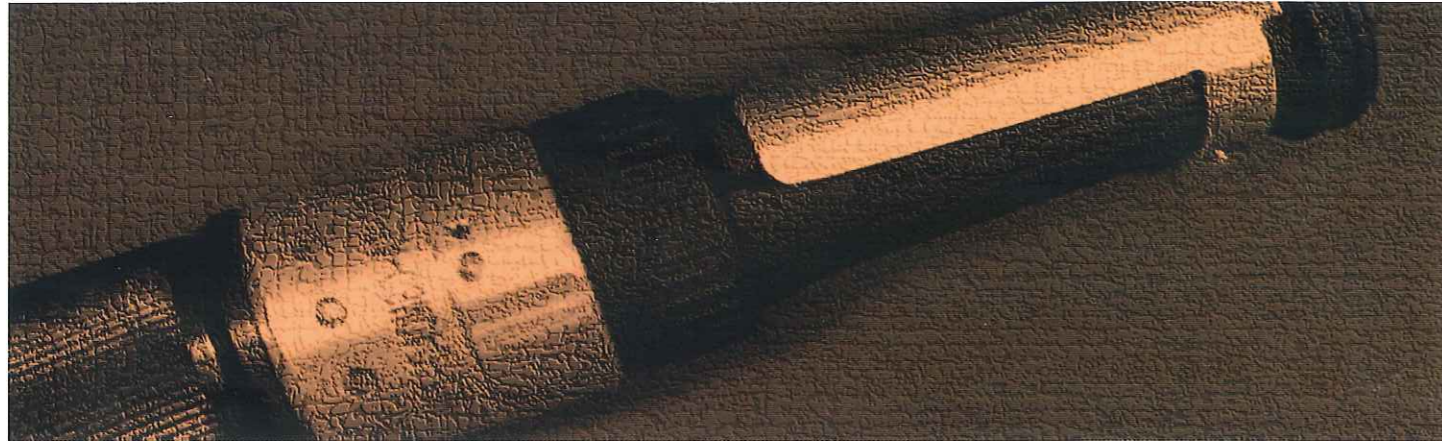


-FUSION-
-FUSION-



**NUT RUNNER
AFC1500 SERIES**



**SERVO PRESS
DSP1500 SERIES**



DAI-ICHI DENTSU LTD.

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U R L : <http://www.fec-usa.com>

●Specification may be changed without notice due to system improvement, ●Actual color may be different than they appear on this brochure.
13.05.1000

Printed in Japan

-FUSION-
-FUSION-

TOTAL CATALOGUE

HAND NUTRUNNER HFT(FUSION) SERIES



DAI-ICHI DENTSU LTD.



DAI-ICHI DENTSU LTD.



HAND NUT RUNNER

Technology cultivated in Nutrunner is poured in.

“FUSION” means FUSION as it goes. DDK Supply the best product for the various needs with the experience of over 30 years in Nutrunner development and latest Hand Nutrunner technology.

FUSION realizes customer’s system with tool function and network as FUSION.

1. Improvement of productivity with high performance and high speed fastening

- Improve the fastening ability with high speed digital control.
- Realize high speed control and high speed data processing with dual CPU.
- Control of wide range is available with new high speed servo motor
- Adopt the durable resolver to inspect the position
- Pursue accuracy and safety with ID function.
- Embed pulse control to reduce reaction force on fastening as standard.



2. Reduce initial cost and running cost

- Reduce electric consumption embedded high effective servo system .
- Standalone
- Controller is selectable as customer’s needs.
- The range of power supply can be used from single phase AC100•200V.

3. Flexible communication and data expression

- Communication devise can embed for new generation FA demands.
- DeviceNET, ProfiBUS-DP, Ethernet can embed
- Visible User Console(Windows base)
- Confirm the data easily with high bright LED.
- Realize the equivalent to function unction and setup of Nutrunner fastening machine.

4. Reliable quality management

- The inspection of fastening NG is available by monitoring torque, angle, torque rate and time
- Embed lamp and buzzer on fastening NG.
- 10,000 fastening data can store automatically.
- Torque resolution 1/1000 rating, angle resolution 0.1deg (Mount tool if angle accuracy is required.)



Easiness of handheld tool is added to the Nutrunner Technology,

HFT(FUSION)

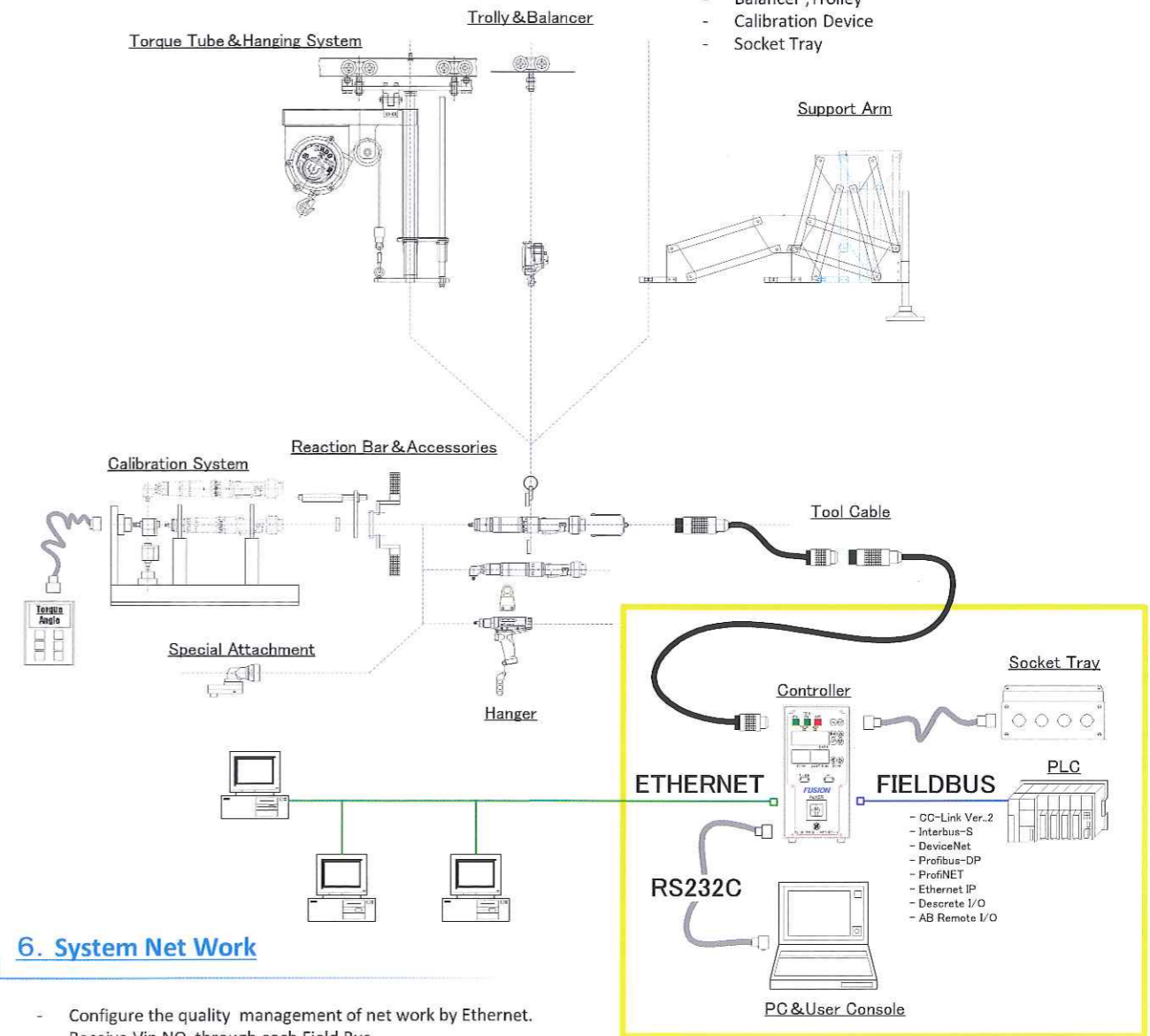


System Structure

Total management by creating full network system

5. Extendable applications

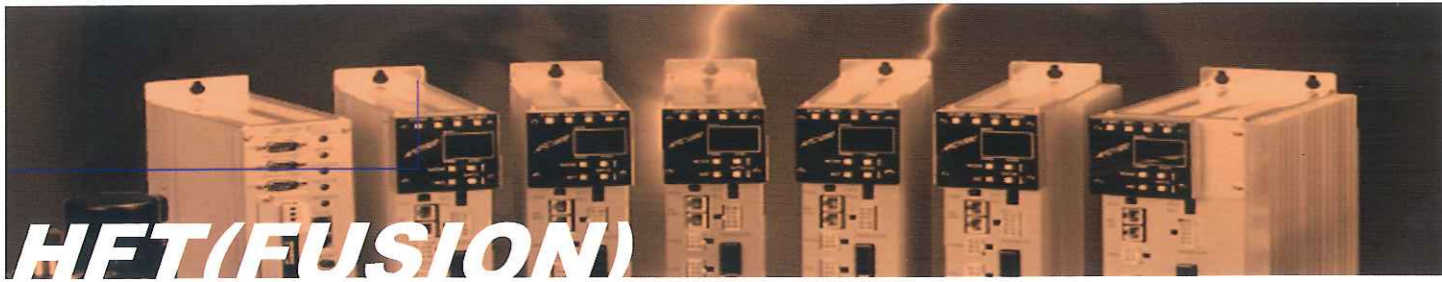
- Reduced designing cost by semi standardizing accessories.
- Reaction Bar, Support handle
- Support Arm
- Balancer ,Trolley
- Calibration Device
- Socket Tray



6. System Net Work

- Configure the quality management of net work by Ethernet.
- Receive Vin NO. through each Field Bus.
- Put together fastening result and VIN NO.
- Total management for record





HFT(FUSION)



Product Identification Guide

Tool model guide

HFT - 040 M80 - A 1 T - 10 P

Max. Torque	010 = 9.8 Nm 015 = 14.7 Nm 025 = 24.5 Nm 040 = 39.2 Nm 060 = 58.8 Nm 080 = 78.4 Nm 130 = 127.4 Nm
Motor	M50 M80
Tool Type	A = Angle S = Straight P = Pistol T = Pistol "T" Type
Revision Number (1)	Blank: Original 1: Revision 1
Special Number	Blank: Standar T: Tube Nut
Revision Number (2)	Production Control Number
Option	Blank: Through Hole P: Plunger Type B: Bit Chuck +R: Reaction Bracket Flange Type



Pistol Tool

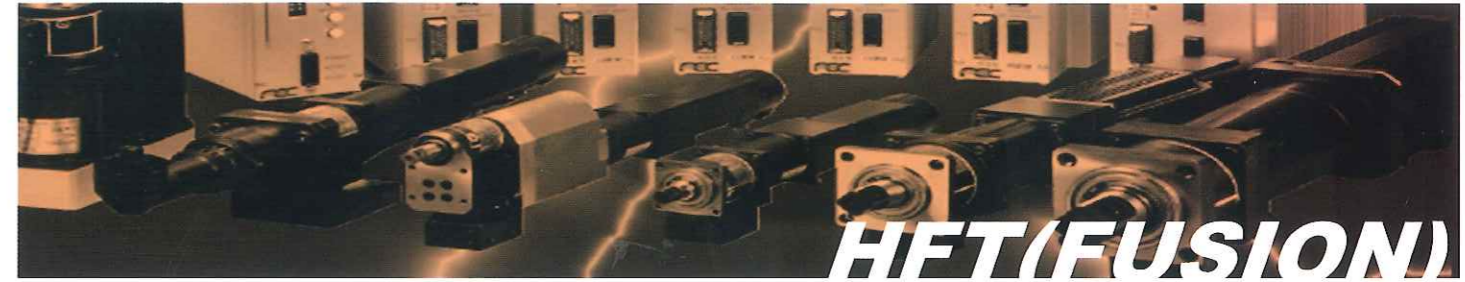
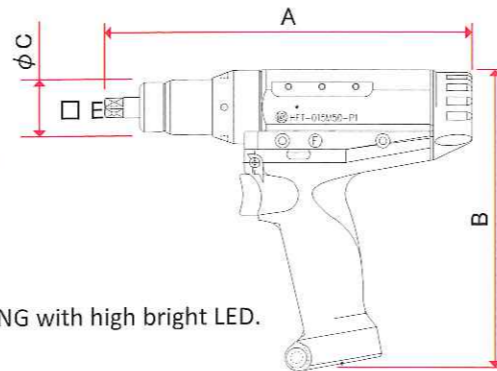
New design high speed and light Handheld Nutrunner

Model	Output Shaft	Torque Range (Nm)	Weight (kg)	Speed (RPM)	A:Overall (mm)	B:DIM (mm)	C:DIM (mm)	D:DIM (mm)	E:Square (mm)
HFT-015M50-P1	Last letter of tool mode No Mark: Hole Type P: Plunger Type B: Bit Chuck Type	3.8~15.0	1.1	1190	218.0	172.8	32.5	-	9.5(3/8)
HFT-035M80-P1		8.8~35.0	1.4	778	242.0	174.5	36.0	-	9.5(3/8)

Flange type applies in case of "R" is put at the last letter of tool model.
Hanger End Grip(Model:HFC-TF07) is attached as standard.



Display system error by Ok or NG with high bright LED.



HFT(FUSION)

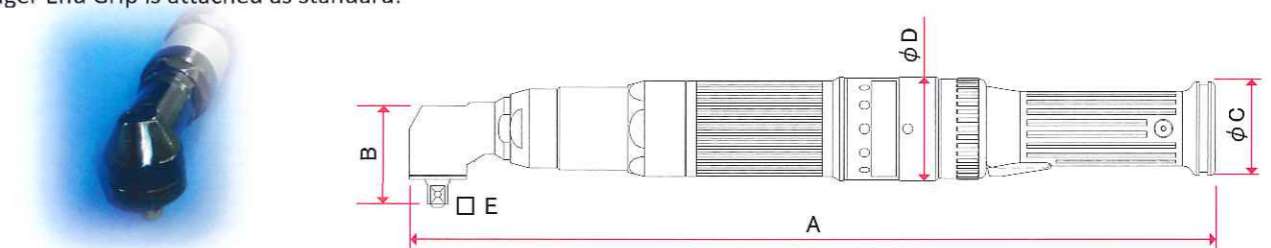


Angle Tool

New designed cable applied angle head tool.

Model	Output Shaft	Torque Range (Nm)	Weight (kg)	Speed (RPM)	A:Overall (mm)	B:DIM (mm)	C:DIM (mm)	D:DIM (mm)	E:Square (mm)
HFT-015M50-A1-10	Last letter of tool model No Mark: Hole Type P: Plunger Type B: Bit Chuck Type	3.8~15.0	1.6	1215	370.5	35.5	45.0	50.0	9.5(3/8)
HFT-025M80-A1-10		6.3~25.0	1.7	1070	390.5	35.5	45.0	50.0	9.5(3/8)
HFT-040M80-A1-10		10.0~40.0	1.9	648	415.5	38.0	45.0	50.0	9.5(3/8)
HFT-060M80-A-10		15.0~60.0	2.0	446	415.5	38.0	45.0	50.0	12.7(1/2)
HFT-080M80-A-10		20.0~80.0	3.6	325	459.4	51.5	45.0	61.0	12.7(1/2)
HFT-130M80-A-10		32.5~130.0	3.6	195	459.4	51.5	45.0	61.0	12.7(1/2)
HFT-200M80-A-10		50.0~200.0							

Hanger End Grip is attached as standard.

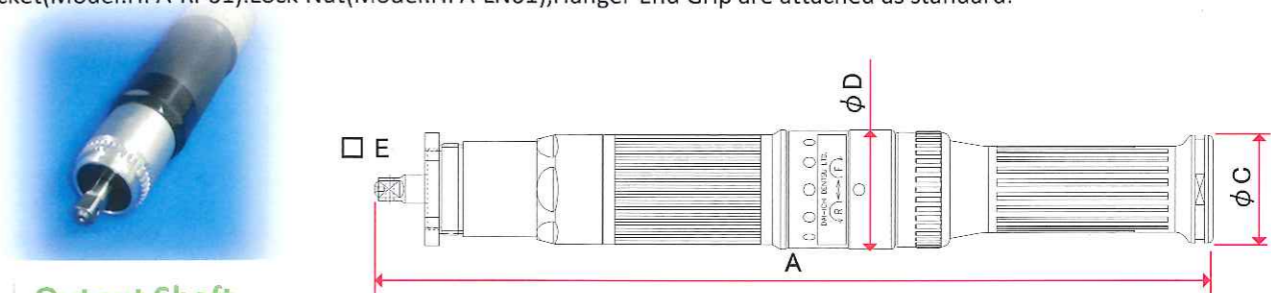


Straight Tool

New designed cable applied straight head tool.

Model	Output Shaft	Torque Range (Nm)	Weight (kg)	Speed (RPM)	A:Overall (mm)	B:DIM (mm)	C:DIM (mm)	D:DIM (mm)	E:Square (mm)
HFT-010M50-S1-10	Last letter of tool model No Mark: Hole Type P: Plunger Type B: Bit Chuck Type	2.5~10.0	1.3	1665	342.0	-	45.0	50.0	9.5(3/8)
HFT-015M80-S1-10		3.8~15.0	1.4	1665	363.0	-	45.0	50.0	9.5(3/8)
HFT-025M80-S1-10		6.3~25.0	1.4	900	363.0	-	45.0	50.0	9.5(3/8)
HFT-040M80-S-10		10.0~40.0	1.4	694	363.0	-	45.0	50.0	9.5(3/8)
HFT-080M80-S-10		20.0~80.0	3.3	315	410.4	-	45.0	60.0	12.7(1/2)

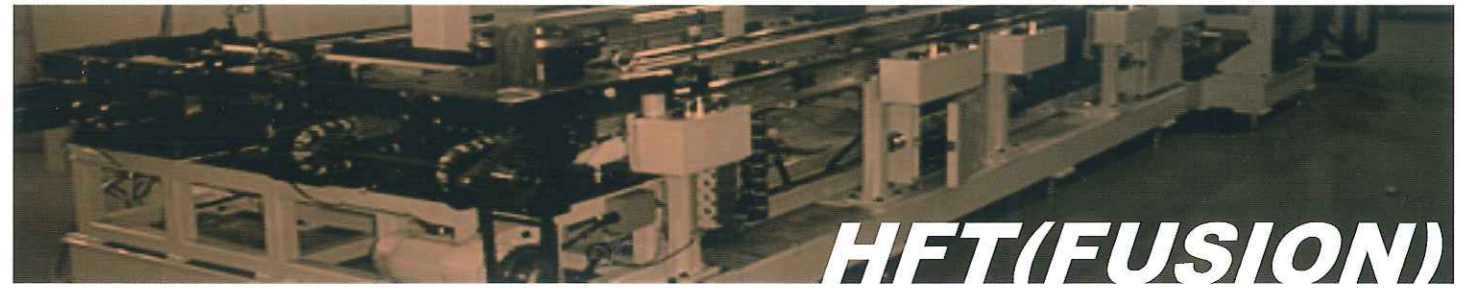
Bracket(Model:HFA-RP01).Lock Nut(Model:HFA-LN01),Hanger End Grip are attached as standard.



Output Shaft

Select from Pin hole type, bit chuck and plunger pin type, suitable for your specification.

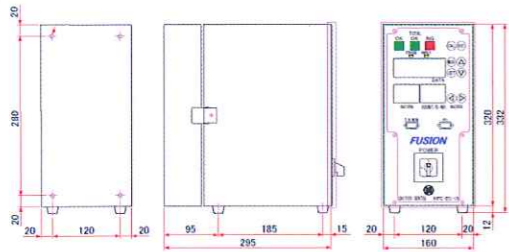




H

Controller

Intelligent controller with visible and 7 segment LED display.



Specification

Unit model	HFC-EC-16
Motor Type	M80, M50
Input Power Voltage	Single phase AC100~240±10%
Frequency	50/60Hz
Power Consumption	80W
Max current	11A

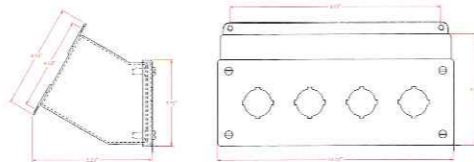


Model	Control (I/O)	PC Communication
HFC-EC-16C	D I/O	RS232C
HFC-EC-16C-CC	+CC-Link Ver.2	RS232C
HFC-EC-16C-DN	+DeviceNet	RS232C
HFC-EC-16C-PB	+ProfiBus	RS232C
HFC-EC-16C-EI	+EtherNet I/P	RS232C
HFC-EC-16C-PI	+ProfiNet	RS232C
HFC-EC-16C-EN	D I/O	ETHERNET
HFC-EC-16C-CC-EN	+CC-Link Ver.2	ETHERNET
HFC-EC-16C-DN-EN	+DeviceNet	ETHERNET
HFC-EC-16C-PB-EN	+ProfiBus	ETHERNET
HFC-EC-16C-EI-EN	+EtherNet I/P	ETHERNET
HFC-EC-16C-PI-EN	+ProfiNet	ETHERNET

200V transformer(Built-in type) is available.(16C→16D)
 Floored type applies in case of "R" is put at the last letter of unit model.

Socket Tray

Easy switch and change for set up parameter by socket tray.



Item	Specification
HFC-ST004	For 4 sockets
HFC-ST008	For 8 sockets

Tool Cable

New design and durable cable for all models.

Item	Model	Length
Tool Cable	C15-F7-M05	5M
Tool Cable	C15-F7-M10	10M
Tool Cable	C15-F7-M15	15M
Extension Cable	C15-F7-M2	2M
Extension Cable	C15-F7-M5	5M

The length of Extension Cable can be used up to 15M.

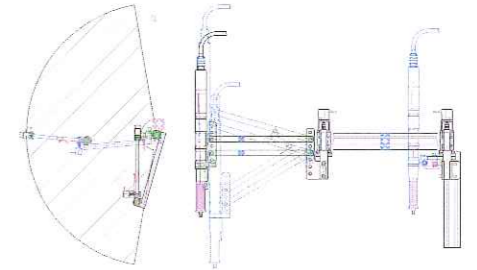


5

K

Support Arm

Support arm improves productivity and operation.



L

New Lease

New items for additional value

High Speed Seating Unit (PAT.P)

Upward Connector

Curl Cable



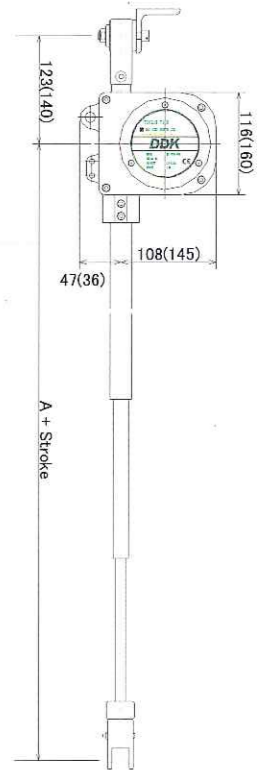
M

Torque Tube

Specialized in hanging application

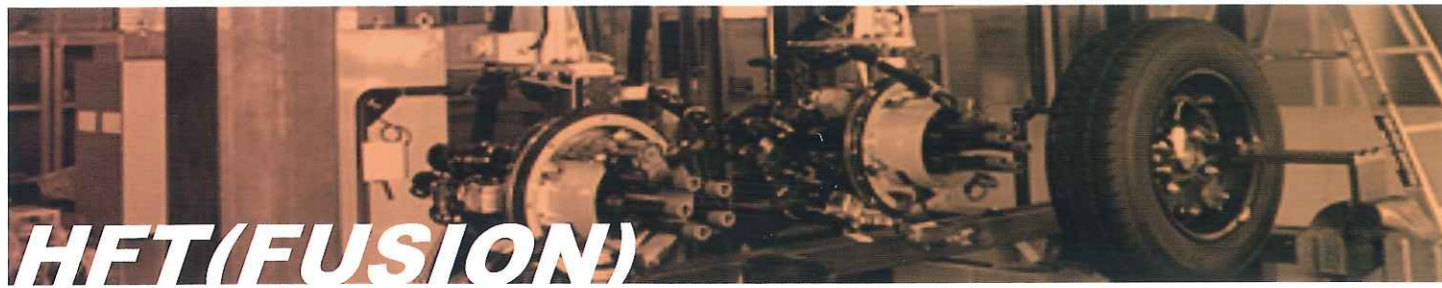
Torque Tube with balancer embedded

Model	HFA-TT35-3090	HFA-TT35-4078	HFA-TT130-4090
Max. Torque (Nm)	35	35	130
Stroke (mm)	900	780	900
Max. Carry (kg)	3	3	4.5
Length A (mm)	822.5	622.5	622.5
Weight (kg)	3.3	3.3	7.0



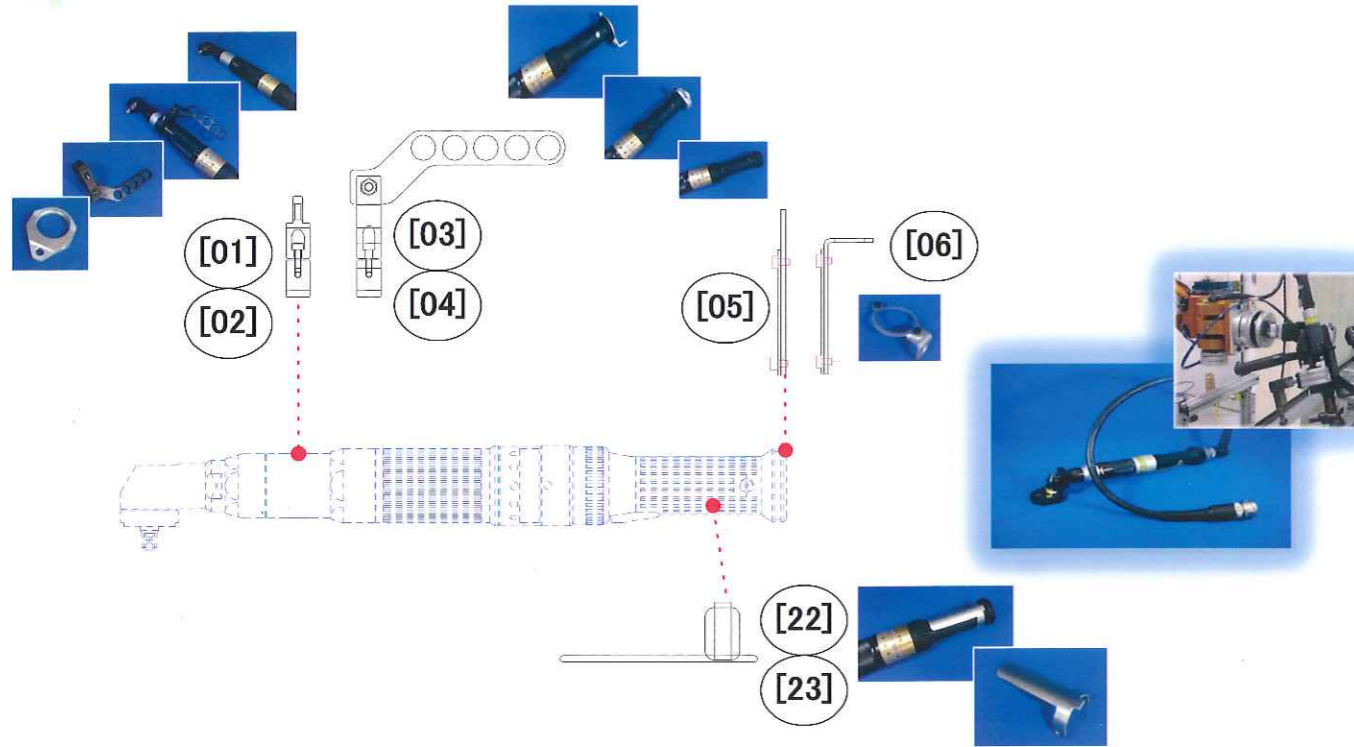
() shows dimension for 130Nm

6

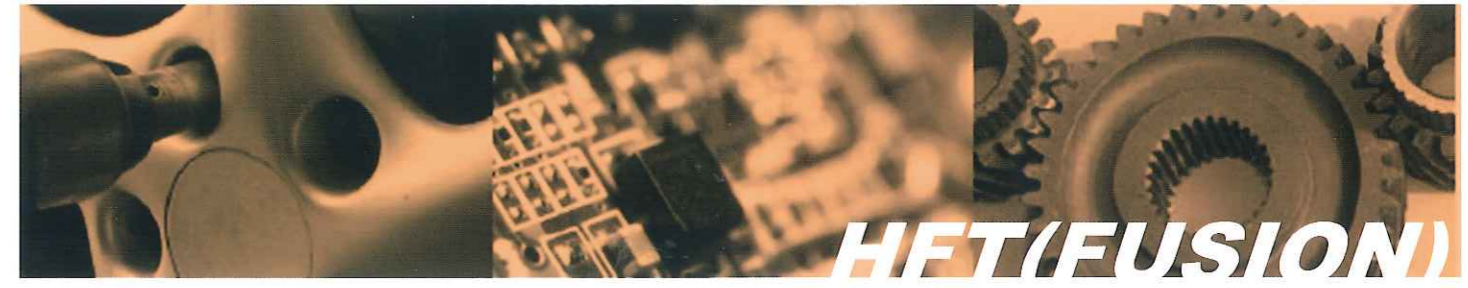


Tool Application

Install tool with various accessories as needed.

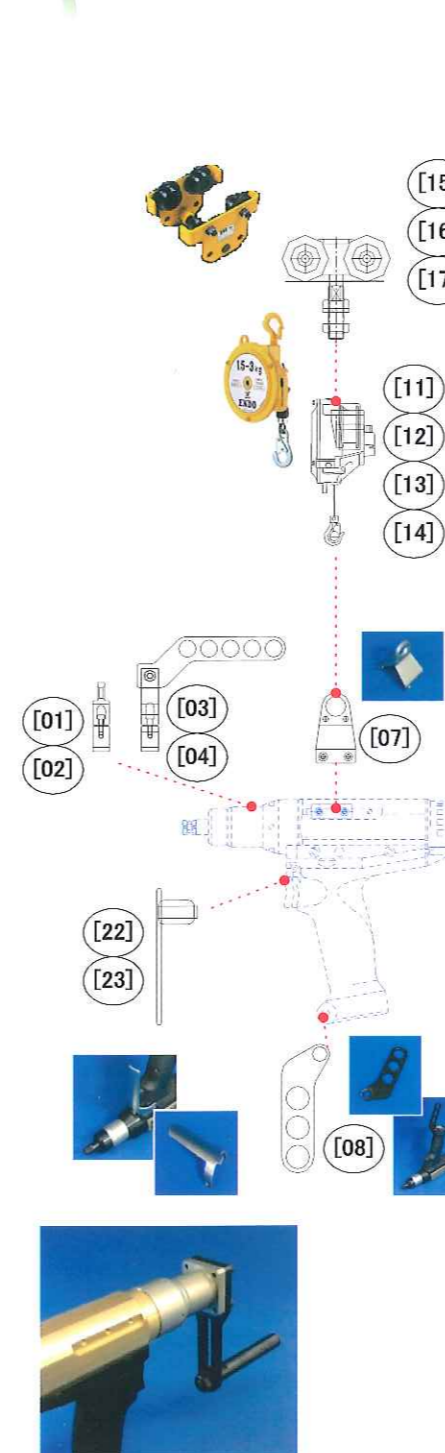


Item	Model	Application	NO.
Hanger Hook φ40	HFA-TF01	Under 60Nm for Angle Head, Under 40Nm for Straight	[01]
Hanger Hook φ52	HFA-TF02	Under 80Nm for Angle Head, Under 80Nm for Straight	[02]
Hanger Arm φ40	HFA-TF04	Under 60Nm for Angle Head, Under 40Nm for Straight	[03]
Hanger Arm φ52	HFA-TF05	Under 80Nm for Angle Head, Under 80Nm for Straight	[04]
Hanger Grip End	HFA-TF06	For Angle Head and Straight Tool	[05]
Hanger Grip End(L type)	HFA-TF07	For Angle Head and Straight Tool	[06]
Hanger Attachment	HFA-TF08	For Pistol Tool	[07]
Hanger Attachment(upside-down)	HFA-TF09	For Pistol Tool(upside-down)	[08]
Item	Model	Specification	NO.
L type Handle	HFA-HA01	Under 40Nm for Straight Tool	[09]
Reaction Plate	HFA-RP01	Under 40Nm for Straight Tool	[10]
Item	Model	Maximum Weight	NO.
Balancer	EW-3	Up to 3kg	[11]
Balancer	EW-4	Up to 5kg	[12]
Balancer	EWS-7	Up to 7kg	[13]
Balancer	EW-9	Up to 9kg	[14]

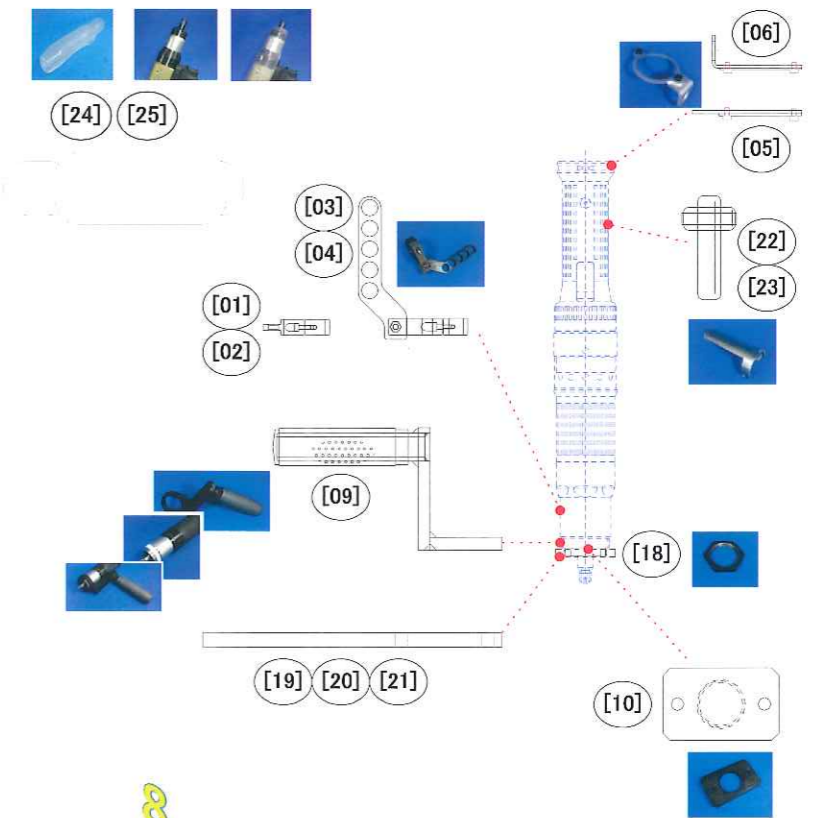


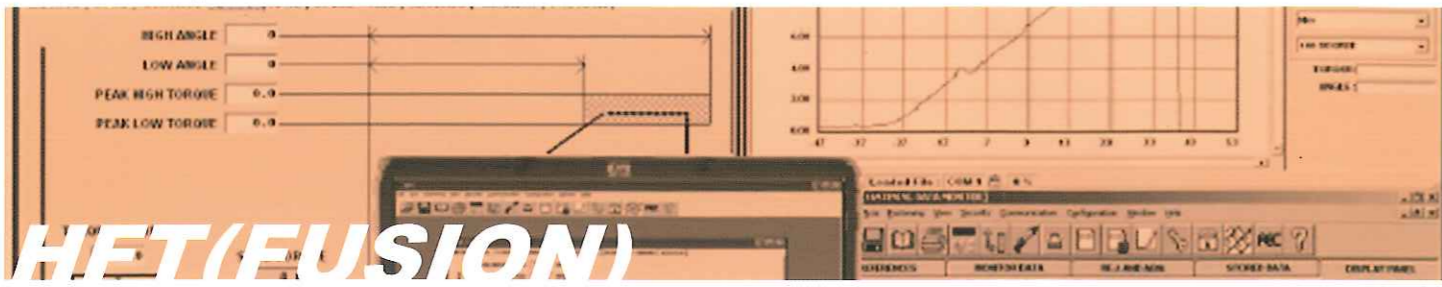
Tool Application

Install tool with various accessories as needed.



Item	Model	Maxium Weight	NO.	
Trolley	PTF-60	Up to 60kg	[15]	
Trolley	PTF-125	Up to 125kg	[16]	
Trolley	PTF-250	Up to 250kg	[17]	
Item	Model	Application	NO.	
Lock Nut	HFA-LN01	Common	[18]	
Item	Model	Application	Length (mm)	NO.
Reaction BarA	HFA-HB01	Common	100	[19]
Reaction BarB	HFA-HB02	Common	150	[20]
Reaction BarC	HFA-HB03	Common	200	[21]
Item	Model	Specification	NO.	
Start Lever(Standard)	HFA-SL01	For Angle Head and Straight Tool	[22]	
Start Lever(Long)	HFA-SL02	For Angle Head and Straight Tool	[23]	
Item	Model	Specification	NO.	
Tool ProtectorA	HFA-PC01	For 15Nm Pistol Tool	[24]	
Tool ProtectorB	HFA-PC02	For Angle Head and Straight Tool	[25]	





Special Attachment

Supply Special gear head for various applications.

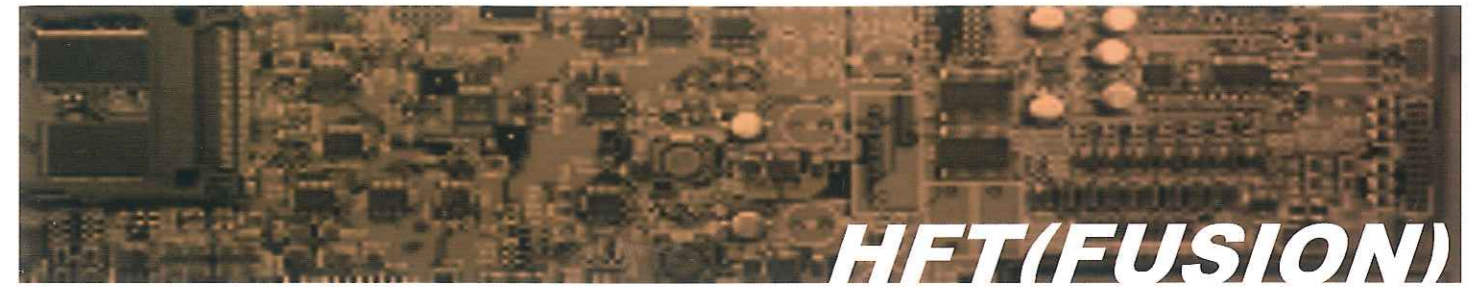
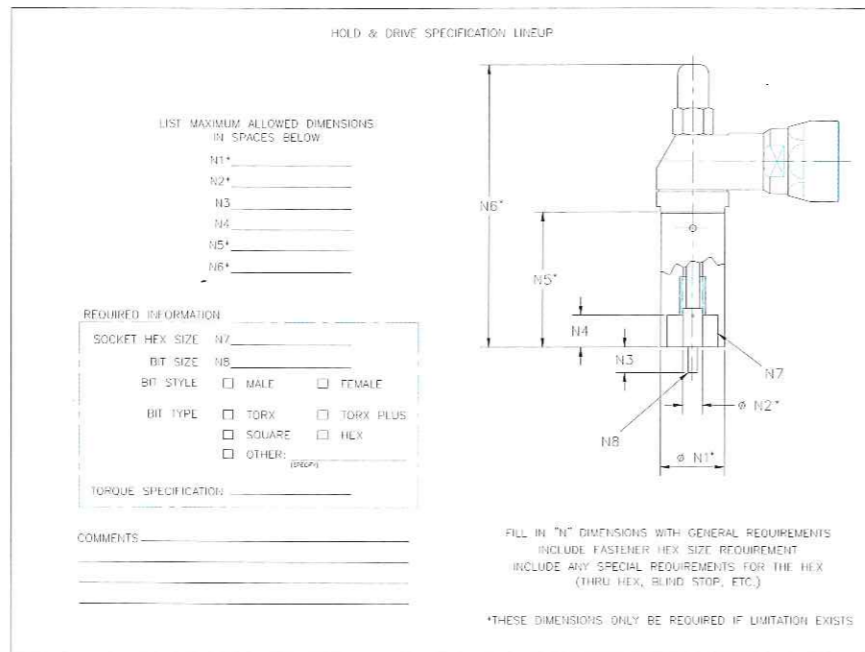
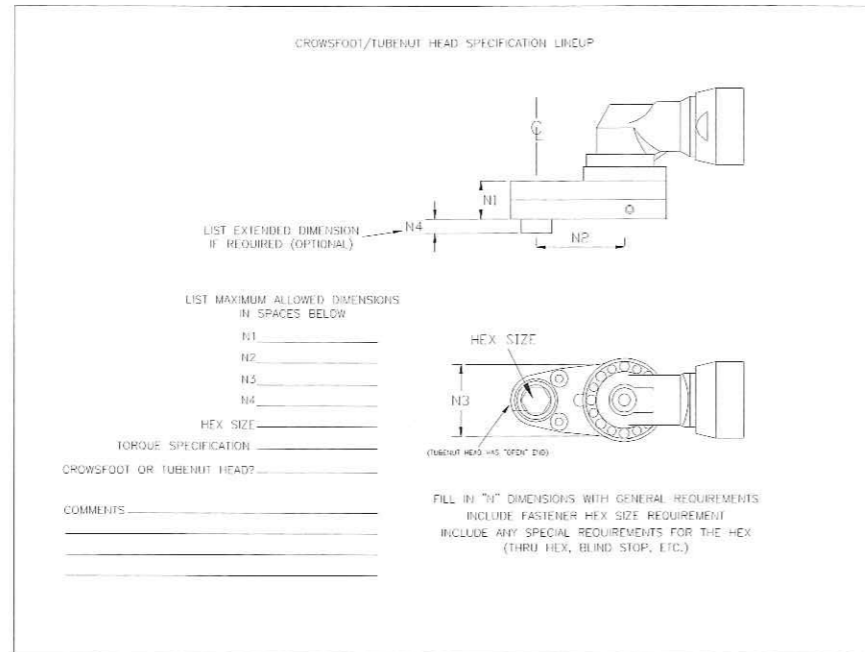
Crow Foot



Tube Nut Head



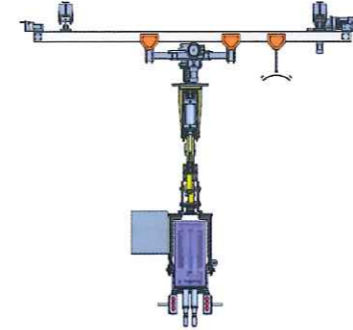
Hold & Drive



Turn Key Solution

Supply total fastening solution including engineering

U bolt 2 spindles fastening machine with support balancer



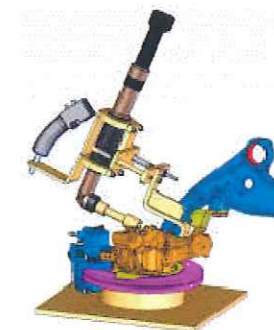
Fastening stand with dual arm



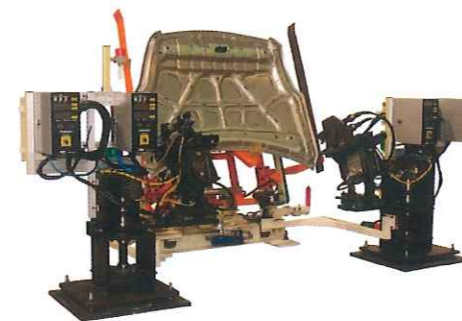
Support arm for reaction force



Start handle & Fastening jig



Automatic 4 spindles fastening machine

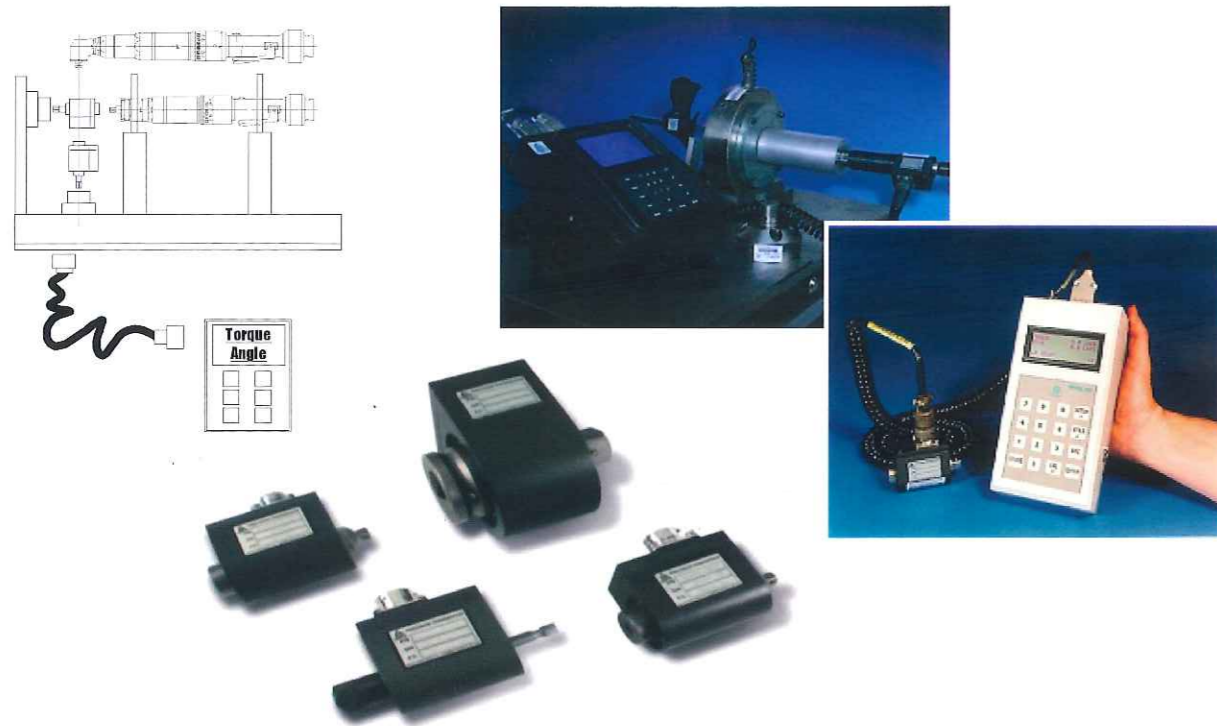


Design and manufacture are available as your request.
 Contact specification and contents to DDK or our distributor.



Calibration System

Use this system for inspecting Nutrunner system periodical base.



Item	Model	Specification	Torque Range (Nm)
Model 920 Portable Digital	080920-01000	Torque/Angle display	
Cable Assembly	097000-34445	Cable	
Battery Charger	9412R-002100	90-210VAC	
Torque Transducer	039230-50002	1/4 Inch Hex Drive	0.023~0.23
Torque Transducer	039200-50021	1/4 Inch Hex Drive	0.23~2.3
Torque Transducer	039230-50101	1/4 Inch Hex Drive	1.13~11.3
Torque Transducer	039225-50101	1/4 Inch Square Drive	1.13~11.3
Torque Transducer	039237-50022	3/8 Inch Square Drive	2.27~22.7
Torque Transducer	039237-50051	3/8 Inch Square Drive	6.8~68
Torque Transducer	039250-50101	1/2 Inch Square Drive	13.6~136
Torque Transducer	039250-50201	1/2 Inch Square Drive	20~200
Torque Transducer	039275-50301	3/4 Inch Square Drive	40.7~407



User Console (Configuration Software)

Dedicated software provides various functions for set up and monitoring.

Item	Model	Specification
USER CONSOLE	UC-N2J	Ver.5.18
PC Cable	USB-RSAQ5	USB-RS232C
RS232C Cross Cable	C15-U6-M3	Crossover



Windows (2000, XP, Vista, 7-32bit)

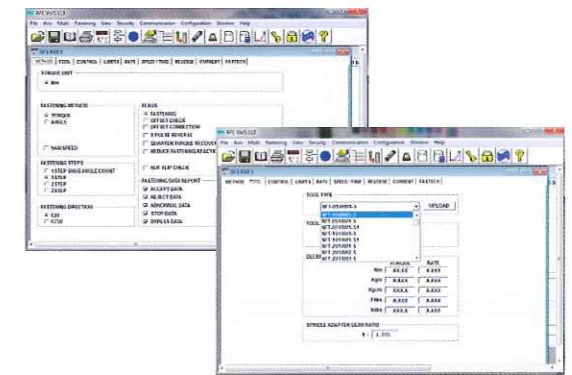
Easy set up by selectable method

(Japanese & English Version)

Set up by pull down method.

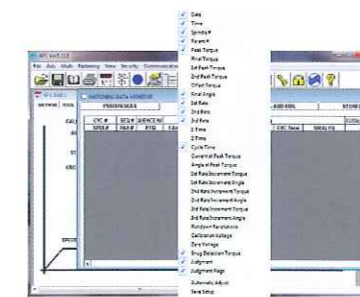
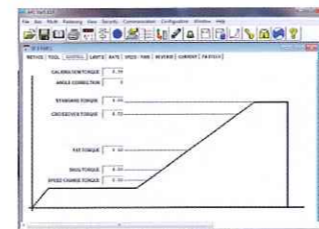
Basic Function

- Edit and store set up parameter.
- Collect fastening data/statistic.
- Automatic storage for fastening torque curve display and file.
- Generate NG, Abnormal file.
- Common software Selectable method.
- Store and upload 50 torque curves.

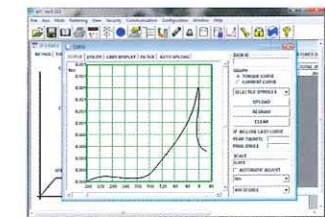


Visible graphic set up

Collect fastening data • statistical calculation • individual NG display



Displayed torque curve by Excel format.





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USER CONSOLE(Example)

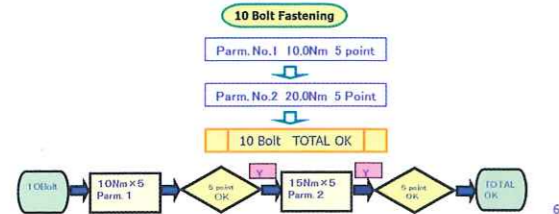
User-friendly Multi-function system reduces human error.

Sequence operation

Automatic parameter change on tightening number.

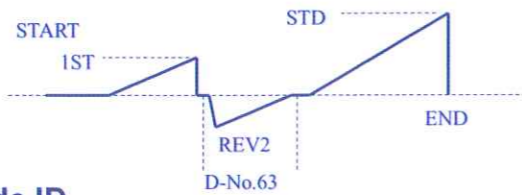


Auto Parameter Change



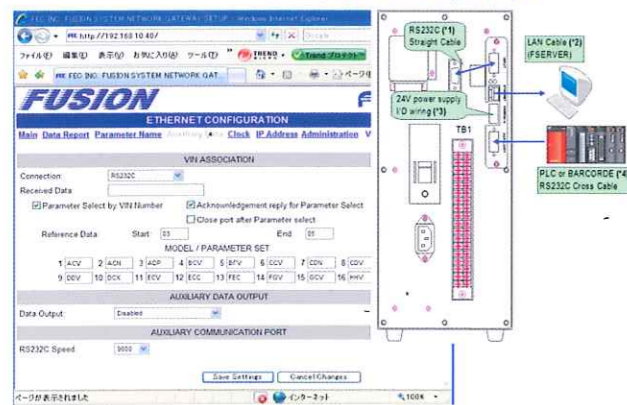
Automatic reverse fastening operation

2STEP, 3STEP fastening, specified turn loosening available
1ST torque, CROS Torque
Specified turn loosening in REV2, REV3



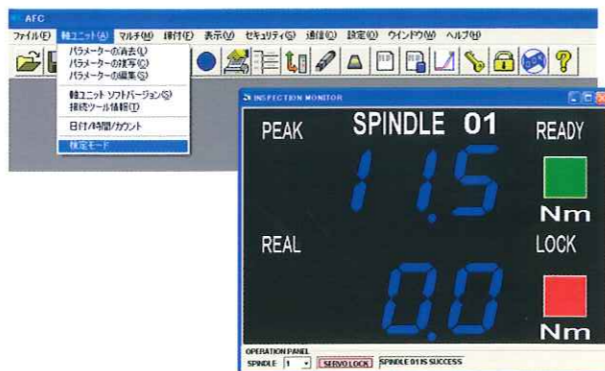
Automatic parameter change by Bar-code ID

Change parameter by ID Input

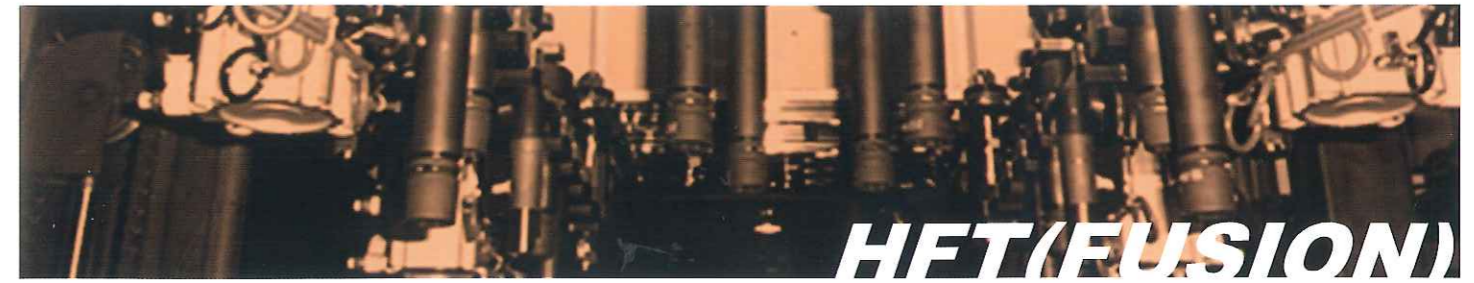


Torque verification mode

Torque verification by servo lock from Userconsole



13



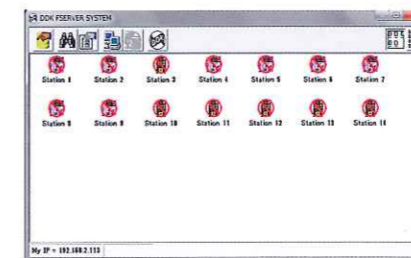
HFT(FUSION)

FUSION Network

FUSION, directly connected to customer's database, improves reliability of your quality management.

FSERVER SYSTEM DIAGRAM

Specification
 • Applied for AFC, FUSION, DSP
 • Maximum of 20 stations can be connected.
 • 100Mbps Ethernet Communication
 • Windows XP, Windows 7(32bit)

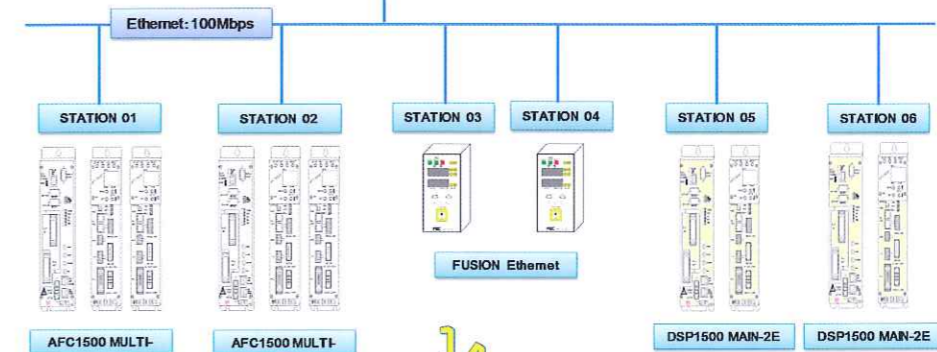


Station Name	Station No.	Station	IP Address
Station 1	1	Disabled	192.168.18.41
Station 2	2	Disabled	192.168.18.42
Station 3	3	Disabled	192.168.18.43
Station 4	4	Disabled	192.168.18.44
Station 5	5	Disabled	192.168.18.45
Station 6	6	Disabled	192.168.18.46
Station 7	7	Disabled	192.168.18.47
Station 8	8	Disabled	192.168.18.48
Station 9	9	Disabled	192.168.18.49
Station 10	10	Disabled	192.168.18.50
Station 11	11	Disabled	192.168.18.51
Station 12	12	Disabled	192.168.18.52
Station 13	13	Disabled	192.168.18.53
Station 14	14	Disabled	192.168.18.54
Station 15	15	Disabled	192.168.18.55

File Save
 • TEXT File Format
 • File Names are created on Date, Time and ID



Output Data
 • Spindle Number
 • Parameter Number
 • 24 characters of ID Data
 • Spindle Judge
 • Peak Torque or Judged Load
 • Angle or Judged distance
 • Peak Torque Hi/Lo Limit or judged Hi/Lo Load
 • Angle Hi/Lo Limit or Judged Hi/Lo Distance



14