



WHAT IS AIRSKIN®?

AIRSKIN® is a soft and pressure sensitive safety skin for industrial robotics that covers the whole robot as well as the tool. It allows you to rethink robot safety in new and unconventional ways beyond limiting power and reach or restricting access.

This patented technology is available for a wide range of robots and tools. AIRSKIN® offers possibilities for demanding use cases that wouldn't be feasible otherwise. It can be provided as an OEM solution or as a flexible add-on kit to retrofit existing machines.





HOW IT WORKS

Soft, airtight sensor pads continuously monitor and reliably detect internal pressure changes due to deformations of the hull. Any collision immediately triggers a safe stop signal to the controller and initiates the robot's braking sequence. Remaining mechanical forces due to the stopping distance of the robot are absorbed by the soft padding.

The autonomous pads are connected to the controller's safety IOs by a 6-wire cable carrying two redundant safety channels. Functional safety is ensured by constant self-diagnosis of the sensor pads.

WHY AIRSKIN®?



REMOVE THE FENCE AND SAVE FLOOR SPACE



INCREASE SPEED FOR SHORTER CYCLE TIMES



EASY AND FAST RISK ANALYSIS



HIGHEST SAFETY LEVEL PL_e



FAST INSTALLATION AND MAINTENANCE



AVAILABLE FOR VARIOUS TOOLS

TECHNICAL SPECIFICATIONS

Reaction time

< 9 ms

Weight of a complete AIRSKIN® Set

For a full UR10 robot with 10 pads: 3.7 kg

Thickness on a robot

Variable thickness of 20 - 80 mm possible

Thickness on UR10

20 mm, on average

Mounting method / serviceability

Support structure with snap-on AIRSKIN® pads

Installation time

30 min

FEATURES

IP classification

IP50

Chemical resistance

Common cleaning solutions, oil, alcohol, sanitizer

UV resistance

100 %

Tensile strength

15 MPa, DIN 53504

Skin shore hardness A

~88, ISO 868

Colours

Standard white / grey. RAL on request

Ambient temperature range

5-40 °C

Humidity level

0 - 85 %

Visual feedback

RGB status LED per AIRSKIN® pad

ELECTRICAL SPECIFICATIONS

Voltage supply

24 V DC (ground bonding required)

Electrical connection

Directly from robot controller on UR10

Operating current per AIRSKIN® pad

10 mA, max. 35 mA

Interface

OSSD (6 Wires: 2 Safety Channels IN/OUT, 24V, Ground)

Connection of AIRSKIN® to controller/PLC

AIRSKIN® Connection Module with push-in contacts

AIRSKIN® topology

Daisy chain, max. 15 AIRSKIN® pads in a row

Wiring

Included in support layer with magnetic connectors

STANDARDS AND NORMS

Product classification

ISO 13849 PLe / Cat 3
EN 62061 SIL3

PFHd [1/h] with up to 15 AIRSKIN® pads

$\leq 2.7e-8$

EC type examination No

TÜV-A-MHF/MG/17-00411

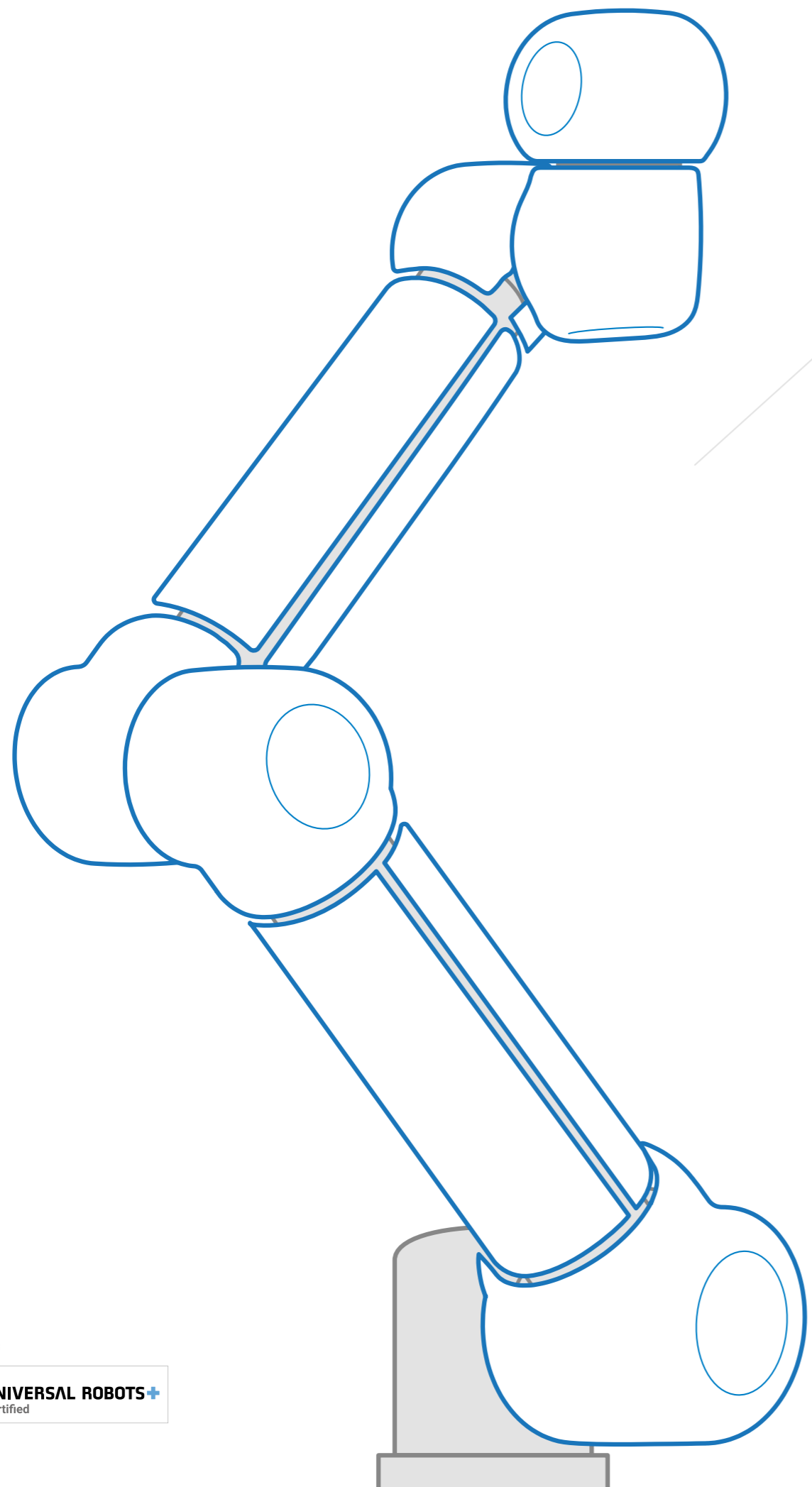
UL VDE (TPU skin)

UL 94 V-2

Flammability (TPU skin)

UL 94 V-2

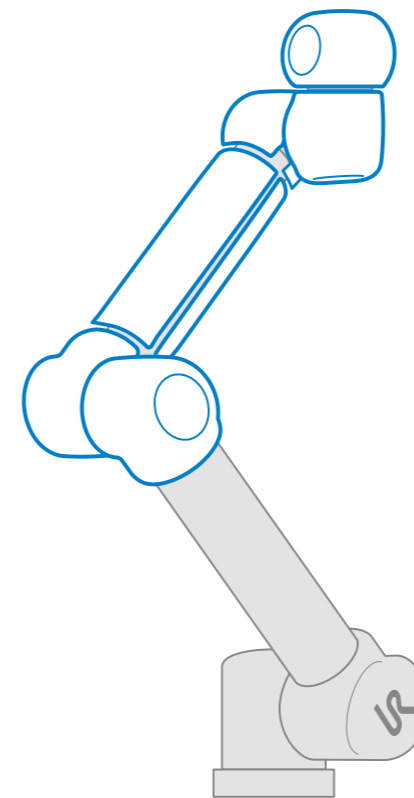
TÜV
AUSTRIA



UR10 S2W

Shoulder2Wrist Kit

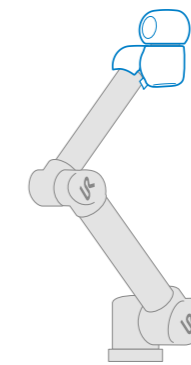
AIRSKIN® covering all moving axes.
Best option to cover a wide variety of applications.



UR10 E2W

Elbow2Wrist Kit

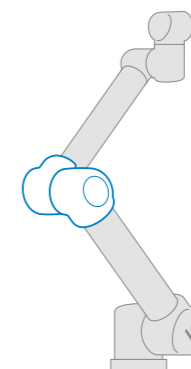
Good choice when the robot reaches into workspace or mounted overhead.



UR10 3W

Wrist Safety Kit

When only additional safety for the wrist and tool area is needed.

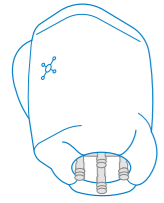


UR10 2E

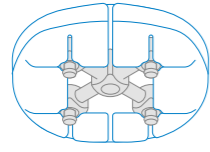
Elbow Safety Kit

For applications where only the elbow needs extra protection.

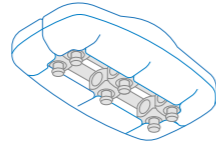
TOOLS



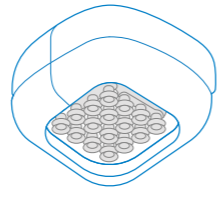
ETA-OPT SH-ZPN



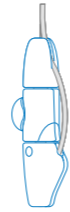
SCHMALZ COBOT PUMP 2x2



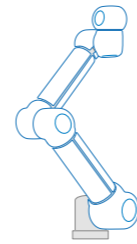
SCHMALZ COBOT PUMP 2x3



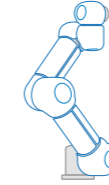
ONROBOT VG10



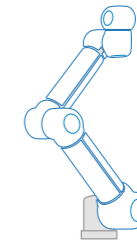
STÖGER CSX12
coming soon



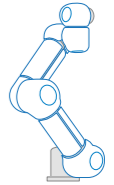
UNIVERSAL ROBOTS UR10



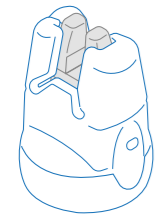
UNIVERSAL ROBOTS UR5



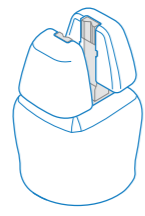
UNIVERSAL ROBOTS UR10e
coming soon



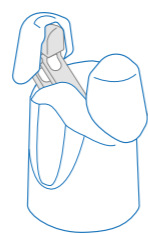
UNIVERSAL ROBOTS UR5e
coming soon



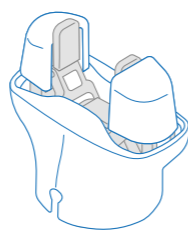
SCHUNK EGP-C



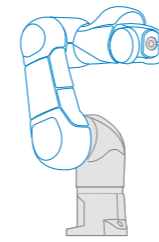
WEISS GRIPKIT-E2
coming soon



ONROBOT RG2
coming soon



ROBOTIQ 2AG85
coming soon



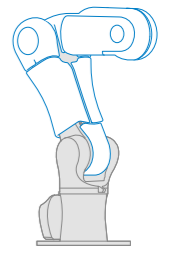
STÄUBLI TX2-90L



DENSO VS-087

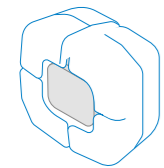


MITSUBISHI RV 4FL

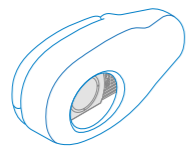


KUKA KR10

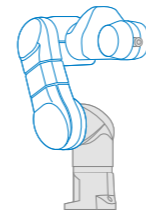
CAMERAS



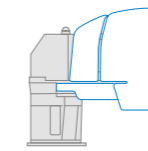
COGNEX IS76



SICK PIM60
coming soon

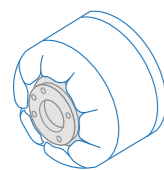


STÄUBLI TX2-60L



EPSON T3
coming soon

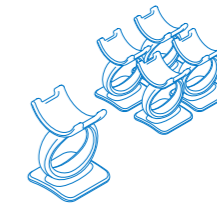
FLANGES



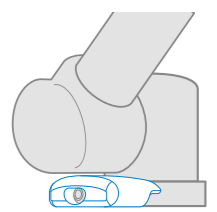
SAFETY FLANGE



UR ENABLE SWITCH



UR CABLE CLAMP



CONNECTOR COVER

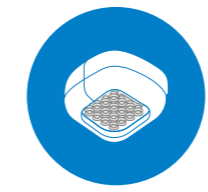
ROBOTS

ADD ON

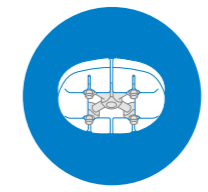


PALLETIZING

The new benchmark in safe palletizing applications: AIRSKIN® allows for faster movement speeds while completely eliminating clamping and shearing risks. ISO/TS 15066 compliance without a fence has never been easier!



ONROBOT VG10



SCHMALZ COBOT PUMP



CUSTOMIZE YOUR OWN

UP TO
800
MM/SEC

WITHOUT A FENCE

UP TO
500
NEWTON

FORCE REDUCTION
IN CLAMPING

100%

REDUCTION OF CLAMPING
AND SHEARING RISKS

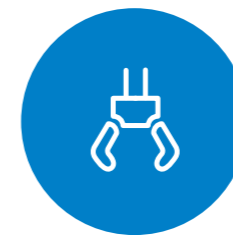
2x
2x

DOUBLE THE SPEED
DOUBLE THE PAYLOAD

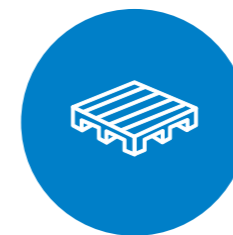


SAFETY FLANGE

This new safety flange detects collisions in any direction of movement. This allows for real „finger safe“ collaborative pick and place applications with almost any tool and end effectors. This safety flange is mounted between the robot and the EoAT and provides compliance for the tool and the workpiece. This flange is based on AIRSKIN® and comes with PLe/Cat3 ISO 13849 safety certification.



FOR ALL TOOLS



FASTER PALLETIZING



COMPLIANCE IN 4 DEGREES OF FREEDOM

