

Operating manual

High-pressure cleaners

Kränzle 2017

Kränzle 2017 T

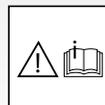
Kränzle 2020

Kränzle 2020 T



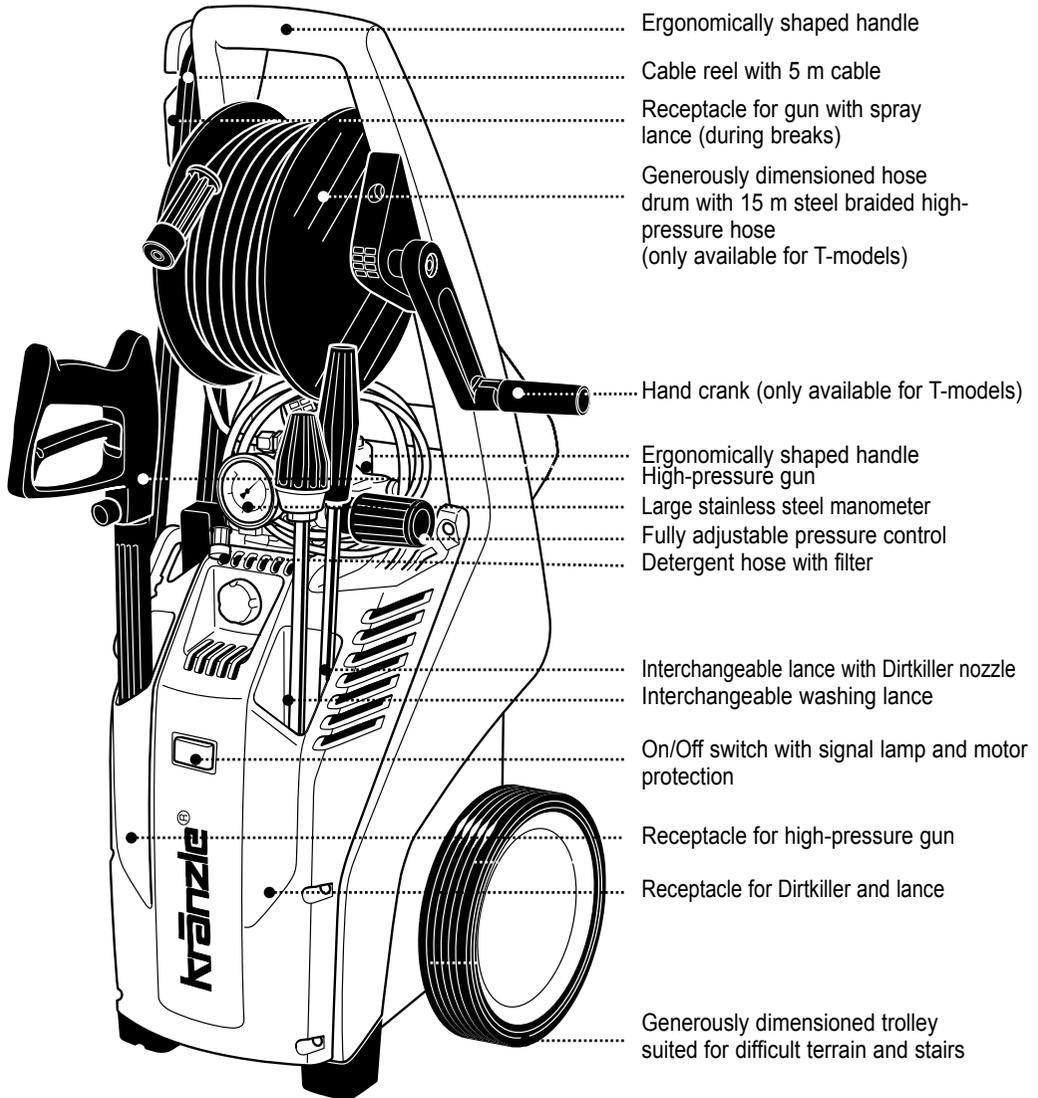
Read and conform safety instructions before use!

Keep instructions in a safe place for later use and pass them on to any future user.



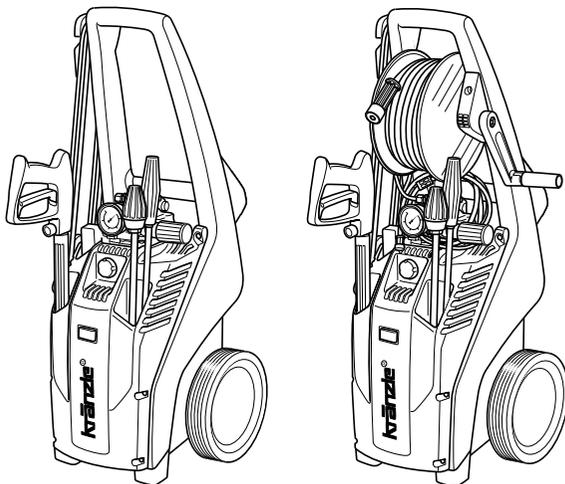
Description

Kränzle 2017, 2017 T,
Kränzle 2020, 2020 T,

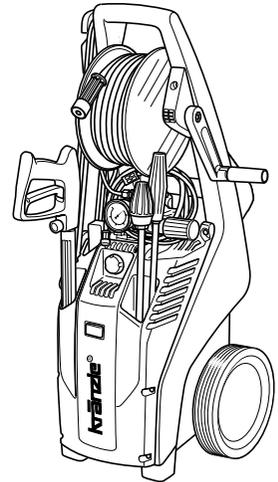
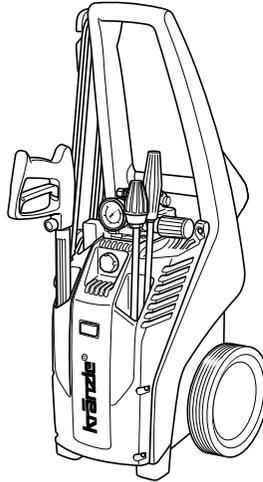


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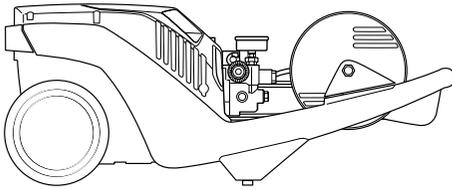
4 Technical data


	Kränzle 2017	Kränzle 2017 T
Operating press. fully adjustable	140 - 1600 psi 10 - 110 bar	140 - 1600 bar 10 - 110 bar
Nozzle size	25030	25030
Permissible overpressure	1800 psi / 125 bar	1800 psi / 125 bar
Water output	at 1,700 r.p.m. 6,8 l/min, 1,7 Gpm	at 1,700 r.p.m. 6,8 l/min, 1,7 Gpm
Water inlet temperature	max. 140 °F / 60 °C	max. 140 °F / 60 °C
Suction height	2.5 m	2.5 m
Hose drum	no	yes
Steel braided high-pressure hose	10 m	15 m
Detergent suction	yes	yes
Connected load	115 V ; 60 Hz ; 15 Amp	115 V ; 60 Hz ; 15 Amp
Power input	P 1 - 1,6 kW	P 1 - 1,6 kW
Power output	P 2 - 1,5 HP	P 2 - 1,5 HP
Weight	37 kg	39.5 kg
Dim. incl. pulling handle in mm	900 x 375 x 360	900 x 375 x 360
Sound level acc. to DIN 45 635	78 dB (A)	78 dB (A)
Sound level with Dirtkiller	82 dB (A)	82 dB (A)
Acoustic power L_{WA}	89 dB (A)	89 dB (A)
Recoil at lance	approx. 20 N	approx. 20 N
Vibration at lance	2.0 m/s ²	2.0 m/s ²



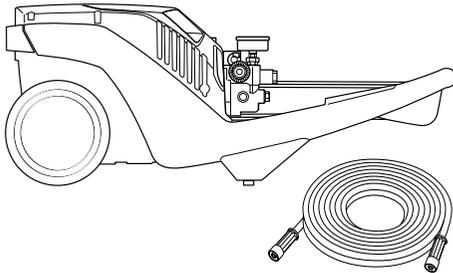
	Kränzle 2020	Kränzle 2020 T
Operating press. fully adjustable	140 - 2000 psi	140 - 2000 bar
	10 - 135 bar	10 - 135 bar
Nozzle size	25030	25030
Permissible overpressure	2200 psi / 155 bar	2200 psi / 155 bar
Water output	at 1,700 r.p.m. 7,5 l/min, 1,9 Gpm	at 1,700 r.p.m. 7,5 l/min, 1,9 Gpm
Water inlet temperature	max. 140 °F / 60 °C	max. 140 °F / 60 °C
Suction height	2.5 m	2.5 m
Hose drum	no	yes
Steel braided high-pressure hose	10 m	15 m
Detergent suction	yes	yes
Connected load	115 V ; 60 Hz ; 20 Amp	115 V ; 60 Hz ; 20 Amp
Power input	P 1 - 2,3 kW	P 1 - 2,3 kW
Power output	P 2 - 2,0 HP	P 2 - 2,0 HP
Weight	37 kg	39.5 kg
Dim. incl. pulling handle in mm	900 x 375 x 360	900 x 375 x 360
Sound level acc. to DIN 45 635	78 dB (A)	78 dB (A)
Sound level with Dirtkiller	82 dB (A)	82 dB (A)
Acoustic power L_{WA}	91 dB (A)	91 dB (A)
Recoil at lance	approx. 22 N	approx. 22 N
Vibration at lance	2.0 m/s ²	2.0 m/s ²

Permissible tolerance for figures ± 5 % acc. to VDMA uniform sheet 244

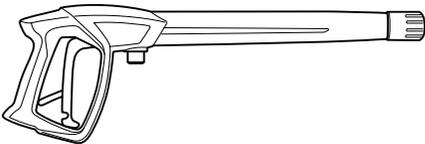
6 This is what you have purchased

1. Kränzle high-pressure cleaners 2017 T, 2020 T with 15 m steel braided high-pressure hose and hose drum NW 6

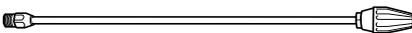
or



Kränzle high-pressure cleaners 2017, 2020 with 10 m steel braided high-pressure hose but without hose drum NW 6



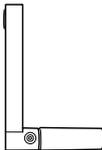
2. Trigger gun with safety catch, insulated handle and screw connection



3. Dirtkiller lance with stainless steel pipe



4. Vario-Jet lance with stainless steel pipe



5. Handle with fixing screw for hose drum



6. Operating manual

General rules

■ Range of application

Use machines for cleaning tasks with high-pressure water jet and detergents or with high-pressure water jet without detergents only.

■ 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. For inspection reports see pages 24 - 25.



High-pressure cleaners used for commercial purposes have to be checked by a qualified person at least every 12 months!

■ 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 pages 8 and 9).

■ Oil change:

The first oil change should be carried out after approximately 50 operating hours, then every year or after 1000 operating hours. If the oil turns grey or white, you must change the oil of your high pressure pump in any case.

Put the machine into a horizontal position, then open the oil discharge screw at the bottom of the device over a collection reservoir. The oil is to be caught in the reservoir and disposed of in an approved manner.

New oil: 0,35 l - Motor oil W 15/40.

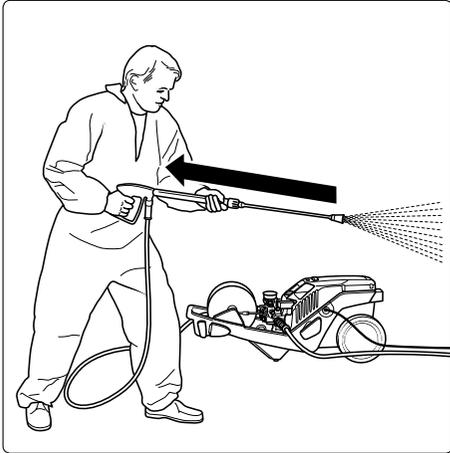


Oil leakage: If oil leaks contact your nearest after-sales service (dealer) at once. (Ecological damage, damage to the transmission)

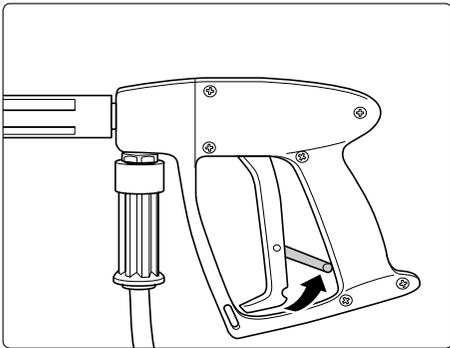


In case of increased humidity or fluctuations in temperature development of condensed water is possible; if the oil turns grey, you must change it.

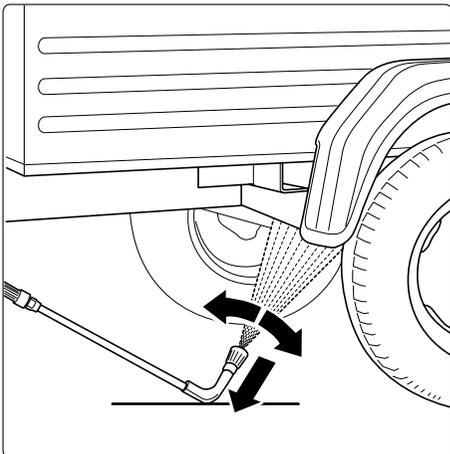
8 Safety precautions



Bear in mind that during cleaning tasks with a high-pressure water jet a significant recoil at the lance arises (see technical data on page 4).

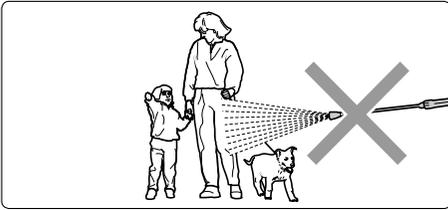


Apply the safety catch on the trigger gun after each use, in order to prevent unintentional spraying!

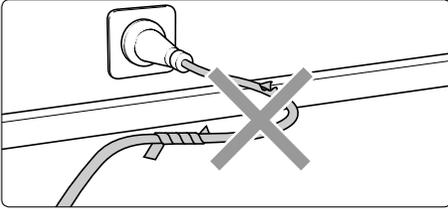


Always aim the underbody lance! Bear in mind when using a curved or angled spraying lance that there is a significant amount of torque in the recoil!

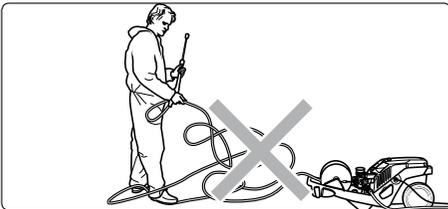
Safety precautions - That`s forbidden!



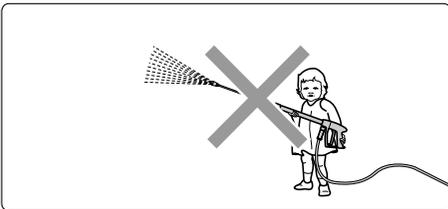
Never direct the water jet at people or animals!



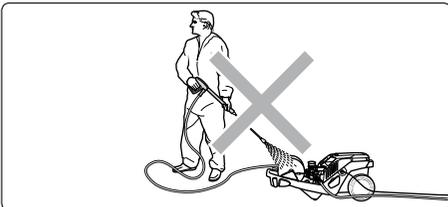
Only use power cables which are in perfect working order! Do not damage the power cable or repair it incorrectly!



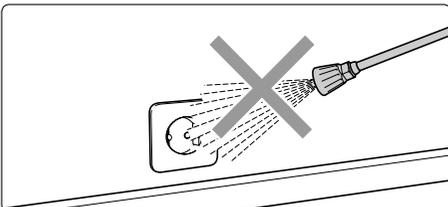
**Never pull the high pressure hose if it has formed kinks or “nooses”!
Never pull the hose over sharp edges!**



Never allow children to use the high pressure cleaner!



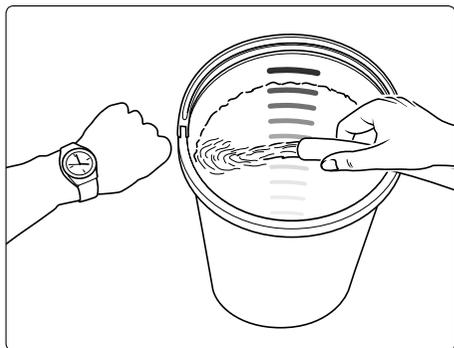
Never direct the water jet at the machine itself!



Never direct the water jet at a power socket!

10 Please note - important!

■ Lack of water



Lack of water occurs more often than you probably believe. The more powerful a high-cleaner is the greater is the danger that a lack of water occurs. If there is only an insufficient amount of water available, cavitation arises inside the pump, which is normally noticed too late or even not at all.

The pump will be destroyed!

Please check the available quantity of water by filling a bucket with litre scale for one minute.

The following minimum quantity of water is necessary for a safe and problem-free operation of the high-pressure cleaner:

Kränzle 2017, 2017 T: 6,8 l/min, 1,7 Gpm

Kränzle 2020, 2020 T: 7,5 l/min, 1,9 Gpm



If the metered quantity of water is too small, you have to use a different water connection, guaranteeing the necessary output.

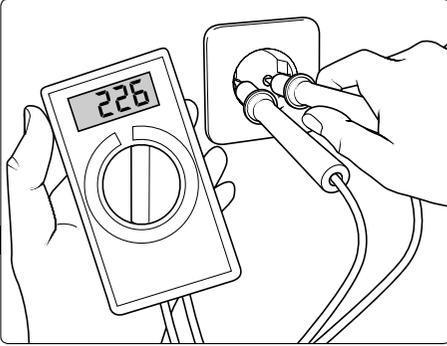
Lack of water leads to an accelerated wear of the joints (no guarantee).

■ Connection to water supply

Please pay attention to the regulations of your waterworks company! In accordance with DIN EN 61770, 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.

■ Insufficient quantity of electricity



If there are too many collectors in your proximity connected to the network at the same time, the available voltage and the current intensity may decline. Consequently the motor of the high-pressure cleaner does not start or even blows.

The power supply may also be insufficient if the power cable is too long or too thin. If extension cables are too long, this may lead to a voltage drop causing malfunctions or start-up difficulties.

Connected load:

Kränzle 2017, 2017 T: 115 V ~, 60 Hz

Kränzle 2020, 2020 T: 115 V ~, 60 Hz



Check the line fusing and have the voltage and the available current intensity checked by an expert in case of uncertainty.

■ 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

For K2017, K2017T with a **15A or 16A delay action fuse** on the mains side.

For K2017, K2017 T, K2020, K2020 T with a **20A delay action fuse** on the mains side.

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 **AWG14 for K2017**, of **AWG12 for K2020**. 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 the minimum cross section must be **AWG12 for K2017**, of **AWG10 for K2020**! When using a cable drum, always keep the cable wound as far as possible.

12 Kränzle technology

■ Water and Cleaning 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.



Environmental, refuse disposal and water protection regulations must be observed!

■ Lance with trigger gun

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 pressure gauge must show 0 bar.

The increase in pressure when the trigger gun is closed causes the pressure control valve-safety valve to open. When the trigger gun is opened, the pressure control valve - safety valve closes and the pump resumes pressure spraying from the lance with the selected operating pressure.



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.

■ Pressure control valve - safety valve

The pressure control 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. 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 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 11).



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

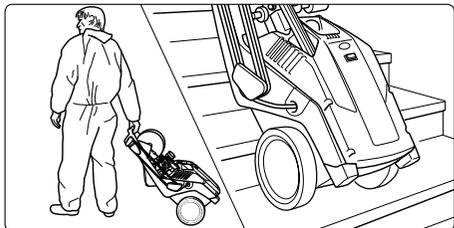
■ High pressure hose and spray device

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



If replacement parts are required, only such parts that are authorised 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. 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.

14 Putting into operation



1. Move high-pressure cleaner to the job site.

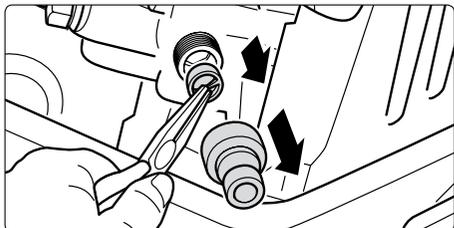
The Kränzle 2017, 2017 T, 2020, 2020 T are movable machines with sturdy trolleys ideally suited for difficult terrain and stairs.

Never pull the machine if the water supply hose is still connected!

■ Setting up – Location

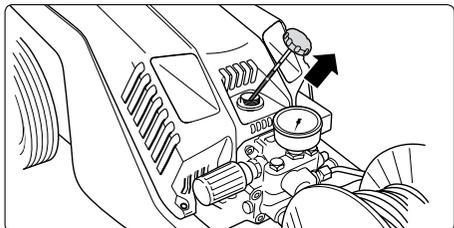


Neither set up or operate the machine in rooms where there is a risk of fire or explosion nor put it into puddles. Do not use the machine under water.



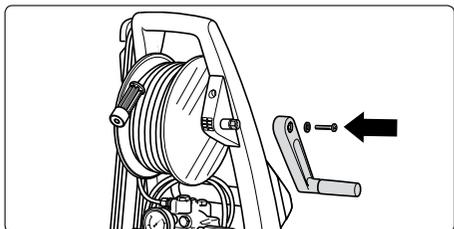
2. Check water inlet filter for cleanliness prior to putting the machine into operation!

Manually unscrew hose attachment. Take out the serial water inlet filter using needle nose pliers and clean if filter is soiled.

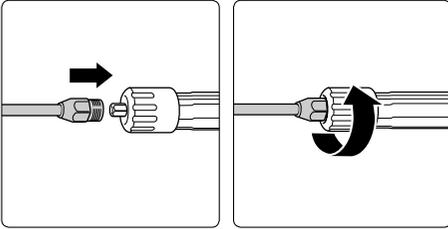


3. Each time check oil level at the oil dipstick prior to putting the HP cleaner into operation. (Take care that cleaner is in horizontal position!)

The oil level must show between the two markings.

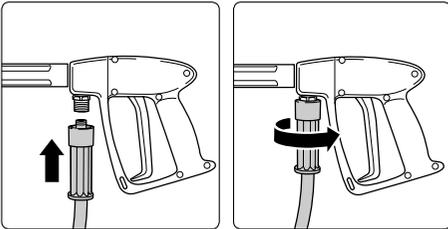


4. Put up machine. Release fixing screw from hexagonal base of hose drum, put tiltable handle onto the hexagonal base and fix with screw.



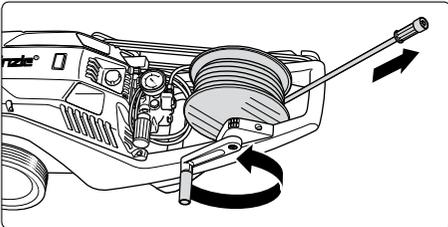
5. Push on lance or Dirtkiller lance to gun.

6. Screw together lance and gun.

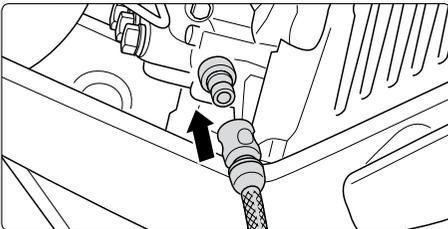


7. Push on HP hose to gun.

8. Screw together HP hose and gun.



9. Put HP cleaner into horizontal position. **These machines must be operated in horizontal position!** Unwind HP hose from hose drum without kinks and nooses.

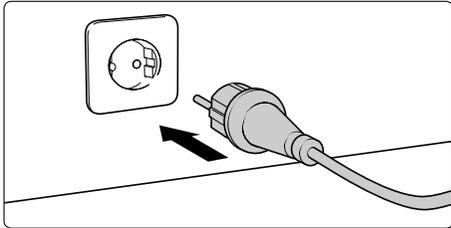


10. Connect water hose to water tank. The cleaner may be connected to water mains with cold or 60°C warm water. Alternatively water can be sucked in from a container (see page 17).

■ Be careful when using hot water!



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

16 Putting into operation

11. Connect to circuit.

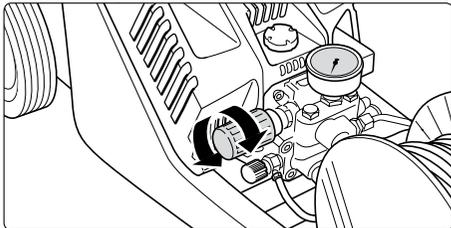
Kränzle 2017, 2017 T: 115 V ~, 60 Hz

Kränzle 2020, 2020 T: 115 V ~, 60 Hz

The socket must be protected

For K2017, K2017T with a 15A or 16A delay action fuse on the mains side.

For K2017, K2017 T, K2020, K2020 T with a 20A delay action fuse on the mains side. .



12. Steplessly adjust operating pressure with handwheel. The maximum pressure is adjusted ex work.



13. Ventilation of the machine: Pull and release the trigger several times.

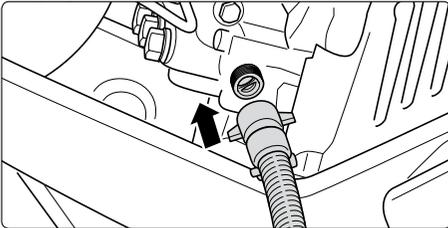
Switch on high-pressure cleaner with opened spray gun. Start cleaning task.

Direct suction

Due to the suction capacity of its pump (up to 2.5 m suction height, max. hose length 3 m) this high-pressure cleaner can suck in water for cleaning purposes from separate containers or ponds.

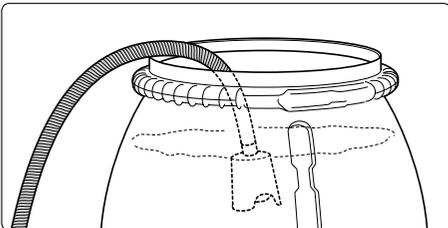


Prior to starting the first suction the pump resp. the suction hose has to be filled with water!

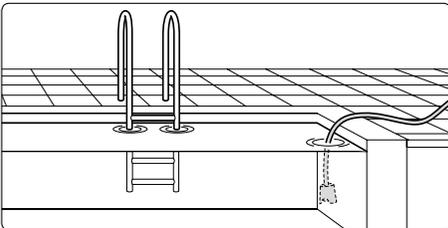


1. Mount suction hose with suction filter (Kränzle accessories No. 15.038 3). When using other hoses the inner cross section of the hose must be at least $3/4'' = 16 \text{ mm}$.

2. Fill suction hose with water.



3. Put filled suction hose into the container and start the cleaning job.



**Use clean water only!
Never suck in water containing chlorine.**

 **Note**

Depending on the water quality it may occur after a prolonged standstill that the valves get sticky. Consequently the machine cannot properly suck in water from a container.

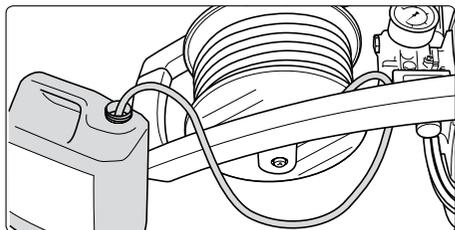
In this case connect a hose with pressurized water to the pump inlet. Having started the machine the pressurized water opens the valves and the machine resumes sucking in water from the container. Now you can carry on with your cleaning task as usual.

18 Suction of detergents

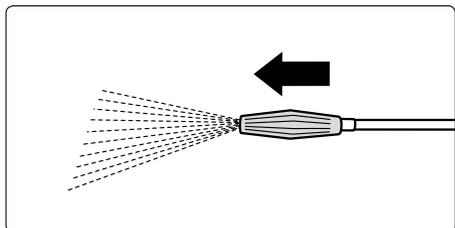
■ with detergent supply:

For the Kränzle 2017, 2017 T, 2020, 2020 T a built-in injector provides the facility to suck in detergents.

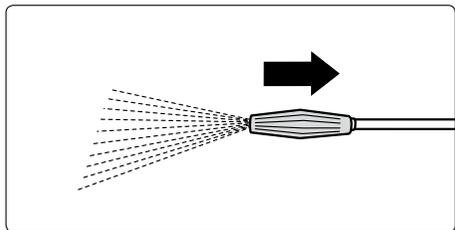
By pushing the Vario-Jet nozzle to the front the machine is adjusted to low pressure and a vacuum is build up in the injector. Thus the detergent can be sucked in via the connected suction hose with filter.



1. Place chemicals filter into container with cleansing agent.



2. To reach the low pressure push Vario nozzle to the front so that the injector can suck in the cleansing agent.



3. The chemicals supply is automatically stopped when closing the Vario nozzle by pushing it backwards. Let cleansing agent take effect and then spray off with a high-pressure jet.



The pH value neutral 7-9 is prescribed for the detergents. Only use detergents suitable for high-pressure cleaners. Observe specifications of detergent manufacturer! e.g.: protective equipment, rules for waste water treatment etc.

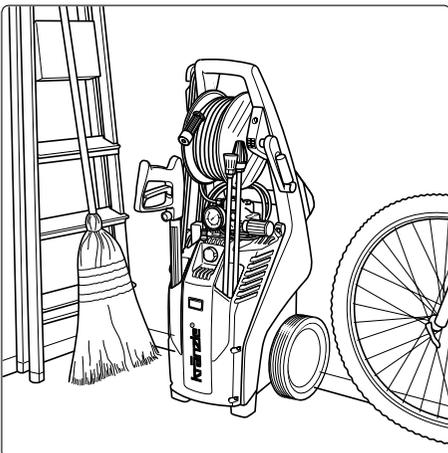


Never suck in liquids containing solvents like varnish solvents, petrol, oil or similar liquid! Observe specifications of detergent manufacturers! Seals inside the appliance are not resistant against solvents! The spray mist of solvents is highly inflammable, explosive and poisonous.

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. Clean HP hose and wind up
9. Clean power cable and wind up
10. Clean water filter
11. Winter: store the pump in rooms above 0°C

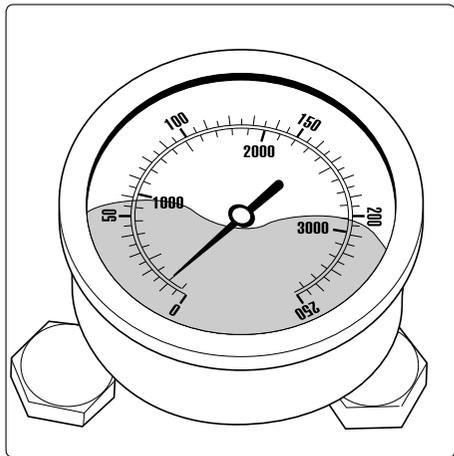
■ Store in a place-saving manner



Due to their compact and space saving design these Kränzle-2017, 2020 cleaners can be stored practically anywhere.

20 Small repairs - do it yourself!

■ No water from the nozzle but the gauge shows full pressure:
Most likely the nozzle is blocked.



The pressure gauge shows full pressure, but from the nozzle comes only little water or no water at all.

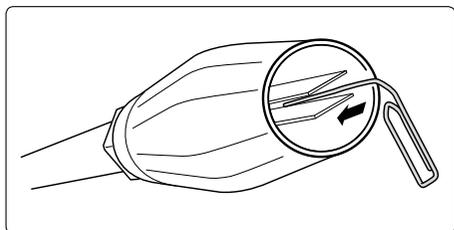
(Inside the pressure gauge is no water but a filling with glycol to damp the vibration of the pointer.)

Switch off the cleaner. Pull plug from the socket. Operate gun several times to decrease the pressure.

First unscrew gun and lance, then rinse hose from any residues.

Check water inlet filter for soiling.

If the problem still exists, take wire (paper clip) and push through nozzle opening.

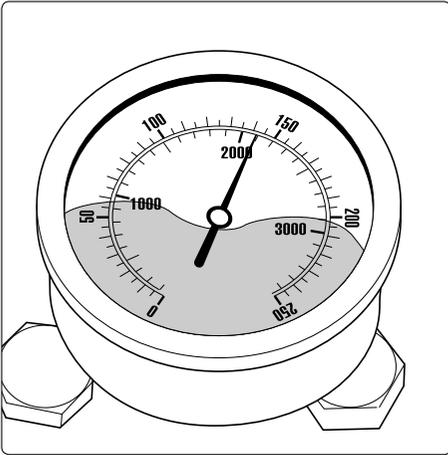


If this procedure is not successful, the nozzle has to be dismantled and cleaned or even replaced, if necessary.



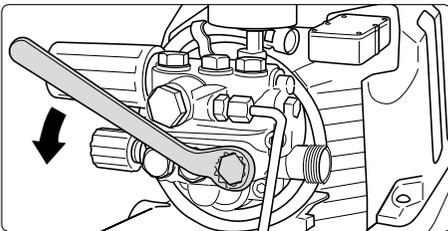
CAUTION! Pull plug from socket prior to starting any repair work!

■ **Pressure gauge shows little pressure, the water from the nozzle comes in squirts: Most likely the valves are soiled or sticky.**

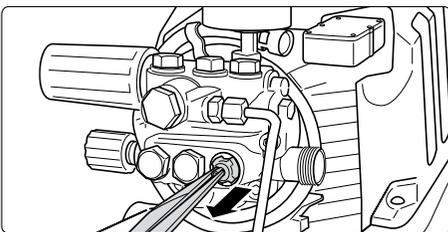


The pressure gauge shows little pressure despite fully turned up pressure regulation. The water from the lance comes in squirts. The HP hose vibrates.

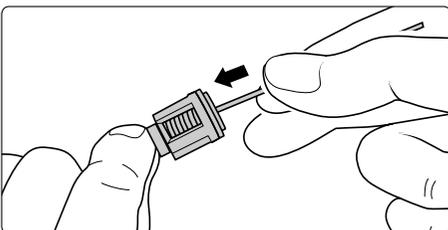
(Inside the pressure gauge is no water but a filling with glycol to damp the vibration of the pointer.)



Unscrew all 6 valves, one after the other (hexagonal brass screws, 3 in a row, vertically and horizontally)



Take out valve body (with green or red plastic coating) and O-ring by means of needle nose pliers. Check O-ring for damage. In case of a damage the O-ring has to be replaced.

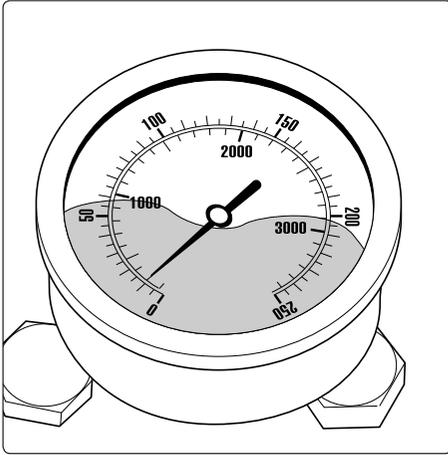


Take a wire (paper clip) and clean valves under running water. Also clean valve seat inside the pump.

Do not forget the O-ring during reassembly!

22 Small repairs - do it yourself!

■ The pressure gauge shows full pressure although the gun has been closed. The pressure switch valve switches constantly.



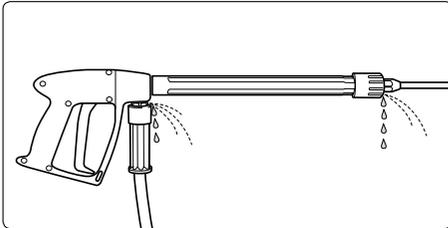
Possible cause no.1: Leakage

Having closed the gun, the HP cleaner must shut down and the pressure gauge must show „0“ bar.

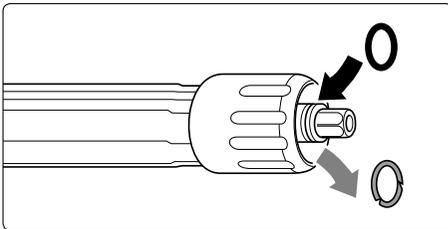
If the pressure gauge still shows full pressure and the motor constantly switches on and off, the possible reason for this can be a leakage of the pump, the HP hose or the lance.

Proceeding:

Check the connections from the HP cleaner to the HP hose, from the hose to the gun and also the connection between lance and gun for tightness.



Switch off the cleaner. Shortly pull the trigger of the gun to decrease the pressure.



Unscrew HP hose, gun and lance and check the O-rings.

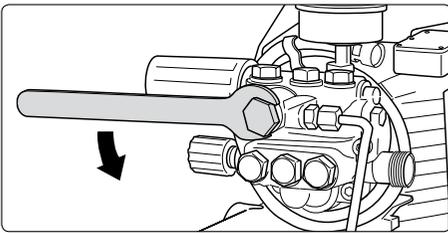
If the O-rings are damaged they have to be replaced.



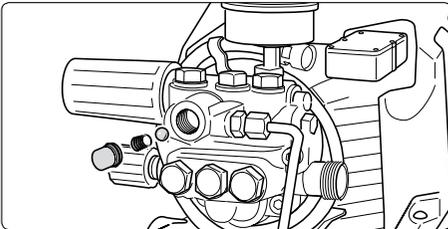
Caution! In case of a leakage there is no guarantee for possible consequential damages.

■ The pressure gauge shows full pressure although the gun has been closed. The pressure switch valve switches constantly.

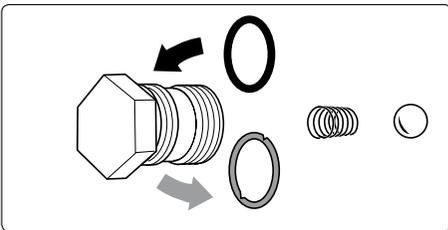
Possible cause no. 2: The return body is soiled or the sealing ring on the return body is defective.



Unscrew pump outlet.



Take out check ball and check for soiling or damage of ball or stainless steel seat inside the pump housing.



Replace non-return valve if necessary.



Caution ! There is no guarantee if the pump is damaged by defective O-rings due to air induction or lack of water (cavitation).

24 Inspection report for HP cleaners

HP cleaners for industrial use have to be checked by an expert every 12 months! Inspection report on annually carried out Labour Safety Inspection (UVV) according to the Guidelines for Liquid Spray Equipment. (This inspection sheet serves as proof for the completion of the retest and must be kept carefully!) Kränzle test seals: Order no. UVV200106

Owner: Type:.....
 Address: Serial no.:
 Rep. order no.:

Scope of inspection	o.k.	yes	no	repaired
Type plate (on hand)				
Operating manual (on hand)				
Protective covering, -device				
Pressure line (tightness)				
Pressure gauge (function)				
Float valve (tightness)				
Spraying device (marking)				
HP-hose / connector (damage, marking)				
Safety valve opens at 10 % / 20 % exceeding of operating pr.				
Power cable (damage)				
Protective conductor (connected)				
On / Off switch				
Used chemicals				
Allowed chemicals				

Inspection data	determined value	set value
High-prsure nozzle		
Operating pressure.....bar		
Switch off pressure.....bar		
Conductor resist. not exceeded / value		
Insulation		
Leakage current		
Gun locked		

Inspection result (tick)

- The appliance was checked by an expert according to the Guidelines for Liquid Spray Equipment, the defects found have been rectified so that the Labour Safety can be confirmed.
- The appliance was checked by an expert according to the Guidelines for Liquid Spray Equipment. The Labour Safety cannot be confirmed unless the defects found are rectified by repair or replacement of the faulty parts

The next retest according to the Guidelines for Liquid Spray Equipment has to be carried out by: Month Year

Place, date..... Signature

Inspection report for HP cleaners

HP cleaners for industrial use have to be checked by an expert every 12 months! Inspection report on annually carried out Labour Safety Inspection (UVV) according to the Guidelines for Liquid Spray Equipment. (This inspection sheet serves as proof for the completion of the retest and must be kept carefully!) Kränzle test seals: Order no. UVV200106

Owner: Type:.....
 Address: Serial no.:
 Rep. order no.:

Scope of inspection	o.k.	yes	no	repaired
Type plate (on hand)				
Operating manual (on hand)				
Protective covering, -device				
Pressure line (tightness)				
Pressure gauge (function)				
Float valve (tightness)				
Spraying device (marking)				
HP-hose / connector (damage, marking)				
Safety valve opens at 10 % / 20 % exceeding of operating pr.				
Power cable (damage)				
Protective conductor (connected)				
On / Off switch				
Used chemicals				
Allowed chemicals				

Inspection data	determined value	set value
High-prsure nozzle		
Operating pressure.....bar		
Switch off pressure.....bar		
Conductor reist. not exceeded / value		
Insulation		
Leakage current		
Gun locked		

Inspection result (tick)

- The appliance was checked by an expert according to the Guidelines for Liquid Spray Equipment, the defects found have been rectified so that the Labour Safety can be confirmed.
- The appliance was checked by an expert according to the Guidelines for Liquid Spray Equipment. The Labour Safety cannot be confirmed unless the defects found are rectified by repair or replacement of the faulty parts

The next retest according to the Guidelines for Liquid Spray Equipment has to be carried out by: Month Year

Place, date..... Signature

26 EC declaration of conformity

Hereby we declare that:	Kränzle 2017, 2017 T, Kränzle 2020, 2020 T,
technical specifications available from:	Manfred Bauer, Fa. Josef Kränzle Rudolf-Diesel-Str. 20, 89257 Illertissen
Nominal flow:	K 2017 / T: 408 l/h (102 Gph) K 2020 / T: 450 l/h (114 Gph)
comply with the following guidelines and their amendments for high-pressure cleaners:	machinery directive 2006/42/EEC, EMC-directive 2004/108 EEC, noise directive 2005/88/EC, Art. 13, HP water spraying machines annex 3, part B, chapter 27
Sound level measured:	Kränzle 2017, 2017 T: 87 dB (A) Kränzle 2020, 2020 T: 89 dB (A)
Sound level guaranteed:	Kränzle 2017, 2017 T: 89 dB (A) Kränzle 2020, 2020 T: 91 dB (A)
Applied conformity evaluation procedures	annex V, noise directive 2005/88/EC
Applied specifications and standards:	EN 60 335-2-79 :2004 EN 55 014-1 :2006 EN 61 000-3-2 :2006 EN 61 000-3-3 :2008
I. Kränzle GmbH Elpke 97 D - 33605 Bielefeld Bielefeld, 11.12.2012	 <hr/> Kränzle Josef (Managing director)

Guarantee

■ The guarantee is only valid for material and manufacturing errors. Wearing does not fall within this guarantee.

The instructions in our operating manual must be complied with.. The operating instructions form part of the guarantee. The Guarantee is void if other parts are used than genuine Kränzle accessory parts or genuine Kränzle spare parts.

For high-pressure cleaners sold to the user the guarantee period is **24 month**.
For high-pressure cleaners sold for industrial use the guarantee period is **12 month**.

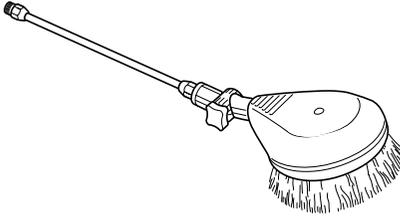
In the case of a guarantee please contact your dealer or authorized seller delivering accessories and your purchase receipt. You can find them in the internet under

www.kraenzle.com.

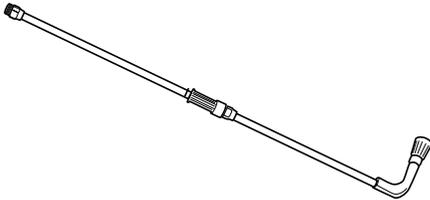
The guarantee is also void if the machine is used with exceeding the temperature and speed limits, a voltage below the required rating, with less than the required amount of water or with dirty water.

Pressure gauge, nozzle, valves, sleeves, high pressure hose and spray equipment are wear parts and are not covered by the warranty.

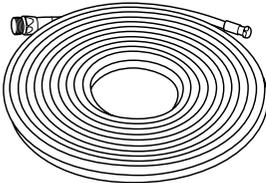
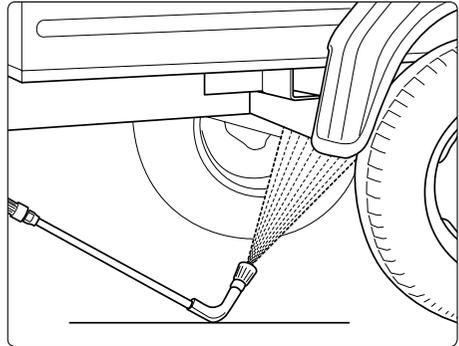
28 Versatile due to Kränzle accessories



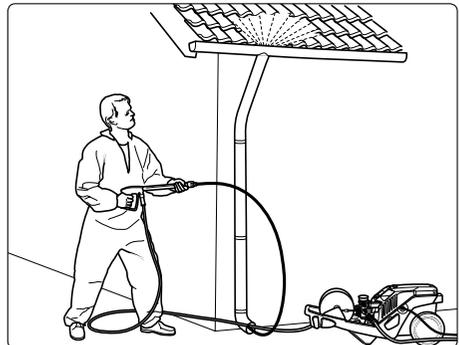
Rotating washing brush with 400 mm extension, Order no. 41 050 1

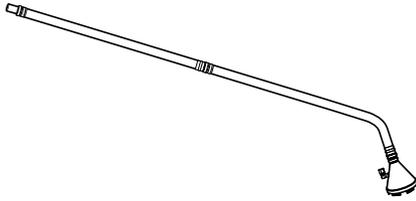


Underbody lance with 800 mm extension, Order no. 41 075

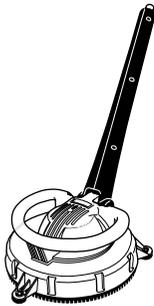
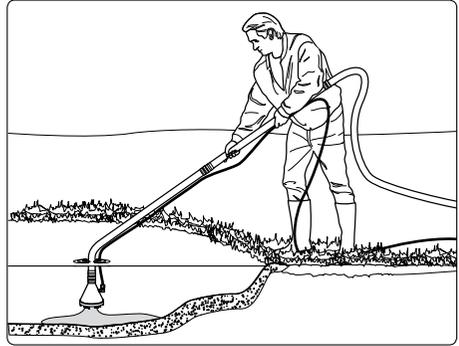


Pipe cleaning hose with nozzle,
10 m - Order no. 41 058 1
20 m - Order no. 41 058 2
25 m - Order no. 41 058 3
30 m - Order no. 41 058 4

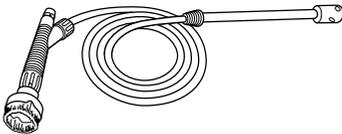




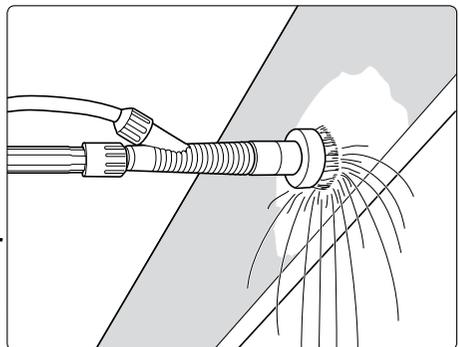
Sludge sucker, stainless steel,
Order no. 41 801
Sludge sucker with 3 m suction hose,
Order no. 41 104



Floor cleaner round cleaner UFO
Order no. 41.850

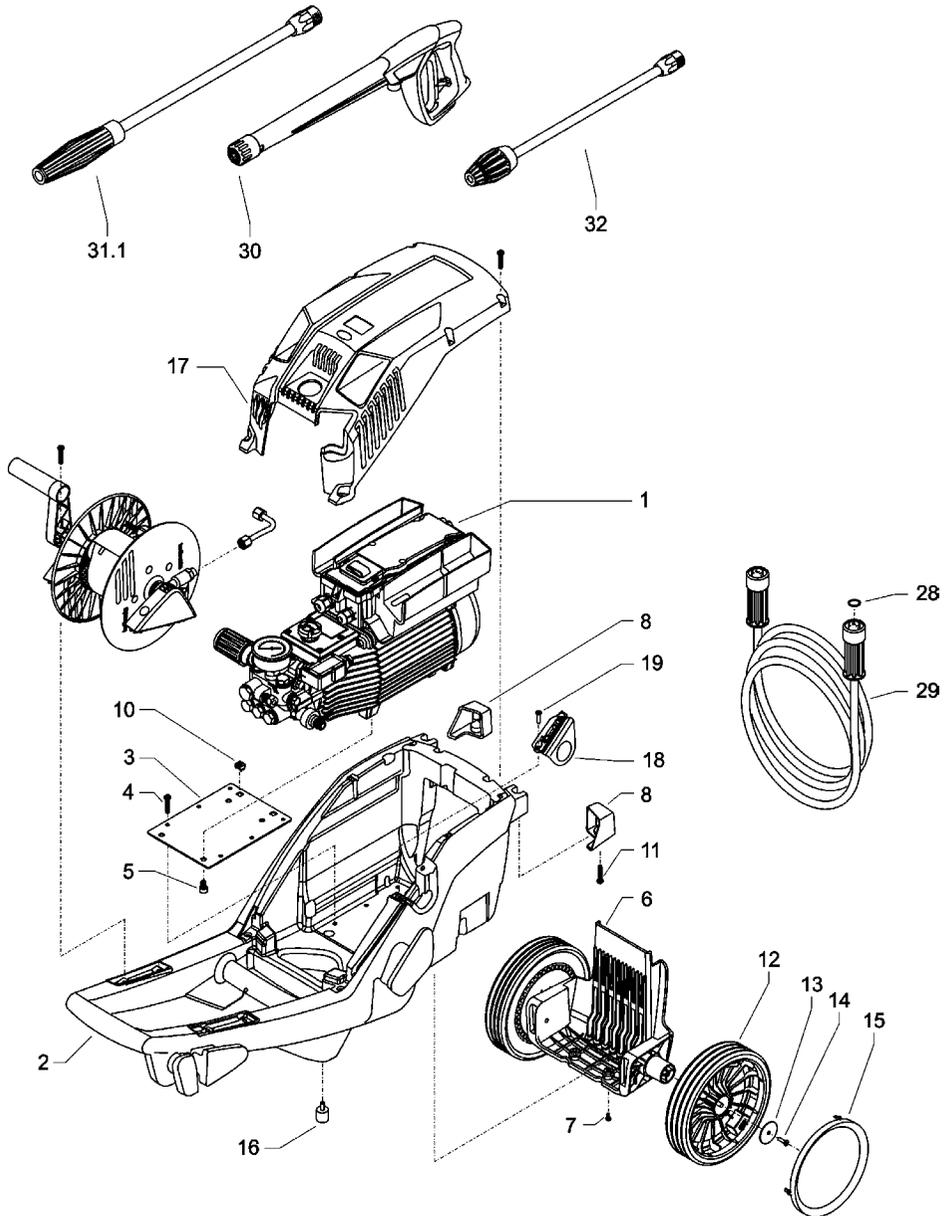


Sand blasting set compl. up to 12 l/min, 150 bar
Order no. 41 068 1
Sand blasting set compl. up to bis 19 l/min, 250 bar
Order no. 41 068



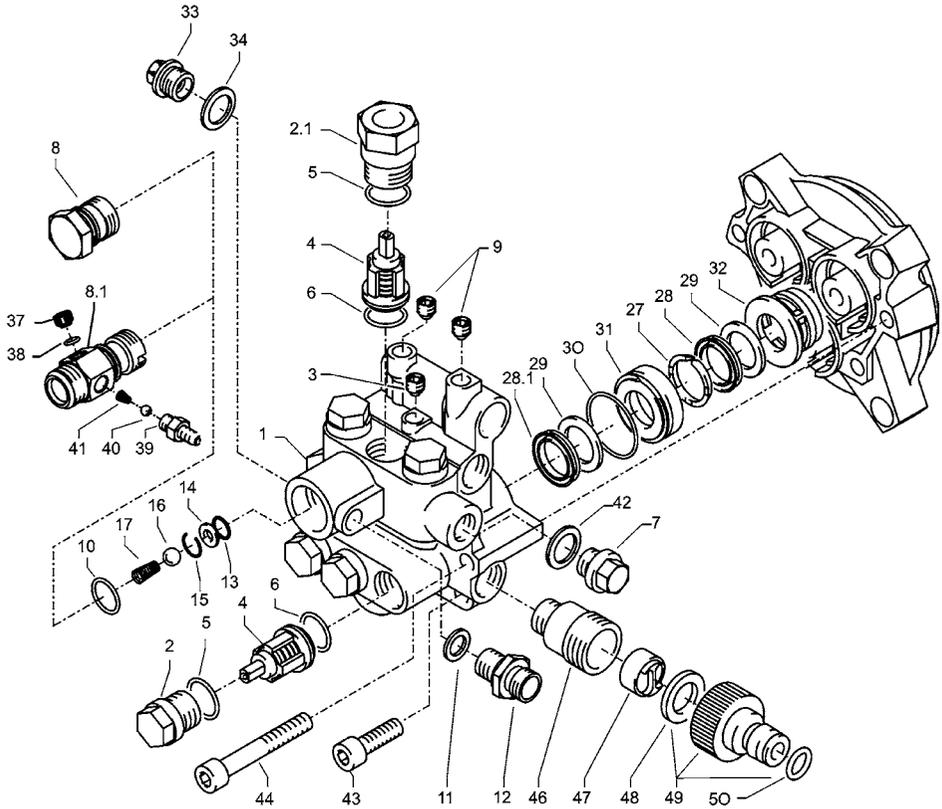
Spare parts list

Kränzle 2017, 2017 T, 2020, 2020 T



Complete assembly

No	Description	Qty.	Ord.-No
2	Fahrgestell	1	48.000
3	Versteifungsblech	1	48.010
4	Schraube 6,0 x 30	6	43.423
5	Schraube M 8 x 12	4	40.122
6	Achshalter	1	48.003
7	Schraube M 6 x 40	2	48.012
8	Standfuß links + rechts	1	48.005
10	Käfigmutter M6	2	48.011
11	Schraube 5,0 x 30	2	43.418
12	Rad d210mm	2	44.538
13	Scheibe 40 x 6 x 1,5 (Stahl)	2	45.216 7
14	Kunststoffsenschraube 5,0 x 20	2	45.421 1
15	Radkappe	2	46.011
16	Gummipuffer 20 x 25	2	48.013
17.1	Frontplatte „K 2017“	1	48.091 1
17.2	Frontplatte „K 2017 T“	1	48.091 2
17.3	Frontplatte „K 2020“	1	48.091 3
17.4	Frontplatte „K 2020 T“	1	48.091 4
18	Knickschutz	1	48.004
19	Schraube 5,0 x 14	2	43.426
28	O-Ring 9,3 x 2,4	2	13.273
29	Hochdruckschlauch NW 6 10 m (TS-Geräte)	1	43.416
30	Pistole M2000	1	12.480
31.1	Vario-Jet 03 mit Lanze 400 mm	1	41.156 2
32	Schmutz-Killer 03 mit Lanze 400 mm	1	41.073 8

Spare parts list**Kränzle 2017, 2017 T, 2020, 2020 T**

Valve housing 18mm

No	Description	Qty.	Ord.-No
1	Ventilgehäuse	1	42.160 3
2	Ventilstopfen	5	41.714
2.1	Ventilstopfen mit R1/4" IG	1	42.102
3	Dichtstopfen M 10 x 1	1	43.043
4	Ventile (grün) für APG-Pumpe	6	41.715 1
5	O-Ring 16 x 2	6	13.150
6	O-Ring 15 x 2	6	41.716
7	Dichtstopfen R1/4" mit Bund	1	42.103
8	Ausgangsteil (TST)	1	40.522
8.1	Ausgangsteil (TS)	1	40.522 2
9	Dichtstopfen M 8 x 1	2	13.158
10	O-Ring 18 x 2	1	43.446
11	Aluminium - Dichtring	3	13.275
12	Verschraubung Ermeto R1/4" x 8	1	41.042
13	O-Ring 11 x 1,5	1	12.256
14	Edelstahlsitz Ø 7	1	14.118
15	Sprengring	1	12.258
16	Edelstahlkugel Ø10	1	12.122
17	Rückschlagfeder „K“	1	14.120 1
27	Druckring	3	41.018
28	Manschette 18 x 26 x 4/2	3	41.013
28.1	Gewebemanschette 18 x 26 x 4/2	3	41.013 1
29	Backring 18 x 26	6	41.014
30	O-Ring 28,3 x 1,78	3	40.026
31	Leckagering 18 mm	3	41.066
32	Zwischenring 18 mm	3	41.015 2
33	Verschlussstopfen R3/8"	1	14.113
34	Kupfering 17 x 22 x 1,5	1	40.019
37	Verschlusschraube M10x1	1	13.385
38	O-Ring 6x1,5	2	13.386
39	Saugzapfen Schlauchanschluss	1	13.236
40	Edelstahlkugel 5,5 mm	1	13.238
41	Edelstahlfeder	1	13.239
42	Kupfering 14 x 20 x 1,5	1	42.104
43	Innensechskantschraube M 8 x 30	2	41.036 1
44	Innensechskantschraube M 8 x 55	2	41.017 1
46	Sauganschluß	1	41.016
47	Wasserfilter	1	41.046 2
48	Gummi Dichtring	1	41.047 1
49	Steckkupplung	1	41.047 4
50	O-Ring	1	41.047 3

Reparatur-Sätze:

Reparatursatz Manschetten 18 mm **41.049 1**

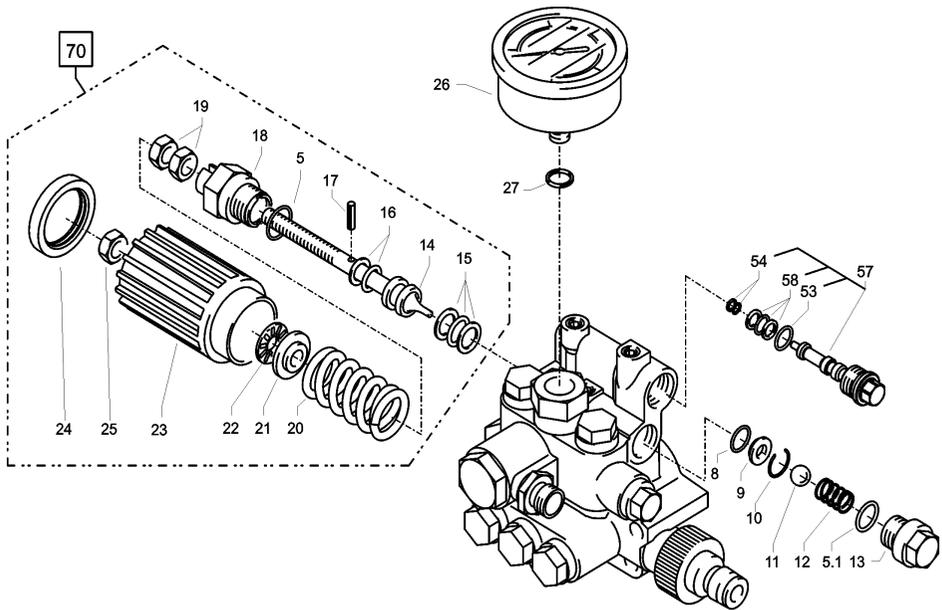
bestehend aus je
3 x Pos. 27, 3 x Pos. 28; 3 x Pos. 28.1; 6 x Pos. 29; 3 x Pos. 30

Reparatursatz Ventile für APG-Pumpe **41.748 1**

bestehend aus je 6 x Pos. 4; 6 x Pos. 5; 6 x Pos. 6

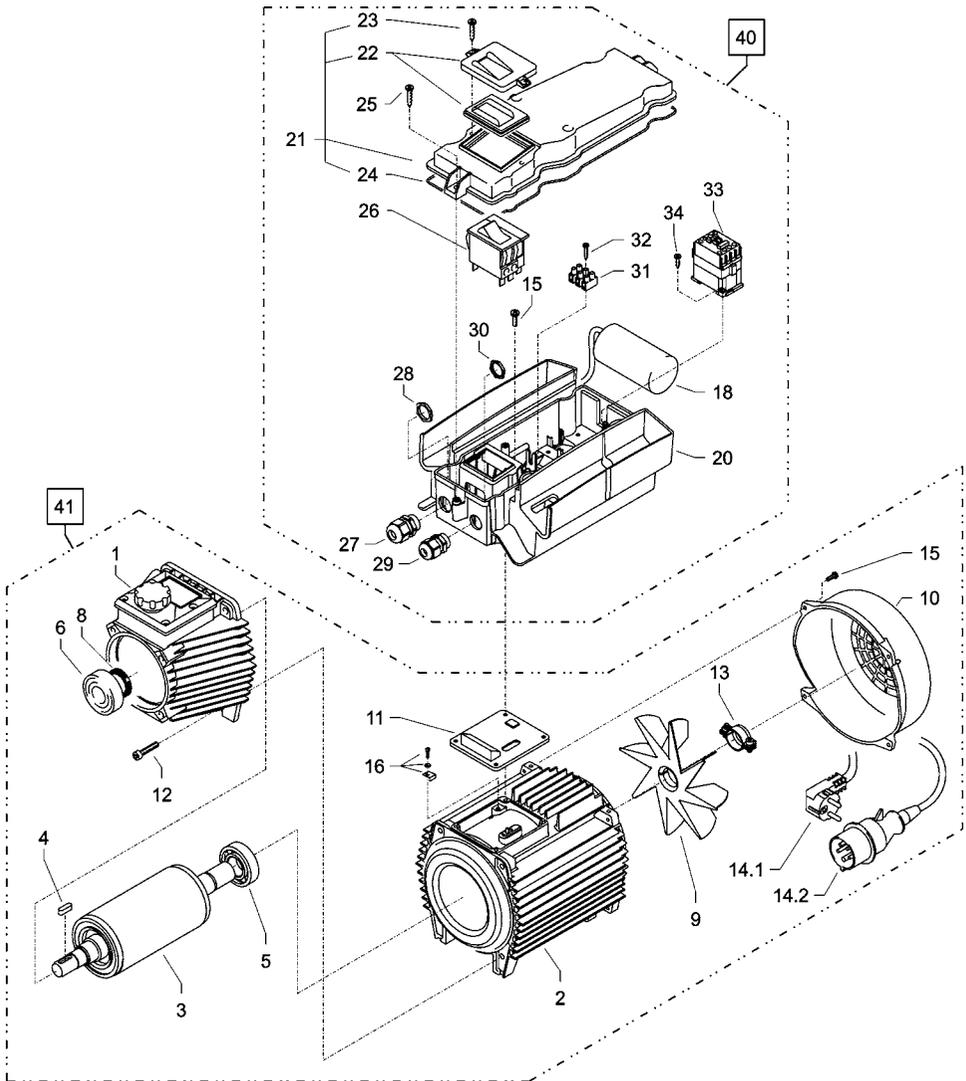
Spare parts list

Kränzle 2017, 2017 T, 2020, 2020 T



Unloader valve and pressure switch

No	Description	Qty.	Ord.-No
5	O-Ring 16 x 2	1	13.150
5.1	O-Ring 13,94 x 2,62	1	42.167
8	O-Ring 11 x 1,44	1	12.256
9	Edelstahlsitz	1	14.118
10	Sicherungsring	1	13.147
11	Edelstahlkugel	1	13.148
12	Edelstahlfeder	1	14.119
13	Verschlussschraube	1	14.113
14	Steuerkolben	1	14.134
15	Parbaks 16 mm	1	13.159
16	Parbaks 8 mm	1	14.123
17	Spanstift	1	14.148
18	Kolbenführung spezial	1	42.105
19	Kontermutter M 8 x 1	2	14.144
20	Ventilfeder schwarz	1	14.125
21	Federdruckscheibe	1	14.126
22	Nadellager	1	14.146
23	Handrad AM-Pumpe	1	40.457
24	Kappe Handrad AM-Pumpe	1	40.458
25	Elastic-Stop-Mutter M 8 x 1	1	14.152
26	Manometer 0-250 Bar	1	15.039
27	Aluminium-Dichtring	2	13.275
50	O-Ring 3,3 x 2,4	1	12.136
53	O-Ring 14 x 2	1	43.445
54	Parbaks 4mm	1	12.136 2
57	Blindverschluss mit Dichtungen	1	44.551
58	Parbaks 7mm	1	15.013
70	Steuerkolben kpl. mit Handrad		40.490

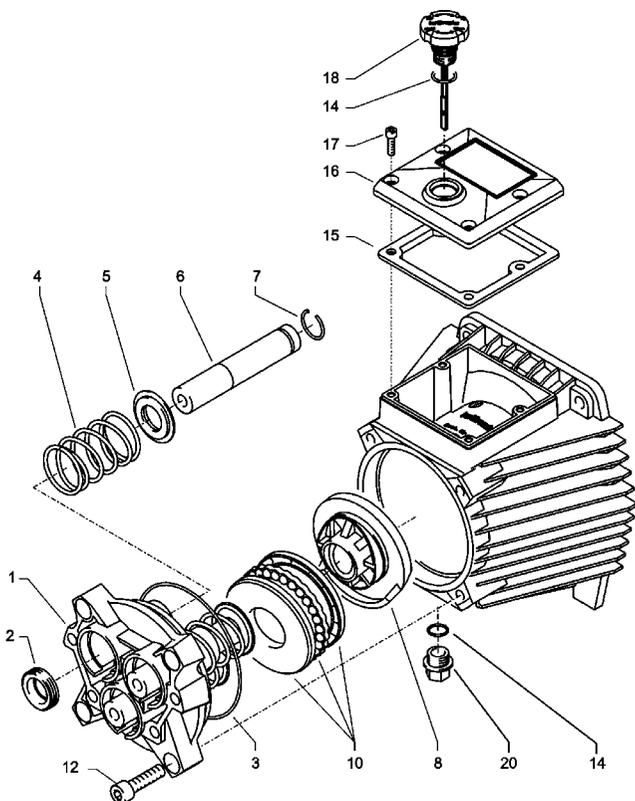
Spare parts list**Kränzle 2017, 2017 T, 2020, 2020 T**

Motor

No	Description	Qty.	Ord.-No
1	Ölgehäuse für AP mit Deckel und Dichtung	1	46.530 2
3	Rotor mit Motorwelle (Silumin)	1	43.523
4	Passfeder 6 x 6 x 20	1	41.483 1
5	Motor-Lager B-Seite 6205 - 2Z	1	43.317
6	Motor-Lager Schulterlager 7304	1	41.027
7	Toleranzhülse	1	43.330 1
8	Öldichtung 25 x 35 x 7	1	41.024
9	Lüfterrad BG 90	1	43.319
10	Lüfterhaube BG 90	1	43.320
11	Flachdichtung	1	43.030
12	Innensechskantschraube M 6 x 30	4	43.037
13	Schelle für Lüfterrad mit Schrauben	1	43.454
15	Schraube M 4 x 12	10	41.489
16	Erdungsschraube kpl.	1	43.038
20	Schaltkasten	1	48.001 1
21	Deckel für Schaltkasten	1	44.512
22	Klemmrahmen mit Schalterabdichtung	1	43.453
23	Blechschaube 3,5 x 9,5	2	41.088
24	Dichtung für Deckel	1	44.522
25	Schraube 5,0 x 20	4	43.018
27	Kabelverschraubung PG 13,5	1	40.539
28	Gegenmutter für PG 13,5	1	44.253
29	Kabelverschraubung PG 11	1	41.419
30	Gegenmutter für PG 11	1	44.521
31	Lüsterklemme 3-polig	1	43.326
32	Blechschaube 2,9 x 16	1	43.036

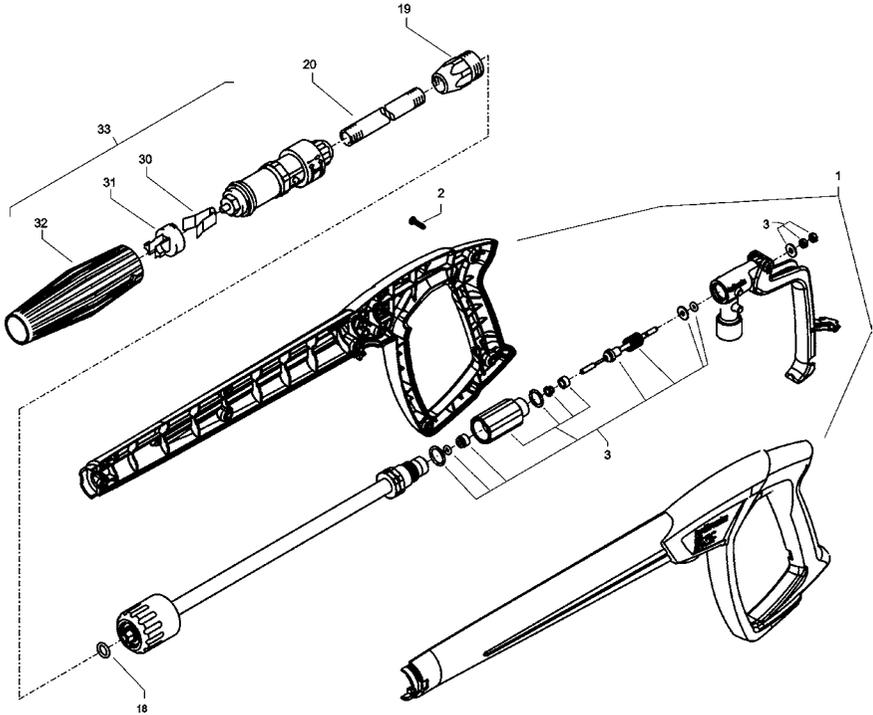
Kränzle 2017, 2017 T, 2020, 2020 T:

2	Motorgehäuse mit Stator Wechselstrom	1	48.090
14	Kabel mit Stecker 20Amp for K2020 without groundfall interruptor	1	43.522
14.1	Kabel mit Stecker 20Amp for Kränzle 2020 with groundfall interruptor	1	43.522 1
14.2	Kabel mit Stecker 15Amp for K2017T without groundfall interruptor	1	43.512
14.3	Kabel mit Stecker 15Amp for K2017T with groundfall interruptor	1	43.512 1
18	Kondensator 80 µF	2	43.505
19	Kondensatorhalterung	1	41.116 1
20	Schraube 5,0 x 20	2	43.018
26	Schalter mit 20 A Überstromauslöser	1	43.504



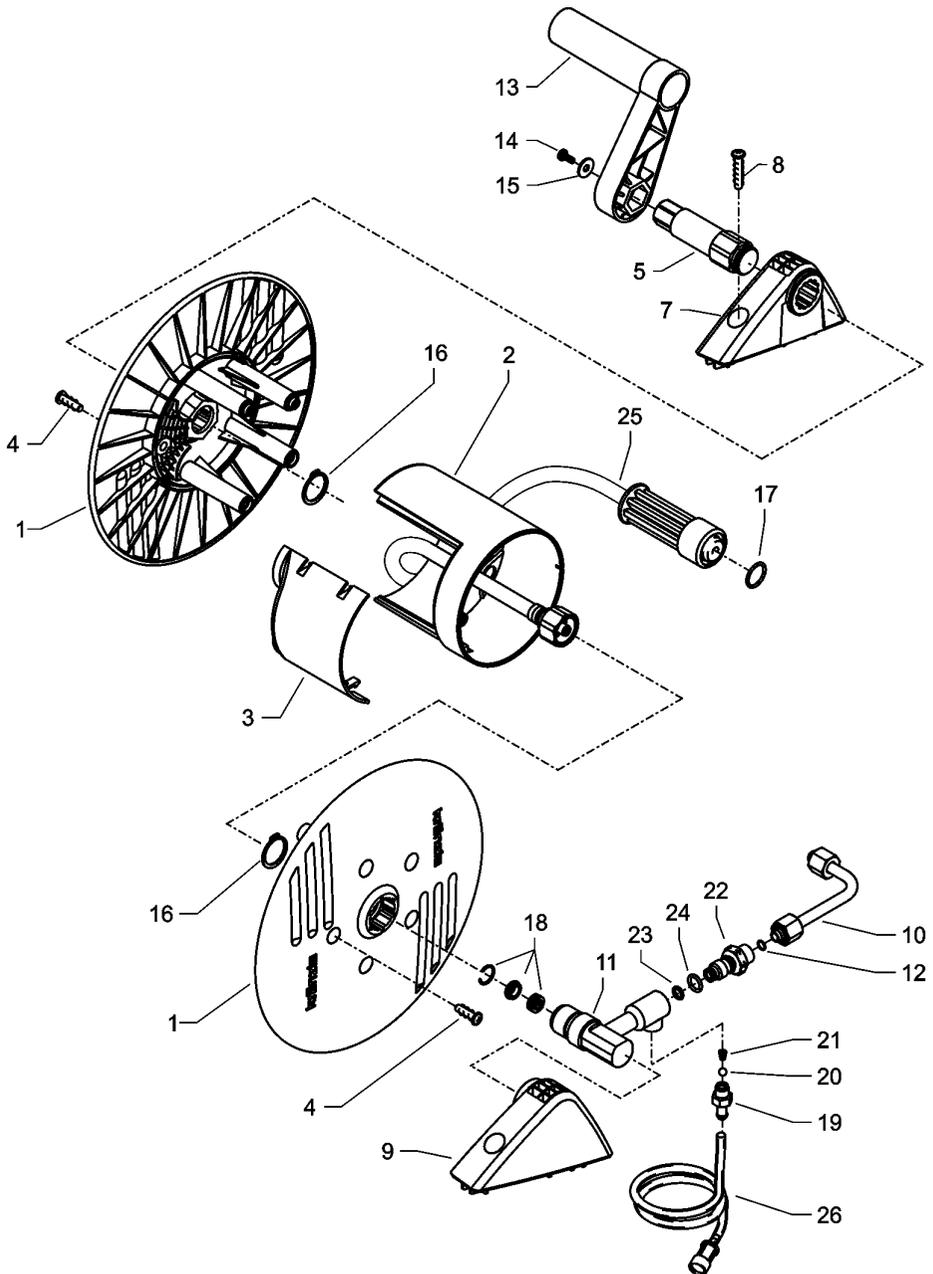
No	Description	Qty.	Ord.-No
1	Gehäuseplatte für 18 mm Plunger	1	41.020 2
2	Öldichtung 18 x 28 x 7	3	41.031
3	O-Ring Viton 88 x 2	1	41.021 1
4	Plungerfeder	3	41.033
5	Federdruckscheibe 18 mm	3	41.034
6	Plunger 18 mm	3	41.032 1
7	Sprengtring 18 mm	3	41.035
8	Taumelscheibe 6,5° (K2017, 2017 T)	1	41.028-6,5
8.1	Taumelscheibe 7,5° (K2020, 2020 T)	1	41.028-7,5
10	Axial-Rillenkugellager 3-teilig	1	43.486
12	Innensechskantschraube M 8 x 30	4	41.036 1
13	Ölstopfen M18x1,5	1	41.011
14	O-Ring 14 x 2	3	43.445
15	Dichtung für Deckel	1	46.531
16	Deckel für Ölgehäuse	1	46.532
17	Schraube M5x12	4	41.019 4
18	Ölverschlussschraube mit Messstab	1	48.017

Gun with lance



No	Description	Qty.	Ord.-No
1	Pistolenschale re+li	1	12.450
2	Schraube 3,5 x 14	10	44.525
3	Reparatursatz M2000		12.454
18	O-Ring 9,3 x 2,4	1	13.273
19	ST 30-Nippel M 22 x 1,5 AG / M 12 x 1	1	13.363
20	Rohr 500 lang, bds. M12 x 1	1	41.527 1
30	Klemmstück	1	41.155 2
31	Halterung für Klemmstück	1	41.155 4
32	Kunststoffhülle	1	41.155 1
33	Vario-Jet 03 (K 2195)	1	41.155 9
33.1	Vario-Jet 042 (K 2160, K 2175)	1	41.155 6
M2000-Pistole kpl.			12.480
Lanze kpl. mit Vario-Jet 03 (K 2195)			41.156 8-03
Lanze kpl. mit Vario-Jet 042 (K 2160, K 2175)			41.156 8-042

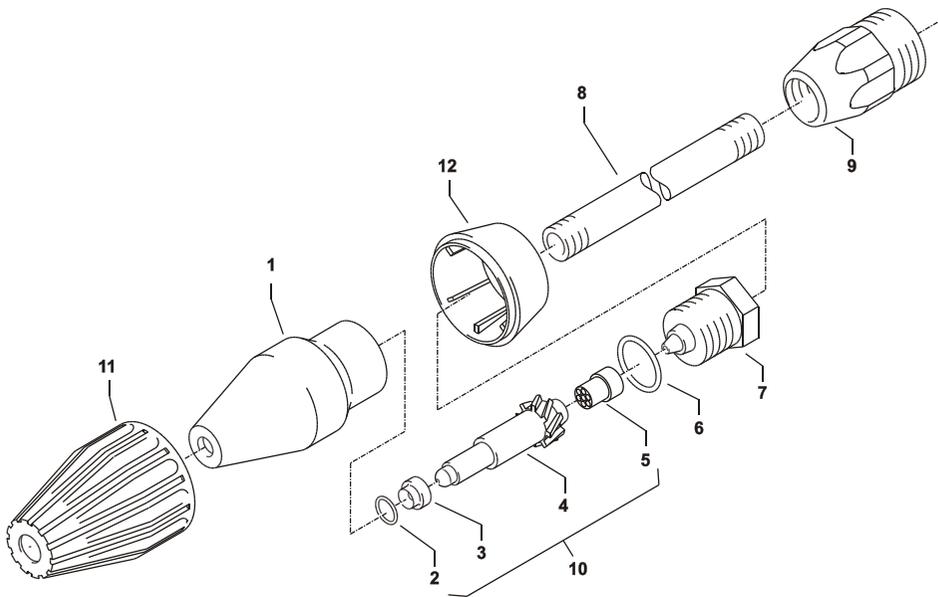
Spare parts list Kränzle 2017 T, 2020 T



Hose drum

No	Description	Qty.	Ord.-No
1	Seitenschale	2	48.101
2	Trommelteil	1	48.102
3	Knickschutz	1	40.162
4	Kunststoffschraube 5,0 x 20	5	43.018
5	Antriebswelle	1	48.104 1
7	Lagerklotz links	1	43.810
8	Schraube 6,0 x 30	4	43.423
9	Lagerklotz rechts	1	43.811
10	Verbindungsrohr	1	48.014
11	Wasser-Eingangsteil	1	48.103
12	O-Ring 6 x 0,8	2	40.177
13	Handkurbel	1	48.108
14	Schraube M 5 x 14	1	40.536
15	Scheibe 5,3	1	50.152
16	Wellensicherungsring 22 mm	2	40.117
17	O-Ring 9,3 x 2,4	1	13.273
18	Dichtsatz	1	13.410 1
19	Saugzapfen Schlauchanschluss	1	13.236
20	Edelstahlkugel 5,5 mm	1	13.238
21	Edelstahlfeder	1	13.239
22	Eingangsinjektror	1	40.317
23	O-Ring 10 x 2	1	43.068
24	O-Ring 6,68 x 1,78	1	40.585
25	Hochdruckschlauch 15m NW6	1	48.015
26	Chemikaliensaugschlauch mit Filter	1	15.038
30	Schlauchtrommel kpl., ohne HD-Schlauch		48.100

42 Dirtkiller with lance

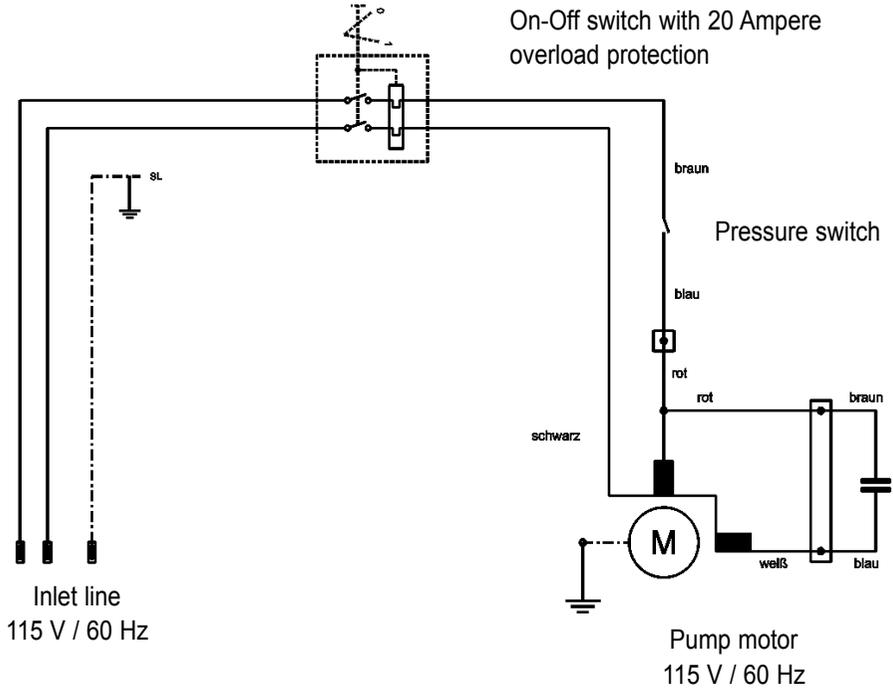


No	Description	Qty.	Ord.-No
1	Sprühkörper	1	41.520
2	O-Ring 6,88 x 1,68	1	41.521
3	Düsensitz	1	41.522
4	Düse 03	1	41.523 4
5	Stabilisator	1	41.524
6	O-Ring	1	40.016 1
7	Sprühstopfen	1	41.526
8	Rohr 400 mm 2x M 12 x 1	1	41.527
9	ST 30-Nippel M 22 x 1,5 / M 12 x 1 ISK	1	13.363
11	Kappe vorn für Schmutzkiller	1	41.528 1
12	Kappe hinten für Schmutzkiller 03	1	41.542 1
Rep.-Satz Schmutzkiller 03			41.096 1
bestehend aus je 1x 2; 3; 4; 5			
Schmutzkiller 03 kpl. mit Lanze			41.073 8

Wiring diagram

Kränzle 2017, 2017 T, 2020, 2020 T

115 V, 60 Hz



**I. Kränzle GmbH
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Subject to technical modifications.

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As date of 26.01.2013

■ Made
■ in
■ Germany