

Operating instructions Specialised rescue appliances

TACTICAL



BC 250, BC 250 E-FORCE 2, DOOR OPENER SET, DO 140 E-FORCE 2, SPK 250,
SPK 250 E-FORCE 2, S 25-20

1060619



checked in accordance with
EN 13204 and NFPA 1936

WEBERRESCUE
SYSTEMS

www.weber-rescue.com

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1 General

1.1 Information on the operating instructions

These operating instructions provide important instructions on handling the hydraulic rescue equipment. To assure safety at the workplace, always observe all safety and handling instructions contained in this document.

Furthermore, the local accident prevention regulations and general safety determinations applicable to the operation site of the equipment must also be observed.

Before starting any work, read these operating instructions thoroughly! They are a component of the product and must be stored in a known location that is accessible to personnel at all times.

This documentation contains information about the operation of your appliance, regardless of which type of appliance it is. For this reason, you will also find explanations that do not relate directly to your appliance.

All information, technical specifications, graphics and illustrations contained in these operating instructions are based on the most up-to-date data available at the time these instructions were created.

In addition to thoroughly reading the operating instructions, we also recommend that you undergo training and instruction in handling (possible uses, operational tactics, etc.) the rescue equipment from one of our qualified trainers.

1.2 Explanation of symbols

Warnings

In these operating instructions, warnings are identified by symbols.

The individual warnings are introduced by signal words expressing the degree of danger.

These warnings must be heeded to prevent accidents, injury and property damage.



DANGER!

... points out an immediately dangerous situation which can cause death or severe injury if it is not avoided.



WARNING!

...points out a potentially dangerous situation which can cause death or severe injury if it is not avoided.



CAUTION!

...points out a potentially dangerous situation which can cause minor or slight injury if it is not avoided.



ATTENTION!

...points out a potentially dangerous situation which can cause property damage if it is not avoided.

Tips and recommendations



NOTE!

...emphasises useful tips and information for efficient, trouble-free operation.

1.3 Limitation of liability

All information and instructions in these operating instructions were compiled under consideration of the applicable standards and regulations, the current state of technology and our long-standing knowledge and experience.

The manufacturer assumes no liability for damages due to:

- non-observance of the operating instructions
- improper use
- assigning untrained personnel
- unauthorised modifications
- technical changes
- use of impermissible replacement parts
- use of non-original accessories

For special designs or due to technical changes, the actual scope of delivery for may differ from the explanations and representations described

1.4 Copyright

All texts, illustrations, drawings and images in these operating instructions may be used freely without prior authorisation.

**NOTE!**

Additional information, images and diagrams are available on our home page: www.weber-rescue.com.

1.5 Warranty provisions

The warranty provisions are included with the sales documentation as a separate document.

1.6 Customer Service

Our Customer Service would be happy to provide you with technical information.

Germany

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**NOTE!**

When contacting our Customer Service, please provide the identification, type and year of manufacture of the equipment.
This information can be found on the type plate on the equipment.

2 Safety

This section of the operating instructions provides a comprehensive overview of all important safety aspects to protect the operating personnel, as well as for safe, trouble-free operation.

Failure to observe the handling and safety instructions provided in these operating instructions can result in significant hazards.

2.1 Intended use

The hydraulic rescue equipment is designed and tested exclusively for the intended uses described here. All other activities are fundamentally prohibited.

All appliances are designed as one-man appliances and are therefore only permitted to be operated by one person.

S 25-20 cutter

- The S 25-20 cutter may only be used to cut metal bars, chain links, padlocks and armouring.

Do 140 E-Force 2 door opener / door opener set

- The door openers are used to open doors or can be used to lift mobile loads such as concrete slabs, iron girders, etc. Furthermore, they can be used during servicing / maintenance work on machines and in many other situations.

SPK 250 / SPK 250 E-FORCE 2 expansion wedge

- This appliance may only be used to lift mobile loads in order to create a gap, for example, to use lifting cushions.

BC 250 / BC 250 E-FORCE 2 concrete crushers

- This appliance is used to break up and force open concrete slabs, e.g. after a building has collapsed.

**WARNING!****Danger caused by improper use!**

Any use other than intended use and/or other type of use of these appliances can cause dangerous situations!

Therefore, it is absolutely necessary to:

- » Only use the appliances for the intended uses described above.
- » Observe all other information regarding proper use of the appliances in Chapter 6 (Possible uses).

2.2 Operator responsibility

In addition to the occupational safety information in these operating instructions, the safety, accident prevention and environmental prevention regulations applicable to the operation site of the appliance must also be observed. Thereby, the following applies in particular:

- The operator must inform himself regarding the applicable occupational safety regulations and carry out a risk assessment to identify additional dangers arising from the special work conditions at the operation site of the appliance.
- The operator must clearly regulate and determine responsibility for installation, maintenance and cleaning.
- The operator must ensure that all persons engaged with the appliance have completely read and understood the operating instructions.
- Furthermore, he must train the personnel at regular intervals and inform them of the dangers associated with handling the appliance.

The operator is also responsible for ensuring that the equipment is always in a technically flawless condition. Therefore, the following applies:

- After each time the equipment is used, or at least once a year, a visual inspection of the appliance by an instructed person is required (acc. to GUV-G 9102 or country-specific rules).
- Every three years, or whenever a doubt is raised about the safety or reliability of the appliance, a function and load test must also be carried out (acc. to GUV-G 9102 or country-specific regulations).

2.3 Operating personnel

The following qualifications for different areas of activity are specified in the operating instructions:

- **Instructed persons**
Have been instructed by the operator regarding the tasks they have been assigned and the possible dangers caused by improper actions.
- **Expert personnel**
Because of their professional training, knowledge and experience as well as their knowledge of the applicable manufacturer's provisions, expert personnel are able to carry out the tasks they have been assigned and independently recognize potential dangers.



WARNING!

Danger of injury caused by insufficient qualifications!

Improper handling of these appliances can cause serious injury and property damage.

Therefore, it is absolutely necessary to:

- » Only permit the people specified in the respective chapters of these operating instructions to carry out the special activity.
- » In case of doubt, immediately call in expert personnel.



NOTE!

Never operate the appliance after consuming alcohol, medications or drugs!

2.4 Personal protective equipment (PPE)

To minimise danger for the operating personnel, wearing personal protective equipment (PPE) when handling the hydraulic rescue equipment is absolutely mandatory.

As a matter of principle, always wear the following protective clothing for all work:



Safety work clothing

Only wear closely fitting work clothing with narrow sleeves and without projecting pieces while working. It protects against entanglement in moving appliance parts.



Safety shoes

Always wear steel-capped safety shoes to protect against heavy falling objects and slipping on slippery surfaces.



Work gloves

Wear safety work gloves to protect against sharp edges and glass splinters when operating the equipment.



Helmet with face shield

Wear a helmet with face shield to protect against flying or falling parts and glass splinters.



Protective goggles

In addition to a face mask, protective goggles should be worn to protect the eyes from projectile particles.

Also wear ear defenders during any special kinds of work



that cause noise!

To protect your hearing, ear defenders should be worn in addition to personal protective equipment.

2.5 Particular hazards

The dangers resulting from the risk assessment are presented in the following section.

To minimize potential health hazards and prevent dangerous situations, the safety instructions listed below and the warning instructions in the following chapters of these Operating Instructions must be observed.

Electrical current



DANGER!

Danger of death due to electrical current!

There is an immediate danger of death if live parts are touched. Damage to insulation or individual components can be life-threatening.

Therefore:

- » If there is damage to the insulation, disconnect the power supply immediately and arrange for repairs.
- » Only allow electricians to carry out work on the electrical system.
- » When any work is being carried out on the electrical system, it must be disconnected from the mains supply and checked to ensure that it is not live.
- » Before carrying out maintenance, cleaning and repair work, the power supply must be switched off and secured to prevent it being switched on again.
- » Do not bypass or shut down any fuses. Use fuses with the correct amperage when replacing.
- » Keep live parts away from moisture.
This can cause a short circuit.

Noise



WARNING!
Damage to hearing caused by noise

The noise arising in the work area can cause serious damage to the hearing.

Therefore:

- » Also wear ear defenders during any special kinds of work that cause noise!
- » Only wear the ear defenders while you are in the danger area.

Hydraulic energy



WARNING!
Danger due to hydraulic energy!

The hydraulic forces that are released and escaping hydraulic fluid can cause severe injuries.

Therefore:

- » Always keep the appliance in sight while working and put it down if necessary.
- » Inspect hose lines and appliances for damage after each use.
- » Avoid skin contact with the hydraulic oil (wear safety gloves).
- » Remove hydraulic oil from wounds without delay and consult a doctor immediately.



WARNING!
Danger due to concrete splinters

Breaking up can cause concrete splinters to fly about, which can cause injuries.

Therefore:

- » Wear appropriate protective clothing (e.g. a visor or safety goggles) while working
- » Do not remain in the working area if you are not involved in the task

2.6 Conduct in dangerous situations and accidents

Preventive measures

- Always be prepared for accidents
- Always have first-aid equipment (first-aid kit, blankets, etc.) within reach.
- Familiarize personnel with accident reporting, first aid and rescue equipment.
- Keep access routes for rescue vehicles open.

In case of incidents

- Immediately shut down appliances.
- Initiate first-aid measures.
- Remove persons from the danger zone.
- Inform responsible person at the operation site.
- Alarm doctor and/or fire brigade.
- Open access routes for rescue vehicles.

2.7 Signage

The following symbols and instruction panels are located on the appliances. They refer to the immediate environment in which they are displayed.



Please note contents of operating manual.

Do not use the designated appliance until you have read the operating manual from cover to cover.



Warning of injuries to hands

When working with these appliances, ensure that no injuries to hands can be caused by snagging (nip points) or by sharp edges.



WARNING!

Danger of injury due to illegible symbols!

As time goes by, adhesive labels and symbols on the appliance may get dirty, or be rendered illegible in some other manner.

Therefore, it is absolutely necessary to:

- » Maintain all safety, warning and operating instructions on the appliance in a readily legible condition.
- » Damaged signs and adhesive labels must be replaced immediately.

3 Technical specifications

3.1 S 25-20 cutter



	S 25-20
Length	448 mm
Width	179 mm
Height	239.5 mm
Weight	7.7 kg
Opening width	25 mm
Max. cutting force*	191 kN/ 19.5t
Nominal pressure	720 bar
ID no.	1065612

* in acc. with EN 13204

3.2 BC 250 concrete crusher



	BC 250	BC 250 E-FORCE 2
Length	789 mm	878 mm
Width	262 mm	262 mm
Height	228 mm	240 mm
Weight	18.1 kg	21.5 kg
Opening width	250 mm	250 mm
Max. closing force*	109 kN/ 11t	109 kN/ 11t
Nominal pressure	700 bar	700 bar
ID no.	1063190	1077721

* in acc. with EN 13204

3.3 SPK 250 expansion wedge



	SPK 250	SPK 250 E-FORCE 2
Length	609 mm	758 mm
Width	150 mm	150 mm
Height	120 mm	240 mm
Weight	9.3 kg	12.6 kg
Expansion distance	61 mm	61 mm
Expansion force in the working area*	248 kN/ 25t	248 kN/ 25t
Nominal pressure	700 bar	700 bar
EN class	AS 35/600-17	-
ID no.	1822861	1077812

3.4 DO 140 E-FORCE 2 door opener



	DO 140 E-FORCE 2
Length	574 mm
Width	170 mm
Height	246 mm
Weight	14,3 kg
Piston stroke	140 mm
Compressive force	105,2 kN/ 10,5t
Nominal pressure	700 bar
ID no.	1078140

* in acc. with EN 13204

3.5 Door opener set



	Expansion cylinder
Weight	7.1 kg
Compressive force	114.5 kN
Piston stroke	120 mm
Dimensions	278 x 164 x 111 mm

	Hand pump
Oil volume	0.7 l
1st stage up to 20 bar	7.2 cm ³
2nd stage over 20 bar	7.2 cm ³
Max. operating pressure	700 bar

	Complete set
Weight	7.1 kg
Dimensions	639 x 466 x 210 mm
Hose length	3 m
ID no.	1075922

* in acc. with EN 13204

3.6 Operating conditions

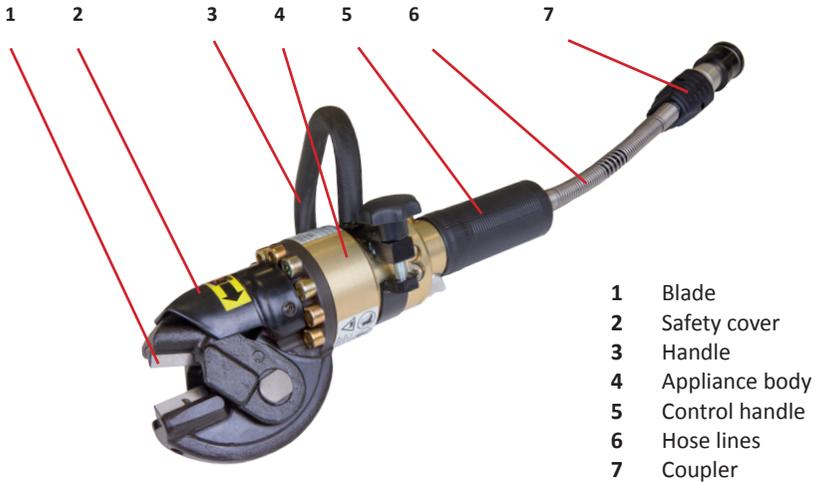
The permissible temperature range for the appliances is between -20° and 60°. Reliable functions cannot be guaranteed beyond this range.

3.7 Type plate

The type plate for all appliances is located on the bottom of the appliance body. It provides the serial number, production date, nominal pressure and appliance designation.

4 Structure and function

4.1 S 25-20 cutter

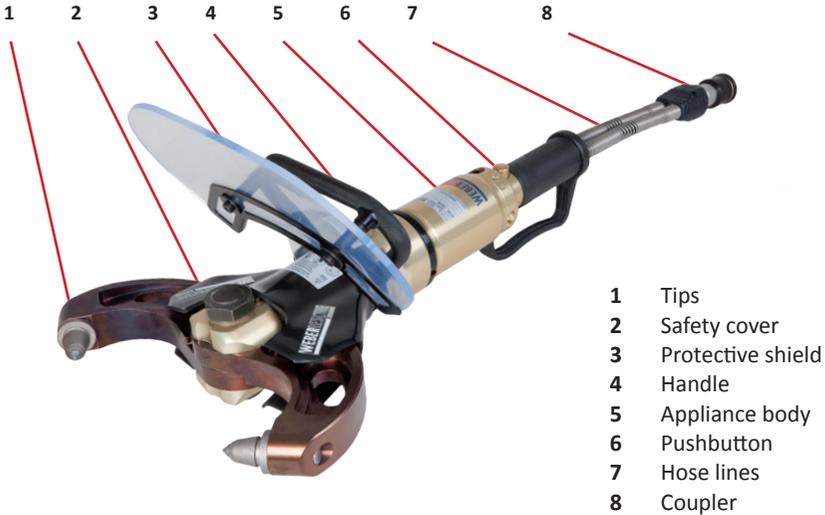


Short description

The S 25-20 hydraulic cutter is a specially designed rescue appliance to cut metal bars, chain links, padlocks and armouring. It is used for natural disasters, building collapses and industrial accidents.

Pressing the pushbutton on the control handle harder or less hard adjusts the shear blade's movement speed. The maximum cutting force is only obtained by pressing the pushbutton completely down.

4.2 BC 250 concrete crusher



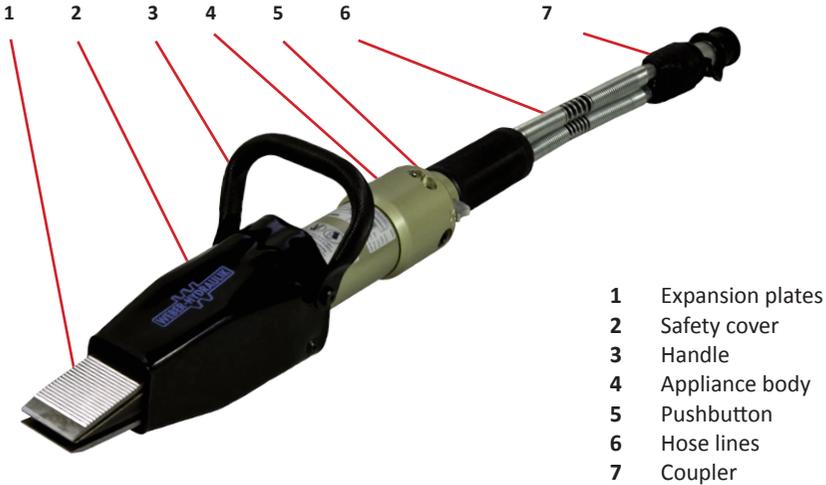
Short description

The BC 250 concrete crusher is suitable for the toughest applications following natural disasters, such as earthquakes and building collapse, and for applications following industrial accidents. Even the thickest chunks of concrete can be quickly broken to provide rapid access to survivors.

The rotating handle enables optimum positioning of the crusher. Its protective shield protects against dust and fragments, and can also be turned. The tips can be changed.

The concrete crusher can be supplied as a conventional hose-connected version (BC 250) or as a battery-operated version (BC 250 E-FORCE 2).

4.3 SPK 250 expansion wedge



Short description

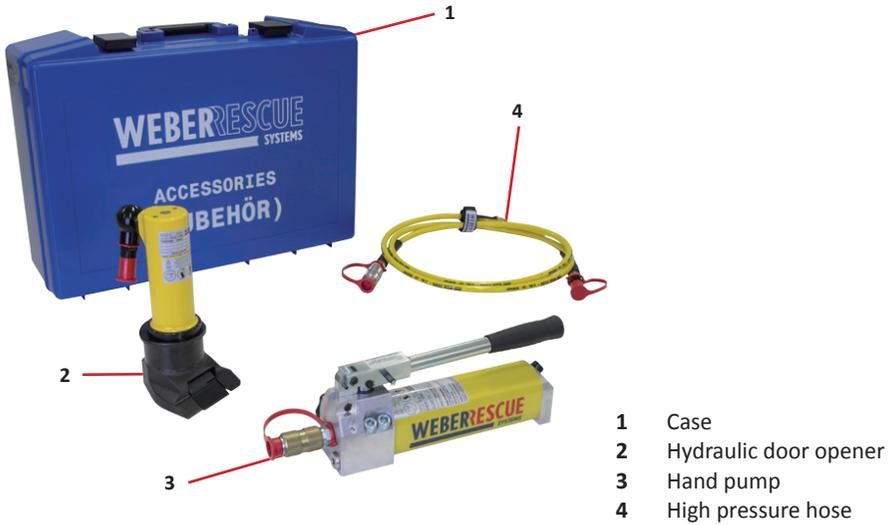
The hydraulic expansion wedge is a specially designed rescue appliance to lift loads. It is used to rescue casualties who are trapped or shut in. It can be used to lift loads until a spreader or a lifting cushion can be inserted.

Pressing the pushbutton on the control handle harder or less hard adjusts the wedge's movement speed. The maximum force is only obtained by pressing the pushbutton completely down.

The most important thing when using this appliance is a large contact surface to ensure that only the tips of the wedge plates are subjected to loads.

The expansion wedge can be supplied as a conventional hose-connected version (SPK 250) or as a battery-operated version (SPK 250 E-FORCE 2).

4.4 Door opener set



Short description

The door opener set is a set of tools that make opening doors very easy. All tools are high quality, easy to use and versatile.

This set is a single-acting system. The hand pump is used to establish the hydraulic pressure in the cylinder so that it extends. If it is to be retracted again, open the hand wheel on the hand pump. This pushes the oil back into the hand pump due to the weight that is acting on the cylinder, and the cylinder retracts.

4.5 DO 140 E-FORCE 2 door opener



Short description

The battery-operated DO 140 E-FORCE 2 hydraulic door opener is suitable for breaking doors open rapidly and effectively. Metal doors with multiple locks and safety doors pose no problem for this door opener either. Meaning that an access can be established quickly and easily in the event of a fire, accident or with police operations.

It can also be used for lifting concrete slabs, iron girders, etc.

4.6 E-FORCE 2 appliances



- 1 LED lights
- 2 On/Off button
- 3 Rocker switch
- 4 Handle
- 5 Battery
- 6 Plastic housing

Short description

The new appliances in the E-FORCE 2 range meet the highest requirements thanks to the efficiency-improving drive with a longer runtime and a higher working speed.

The 5.0 Ah battery (28 V Li-Ion) combined with the efficient drive guarantees a long period of use.

The rocker switch enables sensitive and intuitive control with one hand.

The red rocker switch's opening and closing movements are intuitive thanks to their concave and convex shapes, and are therefore very safe to operate.

Thanks to the internal electro-hydraulic drive, the E-FORCE 2 appliances are not connected to any unit and can therefore be used in inaccessible locations.

5. Supply and operation

5.1 E-Force 2 hydraulic supply

Drive

The battery-operated appliances are powered by a 28 V DC motor. When the appliance is switched on, the motor idles. Only when the rocker switch is operated does the motor start to run at a higher speed.

Pump

The hydraulic pressure is generated by a high pressure hydraulic pump (in the pump unit). The pump is a radial piston pump with 3 pump elements. The pressure is applied directly to the working cylinder, which renders the connection lines redundant.

Oil tank

The oil volume for operation is taken from a tank. The entire hydraulic system is therefore completely closed and free of air. The tank compensates for volume expansion caused by heat.

Hydraulic oil

All battery-operated appliances must use special hydraulic oil for rescue appliances in accordance with WN 4841751. Normally, the oil does not need to be replaced. However, if this becomes necessary, the replacement can only be carried out during a WEBER-HYDARULIK factory service.



CAUTION!

Do not attempt to carry out repairs on the hydraulic system!

The complete hydraulic system is designed as a closed circuit and must therefore be completely free of air. For this reason, do not attempt to carry out repairs on the drive, to ensure that no air can enter the system!

5.2 Hydraulic supply for hose-connected appliances

Units and pumps

Only WEBER-HYDRAULIK units and hand pumps are permitted to be used to drive the appliances. Other manufacturers can only be used under certain circumstances. Therefore, get in touch with us and ask us before operating an appliance with an external unit!



ATTENTION!

Before using pumps and units from other manufacturers, it is essential that you contact WEBER-HYDRAULIK or an authorised dealer. Incorrect use can cause hazardous situations, for which we take no liability!

Hose lines

High pressure hose lines are used to connect the appliance to the unit. 5 m, 10 m, 15 m and 20 m hoses are available.

As the hose length increases, so too does the loss of pressure. This loss of pressure is still acceptable with a hose length of 50 metres and does not have any noteworthy effects.



CAUTION!

Do not use damaged hose lines!

If hose lines are damaged, there is a risk that the pressure fluid may escape under pressure or that the hose line will struggle.

Therefore:

- » A visual inspection must be carried out on the hose lines after every use, but at least once per year (leaks, surface damage such as kinks).

- » Every three years, or if a doubt is raised about safety or reliability, a function and load test must also be carried out (GUV-G 9102 or country-specific regulations).
- » Replace hose lines every 10 years!
The date (code letter or quarter and year) is specified on the hose bonding.
- » Do not subject the hose lines to any tensile load or torsion (twisting).
- » Do not kink hose lines or pull them over edges (lowest bending radius: 40 mm).
- » Do not subject the hoses to high temperatures.
- » Protect hose lines against contact with substances that can cause damage to the outer layer, e.g. acids, bases or solvents.

Hydraulic oil

All appliances are designed and tested for WEBER hydraulic oil, part number 804932. This oil has a particularly high degree of purity and also works without problems in temperatures as low as -20° C.

However, if there are limitations in the low temperature range (low output), a standard oil (mineral based) of viscosity class HLP 10 or HVLP 10 can be used in accordance with DIN 51502.



NOTE!

We recommend the following hydraulic oils for trouble-free operation of WEBER rescue appliances:

- » AERO Fluid 41 (Shell)
- » Univis HVI-13 (Esso)
- » Aero-hydraulic 520 (Total)
- » Hydraulik DB (Castrol)
- » Renolin/MR310 (Fuchs)
- » HVI Extra 380 (Maier & Korduletsch)
- » Hydrex Arctic 15 (Petro Canada)
- » Naturelle HFE 15

5.3 Connection for hose-connected appliances

SINGLE coupler

The dust caps must be removed before coupling the two coupling parts (fig. 1). Then bring the coupling connector and the coupling sleeve together and turn gently into the bayonet catch (fig. 2).

Now grip the sleeve by the knurled black rotating assembly and turn clockwise (direction 1) until the coupling locks in (fig. 3). To prevent contamination, the two dust caps must then be pushed together (fig. 4).

Disconnect the connection by turning anticlockwise (direction 0). Then re-insert the dust caps immediately.

Appliances that are equipped with the SINGLE coupler can also be coupled in a depressurised circuit as long as the appliances that are connected are not actuated.

Fig. 1



Fig. 2



Fig. 3



Fig. 4



NOTE!

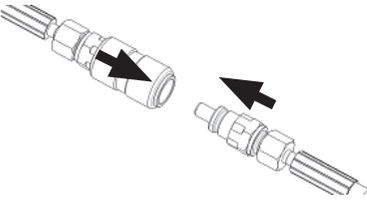
A pressure relief plug is no longer required when using the SINGLE coupler.

Plug-in coupler (SKS)

The dust caps must be removed before coupling the two coupling parts. Then grasp the coupling sleeve's bushing with one hand and hold the coupling connector (black) by the hexagonal bar with the other hand. Bring the two parts together and press the sleeve gently against the coupling connector until it locks in place.

To disconnect, hold the coupling connector (black) by the hexagonal bar. Grasp the coupling sleeve by the sleeve with the other hand and pull this back. It is inevitable that a few drops of hydraulic oil will escape when disconnecting.

The dust caps must then be re-inserted immediately to prevent contamination.



CAUTION!

When coupling the SKS couplers, the switch lever on the unit must be in the 0 position.



NOTE!

A pressure relief plug is mounted on the hydraulic units and the hand pump. This can be used to release a few drops of oil from the hose line. This makes coupling possible if there are pressure increases in uncoupled appliances. To do this, simply insert the relief plug into the coupling sleeve and turn the knurled screw to the right until oil escapes.

5.4 Electricity supply for E-FORCE 2 appliances

Inserting the battery

Connect the battery (1) to the rescue appliance (2). Push the battery in on the rails (3) provided until it locks in place. The appliance acknowledges that the battery has been inserted in the right direction with a short tone. To release, press the pushbuttons on both sides of the battery (4). Then pull the battery upwards and out.



**NOTE!**

Only the SINGLE coupler is described in the following section. Note that the switch lever must always be moved to the 0 position first when coupling SKS couplers!

5.5 Operation

Operating the control handle (hose-connected appliances)

The appliance can be operated using the pushbutton on the control handle. Pressing it harder or less hard adjusts the shear blade's movement speed exactly. However, the maximum cutting force is only obtained by pressing the pushbutton completely down.

Closing the appliance

The appliance's main direction of movement (closing) is triggered by pushing in the lower wedge-shaped (convex) end of the button.

The direction of movement is indicated by the following symbol on the appliance:



Opening the appliance

The cutter is opened using the upper curved (concave) end of the button, which is indicated by the following symbol:



Dead man's circuit

When the pushbutton is released, it returns to the zero position automatically. This always brings the appliance to a stop in any situation (including under load).

Using E-FORCE 2 appliances

To start the battery-operated appliance, press the on/off switch. The switch is illuminated white, the LEDs start to light up, and the motor idles. In this state, if the appliance is not operated using the rocker switch on the control handle, it switches off automatically after 30 seconds and must then be restarted.

Pressing the rocker switch on the control handle harder or less hard adjusts the movement speed exactly. The maximum cutting, expansion or pressure force is only obtained by pressing the rocker switch down completely.

Closing the cutter / Opening the spreaders / Extending the rescue ram

The appliances' main direction of movement is triggered by pressing the rocker switch to the left with your index finger (grooved side of the rocker switch).

Opening the cutter / Closing the spreaders / Retracting the rescue ram

The opposite direction is triggered by pressing the control rocker to the right with your thumb (curved side of the rocker switch).

Dead man's circuit

When the rocker switch is released, it returns to the zero position automatically. This always brings the appliance to a stop in any situation, including under load. After 30 seconds, the appliance switches off.



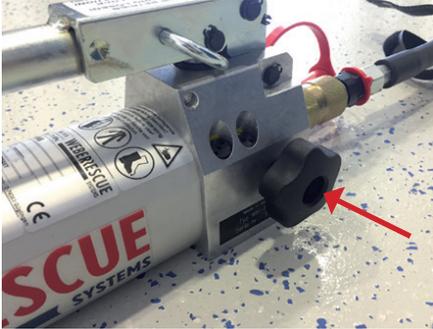
E-FORCE 2 control unit



Example: cutter:
close to the left, open to the right

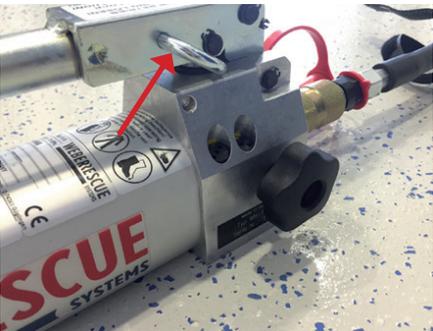
Hand pump operation (door opener set)

The door opener set and its hand pump are single-acting appliances. The hand pump is used to establish the hydraulic pressure in the cylinder so that it extends. If it is to be retracted again, open the hand wheel on the hand pump. This pushes the oil back into the hand pump due to the weight that is acting on the cylinder, and the cylinder retracts.



The hand wheel to control the oil flow is located on the right side of the hand pump. The wheel must be turned in a clockwise direction until it reaches the stop in order to establish pressure in the cylinder.

Turn the hand wheel in an anticlockwise direction to retract the cylinder. The further the wheel is opened, the faster the oil drains back into the hand pump.



In addition, the hand pump has a locking hook for the pump lever. This hook can be used to connect the lever to the pump housing and therefore to use it as a carrying handle.

The locking hook is spring-loaded and can be pulled out easily.

5.6 Spare parts

Replacing the cutting blades (S 25-20)



NOTE!

The cutting blades must not be re-sharpened. We only recommend cleaning if they are contaminated.

Procedure:



The relevant Allen screw must be removed completely to replace the triangular cutting blades. The entire cutting blade can then be pulled forwards out of the guide. The blade also has two slots for this, which can be pulled using a pliers.

If the blade is just worn, it can be rotated and re-inserted.



The rotated or replaced blade can then be pushed back in. Ensure that the closed side of the two slots points forwards so that they can be gripped again when being replaced again.

Tightening the screw pulls the blade into the correct final position automatically.

Replacing the tips (BC 250)



NOTE!

The crusher tips must not be re-sharpened. We only recommend cleaning if they are contaminated.

Procedure:



If the tips on the concrete crusher are worn, they can be replaced with new tips quickly and easily.

To replace them, open the appliance's crusher arms completely and use a punch and a hammer to knock them out of the arm from the outside.



Then tap the new tip carefully into the crusher arm's receptacle using a small hammer until it locks in completely.

6 Possible uses

6.1 Safety instructions



WARNING!

Never reach between moving parts!



WARNING!

Tensioned parts can break off or be ejected at any time when working with the appliances and cause injuries to people.

Therefore, people not involved in the work must maintain a sufficient safety distance or may only remain in the hazard zone for as long as necessary.

6.2 Cutting hard metal (S 25-20)

The cutting force of the appliances can only be fully used if they are applied as close as possible to the blade's centre of rotation. In this case, only the upper blade moves, which contributes to threefold cutting as far as possible.

The appliance may have to be moved back to do this. The appliance only obtains the full cutting force when the rocker switch/pushbutton controller is pressed down completely. Furthermore, it may take a few seconds until the hydraulic pump reaches the maximum working pressure.

Always cut at right angles to the object being cut in order to prevent damage to the blades.

**CAUTION!**

Do not cut through parts with open ends as this creates a risk of people being injured by parts flying off.

**ATTENTION!**

The cutting blade can become damaged when cutting high-strength elements. If this happens, rotate or replace the blade before the next cutting procedure.

6.3 Breaking open doors (DO 140 E-FORCE 2, door opener set)

There are basically three different variants that can be used to break open a door by applying the hydraulic door opener. The options described in the following section are often used in combinations, as multi-part bolts and locks often make this necessary.

However, you must ensure that the force is distributed as evenly as possible on both of the door opener's expansion jaws and on the expansion foot in the middle on all of these. Furthermore, both parts must be pushed as far as possible into the crack in the door. A rubber hammer can also be used to hammer them in further.

**CAUTION!**

Never hit the door opener with a metal hammer! This can cause metal splinters to come off and result in severe injuries.

Breaking open a lock:



Option 1 is to break open the lock. To do this, the door opening cylinder is pushed in or hammered in with the claw and foot between the doors and the door frame (about one hand width above or below the lock).

The cylinder is then opened until the lock breaks. If the full opening width is insufficient, the cylinder must be re-inserted closer to the lock.

Breaking open a hinge:



Breaking open a the door hinge is the second option. This works particularly well if the door opens outwards and the hinges are therefore directly visible.

As with breaking open a lock, the cylinders are also pushed in between the doors and door frame just above and below the hinge and pushed apart until the hinge breaks.

Lifting the door from its hinges:



The third option is to use the door opening cylinder underneath the door to lift it out of its hinges, or to weaken the lock and any bolts that may be present before breaking them open.

**ATTENTION!**

Always hold the door opening cylinder tightly when breaking open or secure it with a rope. If the cylinder falls down, it can cause damage and injuries.

6.4 Lifting loads (SPK 250, SPK 250 E-FORCE 2)

The two plates on the expansion wedge can be used to lift moving loads and to create a gap. This function is mainly used on concrete slabs to create a gap that is large enough to insert lifting cushions. The expansion plates are provided with ribbing on the outsides to prevent sliding when lifting.

Observe the load to be lifted constantly during the lifting process (tipping, rolling away or changing position). Furthermore, the lifted load must be immediately propped up and supported in a suitable way.

6.5 Breaking concrete (BC 250, BC 250 E-FORCE)

Concrete is broken by closing the arms, which clamps the concrete slabs between the two tips. However, on the BC 250 and the BC 250 E-FORCE 2, breaking is only possible in the special tips area.

**ATTENTION!**

Concrete can jump out suddenly.

Wear appropriate protective clothing and do not remain in the appliance's working area! Turn the protective shield into a suitable position!

7 Battery and charger

7.1 Charger technical specifications

Technical specifications	MCLi charger
Voltage range	28 V
Fast charge charging current	3.5 A
Charging time	Around 1 h
Weight without mains cable	700 g



Input voltage	ID no.
220/240V AC 50/60Hz (Europe)	1054097
240V AC (Australia)	1054098
110V AC (USA)	1054099

7.2 Special safety instructions



WARNING!

Do not throw used batteries into domestic waste or into the fire.
Your specialist dealer can dispose of your old battery in an environmentally friendly manner.

The charger can be used to charge the following batteries:

Voltage	Battery type	Nominal capacity	Number of cells
28 V	M 28 BX	≥ 3.0 Ah	2 x 7
28 V	Li 28 V	≥ 3.0 Ah	2 x 7
28 V	Li-Ion 71NR	≥ 5.0 Ah	2 x 7

**WARNING!****Important safety instructions concerning the battery and the charger.**

- » The charger cannot be used to charge non-rechargeable batteries.
- » Do not store batteries together with metal items (risk of short circuit).
- » Metal parts must not get into the battery insertion slot on the chargers (risk of short circuit).
- » Do not open batteries and chargers, and only store in dry rooms. Protect against moisture.
- » Voltage is present on the charger. Do not reach into the appliance with objects that can conduct electricity.
- » Do not charge a damaged battery. Replace it immediately.
- » Check the appliance, connection cable, battery pack, extension lead and plug for damage and ageing. Only have damaged parts repaired by a specialist.
- » This appliance is not intended to be used by people (including children) with limited physical, sensory or mental capabilities, or who have a lack of experience and/or a lack of knowledge, unless they are supervised by a person responsible for their safety or have received instructions from him/her on how to use the appliance. Children must be supervised to ensure that they do not play with the appliance.

7.3 Intended use

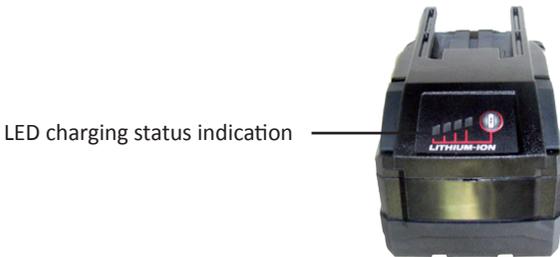
This charger charges the 28 V Li-Ion battery that was supplied with the battery-operated appliance for the M28/V28 system. This appliance may only be used as specified and intended.

7.4 Mains connection

Only connect to single-phase alternating current and only to the mains voltage specified on the rating plate. It can also be connected to sockets without an earth contact as it is built in accordance with protection category II.

7.5 Li-Ion-battery

For safety reasons, the batteries are discharged when they are delivered (air transport regulation). The battery must be charged completely before first use.



If the battery is not used for a longer period of time, it switches to idle mode. The battery must be re-activated (charged) in order to be used again.

The charging status can be checked by pressing the button on the battery (see illustration). The battery can remain in the charger for this but the charger must be switched off at least 1 minute before (otherwise the indication will be inaccurate). The number of illuminated LEDs indicates the charging status.

Basically, the following applies: If the battery-operated appliance does not work after inserting the battery, plug the battery into the charger to check it. The indications on the battery and the charger then provide information on the battery condition.

You can continue to work with reduced power at lower temperatures. To ensure that the appliance is ready to use, the battery must be fully charged after use.

7.6 Charging process

After the battery is inserted into the charger's insertion slot, it is charged automatically (the red LED illuminates continuously).



If the battery is too hot or too cold when it is inserted into the charger (red LED flashes), the charging process begins automatically as soon as the battery has reached the correct charging temperature (0°C - 65°C). The maximum charging current flows when the Li-Ion battery temperature is between 0 and 65°C.



The charging time is between 1 min and 60 min depending on how full the battery was previously (for 3.0 Ah). The charging time for the 5.0 Ah battery is between 1 min and 90 min. Once the battery is fully charged, the LED on the charger switches from red to green.



The battery does not have to be removed from the charger once charging is complete. The battery can remain in the charger permanently. This cannot over-charge it and it is therefore always ready for operation.

If both LEDs flash alternately, either the battery is not inserted properly, or there is a fault on the battery or the charger. For safety reasons, take the charger and the battery out of operation immediately and have them checked by an authorised customer service location.



If the power unit is overloaded, all LEDs flash 4x. To continue charging, unplug the power unit and plug it back in.



7.7 Maintenance

If the mains connection line is damaged, it must be replaced by a customer service location.

Only use approved accessories and approved spare parts. If a replacement description is not provided for a component, have it replaced by an authorised customer service location.

7.8 Charging cycles

Information	Explanation
Charging cycles	Around 1000
Partial discharge	No effect as the battery always holds the capacity until it is discharged.
Partial discharge and subsequent recharge	Each recharging process is considered a complete charging cycle, which is why the battery should be used until it is fully discharged.
Protection against total discharge	Present

8 Transport, packaging and storage

8.1 Safety instructions

**CAUTION!****Damage due to improper transport!**

Improper transport can cause considerable property damage.

Therefore:

- » When unloading the packaged pieces, proceed with caution and pay attention to the symbols on the packaging.
- » Only completely open and remove packaging at the actual storage site.

8.2 Transport inspection

Check the delivery immediately after receiving it for completeness and possible transport damage so if needed, a remedy can be found quickly.

If there is any externally visible damage, proceed as follows:

- Refuse the delivery or accept it with reservation.
- State the extent of damage on the transport documents or the transporter's delivery receipt.
- Initiate complaint.

**NOTE!**

Report every deficiency as soon as it is recognised.

Damage claims can be directed to our Customer Service (see Chapter 1.6).

8.3 Symbols on the packaging



Caution - fragile!

Handle the package carefully, do not drop it, throw it, hit it or tie it down.



Facing upwards!

The package must always be transported and stored with the arrows pointing upwards. Do not roll or tilt.

8.4 Disposing of the packaging



Properly dispose of all packaging materials and parts that have been removed (transport protection) in accordance with local regulations.

8.5 Storage

To the greatest extent possible, store the appliances in a dry, dust-free area. Avoid exposing hose lines to direct UV radiation.



CAUTION!

To prevent damage to the equipment on the drive to the work site, store the equipment securely in the mounts provided for it.

9 Installation and commissioning

9.1 Safety instructions

**WARNING!****Danger of injury due to improper operation!**

Improper operation can cause severe injury or property damage.

Therefore, it is absolutely necessary to:

- » Carry out all work steps according to the information in these operating instructions.
- » Before starting work, ensure that all covers and guards are installed and that they function properly.

Personal protective equipment

Wear protective equipment as specified in Chapter 2.4 when performing all work!

**NOTE!**

Special attention is drawn to the need for further protective equipment to be used with certain items of work involving one or more of these appliances.

9.2 Checking

Check the appliance for damage. Never use the equipment unless it is in flawless condition! If any flaws are noticed, immediately notify your supplier.

S 25-20:

- Check the cutting blades (damage, secure)
- Check the rocker switch (function)
- Check the handle (fastened securely)
- Check the protective housing (damage)

BC 250 / BC 250 E-FORCE 2:

- Check the piston rod (damage)
- Check the rocker switch (function)
- Check the tips (damage, secure)
- Check the protective housing (damage)
- Check the protective shield (damage)

DO 140 E-FORCE 2:

- Check the piston rod (damage)
- Check the rocker switch (function)
- Check the expansion plates (damage)
- Check the protective housing (damage)

Door opener set:

- Check the expansion cylinder (leaks, damage, dirt)
- Check the hose (leaks, damage, dirt)
- Check the hand pump (leaks, damage, dirt)
-

9.3 Installation

Door opener set:

Attach the relief plug to the hand pump, remove the dust caps from the coupling parts and establish the connection as described in chapter 4.5.

Then re-insert the protective caps to prevent contamination.

SPK 250/ BC 250:

Move both of the hydraulic unit's switch levers into the 0 position (fig. 1), remove the dust caps from the coupling parts and establish the connection between the hydraulic hoses and the spreader as described in chapter 4.4.

Then re-insert the protective caps to prevent contamination.

If the SINGLE coupling is being used, it can also be coupled in a depressurised circuit (0 position on the unit not required).

9.4 Shutdown (end of work)

DO 140/ DO 140 E-FORCE 2:

Once work has finished, the cylinder's piston rod must be retracted up to a few millimetres in order to relieve the appliance's hydraulic pressure.

BC 250/ BC 250 E-FORCE 2:

Once work has finished, the spreader arms must remain slightly open in order to relieve the appliance's hydraulic pressure.

Door opener set:

Once work has finished, the cylinder's piston rod must be retracted back up to a few millimetres in order to relieve the appliance's hydraulic pressure.

SPK 250/ SPK 250 E-FORCE 2:

Once work has finished, the expansion plates must be moved together in order to relieve the expansion wedge's hydraulic pressure. However, never close the arms completely as this would generate tension in the appliance.

The appliance can then be uncoupled as long as the unit's switch lever is in the 0 position. Ensure that no dirt gets into the couplings and that the protective caps are inserted immediately.

10 Maintenance

10.1 Safety instructions



WARNING!

Danger of injury due to defective maintenance work.

Improper operation of the appliance can cause severe injury or property damage.

Therefore, it is absolutely necessary to:

- » Have all maintenance work carried out by trained specialists.
- » Ensure good housekeeping and cleanliness at the workplace! Loose components and tools left lying around constitute a potential hazard.
- » Wear protective gloves during all work!

10.2 Upkeep and maintenance

To be ready for operation at any time, the following measures are absolutely imperative:

- After every load, but at least once a year, visually check the appliance and its accessory parts.
Pay particular attention to spreader tips, joints, blades, hoses and coupling parts.
- Every three years, or whenever a doubt is raised about the safety or reliability of the appliance, a function and load test must also be carried out (acc. to GUV-G 9102 or country-specific regulations).
- After every load, check the lubrication of the movable parts and pins, and spray with suitable grease if necessary.

**ATTENTION!**

Prior to all maintenance work, the appliance must be cleaned of any dirt so that it does not get into the hydraulic system. The cleaning can be carried out using a conventional cleaner.

- The appliance must be dried after being operated in damp conditions
- Browning parts (bolts, blades and clips) must be greased

**NOTE!**

If problems occur when maintaining the appliances, our customer service department is available to assist (see chapter 1.6).

10.3 Maintenance schedule

For an exact maintenance schedule with inspection intervals, regulations and reports, see GUV – G 9102, point 18 (hydraulically-actuated rescue appliances).

11 Decommissioning / recycling

After its operating life has expired, dispose of the appliance properly. However, individual parts can be reused.

The hydraulic oil must be drained completely and caught. Note that hydraulic oil must be disposed of separately!

The local disposal requirements are applicable to disposal of all equipment parts and packaging materials.

Do not dispose of electrical tools with domestic waste! In accordance with European Directive 2002/96/EC about old electrical and electrical appliances as implemented in national law, used electrical appliances must be separately collected and passed on for environmentally responsible recycling.



NOTE!

Please ask your supplier about disposal of the equipment.

12 EC Declaration of Conformity for E-FORCE 2 appliances

EC DECLARATION OF CONFORMITY

in accordance with EC Directive 2006/42/EC

WEBER-HYDRAULIK GMBH

Industriegebiet 3 + 4, A-4460 Losenstein, UA,

We hereby declare that the "Hydraulic rescue equipment"

SPREADER	SP35 (AS) E-FORCE(2), SP35-L E-FORCE(2) SP53BS E-FORCE(2)
CUTTERS/ VARIO	RSX160- 50 E-FORCE(2), RSX165- 65 E-FORCE(2) RSX180- 80 (PLUS) E-FORCE(2), RSU200-107 (PLUS) E-FORCE(2), RSX200-107 (PLUS) E-FORCE(2) SPS270 E-FORCE(2), SPS330 E-FORCE(2), SPS360 (L) E-FORCE(2), SPS370 E-FORCE(2), SPS400 E-FORCE(2)
RESCUE RAM ELECTRIC DRIVE ACCESSORIES	RZ 1 - 910 E-FORCE(2), RZT2-1360 E-FORCE(2) 3.0 Ah BATTERY, 5.0 Ah BATTERY BC250 E-FORCE(2) CHARGERS, SPK250 E-FORCE(2), DO140 E-FORCE(2)

meets the applicable underlying health and safety requirements of the EC Machinery Directive, 2006/42/EC and the directive for **electromagnetic compatibility, 2004/108/EC**.

The following standards and/or technical specifications were used in order to implement the health and safety requirements specified in the EC Directive properly:

DIN 14751-4 DIN EN ISO 12100-2	DIN EN 13204 DIN EN ISO 13857	DIN EN ISO 12100-1 NFPA 1936
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The model check was carried out by TÜV-Süd in accordance with DIN 14751-4, EN 13204 and NFPA 1936.

Person authorised to compile the technical documents:

J. Schmoltingruber, WEBER HYDRAULIK GmbH, A-4460 Losenstein, Industriegebiet 3+4

WEBER-HYDRAULIK GmbH

Losenstein, 08/09/2015


ppa Bernhard Obermayr
(Division Head)


p.p. Johann Schmoltingruber
(Construction Manager)

Ø WHL: RV, ST, SQ

EC DECLARATION OF CONFORMITY

in accordance with EC Directive 2006/42/EC

WEBER-HYDRAULIK GMBH

Industriegebiet 3 + 4, A-4460 Losenstein, UA,

We hereby declare that the "Hydraulic rescue equipment"

SPREADER	SP35, SP35AS, SP35L, SP40EN, SP43XL, SP49, SP50XL, SP53BS, SP60, SP80
CUTTERS/ VARIO SPECIAL APPLIANCES	BC250, S25-20, C45-9, SPK250, S 33-14, S 50-14, S140-26 (LIGHT), S200-49, S210-71, S220-54, S260-50, S270-71, S310-36, C100-31, RS130-49, RS(X)160-50, RS(X)165-65, RS170-105, RSX105-29, RSX180-80 (PLUS), RSX185-105, RSU200-107 (PLUS), RS(X)200-107 (PLUS), SPS270 (LIGHT), SPS330EN, SPS360, SPS360 L, SPS370, SPS400, SPS430 LIGHT
RESCUE RAM	RZ 1 -... to RZ 3 -..., RZ 11 -... to RZ 22 -..., RZT 2- 600, RZT 2- 750, RZT 2- 775, RZT 2-1000, RZT 2-1170, RZT 2-1500, RZT 2-1120-XL, RZT2-1250-XL, RZT2-1270-XL, RZT 2-1500-XL, RZT 3-1310-XL, DO140, SBH15-255,
ENGINE PUMPS	E/V 50 .., E/V 60 .., EN 70 .., E/V 400 .., V400- Silent, V400-ECO, EN- Matic, B-Compact, E-Compact, V 50-Eco, V-Ecocompact (Honda), V- Ecosilent E/V- TRIPPPLE T, HYDROPAC, AKKUPAC
HAND PUMP/ACCESSORIES	DPH0705 .., DPH3215 .., DPH4018 ..and accessories for all appliances, MSE15-255

meets the applicable underlying health and safety requirements of the **EC MACHINERY DIRECTIVE, 2006/42/EC**.

The following standards and/or technical specifications were used in order to implement the health and safety requirements specified in the EC Directive properly:

DIN EN 13204	DIN EN ISO 12100-1	DIN EN ISO 12100-2
DIN EN ISO 13857	NFPA 1936	NFS 61.571

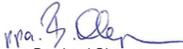
The model check was carried out by TÜV-Süd in accordance with EN 13204.

Person authorised to compile the technical documents:
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Losenstein, 08/09/2015

WEBER-HYDRAULIK GmbH

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SYSTEMS

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