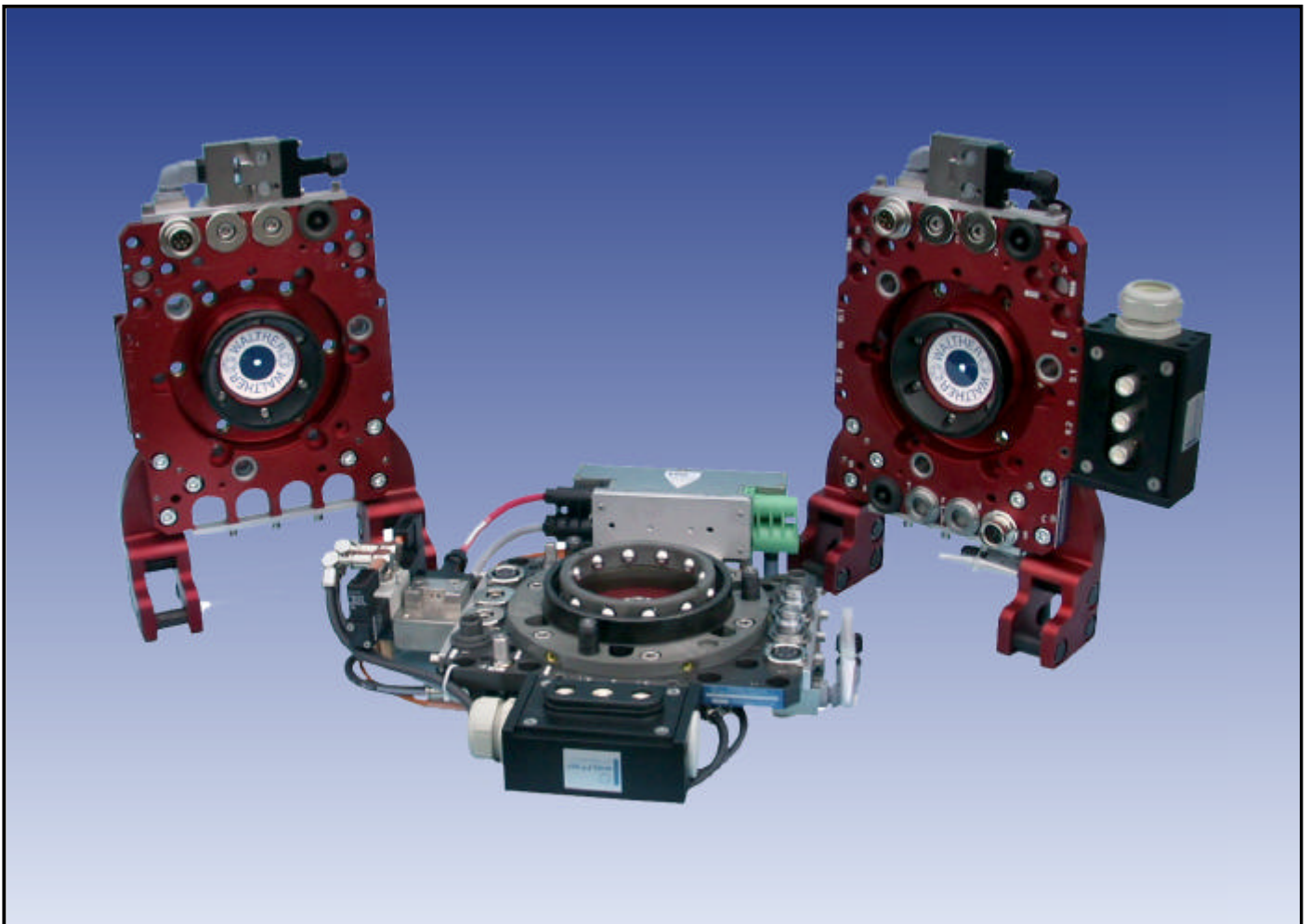


**Tool change system
for
industrial robots**

WALTHER TOOL MASTER

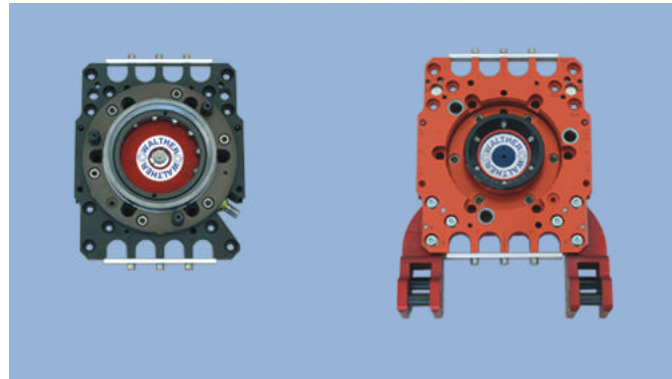


WALTHER TOOL MASTER - Tool change system for industrial robots

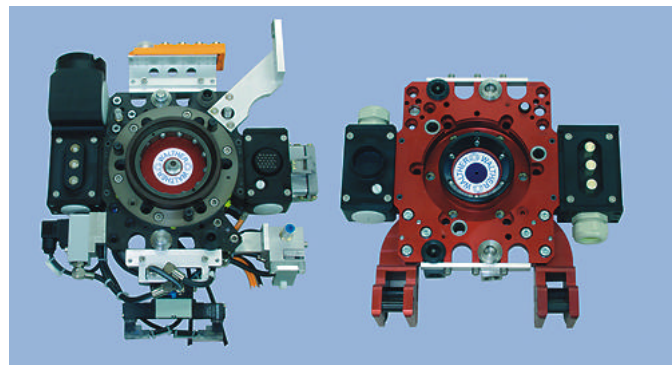
Due to a modular principle the WALTHER-quick tool change system specially meets the individual customer needs. It offers application possibilities for welding as well as gripper tools and can be equipped with different electrical or fluid transmission elements, depending on the application requirements.

Technical data:

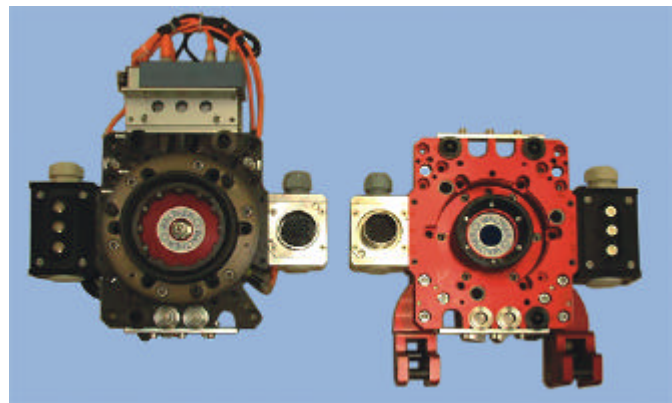
- Static load capacity up to 25,000 N (5,500 lbs)
- Light weight tool changer = under 16 kg (35 lbs) in connected position
- Very little overall height of the tool changer = max. 96 mm (3.78") in connected position
- Playfree and self-locking in connected position, even in case of pressure drop
- Very high change accuracy of 0,05 mm (.002")
- In case of a crash the emergency unlocking device disconnects the tool from the robot side also without compressed air
- Long life through robust design
- Little maintenance necessity
- The modular design with the side mounting of the media elements simplifies maintenance



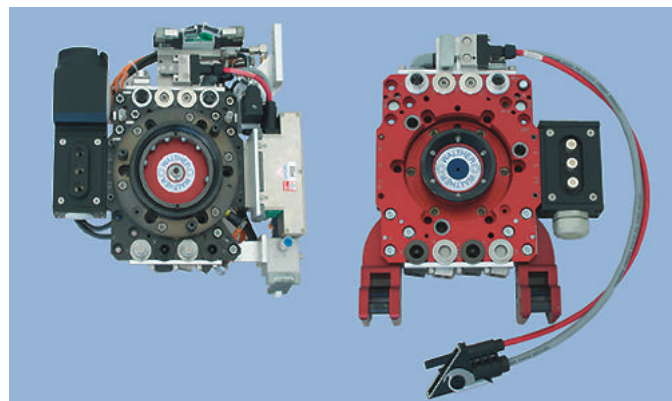
Basis-module



Version with Actor-Sensor-Box and safety circuit

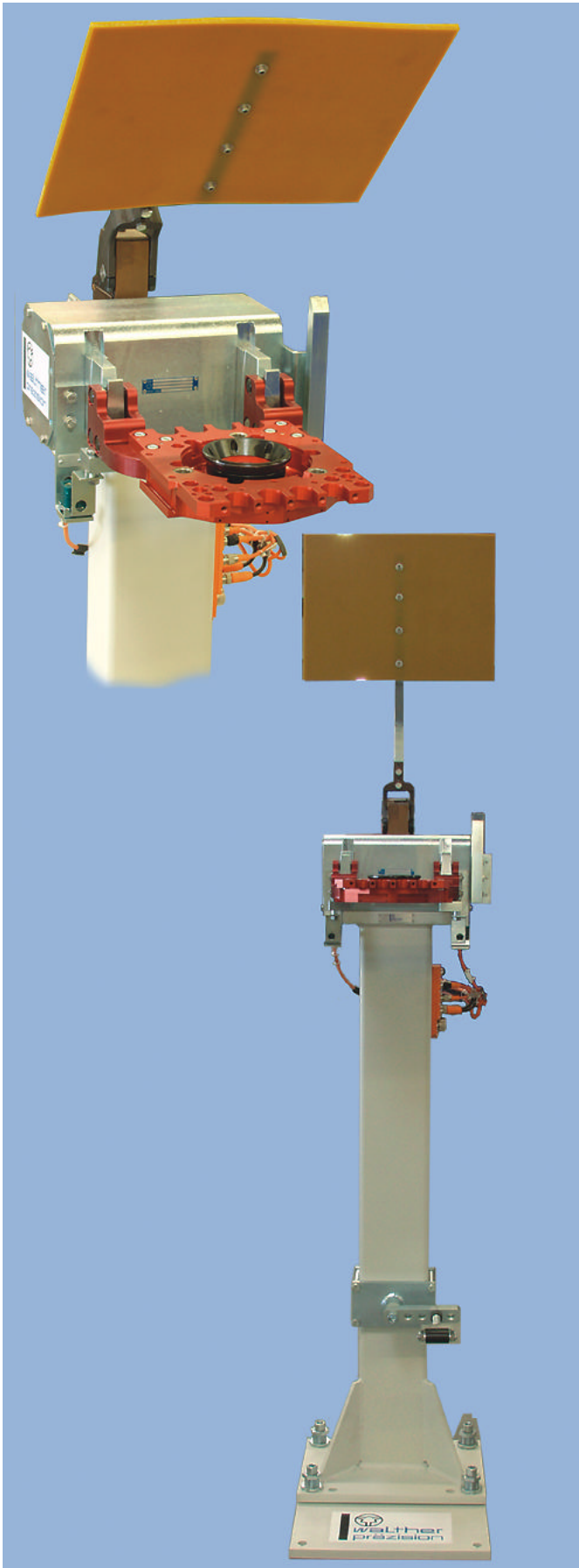


Version with data-bus-module



Version with fiber optic-bus-module (rugged-line)

WALTHER TOOL MASTER - Tool change system for industrial robots



Gravity tool parking station with plastic hinged cover

Integrated tool parking stations are available to optimize the tool change system.

- It allows the robot to use its maximum travel speed until final dock position is reached. This speeds up the change cycle
- Safety enhancement by position monitoring of tool
- Longer system design life by optimized component interaction

The tool parking station is designed to the same modular principle as the tool changer and can be assembled with individual components.

Technical data:

- The basis of the tool parking station consists of a steel tube frame approx. 1,200 mm (4 ft) high with a fixing plate
- The tool pick up is mounted with special screws as a head on the steel tube frame and is in a floating position $\pm 0,20$ mm (.008")
- The hinged cover adapts itself flexibly to the parked tool for protection against dirt as welding sparks, etc. without pressurizing the tool side
- The position of the hinged cover as well as the position of the tool in the parking station is indicated via proximity switches
- A variable adjustable torque support guarantees an optimal horizontal alignment of the tool in the parking station
- A floor level adjustment for the parking station can be included, if required

WALTHER TOOL MASTER - Element population for the quick tool change system

Media elements: max. 8 pieces

Nominal bore	Medium	Pressure (bar/psi)	Connection	Material
10 (1/2")	cooling water	10 (145)	G 1/2" 90°	stainless steel
10 (1/2")	compressed air	10 (145)	G 1/2" 90°	Alu hardcoated



On request:
special elements for punching rivets,
welding bolts and high pressure
hydraulic



WALTHER-PRÄZISION 04/2003 • Änderungen vorbehalten • PB

Electro elements - signal connectors

Number of contacts	Amperage/Voltage	Connection cross section	Connection	Material
24 / 36 + PE	250 V / 16 A	1,5 mm ² (~ 16 AWG)	PG 29 ^{x1)}	POM/Alu, contacts: brass, AG
17	bus data	1,5 mm ² (~ 16 AWG)	PG 21 ^{x1)}	Alu/Ni (shielded), contacts: brass, AU
2 x Fiber Optic	bus data	-	bus connector	Stainless steel / POM
5	250 V / 10 A	1,0 mm ² (~ 18 AWG)	M16 x1,5 mm	Alu/Ni (shielded), contacts: brass, AU



x1) Metric connection on request

Electro elements - welding currents

Number of contacts	Amperage/Voltage	Connection cross section	Connection	Material
2 + PE	110 A / 630 V	16 mm ² (4 - 6 AWG)	PG 29 ^{x1)}	housing: POM contacts: brass silver plated
2 + PE	135 A / 630 V	25 mm ² (2 - 4 AWG)	PG 29 ^{x1)}	
2 + PE	200 A / 630 V	35 mm ² (2 AWG)	PG 29 ^{x1)}	

On request: connection socket for a manual connector

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Introducing Walther Präzision's Type 91489 Quick Tool Change System for Industrial Robots

Walther Präzision has introduced to North America its latest and fully modular, quick tool change system for welding and material handling robots. These systems are customer driven applications and are specifically developed for car and truck assembly. They are presently proven and used by many global car manufacturers. Their main manufacturing advantages and cost saving benefits include:

- * **Universal**, as it is suited to both ISO 125 mm and 160 mm flange mounting design!
- * **Universal**, as it is suited for both welding guns and material handling tools!
- * **Universal** and Integrated Parking Stations...any tool, any size and only ONE parking station!
- * When connected our plates are a maximum **96 mm** (closer center of gravity to robot arm equals greater efficiency)
- * Tool changes take as little as **2.5 seconds!** (1 second to park and 1.5 seconds to pick up!)
- * **Special design** allows for plate halves to be disconnected in case of a "crash"!
- * **Safety is guaranteed** even if system loses pressure. Special design keeps tool changer coupling plates locked!
- * **Fully integrated and adaptable** to existing robots and " bus systems "!
- * All components on plates can be quickly replaced or repaired, **using standard tools!**

The Walther tool changer becomes part of the robot, located between end-of-arm and the tool itself. It is used in conjunction with integrated tool parking stations. Welding or material handling tools can be changed automatically. The tool changer is comprised of multi-coupling plates that carry fluid and electrical connectors, and positive guiding/locking pins. Couplings for hydraulic and cooling lines are of a Clean-Break style, eliminating any fluid leakage.

The dynamic load capacity of Walther Präzision's tool changer is to 500 kg. The robot half of the system weighs 8.2 kg while the tool side half is only 6.5 kg. The tool changer has been tested at over 1 million connection cycles and has a static holding force of 6000 N. It comes in varying design shapes, including modular. It features a pull-in technique that connects the plate halves with no reaction forces.

If you are interested in learning more about the above **PROVEN** robot tool changing technology, please call me anytime. I would be more than glad to assist you in pioneering this idea. Please feel free to circulate this information to anyone on your robot design, application, specifying or sales teams.

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