RC9 Specifications and Dimensions

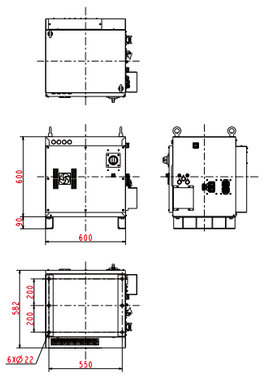
Specifications

Applicable Robots		VMB-2515/2518	VLA-4025/6022
Power supply	Power supply capacity	4.5kVA	10.0kVA
	Input voltage range	3 phase 200 V AC -15% to 230 V AC +10%	3 phase 400 V AC -15% to 480 V AC +10%
	Power supply frequency	50-10% Hz～60+10% Hz	
Power cable length [m]		10	
Number of control axes		6	
Control system		PTP, CP 3D line, 3D arc	
Language used		DENSO Robot Language (PacScript)	
Teaching system		1) Remote teaching 2) Numerical input (MDI)	
External signal	Digital I/O	System input: 8 pins / system output: 8 pins User input: 8 pins / user output: 8 pins	
	Hand I/O	User input: 12 pins / user output: 12 pins	User input: 6 pins / user output: 6 pins (included in the main unit connecting cable)
	Safety I/O	input: 6 pins / output: 8 pins	
External communication	Ethernet	Side of the robot controller: 1 line (GbE: Gigabit Ethernet)	
	USB	Side of the robot controller: 1 line Inside of the robot controller (Robot Control IPC): 3 lines	
Option extension		3 units(Two I/O terminals are regarded as one unit.)	
Self-diagnostic function		Overrun, servo error, memory error, input error, short circuit detection (user wiring section), etc.	
Error indication		External error output	
		Display the error code on the mini pendant (optional)	
		Display the error message and return method on the teaching pendant (optional)	
Environmental conditions (during operation)		Temperature: 0 to 40°C, Humidity: 20 to 90%RH (no condensation)	
Overvoltage category*1		III	
I/O power supply	Use an external power supply	Supply 24 V DC ±10% from external source	
	Use an internal power supply	Supply 24 V DC ±10% from inside controller	
SCCR		5kA	
Safety performance (Safety function)		PL d, Cat. 3	
Protection class		IP54	
Pollution degree		3	
Weight (transformer weight not included) [kg]		Approx. 93	Approx. 104
External dimensions [mm]*2		600(W)×582(L)×690(H)	600(W)×582(L)×840(H)
Applied standards		ISO 10218-1:2011, ISO 13849-1:2015, IEC 60204-1:2016/A1:2021, EN 61000-6-2:2005, EN 61000-6-4:2007/A1:2011, EN 61000-6-7:2015	

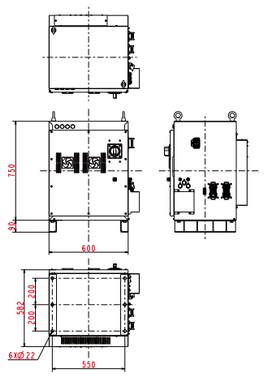
*1 : Compliant with IEC 60664-1. *2 : Installaiton stands included.

Dimensions

Applicable robots: VMB-2515/2518



Applicable robots: VLA-4025/6022



※ The appearance and specifications are subject to change for improvement without prior notice.

DENSO DENSO WAVE

Please visit our website for more information on products and functions.
https://www.denso-wave.com/

YouTube

Official DENSO WAVE Channel:
Provides explanatory videos of functions, case studies, and robot applications.

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

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 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 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

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Vertically Articulated Robot

VMB / VLA Series

RC9 / Smart TP

DENSO



With the new expanded product lineup, the entire manufacturing process can now be automated

For more than 55 years, we have been refining our technology in demanding automotive manufacturing plants, and have developed industrial robots for our customers that are easy to use and reliable.
The VMB and VLA Series of vertically articulated robots have a payload of up to 60 kg and an arm with a maximum reach of approximately 2,500 mm, making it possible to use the user-friendly operating environment and full range of robot functions in a wider range of processes.
The robots are suitable for transporting large items and palletizing processes, freeing workers who normally handle heavy items from dangerous situations and heavy loads.
Together with the existing product lineup, DENSO Robotics can accommodate full automation of manufacturing processes.

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VMB Series



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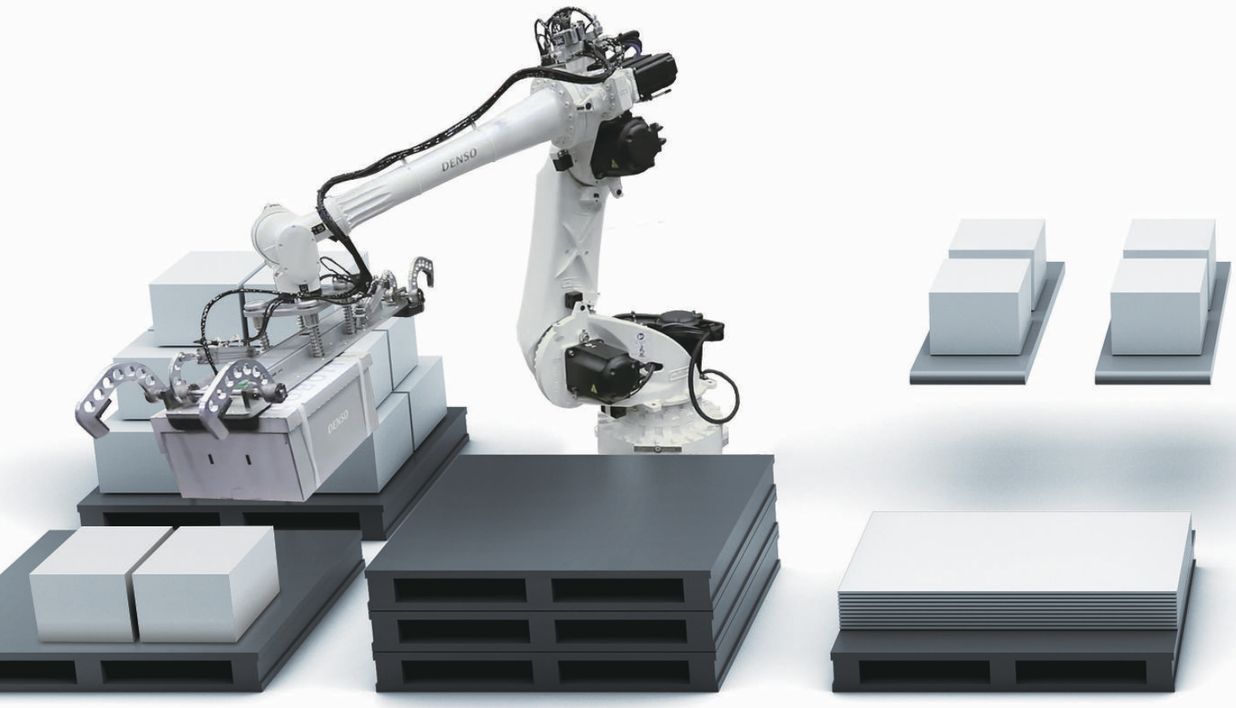
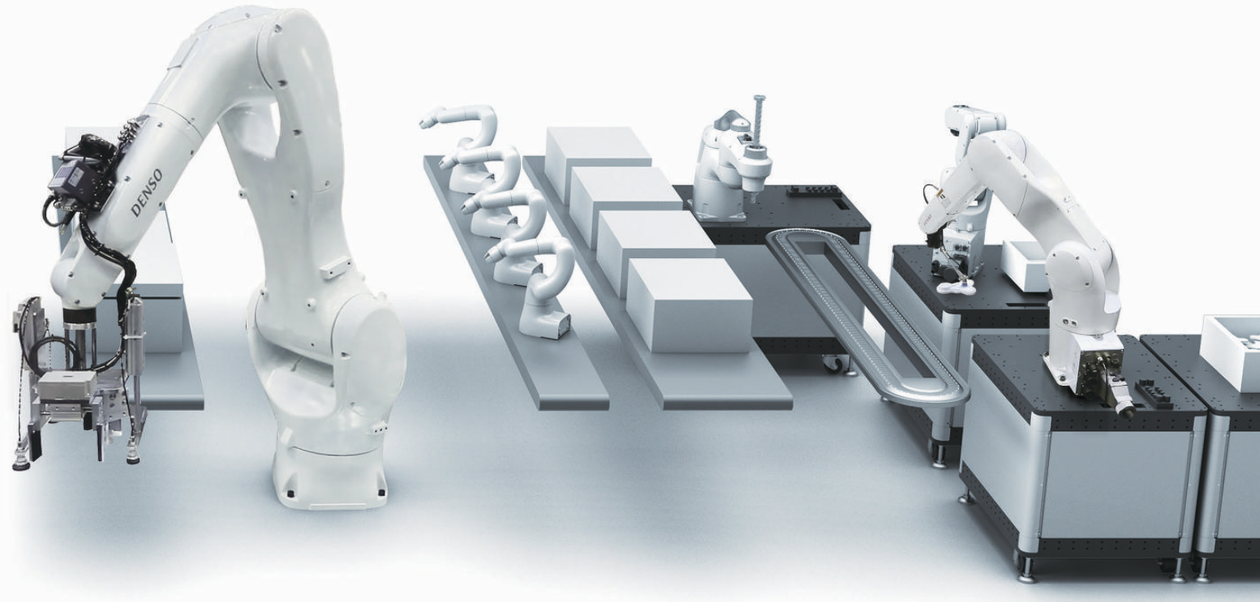
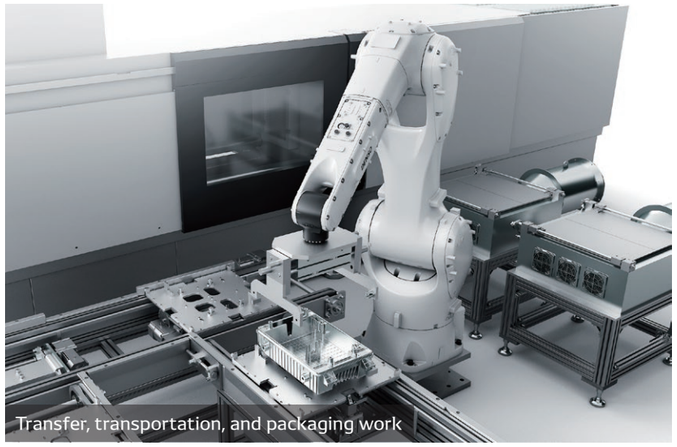
Specifications and External Dimensions





Vertically Articulated Robot

VMB Series


Transfer, transportation, and packaging work



	VMB-2515	VMB-2518
Maximum arm length	1506mm	1804mm
Maximum payload	25kg	25kg

Features

High acceleration performance and high-speed operation

Acceleration performance despite the high payload capacity of the robot, and deceleration performance, and achieve high speed operation.This shortens the cycle time in various processes where high productivity is required.



Used in contaminate critical environments

In addition to the standard specifications, the lineup includes robots that comply with dust and splash resistance (IP67) and cleanliness standards (ISO class 5). They can be used to automate processes in a variety of industries, from automotive parts manufacturing and electrical/electronic parts to food, pharmaceutical, and medical equipment manufacturing processes.


Full-cover structure

Internal EtherCAT wiring for flexible hand design

A wide variety of devices and hands can be mounted on the robot flange with options for user wiring, piping, and solenoid valves. The 2nd arm user wiring allows up to two EtherCAT lines to be wired internally. The 3-axis wiring option prevents tangling and wear on the external wiring/piping.



2nd arm user wiring option


3-axis wiring option

Options

External battery unit


A backup battery for the encoder can be installed externally to the robot. This allows easier battery replacement and improved maintenance.

Brake release unit

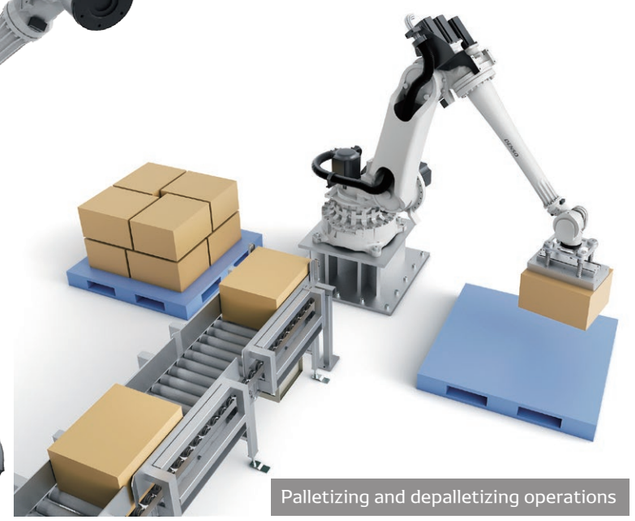

This switch is used to release each of the axis brakes. (The wiring for this switch is directly connected to the brake release signal for each axis.)

- Level-adjustable plate kit for fixing robot
- Non adjustable leveling plate for fixing robot
- Attachment for forklifts
- Adjustable mechanical stopper kit for 1st axis (VMB)

Vertically Articulated Robot

VLA Series




Palletizing and depalletizing operations

	VLA-4025	VLA-6022
Maximum arm length	2503mm	2257mm
Maximum payload	40kg	60kg

Features

Resist with adverse environments

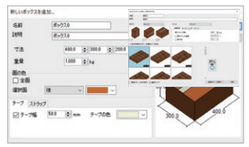
These robots have an IP67* protection rating, helping to facilitate automation in harsh environments where oil and mist can splash.

*Wrist: IP67-compliant, main unit: IP65-compliant



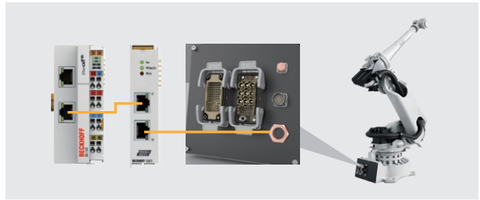
Ideal for transporting and palletizing heavy loads

The robots in the VLA Series have the largest payload and arm length of any DENSO robot, making them ideal for automating heavy load transfer and palletizing operations. When combined with "Palletizing Builder," which is an option with WINCAPS Plus Offline Programming software suite, the palletizing process can be automated.



Built-in field network

The field network is wired inside the robot, reducing the complexity of the external wiring.
Compatible communication standards: PROFINET, Profibus, DeviceNet



Options

Multibus cable

Field networks such as DeviceNet are wired inside the robot, reducing the complexity of external wiring.

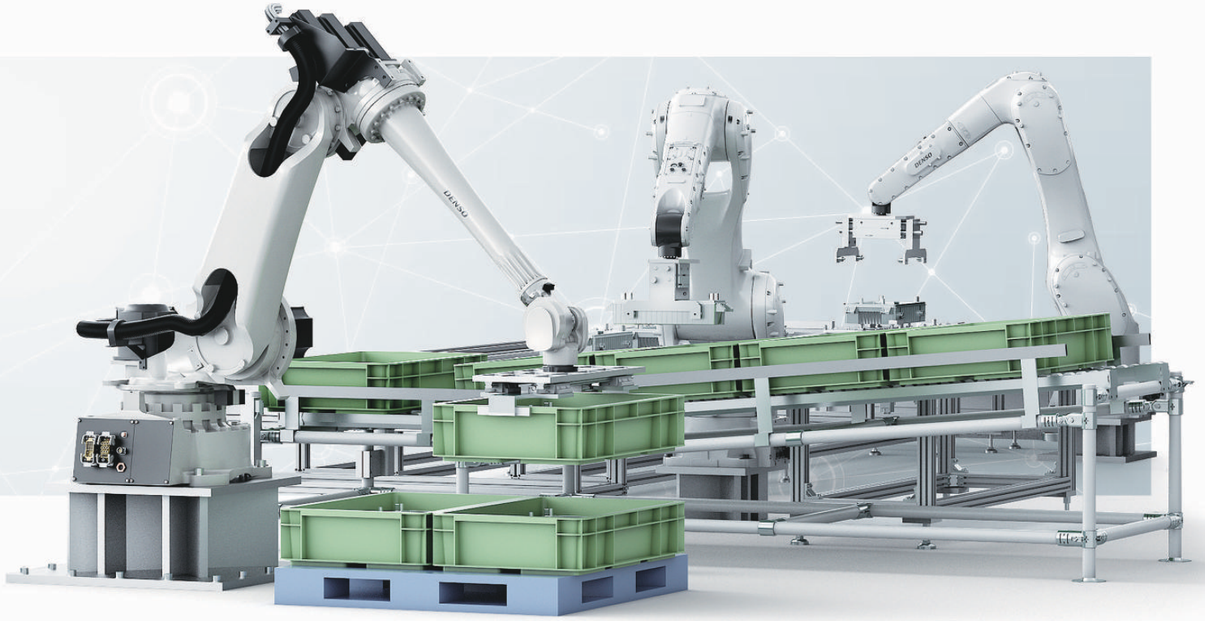
- Non adjustable leveling plate for fixing robot
- Attachment for forklifts
- Adjustable mechanical stopper kit for 1st axis (VLA)
- Protection cover for connector panel
- Level-adjustable plate kit for fixing robot

New Robot Controller

RC9

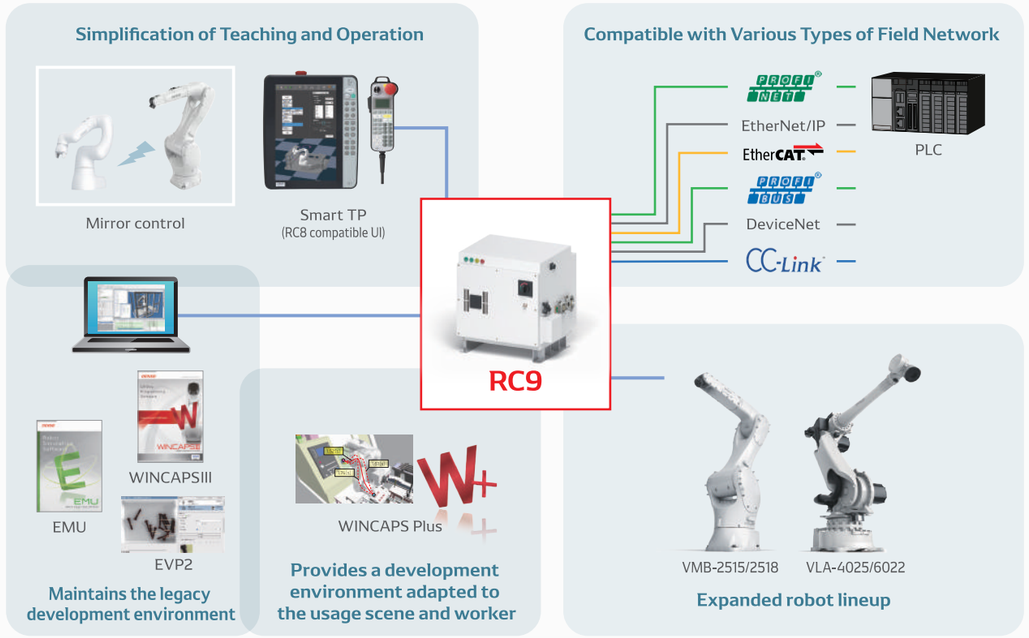
DENSO is developing robot controllers with the aim of creating a robot language that anyone can use, while considering standardization and openness in the development environment.
We have been developing JIS-compliant industrial programming languages since the 1990s, and released the Windows OS-compatible middleware “ORiN,” which offers excellent connectivity with peripheral devices.
In recent years, the introduction of robots into various industries has led to an expansion of applications and links with general-purpose software.
The RC9 robot controller adapts to the increasing sophistication and complexity of robot control equipment while maintaining the legacy development environment.





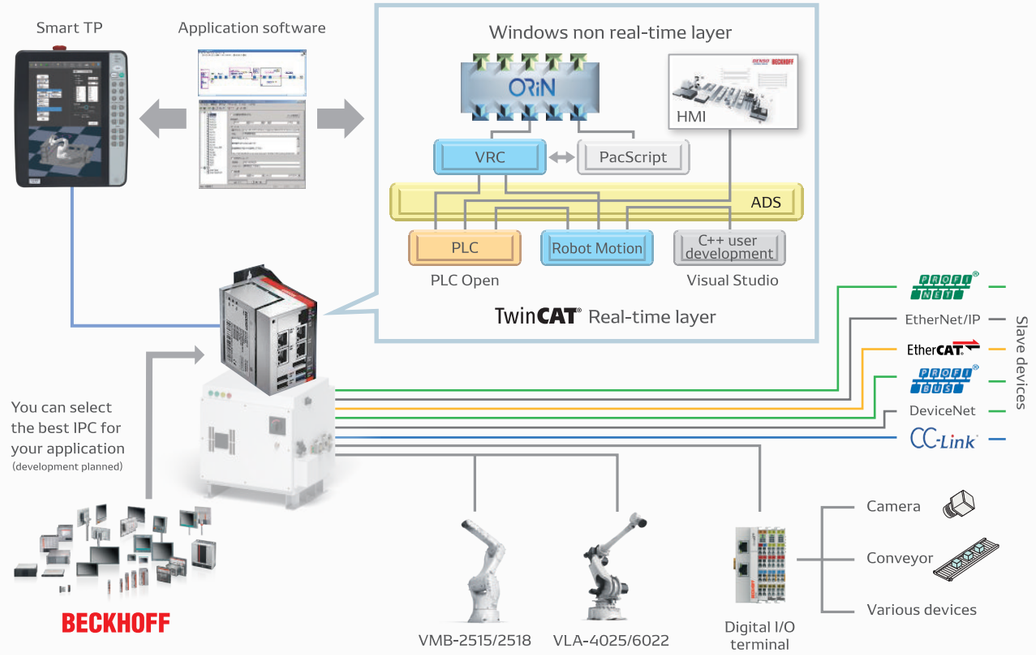
Achieving DENSO robots’ goal of simplification

The RC9 controller allows you to select the most suitable robot, peripheral equipment, and software for your application. While maintaining the RC8 development environment, new teaching devices and the application software “WINCAPS Plus” are provided for further simplification. These features deliver simplicity and peace of mind for everyone involved in robot start-up and operation.



Controller for integrated equipment control

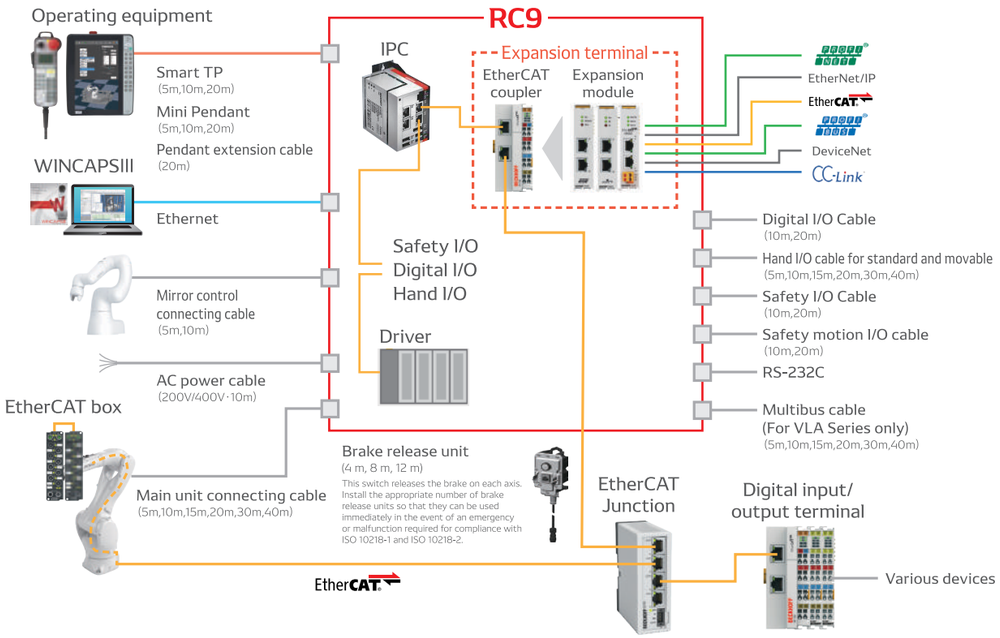
By combining selectivity for optimization according to the application; openness for integration of the user, system integrator, and manufacturer technologies; and Expandability for simple integration of the entire system, the RC9 controller achieves simple integrated facility control.



New Robot Controller

RC9

System Configuration / Options List



EtherCAT cables		RJ45-RJ45, for fixed: 0.5, 2, 5, 10, 20, 40 m
		RJ45-RJ45, for bending resistance: 0.5, 2, 5, 10, 20, 40 m
Cables for EtherCAT box	Power cables	M8-Open, for movable: 2, 10, 40 m
		M8-M8, for movable: 0.5, 2, 5, 10, 20, 40 m
		7/8"-Open, for bending resistance: 2, 10, 40 m
		7/8"-7/8", for bending resistance: 0.5, 2, 5, 10, 20, 40 m
	EtherCAT cables	M8-RJ45, for bending resistance: 0.5, 2, 5, 10, 20, 40 m
		M8-M8, for movable: 0.5, 2, 5, 10, 20, 40 m
	Sensor cables for I/O Link	M12-Open, Class A, for movable: 2, 10, 40 m
		M12-M12, Class A, for movable: 0.5, 2, 5, 10, 20, 40 m
		M12-Open, Class B, for bending resistance: 2, 10, 40 m
		M12-M12, Class B, for bending resistance: 0.5, 2, 5, 10, 20, 40 m
	Sensor cables for DIO	M8-Open, for movable: 2, 10, 40 m
Expanded functionality (USB dongle license)		TwinCAT3 PLC
		TwinCAT3 PLC + HMI Web
Power supply		Power transformer (VMB) (assembly)
		Power transformer (VLA) (assembly)
Field network		EtherCAT junction — 3 port, 4 port , 8 port
		EtherCAT bridge terminal
		PROFINET RT controller terminal
		PROFINET RT device terminal
		EtherNet/IP master terminal
		EtherNet/IP slave terminal

Field network	PROFIBUS master terminal
	PROFIBUS slave terminal
	DeviceNet master terminal
	DeviceNet slave terminal
	CC-Link slave terminal
Serial communication	RS232C 2ch terminal
	RS422/RS485 2ch terminal
Digital input / output	Digital input terminal PNP, 8 points, 10 µs, IP20
	Digital input terminal PNP, 16 points, 3 ms, IP20
	Digital output terminal PNP, 8 points, 0.5 A, IP20
	Digital output terminal PNP, 16 points, 0.5 A, IP20
	Digital input terminal NPN, 8 points, 10 µs, IP20
	Digital input terminal NPN, 16 points, 3 ms, IP20
	Digital output terminal NPN, 8 points, 0.5 A, IP20
	Digital output terminal NPN, 16 points, 0.5 A, IP20
EtherCAT box	DIO, PNP, 16 points, 3 ms, IP67
	DIO, NPN, 16 points, 3 ms, IP67
	IO Link master, Class A, IP67 — 4 port , 8 port
	IO Link master, Class B, IP67 — 4 port , 8 port
	Protective plug M8 for DIO (50 pcs set)
	Protective Plug M12 for IO Link (50 pcs set)
Other	EtherCAT coupler + bus end cap set (assembly)
	EtherCAT coupler terminal (standalone)
	Bus end cap (standalone)
	EtherCAT expansion terminal
	Ethernet expansion module (assembly)

*EtherCAT® is a registered trademark and patented technology, licensed byBeckhoff Automation GmbH, Germany.

Safety Motion Function NEW

Enables common use of the motion area while achieving both safety and high productivity.



1 Motion range monitoring

Uses the safety virtual fence function to monitor that the robot does not move outside the set motion range.

■ Benefits

· Enables installation of minimum required safety fence for compact equipment design
· Enables installation of common work areas for workers and robots using sensors*

2 Speed monitoring

Uses the monitored-speed function to monitor that the robot does not exceed the set operating speed.

■ Benefits

· Reduces the speed to a safe level when a sensor* detects an approaching worker

3 Robot Stop monitoring

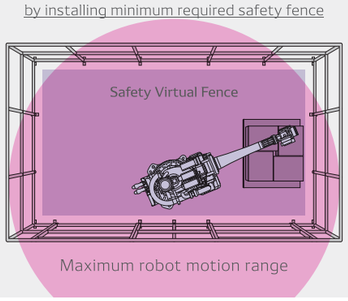
Uses the Robot Stop monitoring function to monitor that the robot remains stationary after having stopped with its motor ON.

■ Benefits

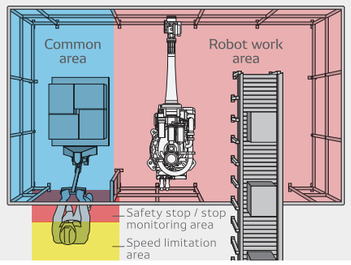
· Robot stops with the motor ON when a sensor* detects the entry and presence of an operator inside the stop area
· Enables fast restarting of the program by maintaining the standstill status

*Additional safety measures, such as installing sensors, may be required following a risk assessment.

●Compact equipment design
by installing minimum required safety fence



●Common areas allow
compact equipment design



Safety features

Name	Description
Emergency Stop Function	Decelerates the robot until it stops, and then turns OFF the motor. The current program will be Reset-Stopped.
Protective Stop Function	This function is to be connected to a signal from a safeguard or the like installed in the robot system/cell and stop the robot in response to the input signal.
Monitored-Speed Function	Monitors the robot speed to confirm if it does not exceed the specified speed.

Name	Description
Axis Limiting Function	Monitors the robot axes to confirm if they are not out of the specified motion range.
Monitored Standstill Function	Monitors the robot to confirm if it remains stationary after having stopped with its motor ON.
Safety Virtual Fence Function	Monitors the robot to confirm if it does not go beyond the specified motion range.

Selecting VMB robot options

When ordering a VMB robot, please select from the options 1 to 4 below.

1 Robot + Controller Set

Select from the 8 different set part numbers [Selection required]


VMB Robot

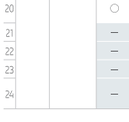

RC9 Controller

Type	Product name	
VMB-2515/RC9M-M	Reach 1500 mm Payload 25 kg	IP40/RC9M NPN
VMB-2515/RC9M-P		IP40/RC9M PNP
VMB-2515W7/RC9M-M		IP67/RC9M NPN
VMB-2515W7/RC9M-P		IP67/RC9M PNP
VMB-2515C5/RC9M-M		Clean ISO5/RC9M NPN
VMB-2515C5/RC9M-P		Clean ISO5/RC9M PNP

Type	Product name	
VMB-2518/RC9M-M	Reach 1800 mm Payload 25 kg	IP40/RC9M NPN
VMB-2518/RC9M-P		IP40/RC9M PNP
VMB-2518W7/RC9M-M		IP67/RC9M NPN
VMB-2518W7/RC9M-P		IP67/RC9M PNP
VMB-2518C5/RC9M-M		Clean ISO5/RC9M NPN
VMB-2518C5/RC9M-P		Clean ISO5/RC9M PNP

2 Solenoid valve

If a solenoid valve option is required, select one type. If it is not required, there is no need to select an option.



	①	②	③	④
1	2PD	2PD	2PD	2PD
2	2PD	2PD	2PD	3PE
3	2PD	2PD	2PD	3PC
4	2PD	2PD	3PE	3PE
5	2PD	2PD	3PE	3PC
6	2PD	2PD	3PC	3PC
7	2PD	3PE	3PE	3PE
8	2PD	3PE	3PE	3PC

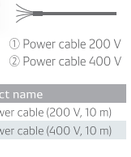
	①	②	③	④
9	2PD	3PE	3PC	3PC
10	2PD	3PC	3PC	3PC
11	3PE	3PE	3PE	3PE
12	3PE	3PE	3PE	3PC
13	3PE	3PE	3PC	3PC
14	3PE	3PE	3PC	3PC
15	3PC	3PC	3PC	3PC

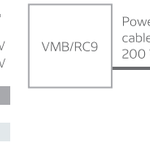
	Type
1	Solenoid valve OP 2PDx4
2	Solenoid valve OP 2PDx3/3PEx1
3	Solenoid valve OP 2PDx3/3PCx1
4	Solenoid valve OP 2PDx2/3PEx2
5	Solenoid valve OP 2PDx2/3PEx1/3PCx1
6	Solenoid valve OP 2PDx2/3PCx2
7	Solenoid valve OP 2PDx1/3PEx3
8	Solenoid valve OP 2PDx1/3PEx2/3PCx1

	Type
9	Solenoid valve OP 2PDx1/3PEx1/3PCx2
10	Solenoid valve OP 2PDx1/3PCx3
11	Solenoid valve OP 3PEx4
12	Solenoid valve OP 3PEx3/3PC
13	Solenoid valve OP 3PEx2/3PCx2
14	Solenoid valve OP 3PEx1/3PCx3
15	olenoid valve OP 3PCx4

3 Internal wiring/piping options

Select from 48 types [Selection required]





① Standard wiring/piping
② Standard wiring/piping + 2nd arm wiring/piping option
③ Standard wiring/piping + J3 axis wiring/piping option
④ Standard wiring/piping + 2nd arm wiring/piping option + J3 axis wiring/piping option
*In the case of normal wiring/piping (① above), a part number must also be selected.

Specification to be selected

	Reach	Environmental resistance	Solenoid valve OP	2nd arm OP	3-axis OP	Product name
1	1500	IP40	–	–	–	Internal wiring/piping specifications: 1500 mm/IP40
2			–	–	○	Internal wiring/piping specifications: 1500 mm/IP40/with 3-axis OP
3			–	○	–	Internal wiring/piping specifications: 1500 mm/IP40/with 2nd arm OP
4			–	○	○	Internal wiring/piping specifications: 1500 mm/IP40/with 2nd arm OP, with 3-axis OP
5			○	–	–	Internal wiring/piping specifications: 1500 mm/IP40/with solenoid valve
6			○	–	○	Internal wiring/piping specifications: 1500 mm/IP40/with 3-axis OP, with solenoid valve
7			○	○	–	Internal wiring/piping specifications: 1500 mm/IP40/with 2nd arm OP, with solenoid valve
8			○	○	○	Internal wiring/piping specifications: 1500 mm/IP40/with 2nd arm OP, with 3-axis OP, with solenoid valve
9		IP67	–	–	–	Internal wiring/piping specifications: 1500 mm/IP67
10			–	–	○	Internal wiring/piping specifications: 1500 mm/IP67/with 3-axis OP
11			–	○	–	Internal wiring/piping specifications: 1500 mm/IP67/with 2nd arm OP
12			–	○	○	Internal wiring/piping specifications: 1500 mm/IP67/with 2nd arm OP, with 3-axis OP
13			○	–	–	Internal wiring/piping specifications: 1500 mm/IP67/with solenoid valve
14			○	–	○	Internal wiring/piping specifications: 1500 mm/IP67/with 3-axis OP, with solenoid valve
15			○	○	–	Internal wiring/piping specifications: 1500 mm/IP67/with 2nd arm OP, with solenoid valve
16			○	○	○	Internal wiring/piping specifications: 1500 mm/IP67/with 2nd arm OP, with 3-axis OP, with solenoid valve
17		Clean ISO5	○	–	–	Internal wiring/piping specifications: 1500 mm/ISO5/with solenoid valve
18			○	–	○	Internal wiring/piping specifications: 1500 mm/ISO5/with 3-axis OP, with solenoid valve
19			○	○	–	Internal wiring/piping specifications: 1500 mm/ISO5/with 2nd arm OP, with solenoid valve
20			○	○	○	Internal wiring/piping specifications: 1500 mm/ISO5/with 2nd arm OP, with 3-axis OP, with solenoid valve
21			–	–	–	Internal wiring/piping specifications: 1500 mm/ISO5
22			–	–	○	Internal wiring/piping specifications: 1500 mm/ISO5/with 3-axis OP
23			–	○	–	Internal wiring/piping specifications: 1500 mm/ISO5/with 2nd arm OP
24			–	○	○	Internal wiring/piping specifications: 1500 mm/ISO5/with 2nd arm OP, with 3-axis OP

Specification to be selected

	Reach	Environmental resistance	Solenoid valve OP	2nd arm OP	3-axis OP	Product name
25	1800	IP40	–	–	–	Internal wiring/piping specifications: 1800 mm/IP40
26			–	–	○	Internal wiring/piping specifications: 1800 mm/IP40/with 3-axis OP
27			–	○	–	Internal wiring/piping specifications: 1800 mm/IP40/with 2nd arm OP
28			–	○	○	Internal wiring/piping specifications: 1800 mm/IP40/with 2nd arm OP, with 3-axis OP
29			○	–	–	Internal wiring/piping specifications: 1800 mm/IP40/with solenoid valve
30			○	–	○	Internal wiring/piping specifications: 1800 mm/IP40/with 3-axis OP, with solenoid valve
31			○	○	–	Internal wiring/piping specifications: 1800 mm/IP40/with 2nd arm OP, with solenoid valve
32			○	○	○	Internal wiring/piping specifications: 1800 mm/IP40/with 2nd arm OP, with 3-axis OP, with solenoid valve
33		IP67	–	–	–	Internal wiring/piping specifications: 1800 mm/IP67
34			–	–	○	Internal wiring/piping specifications: 1800 mm/IP67/with 3-axis OP
35			–	○	–	Internal wiring/piping specifications: 1800 mm/IP67/with 2nd arm OP
36			–	○	○	Internal wiring/piping specifications: 1800 mm/IP67/with 2nd arm OP, with 3-axis OP
37			○	–	–	Internal wiring/piping specifications: 1800 mm/IP67/with solenoid valve
38			○	–	○	Internal wiring/piping specifications: 1800 mm/IP67/with 3-axis OP, with solenoid valve
39			○	○	–	Internal wiring/piping specifications: 1800 mm/IP67/with 2nd arm OP, with solenoid valve
40			○	○	○	Internal wiring/piping specifications: 1800 mm/IP67/with 2nd arm OP, with 3-axis OP, with solenoid valve
41		Clean ISO5	○	–	–	Internal wiring/piping specifications: 1800 mm/ISO5/with solenoid valve
42			○	–	○	Internal wiring/piping specifications: 1800 mm/ISO5/with 3-axis OP, with solenoid valve
43			○	○	–	Internal wiring/piping specifications: 1800 mm/ISO5/with 2nd arm OP, with solenoid valve
44			○	○	○	Internal wiring/piping specifications: 1800 mm/ISO5/with 2nd arm OP, with 3-axis OP, with solenoid valve
45			–	–	–	Internal wiring/piping specifications: 1800 mm/ISO5
46			–	–	○	Internal wiring/piping specifications: 1800 mm/ISO5/with 3-axis OP
47			–	○	–	Internal wiring/piping specifications: 1800 mm/ISO5/with 2nd arm OP
48			–	○	○	Internal wiring/piping specifications: 1800 mm/ISO5/with 2nd arm OP, with 3-axis OP

4 Power cable

Select from two types [Select Required]

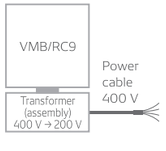

RC9 Controller

① Power cable 200 V
② Power cable 400 V

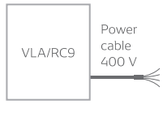
	Product name
1	AC power cable (200 V, 10 m)
2	AC power cable (400 V, 10 m)

■VMB (without transformer)
Select 200V power cable.

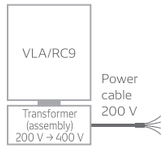
■VMB (shipped with transformer assembly)
Select 400V power cable.



■VLA (without transformer)
Select 400V power cable.



■VLA (shipped with transformer assembly)
Select 200V power cable.



Options

High performance teaching pendant

Smart TP

Smart TP is a high performance teaching pendant that can be used in a variety of situations, such as configuring robot settings, teaching, and serving as an HMI.



Features

Large touch panel

Smart TP runs on Windows 10 and features a large 10.1" screen for improved operability.

Splashproof with IP65 protection rating

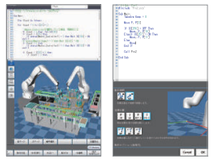
Improved GUI increases work efficiency

Easy-to-read menu structure and user-friendly operation. The GUI and various functions have been improved, and workers can check simulations related to the introduction of the robot on the pendant to reduce work time.

Functions

RC8 compatible UI

Compatible with the existing RC8 controller, maintaining the legacy development environment and ensuring operability.



WINCAPS Plus UI

Compatible with the GUI of "WINCAPS Plus," an Offline Programming Software group.



Customizable control panel screen

Screens created by TwinCAT3 HMI web can be displayed.



Applications

As a teaching pendant

Smart TP is equipped with a teaching function that allows each axis of the robot to be adjusted.



As an HMI

It can be used as an indicator not only for robots but for the entire facility.



Specifications

Size	10,1" (16:10)
Resolution	WXGA 800×1,280 pixels
Touch screen	Transmissive capacitance type
Backlight	LED
Dimensions (L x W x H)	215×284×69mm
Weight	Approx. 1,120 g

VMB Series Specifications and Dimensions

Specifications

Robot name			VMB-2515	VMB-2518
Number of axes			6	
Drive motor/brake			All axes AC servo motor/All axes with brake	
Total arm length (Arm 1 + Arm 2) [mm]			1395 (710+685)	1695 (860+835)
Maximum operating area [mm]			1506 (Point P: 4th, 5th, 6th axis center)	1804 (Point P: 4th, 5th, 6th axis center)
Operating range [°]		1st axis	-170 ~ 170*1	
		2nd axis	-100 ~ 140	
		3rd axis	-130 ~ 170	
		4th axis	-200 ~ 200	
		5th axis	-145 ~ 145	
		6th axis	-360 ~ 360	
Maximum payload [kg]			25	
Position repeatability (at the center of an end-effector mounting face) [mm]*2			In each of X, Y and Z directions: ±0.05	
Maximum allowable moment [N·m]		Around 4th	52	
		Around 5th	52	
		Around 6th	32	
Air piping	2nd arm unit	Without option	2 systems (φ8 × 2)	
		With option	1 system (φ8 × 1) Solenoid valves dedicated 8 systems(φ6 × 8) - Select a combination of solenoid valves from a, b and c. a. 2-position, Double Solenoids b. 3-position, Exhaust Center Solenoids c. 3-position, Closed Center Solenoids	
	3-axis unit	Without option	0	
		With option	1 system (φ8 × 1)	
Signal line, Ethernet	2nd arm unit	Without option	Signal line : 15 Ethernet cable : 1	
		With option	Signal line : 15 + 10*3 Ethernet cable : 1 + 1	
	3-axis unit	Without option	Signal line : 0	
		With option	Signal line : 10	
Air source [MPa]		Operating pressure	0.20~0.39	
		Allowable maximum pressure	0.49	
Noise (Equivalent continuous A-weighted sound pressure level) [dB]			75	
Protection class			Standard type : IP40 Protected Type : IP67	
Clean level (ISO 14644-1)			Class 5 (Cleanroom type)	
Pollution degree*4			Standard type : 2*5 Protected Type : 3 Cleanroom Type : 2	
Main unit weight [kg]			Approx. 230	Approx. 250

*1 : The movable range is narrower if the unit is installed on a wall or tilted. *2 : Position repeatability is the accuracy at constant ambient temperature. *3 : The allowable current is limited.
*4 : Compliant with IEC 60664-1. *5 : Pollution degree 2 environment is equivalent to home and office areas.

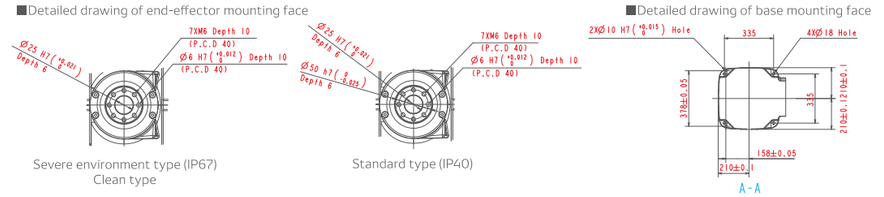
Legend

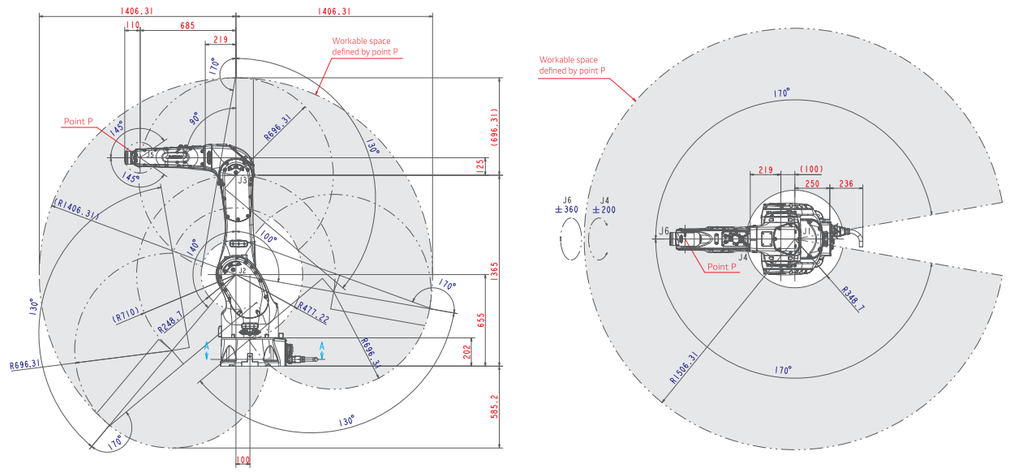
VMB - □□□□□□

- Maximum payload : 25 : 25kg
- Total arm length : 15 : 1506mm, 18 : 1804mm
- Environmental Resistance : - : Standard Type (IP40), W7 : Protected Type (IP67), C5 : Cleanroom Type (ISO class 5)

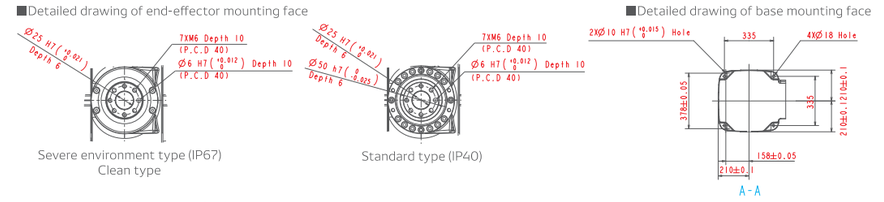
Dimensions

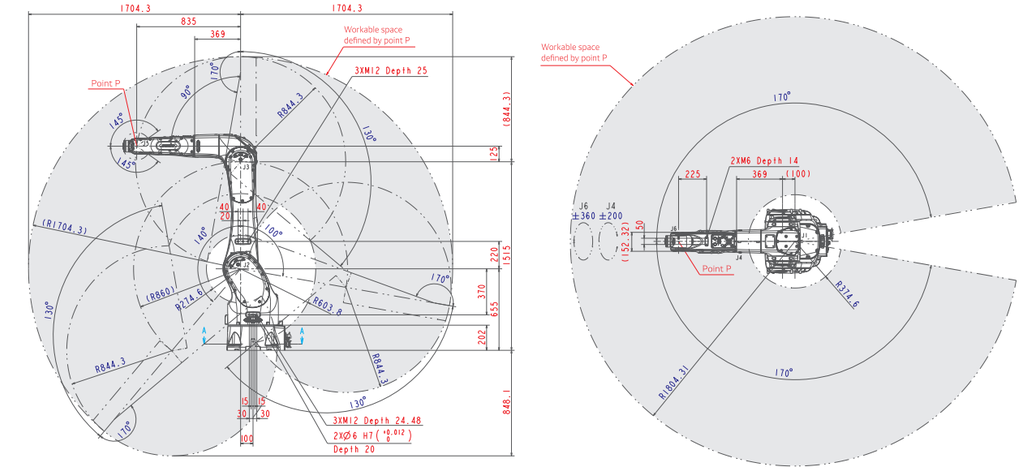
VMB-2515





VMB-2518





*The appearance and specifications of the product are subject to change without notice for improvement.

VLA Series Specifications and Dimensions

Specifications

Robot name		VLA-4025	VLA-6022
Number of axes		6	
Position detection system		Absolute Encoder	
Drive motor/brake		All axes AC servo motor/All axes with brake	
Total arm length (Arm 1 + Arm 2) [mm]		2085.5 (860+1225.5)	1835.5 (860+975.5)
Maximum operating area [mm]		2503 (Point P: 4th, 5th, 6th axis center)	2257 (Point P: 4th, 5th, 6th axis center)
Operating angle [°]	1st axis	-180 ~ 180*1	
	2nd axis	-60 ~ 125	
	3rd axis	-160 ~ 0	
	4th axis	-2700 ~ 2700*4	
	5th axis	-123 ~ 123	
	6th axis	-2700 ~ 2700*4	
Maximum payload [kg]		40	60
Position repeatability (at the center of an end-effector mounting face) [mm]*2		In each of X, Y and Z directions: ±0.06	
Maximum allowable moment [N·m]	Around 4th	167	221
	Around 5th	167	221
	Around 6th	98	118
Air piping		1 system (inner diameter: φ12.5)	
Signal line		14-core (19-core connector)	
		15-core (17-core connector)*3	
Air source [MPa]	Allowable maximum pressure	2.0	
Noise (Equivalent continuous A-weighted sound pressure level) [dB]		75	
Protection class		Main unit: IP65 / Wrist: IP67	
Main unit weight [kg]		Approx. 655	Approx. 645

*1 : The operating angle is limited when the robot is installed at an angle. *2 : Position repeatability is the accuracy at constant ambient temperature.
*3 : Can be used as PROFIBUS / PROFINET / DeviceNet using wiring. *4: 800(±400) at the factory default settings.

Legend

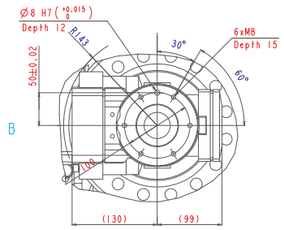
VLA - □□□□ W5

- Maximum payload: 40 : 40kg, 60 : 60kg
- Total arm length: 25 : 2503mm, 22 : 2257mm
- Environmental Resistance: Main unit: IP65 / Wrist: IP67

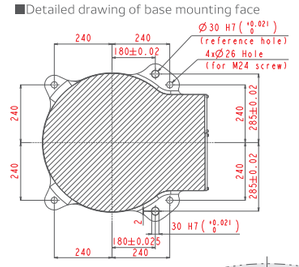
Dimensions

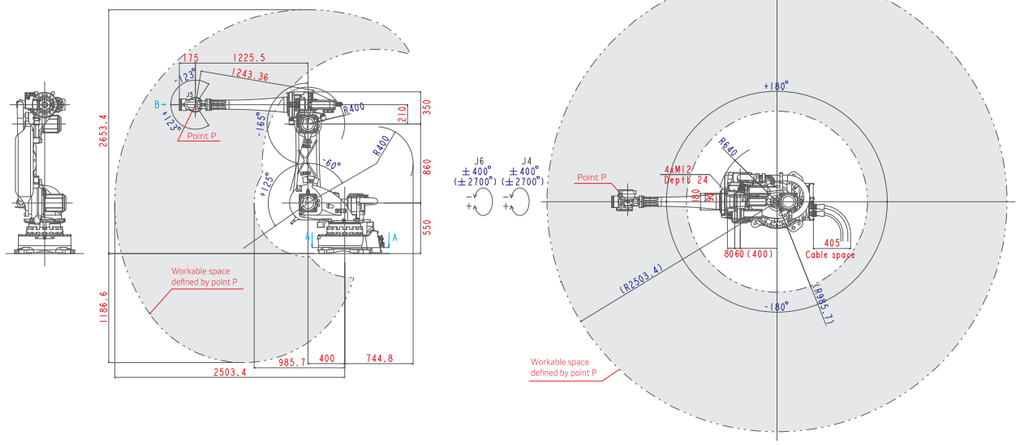
VLA-4025

■Detailed drawing of end-effector mounting face



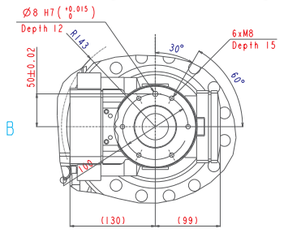
■Detailed drawing of base mounting face



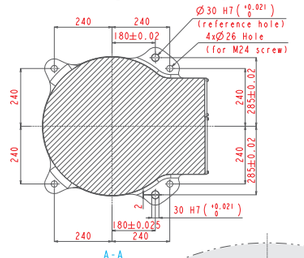


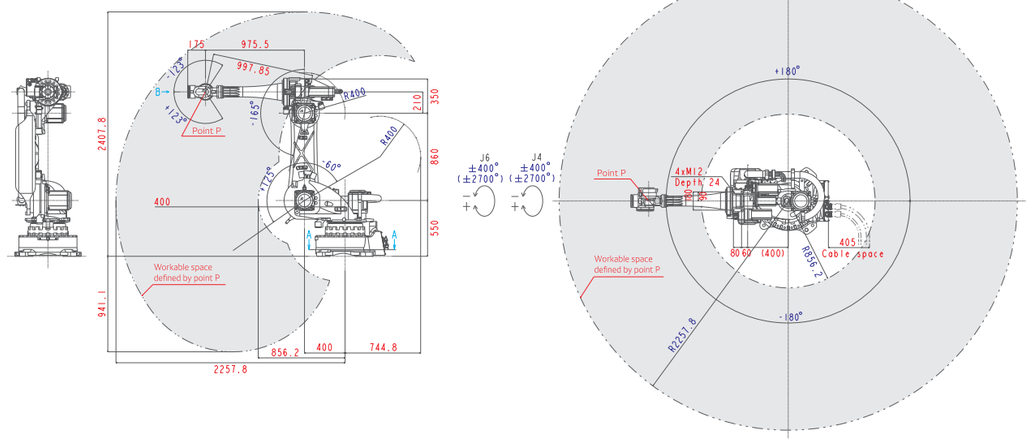
VLA-6022

■Detailed drawing of end-effector mounting face



■Detailed drawing of base mounting face





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