



Collaborative Robot

# COBOTTA PRO

**DENSO**



The COBOTTA PRO is designed not only to facilitate collaboration between human workers and robots, but also to consistently maximize productivity. It delivers a blend of productivity and safety for both simple tasks and multi-step processes like assembly and inspection work.

Maximum arm reach

**908mm / 1,303mm**

Maximum payload

**6 kg / 12 kg**

## Functional safety designed to consistently maximize productivity while collaborating with human workers

The COBOTTA PRO delivers a mix of productivity and safety by maximizing its operating speed when no workers are nearby while minimizing the distance needed to slow or stop when workers approach. When not collaborating with human workers, the unit operates at a maximum TCP speed of 2,500 mm/s with repeatability of  $\pm 0.04$  mm. The COBOTTA PRO safeguards worker safety by augmenting proprietary torque sensors, which are standard equipment at each axis, with functional safety like torque, speed, and area monitoring. In addition, a touch-sensing soft cover that embeds high-sensitivity contact sensors in a silicon cushioning material further reduces collision risk. This design helps improve productivity safely.



## Ease of use and precision: A development environment that's easy for everyone

We developed a new concept in direct teaching so that the COBOTTA PRO can be used to easily and quickly automate highly difficult, complex tasks that require a high level of precision, for example assembly work. Functionality accommodates a variety of teaching situations, from track memorization to fine-tuning down to 0.1 mm. In addition, the robot uses the visual programming language Blockly as a new development environment. Utilized in conjunction with direct teaching, this approach lets even novice programmers implement high-precision, highly difficult applications like assembly processes intuitively and visually.

## Automating work that conventionally has depended on human workers with a robot that sees, thinks, and moves

Collaborative robots are often used as an alternative means of performing work usually performed by human workers. Automating such work has been a challenging process that requires advanced technologies and expertise so that robots can see, think, and move like humans. Highly difficult work like assembly processes can be automated by using tools like Mech-Eye, a high-precision 3D image recognition camera, and AI Imitative Learning, general-purpose AI software that automates tasks performed by human workers that are difficult to verbalize, to implement integrated control of the COBOTTA PRO and peripherals using the RC9 controller.



## Specifications

	COBOTTA PRO 900	COBOTTA PRO 1300
Maximum arm reach	908 mm	1,303 mm
Maximum payload	6 kg	12 kg
Maximum TCP speed *1	Translational motion: 2,100 mm/s	Translational motion: 2,500 mm/s
Position repeatability	$\pm 0.03$ mm	$\pm 0.04$ mm
Degree of protection	IP 54	IP 54
Cleanliness *2	Clean class 5	Clean class 5

\*1: Maximum TCP speed during high-speed operation \*2: Cleanroom type

[Notes] This product is an industrial robot capable of operating in collaboration with human beings. Before using the product, be sure to conduct risk assessment in accordance with the applicable law, regulations, notices, guidance, JIS B 9700:2013, etc. and reduce risk as much as possible. The customer is responsible for confirming the compliance with the laws, regulations and standards applicable to the usage environment.

DENSO Products and Services Americas, Inc.  
3900 Via Oro Avenue, Long Beach, California, 90810, U.S.A.  
Phone : +1-888-476-2689 FAX : +1-310-952-7502

DENSO KOREA CORPORATION  
131, Seonggogae-ro, Uiwang-si, Gyeonggi-do, Korea 437-120  
Phone : +82-31-340-1783 FAX : +82-31-8033-7213

DENSO TAIWAN CORP.  
No.525 Sec.2, Mei Su Road, Jui Ping Li, Yang-Mei Town, Taoyuan Hsien, Taiwan  
Phone : +886 3-482-8001 FAX : +886 3-482-8003

DENSO EUROPE B. V. DENSO Robotics Europe  
Waldeckerstrasse 9 D-64546 Moerfelden-Walldorf, Germany  
Phone : +49-6105-27-35-150 FAX : +49-6105-27-35-180

DENSO (CHINA) INVESTMENT CO., LTD.  
No.35 Yuandian Road, Minhang District, Shanghai, CHINA 201108  
Phone : +86-21-2350-0093 FAX : +86-21-2350-0179

DENSO SALES(THAILAND) CO.,LTD.  
888 Moo 1, Bangna-Trad Rd. Km 27.5, T.Bangbor, A.Bangbor, Samutprakarn, 10560, Thailand  
Phone : +66-2-315-9500 FAX : +66-2-315-9556