JAPAN UNIX

SOLDER MEISTER®

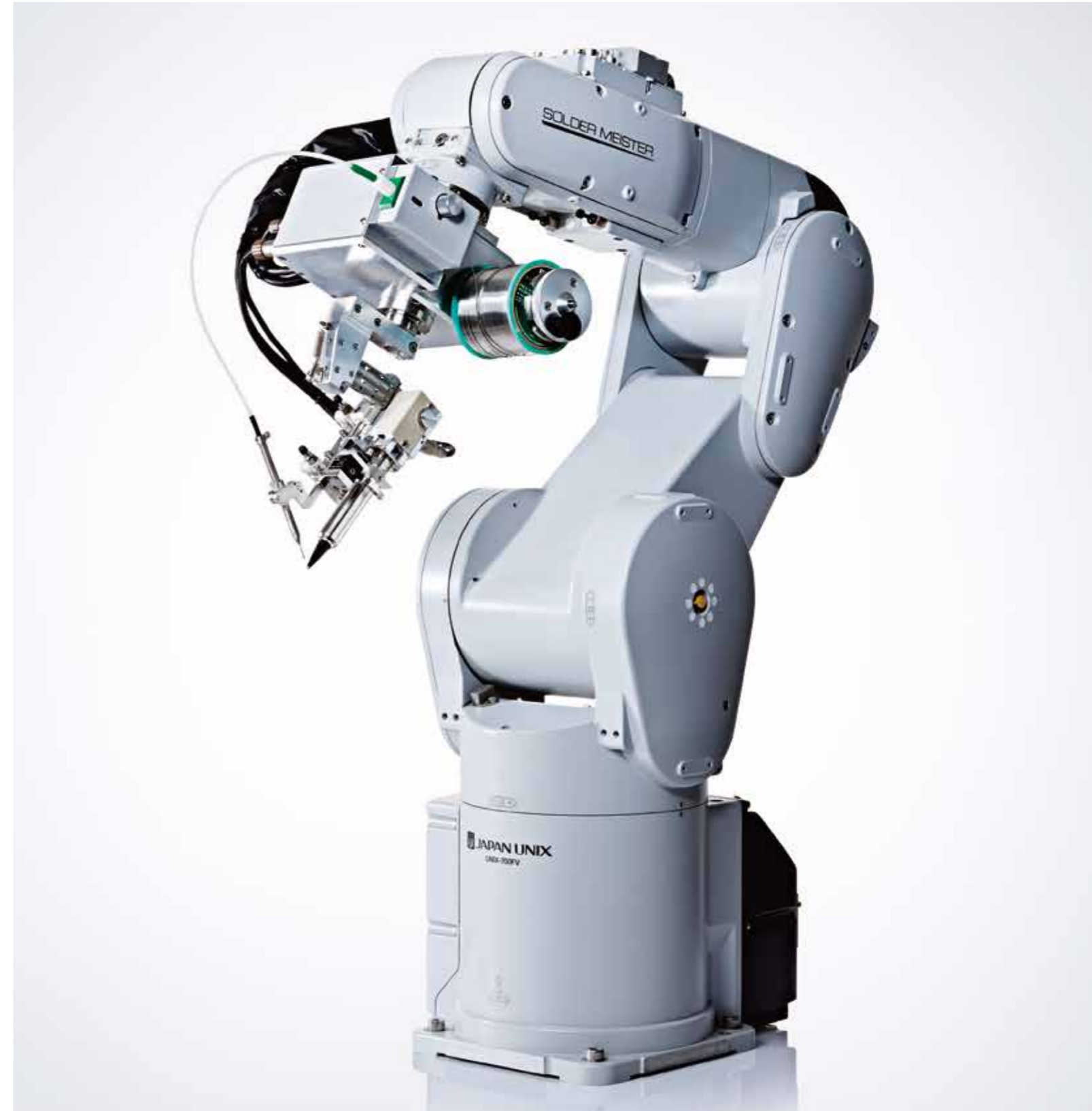High-speed Soldering Robot 700F series | vol.3

www.japanunix.com

# Technology Developing the Future, One Step at a Time

By applying new ideas today, we hope to bring happiness and surprises to the world.

Taking this feeling to heart, even if the difference means only an improvement of 0.1%,

we continuously strive to research and develop.

And so our technology evolves while we work with our customers

to make their dreams come true.

Pre Introduction Testing

Post Introduction Sales and Service

Customers

Inspection and Analysis

Research and Development

Soldering Support

At Japan Unix, we provide our customers with comprehensive support using a system that covers the full sales cycle of Pre-Introduction and continues with Post-Introduction/Sales and Service.

Joining the future
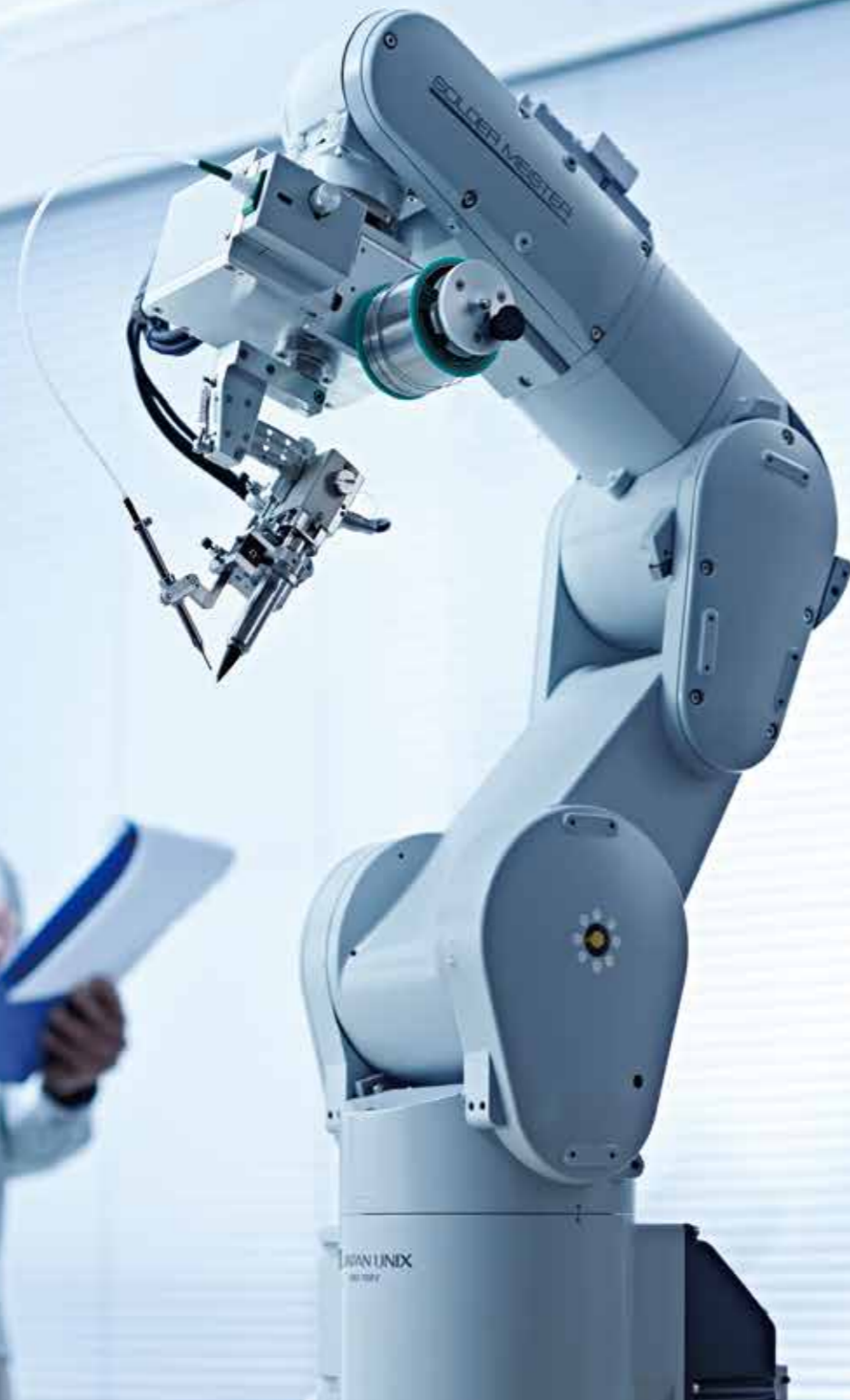
JAPAN UNIX

SOLDER MEISTER®
700F series   vol.3

JAPAN UNIX HIGH-SPEED SOLDERING ROBOTS

6 STRENGTHS

p.02 | **1 ACTUAL USES**

For on-board electronics in vehicles, as well as mobile electronics, this technology plays an active role in cutting edge developments in a wide variety of fields.

p.04 | **2 MERITS**

Equipped with a variety of functions, it achieves high speed and high precision.

p.06 | **3 STANDARD CONFIGURATIONS**

Choose the model best suited for your work.

p.08 | **4 INTRODUCTION EXAMPLE**

Incorporate these robots into the production line for improved effectiveness.

p.10 | **5 SOLDERING MODULES**

Stabilizing quality with high standard modules.

p.12 | **6 OPTIONS**

Enabling improved maintenance and quality.

UNIX-700FV

UNIX-700FH

High-speed soldering robots are used in a wide range of product manufacturing
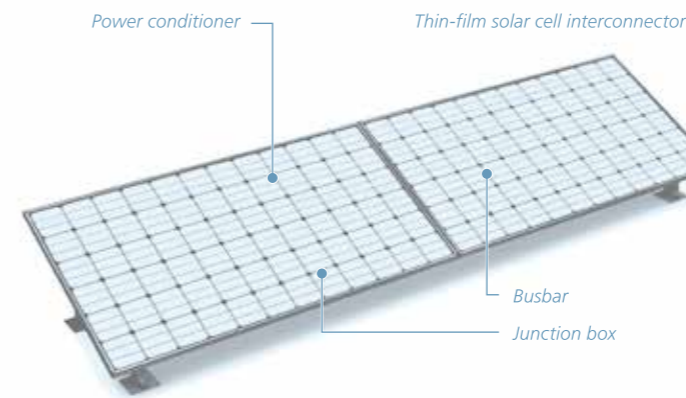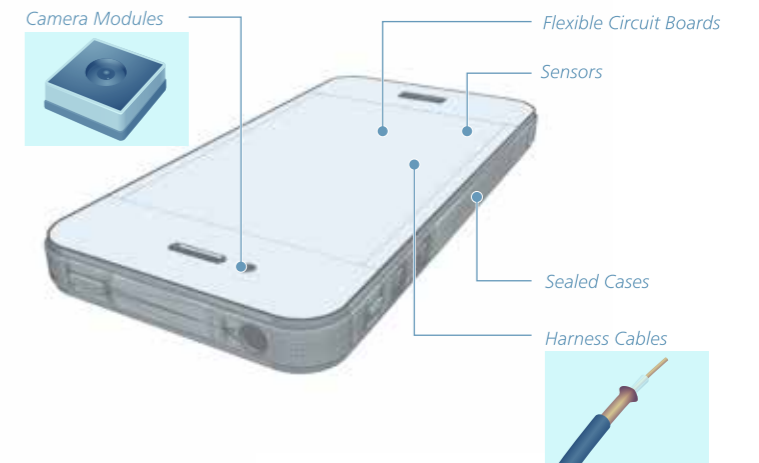
Automotive Electronics

In recent years, modularization has been rapidly advancing. The electronic components in motor vehicles demand safety and high reliability, so the highest level of quality control in soldering is required. High-speed soldering robots are reliable and easy to operate, enabling even soldering beginners to produce expert quality work.

Intake Air Temperature Sensor
Electric Tilt Controls
Key Locks
Instrument Panels

Electronic Assisted Power Steering
Trunk Switches

LED Door Mirrors

Inverters / Converters

Dash-Mounted
Car Audio Units

Gasoline Tank Units
Rear View Camera System
Corner Sensors

Batteries / Power Control Units

Keyless Entry Systems
Power Window Motors
Passenger Detection Sensors
Seat Heaters
Electric Sheet
Door Switches

Engine Control Units
Idling Shut-Off Units
Turn Signals

TPMS Transmitters

Smartphone

For smartphone and cellular phone applications, substrate boards are becoming more and more dense and efficient with slimmer, lighter weight designs in high demand. High-speed soldering robots support manufacturing methods suited to a variety of surface mount components and are also widely used for micro-scale soldering.

Camera Modules
Flexible Circuit Boards
Sensors
Sealed Cases
Harness Cables

Power conditioner
Thin-film solar cell interconnector

Photovoltaics

High-speed soldering robots can even be used for ultrasonic soldering for small solar panels and other products. They are also widely used for items such as junction box assembly and power conditioner PCB soldering.

Busbar
Junction box

LED Terminals

High-speed soldering robots also offer proper component support and are capable of soldering at the appropriate temperature for difficult to solder LED light terminals and power supply PCBs.

LED Substrate
Power Board
Terminal
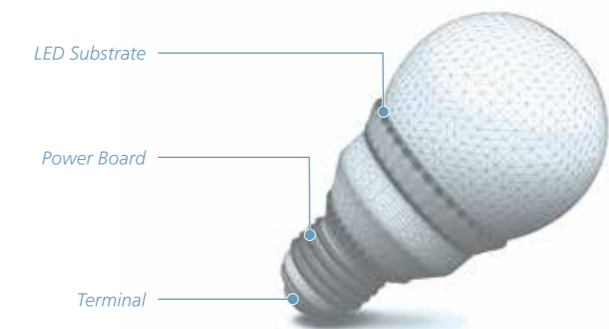
Implementation of high-speed & high-precision soldering

3Reasons to Choose 700F

1 The teaching time is shortened to 1/10 by original macro program※1.

The moving distance during soldering operation can be minimized, thereby attaining high-speed soldering.

The soldering tip advance /retreat path at soldering is registered in advance, thereby simplifying teaching.

Any special robot language is not required, so that operations can be performed after short-time education.

※1 Supposing that the same soldering operations are taught by using the general robot language, trial calculation is originally performed by us.

2 The robot axis and solder feed control are unified into a single controller.

Using only the teaching box permits setting all of the robot operations and soldering conditions.

The solder feed mechanism is equipped with an AC servo and built-in solder encoder. This enables high accuracy solder supply and error detection.

Robot-related errors, solder-related alarms, and various counters (production, soldering tip, and heater) can be controlled in an integrated fashion .

3 Achieves significant task reduction compared to conventional models

Reduce soldering cycle time by 30% compared to conventional models.※2

60% increase in soldering speed with the vertical multi-axis type, and 16% with the SCARA type※3.

Strengthened with double the number of program saves and triple the number of teaching points.

※2 When performing continuous-point soldering with own macro program.
※3 With 550 mm stroke SCARA type.

Available Heaters

Cross Heater

▮ Design maximizes tip heat capacity.

▮ Heater and iron tip can be detached and replaced individually.

▮ Wide range of tip types.

▮ Uses cross-shaped groove to maintain repeatability of tip position.

Cross Heater LS / L

▮ Temperature sensor is located close to the end of the tip for improved sensing accuracy.

▮ Offers reduced startup time and quick temperature recovery during soldering.

▮ Heater and tip can be detached and replaced individually.

▮ Uses L-shaped groove to prevent incorrect tip insertion.
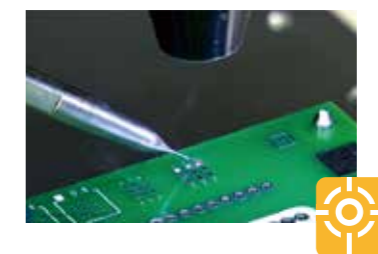
Optimal Soldering Methods

Soldering Tips

This type is a traditional contact soldering method and has high versatility for a wide range of use.

Laser

Since it is a non-contact method, it is possible to fine-tune the amount of solder used. Reduces the cost of consumables such as tips.

Ultrasonic

This type is most suitable for "flux-free" soldering for non-metal such as glass and ceramics, and hard-to-solder metal such as aluminum and stainless steel.

Model configuration that can be expected to achieve maximum effectiveness

UNIX-700F series Line Up

UNIX-700FV

The soldering iron tip can approach from any angle. This is applicable to complicated soldering operations.

The 6-axis vertically articulated soldering robot UNIX-700FV※1 is suitable for soldering for odd-shape workpieces into which the soldering iron tip cannot be approached easily. Since the vertically articulated axis is operated, soldering can be performed at a high speed by changing the angle of the head freely. This robot is excellent in high-speed operation at the horizontally-resultant maximum speed of 8,800 mm/sec and is provided with high position repeatability and high rigidity.

※1 Including one solder feed axis

High speed operation 8,800mm/sec	Flexibility 6-axis operation

UNIX-700FH

This robot supports mass production in a balanced format a high-speed circlar are operation.

The UNIX-700F 5-axis SCARA soldering robot※1 offers a fast speed of up to 8,300 mm/sec, and has high repeatability and rigidity. In addition, axis stroke length can be selected from among 350 mm, 450 mm, and 550 mm. It is a versatile robot suited to laser soldering and tip soldering.

※1 Including one solder feed axis

High speed operation 8,300mm/sec	Flexibility 5-axis operation

Robot Set Details (For UNIX-700FV / 700FH)

Robot	Choose from UNIX-700FV /700FH (-35/-45/-55)	Iron Tip Cleaner with Vacuum Function	UJC-214W7F
Controller	UNIX-700F dedicated controller	Tube Set	Model number varies depending on solder diameter used. (See P.17)
Soldering Head	Choose from UMC-087A / UMC-090-BHS / UMC-090-BHL	Teaching Box	R32TB-JU
Solder Feeder	Standard feeder	Heater Cable	Model number varies depending on heater.

Controller

This is the UNIX-700F dedicated controller. It offers integrated built-in robot control, solder feed control and heater temperature control.
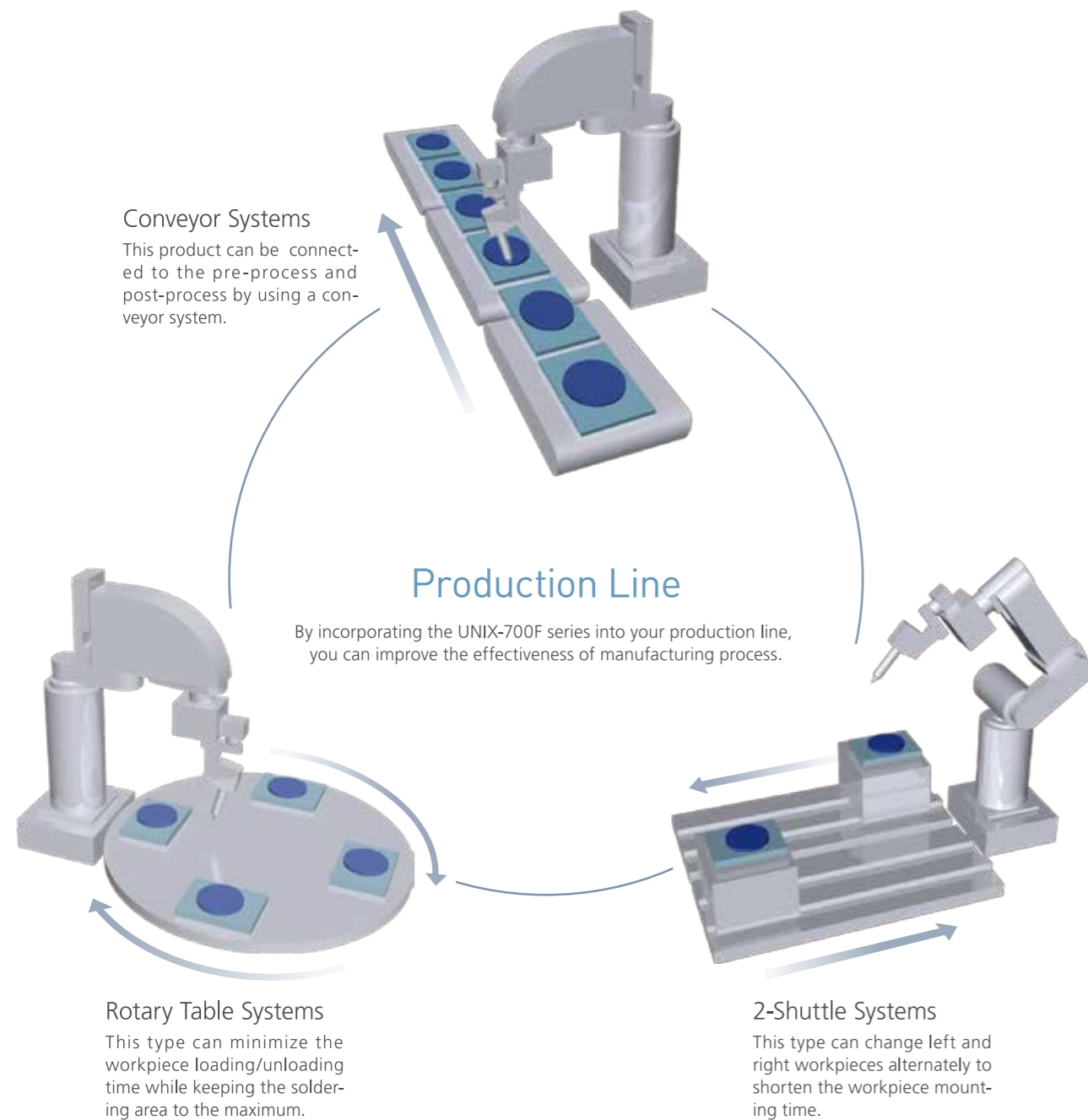
Teaching Box

Operate the controller with a single teaching box.

4 | INTRODUCTION EXAMPLE

Freely combinable to be suited to a wide range of applications

Conveyor Systems

This product can be connected to the pre-process and post-process by using a conveyor system.

Production Line

By incorporating the UNIX-700F series into your production line, you can improve the effectiveness of manufacturing process.

Rotary Table Systems

This type can minimize the workpiece loading/unloading time while keeping the soldering area to the maximum.

2-Shuttle Systems

This type can change left and right workpieces alternately to shorten the workpiece mounting time.

Through-hole Component Insertion and Soldering System
UNIVERSE S

Contribute to cost reduction by combining the component insertion and soldering processes into one

This is a fully integrated and automatic soldering system that automates the process of discrete component insertion and soldering into a single process with the UNIX-700FH.
The articulated robot inserts and holds components from below the circuit board and the laser soldering robot solders from above the circuit board.

Advantages of UNIVERSE S

| No need for jigs or flipping circuit boards | Triple the line efficiency of conventional setups | High yield rate in real production |
| Reduction of work time | Space-saving | Reduction of labor costs |

Soldering process

By beginning the soldering process at the same time as components are inserted from below, wasted time is kept to a minimum.

Simultaneous operation

Component insertion process

Components are picked up from the parts feeder, recognized using image recognition and inserted into the circuit board.
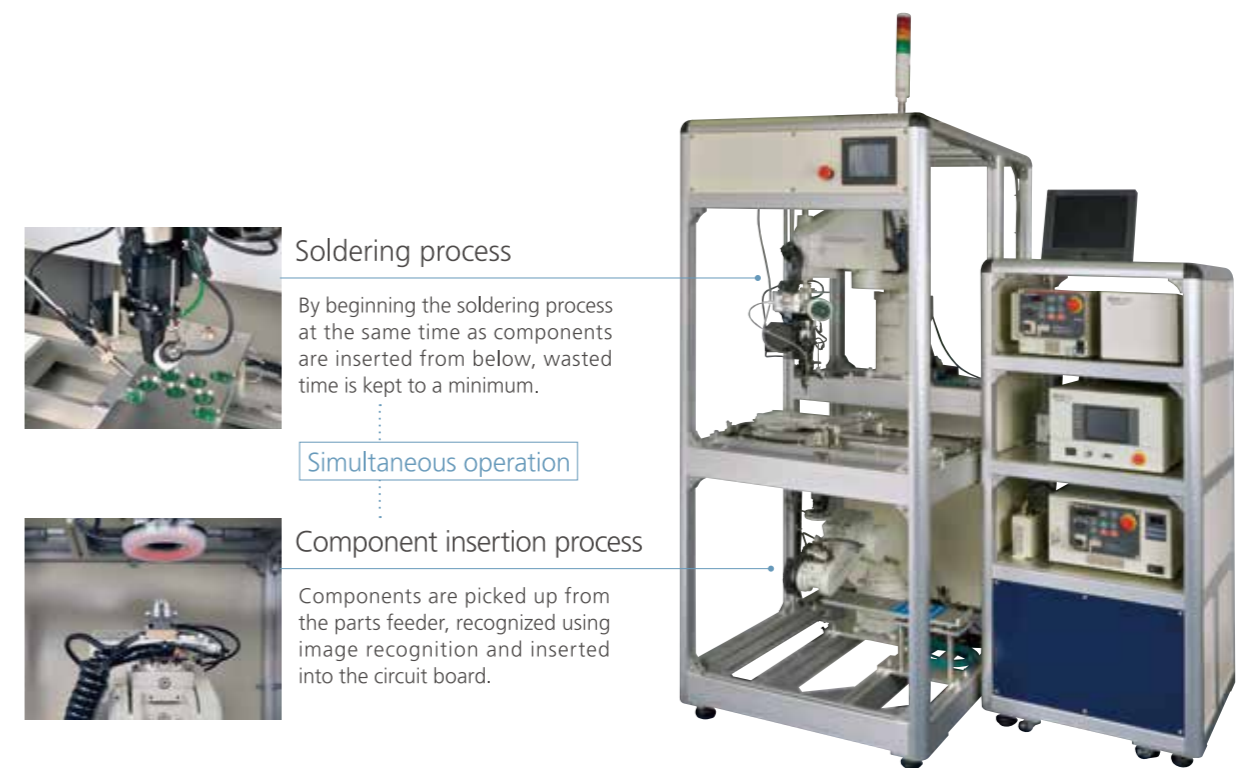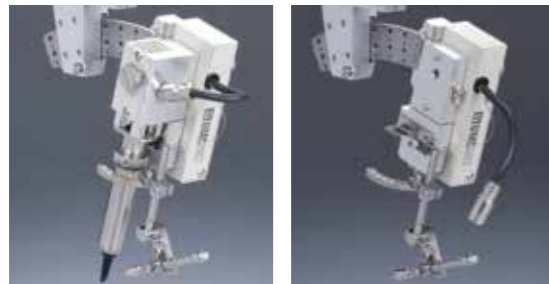
This dedicated soldering module pursues ease of use in the production field
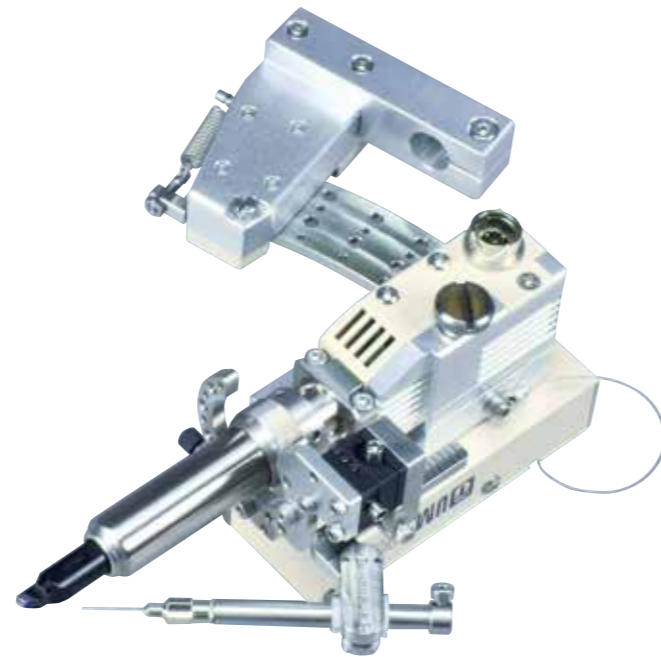
Soldering Heads PATENTED

▌ Select from three types of heaters.

▌ Heater block can be easily detached, and tip and heater can be replaced in approximately one minute.

[Heater block]

Attached　　　　*Removed*

Solder Feeder PATENTED

Standard type
Clean Cut type OPTION

▌ Encoder detects errors such as solder shortage, jamming, and slippage.

▌ Improves solder feeding precision.

▌ Clean Cut accessory available as an option.

[Clean Cut type solder cross section]
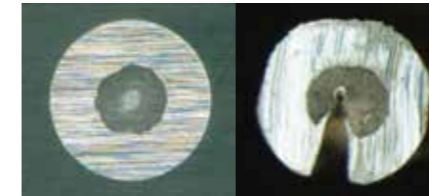
Making an incision into the solder reduces solder balls and flux dispersion by 90% or more.※

※ Clean Cut results will vary according to the solder material used. Some solder materials are incompatible; please contact us for details.

Before cut　　　　*After cut*

Standard type

Clean Cut type OPTION

Lock-on Mechanism OPTION PATENTED

▌ Angle block with memory provides stabilization and prevents solder supply position misalignment that can easily occur during maintenance.

▌ Perfectly maintains the original supply position.

Iron Tip Cleaner with Vacuum Function

▌ Air blower-style iron tip cleaner.

▌ Vacuum system reduces solder scattering during cleaning.

▌ Air blower nozzle angle adjustment is based on a lock-on mechanism, making angle resetting easy. OPTION
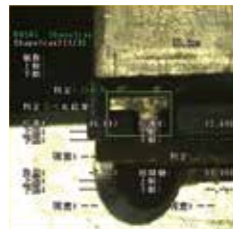
Lock-on type OPTION

High performance options with the latest features

Vision Position Correction Sensor

▌ Detects target shape with a camera and automatically corrects misalignments in the workpiece.

Three-Axis Tip Position Corrector PATENTED

▌ An automatic position corrector for the UNIX-410S Series.

▌ Quickly and automatically corrects position gap due to tip erosion and/or thermal expansion.

Double Brush Cleaner

▌ Rotates two wire brushes to remove stubborn buildup on the end of the iron tip.

▌ Effectively cleans carbonization, tin oxides, and other materials that cannot be removed by the standard iron tip cleaner.

Solder Wire Preheater ※1

▌ Preheats solder wire to reduce solder balls and flux dispersion due to sudden heat shock during soldering.

▌ Also effective at reducing tact time.

※1 Cannot be used with Clean Cut Feeder.

Remaining solder sensor

▌ When solder is running out, the sensor detects this and alerts that it needs to be replaced.

Clean Cut Feeder PATENTED

▌ Reduces the occurrence of flux spatter and solder balls by putting notches into the solder as it is fed through.

▌ The special two-blade method※2 stabilizes back soldering and prevents solder slippage.

・ If you change the feed equipment after your purchase, we may need to send technicians to make the changes.

※2 Solder diameter: φ0.8 and φ1.0 only.

Needle swing mechanism

▌ When using the brush cleaner, the solder supplier (needle) automatically swings, making it easier to clean the tip.

Nitrogen Gas Generator UNX-200

▌ Creates a nitrogen gas environment to improve the workability of lead-free solder.

▌ Protection against oxidation and improves spread and wettability.

▌ Uses the tip N2 cap (sold separately) to inject nitrogen gas from the end of the tip.

Digital Thermometer UNISENSOR-701A

▌ Digital thermometer for tip temperature measurement.

▌ Handheld design makes for easy measurement of installed tip temperature. Ideal for routine temperature management.

Fume Extractor UAC-2000

▌ Extracts flux fumes during soldering.

▌ Dual filters for removal of fumes.

・Three-level suction adjustment and filter clog sensor.

・Dimensions: W340×D360×H477 (mm) (excluding protrusions)

・Weight: Approx. 18.5Kg

A wide range of soldering iron tips

We offer a standard line up of tip shapes for point soldering and linear soldering.

・Please contact us regarding our tip shape lineup, special shapes, or other details.

SPECIFICATIONS

	UNIX-700FV	UNIX-700FH-35	UNIX-700FH-45	UNIX-700FH-55
Product Image				
Environmental specifications	General environmental specifications			
Installation posture	On floor, hanging	On floor		
Degree of freedom of motion	6 (Including solder feed axis)	5 (Including solder feed axis)		
Structure	Vertical multiple-joint type	Horizontal, multiple-joint type		
Drive system	AC servo motor			
Position detection method	Absolute encoder			
Motor capacity	J1(Waist)：400W J2(Shoulder)：400W J3(Elbow)：100W J5(List pitch)：100W J6(List roll)：50W J7(Solder feed)：50W	J1：750W J2：400W J3(Z)：200W J4(θ)：100W J7(Solder feed)：50W		
Brake	J1・J2・J3・J5・J6：With brake J7：No brake	J1・J2・J4・J7：No brake J3：With brake		
Arm length — No.1 arm	—	125mm	225mm	325mm
Arm length — No.2 arm	—	225mm	225mm	225mm
Maximum reach radius	—	350mm	450mm	550mm
Operating range	J1(Waist)：±240deg J2(Shoulder)：±120deg J3(Elbow)：0-164 deg J5(List pitch)：±120deg J6(List roll)：±360deg J7(Solder feed)：999.9mm	J1：±170deg J2：±145deg J3(Z)：200mm J4(θ)：±360deg J7(Solder feed)：999.9mm		
Maximum speed	J1(Waist)：420deg/sec J2(Shoulder)：336deg/sec J3(Elbow)：250deg/sec J5(List pitch)：623deg/sec J6(List roll)：720deg/sec J7(Solder feed)：220mm/sec	J1：400deg/sec J2：670deg/sec J3(Z)：2,400mm/sec J4(θ)：2,500deg/sec J7(Solder feed)：220mm/sec		
Max. resultant velocity	8,800mm/sec[※1]	6,900mm/sec[※2]	7,600mm/sec[※2]	8,300mm/sec[※2]
Position repeatability[※3]	±0.02mm	—	—	—
Position repeatability[※3] — X-Y Combined	—	±0.01mm		±0.012mm
Position repeatability[※3] — J3(Z)	—	±0.01mm		
Position repeatability[※3] — J4(θ)	—	±0.004deg		
Solder feed precision[※4]	±0.5% or ±0.3mm, whichever is larger			
Ambient temperature	0-40℃			
Supply air pressure	0.5MPa ±10%			
Heater power	200W：Cross Heater 250W：Cross Heater LS / L			
Solder diameter	φ0.5-φ1.2 mm (Standard) φ0.6-φ1.0 mm (Clean Cut Type)			
Weight	Approx. 42 Kg	Approx. 39 Kg		Approx. 40 Kg

※1 R point value when using J1 - J6 axes (see operating range diagram).   ※2 Value when J1, J2, and J4 are used.
※3 Please see the standard specifications for details on position repeatability.   ※4 Value when standard solder feeder is used.

	Controller
Product Image	
Path control method	PTP control, CP control
Control axes	UNIX-700FV：Maximum 6 simultaneous axes UNIX-700FH-35/45/55：Maximum 5 simultaneous axes
Programming language	Macro step editing/ MELFA-BASIC V
Positional instruction method	Teaching method, MDI method
Number of storable programs (Including solder conditions)	495 programs
Number of registrable Macro steps	21,000 steps[※5]
Soldering path type	40 types
Heater temperature control range — Main heater	200℃-450℃
Heater temperature control range — Sub heater	80℃-120℃
Heater standby temperature range — Main heater	150℃-250℃
Heater standby temperature range — Sub heater	50℃-100℃
Heater alarm value	±0-100℃ variable
External I/O — General-purpose I/O[※6]	32 point input, 32 point output (expandable to a maximum of 256/256)
External I/O — Dedicated I/O[※6]	Allocated from general-purpose input / output (1 "STOP" point is fixed)
External I/O — Emergency stop I/O	1 point each (redundant)
External I/O — Door switch input	1 point (redundant)
External I/O — Enabling device input	1 point (redundant)
External I/O — Mode output	1 point (redundant)
External I/O — Robot error output	1 point (redundant)
Interface — RS-422	1 port (for teaching box only)
Interface — Ethernet	1 port (10BASE-T/100BASE-TX)
Interface — USB	1 port (for connecting to PC)
Interface — Extension slot	1 port
Ambient temperature	0-40℃
Ambient humidity	45-85% RH
Power — Supply voltage	Single-phase, 180-253 V AC
Power — Power consumption	2.0 KVA[※7]
Power — Power frequency	50/60Hz
External dimensions (W×D×H)	430 x 425 x 244 mm (Including adjuster / excluding protrusions)
Unit weight	Approx. 24 Kg
Structure	Independent floor type, open structure[※8]
Earth ground	100 Ω or less (D-type ground)[※9]

※5 When recording "MRR4" macro program instructions.
※6 Must specify sink type or source type.
※7 Power capacity is a rated value for normal operation. Please note that this power capacity does not include the inflow of power when the power supply is turned on. The power capacity is an approximation and the guarantee of operation is affected by the input voltage. For the electrical leakage breaker, please use a device that supports inverter products that operates on leakage current for the commercial frequency band (50 - 60 Hz). Leakage breakers sensitive to high-frequency components may cause a trip even at values under the maximum leakage current value.
※8 This controller is for the general environment specifications.
※9 Grounding should be set up by the customer.

PARTS LIST

Soldering Heads/Heaters

Soldering head model number		Compatible heater name	Compatible heater model number	Compatible tips	Output power
	UMC-087A	Cross Heater	100AH-200S-79L	Cross-Bit series	200W
	UMC-090-BHS	Cross Heater LS	100BHS-2510	Cross-Bit LS series	250W
	UMC-090-BHL	Cross Heater L	100BH-2510	Cross-Bit L series	

Lock-on Mechanism OPTION

Product Image	Soldering method	Solder supply angle
	Linear solder	25°
		30°
		35°
	Point solder	35°
		40°
		45°
		50°
		55°
		60°

•All lock-on mechanism models include an XY adjustment mechanism.
•Reserve solder heating can be selected at all angles.

Iron Tip N2 Cap OPTION

Product Image	Model number	Remarks
	100RH-N2-CA	N2 nozzle (NZ**) included For Cross Heater
	100RH-N2-CA-YZ	N2 nozzle (YNZ**) included For Cross Heater

Standard Solder Feeder Parts

Solder Feeder Spare Parts (Standard)

Product Image	Name	Model number	Remarks
	Roller unit	SVF-700F-RU**	** = Wire diameter specification; e.g., 05 = φ0.5 φ0.5/φ0.6/φ0.65/φ0.8/φ1.0/φ1.2
	Entrance nozzle	SVF-700F-INZ**	
	Center nozzle	SVF-700F-CNZ**	
	Exit nozzle	SVF-700F-ONZ**	

•This solder feeder cannot be purchased by itself.
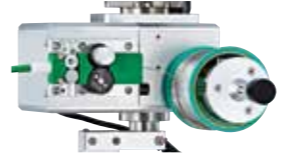
Solder Supply Components (Standard)

Product Image	Wire diameter	Needle	Needle holder	Tube set	Tube set overall length
	φ1.2	ND-15GP	CL-S-3	PT12S-040	400mm※1
	φ1.0	ND-16GP	CL-S-2	PT10S-040	
	φ0.8	ND-17GP		PT08S-040	
	φ0.6	ND-18GP		PT06S-040	
	φ0.5	ND-19GP		PT05S-040	

※1 Lengths other than 400mm are also available (special order)

Clean Cut Type※2 Solder Feeder Parts   ※2 OPTION

Solder Feeder Spare Parts (Clean Cut Type)

Product Image	Name	Model number	Remarks
	Roller unit	SVF-700FCC-RU**	Clean Cut Type Specification ** = Wire diameter specification; e.g., 06 = φ0.6 φ0.5/φ0.6/φ0.65/φ0.8/φ1.0
	Entrance nozzle	SVF-700FCC-INZ**	
	Center nozzle	SVF-700FCC-CNZ**	
	Exit nozzle	SVF-700FCC-ONZ**	

•This solder feeder cannot be purchased by itself.

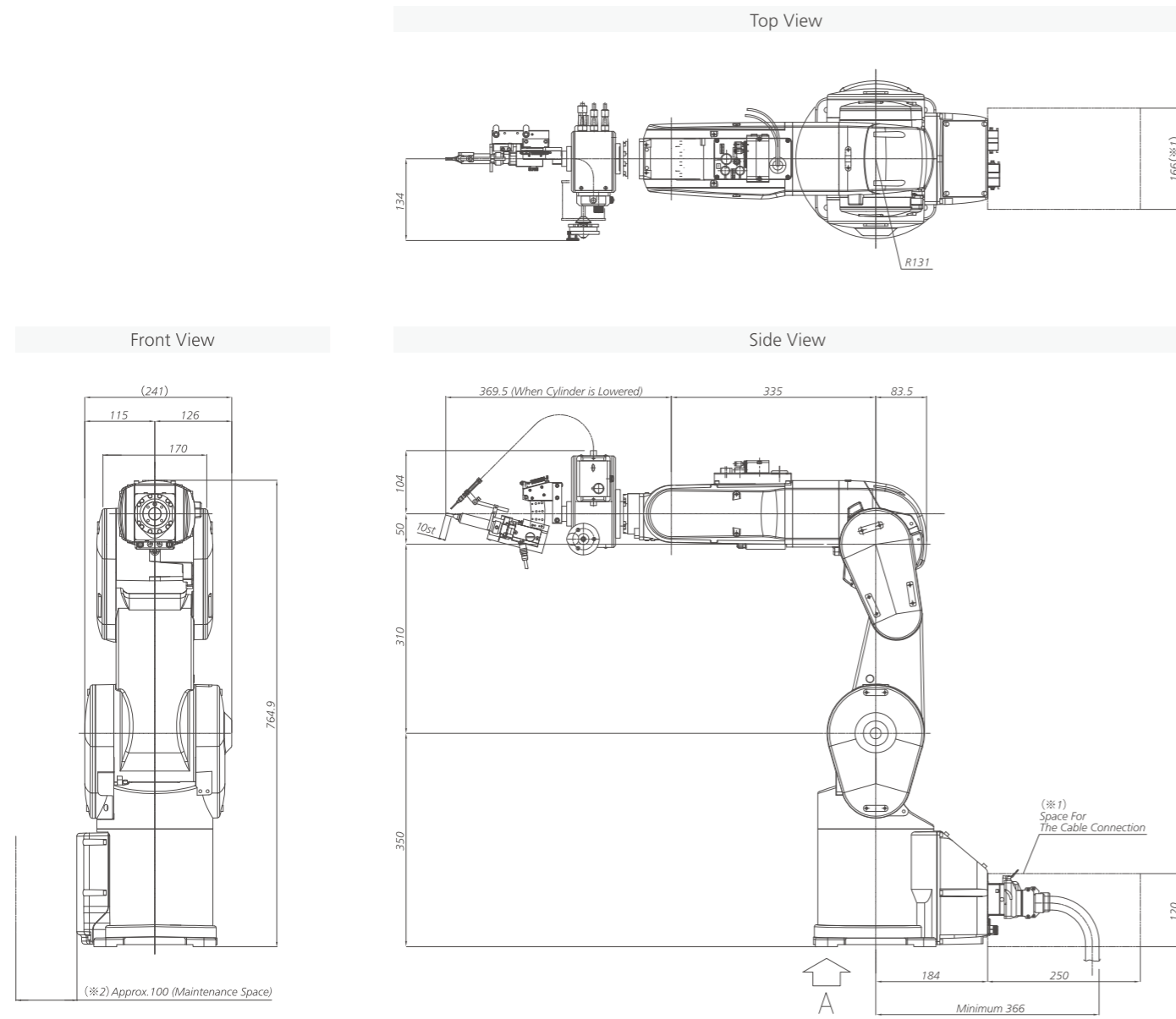### Solder Supply Components (Clean Cut Type)

Product Image	Wire diameter	Needle	Needle holder	Tube set	Tube set overall length
	φ1.0	ND-15GP	CL-S-3	PT10SCC-040	400mm※1
	φ0.8	ND-16GP	CL-S-2	PT08SCC-040	
	φ0.6	ND-17GP		PT06SCC-040	
	φ0.5	ND-18GP		PT05SCC-040	

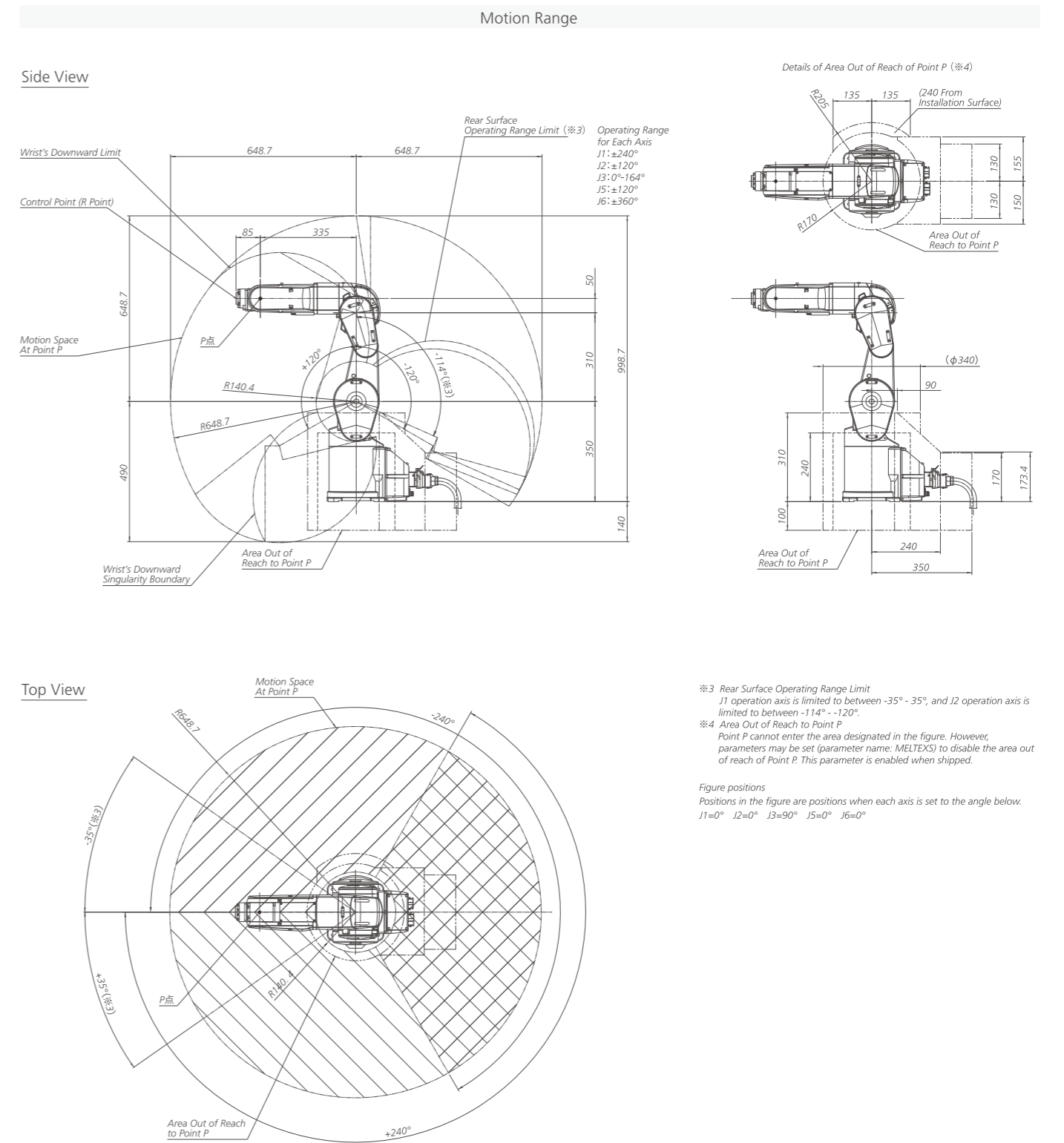※1 Lengths other than 400mm are also available (special order)
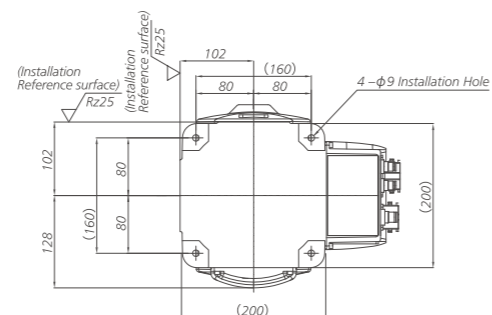
EXTERNAL VIEW DIAGRAM

UNIX-700FV

Units: mm

Top View

134

R131

166(※1)

Front View

(241)
115   126
170

104
50
10st

310
350

764.9

(※2) Approx.100 (Maintenance Space)

Side View

369.5 (When Cylinder is Lowered)   335   83.5

(※1)
Space For
The Cable Connection

A

184   250
Minimum 366

120

Rear Surface Diagram (Installation Dimension Detail)

(Installation
Reference surface)
Rz25

(Installation Reference surface)
Rz25

102   (160)
80   80

4−φ9 Installation Hole

102
80
(160)
80

128

(200)

(200)

※1 Make sure to leave enough space open for cable connections between devices.
※2 Make sure to leave enough space open for removing and attaching covers during maintenance work.

Motion Range

Side View

Details of Area Out of Reach of Point P (※4)

R205   135   135   (240 From Installation Surface)

130   *155*
130   *150*

R170

Area Out of
Reach to Point P

Wrist's Downward Limit

Rear Surface
Operating Range Limit (※3)

648.7   648.7

Control Point (R Point)

Operating Range
for Each Axis
J1 : ±240°
J2 : ±120°
J3 : 0°-164°
J5 : ±120°
J6 : ±360°

85   335

50

Motion Space
At Point P

P点

648.7

R140.4

+120°

−120°

−114°(※3)

310   *998.7*

R648.7

490

350

140

Wrist's Downward
Singularity Boundary

Area Out of
Reach to Point P

(φ340)

90

310
240
100

170
173.4

240
350

Area Out of
Reach to Point P

Top View

Motion Space
At Point P

R648.7

+240°

−35°(※3)

+114°

P点

R140.4

Area Out of Reach
to Point P

+240°

※3 Rear Surface Operating Range Limit
J1 operation axis is limited to between -35° - 35°, and J2 operation axis is
limited to between -114° - -120°.
※4 Area Out of Reach to Point P
Point P cannot enter the area designated in the figure. However,
parameters may be set (parameter name: MELTEXS) to disable the area out
of reach of Point P. This parameter is enabled when shipped.

Figure positions
Positions in the figure are positions when each axis is set to the angle below.
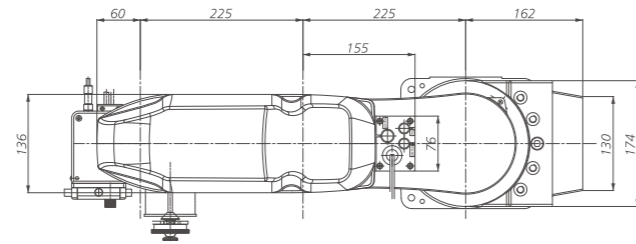J1=0°   J2=0°   J3=90°   J5=0°   J6=0°
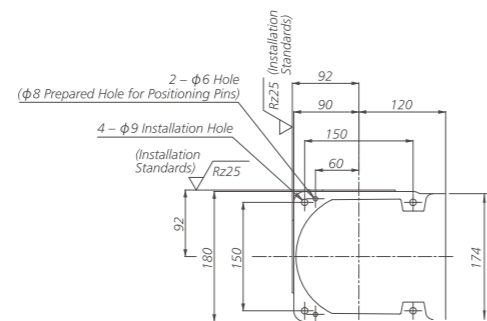
EXTERNAL VIEW DIAGRAM

UNIX-700FH-45

Units: mm

Top View

Front View
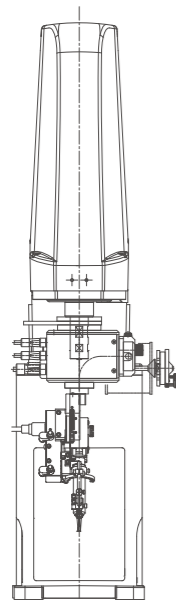
Side View
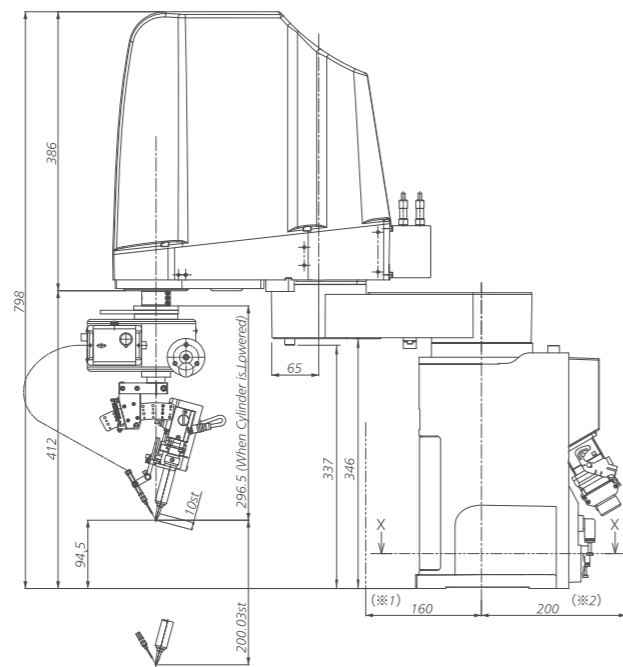
Cross-Section X-X (Installation Dimension Detail)

2 – φ6 Hole
(φ8 Prepared Hole for Positioning Pins)

4 – φ9 Installation Hole
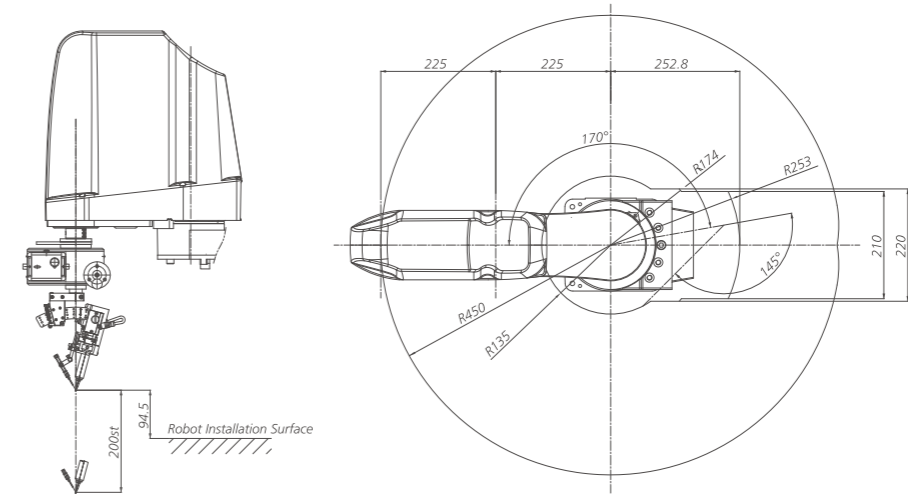(Installation Standards)

※1 x1 is the space needed when replacing the battery.
※2 x2 is the space needed to bend the cable between devices.

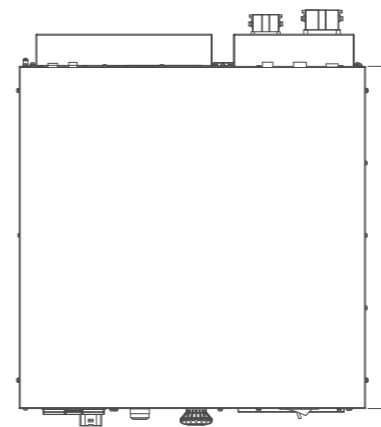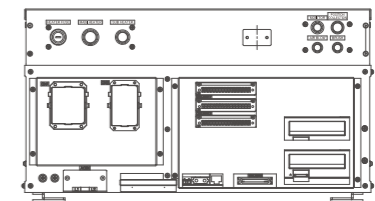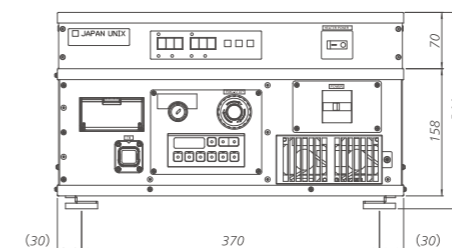### Motion Range

Robot Installation Surface

Controller

Units: mm

Top View

Back View

Front View

Side View
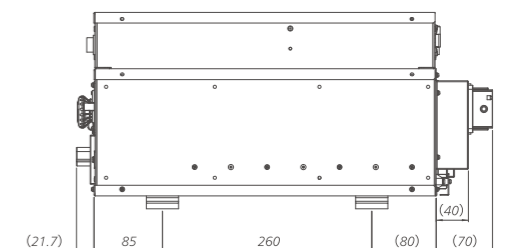
Comprehensive customer support structure provided by soldering engineers

Testing and Analysis Prior to Purchase

We preform soldering operation testing using systems that are identical to the ones the customer is considering for purchase. At Japan Unix we make maximum utilization of our soldering technology and experience to perform experiments, inspect results and only then suggest the ideal soldering structure and system.
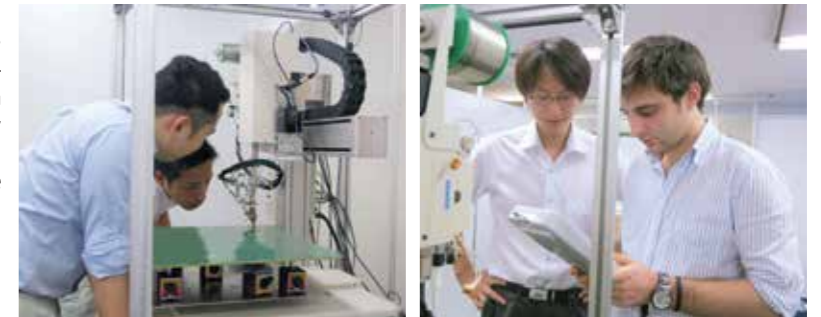
Design Support Service

In order to improve soldering operation efficiency and quality control, we provide a comprehensive range of processes from circuit board design to mass production.

Soldering Laboratory

The latest Japan Unix products are installed at our lab which is used for performing research and development of soldering technology, in addition to the testing procedures prior to purchase. It is also a place frequently used by worldwide customers, and has become something of an international soldering conference office. Also, in our soldering lab annex we analyze soldering joints in finer detail using state of the art optical and measurement systems. This plays a further role in the development of innovative products.

Soldering Support

In the manufacturing world, there is nothing more important than having someone you can trust when you run into unexpected trouble. The soldering specialist engineers at Japan Unix provide our customers with a comprehensive support structure from prior to your purchase to after the installation. This ensures continuous, safe, secure high quality manufacturing.

Prior to
purchase
Testing

After
Installation
After Sale
-Service

Customers

Inspection
and
Analysis

Research
and
Development

After-Service

To enable customers to operate in a more comfortable environment, we respond promptly to requests after the purchase for changes to system settings, software update, and repairs, among others. Please feel free to make an inquiry at any time.

Soldering School
(Certification Exam)

We regularly offer soldering classes which in a short period of time provide basic soldering techniques and knowledge.（Only in Japan）

※This program is based on The Japan Welding Engineering Society's "Micro-Soldering Technician Certification," and attendees can take the certification exam on the final day of the program.
※For more information, please contact the business supervisor or our school staff.

IPC Standards

IPC standards are manufacturing quality standard designed by IPC association, which are accepted by electronics manufacturers and purchasers worldwide.
At Japan Unix, we exclusively provide standards documents, information and services in Japan.

GLOBAL NETWORK

🟢 Distributors

🟩 North and Central America ········	USA, Canada, Mexico
🟩 Europe ····························	UK, Italy, Finland, France, Germany, Norway, Spain, Czech Republic, Slovakia, Hungary, Romania, Turkey
🟩 Russia ····························	Saint Petersburg
🟩 East Asia ··························	China (Shanghai, Suzhou, Beijing, Shenzhen, Chengdu, Chongqing, Xian, Hong Kong), S.Korea, Taiwan
🟩 Southeast Asia ····················	Indonesia, Malaysia, Philippines, Singapore, Thailand
🟩 Southern Asia ·····················	India
🟩 Oceania ···························	Australia
🟩 Africa ····························	South Africa

🔵 Japan Unix Offices

🟦 Headquarters ····· 2-21-25 Akasaka, Minato-ku, Tokyo 107-0052
TEL: +81-3-3588-0551 (Rep.)   FAX: +81-3-3588-0554

🟦 Osaka Office ······ 3F, 3-27-27 Tarumi-cho, Suita-shi, Osaka 564-0062
TEL: +81-6-6190-4580   FAX: +81-6-6190-4581

🟦 Nagoya Office ····· 8F, 1-7-5 Kanayama-cho, Atsuta-ku, Nagoya-shi, Aichi 456-0002
TEL: +81-52-679-2111   FAX: +81-52-679-2112

🟦 Techno Center ···· 2020-3 Oaza Tabaru, Mashiki-cho,
Kamimashiki-gun, Kumamoto 861-2202
TEL: +81-96-287-4501 (Rep.)   FAX: +81-96-287-4503

🟦 Korea Office
🟦 Shanghai Office
🟦 Shenzhen Office
🟦 Taiwan Office
🟦 Malaysia Office
🟦 Mexico Office
🟦 U.S.A Office