

AIRSKIN®







WHAT IS AIRSKIN®?

AIRSKIN® is a soft and pressure-sensitive safety skin for industrial robotics. It directly covers the entire robot as well as the tool, and safely stops the machine in case of a collision. AIRSKIN® allows you to rethink robot safety in new and unconventional ways beyond limiting power and reach or restricting access.

WHY AIRSKIN®?



SPACE

REMOVE THE FENCE
AND SAVE FLOOR SPACE
UP TO 90% REDUCTION



SPEED

INCREASE SPEED FOR
SHORTER CYCLE TIMES
UP TO 800 MM/SEC



SAFETY

HIGHEST SAFETY
LEVEL PLe



FAST AND EASY
RISK ANALYSIS

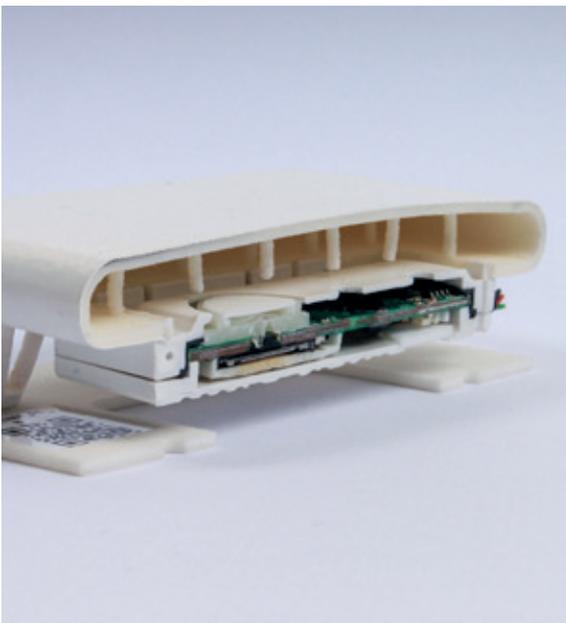


FAST INSTALLATION AND
MAINTENANCE



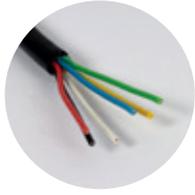
AVAILABLE AND CUSTOMIZABLE
FOR VARIOUS TOOLS/GRIPPERS

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. **AIRSKIN® fully complies with ISO 13849. It is certified as a PLe Cat.3 safety device by TÜV Austria.**

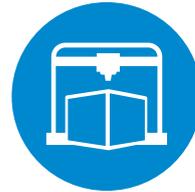


Electric Connection

24V power supply
2 redundant safety channels



Soft & Durable Material
engineered for industrial
environments



3D Printed
custom pads for any tool





Magnetic Connector
inherently safe electrical wiring



Flexible cable guide
route your tool cabling on the robot as usual



Heat dissipation
free airflow under pads

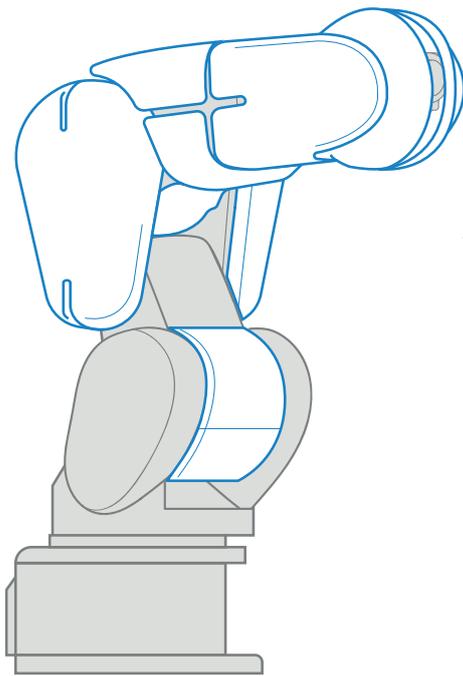


Visual feedback
intuitive status information



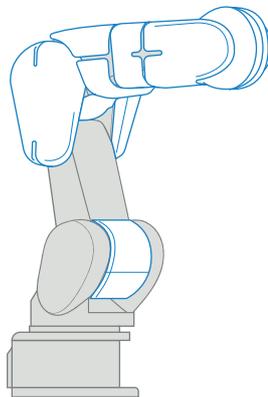
Make your industrial robot collaborative
with AIRSKIN®.

MITSUBISHI



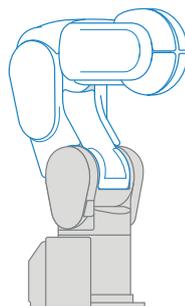
Mitsubishi RV-13F / 20F

Our flagship safety solution for industrial robots. Collaborative applications with a payload of up to 20 kg.



Mitsubishi RV-13FL

When additional motion range is needed.

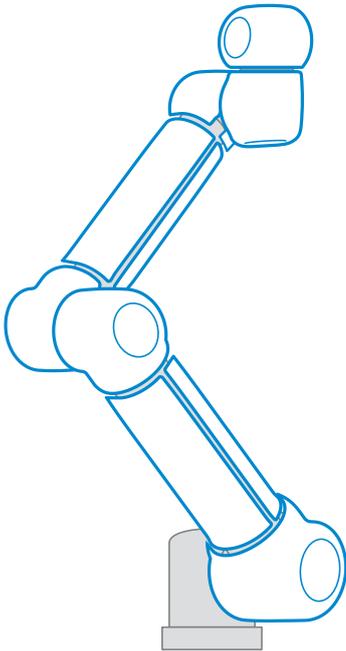


Mitsubishi RV-4FL

For fast and precise applications with low payload in tight spaces.

Higher speed and less force and pressure in
ISO/TS 15066 compliant applications.

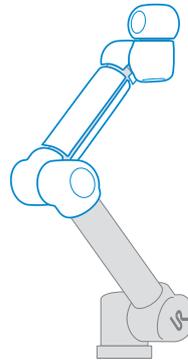
UNIVERSAL ROBOTS



UR10 S2W

Shoulder2Wrist Kit

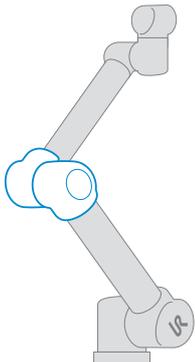
AIRSKIN® covering all moving axes. Best option to cover a wide variety of applications.



UR10 E2W

Elbow2Wrist Kit

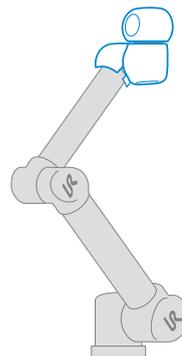
Good choice when the robot reaches into workspace or mounted overhead.



UR10 2E

Elbow Safety Kit

For applications where only the elbow needs extra protection.



UR10 3W

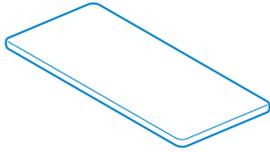
Wrist Safety Kit

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

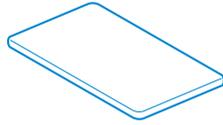


UNIVERSAL ROBOTS+
Certified

AIRSKIN® MODULE PADS



400 X 200



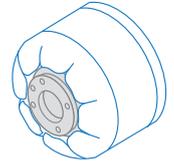
300 X 200



200 X 200

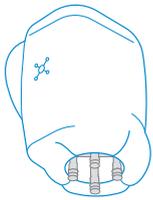


100 X 200

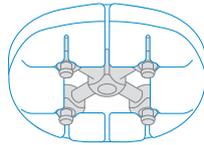


AIRSKIN® SAFETYFLANGE

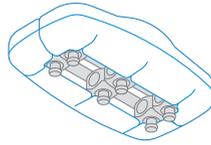
TOOLS



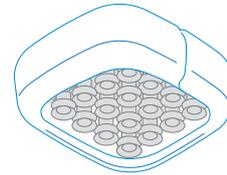
ETA-OPT SH-ZPN



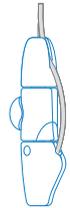
SCHMALZ COBOTPUMP VEE 2x2



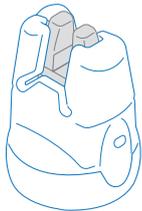
SCHMALZ COBOTPUMP VEE 2x3



ONROBOT VG10



STÖGER CSX



SCHUNK EGP-C



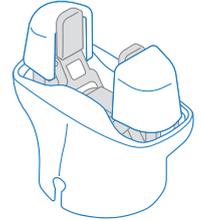
WEISS GRIPKIT-E2



ONROBOT RG2



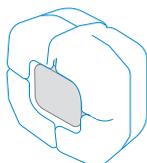
ONROBOT RG6



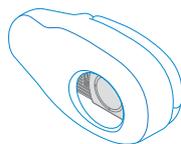
ROBOTIQ 2F-85



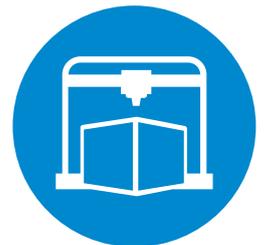
CAMERAS



COGNEX IS76

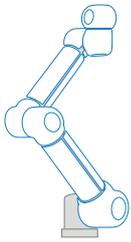


SICK PIM60

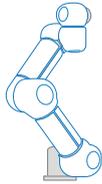


CUSTOMIZE YOUR OWN

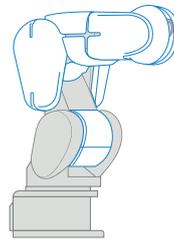
ROBOTS



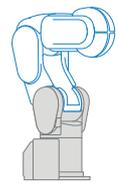
UNIVERSAL ROBOTS UR10 / UR10e



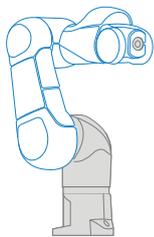
UNIVERSAL ROBOTS UR5 / UR5e



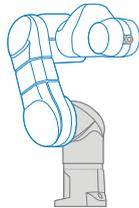
MITSUBISHI RV-13F / 20F / 13FL



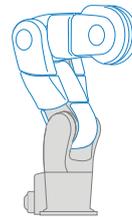
MITSUBISHI RV-4FL



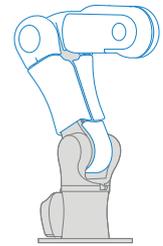
STÄUBLI TX2-90 / 90L / 90XL



STÄUBLI TX2-60 / 60L



DENSO VS-087



KUKA KR10



EPSON T3 / LS3 / T6 / LS6



ABB IRB 6620



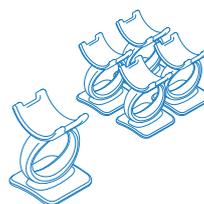
KUKA CYBERTECH KR12/16/20/22



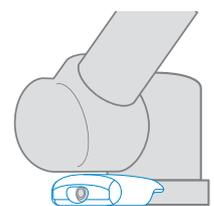
ADD ON



UR ENABLE SWITCH



UR CABLE CLAMP



CONNECTOR COVER





AIRSKIN® MODULE PADS

Unlimited possibilities with AIRSKIN® Module Pads

The AIRSKIN® Module Pads system is the cost-effective solution to quickly and easily add safety not only to robots, but to custom end effectors, mobile robots, moving machinery and other automation equipment.

AIRSKIN® Module Pads form a set of different sizes of pressure-sensitive safety elements, from 100x200 mm to 400x200 mm. They come with a mounting fixture and are easy to install on any machinery. Connection to the safety inputs of the safety controller is as easy as ever.

AIRSKIN® Module Pads are based on the patented AIRSKIN® pressure-sensitive skin technology and come with CE and ISO 13849 PLe/Cat3 safety certification by TÜV Austria and TÜV Rheinland for US/Canada.

FEATURES



SIMPLE

SIMPLE AND EASY TO INSTALL,
DUE TO MAGNETIC FASTENERS



EASY

DIRECT CONNECTION TO PLC, NO
SOFTWARE, NO CONFIGURATION
NEEDED

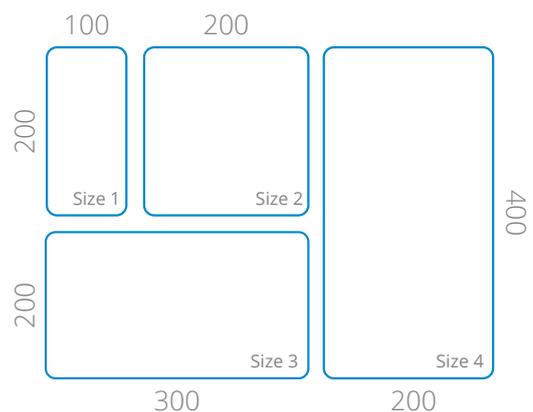


FLEXIBLE

MULTIPLE PADS IN SERIES



SIZES





AIRSKIN

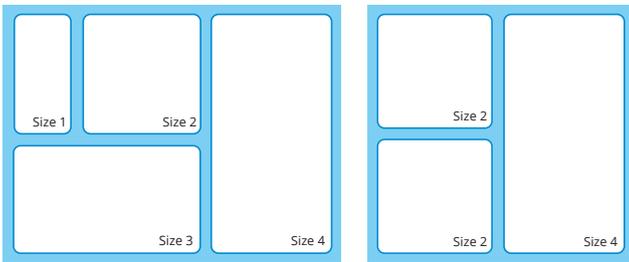
AIRSKIN

AIRSKIN

AIRSKIN

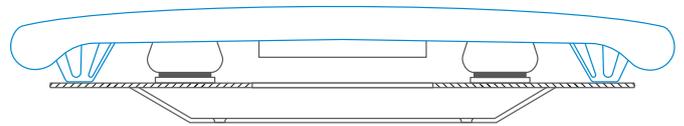
BUILD YOUR OWN

BUILD YOUR OWN CUSTOMIZED AIRSKIN® SYSTEM WITH MODULE PADS



MIX ANY SIZE TO ANY AIRSKIN® CONFIGURATION

- Almost unlimited uses
- Possible to combine the pads in numerous ways
- Robust and dirt-resistant material guarantees reliable performance in industrial settings



BENEFITS

- Easily create safe, fast collaborative applications
 - Save floor space
 - Achieve high cycle times
 - Flexible to move
 - Easy to understand
 - High acceptance by workers
- Flexible, modular add-on solution

- Affordable safety solution
- DIY safety for EoAT
- Complete AGV cover, customized for mass manufacturing
- Create safe linear axis and build cost-effective automation/robotic solutions

APPLICATION AREAS

- End of Arm Tooling
 - Suction grippers for palletizing
 - 3D cameras
 - Large grippers
 - Workpiece enclosures
- AGVs, mobile robots and service robots
- Special purpose machinery
- Ergonomic safety UI





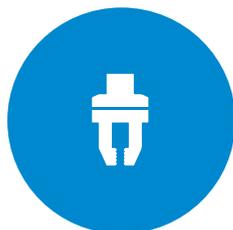
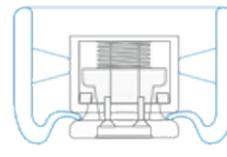
AIRSKIN

Wäinmer ORIGINAL Neapolitaner



AIRSKIN® SAFETYFLANGE

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



ADDING COMPLIANCE TO GRIPPERS AND WORKPIECES



FASTER MOVEMENTS



AIRSKIN

AIRSKIN

DRINK

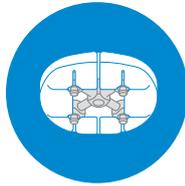


PALLETIZING

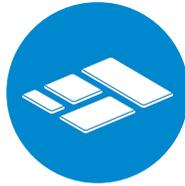
The new benchmark in safe palletizing applications: AIRSKIN® allows for faster movement speeds while completely eliminating clamping and shearing risks. ISO/TS 15066 compliance without a fence has never been easier!



ONROBOT VG10



SCHMALZ COBOTPUMP ECBPI



BUILD YOUR OWN WITH MODULE PADS



CUSTOMIZE YOUR OWN



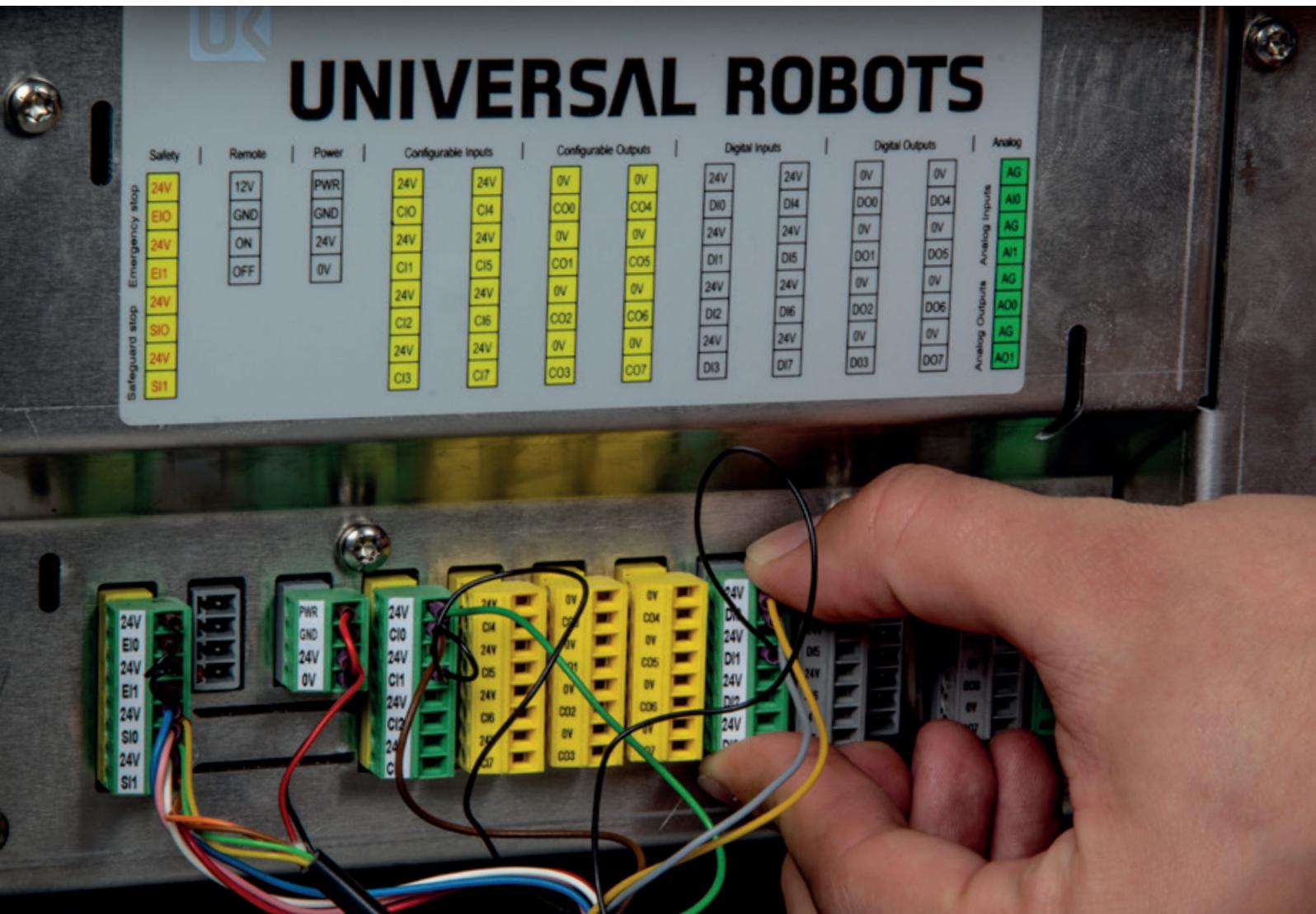
WITHOUT A FENCE



REDUCTION OF CLAMPING AND SHEARING RISKS



UP TO 2,3 TIMES THE SPEED



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 (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 number

TÜV-A-MHF/MG/17-00411

UL VDE (TPU skin)

UL 94 V-2

Flammability (TPU skin)

UL 94 V-2



