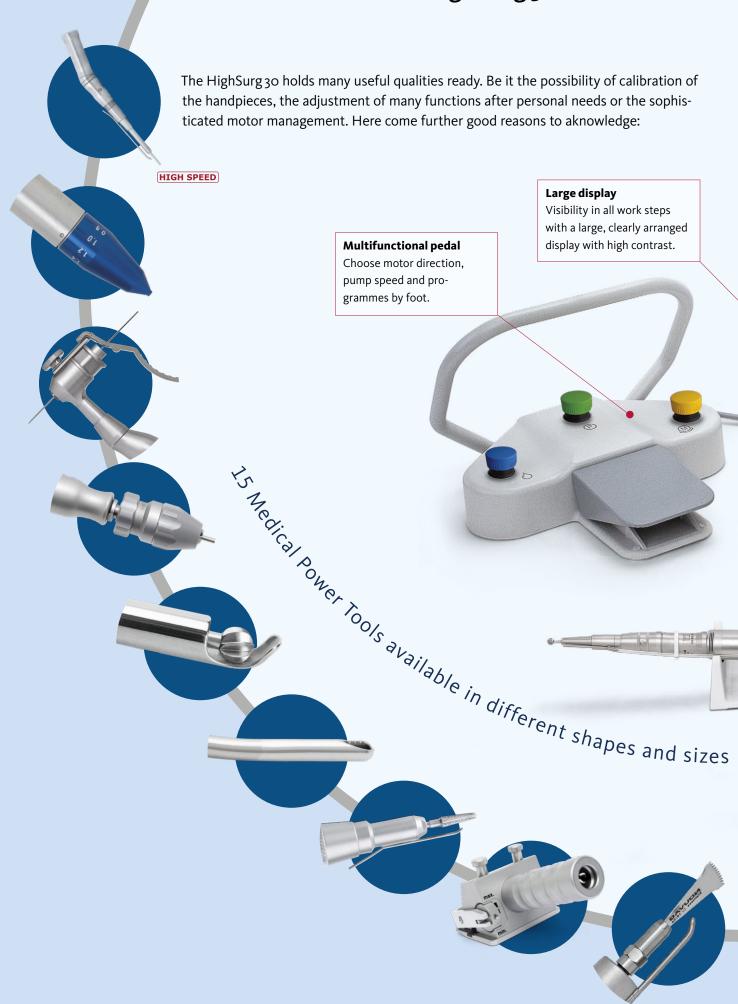
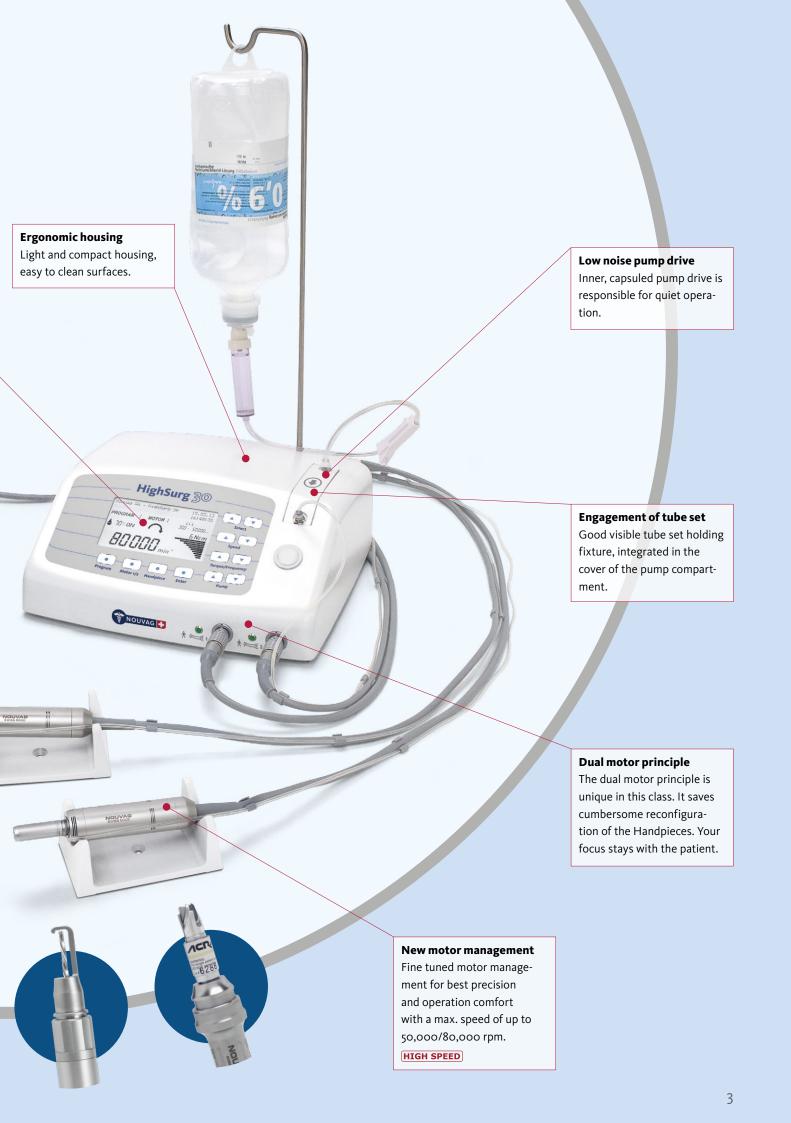


Good reasons for the HighSurg 30





80,000 rpm highspeed Surgical Motor System, developed for multiple indications

As part of the new generation of Nouvag's Surgical Motor Systems the HighSurg 30 was developed for a wide variety of applications, such as ENT Surgery, Neurosurgery, Maxillofacial Surgery as well as Orthopedics and Arthroscopy. The conciliatory treatment of patients by minimally invasive surgical technics in conjunction with endoscopy was the central part in the development of the new HighSurg 30.

A sophisticated, micro processor controlled motor management is responsible for a silky-smooth, low vibration running of any handpiece with speeds of up to 80,000 rpm. Precise and save cuts, as we know them only from high priced Motor Systems are now possible with this further developed Shaver System with a continuous mode as well as an oscillating mode.

The cooling of the instruments is maintained by the built-in, fine tunable peristaltic pump.

A broad range of newly developed Shaver Blades are available for all situations one might think of and form a well matched unified whole with the new HighSurg 30. The user-friendly conception of operation together with the big display, which holds all information ready at a

glance, as well as the real-time display of the revolution per minute and the torque graph, provide safety and confidence in every situation.

To keep your focus on the job we equipped the HighSurg 30 with two motor connections, which spares the rechucking of Handpieces.

With the included pedal you control the pump, the pro-

grammes and the motor. With the tread-plate the revolutions per minute of the motor and the activation of the pump are directed.

The HighSurg 30 is eminently suitable for all areas of Micro Surgery and is convincing by the ideal combination of carefully aligned technologies and materials.





Brushless motor with up to 50,000/80,000* rpm, sterilisable and autoclavable, with a 3 meter power cord.

Electronic Motor 21	Ref. 2099	Ref. 2098*		
Weight (without cable):	280 g			
I-max.:	3	8 A		
Input Voltage:	35 V			
Motor speed:	up to 50,000 up to 80,000			
Max. motor torque:	6 Ncm			
Coupling Electronic Motor:	after INTRA EN3964			
Cable length:	3 m			

^{*} Motor available with up to 80,000 rpm

Example configuration, ENT Surgery Unit

Motor System "HighSurg 30"

The HighSurg 30 is a powerful and user-friendly highspeed surgical Motor System.

Suction Pump "Vacuson 40"

Reliability and efficiency makes this pump a multifunctional usable device. This set configuration is applicable for surgery and for medical applications in general.

Mobile stand "Sanicar"

Technical data, HighSurg 30

Type:	HighSurg 30
Input Voltage	100/115/230 Volt at
(switchable):	50-60 Hz
Motor:	Electronic Motor
Speed range:	up to 50,000 rpm*
Motor torque:	up to 6 Ncm
Shaver speed (cont.)	300 - 6000 rpm
Shaver speed (osc.)	300 – 5000 rpm
Shaver frequenzy:	0.2 – 3.0 sec
Pump capacity:	o – 100 ml/min
Dimensions (W x D x H):	260 x 250 x 110 mm
Weight control unit:	3.7 kg

^{*} Motor available with up to 80,000 rpm



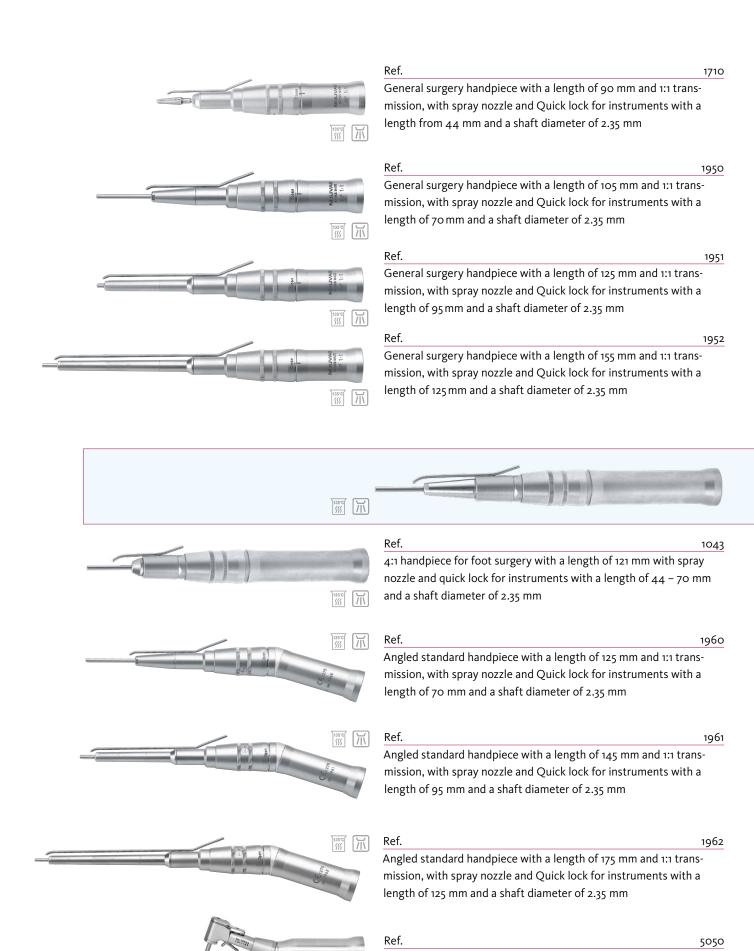
Technical data, "Vacuson 40"

JII 40
Vacuson 40
115/230 Volt at 50-60 Hz
185 Watt
40 l/min
-0.9 bar/686 mmHG
360 x 290 x 280 mm
8.5 kg

Technical data, "Sanicar"

Туре:	Sanicar
Input Voltage (switchable):	230 Volt at 50 Hz
Dimensions (W x D x H):	385 x 400 x 1350 mm
Weight:	18.5 kg

Surgical standard handpieces



1:1 Contra Angle with INTRA EN3964 coupling for drills with a shaft

diameter of 2.35 mm (dental shaft).

Surgical high speed handpieces



Our new developed surgical high speed handpieces for a speed of up to 80,000 rpm are completing the portfolio of handpieces for our surgery motor system HighSurg 30. This series of angled and straight handpieces fit perfectly to the electronic high speed motor 21 that was especially modified and adjusted for this task.



Ref.

1903

High speed Surgery Handpiece for up to 80,000 rpm and 1:1 transmission, with spray nozzle and Quick lock for instruments with a length of 70 mm

Ref.

1904

High speed Surgery Handpiece for up to 80,000 rpm and 1:1 transmission, with spray nozzle and Quick lock for instruments with a length of 95 mm

Ref.

1905

High speed Surgery Handpiece for up to 80,000 rpm and 1:1 transmission, with spray nozzle and Quick lock for instruments with a length of 125 mm

1063 1:3 Multiplier Handpiece, Length 132 mm, for up to 150,000 rpm;

spray nozzle; quick release lock; for instruments with a length of

70 - 95 mm and a diameter of 2.35 mm

Handpiece is used with the 50,000 rpm motor.



Ref.

1906

Angled Surgery Handpiece for up to 80,000 rpm and 1:1 transmission, with spray nozzle and Quick lock for instruments with a length from 70 mm.



Angled Surgery Handpiece for up to 80,000 rpm and 1:1 transmission, with spray nozzle and Quick lock for instruments with a length of 95 mm.

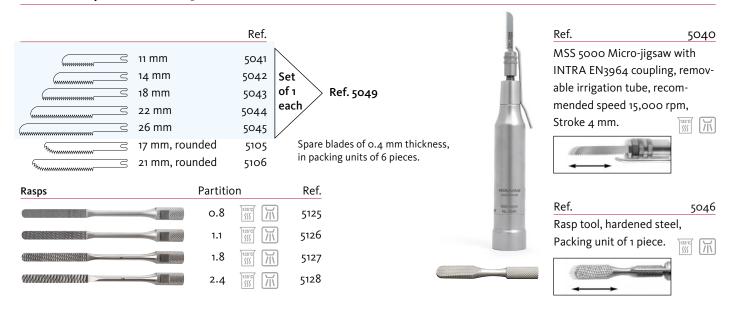


1908

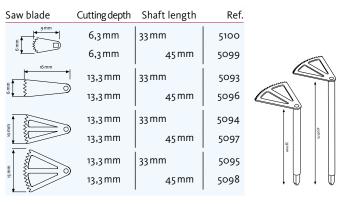
Angled Surgery Handpiece for up to 80,000 rpm and 1:1 transmission, with spray nozzle and Quick lock for instruments with a length of 125 mm.

Surgical Micro Saws

Micro Compass Saw MSS 5000



Micro Oscillating Saw OMS 5000



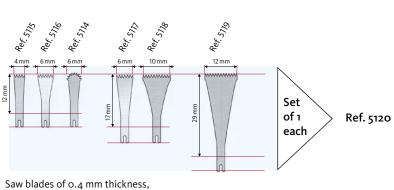
Saw blades of 0.4 mm thickness, in packing units of 1 piece.



Ref. 5090
OMS 5000 Oscillating micro saw with INTRA EN3964
coupling, removable irrigation
tube, recommended speed
15,000 rpm.



Osseoscalpel, Sagittal Saw MOS 5000



in packing units of 6 pieces.



Ref. 5110
MOS 5000 Sagittal Saw
with INTRA EN3964 coupling,
removable irrigation tube, recommended speed 15,000 rpm.





Cranial instruments

Cranial Perforator

The Cranial Perforator is used in a right angle to the cranial arc tangent to make sure to take advantage of the full effect of the automatic locking system while drilling.

Cranial Perforator Handpiece, Ref. 1924 *			M
Weight:	330 g		
Speed range:	from 80 up to 1200 rpm		
Permissable maximal torque:	210 Ncm		
Coupling motor side:	after INTRA EN3964		
Coupling drill side:	Hudson coupling		

^{*} Perforator drill not included in delivery

Cranial Perforator drill DGR-I (Accra-Cut), Ref. 1921		
Drill measurments:	11/7 mm (available on request)	
Drill measurments:	13/9 mm (1921)	
Drill measurments:	14/11 mm (1922)	

Other dimension available on request



Craniotome

The Craniotome is used for opening the cranium. Using the so-called Duraprotector the clamped bone cutter can work on the cranium without damaging the underlying tissue. The Craniotome is used after the cranium has been prepared through at least 3 holes by means of a *cranial perforator*. This involves using the Craniotome to drill the connecting milling lines between the 3 drill holes in order to remove the cranium.

Duraprotector and Drills for Craniotome, available in 3 sizes:



Craniotome incl. Duraprotector medium, Ref. 1926 *			\mathbb{M}
Weight:	130 g		
Speed range:	from 1000 up to 50,000 rpm		
Permissable maximal torque:	6 Ncm		
Coupling:	after INTRA EN3964		

*Without Drill



Skin grafts

Dermatome

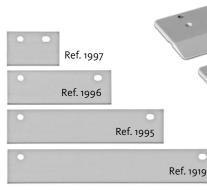


25 mm /50 mm/75 mm/100 mm

The Dermatomes with INTRA EN3964 coupling have a cutting depth of $o-1.00\,\text{mm}$. The recommended speed is 8000 rpm.



Detail of the further developed adjusting mechanism for high precision and safety.



Spare blades

The spare blades are available in packing units with 10 pieces.



Ref. 19871

Reduction Support Base for Dermatome with 75 mm width. Reduction of cutting width 50/25 mm.

New, Reduction Support Base for Dermatome with 100 mm width. Reduction of cutting width 75/50 mm.

Skin Expansion -System (Mesher)

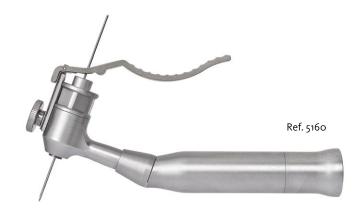
Skin sections that before were gathered with the Dermatome, are fine perforated using the Mesher together with a Mesh Board, so the skin can be protracted in with, like a chain-link fence. The enhanced surface of the Skin example spares the patient further skin removals. The intermediate spaces of the grafted and meshed skin builds up at the healing process of the skin.



Orthopedic Handpieces

Kirschner Handpiece

Kirschner Wires for temporary and permanent fixation of bones and implants. The simplicity of changing wires address the surgeons needs. With the motor system that best suites your needs the process of setting the wires with the Kirschner handpiece gets done easier with an accurate result that gives you confidence and safety.



Surgical Wires				
Length	Ø mm	Ref.		
70 mm	0.8	5013		
70 mm	1.0	5014		
150 mm	0.6	5023		
150 mm	0.8	5015		
150 mm	1.0	5016		
150 mm	1.2	5017		
150 mm	1.5	5018		

Kirschner Contra angle with INTRA EN3964 coupling, 90 mm length, 16:1 transmission, 2500 rpm, for surgical wires of 0.8 – 1.5 mm in diameter.

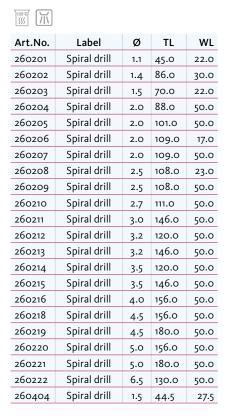


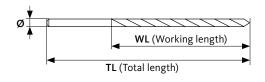
Surgical Wires are available in a box of 10.

Jacobs Drill Handpiece with three-jaw chuck system

The Jacobs Drill Handpiece is a reduction transmission instrument with a quick release 3-jaw chuck system to be used in an orthopedic environment. No additional drill chuck key needed. The instrument

is applied at a low speed range for a short or medium period of application in connection with an appropriate motor system.







Jacobs Drill Handpiece, Ref. 1955			洲
Drill Ø:	o.3 – 7.4 mm		
Weight:	530 g		
Speed range:	80 to 2100 rpm		
Torque:	100 Ncm		
Coupling:	after INTRA EN3964		



HighSurg 11, Shaver Motor System for ENT Surgery

If for your task mostly the shaver function is needed, as in the field of ENT Surgery, than the HighSurg 11 is the right choice. The clearly reduced function range, compared to the HighSurg 30, simplifies the handling without forfeiting the new developed, sophisticated features of the control system.

Focusing on the field of ENT Surgery not only reduces the cost for the new HighSurg 11 compared to its bigger brother the HighSurg 30, but also allowed to optimize the handling of the control unit for the field of ENT Surgery. That's how a modern, clearly structured Shaver System was created, perfectly suitable for its spectrum of tasks. Together with the newly developed ENT Handpieces and the new generation of NOUVAG

Shaver Blades a well-matched unit is the result. Feel the difference in any range of speed due to its quiet, smooth run and the absence of vibrations.

The shaver blades listed on the following pages are available in multiple diameters and as concave and convex versions. The integrated cooling system of the shaver blades sufficiently supply the cutting area and at the same time reduces friction

heat between outer sleeve and cutting tube.

The clamping ring mechanism of the coupling system of the Handpieces enable the Shaver Blades to engage in steps of 60°, which allow the employment of the unit of Motor, Handpiece and Shaver Blade for all thinkable working situations. By using concave and convex Shaver Blades and setting them up in different angels the issue of dead spots is widely solved.

Besides the Shaver function the HighSurg 11 features also a program for 1:1 Handpieces, good for accompanying work stages, so no further device is needed.



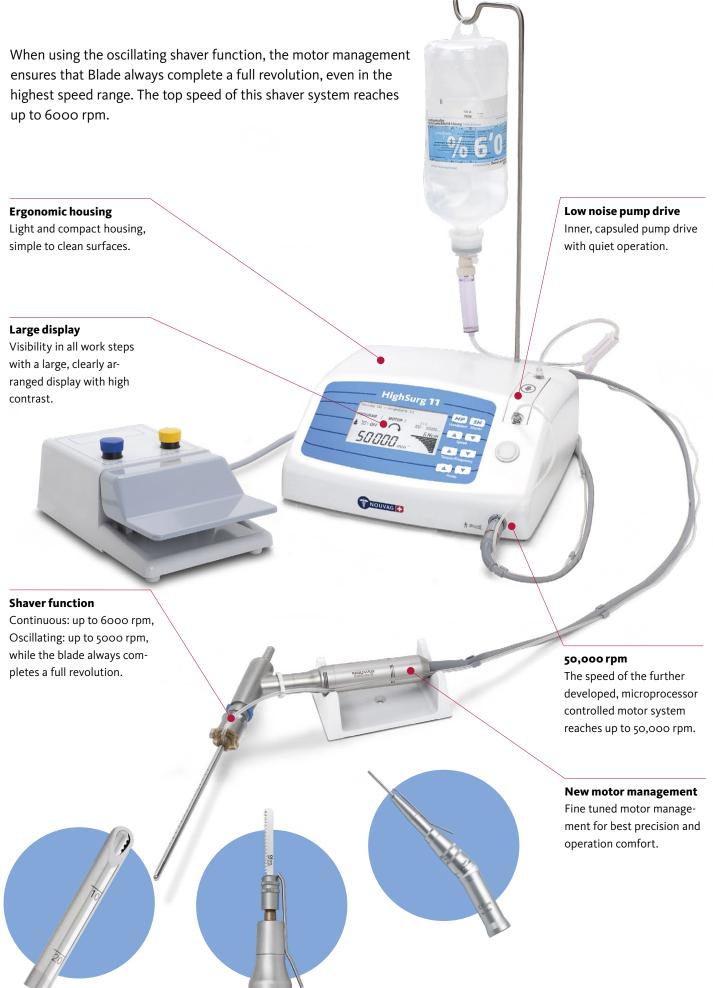
Electronic Motor 21 Ref. 2099



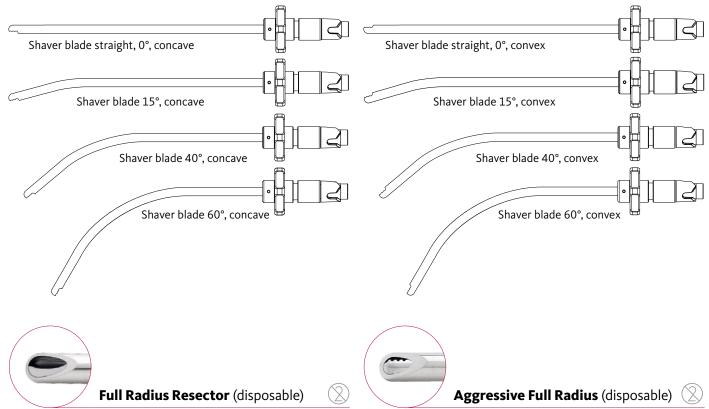
Brushless motor for up to 50,000 rpm, sterilizable and autoclavable with a cable length of 3 meters.

Type:	HighSurg 11
Power consumption:	120 VA
Motor speed:	300 – 50,000 rpm
Shaver frequenzy:	o.2 – 3.0 sec
Max. Motor torque:	6 Ncm
Coupling Motor:	after INTRA EN3964
Length of cable:	3 m
Dimensions (W x D x H)	260 x 250 x 110 mm
Weight, control unit:	3.3 kg

User friendly and powerful



Shaver/Micro Debrider



Disposable Shaver blades, 5 pieces per packing unit

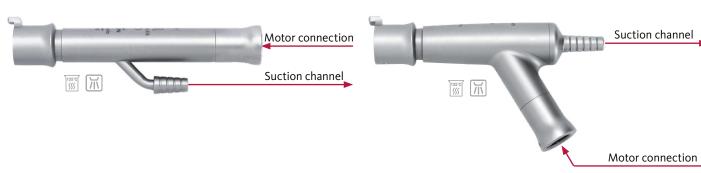
Disposable Shaver blades, 5 pieces per packing unit

Ø r	nm	Position	Angle	length, mm	Ref.
0	2.5	con cave	straight	105	5318
0	2.5	convex	straight	105	5319
	2 5	con cave	straight	105	F20.4
	3.5		_	-	5294
0	3.5	convex	straight	105	5297
0	3.5	con cave	15°	105	5300
0	3.5	convex	15°	105	5303
	3.5	con cave	40°	105	5306
	3.5	con vex	40°	105	5309
	3.5	con cave	60°	105	5312
	3.5	con vex	60°	105	5315
	4.0	con cave	straight	105	5340
	4.0	con vex	straight	105	5341
	4.0	con cave	15°	105	5350
	4.0	con vex	15°	105	5359
	4.0	con cave	40°	105	5352
	4.0	con vex	40°	105	5361
	4.0	concave	60°	105	5354
	4.0	con ve x	6o°	105	5363
	4.5	con cave	straight	105	5324
	4.5	con vex	straight	105	5326
	4.5	con cave	straight	130*	5289
	4.5	convex	straight	130*	5327

nm	Position	Angle	length, mm	Ref.
2.5	con cave	straight	105	5322
2.5	con vex	straight	105	5323
3.5	con cave	_	105	5295
3.5	convex	straight	105	5298
3.5	con cave	15°	105	5301
3.5	con vex	15°	105	5304
3.5	con cave	40°	105	5307
3.5	con vex	40°	105	5310
3.5	con cave	60°	105	5313
3.5	con vex	60°	105	5316
4.0	con cave	straight	105	5344
4.0	con vex	straight	105	5345
4.0	con cave	15°	105	5349
4.0	con vex	15°	105	5358
4.0	con cave	40°	105	5351
4.0	con vex	40°	105	5360
4.0	con cave	60°	105	5353
4.0	con vex	60°	105	5362
4.5	con cave	straight	105	5330
4.5	con vex	straight	105	5331
4.5	con cave	straight	130*	5334
4.5	con vex	straight	130*	5335
	2.5 2.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	2.5 concave 2.5 convex 3.5 concave 3.5 convex 3.5 convex 3.5 convex 3.5 convex 3.5 convex 3.5 convex 4.0 concave 4.0 concave 4.0 convex	2.5 concave straight 2.5 convex straight 3.5 concave straight 3.5 concave 15° 3.5 convex 15° 3.5 concave 40° 3.5 concave 60° 3.5 concave 60° 4.0 concave straight 4.0 concave 15° 4.0 concave 40° 4.0 concave 40° 4.0 concave 40° 4.0 concave 60° 4.0 concave 60° 4.0 concave straight 4.5 concave straight 4.5 concave straight 4.5 concave straight	2.5 concave straight 105 2.5 convex straight 105 3.5 concave straight 105 3.5 concave 15° 105 3.5 convex 15° 105 3.5 concave 40° 105 3.5 concave 40° 105 3.5 concave 60° 105 3.5 concave 60° 105 4.0 concave straight 105 4.0 concave 15° 105 4.0 concave 15° 105 4.0 concave 40° 105 4.0 concave 40° 105 4.0 concave 40° 105 4.0 concave 60° 105 4.0 concave 60° 105 4.0 concave 60° 105 4.0 concave 50° 105 4.0 concave 50° 105 4.0 <t< td=""></t<>

^{*} Possible use in Arthroscopy

^{*} Possible use in Arthroscopy



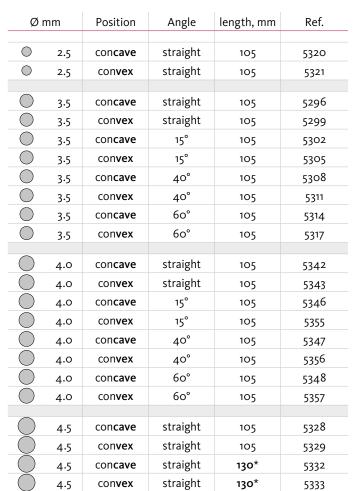
Shaver Handpiece with Shaver blade and Electronicmotor





Tri Spike Cutter (disposable)

Disposable Shaver blades, 5 pieces per packing unit





Trimmer (disposable)

Disposable Shaver blades, 5 pieces per packing unit

Ø r	nm	Position	Angle	length, mm	Ref.
	2.5	con cave	straight	105	5290
	3.5	con cave	straight	105	5291
	4.0	con cave	straight	105	5292



Hooded round Burr (disposable)

Disposable Shaver blades, 5 pieces per packing unit

Øm	nm	Position	Angle	length, mm	Ref.
	5.5	con cave	straight	130	5293

^{*} Possible use in Arthroscopy

TCM 3000 BL for versatile use

Instruments that are not depending on a torque controlled Motor System, can be driven by this very versatile, compact device. The very simple, hence almost self-explaining operation of the TCM 3000 BL made this device a highly coveted, quiet companion in many practises and operating rooms. Its versatility ensures that this device doesn't stand still for a day. The legendary Nouvag quality, made in Switzerland is a guarantor for peak performance and indefatigable assignment, even after many years.

Not just grinding, drilling and sawing is possible with this device, but Skin grafting with a dermatome and the use of a tattooing handpiece for reconstructive surgery.

The high reliability and its balanced price/performance ratio made the TCM 3000 BL a favored choice when versatility and allround talent is required without having to fulfill the high demands of a high-end Motor System.

The TCM 3000 BL is even in the field of spinal surgery a good, and simple to use device.



Type.	1CM 3000 BL
Power consumption:	6o VA
Motor speed:	500 – 40,000 rpm
Max. Motor torque:	6 Ncm
Coupling Electronic motor:	after INTRA EN3964
Cable length, power cord:	3 m
Dimensions (W x D x H)	120 X 180 X 110 mm
Weight, control unit:	1.8 kg

Spinal surgery

Angled Handpiece

Ref.

Angled Handpiece for endoscopic spinal surgery with 1:1 transmission and quick lock system. 135°C //\



Burrs

Ref.

Spinal burr with spherical head design with a diameter of 3 mm and a total length of 355 mm. Packaging unit with 3 pieces, without support sleeve.



Ref.

Spinal Burr diamond with a head diameter of 3 mm and a total length of 355 mm. Available in 3 pieces per packing unit, without support



Ref.

Spinal Burr diamond with a head diameter of 3.7 mm (optional 4.0 mm) and a total length of 355 mm. Available in 3 pieces per packing unit, without support sleeve.





Support Sleeves



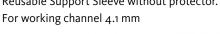
1914 1916

Reusable Support Sleeve without protector.



Reusable Support Sleeve without protector.







For working channel 3.7 mm





1915

Reusable Support Sleeve with distal protector. For working channel 4.1 mm



Drilling, filing, fraising and grinding

Diamond burr



Head Ø	Shank length	Art. No.
o.6 mm	70 mm	2850
o.7 mm	70 mm	2851
o.8 mm	70 mm	2852
1.0 mm	70 mm	2853
1.4 mm	70 mm	2854
1.5 mm	70 mm	2828
1.8 mm	70 mm	2855
2.0 mm	70 mm	2829
2.3 mm	70 mm	2856
2.5 mm	70 mm	2868
2.7 mm	70 mm	2857
3.0 mm	70 mm	2869
3.1 mm	70 mm	2858
3.5 mm	70 mm	2859
4.0 mm	70 mm	2860
4.5 mm	70 mm	2861
5.0 mm	70 mm	2862
6.0 mm	70 mm	2863
7.0 mm	70 mm	2864

Rose burr, stainless steel



Head Ø Shank length Art. No.

44 mm

44 mm

44 mm

44 mm 44 mm

44 mm

2765 2766

2767 2768

2769

2770

2.3 mm

2.5 mm

2.7 mm

3.1 mm

3.5 mm 4.5 mm

0.7 mm	70 mm	2751
o.8 mm	70 mm	2752
1.0 mm	70 mm	2753
1.4 mm	70 mm	2754
1.8 mm	70 mm	2755
2.3 mm	70 mm	2756
3.1 mm	70 mm	2758
3.5 mm	70 mm	2759
4.0 mm	70 mm	2760
4.5 mm	70 mm	2761
5.0 mm	70 mm	2762
6.0 mm	70 mm	2763
7 O mm	70 mm	2764

Head Ø Shank length Art. No.

70 mm

2750

o.6 mm

Head Ø	Shank length	Art. No.
3.1 mm	95 mm	2778
3.5 mm	95 mm	2779
4.0 mm	95 mm	2780
3.1 mm	125 mm	2738
3.5 mm	125 mm	2739
4.0 mm	125 mm	2740

Diamond burr



Head Ø	Shank length	Art. No.
1.4 mm	95 mm	2874
1.8 mm	95 mm	2875
2.3 mm	95 mm	2876
2.7 mm	95 mm	2877
3.1 mm	95 mm	2878
3.5 mm	95 mm	2879
4.0 mm	95 mm	2880
4.5 mm	95 mm	2881
5.0 mm	95 mm	2882
6.0 mm	95 mm	2883
7.0 mm	95 mm	2884

Diamond burr



Head Ø	Shank length	Art. No.
1.4 mm	125 mm	2923
1.8 mm	125 mm	2924
2.3 mm	125 mm	2925
2.7 mm	125 mm	2926
3.0 mm	125 mm	2927
3.1 mm	125 mm	2928
3.5 mm	125 mm	2929
4.0 mm	125 mm	2930
4.5 mm	125 mm	2931
5.0 mm	125 mm	2932
6.o mm	125 mm	2933
7.0 mm	125 mm	2934

Tungsten carbide burr



Head Ø	Shank length	Ref.
3.0 mm	125 mm	2935
5.0 mm	125 mm	2936
7.0 mm	125 mm	2937

o.6 mm	70 mm	2830
o.8 mm	70 mm	2831
1.0 mm	70 mm	2832
1.4 mm	70 mm	2833
1.8 mm	70 mm	2834
2.3 mm	70 mm	2835
2.5 mm	70 mm	2844
2.7 mm	70 mm	2836
3.0 mm	70 mm	2837
3.5 mm	70 mm	2838
4.0 mm	70 mm	2839
4.5 mm	70 mm	2840
5.0 mm	70 mm	2841
6.0 mm	70 mm	2842
7.0 mm	70 mm	2843

Head Ø Shank length Art. No.

Fraise bud



Head Ø	Shank length	Art. No.
5.0 mm	44 mm	2720
6.0 mm	44 mm	2721

Fraise bud, stainless steel



Head Ø	Shank length	Art. No.
5.0 mm	44 mm	2726
6.0 mm	44 mm	2728
7.0 mm	44 mm	2729

Helicoidal drill HSS



Head Ø	Length	Art. No.
o.5 mm	44 mm	2785
o.6 mm	44 mm	2786
o.7 mm	44 mm	2787
o.8 mm	44 mm	2788
0.9 mm	44 mm	2789
1.0 mm	44 mm	2790
1.1 mm	44 mm	2791
1.2 mm	44 mm	2792
1.4 mm	44 mm	2794
1.5 mm	44 mm	2795
2.1 mm	44 mm	2798
1,5 mm	125 mm	2800

Lindemann fraise



Head Ø	Working length	Art. No.
2.3 mm	35 mm	2771
2.3 mm	22 mm	2772
2.3 mm	10 mm	2773

Fraise roller



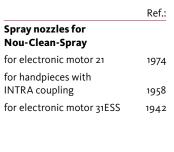
Head Ø	Shank length	Art. No.
4.0 mm	70 mm	2741
5.0 mm	70 mm	2742
6.0 mm	70 mm	2743
7.0 mm	70 mm	2744

Diamond grinding stone



Head Ø	Shank length	Art. No.
7.0 mm	44 mm	2865
35 mm 60 mm	44 mm 44 mm	2866 2867

Essential accessories



Ref.: Tube set with integrated 3 way Contra Angles at the same time. Sterile, disposable tube set.

cock, for HighSurg 30 to cool both

Stericase made of aluminum

for the sterilization and storage of sterilizable items. (465 x 280 x 100 mm)





Ref.: 1984 Nou-Clean Spray For care and maintenance of electronic motors and handpieces.

Tube-Set for HighSurg 11 and HighSurg 30 for cooling a single Contra Angle. 3 meter sterile, disposable tube set.

Nonslip nubby silicone mat

(450 x 270 mm)

4126





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