

FANUC Robot M-1*i*A



FEATURES

FANUC Robot M-1*i*A is a light weight and compact high speed assembly robot.

- Light weight and compact mechanical unit enables to install to narrow space. Free angle installation is also acceptable.
- Provide variety on degree of freedom at wrist and operating area to meet different application request.
 - Robot total 6 axes
3 axes in wrist, the flexible wrist motion is suitable for assembling.
 - Robot total 4 axes
Single axis in wrist, high speed 3000deg/s wrist is suitable for picking.
 - Robot total 3 axes
Total 3 axes and 1kg payload robot, this model is suitable for high speed picking of plenty work pieces on the conveyor.
 - Long arm type
Covers more wider operating area with longer arm.
- Unique parallel link mechanism enables quick motion.
- Selectable installation type of no stand, desktop stand and ceiling mount. It makes easy integration into a machine.
- A camera for *i*RVision (integrated vision) can be integrated in the mechanical unit.

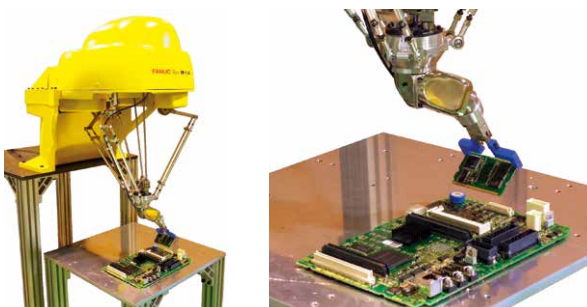
Application Examples



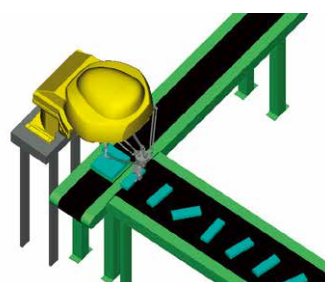
Key board assembling



Screwing



Circuit board insert



Contact lens product packaging

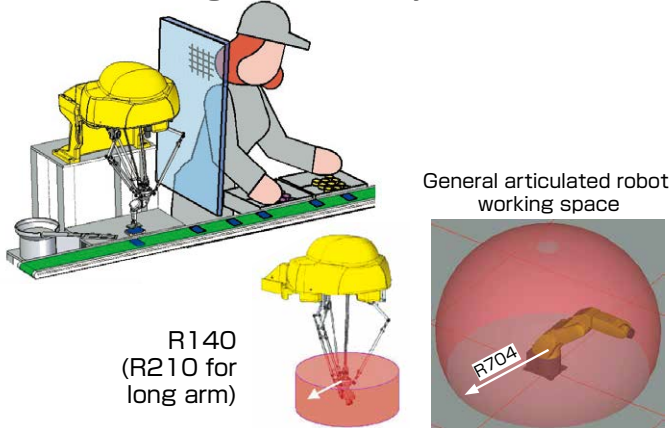


Set lens on the LED illuminator

Compact, Flexibility, High speed and Intelligence

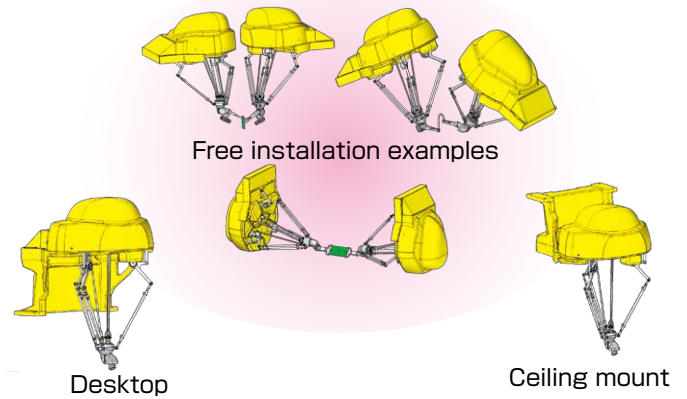
Space saving

Work envelope is closed around operation object so that the total installation space can be minimized. It enables to place the robot and the worker along the manufacturing line effectively.



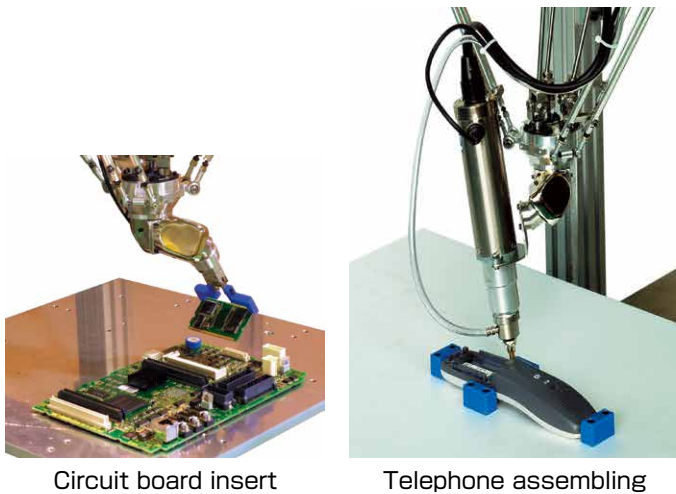
Free installation

The stand is selectable and reversible, and the robot installation direction can also be free. Therefore, it increases flexibility for the robot integration into a machine.



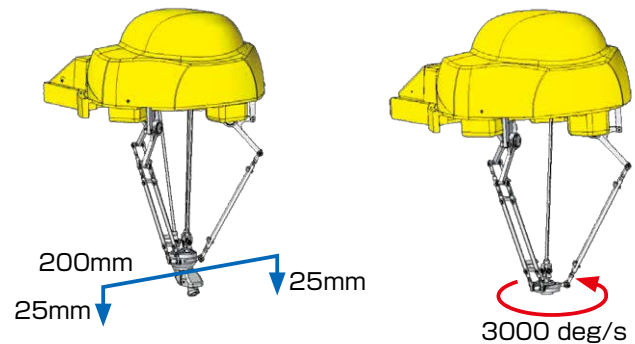
Complex assembling

The new six axes parallel link configuration enables complex assembling application.



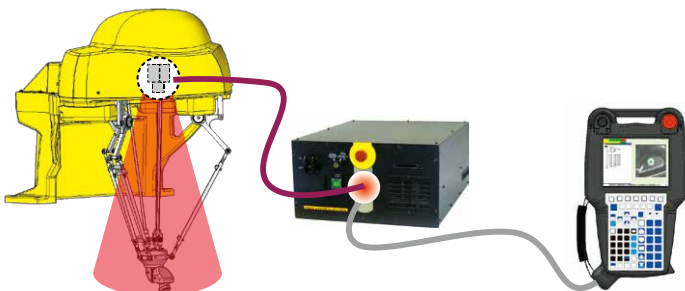
High speed motion

The high speed motion increases productivity. 25-200-25mm pick and place motion time is 0.3 sec. The rotation axis of four axes type rotates 3000deg/s. It makes to change the work pieces direction quickly.



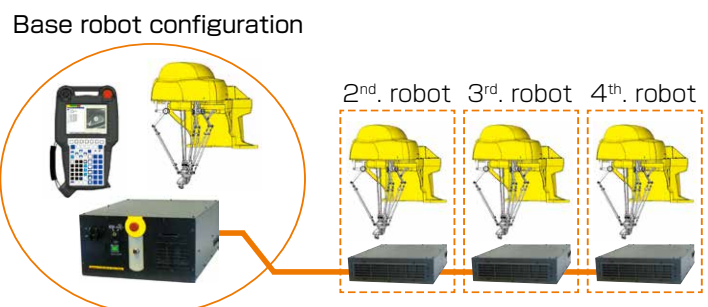
Integrated Vision

A camera for *i*RVision (integrated vision) can be integrated in the mechanical unit.(option) Integrated hardware realizes high reliable image processing. Tight integration between vision and robot functions enables advanced robot control.



Multi-arm control

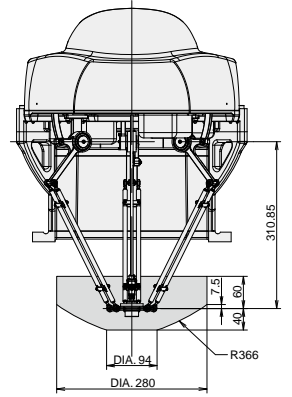
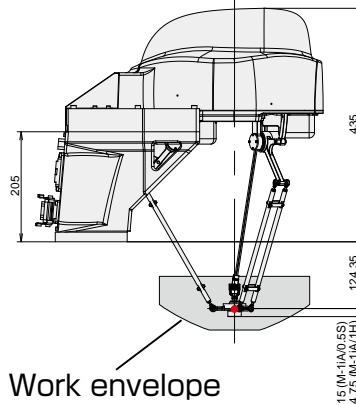
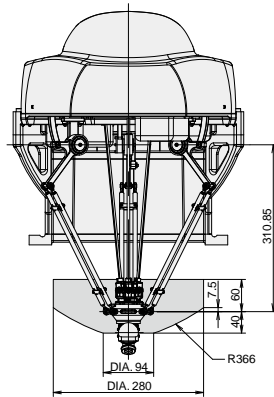
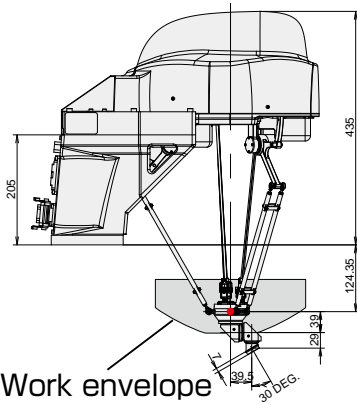
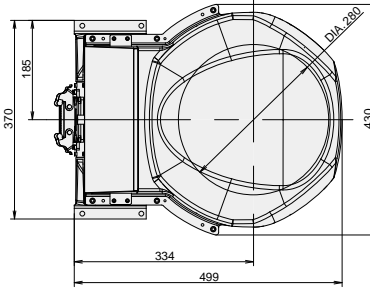
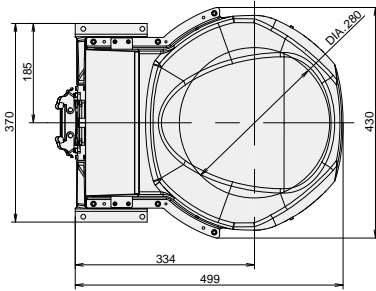
The controller can control maximum four robots. Additional robots configuration is very simple, such as mechanical unit and amplifier box combination.



Operating space

M-1iA/0.5A

M-1iA/0.5S, M-1iA/1H



Work envelope
(● part motion)

Work envelope
(● part motion)

Specifications

| Model | | M-1iA/0.5A | M-1iA/0.5S | M-1iA/1H |
|--|-------|---|---|-------------------------|
| Type | | Parallel link mechanism | | |
| Controlled axes | | 6 axes (J1,J2,J3,J4,J5,J6) | 4 axes (J1,J2,J3,J4) | 3 axes (J1,J2,J3) |
| Installation | | Floor, angle and ceiling mount | Floor and ceiling mount | Floor and ceiling mount |
| Motion range (Maximum speed) Note 1) | J1-J3 | Diameter 280 mm, height 100 mm | | |
| | J4 | 720° (1440°/s) 12.57 rad (25.13 rad/s) | 720° (3000°/s) 12.57 rad (52.34 rad/s) | — |
| | J5 | 300° (1440°/s) 5.24 rad (25.13 rad/s) | — | — |
| | J6 | 720° (1440°/s) 12.57 rad (25.13 rad/s) | — | — |
| Max.payload at wrist | | 0.5 kg (1 kg with an option) | | 1 kg |
| Repeatability Note 2) | | ±0.02 mm | | |
| Drive method | | Electric servo drive by AC servo motor | | |
| Mass Note 3) | | 17 kg | 14 kg | 12 kg |
| Installation environment | | Ambient temperature : 0 to 45°C Ambient humidity Normally : 75%RH or less (No dew, nor frost allowed) Short term : Max. 95%RH or less (within one month) Vibration : 4.9m/s ² (0.5G) or less | | |

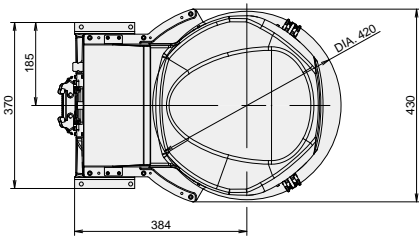
Note 1) During short distance motions, the axis speed may not reach the maximum value stated.

Note 2) Compliant with ISO9283.

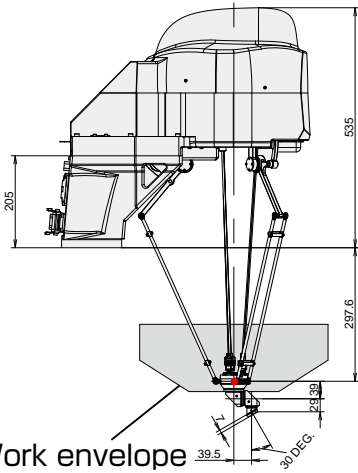
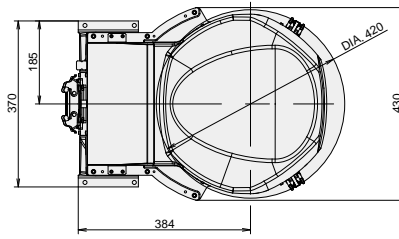
Note 3) In case of "No stand"

Operating space

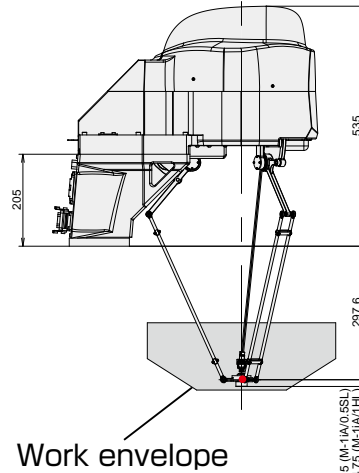
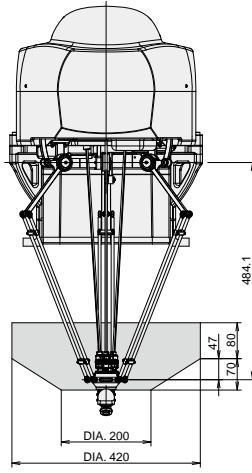
M-1iA/O.5AL



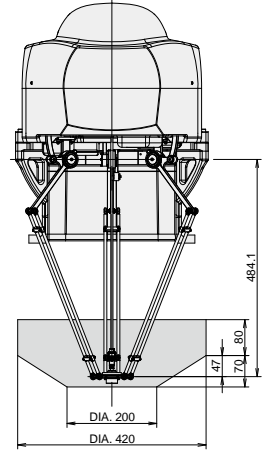
M-1iA/O.5SL, M-1iA/1HL



Work envelope (●part motion)



Work envelope (●part motion)



Specifications

| Model | | M-1iA/O.5AL | M-1iA/O.5SL | M-1iA/1HL |
|--|-------|---|---|-------------------------|
| Type | | Parallel link mechanism | | |
| Controlled axes | | 6 axes (J1,J2,J3,J4,J5,J6) | 4 axes (J1,J2,J3,J4) | 3 axes (J1,J2,J3) |
| Installation | | Floor, angle and ceiling mount | Floor and ceiling mount | Floor and ceiling mount |
| Motion range (Maximum speed) Note 1) | J1-J3 | Diameter 420 mm, height 150 mm | | |
| | J4 | 720° (1440°/s) 12.57 rad (25.13 rad/s) | 720° (3000°/s) 12.57 rad (52.34 rad/s) | — |
| | J5 | 300° (1440°/s) 5.24 rad (25.13 rad/s) | — | — |
| | J6 | 720° (1440°/s) 12.57 rad (25.13 rad/s) | — | — |
| Max.payload at wrist | | 0.5 kg (1 kg with an option) | | 1 kg |
| Repeatability Note 2) | | ±0.02 mm | | |
| Drive method | | Electric servo drive by AC servo motor | | |
| Mass Note 3) | | 20 kg | 17 kg | 15 kg |
| Installation environment | | Ambient temperature : 0 to 45°C Ambient humidity Normally : 75%RH or less (No dew, nor frost allowed) Short term : Max. 95%RH or less (within one month) Vibration : 4.9m/s ² (0.5G) or less | | |

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Note 3) In case of "No stand"

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