

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 10,000 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-060M80-P1-X	60	15~60	461	275	1.5	9.5 (3/8)
HFT-035M80-P1-X (Top Cable Connection)	35	8.8~35	778	242	1.37	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-A1-10	15	3.8~15	1,215	370.5	1.6	9.5 (3/8)
HFT-025M80-A1-10	25	6.3~25	1,070	390.5	1.7	9.5 (3/8)
HFT-040M80-A1-10	40	10~40	648	415.5	1.9	9.5 (3/8)
HFT-060M80-A1-10	60	15~60	446	415.5	1.95	12.7 (1/2)
HFT-080M80-A-10	80	20~80	325	459.4	3.6	12.7 (1/2)
HFT-130M80-A-10	130	32.5~130	195	459.4	3.6	12.7 (1/2)
HFT-200M80-A-10	200	50~200	132	492	4.3	15.9 (5/8)

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-S1-10	10	2.5~10	1,800	332.5	1.3	9.5 (3/8)
HFT-015M50-S1-10	15	3.8~15	1,600	352.5	1.4	9.5 (3/8)
HFT-025M80-S-10	25	6.3~25	1,000	352.5	1.43	9.5 (3/8)
HFT-040M80-S-10	40	10~40	690	352.5	1.43	9.5 (3/8)
HFT-055M80-S-10	55	13.75~25	508	393	3	12.7 (1/2)
HFT-080M80-S-10	80	20~80	303	393	3	12.7 (1/2)

HFC3000II

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.

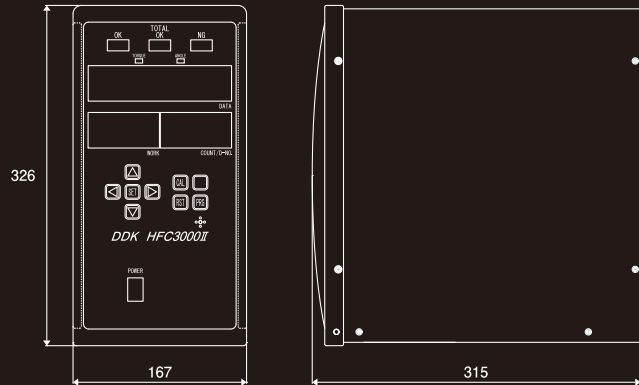
RST

Button for resetting controller.

POWER

Main power switch

Controller type	HFC-B016
Drivable Motor type	M50 M80
Input Power Voltage	100~240 VAC Single phase
Input Power Frequency	50 / 60 Hz
Rated Power Consumption	80W
Peak Current	11A



Tool Cable

Highly durable cable is used for all models

Cable Type	Part #	Length [m]
Main Cable	C15-F7-M05	5
Main Cable	C15-F7-M10	10
Main Cable	C15-F7-M15	15
Extension Cable	C15-EF7-M2	2
Extension Cable	C15-EF7-M5	5



* Maximum cable length is 15m.

RS232C-3

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

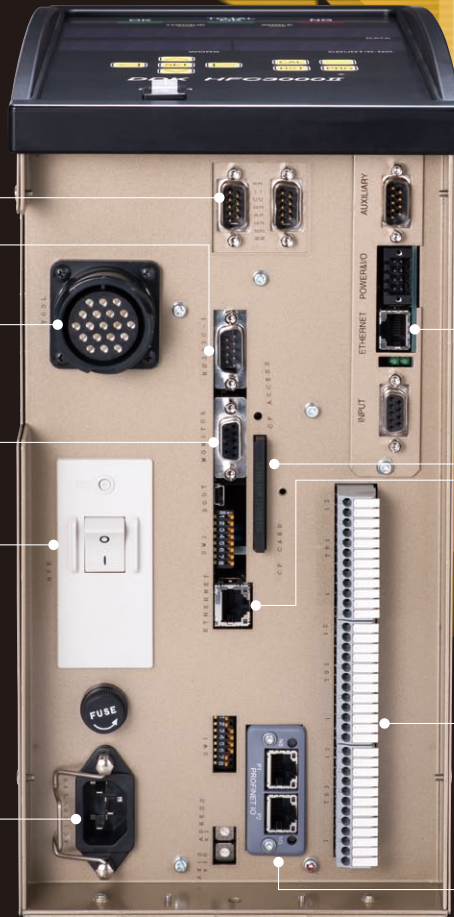
Monitor output for Torque, Angle pulse,
Current, speed.

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.

HFC3000II Controller model type

HFC - B016 - N - N - N - N

Series Name

Servo Size

Option 1 : Fieldbus

N No Fieldbus

CC CC-LinkV2

DN DeviceNet

PB PROFIBUS-DPV1

PI PROFINET I/O

EI EtherNet I/P

FB Fieldbus Base Plate Only

Option 2 : Terminal

N No Terminal

IO With Terminal

Option 3 : CF Card

N No CF Card

CF With CF Card

Option 4 : Data Report Ethernet

N No Data Report Ethernet

EN With Data Report Ethernet



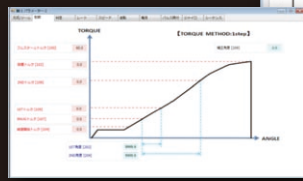
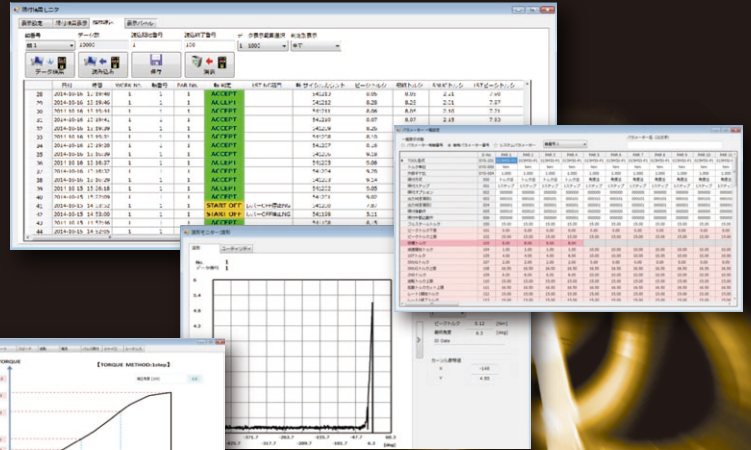
HFC3000II

HFC3000II

User Console Software

Setup and Monitor

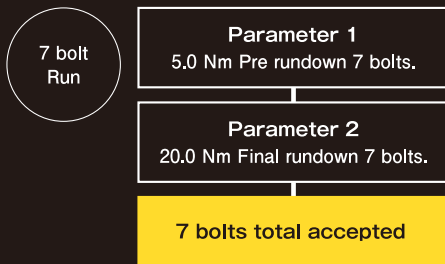
- Parameter edit and save.
- Data Monitor, Stored data (10,000 Cycles) and curve (100 Cycles) can be uploaded.
- Fastening curve can be displayed and automatically saved.
- Reject and abnormal report file can be created separately.



Operation / Function

High Functionality Reduces Process Error.

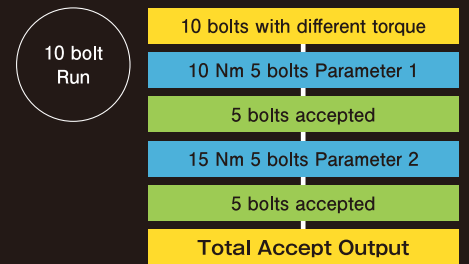
- Sequence Function
Multiple Step Fastening can be controlled Internally.



Stage #	Work #	Cycles
1	Par 1	7
2	Par 2	7

Up to 8 Stages with 99 Cycles

- Switching multiple parameters.



FSERVER

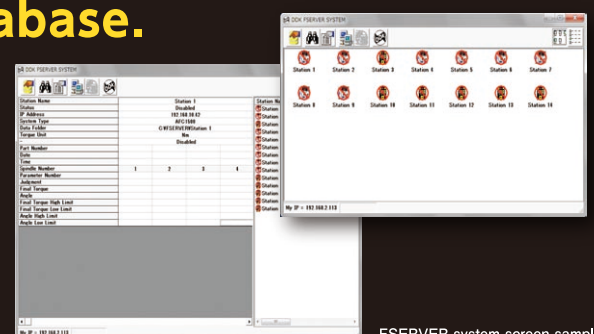
HFC3000II can improve reliability of quality control by interfacing to customers database.

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



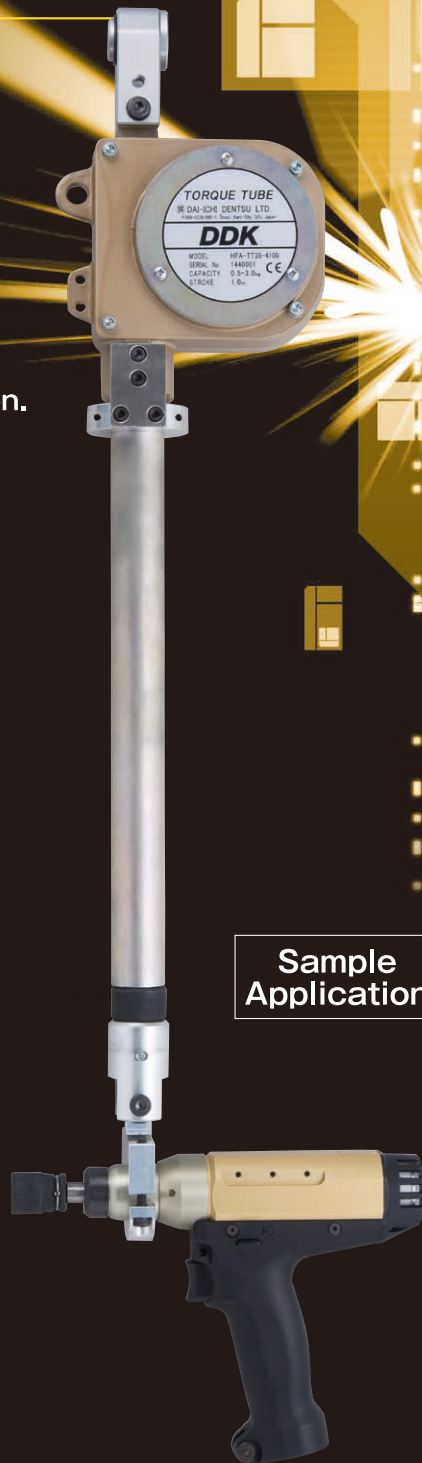
HFC3000II

Torque Tube

Reduces Torque Reaction / Improves ergonomics of manual fastening.

- ◆ Compact Built-in balancer design.
- ◆ Flexible Telescoping to all directions.
- ◆ No Reaction Dampens torque reaction and vibration.
- ◆ Lineup 35 Nm and 130 Nm model available.

Part #	Max Torque [N·m]	Stroke [mm]	Max Hanging Weight [kg]	Weight [kg]
HFA-TT35-3090	35	900	3	4
HFA-TT35-4100	35	1,000	3	3.7
HFA-TT130-4100	130	1,000	5	6.2



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



60Nm Pistol Type



130Nm Angle Type

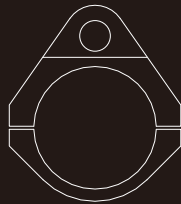
HFC3000II

HFC3000II

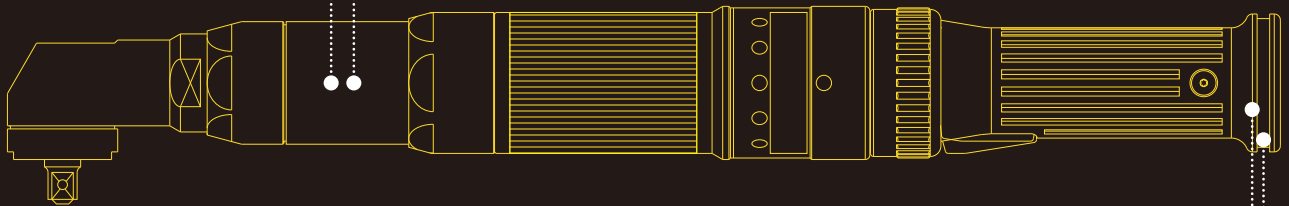
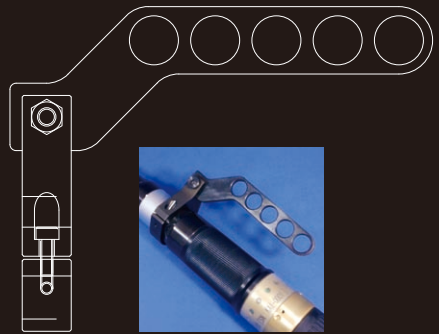
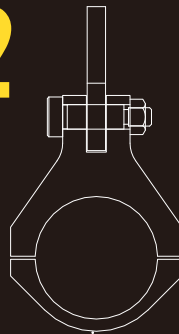
Applications

Tools can be installed as required using multiple accessories.

1

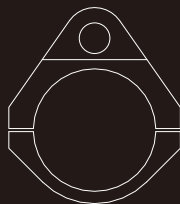


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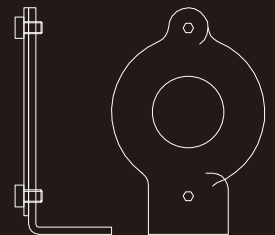


Angle Tool

3



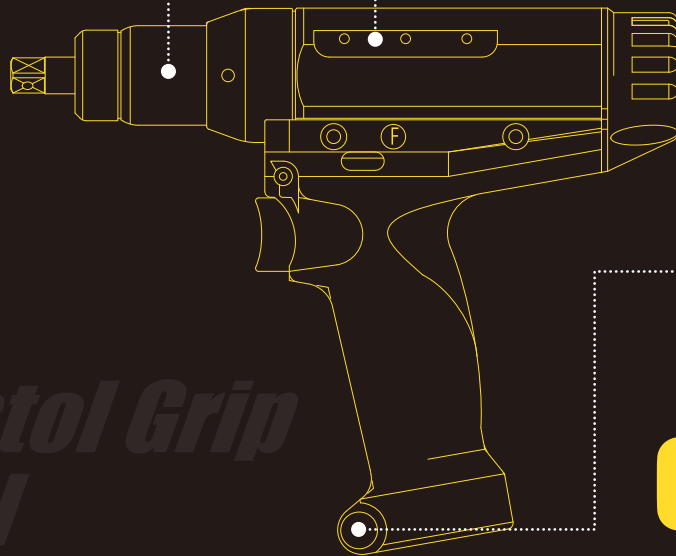
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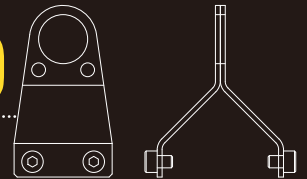
#	Product Name	Size	Model	Usage
1	Hanging Hook	φ40	HFA-TF01	Angle Tool under 60Nm, Straight Tool under 40 Nm
		φ52	HFA-TF02	Angle Tool over 80Nm, Straight Tool over 80 Nm
2	Hanger Arm	φ40	HFA-TF04	Angle Tool under 60Nm, Straight Tool under 40 Nm
		φ52	HFA-TF05	Angle Tool over 80Nm, Straight Tool over 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
7	L Shape Handle		HFA-HA01	Straight tool under 40 Nm
8	Torque Reaction Plate		HFA-RP01	Straight tool under 40 Nm



1 or 2



5



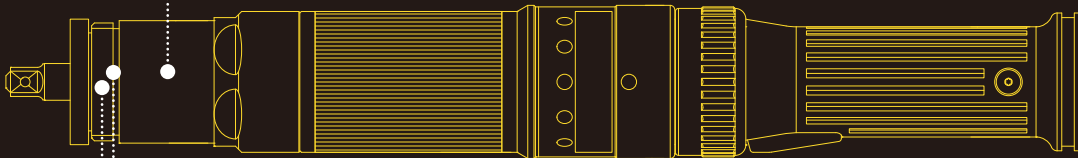
Pistol Grip Tool

6

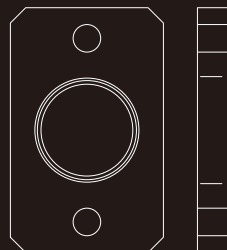


Straight Tool

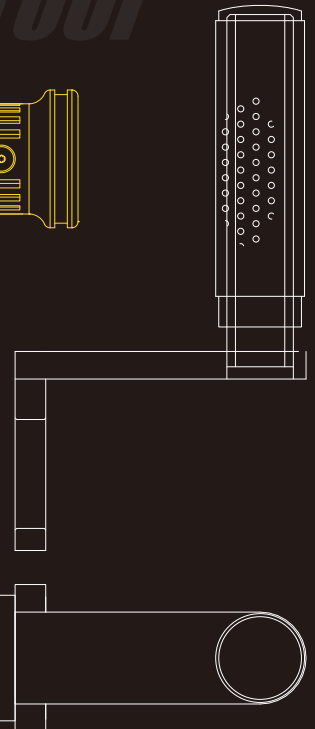
1 or 2



8



7



Special attachment head

Special gear heads, tubenut heads, crowsfoot, hold & drive heads can be designed to the desired application.

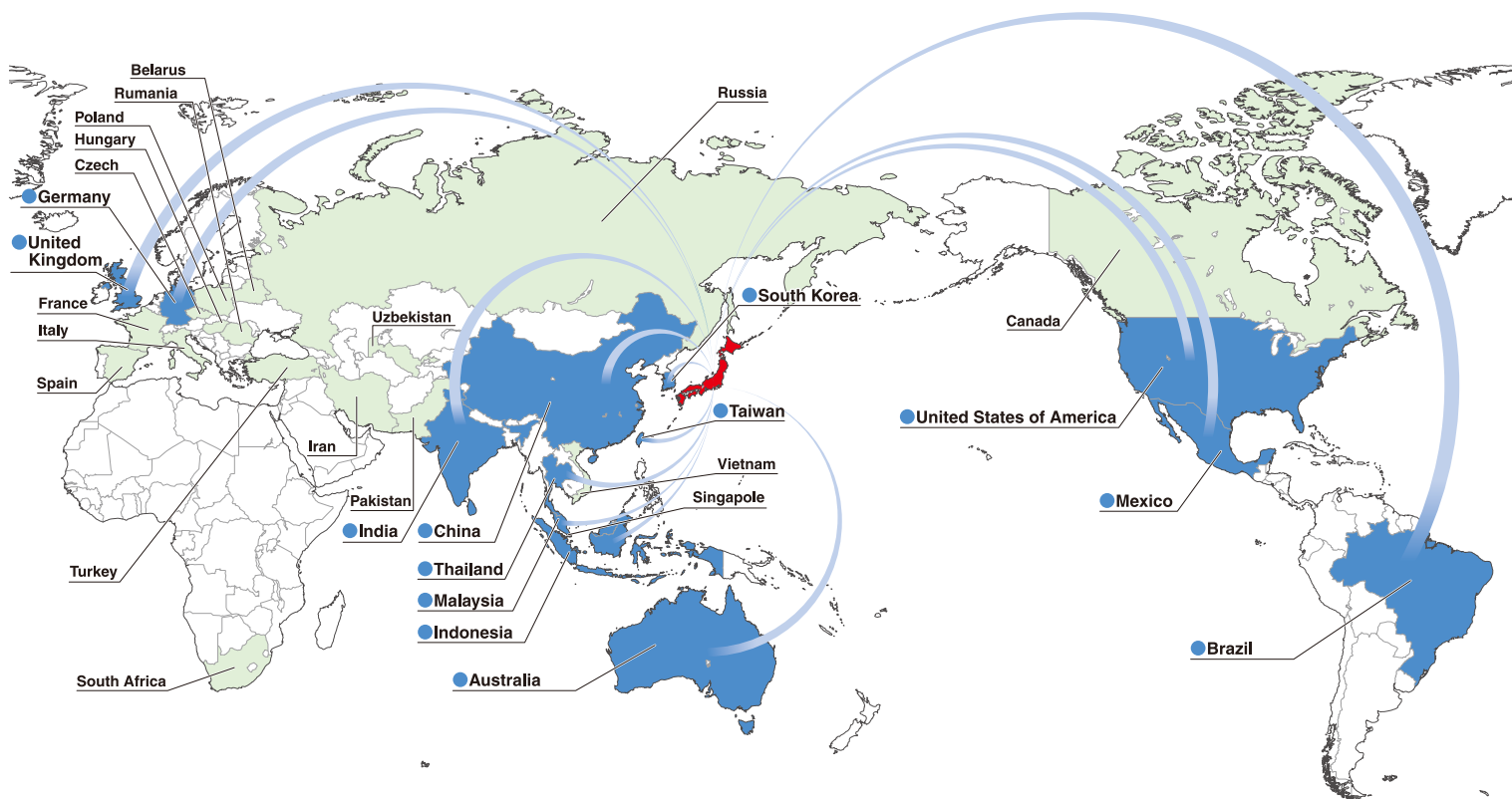


Tubenut head



Hold & Drive

Global Delivery Map



※ ■ Service Available
■ Delivery Record



DAI-ICHI DENTSU LTD.

Headquarters

1-54-1, Shimoishihara, Chofu-City, Tokyo 182-0034 Japan
 TEL:+81-424-40-1465 FAX:+81-424-40-1436
 URL:<http://www.daiichi-dentsu.co.jp>
 E-mail:sales@daiichi-dentsu.co.jp

KANI PLANT

690-1 Omori, Kani-City, Gifu, 509-0238 Japan
 TEL:+81-574-62-5865 FAX:+81-574-62-3523



JQA-QMA13393



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