

# TECHNICAL SPECIFICATION

## E350

### 3 AXIS VERTICAL MILLING CENTER



CE

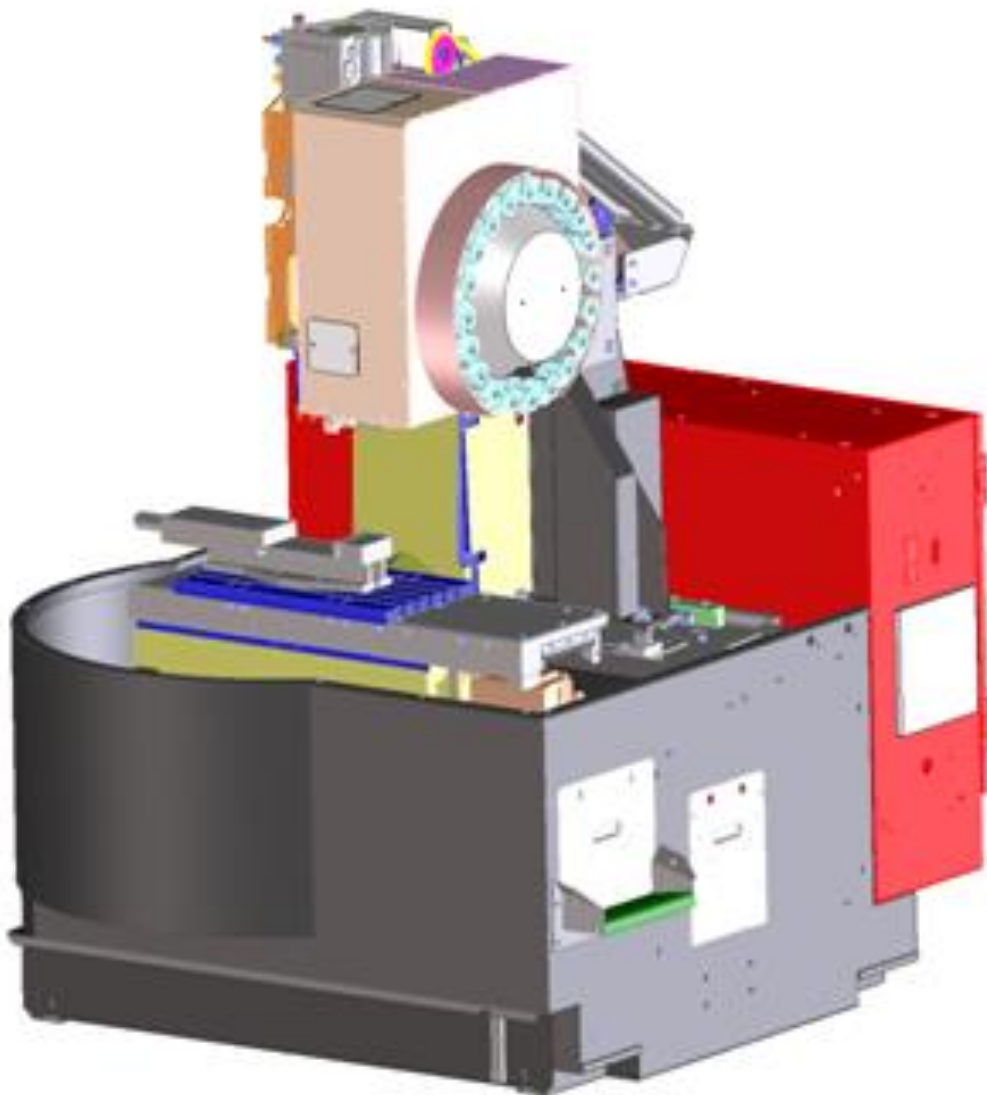
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**STRUCTURE CONCEPT:**

# E350

## EXTREME ROBUST C-FRAME DESIGN

All components made of cast iron



CE

**MACHINE DESCRIPTION:**

The E350 is an ideal machine to start into sophisticated milling operation with best manufacturing tolerances and the most modern control technology from Siemens on small work pieces.

**Spindle:**

The spindle shows a high drive power. The basic version is built with a mechanical spindle direct driven.

**Axis:**

The axis run on linear roller guides.

**Tool changer:**

The tool changer is a fast dual gripper arm with directional logic and random tool selection. This way the tool change time is reduced immensely.

**Covers:**

The working area is closed all the way around the machine. The machine door is dimensioned largely to allow an easy loading of the machine.

**OVERVIEW OF THE MACHINE VERSIONS:**

**E350**

**E350 >Siemens<**

With ISO 30 Tool Taper and  
10.000 U/min Spindle Speed  
*refer tp page 6*

**MACHINE BASIC VERSION:****Q4E S02****E350 VERTICAL MILLING CENTER  
SIEMENS 10.000 U/min**

3 Axis - Vertical Milling Center with  
integrated tool magazine 20 tools  
Control: SIEMENS 828D with Shopmill

**Spindle:**

Speed: 10000 U/min  
Spindle Power: 6,8 KW  
Spindle Torque: 34 Nm

**Tool Taper:** ISO 30 DIN 69871

Tool Pull Studs: ISO69872 (similar ISO  
7388/2 Type A)

**Strokes:** X=350mm, Y=250mm, Z=300mm

**Distance spindle nose-Table:**120–420mm

**Rapid speed X, Y, Z:** 24 m/min

**Table:** Cast iron table with T-slots  
Number – Width – Distance: 5 – 12 – 45  
Useable clamping surface: 520 x 300 mm  
Table load max.: 100 kg

**Tool Changer:**

Tool drum with 20 tools  
Tool change time (tool - tool) 2,5s

**Coolant:** Standard pump 3,5 bar

**Illumination of working area:**

1 fluorescent lamp

**Standard Equipment:**

- o Central lubrication
- o Rigid tapping
- o Automatic cleaning of tool mount in  
spindle during tool change
- o coolant pan 140 Liter

**CONTROL LANGUAGES:****STANDARD LANGUAGES:****DE6 400****Control language / GERMAN**

Standard version includes two languages switchable from German to English. Additional languages available as per surcharge.

**EN6 400****Control language / ENGLISH**

Standard version includes two languages switchable from German to English. Additional languages available as per surcharge.

**TA6 400****Control language / ITALIAN**

Standard version includes two languages switchable from German to English. Additional languages available as per surcharge. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

**ADDITIONAL LANGUAGES AT EXTRA COST:****FR6 400****Control language / FRENCH**

Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

**SP6 400****Control language / SPANISH**

Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

**SE6 400****Control language / SCHWEDISH**

Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

**CZ6 400****Control language / CZECH**

Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

**DK6 400****Control language / DANISH**

Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

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<b>NL6 400</b> 	<b>Control language / DUTCH</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>FI6 400</b> 	<b>Control language / FINNISH</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>HU6 400</b> 	<b>Control language / HUNGARIAN</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>PL6 400</b> 	<b>Control language / POLISH</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>PT6 400</b> 	<b>Control language / PORTUGUESE</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>RU6 400</b> 	<b>Control language / RUSSIAN</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>TR6 400</b> 	<b>Control language / TURKISH</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.
<b>CN6 400</b> 	<b>Control language / CHINESE-SIMPLE</b> Additional control language, switchable to English when needed. We reserve the right, that not all the displayed text is incorporated in the special language at the control.

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**CONTROL OPTION SIEMENS 828D:****X3Z 410****SPLINE INTERPOLATION**

SPLINE (A,B,C)  
Software Option to connect single knots to  
cams. Advanced interpolation. memory.

Retrofitable by EMCO specialist

**X3Z 690****SHOPMILL EXTENSION PACKAGE**

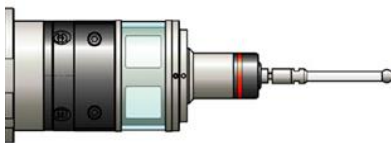
SHOPTURN/MILL EXTENSION PACKAGE  
828D/840D-sl  
Consisting of:  
- Rest material removing cycle  
- Monitoring function for simulation

Retrofitable by EMCO specialist

**MEASURING OPTIONS SIEMENS 828D:****Q4Z 750****AUTOMATIC TOOLMEASUREMENT  
SIEMENS**

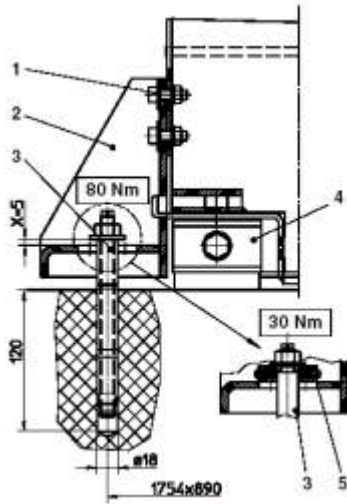
A MARPOSS probe TS30, mounted onto  
the machine table for touching cutter edges  
and automatic takeover into tool offset  
memory.

Retrofitable by EMCO specialist

**Q4Z741****AUTOMATIC WORK PIECE MEASURING  
SIEMENS**

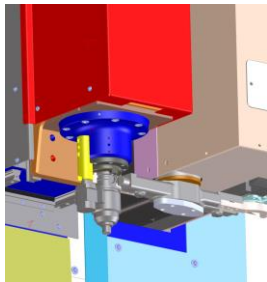
MARPOSS probe TT30 with radio  
transmitter, inserted in main spindle for  
touching work piece dimensions  
and automatic takeover of the values  
via measuring cycles.

Retrofitable by EMCO specialist

**MACHINE OPTIONS:****S6Z 460****MACHINE INSTALLATION AND MOUNTING KIT**

Consisting of:

- 4x vibration absorbing, height adjustable levelling elements 881500
- 4x angle plates to fasten the machine to the floor
- 4x anchor bolts to lag the machine to the floor

**Q4Z 010****SPINDLE SPEEDER 20.000 U/min**

High speed tool spindle mounted in the milling spindle, with locking bracket,  
Speed ratio: 1:5  
Length spindle nose - end of collet: 134 mm  
To be used with ER11 Collets

Factory option

**Q4Z 21S****LINEAR SCALE X-AXIS**

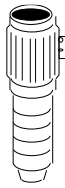
Linear measuring of position with "linear scale" in the X-axis to eliminate displacement (thermal growth) and increase machine precision.  
Pressurizing of the scales prevent penetration of dust or oil.

Factory option

**Q4Z 22S****LINEAR SCALE Y-AXIS**

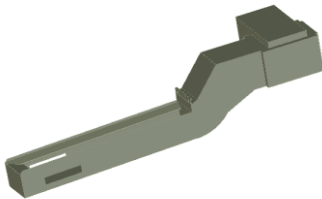
Linear measuring of position with "linear scale" in the Y-axis to eliminate displacement (thermal growth) and increase machine precision.  
Pressurizing of the scales prevent penetration of dust or oil.

Factory option

**A8Z 110****HIGH PRESSURE COOLANT  
EQUIPMENT 6 BAR**

High pressure pump for the coolant with  
6 bar

Factory option

**Q4Z 850****CHIP CONVEYER E350 – 500mm**

Hinge type Conveyor, Discard height  
500mm

suitable for:

- Long steel shavings
- Snarl chips
- Wool chips

Dry- and wet machining

Factory option

**S4Z 140****COOLANT PISTOL**

To clean the machining area from chips with  
coolant.

(Note: never use air to clean the machine!)

Retrofitable by EMCO specialist

**X3Z 600****ELEKTRONIC HANDWHEEL**

For moving the machine's axes manually to  
proceed zero point- and tool offsets

Retrofitable by EMCO specialist

**R9Z 035****ALARM STATUS LAMP**

Triple color machine lamp to indicate the status  
of the machine

Retrofitable by EMCO specialist!

**Q4Z 650****NC-DIVIDING HEAD (4.ACHSE) WITHOUT CHUCK**

Including:  
Dividing head WALTER TANI 80 NEG,  
Clamping screws and clamping shoes,  
Necessary for the mounting on milling table

Kind of clamping: pneumatically  
Necessary pressure: 6 bar  
Dividing precision: +/- 60"  
Repeating accuracy: +/- 10"  
Spindle height: 80 mm  
Bore  $\varnothing$  24 mm  
Total height: 136 mm

**Factory option!**

**Q1Z 600****MANUAL THREE JAW CHUCK WITH FLANGE FOR NC-DIVIDING HEAD Q4Z 650**

Manual chuck including 1 set of outside and inside jaws.  
Chuck  $\varnothing$  82 mm  
Bore  $\varnothing$  18 mm

**Retrofitable by EMCO specialist!**

**Q1Z 610****MANUAL TAILSTOCK TO USE WITH NC-DIVIDING HEAD Q4Z 650**

Manual tailstock including live center MT 1.  
Total height: 113 mm  
Center height: 100 mm  
Total length: 200 mm  
Mounting length: 110 mm  
Quill stroke: 15 mm

**Retrofitable by EMCO specialist!**

**Q4Z 550****NC-DIVIDING HEAD (4.ACHSE) WITHOUT CHUCK**

Including:  
Dividing head WALTER TANI 100 NEG,  
Clamping screws and clamping shoes,  
Necessary for the mounting on milling table  
Kind of clamping: pneumatically  
Necessary pressure: 6 bar  
Dividing precision: +/- 60"  
Repeating accuracy: +/- 10"  
Spindle height: 100 mm  
Bore  $\varnothing$  32 mm  
Total height: 171 mm

**Factory option!**

**V4W 186R****MANUAL THREE JAW CHUCK WITHOUT FLANGE FOR NC-DIVIDING HEAD Q4Z 550**

Manual chuck including 1 set of outside and inside jaws.

Chuck  $\varnothing$  82 mm

Bore  $\varnothing$  18 mm

**Retrofitable by EMCO specialist!**

**A8Z060****MANUAL THREE JAW CHUCK WITHOUT FLANGE FOR NC-DIVIDING HEAD Q4Z 550**

Manual chuck including 1 set of outside and inside jaws.

Chuck  $\varnothing$  100 mm

Bore: 17 mm

**Retrofitable by EMCO specialist!**

**Q4Z 600****FLANGE FOR NC-DIVIDING HEAD Q4Z 550**

With this adapter Flange the chucks **V4W 186R** and **A8Z 060** can be mounted onto the NC-dividing head TANI 100.

**Retrofitable by EMCO specialist!**

**Q4Z 610****MANUAL TAILSTOCK TO USE WITH NC-DIVIDING HEAD Q4Z 550**

Manual tailstock including live center MT 1.

Total length: 200 mm

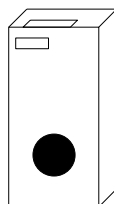
Mounting length: 110 mm

Total height: 93 mm

Center height: 80 mm

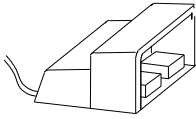
Quill stroke: 15 mm

**Retrofitable by EMCO specialist!**

**Q4Z 130****AIR CONDITIONER (ELECTRICAL CABINET)**

Seals the cabinet and keeps temperature constant; no air is exchanged between the inside and the outside, necessary for extreme environmental conditions (tropical climate) or graphite or cast work or in oil dust contaminated surroundings.

**Retrofitable by EMCO specialist!**

**R3Z 580****FOOT PEDAL SWITCH**

To activate the pneumatic machine vice

**Retrofitable by EMCO specialist!**

**Q4Z 040****FULLY AUTOMATIC MACHINE DOOR**

Automatic machine door especially for efficient work piece loading.

Incl. limit switches monitoring.

**Factory option**

**Q4Z020****ÖIL MIST SEPARATOR**

Mechanical oil mist separator (RECOJET® -2), mounted on top of the machine, especially for manual loaded machines or heavy cutting operation. Separates oil mist and smoke particle to ensure better working environment.

Air through put: 1000m<sup>3</sup>/h

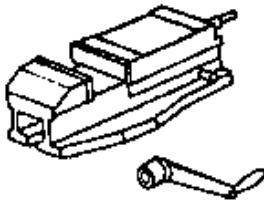
Wattage:: 250 Watt

(When using oil instead of water soluble, heavy smoke can be generated during roughing operation. In this case we recommend the use an additional electrostatic separator on top o fit. Price on request!)

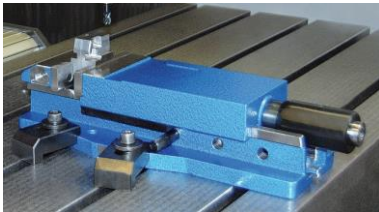
**Retrofit able through EMCO technician !**

**CLAMPING DEVICES FOR WORK PIECES:****781 000****MANUAL MACHINE VICE**Clamping width 90 mm  
Width of jaws 90 mm

Can be mounted in X and Y direction.

**781 010****MANUAL MACHIN VICE**Clamping width: 125 mm  
Width of jaws: 110 mm

Can be mounted only in X direction.

**781 081****MANUAL MACHIN VICE**Hydraulic high-pressure clamping device,  
manual. Type Röhm RB-K113Clamping width: 170 mm  
Width of jaws: 110 mm

Can be mounted only in X direction.

**Q4Z 520****PNEUMATIC MACHINE VICE**

Type Gressel

Incl. Limit position monitoring,  
mechanical stop and blow out device.Jaw width: 125 mm  
Stroke: max. 130 mm  
Total length: 466 mm  
Total height: 84 mm  
Clamping force: 1200 to 5500 N  
Pneumatic pressure: 2 to 8 bar



**781 040****MANUAL MACHIN VICE MSR125**

Complete with clamps, stepped clamping shoes and necessary tools.

Height of Clamps 40 mm  
Clamping width 150 mm  
Width of jaws: 125 mm

**781 050****STEPPED CLAMP FOR FIXED CLAMP (MSR 125)**

Stepped clamp for fix clamp

Option for 781040

**781 060****STEPPED CLAMP FOR MOVEABLE CLAMP (MSR 125)**

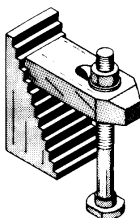
Stepped clamp for movable clamp

Option for 781040

**781 070****PRISM CLAMP WITH STEP FOR MOVEABLE CLAMP (MSR 125)**

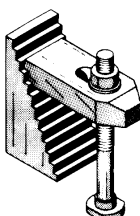
Prism clamp with step for movable clamp

Option for 781040

**F3Z 210****STEPPED CLAMPING SHOE 15-58mm**

Complete with clamping screw.

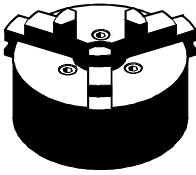
Clamping range: 15 - 58 mm

**F3Z 220****STEPPED CLAMPING SHOE 50-125mm**

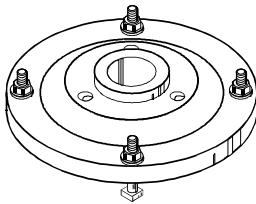
Complete with clamping screw.

Clamping range: 50 – 125 mm



**V1D 106R****THREE JAW CHUCK**

Röhm-chuck  $\varnothing$  125 mm  
Including 1 set of hardened external and  
internal jaws.

**F3Z 230****ADAPTER PLATE**

Required for mounting the chuck # V1D  
106R on the milling table.

**TOOLHOLDER:****250 180****PULL STUD FOR SK-30 DIN 69872-A M12**

Single pull stud for SK30 tool holder.  
connecting thread M12 with

**250 300****TOOL HOLDER PACKAGE SK30**

consisting of:

- Shell end mill arbor  $\rightarrow$  16 - 1x
- Shell end mill arbor  $\rightarrow$  22 - 1x
- Collet holder ESX25 - 4x
- Shaft mill arbor  $\rightarrow$  10 - 1x
- Shaft mill arbor  $\rightarrow$  16 - 1x

Balanced with G 6.3.

Use only holders, balanced G 6.3!

Pull studs not included; please order for each  
tool holder one pull stud!

**250 100****COLLET CHUCK SK30 DIN69871 ER25**

To be used with ESX 25 collets.  
Including clamping screw and drive key.

Balanced with G 6,3.  
Use only holders, balanced G 6,3!

Pull studs not included, please order for each tool holder one pull stud!

**225 000****SET OF COLLETS DIN 6499**

Set of 14 Collets type ESX 25  
Diameter 2 - 14 mm

**COLLETS (INDIVIDUAL)****225 010**

ø 1 mm

**225 020**

ø 2 mm

**225 025**

ø 2,5 mm

**225 030**

ø 3 mm

**225 040**

ø 4 mm

**225 050**

ø 5 mm

**225 060**

ø 6 mm

**225 070**

ø 7 mm

**225 080**

ø 8 mm

**225 090**

ø 9 mm

**225 100**

ø 10 mm

**225 110**

ø 11 mm

**225 120**

ø 12 mm

**225 130**

ø 13 mm

**225 140**

ø 14 mm

**225 150**

ø 15 mm

**225 160**

ø 16 mm



DIN6499 Type ESX 25

**MILLING ARBOR  
SK30 DIN 69871****250 110**

For milling cutters with 16 mm bore (Heavy duty shell end mill # 764 410), including key and milling arbor collars.

**250 120**

For milling cutters with 22 mm bore (for Face mill cutter # 764 800, Edge mill cutter 764810), including key and milling arbor collars.



Balanced with G 6,3.  
Use only holders, balanced G 6,3!

Pull studs not included, please order for each tool holder one pull stud!

**MILLING ARBOR SK30 DIN69871****250 130**

For milling cutters with shank:  $\varnothing$ 10 mm

**250 140**

For milling cutters with shank:  $\varnothing$ 12 mm

**250 150**

For milling cutters with shank:  $\varnothing$ 16 mm

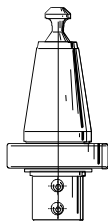
**250 160**

For milling cutters with shank:  $\varnothing$ 20 mm



Balanced with G 6,3.  
Use only holders, balanced G 6,3!

Pull studs not included, please order for each tool holder one pull stud!

**250 170****MORSE TAPER HOLDER SK30 DIN69871**

Short insert bushing MT-2.  
Special use for twist drills with MT-2 fixture.

Balanced with G 6,3.  
Use only holders, balanced G 6,3!

Pull studs not included, please order for each tool holder one pull stud!

**MILLING TOOLS:****764 410****HEAVY DUTY SHELL END MILL, HSS**

With roughing/ finishing teeth.  
ø 40 x 20 mm, bore hole ø 16 mm

**SLOT END MILL; HSS****764 301**

Milling - ø3 mm / Shank- ø6 mm

**764 302**

Milling - ø4 mm / Shank- ø6 mm

**764 303**

Milling - ø5 mm / Shank- ø6 mm

**764 304**

Milling - ø6 mm / Shank- ø6 mm

**764 306**

Milling - ø8 mm / Shank- ø8 mm

**764 308**

Milling - ø10 mm / Shank- ø10 mm

**773 100**

Milling - ø12 mm / Shank- ø10 mm

**773 105**

Milling - ø16 mm / Shank- ø10 mm



According to DIN 327, shape B

**HEAVY DUTY SHANK END MILL, HSS****764 200**

Milling - ø8 mm / Schank- ø8 mm

**781 152**

Milling - ø10 mm / Schank- ø10 mm

**781 151**

Milling - ø12 mm / Schank- ø12 mm

**771 020**

Milling - ø16 mm / Schank- ø16 mm



According to DIN 844, shape A

**RADIUS MILLING CUTTER, HSS****771 030**

Schank ø6 mm

**771 040**

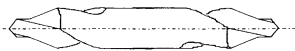
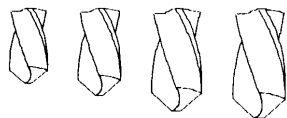
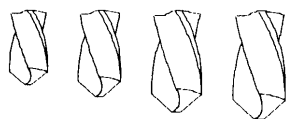
Schank ø12 mm

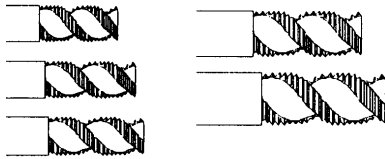


Two edged, with cylindrical shank.

**771 050****ANGLE MILL CUTTER, HSS**According to DIN 1833, shape B  
45°,  $\varnothing 16 \times 4$  mm, shank  $\varnothing 12$  mm**764 400****ANGLE MILL CUTTER, HSS**According to DIN 1833, Shape A  
60°,  $\varnothing 16$  mm, Schank-  $\varnothing 12$  mm**DRILLING TOOLS:****771 010****NC-START DRILL, HSS**Shank  $\varnothing 10$  mm, tip angle 120°**CENTER DRILL, HSS****573 770** $\varnothing 6,3$  mm**271 220**

A8, DIN 333

**SET OF TWIST DRILLS, HSS****781 280**25 Twist drills  $\varnothing 1-13$  mm, (steps of 0,5mm)**260 628**9 Twist drills  $\varnothing 2-10$  mm, (steps of 1 mm)**SET OF TWIST DRILLS FOR CORE HOLES, HSS****271 230**6 Twist drills for core holes  $\varnothing 2.5 - \varnothing 8.5$  mm

**781 300****SET OF TAPS, HSS**

5 taps M3 - M8

According to DIN 352 / 371

**TABS (INDIVIDUAL), HSS****781 301**

Tab M3 (Shank Ø 3,5mm)

**781 302**

Tab M4 (Shank-ø 4,5 mm)

**781 303**

Tab M5 (Shank-ø 6 mm)

**781 304**

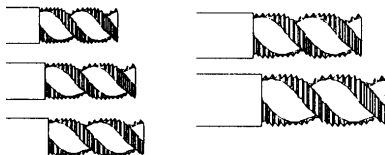
Tab M6 (Shank-ø 6 mm)

**781 305**

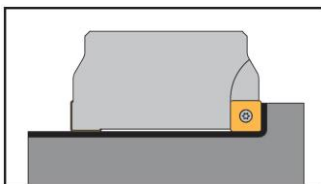
Tab M8 (Shank-ø 6 mm)

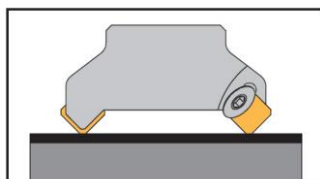
**781 306**

Tab M10 (Shank-ø 7 mm)



According to DIN 352 / 371

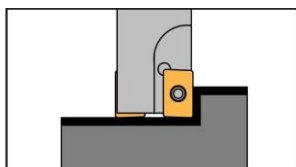
**CARBIDE INSERT MILLS:****764 810****EDGE MILL CUTTER 50mm, FOR INSERTS**Cutting edge: 90°  
Ø50 x 15 mm, shaft ID ø22mm  
90EA.050R.P16  
required milling arbor: 250 120 + 250 180**764 830****CARBIDE INSERTS  
FOR EDGE MILL CUTTER 764 810**APFT1604PDFR AK10F  
1 package = 10 pieces

**764 800****FACE MILL CUTTER 50mm, FOR INSERTS**

Cutting edge: 45°  
Ø50 x 63 mm, shaft ID ø22mm  
75PA.50R.E12  
required milling arbor: 250 120 + 250 180

**764 820****CARBIDE INSERTS  
FOR FACE MILL CUTTER 764 800**

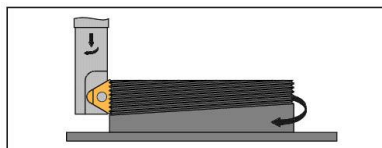
SEKR1203AFFN AK10F  
1 package = 10 pieces

**764 850****SLOT MILL CUTTER, ø 16mm, FOR  
INSERTS**

90ES.016R.P10  
required mill arbor: 250 140 + 250 180

**764 860****CARBIDE INSERTS  
FOR SLOT MILL CUTTER 764 850**

APKT1003PDER AM26C  
1 package = 10 pieces

**764 910****THREAD MILL CUTTER, ø 12mm**

TCM12-2 for CPL  
required mill arbor 250 140 + 250 180

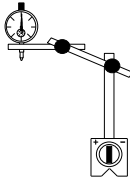
**CARBIDE INSERTS  
FOR THREAD MILL CUTTER 764 910****764 920**

for outside thread: 11E-ISO1,5TM AK20

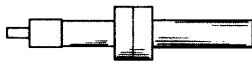
**764 930**

for inside thread: 11I-ISO1,5TM AK20

P=1,5mm  
1 package = 5 pieces

**SETTING TOOLS:****565 065****DIAL GAUGE WITH MAGNETIC STAND**

Outside ring  $\varnothing 58$  mm, division 0,01 mm,  
Measuring range 10 mm, with shock  
protection.

**F1Z 090****EDGE INDICATOR**

Probe  $\varnothing 4$  /  $\varnothing 10$  mm  
Shank  $\varnothing 10$  mm

**764 841****3D-SENSOR**

clamping shank:  $\varnothing 10$  mm  
Length without shank: 96mm  
Measuring range:  $\pm 2$ mm  
Accuracy: 0,01mm

Requires tool holder: 250 130  
incl. short probe tip  $\varnothing 4$  mm



**PROGRAMMING SOFTWARE:****224 620****EMCO-ESPRIT PACKAGE / Milling 3 AXES**

Basic license which includes the following ESPRIT modules: 2D / 3D Geometry Modeler, Parasolid solid Modeler, NURBS Surface Modeler, Adaptive Feature Detection, Tool and Speed and Feed KnowledgeBase, Universal Post Processing, Solid Simulation and Verification, Visual Basic for Applications and ESPRIT API; ESPRIT reads data from the following native formats: ACIS, DXF, IGES, Inventor (\*.ipt, \*.iam), Parasolid (X\_T, X\_B), Solid Edge (\*.par, \*.psm, \*.Asm), SolidWorks (\*.sldprt, \*.sldasm), VDA, STEP, STL; Feature handover of Inventor, Solid Edge and SolidWorks

**RRP LIST PRICE: 7.900,- EURO, ATTENTION: SPECIAL PRICE ACCORDING TO OFFER ONLY IN CONNECTION WITH NEW MACHINE PURCHASE!**

The most powerful CAD/CAM programming software for turning, milling and drilling. In only a few steps you can create the CNC-program from a CAD drawing. A 3D dynamic solid simulation shows the work piece, tools and also the fixture. The machining process is shown in real-time and collisions are detected to provide a proven process to the machine.

The package supports programming of:

- 1 milling spindle
- X/Y/Z - axes

The package includes:

- ESPRIT Basis License,
- ESPRIT SolidMill Traditional,
- EMCO Standard-Postprocessor for Siemens, Fanuc or Heidenhain

Customer data for licensing:

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Tel.: \_\_\_\_\_

Fax.: \_\_\_\_\_

Contact Person: \_\_\_\_\_

E-Mail: \_\_\_\_\_

Customer P.O.-No.: \_\_\_\_\_

SPRIT Software-Maintenance contract not included.

**224 610****EMCO-ESPRIT PACKAGE / MILLING 3+2 AXES****RRP LIST PRICE: 12.500,- EURO ATTENTION: SPECIAL PRICE ACCORDING TO QUOTATION ONLY IN CONNECTION WITH A NEW MACHINE'S PURCHASE!**

Basic license which includes the following ESPRIT modules: 2D / 3D Geometry Modeler, Parasolid solid Modeler, NURBS Surface Modeler, Adaptive Feature Detection, Tool and Speed and Feed KnowledgeBase, Universal Post Processing, Solid Simulation and Verification, Visual Basic for Applications and ESPRIT API; ESPRIT reads data from the following native formats: ACIS, DXF, IGES, Inventor (\*.ipt, \*.iam), Parasolid (X\_T, X\_B), Solid Edge (\*.par, \*.psm, \*.Asm), SolidWorks (\*.sldprt, \*.sldasm), VDA, STEP, STL; Feature handover of Inventor, Solid Edge and SolidWorks

The most powerful CAD/CAM programming software for turning, milling and drilling. In only a few steps you can create the CNC-program from a CAD drawing. A 3D dynamic solid simulation shows the work piece, tools and also the fixture. The machining process is shown in real-time and collisions are detected to provide a proven process to the machine.

The package supports programming of:

- 1 milling spindle
- X/Y/Z - axes
- 2 positioning axes (round axes)

The package includes:

- ESPRIT Basis License,
- ESPRIT SolidMill Production,
- EMCO Standard-Postprocessor for Siemens, Fanuc or Heidenhain
- EMCO standard machine-model simulation

Customer data for licensing:

Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Tel.: \_\_\_\_\_ Fax.: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
E-Mail: \_\_\_\_\_  
Customer P.O.-No.: \_\_\_\_\_

SPRIT Software-Maintenance contract not included.

**010 250****BASIC TRAINING FOR ESPRIT CAD/CAM**

3 days of basic training for ESPRIT CAD/CAM software.  
Max. number of participants: 3 persons  
Location: EMCO in Hallein/Austria  
(Training at the customer's facility on request!)

**Q4Z003D****3D-MACHINE DATA E350**

3D machine model inclusive work area  
in STP-format.




The 3D machine model data will be delivered on CD-Rom.  
**Copyright EMCO.**

**Passing on to third parties is not permitted in any case!**






**MACHINE MANUALS:****MANUALS: EMCO MILL E350 (828D)**

Standard-Languages:

**One set included – please confirm one of the standard languages for free.**

<b>DE 6034</b> 	<b>E350 Instruction Manual / GERMAN</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>EN 6034</b> 	<b>E350 Instruction Manual / ENGLISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>TA 6034</b> 	<b>E350 Instruction Manual / ITALIAN</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.

**ADDITIONAL LANGUAGES AT EXTRA COST:**

<b>FR 6034</b> 	<b>E350 Instruction Manual / FRENCH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>SP 6034</b> 	<b>E350 Instruction Manual / SPANISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>SE 6034</b> 	<b>E350 Instruction Manual / SCHWEDISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>CZ 6034</b> 	<b>E350 Instruction Manual / CZECH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>DK 6034</b> 	<b>E350 Instruction Manual / DANISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.

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<b>NL 6034</b> 	<b>E350 Instruction Manual / DUTCH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>FI 6034</b> 	<b>E350 Instruction Manual / FINNISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>HU 6034</b> 	<b>E350 Instruction Manual / HUNGARIAN</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>PL 6034</b> 	<b>E350 Instruction Manual / POLISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>PT 6034</b> 	<b>E350 Instruction Manual / PORTOGUESE</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>RU 6034</b> 	<b>E350 Instruction Manual / RUSSIAN</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>TR 6034</b> 	<b>E350 Instruction Manual / TURKISH</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.
<b>CN 6034</b> 	<b>E350 Instruction Manual / CHINESE-SIMPLE</b> Includes information how to install, operate, maintain and program the machine. The control manuals are provides electronically on a CD-ROM due to environmental reasons.

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**ELECTRICAL DOCUMENTATION:**

CONTAINED IN BASIC MACHINE!!

**ADVERTISING FOLDER:**

<b>DE 7180</b>	<b>E350 FOLDER – GERMAN</b>
<b>EN 7180</b>	<b>E350 FOLDER – ENGLISH</b>
<b>FR 7180</b>	<b>E350 FOLDER – FRENCH</b>
<b>SP 7180</b>	<b>E350 FOLDER – SPANISH</b>
<b>TA 7180</b>	<b>E350 FOLDER - ITALIAN</b>

**PACKING:**

<b>ZVZ 341 855</b>	<b>STANDARD PACKING E350</b> Consisting of: pallet and Rolamit cover.
<b>ZVP 547 190</b>	<b>CLIMATE PACKING E350</b> Consisting of: pallet, aluminium cover, drying agent, small parts
<b>ZVP 301 855</b>	<b>WOODEN BOX E350</b>  As additional protection for awkward transports.

**TECHNICAL DATA OF THE MACHINE:**

Position Range		
X-axis travel	[mm]	350
Y-axis travel	[mm]	250
Z-axis travel	[mm]	300
Minimum distance spindle nose – table	[mm]	120
Maximum distance spindle nose - table	[mm]	420
Table		
Length	[mm]	520
Width	[mm]	300
Height to floor	[mm]	900
Grooves width according to DIN 650	[mm]	12
Grooves number		5
Grooves distance	[mm]	45
Work piece weight max.	[kg]	100
Main spindle		
Speed range	[rpm]	10.000
Torque (S1 100%)	Nm	23
Torque (S6 60%)	Nm	34
Spindle power (S1)	kW	4,9
Spindle power (S1)	kW	6,8
Tool taper (DIN 69871)		ISO 30
Pull stud ISO69872 (similar ISO 7388/2 Type A)		ISO 7388/2
Drive		Direct drive
Tool Magazine		
Number of tool stations		20
Tool change system		S - Arm
Tool management		random
Tool change time (tool - tool)	[sec]	2,5
Tool diameter max.	[mm]	63
Tool diameter max. (without adjacent tools)	[mm]	80
Tool length max.	[mm]	200
Tool weight max.	[kg]	5
Drum load max.	[kg]	60
Tool clamp force	[N]	1500

Strokes		
Rapid traverse	[m/min]	24
Work feed rate	[m/min]	24
Feed force in X-axis	[N]	3000
Feed force in Y-axis	[N]	3000
Feed force in Z-axis	[N]	4000
Positioning accuracy P according VDI 3441 ( $\mu\text{m}$ )	$\mu\text{m}$	10
Positioning accuracy Ps according VDI 3441 ( $\mu\text{m}$ )	$\mu\text{m}$	4
Coolant		
Tank capacity	[l]	140
Coolant pressure	[bar]	3,5
Flow rate 3,5 bar	[l/min]	15
Output on spindle		3 Düsen
Pneumatic		
Supply pressure	[bar]	6
Supply Volume	l/min	50
Lubrication		
Main spindle		Grease
Guide ways		Automatic central Oil-lubrication
Feed screws		Automatic central Oil-lubrication
Painting		
Red		RAL No. 3020
Light - Grey		RAL No. 7035
Graphite - Grey		RAL No. 7024
Black		RAL No. 9004
Electrical connection		
Power supply	[V]	400 ~3/PE
Voltage fluctuation max.	[%]	+/-10
Frequency	[Hz]	50/60
Connected load of the machine	[kVA]	10
Max. pre-fuse for the machine	[A-träg]	20
Operating temperature	[°C]	+10 bis +35
Dimensions/Weight		
Total height	[mm]	2200
Floor space WxP (without chip conveyor)	[mm]	1600x1700
Total weight of machine	[kg]	1970

**Noise pressure level**

Average noise pressure level	[db(A)]	78
<b>in following conditions:</b>		
Measuring method: enveloping surface method DIN 45 635		
Measuring point: 1m distance and 1,6m above the floor		
Operating condition: maximum Speed no-load operating		