

MANUFACTURING SYSTEMS

VTM

RTX

SMX

SPX

MANUFACTURING SYSTEMS

ELHA-MASCHINENBAU

The company ELHA-MASCHINENBAU Liemke GmbH & Co. KG is a mid-size family business with 240 employees.

Many industries such as largescale bearing manufacturers, automotive OEM's and their TIER 1/2 suppliers rely on our experience and technological expertise for developing and realizing of highly productive metal cutting processes as well as our competence for design and production of metal cutting machine tools and turn key solutions.



Machining facility ELHA-MASCHINENBAU

Capabilities

In the Manufacturing Systems division ELHA-MASCHINENBAU develops and produces special machining centers and special purpose machines mainly for large scale workpieces with the VTM-, RTX-, SMX- and SPX-series.

In the Production Modules division special solutions and processes for automotive workpieces are developed and realized based on the transfer center concept by the production module types FM 3+X and FM 4+X.

- Complete metal cutting solutions including the integration of special manufacturing processes
- Integration of automatic loading/unloading and other peripheral systems
- Delivery of production-ready turn-key solutions



Example for complete ELHA turn-key solution

Quality & Environment Management

Since 2005 the company is certified according to DIN EN ISO 9001 and DIN EN ISO 14001. VDA 6.4 for Production Modules since 2012.

ELHA-MASCHINENBAU offers competent after-sales service to ensure high machine availability. All system can be equipped with remote diagnosis capabilities.



SMX 6100
Double Vario Module with tool
storage



SPX 4979
5 Station Planetary Table
Machine



RTX 5130
Rotary Table Machining Center



SPX 5120
5 Station Linear Transfer Machine

SPX Special Purpose Machines



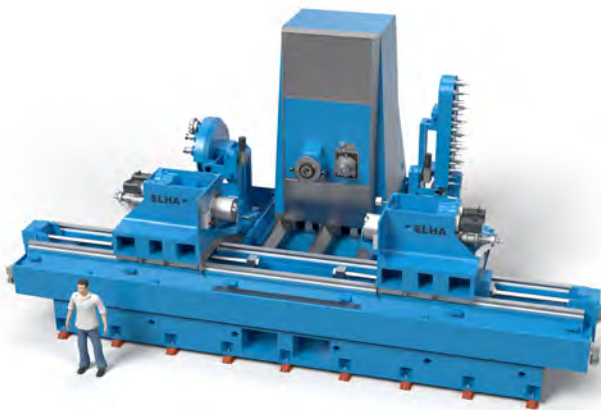
Turn-Mill Machining Center SPX 5111

- For machining of printing cylinder with max. diameter 800 mm and length of 2000 mm
- Highly productive turn-milling of cylinder envelope with HSK 160 spindle
- Precise slot machining with HSK 100 ram spindle
- 2 automatic tool changers
- Optimal damping by composite material components
- High thermal stability by optimized coolant system



Horizontal Machining Center SPX 5176

- Highly productive machining of large scale drums by two simultaneous working spindles HSK 100
- High dynamics and stability of the milling unit in spite of large travel with a „box-in-box“ design
- Full NC rotary table designed for high loads
- Use of 2-spindle drill heads in both units doubling the machining performance
- Structural composite material components
- 2-piece machine base with high rigidity



SPX 5111
Work area with clamped
printing cylinder



SPX 5128
2 Station Horizontal
Machining Center



SPX 5207
6 Spindle Deep Hole Drilling
Machine



SPX 5134
Rail Drilling Machine

MANUFACTURING SYSTEMS

VTM Vertical Turning Milling



Standard RAM unit

Features

- Table diameter 2500 - 8000 mm and workpiece height up to 5000 mm
- Highly precise and dynamic segmented rotary table direct drive ELHA SDD
- Designed for soft- and hardturning as well as drilling, milling, grinding and 5-sides/5-axes simultaneous machining
- With fixed or movable crossbeam
- Table base and columns made from optimal damping composite material
- Hydrostatically guided linear and rotary axes
- RAM units with three different cross sections and stroke up to 3000 mm
- Exchangeable work units with tool spindle power up to 70 kW



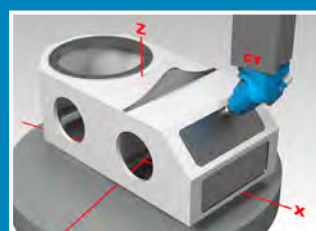
ELHA SDD - Segment Direct Drive



Vertical surface machining:
3-axes interpolation with
vertical milling head



Vertical surface machining:
4-axes interpolation with
horizontal milling head

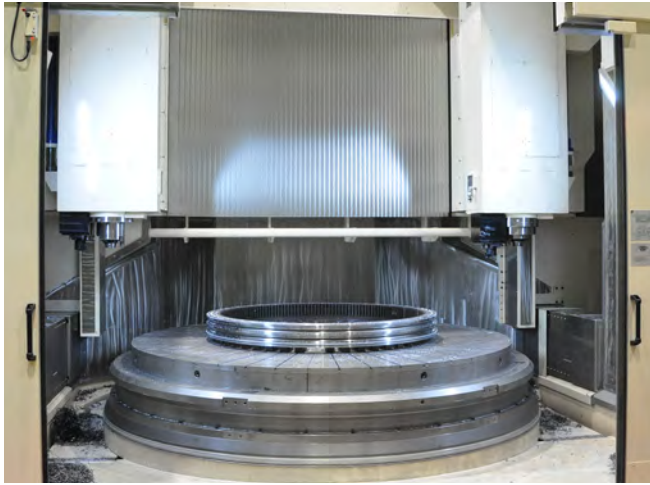


Sloping surface machining
4 (5)-axes interpolation with HV
milling head, fixed B-axes



Free form shape machining
5-axes simultaneous machining
with HV head, dynamic B-axes

VTM ht (special type for hardturning)



Vertical turning milling center VTM 402 ht

- Budget optimized version of VTM turning and milling center
- VTM ht is optimally designed for finish operations by hardturning, grinding, drilling, milling and threading
- Optimized work area for large diameter bearings, flanges and gear box parts
- Linear roller guide systems for X-/Z-axes
- Separated turning tool interface and tool spindle
- Powerful direct drive for tool spindle

RTX Rotary Table Machining Center



Rotary table machining center RTX 5211

- Precise drilling and threading for ring shaped workpieces up to Ø 6000 mm
- Main machine components made from composite material
- 2 turn-slide tables for cycle-time-parallel loading and unloading and set-up of the fixture
- Workpiece clamping with automatic 6-jaw force chuck
- Tools driven by powerful motor spindles
- Automatic exchangeable drilling heads



VTM 402 ht
Optimized for hardturning operation



RTX 5280
Vertical 2 spindle machining of perforated discs



RTX 5211
Vertical 2 spindle machining of large scale bearing rings



RTX 5135
Vertical 2 spindle machining with H/V-milling head

MANUFACTURING SYSTEMS

SMX Special Machining Centers



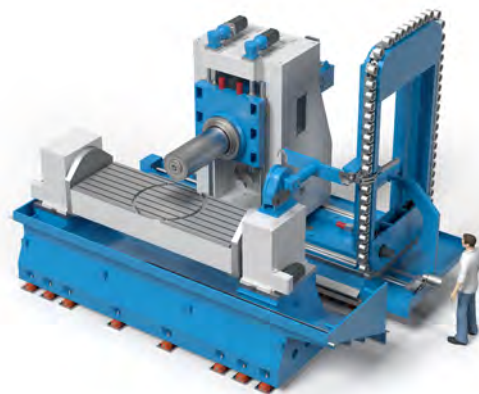
Horizontal Special Machining Center with H/V-milling head SMX 5181

- Designed for high precision machining of large structural steel and aluminum workpieces
- High dynamics due to small moving masses
- Newly developed fork-type milling head with powerful motor spindle
- Precise round table with automatic pallet clamping device
- Automatic pallet changer with 4 pallet storage positions and separate setup station



Horizontal 5-Axes-Machining Center SMX 5224

- Powerful machine with excellent rigidity and damping
- Outstanding performance for machining of heavy cutting materials like titanium or inconel
- Hydrostatically guided RAM with Ø 450 mm
- 60 tools magazine with double gripper unit
- Massive swivel work table with integrated NC rotary table of Ø 1000 mm



SMX 5181
Automatic tool change
by robot



SMX 5181
Swivable work area camera
monitoring system

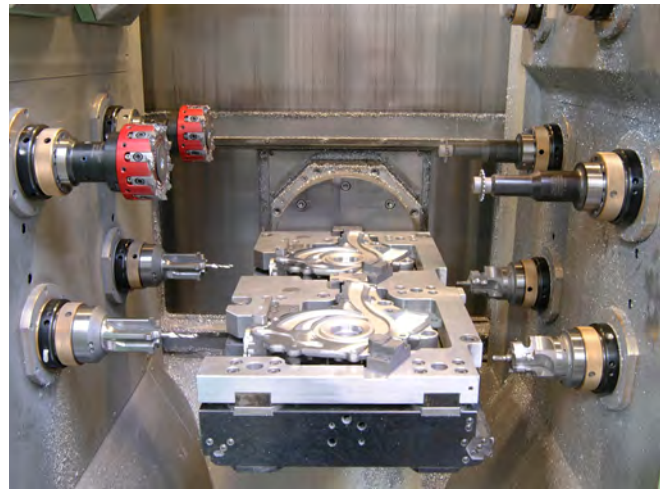


SMX 5224
Accessible work area
for convenient handling



SMX 5224
Integrated, space saving
60 tools magazine

Production Modules Division



- Excellent for mass production of automotive workpieces
- No idle times for tool changing
- Chip-to-chip time approx. 0.5-1.5 sec.
- Every tool has it's own spindle
- Tools driven with optimized size, speed and power for applied machining process
- Angle machining possible by utilizing angle positioning spindles and interpolation
- Great variety of automation solutions available
- Dynamic 4-axis work-holding unit for all feed and rapid movements
- Special tooling devices like special milling units or turrets available
- Short set up time and high accuracy by only one work-holding unit per machine
- Optimal balance between productivity and space requirement
- Hermetical separation of work area and machine area



More information available
in ELHA brochure
"Production Modules" or
on website www.elha.de

Industries & Products



Automotive



FM
Production Modules



FM SMART
Transfer Centers



Energy

Large bearings



VTM
Vertical Turn-Milling Centers

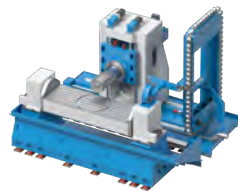


RTX
Rotary Table Machining Centers

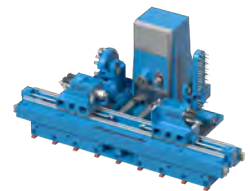


Aerospace

General machining



SMX
Special Machining Centers



SPX
Special Purpose Machines

ELHA-MASCHINENBAU Liemke GmbH & Co. KG

ELHA is a family-owned company known for customized machine tools and process solutions. Many industries in the metalworking industry trust ELHA's experience and competence in the development and realisation of highly productive machining processes as well as the design and manufacture of cutting machine tools and turn-key solutions.

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