# BROACHING

## MACHINES

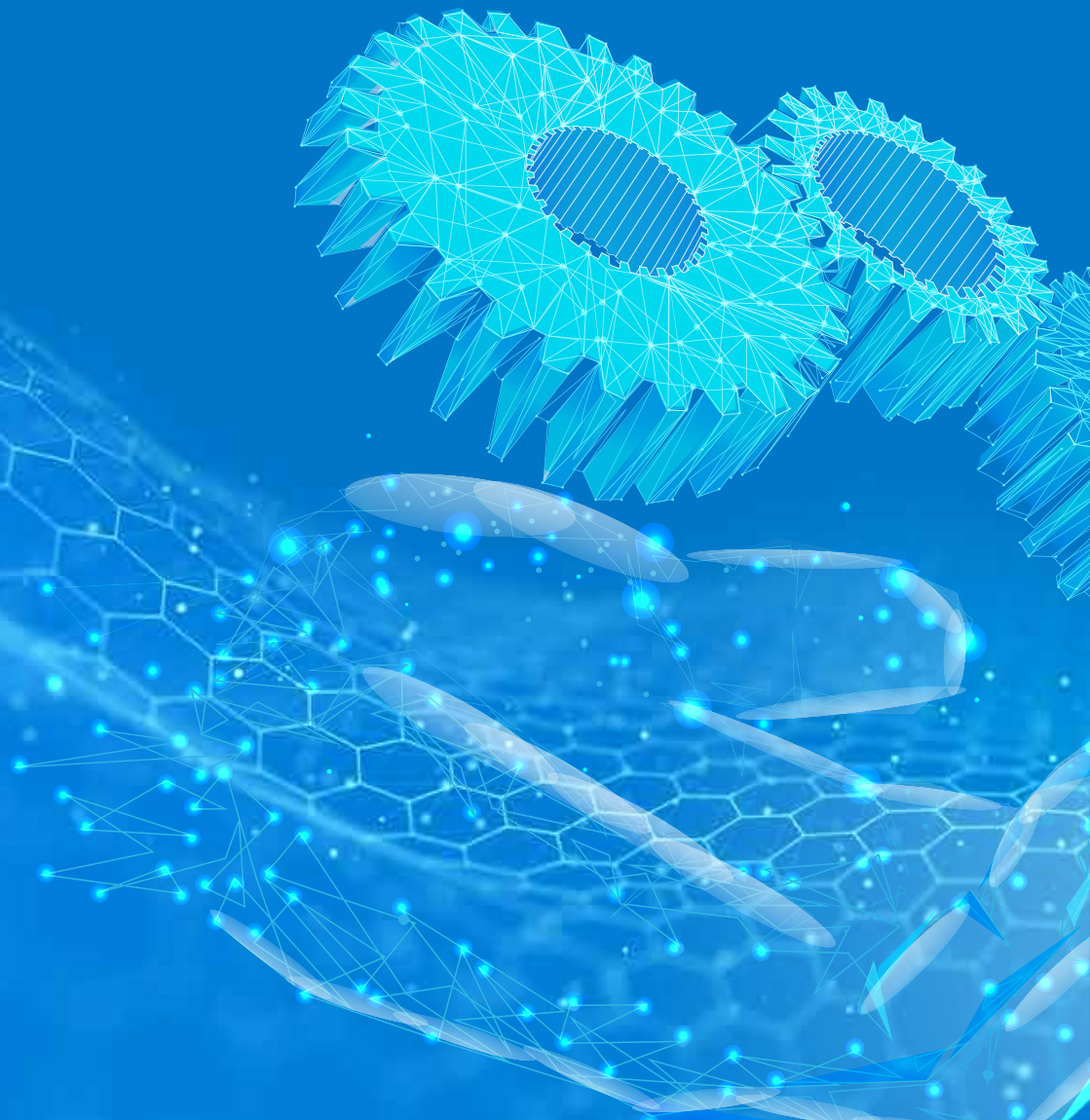
COMPLETE RANGE OF BROACHING SOLUTIONS

ENGINEERING EXCELLENCE FOR
THE AUTOMOTIVE AND MANUFACTURING INDUSTRY

STENHØJ HYDRAULIK

# ABOUT
# STENHØJ HYDRAULIK

## ENGINEERING EXCELLENCE FOR THE AUTOMOTIVE AND MANUFACTURING INDUSTRY



STENHØJ HYDRAULIK

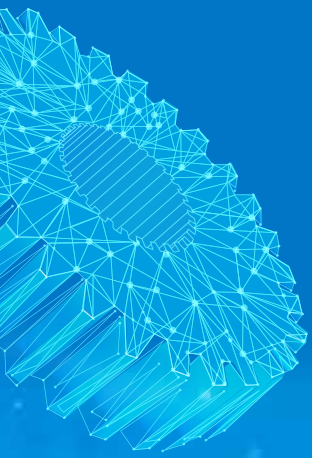
ENGINEERING EXCELLENCE FOR THE AUTOMOTIVE AND MANUFACTURING INDUSTRY

Since 2002, STENHØJ Hydraulik has delivered customised broaching machines to well-known suppliers in the automotive industry worldwide. We specialise in high-performance electro-mechanical broaching machines for internal splines for high volume production and offer a complete, extensive, program for conventional broaching as well as hard re-broaching.

Our broaching program include 2 types of vertical broaching machines - the economical Box model with fixed table and the efficient Table-Up model. Both machines are sturdy designed securing high machine stability and rigidity.

From a standardised modular design, each STENHØJ broaching machine is optimally customised to our customers' requirements and equipped with first class quality components from recognized worldwide suppliers.

By offering excellent engineering and custom solutions on the number of broaching stations, stroke lengths, cutting forces or broaching speeds, STENHØJ Hydraulik has become a key player in the international broaching industry, guaranteeing our customers 100% satisfaction.



# SOFT BROACHING
## MACHINES

SOFT BROACHING

## BOX MODELS

The STENHOJ **Box Model** broaching machine is extremely compact and our most popular broaching machine with exchange of parts outside the machine.

The BOX machine is often integrated in a production cell due to its compact design and easy access to part exchange during the return stroke of the tool.

## UNIQUE FEATURES

- 3 models
- Electromechanical servo-drive only
- 1 to 4 broaching stations
- Planetary roller spindles only
- Length of broaches from 650 to 1.600 mm
- High quality components
- Cutting forces from 60 to 160 kN
- Easy to automate with various concepts
- Broaching speed from 3 to 12 m/min
- Compact and cost effective design

## TABLE-UP MODEL

The STENHOJ **Table-Up model** is a heavy, compact machine for soft broaching, designed to be operated directly at floor level with part exchange inside the machine.

The floor operated machine construction facilitates flexible factory setup and effective integration with an automatic production line.

Automation of the machine is often integrated with a robot from the rear of the machine, without safety fencing, allowing for easy front access for exchange of broaches, and reducing footprint at the same time.

## UNIQUE FEATURES

- 4 models
- Electromechanical servo-drive only
- 1 to 7 broaching stations
- Planetary roller spindles only
- Length of broaches from 800 to 3.500 mm
- High quality components
- Cutting forces from 100 to 600 kN
- Easy to automate with various concepts
- Broaching speed from 3 to 24 m/min
- Compact and cost effective design

# HARD BROACHING
## MACHINES

The universal Table-Up Model for soft broaching and hard re-broaching in hardened work pieces is a competitive and extremely compact model and our most popular broaching machine.

## UNIQUE FEATURES

- 2 models
- Electromechanical servo-drive only
- 1 to 4 broaching stations
- Planetary roller spindles only
- Length of broaches 650 to 1.600 mm
- High quality components
- Cutting forces from 50 to 160 kN
- Easy to automate with various concepts
- Broaching speed from 3 to 60 m/min
- Compact and cost effective design

# DRY BROACHING
## MACHINES

Meeting the increasing market requests for high-volume, high-precision, internal spline components, STENHOJ has developed an effective and economical answer to sustainable broaching.

Hence, by introducing innovative dry-broaching technology that requires no use of coolant, the STENHOJ dry broaching machine delivers cost-effective, high speed broaching with exceptional precision and impressive performance stability.

To avoid the use of coolant, the dry broaching machine is specially engineered to ensure long life performance. The chips are handled with a vacuum suction unit to secure optimal removal from the machine.

## UNIQUE FEATURES

- 1 to 4 broaching stations
- Electromechanical servo-drive only
- Cutting force to 160 kN at 30 m/min
- Planetary roller spindles only
- Length of Broaches up to 1.600 mm
- High quality components
- Including various individually designed suction units
- Easy to automate with various concepts
- Infinite number of customised options

# TECHNOLOGY

## ELECTRO-MECHANICAL BROACHING

The SERVO-drive brings strong benefits to the broaching operation and prompts a high level of stability, accuracy and durability - qualities that our machinery is known for worldwide.

## PLANETARY ROLLER SPINDLES

All STENHØJ broaching machines are equipped with long life planetary roller spindles securing great stability and extremely low noise. With the use of 2 spindles the forces in one line give optimum load distribution.

## SERVO-DRIVE

The servo drive eliminates heating time and secures:

- 100% position control
- Variable speed control
- Energy efficiency
- Fewer components
- Less maintenance

## QUICK TOOL-CHANGE SYSTEM

STENHØJ broaching machines are equipped with a Quick-Change system for ergonomic and rapid change of puller and retriever heads – an advantage for quick changeover of broaches with different diameters.

Operated by an electromechanical retriever, the lengths of the broaches, and return and play-free guidance on the broach tail end, can be automatically adjusted during the broaching process.

Stepless adjustment for various tools with servo motors can be freely programmed in the PLC with the intelligent “Teach-In” function, enabling quick tool change for new workpieces to be broached.

## HIGH-QUALITY KNOLL COOLANT SUPPLY

For our broaching machine coolant supply, STENHØJ uses the high-quality ‘KNOLL-.It works’ coolant system.

The KNOLL system provides effective filtration and ensures optimal conditions for profile surfaces, while extending the lifetime of coolant and broaches.

As an alternative to normal filtration, we offer a chip conveyor built-in solution. This design is more cost-effective and takes up less footprint.

# AUTOMATION

STENHØJ Broaching Machines are easy to automate.

We manufacture complete loading and unloading systems and offer full machine integration and following safety approval. The supply of additional buffers, handling systems or the integration of the machine into a production cell are easy to implement or retrofit. This can be done by STENHØJ or in coordination with your house supplier.

The STENHØJ Box model can be loaded and unloaded from the front with different pick & place units and robots during the return stroke. This external handling during the return stroke make for a very flexible and fast cycle time.

The STENHØJ Table-Up model is the most flexible broaching machine to automate. The machine can be automated from the front with safety fences, or with robot integration from the back without fencing. This secures easy machine access and minimal footprint.

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INTEGRATED ROBOT

# INTEGRATED ROBOT

Integrated Robot placed in the back of the machine is also available as an option.

The Robot is in this case integrated in the machine, providing a compact solution where fencing is not required.

# NOTES

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