



# DOOSAN ROBOT A-SERIES



**Doosan Robotics**

info@dormac-cobots.nl | www.dormac-cobots.nl

**Doosan Robotics**

DOOSAN

# Almighty A-SERIES

A-SERIES can go anywhere!  
With its superior speed and cost-effectiveness,  
A-SERIES promises a simple solution and a satisfaction to whom may be hesitant to get a cobot

**A0509**  
Payload 5kg  
Reach 900mm

**A0912**  
Payload 9kg  
Reach 1200mm

Model  
with  
Force  
Sensor

**A0509s**  
Payload 5kg  
Reach 900mm

Model  
with  
Force  
Sensor

**A0912s**  
Payload 9kg  
Reach 1200mm

# A-SERIES KEY FEATURES

## A+ Safety

The advanced safety algorithm ensures the safety beyond the limits of current-based collision detection technology

**PL e  
Cat 4**

Proven by the highest international safety level\*, trustful safe work environment is ensured

\*Performance Level  
Emergency Stop, Safe Torque Off (STO), and Safe Brake Control (SBC)

## A+ Customization

Customers have a choice of High-tech force sensor model for more delicate tasks requiring human like dexterity

**×2**

Force control accuracy of FTS (Force Torque Sensor) is twice as high as competitors, ensuring higher performance and outcome



## A+ Speed

The high-end hardware, created by Doosan's world class technology, promises quick and flawless performance on any task with the highest speed in the industry along with the remarkable acceleration

**×2**

Twice faster joint speed enhances productivity, efficiency and effectiveness on any tasks

## A+ ROI

Reduced cycle time and excellent cost-effectiveness promises the shortest time for your ROI

**10%**

10% faster work speed on average combined with competitive price shortens your ROI period

# MAIN APPLICATIONS



Scan the QR Code for more Doosan Robot Applications



## Machine Tending

Feed the CNC machine and load/unload the subject into the pallet



## Pick & Place

Simple loading/unloading work such as moving objects between tasks



## Packaging

Quick product packaging and transporting tasks in electronic, material handling and plastic industry



## Inspection

Inspecting internal/external defects and assembly quality



## Air Blowing

Exterior cleaning of finished products or workpieces with spiral spray motion and multi-angle composite spray motion



## Gluing and Bonding

Spraying of consistent amount of adhesive for gluing and bonding



## Polishing & Deburring

Burr removal and surface polishing after processing

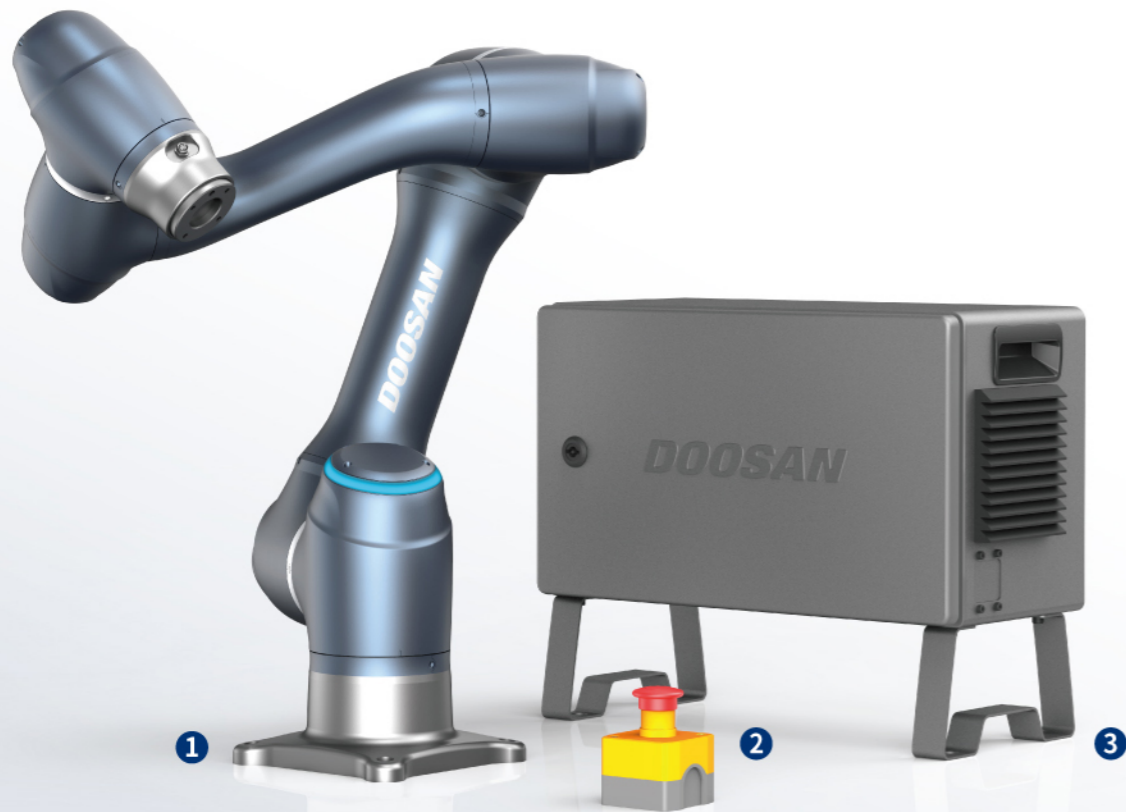


## Assembly

Traditional assembly tasks like screw driving and gear assembling

# A-SERIES : ROBOT SYSTEM

Experience the best robot system with stable and immaculate controllability



## 01 Robot Arm

Our six-axis multi-joint robot arm maintains excellent stability with overwhelming speed and an advanced safety algorithm

## 02 Emergency Stop Button

The safety button can halt the robot in an emergency situation to prevent accidents

## 03 Controller

The solid control platform guarantees stable performance in any field based on real-time control and high-speed communication technology

## DART Platform

DART Platform, the Doosan Robotics user software, enables robot teaching along with the wide range of programming actions on a PC environment

A separate PC is required for installation and use of the DART platform



## OPTIONS



OPTION

### 01 Smart Pendant

A simple interface with commonly used function buttons including Home Position, Servo ON/OFF and Start/Stop for easy controlling

If Smart Pendant is installed, a separate PC is required to run the DART Platform



OPTION

### 02 Teach Pendant

Offers tablet PC-like ease of use, and with the inclusion of the DART Platform, it is capable of configuring various applications, from simple programming up to advanced control algorithms

# DOOSAN HERITAGE

**Super SAFE**

- Five workspace settings to fully protect the operator**  
 Five workspace settings protect the operator's safety and improve work efficiency.
  - Collaborate zone
  - Collision detection mute zone
  - Protected zone
  - Limited tool Orientation zone
  - Customized collision sensitivity zone
- Outstanding product safety certified by international organizations**  
 Doosan robots have received prestigious safety certifications worldwide as well as safety certifications from NRTL in the U.S., CE in Europe and KCs in Korea.

**Super EASY**

- One-touch programming in just 20 seconds**  
 Doosan robots automatically recognize attached peripherals and suggest ideal work process in forms of various templates from simple material handling to machine tending. It also provides pre-programmed skills, commonly used in the field, which makes it very easy to teach the robot even for beginners.
- Cockpit to quickly and easily teach robots**  
 Through the cockpit (Direct teaching button) on Doosan robots, it is possible to select various teaching modes as well as to save coordinates with simple button operations, allowing easy direct teaching.

**Super FLEXIBLE**

- Doosan Mate maximizing the utilization of Doosan robots**  
 Doosan Mate is comprised of a variety of industry-leading partner products from grippers to electric tools machines, sensors and software, providing the best automation solutions optimized for customer needs. All registered products are highly compatible with Doosan robots, allowing easy and fast set-up and immediate operation.
- Convenient communication connections**  
 Doosan robots support the latest communication technologies, even without a gateway, allowing seamless connections with various types of industrial equipment and systems.

\*Supported Communications: RS232/485, TCP/IP, Modbus TCP (Master/Slave), Modbus RTU (Master), PROFINET IO Device, EtherNet/IP Adapter

# DOOSAN ROBOT LINE-UP

Almighty  
**A-SERIES**

High-Power  
**H-SERIES**

Masterpiece  
**M-SERIES**

**A0509 · A0509s · A0912 · A0912s**  
 A-SERIES can go anywhere! With its superior speed and cost-effectiveness, A-SERIES promises a simple solution and a satisfaction to whom may be hesitant to get a cobot

**H2017 · H2515**  
 H-SERIES is the most powerful cobot in the market. Outstanding 25kg payload and 6 torque sensors brings safe work environment for any kind of application

**M0609 · M0617 · M1013 · M1509**  
 M-SERIES is the highest quality premium cobot! 6 high-tech torque sensors provide the highest dexterity for highly sophisticated tasks and ensure the upmost safety with the highest collision sensitivity

| Model          | Payload (kg) | Reach (mm) |
|----------------|--------------|------------|
| H2515          | 25           | ~1800      |
| H2017          | 20           | ~1800      |
| M1509          | 15           | ~1000      |
| M1013          | 10           | ~1500      |
| M0617          | 8            | ~2000      |
| M0609          | 7            | ~1000      |
| A0509 / A0509s | 7            | ~1000      |

## A-SERIES TECHNICAL SPECIFICATION


|                               |   | A0509 / A0509s   | A0912 / A0912s       |
|-------------------------------|---|--|----------------------|
| <b>Arm</b>                    | Payload   | 5 kg (11 lb)   | 9 kg (19.8 lb)       |
|                               | Reach   | 900 mm (35.4 inch)   | 1,200 mm (47.2 inch) |
|                               | Weight  | 21 kg (46.2 lb)  | 27 kg (59.5 lb)      |
|                               | <b>Performance</b>                                  |  |                      |
|                               | Tool Speed  | 1 m/s  | 1 m/s                |
|                               | Repeatability                                       | ±0.03 mm   | ±0.05 mm             |
|                               | Temperature   | -5~45 °C   | -5~45 °C             |
|                               | <b>Joint Movement (Range : ° / Max Speed : °/s)</b> |  |                      |
|                               | J1  | ±360° / 180°/s   | ±360° / 180°/s       |
|                               | J2  | ±360° / 180°/s   | ±360° / 180°/s       |
| J3                            | ±160° / 180°/s                                      | ±160° / 180°/s   |                      |
| J4                            | ±360° / 360°/s                                      | ±360° / 360°/s   |                      |
| J5                            | ±360° / 360°/s                                      | ±360° / 360°/s   |                      |
| J6                            | ±360° / 360°/s                                      | ±360° / 360°/s   |                      |
| <b>Other Features</b>         | Installation Position                               | Any (Floor / Ceiling / Wall)   |                      |
|                               | Protection Rating                                   | IP 54  |                      |
|                               | Flange Interfaces                                   | Digital I/O 2 In / 2 Out, RS 485*<br>*For pseudo serial communication, refer to the Programming Manual for more details                                |                      |
| <b>Controller</b>             | I/O Power Supply                                    | DC 24 V / Continuous 2 A (Max. 3 A)  |                      |
|                               | FTS(6-axis)   | Force 110 N/ Moment 11 Nm (Option)   |                      |
| <b>Controller</b>             | Interfaces  | USB 3.0 (RS422/485**), TCP/IP<br>**Requires a USB to RS422/485 converter   |                      |
|                               | Industrial Network***                               | Modbus-TCP (Master/Slave) / Modbus-RTU (Master) / EtherNet/IP (Adapter) / PROFINET IO (Device)<br>***Install a gateway for other communication support |                      |
|                               | Dimensions  | 450 x 210 x 265 mm + Stand 110 mm  |                      |
|                               | Weight  | 12 kg  |                      |
|                               | Protection Rating                                   | IP 40  |                      |
|                               | I/O Port - Digital I/O                              | 16 / 16  |                      |
|                               | I/O Port - Analog I/O                               | 2 / 2  |                      |
|                               | I/O Power Supply                                    | DC 24 V / Max. 2 A   |                      |
|                               | Reated Supply Voltage                               | 100~240 VAC, 50~60Hz   |                      |
|                               | Cable Length  | 6.0 m  |                      |
| <b>Teach Pendant</b>          | Protection Rating                                   | IP 40  |                      |
|                               | Dimensions  | 264 x 218 x 42 mm  |                      |
|                               | Weight / Screen Size                                | 0.8 kg / 10.1 inch   |                      |
|                               | Cable Length  | 4.5 m  |                      |
| <b>Smart Pendant (Option)</b> | Dimensions  | 180 x 90 x 26.5 mm   |                      |
|                               | Weight  | 0.3 kg (Without cable)   |                      |
|                               | Cable Length  | 6.0 m  |                      |


## GLOBAL NETWORK

Doosan Robotics continues to expand its global network around the world!

Prompt service is available around the globe through dealer networks established in different countries



 Breeuwhamer 25, 1648HG De Goorn, Nederland

 +31 (0)229 54 24 85

 [www.linkedin.com/company/dormac-cobots/](http://www.linkedin.com/company/dormac-cobots/)

 [www.youtube.com/doosanrobotics](http://www.youtube.com/doosanrobotics)

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Applications

