

system



ms



SYSTEMS

CNC machines











with step controller E 4

with servo controller E 12

Robotics E 36






CNC Machines

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CNC Machines

Overview

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CNC machine with step controller

ICP

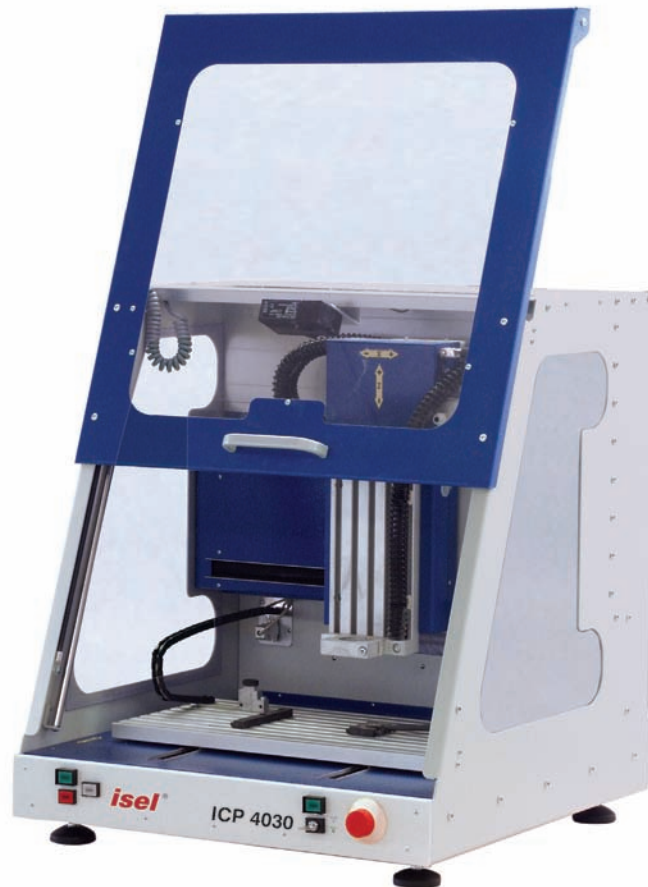


Illustration: **ICP 4030**

General

CNC machines of the series **ICP** are tried and tested, wired ready for mains connection, 3-D compatible CNC machines with high operating comfort for a multitude of automatable task at an ideal price/performance ratio.

The basis is a chassis made of powder-coated steel panel elements.

The design provides for high precision during the set-up of the machine as well as ease of maintenance. The resonance and vibration behaviors of the machine series is optimized and thereby reaches as low noise emission.

The machines can be easily operated while in seating position with the help of a sliding door. This allows for shorter cycle times when opening the hood and thereby increases profitability.

The clearance free ball screw used in the linear axes ensure high

precision, accuracy and quiet running. The high torque stepper motors of the axes drive are ideally adjusted to the mechanics, control and software.

The controller with 4-axis micro step control, integrated into the CNC machine, is easily accessible for easy maintenance via a removable rear panel.

The CNC machine **ICP** has a fixed portal area, the machine table with the thereon attached workpiece is moved during the machining process.

Subject to technical changes.

CNC machine with step controller

ICP

Applications

ICP®-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning
- ... etc.

Options

For ICP®-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Engraving spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction
- Vacuum clamping plates

- FlatCom
- CNC Joystick
- I/O Module
- Applications

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical Data

	ICP 4030	ICP 3020
Traversing range X/Y/Z (mm)	400 x 300 x 140	300 x 200 x 90
Table clamping area WxD (mm)	600 x 375	500 x 250
Opening (mm)	170	115
Dimensions WxDxH (mm)	780 x 850 x 810	610 x 650 x 715
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable	
Process speed X/Y/Z (mm/s)	60	
Repeat accuracy (mm)	≤ 0,02	
Drive motors	Stepper motors	
Drive elements X/Y/Z	Ball screw drive, clearance free adjustable	
Control	Step controller iMC-M with 4 final stages 36V/3,5A and power supply 200W with CPU board, alternatively with clock direction interface module Step controller iMC-M with 4 final stages 48V/4.2A and power supply 500W with CPU board, alternatively with clock direction interface module	
Operation	Function keys and Emergency OFF	
Software	PAL-PC, Remote, Windows, ProNC, isy-CAD/CAM, Galaad, Win PC-NC, EdiTask, EMC (Linux)	
Weight (kg) *	approx. 120	approx. 102
Item no.: Series M (with iMC-M) *	280220 2405	280210 2406
Item no.: Series M (with iMC-MP) *	280220 7405	280210 7406

Subject to technical changes.

CNC machine with step controller

MiniMod[®]
Series M / P



Illustration:
MiniMod M/P 20
With protective cover, milling spindle
and rotary unit



Illustration:
MiniMod M/P 60
with milling spindle

General

MiniMod[®]-CNC machines are set-up modular, with high operating comfort for a multitude of automatable tasks at an ideal price/performance ratio.

The basis is a sturdy aluminum steel frame with linear units. The clearance free ball screws used in the linear axes ensure high precision, accuracy and smooth running.

MiniMod[®]-CNC machines are available as compact units in 4 standard sizes with traverse paths of

- X = 300 mm,
- Y = 200 / 400 / 600 / 800 mm,
- Z = 150 mm

in an open design and with a traverse path of Y = 200 mm in a closed design (with protective cover).

The linear units with stepper motors are ideally adjusted to the control and the software. The stepper motor controller of the **MiniMod**[®] with safety circuit is located in the right inductor.

The M series contains the Step Controller iMC-M, the P series the Step Controller iMC-MP. (refer to section "Controls".)

Operation is done from the front with function keys.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with other traverse ranges are available.

CNC machine with step controller

MiniMod[®]
Series M / P

Applications

MiniMod[®]-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and fastening
- Boring and polishing
- Forming and modeling
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning
- ... etc.

Options

For MiniMod[®]-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction
- Vacuum clamping plates
- FlatCom

- Protective cover
- CNC Joystick
- I/O Module
- Applications

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical Data

	<i>MiniMod</i> M/P 20	<i>MiniMod</i> M/P 40	<i>MiniMod</i> M/P 60	<i>MiniMod</i> M/P 80
Traversing range X/Y/Z (mm)	300 x 200 x 150	300 x 400 x 150	300 x 600 x 150	300 x 800 x 150
Table clamping area WxD (mm)	325 x 500	325 x 700	325 x 900	325 x 1100
Opening (mm)	250			
Dimensions WxDxH (mm)	640 x 500 x 715	640 x 700 x 715	640 x 900 x 715	640 x 1100 x 715
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable			
Process speed X/Y/Z (mm/s)	50/100			
Repeat accuracy (mm)	≤ 0,02			
Drive motors	Stepper motors			
Drive elements X/Y/Z	Ball screw drive, clearance free adjustable			
Control	Step controller iMC-M with 4 final stages 36V/3,5A and power supply 200W with CPU board, alternatively with clock direction interface module Step controller iMC-M with 4 final stages 48V/4.2A and power supply 500W with CPU board, alternatively with clock direction interface module			
Operation	Function key, Emergency OFF (optional: control panel)			
Software	PAL-PC, Remote, Windows, ProNC, isy-CAD/CAM, Galaad, Win PC-NC, EdiTask, EMC (Linux)			
Weight (kg) *	approx. 90	approx. 95	approx. 100	approx. 105
Item no.: Series M (with iMC-M) *	281010 0001	281010 0002	281010 0003	281010 0004
Item no.: Series P (with iMC-MP) *	281010 0101	281010 0102	281010 0103	281010 0104

* without protective cover

Technical specifications subject to change.

CNC machine with step controller

MiniFLAT®
Series M / P

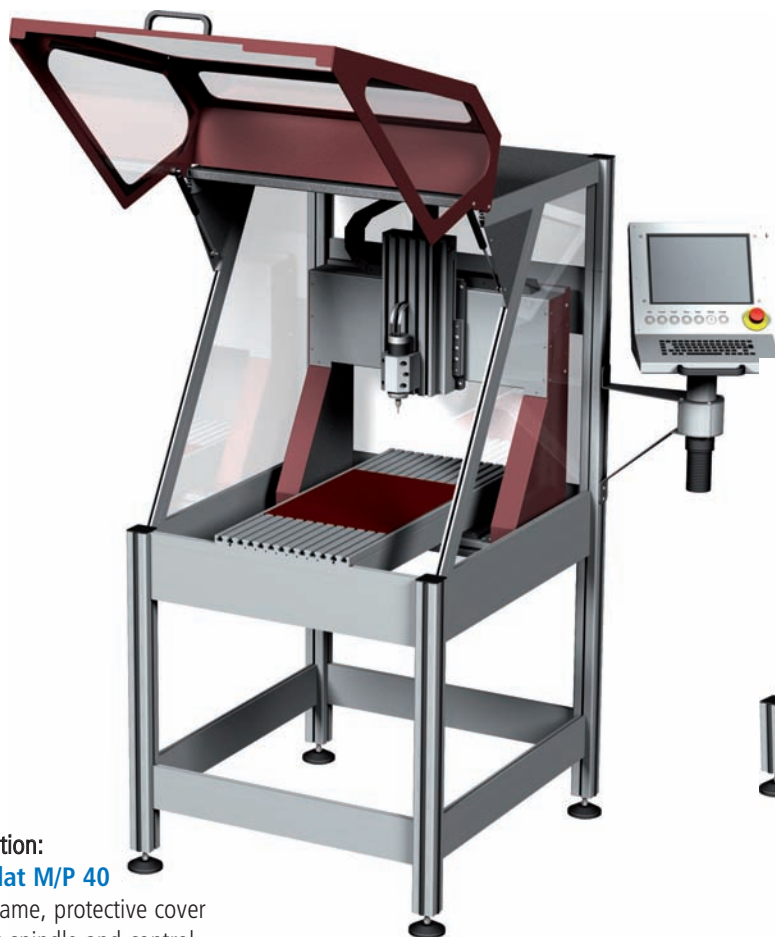


Illustration:
MiniFlat M/P 40
with frame, protective cover
Milling spindle and control
panel



Illustration:
MiniFlat M/P 20
with milling spindle

General

MiniFlat® CNC machines are set-up modular (with and without baseframe), with high operating comfort for a multitude of automatable tasks and applications at an ideal price/performance ratio.

The basis is a sturdy aluminum steel frame with linear units. The clearance free ball screws used in the linear axes ensure high precision, accuracy and smooth running.

MiniFlat®-CNC machines are available as compact units in 4 standard sizes with traverse paths of

- X = 300 mm,
- Y = 200 / 400 / 800 / 1.000 mm,
- Z = 150 mm

in open and closed design (with protective cover).

The linear units with stepper motors are ideally adjusted to the control and the software. The stepper motor controller with safety circuit is located at the back side of the **MiniFlat®**.

The M series contains the Step Controller iMC-M, the P series the Step Controller iMC-MP. (refer to section "Controls".)

Operation is done from the front with function keys or optionally with the control panel.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with other traverse ranges are available.

CNC machine

with step controller

MiniFLAT®

Series M / P

Applications

MiniFlat®-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and fastening
- Boring and polishing
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning
- ... etc.

Options

For MiniFlat®-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction
- Vacuum clamping plates
- FlatCom

- Baseframe
- Protective cover
- CNC Joystick
- I/O Module
- Applications
- Control panel

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical Data

	<i>MiniFLAT</i> M/P 20	<i>MiniFLAT</i> M/P 40	<i>MiniFLAT</i> M/P 80	<i>MiniFLAT</i> M/P 100
Traversing range X/Y/Z (mm)	300 x 200 x 150	300 x 400 x 150	300 x 800 x 150	300 x 1000 x 150
Table clamping area WxD (mm)	325 x 600	325 x 800	325 x 1200	325 x 1400
Opening (mm)	200			
Dimensions WxDxH (mm)	750 x 630 x 700	750 x 830 x 700	750 x 1230 x 700	750 x 1430 x 700
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable			
Process speed X/Y/Z (mm/s)	50/100			
Repeat accuracy (mm)	≤ 0,02			
Drive motors	Stepper motors			
Drive elements X/Y/Z	Ball screw drive, clearance free adjustable			
Control	Step controller iMC-M with 4 final stages 36V/3,5A and power supply 200W with CPU board, alternatively with clock direction interface module Step controller iMC-M with 4 final stages 48V/4.2A and power supply 500W with CPU board, alternatively with clock direction interface module			
Operation	Function key, Emergency OFF (optional: control panel)			
Software	PAL-PC, Remote, Windows, ProNC, isy-CAD/CAM, Galaad, Win PC-NC, EdiTask, EMC (Linux)			
Weight (kg) *	approx. 60	approx. 66	approx. 78	approx. 84
Item no. M Series (with iMC-M) *	281110 0001	281110 0002	281110 0003	281110 0004
Item no. P Series (with iMC-MP) *	281110 0101	281110 0102	281110 0103	281110 0104

* without base frame, without protective cover

Technical specifications subject to change.

CNC machine with step controller

FLATCom[®]
Series P



Illustration:
FlatCom P
with frame, protective cover
Milling spindle and control
panel

Illustration:
FlatCom P
with milling spindle

General

FlatCom[®]-CNC machines are set-up modular (with and without baseframe), with high operating comfort for a multitude of automatable tasks and applications at an ideal price/performance ratio.

The basis is a sturdy aluminum steel frame with linear units. The clearance free ball screws used in the linear axes ensure high precision, accuracy and smooth running.

FlatCom[®]-CNC machines are available as compact units in 4 standard sizes with traverse paths of

- X = 400 / 800 mm,
- Y = 300 / 600 / 600 / 1.200 mm,
- Z = 150 mm

in open and closed design with protective cover.

The linear units with stepper motors are ideally adjusted to the control and the software. The stepper motor controller with safety circuit is located at the back side of the **FlatCom**[®].

The P series has the step controller iMC-MP. (refer to section "Controls".)

Operation is done from the front with function keys or optionally with the control panel.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with other traverse ranges are available.

Technical specifications subject to change.

CNC machine

with step controller

FLATCom®

Series P

Applications

Flat-Com®-CNC machines of the P series are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and fastening
- Buring and polishing
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning and scaling
- ... etc.

Options

For Flat-Com®- CNC machines of the A series have special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction
- Vacuum clamping plates
- FlatCom

- Baseframe
- Protective cover
- CNC Joystick
- I/O Module
- Applications
- Control panel

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical Data

	FLATCom P 30	FLATCom P 60	FLATCom P 70	FLATCom P 120
Traversing range X/Y/Z (mm)	400 x 300 x 150	400 x 600 x 150	800 x 600 x 150	800 x 1,200 x 150
Table clamping area WxD (mm)	550 x 750	550 x 1,000	950 x 1,000	950 x 1,750
Opening (mm)	200			
Dimensions WxDxH (mm) without base frame	850 x 820 x 730	850 x 1,070 x 730	1,250 x 1,070 x 730	1,250 x 1,820 x 730
with base frame	850 x 820 x 1,310	850 x 1,070 x 1,310	1,250 x 1,070 x 1,310	1,250 x 1,820 x 1,310
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable			
Process speed X/Y/Z (mm/s)	100			
Repeat accuracy (mm)	≤ 0,02			
Drive motors	Stepper motors			
Drive elements X/Y/Z	Ball screw drive, clearance free adjustable			
Control	Step controller iMC-M with 4 final stages 48V/4.2A and power supply 500W with CPU board, alternatively with clock direction interface module			
Operation	Function key, Emergency OFF (optional: control panel)			
Software	PAL-PC, Remote, Windows, ProNC, isy-CAD/CAM, Galaad, Win PC-NC, EdiTask, EMC (Linux)			
Weight without base frame (kg) *	approx.110	approx. 120	approx. 170	approx. 255
Item no. without base frame*	275409 55665	275419 55665	275429 55665	275439 55665
with base frame*	275408 55665	275418 55665	275428 55665	275438 55665

* without protective cover

Technical specifications subject to change.

CNC machine with servo controller

ICV 4030



Figure: ICV 4030

General

CNC basis machines of the series **ICV** are tried and tested, wired ready for mains connection, 3-D compatible CNC machines with high operating comfort for a multitude of automatable task at an ideal price/performance ratio.

The basis is a chassis made of powder-coated steel panel elements. The design layout provides for high precision during the set-up of the machine as well as ease of maintenance. The resonance and vibration behaviors of the machine series is optimized and thereby reaches a low noise emission.

The machines can be easily operated while in seating position with the help of a sliding door. This allows for shorter cycle times when opening the hood and thereby increases profitability.

The clearance free ball screw used in the linear axes ensure high precision, accuracy and quiet running. The DC servo motors of the axis drive are ideally adjusted to the mechanics, control and software.

The servo controller with CAN-BUS integrated into the CNC machine, is easily via accessible for maintenance via the rear panel.

The CNC machine **ICV** has a fixed portal area, the machine table with the thereon attached workpiece is moved during the machining process.

Technical specifications subject to change.

CNC Machine

with servo controller

ICV 4030

Applications

The company **ICV4030**® CNC Machine are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning
- ... etc.

Options

For **ICV4030**® CNC Machine special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Engraving spindle
- Cooling/spraying device
- Frequency converter
- Tool changer
- Rotary unit
- Rotary / swivel unit
- T-Groove table milled
- Extraction

- Vacuum clamping plates
- Pneumatic accessories
- CNC Joystick
- I/O Module
- Applications

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical specifications

	ICV 4030
Traversing range X/Y/Z (mm)	395 x 300 x 100
Table clamping area WxD (mm)	600 x 375
Opening (mm)	150
Dimensions WxDxH (mm)	771 x 835 x 806
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable
Process speed X/Y/Z (mm/s)	250
Repeat accuracy (mm)	≤ 0,02
Drive motors	DC servo motors
Drive elements X/Y/Z	Ball screw drive, adjustable backlash-free
Control	CAN controller iMC with 3 drive regulators CAN PC (computer with I/O module) safety circuit and zero speed monitoring Power supply 48 V / 500 W
Operation	Function key and Emergency OFF
Software	Remote optional: Windows, ProNC, isy-CAD/CAM
Weight (kg) *	approx. 150
Item no.*	280230 4405

Technical specifications subject to change.

CNC Machine

with servo controller

MiniMod®
Series V



Figure:
MiniMod V 20
with protective cover, milling spindle
and rotary / swivel unit



Figure:
MiniMod V 60
with milling spindle and rotary
axis RDH-S with tailstock

General

MiniMod® CNC machines are set-up modular, with high operating comfort for a multitude of automatable tasks at an ideal price/performance ratio.

The basis are sturdy aluminum steel frames with linear units. The clearance free ball screws used in the linear axes ensure high precision, accuracy and smooth running.

MiniMod®-CNC machines are available as compact units in 4 standard sizes with traverse paths of

X = 300 mm,

Y = 200 / 400 / 600 / 800 mm,

Z = 200 mm

in open and closed design with protective cover.

The linear units with DC servo motors (max. 5 axes) are respectively adjusted to the mechanics, control and software.

The controller of the **MiniMod®** with safety circuit and zero speed monitor that is located in the right inductor. Operation is via a control panel with 10" monitor, touchscreen and keyboard.

On the **MiniMod®** the portal area is fixed and the thereon attached workpiece is moved on the machining table.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with other traverse ranges are available.

CNC Machine

with servo controller

MiniMod®
Series V

Applications

MiniMod®-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning
- ... etc.

Options

For MiniMod®-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- Rotary / swivel unit
- T-Groove table milled
- Extraction
- Vacuum clamping plates

- Pneumatic accessories
- Protective cover
- CNC Joystick
- I/O Module
- Applications

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical specifications

	MiniMod® V 20	MiniMod® V 40	MiniMod® V 60	MiniMod® V 80
Traversing range X/Y/Z (mm)	300 x 200 x 200	300 x 400 x 200	300 x 600 x 200	300 x 800 x 200
Table clamping area WxD (mm)	325 x 500	325 x 700	325 x 900	325 x 1100
Opening (mm)	300			
Dimensions WxDxH (mm)	805 x 500 x 815	805 x 700 x 815	805 x 900 x 815	805 x 1,100 x 815
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable			
Process speed X/Y/Z (mm/s)	250			
Repeat accuracy (mm)	≤ 0,02			
Drive motors	DC servo motors			
Drive elements X/Y/Z	Ball screw drive, adjustable backlash-free			
Control	CAN controller iMC with 3 drive regulators (max.5) CAN PC (computer with I/O module) safety circuit and zero speed monitoring Power supply 48 V / 500 W			
Operation	CNC control panel, 10" monitor with touchscreen, keyboard, function keys and emergency OFF			
Software	Remote optional: Windows, ProNC, isy-CAD/CAM			
Weight (kg) *	approx. 100	approx. 105	approx. 110	approx. 115
Item no.*	281000 0205	281000 0206	281000 0207	281000 0208

* without protective cover

Technical specifications subject to change.

CNC Machine

with servo controller

EuroMod®



Figure: **EuroMod**
with milling spindle
and open sliding door

General

EuroMod®-CNC machines are set-up modular, with high operating comfort for a multitude of automatable tasks at an ideal price/performance ratio.

The basis is a sturdy aluminum steel frame with linear units. The clearance free ball screw used in the linear axes ensure high precision, accuracy and quiet running.

EuroMod®-CNC machines are available as compact units in 4 standard sizes with traverse paths of

$$\begin{aligned} X &= 650 / 1,000 \text{ mm,} \\ Y &= 300 / 450 / 650 / 1,200 \text{ mm,} \\ Z &= 250 \text{ mm} \end{aligned}$$

in open and closed design with sliding door and transparent cover.

The DC servo motors for the 3 axis (max. 5 axis) are ideally adjusted to the mechanics, control and software.

The controller of the **EuroMod®** with safety circuit and zero speed monitor is located at an integrated control cabinet. Operation is via a control panel with 17" monitor with touch-screen, keyboard and mouse.

On the **EuroMod®** the portal area is fixed and the thereon attached workpiece is attached on the movable machining table.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with larger traverse ranges are available.

Technical specifications subject to change.

CNC Machine

with servo controller

EUROMOD[®]

Applications

EuroMod[®]-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning and scaling
- Sawing and cutting
- ... etc.

Options

For **EuroMod[®]**-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction
- Protective cover

- Vacuum clamping plates
- Pneumatic accessories
- CNC Joystick
- I/O Module
- Applications
- Direct drives

We are able to design and manufacture special machines.

Technical specifications

	EUROMOD MP 30	EUROMOD MP 45	EUROMOD MP 65	EUROMOD MP 120
Traversing range X/Y/Z (mm)	650/300/250	650/450/250	1000/650/250	1000/1200/250
Table clamping area WxD (mm)	900x350	900x500	1,200x700	1,200x1,250
Opening (mm)	350			
Dimensions WxDxH (mm)	1,160x800x1700	1,160x1,110x1,700	1,480x1,510x1,700	1,480x2,610x1,700
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable			
Process speed X/Y/Z (mm/s)	250			
Repeat accuracy (mm)	≤ 0,02			
Drive motors	DC servo motors, 48 V			
Drive elements X/Y/Z	Ball screw assemblies adjustable backlash-free			
Control	CAN controller iMC with 3 drive regulators CAN PC (computer with I/O module) safety circuit with zero speed monitoring Power supply 48 V / 1,000 W			
Operation	CNC Control Panel 17" mit Touchscreen, Tastatur und Maus			
Weight (kg)	approx. 250	approx. 280	approx. 375	approx. 475
Software	Windows, ProNC, isy CAD-CAM			
Item no.	275133 33665	275143 33665	275153 33665	275163 33665

Technical specifications subject to change.

CNC Machine

with servo controller

FLATCom[®]
Series M

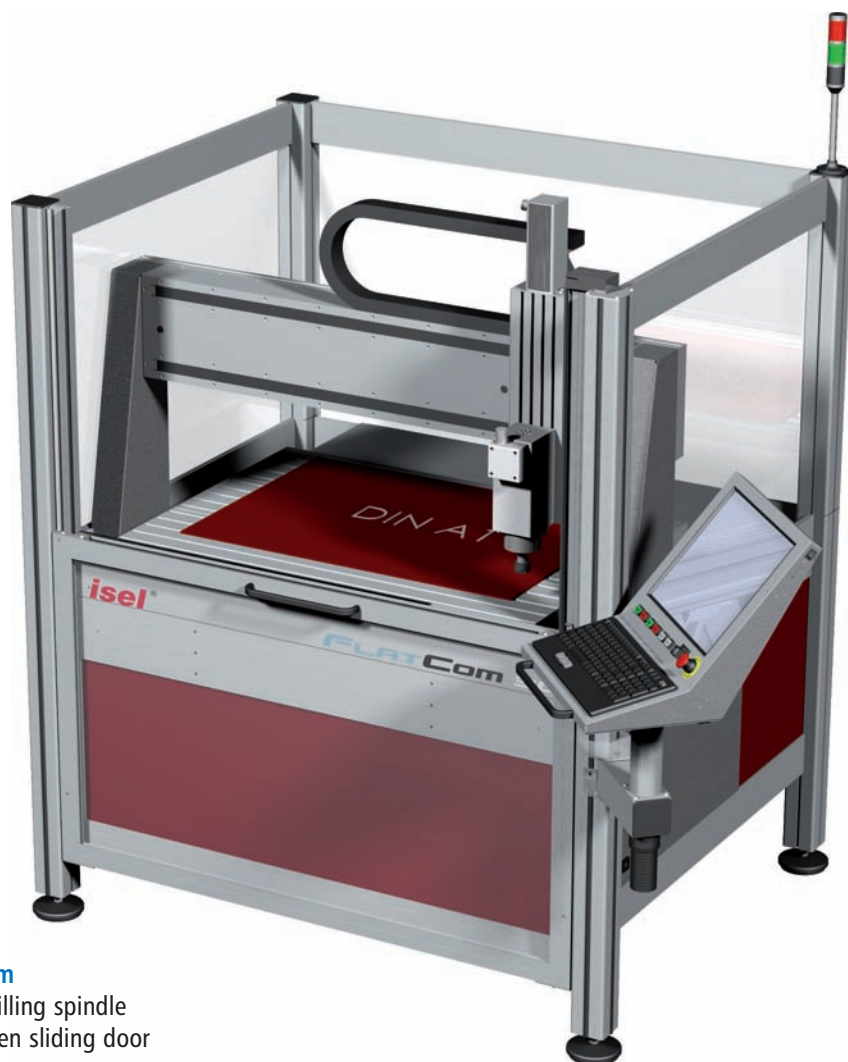


Figure: **FlatCom**
with milling spindle
and open sliding door

General

FlatCom[®]-CNC machines are set-up modular, with high operating comfort for a multitude of automatable tasks at an ideal price/performance ratio. The basis is a sturdy aluminum steel frame with linear units. The clearance free ball screw used in the linear axes ensure high precision, accuracy and quiet running.

FlatCom[®]-CNC machines are available as compact units in 4 standard sizes with traverse paths of

X = 550 / 900 mm,
Y = 350 / 650 / 950 / 1250 mm,
Z = 200 mm

in open and closed design with sliding door and transparent cover.

The DC servo motors of the 3 axis (max. 4 axis) are ideally adjusted to the mechanics, control and software.

The controller of the **FlatCom**[®] with safety circuit and zero speed monitor is located at an integrated control cabinet. Operation is via a control panel with 17" monitor with touchscreen, keyboard and mouse.

On the **FlatCom**[®] the portal area is fixed and the thereon attached workpiece is moved on the fixed machining table.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with larger traverse ranges are available.

Technical specifications subject to change.

CNC Machine

with servo controller

FLATCom®

Series M

Applications

FlatCom®-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning and scaling
- Sawing and cutting
- ... etc.

Options

For FlatCom®-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction
- Protective cover

- Vacuum clamping plates
- Pneumatic accessories
- CNC Joystick
- I/O Module
- Applications
- Direct drives

We are able to design and manufacture special machines.

Technical specifications

	FLATCom® M 35	FLATCom® M 65	FLATCom® M 95	FLATCom® M 125
Traversing range X/Y/Z (mm)	550x350x200	550x650x200	900x950x200	900x1,250x200
Table clamping area WxD (mm)	700x500	700x750	1,050x1,000	1,050x1,500
Opening (mm)	250			
Dimensions WxDxH (mm)	1,160x900x1,700	1,160x1,200x1,700	1,480x1,500x1,700	1,480x1,800x1,700
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable			
Process speed X/Y/Z (mm/s)	≤ 250			
Repeat accuracy (mm)	≤ 0,02			
Drive motors	Servo motors			
Drive elements X/Y/Z	Ball screw assemblies adjustable backlash-free			
Control	CAN controller iMC with 3 drive regulators CAN PC computer with I/O module safety circuit with zero speed monitoring Power supply 48 V / 1,000 W			
Operation	CNC Control Panel 17" mit Touchscreen, Tastatur und Maus			
Software	Windows, ProNC, isy CAD-CAM			
Weight (kg)	300	350	450	525
Item no.	275303 32665	275313 32665	275323 32665	275333 32665

Technical specifications subject to change.

CNC Machine

with servo controller

FLATCom[®]
Series L

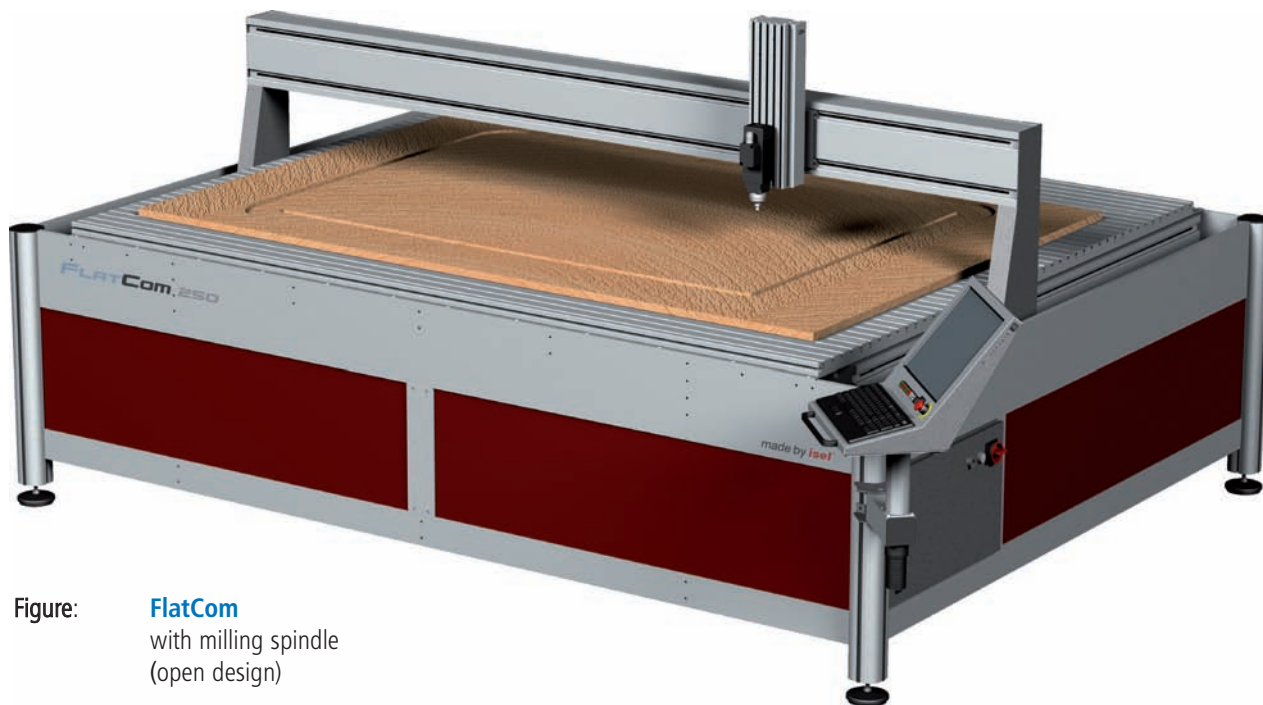


Figure: **FlatCom**
with milling spindle
(open design)

General

FlatCom[®]-CNC machines are set-up modular, with high operating comfort for a multitude of automatable tasks at an ideal price/performance ratio.

The basis is a sturdy aluminum steel frame with linear units. The clearance free ball screw or direct drive used in the linear axes ensure high precision, accuracy and quiet running.

FlatCom[®]-CNC machines are available as compact units in 3 standard sizes with traverse paths of

X = 1,500 / 2,500 / 3,000 mm,

Y = 1,700 mm,

Z = 200 mm in open and closed design.

The CNC machines can be manufactured depending on requirement and application with linear units in different designs and sizes up to 500mm opening height.

The servo motors for the 4 axis (Gantry drive) in Y direction are ideally adjusted to the mechanics, control and software.

The controller of the **FlatCom**[®] with safety circuit and zero speed monitor is located at an integrated control cabinet. Operation is via a control panel with 17" monitor with touchscreen, keyboard and mouse.

On the **FlatCom**[®] the machine table is fixed and the portal in Y direction is movable. On direct drives (linear motors) the traverse range in Y direction can be extended at will (e.g. 6m). This is possible due to the linear units mounted on the side of the machine table.

For all CNC machines (standard color: grey) extensive accessories and software applications as well as designs with other traverse ranges are available.

Technical specifications subject to change.

CNC Machine

with servo controller

FLATCom®

Series L

Applications

FlatCom®-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Laser and water jet cutting
- Soldering and welding
- Measuring and testing
- Scanning and scaling
- Sawing and cutting
- ... etc.

Options

For FlatCom®-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Rotary unit
- T-Groove table milled
- Extraction

- Vacuum clamping plates
- Pneumatic accessories
- CNC Joystick
- I/O Module
- Applications
- Protective cover
- Direct drives

We are able to design and manufacture special machines.

Technical specifications

	FLATCom® L 150	FLATCom® L 250	FLATCom® L 300
Traversing range X/Y/Z (mm)	1,500x1,700x200	2,500x1,700x200	3,000x1,700x200
Table clamping area WxD (mm)	1,750x2,250	2,750x2,250	3,250x2,250
Opening (mm)	250 (max.500)		
Dimensions WxDxH (mm)	2,216x2,430x1,600	3,216x2,430x1,600	3,716x2,430x1,600
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable		
Process speed X/Y/Z (mm/s)	250 (max.500)		
Repeat accuracy (mm)	≤ 0,02		
Drive motors	Servo motors		
Drive elements X/Y/Z	Ball screw assemblies adjustable backlash-free		
Control	CAN controller iMC with 4 drive regulators (iMD 40) CAN PC (computer with I/O module) safety circuit with zero speed monitoring		
Operation	CNC Control Panel 17" mit Touchscreen, Tastatur und Maus		
Software	Windows, ProNC, isy CAD/CAM		
Weight (kg) *	approx. 435	approx. 510	approx. 580
Item no.*	275062 34565	275072 34565	275082 34565

* without protective cover

Technical specifications subject to change.

CNC Machine

with servo controller

MODUSTAR

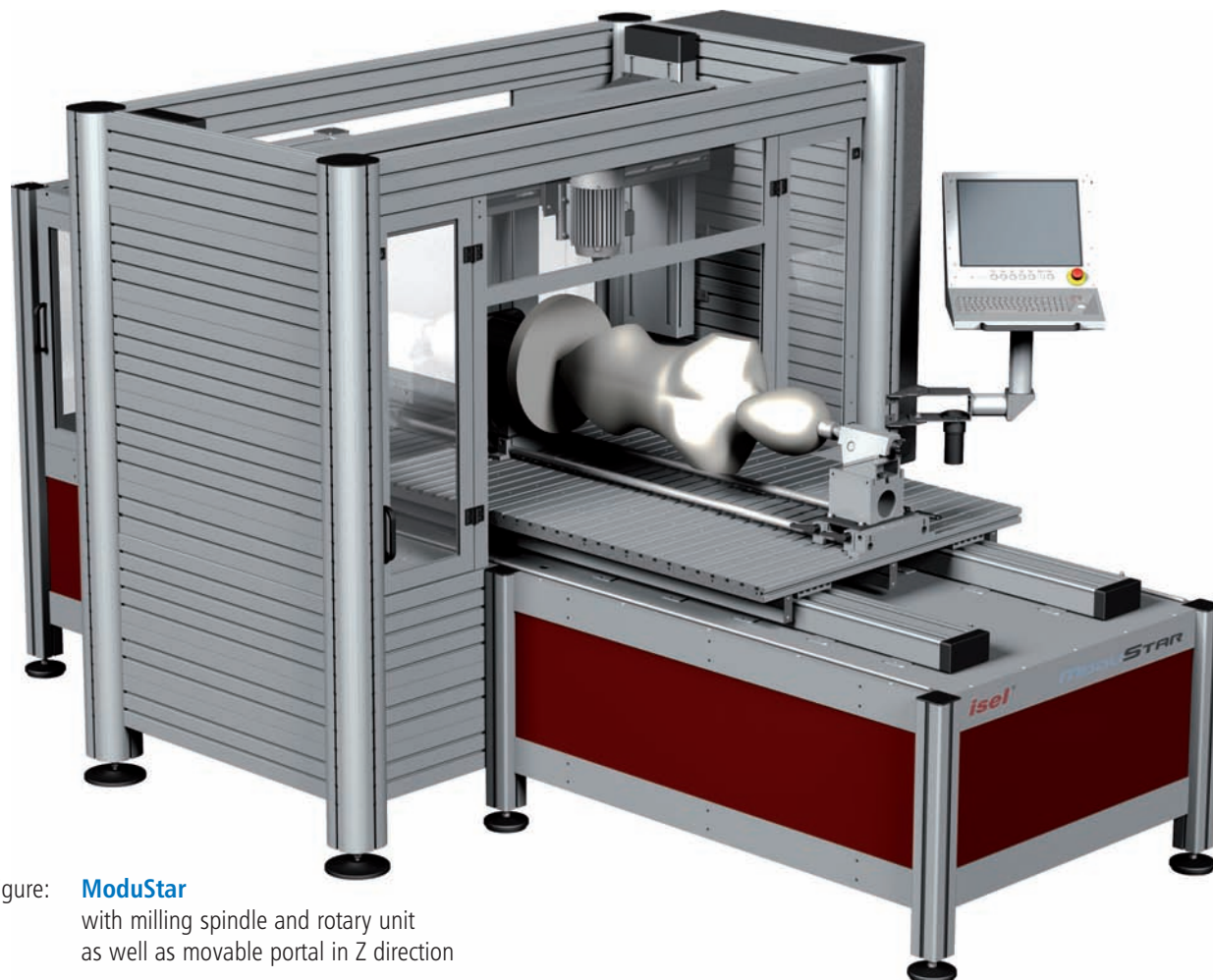


Figure: **ModuStar**
with milling spindle and rotary unit
as well as movable portal in Z direction

General

ModuStar® CNC machines are set-up modular, with high operating comfort for a multitude of automatable tasks at an ideal price/performance ratio. The machine concept consists of 3 standardized aluminum steel frames with two-sided flexible fittings and the respective linear units. The clearance free ball screw (e.g. direct drive) used in the linear units ensure high precision, accuracy and quiet running.

ModuStar® CNC machines are available as compact and high performance units in 3 standard sizes with traverse path of

X = 1,000 / 1,500 / 2,000 mm,
Y = 1,500 / 2,500 / 3,000 mm,
Z = 400 mm

in open and closed design.

The CNC machines can be manufactured depending on requirement and application with linear units in different designs and sizes up to 1,200 mm opening height.

The controller of the **ModuStar**® with safety circuit and zero speed monitor is located at an integrated control cabinet. Operation is via a control panel with 17" monitor with touchscreen, keyboard and mouse.

On the **ModuStar**® the portal in X direction is fixed and the machine table in Y direction is movable on two linear units. With direct drives (linear motors) the traverse range in Y direction can be extended at will (e.g. 6m). In order to do this, the fittings with the respective linear units plus the work table are extended respectively.

For all CNC machines (standard color: grey) extensive user accessories and software applications as well as designs with other traverse ranges are available.

For traverse ranges larger than 1,500 mm spindle support is required or direct drive is used.

Technical specifications subject to change.

CNC Machine

with servo controller

MODUSTAR

Applications

ModuStar[®]-CNC Machines are the basis for the set-up of machines for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Forming and modeling
- Bonding and casting
- Laser and water jet cutting
- Soldering and welding
- Measuring and testing
- Scanning and scaling
- Sawing and cutting
- ... etc.

Options

For **ModuStar**[®]-CNC Machines special devices and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- 2 Tool changer
- 2 separate Z-axis
- Movable portal in Z direction
- Rotary / swivel unit
- Cooling/spraying device
- Rotary unit
- T-Groove table milled

- Extraction
- Vacuum clamping plates
- Pneumatic accessories
- Protective cover
- CNC Joystick
- I/O Module
- Applications
- Direct drives (linear motor)

We are able to design and manufacture for OEM customers, in collaboration, special machines.

Technical specifications

	MODUSTAR MP 100	MODUSTAR MP 150	MODUSTAR MP 200
Traversing range X/Y/Z (mm)	1,000 x 1,800 x 400	1,500 x 2,800 x 400	2,000 x 3,300 x 400
Table clamping area WxD (mm)	1,000 x 1,500	1,500 x 2,500	2,000 x 3,000
Opening (mm)	600 (max. 1,200)		
Dimensions WxDxH (mm)	2,550 x 3,500 x 1,900	3,050 x 4,500 x 1,900	3,550 x 5,500 x 1,900
Guides	Linear units with precision steelshafts and ball circulation skid, clearance free adjustable		
Process speed X/Y/Z (mm/s)	≤ 250 (max. 500)		
Repeat accuracy (mm)	≤ 0,02		
Drive motors	Servo motors		
Drive elements X/Y/Z	Ball screw assemblies adjustable backlash-free		
Control	CAN controller iMC with 3 drive regulators (iMD 40) CAN PC (computer with I/O module) safety circuit with zero speed monitoring		
Operation	CNC Control Panel 17" mit Touchscreen, Tastatur und Maus		
Software	Windows, ProNC, isy CAD-CAM		
Weight (kg) *	approx. 1,100	approx. 1,400	approx. 1,800
Item no.*	275503 35065	275513 35065	275523 35065

* without protective cover

Technical specifications subject to change.

CNC Machine table

ModuFix[®]


Figure:
ModuFix[®] 100
 3 linear units,
 1 rotary unit with milling spindle

General

ModuFix[®]-CNC machining tables are built modular with high operating comfort for a variety of tasks and applications at an ideal price/performance ratio. The basis are our machine tables MT made of sturdy aluminum frames with T-groove profiles.

The basic configuration of the **ModuFix[®]**-CNC machines is the machine table MT as well as a switch cabinet with integrated PC, 17" monitor, touchscreen and keyboard.

ModuFix[®]-CNC machines are available as compact units in 4 standard sizes in length of

1000 / 1500 / 2000 / 2500 mm

in open and closed design with transparent protective cover.

The mechanical components (linear and rotary units) can be individual built-on the machine table for the respective application (e.g. CNC milling).

The same applies for the electrical components in the switch cabinet (e.g.: step controller or servo controller) next to the connecting cable.

ModuFix[®]-CNC machining tables have a multitude of use, e.g. for:

- Test and test set-ups of any type
- CNC technology (Didaktik)

for the training and occupational field

CNC Machine table

ModuFix[®]

Applications

ModuFix[®]-CNC Machine tables serves as the basic equipment for test and test set-ups as well as CNC technology for:

- Drilling and milling
- Assembling and mounting
- Imprinting and engraving
- Metering and Fastening
- Buring and polishing
- Bonding and casting
- Soldering and welding
- Measuring and testing
- Scanning
- ... etc.

Options

For **ModuFix**[®]-CNC machine tables mechanical components (linear units, rotary units) and electronic components (step controller or servo controller) as well as equipment and tools for different requirements and applications are available:

- Drilling and milling spindle
- Frequency converter
- Tool changer
- Cooling/spraying device
- Extraction
- I/O Module
- Safety circuits

- Impact resistant protective cover
- Pneumatic accessories
- Vacuum clamping plates
- Applications

We gladly assist you with the selection and compilation of individual components and accessories.

Technical specifications

	ModuFix 100	ModuFix 150	ModuFix 200	ModuFix 250
Total size WxDxH (mm)	1,000 x 750 x 1,500	1,500 x 750 x 1,500	2,000 x 750 x 1,500	2,500 x 750 x 1,500
Switch cabinet WxDxH (mm)	650 x 250 x 400			
Operation	integrated PC with 17" monitor, touchscreen, keyboard, function keys and emergency OFF			
mechanical components	Can be compiled as needed. The individual components such as linear and rotary units, or also step controller (e.g.: iMC-M or iMC-MP) and servo controller (iMC-V or iMC-VP) can be found under the respective section MECHANICS or ELECTRONICS. Individual control programs are also further described under the SOFTWARE section.			
electronic components				
Software				
Weight (kg) *	approx.105	approx.125	approx.137	approx.157
Item no.*	248552 0001	248552 0002	248552 0003	248552 0004

* Is only applicable for the basic equipment without any mechanical or electronic components as well as no protective cover. The individual components differ from customer to customer.