

Self-Fed Screw Driving Unit for Multi Axis Robots

New Series | Lightweight Screw Driving Spindle

FM514VZ

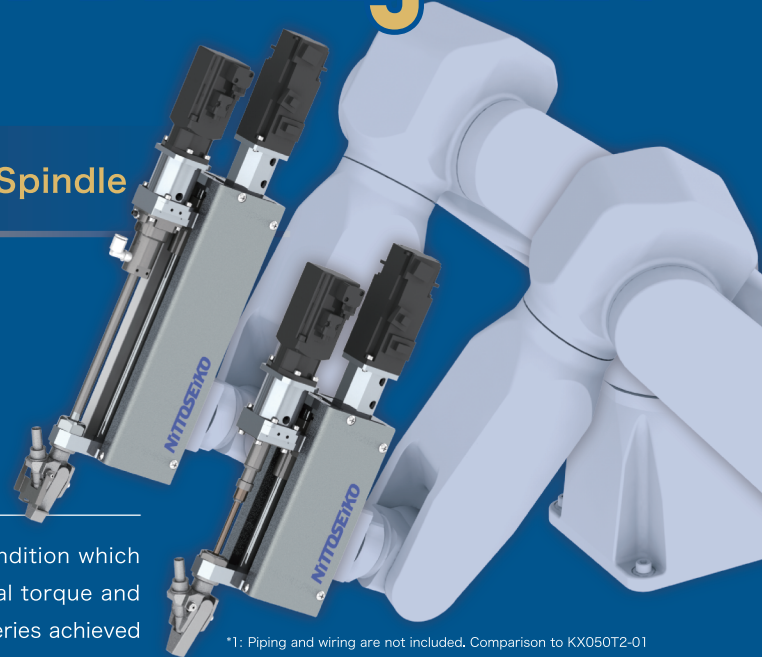
FM514CZ

Approx. 30% lighter than the existing product *1

[FM513VZ single-spindle automatic screw driving machine]

The existing product FM513VZ enables fastening at the best condition which varies according to material, hardness, and thickness by individual torque and speed settings. While maintaining the same functionality*, FM514 series achieved a significant weight reduction.

FM514 series has interchangeable mounting dimensions with FM513VZ.



*1: Piping and wiring are not included. Comparison to KX050T2-01 driver equipped FM514VZ with 100mm tightening stroke.

*2: Some specifications and applicable options differ from FM513VZ. Please contact us for details.

Benefit of weight reduction

Reduction of CO₂ emissions and optimization of equipment size by allowing to use downsized robots

Tool unit outside dimension drawing

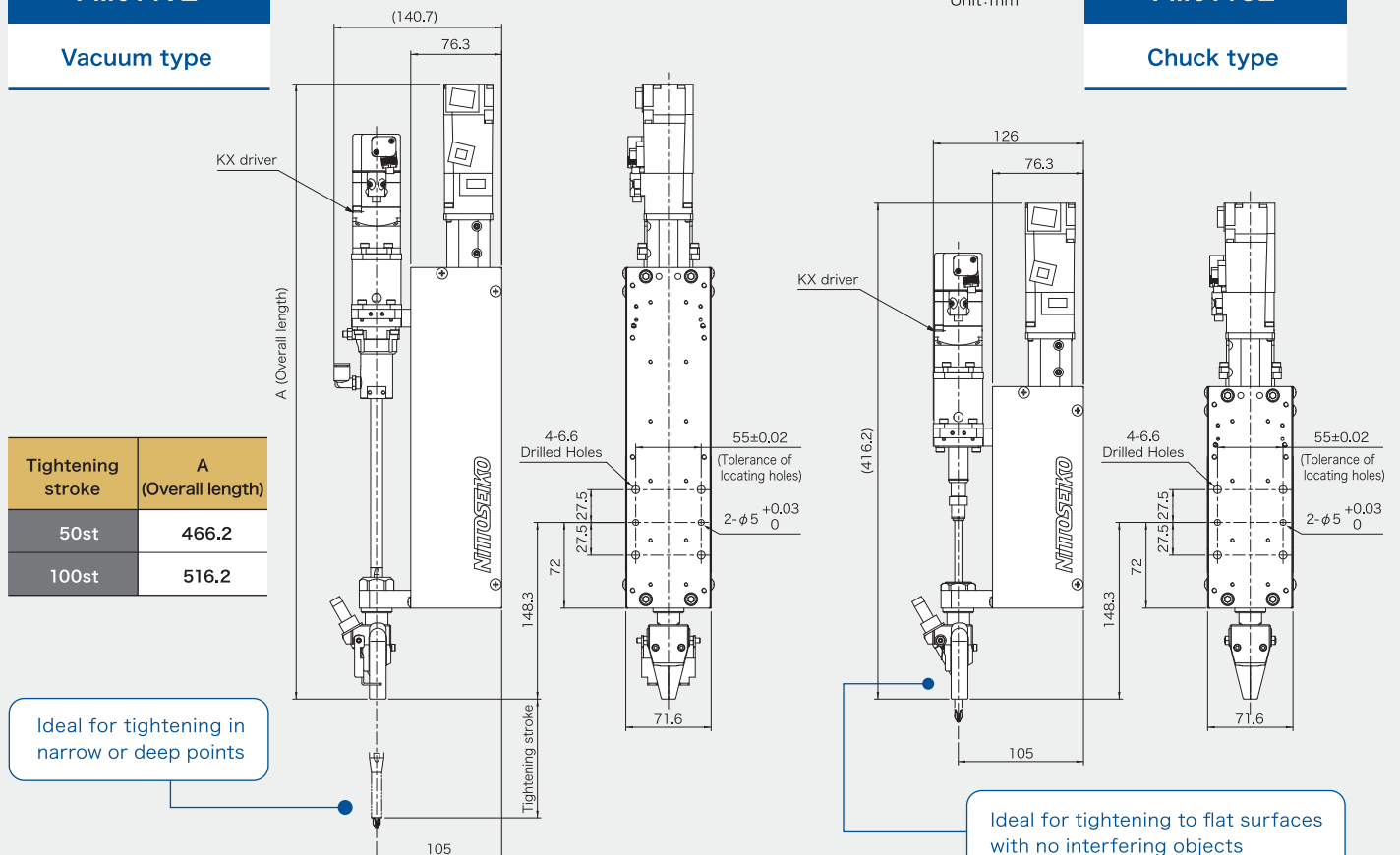
Unit:mm

FM514VZ

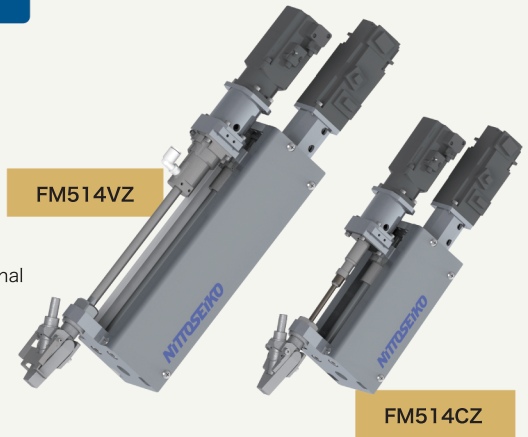
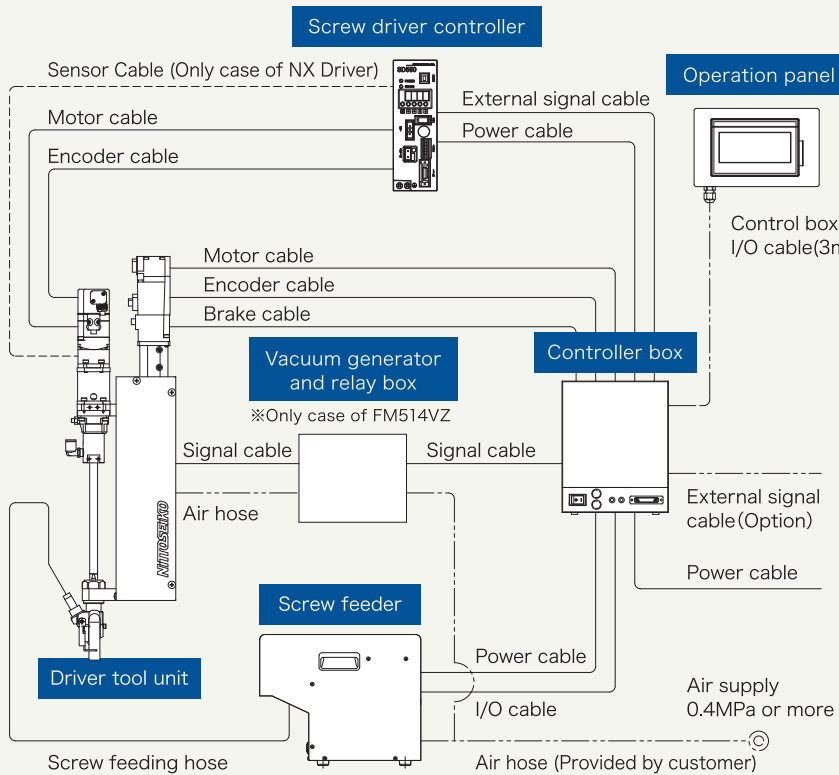
Vacuum type

FM514CZ

Chuck type



Device configuration



Standard length of cable

Unit Name	Distance
Driver tool unit ↔ Screw driver controller	4m
Driver tool unit ↔ Controller box	4m
Driver tool unit ↔ Vacuum generator and relay box	2m
Driver tool unit ↔ Screw feeder	3m
Controller box ↔ Screw driver controller	4m
Controller box ↔ Screw feeder	3m
Controller box ↔ Vacuum generator and relay box	4m

Specifications of tool unit

Model	FM514VZ	FM514CZ
Screw holding system	Vacuum type	Chuck type
Slide drive system	Servo motor	
Applicable screws ^(※1, ※2)	Category	Machine screw, Tapping screw
	Nom Dia.	2~5mm
	Length	Max.18mm
Tightening torque ^(※3)	0.3~3.8N·m	
Driver motor	KX driver, [NX driver]	
Tightening stroke	50, 100mm	—
Error detection	Torque failure (Thread stripping)	
	Screw shortage in screw feeder	
	Screw height fault (Z-axis encoder pulse) ^(※4)	
Working air supply	0.4~0.5MPa	
Power supply	Single phase 200-230VAC 50/60Hz, [Single phase 100-115VAC 50/60Hz]	
Screw driving unit weight ^(※5)	Approx. 3.8kg	Approx. 3.1kg
Screw feeder	FF311DR/FF503H	
Controller ^(※6)	RC77-T1/RC75-T1	

※1) Products will be built up based on specification of screws, therefore it can be used for one kind of screws only.

※2) Applicable range of screws will be changed due to type of screw head or size of threaded shank. Please contact us to make sure for it.

※3) The type of driver varies depending on target torque.

※4) It detects more than 2mm of screw height fault. Higher accuracy will be available in option.

※5) Piping and wiring are not included. Weight of driver is when KX050T2-01 is mounted, and that of FM514VZ is with 100 mm tightening stroke specification.

※6) Please refer Single Spindle Screw Driving Machine Catalog for details of screw driver controller.

※7) When mount on a robot, it is necessary to consider the payload capacity, the reaction force due to screw-tightening thrust and torque and the screw-tightening posture.

[]:Optional

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