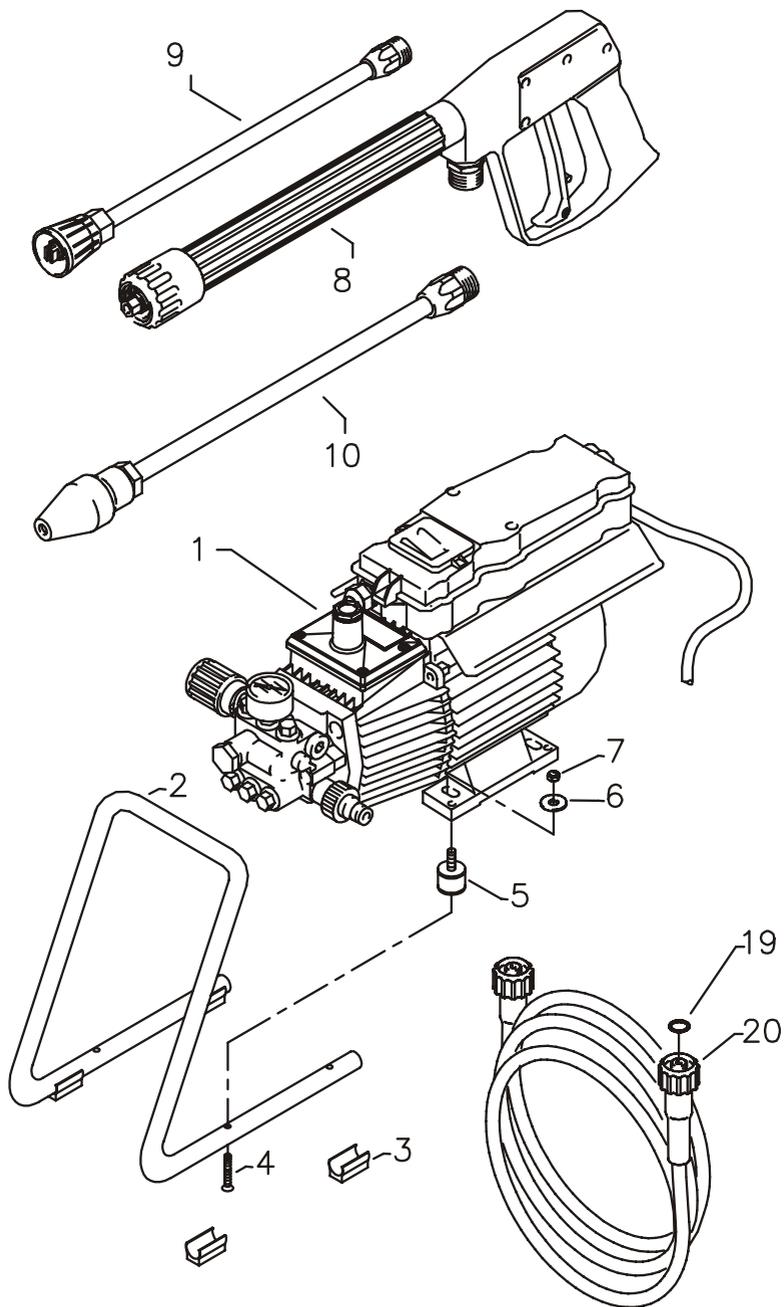


Gun with lance



No	Description	Qty.	Ord-No
6	Scheibe 5,3 DIN9021	1	50.152
7	Abzug-Hebel kpl.	1	12.144 1
15	Rohr kunststoffumspritzt bds. R 1/4" AG	1	15.004 2
16	Überwurfmutter ST 30 M22 x 1,5 IG	1	13.276 1
17	Außen-Sechskant-Nippel R 1/4" IG	1	13.277 1
18	O-Ring 9,3 x 2,4	1	13.273
28	Aluminium-Dichtring	6	13.275
51	Düsenschutz M12x1	1	26.002 1
52	Rohr 400 mm; bds. M12x1	1	15.002
53	ST 30 Nippel M 22 x 1,5 / R1/4" m. ISK	1	13.363
54	Flachstrahldüse 028 (bei HD 7/120)	1	M20028
54.1	Flachstrahldüse 042 (bei HD 10/120)	1	M20042
A	Rep.-Kit Pos: 3, 4, 5, 8, 9, 12, 15, 16; 21		12.158
B	Griff komplett		12.164
	Midi-gun with prolongation		12.160
	Lance compl. with HP-nozzle 03		12.392 4
	Lance compl. with HP-nozzle 045		12.392

Complete assembly

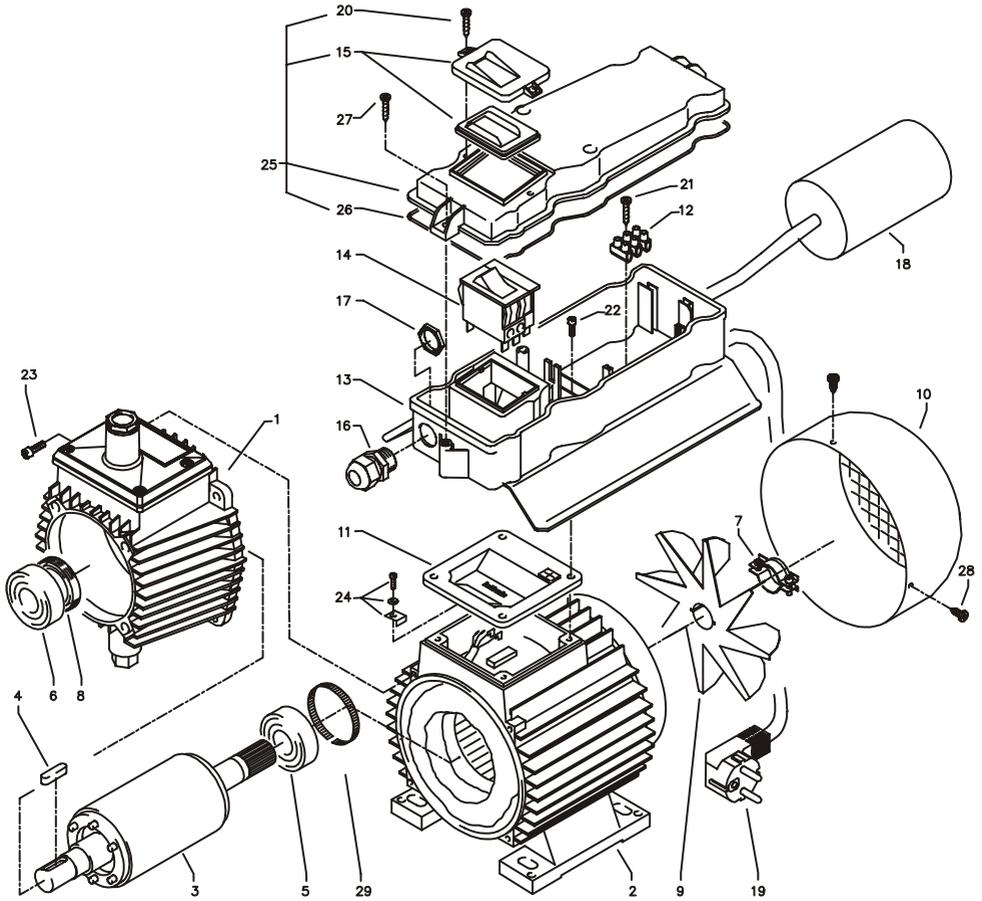


HD 7/120 / HD 10/120

Spare parts list KRÄNZLE HD 7/120 / HD 10/120 Complete assembly

No	Description	Qty.	Ord.-No
2	Tragbügel	1	44.581
3	Gummiprofilfuß	4	44.582
4	Senkschraube M6x20	1	43.473 1
5	Gummipuffer 30 x 20	4	46.023 1
6	Scheibe 8,4	4	41.409
7	Mutter DIN985 M8	4	41.410
8	Midi-Pistole mit Verlängerung	1	12.160
9	Lanze mit Flachstrahldüse 028 (HD 7/120)	1	12.392 5-M20028
9.1	Lanze mit Flachstrahldüse 042 (HD 10/120)	1	12.392 5-M20042
10	Schmutzkiller 03 kpl. mit Lanze (HD 7/120)		41.073 8
10.1	Schmutzkiller 045 kpl. mit Lanze (HD 10/120)		41.072 5
19	O-Ring 9,3 x 2,4	2	13.273
20	HD-Schlauch NW 6 10 m 210 bar	1	43.416

Motor

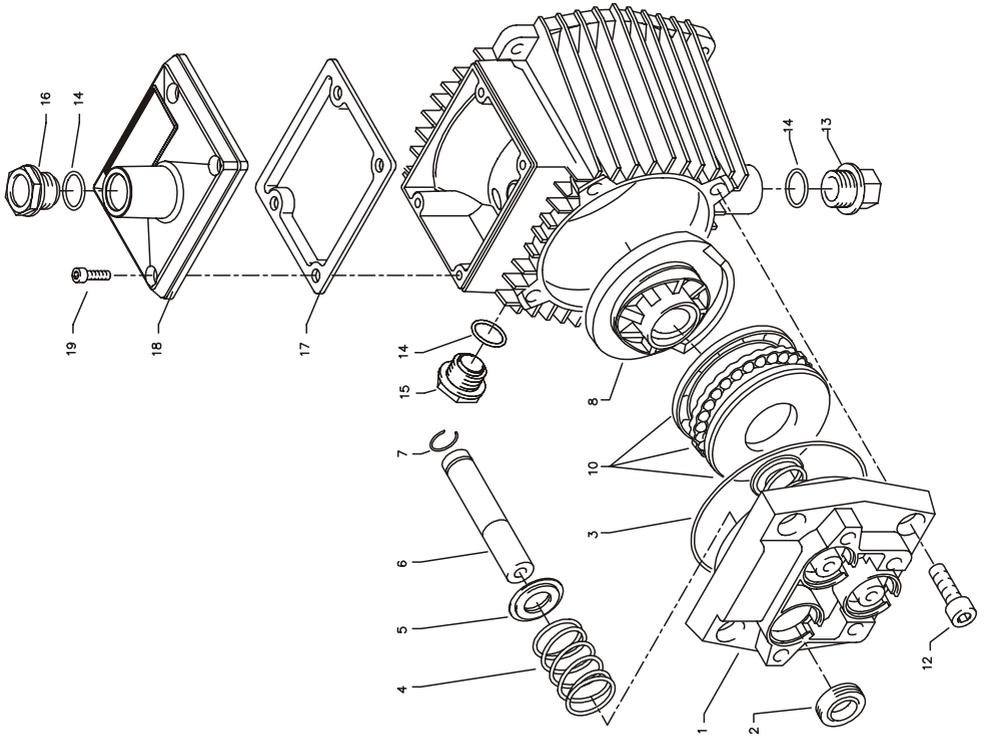


KRÄNZLE HD 7/120 / HD 10/120

Spare parts list KRÄNZLE HD 7/120 / HD 10/120 Motor

No	Description	Qty.	Ord.-No
1	Ölgehäuse mit Dichtung und Deckel	1	44.501
2	Stator (HD 7/120)	1	23.001 2
2.1	Stator (HD 10/120)	1	23.002 4
3	Motorwelle mit Rotor (HD 7/120)	1	43.104
3.1	Motorwelle mit Rotor (HD 10/120)	1	43.024
4	Passfeder 6 x 6 x 20	1	41.483 1
5	Motor-Lager B-Seite Z-Lager	1	43.025
6	Motor-Lager A-Seite Schulterl.	1	43.026
7	Schelle für Lüfterrad	1	44.534 1
8	Öldichtung 25 x 35 x 7	1	41.024
9	Lüfterrad	1	44.534
10	Lüfterhaube	1	41.497
11	Flachdichtung	1	44.513
12	Lüsterklemme 3-pol.	1	43.031 2
13	Schaltkasten	1	44.508 1
14	Schalter 8,5 A (HD 7/120)	1	43.329
14.1	Schalter 12 A (HD 10/120)	1	43.033
15	Klemmrahmen mit Schalterabdichtung	1	43.453
16	Kabelverschraubung PG 11 mit Knicks.	1	41.091
17	Gegenmutter PG 11	1	44.521
18	Kondensator 40 µF	1	43.035
19	Netzkabel für 230V / 50/60Hz	1	41.092
20	Blechschaube 3,5 x 9,5	2	41.088
21	Blechschaube 2,9 x 16	1	43.036
22	Innensechskantschr. M 5 x 12	4	40.134
23	Innensechskantschr. M 5 x 30	4	42.130
24	Erdungsschraube kpl.	1	43.038
25	Deckel für Schaltkasten	1	44.512
26	Dichtung für Deckel	1	44.522
27	Kunststoffschraube 5,0 x 25	4	41.414
28	Blechschaube 3,9 x 9,5	3	41.636
29	Toleranzhülse	1	43.063 1

Transmission

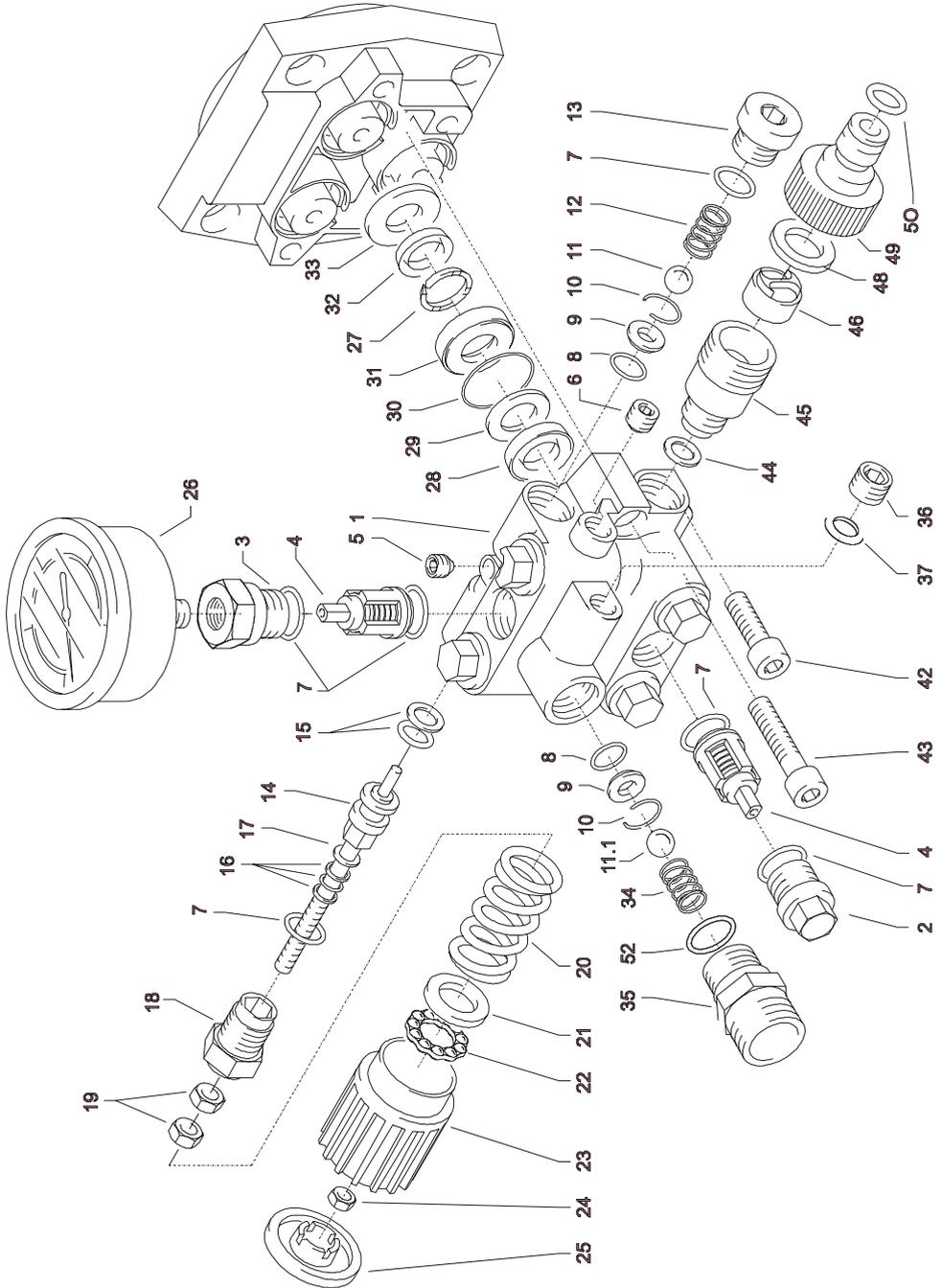


KRÄNZLE HD 7/120 / HD 10/120

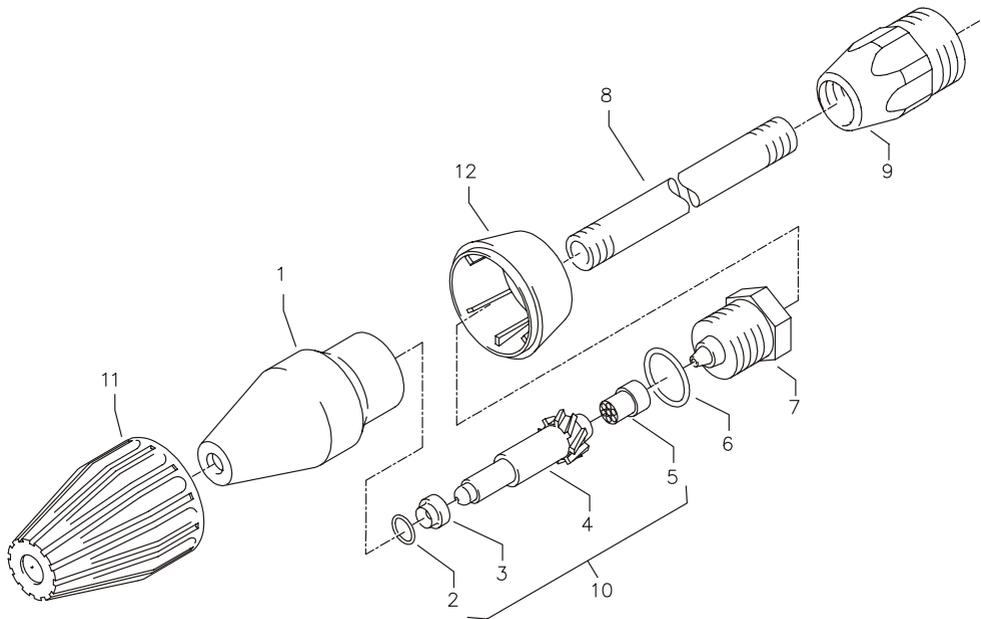
Spare parts list KRÄNZLE HD 7/120 / HD 10/120 Transmission

No	Description	Qty.	Ord.-No
1	Gehäuseplatte	1	43.003
2	Öldichtung 14 x 24 x 7	3	41.631
3	O-Ring 83 x 2	1	43.039
4	Plungerfeder	3	43.040
5	Federdruckscheibe 14 mm	3	43.041
6	Plunger 14 mm	3	43.005
7	Sprengring 14 mm	3	41.635
8.1	Swash plate 12,5° (HD 7/120)	1	41.028-12,5
8.2	Swash plate 9,5° (HD 10/120) please specify swash plate angle	1	41.028-9,5
10	Axial-Rillenkugellager 3-teilig	1	43.486
12	Innensechskantschraube M 8 x 25	4	40.053
13	Verschlußschraube M 18 x 1,5	1	41.011
14	O-Ring 12 x 2	3	15.005 1
15	Ölschauglas	1	42.018 1
16	Ölverschlußschraube rot	1	43.437
17	Dichtung Öldeckel	1	44.501 1
18	Deckel Ölgehäuse	1	44.501 2
19	Innensechskantschraube M 5 x 12	4	41.019 4

Valve housing



Dirtkiller (special accessory)



Spare parts list Dirtkiller

No	Description	Qty.	Ord.-No
1	Sprühkörper	1	41.520
2	O-Ring 6,88 x 1,68	1	41.521
3	Düsensitz	1	41.522
4	Düse 03 (HD 7/120)	1	41.523 4
4.1	Düse 045 (HD 10/120)	1	41.523
5	Stabilisator	1	41.524
6	O-Ring	1	40.016 1
7	Sprühstopfen	1	41.526
8	Rohr 400 mm 2x M 12 x 1	1	41.527
9	ST 30-Nippel M 22 x 1,5 / M 12 x 1 ISK	1	13.363
11	Front cap for Dirtkiller	1	41.528 1
12	Rear cap for Dirtkiller 03 (HD 7/120)	1	41.542 1
12.1	Rear cap for Dirtkiller 045 (HD 10/120)	1	41.540 2

Rep.-kit Dirtkiller 03

consisting of: 1x 2; 3; 4; 5

41.096 1

Rep.-kit Dirtkiller045

consisting of: 1x 2; 3; 4; 5

41.097

Dirtkiller 03 compl. with lance

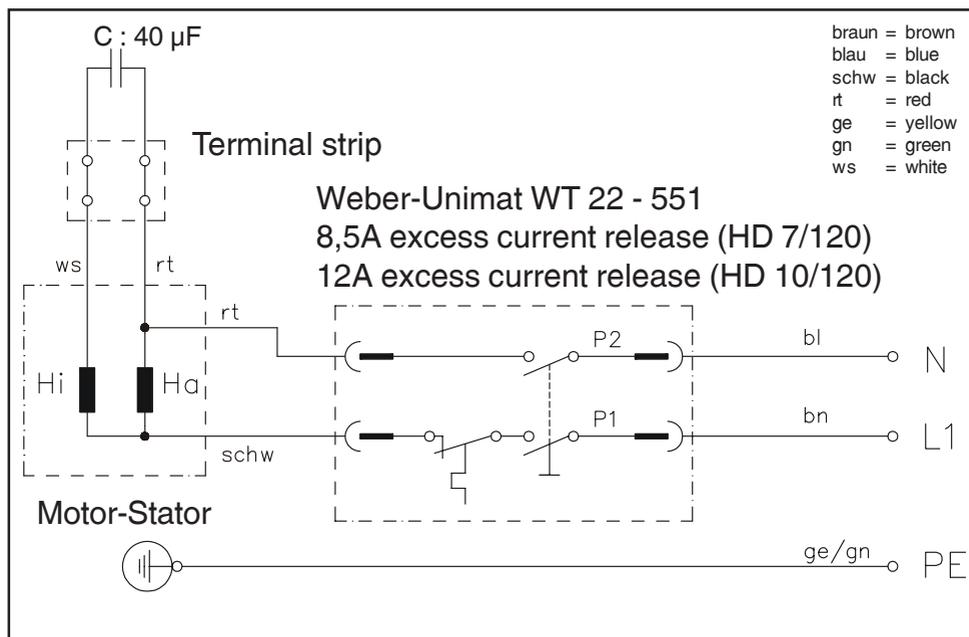
41.073 8

Dirtkiller 045 compl. with lance

41.072 5

Wiring diagram / Warranty

Wiring diagram for KRÄNZLE HD 7/120 / HD 10/120



Warranty

This warranty covers material and/or workmanship related defects only and does not extend to ordinary wear.

Machine must be operated according to enclosed operating instructions which are part of present warranty conditions.

All products sold directly to private customers are warranted for a period of 24 months, whereas the warranty period for industrial purchases is limited to 12 months.

In case of any warranty claims, please have your HP cleaner together with accessories and your purchase document ready and contact your nearest dealer or authorized service point which can also be looked up in the internet at www.kraenzle.com.

Warranty is void in case of attempts to modify any of the safety devices or in the event of exceeding temperature or rpm limits - this also applies to undervoltage, low water and/or polluted water. Gauge, nozzle, valves, sealing gaskets, high pressure hose and spray equipment are considered wear parts and do not fall under this warranty.

General rules

Inspections

The machine must be inspected according to the “Guidelines for Liquid Spray Devices” at least once every 12 months by a qualified person, to ensure that continued safe operation is guaranteed. The results of the inspection are to be recorded in writing. This may be done in any form.

Accident prevention

The machine is designed for accidents to be impossible if used correctly. The operator is to be notified of the risk of injury from hot machine parts and the high pressure water jet. The “Guidelines for Liquid Spray Devices” must be complied with. (see page 14 and 15)

Oil change:

Check the oil level at the oil sight glass prior to each use. (Ensure horizontal position!) The oil level should be at the middle of the sight glass. With high atmospheric humidity and temperature fluctuation there may be condensation (oil has a greyish colour); Then the oil must be changed.

First oil change after approx 50 hours of operation. Thereafter, no more oil change is required for the lifetime of the equipment. If it becomes necessary during repairs, or because the oil has a greyish colour to perform an oil change, then the oil sight glass should be opened and the oil emptied into a container. The oil must be caught in a container and disposed of in a responsible, legal manner.

New oil: 0.25 l - Motor oil: W 15/40

Oil leak

In the event of an oil leak contact customer service (dealer) immediately. (damage to environment or transmission)

Notes

Notes



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As date of 06.07.2005

Order n°: 30.760 1