

Sustainability

Functionality



Eco-friendly Single Spindle Screw Driving Machine

FM515VE

Ease in handling

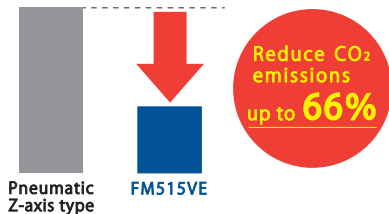
For those seeking balance

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 tightening



By no-air actuation of Z-axis

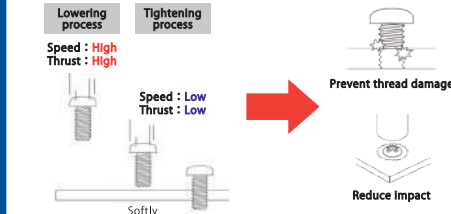
※Values vary depending on usage conditions.

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

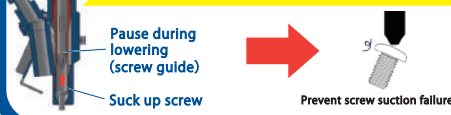
Functionality

Speed control and thrust control function

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



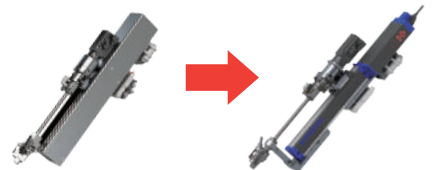
It is also possible to pause when sucking up screws.



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.

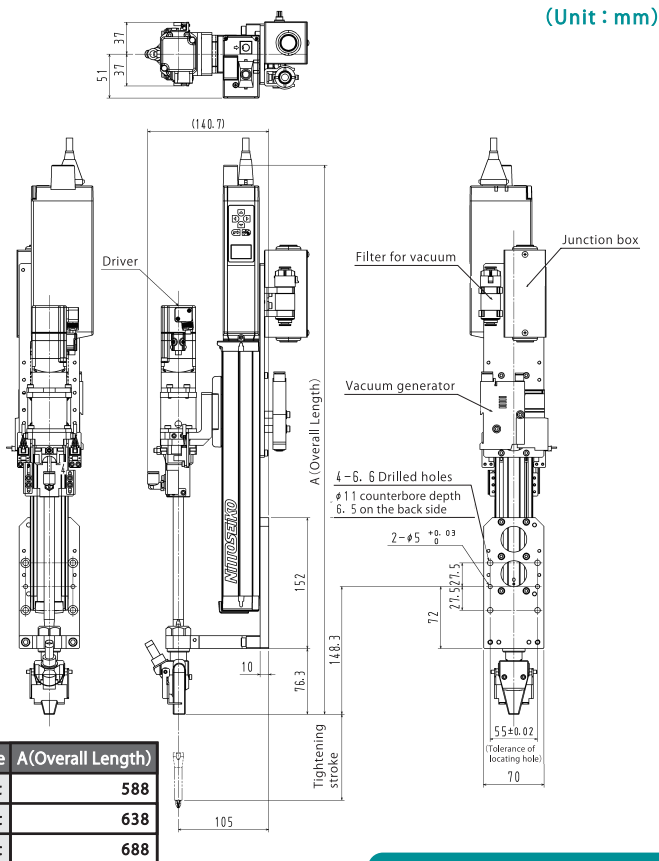


Easy to replace from pneumatic Z-axis type

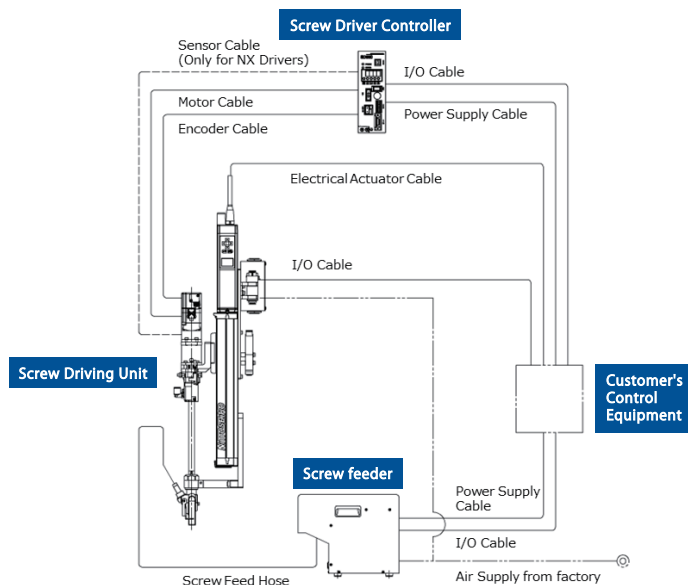
Up-down setting can be set up from a remote place with a dedicated remote control unit. (option)



Outside dimensions of screw tightening unit



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)	$\phi 10.5$
	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 $\pm 10\%$
	Driver Controller	Single phase 200 ~ 230VAC $\pm 10\%$ 50/60Hz [Single phase 100 ~ 115VAC $\pm 10\%$ 50/60Hz]
	Screw feeder	Single phase 100 ~ 240VAC $\pm 10\%$ 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.

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