

# TECHNICAL SPECIFICATION

## ***Concept TURN 250***

PC-controlled CNC - lathe  
with interchangeable control



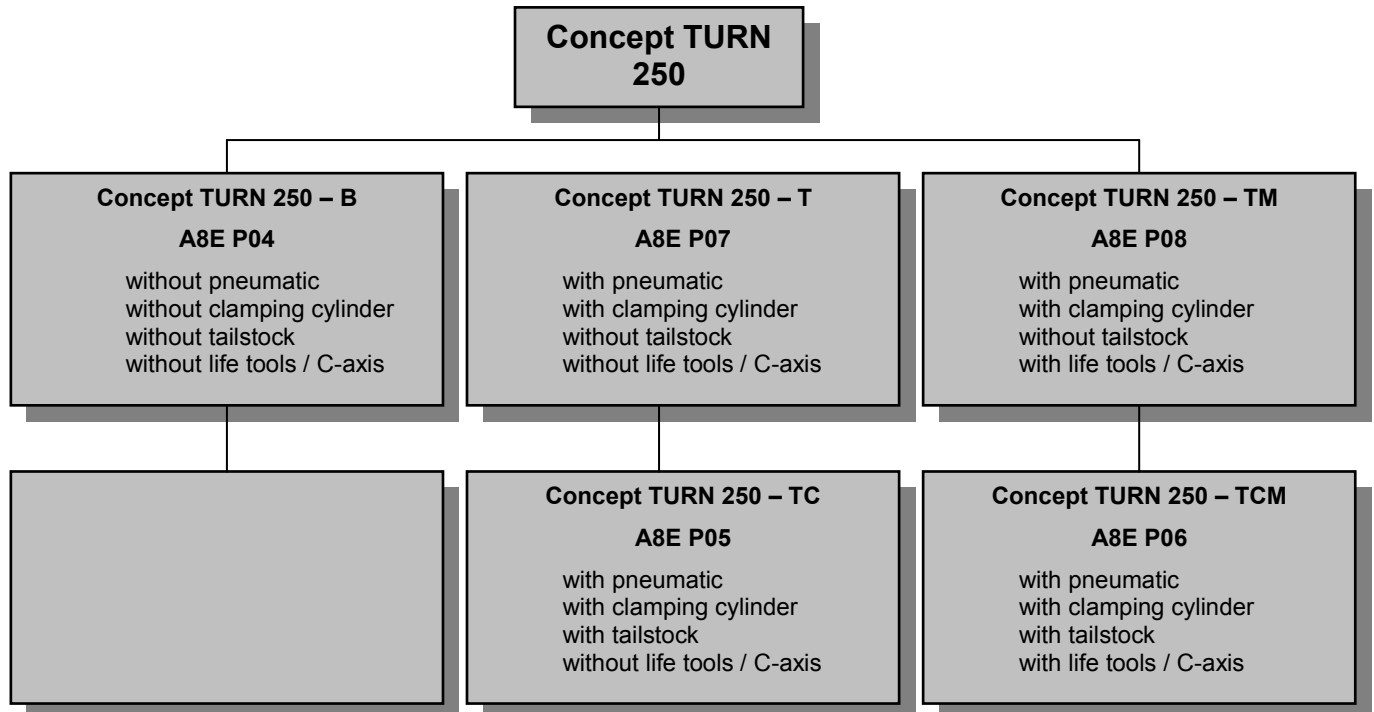
### **WinNC Control Software**

SINUMERIK OPERATE  
SIEMENS 810D/840D  
SIEMENS 810/820  
GE FANUC Series 21  
GE FANUC Series 0  
FAGOR 8055 TC  
EMCOTRONIC TM02

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## Overview of the modular machine concept



### Abbreviations:

B = „Basic“, Basic machine tool, no options

T = „Turn“, Standard turning machine tool with automatic clamping device

C = „Center“, Standard turning machine tool with pneumatic tailstock

M = „Mill“, Standard turning machine tool with life tools and C-axis for milling operations

## Technical data of the machine

<b>Capacity</b>		
Swing over bed	[mm]	Ø250
Swing over cross slide	[mm]	Ø85
Between centers (spindle nose – live centre point)	[mm]	405
Max. machining diameter	[mm]	ø 85
Max. machining length TC / TCM	[mm]	270 / 256
Max. bar work diameter	[mm]	ø 25,5
<b>Travel</b>		
Travel in X-axis	[mm]	100
Travel in Z-axis	[mm]	300
<b>Main spindle</b>		
Speed range	[rpm]	60-6300
Max. torque	[Nm]	35
Spindle nose ( centering shoulder )		Ø70 h5
Spindle bearing inner diameter	[mm]	ø 50
Spindle bore diameter	[mm]	ø 30
<b>C-Axis</b>		
Resolution	[°]	0,01°
Rapid speed	[rpm]	1000
Starting tolerance	[°]	0,05°
<b>Main drive</b>		
Main drive power @ 100/30% duty cycle	kW	3,7 / 5,5
<b>Turret</b>		
Number of tool station		12
Quick change tool shank according to DIN 69880		VDI 16
Shank height for square tools	[mm]	12 x 12
Shank diameter for boring bars	[mm]	Ø 16
Turret indexing time	[sec]	0,5
<b>Rotary tools</b>		
Speed range	[rpm]	200-6000
Max. torque @ 20% duty cycle	[Nm]	4
Max. power @ 20% duty cycle	[kW]	1,2
Number of rotary tools		6
<b>Feed drives</b>		
Rapid traverse	[m/min]	15 / 15
Max. feed thrust in X-axis	[N]	3000
Max. feed thrust in Z-axis	[N]	3000
Acceleration time 0 to rapid	[sec]	0,1
Positioning variation P <sub>s</sub> in X;Z (VDI 3441)	[mm]	0,004/0,004

Tailstock		
Quill stroke	[mm]	120
Quill diameter (live center integrated)	[mm]	Ø35
Quill thrust	[N]	800 - 2500
Coolant system		
Tank capacity	[l]	140
Coolant pump	[kW]	0,57
Coolant delivery @ 3,5bar/1bar	[l/min]	15/65
Pneumatic unit		
Air pressure required	[bar]	6
Air volume required	[l/min]	85
Compressed air quality	cleanliness class 4 (ISO 8573-1)	
The unit controls the clamping cylinder, tailstock quill and parts catcher. A filter including oiler is integrated to the unit.		
Adjustment range of clamping cylinder	[bar]	2-6
Clamping force at the draw tube	[N]	3800-11500
Lubrication system		
Guide ways and ball screws (featuring oil-save logic)	Autom. central oil lubrication	
Main spindle, counter spindle (free of maintenance)	Grease lubrication	
Chip conveyor		
10-pin Harting plug is included in basic machine		
The chip conveyor interface includes „Coolant-Saver Logic“ software		
Parts-catcher		
Pneumatically operated	[bar]	6
Max. finished part length	[mm]	120
Max. finished part diameter	[mm]	ø 25
Max. finished part weight	[kg]	0,5
Painting		
light gray	RAL Nr. 7035	
traffic red	RAL Nr. 3020	
graphite gray	RAL Nr. 7024	
Power supply		
Voltage	[V]	400 ~3/PE
Max. voltage fluctuations	[%]	+/-10
Frequency	[Hz]	50/60
Connected load value	[kVA]	6
Main fuse for machine	[A-slow]	20 s.b.
Required short circuit power	[kVA]	1100
Operable temperature range	[°C]	+10 to +35
Dimensions / weight		
Spindle height above floor	[mm]	1131
Machine total height	[mm]	1820
Floor space W×D (without chip conveyor)	[mm]	1700×1270
Total weight of the machine	[kg]	1100

Subject to technical modifications.

Sound intensity level		
Average sound emission level DIN 45 635	[db(A)]	78

## Technical data of the PC control system

### Control system

- Separate machine operating keyboard and control-specific interchangeable keyboard modules
- Integrated PC (MOC)
- Integrated 12.1" colour flat display

### PC Configuration

Multi Operating Controller (MOC)

## Description MOC III

Multi Operating Controller

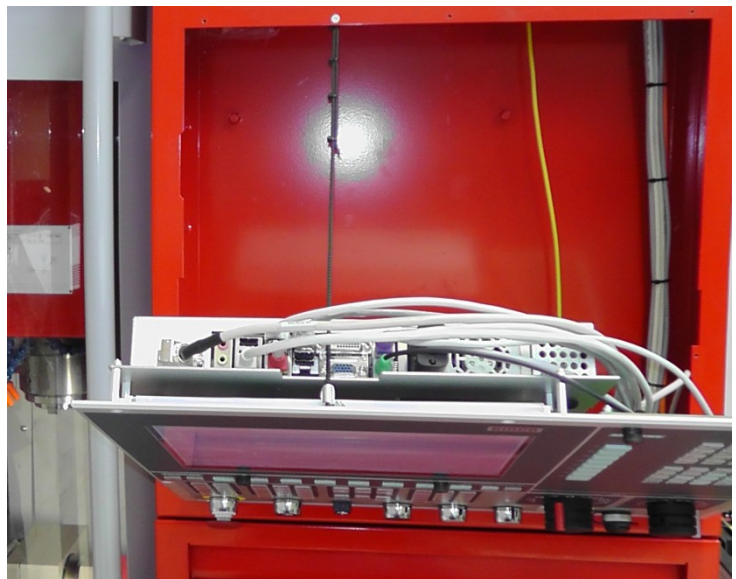
### Function

The MOC is an industrial PC with an integrated LCD monitor.  
Its special construction protects it from vibration and the harsh conditions in the workshop.  
By a free LAN port of the MOC can be easily integrated into an existing network.  
Easy data transfer via USB.


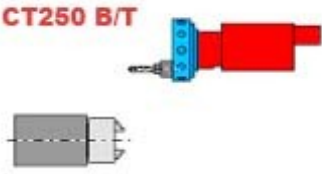

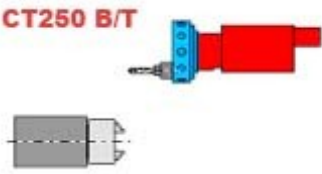
### PC- Configuration


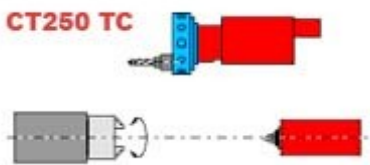

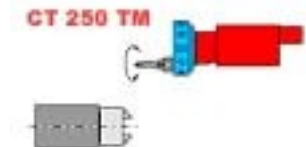
#### Technical Parameters:

- Processor  
1.6 GHz AMD / dual core
- 1GB RAM
- 4GB Compact Flash
- 1xRS232
- 1 x USB
- 2x LAN
- PS2 Mouse + Keyboard (US)
- TFT 12,1" integrated
- Temperature range 5-50°C
- MS Windows 7 embedded




## Basic machines Concept TURN 250

	DESCRIPTION	REF.NO.
 <p><b>CT250 B/T</b></p> 	<p><b><u>EMCO Concept TURN 250 – B</u></b></p> <p>PC-controlled 2 axis CNC-lathe with interchangeable control: WinNC not included!</p> <ul style="list-style-type: none"> <li>• 12-station tool turret VDI16 directional logic</li> <li>• Main spindle power 5,5 kW</li> <li>• Main spindle speed 60-6300 rpm</li> <li>• Travel X: 100 mm</li> <li>• Travel Z: 300 mm</li> <li>• Machine lamp</li> <li>• Central lubrication</li> <li>• tool holding shaft 12x12mm for external and Ø16mm for internal cutting tools</li> <li>• Fully enclosed working area</li> <li>• Integrated PC</li> <li>• 12" flat display</li> <li>• Safety devices according to CE</li> </ul> <p><b>Pneumatic, Automation and Tailstock are not refit-able on the CT250 B !!!</b></p>	A8E P04
 <p><b>CT250 B/T</b></p> 	<p><b><u>EMCO Concept TURN 250 – T</u></b></p> <p>PC-controlled 2 axis CNC-lathe with interchangeable control: WinNC not included!</p> <ul style="list-style-type: none"> <li>• 12-station tool turret VDI16 directional logic</li> <li>• pneumatic through-hole clamping cylinder</li> <li>• Main spindle power 5,5 kW</li> <li>• Main spindle speed 60-6300 rpm</li> <li>• Travel X: 100 mm</li> <li>• Travel Z: 300 mm</li> <li>• Machine lamp</li> <li>• Central lubrication</li> <li>• tool holding shaft 12x12mm for external and Ø16mm for internal cutting tools</li> <li>• Fully enclosed working area</li> <li>• Integrated PC</li> <li>• 12" flat display</li> <li>• Safety devices according to CE</li> </ul> <p><b>Tailstock is not refit-able on the CT250 T !</b></p>	A8E P07






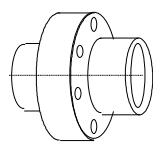
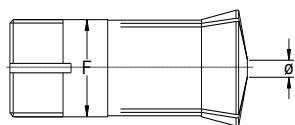
	DESCRIPTION	REF.NO.
 	<p><b><u>EMCO Concept TURN 250 – TC</u></b></p> <p>PC-controlled 2 axis CNC-lathe with interchangeable control: WinNC not included!</p> <ul style="list-style-type: none"> <li>• 12-station tool turret VDI16 directional logic</li> <li>• pneumatic through-hole clamping cylinder</li> <li>• pneumatic tailstock</li> <li>• Main spindle power 5,5 kW</li> <li>• Main spindle speed 60-6300 rpm</li> <li>• Travel X: 100 mm</li> <li>• Travel Z: 300 mm</li> <li>• Machine lamp</li> <li>• Central lubrication</li> <li>• tool holding shaft 12x12mm for external and <math>\varnothing 16</math>mm for internal cutting tools</li> <li>• Fully enclosed working area</li> <li>• Integrated PC</li> <li>• 12" flat display</li> <li>• Safety devices according to CE</li> </ul>	A8E P05
 	<p><b><u>EMCO Concept TURN 250 – TM</u></b></p> <p>PC-controlled 2 axis CNC-lathe with interchangeable control: WinNC not included!</p> <ul style="list-style-type: none"> <li>• 12-station tool turret VDI16 directional logic</li> <li>• pneumatic through-hole clamping cylinder</li> <li>• 6 driven tools</li> <li>• Main spindle power 5,5 kW</li> <li>• Main spindle speed 60-6300 rpm</li> <li>• Travel X: 100 mm</li> <li>• Travel Z: 300 mm</li> <li>• Machine lamp</li> <li>• Central lubrication</li> <li>• tool holding shaft 12x12mm for external and <math>\varnothing 16</math>mm for internal cutting tools</li> <li>• Fully enclosed working area</li> <li>• Integrated PC</li> <li>• 12" flat display</li> <li>• Safety devices according to CE</li> <li>• Bore Plug VDI 16 included</li> </ul> <p><b>Tailstock is not refit-able on the CT250 TM !</b></p>	A8E P08

	DESCRIPTION	REF.NO.
 	<p><b><u>EMCO Concept TURN 250 – TCM</u></b></p> <p>PC-controlled 2 axis CNC-lathe with interchangeable control:              WinNC not included!</p> <ul style="list-style-type: none"> <li>• 12-station tool turret VDI16 directional logic</li> <li>• pneumatic through-hole clamping cylinder</li> <li>• pneumatic tailstock</li> <li>• 6 driven tools</li> <li>• Main spindle power 5,5 kW</li> <li>• Main spindle speed 60-6300 rpm</li> <li>• Travel X: 100 mm</li> <li>• Travel Z: 300 mm</li> <li>• Machine lamp</li> <li>• Central lubrication</li> <li>• tool holding shaft 12x12mm for external and Ø16mm for internal cutting tools</li> <li>• Fully enclosed working area</li> <li>• Integrated PC</li> <li>• 12" flat display</li> <li>• Safety devices according to CE</li> <li>• Bore Plug VDI 16 included</li> </ul>	<p>A8E P06</p>


# WinNC Software

	DESCRIPTION	REF.NO.
	<p><b><u>Software (32bit and 64bit)</u></b></p> <p>WinNC – control software, machine license</p> <p>In case of order please indicate required control:</p> <p>SINUMERIK OPERATE SIEMENS 810/820 SIEMENS 810D/840D GE FANUC Series 0 GE FANUC Series 21 EMCOTRONIC TM02 FAGOR 8055 TC</p>	<p>X3Y 400 X5A C00 X3Y 200 X5A C50 X3Y 300 X5A E00 X3A 300</p>
	<p><b><u>EMCO Win 3D-View, turning (32bit and 64bit)</u></b></p> <p>3D-graphic simulation Option for WinNC</p> <p>Advanced process simulation for educational purposes</p>	<p>X5A 250</p>
	<p><b><u>Control keyboard – key module</u></b></p> <p>SINUMERIK OPERATE SIEMENS 810 SIEMENS 820 SIEMENS 810D/840D GE FANUC Series 0 GE FANUC Series 21 EMCOTRONIC TM02 FAGOR 8055 TC</p>	<p>X9Z 060 X9Z 010N X9Z 020N X9Z 040N X9Z 110N X9Z 130N X9Z 210N X9Z 050N</p>

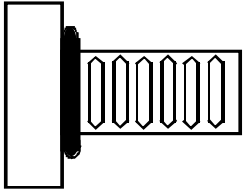
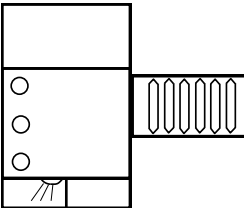
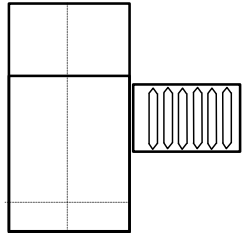
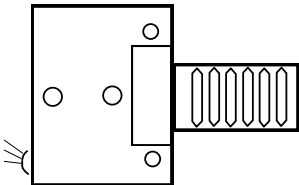
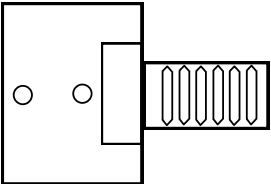
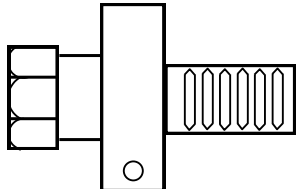
## Clamping devices for workpieces

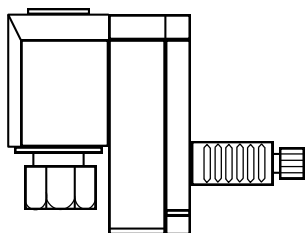
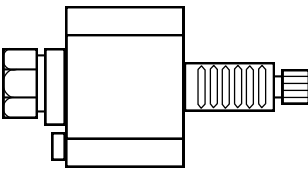
	DESCRIPTION	REF.NO.
	<b><u>3-jaw lathe chuck for CT250 B</u></b>  manual RöhM-chuck $\varnothing 100$ mm incl. 1 set of hardened external and 1 set of internal graduated jaws  through hole: 20mm, $n_{max}$ : 6300 rpm	444 050R
	<b><u>Soft jaws for manual chuck</u></b>  1 set of 3 soft jaws for chuck # 444050R	444 060R
	<b><u>3 Jaw power chuck Ø95/3 for CT250 T - TCM</u></b>  RÖHM power chuck KFD-HS $\varnothing 95/3$ with 26mm bore, <b>includes one set of soft jaws</b> (432 095) with a serration of $1/16'' \times 90^\circ$	432 085
	<b><u>Set of soft jaws</u></b>  Set of soft 3 jaws for 432 085 with a serration of $1/16'' \times 90^\circ$	432 095
	<b><u>Set of HARD jaws</u></b>  Set of external and internal graduated hard 3 jaws for 432 085 with a serration of $1/16'' \times 90^\circ$	432 100
	<b><u>COLLET CHUCK 385E/5C</u></b>  incl. draw tube (A8Z 150 010) for 385E/842/5C collets Clamping range: $\varnothing 2$ -25,5mm  <b>Not for CT 250 B useable!</b>	A8Z 150
	<b><u>Collets 385E/5C</u></b> for collet chuck A8Z 150 $\varnothing 2$ -25,5mm  $\varnothing 4,5 - 5$ mm $\varnothing 9,5 - 10$ mm $\varnothing 14,5 - 15$ mm $\varnothing 19,5 - 20$ mm $\varnothing 24,5 - 25$ mm further $\varnothing$ : Item no.: 4320+ Nominal- $\varnothing$ xx in [mm]	432 005 432 010 432 015 432 020 432 025 432 0xx
	<b><u>CHUCK GREASE (100g TUBE)</u></b> to lubricate moved parts of the chucks	574 661

## Tool holder package VDI-16



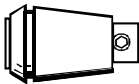
	DESCRIPTION	REF.NO.
 <p>Symbol picture</p>	<p><b><u>Tool holder package CT250 B, T, TC for stationary tools</u></b></p> <p>Tool holder package contents::  2x RADIAL tool holder M4 (A8Z260)  1x RADIAL tool holder M3 (A8Z250)  2x Collet holder ESX 16 (A8Z490)  1x Boring bar holder ø16mm (A8Z380)  1x Boring bar holder ø10mm (A8Z360)  1x Set of ESX 16 collets (152700)</p>	A8Z 870
 <p>Symbol picture</p>	<p><b><u>Tool holder package CT250 TM, TCM for stationary and driven tools</u></b></p> <p>Tool holder package contents::  2x RADIAL tool holder M4 (A8Z260)  1x RADIAL tool holder M3 (A8Z250)  2x Collet holder ESX 16 (A8Z490)  1x Boring bar holder ø16mm (A8Z380)  1x Boring bar holder ø10mm (A8Z360)  1x Radial Milling holder - 90° (A8Z480)  1x Axial Milling holder - straight (A8Z470)  1x Set of ESX 16 collets (152700)</p>	A8Z 860

## Tool holders VDI-16

	DESCRIPTION	REF.NO.
	<p><b><u>Bore plug VDI 16</u></b></p> <p>For covering of not-used tool stations.</p> <p>For TM and TMC already included!</p>	A8Z 690
	<p><b><u>Radial tool holder VDI 16, M4 right</u></b></p> <p>Useable for all external tools.</p> <p>Coolant supply through tool turret with adjustable ball nozzle.</p> <p>Clamping plate for exact and care tool clamping.</p>	A8Z 260
	<p><b><u>Radial tool holder VDI 16, M3 right</u></b></p> <p>Useable specially for threading tool (# 271 110)</p> <p>Coolant supply through tool turret with adjustable ball nozzle.</p> <p>Clamping plate for exact and care tool clamping.</p>	A8Z 250
	<p><b><u>Boring bar holder VDI 16</u></b></p> <p>Useable for all internal tools.</p> <p>Coolant supply through tool turret with adjustable ball nozzle.</p> <p>Support bore diameter 6 mm:  Support bore diameter 8 mm:  Support bore diameter 10 mm:  Support bore diameter 12 mm:  Support bore diameter 16 mm:</p>	A8Z 410 A8Z 420 A8Z 360 A8Z 430 A8Z 370
	<p><b><u>Boring holder VDI 16</u></b></p> <p>Useable specially for EcoCut-tool holder (# 271 150)</p> <p>Coolant supply through the tool.</p> <p>Support bore diameter 16 mm.</p>	A8Z 380
	<p><b><u>Collet holder VDI 16</u></b></p> <p>Useable with ESX 16 collets and ET1-16 tapping collets.</p> <p>VDI 16 tool holder for ESX 16 and ET1-16 collets, with internal/external coolant supply.</p>	A8Z 490

	DESCRIPTION	REF.NO.
	<p><b><u>Radial milling holder VDI 16 replaced right placed back</u></b></p> <p>For milling and drilling in X-direction.</p> <p>Useable with ESX 16 collets (max. <math>\varnothing</math> 7mm) and tapping collets ET 1-16 (max. M6).</p> <p>Coolant supply through tool turret with adjustable ball nozzle.</p>	A8Z 480
	<p><b><u>Axial milling holder VDI 16 straight</u></b></p> <p>For milling and drilling in Z-direction.</p> <p>Useable with ESX 16 collets (max. <math>\varnothing</math> 7mm) and tapping collets ET 1-16 (max. M6).</p> <p>Coolant supply through tool turret with adjustable ball nozzle.</p>	A8Z 470

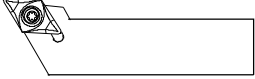
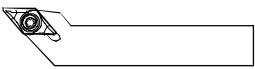
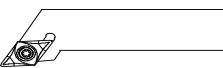
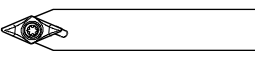


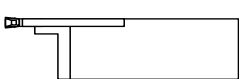
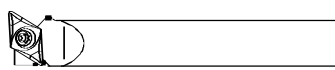
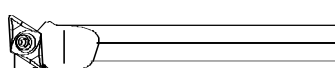
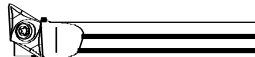
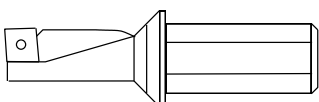
## Collets ESX16

	<p><b><u>Set of ESX 16 collets</u></b></p> <p>Set of 12 collets  Diameter 1-10 mm</p>	152 700
	<p><b><u>Collets ESX 16 (individual)</u></b></p> <p> <math>\varnothing</math> 1 mm  <math>\varnothing</math> 1,5 mm  <math>\varnothing</math> 2 mm  <math>\varnothing</math> 2,5 mm  <math>\varnothing</math> 3 mm  <math>\varnothing</math> 4 mm  <math>\varnothing</math> 5 mm  <math>\varnothing</math> 6 mm  <math>\varnothing</math> 7 mm  <math>\varnothing</math> 8 mm  <math>\varnothing</math> 9 mm  <math>\varnothing</math> 10 mm </p>	152 710 152 715 152 720 152 725 152 730 152 740 152 750 152 760 152 770 152 780 152 790 152 800
	<p><b><u>Tapping collets ET 1-16 with flexible length compensation</u></b></p> <p>Useable with collet holder (# A8Z 490, #A8Z 470 and #A8Z 480) for the support of screw taps.</p> <p> Tapping collet M2 (shaft <math>\varnothing</math>2,8 mm)  Tapping collet M3 (shaft <math>\varnothing</math>3,5 mm)  Tapping collet M4 (shaft <math>\varnothing</math>4,5 mm)  Tapping collet M5 - M8 (shaft <math>\varnothing</math>6 mm) </p>	153 810 153 820 153 830 153 840

## Tools

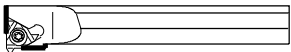
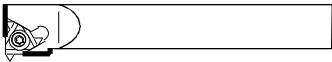

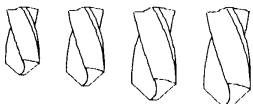
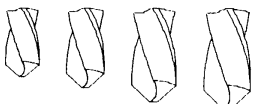
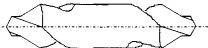
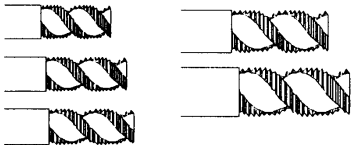


	DESCRIPTION	REF.NO.
	<b><u>Tool Package "Extended"</u></b> with 1 # 260 628 Twist Drills 6 pcs. 1 # 271 050 Copying Tool Left 1 # 271 056 Inserts for Alu 1 # 271 060 Copying Tool Neutral 1 # 271 080 Parting Off Tool 1 # 271 085 Inserts For Parting-Off Tool 1 # 271 110 OD-Thread Tool Right 1 # 271 115 Inserts For 271 110 1 # 271 116 Inserts For OD-Thread Tool 1 # 271 130 Boring Bar Left D 16x100 1 # 271 140 Boring Bar Holder D 10x60mm 1 # 271 220 Centre Drill A8, DIN 333 1 # 271 230 Drills For Core Holes 6 pcs. 1 # 781 310 Set Of 6 Screw Taps M3-M10 1 # A8Z 870 Tool Holder Package CT250	A8Z 810
	<b><u>Tool Package "Extended"</u></b> with 1 # 152 760 Collet D 6mm 1 # 212 320 Inserts For Steel 1 # 260 626 Inserts For ID-Threading, Right 1 # 260 627 ID-Threading Tool Right 1 # 271 040 Roughing Tool Left 1 # 271 050 Copying Tool Left 1 # 271 055 Inserts For Steel 1 # 271 056 Inserts For Alu 1 # 271 060 Copying Tool Neutral 1 # 271 070 Copying Tool Right 1 # 271 080 Parting Off Tool 1 # 271 085 Inserts For Parting-Off Tool 1 # 271 100 OD-Thread Tool Left 1 # 271 105 Inserts For 271 100 1 # 271 106 Inserts For 271 100 1 # 271 110 OD-Thread Tool Right 1 # 271 115 Inserts For 271 110 1 # 271 116 Inserts For OD-Thread Tool 1 # 271 130 Boring Bar Holder D 16x100mm 1 # 271 140 Boring Bar Holder D 10x100mm 1 # 271 150 EcoCut Left 1 # 271 155 Inserts For EcoCut 1 # 271 180 ID-Thread Tool Right 1 # 271 185 Inserts For 271180 1 # 271 220 Centre Drill A8, DIN 333	A8Z 820

Subject to technical modifications.











	1 # 271 230 Twist Drills For Core Holes 6 # 1 # 764 302 Slot End Mill 4mm 1 # 764 304 Slot End Mill 6mm 1 # 781 280 Twist Drills 25 pcs. 1 # 781 310 Set Of 6 Screw Taps M3-M10 2 # A8Z 260 Radial Tool Holder, M4 Right 1 # A8Z 860 Tool Holder Package CT250	
	<b><u>Roughing tool left</u></b> Shaft cross-section: 12 x 12 mm	271 040
	<b><u>Copying tool left</u></b> Shaft cross-section: 12 x 12 mm	271 050
	<b><u>Copying tool right</u></b> Shaft cross-section: 12 x 12 mm	271 070
	<b><u>Copying tool neutral</u></b> Shaft cross-section: 12 x 12 mm	271 060
	<b><u>OD-threading tool left</u></b> Shaft cross-section: 12 x 12 mm	271 100
	<b><u>OD-threading tool right</u></b> Shaft cross-section: 12 x 12 mm	271 110
	<b><u>Parting-off tool</u></b> Shaft cross-section: 12 x 12 mm	271 080
	<b><u>Roughing bore bar left</u></b> $\varnothing 16 \times 100$ mm	271 120
	<b><u>Boring bar left</u></b> $\varnothing 16 \times 100$ mm	271 130
	<b><u>Boring bar left</u></b> $\varnothing 10 \times 60$ mm	271 140
	<b><u>EcoCut left</u></b> $\varnothing 16 \times 31,5$ mm For internal turning without drilling first.	271 150



Note: In the scope of supply no indexable inserts are included.

Subject to technical modifications.

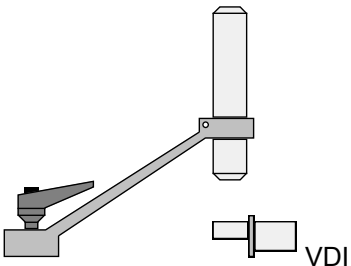
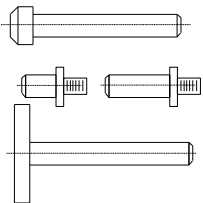
	DESCRIPTION	REF.NO.
	<b>ID-threading tool right</b>  ø10 x 60 mm for threads 0,5 - 1,5 mm	260 627
	<b>ID-threading tool right</b>  ø16 x 100 mm for threads 1,75 - 3 mm	271 180
	<b>Set of twist drills, HSS</b>  25 twist drills ø1-13mm (0,5 mm graded) 9 twist drills ø2-10 mm (1 mm graded)	781 280 260 628
	<b>Twist drills for core holes, HSS</b>  6 core hole twist drills ø2.5 - 8.5 mm	271 230
	<b>Twist drill, HSS</b>  ø12 mm, extra short according to DIN 1897 ø16 mm, extra short according to DIN 1897	271 200 271 210
	<b>Centre drill, HSS</b>  ø6,8 mm A8, DIN 333	573 770 271 220
	<b>Screw taps, HSS DIN 352</b>  Set of 6 screw taps M3 - M10 in box  Screw tap M3 (shank ø 3,5 mm) Screw tap M4 (shank ø 4,5 mm) Screw tap M5 (shank ø 6 mm) Screw tap M6 (shank ø 6 mm) Screw tap M8 (shank ø 6 mm) Screw tap M10 (shank ø 7 mm)	781 310  781 301 781 302 781 303 781 304 781 305 781 306
	<b>Slot end mill, HSS</b>  According to DIN 327, form B  Cutting- ø3 mm / shank- ø6 mm Cutting- ø4 mm / shank- ø6 mm Cutting- ø5 mm / shank- ø6 mm Cutting- ø6 mm / shank- ø6 mm	764 301 764 302 764 303 764 304
	<b>NC-start drill, HSS</b>  Shank ø 6 mm, acute angle 120°	771 005

## Indexable inserts

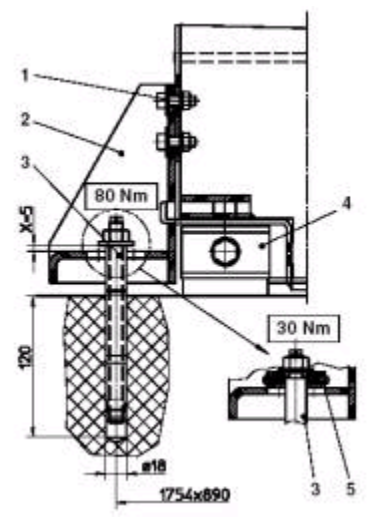
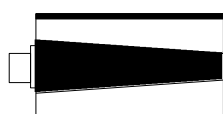
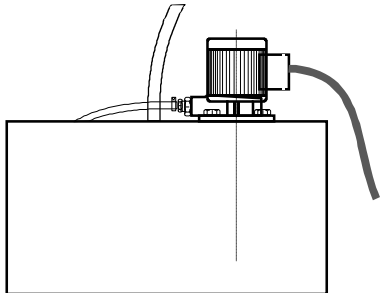

	DESCRIPTION	REF.NO.
	<b><u>Indexable inserts for steel</u></b>  Quantity: 10 pcs. Useable for #271 040, #271 120	212 320
	<b><u>Indexable inserts for aluminum</u></b>  Quantity: 10 pcs. Useable for # 271 040, #271 120	271 046
	<b><u>Indexable inserts for steel</u></b>  Quantity: 10 pcs. Useable for # 271 050, #271 060, #271 070, #271 130, #271 140	271 055
	<b><u>Indexable inserts for aluminium</u></b>  Quantity: 10 pcs. Useable for #271 050, #271 060, #271 070, #271 130, #271 140	271 056
	<b><u>Indexable inserts for Ecocut tool</u></b>  Quantity: 10 pcs. Useable for # 271 150	271 155
	<b><u>Indexable inserts for parting-off tool, 3mm</u></b> FX 3.1N0.15-M1 Sr127 Quantity: 5 pcs. Useable for #271 080	271 085
	<b><u>Indexable inserts for OD-threading, left</u></b>  Pitch 0,5 - 1,5 mm Quantity: 5 pcs. Useable for #271 100	271 105
	<b><u>Indexable inserts for OD-threading, left</u></b>  Pitch 1,75 - 3 mm Quantity: 5 pcs. Useable for #271 100	271 106
	<b><u>Indexable inserts for OD-threading, right</u></b>  Pitch 0,5 - 1,5 mm Quantity: 5 pcs. Useable for #271 110	271 115
	<b><u>Indexable inserts for OD-threading, right</u></b>  Pitch 1,75 - 3 mm Quantity: 5 pcs. Useable for #271 110	271 116

	DESCRIPTION	REF.NO.
	<b><u>Indexable inserts for ID-threading, right</u></b>  Pitch 0,5 - 1,5 mm Quantity: 5 pcs. Useable for #260 627	260 626
	<b><u>Indexable inserts for ID-threading, right</u></b>  Pitch 1,75 - 3 mm Quantity: 5 pcs. Useable for #271 180	271 185

## Setting tools

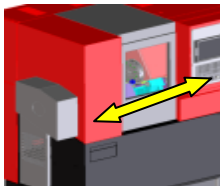
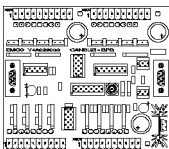


	DESCRIPTION	REF.NO.
	<b><u>Optical tool presetting device for Concept TURN 250</u></b>  Including adjusting gauge VDI-16.  For registering the tool data in X- and Z-direction.	A8Z 620
	<b><u>SET OF TEST MANDRELS</u></b>  Consisting of: <ul style="list-style-type: none"> <li>• Test mandrel for head stock</li> <li>• 2 test mandrels for turret (VDI16)</li> <li>• Test mandrel for tailstock</li> </ul>	A8Z 630

## Accessories and Options

	DESCRIPTION	REF.NO.
	<p><b><u>MACHINE INSTALLATION KIT</u></b></p> <p>Consisting of:</p> <ul style="list-style-type: none"> <li>• 4x vibration absorbing, height adjustable levelling elements 881500</li> <li>• 4x angle plates to fasten the machine to the floor</li> <li>• 4x anchor bolts to lag the machine to the floor</li> </ul>	S6Z 460
	<p><b><u>Levelling element</u></b></p> <p>1 x vibration absorbing, height adjustable levelling elements</p> <p><b>4 pc. are needed for each machine!</b></p>	881 500
	<p><b><u>FI-protection switch</u></b></p> <p>Leakage current circuit breaker 63/4 PO</p>	ZME280720
	<p><b><u>Coolant equipment</u></b></p> <p>Coolant equipment including pump and tray for 140l tank volume and a pump capacity of 20 l/min.</p> <p><b>Factory installed only !!</b></p>	A8Z 090
	<p><b><u>Electronic handwheel</u></b></p> <p>For moving the machine's axes manually to proceed zero point- and tool offsets</p> <p><b>Retrofit able by EMCO technician !!</b></p>	Q1Z 340

	DESCRIPTION	REF.NO.
	<p><b><u>Automatic parts catcher</u></b></p> <p>Standard parts catcher system to unload the components from the main or counter spindle into a standard part box or to the conveyor belt (optional).  Max. finished part length: 120mm  Max. finished part diameter: 25mm  Max. finished part weight: 0,5kg</p> <p><b>Factory installed only !!</b></p>	A8Z 720
	<p><b><u>CHIP CONVEYOR E25 - 500MM</u></b></p> <p>Hinge type chip conveyor, dump-height 500mm, suitable for:</p> <ul style="list-style-type: none"> <li>• Long steel shavings</li> <li>• Snarl chips</li> <li>• Wool chips</li> </ul> <p>Dry- and wet machining</p> <p><b>Factory installed only !!</b></p>	A8Z 850
	<p><b><u>FOOT PEDAL</u></b></p> <p>to actuate chuck or tailstock</p> <p>(one foot pedal needed for each)</p> <p><b>Retrofit able through EMCO technician !!</b></p>	R3Z 580
	<p><b><u>COOLANT PISTOL</u></b></p> <p>To clean the machining area from chips with coolant.  (Note: never use air to clean the machine!))</p> <p><b>Retrofit able through EMCO technician !!</b></p>	R6Z 140
	<p><b><u>AIR CONDITIONING SYSTEM</u></b></p> <p>used for electrical cabinet especially if the machine is located in dusty, oily and hot areas  no air exchange between outside and inside</p> <p><b>Retrofit able through EMCO technician !!</b></p>	A8Z 130

## Accessories for automation

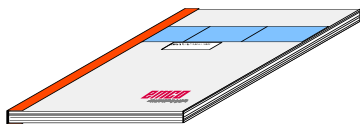
	DESCRIPTION	REF.NO.
	<p><b><u>Pneumatic unit</u></b></p> <p>The pneumatic unit and the clamping cylinder are already integrated into the machine versions T, TC, TM, TCM</p> <p><b>Not possible for CT250 B !!</b></p>	<b>None !</b>
	<p><b><u>Automatic door</u></b></p> <p>including stroke control</p> <p><b>Factory installed only !!</b></p>	A8Z 140
	<p><b><u>Robotics-Interface hardware</u></b></p> <p>Necessary for the FMS/CIM – operation. (required X1A 000)</p> <p><b>Retrofit able through EMCO technician !!</b></p>	A8Z 530
	<p><b><u>Robotics-Interface software</u></b></p> <p>Necessary for the FMS/CIM – operation. (required A8Z 530)</p>	X1A 000
	<p><b><u>DNC-Interface</u></b></p> <p>Enables the remote control of WinNC via a software-protocol. The communication is done via the RS 232 interface.</p> <p><b>Not available for FAGOR 8055 TC !</b></p>	X5A 050
	<p><b><u>Blow out unit</u></b></p> <p>for pneumatic work piece cleaning inside the working area</p> <p><b>Factory installed only !!</b></p>	A8Z 880

Assembling of automation accessories only ex factory – no retrofitting possible


## BAR LOADER

	DESCRIPTION	REF.NO.																												
Order Interface already with the CT250 if LM800 will be bought later !	<b>EMCO Standard Bar lader-Interface</b>  <b>Factory installed only !!</b>	X1Z 100																												
  	<b>emco LM 800</b>  The sort bar loader for the CT250 and CT450 with through-hole clamping system The Loader is speially designed for small Installation space and simple handling.  TECHNICHAL DATAS: <table><tr><td>Bar length:</td><td>100 – 600 mm</td></tr><tr><td>Bar-ø:</td><td>6 – 25,5 mm</td></tr><tr><td>Max. feed rate.:</td><td>60 m/min</td></tr><tr><td>Max. re-feed rate.:</td><td>60 m/min</td></tr><tr><td>Bar feed time:</td><td>~ 3 sec</td></tr><tr><td>Bar change time:</td><td>~ 10 sec</td></tr><tr><td>Material capacity:</td><td>14 bars with ø 45 mm or 108 bars with ø 6 mm</td></tr><tr><td>Loading area:</td><td>backside</td></tr><tr><td>Electric supply:</td><td>110–240V (AC/50/60Hz)</td></tr><tr><td>Pneumatic supply:</td><td>6 bar</td></tr><tr><td>Length:</td><td>1200mm</td></tr><tr><td>Width:</td><td>1150mm</td></tr><tr><td>Height:</td><td>1300-1400mm</td></tr><tr><td>Weight:</td><td>ca. 190 kg</td></tr></table> Safety devices according to CE  Basic machine contents: <ul style="list-style-type: none"><li>• Material pusher</li><li>• Installation kit</li><li>• Documentation</li></ul> Advantages: <ul style="list-style-type: none"><li>• small operation area</li><li>• simple handling</li><li>• fast and easy setup</li><li>• possibilty to load bulk goods</li><li>• central Diameter adjustment</li><li>• EMCO Design</li></ul> <b>requires X1Z100, A8Z210 and A8Z220!</b> <b>Retrofit able through EMCO technician !!</b>	Bar length:	100 – 600 mm	Bar-ø:	6 – 25,5 mm	Max. feed rate.:	60 m/min	Max. re-feed rate.:	60 m/min	Bar feed time:	~ 3 sec	Bar change time:	~ 10 sec	Material capacity:	14 bars with ø 45 mm or 108 bars with ø 6 mm	Loading area:	backside	Electric supply:	110–240V (AC/50/60Hz)	Pneumatic supply:	6 bar	Length:	1200mm	Width:	1150mm	Height:	1300-1400mm	Weight:	ca. 190 kg	433 870
Bar length:	100 – 600 mm																													
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Length:	1200mm																													
Width:	1150mm																													
Height:	1300-1400mm																													
Weight:	ca. 190 kg																													
	<b>ADAPTER SET Size 25</b>  for mounting the reduction sleeves  <b>Necessary for EMCO LM 800!!</b>	A8Z 210																												
	<b>REDUCTION SLEEVE Size 25</b> Spindel-reduction of plastic for self machining to the required bar diameter (Ø25,7 <sub>-0,1</sub> × 65 <sub>-0,3</sub> – min. 6 pieces required) <b>Necessary for EMCO LM 800!!</b>	A8Z 220																												

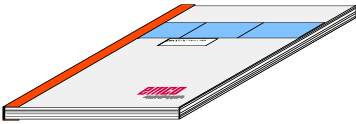
## Manuals

	DESCRIPTION	REF.NO.
	<b><u>Manual Concept TURN 250</u></b>	DE 1250 EN 1250 FR 1250 HL 1250 SP 1250 TA 1250
	<b><u>Programming instruction</u></b>  WinNC for SINUMERIK OPERATE  WinNC SIEMENS 810/820-T  WinNC SIEMENS 810D/840D-T  WinNC GE FANUC Series 0-T  WinNC GE FANUC Series 21-T  WinNC EMCOTRONIC T02  WinNC FAGOR 8055 TC  EMCO Win3D-View - turning	DE 1849 EN 1849  DE 1804 EN 1804 FR 1804 SP 1804 TA 1804 HL 1804  DE 1815 EN 1815 FR 1815 SP 1815 TA 1815 HL 1815  DE 1802 EN 1802 FR 1802 SP 1802 HL 1802 TA 1802  DE 1902 EN 1902 FR 1902 SP 1902 HL 1902 TA 1902  DE 1805 EN 1805 FR 1805 HL 1805 SP 1805 TA 1805  DE 1819 EN 1819 FR 1819 SP 1819 HL 1809 TA 1819  DE 1827 EN 1827 FR 1827 HL 1827 SP 1827 TA 1827

## Courseware

	DESCRIPTION	REF.NO.
	<p><b><u>E[MCO] Campus</u></b></p> <p><b>E-Learning 2.0 for machining. Multimedia teaching and learning materials for CNC training.</b></p> <p><i>E[MCO] Campus -</i></p> <p>is a multimedia training program that teaches all the basics of modern CNC technology. The cleverly-designed teaching format makes even complex concepts easy to grasp and learn. Interactive dialog features allow students to progress at their own pace. Views are displayed using attractive 2 and 3D graphics, animations, and videos, sustainably improving the success of the learning process.</p> <p><u>Languages:</u> German English Czech Spanish Chinese</p> <p><b>Single-user license</b> <b>Multi-user license 20</b> <b>Multi-user license 50</b> <b>Multi-user license 100</b></p> <p>The Software is working without any time restriction, a renewal of the version is not necessary. A Software Maintenance Contract (SMC) is not available right now.</p>	<p><b>X2Y 400</b> <b>X2Y 410</b> <b>X2Y 420</b> <b>X2Y 430</b></p>

## Catalogues

	DESCRIPTION	REF.NO.
	<b><u>EMCONOMY moves</u></b>	DE 2801 EN 2801 FR 2801 SP 2801 RU 2801 CZ 2801
	<b><u>CONCEPT TURN 250</u></b>	DE 4552 EN 4552 TA 4552 SP 4552
	<b><u>EMCO Industrial Training</u></b>	DE 1837 EN 1837 TA 1837 SP 1837

## Packing

	DESCRIPTION	REF.NO.
	<b><u>Standard packing</u></b>  Pallet with _rolamit cover	ZVZ 341 850
	<b><u>Climate packing</u></b>  Pallet, Alu-bandage, various accessories	ZVP 547 186
	<b><u>Seaworthy packing</u></b> (as option to European- and Climate packing)  Wooden box 185x150x192 cm	ZVP 301 851
	<b><u>SEAWORTHY PACKING COMPACT LOAD / LM800</u></b>  The loader is packed with Aluminium bandage, for transportation over-seas.	433 875