The best solution for Non-marring surface applications

Applicable Screws
M2 ～ M5

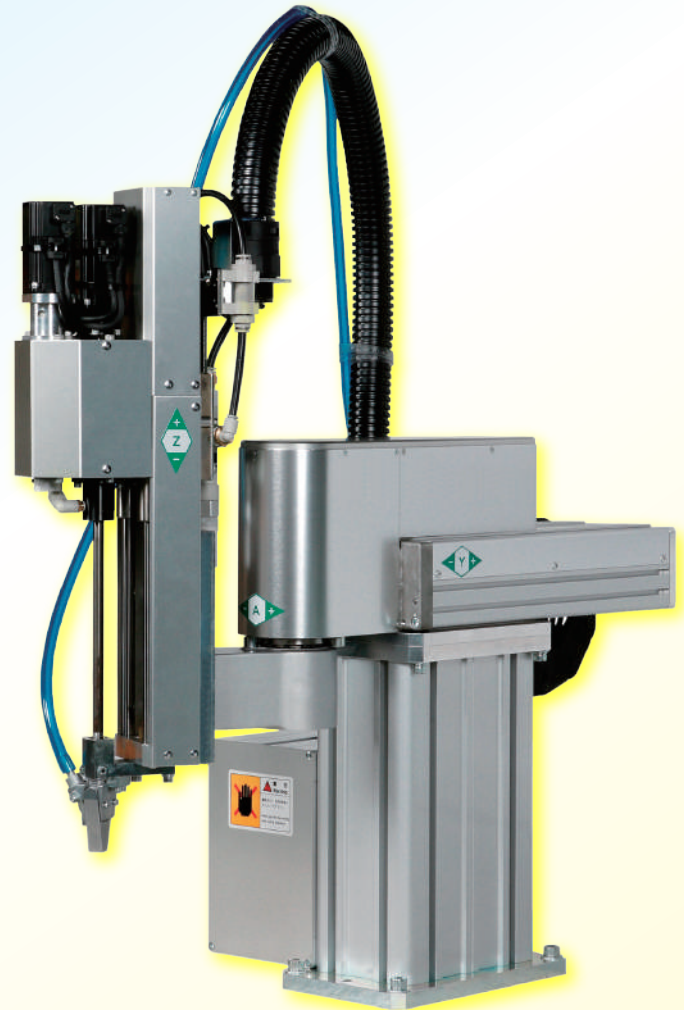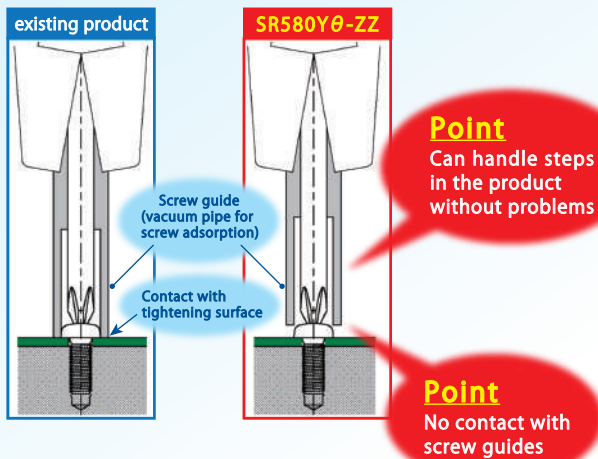## Screw Driving robot with variable screw guide stop position

Yθ (Linear Motion ＋ Swivel Movement) Screw Driving Robot

NITOMAN® SR580Yθ-ZZ

～ Smart fastening for any tightening height ～

●Multi-product support

The height of the screw guide can be individually programmed, allowing for products with differing fastening heights and shapes that cannot come in contact with the screw guide.

existing product

SR580Yθ-ZZ

Screw guide (vacuum pipe for screw adsorption)

Contact with tightening surface

Point
Can handle steps in the product without problems
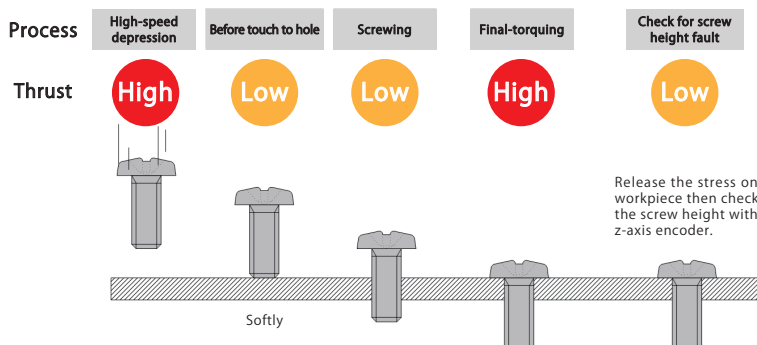
Point
No contact with screw guides

●High quality fastening

The screw guide (vacuum pipe for screw adsorption) can be tightened without coming in contact with the product, reducing the pressing load on the product and providing high-quality fastening.

●High-precision fastening

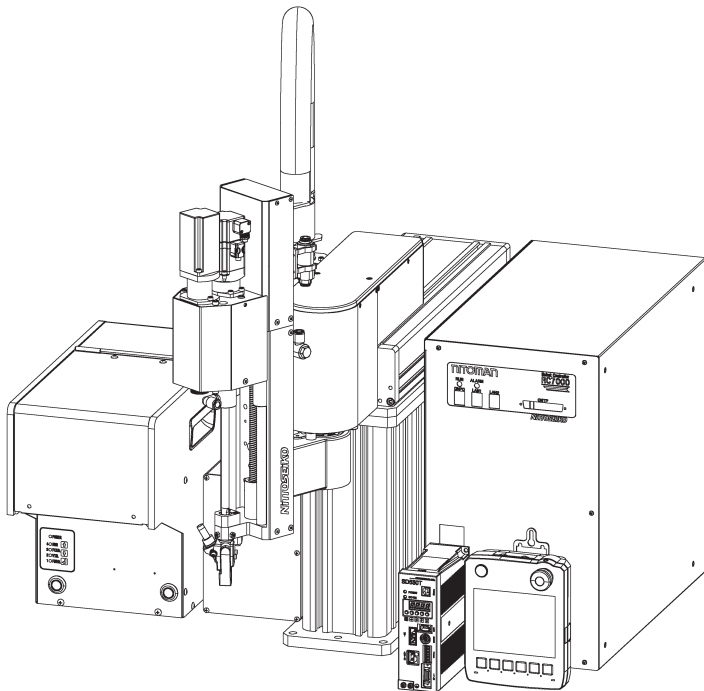Variable thrust control function enables thrust adjustment. Stable fastening is achieved.

Example of machine configuration.

Variable thrust control function

Process	High-speed depression	Before touch to hole	Screwing	Final-torquing	Check for screw height fault
Thrust	High	Low	Low	High	Low

Release the stress on workpiece then check the screw height with z-axis encoder.

Softly

Recommended use
・ Self tapping screw
・ Prevention of bit camout
・ Prevent thread breakage
・ Reduction of impact

■ Outside dimensions（：mm）

Y stroke
R
Y stroke + 287
190
123
155
2R
R

(155)
Fastening stroke + 453
85
349
151
Fastening stroke
4-M10[Mounting bolts]

260
230 ±0.05
2-φ10 +0.05/0
130
155
4-φ11[Mounting holes]
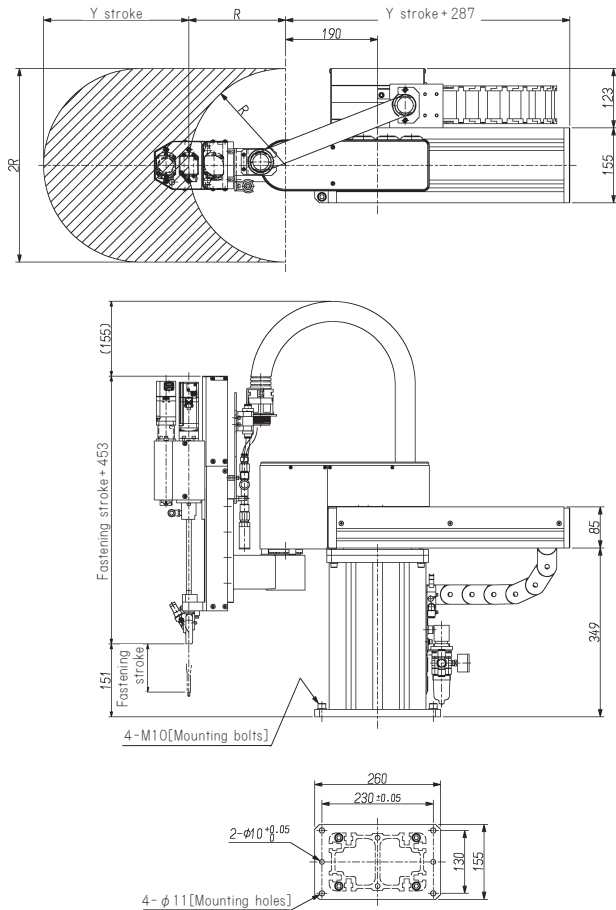
■ Specifications of robot

Inside of 【 】 is the option.

Type			SR580Yθ-ZZ
Screw driving unit	Applicable Screws ＊1 ＊2	Nom Dia.	Machine screw, Tapping screw 2～5mm (except M5 truss head screws)
		Length	max. 18mm 【25】, min. Screw head Dia.×1.1mm
	Tightening torque ＊3		0.3～3.0N・m
	Method of supplying screw		Blow feed or Picking up
	Driver		KX driver, 【NX driver】
	Tightening stroke		100, 【150, 200】 mm
	Screw holding system		Vacuum tube suction system
	Fault detections		Torque fault (screw stripping) Low screw (in screw feeder) Screw height fault (Z-axis encoder pulse)
Robot	Work envelope	Y-axis	200, 300, 400, 500mm
		Turning radius	200, 250mm
		θ-axis	180°
	Maximum moving speed	Y-axis	1000mm/sec.
		θ-axis	225°/sec.
	Locating accuracy		±0.05mm
	Power supply capacity		2KVA
Air pressure			0.4~0.5MPa
Machine weight ＊4			Approximately 38kg
Screw feeder			FF503H

＊1　Products will be built up based on specification of screws, therefore it can be used for one kind of screws only.
＊2　Application range of screws will be changed by type of screw head, or size. Please contact us to make sure for it.
＊3　The type of driver varies depending on target torque.
＊4　Weight will be changed by stroke, or type of driver. Please contact us to make sure for it.

■ Specifications of robot controller

Inside of 【 】 is the option.

Type	RC7000-S
Supply voltage	Single phase AC200～230V 50/60Hz
Number of axis to be controlled	Six axes, max
Robot movement	PTP control, Closed loop control
Position feedback	Absolute encoder method (batteryless)
Ethernet port	8-port HUB inside (3 ports of which are located on the front panel)
Memory	SRAM：(Battery backup:approximately five years)
External input ＊5 ＊6	Standard user port 16points 【I/O expansion possible ＊7】
External output ＊5 ＊6	Standard user port 16points 【I/O expansion possible ＊7】
Field network	Option ＊8
Teaching method	MDI, Remote teaching, Direct teaching
Point control	Work area：40 points ×100 types ＊9 Fixed area：40 points Paledice area：200 points ×3 groups
Program memory capacity	15MB
Robot program	Special motion language
Outside dimensions (W×H×D)	250×450×470mm
Weight	Approximately 20kg
Teaching pendant	Handy Type touch panel (with Key switch, Emergency switch and Dead-man's switch) Pendant can be used as manual control panel
PC software	【CPMC-MPE780D】 ＊10

＊5　External I/O might be used to system programing, which depend on some device specification.
＊6　PNP type also available. (Need to specify at order timing. NPN or PNP.)
＊7　NPN: Maximum number of additional I/O points 64 input points, 64 output points
　　　PNP : Maximum number of additional I/O points 32 input points, 32 output points
＊8　Ethernet, EtherNet/IP, EtherCAT, PROFINET, Modbus-TCP, CC-Link IE Field, FL-net, CC-Link, DeviceNet, PROFIBUS
＊9　It depends on the specification.
＊10　CPMC-MPE780D is a software provided by YASKAWA Electric Corporation.

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