

Medical High TorQ Power Tools for medium and large Bone Surgery



Medical HighTorQ Power Tools

It's the extra pow



The perfectly thought-out concept of surgical

Sterilizing battery-powered instruments is a heavy strain on the battery and all the electrical and electronic components. These components require rigorous protection from the impact of sterilization. The Nouvag power tool concept for major bone surgery separates the drive unit with control electronics and motor from the rest of the instrument by means of a hermetically sealed compartment which results in the complete elimination of the need to sterilize these key components. A „non-sterile“ person inserts the non-sterilised Power-Pack into the instrument using a sterile funnel and the „sterile“ person closes the cover over it.

Revolution in Bone Surgery

er that matters!



power tools with power-battery system

The Power-Pack contains the software for every controllable power tool.

This mode of construction drastically extends the sensitive components' service life without significantly restricting the units in their use. The perceived high quality and the award-winning design of the whole power-battery system is an ideal match to the well-known Nouvag philosophy of providing the medical sector with high-utility units, sophisticated technology and lengthy durability.

The heart of the system

The “universal drive” powered by a lithium-ion battery, integrated motor drive, control electronics and software.

It's the extra power that matters!

Motor capsule

The electronic motor built into the Power-Pack controls all the power tools.

Motor coupling

This coupling integrates the connection to the gears, and the respective unit.

Control electronics and software

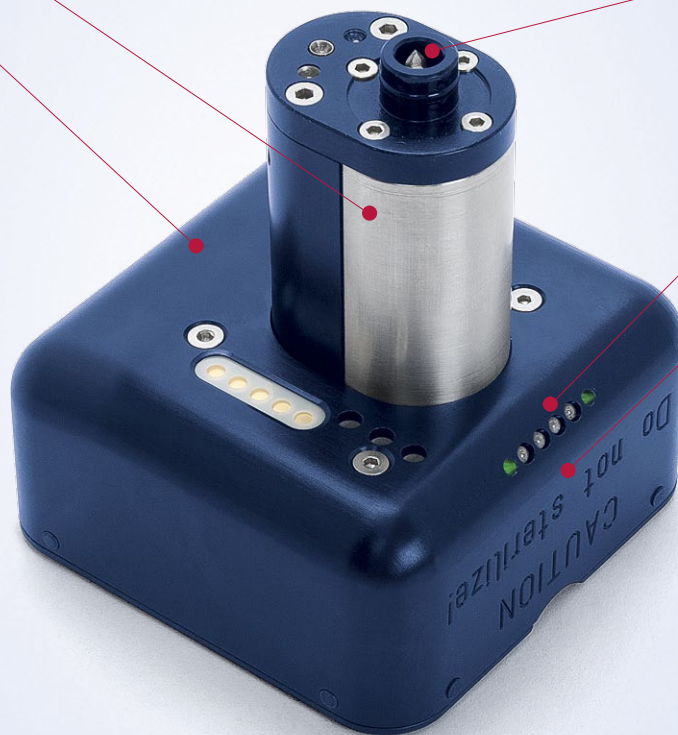
Recognize all the power tools and control them with the corresponding software.

Status indicator

The integrated LEDs show the battery charge and various error messages.

No sterilization

To drastically boost the service life of the batteries, electronics and motor, this intelligent concept eliminates the need for the entire Power-Pack to be subjected to sterilisation.



Universal drive unit (Power-Pack), Ref. 3705

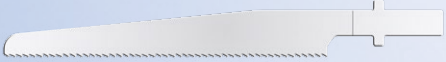
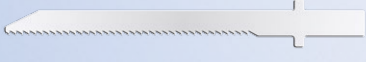
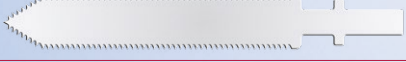
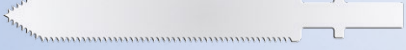
Battery voltage	16,8 V
Battery capacity	2,1 Ah

- The universal drive unit (Power-Pack) is inserted into the power tool through a sterile funnel during surgery.
- The universal drive unit automatically recognizes the various power tools and adjusts to the respective requirements as to power, speed and function.
- The universal drive unit uses the latest high-power density lithium-ion technology with no memory effect and a capacity of 2.1 Ah.
- The status display of clearly visible coloured LEDs enables the exact charge to be read even while operating. In addition, the 4 white LEDs also illuminate the surgery site.
- The folding mounting bracket embedded in the base enables the Power-Pack to be very easily inserted into sterile power tools without jeopardising their sterility.

Jig-saw

The jig-saw can be operated within two speed ranges.



Thickness mm	Working length mm		Reference number
0.80	77.5		KM325R
0.60	60		KM250R
1.00	67.9		KM277R
0.60	67.9		KM275R

Further sawing blade versions available on request.

- For using saw blades with a Stryker connector.
- A stroke of 4 mm for perfect cutting results.
- 2 speed settings available.
- Tool-less quick-action tensioner for inserting the saw blade.
- Lock position

Jig-saw, Ref. 3703

Dimensions, handpiece without attachment	180 x 93 x 196 mm
Weight, handpiece with Power-Pack	1730 g
Infinitely adjustable speed	o - 6000 rpm (Position I) o - 6500 rpm (Position II)
Stroke	4.0 mm
Protection class	B, EN 60601-1
Power supply	Internal rechargeable battery

Drill & Reamer

This drill is suitable for drilling and milling, for which it features two speed ranges.



- Drill with 2 speed ranges 0 – 250 rpm and 0 – 1000 rpm.
- Numerous drilling and milling chucks expand the field of application. See page 15, “Accessories”
- When using the quick-coupling for Kirschner wires, an extension connector can be screwed on to the rear of the unit to protect the user.
- The unit features an oscillation mode.
- Lock position, forward and reverse motion.

Drill & Reamer, Ref. 3701

Dimensions, handpiece without attachment	162 x 93 x 198 mm
Weight, handpiece with Power-Pack	1850 g
Infinitely adjustable speed	0 – 1000 rpm (drill mode) 0 – 250 rpm (ream mode)
Cannulation	Ø 4.3 mm cannulation
Protection class	B, EN 60601-1
Power supply	Internal rechargeable battery

Universal drill

To be used for every drilling attachment and the Kirschner transfixion wire chuck.



- For everything related to drilling.
- Special Kirschner quick-coupling available for this drill with extension connector.
- Switchable to oscillating mode.
- Lock position, forward and reverse motion.


Universal drill, Ref. 3700

Dimensions, handpiece without attachment	137 x 93 x 197 mm
Weight, handpiece with Power-Pack	1660 g
Infinitely adjustable speed	0 - 1000 rpm (drill mode)
Cannulation	Ø 4.3 mm
Protection class	B, EN 60601-1
Power supply	Internal rechargeable battery

Sternum saw

For thoracic surgery, and particularly for working on the sternum. Protection for internal organs.



Blade thickness		Ref.
0,60 mm		KM97
0,80 mm		KM97A

The working length of the blade is accordingly to the Sternum saw 31 mm.

- Use with a special saw blade which matches the length of the protective bracket.
- Enables very precise cuts and smooth control.
- Ideally suited for use with coolant.
- Tool-free tensioning of the saw blade through the protective bracket.
- Lock function.

Sternum saw, Ref. 3704

Dimensions, handpiece without attachment	217 x 93 x 197 mm
Weight, handpiece with Power-Pack	1750 g
Infinitely adjustable speed	o – 6000 rpm (Position I) o – 6500 rpm (Position II)
Stroke	4.0 mm
Protection class	B, EN 60601-1
Power supply	Internal rechargeable battery

Oscillating saw

Precise working with very little vibrations, in areas where the jig-saw cannot reach.

T* mm	W** mm	L*** mm	Visualization	Reference number
1.00				KMS1310.58R
1.19	13	90		KMS1312.59J
1.27				KMS1313.57S
1.27	17	100		KMS1713.L50
1.27				KMS1913.51S
1.37	19	90		KMS1914.51T
1.19	19	100		KMS1912.L50
1.00				KMS2210.56F
1.27	22	90		KMS2213.57F
1.00	25.4	70		KMS0004.SY
1.00	19	70		KMS0001.SY
1.19	13	70		KMS1312.550
1.00				KMS2510.56B
1.19	25.4	90		KMS2512.55J
1.27				KMS2513.55S
1.37				KMS2514.55T
0.60	27	68		KM519.017
0.60	19.5	68		KM519.012
1.00				EZ1310.M50
1.19	13	90		EZ1312.M50
1.27				EZ1313.M50
1.37				EZ1314.M50
1.19	19	90		EZ1912.M50
1.27				EZ1913.M50
1.37				EZ1914.M50
1.00				EZ2210.M50
1.19	22	90		EZ2212.M50
1.27				EZ2213.M50
1.37				EZ2214.M50

* T: Blade thickness ** W: Working width *** L: Working length
Further sawing blade versions available on request



- Tool-free tensioning of the saw blade by turning the grooved knob.
- The saw blade position is adjustable in 45° steps by turning the whole head through 360°.
- The saw blade can be inserted in 5 different positions to find an appropriate angle for use.
- Lock function.

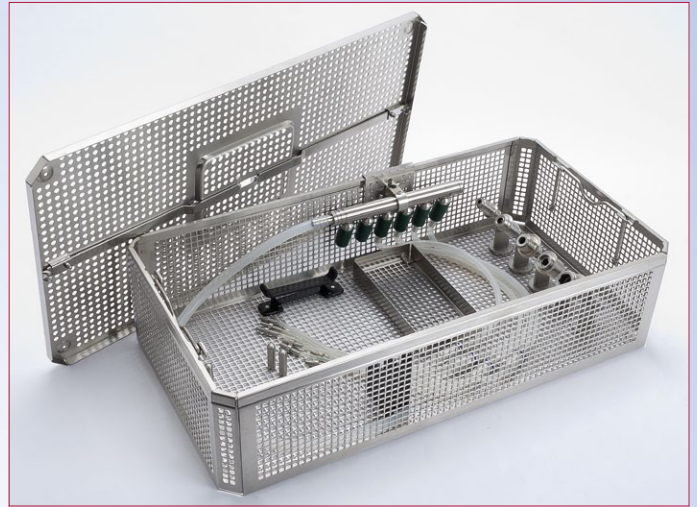
Oscillating saw, Ref. 3702

Dimensions, handpiece without attachment	163 x 93 x 202 mm
Weight, handpiece with Power-Pack	1760 g
Infinitely adjustable speed	0 – 9000 rpm (Position I) 0 – 11000 rpm (Position II)
Protection class	B, EN 60601-1
Power supply	Internal rechargeable battery

Preparation/sterilization



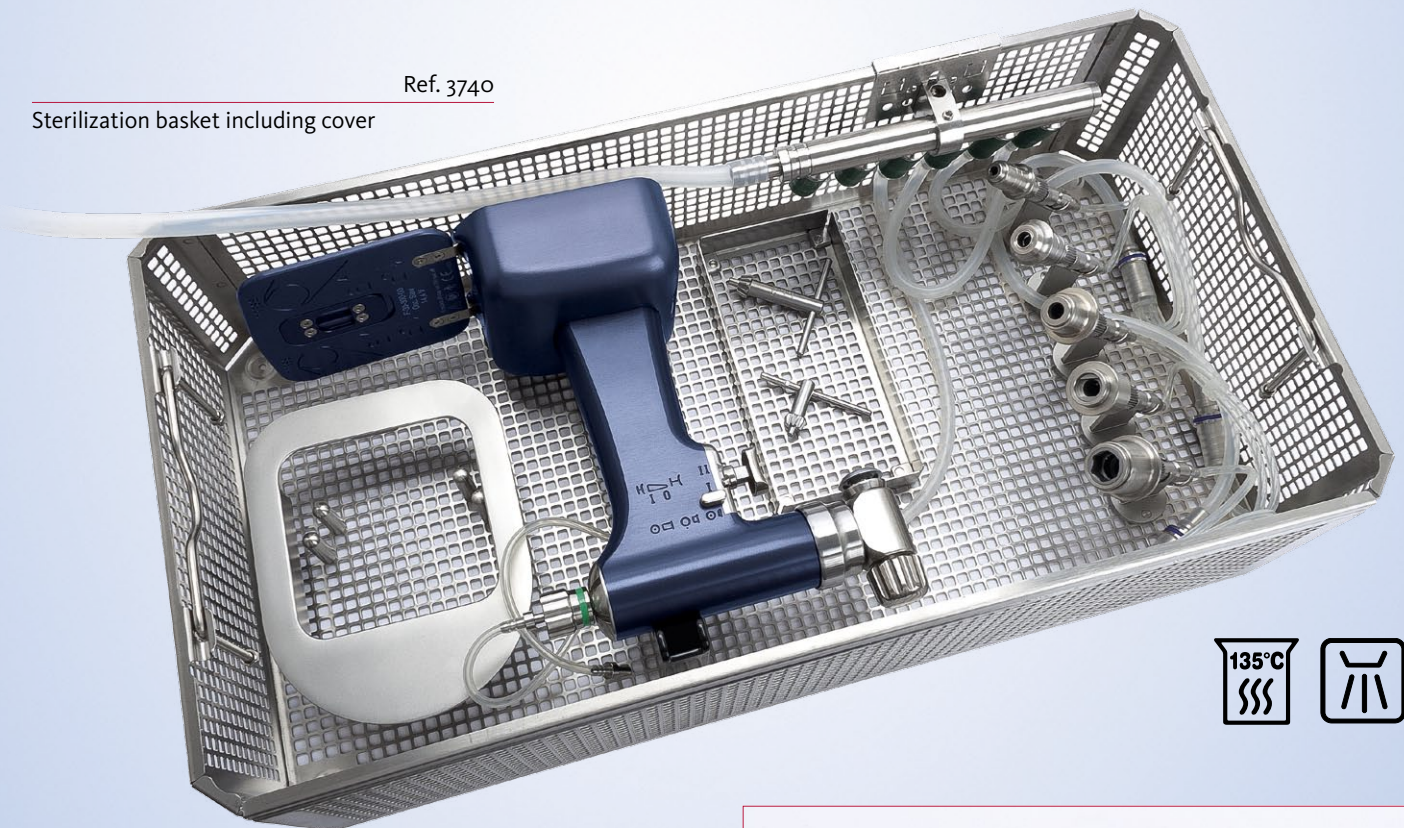
All the areas of this sterilization basket match the power tool system and every part has its place. So the basket can be loaded efficiently and sterilization quality is always guaranteed.



Precise placement of the instruments and the required parts protects surfaces by preventing the parts from sliding around and colliding.

Ref. 3740

Sterilization basket including cover



The rinsing system for the sterilization basket is meant to be used to guarantee that channels are rinsed.

The tubes are mounted directly on the channels of the instruments and chucks to be rinsed by means of the rinsing adaptors.

The color-coded rinsing adaptors each match the colored spot to be found on the instruments.



for Jig-saw and Sternum saw

for all the drills

for all saws and all drills

Red (ref. 3734), white (ref. 3733), green (ref. 3732)

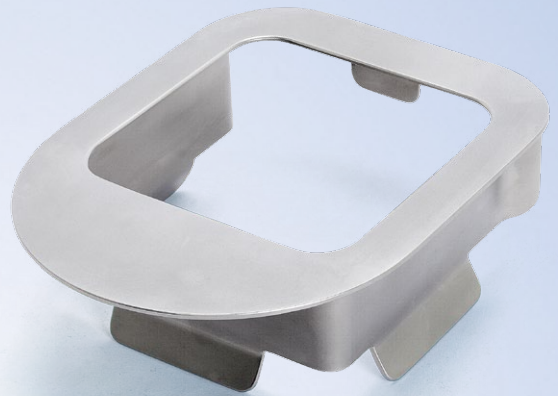
Rinsing adaptors for rinsing channels at sterilization

Hermetically sealed



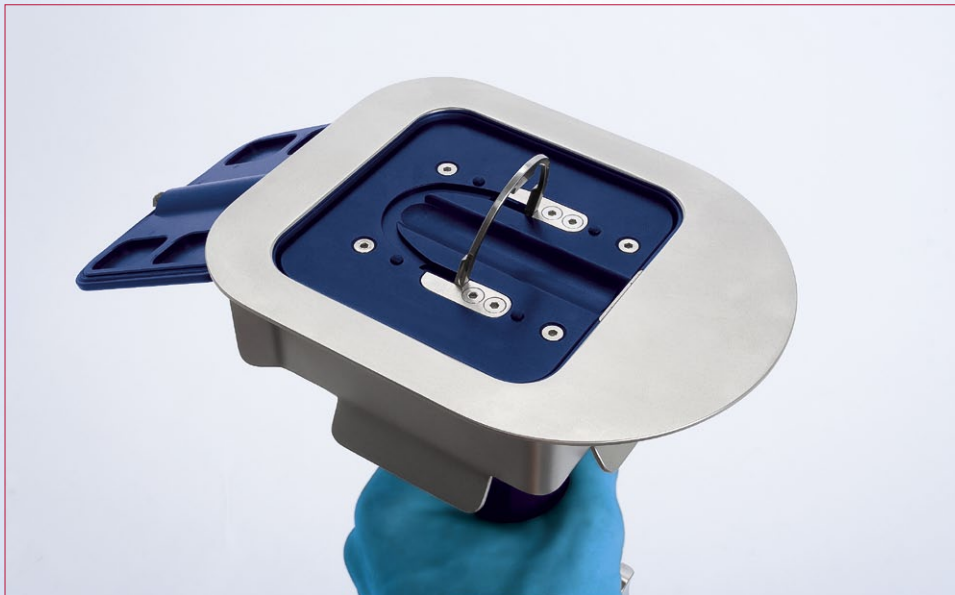
Ref. 3705

Non-sterilizable Power-Pack



Ref. 3725

Sterilize-able sterile funnel



Sterile person



- Open the battery compartment of the sterile power tool and open the cover.
- Put the sterile funnel over the open port of the power tool.



- Shut the cover, close the battery compartment

Non-sterile person



- Using the carrying handle insert the Power-Pack into the aperture of the power tool and then refold the carrying handle back into the recess.
- Remove the sterile funnel.

Maintenance and care



The purpose is to keep instrument maintenance as easy as possible. To facilitate this, use the maintenance stand.

When the instrument is in a suspended position, all the areas requiring lubrication can be easily reached by the care spray's tube.

To maintain the inner surfaces, use the care aids. These eliminate the need to unscrew the instrument.



Maintenance stand

Ref. 3724

Care aids

Instrument care is a key factor in preserving the instruments' function and extending their service life.



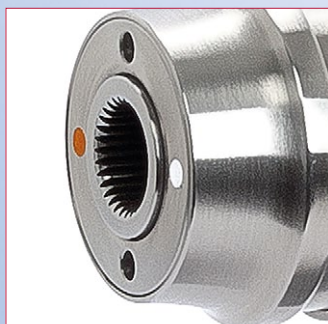
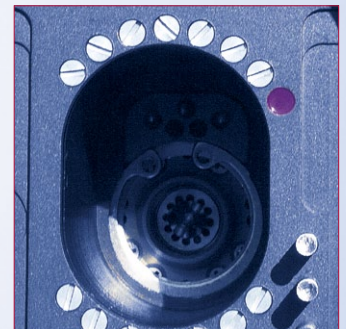
Maintenance adaptors	
Orange, for both drilling machines	Ref. 3729
Purple, universal adaptor for all machines	Ref. 3728
Yellow, adaptor for all saws (front)	Ref. 3731
Blue, adaptor for all saws (rear)	Ref. 3730

To keep things as easy as possible for users and at the same time ensure efficacy, many different work aids have been developed which systematically target neuralgic zones and very much facilitate delivery of maintenance oil.

The individual maintenance adaptors have been color-coded to facilitate their selection. Each instrument is clearly marked with a colored spot to indicate where the adaptor belongs to.

To label the areas of the instruments requiring maintenance, the following 4 colors were used. **Orange, purple, yellow and blue.**

A device featuring a green, white or red spot refers to the work aids which are used in sterilization.



Charger



The charger is not only able to charge the battery; it can and should be the storage site for the battery if it is not being used, as batteries which are not regularly used slowly discharge. As long as the battery remains in the charger, it ensures that the battery is always fully charged.

For daily use and for larger departments there is also a charger available with 2 and 4 battery charging bays. This ensures that there is at least one spare battery at the ready.

A reflective surface on the charger reflects the LEDs on the Power-Pack which always display the current charge.

The ready indicator on the right-hand side of the charger informs whether the unit is plugged in and charging can take place.



Battery charger with 2 bays



Battery charger with 4 bays

	Battery charger with 1 charging bay, Ref. 3706	Battery charger with 2 charging bays, Ref. 3751	Battery charger with 4 charging bays, Ref. 3707
Dimensions, excl. cable	157 x 140 x 79 mm	322 x 140 x 79 mm	636 x 140 x 79 mm
Weight	1740 g	3480 g	6960 g
Type	Lithium-ion battery charger	Lithium-ion battery charger	Lithium-ion battery charger
Input	100 – 240 VAC, 50 – 60 Hz, 0.9 A	100 – 240 VAC, 50 – 60 Hz, 0.9 A	100 – 240 VAC, 50 – 60 Hz, 0.9 A
Output	16.8 VDC, 2.0 A	16.8 VDC, 2.0 A	16.8 VDC, 2.0 A

Accessories



Pin and wire Ref. 3708
Transfixion wire chuck for drill & reamer for wires with a Ø of 1.00 - 4.00 mm.



Pin and wire Ref. 3709
Transfixion wire chuck for universal drill for wires with a Ø of 1.00 - 4.00 mm.



Ref. 3710
Protective sleeve for Kirschner transfixion wire chuck for universal drill and drill & reamer.

Other accessories not illustrated

Ref. 3711
Adaptor for radiolucent angular gear.

Equipment cable
EU standard Ref. 22279
UK standard Ref. 22283
US standard Ref. 22282
AU standard Ref. 22284



Ref. 3718
Jakobs drill chuck with key. Span Ø 4.0 mm



Ref. 3719
Jakobs drill chuck with key. Span Ø 6.5 mm



Ref. 3720
Röhm drill chuck with key. Span Ø 7.0 mm

Ref. 3726
POA cable.

Rinsing adaptor
Miele/Stielco/Webeco Ref. 3736
Belimed Ref. 3737
Maquet/MediKomp/Getinger Ref. 3738



Ref. 3721
Quick-action drill chuck with lock. Span Ø 6.0 mm



Ref. 3722
Quick-action drill chuck. Span Ø 6.0 mm



Ref. 3723
Albrecht quick-action drill chuck. Span Ø 3.5 mm

Ref. 3739
Cleaning brush set.



Ref. 3712
AO attachment for drilling and milling. Cannulation Ø 2.5 mm



Ref. 3713
AO attachment for drilling and milling. Cannulation Ø 4.3 mm



Ref. 3717
Hexagonal attachment with cannulation Ø 4.3 mm



Ref. 3714
Quarter inch coupling with cannulation Ø 4.3 mm



Ref. 3715
Hudson attachment with cannulation Ø 4.3 mm



Ref. 3716
Harris attachment with cannulation Ø 4.3 mm



Ref. 3752
Aesculap DIN adaptor



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