

Hand Held Nutrunner Series

HFC3000II

EVOLUTION CONTINUES

What is the Tool...
What is the inspection
Business of handheld
is added to the
Nutrunner Technology
contributing to
new production systems
innovation.

What is the Tool...
What is the inspection
Business of handheld



DAI-ICHI DENTSU LTD.

EVOLUTION

EVOLUTIONARY HAND HELD ELECTRIC NUTRUNNER

CONTINUES

High Performance and Flexible Hand Held NUTRUNNER

Compact and high durability resolver-based Servo Motor on a proven hardware platform.

FASTENING

- Torque (Angle monitor) or Angle (Torque monitor) Control fastening.
- Judgment by Torque Rate, Time and total rundown revolution monitoring.
- Built in Gyro sensor for ergonomic / safety (Pistol type Tool) operation. Senses grip swing motion.
- Built in simple Sequence function. (Batch count, Multiple parameter.)

CONTROLLER

- 64 Parameters Sets. (Selectable)
- Field bus connection. CC-Link, DeviceNet, Ethernet I/P, Profibus and others. (Optional)
- PC base user console (software) connection via Ethernet.
- Single phase power with wide voltage range : 100VAC-240VAC. (Auto sensing)
- Large, bright 6,3,3 digit (7 segment) LED (2 rows) located on front panel with easy to operate cursor function dedicated buttons.

TOOL

- Motor : Improved dust-proof, oil-proof and reduced sized permanent magnet motor.
- Pre-amplifier : Embedded high-accuracy amplification of torque transducer signal and TOOL-ID system.

QUALITY MANAGEMENT

- In-process inspection of the fastening cycle by monitoring torque, angle, torque rate and time.
- Visual (LED) and audio confirmation of fastening.
- Store up to 12,000 cycles of fastening data, 100 curve data and 500 abnormal history automatically.
- Store 1.8 million (8MB CF) fastening resultant data on Compact Flash memory card. (Optional module)





HFC3000II

Straight Tool
(Push to Start)



Pistol Grip Tool



Straight Tool (Push to Start)

Automatic start by pushing Tool down on fastener.
High speed seating damper. (Optional)
No torque reaction using a telescopic torque tube.
Horizontal or Vertical use.

Tool Model	Max. Torque [N·m]	Torque Range [N·m]	Max. Speed [rpm]	Length [mm]	Weight [kg]	Output Drive Size [mm]
HFT-030M80-DP-H	30	7.5~28	980	288	1.8	9.5 (3/8)

Pistol Grip Tool

Ergonomic design.
High speed, Light weight Tool with built-in motion (Gyro) sensor for safety.

Tool Model	Max. Torque [N·m]	Torque Range [N·m]	Max. Speed [rpm]	Length [mm]	Weight [kg]	Output Drive Size [mm]
HFT-015M50-P1	15	3.8~15	1,190	218	1.1	9.5 (3/8)
HFT-035M80-P1	35	8.8~35	778	242	1.37	9.5 (3/8)
HFT-035M80-P1-X (Top Cable Connection)	35	8.8~35	778	242	1.37	12.7 (1/2)
HFT-060M80-P1-X	60	15~60	461	275	1.5	9.5 (3/8)

Sample Application



60Nm Pistol Grip Tool
Grip swingable mechanism.



35Nm Pistol Grip Tool
High speed seating damper
Top cable connection model.

Angle Tool



Straight Tool



Angle Tool

For limited space applications.

Tool Model	Max. Torque [N·m]	Torque Range [N·m]	Max. Speed [rpm]	Length [mm]	Weight [kg]	Output Drive Size [mm]
HFT-015M50-A1-20	15	3.8~15	1,215	369	1.6	9.5 (3/8)
HFT-025M80-A1-20	25	6.3~25	1,070	389	1.7	9.5 (3/8)
HFT-040M80-A1-20	40	10~40	648	414	1.93	9.5 (3/8)
HFT-060M80-A-20	60	15~60	446	414	1.95	12.7 (1/2)
HFT-080M120-A-20	80	20~80	557	459.8	3	12.7 (1/2)
HFT-130M120-A-20	130	32.5~130	316	484.8	3.3	12.7 (1/2)
HFT-200M120-A-20	200	50~200	206	512.3	3.7	15.9 (5/8)
HFT-300M120-A-20	300	75~300	144	586	6.2	19.0 (3/4)

Straight Tool

For semi/automatic fixtured & handheld applications.
(Requires telescopic torque tube or mounting plate mounting)

Tool Model	Max. Torque [N·m]	Torque Range [N·m]	Max. Speed [rpm]	Length [mm]	Weight [kg]	Output Drive Size [mm]
HFT-010M50-S1-20	10	2.5~10	1,800	331	1.3	9.5 (3/8)
HFT-015M80-S1-20	15	3.75~15	1,600	351	1.4	9.5 (3/8)
HFT-025M80-S1-20	25	6.25~25	1,000	351	1.43	9.5 (3/8)
HFT-040M80-S-20	40	10~40	694	351	1.43	9.5 (3/8)
HFT-055M120-S-20	55	13.75~55	861	404.5	2.4	12.7 (1/2)
HFT-090M120-S-20	90	22.5~90	488	417.5	2.7	12.7 (1/2)
HFT-130M120-S-20	130	32.5~130	318	417.5	2.7	12.7 (1/2)

*NOTE: The example of CE compliant model is shown below.
HFT-040M80-A1-20-CE

Controller

HFC3000II

Front Panel

OK (ACCEPT)

Lights when the fastening result is within all programmed limits.

TOTAL OK (ACCEPT)

Lights when the number of fastening accepts set in the batch program are achieved.

TORQUE

Lights when torque values are selected to be displayed.

6 digit 7 segment LED

Preset data ,result ,other data display.

3 digit 7 segment LED

Work Number (parameter) display.

◀▶▲▼

Work select, Data set cursor button.

SET

Button for setting program changes.



NG (REJECT)

Lights when the fastening result is outside of programmed limits.

ANGLE

Lights when angle values are selected to be displayed.

3 digit 7 segment LED

Cycle count / Data number display.

CAL

Button for manual calibration check.

PRG

Button for selecting Run or Program mode.

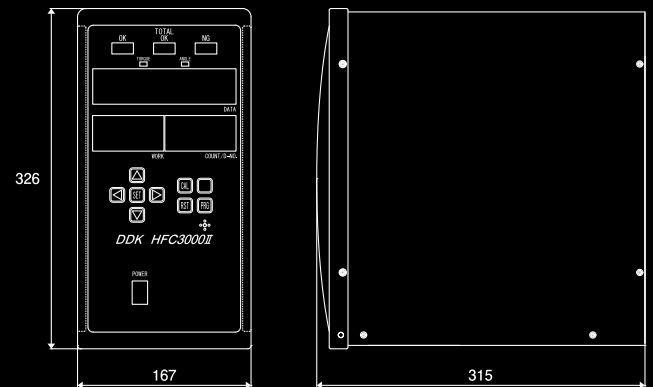
RST

Button for resetting controller.

POWER

Main power switch

Controller type	HFC-B024A
Drivable Motor type	M50 M80 M120
Input Power Voltage	Single phase 100 to 240VAC ±10%
Input Power Frequency	Both 50 / 60 Hz
Rated Power Consumption	120W
Peak Current	19A



Tool Cable

Highly durable cable is used for all models

Part #	Length [m]	Remarks
C15-F7-M5	5	
C15-F7-M10	10	
C15-F7-M15	15	
C15-EF7-M5	5	Extension
C15-EF7-M10	10	Extension
C30-F8-M5-CE	5	CE
C30-F8-M10-CE	10	CE
C30-F8-M15-CE	15	CE



* Maximum cable length is 15m.

RS232C-2
ID data input.

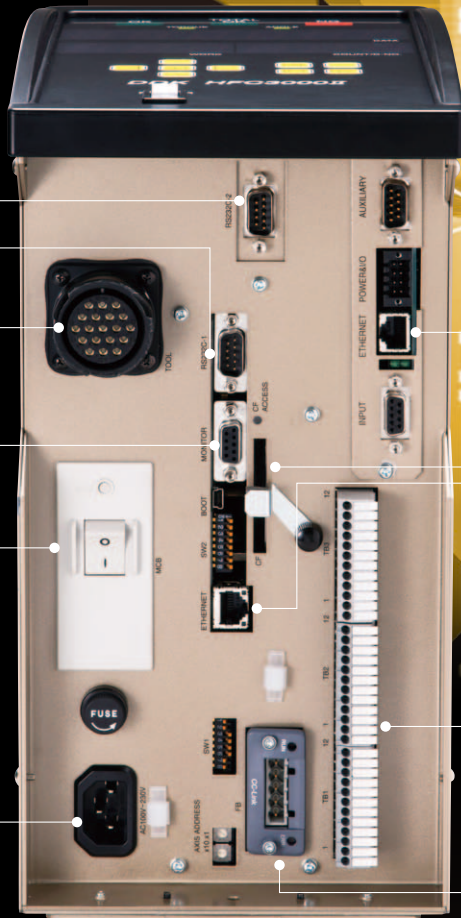
RS232C-1
Fastening result data Output.
Utilized for connection to a PLC,
printer, personal computer, etc.

TOOL cable connector

T/A monitor
Monitor output for Torque, Angle pulse,
Current, speed.

**Electrical Leakage Breaker
/ Ground Fault detector.**
Tool, Cable, Controller ground
leakage sensing for safe operation.
I = On
O = Off

**Primary power-supply
input connection.**
Input for 100~240 VAC single-phase
50/60Hz, +/- 10%
AUTO SWITCHING.



**Bottom
View**

DATA REPORT ETHERNET
Optional Ethernet port for reporting data in
special protocols.
(FECNET, QDAS, TOOLSNET, etc)

CF CARD
Fastening result, and curve data can be stored.
(Optional)

ETHERNET
Ethernet port for connecting the HFC3000
Userconsole software PC.

TB1
Discrete I/O (Inputs / Outputs) connection.

FIELDBUS Connection
CC-Link, DeviceNet, Ethernet I/P, Profibus or
others can be added as option.

Controller Model

HFC - B024A - CC - IO - CF - EN - CE

Series Name

Servo Size

Option 1 : Fieldbus

Option 2 : Terminal

Option 3 : CF card slot

Option 4 : Data Report Ethernet port

Option 5 : CE compliant

CC CC-Link V1/V2

IO With Terminal

CF With CF card slot

EN With Data Report Ethernet port

CE Yes

DN DeviceNet

N Without Terminal

N Without CF card slot

N Without Data Report Ethernet port

N No

PB PROFIBUS-DPV1

PI PROFINET I/O

EI EtherNet IP

FB Base plate only

N Without Fieldbus



HFC3000II compliant to CE.
Necessary to select with CE compliant.

HFC3000II

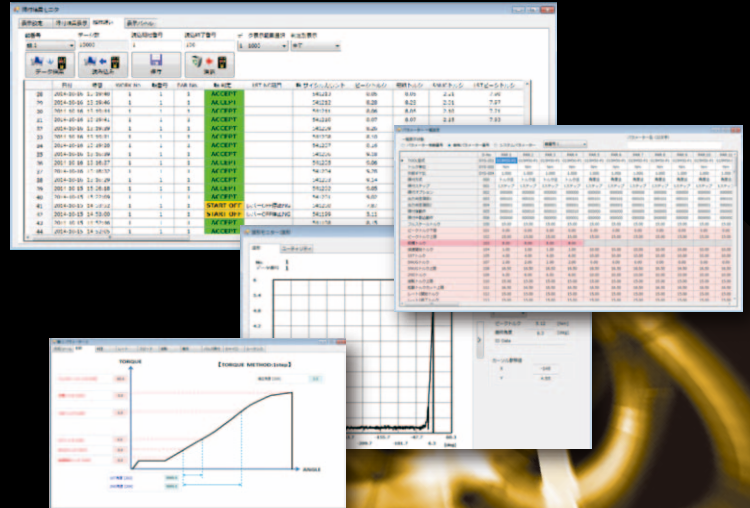
HFC3000II

User Console Software

Setup and Monitor

- ◆ Parameter edit and save.
- ◆ Data Monitor, Stored data (12,000 Cycles) and curve (100 Cycles) can be uploaded.
- ◆ Fastening curve can be displayed and automatically saved.
- ◆ Reject and abnormal report file can be created separately.

Japanese	
English	Chinese
Korean	Indonesian

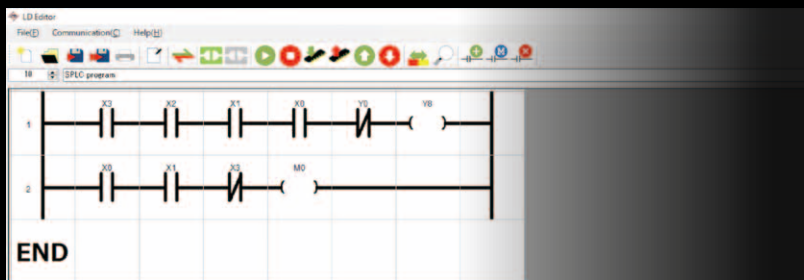


SOFTWARE PLC

Built-in PLC Function

No control panels result in cost savings.

- ◆ Direct control of lamps, switches, conveyors is possible. (Input:13 Output:12)



*Dedicated software required.

FSERVER

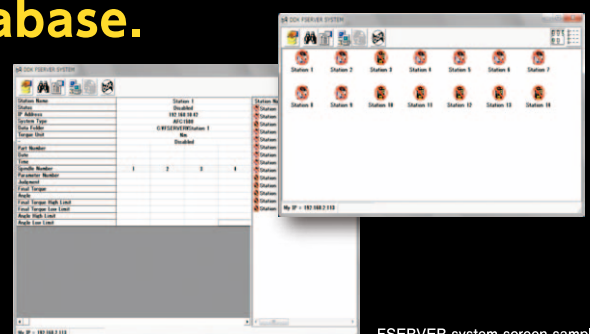
HFC3000II can improve reliability of quality control by interfacing to customers database.

Specifications

- Up to 32 station can be connected.
- 100Mbps Ethernet Connection.
- Windowx XP, Windows 7. (32 bit)
- Works with AFC, HFC, and DSP System.

Data Saving

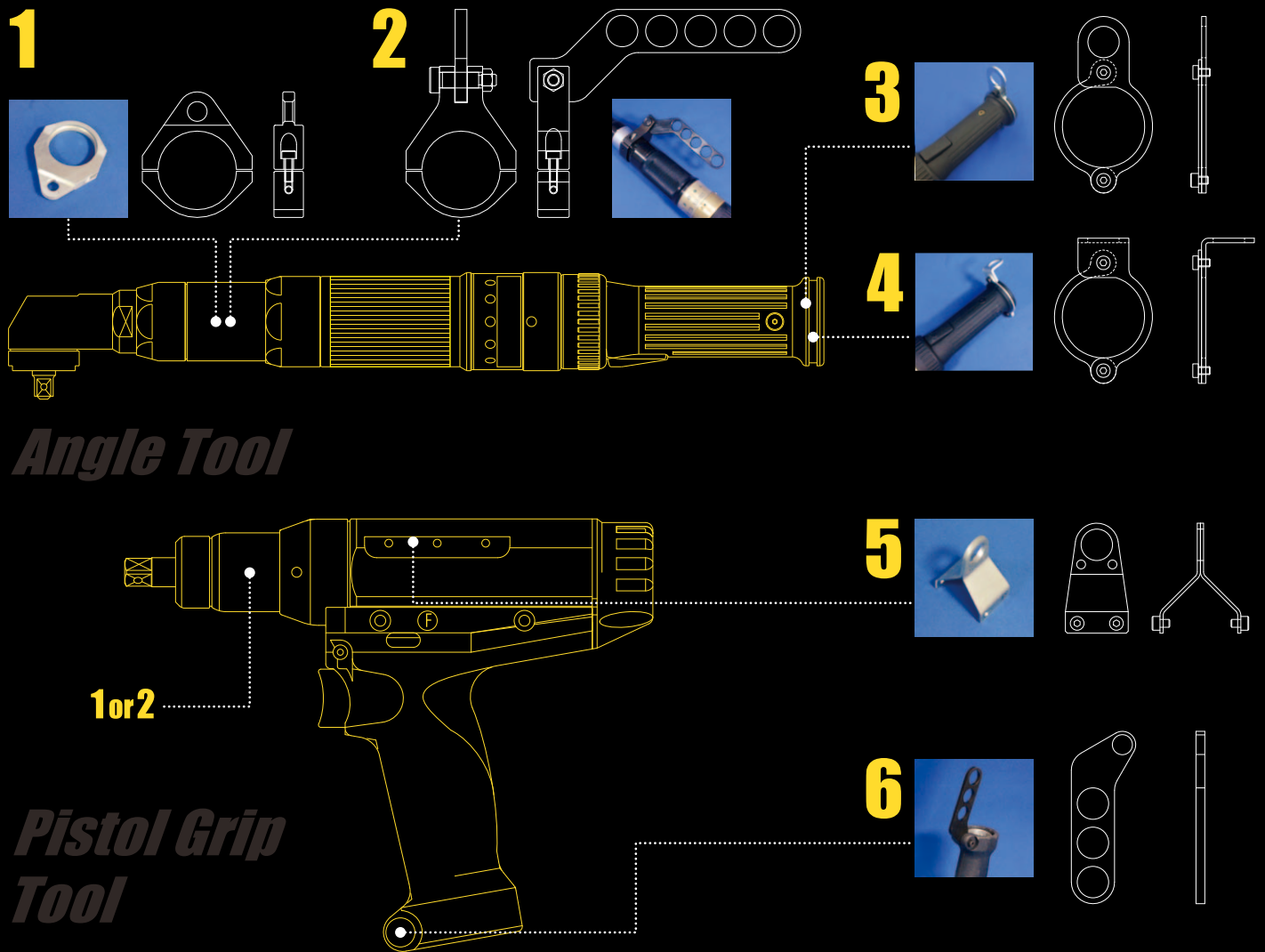
- TEXT File format.
- File can be created by Date/ Time or Part ID.



FSERVER system screen sample

Applications

Tools can be installed as required using multiple accessories.



#	Product Name	Size	Model	Usage
1	Hanging Hook	φ40	HFA-TF01	Angle Tool under 60Nm, Straight Tool under 40 Nm
		φ52	HFA-TF02	Angle Tool over 80Nm, Straight Tool over 80 Nm
2	Hanger Arm	φ40	HFA-TF04	Angle Tool under 60Nm, Straight Tool under 40 Nm
		φ52	HFA-TF05	Angle Tool over 80Nm, Straight Tool over 80 Nm
3	Hanging Hook Grip End		HFA-TF06	Commonly used for Angle and Straight tool
4	L Shape Hanging Hook Grip End		HFA-TF07	Commonly used for Angle and Straight tool
5	Hanging Hook Grip End		HFA-TF08	Pistol Type Tool
6	Upside down hanger		HFA-TF09	Pistol Type Tool
-	L Shape Handle		HFA-HA01	Straight tool under 40 Nm
-	Torque Reaction Plate		HFA-RP01	Straight tool under 40 Nm

HFC3000II

Carbon Torque Tube

Reduces Torque Reaction / Improves ergonomics of manual fastening.

- ◆ Usability
 - Dampens torque reaction and vibration.
 - Smooth movement with carbon material.
 - Tighten with one hand.
- ◆ Compact Built-in balancer design.



Part #	Max Torque [N·m]	Stroke [mm]	Max Hanging Weight [kg]	Weight [kg]
TTR060-4100-04	60	1,000	2.0~4.0	5.5
TTR200-4100-05	200	1,000	3.0~5.0	6.0

Sample Application



60Nm Pistol Type

30Nm Push to start type tool
Torque Tube can be used for vertical or horizontal application.

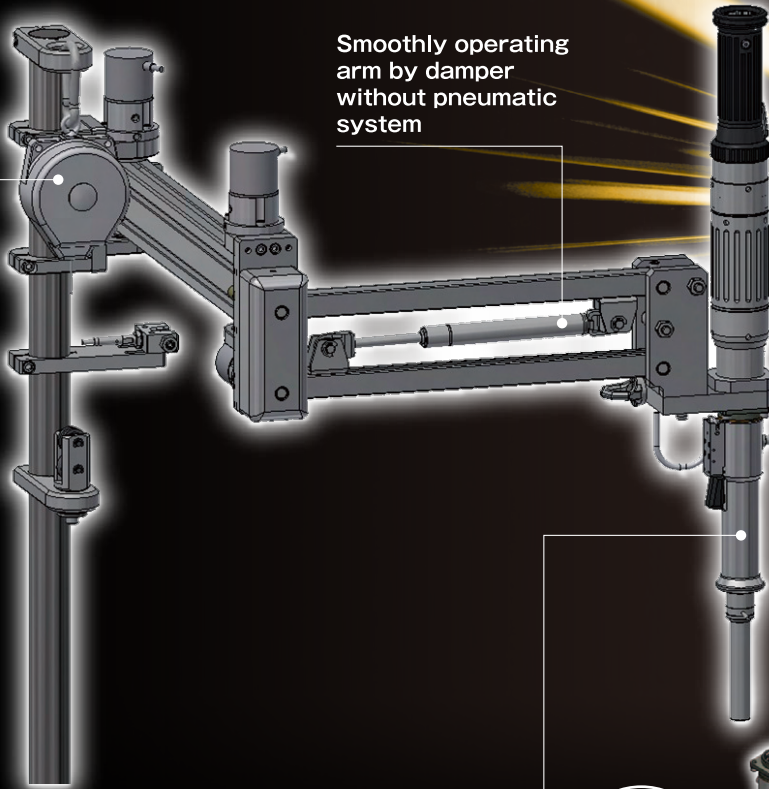
Specifications and designs of the products are subject to change without notice due to improvements.

Arm

Positioning Arm

Automatically returning to home position when an operator takes hand off a grip.

Smoothly operating arm by damper without pneumatic system



Selectable grips



Space-saving arm

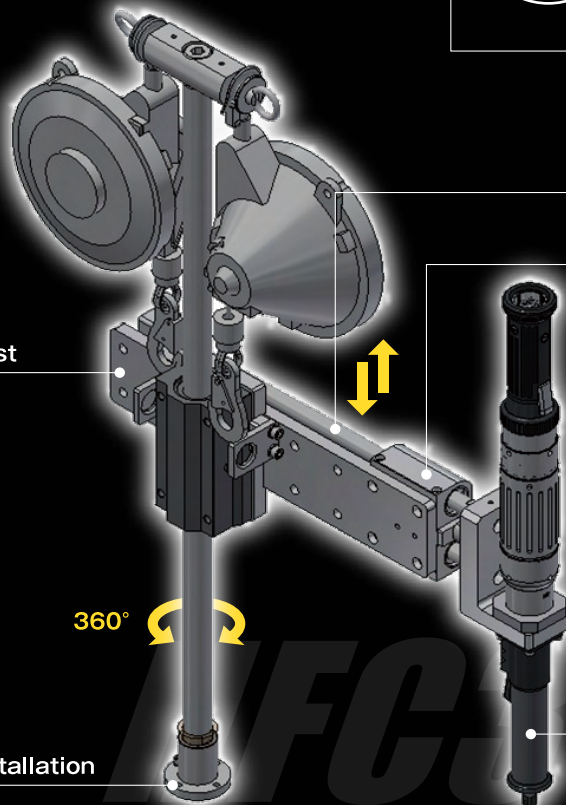
The arm is compactly held in home position.

Home position holder

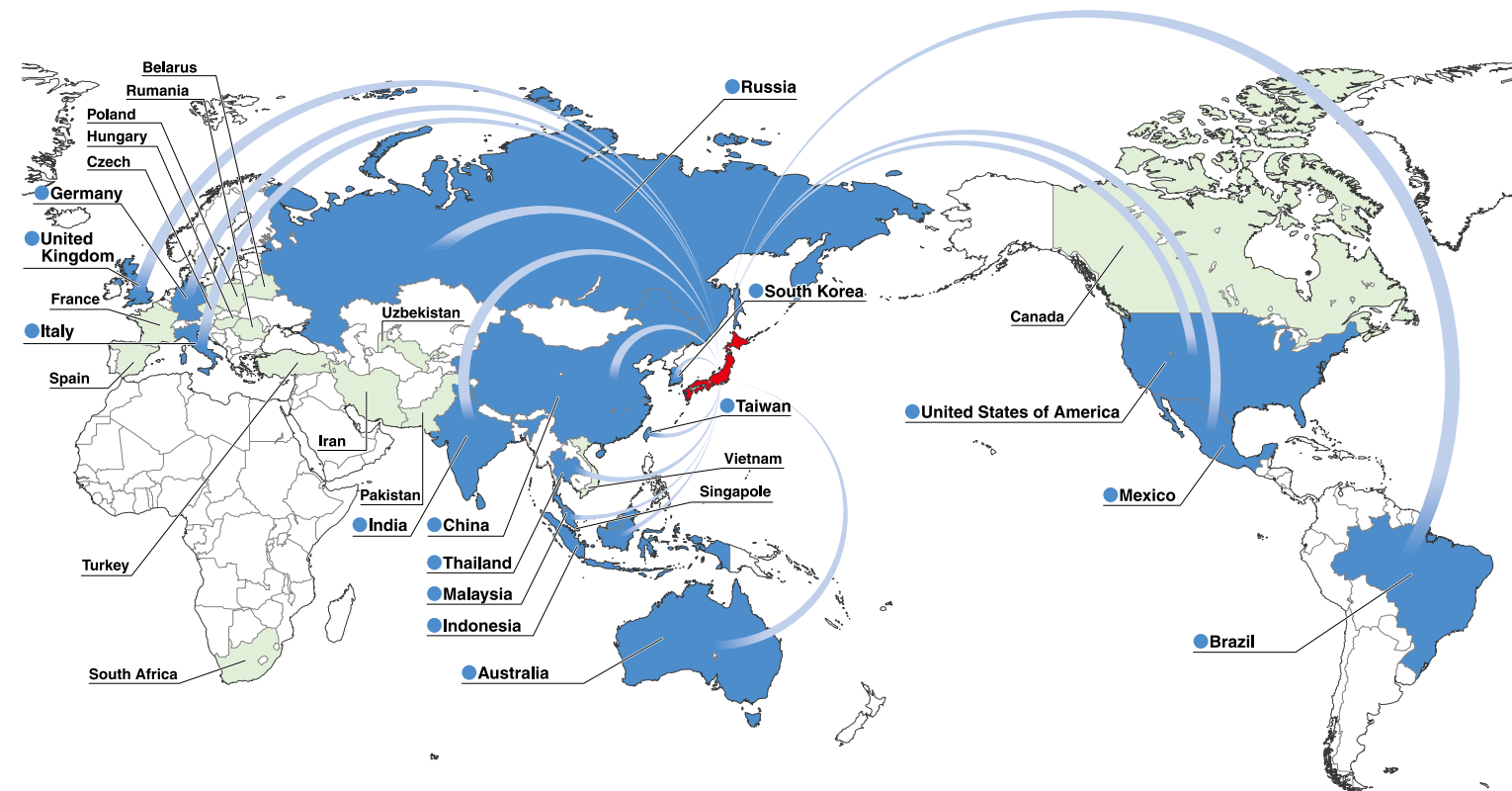
Slide length adjust

360°

Space-saving installation



Global Delivery Map



※ ■ Service Available
■ Delivery Record



ELECTRICAL ASSEMBLY TOOLS **DAI-ICHI DENTSU LTD.**

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JQA-QMA13393

●Specification may be changed without notice due to system improvement. ●Actual color may be different than they appear on this brochure.