YUSHIN

RC-SE series
Product Take-out Robot

Yushin, through all of our business activities and the application of earth-friendly, ergonomic technologies, promotes a healthy coexistence with the planet.

Contact us

YUSHIN

YUSHIN PRECISION EQUIPMENT CO., LTD.

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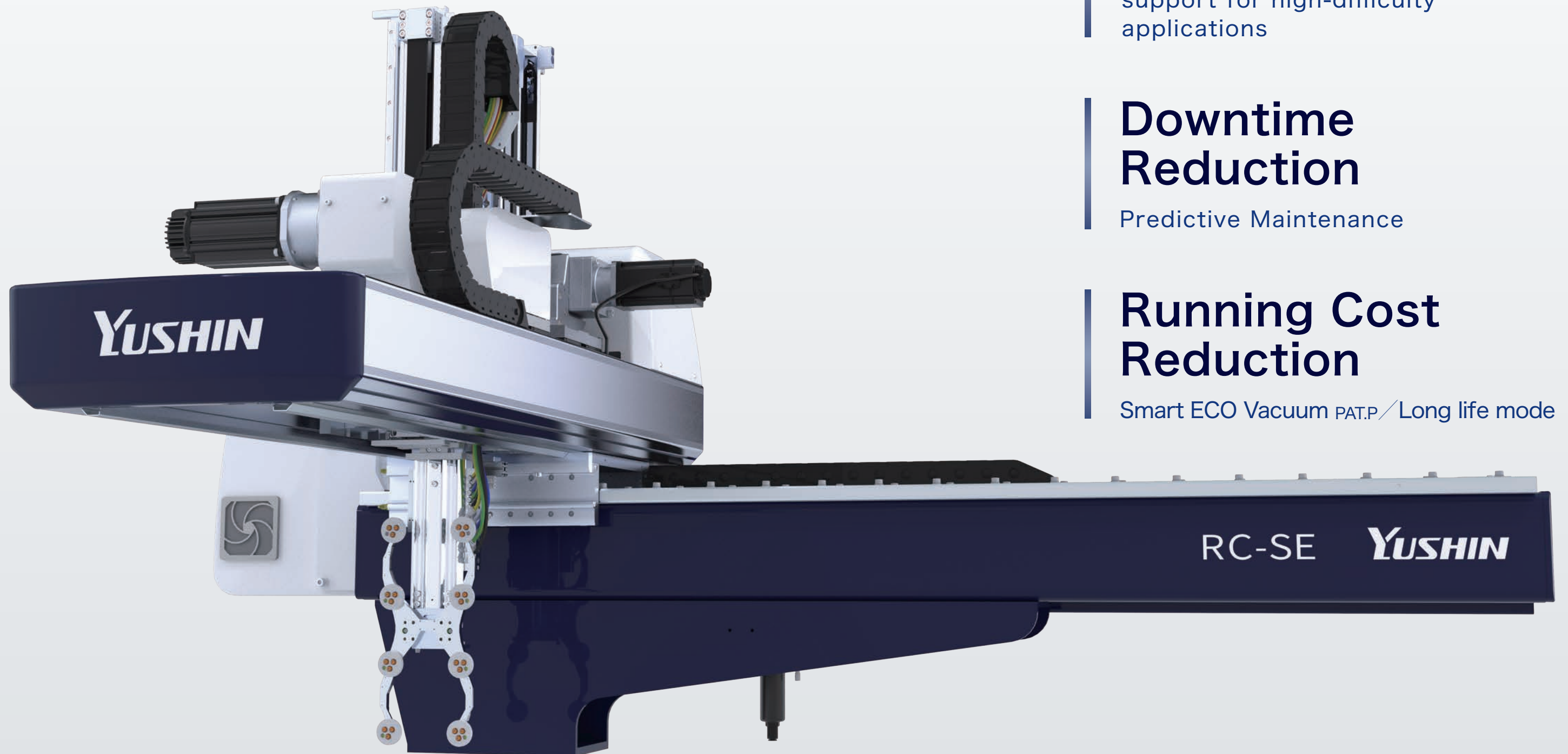**YUSHIN PRECISION EQUIPMENT CO., LTD.**

A wide range of scalable functions

RC-SE CONCEPT

High-speed, High-rigidity

Productivity improvement and support for high-difficulty applications

Downtime Reduction

Predictive Maintenance

Running Cost Reduction

Smart ECO Vacuum PAT.P／Long life mode
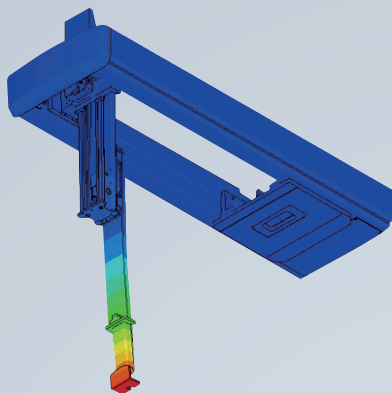
A wide range of scalable functions

RC-SE SERIES

High-speed, High-rigidity

Productivity Improvement

Faster, more accurate high-speed take-out with standard machines

High-rigidity vertical and kick units ensure fast, accurate operations.
This makes it possible to work with difficult moldings that require high accuracy, such as insert and gate cutting.

All-axis Optimized Vibration Control

Vibration control function is enhanced by adopting the vibration control, which has been used only in the kick axis, also in the traverse axis and the vertical axis as in the FRA series, the flagship models of Yushin. This reduces waiting time (timer) involved in not only take-out motions but also release motions, workpiece receipt, and other various situations, leading to reduction in cycle time. The fine adjustment capability of the robot provides compatibility with a wide variety of end-of-arm tools.

Auto Tuning

Automatically sets ejector ejection timing and post-product-take-out kick start timing to optimum values.
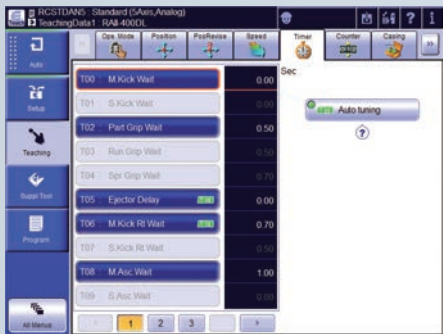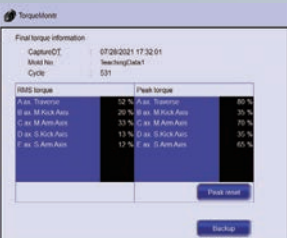
Downtime Reduction

Predictive Maintenance

Torque Monitor

The torque monitor is useful for checking the axial motor torque during operation. Using regular backups makes it possible to check for signs of failure or wear in drive system components.
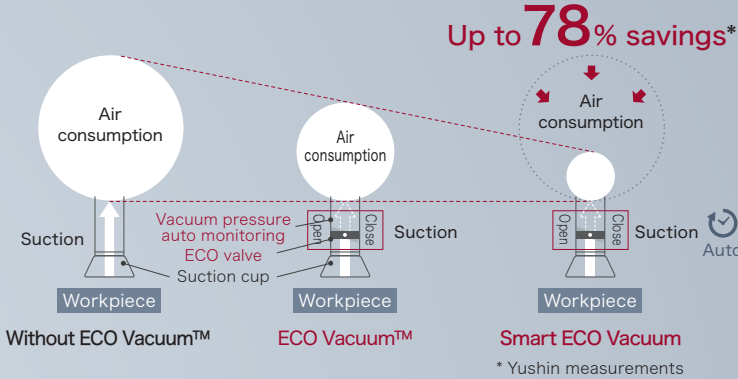
Error Log

The error log screen shows the input/output status, axis positions, direction of motion, axial motor torque, and other data from when the error occurred. This allows users to get a clear picture of the situation when an error occurs.
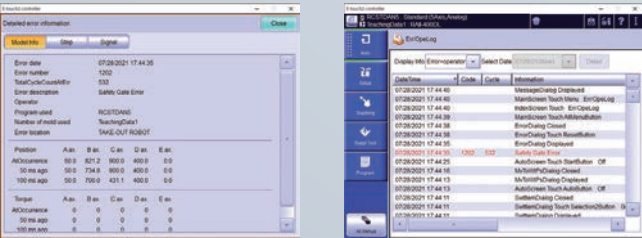
Running Cost Reduction

Compressed Air Economizing Tool Smart ECO Vacuum [PAT.P]

Yushin has refined our unique ECO Vacuum™ technology to reduce compressed air consumption even further. Smart ECO Vacuum monitors vacuum pressure continuously to optimize suction timing. As a result, robot air consumption can be economized by as much as 78%, which can lead to lower electricity costs for air compressors and reduced capital expenditures.

Up to **78**% savings*

Air consumption

Air consumption

Air consumption

Suction

Vacuum pressure auto monitoring ECO valve
Suction cup

Suction

Suction Auto

Workpiece

Workpiece

Workpiece

Without ECO Vacuum™

ECO Vacuum™

Smart ECO Vacuum

* Yushin measurements

- Lowers electricity cost for air compressors
- Reduces equipment cost
- Helps protect the environment

Long life mode

Automatically slows down the traverse speed of the take-out robot to an extent that does not affect the next molding machine cycle so that lifetime of the guide shaft and the timing belt is lengthened. This also reduces power consumption (by 5% in Yushin measurements).

Intuitive and easy to use

IP44-compliant, durable model with enhanced operability

Easy-to-use **E-touch Ⅱ** controller with 10.4-inch display for intuitive operation

Large, Highly Visible Monitor
● 10.4 inch, full-color touch panel

Extra Tough Construction
● Rubber shock panels on each side of the controller help cushion accidental drops.
● IP44* Rating for Dust and Moisture Resistance

* International IP (Ingress Protection) Rating

Easy Operation
● Directional pad makes navigating easy.
● Settings and menus are icon-based.
● Audio Guidance gives vocal cues to support complex operations.

Solids Rating: 4 (protection from tools, small wires, etc. with a diameter or thickness greater than 1.0mm)
Moisture Rating: 4 (all-around protection from splashed water)

Abundant Standard Features

Smart ECO Vacuum `PAT.P`

Yushin's ECO Vacuum™ technology has been developed to offer greater reductions in air consumption. Smart ECO Vacuum optimizes the vacuum timing through constant monitoring of the vacuum pressure. With reductions in air consumption of up to 78%, electricity costs for air compressors can be reduced for greater reductions in equipment costs.

Release Side Slow Down

User can select fast/medium/slow speed setting for the product release operation, so the robot arm descends smoothly. The setting can help reduce vibrations when products are released.

Lead Through Teaching

Operators can add take-out robot motions through one-cycle operations of motion points and timers just like with teaching. This function gives operators the ability to add positions and teach motions to the robot.

Maintenance Management

Allows management of 16 items (history and timing for the next maintenance of each item).

Reject Circuit

After receiving a reject signal from the molding machine, robot releases the defective part at a designated position separate from the ordinary parts.

Undercut Motion

Up to 3 additional teaching positions may be programmed in order to take-out products from an under-cut mold.

Stationary Side/MovableSide Selection

Select whether to take-out parts from stationary side or moveable side of mold.

Additional Product Grip Circuits

Standard equipment : one circuit. Additional circuits are available as options.

User-definable Motion Prohibition Area

The molding machine's tie bar and the safety door area can be set as descent-prohibited areas.Additionally, up to four motion prohibition areas can be set, which the user cannot include in teaching and where the robot stops in error before starting a motion that involves passing through the prohibited area.

Interpolated Motion

This function controls the arm motion so that when two or three axes are moved at the same time, the tip of the arm's trajectory is straight.This makes teaching gate cutting easy.

Weight Setting

Allows setting a total weight of a molded product(s) and an end-of-arm tool(s), enabling fine vibration control.

Initial Shots Discharge Motion

At the start of auto operation, for a set number of shots, the robot automatically places parts at a designated position separate from the ordinary parts.

Flip on Traverse

Traverse and wrist flip motions are performed simultaneously to shorten the robot's overall cycle time.

Wait for Descent Order

When downstream machinery is not ready, the robot waits for a set interval for the Descent Order signal to turn ON. If it does not receive the Descent Order, the user may mode-select whether the robot immediately error-stops, or if it continues the cycle and releases parts to the reject drop point.

Additional Sprue Grip Circuits

Operator may determine the sprue release position via a mode-select. Standard equipment : one circuit. Additional circuits are available as options.

Take-out Robot Simulator

This software allows operators to check the programmed robot motions on the screen of their controller or PC. This decreases the time required for programming and improves labor efficiency while ensuring safety and reducing set up time.

Motion Chart `PAT.`

Motion in progress is displayed with a 3D model and arrows for easy understanding. Teaching can be changed from the Chart screen.

Production Monitor

Displays logs of production data such as quantity of products handled and cumulative operating hours. It also forecasts time required to produce a target number of products.

Sampling Motion

During auto operation, the robot will release products at a Sample Release position once per every set number of molding cycles.

Wait on Traverse

While the mold is closed, if the robot is unable to wait above the mold (due to obstacles, etc), a second wait position may be designated at another point along the traverse axis.

Bilingual Display

The robot comes standard with Japanese + 1 language (selected from 16 languages).
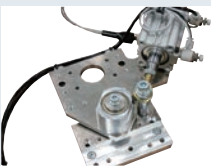
Options

■ External Beam-Mounted Nipper Unit

After removal from the mold, the robot can insert gated product s into this beam-mounted nipper unit which separates the gate from the products.

■ Vertical Wrist Rotation Unit

Adding this unit to the wrist-flip mechanism allows the orientation of release products to be changed from 0 to 90 degrees.

■ EOAT Quick-Change Unit

Unit which allows instant attachment/detachment of end-of-arm tool (EOAT). Enables fully automatic (robot-performed) removal or exchange of EOAT.

■ Horizontal Wrist Rotation Unit

Adding this unit to the main arm wrist allows the orientation of released products to be changed.

Other Options

*Option not available for all model sizes. Consult a sales agent for more information.

Option Name	Description
Modified vertical stroke	The vertical stroke can be extended.
Additional Vacuum Circuits Add Release Points	Up to 4 additional vacuum circuits (4 additional release positions) may be added to the one standard-equipped circuit.
Additional Product Grip Circuits	1 or 3 optional grip circuits may be added to the single standard-equipped circuit for a total of 1 or 4 product grip circuits.
Pitch Revise Circuit	Allows operator to specify pitch of parts gripped by the end-of-arm tool.
Sprue Cut Circuit	Allows nippers on-board the end-of-arm tool to cut sprues. May not be equipped together with EOAT Gate Cut Circuit option.
EOAT Gate Cut Circuit	Enables cutter within EOAT to approach and cut the gate of a part. May not be equipped together with Sprue Cut Circuit option.
On-Traverse Runner Cut Unit	Cuts runners at an on-traverse position to facilitate placing runners into the granulator.
Soft-Grip Circuit	Adds a pressure reducing valve to soften gripper strength and prevent deformation of molded products.
EOAT Quick Release Fitting	Allows fast and easy manual attachment/detachment of end-of-arm tool (used in a set: robot half and tool half).
Signal Light	Robot status indicator lights. Available in single red, single yellow, or tower (red + yellow + green) models.
Ascent Limit Product Verification (LS specification)	After product take-out, product presence is verified at the ascent limit position by an external limit switch.
Traverse Beam Stanchion*	A support stanchion is installed under extended-length traverse beams, or when extra precision is necessary when releasing parts.
Increased Wrist Flip Torque*	High-power wrist for heavy tools or tools that are mounted with large offsets from center.
Custom Color (customer-specified)	The robot body, NC box, and controller box are painted with a single color specified by the customer.
Pause for Mold Open	Used for manual ejection of molded parts.
Cleanroom-Grade Grease (customer-specified)	Robot will be lubricated with the customer's choice of cleanroom-approved grease.
Controller Screen Protector Sheet	A transparent screen protector sheet for the touchscreen (all robots ship with 1 sheet as standard equipment).
Dropped Product Detection	After taking-out products, robot continuously verifies its hold on the products until it finally releases them.
Stop at Ascent Limit after Take-out Failure	If a take-out failure occurs during auto operation, robot ascends to vertical limit and error stops. (Standard robot completes 1 full cycle before stopping.)
Low Air Pressure Detection	Robot displays error and stops immediately if air supply pressure drops below a set value.
Communication with Molding Machine	Robot communicates mold numbers and other information with the molding machine to automatically sychronize set-up data.
EUROMAP Interface	An interface compliant with EUROMAP 12 or 67.
Bilingual Display	Allows users to select the language displayed on the robot's controller. For more information, please consult your local Yushin sales representative.
Integrated Casing Counter Reset	Interface with stocker unit which, when stocker returns to its home position, instructs robot to reset its casing counter and resume casing from position 1.
8-Pin Stocker Unit Connector	Metal connector which allows robot to interface with Yushin-made stocker unit.
Pre-Gate Cut Wrist Flip	Mode where robot wrist flips prior to gate-cut sequence.
4-Position Gate Cut	User can set up to 4 gate-cut sequences, each with a different wait position prior to gate-cut approach (up to 3 wait positions may be set).
Free Casing Setting	Up to 250 release positions may be designated per pallet.
Centralized Manual Lubrication System	Delivers lubricant from central hand pump to necessary areas.
Centralized Automatic Lubrication System(per shot count)	Delivers lubricant from central electric pump to necessary areas. Frequency of lubrication can be set via programming.
Compact Flash	Includes a Compact Flash slot for backing up data.

Highly Advanced Capability

Options highly adaptable to molding systems required to have in creasingly advanced capability while achieving high quality are available

Flexible Teaching System (Windows Ver.)

Flexible Teaching is professional-use programming software that allows users to create/make detailed modification (e.g. interlocks and error processing settings) of operation programs for all-axis servo driven take-out robots with ease.

Supported languages
・Japanese ・English ・Chinese

Features of Flexible Teaching System (Windows Ver.)

▌ Multi-functional

Not only "motions of auto operation" but also functions such as "interlocks" and "error processing" are programmable. Applicable to a wide variety of systems.
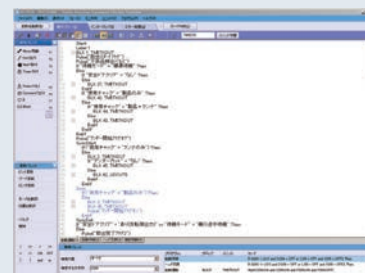
▌ Easy programming using flowchart

Programs can be created using only flowcharts. This leads to significant reduction in learning time.

▌ Programmable Using Visual-Basic-like Codes

Programs can be edited using codes of the same type as Visual Basic widely known as a programming language.
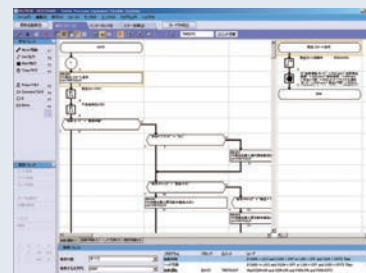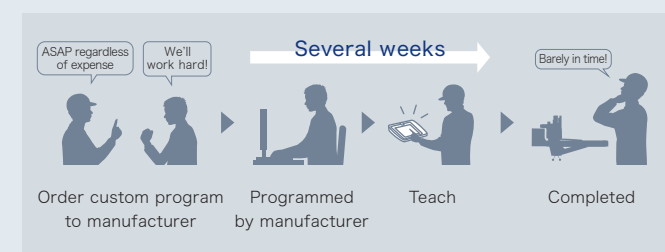
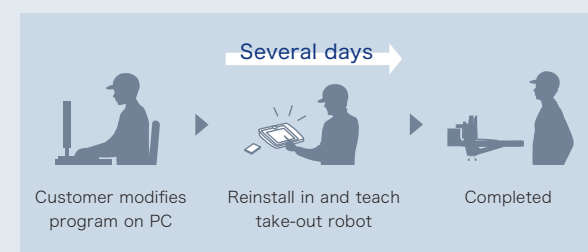▲ Take-out robot flowchart screen   ▲ Code entry screen

We offer training classes for Flexible Teaching. For more information, please contact your local Yushin sales representative.

Need to add/modify motions of take-out robot!

Without Flexible Teaching

ASAP regardless of expense   We'll work hard!

→ Several weeks   Barely in time!

Order custom program to manufacturer | Programmed by manufacturer | Teach | Completed

With Flexible Teaching

→ Several days

Customer modifies program on PC | Reinstall in and teach take-out robot | Completed
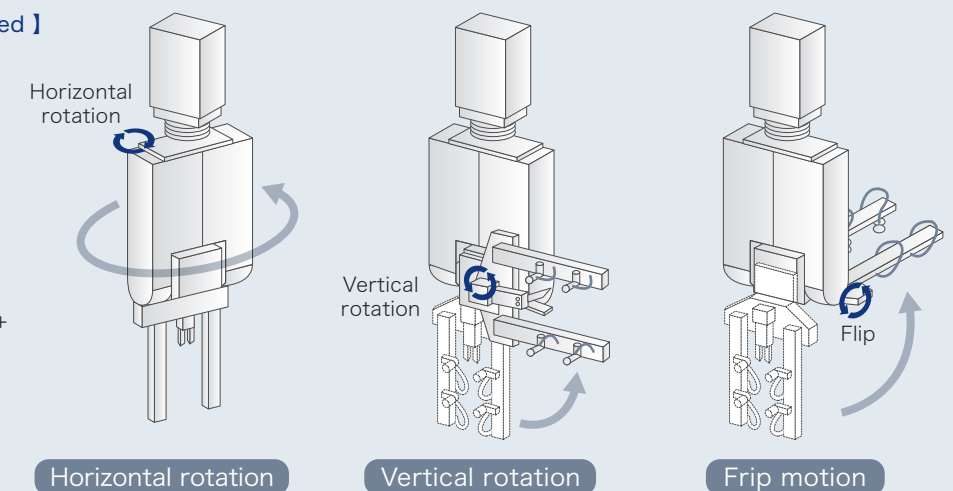
Servo Wrist Unit [PAT.]

This feature enables flexible handling of inserts and molded products with the same freedom as articulated robots. The ease of coordination with various subsequent processes can promote future automation.

【 Up to 3 axes can be combined 】

Servo motor-driven
3-axis type : Horizontal rotation + Flip + Vertical rotation

2-axis type : Horizontal rotation + Flip, Vertical rotation + Flip

1-axis type : Horizontal rotation + Air driven flip + Flip

Horizontal rotation

Vertical rotation

Flip

Horizontal rotation   Vertical rotation   Frip motion

Applications

#### Handling take-out and cutting of differently-shaped products with teaching only

Adjustment by Servo Wrist Unit is controller-operated teaching, which allows changeovers by simply calling data. The Servo Wrist Unit can easily handle gate and sprue cutting, where cutting positions are difficult to adjust, in addition to taking out products of different and complex shapes from each mold.

Simplified adjustment with a controller

Controller-based adjustment

Taking out products from under-cut molds

The orientation of the end-of-arm tool inside the mold when taking out the product can be freely adjusted by teaching the motions using the controller.
Products that need under-cutting can be smoothly taken out by setting the position and orientation in the robot program.
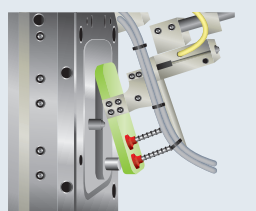
Under-cut product take-out

Taking out large, complex-shaped products and products with a right or left side

The Servo Wrist Unit allows users to set individual release positions by changing the orientation and angle of the product. Even large, complex-shaped products, such as automobile lights and interior parts, can be stably released. When boxing parts intended to be used for the right or left side of an assembly, by having the robot release the left side, change direction and angle, and then release the right side, mix-up of products can be prevented, increasing production efficiency.
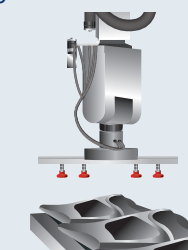
Taking out large molded products

Making inspections, cutting, and other subsequent processes simple

The freedom to change product orientation alleviates the need for multiple pieces of equipment or adjustment mechanisms for subsequent processes, such as multi-point vision inspections and cutting multiple parts, allowing for subsequent processes to be simplified.
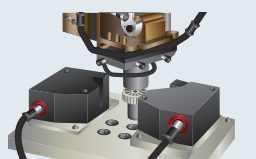
Inspection process

RC-SE SERIES

Common Specifications

Power supply	Drive method	Controller model	Working air pressure	Wrist flip angle
200/220 VAC (50/60 Hz) 3 phase	Digital servo motor (3/5 axes)	E-touch II	0.49MPa	90°

Model

RC 2 - 1015 D - 15 - SE

Series name

Reduced overall height type

Clamp force of compatible molding machine
0103 (30tf or less)
0310 (30～100tf)
1015 (100～150tf)
1525 (150～250tf)
2535 (250～350tf)
3550 (350～500tf)
5080 (500～800tf)
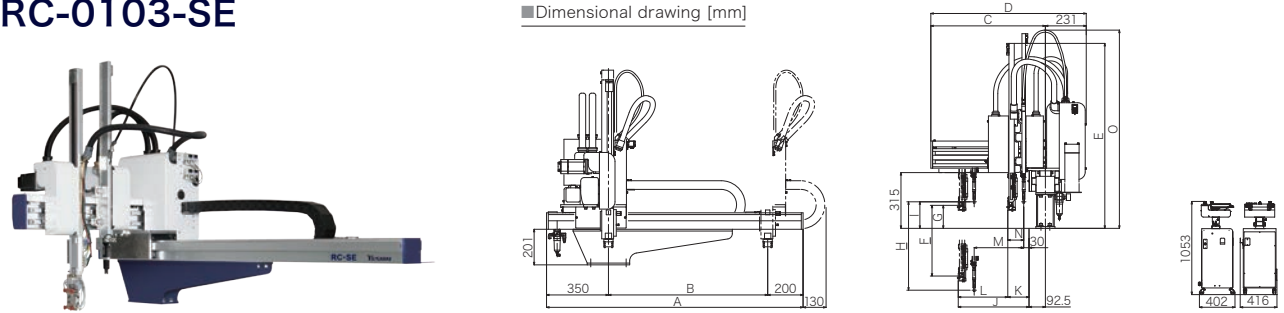80100 (800～1000tf)
100130 (1000～1300tf)

Arm type
S   Main arm only
D   Main arm and sub arm
DS Dual main arms
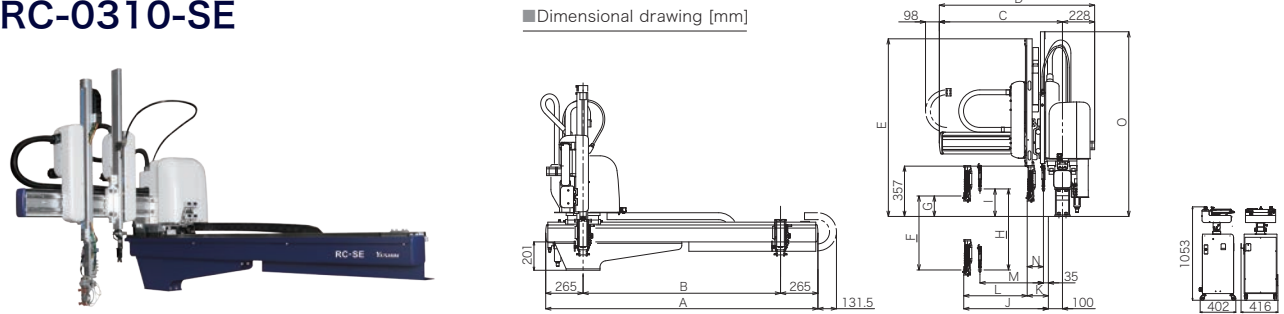
Traverse stroke
Ex) 15 (×100mm)

Series name

RC-0103-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC-0103S-SE	1.7kVA AC200V 8.5A	900 (1200) (1600)	320 (470)	—	450	—	2.9 Smart ECO Vacuum OFF	2 《3》	30 or less
RC-0103D-SE	2.2kVA AC200V 10.8A		280 (430)	280 (430)		550	1.0 Smart ECO Vacuum ON		

S type: Main arm only   D type: Main arm and sub arm   ( ): Modified stroke   Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC-0103S-SE	1450 (1750) (2150)	900 (1200) (1600)	648 (798)	879 (1029)	1045	450	130	—	—	400 (550)	80	320	—	—	—
RC-0103D-SE								550	150		120	280 (430)	280 (430)	90	1100 (1200)

( ): Modified stroke

RC-0310-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC-0310S-SE	0.9kVA AC200V 4.3A	1400 (1700)	500	—	600 (700)	—	4.0 Smart ECO Vacuum OFF	3 《5》	30～100
RC-0310D-SE	1.1kVA AC200V 5.5A		450	450		650 (750)	1.2 Smart ECO Vacuum ON		

S type: Main arm only   D type: Main arm and sub arm   ( ): Modified stroke   Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC-0310S-SE	1930 2230	1400 (1700)	873	1101	1199	600	145	—	—	600	100	500	—	—	—
RC-0310D-SE								650	195		150	450	450	115	1309

( ): Modified stroke

RC2-1015-SE / 1525-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC2-1015S-SE	2.7kVA AC200V 7.6A	1100 (1500) (1700) (1900) (2200) (2500)	583	—	700 (850) (950) (1100) (1300) (1550)	—	8.1 Smart ECO Vacuum OFF	5 《11》	100～150
RC2-1015D-SE	3.6kVA AC200V 10.4A		523	523		700 (850) (950) (1100) (1300) (1550)	2.0 Smart ECO Vacuum ON		
RC2-1525S-SE	2.7kVA AC200V 7.6A	1500 (1700) (1900) (2200) (2500)	583	—	850 (950) (1100) (1300) (1550)	—	8.8 Smart ECO Vacuum OFF		150～250
RC2-1525D-SE	3.6kVA AC200V 10.4A		523	523		850 (950) (1100) (1300) (1550)	2.0 Smart ECO Vacuum ON		

S type: Main arm only   D type: Main arm and sub arm   ( ): Modified stroke   Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
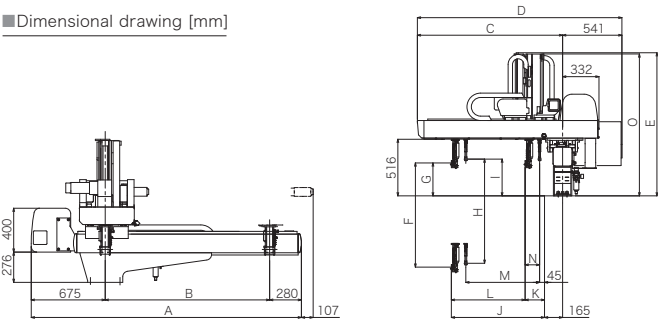Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC2-1015S-SE	2055 (2455) (2655) (2855) (3155) (3455)	1100 (1500) (1700) (1900) (2200) (2500)			1180 (1255) (1305) (1380) (1480) (1605)	700 (850) (950) (1100) (1300) (1550)		—	—		117	583	—	—	1174 (1246) (1294) (1374) (1470) (1598)
RC2-1015D-SE			1175	1716			300	700 (850) (950) (1100) (1300) (1550)	335	700	177	523	523	132	
RC2-1525S-SE	2455 (2655) (2855) (3155) (3455)	1500 (1700) (1900) (2200) (2500)			1255 (1305) (1380) (1480) (1605)	850 (950) (1100) (1300) (1550)		—	—		117	583	—	—	1246 (1294) (1374) (1470) (1598)
RC2-1525D-SE								850 (950) (1100) (1300) (1550)	335		177	523	523	132	

( ): Modified stroke

RC2-2535-SE / 3550-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC2-2535S-SE	2.7kVA AC200V 7.6A	1500 (1700)(1900)(2200)(2500)	733	—	950 (1100)(1300)(1550)	—	9.2 Smart ECO Vacuum OFF / 2.3 Smart ECO Vacuum ON	5 《11》	250~350
RC2-2535D-SE	3.6kVA AC200V 10.4A		673	673		950 (1100)(1300)(1550)			
RC2-3550S-SE	2.7kVA AC200V 7.6A	1700 (1900)(2200)(2500)	978	—	1100 (1300)(1550)	—	11.7 Smart ECO Vacuum OFF / 3.1 Smart ECO Vacuum ON	10 《13》	350~500
RC2-3550D-SE	3.6kVA AC200V 10.4A		918	918		1100 (1300)(1550)			

S type: Main arm only D type: Main arm and sub arm ( ): Modified stroke Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC2-2535S-SE	2455 (2655)(2855)(3155)(3455)	1500 (1700)(1900)(2200)(2500)	1325	1866	1305 (1380)(1480)(1605)	950 (1100)(1300)(1550)	300	—	—	850	117	733	—	—	—
RC2-2535D-SE								950 (1100)(1300)(1550)	335		177	673	673	132	1294 (1374)(1470)(1598)
RC2-3550S-SE	2655 (2855)(3155)(3455)	1700 (1900)(2200)(2500)	1575	2116	1380 (1480)(1605)	1100 (1300)(1550)	176	—	—	1100	122	978	—	—	—
RC2-3550D-SE								1100 (1300)(1550)	216		182	918	918	137	1374 (1470)(1598)

( ): Modified stroke

RC2-80100-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC2-80100S-SE	2.7kVA AC200V 7.6A	2000 (2500)(3000)(3500)(4500)	1140	—	1550 (1800)(2100)(2500)	—	49.4 Smart ECO Vacuum OFF / 35.0 Smart ECO Vacuum ON	25 《35》	800~1000
RC2-80100D-SE	3.6kVA AC200V 10.4A		970	970		1550 (1800)(2100)(2500)		《50》	

S type: Main arm only D type: Main arm and sub arm ( ): Modified stroke Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
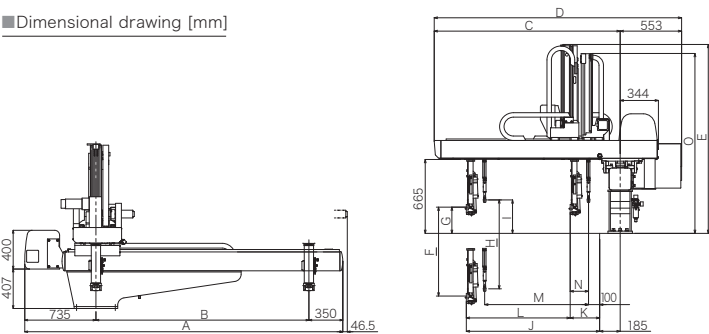Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC2-80100S-SE	3404 (3904)(4404)(4904)(5904)	2000 (2500)(3000)(3500)(4500)	1895	2488	2175 (2300)(2450)(2650)	1550 (1800)(2100)(2500)	330	—	—	1300	160	1140	—	—	—
RC2-80100D-SE								1550 (1800)(2100)(2500)	385		330	970	970	275	2147 (2265)(2453)(2613)

( ): Modified stroke

RC2-5080-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC2-5080S-SE	2.7kVA AC200V 7.6A	2200 (2500)	1065	—	1300 (1550)	—	17.2 Smart ECO Vacuum OFF / 4.7 Smart ECO Vacuum ON	15 《20》	500~800
RC2-5080D-SE	3.6kVA AC200V 10.4A		935	935		1300 (1550)			

S type: Main arm only D type: Main arm and sub arm ( ): Modified stroke Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
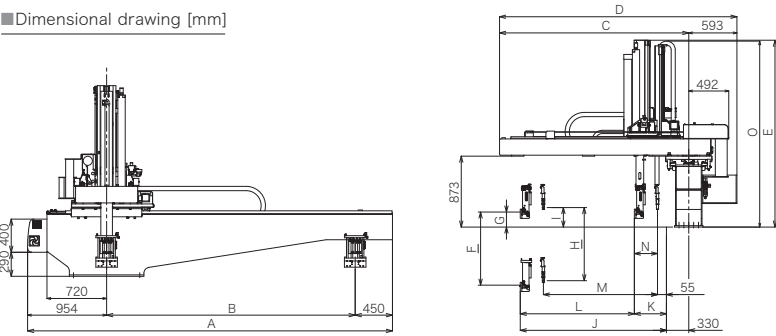Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC2-5080S-SE	3285 (3585)	2200 (2500)	1674	2228	1700 (1825)	1300 (1550)	236	—	—	1200	135	1065	—	—	—
RC2-5080D-SE								1300 (1550)	301		265	935	935	165	1619 (1747)

( ): Modified stroke

RC2-100130-SE

■Dimensional drawing [mm]

Model	Power consumption	Traverse stroke [mm]	Kick stroke [mm] Main arm	Kick stroke [mm] Sub arm	Vertical stroke [mm] Main arm	Vertical stroke [mm] Sub arm	Air consumption [NL/cycle]	Payload [kg]	Clamp force of compatible molding machine [tf]
RC2-100130S-SE	2.7kVA AC200V 7.6A	3000 (3500)(4500)	1575	—	1800 (2100)(2500)	—	63.1 Smart ECO Vacuum OFF / 45.2 Smart ECO Vacuum ON	35 《50》	1000~1300
RC2-100130D-SE	3.6kVA AC200V 10.4A		1405	1405		1800 (2100)(2500)			

S type: Main arm only D type: Main arm and sub arm ( ): Modified stroke Payload includes weight of end-of-arm tool. 《 》: Increased maximum payload
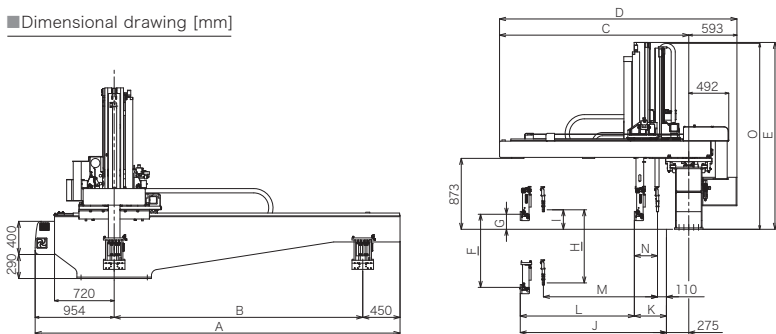Payload includes weight of end-of-arm tool.

[mm]

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
RC2-100130S-SE	4404 (4904)(5904)	3000 (3500)(4500)	2330	2923	(2175) 2300 (2450)(2650)	(1550) 1800 (2100)(2500)	185	—	—	1800	225	1575	—	—	—
RC2-100130D-SE								(1550) 1800 (2100)(2500)	240		395	1405	1405	285	2147 (2265)(2453)(2613)

( ): Modified stroke

High End Model **FRA**

provides RC-SE series with various technologies for vibration control, high-speed, and energy-saving
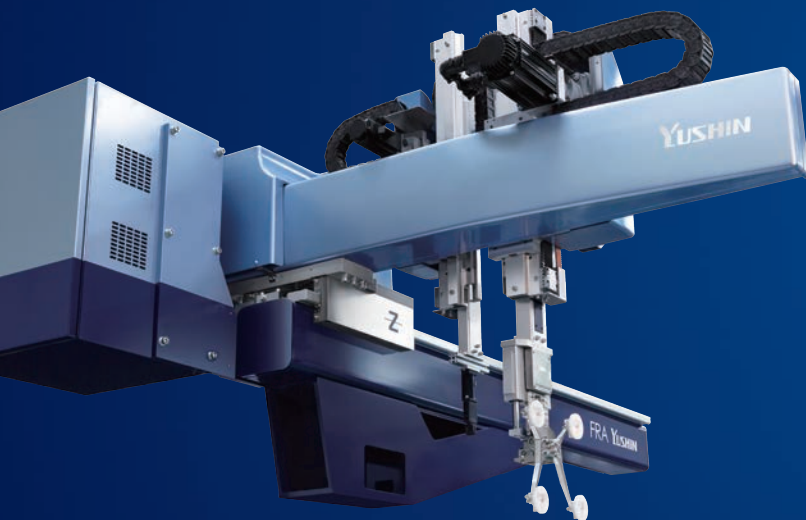
Take-out Robot **FRA**™

Achieved the world's top-level speed using the design optimization technology.

Design Optimization

Design Optimization is what Yushin calls the practice of applying CAE (Computer-Aided Engineering) to seek the most theoretically optimal form for a robot based on its mechanism and motions. This approach is used to design lighter weight and increased reliability into automobiles and aircraft. By adopting the Design Optimization, the FRA series has achieved a great advancement in vibration control and higher speed.

Shortening Cycle Times

3D-Optimized Kick Frame   PAT.

It retains the excellent repeatability of older frame designs, but with reduced weight for even better performance during high-speed operation.

3D-Optimized Kick Frame

Structural optimization

Reformed with slender extremities

Awards History

The Japan Society of Mechanical Engineers Medal for New Technology in 2018

The 48th MACHINE DESIGN AWARD

The JMF's Energy-Efficient Machinery Award in 2018

red**dot** award 2019 winner

Active Vibration Control   PAT.

With this feature, the robot senses and analyzes end-of-arm vibration and works actively to neutralize it. It unlocks new levels of high-speed molding without take-out failures by actively eliminating vibration that previous technologies could not touch. It is especially effective on robots with heavy end-of-arm tools or long arm strokes, where it shortens stops pauses needed for vibrations to subside and thereby greatly reduces cycle times.

IoT

Equip even one FRA series robot to change your facility into an Intelligent Factory

NISSEI   Sumitomo Heavy Industries, Ltd.   JSW

Sodick   FANUC   TOYO MACHINERY & METAL

UBE   Shibaura Machine   NIIGATA NIIGATA MACHINE TECHNO

KAWATA   MATSUI in search of support

HORAI   USHIO   Futaba   ASKA connect

INTU LINE™   PAT.

INTU LINE can display up to 6 metrics for each linked device.

* Some molding machines and auxiliary devices cannot be connected to INTU LINE.

⚠ To inquire about INTU LINE compatibility with your Yushin robot and other equipment, please contact your Yushin sales agent.

SAFETY

Safety must be the absolute highest priority of any production facility. Yushin built the FRA in strict accord with this brief, incorporating international safety standards into the robot features to maintain workplace safety.
Building safer workplaces is a core concept for the FRA.

ISO/IEC Standards

USA (ANSI)   Europe (EN)   China (GB)   Japan (JIS)
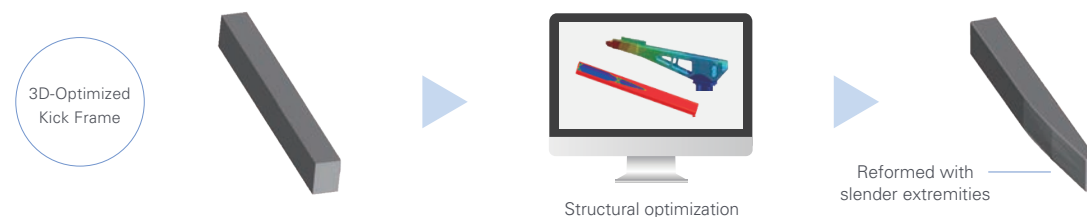
Asia/Oceania (AS) South Korea (KS)

The Red Dot Design Award, an international design award with a history of more than 60 years, is recognized as one of the three most prestigious awards in the world, along with the iF Design Award in Germany and the International Design Excellence Awards (IDEA) in the USA. The Red Dot Design Award spans three disciplines: product design, brands & communication design, and design concept. Entries are evaluated on nine criteria including innovation, functionality, quality, ergonomics, symbolism, etc.