

**NACHI**

NACHI EUROPE GmbH

**OUR SYNERGY  
YOUR PERFORMANCE**

# MZ25

**COMPACT | PRECISE | FLEXIBLE**

CELEBRATE THE POLE POSITION



**NEW**

**MZ25**

The successful MZ-Series expands  
with MZ25: Increased load,  
enlarged reach and high precision

# Suitable for a wide range of applications due to the enlarged reach and high torque on the wrist

Individual application possibilities due to extensive option list

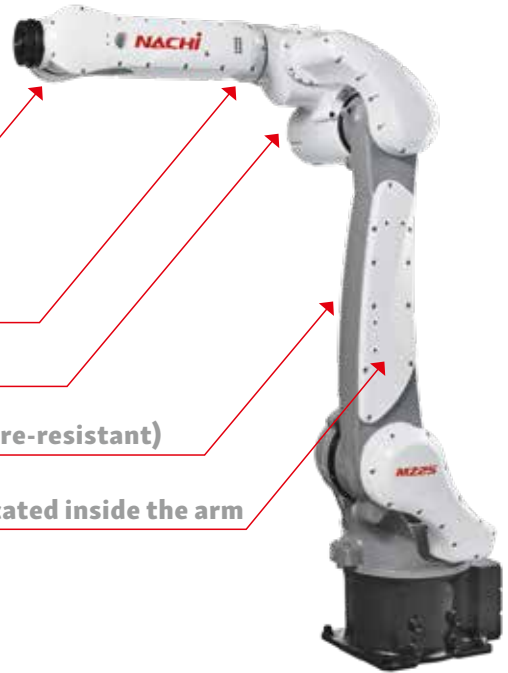
Hollow wrist structure

Applied rust proof parts

Coolant resistant paint

IP67 equivalent (dust-proof, moisture-resistant)

Application cables and tubes are located inside the arm



## Application examples:

Mounting



Picking



Machine loading



Deburring



### ABUNDANT APPLICATIONS

Types	Specification
Application cables	24 wires (Including wires for optional valves)
Air tubes	Ø6x1, Ø10x1
LAN CABLE	One cable
Additional Axis	1 motor axis (Motor cable, E/C cable)

# Top-level reach and stroke

Flexible tasks are possible with top-level operating range

BASIC SPECIFICATION OF ROBOT			
Items		Specification	
Robot type		MZ25-01	
Structure		Articulated robot	
Degree of Freedom		6	
Maximum motion range	Arm	J1 Swivel	$\pm 2.97 \text{ rad } (\pm 170^\circ)$
		J2 Forward/Backward	$+1.83 \sim -2.62 \text{ rad } (+105 \sim -150^\circ)$
		J3 Upward/Downward	$+5.04 \sim -2.81 \text{ rad } (+289 \sim -161^\circ)$
	Wrist	J4 Rotation2	$\pm 3.32 \text{ rad } (\pm 190^\circ)$
		J5 Bend	$\pm 2.53 \text{ rad } (\pm 145^\circ)$
		J6 Rotation1	$\pm 6.28 \text{ rad } (\pm 360^\circ)$
Maximum Velocity*1	Arm	J1 Swivel	3.67rad/s (210°/s)
		J2 Forward/Backward	3.23rad/s (185°/s)
		J3 Upward/Downward	4.71rad/s (270°/s)
	Wrist	J4 Rotation2	7.33rad/s (420°/s)
		J5 Bend	7.33rad/s (420°/s)
		J6 Rotation1	11.73rad/s (672°/s)
Maximum Payload		Wrist 25kg	
Maximum static load torque	J4 Rotation2	52N·m	
	J5 Bend	52N·m	
	J6 Rotation1	32N·m	
Maximum moment of inertia*2	J4 Rotation2	2.4kg·m <sup>2</sup>	
	J5 Bend	2.4kg·m <sup>2</sup>	
	J6 Rotation1	1.3kg·m <sup>2</sup>	
Maximum Reach		1882mm	
Position repeatability*3		$\pm 0.05 \text{ mm}$	
Air tubes		$\varnothing 6 \times 1, \varnothing 10 \times 1$	
Application cables		24 wires (Including wires for optional valves)	
Mounting Condition		Floor / Inverted / Angle	
Ambient Temperature		0-45°C*4	
Ambient Humidity		20-85%RH (No dew or frost allowed)	
Protection class		IP 67 equivalent (dust-proof, moisture-resistant)	
Robot weight		250kg	

\*1: The maximum velocity in the chart is the maximum value. It will change depending on the operation program and the wrist load condition.  $1[\text{rad}] = 180/\pi[^\circ], 1[\text{N}\cdot\text{m}] = 1/9.8[\text{kg}\cdot\text{m}]$

\*2: Depends on wrist load condition.

\*3: JIS B 8432 conformance.

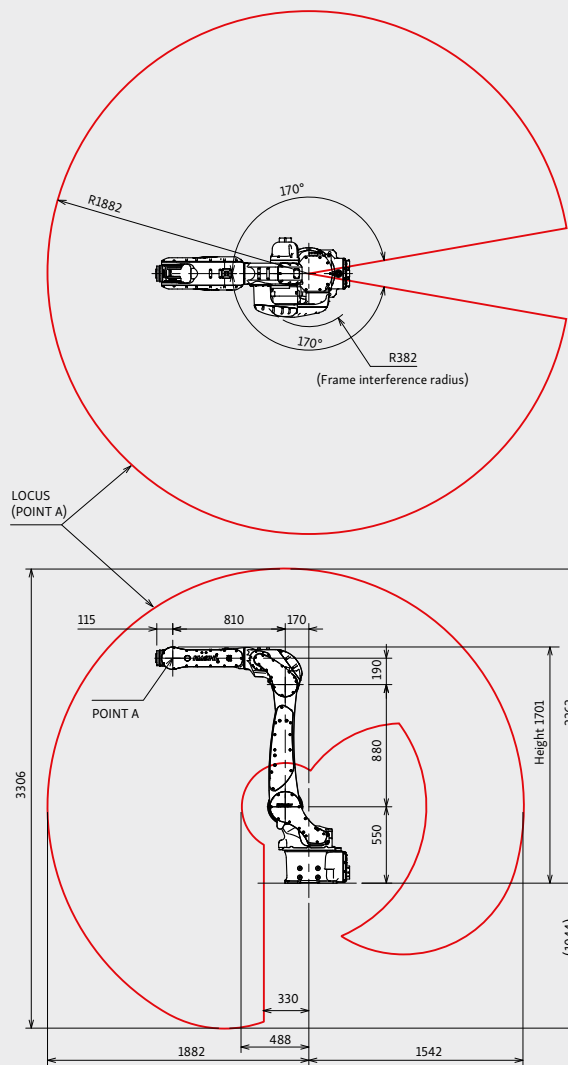
\*4: Using at 1000m or lower sea level. Ambient temperature has limitations when allowable altitude is exceeded.

## FD20 controller

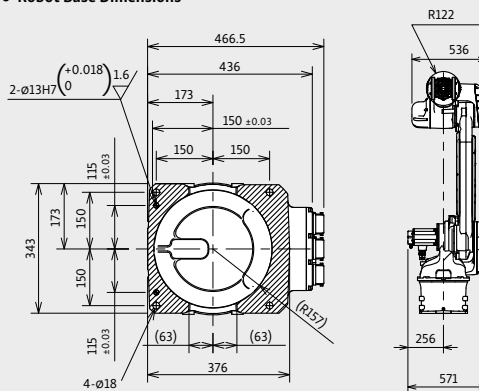
- ▶ Flexible setting layout (small sized, space-saving)
- ▶ Improved teach pendant
- ▶ Various options available



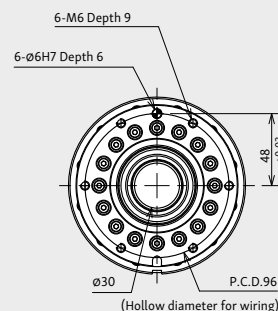
## ROBOT DIMENSIONS AND WORKING ENVELOPE

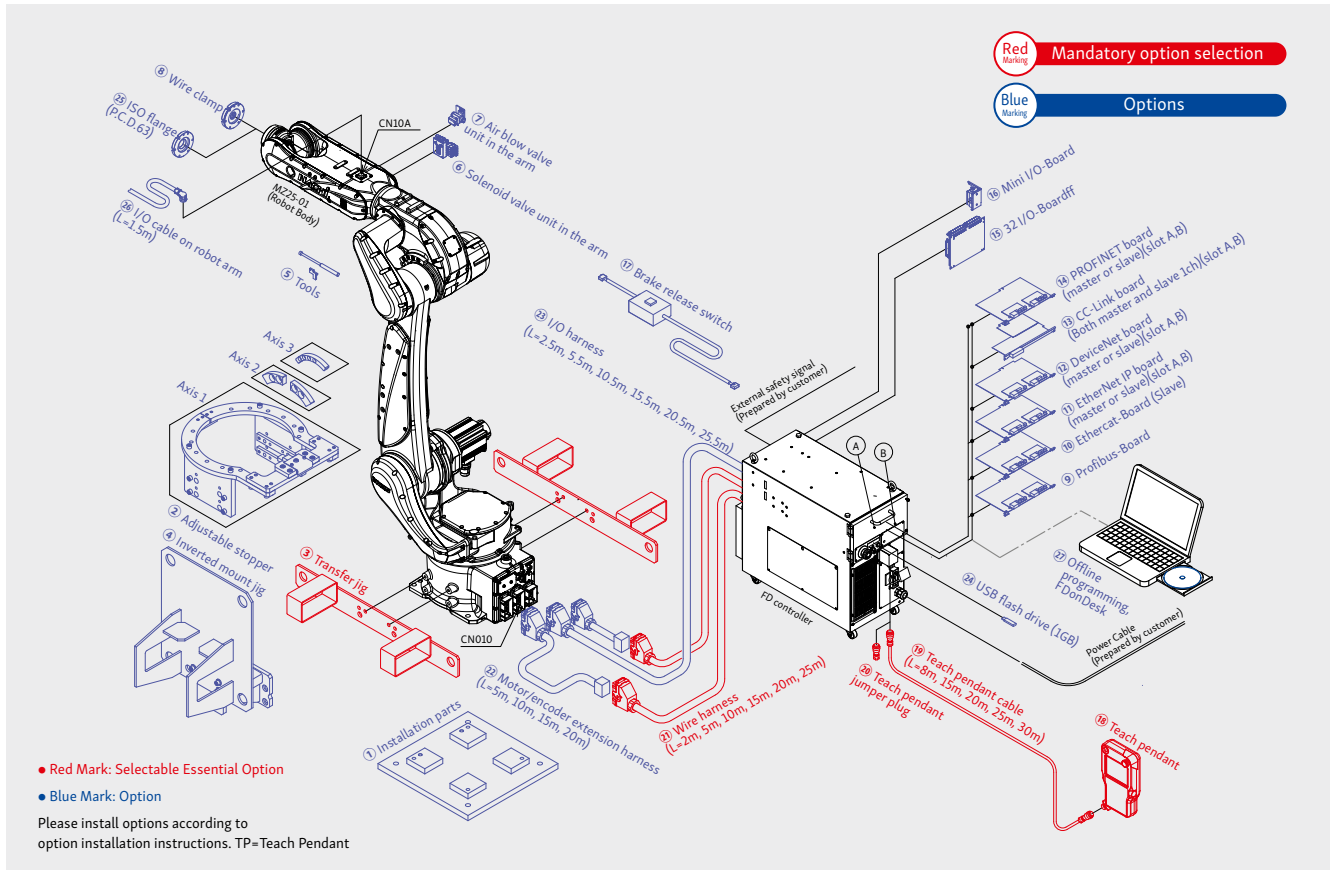


### Robot Base Dimensions



### Wrist Dimensions





OPTIONS		
No.	Product name	Specifications
①	Installation parts	Installation plate for chemical anchor
		Installation plate for Hammer drive anchor
		Leveling plate
		Installation bolt & washer
		Installation pin 2 pieces 1 set
②	Adjustable stopper	Axis 1
		Axis 2
		Axis 3
③	Transfer jig	Forklift and crane for transporting
④	Inverted mount jig	Inverted mount jig
⑤	Tools	Zeroing pin & Zeroing block
⑥	Solenoid valve unit in the arm	2 position double 1 valve
		2 position double 2 valves
		2 position double 3 valves
		3 position double 1 valve
		3 position double 2 valves
⑦	Air blow valve unit in the arm	2 port valve 1 piece
		3 position double 3 valves
		3 position double 3 valves
⑧	Wire clamp	Wrist wire clamp for axis 6
⑨	Profibus-Board	Profibus-Board
⑩	Ethercat-Board	Slave 1CH
⑪	EtherNet IP board	Master 1CH
		Slave 1CH
⑫	DeviceNet board	Master 1CH
		Slave 1CH
⑬	CC-Link board	Both master and slave 1CH
⑭	PROFINET board	Master 1CH
		Slave 1CH
⑮	32 I/O-Board	I/O Photo coupler 32 inputs / NPN Transistor 32 outputs
		I/O Photo coupler 32 inputs / Relay 32 outputs (PNP)
		I/O Photo coupler 32 inputs / Relay 32 outputs (NPN)

OPTIONS			
No.	Product name	Specifications	
⑯	Mini I/O-Board	Maximum 14 inputs/10 outputs photo MOS outputs (NPN or PNP)	
⑰	Brake release switch	Brake release switch (portable type, cable length 5m)	
⑱	Teach pendant	Used for teaching	
⑲	Teach pendant cable	8m	A connector on the both ends
		15m	
		20m	
		25m	
		30m	
⑳	Teach pendant jumper plug	Used when teach pendant is separated from the controller	
㉑	Wire harness	2m	A connector on the both ends
		5m	
		10m	
		15m	
		20m	
㉒	Motor/encoder extension harness	5m	One extension cable, 25m maximum (Flexible cable)
		10m	
		15m	
㉓	I/O harness	2.5m 0.3mm <sup>2</sup> X12P with a shield	A connector on the robot side Separate cables on the controller side (Flexible cable)
		5.5m	
		10.5m	
		15.5m	
		20.5m	
㉔	USB flash drive (1GB)	1GByte	
㉕	ISO flange	ISO flange adapter (P.C.D.63 support)	
㉖	I/O cable on robot arm	I/O cable (connector + cable) 12 wires 1.5m	
㉗	FDonDesk	Offline programming	

Technical changes reserved

**NACHI EUROPE GmbH**

Bischofstr. 99 | DE-47809 Krefeld, Germany | Phone: +49 2151 8932-500 | Fax: +49 2151 8932-501 | Web: www.nachi.de | Email: robotics@nachi.de

**NACHI ROBOTICS SERVICE HOTLINE:** Phone: +49 2151 8932-555 | Fax: +49 2151 8932-556 | Email: robot-service@nachi.de