

system 3R

TOOLING | AUTOMATION | SOFTWARE

Collaborative robot C6-20L



Design and
quality by
System 3R

Contents

4	Modular automation
6	Technical specifications
8	Examples of our grippers
9	Autonomous mobile robot (AMR) support
10	WorkShopManager 5 (WSM 5)

LIGHTWEIGHT BUILD

The CRX cobots are much lighter than traditional industrial robots, which reduces power consumption during movements.

POWER SAVING MODES

They can enter low-power states when idle.

EFFICIENT MOTORS

They use servo motors optimized for energy savings, consuming power only as needed.

BUILT-IN SAFETY

Lower power usage aligns with their safe, collaborative operation – less force, less energy required.

YOUR PRODUCTION PARTNER

Our collaborative robot (CoBot):

- Enhances process and work environment safety.
- Can serve one or two machines in a production cell.
- Features electrical grippers and pneumatic control of table chucks.
- Needs minimal floor space.

ACHIEVE GREATER RETURN ON YOUR INVESTMENT!

Modular automation

We adapt our CoBot C6-20L solutions to the needs of your processes.

MILLING

CoBot C6-20L with a 4-level, on-board, rack magazine (11 positions per level of MacroPT)



WIRE EDM USING OUR LD-90 AMR

Cobot C6-20L
Onboard magazine
6 position with Macro WEDM

LASER

CoBot C6-20L with a 4-level, on-board, rack magazine (11 positions per level of MacroPT)



WIRE EDM AND LASER COMBINED

CoBot C6-20L with a 6-position, on-board magazine in conjunction with our Macro WEDM tooling interface



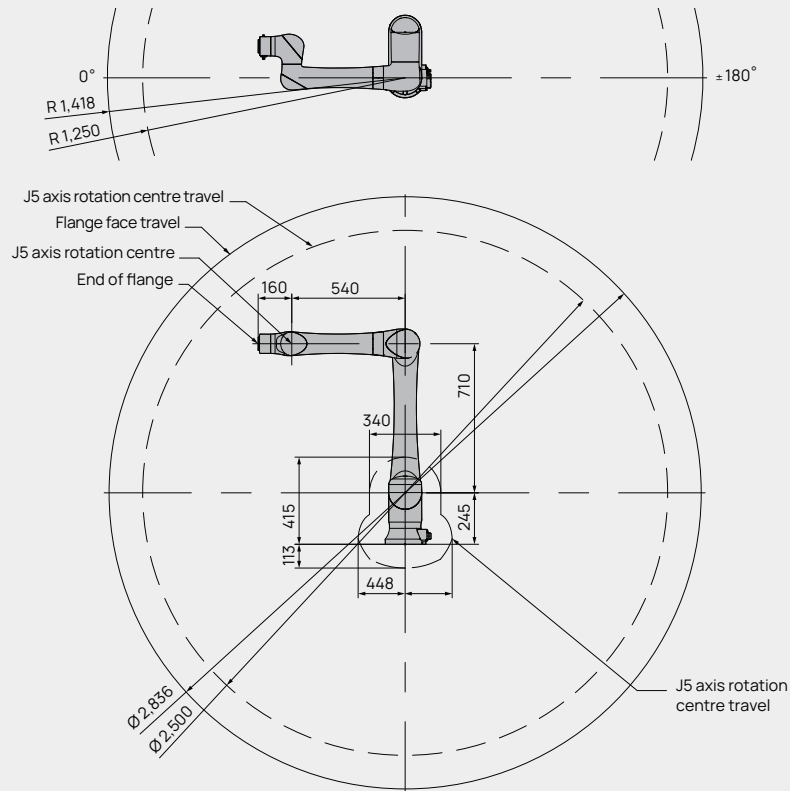
2 WIRE EDM MACHINES

CoBot C6-20L with a 6-position, on-board magazine in conjunction with our Macro WEDM tooling interface



TECHNICAL SPECIFICATIONS – COBOT C6-20L

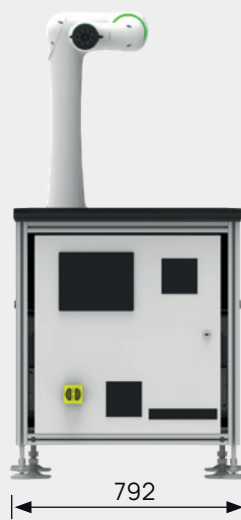
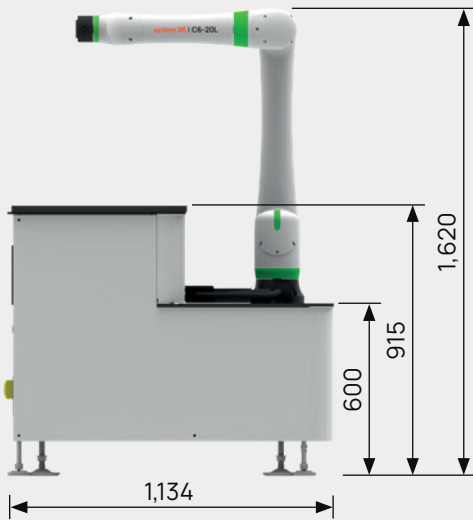
(all dimensions on this page are in mm)



Side view

Back view

Top view



Key operating data

Footprint (mm)	792 x 1,134
Max. load at wrist (kg)	20
Max. reach (mm)	1,418
Controlled axes	6
Repeatability (mm)	$\pm 0.04^*$
Max. linear speed (mm/s)	1,000
J4 moment / Inertia (Nm / kgm ²)	70.0 / 4.00
J5 moment / Inertia (Nm / kgm ²)	64.0 / 4.00
J6 moment / Inertia (Nm / kgm ²)	30.0 / 2.00

*Based on ISO 9283

Electrical connections

Voltage, 50/60 Hz, single phase, (V)	200 - 230
Average power consumption (kW)	0.4

Environment

Acoustic noise level (dB)	< 70
Ambient temperature (°C)	0 - 45
Ambient humidity (%)	≤ 75 **
Short-term ambient humidity (% RH)	≤ 95 ***
Vibration acceleration (m/S ²)	≤ 4.9 (0.5 g)

No dew nor frost allowed. *Within one month

Software/solutions and tooling compatibility/availability/specifications

Software	Tooling - Macro WEDM		
	WEDM	CMM	Washing
WSM 3, with ID	Yes	Yes	Yes
ECM, without ID	Yes	No	No
WSM 5, with ID	No	No	No
AMR	No	No	No

Software/solutions and tooling compatibility/availability/specifications

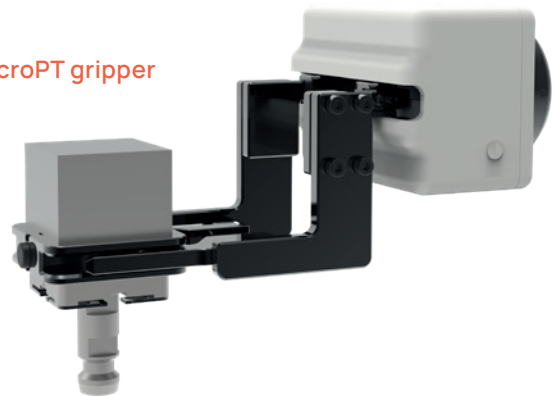
Software	Tooling - Macro 54 / Macro 70 / Macro PT / Macro 116 / MacroMagnum and ITS				
	EDM	Milling	Laser	CMM	Washing
WSM 3 with ID	No	No	No	No	No
ECM, without ID	No	Yes	Yes	No	No
WSM 5, with ID	No	Yes*	Yes*	Yes*	Yes*
AMR	No	Yes*	Yes*	Yes*	Yes*

*Available for delivery in Q4 2025

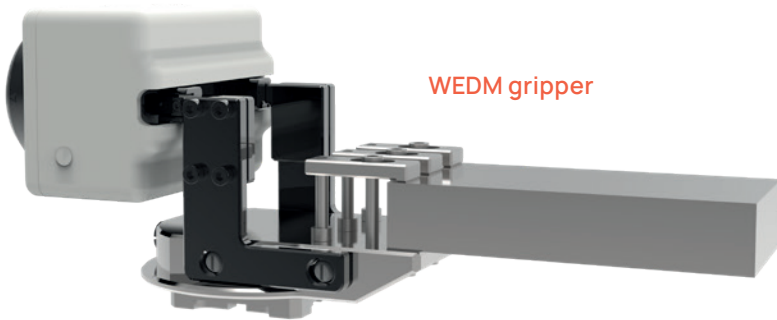
Tooling	Levels	Positions per level	Max. no. of	Max. workpiece size W x D x H (mm)	Max. workpiece weight (kg)
Macro 54	3	11	33	54 x 200 x 360	10
Macro 54	4	11	44	54 x 200 x 215	10
Macro 54	5	11	55	54 x 200 x 140	10
Macro 54	6	11	66	54 x 200 x 90	10
Macro 70	3	8	24	70 x 200 x 360	10
Macro 70	4	8	32	70 x 200 x 215	10
Macro 70	5	8	40	70 x 200 x 140	10
Macro 70	6	8	48	70 x 200 x 90	10
MacroPT	3	8	24	70 x 200 x 360	10
MacroPT	4	8	32	70 x 200 x 215	10
MacroPT	5	8	40	70 x 200 x 140	10
MacroPT	6	8	48	70 x 200 x 90	10
ITS 50	3	11	33	54 x 200 x 360	10
ITS 50	4	11	44	54 x 200 x 215	10
ITS 50	5	11	55	54 x 200 x 140	10
ITS 50	6	11	66	54 x 200 x 90	10
Macro 116	3	5	15	120 x 200 x 320	10
Macro 116	4	5	20	120 x 200 x 170	10
Macro 116	5	5	25	120 x 200 x 95	10
Macro Magnum	3	3	9	200 x 200 x 320	10
Macro Magnum	4	3	12	200 x 200 x 170	10
Macro Magnum	5	3	15	200 x 200 x 95	10
Macro WEDM	1	4	4	150 x 200 x 30	8
Macro WEDM	1	6	6	80 x 120 x 30	8

Examples of our grippers

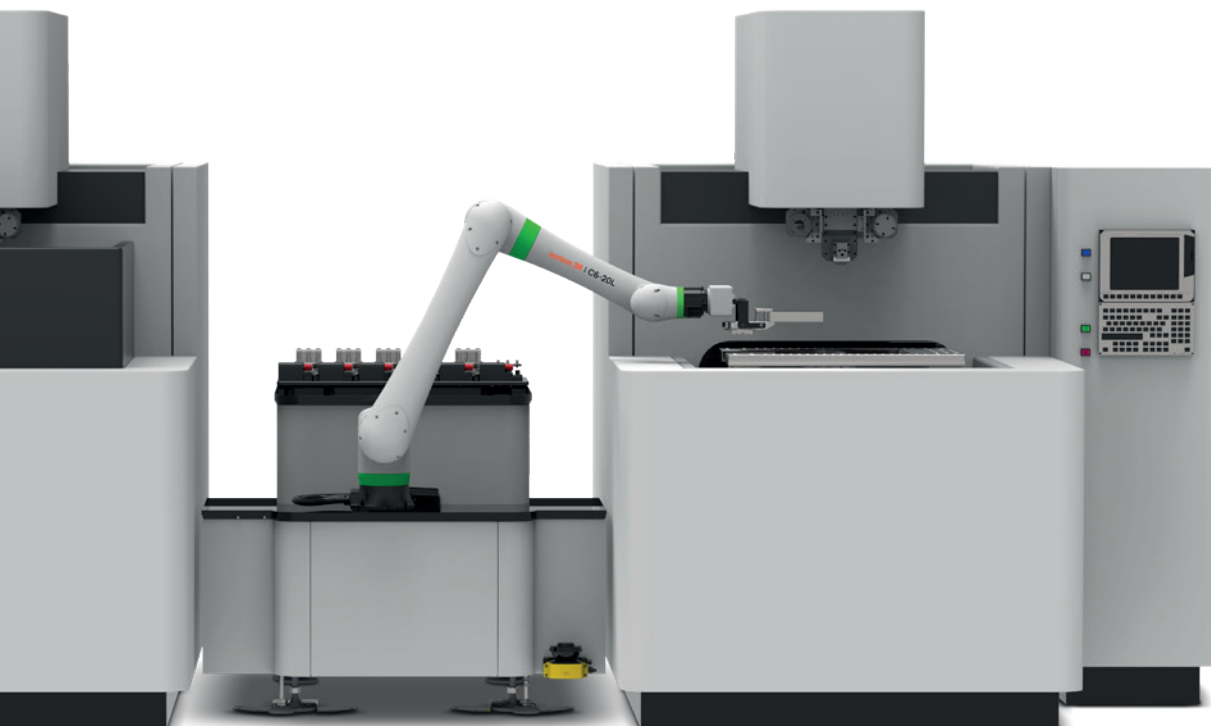
MacroPT gripper



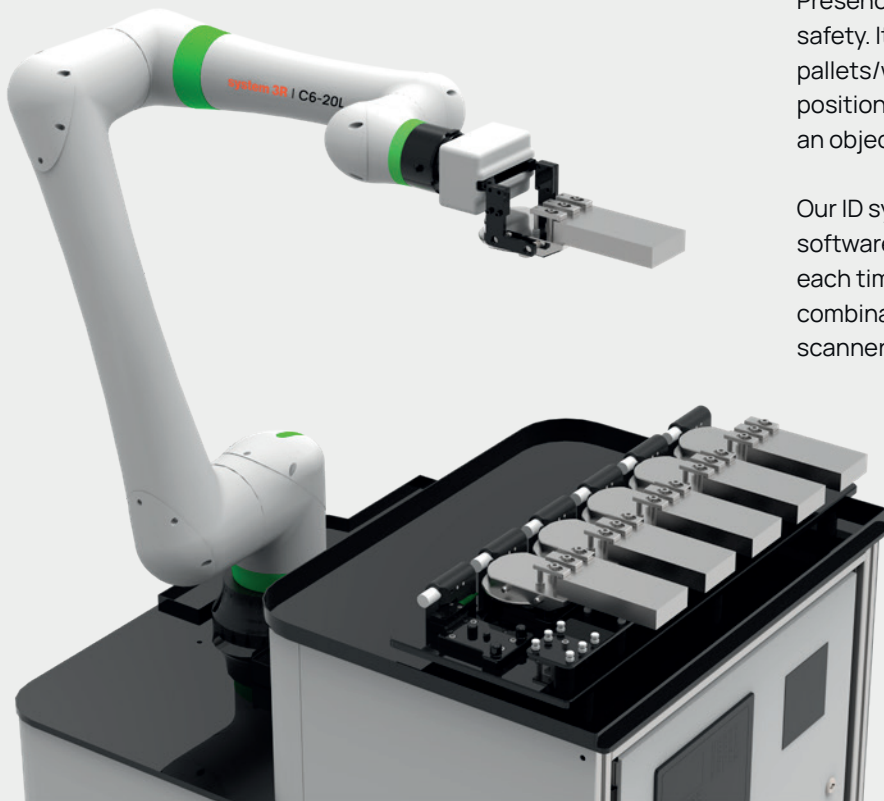
WEDM gripper



For various types of tooling, we offer electrical grippers approved for collaborative robots (Zimmer/Schunk) used both independently and alongside operators. These grippers enhance process and operator safety.



ID and presence detection



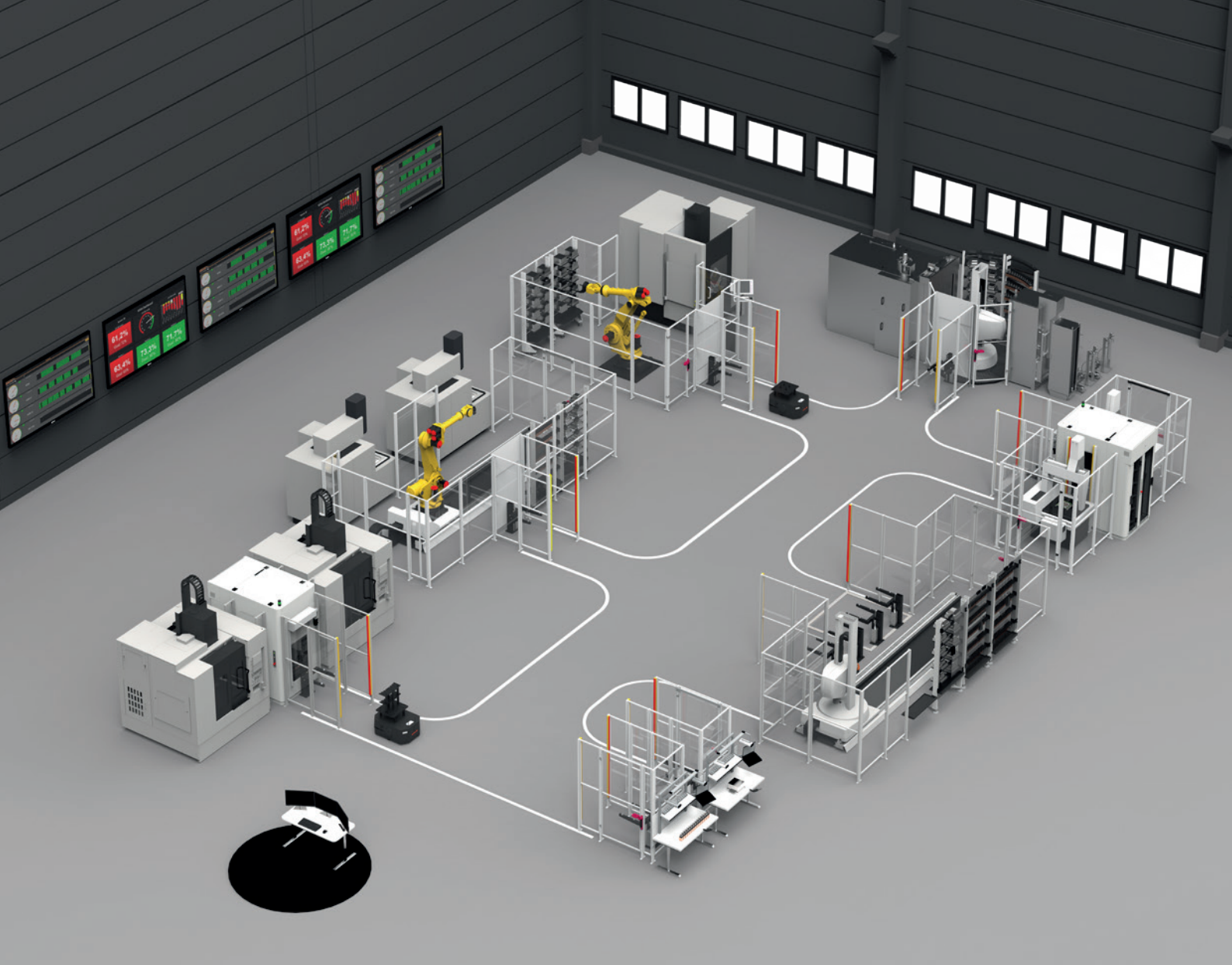
Presence detection is a major element in process safety. It ensures that operators do not put pallets/workpieces in “occupied” magazine positions (i.e. positions temporarily empty while an object is being worked in a machine).

Our ID system and WorkShopManager (WSM) software update magazine content/status each time there is a change. Can be used in combination with movement-detecting floor scanners.

AMR support

In Q4 of 2025, we will be offering AMR support for CoBots in milling, laser, CMM and washing cells. To enjoy AMR support, WSM 5 and ID will be necessary for cells that use CoBots. CoBots will use a 2D vision system to identify the pallets they are carrying.





WorkShopManager 5 (WSM 5)

WSM 5 is our user-friendly cell management software

- Rapid and structured entry of required data
- Quick, precise overview of the entire process chain
- Increased flexibility (can change order priority at any time)
- Simpler, safer preparation of automated cells
- Risk of human errors minimised
- Enhanced process safety



Preparation – WorkCenter

- Create an order
- Assign operations and NC programs
- Retrieve offset values
- Release the order for production

Execution – CellManager

- Manages the pallet ID codes and magazine positions
- Creates priority lists
- Automatically starts available jobs in the order of the priority list
- Updates the information in the database with the status and machining times of individual orders

Monitoring – CellMonitor

- Display status of all cells
- Display status of individual machines and processes

Statistics – WSM 5 Statistics

- Retrieve and analyze cell utilization data
- Retrieve and analyze order data

Use our Customer Services to optimise your equipment uptime

System 3R's Customer Services department is uniquely positioned to help you maximise the availability, value, precision and productivity of your System 3R equipment. Our cost-effective, customer-centric and expert services put your success at the centre, ramp up your productivity and ensure predictable, uninterrupted uptime.

System 3R's service engineers are your expert partners for a wide range of success-triggering services.

For further details, contact your local System 3R dealer.

www.system3r.com