

Sustainability

Functionality



Eco-friendly Single Spindle Screw Driving Machine

FM515VE

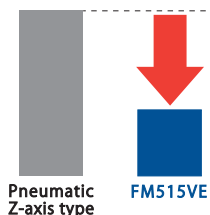
Ease in handling

For those seeking balance

Screw Driving Unit with **Electric Actuator** on Z-AXIS.
Well-balanced combination of **sustainability**, **screw tightening quality**,
and **ease in handling**.

Sustainability

Reducing environmental impact

CO₂ emissions of up-down motion for screw tighteningReduce CO₂ emissions up to **66%**

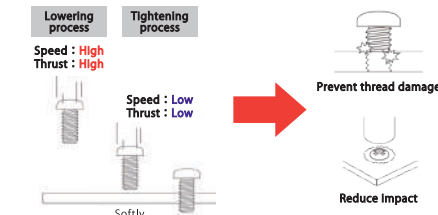
By no-air actuation of Z-axis

Reduce to **44.6Kg-CO₂ per year**
(Compared to our conventional products)

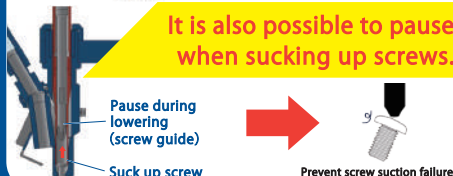
※Values vary depending on usage conditions.

Functionality

Speed control and thrust control function

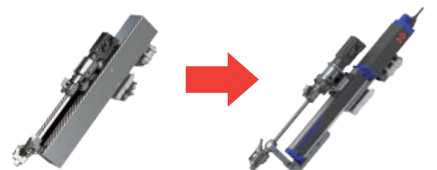
Speed and thrust are adjustable in the lowering and tightening process.

It is also possible to pause when sucking up screws.



Ease in handling

Ease in handling like pneumatic Z-axis type

It can be controlled only with parallel I/O input/output, making it simple for customers to control.

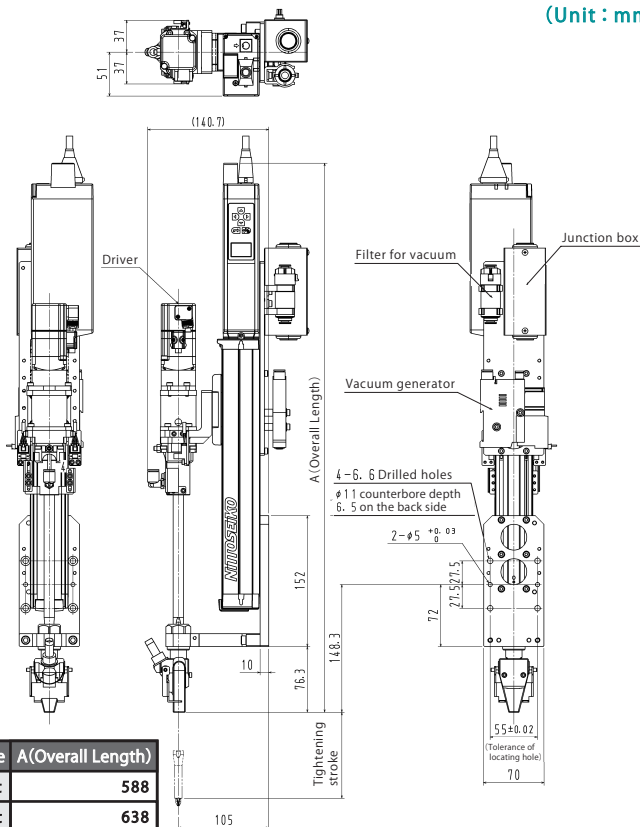
Easy to replace from pneumatic Z-axis type

Up-down setting can be set up from a remote place with a dedicated remote control unit. (option)



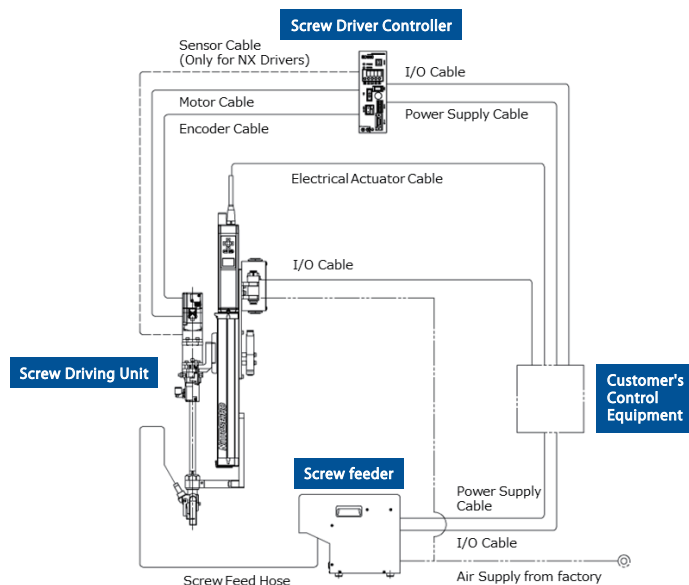
Outside dimensions of screw tightening unit

(Unit : mm)



Tightening stroke	A(Overall Length)
50st	588
100st	638
150st	688

System Diagram



Unit name	Distance
Screw Driving Unit ⇄ Driver Controller	4 m
Screw Driving Unit ⇄ Customer's Control Equipment	3 m
Screw Driving Unit ⇄ Screw Feeder	3 m
Customer's Control Equipment ⇄ Driver Controller	4 m
Customer's Control Equipment ⇄ Screw Feeder	3 m

Specifications of tool unit

【 】: Option

Model	FM515VE
Screw holding system	Vacuum type screw guide
Slide drive type	IAI electric actuator (※1) (Settable coordinates: backward end, intermediate position, push start position and push end position)
Torque range (N・m) (※2)	0.3 ~ 3.8
Driver	KX Driver [NX Driver]
Tightening stroke (mm)	50, 100, 150 [200, 250, 300, 350, 400]
Applicable screws (※3, ※4)	Screw type
	Machine screw, Selftapping screw etc.
	Nominal Dia (mm)
	2 ~ 5
	Maximum Head Dia (mm)
	φ10.5
	Length (mm)
	18
Error detection	Torque failure (Thread stripping)
	Screw shortage (Screw feeder)
	Screw height fault (Photoelectric sensor) (※5)
Air supply (MPa)	0.4 ~ 0.5
Power supply	Tool Unit
	DC24V±10%
	Driver Controller
	Single phase 200 ~ 230VAC±10% 50/60Hz [Single phase 100 ~ 115VAC±10% 50/60Hz]
	Screw feeder
	Single phase 100 ~ 240VAC±10% 50/60Hz
Tool Unit Weight (※6)	Approx. 4.3kg (Main body : approx. 3.8kg Air equipment and relay box : approx. 0.5kg)
Screw feeder	FF311DR/FF503H

(※1) Product of IAI Co., Ltd. Some specifications are different from general sale items.

(※2) Driver type varies depending on target torque.

(※3) The unit will be designed basing on the screw spec, to be used and can support only one type screw.

(※4) Applicable screw range will be changed depending on screw head type or screw nominal size. Please contact us for details.

(※5) Approx. more than 2mm of screw floating can be detected. More precise sensor is available as option.

(※6) Not including piping and wiring. This weight is based on KX050T2 driver installed and screw guide stroke 100mm.

NITTOSEIKO CO.,LTD.

Assembly Machine Division / Shiroyama Plant
Global Sales Section

2, Shiroyama, Ayabe city, Kyoto 623-0003, Japan

TEL : +81-773-42-1290 FAX : +81-773-45-3680

URL : <https://global.nittoseiko.com/>

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