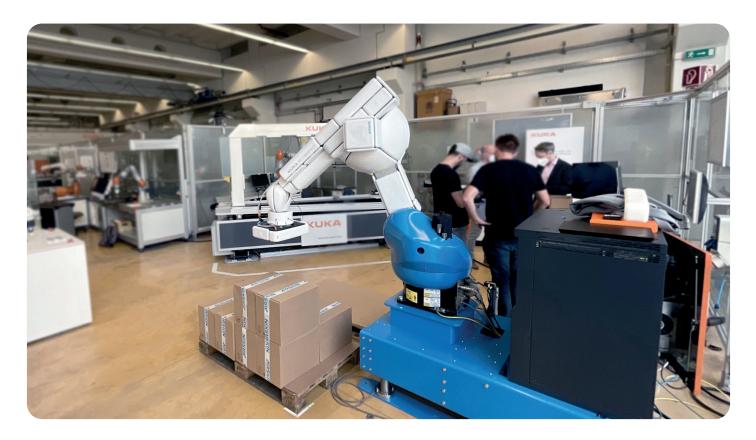
# **ZIRSKIN**<sup>®</sup> Cellcore



# Fenceless production with AIRSKIN

AIRSKIN enables the open and flexible manufacturing environments of the future by allowing industrial robots to work efficiently without fences. AIRSKIN combines the best of 2 worlds: accuracy, repeatability, speed, reach, payload and durability of KUKA industrial robots together with the fencelessness and flexibility of collaborative robots. AIRSKIN guarantees applications with the highest speed, smallest floor space, maximum flexibility, and the highest safety level on the market, PLe / Cat. 3.

# **AIRSKIN Cellcore**

AIRSKIN Cellcore provides the easiest, safest, and fastest solution to building open and flexible applications. AIRSKIN Cellcore combines an industrial robot and controller on a base, and the integrated AIRSKIN allows fenceless operation. Because the safety system is mounted directly onto the robot, it simply moves with the robot when AIRSKIN Cellcore is moved between different workplaces, and the same risk assessment applies. Due to the unbeaten high collaborative speed of up to 2 m/s in free space, AIRSKIN Cellcore provides fenceless/collaborative robotics without compromises in productivity.

AIRSKIN Cellcore can be equipped with a KUKA Cybertech model of the customer's choice and base pedestals of different heights. Depending on the project, AIRSKIN Cellcore can be ordered as standalone-application or can be integrated into larger projects

#### Cellcore Base with floor mounting for easy switching between workplaces

SAIRSKIN for Cybertech-2

Components

KUKA KRC4/5 included

→ KUKA Cybertech-2 robot (all models)

→ AIRSKIN Safetyflange (depending on application)

Software packages (KUKA.SafeOperation, KUKA.PalletTech)

AIRSKIN for tool (depending on application)

#### Your advantages

AIRSKIN Cellcore speeds up the planning, building and integration of fenceless and collaborative robot applications significantly. Customers get a turnkey solution for the inner core of any fenceless and collaborative robot application: The base, the robot with the controller and the already implemented safety system, all combined and ready to go. AIRSKIN Cellcore is perfect for any applications in open and flexible production environments, where fences would obstruct the product flow and keep the production rigid and hard to reorganize, and where high productivity is demanded. AIRSKIN Cellcore keeps your production humming with its unchallenged free space speed of up to 2m/s. Example applications are end of the line palletizing, machine tending, support with production peaks between different production lines and many more. Depending on the project, customized EoAT (End of Arm Tooling) safety systems and grippers can be developed and integrated.

# **AIRSKIN**<sup>®</sup> Cellcore

#### Dimensions

Size Weight 1650 x 940 x 1900mm R1610-2: 800kg R1810-2: 800kg R2010-2: 800kg

1000 mm

## Available platform heights

600 mm

800 mm

## Operating conditions

| Ambient temperature | 5-50 °C |
|---------------------|---------|
| during operation    |         |
| Humidity level      | 0-85 %  |
| IP rating           | IP54    |

### **Electrical connection**

|                      | AC 3x380 V, AC 3x400 V<br>AC 3x440 V or AC 3x480 V |
|----------------------|--|
| Rated connected load | 3.30 kVA   |

#### Robot payload with AIRSKIN

PA (palletizing) mode includes an AIRSKIN Safetyflange 20. Calculated values according to KUKA.Load, assuming a distance of 150 mm between tool COG and TCP.

| Payload in kg | Nominal | Normal mode | PA mode |
|---------------|---------|-------------|---------|
| KR 16 R2010-2 | 16,0    | 14,8        | 14,2    |
| KR 20 R1810-2 | 20,0    | 18,7        | 19,1    |
| KR 22 R1610-2 | 22,0    | 22,3        | 24,0    |

# Safety skin

| Reaction time   | < 9 ms |
|-----------------|--------|
| Actuation force | ~5 N   |

#### Certificates

| ISO 13849-1                   | PLe / Cat 3          |
|-------------------------------|----------------------|
| EN/IEC 62061                  | SIL CL 3             |
| UL 1740:2018                  |                      |
| ANSI/RIA R15.06-2012          |                      |
| CAN/CSA-Z434-14 + GI1         |                      |
| Flammability                  | UL 94 V-2            |
| EC type examination Nr.       | TÜV-A-MHF/MG17-00411 |
| TUV Rheinland certificate Nr. | CU 72192170 0001     |
| PFHd [1/h]                    | <= 2.7e-8            |
| MTTFd                         | 91 Years, DC = 99%   |

#### Robot motion range with AIRSKIN

PA (palletizing) mode includes a Palletizing Safetyflange. All models, in  $^{\rm o}$ 

|    | Nominal | Nominal |      | with AIRSKIN |  |
|----|---------|---------|------|--------------|--|
| Al | -185    | 185     | -185 | 185          |  |
| A2 | -185    | 65      | -166 | 25           |  |
| A3 | -138    | 175     | 0    | 170          |  |
| Α4 | -350    | 350     | -210 | 210          |  |
| A5 | -130    | 130     | -41  | 107          |  |
| A6 | -350    | 350     | -350 | 350          |  |

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