

WINGMAN

THE COBOT TOOL CHANGER SYSTEM



PLUG AND PLAY
AUTOMATIC & MANUAL TOOL CHANGE
FOR COBOTS

BROCHURE

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THE COBOT TOOL CHANGER SYSTEM

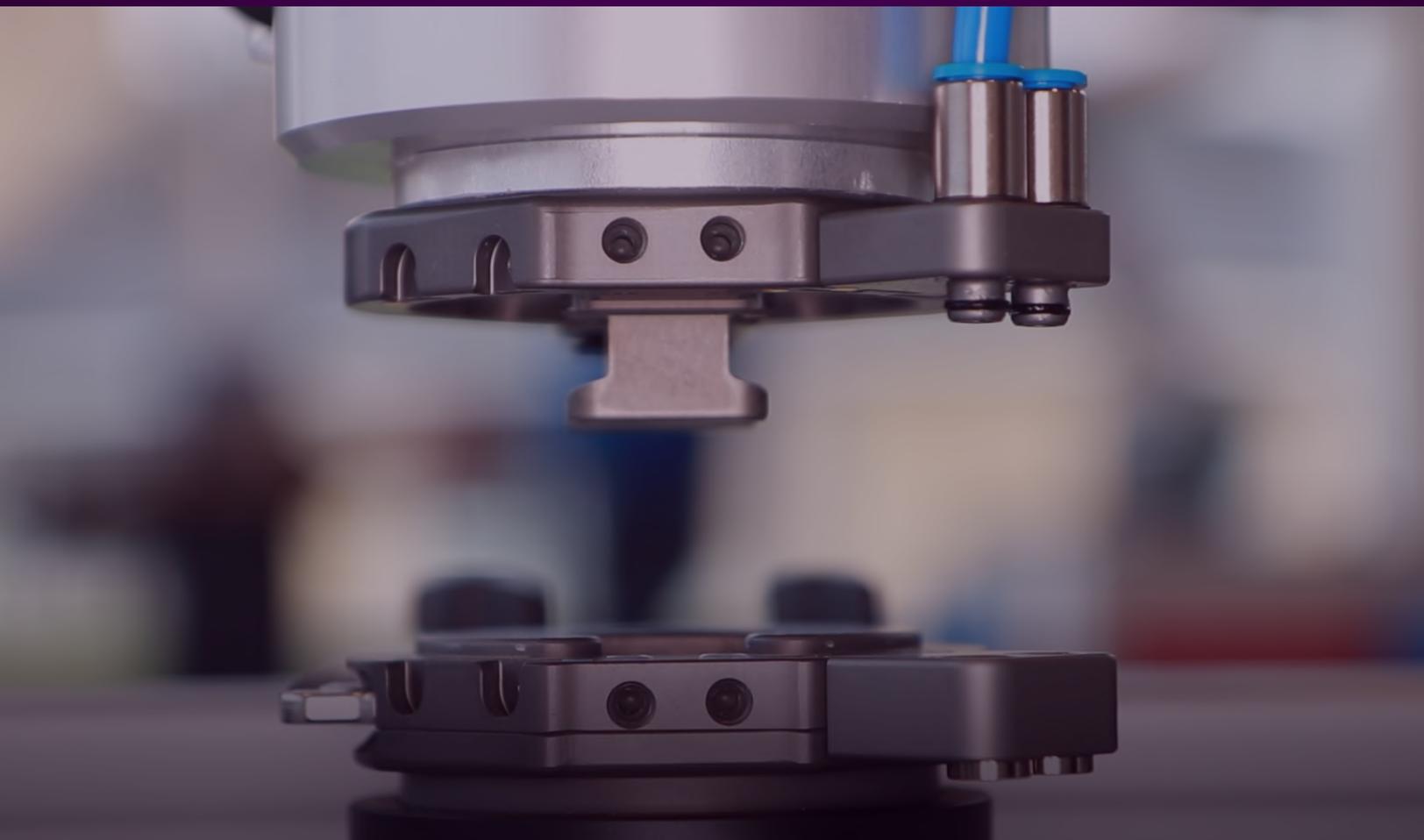
USER GUIDE



VIDEO



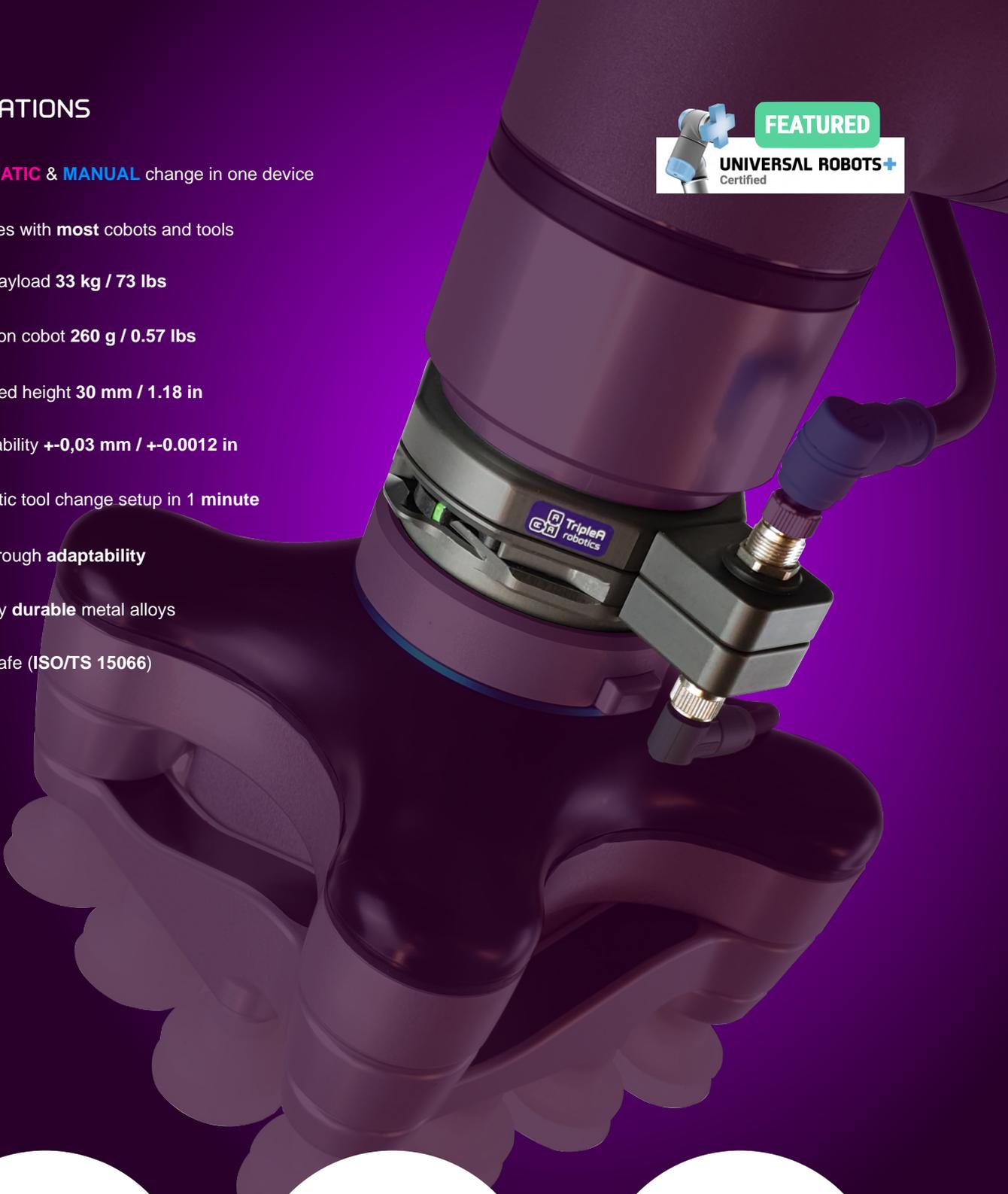
DATASHEETS



SPECIFICATIONS



-  **AUTOMATIC** & **MANUAL** change in one device
-  Integrates with **most** cobots and tools
-  Rated payload **33 kg / 73 lbs**
-  Weight on cobot **260 g / 0.57 lbs**
-  Combined height **30 mm / 1.18 in**
-  Repeatability **+0,03 mm / +-0.0012 in**
-  Automatic tool change setup in **1 minute**
-  Pass-through **adaptability**
-  All highly **durable** metal alloys
-  Cobot safe (**ISO/TS 15066**)



PLUG AND PLAY

Installed in few minutes out-of-the-box.
Automatic tool change setup in 1 minute.



ONE FITS ALL

Automatic and manual tool change in one.
Standard ISO flange – Strong and light.



COBOT SAFE

Designed & tested for ISO/TS 15066
compliance and with redundant safety lock.

INCREASED OUTPUT WITH AUTOMATIC TOOL CHANGE

With automatic tool change, your cobot will have the flexibility to deploy more tools, solve more tasks and generate more output in your production. The WINGMAN Cobot Tool Changer system is installed and ready for automatic & manual tool change in few minutes Plug and Play. The WINGMAN is an affordable and highly adaptable automatic tool change solution which provide an ROI of down to only a few weeks.



THREE RULES OF THUMB

1

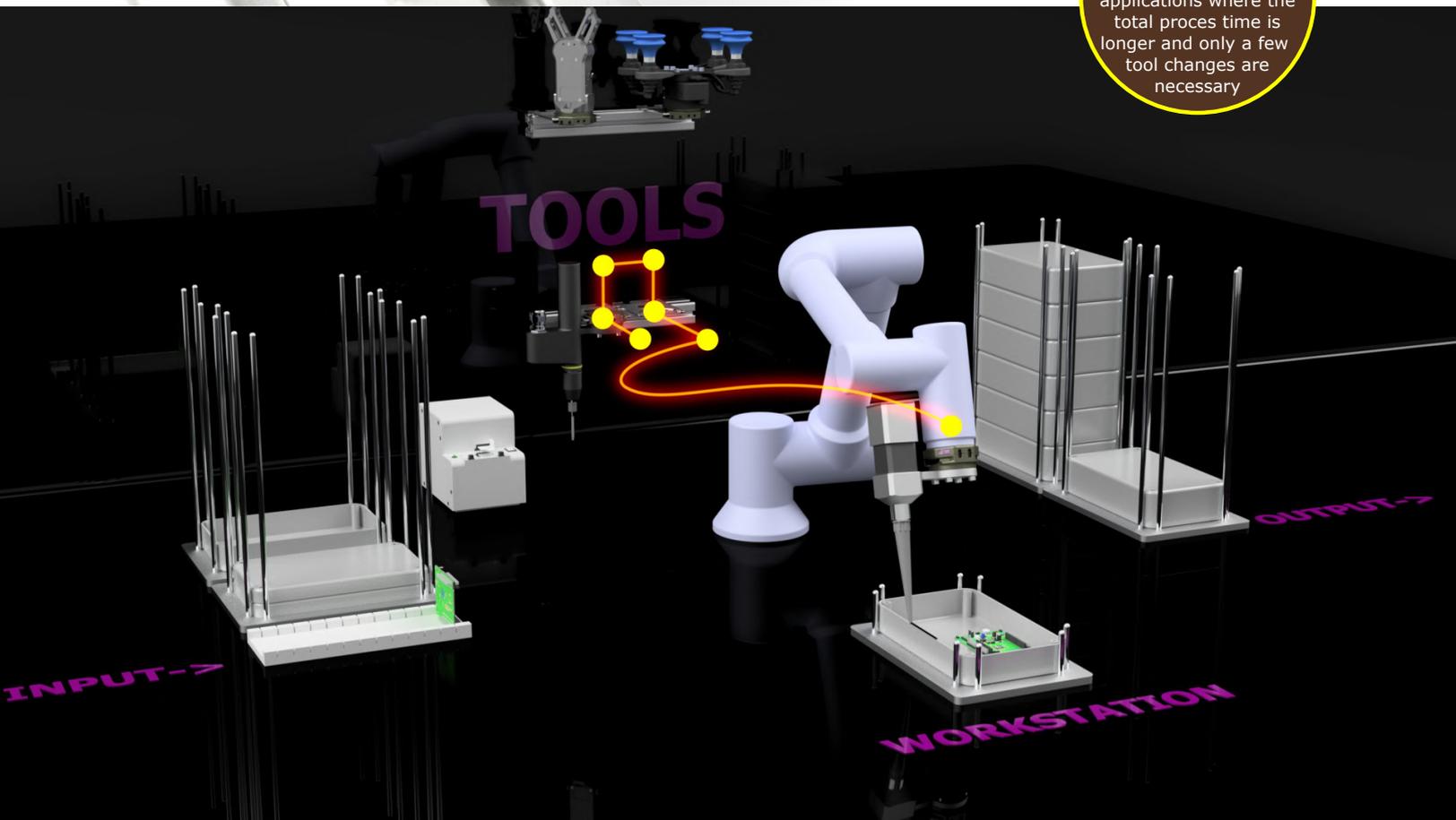
If your cobot can run continuously and unattended, your cobot will be more efficient and create more output.

2

With automatic tool change on your cobot, your cobot can do linked processes and run continued and unattended longer.

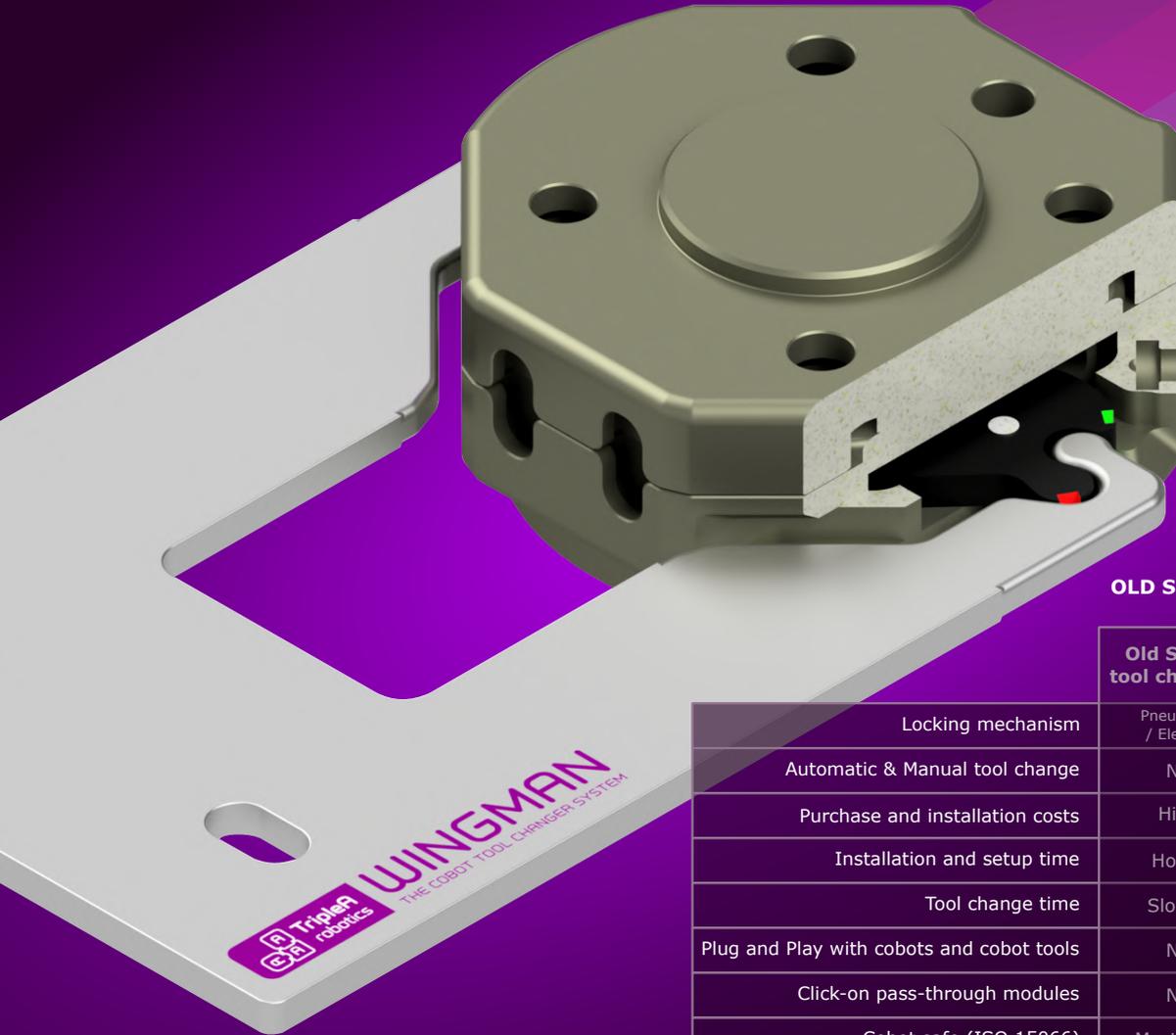
3

The WINGMAN has an ROI of down to a few weeks in applications where the total process time is longer and only a few tool changes are necessary



NEW SCHOOL AUTOMATIC TOOL CHANGER

The WINGMAN is a New School tool changer that offers both manual and automatic tool change in the same device. In addition, the WINGMAN does not require expensive pneumatic installations to achieve automatic tool change unlike Old School automatic tool changers. All this is possible thanks to the WINGMAN's **patented** mechanical redundant locking mechanism.



OLD SCHOOL vs. WINGMAN

	Old School tool changers	WINGMAN Tool Changer
Locking mechanism	Pneumatic / Electric	Mechanical
Automatic & Manual tool change	No	Yes
Purchase and installation costs	High	Low
Installation and setup time	Hours	Minutes
Tool change time	Slower	Faster
Plug and Play with cobots and cobot tools	No	Yes
Click-on pass-through modules	No	Yes
Cobot safe (ISO 15066)	Mostly no	Yes



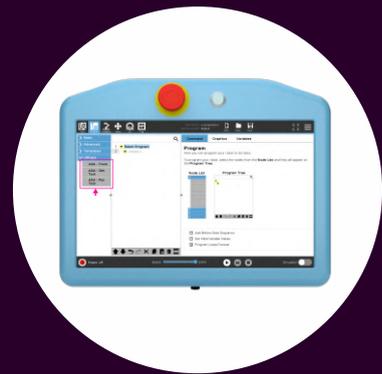
MANUAL TOOL CHANGE

...is achieved by operating the levers in both sides for locking and unlocking



AUTOMATIC TOOL CHANGE

...is achieved mechanically by the **patented** locking mechanics as the cobot moves



URcap SOFTWARE

...for Universal Robot users. The software provide automatic tool change setup in only 1 minutes.

THE TOOL CHANGER

The WINGMAN is suitable for use on cobots of all sizes and will fit in applications with only little space.

Combined height	30 mm / 1.18 in
Combined weight	260 g / 0.57 lbs
Rated payload	33 kg / 73 lbs
Repeatability	+/-0,03 mm / 0.0012 in

THE TOOL HOLDER

The holder provides a standard solution to store end-effectors and the holder is part of the automatic tool change mechanism.

Holder's maximum payload	5 kg / 11 lbs
Maximum tool imbalance	1 Nm
Material	Stainless steel



THE HIGH FLOW PASS-THROUGH MODULES

The modules clicks on the WINGMAN's housing without use of tools. The WINGMAN can hold three sets of modules.

Maximum pressure	10 bar
Push-in fittings	2 x Ø6 mm hoses
Pass-through clearance	Ø4 mm



ELECTRICAL PASS-THROUGH MODULES

The modules clicks on the WINGMAN's housing without use of tools. There is room for three sets of module, which allow for three different sources of electrical power/control.

Connectors	Std. cobot M8 / 8 pin
Rated voltage/amps	30 ACDC / 1,5 A
IP classification	IP54



BUILT-IN AIR PASS-THROUGH

The WINGMAN Tool Changer housings feature built-in channels for pneumatic pass-through.

Maximum pressure	10 bar
Channels for fittings	2 x Ø4 mm hoses
Pass-through clearance	Ø2,7 mm

HIGH QUALITY

The WINGMAN Tool Changer System is made of precision machined metal parts.

Manufacturing country	DENMARK
Material	High grade aluminium
Surface treatment	Special



APPLICATIONS



PALLETIZING

Change automatically between grippers to automate mixed palletizing. Or change from a gripper for a label applicator to label boxes after palletizing.



MOBILE ROBOTS

The WINGMAN is designed for use in combination with mobile robot arms. Let the mobile robot arm pick up the end-effectors it needs and carry multiple end-effectors to solve multiple tasks autonomously.



WELDING

Change automatically from a welding gun to a gripper to move welded parts away and new part in for welding. Or switch to a brush tool to clean welds in between.



MULTIPURPOSE CELL

Change between several end-effectors such as electric gripper, vacuum gripper, glue dispenser, screwdriver, etc. to automate assembly tasks such as box assembly and similar.



MACHINE TENDING

Change one or both grippers automatically on dual grippers for machine tending applications. Your cobot can combine end-effectors on the double gripper as needed to solve tasks effectively.



XXX robot brand code:

- UR1 = Universal Robots
- TM1 = Techman Robot
- OM1 = Omron
- DR1 = Doosan Robotics
- FA1 = Fanuc CRX
- FR1 = Franka Emika
- KU1 = Kuka iiwa*
- (*check robot config.)

WINGMAN interface overview

Pos.:	Part number:	Description:	Interfaces with:
0		Robot / Cobot	1 6A 6B
1	WM1-P-01-01-XXX	WINGMAN Tool Changer Robot Part	0 2 4A 5A 7A 7B
2	WM1-P-02-01-XXX	WINGMAN Tool Changer Tool Part	1 3 4B 5B 7A 7B
3	WM1-P-03-01	WINGMAN Tool Changer Tool Part Holder	2
4A	WM1-A-01-01-XXX	El pass-through module for Robot Part	1 4B 6A 6C
4B	WM1-A-01-02-XXX	El pass-through module for Tool Part	2 4A 6B
5A	WM1-A-03-01	Air pass-through module for Robot Part	1 5B
5B	WM1-A-03-02	Air pass-through module for Tool Part	2 5A
6A	WM1-A-02-01-XXX	Cable for robot tool flange connector	0 4A
6B	WM1-A-02-02-XXX	Cable 5m to end-effector, 8 wire	0 4B
6C	WM1-A-02-03-XXX	Cable 5m to robot controller, 8 wire	0 4A
7A	WM1-A-06-01	Fittings straight for built-in air pass-through	1 2
7B	WM1-A-06-02	Fittings angled for built-in air pass-through	1 2

WINGMAN Tool Changer kits



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 (Check cobot config.)



1: Tool Changer Robot Part
 (Including URcap software for UR)
 WM1-P-01-01-XXX



2: Tool Changer Tool Part
 WM1-P-02-01-XXX



3: Tool Changer Tool Part Holder
 with wing screws
 WM1-P-03-01



4A: Electrical pass-through for
 mount on Robot Part, M8 connector
 WM1-A-01-01-XXX



4B: Electrical pass-through for
 mount on Tool Part, M8 connector
 WM1-A-01-02-XXX



5A: High flow air pass-through for
 mount on Robot Part, 2xØ6 mm hose
 WM1-A-03-01



5B: High flow air pass-through for
 mount on Tool Part, 2xØ6 mm hose
 WM1-A-03-02



6A: Electrical cable for connection
 with the robots tool flange connector
 WM1-A-02-01-XXX



6B: Electrical cable to end-effector
 5 m, 8 wire.
 WM1-A-02-02-XXX



6C: Cable 5m to robot controller, 8 wire.
 WM1-A-02-03-XXX



7A: Fittings set I-shape for Robot
 Part & Tool Part for 2xØ4 mm hose
 WM1-A-04-01



7B: Fittings set L-shape for Robot
 Part & Tool Part for 2xØ4 mm hose
 WM1-A-04-02



Case for two-way kits
 WM1-A-05-01

	One-way manual kit WM1-K-01-00-XXX	Two-way manual kit WM1-K-02-00-XXX	Two-way automatic kit, built-in pneumatic WM1-K-03-00-XXX	Two-way automatic kit, built-in pneumatic + electric modules WM1-K-04-00-XXX	Two-way automatic kit, built-in pneumatic + electric + high flow modules WM1-K-05-00-XXX	Two-way automatic kit, Developer kit in case WM1-DK-05-00-XXX	Accessories kit WM1-AK-01-01-XXX
1: Tool Changer Robot Part (Including URcap software for UR) WM1-P-01-01-XXX	1	1	1	1	1	1	
2: Tool Changer Tool Part WM1-P-02-01-XXX	1	2	2	2	2	2	
3: Tool Changer Tool Part Holder with wing screws WM1-P-03-01			2	2	2	2	
4A: Electrical pass-through for mount on Robot Part, M8 connector WM1-A-01-01-XXX				1	1	1	
4B: Electrical pass-through for mount on Tool Part, M8 connector WM1-A-01-02-XXX				2	2	2	
5A: High flow air pass-through for mount on Robot Part, 2xØ6 mm hose WM1-A-03-01					1	1	
5B: High flow air pass-through for mount on Tool Part, 2xØ6 mm hose WM1-A-03-02					2	2	
6A: Electrical cable for connection with the robots tool flange connector WM1-A-02-01-XXX						1	1
6B: Electrical cable to end-effector 5 m, 8 wire. WM1-A-02-02-XXX							1
6C: Cable 5m to robot controller, 8 wire. WM1-A-02-03-XXX							2
7A: Fittings set I-shape for Robot Part & Tool Part for 2xØ4 mm hose WM1-A-04-01						3	3
7B: Fittings set L-shape for Robot Part & Tool Part for 2xØ4 mm hose WM1-A-04-02							3
Case for two-way kits WM1-A-05-01						1	

VISION

 APPLICABLE ADAPTABLE AFFORDABLE

TripleA robotics makes flexible automation possible and profitable in high mix and low volume productions through **Applicable**, **Adaptive** and **Affordable** robotics

