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Press release for the technical press

Part 1: Cordless percussion drill/cordless drill and cordless hammer drill

Part 2: Cordless impact screwdriver

Infoline for reader and journalists

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A guide to drilling

Tips for choosing the right tool for drilling – differences in function

Screwdriving, drilling, percussion drilling and hammer drilling: The cordless drills such as the new Quadrive TDC 18/4, the new Quadrive TPC 18/4 percussion drill and the BHC 18 cordless hammer drill are highly versatile. They provide torque, speed and sometimes impact energy just like corded power tools, yet the drilling quality is not decided by these criteria alone. How do hammer mechanisms work? Which drilling function is suitable for which construction material? How is the construction material determined?

Every tradesperson knows that ease of use is a must on the construction site. Professionals appreciate it when functions and attachments can be changed quickly. This is why Festool has united the CENTROTEC tool chuck and bit holder in one: It is half the size and 80% lighter than comparable chucks. It fits all Festool cordless drills and cordless percussion drills with the FastFix interface, enabling users to change tools in a matter of seconds.

Use and function of the hammer drill

The BHC 18 hammer drill has a pneumatic hammer mechanism, which generates powerful impact energy that works in the axial direction. The resultant rotational movement guides the drilling dust backwards. A hammer drill works at a lower stroke rate, but with significantly greater impact energy than a percussion drill. This enables work to be completed more

quickly. Hammer drilling in concrete requires less force than percussion drilling. Georg von dem Bussche, master carpenter and Festool trainer, recommends the BHC 18 hammer drill for harder construction materials such as concrete.

Use and function of a percussion drill

The hammer action works in the axial direction for percussion drills, too. Here, however, the function is generated by two tooth and notch discs, which come into contact with each other and "slide" on each other. This process transfers hammer actions to the tool chucks, which acts on the material via the drill bit. During percussion drilling, many small hammer actions act in the axial direction of the drill bit. Thanks to the notch discs, a higher stroke rate is generated than with a hammer drill, but the impact energy is lower. To optimise drilling progress, the user can press the cordless percussion drill tightly against the drilling point. But for softer materials/panel materials, von dem Bussche recommends working without using hammer action – such as with fibre cement panels, plasterboard, gypsum fibreboard, stone with porous joints (aerated concrete, pumice concrete) and masonry made of perforated brick.

(Info box)

Tips for identifying the construction material

Construction materials are not easy to identify in a shell construction. As soon as the wall is plastered or covered, the exact construction material is harder to identify. Carrying out a test drill with a small drilling diameter is the way to remedy this situation, making it easy to determine whatever is hidden under the surface:

- Concrete:** Very fine, white to grey drilling dust
- Solid brick:** Red drilling dust
- Aerated concrete:** Light grey, coarse-grained drilling dust
- Perforated brick:** Hollow spaces can be felt when drilling, light red drilling dust
- Plasterboard:** Hollow space behind the boards, fine white drilling dust
- Sand-lime brick:** Fine-grained, sandy white drilling dust

(End of info box)

Cleaning the drilled hole

Cleaning the drilled hole is something that many people often underestimate: It is an important factor when installing mounting elements, since drilling dust in the drilled hole can reduce retention forces by more than 50 per cent. This is why trainer von dem Bussche recommends cleaning the drilled hole before installing further mounting elements. When drilling, the rotational movement of the drill bit guides drilling dust backwards, but fitting a drilling dust nozzle considerably reduces exposure to dust for users. "The D 27-BSD drilling dust nozzle is very practical and clean. With its patented two-chamber system, it ensures dust-free drilling with drill bits up to 12 mm in diameter on floors, walls and ceilings. This keeps the drilled hole clean and dowels benefit from better grip," explains von dem Bussche.

The right choice of drill bit is key

In addition to the hammer mechanism principle, physical force and drilling quality are primarily dependent on the choice of drill bit. Festool offers drill bits and drill bit sets for working with wood, steel and mineral construction materials. For construction materials such as plastic, and especially composites, Festool recommends special drill bits. For hardwood, chipboard, plywood or MDF boards, spiral wood drill bits are perfect. When drilling in wood, the rule of thumb is: The harder the wood and the larger the drilling diameter, the lower the speed – and vice versa. Plastics can be worked using wood drill bits, but steel drill bits are better. For plastics, drilling must be performed particularly slowly and carefully so as to prevent overheating. It is therefore advisable always to keep removing the drill bit and remove chips.

Safe working with the KickbackStop, ear protection and safety glasses

And if any hazards arise when drilling: With the TPC cordless percussion drill and the TDC cordless drill, the electronic KickbackStop reduces the risk of the drill suddenly jamming in the material, thereby minimising the risk of twisting your wrist. In addition, always wear ear protection and safety glasses when drilling.

Animations demonstrate the different functions available

Festool provides animations for different functions for:

TPC 18: https://youtu.be/En-wjv6_ad8

BHC 18: <https://youtu.be/jnAVeEm8pxU>

TID 18: <https://youtu.be/qWHUGX9rzlk>

(See also QR codes in the image preview)

Part 2 contains information about the TID 18 cordless impact screwdriver and screwdriving in general. See also www.festool.co.uk

Total approx. 5.912 characters (not including spaces)

Technical data

	BHC	TDC*¹	TPC*²
Battery voltage	18 V	18 V	18 V
Gears	1	4	4
No-load speed 1st/2nd gear (rpm)	0-1100	0-500/0-800	0-500/0-800
No-load speed 3rd/4th gear (rpm)	-	0-2350/0-3600	0-2350/0-3600
Max. number of strokes rpm	4895	-	57,600
Drilling diameter, wood/steel mm	10/25	70/13	70/13
Drilling diameter, mm	18* ³	-	10* ⁴
Drilling diameter of drill bits max. (mm)	68	-	-
Torque setting 1st/2nd gear	-	2-20/2-20	2-20/2-20
Max. torque, wood/steel, Nm	10/25	50/75	50/75
Tool holder	SDS-plus	-	-
Chuck range mm	-	1.5-13	1.5-13
Battery capacity Ah	4.0	4.0/5.0	4.0/5.0
Weight with 4.0/5.0 Ah in kg	2.5	1.9/2.0	1.9/2.0
EC-TEC motor technology	Yes	Yes	Yes

*¹ The TDC cordless drill is always without hammer action

*² The hammer action can be engaged on the TPC cordless percussion drill

*³ Concrete

*⁴ Masonry/tiles

Image preview



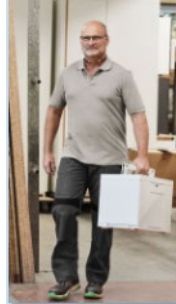




 <p>TPC 18 BHC 18</p>  <p>TID 18 TPC 18 BHC 18</p>	<p>Image: Festool-drill-functions-01.jpg</p> <p>Image: Festool-drill-functions-02.jpg Functions of the hammer mechanisms for TID, TPC and BHC. (TID in Part 2)</p>
	<p>Image: Festool-Georg-von-dem-Bussche.jpg Georg von dem Bussche – Festool trainer and master joiner</p>
	<p>Image: Festool-drill-functions-03.jpg The brushless EC-TEC motor requires no maintenance and is extremely robust and powerful. In combination with the pneumatic hammer mechanism, an enormous force of impact is created, with which drilling in concrete, stone and masonry is fast and powerful.</p>
	<p>Image: Festool-drill-functions-04.jpg The D 27-BSD drilling dust nozzle is very practical, ensuring clean and healthy drilling.</p>
	<p>Image: Festool-drill-functions-05.jpg Drilling with a hammer drill requires less application pressure and force than with a percussion drill.</p>
	<p>Image: Festool-drill-functions-06.jpg A hammer drill works at a lower stroke rate, but with significantly greater impact energy than a percussion drill. This enables work to be completed more quickly.</p>



Image: Festool-drill-functions-07.jpg

The BHC 18 hammer drill has a pneumatic hammer mechanism, which generates powerful impact energy that works in the axial direction.



Image: Festool-drill-functions-08.jpg

A hammer drill works at a lower stroke rate, but with significantly greater impact energy than a percussion drill.



Image: Festool-drill-functions-09_BHC.jpg

Animation of the BHC 18 cordless hammer drill



Image: Festool-drill-functions-10.jpg

New first-class flagship model: The new Quadrive TPC 18/4 cordless percussion drill from Festool – available from specialist retailers since February 2022.



Image: Festool-drill-functions-11.jpg

New first-class flagship model: The new Quadrive TDC 18/4 cordless drill from Festool – available from specialist retailers since February 2022.



Image: Festool-drill-functions-12.jpg

And if any hazards arise when drilling and screwdriving: The electronic KickbackStop minimises the risk of you twisting your wrist if the drill suddenly jams.



Image: Festool-drill-functions-13.jpg

Thanks to its excellent handle ergonomics and short design, the TPC 18/4 fits perfectly in your hand even when it is bursting with power.



Image: Festool-drill-functions-14.jpg

Whether you are working on wood, metal or masonry – thanks to the axial impact feature that can be switched on: The new Quadrive TPC 18/4 cordless percussion drill is extremely durable.



Image: Festool-drill-functions-15.jpg

The new Quadrive TPC or the new TDC are both essential aids on construction sites.

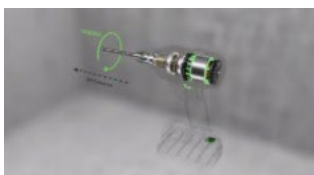


Image: Festool-drill-functions-16.jpg

The hammer action works in the axial direction for percussion drills. Here, however, the function is generated by two tooth and notch discs, which come into contact with each other and "slide" on each other.



Image: Festool-drill-functions-17_TPC.jpg

Animation of the TPC 18 cordless percussion drill.



Image: Festool-drill-functions-18.jpg

A large number of attachments, combined with perfectly matched accessories, offer a wide range of possible uses.



Image: Festool-drill-functions-19.jpg

Faster processes with the CENTROTEC quick-change system and FastFix attachments – all without the need for additional equipment

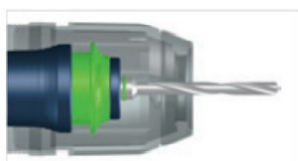


Image: Festool-drill-functions-20.jpg

The CENTROTEC tool chuck unites a chuck and bit holder in one: 50 per cent smaller and 80 per cent lighter than a standard drill chuck. The CENTROTEC quick-change system is perfect for changing tools in a matter of seconds and fits all Festool cordless drills with FastFix interface.

**Image: Festool-drill-functions-21.jpg**

Part 2 describes the functions and usage options for the TID 18 cordless impact screwdriver – as well as additional important aspects of screwdriving.

**Image: Festool-drill-functions-22_TID.jpg**

Animation of the TID 18 cordless impact screwdriver.

Image source: Festool GmbH