



315414

D-LP 30 / DS-TS 30, D-LP 20 / DS-TS 30

Wall saw system Operating instructions

HILTI

Congratulations!

In purchasing the Hilti **D-LP 30 (LP 20) / DS-TS 30** wall saw system you have acquired a quality product that provides the highest level of performance, safety and reliability. Uncompromising quality assurance during its manufacture ensures that the system will have a long service life.

The system's modular design, quick and convenient installation principle and semi-automatic advance (which functions independently of the material being cut) provide advantages that make it a pleasure to cut through steel-reinforced concrete, i.e. walls, floors and ceilings with a thickness of up to 73 cm, while guaranteeing high cost efficiency and economy.

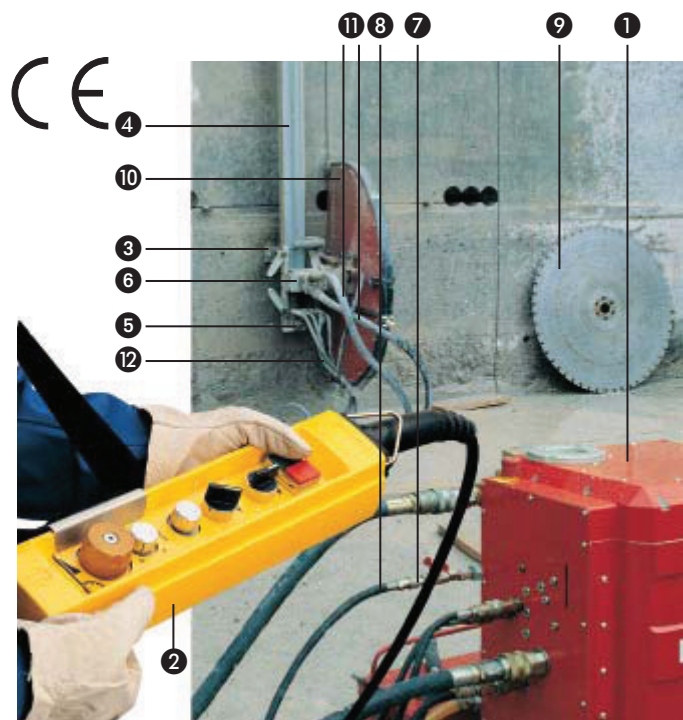
These operating instructions are intended for the use of concrete cutting service contractors and their experienced personnel, referred to in the following paragraphs as «the operator». Before operating the **D-LP 30 (LP 20) / DS-TS 30** wall saw system, the operator must read and understand these operating instructions and receive training from a Hilti specialist. This will ensure that the system can be operated efficiently, economically and safely.

We would like to wish you every success in your work and thank you for placing your confidence in Hilti products.

Contents

1. General warnings
2. Warnings concerning fastening, setting up and operating the system
3. General safety precautions
4. The modular hydraulic saw system
5. General description and technical data
6. Blade speeds, gear selection, sawing procedure
7. Preparing the workplace and saw system
8. Setting up the saw system for various applications
9. Hydraulic unit - operating modes, connections, operation, care and maintenance
10. Checks, operation, the sawing procedure using hydraulic saw systems
11. Dismantling the saw system
12. Care and maintenance
13. Fault finding and elimination of faults
14. Warranty

- ① D-LP 30 (LP 20) hydraulic unit
- ② DS-CB 3 / CB 4 remote control unit
- ③ DS-RF rail support
- ④ D-R 200 L rail (length 200 cm)
- ⑤ DS-ES end stop
- ⑥ DS-TS 30 saw head
- ⑦ Water valve
- ⑧ Water supply hose
- ⑨ DS-B saw blade (type BC, LC)
- ⑩ DS-BG blade guard
- ⑪ D-PH 34-10 hydraulic hoses ($\frac{3}{4}$ ")
- ⑫ D-FH 4/14-10 hydraulic control hoses ($\frac{1}{4}$ ")



1. General warnings

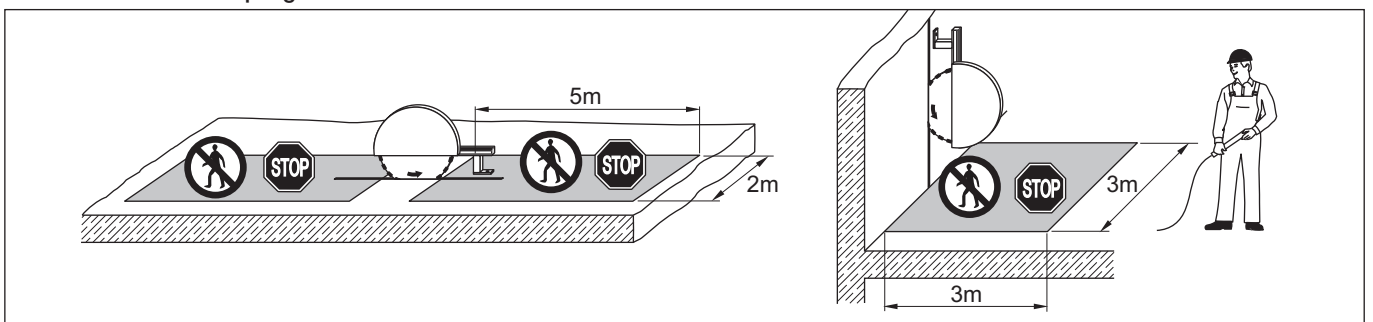


- 1.1 Do not attempt to use the hydraulic saw system without having received the appropriate training from an authorised Hilti specialist.
- 1.2 Always use the hydraulic saw system in accordance with the operating instructions. The operating instructions must always be kept at hand. The instructions on anchoring and securing the system must be observed.
- 1.3 Approval must be obtained from the site engineer or site management before beginning sawing work or drilling corner holes etc. Sawing work can negatively affect the stability of a building or other structure, particularly when reinforcing bars or supporting members are cut through. Ensure that there are no concealed gas, water, electricity or other supply lines in the area in which sawing work is to be carried out.
- 1.4 The area in front of, behind or below the surface where sawing work is to be carried out must be secured in such a way that persons or equipment cannot be injured or damaged by falling blocks of concrete. If necessary, cores or blocks of concrete should be secured to prevent them from falling.
- 1.5 Operators and all other persons **MUST** stay clear of the area when a load is being lifted by a crane.

2. Warnings concerning fastening, setting up and operating the D-LP 30 (LP 20) / DS-TS 30 saw system



- 2.1 Make sure sufficient space is available for working safely.
- 2.2 Use metal anchors (size M12) for fastening DS-RF rail supports and DS-RFP angular cutting plates. Secure fastenings of a type suitable for the material being cut must be installed, e.g. Hilti HKD-D, HSA-A, HIT, HEA / HAS anchors.
- 2.3 Use only ISO 8.8 grade fastening screws for the rail supports.
- 2.4 An end stop must always be fitted at the end of the rail to prevent unintentional advance beyond this point (prevents saw coming off the end of the rail).
- 2.5 It is essential that the specified checks are carried out before beginning sawing (see section 10.1)
- 2.6 Unless special safety precautions are taken, the D-LP 30 (LP 20) / DS-TS 30 must **NOT** be operated in environments where there is a risk of explosion.
- 2.7 The blade guard must always be in place when the saw is in use. **NEVER** stand in the direction of radial flight of a running saw blade. Special precautions must be taken to secure the danger area when special cutting applications are in progress.



- 2.8 Always operate the machine from the closed side of the blade guard when corner cuts are made with the blade guard in the partly open position.
- 2.9 Never attempt to connect or disconnect hydraulic hoses while the hydraulic unit is running and while the hoses are under pressure.
- 2.10 Handle the DS-RFP angular cutting plate carefully. There is a risk of pinching your fingers.
- 2.11 Wear suitable clothing. Do not wear loose clothing or jewellery which could become caught in moving parts of the machinery. Wear a helmet, protective goggles, protective gloves, safety shoes, ear protectors and a hair net if you have long hair. A face mask should be worn to protect the respiratory system when working in enclosed areas.
- 2.12 Avoid body positions in which the back is bent when carrying motor units or other heavy components. Maintain a secure stance and always stay in balance, especially when using ladders or when working from scaffolding.
- 2.13 Disconnect the electric extension cable from the mains supply when the equipment is not in use, during transport and before inspection or maintenance of the hydraulic unit. Before changing blades or disassembling the saw, always ensure that the hydraulic unit is switched off at the DS-CB 3 or DS-CB 4 remote control unit.
- 2.14 When auxiliary saw systems such as the Hilti DS-WSS 30 wire saw are used, the information contained in the applicable supplementary operating instructions must be observed.
- 2.15 Recommended maximum ambient temperature ranges:
For storage: +5°C to +40°C
For operation of the system: -15°C to +50°C

3. General safety precautions

- 3.1 Modules and components of the Hilti diamond core drilling systems may also be used. Please refer to the applicable operating instructions for information on their use and operation.
- 3.2 Keep the working area tidy and always unroll the full length of hoses and cables. Untidiness and bad organisation of the working area can lead to accidents.
- 3.3 The influences of the environment in which you are working must be taken into account. Do not position the equipment where the hydraulic unit is liable to become very wet. The hydraulic unit must be kept level during operation, i.e. on a horizontal surface. Secure the hydraulic unit at locations where there may be a risk of it falling (e.g. on scaffolding). The electric extension cable and its plugs and sockets must not be allowed to lie in water. Ensure that the area is well lit. Do not use the equipment in the vicinity of inflammable liquids or gasses. Make provision for water removal.
- 3.4 Keep children away from the working area. Keep other persons away from the working area when the equipment is in operation. Tools, extension cables or hydraulic hoses should not be tampered with by other persons while the equipment is in operation.
- 3.5 Motor units and other components and tools should be kept in a dry, secure place out of reach of children when not in use.
- 3.6 Do not overload the system. Operate the equipment within its specified power range. The motor units or other system components are covered by warranty only when used in the system combinations described in the operating instructions.

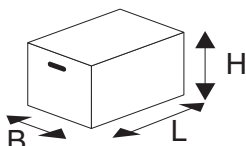
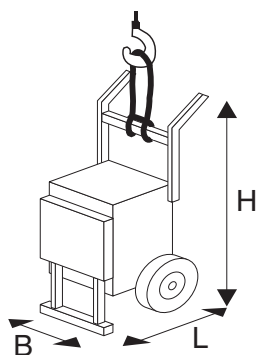
- 3.7 Do not use the equipment for purposes and applications for which it was not designed.
- 3.8 When unplugging, pull the plug and not the cable. Protect the hydraulic hoses and electric cables from sharp edges.
- 3.9 Good care and maintenance of the system is essential in order to ensure safe and trouble-free operation. Follow the maintenance instructions. Keep the grips dry and free of oil and grease. Wash your hands with soap and water after contact with hydraulic oil, cooling water or concrete slurry.
- 3.10 Do not leave tools in position on the equipment (e.g. open-end wrench on nut). Check that all the wrenches and setting-up tools have been removed before switching on the hydraulic unit and motor unit.
- 3.11 Use only approved and correspondingly marked electric extension cables. The overall length of the electric cable must be taken into account and the appropriate cable cross section (cable diameter) determined accordingly. Electric extension cables should not be coiled on a drum while the equipment is in operation.
- 3.12 Stay alert and carefully observe the progress of your work. Proceed logically and do not use the system and tools when your full concentration is not on the job.
- 3.13 You must be fully aware that work of this kind always involves a certain element of risk due to mechanical hazards. Check the entire system, motor units, components, electric cables and hydraulic hoses for damage and correct operation before use. Check the condition of parts (pay particular attention to wearing parts) such as the blade guard holder rubber, end stop, countersunk screws for the flush-cutting flange, blade mounting screws, hydraulic couplings etc. Check that all parts have been assembled correctly and consider all other factors that could influence operation of the equipment. Contact your Hilti representative or Hilti service centre if faults or deficiencies are found. Repairs to electrical parts must be carried out by a qualified electrical specialist.
- 3.14 The electrical and mechanical safety of the hydraulic saw system including accessories such as electric extension cables must be checked at regular intervals in accordance with national regulations. The checks applicable to the earth/ground conductor of the hydraulic unit and the electric extension cable leading to the unit are particularly important.
- 3.15 If, for whatever reason, it is found that the hydraulic unit does not switch off, set the controls to the neutral position (idling) and simply pull out the mains plug.
- 3.16 If an electric generator is used to power the D-LP 30 (LP 20) hydraulic unit, it must provide an output of at least 40 kVA and must be earthed/grounded.
- 3.17 During transport, the heavy system modules, especially the hydraulic unit, must be secured to prevent shifting of the load.
- 3.18 Concrete blocks with a weight of several tons may be sawn out when the Hilti wall saw is in use. Measures for securing and transporting these concrete blocks must be planned and implemented. Make use of the steel wedges contained in the set of tools for securing concrete blocks. Keep the working area clean and tidy and cordon off openings and holes where there may be a risk of falling.
- 3.19 Failure to observe warnings, safety precautions or the operating instructions may result in damage to the saw system or present a risk of serious injury to the operator or other persons.
- 3.20 On reaching the end of their useful life, the D-LP 30 (LP 20) hydraulic unit and other units of the saw system, especially the hydraulic oil, should be disposed of in accordance with the applicable national regulations.

3.21 Saw blade speeds: Adhere to the recommended speeds (r.p.m.) for each blade diameter (please refer to section 6.2).

3.22 Information required when transporting the hydraulic unit and saw head:

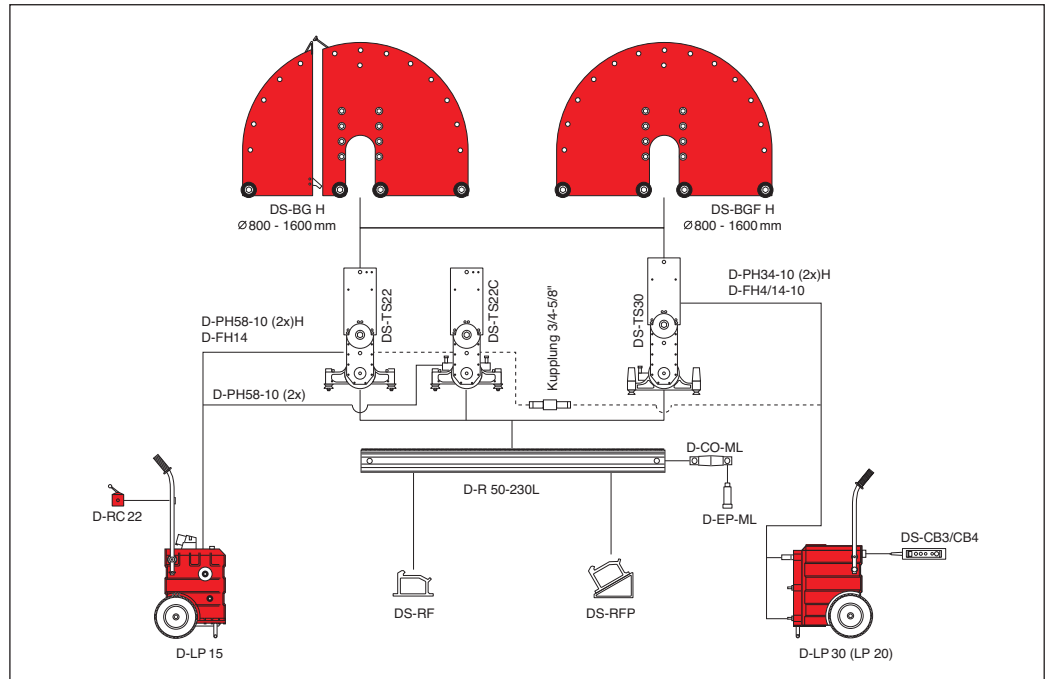
D-LP 30 (LP 20)
LxWxH = 700x530x1140
Weight approx. 210 kg

DS-TS 30 in transport box
LxWxH = 610x410x450
Weight approx. 40 kg incl. box

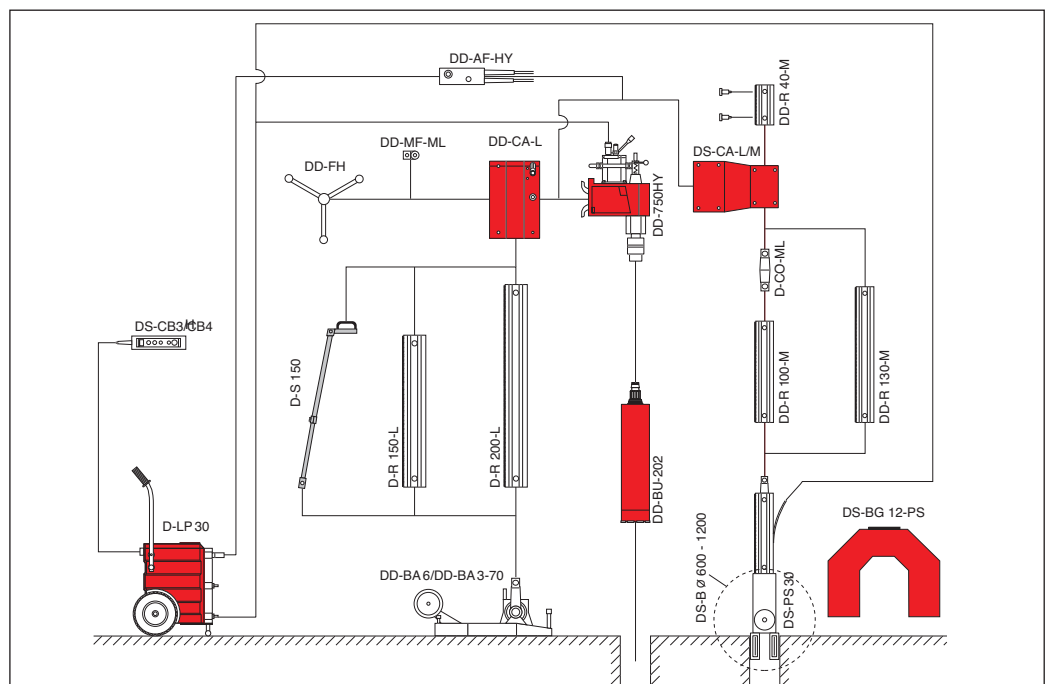


4. The D-LP 30 (LP 20) / DS-TS, PS, WSS modular saw system

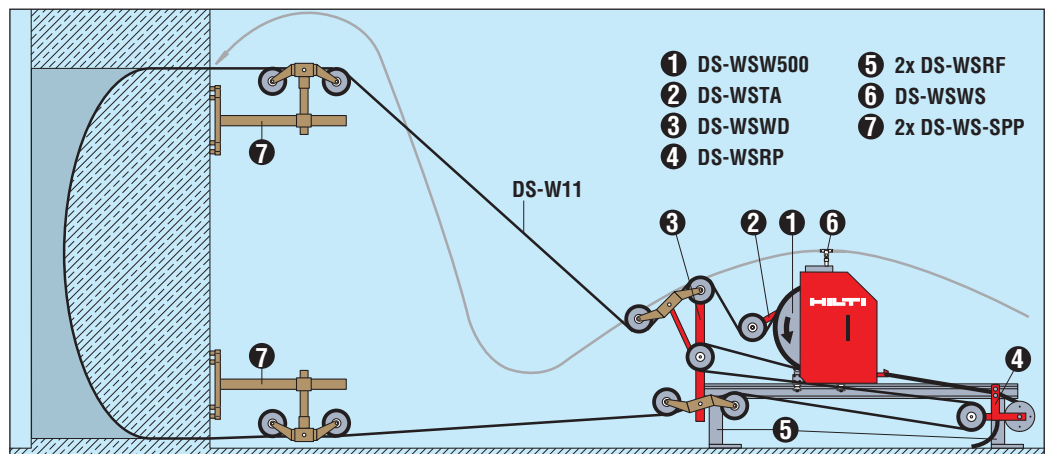
D-LP 30 (LP 20) –
DS-TS 30



D-LP 30 (LP 20) –
DD-750HY
DS-PS 30



D-LP 30 (LP 20) –
DS-WSS 30



5. General description and technical data for the D-LP 30 (LP 20) / DS-TS 30

The D-LP 30 (LP 20) / DS-TS 30 is a medium- to heavy-duty, high-performance wall saw system for use with saw blades of up to 1600 mm dia. It is capable of cutting to a depth of 73 cm. The saw system is extremely convenient, can be assembled and operated quickly and easily by one man and provides optimal cutting performance at all times. The compact, solidly constructed DS-TS 30 saw head is equipped with a quick, easy cam-action roller mounting system, 360° pivoting sawing arm with built-in motor and 2-speed gear box. The saw blade mount employs a single screw and the drive spindle incorporates a central blade cooling system. Power to the motor and system control is hydraulic, employing a semi-automatic controllable advance system which operates independently of the material being cut (once set, regulation is automatic). In conjunction with the very rigid and symmetrical D-R..L rail system, precise cuts and outstanding cutting performance can be achieved in all kinds of applications. The DS-TS 30 saw head is also used to drive the powerful Hilti DS-WSS wire saw system. Thanks to its oil-cooled electric motor, the D-LP 30 hydraulic unit benefits from compact dimensions. The D-LP 30, the standard hydraulic unit for use with this system, has a nominal power of 30 kW at 63 amps. It is also suitable for use with 32 amp mains supplies (LP 20 = 20 kW). Using the convenient DS-CB 3 / CB-4 electric remote control unit to adjust the infinitely variable oil flow rate, the operator can effortlessly select the optimum speed (r.p.m.) and most suitable rate of advance for all conditions. This feature also ensures optimum efficiency when drilling, plunge sawing or wire sawing.

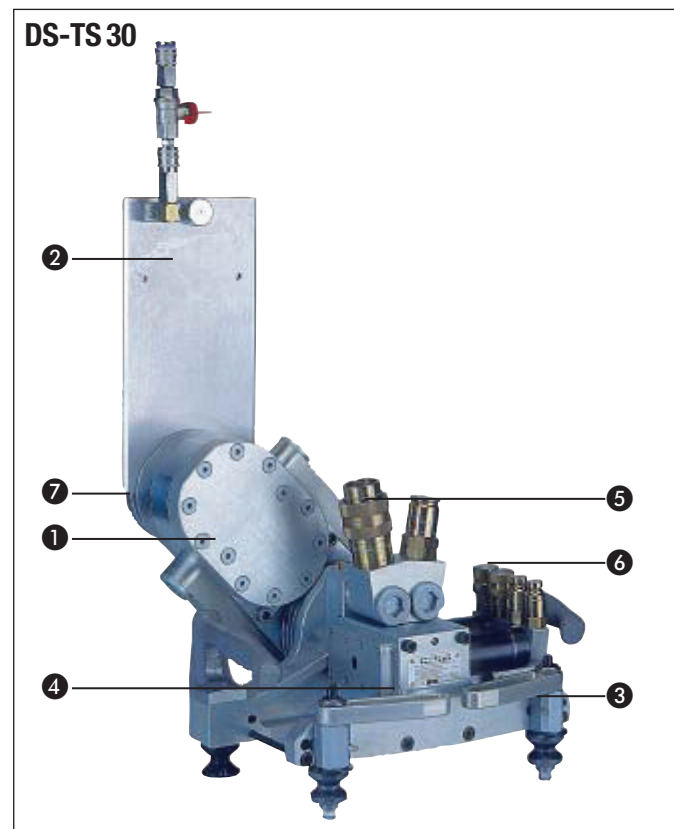
Technical data for the DS-TS 30

Blade diameter range:	∅ 600–1600 mm
1 st gear:	∅ 800–1600 mm
2 nd gear:	∅ 600– 900 mm
1 st gear for wire sawing:	∅ 500 dia. drive pulley
Cutting performance in abrasive concrete using moderately Hilti BC, LC blades with the D-LP 30 at 63 amps (guide):	3–4 m ² /h
Weight DS-TS 30:	approx. 37 kg

	DS-TS 30–54	DS-TS 30–45*
Hilti motor:	54 ccm	45 ccm
Max. oil flow rate:	100 l/min.	87 l/min.
Max. operating pressure:	210 bar	210 bar
Hydraulic unit:	D-LP 30 D-HP 20	D-LP 20 *
Hydraulic couplings		
Pressure holes (PH):	3/4" (Brunning type 3/4)	
Control hoses (FH):	1/4" (Holmbury type 2)	
Operation:	Electric, from the unit with DS-CB 3/CB 4 remote control	

* D-LP 20: only for 3-phase / 230 Volt

- ① Saw arm with built-in motor and 2-speed gearing
- ② Blade guard holder with water supply (follows movement of the saw arm)
- ③ Carriage with wear-resistant steel rollers
- ④ Grip with cam-action roller
- ⑤ 3/4" coupling for pressure hoses
- ⑥ 1/4" coupling for control hoses
- ⑦ Saw blade mounting flange with single M12×25 screw

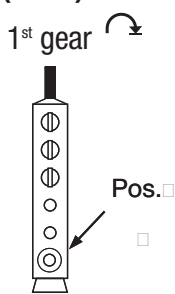
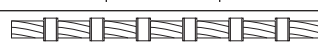
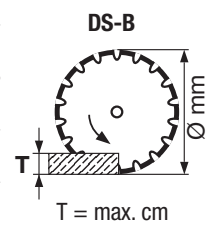
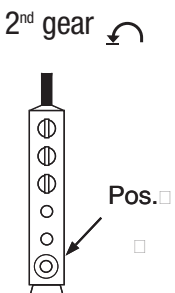


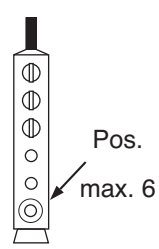

6. Blade speeds, gear selection, rules of thumb, sawing procedure, saw blades

6.1 Optimum cutting speed (blade peripheral speed): As a guide, most saw blade manufacturers, including Hilti, recommend a speed of approx. 40 m/sec. Depending on the situation (concrete quality, aggregates, reinforcement etc.) speeds of 30-50 m/sec. may be used.

6.2 Recommended speed and gear (r.p.m. under load) - guide values

The guide values below are printed on the cover of the D-LP 30 (LP 20) and on the DS-CB 3 / CB-4 remote control unit.

D-LP 30 (LP 20) / DS-TS 30		Pos.	r.p.m.	∅	∅	∅	∅	∅		
		10	900	500 wire saws					DS-W 11	
		9	810	900						
		8	720		1000					
		7	630			1200				
		6	540				1500	1600		
		T = cm			38	43	53	68	73	
										
D-LP 30 (LP 20) / DS-TS 30		Pos.	r.p.m.	∅	∅	∅	∅	∅		
		10	1800							
		9	1620							
		8	1440	600						
		7	1260		700					
		6	1080			750	800			
		5	900					900		
		T = cm			23	28	31	33	38	

	D-LP 30 (LP 20) / DD-750 HY					
		30 Ltr./min.	45 Ltr./min.	60 Ltr./min.	∅ mm	
	1 st gear	97 r.p.m.	136 r.p.m.	194 r.p.m.	300–750	
	2 nd gear	180 r.p.m.	252 r.p.m.	360 r.p.m.	152–300	
	3 rd gear	360 r.p.m.	504 r.p.m.	720 r.p.m.	77–152	
4 th gear	485 r.p.m.	678 r.p.m.	969 r.p.m.	52–112		

The values from the table above give a theoretical cutting speed (blade peripheral speed) of approx. 35-45 m/sec. The cutting speed for wire sawing is approx. 20 m/sec. and for core drilling approx. 2-6 m/sec.

Important

- Under difficult conditions, i.e. high steel content or hard aggregates, it is usually advantageous to run the saw in 1st gear.
- Safety precaution: adhere to the recommended speed settings. The blade peripheral speed then remains within safe limits.

6.3 Changing gear with the DS-TS 30 (-54 and 45)

The PH 3/4 hydraulic hoses should be connected before fitting the blade. Use the 36 mm AF open-end wrench (item no. 258306/0) to rotate the saw blade drive flange until the hole mark ❶ is in the central position ❷ (on the saw arm centreline). Insert the hex. wrench with T-grip (item no. 221191/0) in the bore in the blade mounting flange ❸.

Observe the markings on the blade guard holder ❹.

To engage a gear from the neutral position (between 1st and 2nd gear) proceed as follows:

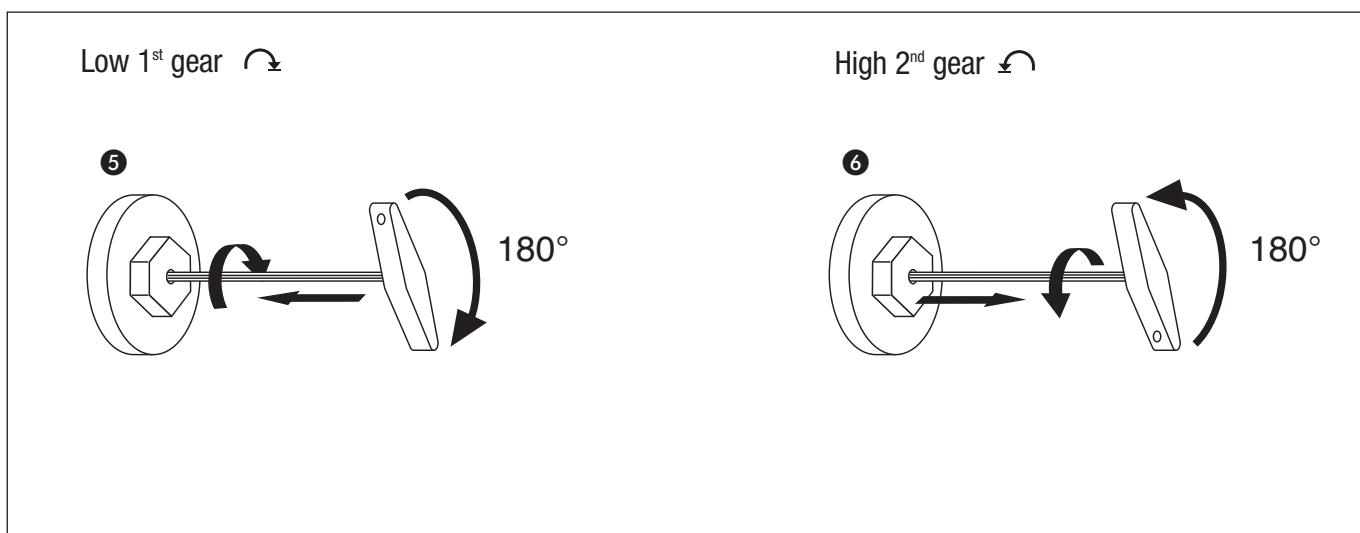
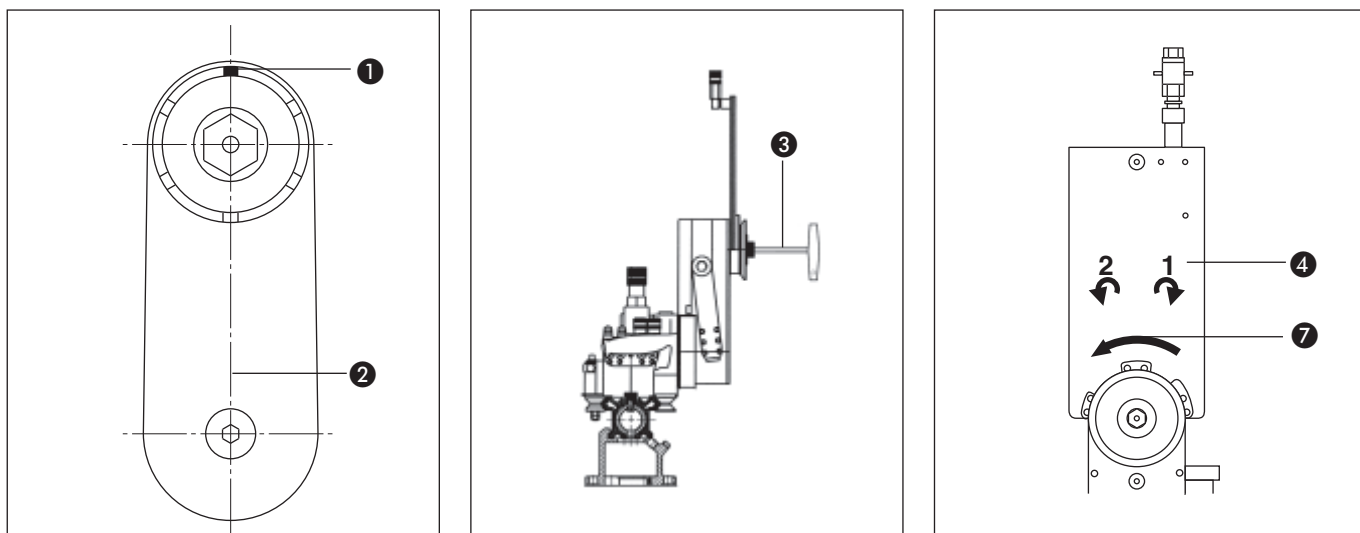
- Low (1st) gear = push the wrench in and turn it to the right ↻ as far as it will go ❺.
- Low (2nd) gear = allow the wrench to move out under spring pressure and then turn it to the left ↻ as far as it will go ❻.

If a gear is already engaged:

- Disengage the gear by turning the wrench to the neutral position. Depending on the gear to be selected, either push the wrench in or allow it to move out under spring pressure and then turn it in the desired direction as far as it will go.

IMPORTANT: When changing from one gear to the other, the **T-grip wrench must be rotated through 180° (1/2 turn)**, i.e. turned as far as it will go, to the right ❺ or to the left ❻. Running the saw with the gear selector in the “neutral” position may cause damage to the gearing.

❼ Direction of rotation of the motor or saw blade.



Maintenance

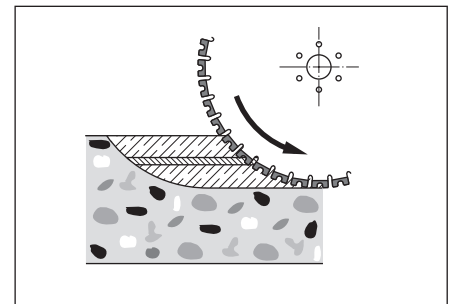
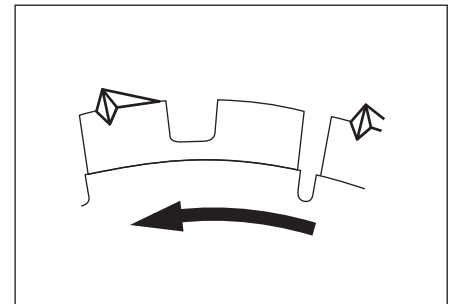
Keep the gear change mechanism clean and lubricate it with Hilti spray at weekly intervals.

6.4 Rule of thumb for peripheral speed/cutting speed

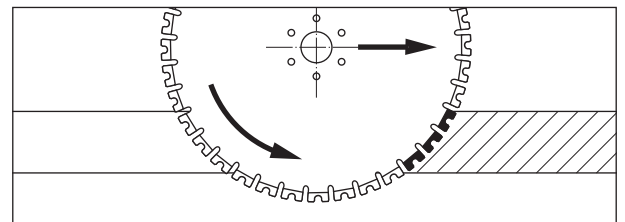
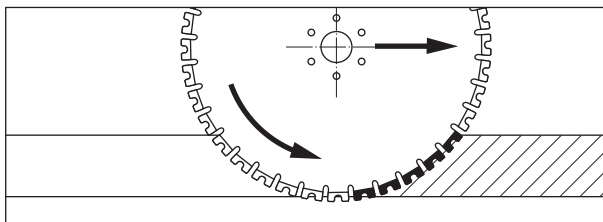
- Reduce the peripheral speed when hard aggregates are encountered (silex, flint etc.).
- The peripheral speed can be increased when the concrete cuts easily.
- Use the normal, recommended peripheral speed when the steel reinforcement content is high.

6.5 The sawing procedure

- Always mount the saw blade in the correct direction of rotation. The direction of rotation of the motor is engraved on the saw head. The cutting edge of the diamond grit must face the direction of rotation.
- Use a small saw blade (800 mm dia.) to cut an approx. 5 cm deep guide kerf (in London flint, maximum 2 cm) at approx. 60% power output (operating pressure approx. 100 bar).
- Depending on conditions, subsequent cuts can be made to a depth of approx. 10–15 cm at full power, i.e. at an operating pressure of approx. 180 bar (use pressure gauge, item no. 310653/1).
- When reinforcing bars are cut lengthways, or when a large area of steel must be cut, position the saw blade so that concrete above and below the steel is also cut. This prevents polishing of the segments.
- Do not attempt to work with a blade if its segments have become polished. A blade with polished segments can be resharpened by making a shallow cut (2–3 cm) in unreinforced concrete or in an abrasive material using little water. Alternatively, the segments can be resharpened by making a dry cut in the Hilti sharpening plate, item no. 51343/2.



- During the main cuts, the lowest possible number of segments should be in contact with the concrete. The saw can then make more efficient use of the power available.



6.6 Saw blades - the Hilti DS-BR saw blade programme

- The quality of the saw blade and selection of the correct type of blade is decisive. The Hilti DS-BR blade types BC and LC have been designed for use with the DS-TS 30 and other equipment of a similar power rating. They achieve optimum cutting performance while reducing the load on the saw system to a minimum.

7. Preparing the workplace and the saw system

7.1 Please observe the warnings and safety precautions listed in sections 1, 2 and 3.

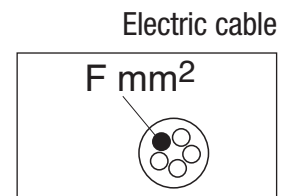
7.2 Power requirements and cooling water

- Check the electric supply fuse rating (63 amps is best and 32 amps is the minimum) and that the earth/ground connection is functional (this is the responsibility of the site manager).
- Use an electric extension cable with standard Euro plug as per EN CEE 63. Select the cable cross section according to the load it is to carry (amps) and the cable length. Please refer to the following table:

Cross sectional area of individual cable cores (F)

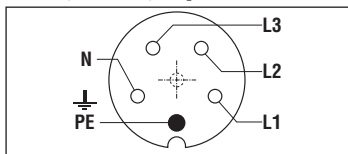
Current Amps (A)	Hydraulic unit	F mm ²	Fmm ²	Fmm ²	F mm ²	F mm ²
32	LP30/400V	24	39	59	98	*
40	LP30/400V	20	31	47	78	125
63	LP30/400V		20	30	50	80

* maximum cable length in metres



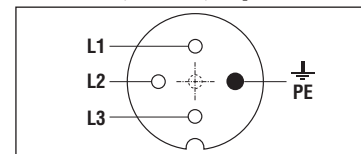
CEE 63 plug on the D-LP 30 (LP 20) – pin assignement

LP 30, 400 V, 3 phases + N + PE



PE = earth/ground L1 = phase
N = neutral L2 = phase
L3 = phase

LP 20, 230 V, 3 phases + PE 9 h



- The CEE 63 plug, male type, complies with the IEC 309-2 standard.
- Ensure that the water supply has a pressure of 4–6 bar. The normal cooling water flow rate is 10 l/min. For technical reasons, the flow rate must be at least 5 l/min.
- Make suitable arrangements for water removal, depending on the job and situation, e.g. water barriers, wet-type vacuum cleaner, cover with plastic sheets etc.

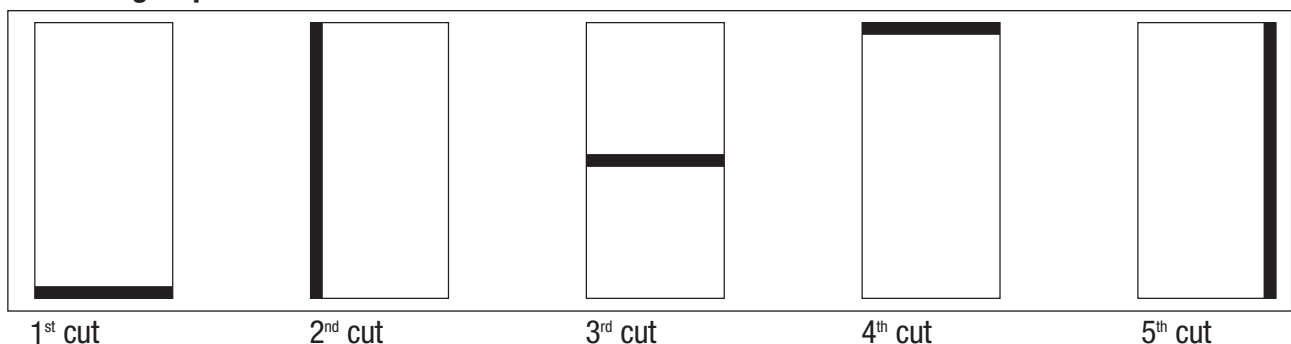
7.3 Clarify the situation and secure the workplace

- Obtain approval from the site engineer or site management before beginning sawing. Find out whether over-cutting at corners is permitted. If not, the corresponding corner holes must be planned and drilled first.
- Check that the area is cordoned off, that supports are in place and warnings to third parties are displayed.

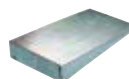
7.4 Planning the cutting sequence and marking the cuts and fastening points

- The parts to be cut out are usually marked by the client. A rational cutting sequence can be followed when the rail supports are well positioned.
- If necessary, adjust the maximum size and weight of the concrete blocks to the prevailing conditions by making dividing cuts, e.g. in accordance with the work order, the means of handling the blocks, the capacity of the crane or the maximum floor loading capacity.

7.5 The cutting sequence



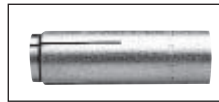
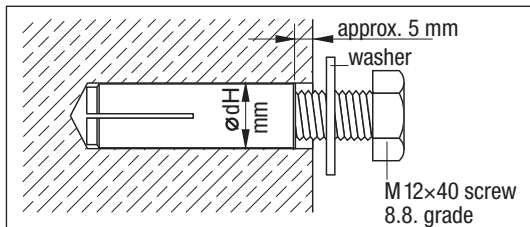
Steel wedges can be used as necessary to secure the cut-out concrete blocks.
Designation: Steel wedge, item no. 41910/1



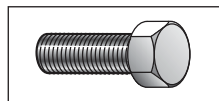
8. Setting up the saw system for various applications

8.1 Fastening to the base material

- The saw system can only be used efficiently and safely when it is anchored rigidly and securely to the base material. We recommend the use of Hilti drilling machines and anchor systems.
- The rail supports and angular cutting plates must be fastened using anchors suitable for the base material. Observe the installation instructions given by the anchor manufacturer for setting the anchors.
- For example, when placing the Hilti HKD M12 metal expansion anchor, a minimum distance of 18 cm to the nearest edge must be observed. As a rule, the concrete dust should be blown out of the hole and the anchors set > 5 mm below the concrete surface.
- On masonry etc., for example, Hilti HIT adhesive anchors or through rods may be used.
- On extremely uneven surfaces, suitable shims or packing pieces must be positioned beneath the rail supports and / or the rail support adjustment screws adjusted accordingly.
- The most frequently used anchor on reinforced concrete:



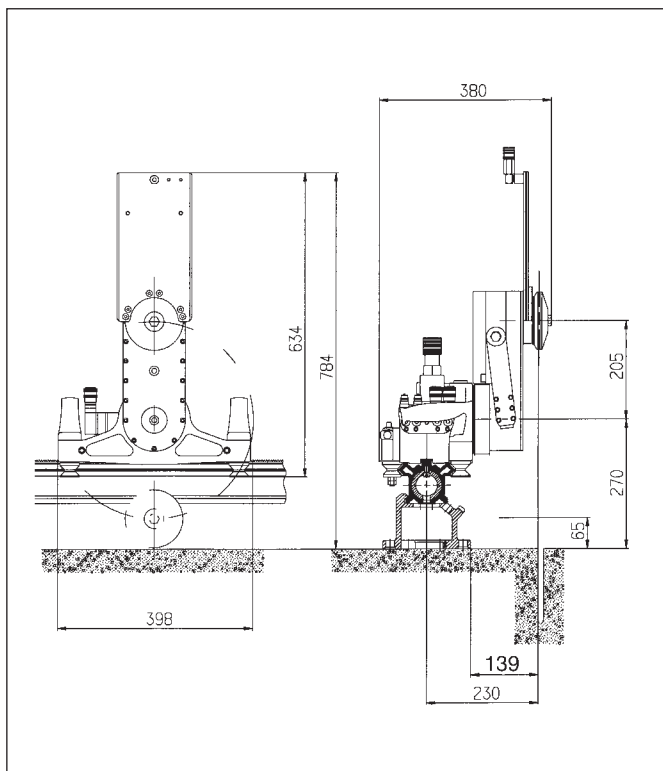
Recommended by Hilti:
HKD-D M12x50, item no. 252961/8, d 16
HKD-E M12x50, item no. 258044/7, d 15



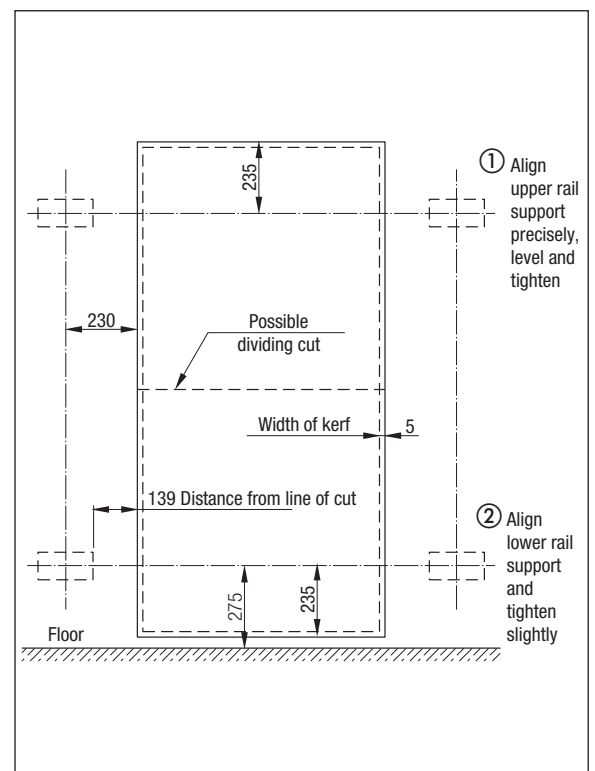
The use of galvanized screws is recommended.

8.2 Positioning the rail supports for standard cuts

DS-TS 30 main dimensions,
Dimensions before beginning cut (mm)

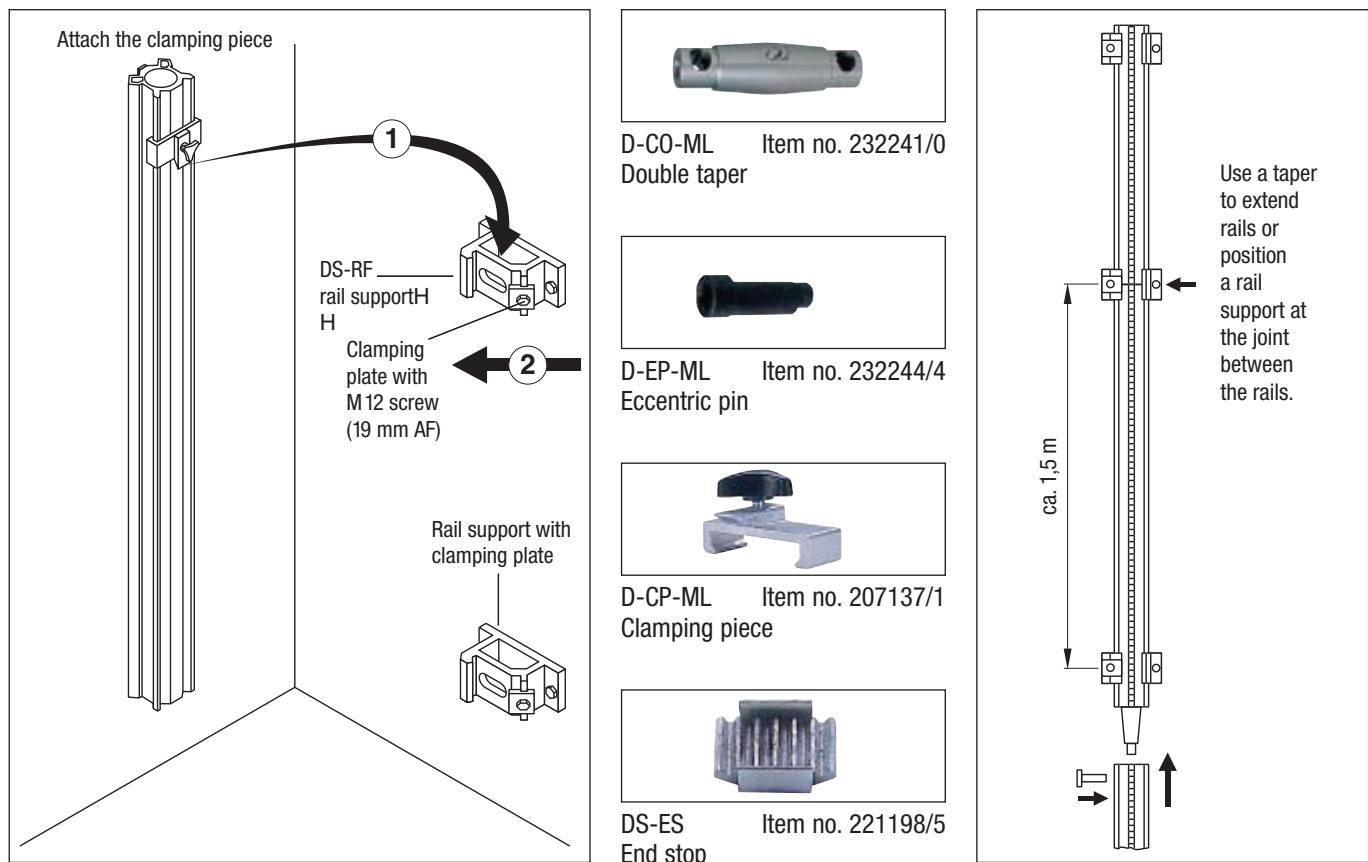


Example: sawing out a door opening



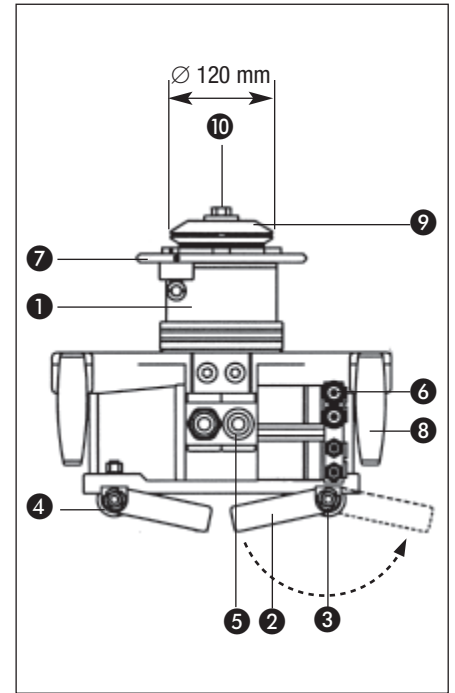
8.3 Mounting the D-R..L rail, clamping piece and rail extension

- D-R..L rails are available in 50, 100, 150, 200 and 230 cm lengths.
- Use the D-CP-M/L clamping piece, item no. 207137/1, when the rail is mounted vertically. Attach the clamping piece to the D-R..L rail and hook it into the upper, previously aligned and levelled DS-RF rail support. ❶
- Position the lower end of the rail in the lower rail support (not yet fully tightened), slide up the clamping plate and tighten the M12 screw. Check the distance from the cutting line and alignment of the rail before fully tightening the screw. ❷
- When mounting the rails, always position the rail support at right angles to the rail and then tighten all rail fastening screws securely.
- All Hilti D-R..L rails can be extended to form a rigid unit by making use of a tapered connector: D-C-O-ML double taper, item no. 232241/0, eccentric pin, item no. 231244/4.
- The recommended distance between rail supports is approx. 1.5 m.
- When a double taper is not available for use, rails can be extended by mounting a rail support at the joint between two rails. In this case, use an end stop to set the correct distance between rail sections.
- D-R..L rails are also used as the column in the DD-750 HY hydraulic drilling system.



8.4 Mounting the DS-TS30-54 and DS-TS30-45 saw head, hydraulic hoses and saw blade

- The saw arm ① should be in the starting position (vertically upwards). Press the release buttons ③ with the thumbs and pivot the grips ② through approx. 180° outwards towards the saw arm. The cam-action rollers ④ on the saw arm side are now in the open position.
- Position the saw head on the rail (rail already fastened securely), engage the carriage with the teeth on the rack and close the cam-action rollers by pressing the lockbuttons with the thumbs and pivoting the grips into the closed position.
- Connect the D-PH 34 hydraulic hose ⑤ (3/4" pressure hose for the motor) and the D-FH 4/14 hose set ⑥ (1/4" control hose) to the saw head.
- Bring the blade guard holder ⑦ into a suitable position on the saw arm. Use the hex. wrench (10 mm AF), item no. 221193/6, to tighten the hex. screw in the centre of the saw arm securely before mounting the saw blade. The holder and the blade guard then remain in the desired position during the entire sawing procedure.
- Carrying grip ⑧



Mounting the saw blade

- Select the saw blade (diameter, Type BC or LC) depending on the concrete, the job to be done and the cutting sequence using saw blades of different diameters.
- Select the correct gear (slow speed - 1st gear / fast speed - 2nd gear).
- Position the saw blade, observing the correct direction of rotation, on the drive hub of the saw arm.
- Fit the special blade flange ⑨ and the special screw ⑩ M12×25 (10.9 grade), item no. 221343/7.
- Rotate the blade slightly so that the countersunk holes for fastening the blade for flush cutting are positioned BESIDE the 6 water grooves.
- Use the 19 mm AF ring wrench to tighten the special M12 screw securely.

8.5 Instructions for handling hydraulic hoses and hydraulic couplings

- Always clean the couplings with a cloth before connecting. Turn the securing ring on the coupling after the click is heard.
- To ensure reliable operation and extend the life of the entire system, it is important that all hydraulic couplings are cleaned daily.
- Do not leave hydraulic couplings lying in the dirt and do not knock them against concrete surfaces. Avoid dragging hydraulic hoses over sharp edges.
- After transporting all modules to the workplace, the hydraulic unit should be positioned correctly and the hydraulic hoses connected to the unit immediately. In this way, no pressure can build up in the hoses even when directly exposed to the heat of the sun.
- If the hydraulic hoses cannot be connected, try to relieve pressure in the system by operating all valves (controls). Alternatively, the D-PRT pressure release valve can be used to release the pressure. The small quantity of oil which escapes should be caught in a cloth.
- Before disconnecting couplings, first turn the locking sleeve until it engages in the “open” position.



D-PRT FH 1/4" pressure release valve



D-PRT FH 3/4" pressure release valve

8.6 Blade guard

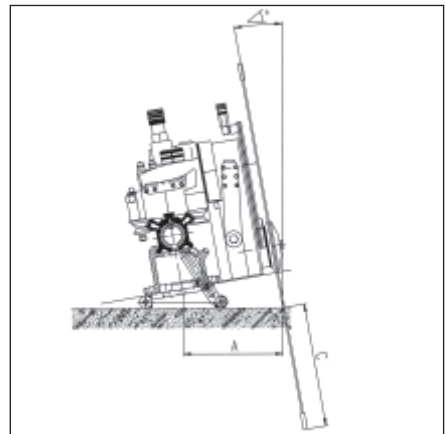
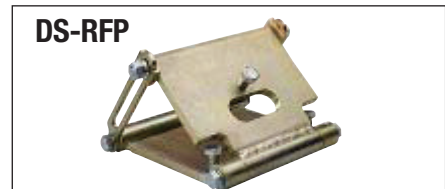
- Always ensure that the BS-BG blade guard is in place when the saw is in operation. The blade guard is in two sections to permit cutting into corners.
- Thanks to its symmetrical design, the blade guard can simply be turned to permit cutting into a corner to the left or right (or upwards and downwards) without removing the blade from the kerf.
- Use the 10 mm AF hex. wrench, item no 221193/6, to tighten the blade guard holder. The blade guard then always stays in the same position.
- Use the DS-BGF blade guard (open on one side) for flush cutting.



8.7 Using the DS-RFP angular cutting plate

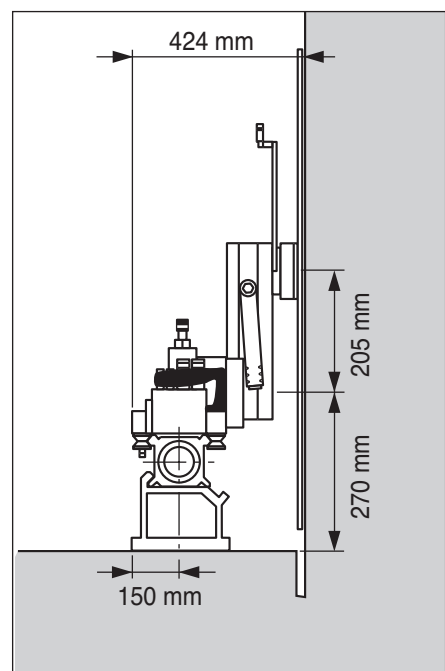
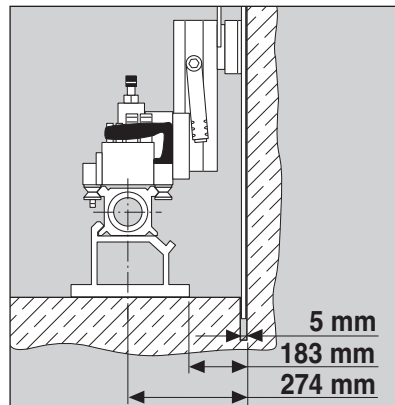
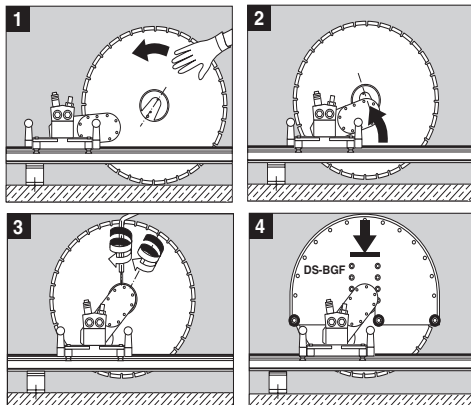
- The angular cutting plate is used for sawing on stairs, in tunnels and for cutting at an angle of up to 45°.
- Align the equipment by using a protractor to measure the angle at the blade when mounted on the saw.
- Due to the angle of the blade, cutting depth is reduced. The blade is also subjected to additional bending loads. Please refer to the following table for setting-up dimensions and cutting depths. **IMPORTANT:** When making angular cuts, make a shallow guide cut and begin cutting gently!

Angle of cut	10°	20°	30°	40°	45°
Diameter	900	900	900	900	900
C	30	24	18	8	3
A	24	26	29	34	38



8.8 Flush cutting using the innovative DS-FCA-110 flush-cutting flange

- As for standard sawing applications, the blade can be fitted after the saw has been mounted on the rail. (Old method: The saw and the fitted saw blade had to be lifted together onto the rail and the saw blade guided into the kerf.)
- Use the new 2-piece DS-FCA-110 flush-cutting flange, item no. 258436/5. It will permit more rapid progress and help prevent back injuries caused by lifting heavy loads.
- The Hilti saw system can be preassembled and positioned precisely, to the millimetre.
- The electric remote control system permits the saw arm to be pivoted effortlessly into position in the saw blade.
- Spindle speeds and the sawing procedure are as for standard applications.



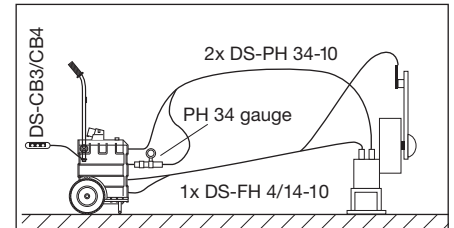
8.9 DS tool set, item no 258393/8

- The tool set contains all the tools necessary for installing and mounting the saw and includes safety-relevant parts, fastening screws, nuts etc.
- Use of the Hilti tool set ensures that the equipment can be operated correctly and safely.
- All tools and parts contained in this set, and their functions and item nos. for reordering, are described in the manual, item no. 258304/5, which is included with the set.



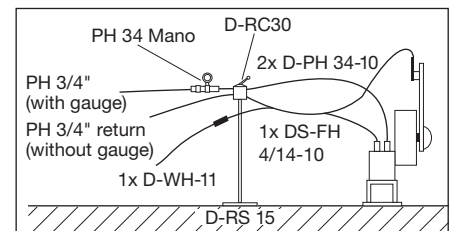
8.10 Connecting and operating the DS-TS 30

- Two PH 34 hoses and one FH 14 hose set are used to connect the saw head to the hydraulic unit.
- All functions can be controlled only by way of the DS-CB 3 / CB 4 electric remote control unit.
- The hydraulic hoses and remote control cable have a standard length of 10 metres.
- This length can be extended, but a drop in performance must then be expected.
- If required, the PH 34 pressure gauge adapter, item no. 310653, can be fitted at the pressure feed hose.



8.11 Using other hydraulic units to power the DS-TS 30 saw

- Damage to the DS-TS 30 resulting from use of a hydraulic unit other than the D-LP 30 (LP 20) or D-HP 20 to power the system is not covered by the warranty provided by the Hilti Corporation.
- If you decide to operate the saw, at your own risk, with a hydraulic unit of a type not specified by Hilti, the hydraulic unit used must fulfil the following conditions:
 - Oil flow rate 50–100 l/min.
 - Maximum operating pressure 210 bar
 - Modifications to the DS-TS 30 hydraulic couplings are NOT permitted.
- The user carries the responsibility for ensuring that the control system employed functions correctly.
- The Hilti D-RC 30 remote control unit, item no. 312891/5, may be used. (The stand for this unit is the D-RS 15, item no. 221269/4.)



PH 34
pressure gauge adapter

8.12 Hilti DS-TS saws, saw blade diameters and cutting depths, remaining distances for the DS-TS 30 saw

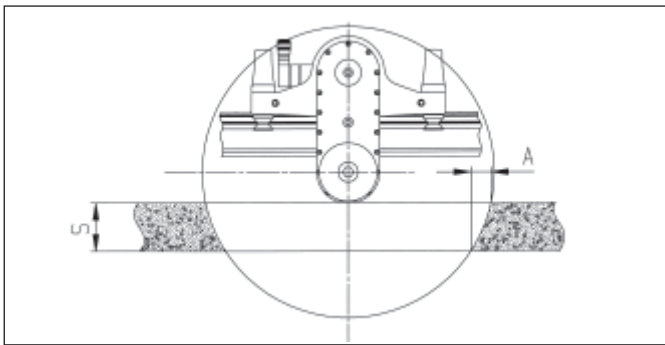
DS-TS cutting depths

Saw blade type DS-B Pitch circle 110 mm	DS-TS 15 T (cm)	DS-TS 20 T (cm)	DS-TS 22/C T (cm)	DS-TS 30 T (cm)
500 mm dia.				⊗ × m
600 mm dia.	● 24	● 23	● 23	○ 23
700 mm dia.	● 29	● 28	● 28	○ 28
750 mm dia.	●* 32	● 31	● 31	○ 31
800 mm dia.	● 34	●* 33	●* 33	● 33
900 mm dia.	○ 39	● 38	● 38	●* 38
1000 mm dia.		● 43	● 43	● 43
1200 mm dia.			● 53	● 53
1500 mm dia.				● 68
1600 mm dia.				● 73

* Largest initial diameter, ● Main application, ○ Possible application

⊗ 500 mm dia. drive pulley for the Hilti DS-WSS 30 wire saw system, unlimited cutting depth in metres (m)

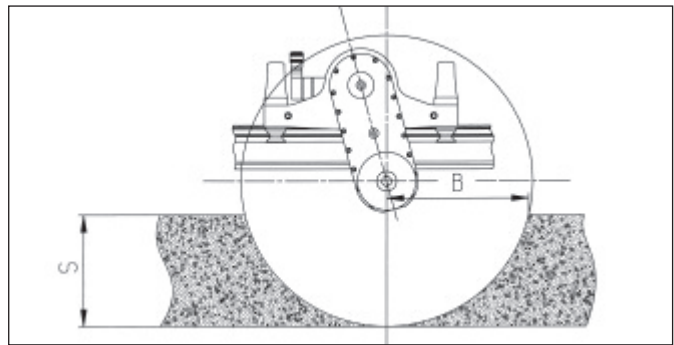
TS 30 remaining distances



TS 30 remaining distance A (cm)

S (cm)	A 800 dia. mm	A 900 dia. mm	A 1000 dia. mm	A 1200 dia. mm	A 1500 dia. mm	A 1600 dia. mm
20	9	8	7	6	5	4
30	23	18	15	12	9	8
40			31	22	16	15
50				39	25	23
60					40	35
70						56

TS 30 remaining distances

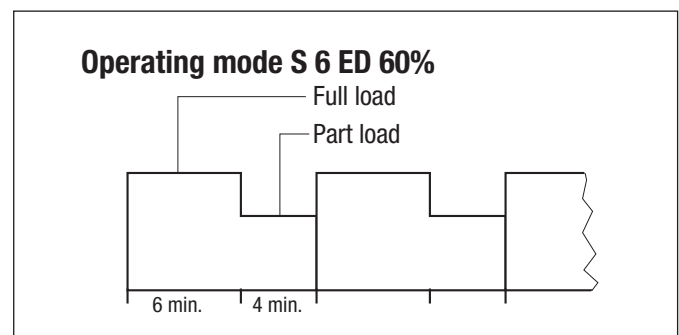
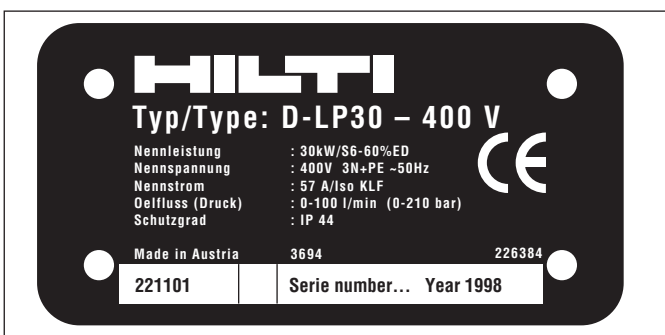


TS 30 remaining distance B (cm)

S (cm)	B 800 dia. mm	B 900 dia. mm	B 1000 dia. mm	B 1200 dia. mm	B 1500 dia. mm	B 1600 dia. mm
20	35	37	40	45	51	53
30	39	42	46	52	60	62
40			49	56	66	69
50				59	71	74
60					73	77
70						79

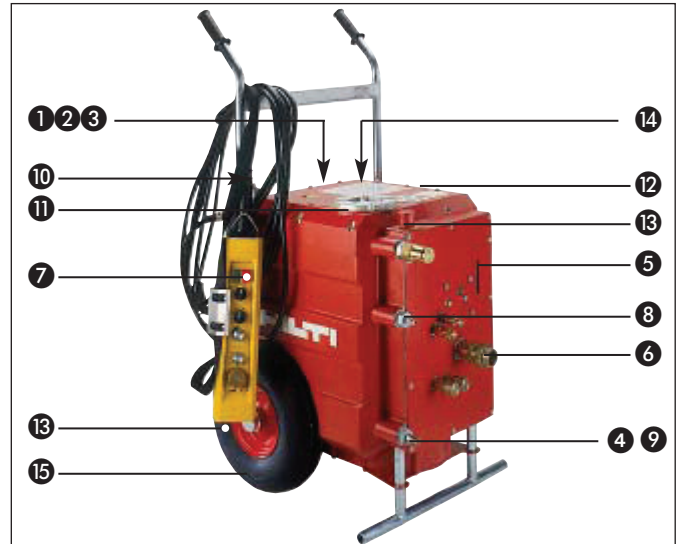
9. D-LP 30 (D-LP 20) hydraulic unit

Rating plate and operating mode



Connections, operation and maintenance

- ① 3-phase 400 V mains supply (380 V, 415 V) or 3-phase 230 V, with appropriate fuse rating: The switch electronics set the correct direction of rotation automatically. Standard plug as per EN CEE 63.
- ② The unit employs a star/delta type switch (Y- Δ). Starting up takes only a few seconds (max. 5 sec.).
- ③ Use an extension cable of adequate cross-sectional area. The unit will not start if the voltage supplied is too low or if one of the phases is too weak.
- ④ The water supply is always connected to the lower coupling on the hydraulic unit. Water pressure should be 4–6 bar, with a flow rate of 10 l/min. (minimum of 5 l/min. if temperature is below 20°C). We recommend that the jobsite water supply connection is equipped with a non-return valve, in accordance with national regulations.
- ⑤ The oil level is visible at the indicator glass or the plastic tube, which also serves as a vent.
- ⑥ Keep the hydraulic couplings clean. When connecting the hoses, turn the securing ring after the coupling engages with an audible “click”.
- ⑦ The DS-CB3/CB4 remote control unit is used to switch on.
- ⑧ The water supply to the saw head is incorporated in the FH14 hose set.
- ⑨ Disconnect the water supply hose after finishing work. The hydraulic unit (oil cooler) then drains automatically.
- ⑭ 230 V socket (max. 10 amps) for connecting a light rotary hammer drill or electric light etc.



Technical data:	D-LP30	D-LP20
Nominal power output:	30 kW	20 kW
Fuse rating, min.:	32 A	32 A
Fuse rating, max.:	63 A	63 A
Electric supply:	3×400 V/50 Hz	3×230 V/50 Hz
Max. operating pressure:	210 bar	210 bar
Oil flow rate:	30–100 l/min.	30–87 l/min.
Weight:	approx. 210 kg	approx. 210 kg
Electric remote control:	10 m	10 m
With extension:	20 m	20 m
Protection class:	IP44	IP44
Saw head:	DS-TS 30–54	DS-TS 30–45
Other equipment powered:	DD-750 HY, DS-WSS30, DS-PS 30, DS-TS 22/C	

9.1 Instructions for maintenance of the hydraulic units.

- Check the oil level ⑤ at weekly intervals and, if necessary, top up with hydraulic oil ⑩, type HLP 46 (Hilti item no. 221201/7).
- **Change the oil and filter ⑪ every 12 months and apply the Hilti maintenance sticker ⑫.** The D-LP 30 (LP 20) has an oil capacity of 35 litres.
- If the hydraulic unit’s power output drops or if the unit fails completely, it can be checked on the spot by a Hilti specialist.
- **Note:** If the voltage of one of the three phases is too low, the hydraulic unit will NOT start! Always check the mains supply first! The fuses should also be checked if the unit does not start. They are located under the cover. Please refer to section 13, fault finding.
- The hydraulic unit will not start as long as the **emergency OFF switch ⑬** is in the pressed-in position.
- If the D-LP 30 does not start or shuts down again immediately, the reason may be that the oil level is too low (top up) or the unit has overheated due to inadequate cooling.
- **Operation in winter or at low temperatures:** The hydraulic unit should be allowed to run for a few minutes until warm (with water running) before a load is applied.
- Do not allow the hydraulic unit to run without cooling water. Always keep the water running when operating at temperatures below zero! Disconnect the water supply hose from the unit when the work is finished - the unit then drains automatically. **Use only water supply couplings of the free-flow type (without automatic valve)** for the water supply to the hydraulic unit!
- Maintain adequate pressure in the tyres of the wheels used for transport (max. 3.5 bar) ⑮.
- If an electric generator is used to power the D-LP 30 (LP 20) hydraulic unit, it must provide an output of at least 40 kVA and must be earthed/grounded. A generator with a power output of approx. 60 kVA is of advantage.

10. Setting up, checking and operating the D-LP 30 (LP 20) / DS-TS 30 (-54 and 55) hydraulic saw system

10.1 Points to check before beginning sawing

- The rail supports and rails must be aligned and fastened correctly (all screws fastened securely).
- The saw head must be mounted without play, the eccentric rollers engaged and the correct gear selected.
- The hydraulic hoses and water hoses must be laid out, connected correctly and the locking sleeves engaged.
- A suitable saw blade must be mounted in the correct direction of rotation, the mounting screws tightened firmly and the blade guard mounted and secured.
- The electric power must be connected and ready, water running, emergency OFF buttons disengaged (pulled out) and the operating controls on the DS-CB 3 / CB 4 electric remote control unit set to the "0" (off) or neutral position.

10.2 Operation of the D-LP 30 (LP 20) using the DS-CB 3/CB 4 remote control

The DS-CB 3 / CB 4 electric remote control unit provides the operator with the optimum means of control at all times. It is quick and convenient and thanks to its 10 metre long cable (additional 10 metre extension cable available, item no, 258301/1), every operation can be supervised and controlled from the ideal, safe position.

Pos. 1: Electric motor ON (0 < I < start < release I)

Pos. 2: Electric motor OFF (I < 0)

Pos. 3: Plunge movement (right/left)

Pos. 4: Advance (right/left or up/down)

Pos. 5: Speed of advance for controls (3) and (4)

Pos. 6: Max. power in amps, depending on mains supply

Pos. 7: Flow rate 0–100 l/min. (motor unit / blade r.p.m.)

Pos. 8: Emergency OFF button

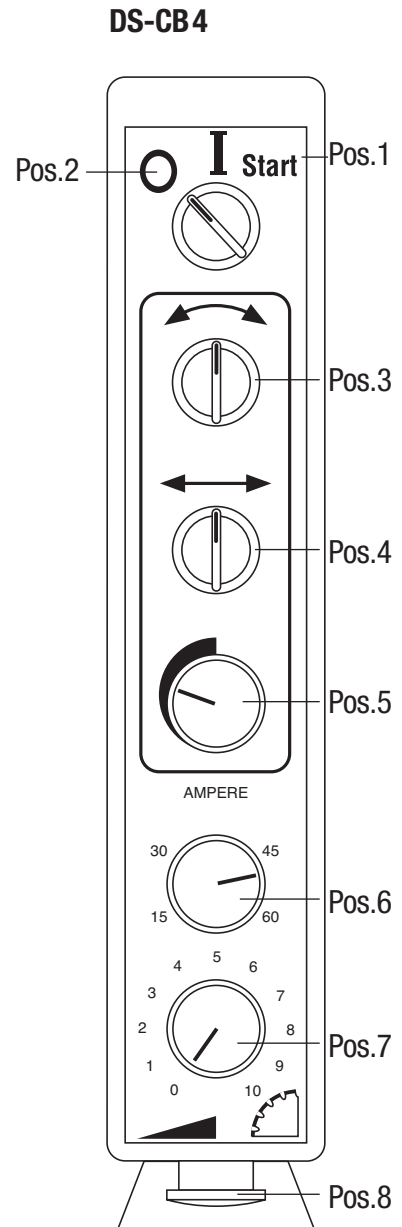
Note: The DS-CB 3 remote control unit has no emergency OFF, but all other functions are the same as with the DS-CB 4 remote control unit.

Procedure

1. Adjust the current (6) to a value between 32 amps and approx. 55 amps (maximum), depending on the mains supply available on the jobsite. This limits the current input, ensuring that the mains supply is not overloaded, thereby causing the fuse to blow during operation. This knob also regulates feed/advance sensitivity. When this knob is turned to the right as far as it will go, the system operates too abruptly, i.e. the advance movement is too quick and the saw blade tends to stall.

When connected to a 63 amp mains supply, DO NOT turn this knob to the right as far as it will go.

2. Knobs (3), (4), (5) and (7) should be set to "0" (neutral position). Switch on the electric motor (2/1) and check that the hydraulic unit switches from star to delta (switching mechanism can be heard to operate, duration approx. 2–5 seconds).
3. Use the potentiometer (7) to adjust the oil flow rate (blade spindle drive motor) according to the blade diameter used and characteristics of the material to be cut (see section 6.2).
4. Begin the plunge movement by rotating knob (3) and holding it in position until the desired cutting depth is reached. The speed of the plunge movement is controlled by knob (5).



5. Advance is controlled by turning the directional switch (4) to the right or left and by the speed control (5). Advance pressure is monitored electronically and reduced automatically when increased resistance is met (e.g. when cutting through steel reinforcement). This ensures that the blade does not stall.
6. The saw can be switched off in critical situations by pressing the emergency OFF button (8) or, in the case of the DS-CB3 remote control unit, by turning the on/off switch to position (2).

10.3 Semi-automatic control of saw head advance

- Once initially set, the system regulates itself, i.e. when heavy reinforcement is encountered, the saw head reduces the advance speed automatically and continues with a “stop and go” effect.
- The operator is not required to adjust the controls constantly and can relax a little while supervising the sawing procedure.
- **Advantages**
Inexperienced operators can begin sawing productively after only a short time and experienced operators can achieve extremely high efficiency.

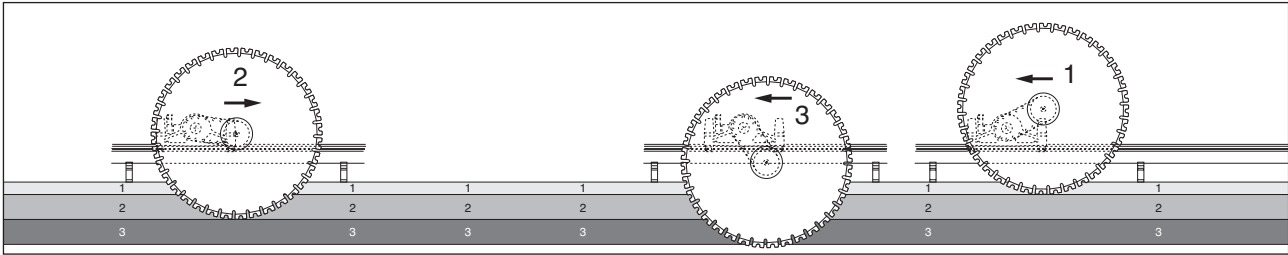
10.4 Important information on operating and controlling the system

- The D-LP 30 (LP 20) DS-TS 30 is a very powerful system. The guide cut should therefore always be made with the saw arm in the “trailing” position and at reduced power.
- A guide cut should be made to a depth of 5 cm (approx. 2.5 cm in London flint).
- Adjust to the optimum / maximum advance speed during the first full cut at the corresponding cutting depth (approx. 15 cm) and a hydraulic pressure of 160-190 bar. Make this adjustment by turning knob (5) to a high setting, while the saw is cutting in a section of the concrete which you consider to represent “normal” conditions, so that it cuts at a steady rate with no “stop and go”. The adjustment should not be made, for example, when cutting a rebar lengthways or in a similar situation.
- Do not make sudden adjustments. Give the system time to react to the adjustments.
- Operating the saw with various electric supply fuse ratings:
The system provides maximum power (= 30 kW input for the LP 30) when connected to a supply with a rating of 63 amps. At 32 amps only about half power is available, but the settings on the remote control unit do NOT change.
- If the blade sticks or stalls:
This happens from time to time. The safety system is activated immediately (the pressure release valve on the D-LP 30 (LP 20) is set to 210 bar). This situation presents no risk to the operator or the saw system. The operator should react by reversing the direction of advance. The saw blade then usually begins to rotate again. If not, the arm must be pivoted to lift the blade out of the kerf. These steps should be taken without delay. The blade drive motor should be switched off if it takes longer than approx. 1 minute to free a sticking / stalled blade.
- It is more efficient to make a shallow cut at a faster rate of advance than to cut slowly at great depth.
- The pressure gauge (item no. 310653/1) can be fitted to the pressure circuit if required.

10.5 Starting the saw system and beginning the sawing procedure

- Adjust the amp control knob (6) to 32 or approx. 55 amps, (depending on the mains supply).
- Start the electric motor by turning the switch (2/1). Wait until the motor switches from star to delta (audible) before operating any other controls.
- Using the advance direction control knobs (3) and (4), bring the saw into the starting position while adjusting the advance speed (5).
- Switch on the water supply and adjust knob (7) until the saw blade motor is running at the appropriate speed.
- Begin the plunge movement (knobs 3 and 5) and bring the blade to the depth of the guide cut. Continue the guide cut (using knobs 4 and 5) at reduced pressure (approx. 100 bar).
- Keep your eye on the pressure gauge if necessary.
- Make subsequent cuts at full power (approx. 160-190 bar) using knobs (3), (4) and (5). Adjust the advance control (5) for optimum advance speed.

- After a guide cut ❶ has been made with the saw arm in the trailing position, subsequent cuts can be made with the arm in the leading position ❷ or trailing position ❸, as required.



10.6 Ending the sawing procedure

- When the concrete has been cut through, raise the blade out of the kerf while it is still rotating, turn the water off, stop the motor and bring the saw head to a suitable position on the rail.
- Set all knobs on the remote control unit to the “0” (neutral) position.
- Switch off the hydraulic unit at the on/off switch (turn the switch to position (2) = “0”)
- The on/off switch (1/2) must also be returned to the “0” position if the emergency OFF button has been used to switch off the hydraulic unit.

11. Dismantling the saw system

11.1 Dismantling the saw system

- Secure the block of concrete you have cut. Use steel wedges when necessary.
- Clean the equipment by spraying with water. Dry the parts with a cloth.
- Remove the blade guard, blade and other modules (following the assembly instructions, but in the reverse order).
- Secure the block of concrete or carefully withdraw it from the hole and make arrangements for its transport.
- Cord off the opening so that it presents no hazard to third parties.

12. Care and maintenance

12.1 Maintenance of the hydraulic unit - see section 9

- Change the oil every 12 months. The service reminder sticker on the cover of the hydraulic unit indicates when the next service is due.
- High-pressure or steam cleaning systems should NOT be used to clean the hydraulic unit.

12.2 Maintenance of the DS-TS 30 saw head

- The saw head basically requires no maintenance (Exception: lubrication of the cam-action roller bearings at the grease nipples). We recommend that it is serviced every 12 months. The service sticker on the blade guard holder indicates when the next service is due.
- The hydraulic couplings should be cleaned daily and checked to ensure ease of operation.
- The guide rollers and cam-action rollers should be kept clean and lubricated with Hilti oil spray.
- Clean the gear change mechanism at the saw blade spindle at weekly intervals and lubricate it with Hilti oil spray.
- These instructions apply to all Hilti saw heads.

12.3 Cleaning with high-pressure and steam cleaning systems

- If a cleaning system of this kind is used to clean the saw head, do NOT direct the jet into openings and at the seals.

12.4 Maintenance of the other saw system modules

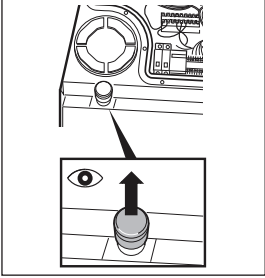
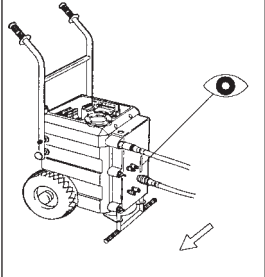
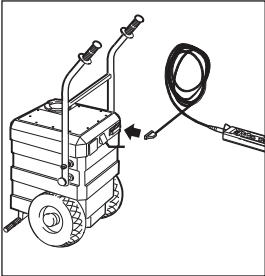
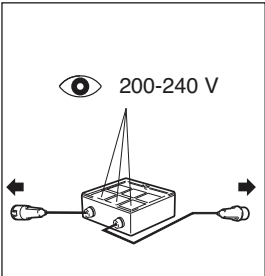
- The D-R..L rails have a transparent anodised finish and can be washed very easily. The internal taper on the rails should be cleaned particularly carefully with a cloth and then lubricated with Hilti oil spray.
- The other modules such as the blade guard, rail supports etc. basically require no maintenance. We recommend, however, that they are cleaned each time immediately after use.
- The hydraulic hoses, and the couplings in particular, should be cleaned daily and checked to ensure ease of operation.

13. Finding and eliminating faults in the D-LP 30 (LP 20) / DS-TS 30 saw system The operator will be instructed by a Hilti specialist.

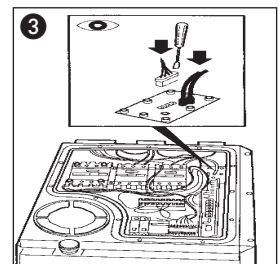
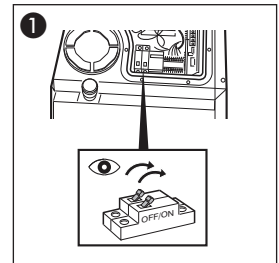
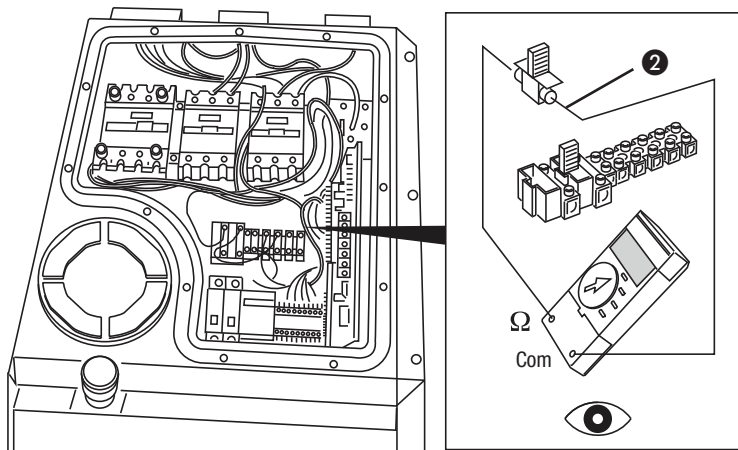
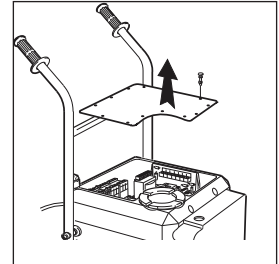
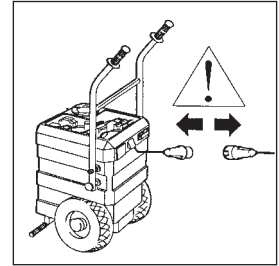
13.1 The hydraulic unit does not start

The situation

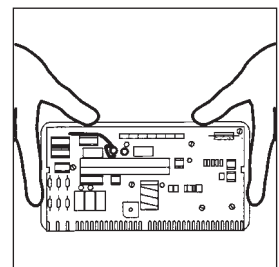
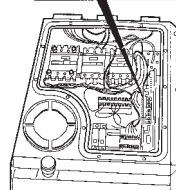
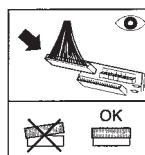
Electric power and water are connected, the DS-CB 3 / CB 4 remote control unit is connected, all hydraulic hoses are connected and the saw system is assembled and ready to begin sawing. The D-LP 30 (LP 20) hydraulic unit refuses to start. All of the points listed below referring to the "LP 30" also apply to the D-LP 20 (3×230 V).

Check	Problem	Possible cause	Solution / action required	
1	LP 30 does not start	– Emergency OFF button is pushed in	– Pull out the emergency OFF button: a) on the hydraulic unit b) on the CB4 control unit	
2	LP 30 does not start	– Too little oil in the tank	– Check the oil level at the sight glass, → tip the LP 30 (LP 20) forwards and switch on – Top up the oil, HLP 46	
3	LP 30 does not start	– Plug / contacts for DS-CB 3 or CB 4 remote control unit	– Check the contacts and clean with a brush if necessary – Possibly check by connecting a replacement CB 3 remote control unit	
4	LP 30 does not start	– No electric power – Voltage of one phase is too low	– Check the mains fuses, at the distribution box / switch on – Fit slow-acting fuse. – Check the 3 phases, they should have about the same voltage for 400 V = 3 × approx. 230 V (Hilti electrobox, 226042/0) – It may be necessary to switch off other power consumers on the same line – Check the extension cable and plug / sockets for faults, eliminate loose contacts – Consult the jobsite electrician	

Check	Problem	Possible cause	Solution / action required
5	LP30 does not start	<ul style="list-style-type: none"> – Circuit breakers / fuses in the LP 30 tripped /blown due to overload – Load greater than 10 amps connected to 230 V socket – Fuse on transformer blown, transformer protection – Loose remote control plug contacts inside the LP 30 – Loose cable connections to the motor 	<ul style="list-style-type: none"> – Disconnect power cable to LP 30 – Use 4 mm hex. socket wrench, item no. 3924/8 to open the cover – Reset 2 amp circuit breaker for electronic control circuit ❶ – Reset 10 amp circuit breaker ❶ Only for appliances ≤ 10 amps – Insert new fuse, type 5×20 mm, DIN 41662, 4,0 amp slow-acting, Spare fuse in unit and in the tool set ❷ – Check and tighten – Check and tighten ❸



6	LP30 does not start or only some saw head functions operate	<ul style="list-style-type: none"> – Printed circuit board loose or not seated properly – Green cable harness at printed circuit board loose or not plugged in correctly 	<ul style="list-style-type: none"> – Check that it is properly seated, plugged in over its entire length and locked at right and left – Check that entire length of cable harness connector is properly plugged in
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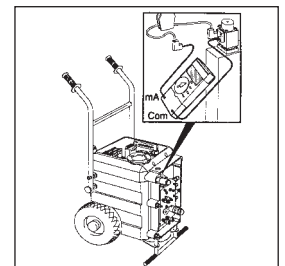
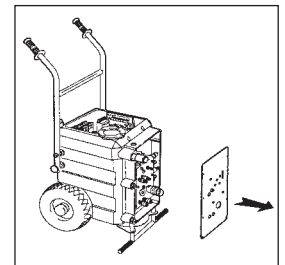


7	LP30 does not start	– Printed circuit board, item no. 242231/9, possibly defective or out of adjustment	<ul style="list-style-type: none"> – Consult a Hilti specialist – Replace the printed circuit board – Use the diagnostic equipment to check the hydraulic unit
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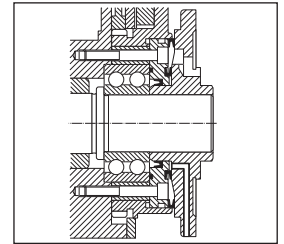
Check	Problem	Possible cause	Solution / action required
8	LP 30 does not start	– Loose cable or cables at the circuit breaker / fuses in the LP 30 electrobox	– Consult an electrical specialist – Check and tighten cable terminals
9	LP 30 does not start	– Hydraulic unit has overheated	– Allow the hydraulic unit to cool

13.2 Other malfunctions

Check	Problem	Possible cause	Solution / action required
10	LP 30 starts but the saw head does not react or does not react correctly	– Hydraulic couplings not fully connected – The belt drive from the electric motor to the pump is defective	– Check the hydraulic hoses, check and engage couplings – Unscrew bottom cover, check drive belt and replace if necessary (Hilti specialist)
11	LP 30 starts but the saw head does not react or does not react correctly	– Electro-hydraulic switching valve(s) sticking	– Unscrew LP 30 front cover (Hilti specialist) – Check the electric plug connections to the 3 valves – Test / move the slider – may be sticking due to dirt
12	230 V socket on LP 30 does not function	– 3-phase mains supply has no neutral conductor – Extension cable has only 4 cores (3 phases and earth)	– Depending on jobsite, take a 5-core cable – Use a separate 230 V extension cable
13	Glass fuse blown	– Switch-on surge, current too high for the fuse	– Replace the glass fuse (5)
14	Hydraulic unit becomes hot	– Extension cable too long and / or core cross section inadequate	– Use extension cable with suitable core cross section (see table on page 11)
15	Oil leaks from hydraulic unit	– Oil escapes at the oil level sight glass / vent tube	– Oil level too high or LP 30 standing or hanging at an angle – Reduce blade motor speed (r.p.m.) slowly and switch off
16	Water in oil, visible when oil (at sight glass) has milky white appearance	– Oil seals in saw head defective	– Check at the vent or by opening the oil drainage screw → Oil clear = OK → Oil white = DANGER, unit must be serviced immediately



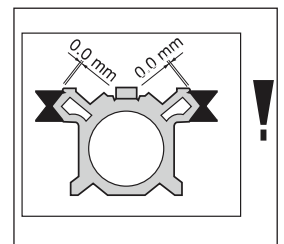
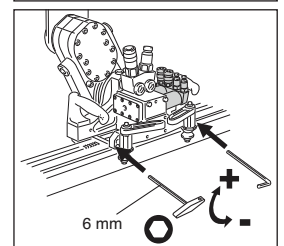
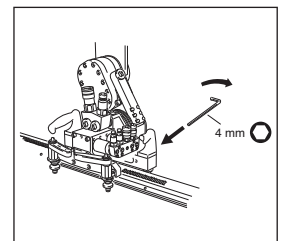
Check	Problem	Possible cause	Solution / action required
17	Water or oil leakage at the saw arm drive flange	<ul style="list-style-type: none"> – Water seal defective – Oil seal defective 	<ul style="list-style-type: none"> – Check at the radial hole in the saw blade flange – Have the saw head serviced









13.3 Hydraulic unit or saw system overheats / drop in performance

Check	Problem	Possible cause	Solution / action required
18	Saw system overheats → Too hot to touch → Saw head “steaming” → Drop in sawing performance	<ul style="list-style-type: none"> – Water supply inadequate, water is warm – Blade not cutting, segments polished 	<ul style="list-style-type: none"> – Water flow rate 10 l/min. – Water flow at least 5 l/min. – The water should be cool (tap water < 20° C) – Connect water supply to lower connection – Sharpen saw blade <ul style="list-style-type: none"> → Use sharpening plate, 51343/2 → Make a cut in abrasive brick or on concrete with very little water → Diamonds must be exposed on the surface of the segments

19	LP/TS 30 saw system → Overheats → Sawing performance drops → Blade wanders off cutting line	<ul style="list-style-type: none"> – Cam-action rollers too tight – Cam-action rollers too loose, play at saw head – Saw blade overloaded, too soft, blade takes on blue colour Signs of friction / scoring on sides of blade – Saw blade motor speed too high – Very high steel reinforcement content, very hard concrete or hard aggregates – Unsuitable saw blade 	<ul style="list-style-type: none"> – Adjust the tension of the cam-action rollers – Mount the rail securely, see page 12 – Do not overload the saw blade, saw at a reasonable cutting depth – When cutting at great depth ≥ 60 cm (blade diameters 1500 /1600 mm), make guide cut using 800 mm dia blade with 5 mm wide segments – Select the correct saw blade specification (for high power) – Run at speed or oil flow rate according to recommendations (see table on LP 30 / LP 20) – Reduce load (advance slightly from time to time or allow blade to rotate at low speed WITHOUT LOAD for 2–3 minutes from time to time) – See saw blade operating instructions
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Check	Problem	Possible cause	Solution / action required
19	Operator	– Saw blade running at too high speed	– Observe recommended oil flow rate = r.p.m.

	1.1 Gear
Ø	 Pos.
1600	6
1500	6
1200	7
1000	8
900	9
	2.1 Gear
Ø	 Pos.
900	5
800	6
750	6
700	7
600	8
	Pos.
	 Max.1
	6

Important safety information

Adhere to the recommended speed (r.p.m.) settings. The peripheral speed of the blade segments then remains within safe limits.

14. Warranty

Hilti warrants that the product supplied is free of defects in material and workmanship. This warranty is valid as long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti operating instructions, all warranty claims are made within 12 months from the date of sale (invoice date), and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used with the product.

In the case of hydraulic systems, the motor units are covered by warranty only when used in the system combinations listed in the operating instructions.

This warranty provides the free-of-charge repair or replacement of defective parts only. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

For repair or replacement, send the tool and/or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organisation provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.

"Verwenden Sie das Produkt in keinem Fall anders, als es diese Bedienungsanleitung vorschreibt."

(D)

"Não utilizar este produto a não ser para os fins a que está destinado por este manual de instruções."

(P)

Geräusch- und Vibrationswerte

Typische A-bewertete Schallpegel des Gerätes sind:
-Schalldruckpegel: 90 dB(A)
-Schalleistungspegel: 103 dB(A)

Schallschutzmassnahmen sind erforderlich.

Ruído e vibração

Caracteristicamente os níveis de ruído A medidos da ferramenta são:
-nível de pressão do som: 90 dB(A)
-nível de potência do som: 103 dB(A)

Usar protecção para os ouvidos.

"Do not use this product in any way other than as directed by these operating instructions."

(GB)

"Non utilizzare questo prodotto in modo improprio."

(I)

Noise and vibration

Typically the A-weighted noise levels of the tool are:
-sound pressure level: 90 dB(A)
-sound power level: 103 dB(A)

Wear ear protection.

Rumore e vibrazioni

Le normali soglie di rumore degli attrezzi sono:
-livello di pressione acustica: 90 dB(A)
-livello di potenza acustica: 103 dB(A)

Utilizzare mezzi individuali di protezione dell'udito.

"Ne pas utiliser ce produit autrement que prescrit dans son mode d'emploi."

(F)

"Gebruik dit product alleen op de wijze zoals beschreven in de gebruiksaanwijzing."

(NL)

Valeurs de bruit et de vibrations

Niveaux sonores pondérés (A) types de l'appareil:
-Niveau de pression sonore: 90 dB(A)
-Niveau de puissance sonore: 103 dB(A)

Il est nécessaire de prévoir une protection acoustique!

Geluids- en trillingsniveau

Gewogen gemiddelde geluidsniveau van de machine:
-equivalente continue geluidsdruk op de werkplek: 90 dB(A)
-uitgestraald geluidsvermogen: 103 dB(A)

Draag gehoorbeschermers.

"No usar este producto de forma diferente a la recomendada en el manual de instrucciones."

(E)

"Anvend kun produktet som beskrevet i brugsanvisningen."

(DK)

Ruidos y vibraciones

Normalmente el nivel de ruido tipo A de las herramientas son:
-Nivel de intensidad de ruido: 90 dB(A)
-Nivel de potencia de ruido: 103 dB(A)

Protector de oídos.

Støj- og vibrationsværdier

Værktøjets støjniveau (A-værdien) er normalt som følger:
-lydtryksniveau: 90 dB(A)
-lydstyrkeniveau: 103 dB(A)

Høreværn påbudt.

"Använd inte denna produkt på annat sätt än vad som föreskrivs i bruksanvisningen."

(S)

"Vöruna skal einungis nota eins og kveðið er á um í notkunarleiðbeiningum."

(ISL)

Buller och vibrationer

Karakteristiska A-vägda ljudnivåer för maskinen är:
-ljudtrycksnivå: 90 dB(A)
-ljudeffektsnivå: 103 dB(A)

Använd hörselskydd.

Hávaðastig- og titringsgildi

Hávaðastig (A-gildi) verkfærísins er venjulega eftirfarandi:
-hljóðþrýstingsstig: 90 dB(A)
-hljóðstyrksstig: 103 dB(A)

Heyrnarlífar fyrirskipaðar.

"Bruk ikke produktet på andre måter enn det som står beskrevet i bruksanvisningen."

(N)

Støy og vibrasjoner

Karakteristisk A-veid støynivå for maskinen er:
-lydtrykknivå: 90 dB(A)
-lydeffektnivå: 103 dB(A)

Benytt hørselsvern.

"Älä käytä tätä tuotetta muulla kuin käyttöohjeen mukaisella tavalla."

(FIN)

Melu- ja värinäarvot

Tyypilliset A-suodatetut laitteen melutasot ovat:
-äänen painetaso: 90 dB(A)
-äänitehotaso: 103 dB(A)

Edellyttää kuulonsuojaimien käyttöä.

ΜΗΝ ΧΡΗΣΙΜΟΠΟΙΕΙΤΕ ΑΥΤΟ ΤΟ ΠΡΟΪΟΝ ΜΕ ΚΑΝΕΝΑ ΑΛΛΟ ΤΡΟΠΟ ΠΑΡΑ ΜΟΝΟ ΟΠΩΣ ΥΠΟΔΥΚΝΥΕΤΑΙ ΣΤΙΣ ΟΔΗΓΙΕΣ ΧΡΗΣΕΩΣ.

(GR)

ΘΡΟΥΒΟΣ & ΔΟΝΗΣΕΙΣ

Σύμφωνα με μέτρηση A- μετρούμενο επίπεδο θορύβου του εργαλείου:

- Επίπεδο πίεσης ήχου: 90 dB(A)
- Επίπεδο ενεργείας ήχου: 103 dB(A)

Χρησιμοποιείτε ωτοασπίδες.

EG-Konformitätserklärung

(D)

Bezeichnung: Hydraulik-Aggregat Seriennummern: XX/0000001 - 9999999/XX
Typenbezeichnung: D-LP30/DS-TS30 Konstruktionsjahr: 1997
Wir erklären in alleiniger Verantwortung, dass dieses Produkt mit den folgenden Normen oder normativen Dokumenten übereinstimmt:
EN 60204-1, EN 55014-1, EN 55014-2 gemäss den Bestimmungen der Richtlinien 73/23/EWG, 89/336/EWG, 98/37/EG

EC declaration of conformity

(GB)

Description: Hydraulic unit Serial no.: XX/0000001 - 9999999/XX
Designation: D-LP30/DS-TS30 Year of design: 1997
We declare, under our sole responsibility, that this product complies with the following standards or standardization documents:
EN 60204-1, EN 55014-1, EN 55014-2 according to the provisions of the directives 73/23/EEC, 89/336/EEC, 98/37/EC

Déclaration de conformité CE

(F)

Designation: Groupe hydraulique No. de série: XX/0000001 - 9999999/XX
Modèle/type: D-LP30/DS-TS30 Année de conception: 1997
Nous déclarons sous notre propre responsabilité que ce produit est conforme avec normes ou documents de normalisés:
EN 60204-1, EN 55014-1, EN 55014-2 conformément aux termes des directives 73/23/CEE, 89/336/CEE, 98/37/CE

Declaración de conformidad

(E)

Designación: Taladoro hidráulico No. de serie: XX/0000001 - 9999999/XX
Modelo/Tipo: D-LP30/DS-TS30 Año de fabricación: 1997
Declaramos bajo nuestra sole responsabilidad que este producto está en conformidad con las normas o documentos normalizados siguientes:
EN 60204-1, EN 55014-1, EN 55014-2 de acuerdo con las regulaciones 73/23/CEE, 89/336/CEE, 98/37/CE

Försäkran om överensstämmelse

(S)

Beteckning: Hydraulaggregat Tillverkningsnummer: XX/0000001 - 9999999/XX
Typbeteckning: D-LP30/DS-TS30 Konstruktionsår: 1997
Vi intygar och ansvarar för att denna produkt överensstämmer med följande norm och dokument:
EN 60204-1, EN 55014-1, EN 55014-2 enligt bestämmelserna i riktlinjerna 73/23/EWG, 89/336/EWG, 98/37/EG

Erklæring av ansvarsforhold

(N)

Betegnelse: Hydraulikkaggregat Seriennummer: XX/0000001 - 9999999/XX
Typenbetegnelse: D-LP30/DS-TS30 Konstruktjonsår: 1997
Vi erklærer herved at dette produktet er i overensstemmelse med følgende normer eller standarder:
EN 60204-1, EN 55014-1, EN 55014-2 i henhold til retningsbestemmelsene i direktivene 73/23/EØF, 89/336/EØF, 98/37/EØ

Todistus standardinmukaisuudesta

(FIN)

Mimike: Hydrauliyksikkö Serjanumero: XX/0000001 - 9999999/XX
Tyypimerkintä: D-LP30/DS-TS30 Suunnitteluvuosi: 1997
Todistamme täten ja vastaamme yksin siitä, että tämä tuote en allalueteltujen standardien ja standardoimisasiakirjojen vaatimusten mukainen:
EN 60204-1, EN 55014-1, EN 55014-2 seuraavien ohjeiden määräysten mukaisesti: 73/23/EWG, 89/336/EWG, 98/37/EG

CE Δηλώση συμδατικότητατος

(GR)

Περιγραφή: Υδραυλική Μονάδα Αριθμός σειράς: XX/0000001 - 9999999/XX
Μοντέλο-Τύπος: D-LP30 / DS-TS30 Έτος Σχεδιασμού 1997
Δηλώνουμε υπευθυνα ότι το προϊόν αυτό είναι σε συμφωνία με τις ακολουθίες τυποποιήσεις ή διατάξεις τυποποίησης:
EN 60204-1, EN 55014-1, EN 55014-2 σύμφωνα με τις προβλεψεις των κανονισμων 73/23/EEC, 89/336/EEC, 98/37/EC.

Declaração de conformidade

(P)

Descrição: Unidade hidráulica Nr. de série: XX/0000001 - 9999999/XX
Designação: D-LP30/DS-TS30 Ano de fabrico: 1997
Declaramos sob nossa exclusiva responsabilidade que este producto cumple as seguintes normas ou documentos normativos:
EN 60204-1, EN 55014-1, EN 55014-2 de acordo com as disposições das directivas 73/23/CEE, 89/336/CEE, 98/37/CE

Dichiarazione di conformità

(I)

Descrizione: Unita' idraulica Nr. di serie: XX/0000001 - 9999999/XX
Modello/Tipo: D-LP30/DS-TS30 Anno di progettazione: 1997
Assumendone la piena responsabilità, dichiariamo che il prodotto è conforme alle seguenti normative ed ai relativi documenti:
EN 60204-1, EN 55014-1, EN 55014-2 in base alle prescrizioni delle direttive CEE 73/23, CEE 89/336, CE 98/37

Konformiteitsverklaring

(NL)

Omschrijving: Hydraulisch aggregaat Seriennummer: XX/0000001 - 9999999/XX
Type-aanduiding: D-LP30/DS-TS30 Constructie-jaar: 1997
Wij verklaren op eigen verantwoordelijkheid dat dit produkt voldoet aan de volgende normen of normatieve documenten:
EN 60204-1, EN 55014-1, EN 55014-2 volgens de bepalingen van de richtlijnen 73/23/EEG, 89/336/EEG, 98/37/EG

Konformitetserklæring

(DK)

Betegnelse: Hydraulikkaggregat Serien.: XX/0000001 - 9999999/XX
Model/type: D-LP30/DS-TS30 Fremstillingsår: 1997
Vi påtager os det fulde ansvar for, at dette produkt er i overensstemmelse med følgende normer og normative dokumenter:
EN 60204-1, EN 55014-1, EN 55014-2 i henhold til bestemmelserne i direktiverne 73/23/EØF, 89/336/EØF, 98/37/EF

Samræmisýfirlýsing

(ISL)

Heiti: Glussakerfi Rað nr.: XX/0000001 - 9999999/XX
Gerð: D-LP30/DS-TS30 Framleiðsluár: 1997
Við tökum fulla ábyrgð á því að vara þessi sé í samræmi við eftirfarandi staðla:
EN 60204-1, EN 55014-1, EN 55014-2, sbr. reglur ESB-tilskipana nr. 73/23, 89/336, 98/37

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