



## THE MPS FAMILY

MODULAR PROCESSING SYSTEM

# The MPS Family

## Modular Processing System



### Superior know-how creates superior solutions

Each MPS system is way more than just a laser workstation and will be tailored according to your specific requirements. This is only possible because ROFIN's engineers have acquired a wealth of application-specific expertise; in classical cutting, welding, structuring and drilling tasks as well as for numerous high precision ultrashort pulsed applications.

- 4 different laser systems with various modules and motion systems offer ideal prerequisites for customized applications
  - From basic configurations to high-end solutions
  - Fixed optics for cutting, welding and drilling as well as 5-axis scanner heads.
  - From standard camera supervision to image processing with automatic position correction
- Ready to integrate a wide range of ROFIN laser sources:
    - Fiber lasers (StarFiber, PowerLine F)
    - Rod lasers (StarPulse, PowerLine)
    - Ultrashort pulsed lasers (StarPico, StarFemto FX)
    - Short pulsed lasers (PowerLine Pico)
    - Diode lasers (Compact Evolution)
    - CO<sub>2</sub> lasers (StarShape, StarLite X)
  - Suitable for a wide range of applications:
    - Welding
    - Cutting
    - Structuring
    - Ablating
    - Welding of polymers
    - Drilling

# Applications

## Welding

## Cutting

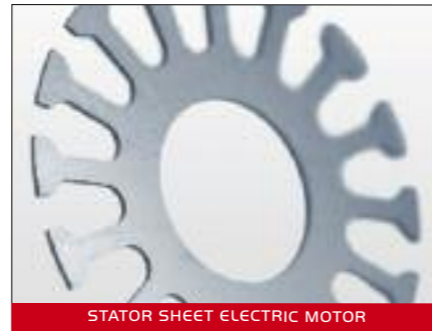
## Structuring

## Welding of polymers

## Drilling



MEDICAL DEVICES



STATOR SHEET ELECTRIC MOTOR



AUTOMOTIVE COMPONENT



INSULIN PUMP



SENSORS



HIP JOINT MILLER



MOBILE PHONE HOUSING



BRITTLE MATERIALS



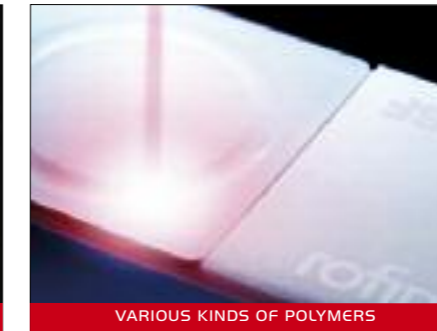
ULTRAFINE ENGRAVING



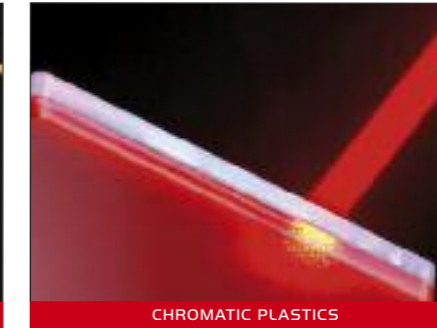
SAPPHIRE ENGRAVING



PRINTING PLATE



VARIOUS KINDS OF POLYMERS



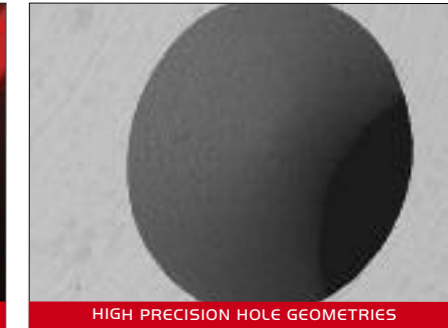
CHROMATIC PLASTICS



AUTOMOTIVE COMPONENTS



FILTER NOZZLE FOR AEROSPACE/RACING



HIGH PRECISION HOLE GEOMETRIES



SURGICAL NEEDLES

# MPS Compact

## Modules

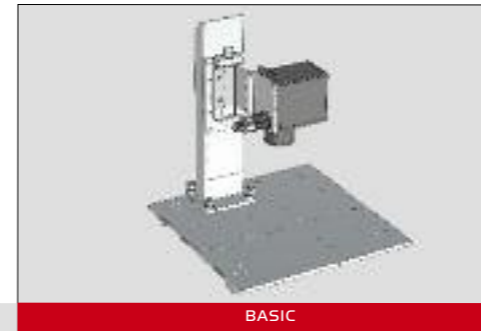
## Specifications



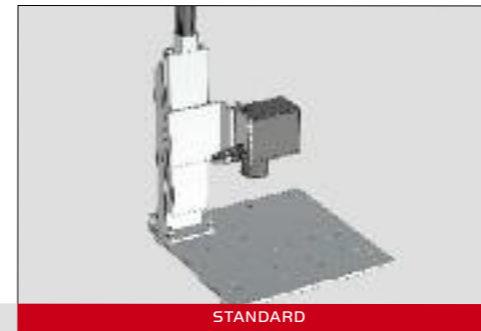
### System Features

- Small footprint
- System for fiber delivered lasers
- 19" laser source integrable
- ROFIN fiber lasers (StarFiber series, LFS series)
- ROFIN diode lasers (Compact Evolution)
- Pneumatic sliding door
- CNC controller (Beckhoff)
- Available for seated or standing work position

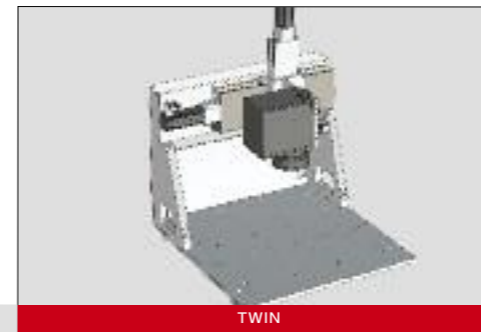
**Basic**  
 Manual adjustment  
 Z-axis travel: +/- 50 mm



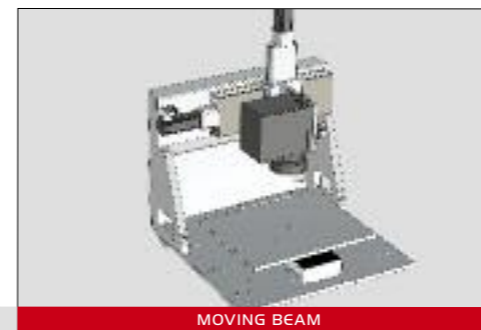
**Standard**  
 Z-axis travel: 300 mm  
 Drive: servo motor  
 Max. speed: 100 mm/s  
 Positioning accuracy: ±40 µm  
 Repeat accuracy: ±20 µm



**Twin**  
 X-axis travel: 250 mm  
 Z-axis travel: 200 mm  
 Drive: servo motor  
 Speed: 100 mm/s  
 Positioning accuracy: ±40 µm  
 Repeat accuracy: ±20 µm



**Moving Beam**  
 X-axis travel: 250 mm  
 Y-axis travel: 250 mm  
 Z-axis travel: 200 mm  
 Drive: servo motor  
 Speed: 100 mm/s  
 Positioning accuracy: ±40 µm  
 Repeat accuracy: ±20 µm



### Interface

Display and operation	17" touch screen + keyboard
Memory interface	USB device

### Circuit points

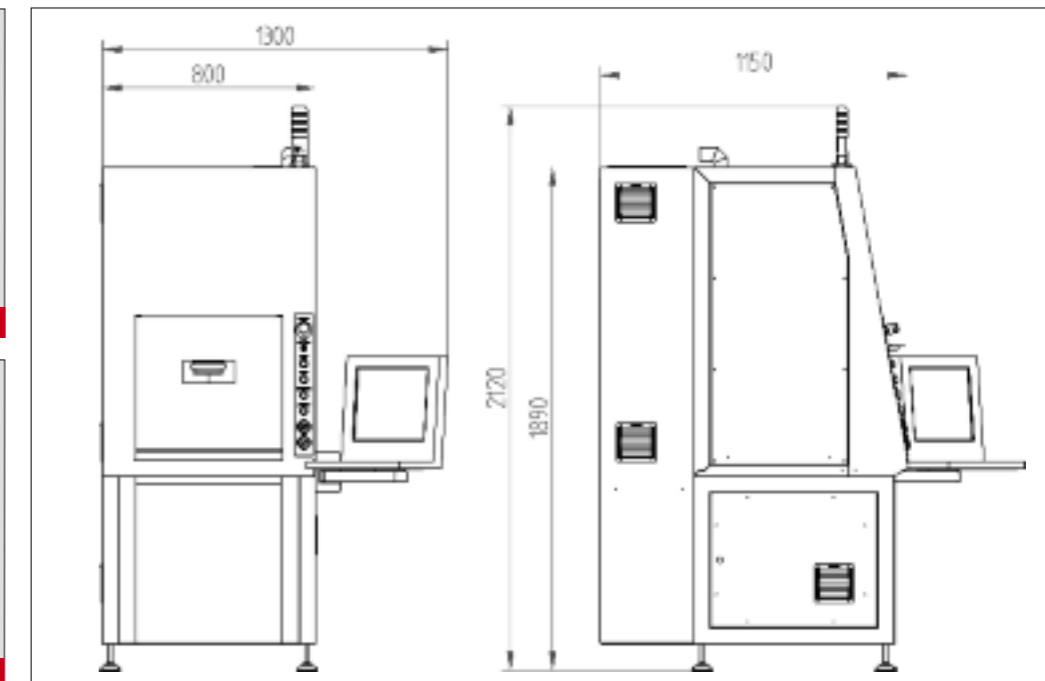
Electric		400 VAC
		50/60 Hz
		32 A
		3 + N + PE Ph
Power consumption*	effective power	1,0 kW
	standby	0,8 kW
Pneumatic	compressed air	6 bar

### Installation conditions

Weight	Basic	590 kg
	Standard	590 kg
	Twin	670 kg
	Moving Beam	700 kg

Dimensions (WxDxH)	800 mm x 2120 mm x 1150 mm
Ambient temperature max.**	35°

\*without laser \*\* according to equipment



# MPS Flexible

# Modules

# Specifications



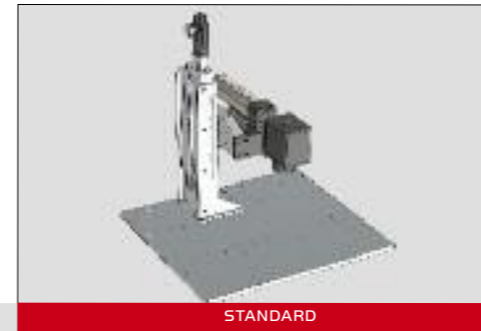
MPS FLEXIBLE

## System Features

- Welded steel construction base frame
- Granite base for the motion modules Precision and High Precision
- Modular design
- Laser garage for 19" laser source or laser supply cabinet
- Large working chamber
- Pneumatic sliding door
- CNC controller (Beckhoff)

### Standard

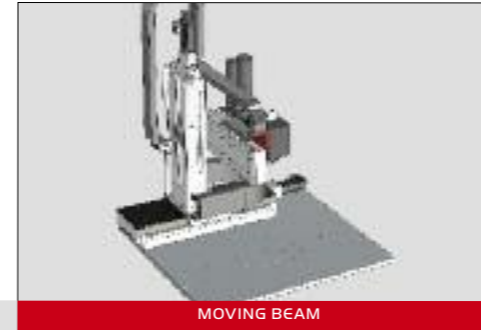
Z-axis travel: 350 mm  
 Drive: servo  
 Max. speed: 100 mm/s  
 Positioning accuracy:  $\pm 30 \mu\text{m}$   
 Repeat accuracy:  $\pm 10 \mu\text{m}$



STANDARD

### Moving Beam

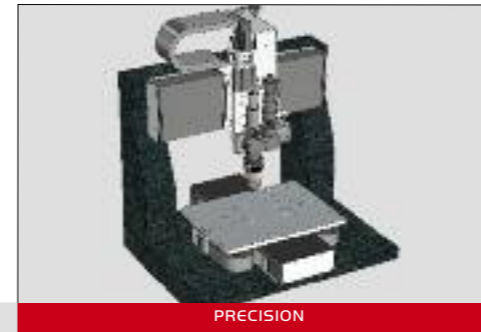
X-axis travel: 400 mm  
 Y-axis travel: 400 mm  
 Z-axis travel: 350 mm  
 Drive: servo  
 Max. speed: 100 mm/s  
 Positioning accuracy:  $\pm 30 \mu\text{m}$   
 Repeat accuracy:  $\pm 10 \mu\text{m}$



MOVING BEAM

### Precision

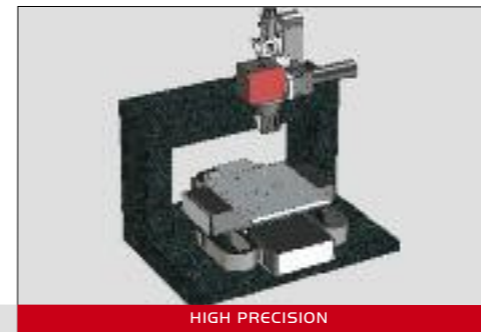
X/Y-axis travel: 400 mm x 400mm  
 Drive: linear servo  
 Max. acceleration: 1.0 g  
 Positioning accuracy\*:  $\pm 8 \mu\text{m}$  (300 mm)  
 Repeat accuracy\*:  $\pm 4 \mu\text{m}$  (300 mm)  
 Z-axis travel: 150 mm  
 Drive: servo  
 Max. speed: 100 mm/s  
 Positioning accuracy:  $\pm 30 \mu\text{m}$   
 Repeat accuracy:  $\pm 10 \mu\text{m}$



PRECISION

### High Precision

X/Y-axis travel: 200 mm x 300 mm  
 Drive: linear servo  
 Max. acceleration: 0.5 g  
 Positioning accuracy:  $\pm 5 \mu\text{m}$   
 Repeat accuracy:  $\pm 3 \mu\text{m}$   
 Z-axis travel: 150 mm  
 Drive: servo  
 Max. speed: 100 mm/s  
 Positioning accuracy:  $\pm 30 \mu\text{m}$   
 Repeat accuracy:  $\pm 10 \mu\text{m}$



HIGH PRECISION

\*Specification for each individual axis

### Interface

Display and operation	17" touch screen + keyboard
Memory interface	USB device

### Circuit points

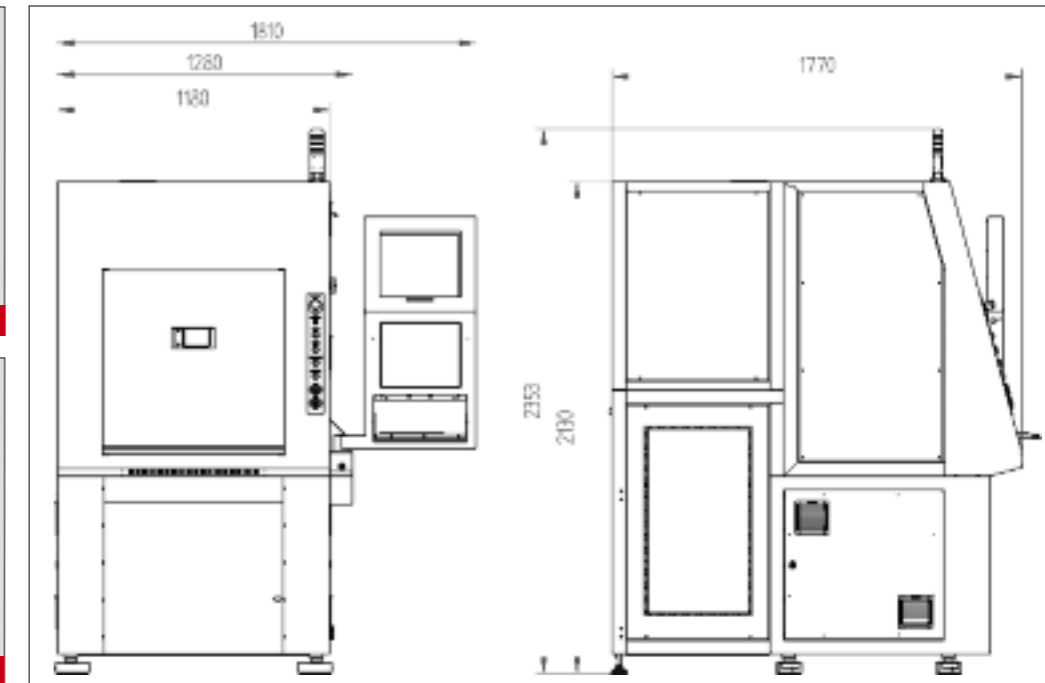
Electric	400 VAC
	50/60 Hz
	32 A
	3 + N + PE Ph
Power consumption*	effective power 1.4 kW
	standby 1.0 kW
Pneumatic	compressed air 6 bar

### Installation conditions

Weight	Basic	780 kg
	Moving Beam	850 kg
	Precision	1280 kg
	High Precision	1400 kg

Dimensions (WxDxH)	1280 mm x 2430 mm x 1770 mm
Ambient temperature max. **	35°

\*without laser \*\* according to equipment



# MPS Rotary

## Modules

## Specifications



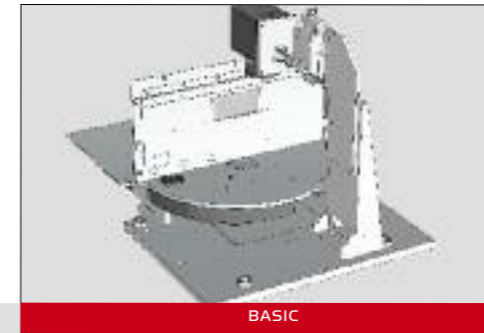
MPS ROTARY

### System Features

- Laser workstation based on MPS Flexible
- Rotary indexing table Ø 800 mm
- Welded steel construction base frame
- Laser garage for 19" laser source or laser supply cabinet
- Partition heights
  - 150 mm
  - 300 mm
- Safety light barrier
- Prepared for rotary axes
- CNC controller (Beckhoff)

#### Basic

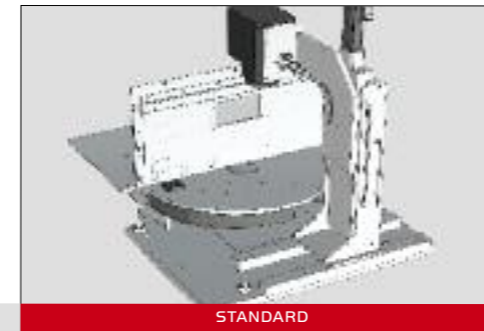
Manual adjustment  
Z-axis travel: +/- 50 mm



BASIC

#### Standard

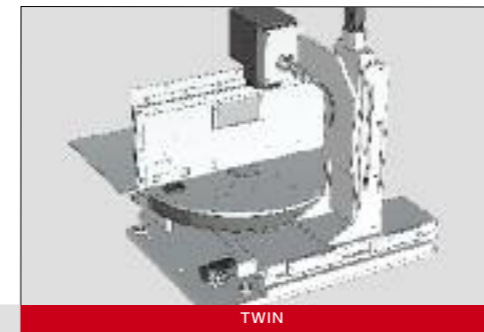
Z-axis travel: 350 mm  
Drive: servo motor  
Max. speed: 100 mm/s  
Positioning accuracy: ±30 µm  
Repeat accuracy: ±10 µm



STANDARD

#### Twin

X-axis travel: 300 mm  
Z-axis travel: 350 mm  
Drive: servo motor  
Speed: 100 mm/s  
Positioning accuracy: ±30 µm  
Repeat accuracy: ±10 µm



TWIN

#### Interface

Display and operation	17" touch screen + keyboard
Memory interface	USB device

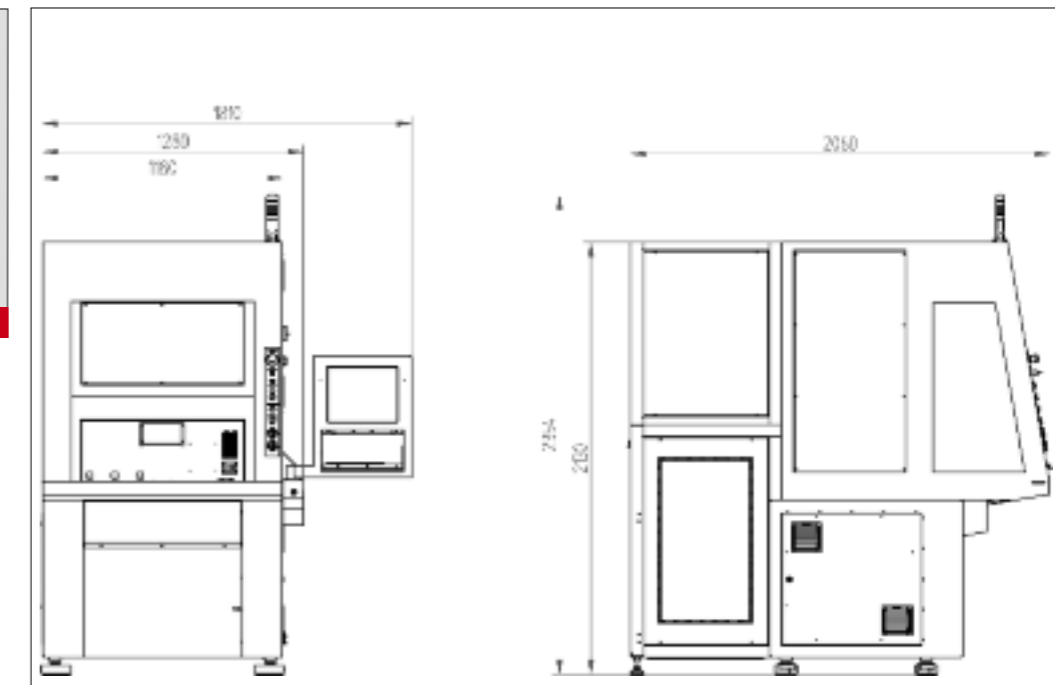
#### Circuit points

Electric		400 VAC
		50/60 Hz
		32 A
		3 + N + PE Ph
Power consumption*	effective power	1,4 kW
	standby	1,0 kW
Pneumatic	compressed air	6 bar

#### Installation conditions

Weight	Basic	1020 kg
	Standardc	1020 kg
	Twin	1080 kg
Dimensions (WxHxD)		1280 mm x 2360 mm x 2060 mm
Ambient temperature max. **		35°

\*without laser \*\* according to equipment



# MPS Advanced



MPS ADVANCED

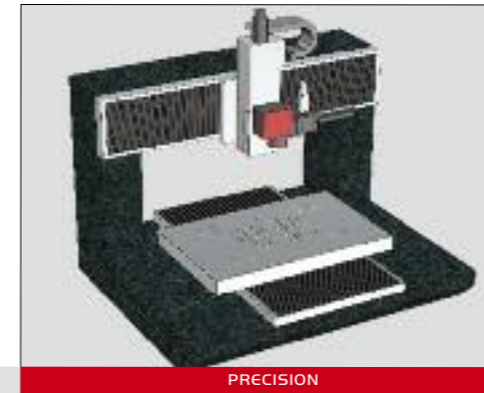
## System Features

- Welded steel construction base frame
- Granite based motion modules
- Modular design
- Laser garage for 19" laser source or laser supply cabinet
- Spacious working chamber
- CNC controller (Beckhoff)
- Pneumatic sliding door
  - Option manual sliding door (e.g. for crane loading)

# Modules

## Precision

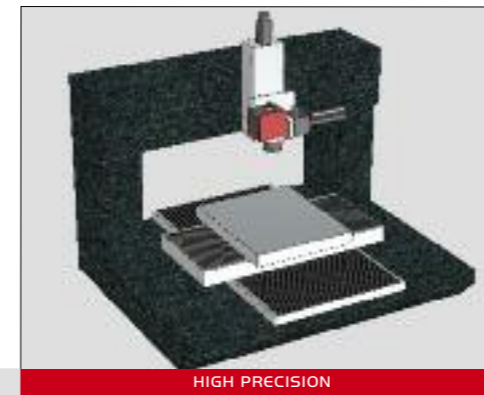
X/Y-axis travel: 1000 mm x 600 mm  
 Drive: linear servo  
 Max. acceleration: up to 0.5 g  
 Positioning accuracy\*:  $\pm 8 \mu\text{m}$  (300 mm)  
 Repeat accuracy\*:  $\pm 4 \mu\text{m}$  (300 mm)  
 Z-axis travel: 150 mm  
 Drive: servo motor  
 Max. speed: 100 mm/s  
 Positioning accuracy:  $\pm 30 \mu\text{m}$   
 Repeat accuracy:  $\pm 10 \mu\text{m}$



PRECISION

## High Precision

X/Y-axis travel: 500 mm x 600 mm  
 Drive: linear motor  
 Max. acceleration: up to 0.5 g  
 Positioning accuracy:  $\pm 5 \mu\text{m}$  (300 mm)  
 Repeat accuracy:  $\pm 3 \mu\text{m}$  (300 mm)  
 Z-axis travel: 150 mm  
 Drive: servo motor  
 Max. speed: 100 mm/s  
 Positioning accuracy:  $\pm 30 \mu\text{m}$   
 Repeat accuracy:  $\pm 10 \mu\text{m}$



HIGH PRECISION

\*Specification for each individual axis

# Specifications

## Interface

Display and operation	17" touch screen + keyboard
Memory interface	USB device

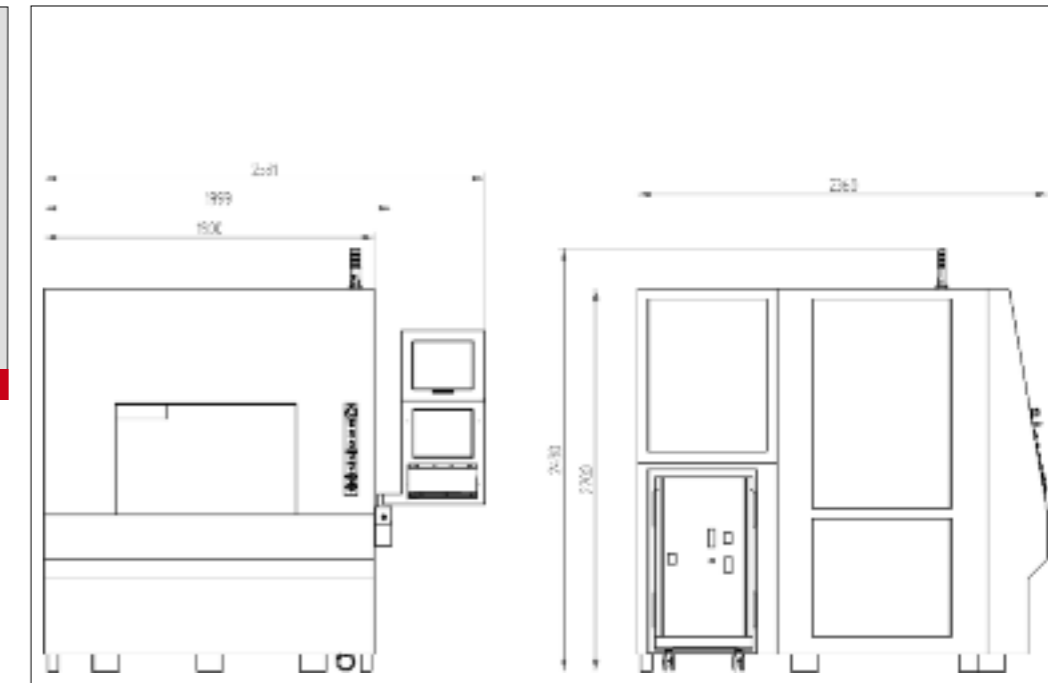
## Circuit points

Electric	400 VAC	
	50/60 Hz	
	32 A	
	3 + N + PE Ph	
Power consumption*	effective power	1.8 kW
	standby	1.2 kW
Pneumatic	compressed air	6 bar




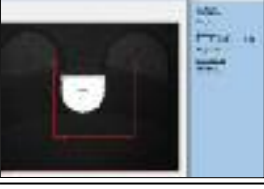



## Installation conditions

Weight	Precision	3980 kg
	High Precision	3980 kg
Dimensions (WxDxH)	2531 mm x 2430 mm x 2360 mm	
Ambient temperature max.**	35°	

\*without laser \*\* according to equipmen



# Options

	MPS <b>Compact</b>	MPS <b>Flexible</b>	MPS <b>Rotary</b>	MPS <b>Advanced</b>
 Rotary axis	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
 Storage table for rotary axis		<b>X</b>		<b>X</b>
 Monitor fixture	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
 Vision system	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
 Foot switch	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
 Cutting box small		<b>X</b>		<b>X</b>
 Cutting box large		<b>X</b>		<b>X</b>

	MPS <b>Compact</b>	MPS <b>Flexible</b>	MPS <b>Rotary</b>	MPS <b>Advanced</b>
 Automatic flow meter	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
 Exhaust	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
 Bellows kit		<b>X</b>		<b>X</b>
 Override		<b>X</b>		<b>X</b>
 Swivelling axis		<b>X</b>		<b>X</b>
 3 D Cutting		<b>X</b>		<b>X</b>



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