



NEUROLINE  
PRODUCT CATALOGUE  
2022

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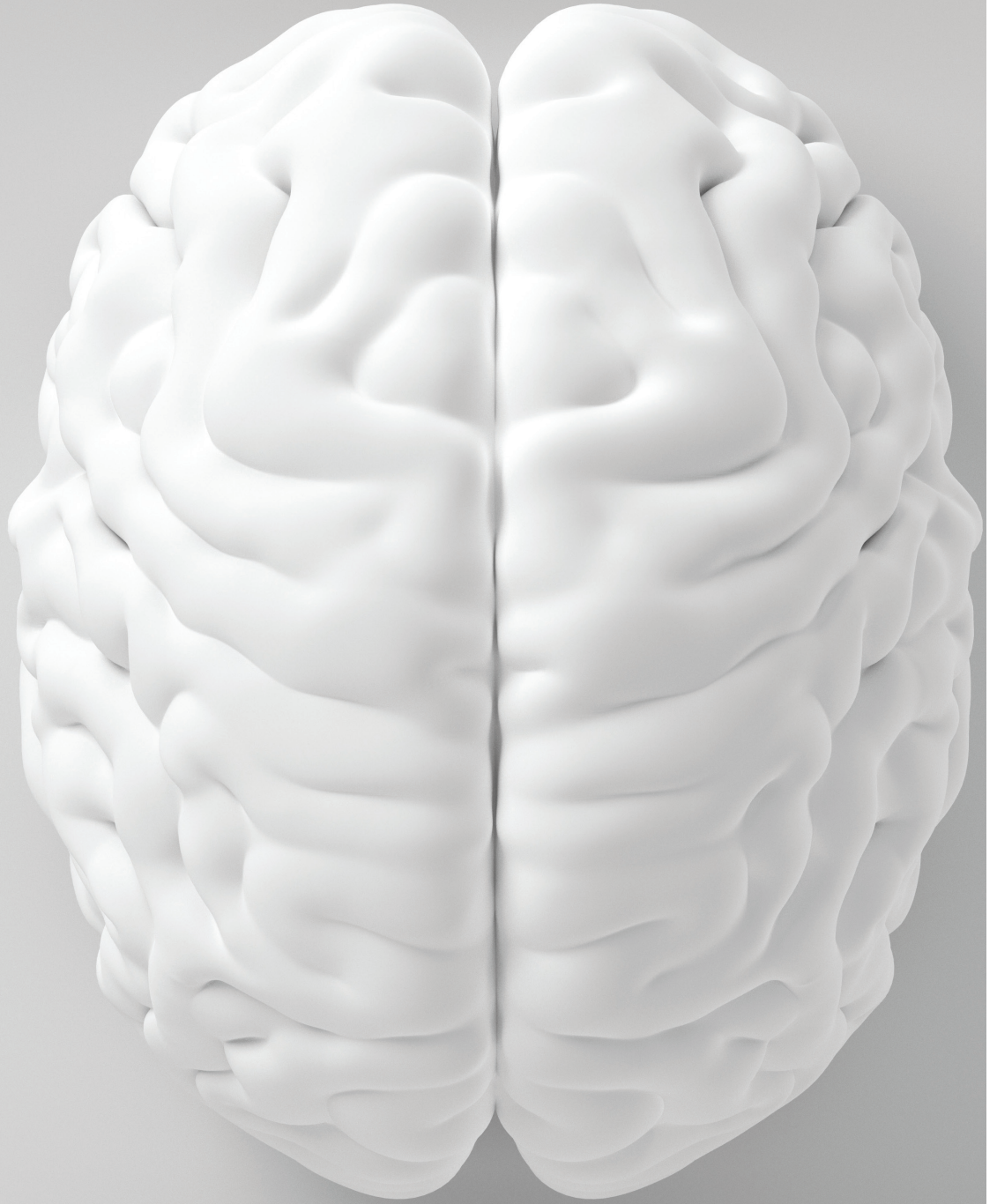
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# MENTS



FOREV



## Be Ahead Of The Curve With Our Latest Innovations

WE ARE FAMILY OF MOTIVATED INDIVIDUALS, DRIVEN BY OUR DESIRE TO MAKE INNOVATIVE, EXCELLENT QUALITY MEDICAL PRODUCTS AVAILABLE TO MODERN MEDICINE IN A SUSTAINABLE WAY.

At EMD we offer quality design, production and services, that enable medical professionals to perform advanced minimal invasive operations.

Our carefully accumulated knowledge and expertise enable us to create singular tools and devices that medical professionals can use sustainably. To offer our customers the best of the best, our products are manufactured with meticulous care from high quality materials.

We are dedicated and passionate in everything we do. Through our performance and solution driven mindset, we have the opportunity to make a difference. We are innovation and business oriented with a strong belief in daring to do things better.

# WORD

## From CEO

“

Everything we do is rooted in the belief that, together with our colleagues, teams and partners, we can create positive change to support modern medicine through our high-end products and services.

Each time before we embark on a new development, we have to make sure we possess the essential attributes that will fuel us to work for years to come for the very moment we first hold a new product in hand. These are: know-how, perseverance, proof and faith.

We've been working hard and have come a long way over the last 25 years. When EMD was founded in 1997, we were thinking about how we could design and manufacture minimal invasive medical devices. Since then, we've made such a progress as a team that today, however, we are thinking about how to become one of the best and most innovative companies in the industry.

We are proud of the progress we're making, and are ensuring that our expertise and competencies are essential elements of EMD's future that we will continue to embrace and grow.

**Mr. Gyula Ujvari**  
FOUNDER & CEO







# ABOL



- 1997** EMD is founded as a repair service provider. Main activity is repair of endoscopic optics and endoscopic instruments.
- 2001** We launch our laparoscopic system being first own product development.
- 2005** EMD steps out of being a local supplier and starts export activities in various markets. EMD begins to develop and produce neurosurgery devices.
- 2012** EMD relocates to new headquarters with more on site facilities. Company profile continues to expand.
- 2017** The company obtains CE approval for own neurosurgical and laparoscopy development.
- 2021** Product portfolio is further increased by six additional EMD product group receiving CE mark.

J T U S

## Our Vision

We believe in leading not following. We turn fault into our virtue and trust our never-compromising nature dictating our rhythm, which takes us to innovative ideas and exceptional product developments.

We are convinced that possibility is bigger than the fear of failure. That is why we dare to dream big and are not afraid to be challenged on the way to success. Our vision is to be industry leaders in medical device development and manufacture.

## Our Mission

OUR MISSION IS TO SUPPORT MODERN MEDICINE BY OFFERING ADVANCED, FIRST-CLASS QUALITY MEDICAL DEVICES.

## Our Values

We like to walk our talk and lead by example. Our values are part of who we are, what we stand for and how we act.

Our great colleagues make the difference. It's when we share our skills, knowledge and expertise, we become one team.

We encourage and help each other to achieve our goals, while always having our customers' and their patients' best interest in mind.



## Markets & Expansion

EMD is expanding, with a focus on multi-channel sales. We treat and nurture long term partnerships and business growth as one of our top priorities. We offer advanced and unique medical tools for minimal invasive surgeries that want to give professionals unbeatable value with the best combination of innovation, quality, price and sustainability.

When it comes to expansion strategies and activities, we spare no time to find the most prosperous opportunities we are able to find out there, that not only benefit us, but our partners too. With the continuous product developments we have been making recently, we are enthusiastic to be on the path greatly expanding our existing presence on the market.

## Research & Development

Our network of medical professionals, together with the global industry needs and challenges set new directions to our developments.

Through our product developments, our priority is to effectively support surgical procedures, which are still very difficult or can only be performed with conventional surgery, so that they could be carried out with as few and little incisions as possible. In the near future, we continue to focus on minimal invasive developments and present new products for spine,- neuro,- and laparoscopic surgery.

## Innovative Solutions

Innovative product developments enable us to find and implement new technologic solutions, which are not yet in practice.

At the birth of a new idea, we start exploring ways of execution and won't stop until we find the right technology that can be applied for best results. This way, we are inspired to never stand still, we find new discoveries and are able to create that was thought impossible.

# NEUROS

# Professional Experience

COMBINED WITH BRILLIANT IDEAS  
IN THE SERVICE OF NEUROSCIENCE.

NEUROSURGERY IS ABOUT PRECISION AND CAREFUL PLANNING.

WITH THE BEST OF OUR KNOWLEDGE AND EXPERIENCE, IN CLOSE CO-OPERATION WITH MOST  
RENOWNED NEUROSURGEONS, WE OFFER OWN DEVELOPED, PATENTED PRODUCTS IN THE  
FIELDS OF CRANIAL AND SPINE SURGERY.

# URGERY



# NeuroSmart Motor System

## Choosing Smart Solutions

DESIGNED AND DEVELOPED ESPECIALLY FOR CRANIAL AND SPINE SURGERY, THE **NeuroSmart** HIGH-SPEED MOTOR SYSTEM IS INTRODUCED AS TRUE FRONT-RUNNER OF ITS CATEGORY.

The intelligent, **emd**<sup>®</sup>-engineered **NeuroSmart** System recognizes whether a Trepan Adapter or high speed Handpiece is connected to the motor.

At the same time as the Trepan Adapter is connected by the user, the Control Unit automatically sets for its most optimal speed for **emd**<sup>®</sup> Cranial Perforators, *preventing inappropriate speed starting*. For maximum patient protection, speed drive is *automatically optimized* to ensure perforation starts at appropriate rpm. Therefore, with **NeuroSmart** High-Speed Motor System the risk of an accidental high speed start is completely avoided. When the adapter is disconnected, the control unit resets to latest speed use of *High Speed Mode*.

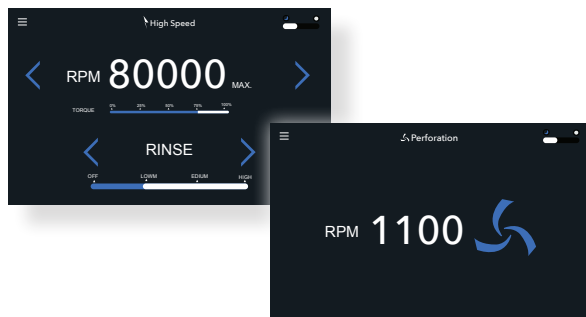
## Maximum Safety. High Power.

- ⊕ OUTSTANDING MOTOR PERFORMANCE OF 120W
- ⊕ SPEED RANGE 10.000-80.000 RPM
- ⊕ COST-EFFECTIVE SOLUTION - ONE MOTOR OF ALL ATTACHMENTS
- ⊕ AUTOMATIC HANDPIECE DETECTION FOR MAXIMUM SAFETY
- ⊕ OPTIMAL SPEED SETTINGS
- ⊕ INTEGRATED IRRIGATION PUMP WITH 10-DEGREE ADJUSTMENT
- ⊕ TOUCH SCREEN DISPLAY FOR EASY HANDLING AND CLEANING
- ⊕ ONE-CLICK CONNECTION OF SYSTEM ELEMENTS

## TOUCH SCREEN FRONT PANEL

With its one-piece glass front panel, the **NeuroSmart** Control Unit was designed with medical hygiene and user practicality in mind. The touch screen display offers easy handling and all-inclusive cleaning options.

The user-friendly menu navigation is further supported by intelligent *High-Speed* and *Perforation* mode detection.

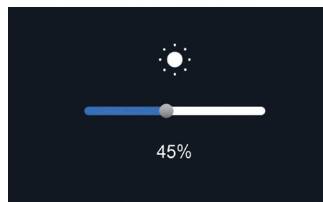


## AUTOMATIZED MODE SETUP

Connection and disconnection of the Trepan Adapter results in an immediate, automatized change of user modes and display functions.

## LIGHT/DARK APPEARANCE

The user has the possibility to switch between light and dark view modes at any point during procedure.



Screen brightness is easily adjustable according to the needs of operating environment.

## INTEGRATED IRRIGATION PUMP

During neurosurgical procedures, it is essential to ensure about proper cooling at surgical area. **NeuroSmart** Control Unit features integrated irrigation pump with variable flow control.



# NeuroSmart Motor System

## SMART & SUPERB POWERED MOTOR

Highly cost-efficient, due to its high-excursion motor power, the **NeuroSmart** High-Speed Motor by itself manages to drive the entire range of **emd**<sup>®</sup> Handpiece attachments at appropriate speed. Using *One-Click Technology*, the complete range of Hand,- and Nosepiece tools are easily connected to the motor by a single snapping movement.

Integrated *bend relief* to prevent cable torsion and increase protection of connection.



## CABLE CONNECTED FOOTSWITCH

The combined Footswitch pedal is used to start/stop motor operation, while using the push button, rinsing mode is turned on/off.

The footswitch construction complies with IPX8 standard and is therefore easy to clean and disinfect.

Pedal and push button positioning delivers comfort even during longer user times.

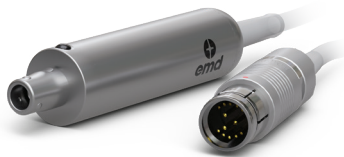


## Standard Set Configuration



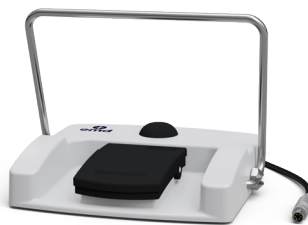
### NSS-110 CONTROL UNIT

Power consumption: 300 VA  
 Power Supply: 110-240 VAC; 50-60 Hz  
 Irrigation capacity: 0-100ml/min.  
 Weight: 5kg  
 Device class: IIb  
 Protection class: I



### NSS-120 HIGH SPEED MOTOR with integrated cable 3m long connecting cable

Autoclavable  
 Speed Range: 10.000-80.000 rpm  
 Output power: 120W  
 Device class: IIb



### NSS-130 DOUBLE FOOTSWITCH 4m long connecting cable

Waterproof  
 Device class: IIb  
 Standard IPX8

# NeuroSmart Motor System

# CRANIC



WE BELIEVE THAT

# Functionality And Design

CREATE WORK OF ART.

EITHER WE ARE WORKING ON A NEW PRODUCT DEVELOPMENT OR WE ARE RETHINKING AN OLDER DESIGN, OUR TOP PRIORITY IS CREATING HIGH-END PRODUCTS THAT COMPLY WITH THE CHALLENGES OF THE TIME, BOTH IN TERMS OF FUNCTION AND USABILITY.

# CRANIOTOMY

# HANDPIECES Craniotome

## Absolute Performance. Without Compromises.

EACH **emd**<sup>®</sup> HANDPIECE COLLECTION IS MADE OF STAINLESS STEEL, GUARANTEEING LONG PRODUCT LIFE. WITH THE SLEEKEST DESIGN ON THE MARKET, A CLEAN SHAPE AND SURFACE MAKES OUR CRANIOTOME HANDPIECE ESPECIALLY EASY TO CLEAN AND HOLD. THE ERGONOMIC PEN-GRIP SOLUTION ALLOWS COMFORTABLE USE AND A STABLE GRIP DURING OPERATION.

The *One-Click Technology* provides easy connection of the Craniotome Handpieces by simply snapping it to the motor.

Both the inserted craniotome cutter and duraguard are simultaneously locked in position with rotary knob. For greatest safety, starting of the motor is not possible until rotary knob is locked.

For more user support, duraguards and craniotome blades are marked with size identifiers. Duraguards are available in fixed and rotary configurations.

The range also includes additional models for special application areas. Eg. *special head* for craniotomy nearby the sinus or duraguards with *increased head length* for laminotomy.





Illustration of **emd** Craniotome Handpiece



**NSH-310**



**NSH-310+  
NSH-332**

Illustration of **emd** Craniotome Handpiece with Craniotome Head



**NSH-320**

**CRANIOTOME HEAD**  
Fix - Without Duraguard  
Use with blades:  
**NLC-1T 3.5mm exposure**  
**NLC-1ST 3.5mm exposure**  
**NLC-2T 5.5mm exposure**  
**NLC-2ST 5.5mm exposure**



**NSH-331R**

**CRANIOTOME HEAD, L11 R**  
Rotatable - Duraguard - Size 1  
Use with blades:  
**NLC-1T**  
**NLC-1ST**



**NSH-331**

**CRANIOTOME HEAD, L11**  
Fix - Duraguard - Size 1  
Use with blades:  
**NLC-1T**  
**NLC-1ST**



**NSH-332R**

**CRANIOTOME HEAD, L15 R**  
Rotatable - Duraguard - Size 2  
Use with blades:  
**NLC-2T**  
**NLC-2ST**



**NSH-332**

**CRANIOTOME HEAD, L15**  
Fix - Duraguard - Size 2  
Use with blades:  
**NLC-2T**  
**NLC-2ST**



**NSH-333R**

**CRANIOTOME HEAD, L25 R**  
Rotatable - Duraguard - Size 3  
Use with blades:  
**NLC-3T**  
**NLC-3ST**



**NSH-333**

**CRANIOTOME HEAD, L25**  
Fix - Duraguard - Size 3  
Use with blades:  
**NLC-3T**  
**NLC-3ST**



**NSH-334R**





**LAMINOTOME HEAD, L35 R**  
Rotatable - Protection Guard  
(max. speed 40,000 rpm)  
Use with blades:  
**NLC-4T**  
**NLC-4ST**



**NSH-334**

**LAMINOTOME HEAD, L35**  
Fix - Protection Guard  
(max. speed 40,000 rpm)  
Use with blades:  
**NLC-4T**  
**NLC-4ST**

## General Features

-  80,000 RPM
-  **emd** CRANIOTOME HANDPIECES ARE DESIGNED FOR BOTH ADULT AND PEDIATRIC SURGERY
-  **emd** OFFERS THREE FOOTED DURAGUARDS; ONE LAMINOTOME HEAD; ONE SPECIALTY HEAD FOR SINUS
-  QUICK AND EASY RELEASE CHUCK OF DURAGUARDS

# CRANIOTOME Cutters

PRECISELY DESIGNED EDGE CONSTRUCTIONS, DURABLE BLADES ARE THE MAIN FEATURES OF NEUROLINE CRANIOTOME CUTTERS.

AVAILABLE IN *FOUR STANDARD LENGTHS* TO FIT THE RIGHT SIZE DURAGUARD OR EVEN A *SPECIAL CRANIOTOME HEAD*.

THREE CUTTING BLADES DELIVER THE BEST PERFORMANCE BOTH FOR *STRAIGHT* AND *TWISED* MODELS.





**NLC-1T**

**CRANIOTOME CUTTER**

Straight with 3 cutting edge - Size 1

Use with duraguard:

**NSH-331**  
**NSH-331R**

**NLC-2T**

**CRANIOTOME CUTTER**

Straight with 3 cutting edge - Size 2

Use with duraguard:

**NSH-332**  
**NSH-332R**

**NLC-3T**

**CRANIOTOME CUTTER**

Straight with 3 cutting edge - Size 3

Use with duraguard:

**NSH-333**  
**NSH-333R**

**NLC-4T**

**CRANIOTOME CUTTER**

Straight with 3 cutting edge - Size 4

Use with duraguard:

**NSH-334**  
**NSH-334R**



**NLC-1ST**

**CRANIOTOME CUTTER**

Spiral with 3 cutting edge - Size 1

Use with duraguard:

**NSH-331**  
**NSH-331R**

**NLC-2ST**

**CRANIOTOME CUTTER**

Spiral with 3 cutting edge - Size 2

Use with duraguard:

**NSH-332**  
**NSH-332R**

**NLC-3ST**

**CRANIOTOME CUTTER**

Spiral with 3 cutting edge - Size 3

Use with duraguard:

**NSH-333**  
**NSH-333R**

**NLC-4ST**

**CRANIOTOME CUTTER**

Spiral with 3 cutting edge - Size 4

Use with duraguard:

**NSH-334**  
**NSH-334R**



ATTATC

WE BELIEVE THAT

# Uncompromising Quality

IS A MATTER OF HIGH EXPECTATIONS.

GUARANTEEING THE RELIABILITY OF AN **emd**<sup>®</sup> PRODUCT REQUIRES THE APPLICATION OF A MULTITUDE OF SKILLS. FROM THE PRECISE SELECTION OF RAW MATERIALS AND MACHINING TECHNOLOGIES TO THE COMPLEXITY OF PRODUCT CERTIFICATION, EVERY STEP IS TAKEN TO ENSURE THAT OUR QUALITY ITEMS MEET THE HIGHEST SAFETY STANDARDS FOR BOTH THE PATIENT AND THE SURGEON.

# HMMENT S

## **Absolute Performance. Without Compromises.**

EACH **emd**<sup>®</sup> HANDPIECE COLLECTION IS MADE OF STAINLESS STEEL, GUARANTEEING A LONG PRODUCT LIFE. FEATURING A PURPOSEFULLY SLEEK DESIGN, THE CLEAN SHAPE AND SURFACE MAKES OUR STANDARD HANDPIECES ESPECIALLY EASY TO CLEAN. THE ERGONOMIC PEN-GRIP SOLUTION ALLOWS COMFORTABLE USE AND A STABLE GRIP DURING OPERATION.

The *One-Click Technology* provides easy connection of the Standard Handpieces by simply snapping it to the motor.

Both the inserted tool cutter and the handpiece are simultaneously locked in position with rotary knob. For greatest safety, starting of the motor is not possible until rotary knob is locked.

The special *Tool Grasping Technology* of attachments supports product selection and economic operation.

**HANDPIECES Standard**







**NSH-411**

**STANDARD STRAIGHT HANDPIECE**  
Working length 20mm, ø 5.5mm



**NSH-412**

**STANDARD STRAIGHT HANDPIECE**  
Working length 45mm, ø 5.5mm



**NSH-413**

**STANDARD STRAIGHT HANDPIECE**  
Working length 70mm, ø 5.5mm



**NSH-414**

**STANDARD STRAIGHT HANDPIECE**  
Working length 95mm, ø 5.5mm



**NSH-415**

**STANDARD STRAIGHT HANDPIECE**  
Working length 120mm, ø 5.5mm



**NSH-416**

**STANDARD STRAIGHT HANDPIECE**  
Working length 170mm, ø 5.5mm



**NSH-417**

**STANDARD STRAIGHT HANDPIECE**  
Working length 220mm, ø 5.5mm

## General Features

- ⊕ 80,000 RPM
- ⊕ STANDARD HANDPIECES ARE COMPATIBLE WITH BURRS Ø 2,3MM
- ⊕ UNIFORM-SIZED ADJUSTABLE EXPOSURE TOOL IS COMPATIBLE WITH ALL HAND, - AND NOSEPIECES OF **NeuroSmart** FAMILY

*For available burrs, see HS tools catalogue.*

# HANDPIECES Angled



**NSH-421**  
STANDARD ANGLED HANDPIECE  
*Working length 20mm, ø 5.5mm*



**NSH-422**  
STANDARD ANGLED HANDPIECE  
*Working length 45mm, ø 5.5mm*



**NSH-423**  
STANDARD ANGLED HANDPIECE  
*Working length 70mm, ø 5.5mm*



**NSH-424**  
STANDARD ANGLED HANDPIECE  
*Working length 95mm, ø 5.5mm*



**NSH-425**  
STANDARD ANGLED HANDPIECE  
*Working length 120mm, ø 5.5mm*



**NSH-426**  
STANDARD ANGLED HANDPIECE  
*Working length 170mm, ø 5.5mm*



**NSH-427**  
STANDARD ANGLED HANDPIECE  
*Working length 220mm, ø 5.5mm*



## Burrs With Benefits

USER-FRIENDLY AND COST-EFFICIENT HS TOOLS ARE AVAILABLE WITH THE MOST COMMONLY USED GEOMETRIES.

THANKS TO THE SPECIAL *TOOL GRASPING TECHNOLOGY*, ALL STANDARD AND ANGLED **emd**<sup>®</sup> NEUROLINE HANDPIECES ARE TO BE USED WITH *UNIFORM-SIZED* BURRS AND TOOLS.

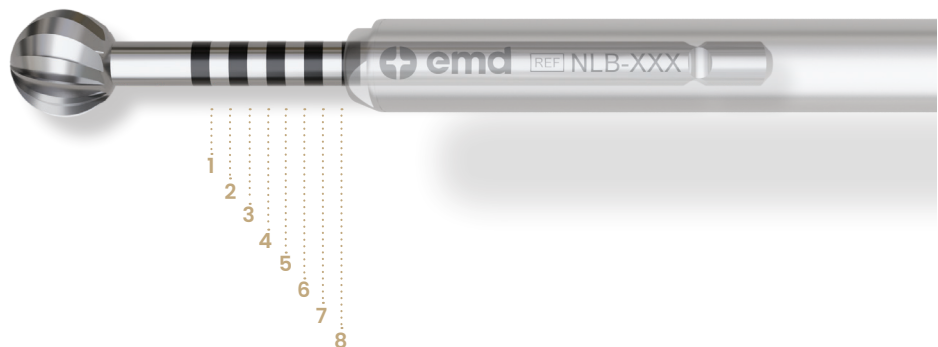


**ONE SIZE.  
MANY APPLICATIONS.**



### EXPOSURE IN 8 POSITIONS

Desired tool length is easily adjustable according to user preferences.



# ATTACHMENTS Slim

EACH **emd**<sup>®</sup> HANDPIECE COLLECTION IS MADE OF STAINLESS STEEL, GUARANTEEING A LONG PRODUCT LIFE.

FEATURING A PURPOSEFULLY SLEEK DESIGN, THE CLEAN SHAPE AND SURFACE MAKES OUR SLIM HANDPIECES ESPECIALLY EASY TO CLEAN.

THE ERGONOMIC *PEN-GRIP SOLUTION* ALLOWS COMFORTABLE USE AND A STABLE GRIP DURING OPERATION.

SEVERAL NEUROSURGICAL APPLICATIONS REQUIRE MORE PRECISE ACCESS TO THE OPERATING AREA.

SLIM ATTACHMENTS ARE DETACHABLE MODELS OF AN ANGLED HANDPIECE AND SMALL BORE NOSEPIECES.

SLIM ATTACHMENTS ARE MAINLY USED IN *SPINE SURGERY* APPLICATIONS. ALL HANDPIECE AND NOSEPIECE COMBINATIONS ARE WELL BALANCED WHICH IS A GREAT BENEFIT DURING LONGER OPERATIONS.





**NSH-510**  
SLIM HANDPIECE  
*Angled*



**NSH-521**  
LINEAR SLIM HEAD  
*Working length 85mm, ø 4.7mm*



**NSH-522**  
LINEAR SLIM HEAD  
*Working length 105mm, ø 4.7mm*



**NSH-523**  
LINEAR SLIM HEAD  
*Working length 125mm, ø 4.7mm*



**NSH-531**  
CURVED SLIM HEAD  
*Working length 85mm, ø 4.7mm*



**NSH-532**  
CURVED SLIM HEAD  
*Working length 105mm, ø 4.7mm*



**NSH-533**  
CURVED SLIM HEAD  
*Working length 125mm, ø 4.7mm*

## General Features

-  25,000 RPM
-  SLIM NOSEPIECES ARE COMPATIBLE WITH BURRS Ø 1.0MM

# CRANIAL PE

WE KNOW THAT

# Patient Safety

STARTS AT ENGINEERING.

THE SKILL LEVEL OF A HIGH-SPEED MOTOR SYSTEM IS GIVEN BY THE VARIETY OF ATTACHMENTS AND THEIR EXTENSIVE FUNCTIONALITY. THE MAIN PRINCIPLES OF OUR CONSTRUCTION ARE SAFETY, ERGONOMICS AND SUSTAINABILITY.

# PERFORATION

# NeuroSmart Perforator Handpiece

## EXPERIENCE THE DIFFERENCE A Handpiece Can Make.

WITH FULL STAINLESS STEEL FINISH, THE NEW GENERATION **emd**<sup>®</sup> PERFORATOR HANDPIECE TAKES CRANIAL PERFORATION TO THE NEXT LEVEL. A HIGHLY EFFICIENT YET EASY USE MADE POSSIBLE BY THE INTEGRATED *SMART TECHNOLOGY*.

The speed reducer features *Automatic Trepan Mode* recognition for the **NeuroSmart** Control Unit. Ergonomic handle for a comfortable, stable grip. Handpiece is available with Hudson end connection.

Thanks to the One-Click Connection, the Perforator Handpiece can be simply mounted on the motor. The perforator lock/release knob can be easily operated with the thumb.

The ergonomic handle is very comfortable to hold and its surface finish allows a secure grip.







Illustration of **emd**<sup>®</sup> Perforator Handpiece equipped with NeuroLine Single Use Cranial Perforator.



Illustration of **emd**<sup>®</sup> Perforator Handpiece equipped with NeuroLine Reusable Cranial Perforator.



**NSH-210**  
PERFORATOR HANDPIECE  
Autoclavable

## General Features

- 1,000 RPM
- emd**<sup>®</sup> PERFORATOR HANDPIECE ACCEPTS HUDSON END CONNECTION
- TO BE USED WITH **NeuroSmart** HS MOTOR AND CRANIAL PERFORATORS FOR SKULLS 3.0MM AND 1.5MM THICK



## Unique Advantages. Multiple Safety Mechanisms.

**emd**<sup>®</sup> NEUROLINE CRANIAL PERFORATORS WERE DESIGNED AND DEVELOPED TO PROVIDE MAXIMUM PERFORMANCE WITH MAXIMUM PATIENT SAFETY. THE INTEGRATED THREE-LEVEL SAFETY TECHNOLOGY IS PATENT PROTECTED AND OFFERS EXCLUSIVE DRILLING EXPERIENCE FOR THE USER.

### EXCELLENT TIP CONTROL TO AVOID SKIDDING

The start of perforation is a critical point, the guiding tip of the drill ensures keeping the perforator exactly on the operation point to avoid skidding on uneven surfaces as well.



### HIGH PERFORMANCE & CONSISTENT DRILLING QUALITY

Thanks to the specially developed edge design, the simultaneous movement of the drilling and cutting heads guarantees optimum results.



### RESTARTABLE AT ANYTIME

The surgeon has the possibility to continuously supervise the perforation, as the device can be stopped and safely restarted anytime.



### BONE PAD FORMATION

Cranial perforation is not a simple drilling, NeuroLine perforators form a bone pad at the end of the drilling process, which protects the dura.



# Product Versatility & Compatibility

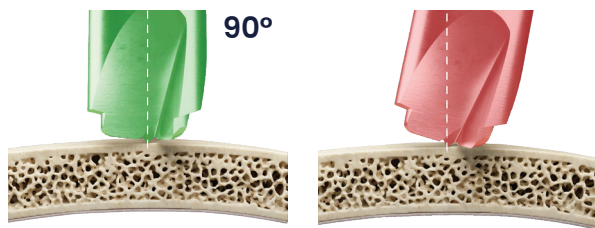
PRODUCT RANGE OF **emd**<sup>®</sup> NEUROLINE CRANIAL PERFORATORS GIVES A FREE CHOICE FOR THE CUSTOMER EITHER THEY PREFER SINGLE USE OR REUSABLE MODELS.

All our perforators are manufactured with universal Hudson end coupling.

Thanks to the standardized connection, compatibility is granted for the most commonly used medical high speed motordrill trepan adapters/speed reducers, which are equipped with standard Hudson chuck fitting.



# NEUROLINE Cranial Perforators



## IMPORTANCE OF CORRECT POSITIONING

To ensure a safe and successful operation, maintaining the correct position (90°) of the perforator against the skull is crucial and must be remembered at all times when drilling is being performed.

## Explanation of Article Numbers by Size

**NLO-7/11-1.5**

**NLO-B/A-C**

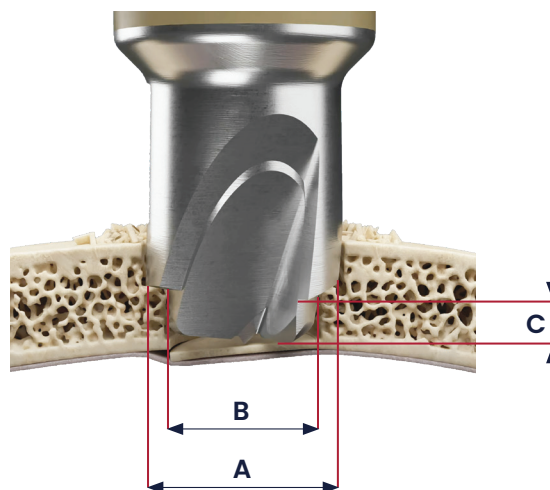
(eg. for disposable perforator for thin bone)

**NLM-11/14-3.0**

**NLM-B/A-C**

(eg. for reusable perforator for thick bone)

- A:** DIAMETER OF PERFORATOR EXTERNAL DRILL PART  
• DIAMETER OF UPPER PART OF HOLE
- B:** DIAMETER OF PERFORATOR INTERNAL DRILL PART  
• DIAMETER OF LOWER PART OF HOLE
- C:** MINIMUM THICKNESS OF SKULL BONE REQUIRED FOR OPERATION OF PERFORATOR  
(OVERHANG OF INTERNAL DRILL PART ON EXTERNAL DRILL PART)



# DISPOSABLE Cranial Perforators

WITH PATENTED TECHNOLOGY, DISPOSABLE CRANIAL PERFORATORS ARE FULLY DEVELOPED AND MANUFACTURED BY **emd**<sup>®</sup>.

SAFETY BEING OUR TOP PRIORITY, SINGLE-USE PERFORATORS ARE EQUIPPED WITH THREE SAFETY SYSTEMS.

THE BUILT-IN SAFETY MECHANISM ALLOWS THE SAME PRESSURE TO BE APPLIED ON SOFTER AREAS AS WELL WITH SAME EFFICIENCY.





FOR USE ON SKULLS MIN. 3.0MM THICK



**NLO-6/9-3.0**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

**NLO-7/11-3.0**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

**NLO-9/13-3.0**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

**NLO-11/14-3.0**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

FOR USE ON SKULLS MIN. 1.5MM THICK



**NLO-6/9-1.5**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

**NLO-7/11-1.5**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

**NLO-9/13-1.5**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

**NLO-11/14-1.5**

CRANIAL PERFORATOR, SINGLE USE  
Disposable

# REUSABLE Cranial Perforators

OUR *REUSABLE CRANIAL PERFORATORS* WITH PATENTED TECHNOLOGY OFFER HIGHEST SAFETY FOR BOTH USER AND PATIENT.

WITH THE DEVELOPMENT OF THE REUSABLE PERFORATOR, WE AIMED TO CREATE SUCH A REUSABLE DEVICE THAT IS ENTIRELY CLEANABLE AND STERILIZABLE.

CONSISTING OF FOUR PARTS, PRODUCT ASSEMBLY AND DISASSEMBLY IS PARTICULARLY EASY. THE **emd**<sup>®</sup> *REUSABLE CRANIAL PERFORATOR* IS CURRENTLY THE ONLY CRANIAL PERFORATOR WITH SUCH PRODUCT FEATURES ON THE MARKET.

AVAILABLE WITH HUDSON CONNECTION.





**NLM-6/9-3.0**  
**CRANIAL PERFORATOR, REUSABLE**  
*Autoclavable*



**NLM-7/11-3.0**  
**CRANIAL PERFORATOR, REUSABLE**  
*Autoclavable*



**NLM-11/14-3.0**  
**CRANIAL PERFORATOR, REUSABLE**  
*Autoclavable*



**NLM-S2-6/9**  
**HOLDER DEVICE**  
*Autoclavable*  
 Use with perforator:  
**NLM-6/9-3.0**

**NLM-S2-7/11**  
**HOLDER DEVICE**  
*Autoclavable*  
 Use with perforator:  
**NLM-7/11-3.0**

**NLM-S2-11/14**  
**HOLDER DEVICE**  
*Autoclavable*  
 Use with perforator:  
**NLM-11/14-3.0**

## REPROCESSING MADE EASIER

NeuroLine *Reusable Perforators* are fully dismountable. To make the assembly and reprocessing easier, we developed a holder device for storage and sterilization.

Handling is made easy with the components' dedicated locations identified by pictograms. All cutting edges are protected, minimising the risk of damage to inserted parts.



# ACCES

WE KNOW THAT

# Success Of An Operation

RELIES ON THE TEAM BEHIND.

THE LIFE EXPECTANCY OF A HIGH QUALITY MEDICAL DEVICE DEPENDS ON BOTH THE ACCURACY OF MANUFACTURING AND THE CARE TAKEN IN ITS OPERATION AND REPROCESSING.

AS MANUFACTURERS, WE STRIVE TO OFFER SOLUTIONS FOR MEDICAL PROFESSIONALS TO ENSURE EASE OF USE, STORAGE AND STERILISATION.

# SORIES

## The Importance Of Product Care

PROPER PRE-CLEANING IS ESSENTIAL TO PROVIDE EFFECTIVE STERILIZATION. THANKS TO OUR *WASH-RINSE DEVICE* ALL THE ATTACHMENTS ARE FULLY FLUSHABLE.

THE SYSTEM COMPONENTS CAN BE EASILY POSITIONED AND ITS USAGE ENSURES THAT THE INSIDE OF EACH COMPONENT IS PERFECTLY FREE OF CONTAMINATION.



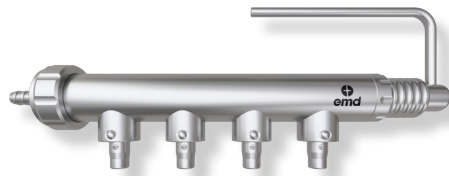
### THE LIFE CYCLE OF MEDICAL DEVICES CONTINUES BEYOND THE O.R.

Life expectancy of our tools and devices can be further extended by careful maintenance.

In our stainless steel *Storage Container* all system components can be perfectly overviewed. The specific silicone holders fix the system elements safely, granting stable position during the preprocessing.

We strongly recommend using a synthetic *Oiling Spray* dedicated for cleaning and lubrication, as well as following our product specific instructions of use.





**NSC-710**

**WASH-RINSE DEVICE**  
with cleaning connections  
for attachments  
*Autoclavable*

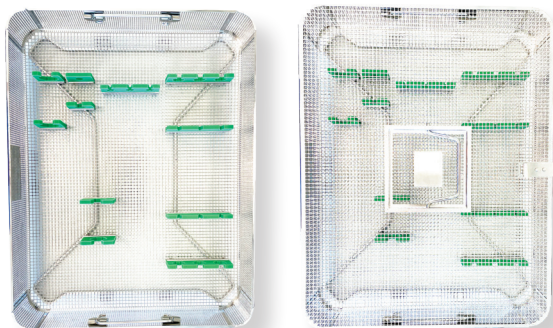


**NSC-720**

**OILING SPRAY**  
300ML  
*Use for all handpieces*

**NSC-721**

**OILING SPRAY NOZZLE**  
*For NSC-720*



**NSC-730**

**INSTRUMENT TRAY**  
with lid and silicon holders  
*Autoclavable*  
*For storage and sterilization*





