



Skin Grafting

TCM 3000 BL

Motor system for reconstructive surgery



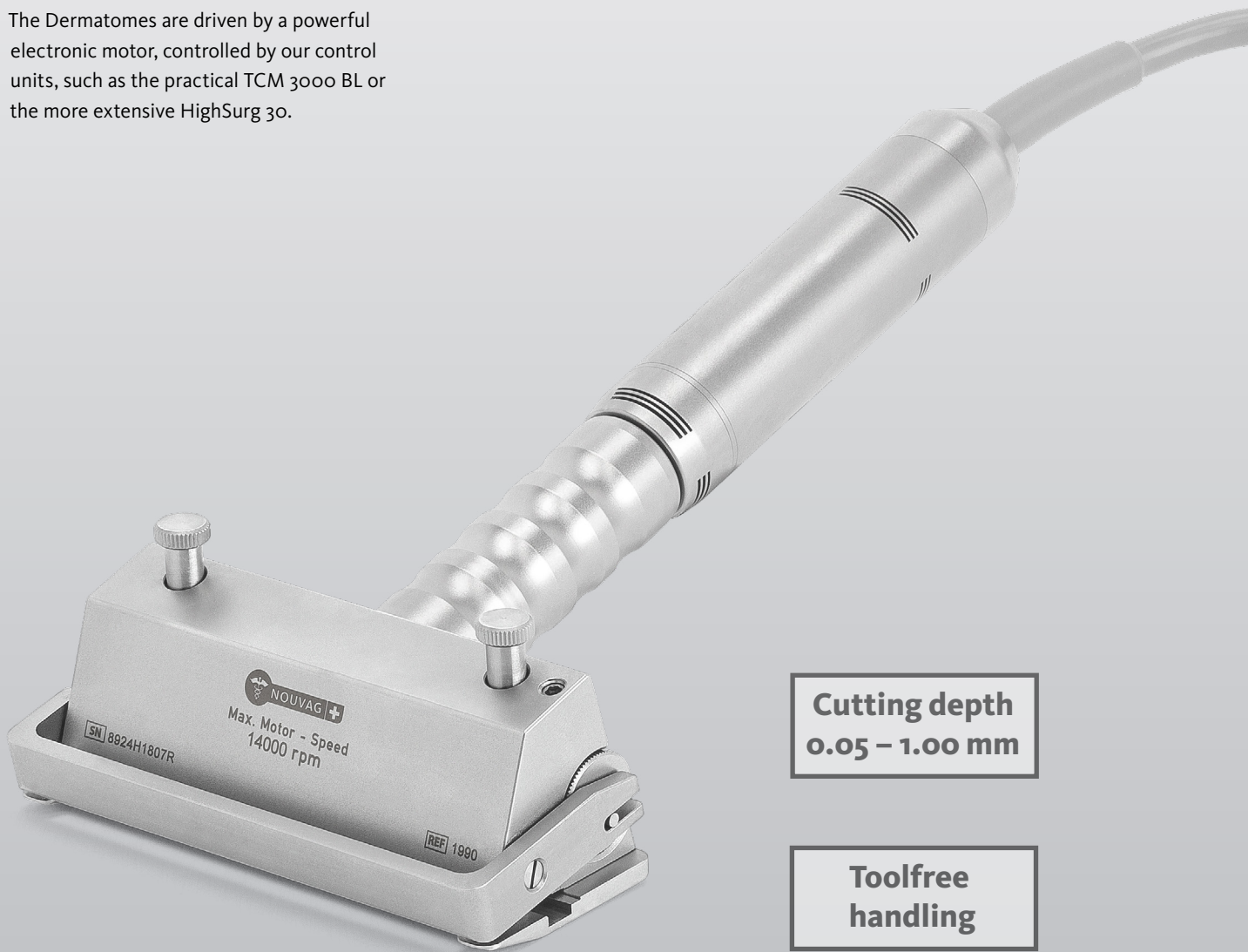
The TCM 3000 BL is a small, practical motor system for drilling, sawing and grinding as well as for skin grafting with the Dermatomes. Its simple, intuitive operation is the outstanding feature of this device.

**Torque controlled
electronic motor**

Dermatome

for skin grafting and burns care

The Dermatomes are driven by a powerful electronic motor, controlled by our control units, such as the practical TCM 3000 BL or the more extensive HighSurg 30.



**Cutting depth
0.05 – 1.00 mm**

**Toolfree
handling**

**Weight
optimized**

Dermatomes in 4 different widths

14 000 rpm

The specific dermatome with the corresponding width is chosen, depending on the body site, where the skin transplant must be taken from.

The blades can be uncovered and replaced without tools only by loosening the two screws attached above. The thickness of the skin sample, between 0.05 and 1.00 mm, is adjusted with the thumbwheel.

The variable base plates allow narrower skin sections to be gathered with a broad dermatome without the need for multiple Dermatomes.



Thumbwheel for the adjustment of the thickness of the skin from 0.05 – 1.00 mm



Accessories and spare parts



REF 19872
Reduction base plate for Dermatome 100
for the reduction of the cutting width to 75 mm.



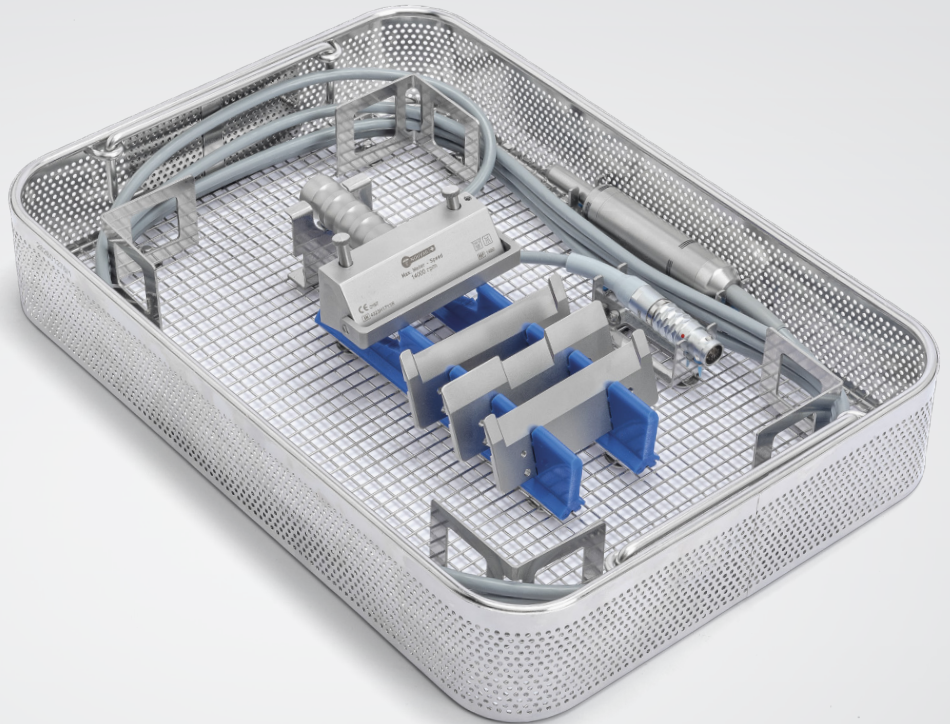
REF 19871
Reduction base plate for Dermatome 100
for the reduction of the cutting width to 50 mm.



REF 19887
Reduction base plate for Dermatome 75
for the reduction of the cutting width to 50 mm.



REF 19886
Reduction base plate for Dermatome 75
for the reduction of the cutting width to 25 mm.



REF 4131
Sterilization and storage basket for your dermatome system. Holder for dermatome handpiece, electronic motor with cable and for reduction base plates.

REF 4133
Lid for Sterilization basket.

STERILE



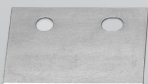
REF 1919
Spare blade for Dermatome 100
PU* 10 pieces.



REF 1995
Spare blade for Dermatome 75
PU* 10 pieces.



REF 1996
Spare blade for Dermatome 50
PU* 10 pieces.



REF 1997
Spare blade for Dermatome 25
PU* 10 pieces.

*PU: Packaging unit

Mesher

Skin expansion system

Skin sections taken with the dermatome are spread on a skin carrier plate that meets the requirements and forced through the Mesher by a pair of rollers with blades and the back pressure roller.

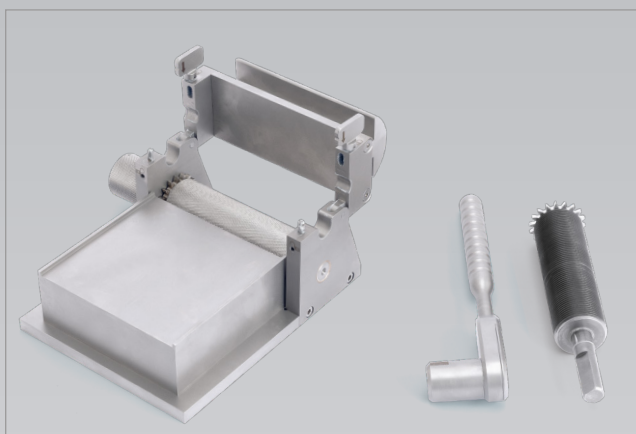
The resulting perforation in the skin section allows it to be stretched in width, according to the specification of the mesh board used.

The gained area enlargement of the skin section saves the patient further skin removal. The open interstices of the transplanted skin sections are built up in the process of growing together.

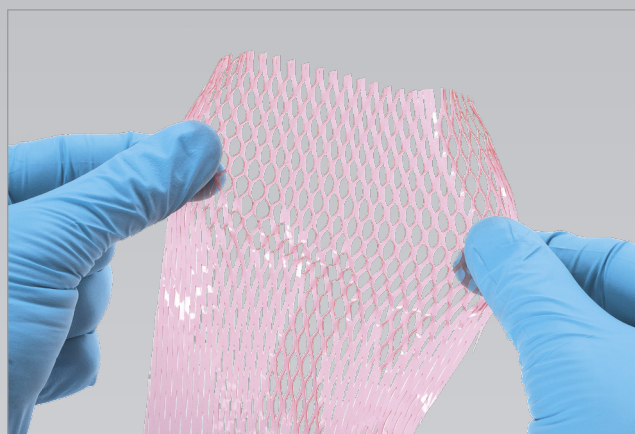


*REF 1986nou
Mesher, skin expansion system*

By unfolding the bridge, the blade roller can be removed for maintenance and cleaning.



When the pressure of the blade roller against the counter-pressure roller has been adjusted correctly, the graft can be stretched easily.



Derma carrier Mesh Board



STERILE

Mesher carrier plates	Expansion factor	PU*	REF
1.5 : 1 Carrier plates	1.5 : 1	20 pieces	1981
3.0 : 1 Carrier plates	3.0 : 1	20 pieces	1982
6.0 : 1 Carrier plates	6.0 : 1	20 pieces	2105

*PU: Packaging unit



Technical data

TCM 3000 BL: REF 3285

Voltage	switchable: 100 V~/ 115 V~/ 230 V~, 50 – 60 Hz
Speed range	500 – 40 000 rpm
Max. Torque	6 Ncm
Coupling motor side	ISO 3964
Dimensions (W x D x H)	120 x 180 x 115 mm

Electronic motor 21: REF 2112nou

Max. Speed	40 000 rpm
Max. Torque	6 Ncm
Coupling	ISO 3964
Weight	280 g, without cable
Cable length	3 m

Dermatome: REF 1992nou, 1991nou, 1990nou, 1983nou

Coupling	ISO 3964
Speed	14 000 rpm
Cutting width	25 mm , 50 mm, 75 mm, 100 mm
Cutting depth	0.05 – 1.00 mm
Torque max.	6 Ncm
Weight	330 g, 420 g, 560 g, 700 g

Mesher: REF 1986nou

Blade roller Ø	30 mm
Weight	4.9 kg
Dimensions (W x D x H)	210 x 195 x 110 mm

Derma carrier plates 1.5:1 / 3:1 / 6:1

Leaflet may represent products that are not available in all markets.



Nouvag AG
St.Gallerstr. 23–25
CH-9403 Goldach

Tel +41 (0)71 846 66 00

info@nouvag.com
www.nouvag.com



Nouvag GmbH
Schulthaißstr. 15
D-78462 Konstanz

Tel +49 (0)7531 1290-0
Fax +49 (0)7531 1290-12

info-de@nouvag.com
www.nouvag.com



Nouvag USA, LLC
6201 Airport Freeway, Suite 200
USA-76117 Haltom City, Texas

Tel +1 817 887-9814
Fax +1 817 887-9817

Toll free number (800) 673 7427
www.nouvagusa.com

Intended use and operation

The dermatome including meshgraft knife roller (Mesher skin expansion system) is used in skin graft / reconstructive surgery.

The dermatome is used to cut off a skin flap (unprocessed or split-skin graft) on an intact skin surface. In large-area skin grafting, the split-skin graft is mesh-shaped in a mesher to form a perforated mesh graft. The perforated skin flap is then placed on the damaged area of the skin (e.g., after burns).

The dermatome including Mesher may only be operated by knowledgeable and trained personnel. The intended use is obvious to the trained user.







Contra indications/Limitations

Inappropriate wound ground such as tendons, bones, exposed vessels and nerves, as well as implants.

If the location of the wound on the flexor sides of joints or mechanically stressed body parts such as the heel or neck, as well as local infections, the surgeon must decide in each case, whether a split skin transplant can be used meaningfully.

Relative or absolute contra indications may arise from general medical diagnosis or in special cases where the patient risk with motor-driven systems is significantly higher.

Technical data

 				
Reference number:	1992nou	1991nou	1990nou	1983nou
Designation:	Dermatome 25	Dermatome 50	Dermatome 75	Dermatome 100
Coupling motor side, norm:	ISO 3964	ISO 3964	ISO 3964	ISO 3964
Speed (set):	14,000 rpm	14,000 rpm	14,000 rpm	14,000 rpm
Cutting width:	25 mm	50 mm	75 mm	100 mm
Cutting depth (tolerance 0/+0,1 mm):	0,05 – 1,00 mm	0,05 – 1,00 mm	0,05 – 1,00 mm	0,05 – 1,00 mm
Maximum torque:	6 Ncm	6 Ncm	6 Ncm	6 Ncm
Weight:	330 g	420 g	560 g	700 g

Manufacturer and service providers

Switzerland


 Nouvag AG · St.Gallerstrasse 23–25 · CH-9403 Goldach
 Tel. +41 (0) 71 846 66 00
 info@nouvag.com · www.nouvag.com

A complete list of all from Nouvag AG authorized service providers worldwide is found on our website:

www.nouvag.com/en/service/service-provider

Germany

Nouvag GmbH · Schulthaißstrasse 15 · D-78462 Konstanz
 Tel. +49 (0) 7531 1290-0 · Fax +1 (0) 7531 1290-12
 info-de@nouvag.com · www.nouvag.com

USA

Nouvag USA, LLC · 6201 Airport Freeway · Suite 200
 Haltom City, Texas 76117 · USA
 Phone +1 817 887-9814 · Fax +1 817 887-9817 · Toll free (800) 673 7427
 info@nouvagusa.com · www.nouvagusa.com

Safety instructions

Your safety, that of your team and, of course your patients' safety is our prime concern. It is therefore vital to observe the following instructions.

	Das Instrument wird von uns unsteril ausgeliefert. Vor dem erstmaligen Einsatz und sofort nach jedem Gebrauch muss das Dermatome gereinigt, desinfiziert und sterilisiert werden.		Unsachgemäßer Gebrauch des Instruments, sowie Nichteinhaltung unserer Anweisungen, entbindet uns von jeder Garantieleistung und anderen Ansprüchen.
	Instrument nicht mit Druckluft reinigen.		Das Instrument darf nur mit 14'000 U/min. betrieben werden.
	Manipulationen am Instrument nie mit laufendem Motor durchführen, wegen Verletzungsgefahr.		Das Instrument darf ausschließlich von fachkundigem und geschultem Personal verwendet werden.
	Das Instrument darf ausschließlich bei stillstehendem Motor aufgesetzt werden.		

Explanation of symbols

	Pay attention to the accompanying documents		CE mark with Notified Body		Do not use when packaging is damaged
	Warning		Serial number		Do not reuse
	Autoclavable at 135°C		Reference number (Order number)		Date of expiry
	Suitable for thermal disinfection		LOT number		Manufacturer

Spare parts and accessories

REF 1919, PU 10 pieces
Spare blade for Dermatome 100

REF 1995, PU 10 pieces
Spare blade for Dermatome 75

REF 1996, PU 10 pieces
Spare blade for Dermatome 50

REF 1997, PU 10 pieces
Spare blade for Dermatome 25

REF 19872
Dermatome 100 reduction base plate to 75 mm

REF 19871
Dermatome 100 reduction base plate to 50 mm

REF 19869
Dermatome 100 reduction base plate to 25 mm

REF 19887
Dermatome 75 reduction base plate to 50 mm

REF 19886
Dermatome 75 reduction base plate to 25 mm

REF 3285, TCM 3000 BL
Set of control unit with electronic motor and pedal.

REF 1986nou, Meshes, Skin expansion system

REF 4131, Sterilization basket for Dermatomes and accessories
REF 4133, Lid for sterilization basket

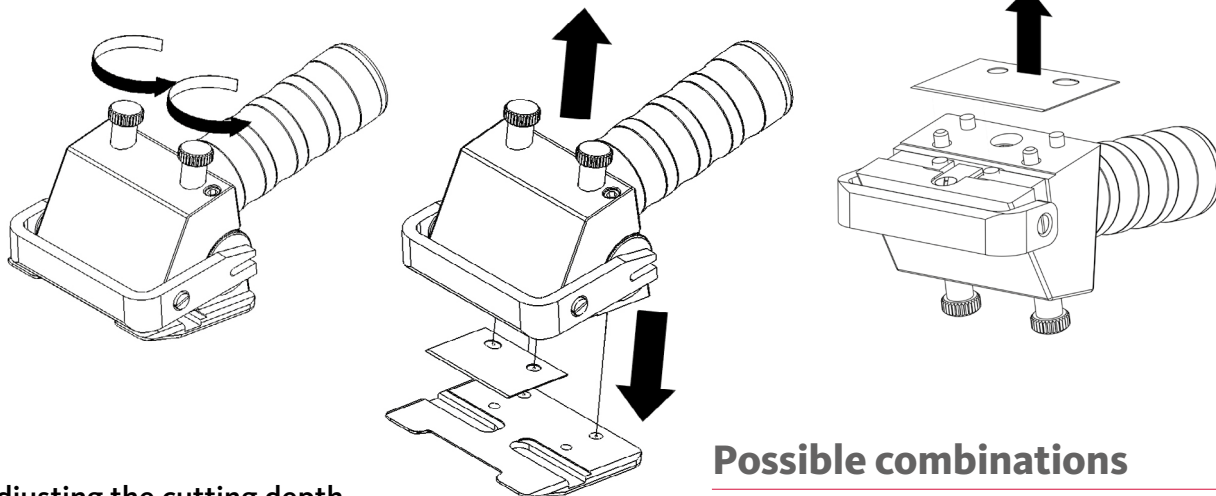
Skin transplant mesh boards	Expansions-Faktor	VE*	REF
1.5 : 1 Trägerplatte	1.5 : 1	20 Ex.	1981
3.0 : 1 Trägerplatte	3.0 : 1	20 Ex.	1982
6.0 : 1 Trägerplatte	6.0 : 1	20 Ex.	2105

*VE: Verpackungseinheit

Operation

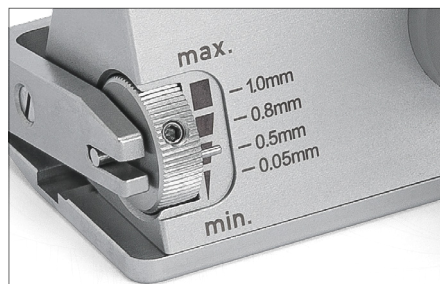
Replacing the blade

1. Unscrew both knurled screws at the head of the Dermatome.
2. Take off the base plate.
3. Remove the old blade and dispose of expertly.
4. Place the new, sterile blade on the fitting cams.
5. Place the base plate on the fitting cams and tighten the knurled screws.



Adjusting the cutting depth

By turning the knurled wheel at the back of the Dermatome the cutting depth can be adjusted between 0.05 and 1.00 mm.



Possible combinations

Dermatome handpieces

25 REF 1992nou; 50 REF 1991nou; 75 REF 1990nou; 100 REF 1983nou are exclusively used:

- in combination with the surgery motor system TCM 3000 BL (REF 3285), which controls the Dermatome handpiece via the upstream electronic motor and enables the setting of the speed, according to the use.
- in combination with the surgery motor system HighSurg 30 (REF 3390), which controls the Dermatome handpiece via the upstream electronic motor and enables the setting of speed according to the use.

Wrong combination of products

Damage to the product and injury to the patient, user or third parties are possible.

- Only use the different products together if the purpose and the relevant technical data, such as working lengths, diameters, and so on match.
- Always follow the instructions for use of the products used in combination.



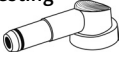
Troubleshooting

Error	Cause	Solution
Motor is running but the blade doesn't move	Dermatome is not correctly coupled	Press Dermatome firmly against the motor. Check for proper seating.
Instrument runs irregularly	Blade is not clamped correctly	Adjust the blade correctly.
Instrument is noisy	Dirty or badly lubricated	Spray 3 seconds with Nou-Clean spray

Ambient conditions

	Transport and storage:	Operation:
Relative humidity:	Max. 90 %	Max. 80 %
Temperature:	0°C – 60°C	10°C – 30°C
Athmospheric pressure:	700 hPa – 1060 hPa	800 hPa – 1060 hPa

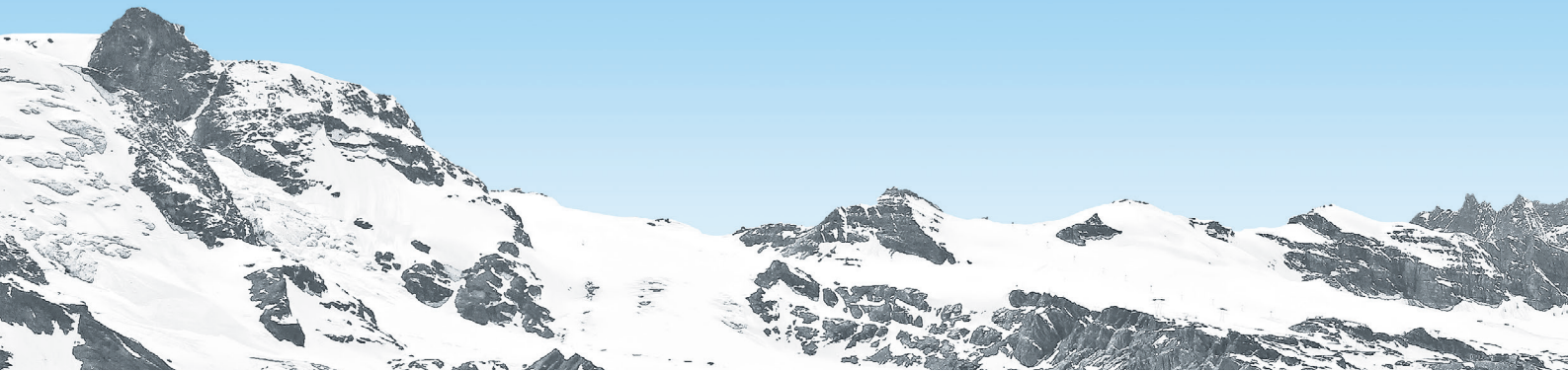
Preparation instructions

Reprocessing restrictions	Frequent repeated preparation only has a minor impact on the Dermatome. The end of the product's service life is normally determined by wear and damage through use. The dermatome is designed for 500 sterilization cycles.		
General handling	Remove surface contaminants with a disposable cloth/paper towel immediately after each use. After submerge in cold water (< 40°C). Don't use warm water (> 40°C) or fixating disinfectants.		
Storage and transport	Wet the products immediately after use. This means that the products are to be transported moist in a closed container, so that no residues on the products can dry up. Safe storage and safe transport to prepare the dermatome must be ensured to avoid damage. The preparation should be carried out promptly (< 4 hours).		
Disassembly and preparation for decontamination	If possible, the products are to be dismantled before the subsequent preparation steps or, when open, sent to the further preparation steps. Rinse shadows are to be avoided. The Dermatome must be prepared in suitable baskets or rinse dishes. The dermatomes should be fixed in the cleaning basket with a minimum distance to each other. Overlap is to be avoided in order to prevent damage to the products during the cleaning process. Unscrew the base plate and dispose of blade properly.		
Cleaning	Manual cleaning process <ol style="list-style-type: none"> 1. Submerge Dermatomes in an ultrasonic bath with an alkaline cleaner (0.5 % Neodisher® MediClean forte) with a sonication time of 10 minutes and a frequency of 35 kHz. Follow the instructions of the detergent manufacturer. 2. Completely clean the dermatomes with a soft brush. Thoroughly flush (> 30 seconds), if present, cavities and lumens, with a water pressure gun (or equivalent). 3. Rinse the products under running tap water to remove the detergent (> 15 seconds). 	Automatic cleaning process (Miele G7835 CD) <ol style="list-style-type: none"> 1. Pre-clean for 1 minute with cold tap water < 40°C, drain water. 2. Pre-clean for 3 minutes with cold tap water < 40°C, drain water. 3. Five minutes of cleaning at 55°C (± 5°C) with 0.5 % alkaline detergent (0.5 % Neodisher® Mediclean forte), drain water. 4. Neutralize for 3 minutes (Neodisher® Z) with cold tap water < 40°C, drain water. 5. Rinse 2 minutes with cold deionized water. 6. The special instructions of the manufacturer of the cleaning machine are to be observed! 	
	Disinfection Manual disinfection Equipment: neutral or alkaline cleaning agent, soft brush, running water: <ol style="list-style-type: none"> 1. Rinse and brush away surface contaminants from the Dermatome. 2. Use a brush to apply cleaning agent to all surfaces and gaps. 3. Rinse the Dermatome thoroughly under running water. 	Automatic disinfection (Miele G7835 CD) Automatic, thermal disinfection in washer-disinfector, taking into account the national requirements of the A0-3000 value, > 5 minutes at 92°C (± 2°C), demineralised water, drainage.	
Drying	Manual drying with lint-free cloth. In order to largely avoid water residues in cavities it is recommended to blow them out with sterile compressed air.	Automatic drying according to automatic drying process of the washer-disinfector for 30 minutes at 60°C (± 5°C). Never expose the product to heat above 140°C! Possibly let follow manual drying with a lint-free cloth and blow out lumen using sterile, oil-free compressed air.	
	Maintenance, inspection and testing	If a drying programme is not provided by the washer-disinfector, the Cranial Perforator Handpiece must be dried manually or in a drying cabinet.	
Maintenance, inspection and testing Ref. 1958 	Perform a functional test and check for contamination. If necessary repeat the cleaning and disinfection cycles. Perform a visual inspection for damage, corrosion and wear. Maintain the dermatome by spraying it with NouClean spray with attached spray adapter (REF 1958) for approx. 3 seconds. Wipe off excess liquid with moistened cloth.		
Packaging	Individually: Pack Dermatome handpiece in individual packaging for sterile items. The bag must be large enough to ensure that the seal is not under tension. Sets: Sort Dermatome handpieces onto trays intended for the purpose or place on all-purpose sterilization trays.		
Sterilization	Autoclave in the vacuum autoclave at 135°C for at least 5 minutes. When sterilizing several instruments in one sterilization cycle, do not exceed the sterilizer's maximum load. A drying cycle must be added in the case of autoclaves without a post-vacuum function. Dry the Dermatome handpiece in the bag with the paper side facing upwards at room temperature for at least one hour. * The temperature hold times are based on the country-specific guidelines and standards.		
Storage	No special requirements. If a sterilised Dermatome handpiece is not used immediately following sterilization, the packaging needs to be marked with the sterilization date. It is advisable to add a sterilization indicator.		

The above-indicated instructions were validated by NOUVAG AG as being suitable for preparing a medical device to be reused. The preparer is responsible for ensuring that the actually performed preparation involving the equipment, materials and personnel used in the preparation facility achieves the desired results. This normally requires validation and routine monitoring of the procedure. Likewise, each deviation from the provided instructions should be carefully analyzed for its effect and potential detrimental consequences.

Instructions for disposal

Bei der Entsorgung von Instrumenten müssen lokale, landesübliche Vorschriften beachtet werden. Instrumente nicht mit dem Hausmüll entsorgen. Beachten Sie die landesüblichen Vorschriften zur Entsorgung von infektiösem Müll.



Skin grafting with TCM 3000 BL and Dermatome



Dermatome and TCM 3000 BL, an unbeatable dream team

If you talk about skin grafting you will for sure know about the Nouvag dream team, the Nouvag Dermatome and the motor system that drives it. It's so simple to use you would not even need a manual. The high precision cuts with the Dermatome are legendary. The adjustment wheel follows a grid in fine steps. For changing the blades you will not even need a tool to do so.

Ref. 1992
Dermatome 25 mm



Ref. 1991
Dermatome 50 mm



Ref. 1990
Dermatome 75 mm



Ref. 1983
Dermatome 100 mm



For best results on specific tasks the Dermatome is available in 4 different sizes. However if you need a smaller size of the Dermatome only occasionally, therefore we offer the reduction support bases. The best cutting results are achieved with a speed of 14,000 rpm. Nouvag devices and instruments are recognized throughout the world for ease of use, reliability and high quality, made in Switzerland.

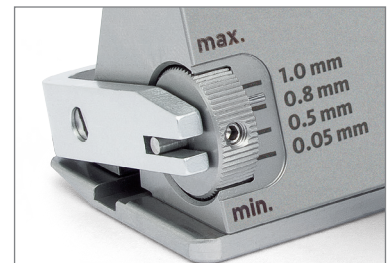
TCM 3000 BL, simple to use micro processor controlled motor system

Advantages, TCM 3000 BL:

- High performance and torque
- Wide range of extensions and accessories
- Sturdy, high quality architecture and finish.
- Low maintenance and care costs
- Simple to use
- Display with good visibility
- Easy to clean
- Worldwide service partners
- Swiss quality



Blades can be replaced without any tool, using the knurled screws.



Detail of the further developed adjustment system of the new Dermatome, for high precision.

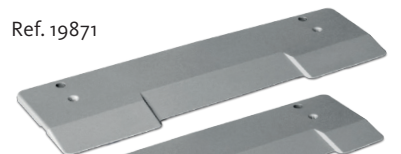
TCM 3000 BL, scope of delivery, Ref. 3285 (Set)

- TCM 3000 BL, control unit
- Electronic motor 31 ESS
- Handpiece cradle
- Vario pedal, IPX8
- User manual on CD-ROM
- One spray nozzle each for the maintenance and care with Nou-Clean Spray for electronic motor and instruments

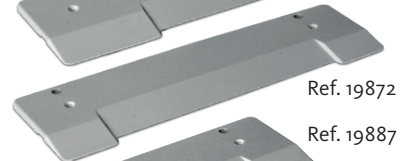
Technical data, micro motor system TCM 3000 BL

Type:	TCM 3000 BL
Voltage:	100/115/230 Volt at 50 – 60 Hz
Max. output power:	60 VA
Speed range, micro motor:	500 – 40,000 rpm
Motor:	brushless electronic motor
Motor coupling:	INTRA coupling ISO3964
Torque maximum, Motor:	6 Ncm
Width/depth/height:	120/180/107 mm
Weight, control unit:	1.8 kg
Pedal IP code:	IPX8

Ref. 19871



Ref. 19872



Ref. 19887



Ref. 19886



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



Key facts:

- Easy to clean due to hinged bridge for opening
- Access to blade roll
- High grade medical stainless steel
- Leight weight, only 4.5 kg
- Adjustable backing roll
- Wide range of Mesh-boards available

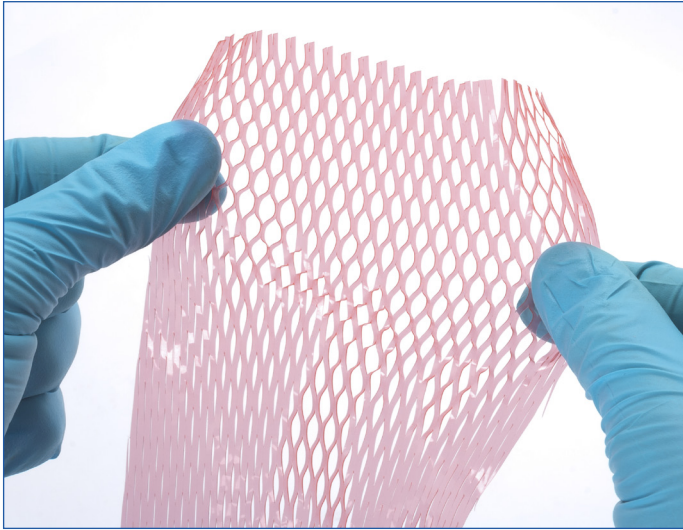
Ref.: 1986

Mesher, Skin expansion system



Nouvag AG · St.Gallerstr. 23-25 · CH-9403 Goldach
Phone +41 (0)71 846 66 00 · Fax +41 (0)71 846 66 70
info@nouvag.com · www.nouvag.com

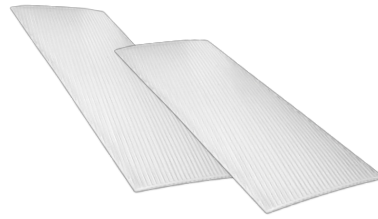
Skin graft carrier plates with different expansion rates



Skin graft carrier plates are available with different groove widths to give the skin example the required expansion factor.



Magnification of a skin graft carrier plate with its fine grooves.



Skin sections that were gathered with the Dermatome, are fine perforated using the Mesher together with a skin graft carrier plate, so the skin can be protracted in width, 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.

Ref.: 1981

Skin graft carrier plate with an expansion factor of 1.5

Ref.: 1982

Skin graft carrier plate with an expansion factor of 3.0

Ref.: 2105

Skin graft carrier plate with an expansion factor of 6.0

Ref.: 2106

Skin graft carrier plate with an expansion factor of 9.0

Sterilization container for Mesher sterilization



Ref.: 4128
Stericase for Mesher sterilization, 465 x 280 x 150 mm



Ref.: 4126
Anti-slip, nubby silicone mat 450 x 270 mm



Universal sterilization container for operating room instruments and/or textiles for vacuum-steam sterilization procedures and the maintaining of sterility during storage and transport in proper hospital conditions (EN 285, EN 868-1, EN 868-8).

Technical Data, Stericase, ref. 4128

Size	465 x 280 x 150 mm
Max. load capacity	5.5 kg
Working pressure	30 psi
Chemical resistance	Medicine and disinfectant proof
Sterilization	Steam, EO, Dry heat, flash, peracetic acid, formaldehyde, HP plasma
Period of use	500 sterilization cycles
Material	Anodized Aluminum, 2 mm of thickness
Approvals	CE