

APAS assistant

flexible production assistant



BOSCH



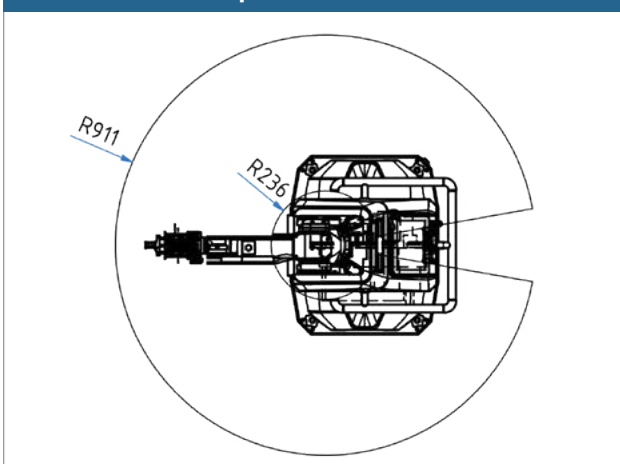
- ▶ mobile production assistant for the retroactive automation of manual workstations
- ▶ direct and safe man-machine collaboration
- ▶ certified by the German employers' liability insurance association
- ▶ configuring work plans without any programming knowledge
- ▶ detecting, moving and gripping in one and the same software
- ▶ dialog-controlled step-by-step user guidance
- ▶ fast change of location

Hand in hand with the APAS assistant – direct collaboration without additional shielding

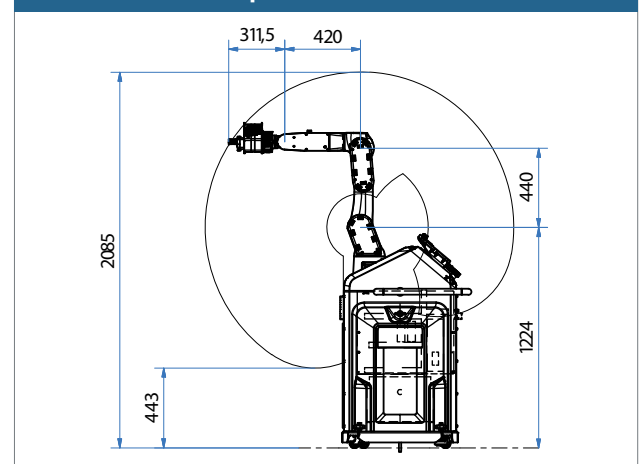
Machines serve as tools to offload staff workload. Despite all its benefits, conventional systems are mostly stationary, rigidly operating and shielded in a complex way to protect the production staff. This, however, makes it more and more difficult to integrate these systems into today's flexible working world. Certified by the German employers' liability insurance association, the APAS assistant is the first assistance

system, which allows direct collaboration with people without additional shielding. The APAS assistant supports the workers in case of heavy, monotonous and dirty tasks. The direct collaboration is made possible by using a highly sensitive sensor skin. This skin enables the APAS assistant to react within a very short period of time, when a staff member approaches. Before there is any contact between man and machine, the APAS assistant stops and only then continues its operation, when the danger zone is free.

Dimensions work space



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Specifications

Basic data

Measurements	775 mm x 730 mm x 1670 mm
Weight	approximately 230 kg
Power supply	230 VAC
Pick & place cycle time (typical)	4 s - 8 s
Interfaces	Ethernet, EtherCAT, E/A optodecoupled

Safety concept

Triggering sensor	touchless (capacitive)
Safe switching distance (typical)	< 50 mm
Certificate	German employer's liability insurance association

Arm

Range	911 mm
Maximum weight of part	4 kg
Track velocity	0,5 m / s
Repeatability	+/- 0,03 mm (depending on IP method)

Gripper

Principle	universal three-finger-gripper
Force regulation	adjustable in gripping action 40 - 120 N
Position control	0 - 130 mm opening radius
Form-fit	by handle sleeves

Vision

Overview camera	2D monochrome
Positioning camera	3D, calibrated stereo cameras, color
Image field	250 mm x 250 mm
Integrated lighting	1 x infrared, 1 x color strips projection

Bosch Australia Manufacturing Solutions

Locked Bag 66
 Clayton South, Victoria 3169
 Phone (03) 9541 5086
 Fax (03) 9541 7872
 Email BAMS.sales@au.bosch.com
www.bosch-manufacturingsolutions.com.au

Robert Bosch GmbH

P.O. Box 30 02 20
 70442 Stuttgart
 Germany
 Telefon +49 711 811 - 0
www.bosch-apas.com
 Find us on [YouTube.com](#)