

One Robot Can Tighten
Multiple Types of Screws in a
Minimum Amount of Space

Robot System for Screw Tightening

DAIHEN's approach to screw tightening



Robots make robots

Packaging of expertise in screw fastening automation

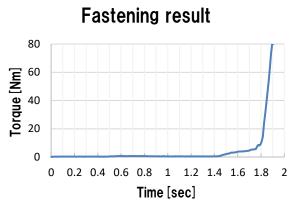




Features of Thread Tightening Robot System



Supports screw tightening torque management
Failure to tighten screws and faulty fastening can be detected
(controls the torque change during rotation speed control, fastening, and at the end)



- Traceability
 - Capable of saving fastening torque, waveform, etc. as well as fastening results
- Available for various types of screw fastening
 Our proprietary bit changing mechanism and servo device compatible tool changer enable automatic replacement to the optimal screw fastening tool



Model of screw-tightening robot system

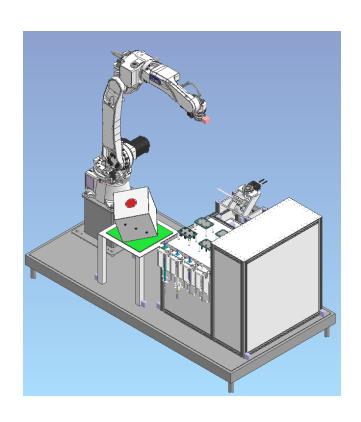


Automatic screw fastening system A single robot can tighten multiple types of screws



Demonstration 1: Automatic screw fastening system





Achieved multiple types of screw fastening with a single robot

- Hexagon socket head cap screw: M6, M8, M10
- Nut: M8

Optimal tool selection

- Nutrunner selection with different tool mounting angles (straight, 45°)
- Slim body with wide range of motion
 - Industry-leading 1833mm reach
 - Operation range increased by 15% compared to conventional models

Main features of FD-B26





- 1 Built-in cables in hollow-structure arms
 Interference with peripheral equipment caused by popping out of a hollow cable that can incorporate cables in the shoulder and wrist axis
- 2 Easy linkage with external devices Various signal lines and piping are provided as standard from the base to the shoulder connector box
- 3 <u>Diverse applications</u>
 The payload of 26 kg is sufficient to mount various tools such as welding, workpiece transfer, and screw fastening

Demonstration 2: Collaborative screw tightening system





■ Collaborative work with people

- Tighten the 4-point screws on the board imitating the base (M4 pan head screws)
- Space-saving installation

■ Achieves a wide range of motion

- Long reach over 1.4m
- Expanding the operating range of each axis



DAIHEN's screw tightening robot package can help you automate your screw tightening process.

