



AXA Entwicklungs- und Maschinenbau GmbH

WE ARE AXA

TRAVELLING COLUMN MACHINING CENTRE

GANTRY MACHINING CENTRE

ORIGINAL COMPONENTS

INDIVIDUAL SOLUTIONS



Producing success.

With AXA uniqueness.

Why unique?

Our family business AXA develops, designs and manufactures machine tools in travelling column and gantry design. But what makes us and our products unique? We have all the prerequisites to manufacture unique products:

- Mechanical and electrical design department
- Software department for PLC programming and customisations to the control software
- Steel construction department with integrated welding shop
- Exceptional depth of manufacture thanks to a flexible machine park for production, made by AXA
- Pre-assembly for the components and final assembly of the entire machine
- AXA's own spindle and rotary table test benches to ensure quality
- Commissioning, maintenance and service, including logistics for wear and spare parts

Unique, because we do everything ourselves, designing and manufacturing exclusively in Germany!



Travelling column machining centres

For use in the production of small parts all the way up to the machining of large and complex workpieces.

- Vertical spindle or tilting spindle, horizontal and/or vertical rotary tables, multi-axis and multi-side machining
- Milling and turning in one set-up thanks to separate turning tool holder on the working spindle
- Cross slides, travelling column and spindle headstock made of high-quality cast iron
- Sliding guideways in the basic X/Y/Z axes with extreme long-term accuracy and excellent vibration absorbing capabilities
- Alternatively, large-dimensioned roller guides for the basic axes for even more dynamic performance
- Ball screw drives as standard in all linear axes; alternatively in the X-axis also rack and pinion drive with two motors and electronic preloading
- Fixed position coded tool magazines with tool preselection parallel to machining time by double gripper system or direct removal from the magazine
- Almost unlimited number of tool positions can be achieved; magazine loading possible during machining



Travelling column machining centre VCC



Technical data VCC

Working area

X-traverse range	750 – 1350 mm
Y-traverse range	550 – 750 mm
Z-traverse range	600 – 850 mm

Tool changer

Disc type magazine (chain)	22 – 30 (108) places
Tool holding fixture	SK 40, BT 40, HSK A63 / SK 50, BT 50, HSK A100

Main spindle drives

		100	110	111	131	133	163
Speed range	[rpm]	6000	6000	6000	4000	4000	4000
optional up to	[rpm]	15000	12000	12000	9000	9000	7500
Max. torque (40% DC)	[Nm]	95	143	191	286	355	540
Max. power (40% DC)	[kW]	20	30	40	45	56	56
Tilting spindle head	optional						



Travelling column machining centre DBZ



Technical data DBZ

Working area

X-traverse range	2 x 750 – 2 x 900 mm
Y-traverse range	550 – 600 mm
Z-traverse range	600 – 700 mm

Tool changer

Disc type magazine	22 – 30 places
Tool holding fixture	SK 40, BT 40, HSK A63

Main spindle drives

		100	110	111
Speed range	[rpm]	6000	6000	6000
optional up to	[rpm]	15000	12000	12000
Max. torque (40% DC)	[Nm]	95	143	191
Max. power (40% DC)	[kW]	20	30	40



Travelling column machining centre VSC



Technical data VSC

Working area

X-traverse range	1760 – 9000 mm
Y-traverse range	550 – 1250 mm
Z-traverse range	600 – 1250 mm

Tool changer

XTS-chain magazine	22 – 288 places
Tool holding fixture	SK 40, BT 40, HSK A63, C6 / SK 50, BT 50, HSK A100, C8

Main spindle drives

		100	110	111	113	131	133	161	163	182
Speed range	[rpm]	6000	6000	6000	6000	4000	4000	4000	4000	4000
optional up to	[rpm]	15000	12000	12000	10000	9000	9000	7500	7500	-
Max. torque (40% DC)	[Nm]	95	143	191	255	286	355	540	540	820
Max. power (40% DC)	[kW]	20	30	40	40	45	56	28	56	81



Travelling column machining centre VHC



Technical data VHC

Working area

X-traverse range	1760 – 9000 mm
Y-traverse range	600 – 1250 mm
Z-traverse range hor.	850 – 1250 mm
Z-traverse range vert.	820 – 1220 mm

Tool changer

XTS-chain magazine	22 – 288 places
Tool holding fixture	SK 40, BT 40, HSK A63, C6 / SK 50, BT 50, HSK A100, C8

Main spindle drives

		100	110	111	113	131	133	161	163	182
Speed range	[rpm]	6000	6000	6000	6000	4000	4000	4000	4000	4000
optional up to	[rpm]	15000	12000	12000	10000	9000	9000	7500	7500	-
Max. torque (40% DC)	[Nm]	95	143	191	255	286	355	540	540	820
Max. power (40% DC)	[kW]	20	30	40	40	45	56	28	56	81
Tilting spindle head	Swivelling range B-axis 0° to ±90° (0° to ±100°)									



Gantry machining centres

Compact design, large work area – that's what makes our gantry machines stand out. Large-volume workpieces weighing several tonnes are the speciality of our large gantry machines with extremely long traverse ranges.

- Vertical spindle, tilting spindle or 2-axis tilting spindle heads, horizontal rotary tables and/or vertical rotary tables, multi-axis and multi-side machining
- Milling and turning in one set-up thanks to separate turning tool holder on the working spindle
- Combination of sliding and/or roller guides in the basic X/Y/Z axes with extreme long-term accuracy and excellent vibration absorbing capabilities
- Real gantry drive, each with independent drive, guideway and direct measuring system
- Ball screw drives as standard in all linear axes; alternatively in the X-axis, rack and pinion drive with two motors and electronic preloading
- Fixed position coded tool magazines with tool preselection parallel to machining time by double gripper system or direct removal from the magazine
- Almost unlimited number of tool positions can be achieved; magazine loading possible during machining



Gantry machining centre VPC



Technical data VPC

Working area

X-traverse range	2300 – 3400 mm
Y-traverse range	1200 – 2200 mm
Z-traverse range	500 – 800 mm

Tool changer

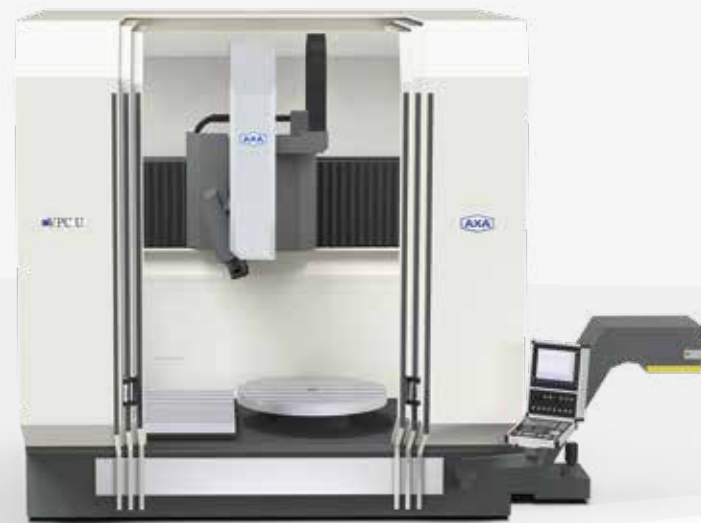
Chain magazine	20 – 90 places
Tool holding fixture	SK 40, BT 40, HSK A63, C6 / SK 50, BT 50, HSK A100, C8

Main spindle drives

		100	110	111	113	131	133	163
Speed range	[rpm]	6000	6000	6000	6000	4000	4000	4000
optional up to	[rpm]	15000	12000	12000	10000	9000	9000	7500
Max. torque (40% DC)	[Nm]	95	143	191	255	286	355	540
Max. power (40% DC)	[kW]	20	30	40	40	45	56	56



Gantry machining centre VPC U



Technical data VPC U

Working area

X-traverse range vert.	2300 – 3400 mm
X-traverse range hor.	2000 – 3100 mm
Y-traverse range	1200 – 2200 mm
Z-traverse range	600 – 1100 mm

Tool changer

Chain magazine	20 – 90 places
Tool holding fixture	SK 40, BT 40, HSK A63, C6 / SK 50, BT 50, HSK A100, C8

Main spindle drives

		100	110	111	113	131	133	173
Speed range	[rpm]	6000	6000	6000	6000	4000	4000	6000
optional up to	[rpm]	15000	12000	12000	10000	9000	9000	7500
Max. torque (40% DC)	[Nm]	95	143	191	255	286	355	445
Max. power (40% DC)	[kW]	20	30	40	40	45	56	70
Tilting spindle head	Swivelling range B-axis 0° to ±90° (0° to ±100°)							



Gantry machining centre VPC 2800 U



Technical data VPC 2800 U

Working area

X-traverse range vert.	3900 – 5000 mm
X-traverse range hor.	3900 – 5000 mm
Y-traverse range	2900 mm
Z-traverse range	1100 – 1300 mm

Tool changer

Chain magazine	20 – 120 places
Tool holding fixture	SK 50, BT 50, HSK A100

Main spindle drives

		140	173
Speed range	[rpm]	6000	6000
optional up to	[rpm]	9000	7500
Max. torque	[Nm]	200 (100% DC)	445 (40% DC)
Max. power	[kW]	63 (100% DC)	70 (40% DC)
Tilting spindle head	Swivelling range B-axis 0° to -90°		



Gantry machining centre VPC 45 DASK



Technical data VPC 45 DASK

Working area

X-traverse range vert.	2200 – 2800 mm
Y-traverse range	1500 mm
Z-traverse range	800 mm

Tool changer

Chain magazine	22 – 90 places
Tool holding fixture	HSK A63

Main spindle drives

DASK

Speed range	[rpm]	18000
Max. torque (S6)	[Nm]	130
Max. power (S6)	[kW]	27
Tilting spindle head	Swivelling range A-axis -110° to +110°	
	Swivelling range C-axis -360° to +360°	



Gantry machining centre TMP



Technical data TMP

Working area

X-traverse range vert.	2300 – 2940 mm
X-traverse range hor.	2000 – 2640 mm
Y-traverse range	1400 – 1800 mm
Z-traverse range	900 mm

Tool changer

Chain magazine	20 – 90 places
Tool holding fixture	SK 50, HSK A63

Main spindle drives

		133	DASK
Speed range	[rpm]	4000	18000
optional up to	[rpm]	9000	-
Max. torque	[Nm]	355 (40% DC)	130 (S6)
Max. power	[kW]	56 (40% DC)	27 (S6)
Tilting spindle head	Swivelling range B-axis 0° to -100°		



Large gantry machining centre PFZ



Technical data PFZ

Working area

X-traverse range	3000 – 10000 mm
Y-traverse range	1500 – 3000 mm
Z-traverse range	800 – 1500 mm

Tool changer

Chain magazine	22 – 90 places
Tool holding fixture	SK 40, BT 40, HSK A63, C6 / SK 50, BT 50, HSK A100, C8

Main spindle drives

		100	110	111	113	131	133	161	163	182
Speed range	[rpm]	6000	6000	6000	6000	4000	4000	4000	4000	4000
optional up to	[rpm]	15000	12000	12000	10000	9000	9000	7500	7500	-
Max. torque (40% DC)	[Nm]	95	143	191	255	286	355	540	540	820
Max. power (40% DC)	[kW]	20	30	40	40	45	56	28	56	81



Large gantry machining centre UPFZ



Technical data UPFZ

Working area

X-traverse range	3000 – 10000 mm
Y-traverse range	1500 – 4000 mm
Z-traverse range hor./vert.	800 – 1500 mm

Tool changer

Chain magazine	22 – 90 places
Tool holding fixture	SK 40, BT 40, HSK A63, C6 / SK 50, BT 50, HSK A100, C8

Main spindle drives

		100	110	111	113	131	133	161	163
Speed range	[rpm]	6000	6000	6000	6000	4000	4000	4000	4000
optional up to	[rpm]	15000	12000	12000	10000	9000	9000	7500	7500
Max. torque (40% DC)	[Nm]	95	143	191	255	286	355	540	540
Max. power (40% DC)	[kW]	20	30	40	40	45	56	28	56
Tilting spindle head	Swivelling range A-axis 0° to 180°								
	Swivelling range B-axis 0° to 360°								



Original components



Original components

The essential core components of a machine tool are also designed and manufactured at AXA. This gives each machine its own individual equipment, tailored to the customer's requirements.

AXA components:

- Rotary tables
- Tailstocks and counterbearings
- Main spindle drives
- Tool changing systems
- Swivel heads
- Clamping devices

Rotary tables

- NC-rotary tables with worm gear
- Highly dynamic NC-rotary tables with torque direct drive
- Swivelling rotary tables as entrance into 5-axis machining
- Integrated hydraulic clamping on rotary tables with multipassage-rotating union
- Rotary tables can be linear moved in X-direction by an NC axis in the working area for flexible adjustment to the length of the workpiece
- Individual, customer-specific special solutions



Main spindle drives

- Directly driven spindles, belt-driven spindles or gear-driven spindles as special solution
- Water or air cooled motors in asynchronous or synchronous design
- Various standard and special solutions of taper for the main spindle
- Combined milling and drilling processing by additionally placed turning tool holder on the main spindle
- Spindle adaption for support of angular heads and multi-spindle heads or fast turning spindles by simple torque support or threepoint support





Original components

Tool changing systems

- **Disc-type magazines**
as vertical and horizontal solution
- **Chain magazines**
as vertical and horizontal solution
- **XTS tool magazines**
for an infinitely expandable number at tool places
- **Pick up stations**
as vertical and horizontal solution



Original components

Clamping devices

- Chucks or clamping devices
- Machine vices
- Centering vices
- Box jaws
- Multiple clamping systems
- Clamping towers
- Clamping claws
- Lever clamps
- Magnetic clamping plates
- Clamps of moulded parts with special clamping system





Individual solutions



Two main spindles that swivel around the X axis enable flexible manufacture of any contours



The assembly of the clamping device and workpiece on a rotary table allows several sides to be machined in one clamping operation

Individual solutions



Both spindles can be used in parallel on one workpiece or independently on separate workpieces



The machining centre with tilting spindle head is used for milling long steel girders and additionally for welding bolts



One-sided post-machining of sealing surfaces on long pipes



Instead of the fixed machine cladding the working space around the spindle is encased in a hood that moves with the travelling column

Special tasks require special framework conditions. Our strength lies in taking on these challenges and developing the ideal application technology for each of our customers.

Talk to us!

Uniqueness

made by AXA

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