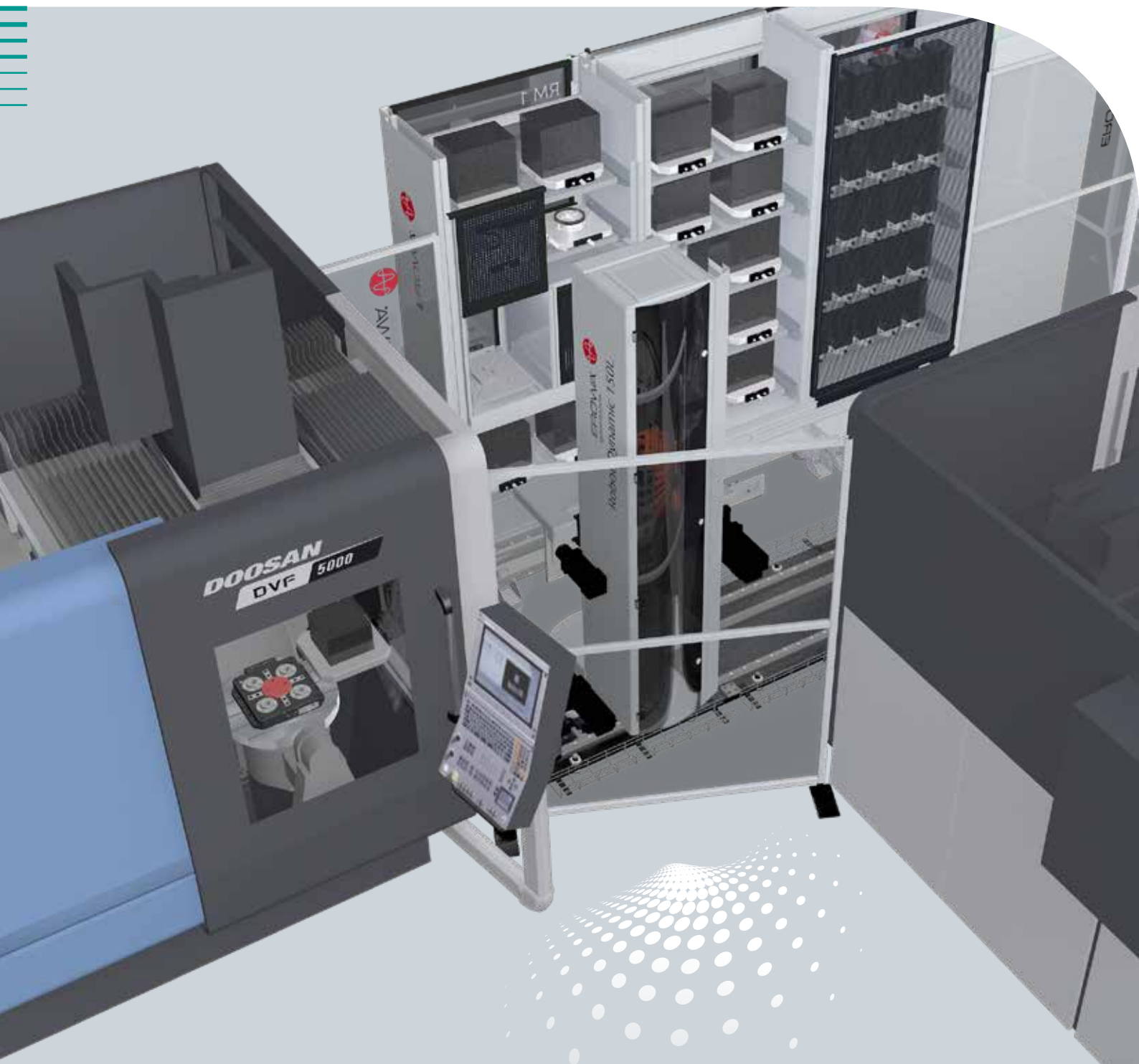


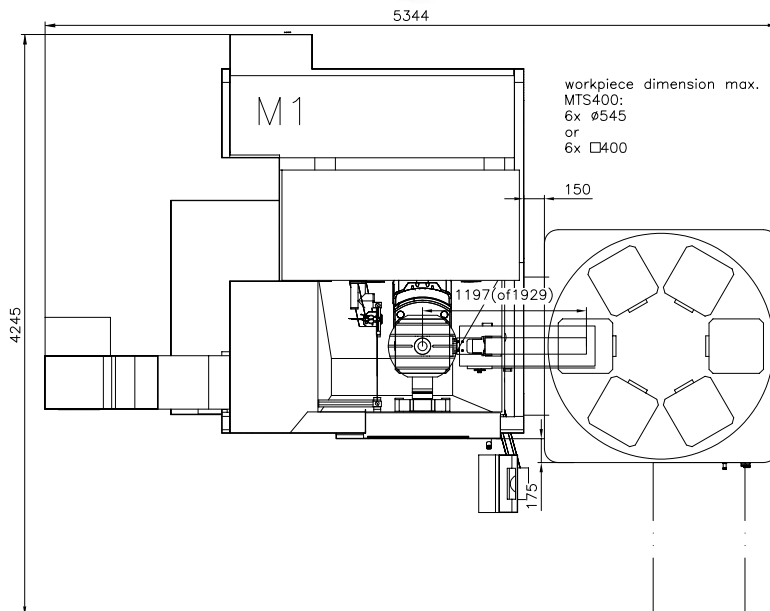


# A winning combination

## EROWA Robot on DOOSAN



# EROWA Robot Easy 250 on DOOSAN DVF5000



## Possible workpiece sizes

MTS 400	= 400x400 mm (6 positions MTS 400)
UPC	= 320x320 mm (10 positions UPC)
PC210	= $\varnothing$ 210 mm (12 positions PC210)
ITS 148	= $\varnothing$ 148 mm (24 positions ITS 148)

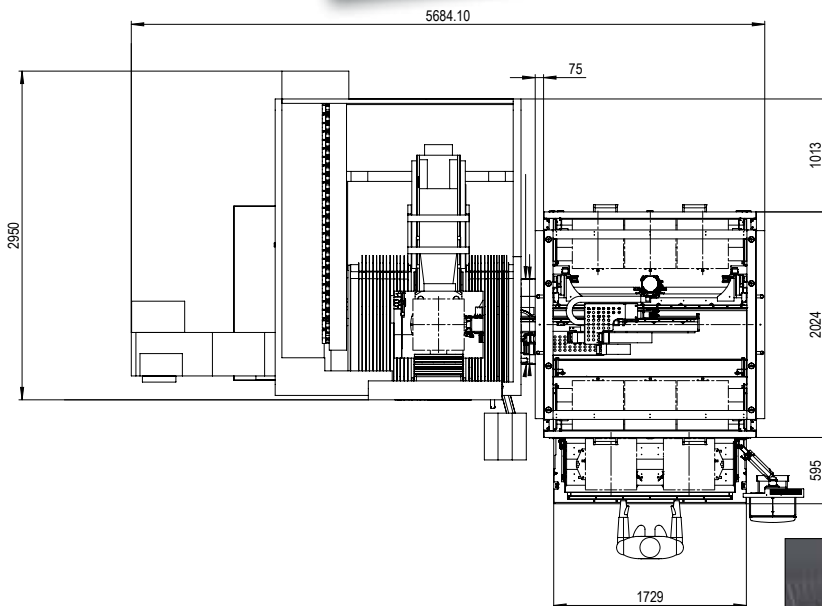
## THE FACTS

- Small footprint of 3 m<sup>2</sup>
- Transfer weight up to 250 kg, optional 300 kg
- Long reach on the machine table
- Crane loading of the magazine possible
- EWIS Scan pallet identification (optional)



Tooling: UPC/MTS

# EROWA Leonardo on DOOSAN DVF5000



## Possible workpiece sizes

MTS 500	= 500x500 mm
MTS 400	= 400x400 mm
UPC	= 320x320 mm
PC210	= $\varnothing$ 210 mm
ITS 148	= $\varnothing$ 148 mm

The number of magazine positions depends on the configuration and defined workpiece heights.

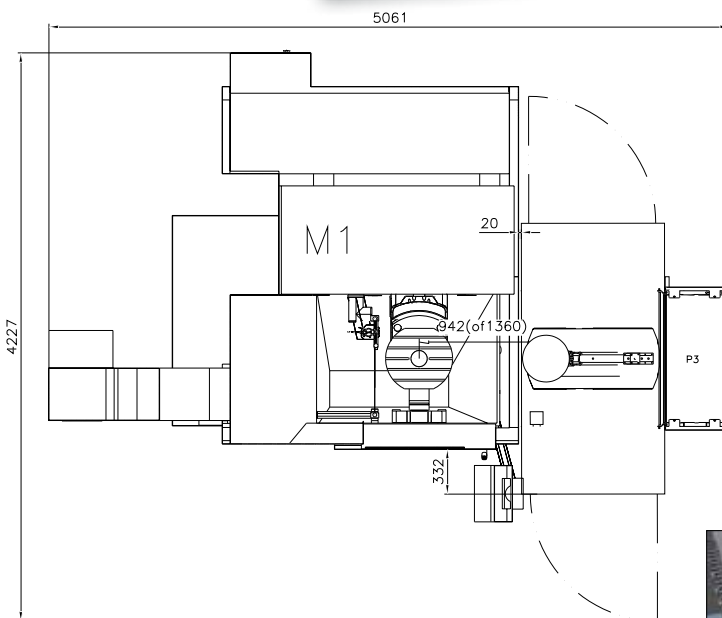
## THE FACTS

- Small footprint of 4 m<sup>2</sup>
- High magazine capacity due to double-decker design (option)
- Transfer weight up to 80 kg, optional 120 kg
- Gripper change for two tooling types
- Process reliability through control system integration



Tooling: ITS148/PC210/UPC/MTS

# EROWA Robot Compact 80 on DOOSAN DVF5000



## Possible workpiece sizes

UPC = 320x320 mm

PC210 =  $\varnothing$  210 mm

ITS 148 =  $\varnothing$  148 mm

The number of magazine positions depends on the configuration and defined workpiece heights.

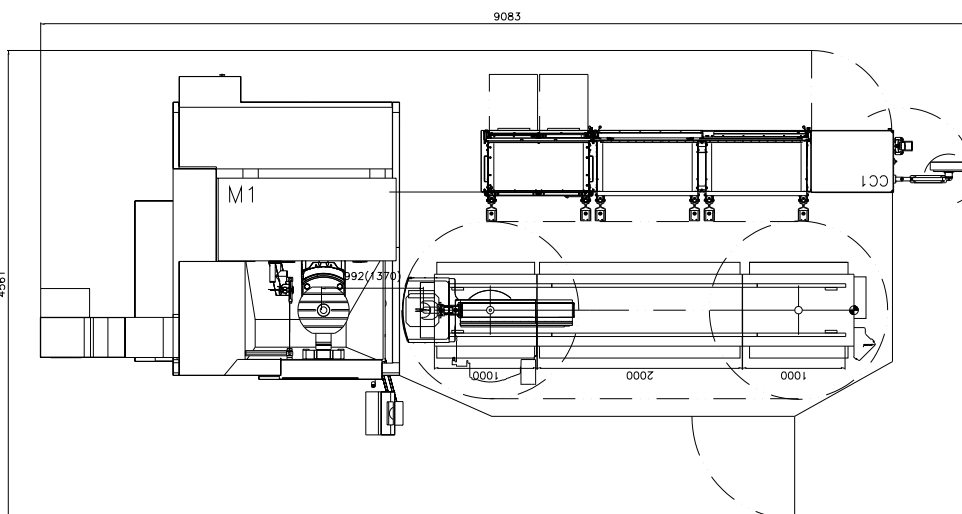
## THE FACTS

- Small footprint of 2 m<sup>2</sup>
- Transfer weight of up to 80 kg
- Gripper change for multiple tooling types
- Two-machine operation
- Control system integration possible (optional)



Tooling: ITS50/ITS148/PC210/UPC

# EROWA Robot Dynamic 150L on DOOSAN DVF5000



## Possible workpiece sizes

MTS 400	= 400x400 mm
UPC	= 320x320 mm
PC210	= $\varnothing$ 210 mm
ITS 148	= $\varnothing$ 148 mm
ITS 50	= $\varnothing$ 85 mm

The number of magazine positions depends on the configuration and defined workpiece heights.

## THE FACTS

- Transfer weight of up to 150 kg
- Modular design – expandable at any time
- Automates up to 12 machines
- Integrated ergonomic loading station
- Intelligent magazine and safety concept
- Process reliability through control system integration



Tooling: ITS 50/ITS148/UPC

# Efficiency can be increased

several times over

**The tougher pace of international competition calls for manufacturing to be rethought. The means of production must be put to more universal and efficient use. Possibilities to do so exist in sufficient measure.**

In many companies, the means of production are not put to optimal use. Until very recently, the focus was on the quality and feasibility of new products. Until a few years ago, the expenditure that this entailed was also paid for. Increases in capacity were compensated for by investments in new machines.

If CNC machines without the relevant equipment are only used for actual production during approx. 800 hours a year, then the necessary automation system ensures that the same machines can be put to more than 6000 hours' productive use.

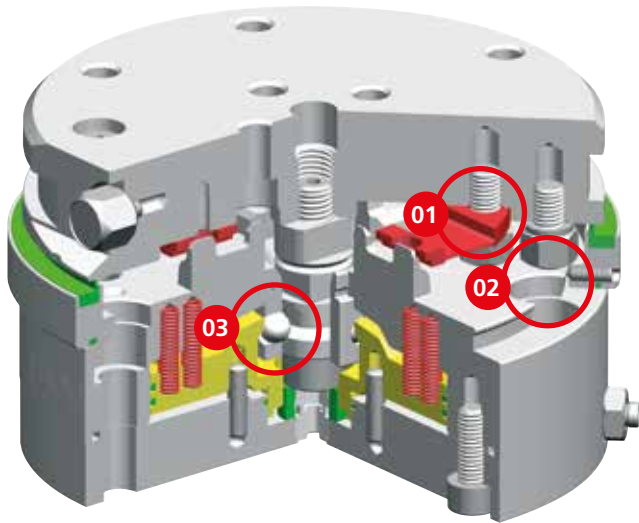
Moreover, operators have a great deal of time for programming and other preparatory work while the machine is productive. Thus operators do „hidden“ work in parallel with production time, which makes a crucial contribution toward an increase in efficiency.

8760 hrs time potential per year



# EROWA PowerChuck P

## Function



### 01 | Centering plates

The G-centering plates with the ground centering and the 0.7 mm thick spring plates ensure clean and powerful positioning orientation.

### 02 | Cleaning

During the clamping process, the support surfaces of the supporting feet are cleaned with compressed air.

### 03 | Ball lock

The self-locking ball lock generates a clamping force of 10'000 N. The full clamping force is maintained even in the event of a drop in pressure.

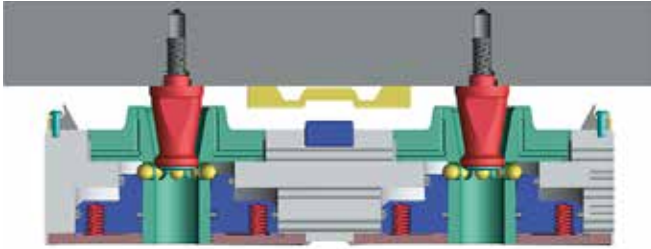
## Technical specifications – PowerChuck P

	<b>PowerChuck P</b>
Pallet size	ø 115 mm, ø 148 mm, and ITS 50
Chuck dimensions H x ø	H = 51 mm x ø 156 mm
System height (chuck and pallet)	H = 91 mm
Recommended workpiece sizes	up to 160 x 160 x 250 mm
Repeatability	0.002 mm
Indexing	4 x 90°
Clamping force	10,000 N
Clamping	spring force
Opening	compressed air min. 6 bar
Actuation	control unit or air gun

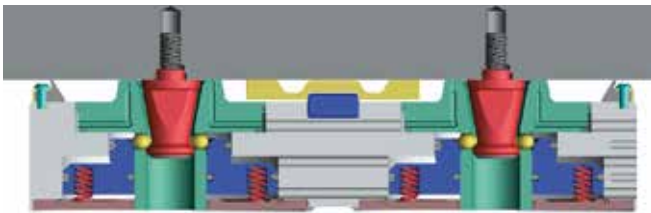


# EROWA UPC

## Function



UPC chuck open



UPC chuck closed

The functional elements have a very simple design. This allows a favorable price. And thanks to few moving parts also very good functionality.

The lock generates a pull-down force of up to 50,000 N. Thanks to the widely spaced support surfaces, the UPC is extremely tilt-proof.

The pallet is pre-centered with chucking spigots. Then four robust centering segments take over to ensure precise positioning in the pallet and chuck. Compressed air is used for opening and cleaning.

## Technical data – UPC

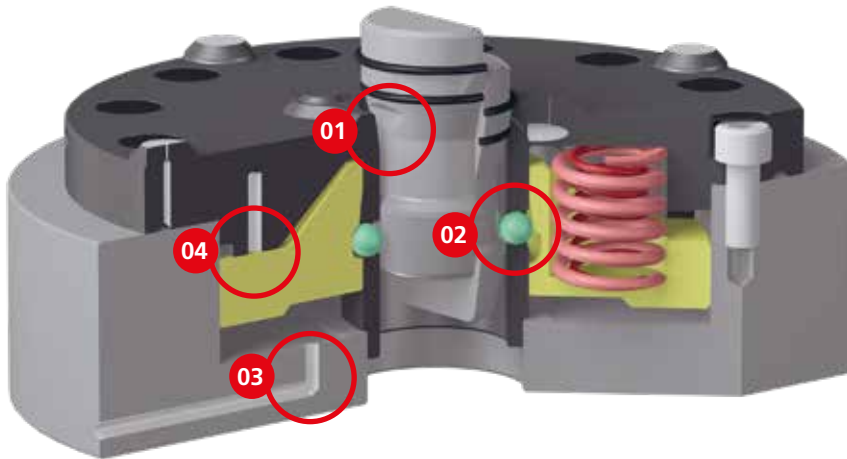
	UPC	UPC P "Production"
Pallet size	320 x 320 mm	320 x 320 mm
Chuck dimensions	280 x 280 mm	320 x 300 mm
System height (chuck and pallet)	105 mm	105 mm
Recommended workpiece sizes	up to 500 x 500 x 350 mm	up to 500 x 500 x 500 mm
Repeat accuracy	0.002 mm	0.002 mm
Indexing, pallet positioned	4 x 90°	4 x 90°
Operation	clamped without pressure	clamped without pressure
Air connection; dry compressed air	min. 6 bar	min. 6 bar
Operation	manual or automatic control unit	
Monitoring	pneumatic, electropneumatic evaluation	
Clamping power	32,000 N	50,000 N





# EROWA MTS 2.0

## Function of MTS 2.0 chuck



### DECISIVE BENEFITS

- Open monitoring
- Utmost process reliability
- Clamping power 20'000 N
- Opening pressure 6 bar
- Clamping mechanism with ceramic balls
- Rust-resistant

#### 01 | Highest precision

Clearance-free round-cone centering.  
Repeating accuracy: <0.003 mm.  
Easy loading of pallets  
without tilting and jamming.

#### 02 | Clamping mechanism

Reliable clamping mechanism  
by self-locking ball  
closure. Solid and low-vibration.

#### 03 | Opening

MTS 2.0 chucks are operated pneumatically.  
The chucks require only 6 bar opening  
pressure despite their high clamping power  
of 20,000 N.

#### 04 | Monitoring

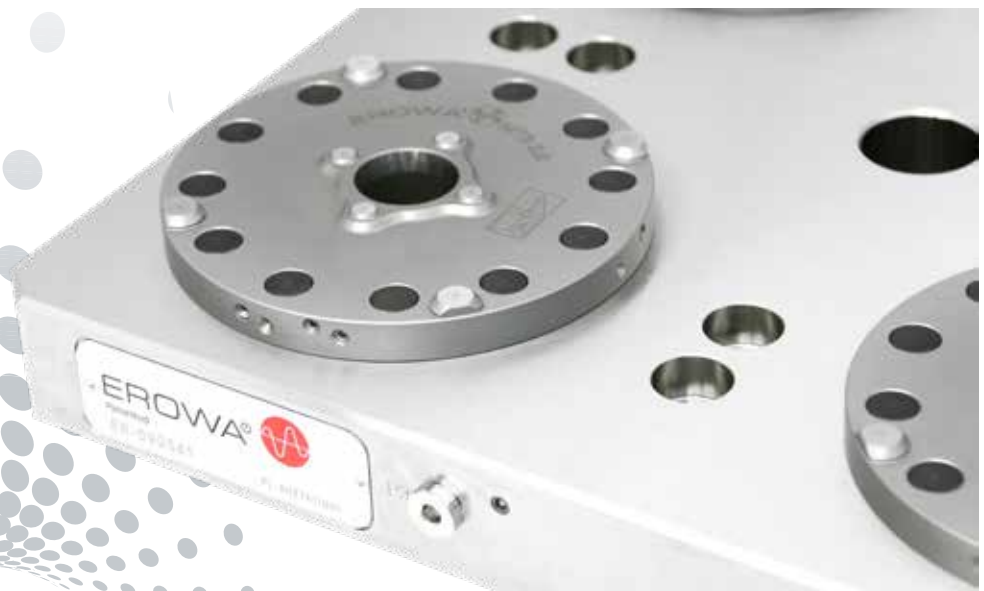
Know for sure when the MTS 2.0 chuck  
is open thanks to integrated open monitoring.

## Technical specification - MTS 2.0

	MTS 2.0
Repeating accuracy	< 0,003 mm
Operation	clamped without pressure
Opening pressure	6 bar
Reclamping pressure	max. 6 bar
Monitoring	pneumatic: Open monitoring and presence check
Clamping power	9',000 N/chuck (spring tension)
with reclamping	20,000 N/chuck
Holding power	> 60,000 N/chuck
Reclamping	yes
Clamping cycles	> 500,000
Material	INOX

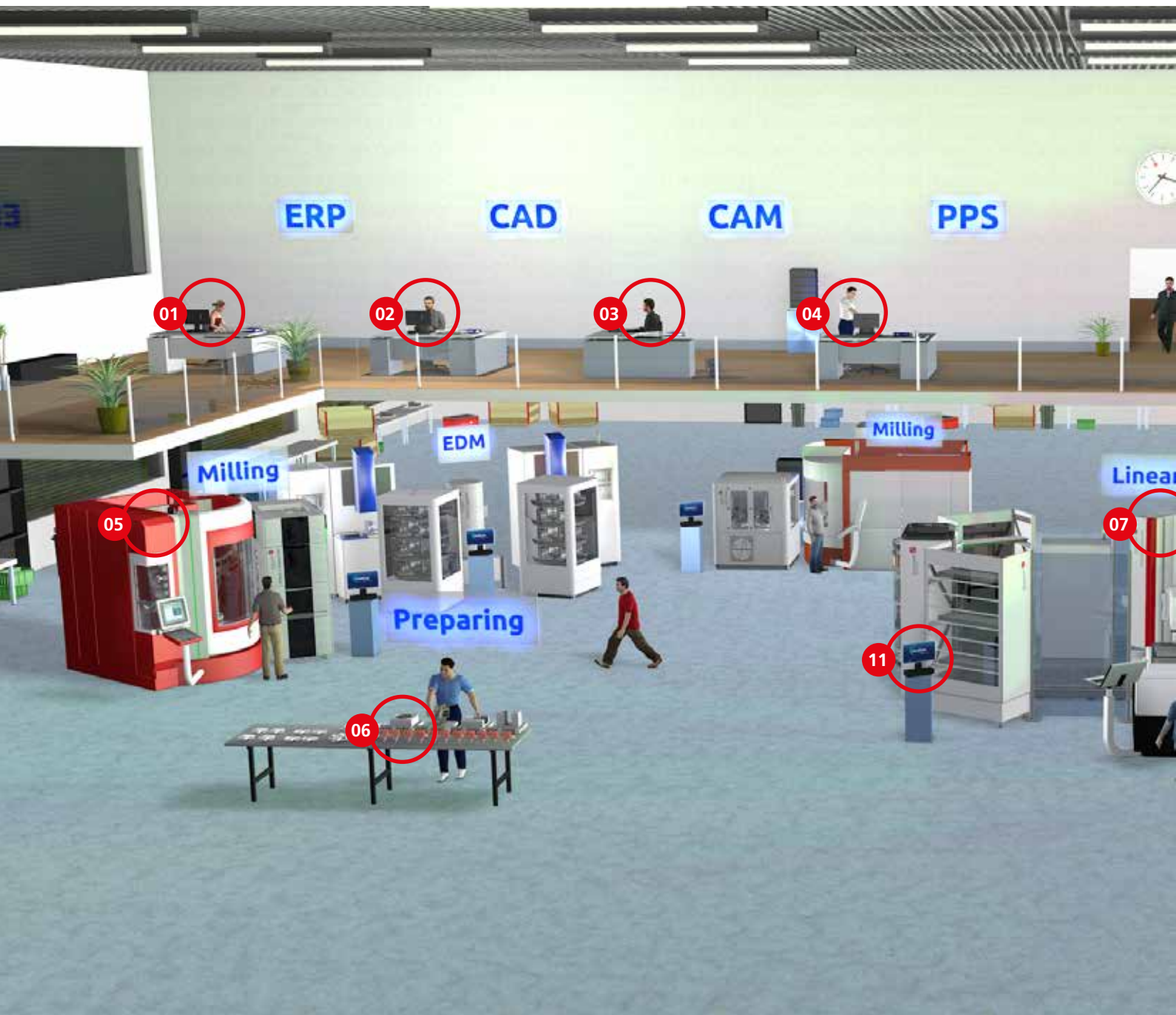
compatible with

- MTS 81
- MTS
- MTS 2.0
- MTS+



# A step towards Industry 4.0

The EROWA JMS® 4.0 process control system has an important place within Industry 4.0 as a whole. It covers a large proportion of the functions that make up the Smart Factory. The benefits for users are significant, as it is always clear what workpiece is where in the process and when.



The machines constantly report their status and in-process control with automatic feedback gives you production of the very highest quality. Of course, flexible interfaces to upstream and downstream systems are provided as well. Workpiece pallets and workpiece mounts/workpiece carriers can be identified at all times from their RFID chips.



- 01 | Avor
- 02 | CAD
- 03 | CAM
- 04 | ERP
- 05 | Milling
- 06 | Preparation
- 07 | Robot on rails
- 08 | EDM
- 09 | Washing
- 10 | Measuring
- 11 | Cell computer

#### THE FACTS

- Utilize off-peak and night hours
- Manages manufacturing priorities
- Forecast machining times
- Status messages
- Tool life monitoring

# 30 Years of Experience



Long experience – short start-up.  
EROWA robots consist of sophisticated, standardized components. This allows short set-up times.

## Your major benefits

- Everything from one single source
- Unbiased and reliable partner
- Over 30 years of experience
- Expertise that spans technologies
- Largest automation supplier in tool and mold making
- Inventor of the FMC concept
- Trendsetter in the field of standardization, organization, automation and integration
- Perfect service with global operations

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