

Vis Setter

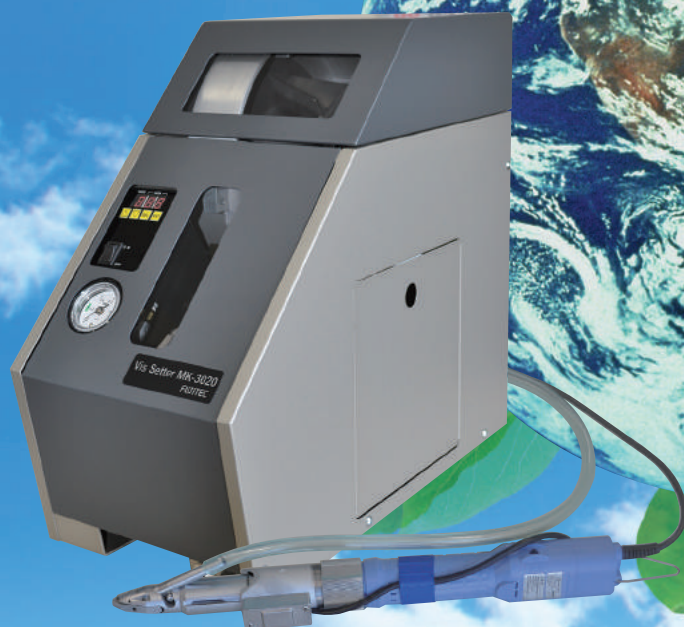
Dedication to Your screw fastening Job!!!

General Catalog

FUJITEC

Screw fastening Machine Handheld and Automated

- Handy (Handheld drivers and Screw Feeder)
...P1~16
- NSE (Multi-axis Screw Fastening Systems)
...P17-18
- NUE (Slide Units)
...P19-20
- Multiple Escapement Options
for Assembly Stations
...P21-22
- NSSE (Stand type Vertical Screw Fastener)
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- NSSE (Stand type Horizontal Screw Fastener)
...P24
- Screw Driving Motors & Controllers
...P25~28



worldwide leading company for screw fastening field

Handy

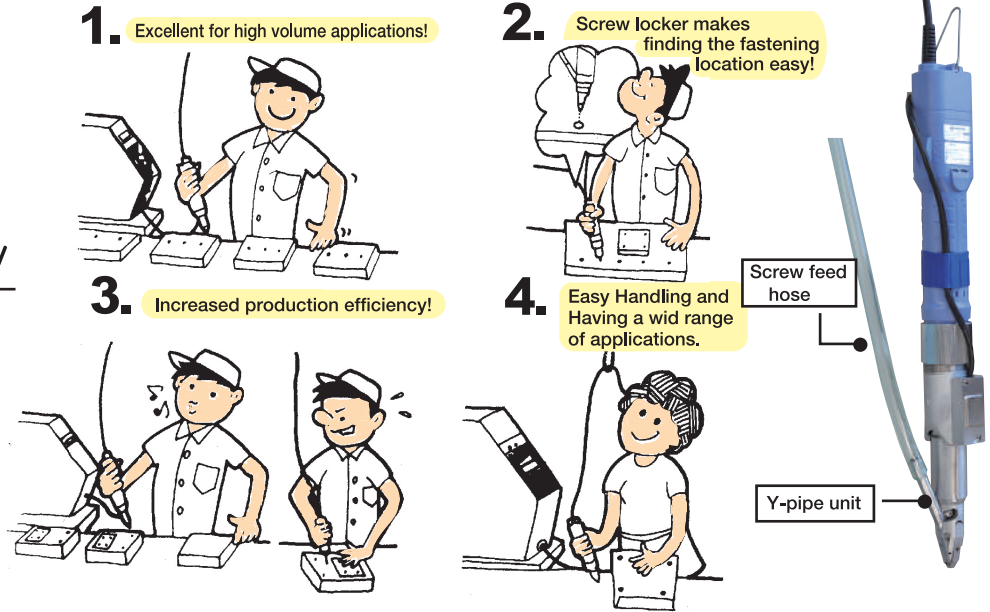
Handheld screw Fasteners with Suitable Screws

Vis Setter

MK-3020·3150V·3110V

FEATURES

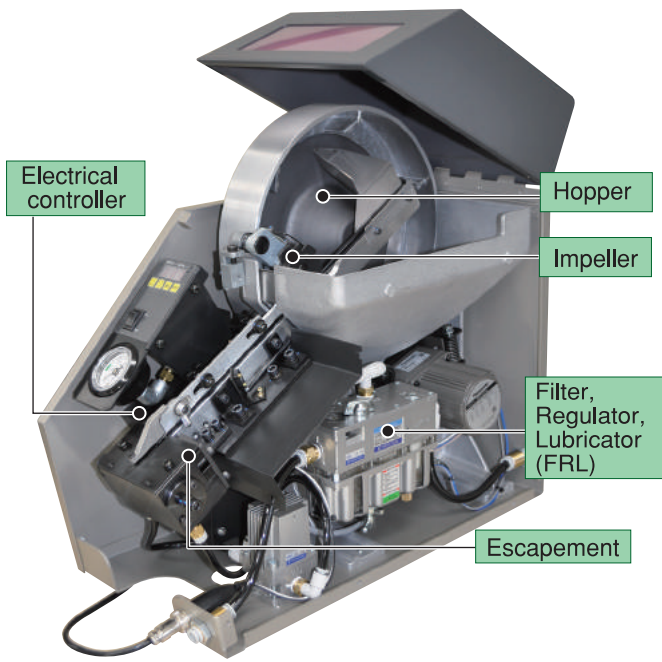
Driver



Applicable standard screw with Handy series Screws Fasteners

Screw type	Small screws, tapping screws																												
	Pan		Round		Flat Cylinder		Fillister		Flat		Oval		Binding		Brazilian		Truss												
Screw Head Shapes																													
Screw Head Categories	A								B ₁				B ₂				C												
Screw shank diameter(d)	M2		M2.5		M3		M3.5		M4		M5		M6																
Screw head shapes	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	C					
Screw head diameter (D)	3.5	4	4.3	4.5	4.5	5	5.3	5.7	5.5	6	6.4	6.9	6	7	7.4	8.1	7	8	8.5	9.4	9	10	10.6	11.8	10.5	12	12.4	—	
Screw head diameter tolerance	-0.4				-0.5								-0.6				-0.7				—								
Spring-washer diameter	—																												
Spring-washer thickness	—																												
Flat washer diameter	—																												
Flat washer thickness	—																												
Screw nominal length (ℓ)	*1: Minimum	5	8	6	6	6	8	8	8	6	10	8	10	8	12	10	12	8	12	10	12	12	15	14	16	14	18	16	—
	*2: Typical	12	18	19	22	21	20	25	18	25	23	25	25	22	25	25	25	25	25	25	25	25	25	25	25	25	25	—	
	*3: Maximum	20		25		25		25		25		25		25		25		25		25		25		25		25		—	
Feeder	Model No.	Hopper capacity																											
	MK-3020	450c.c.		▶																									
	MK-3150V	450c.c.		▶																									
	MK-3110V	1,500c.c.		▶																									
Driver	Electronic driver	See page 15 in this catalog for "Driver Units".																											
	Air driver	Part No	Torque (Nm)	Road speed (r.p.m)																									
		35	1, 1.5	2,000	▶																								
		40 S	1, 1.5	2,300	▶																								
		40	1.5, 2.0, 2.5	1,400	▶																								
50	2.0, 2.5, 3.0	1,400	▶																										

Feeder



MK-3020

Check points before selecting standard drivers and feeders(Handy)

① $\frac{\ell}{D}$ ratio of screws capable of automatic feed

③-1 Relation between gripped screw and screw hole

※See typical applications on page 6

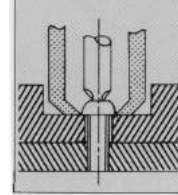
② Select the optimum driver

Electronic driver

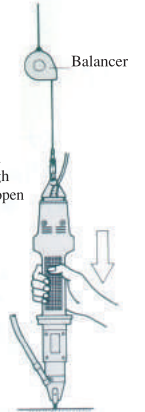
Air driver

Model 35
Model 40S
Model 40
Model 50

③-2 Space needed for screw-tightening



•Screw fastener section must have just enough space for the jaws to open



Standard operating technique

Sems screws						Double Sems screws						Wooden screws						Remarks								
Pan		Binding		Brazier		Pan		Binding		Brazier		Round		Flat		Oval										
A(S)		B ₂ (S)				A(WS)		B ₂ (WS)				A(W)		B ₁ (W)												
2.5	3	4	5	2.5	3	4	5	2.1	2.4	2.7	3.1	3.5														
A	B ₂	A	B ₂	A	B ₂	A	B ₂	A	B ₂	A	B ₂	A	B ₂	A	B ₁	A	B ₁	A	B ₁	A	B ₁	A	B ₁			
4.5	5.3	5.5	6.4	7	8.5	9	10.6	4.5	5.5	5.5	6.4	7	8.5	9	10.6	3.9	4.2	4.4	4.8	5	5.4	5.7	6.2	6.5	7	
-0.4	-0.5	-0.5	-0.6	-0.5	-0.4	-0.5	-0.6	-0.5	-0.4	-0.5	-0.6	-0.6	±0.21	-0.4	±0.2	-0.4	±0.2	-0.4	±0.2	-0.4	±0.25	-0.5	±0.25	-0.5		
4.8	5.5	7	8.5	4.8	5.5	7	8.5																			
0.6	0.7	1.0	1.3	0.6	0.7	1.0	1.3																			
—	—	—	—	6.5	7	9	10																			
—	—	—	—	0.5	0.5	0.8	0.8																			
6	8	8	10	10	12	12	14	10	10	12	12	14	16	6	8	8	8	8	8	8	10	10	12			
22	20	18	23	22	25	25	25	25	25	25	25	25	25	16	22	22	21	24	25	22	24					
25	25	25	25	25	25	25	25	25	25	25	25	25	25	16	25	25	25	25	25	25						
																				•Maximum screw length that can be supplied in custom models is 40 mm.						
																				•Maximum screw length that can be supplied is 25 mm.						
																				•Shank diameter φ 8. Maximum screw length that can be supplied is 50 mm.						
																				•Air driver output torque is shown as the maximum output torque of each spring (strong, medium, weak).						

VIS SETTER

AUTO SCREW FASTENER

This is the ideal tool you can't be without! It's great for eliminating worker strain and fatigue in assembly jobs involving automotive parts, bicycle parts, construction sash parts, precision equipment, office machines, home furniture products and kitchen equipment, etc. The VIS SETTER makes you more productive with less operator effort and also helps reach a uniform quality level.

Auto screw fastener layout

The VIS SETTER Handy <auto screw fastener> has the following major parts and functions.

Hopper

Screws matching the VIS SETTER model are loaded into the hopper where screws are stored for use. The loaded screws are rotated by a vane inside the drum to supply them to the chute.

Impeller

The rotating action of the impeller mounted in the chute passes the screws along while making them face the right direction and sends screws that can't be aligned back to the hopper.

Escapement

The escapement for sorting and feeding screws one at a time is integrated with 2 chutes for different screw diameters and is important for maintaining auto screw fastener reliability.

Electrical control section

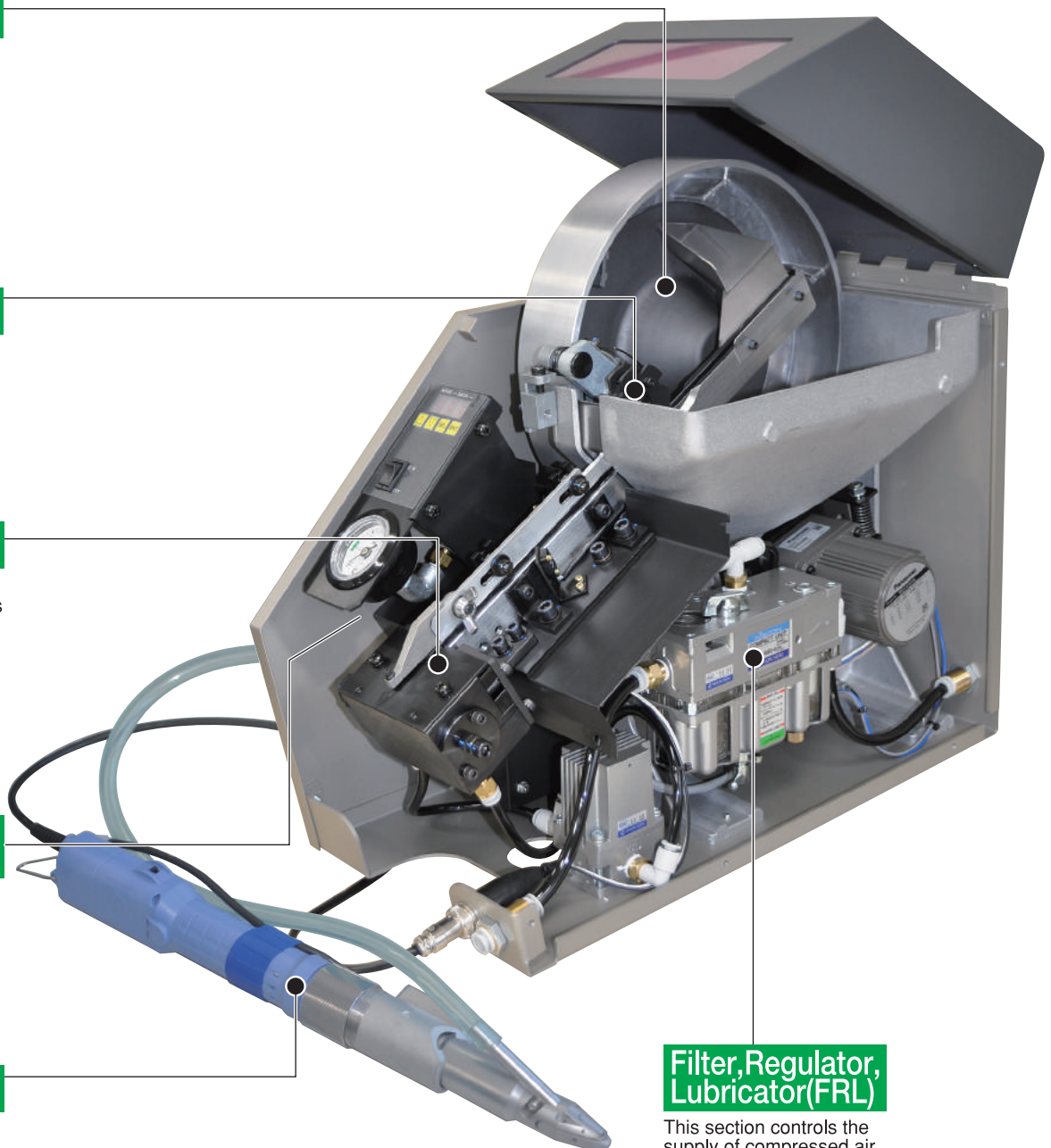
This is a compact control box incorporating a screw feed control circuit. This section is essential for ensuring dependable screw fastening operation.

Driver

This section is gripped by the hand during screw fastening. Both pneumatic or electrical drivers are available. The type and size of driver can be selected to match the screw fastening conditions.

Filter, Regulator, Lubricator (FRL)

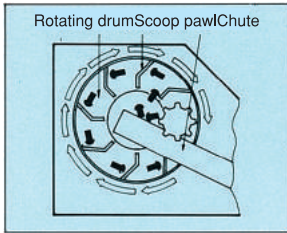
This section controls the supply of compressed air for feeding screws to the escapement or as power for rotating the driver.



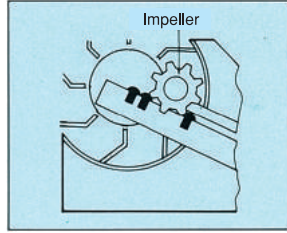
The secret of reliable screw fastening

Screw flow

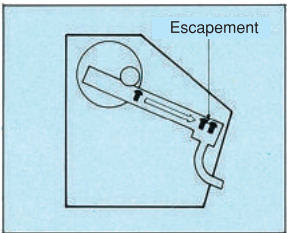
Just dumping the screws into the hopper feeds them one at a time from the feeder to tip of the driver for high performance screw fastening.



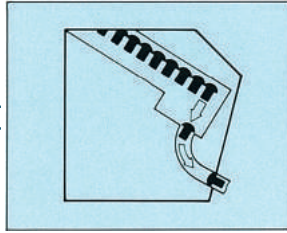
Screws inside the hopper are scooped up by the scoop vane of the rotating drum and dropped into the chute.



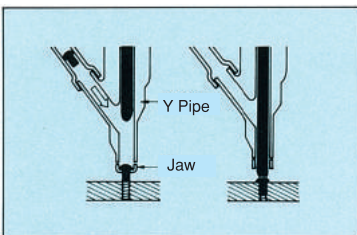
Screws falling into the chute are correctly aligned and arrayed by the impeller.



Screws reaching the escapement are sorted into individual screws by the driver signal and sent by compressed



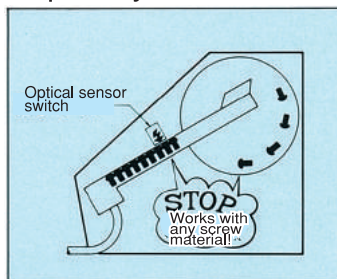
Screws that pass through the impeller slide along chute to the escapement.



Screws are fed through the Y pipe and then gripped securely in the jaw tip. The screws are then pushed into the screw hole and securely tightened.

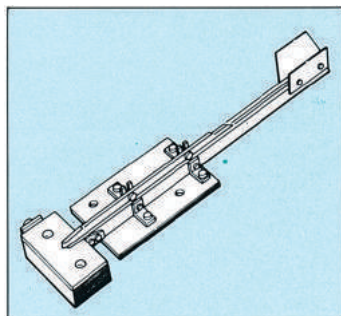
Controlling the screw quantity

After a fixed amount of screws are arranged on the chute, an optical sensor switch triggers to stop the rotating drum to temporarily halt the supply of screws. The screw quantity control method also works with parker-processed screws (large insulating resistance), dark coated screws, clear-processed screws and screws with plastic washers.



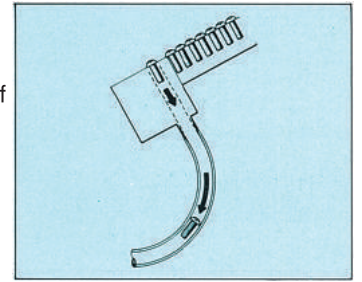
Cartridge escapement

Setups for different screws models are easy because the escapement and driver are replaceable. This cartridge type attachment means changeovers to screws with different specifications are easier. This allows flexibility in the equipment investment needed such as when coping with future product changes.



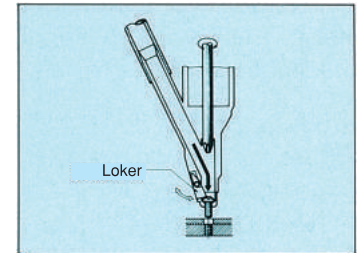
Escapement (screw separator mechanism)

The escapement was designed in-house based on years of accumulated experience and is the heart of the auto screw fastener. This mechanism separates and supplies the screws one at a time and is essential for maintaining VIS SETTER reliability.



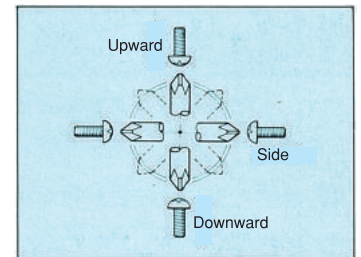
Centering

Centering is easy since a screw Locker is installed in the tip of the driver.



Great screwdriver compatibility

Most screw fastening job use downward tightening but the VIS SETTER also lets you do Horizontal or Vertical or downward tightening.

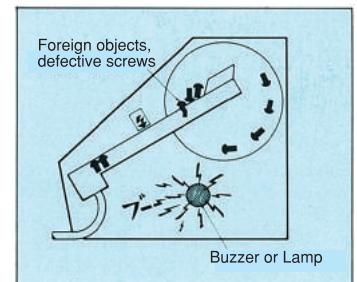


Driver

The air driver (40S type) has a host of great features such as great operability, low noise and wide torque range. The electrical driver is ideal for job requiring high tightening torque precision or work conditions that don't allow much noise. The adjuster ring is an especially great feature. It lets you easily adjust and set the Y pipe to face any position.

Low screw supply detector Option

This handy option detects when the hopper has run out of screws, when foreign objects have gotten into the hopper or when the aligning chute is clogged up. A buzzer then sounds or a lamp lights up to let the operator know there is a problem.



Model selection standards

Y pipe screw fastener space

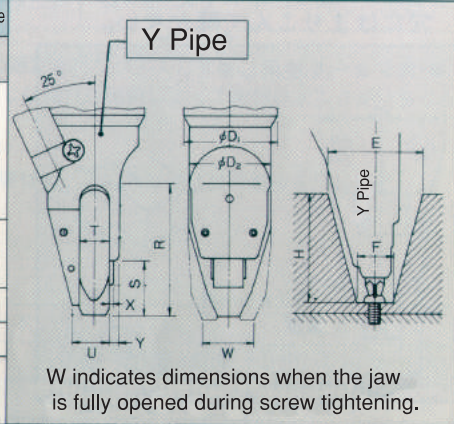
In the vis setter "Handy", the screws are automatically supplied, gripped in the Y pipe (driver tip) and jaws, and tightened completely. Selecting the right type of Y pipe to match the shape of the work is essential. Check the following items and select the right type of screw fastener.

Head shapes

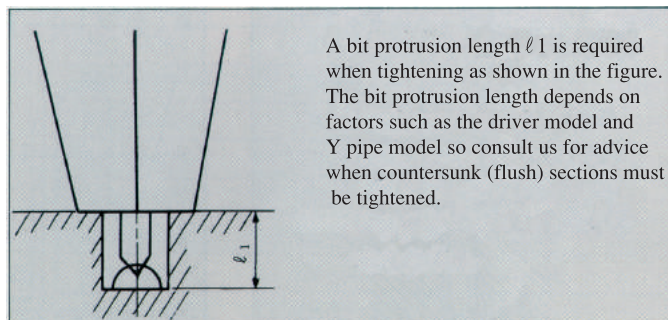
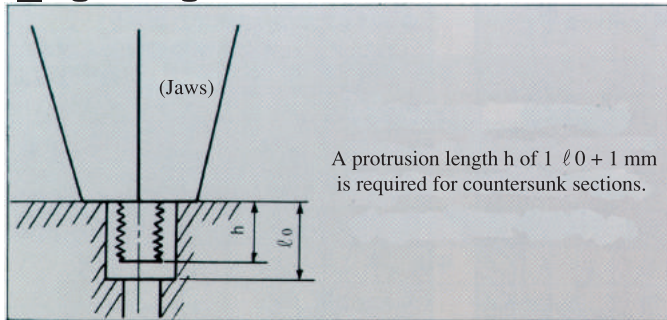
Small screws									Wood screws		
A				B ₁		B ₂		C	A	B ₁	
Pan	Round	Flat Cylinder	Fillister	Flat	Oval	Binding	Brazier	Truss	Round	Flat	Oval

Driver tip sizes and tightening space

Item	Screw type and size	Driver (Y pipe) tip sizes											Tightening space					
		Head shape				Shank diameter							Shank diameter					
Driver models		A	B ₁	B ₂	C	φD ₁	φD ₂	R	S	T	U	W*	Y	X	E	F	H	
Model 40S Model 35 Model 40 See driver units on page 15.	M 2.5	○	○	○														
	M 3	○	○	○				43	18			15						
	2.7 Wood screw	○	○					26		8	10			0.5	28	14	26	
	3.1 Wood screw	○	○					48	23									
	M 3				○	32		29		10	12		16					
	M 4	○	○	○				29	47	19	10	12	18	3	1	32	16	28
	3.1 Wood screw	○	○					26	48		8	10	16		0.5	28	14	26
	3.5 Wood screw	○	○					29	51	23	10	12	18			32	16	28
Model 50	M 5	○			○	35	33	53	18	11	13	22	1		34	16	34	



Tightening countersunk



Jaw screw grip dimensions (chucking margin)

$$h \quad \ell \quad - \quad a$$

(Protrusion length) = (under-neck length) (chucking margin)

"a" dimension table

Screw type		a mm	Screw type		a mm
M 2.6	A	4.5	3.5 Wood screw	A	8.5
	B ₁	5		B ₁	10.5
	B ₂	4.5	M 4	A	4
2.7 Wood screw	A	9		B ₁	5.5
	B ₁	10.5		B ₂	4
M 3	A	4	C	6	
	B ₁	5	M 5	A	5
	B ₂	4.5		M 6	A
C	5				
3.1 Wood screw	A	9			
	B ₁	10.5			

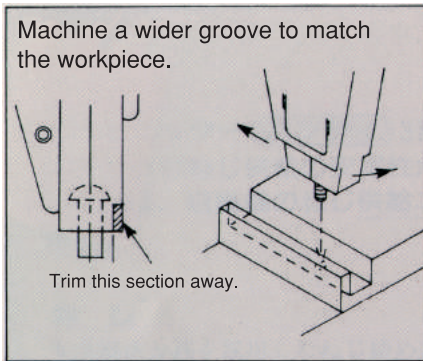
<Example> M3 × 15 ℓ pan-head screws (30A)
h = 15 - 4 = 11 mm

* For Sems (with spring-washers) set the bottom length from the washer as ℓ.
* In wood screws, the rocker doesn't usually move. Dimensions are listed for rocker.

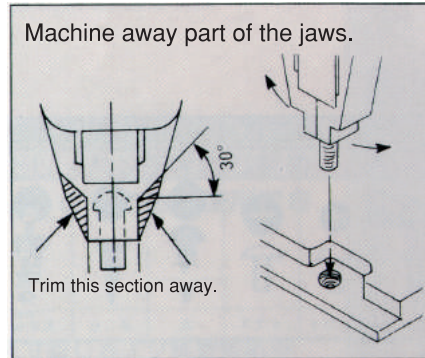
Y pipe setup examples

Besides typical machine screw setter specifications, the Handy accepts various kinds of work shapes by machining the jaw shapes, installing workpiece jigs, and machining the Y pipe shapes.

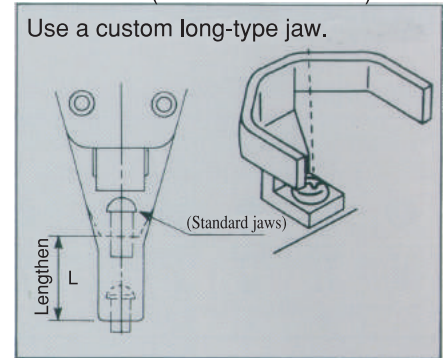
A No tightening space for the jaws.



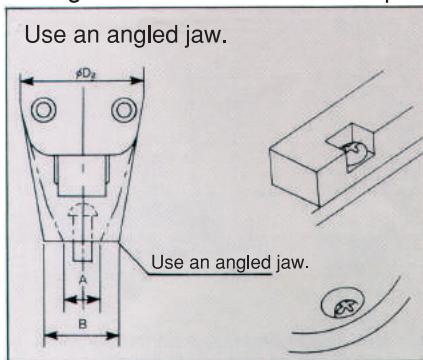
B No tightening space for the jaws.



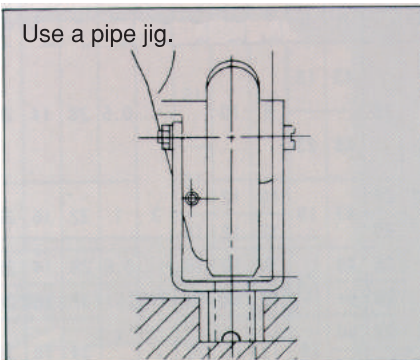
C Protrusions on both sides of workpiece screw tightening section (Can't attach Locker).



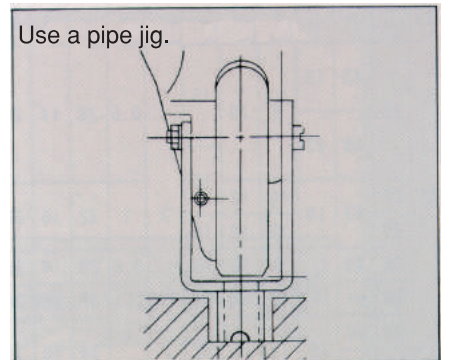
D Tip of standard jaw sticks in groove or hole and won't open.



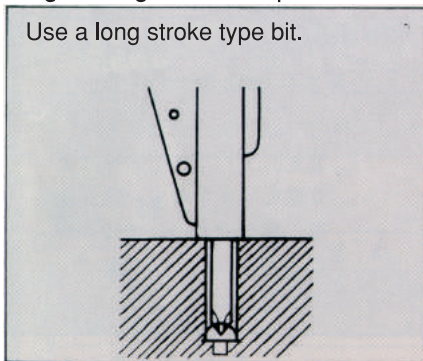
E Jaw tip does not reach screw hole.



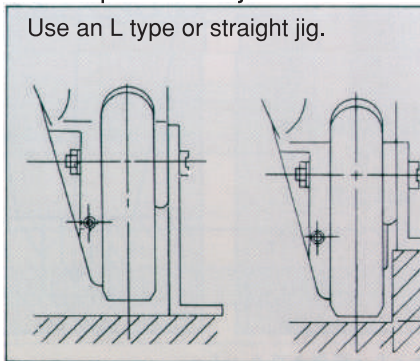
F Y pipe interferes with the workpiece.



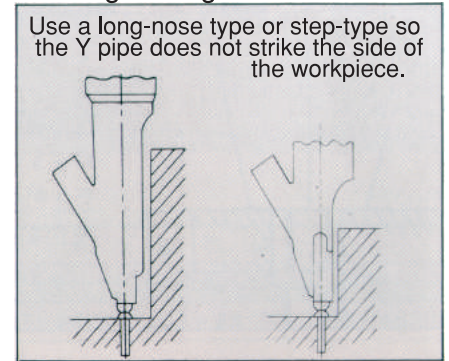
G Hole in workpiece for screw-tightening is too deep and narrow.



H Worried about scratching workpiece with jaws.



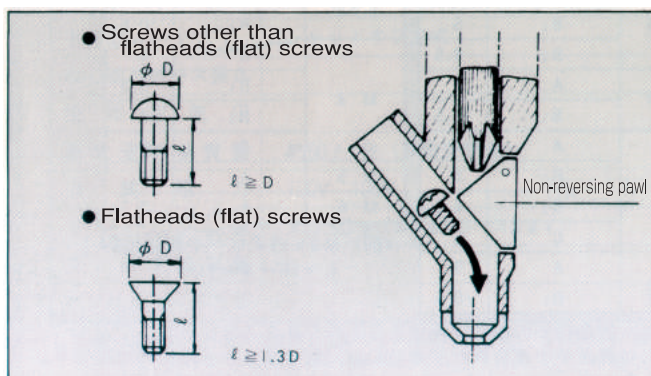
I There is a high step next to the tightening section.



Typical Examples

Screws smaller than minimum length

When screw length is smaller than the standard minimum length shown on pages 1 and 2, tighten by fitting on a Guide piece in the Y pipe.



Nipple temporary -tightening fastener

Nipple temporary-tightening jobs can be done by just machining the driver bit.

Use for bicycle and motorcycle assembly jobs.

	Screw head diameter	Screw Shank
● Usable nipples		
	Bicycle nipples	
	Motorcycle nipples	
#13	φ 7	φ 4.3
#14	φ 6.5	φ 4
#15	φ 6.5	φ 4
#6	φ 12	φ 8.4
#8	φ 11	φ 7
#9	φ 9.5	φ 6.5
#9 New	φ 10	φ 6.5
#10	φ 9	φ 5.8
#10 New	φ 9.5	φ 5.8
#11	φ 8	φ 5
#12	φ 7.5	φ 4.6
● Typical models		
● #13-40S		● #9-40S
● #14-40S		● #10-40S
● #15-40S		● #11-40S

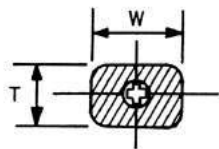
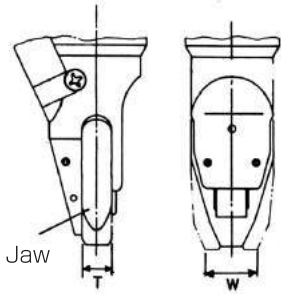
※ Push-start is a 40s.
※ Available for any 35A (lever start)

Tighienin space

Standard Y pipe

For the standard Y pipe are shown below. (W indicates dimentiones when the jaw is fully opened during screw tightening. T indicates dimentiones when the jaw is wide.)

Check the following items and space of screw fastener.



Screw type	T	W
25A	9	11
25B ₂ 25C	9	13
25B ₁	9	15
30A	9	12
30B ₁	9	16
30B ₂	9	13
30C	11	16
35A	9	13
35B ₁	11	19
35B ₂	11	16
35C	11	17
40A	11	15
40B ₁	11	19
40B ₂	11	17
40C	12	18

Table 22

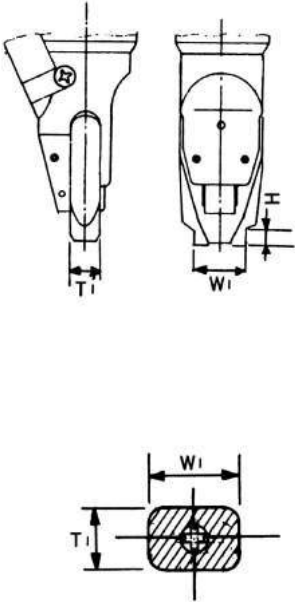
Screw type	T	W
50A	12	17
50B ₁	13	27
50B ₂	13	22
50C	15	25
60A	13	20
60B ₁	15	31
60B ₂	15	25
27A [Ⓜ]	9	15
27B ₁ [Ⓜ]	9	15
31A [Ⓜ]	9	16
31B ₁ [Ⓜ]	9	16
35A [Ⓜ]	11	16
35B ₁ [Ⓜ]	11	17

[Ⓜ] → Wood

Screw type	Sprig-washer diameter	T	W
30A Sems	φ 5.5	9	12
40A Sems	φ 7.0	11	15
50A Sems	φ 9.0	12	17

Machining the Jaws and Y pipe shapes

Machining the standard head tip shapes (Y pipe and jaw)

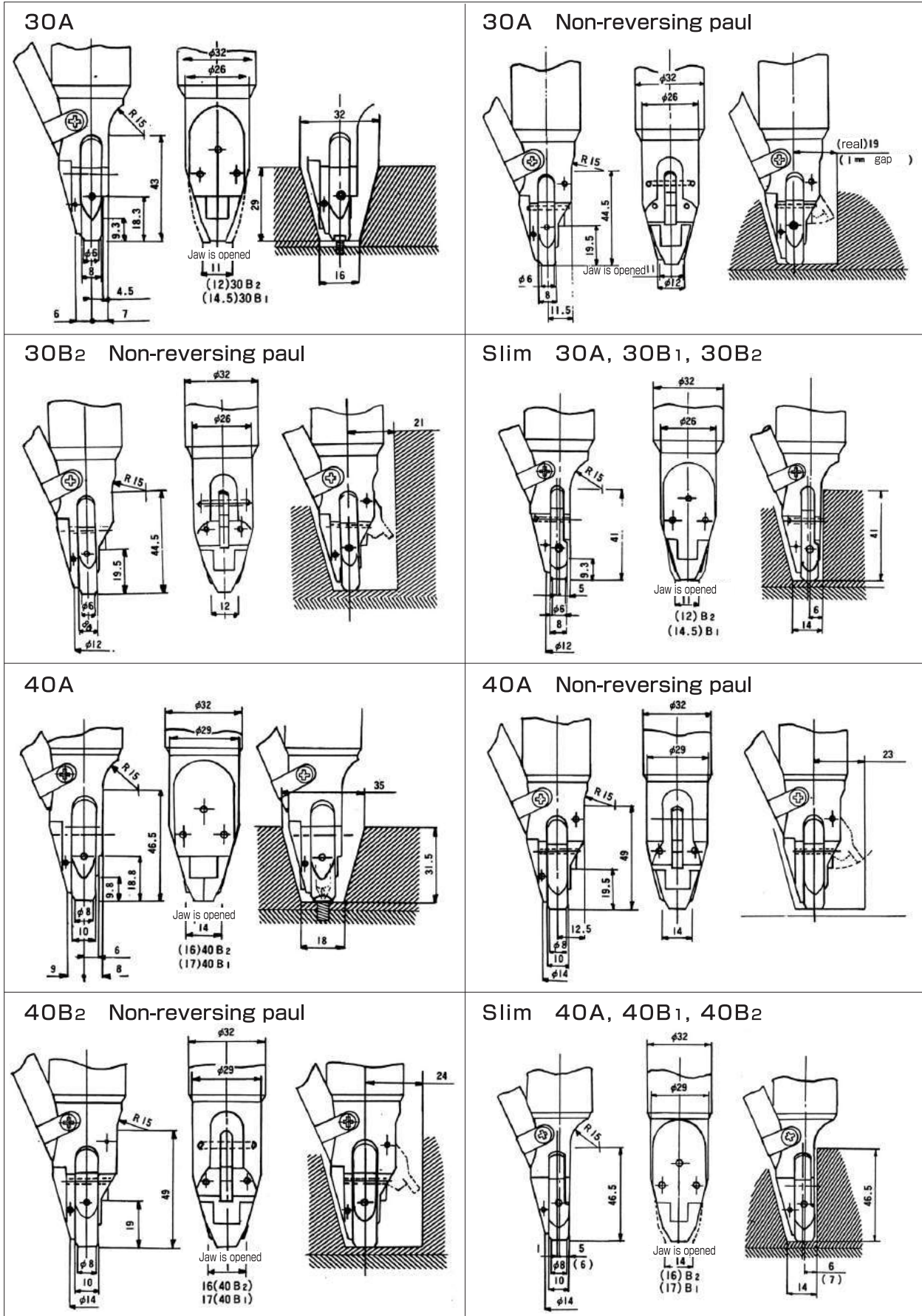


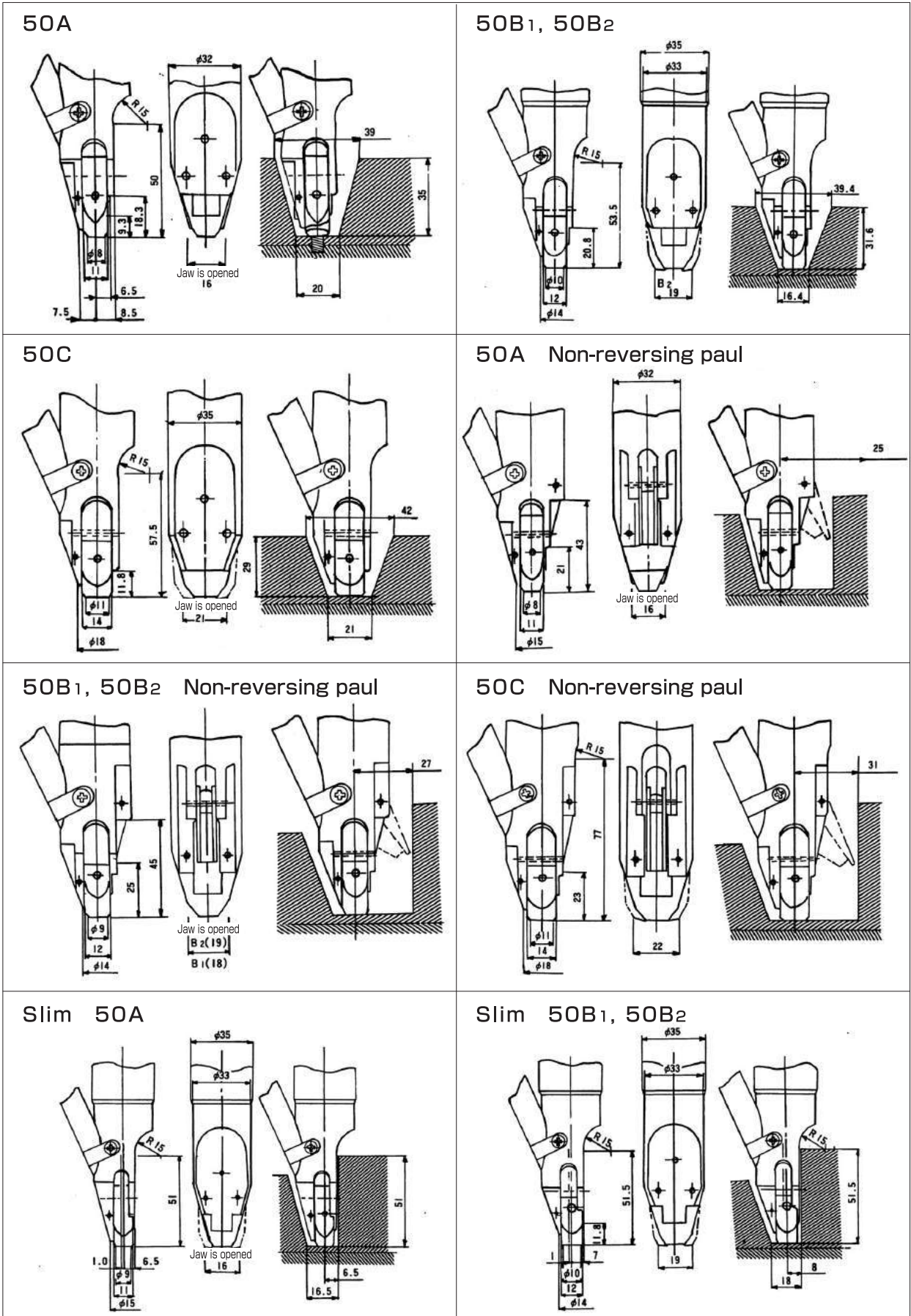
H = 2			H = 5			H = 7		
Screw type	T ₁	W ₁	Screw type	T ₁	W ₁	Screw type	T ₁	W ₁
25A	9	11	25A	9	13	25A	9	15
25B ₁	9	13	25B ₁	9	15	25B ₁	9	17
25B ₂ 25C	9	13	25B ₂ 25C	9	15	25B ₂ 25C	9	16
30A	9	13	30A	9	15	30A	9	16
30B ₁	9	14	30B ₁	9	16	30B ₁	9	18
30B ₂	9	13	30B ₂	9	15	30B ₂	9	17
30C	11	12	30C	11	17	30C	11	20
35A	9	13	35A	9	15	35A	9	17
35B ₁	11	15	35B ₁	11	17	35B ₁	11	19
35B ₂	11	15	35B ₂	11	18	35B ₁	11	19
35C	11	16	35C	11	17	35C	11	19
40A	11	15	40A	11	17	40A	11	18
40B ₁	11	16	40B ₁	11	18	40B ₁	11	20
40B ₂	11	17	40B ₂	11	19	40B ₂	11	20
40C	12	17	40C	12	19	40C	12	21
50A	12	18	50A	12	19	50A	12	21
50B ₁	13	18	50B ₁	13	20	50B ₁	13	23
50B ₂	13	21	50B ₂	13	22	50C ₂	13	24
50C	15	23	50C	15	23	50C	15	27
60A	13	20	60A	13	22	60A	13	24
60B ₁	15	23	60B ₁	15	24	60B ₁	15	27
60B ₂	15	23	60B ₂	15	25	60B ₁	15	27
27A ^W	9	11	27A ^W	9	11	27A ^W	9	12
27B ₁ ^W	9	12	27B ₁ ^W	9	12	27B ₁ ^W	9	13
31A ^W	9	12	31A ^W	9	12	31A ^W	9	13
31B ₁ ^W	9	13	31B ₁ ^W	9	13	31B ₁ ^W	9	14
35A ^W	11	13	35A ^W	11	13	35A ^W	11	15
35B ₁ ^W	11	14	35B ₁ ^W	11	14	35B ₁ ^W	11	16

^W → Wood

Tightening space

Y pipe tip sizes (reference)





Driver and Feeder Selections

- Screws are fed to the driver's tip by using compressed air.
- You can select the optimum driver from various kinds of air or electrical-driven drivers.
- Cost-optional Screw-fastening check counter is available for any driver, except for impact type drivers.

See page 13~16 feeder and driver units in detail.

Y Pipe Type

※Photos show "Handy" Handheld screw fastener units comprising MK-3020 feeder with different kind of driver models.

Electronic drivers series

most suitable:
steel aluminum and metal



Air drivers series

most suitable:
wood



Nipple temporary - tightening fastener

most suitable:
bicycle and motorcycle nipples



Vacuum Type M2~

- MK-3020V · MK-3150V · MK-3110V
- DLV30
- MO-1330 · 1350Series
- MB-1330H · 1330M · 1350L

Small tool investment yields big cuts in work time! Great screw-tightening even in narrow spaces

- Easy and smooth screw fastening only needs space equal to screw head+pickup(vacuum)pipe thickness
- Easy fastening even with obstacles near screw or countersunk screws
- Pipe protrudes 50mm per standard specs
- Uses minimal parts for easy servicing
- Use push start or lever start, whichever you want
- Brushless motor gives ample torque(0.2N-m to 7N-m)for wide range of models
- Speed(rpm)selectable in 3steps L-S-H
- Connectable to standard counter DLR5040A-WN(sold separately)
- Can be used with both MK-3020 and MK-3150 and MK-3110V feeder units
- Feeder units have simple internal counter (0 to 99 pieces)



Example shows feeder unit (pickup type MK-3020V)
used in combination with driver (DLV30)

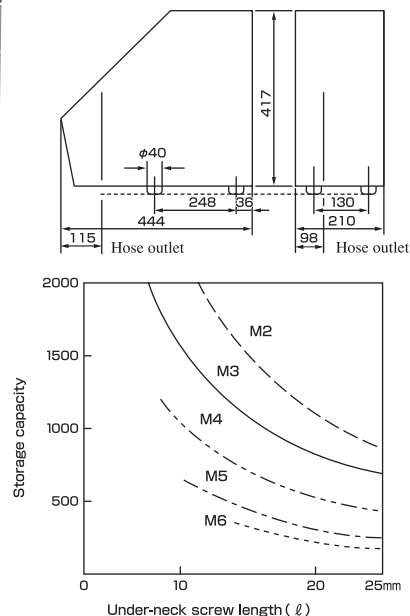
※Also usable as automatic unit

Example shows feeder unit (pickup type MK-3150V)
used in combination with driver (DLV08/15)

※Also usable as automatic unit

Screw Feeder

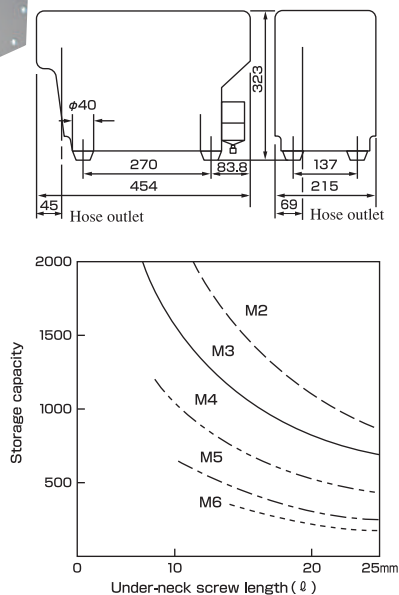
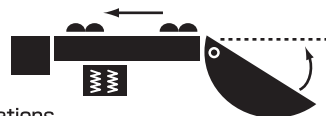
●MK-3020 Rotary-Drum Inclined-Chute Methods(450 cc)



Specifications

Features	low cost and space-saving model suitable for general small screws including flat-head screws
Applicable screws	small screws, tapping screws and wooden screws
Screw size	shank dia(ϕ d): 2 to 6mm, nominal length(ℓ): 5 to 25mm
Screw feeding capacity	5 to 150 pcs/min.(subject to screw spec.)
Hopper capacity	450 cc
Feeding methods	Rotary Drum Inclined Chute
Screw detector on chute	Photo Electric Tube (photo sensor) detects a certain q'ty of screws on the chute and stops feeding another screw to the chute in order to prevent the screws from overflowing
Pneumatic supply, connection & consumption	0.4to 0.5 Mpa 1/4B max. 50 liters/min (free air quantity)
Input voltaga	100 VAC \pm 10%, 50/60 Hz, 20 VA local voltages such as 200V,220V,230V,are available
Dimensions (without boss)	210 (width) \times 444 (depth) \times 417 (height) mm
Mass	Approx. 20 kg
Others	Electrical & Pneumatic control units are installed

●MK-3150V Horizontal vibration chute type (450 cc)



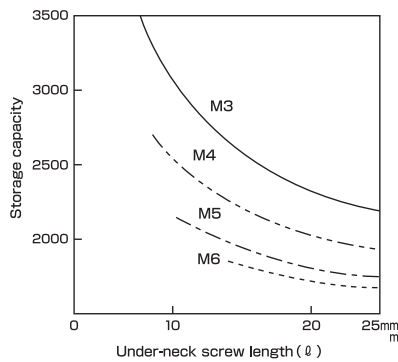
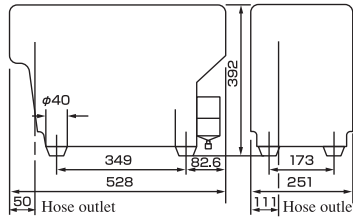
Specifications

Features	Ideal for Sems,double sems screws and screw which nominal lenght(d)syorter than minimum listed in page 1&2
Applicable screws	(small screw, tapping screws), sems screws, double sems screws, (wooden screws)
Screw size	shank dia(ϕ d): 2 to 6mm, nominal length(ℓ): 5 to 25mm
Screw feeding capacity	5 to 150 pcs/min.(subject to screw spec.)
Hopper capacity	450 cc
Feeding methods	scoop-up with vibrating blades Horizontal Chute Methods
Screw detector on chute	Photo Electric Tube (photo sensor) detects a certain q'ty of screws on the chute and stops feeding another screw to the chute in order to prevent the screws from overflowing
Pneumatic supply, connection & consumption	0.4to 0.5 Mpa 1/4B max. 50 liters/min (free air quantity)
Input voltaga	100 VAC \pm 10%, 50/60 Hz, 33 VA, local voltages such as 200V,220V,230V,are available
Dimensions (without boss)	215 (width) \times 454 (depth) \times 323 (height) mm
Mass	17 kg
Others	Electrical & Pneumatic control units are installed

●MK-31 10V Horizontal vibration chute type (1500cc)
Use it to 50mm in length easily.



Storage capacity
M6×40 500 pc
M6×20 1,000 pc
M6×10 2,000 pc



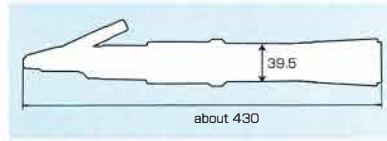
■Specifications

Features	Ideal for Sems, double sems screws and screw which nomi length(d) syorter than minimum listed in page 1&2
Appicable screws	(small screw, tapping screws), sems screws, double sems screws, (wooden screws)
Screw size	shank dia(ϕ d): 2.5 to 8mm, nominal length(l): 5 to 50m
Screw feeding capacity	5 to 150 pcs/min.(subject to screw spec.)
Hopper capacity	1500 cc
Feeding methods	scoop-up with vibrating blades Horizontal Chute Methods
Screw detector on chute	Photo Electric Tube (photo sensor) detects a certain q'ty of screws on the chute and stops feeding another screw the chute in order to prevent the screws from overflowing
Pnematic supply, connection & consumption	0.4to 0.5 Mpa 1/4B max. 50 liters/min (free air quantity)
Input voltaga	100 VAC \pm 10%, 50/60 Hz, 40VA, local voltages such as 200V,220V,230V,are available
Dimensions (without boss)	251 (width) \times 528 (depth) \times 395 (height) mm
Mass	28 kg
Others	Electrical & Pneumatic control units are installed

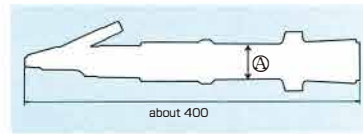
Driver Units

Electronic drivers series

●DLV30,45,70Series (Brushless motors)



●DLV7020 DLV8020



●DLV8120 DLV8251



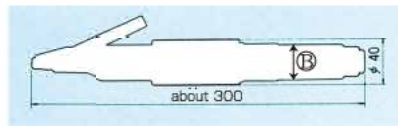
※ A
 7020/8020 ϕ 32
 8120~8251 ϕ 40
 7120~7251 ϕ 40

odelvo 7000 & 8000 Series

■Specifications

Model	Lever start	DLV7020	DLV7120	DLV7130	DLV7140	DLV7220	DLV7231	DLV7241	DLV7251	DLV30LL	DLV30SL	DLV30HL	DLV45LL	DLV45SL	DLV70LL
	Push start	DLV8020	DLV8120	DLV8130	DLV8140	DLV8220	DLV8231	DLV8241	DLV8251	DLV30LP	DLV30SP	DLV30HP	DLV45LP	DLV45SP	DLV70LP
Output torque (Nm)		0.05~0.55	0.25~0.75	0.5~1.7	1.2~3.0	0.35~0.7	0.5~1.7	1.2~3.0	2.0~4.5	0.4~3.0			2.0~4.5		3.8~7.0
No load speed (r.p.m.)		900	1,000	1,000	700	3,000	2,000	1,200	700	650	1,200	2,000	650	1,200	650
Mass (g)		約1,000	約1,200												
Screws	Small screws	1.0~3.0	2.6~3.0	2.6~4.0	3.5~5.0	2.6~3.0	2.6~4.0	3.5~5.0	4.5~6.0	2.6~5.0			4.5~6.0		5.0~8.0
	Tapping screws	1.2~2.6	2.3~3.0	2.3~3.5	3.0~4.0	2.3~3.0	2.5~3.5	3.0~4.0	4.0~5.0	2.5~4.0			4.0~5.0		4.5~6.0
Supply voltage		AC100V 50/60Hz													

Air drivers series



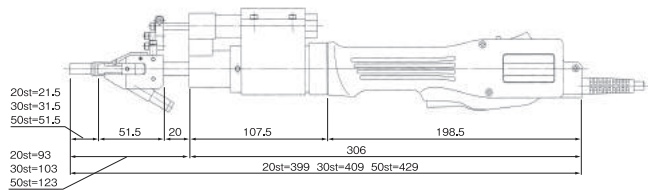
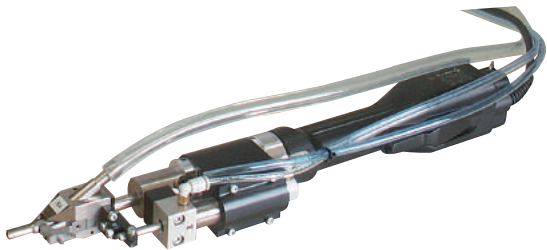
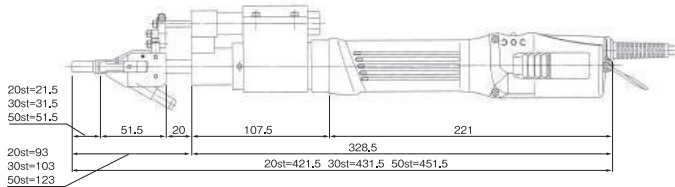
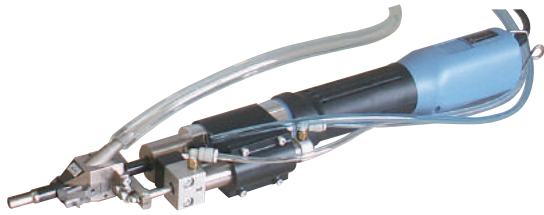
※ B model 35AS ϕ 34 model 40S ϕ 33
 model 40 ϕ 40 model 50 ϕ 40

●Air drivers 35AS, 40s, 40 and 50 Series

■Specifications

Model	Model 35AS	Model 40S	Model 40	Model 50
Screws	ϕ 2.5~ ϕ 3	ϕ 2.5~ ϕ 4	ϕ 3~ ϕ 4	ϕ 5~ ϕ 6
Tightening performance	5 to 50 pcs/minute			
Start up method	Lever start	Push-start	Lever start	Lever start
Bit rpm (no-load) (r.p.m.)	2,000	2,300	1,400	1,400
Output torque (Nm)	0.5~1.5	0.5~1.5	1.0~2.5	1.5~3.0
Mass (g)	about 1,100			

Vacuum series



delvo 30 series

Specifications

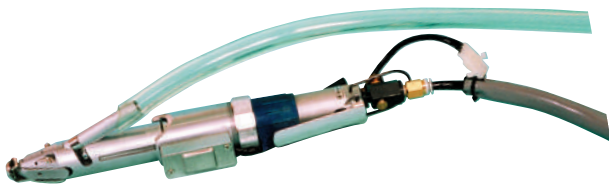
Model	Lever start	DLV30LL	DLV30SL	DLV30HL
	Push start	DLV30LP	DLV30SP	DLV30HP
Output torque (N·m)	Spring for low torque (Supplied accessory)	0.4 to 1.6		
	Spring for high torque (Equipped as standard)	1.2 to 3.0		
Free speed (min-1)		650	1,200	2,000
Input voltage		100V AC, 50/60Hz		
Power consumption (W)		45		
Plug shape		Grounded 3-pin plug (3m)		
Main unit weight (g)		Approx.1,300		
Applicable screw (mm)	Small screw	2.6 to 5.0		
	Tapping screw	2.5 to 4.0		

delvo 08/15 series

Specifications

Model	Lever start	DLV08LL	DLV08SL	DLV08HL	DLV15SL
Output torque (N·m)		0.2 to 0.8		0.3 to 0.8	0.5 to 1.5
Free speed (min-1)		650	1,000	1,800	1,100
Input voltage		100V AC, 50/60Hz			
Power consumption (W)		20		25	
Plug shape		Grounded 3-pin plug (3m)			
Main unit weight (g)		Approx.1,200			
Applicable screw (mm)	Small screw	2.3 to 3.0			3.0 to 4.0
	Tapping screw	2.0 to 2.5			2.5 to 3.5

Nipple temporary - tightening fastener



※ ㊦ model 35AS φ 34
model 40S φ 33

Air drivers 35AS, 40s

Specifications

Model	Model 35AS	Model 40S
Screws	φ2.5~φ3	φ2.5~φ4
Tightening performance	5 to 50 pcs/minute	
Startup method	Lever start	Push-start
Bit rpm (no-load) (r.p.m.)	2,000	2,300
Output torque	temporary-tightening	
Mass (g)	about 1,100	

Usable nipples



		Screw head diameter	Screw Shank
Bicycle nipples	#13	φ 7	φ4.3
	#14	φ6.5	φ 4
	#15	φ6.5	φ 4
Motorcycle nipples	# 6	φ12	φ8.4
	# 8	φ11	φ 7
	# 9	φ9.5	φ6.5
	# 9New	φ10	φ6.5
	#10	φ 9	φ5.8
	#10New	φ9.5	φ5.8
	#11	φ 8	φ 5
	#12	φ7.5	φ4.6

Typical models

#13-40S # 9-40S
#14-40S #10-40S
#15-40S #11-40S

※Push-start is a 40s.
※Available for any 35A
(lever start)

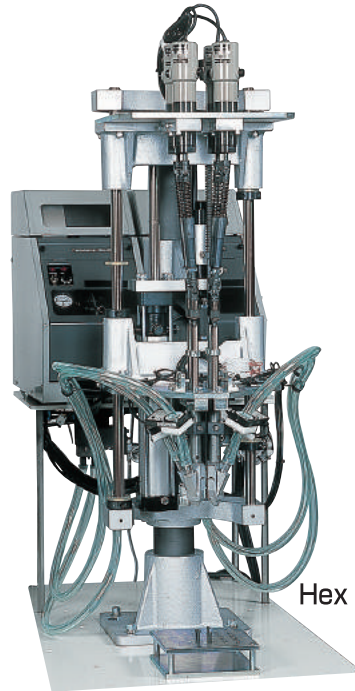
Multi-axis Fasteners

NSE



4-axis fastener (long catcher type)

Photo shows examples

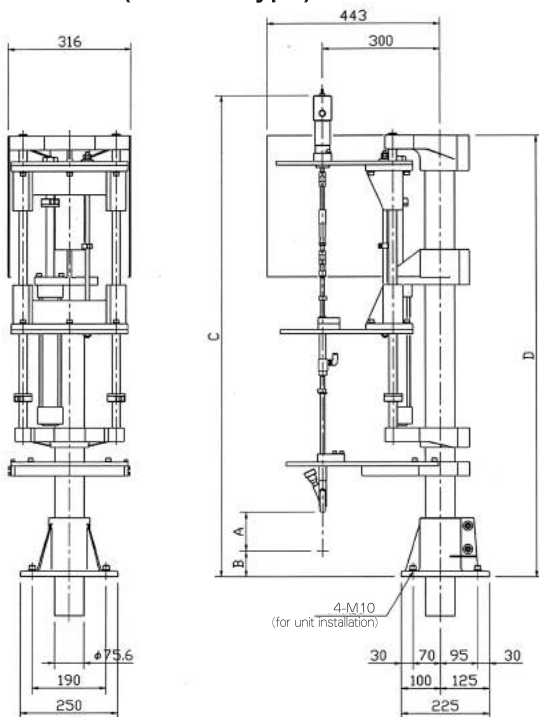


Hex socket head cap bolt fastener

Specifications

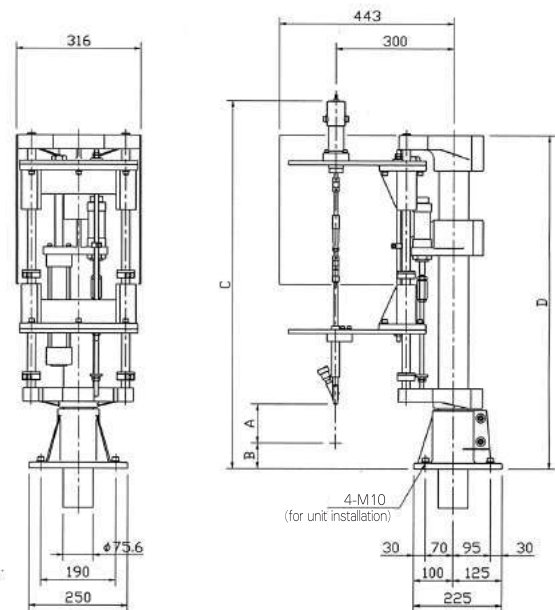
Item	NSE type		
Screws	φ2 to 6 small screws, tapping screws		
Screw length	Maximum 25 mm (custom 40 mm)		
Number of simultaneous fastenings	2 to 8 axes		
Part No.	MO-1330	MO-1350	MO-1350 torque-up type
Tightening torque (Output N.m)	0.16~3.20	1.19~4.80	2.38~14.4
Bit rpm (no load r.p.m)	130~2,050	130~450	43~150
Tightening minimum pitch	20 mm (between 2 axis)		
Y pipe stroke	100mm(150mm, 200mm)		
Screw supply feeder	MK-3020	MK-3150V	

●NSE head (vacuum type)



A	B	C(B=65)	D(B=65)
100st	65~100	1228.5	1126
150st	65~100	1378.5	1276
200st	65~100	1528.5	1426

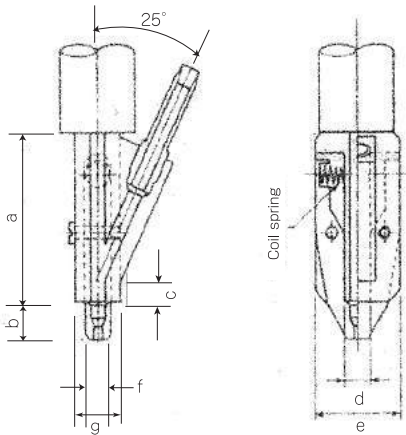
●NSE head (Y pipe type)



A	B	C(B=65)	D(B=65)
100st	65~200	938.5	1000
150st	65~200	1038.5	1100
200st	65~200	1138.5	1200

Screw Fastening Space

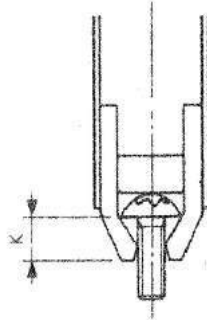
1 Y pipe dimensions



Standard Y pipe (coil spring type)

The Y pipe grips the screws sent from the distributor in a catcher, guides the screws to the holes and aligns their positions. Dimensions for the standard Y pipe are shown below.

2 Catcher screw-grip dimension



3 Screw fastening with minimum pitch and space

A space margin is needed for when the catcher is open during screw fastening and during installation of the Y pipe. So minimum pitches for screw fastening are listed in the table below. Please consult us for items not covered in the table below.

Screws

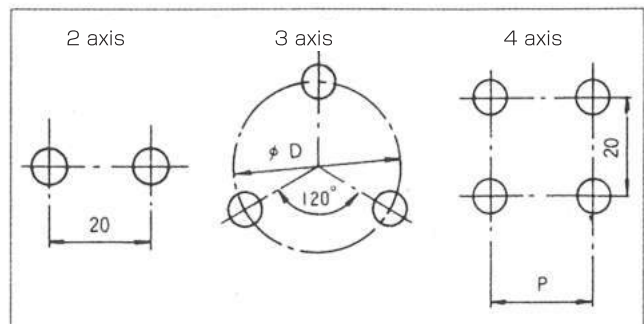
Screw head shapes	Small screws, tapping screws																			
	A				B ₁				B ₂				C							
Items	Pan	Round	FlatCylinder	Fillister	Flat	Oval	Binding	Brazier	Truss											
Screw shank diameter (d)	M 2				M 2.5				M 3				M 4				M 5		M6	
Screw head shapes	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	C	A	B ₁	B ₂	A
Screw head diameter (D)	3.5	4	4.3	4.5	4.5	5.0	5.3	5.7	5.5	6	6.3	6.9	7	8	8.3	9.4	9	10	10.3	10.5
Length (ℓ)	Min.	6	8	8	9	9	10	10	12	9	11	11	13	11	14	14	17	15	17	16
	Max.	13	18	17	22	19	22	23	21	23	25									
Y pipe major dimensions	a	44			54				59				64							
	b	10																		
	c	3.2			5.5				7.5				6.5		8.5					
	d	7			9				11				12		13					
	e	23			25				27				28		29					
	f	7			8				10				11		12					
	g	12						14				15		17						
Screw grip dimensions(K)	5.0	5.5	5.0	5.5	6.0	5.0	5.5	6.0	5.0	6.0	6.5	7.0	6.0	7.0	6.5	7.0	6.0	7.0	6.5	

*The minimum screw length was specified to enhance reliability inside the Y pipe. (Length is slightly different from that for the Handy.) Please consult us for the dimensions not covered in the table above.

*Screws with an under-neck length less than the minimum screw length can still be tightened by using a Y pipe with non-reversing pawl. Please consult us about the dimensions.

Minimum pitch (when using pan-head screws) mm

Screw	No. of axis		
	2axis	3axis φD	4axis P
M5 pan-head	20	27	35
M4 pan-head		25	30
M3 pan-head		23	
M2 pan-head		23	25



NUE

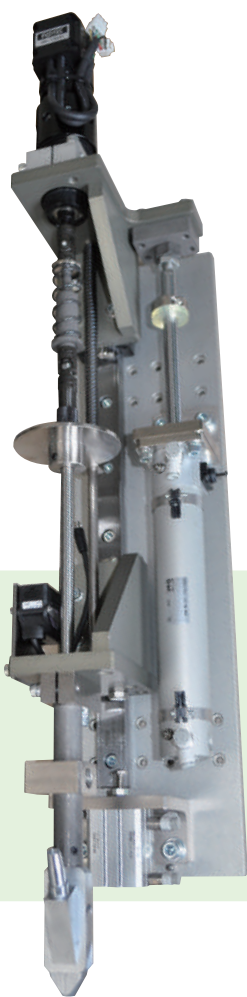


Adsorption type Head

Up-Down mechanism

- 2 shaft or Linear rail

※For details of the driver, see P25-P28.



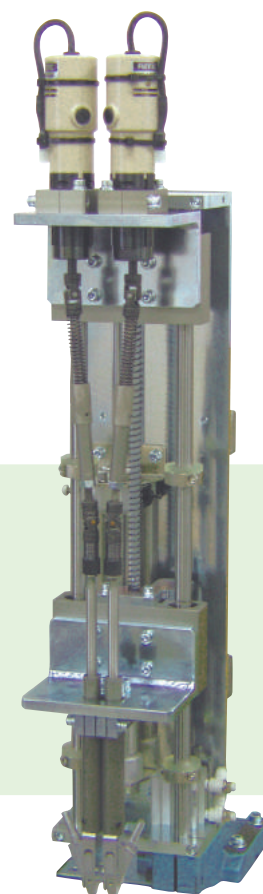
Y pipetype Head

Up-Down mechanism

- 2 shaft

※Pictuer is Current control type driver.

※For details of the driver, see P25-P28.



Y pipetype Head

Up-Down mechanism

- Linear rail

※Pictuer is Brushless driver.

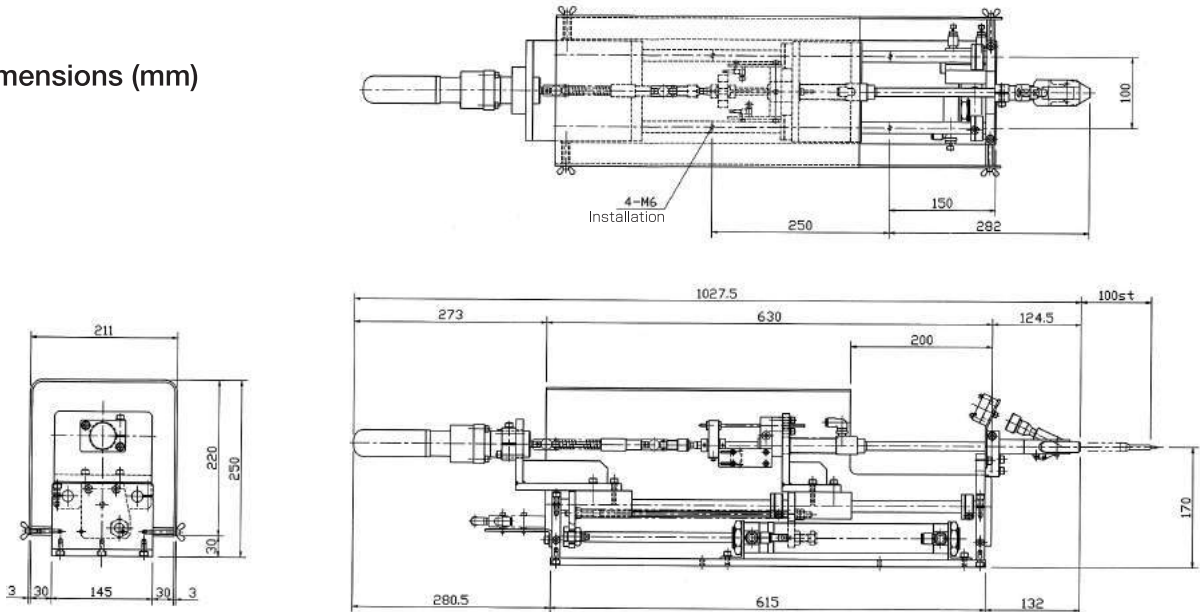
※For details of the driver, see P25-P28.

吸着式ヘッド

Head (Vacuum system)

- Y pipe screw compressed air feed system and vacuum system
- Ideal for small, cramped spaces, locations with side surface obstructions, or recessed screw tightening hole locations
- Step pickup system
- Vacuum pipe stroke : 100 mm, 150 mm, 200 mm

Dimensions (mm)



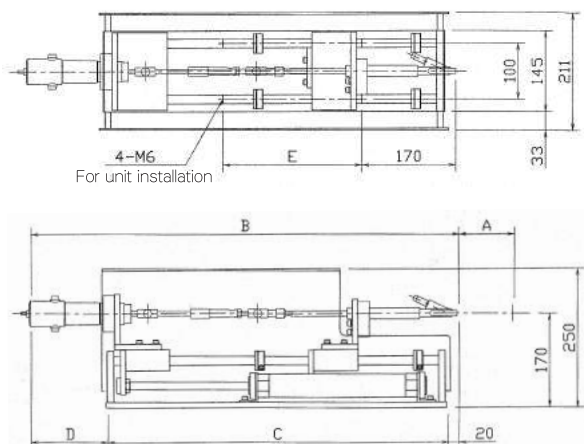
NUE Head (Y pipe type)

- Y pipe screw compressed air feed system
- Y pipe long jaw (custom type)
- Choice of Y pipe stroke : 100 mm, 150 mm, 200 mm

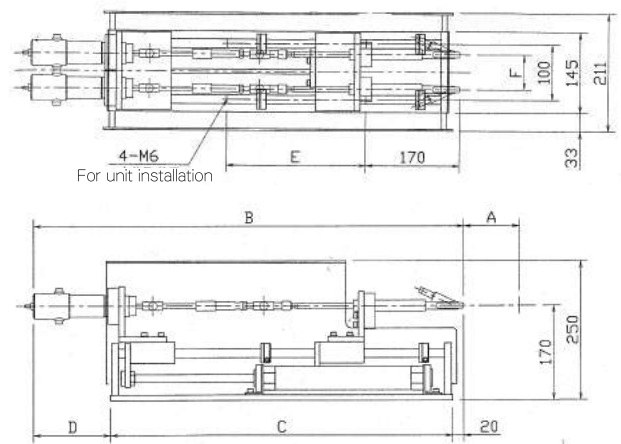
Dimensions (mm)

	A	B	C	D	E	F
100st		745	615	138.5	250	20~100
150st		775.5	715	40.5	300	20~100
200st		835	815		350	20~100

●NUE1 (1 axis)



●NUE2 (2 axis)

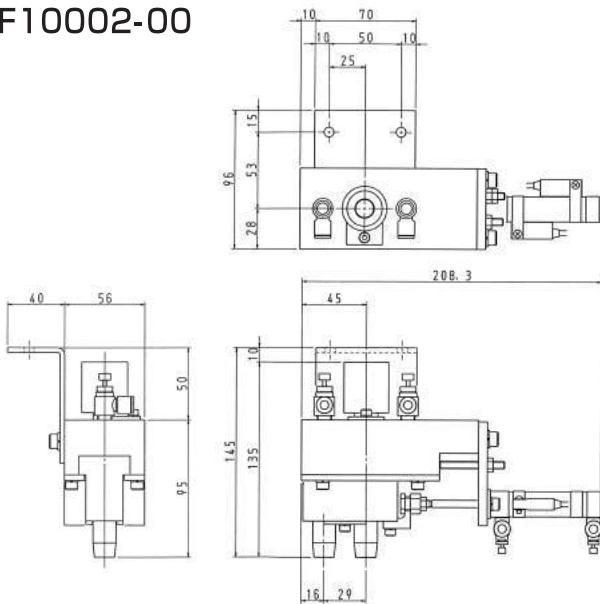


Multiple Escapement Options

each distributor for no accessories.

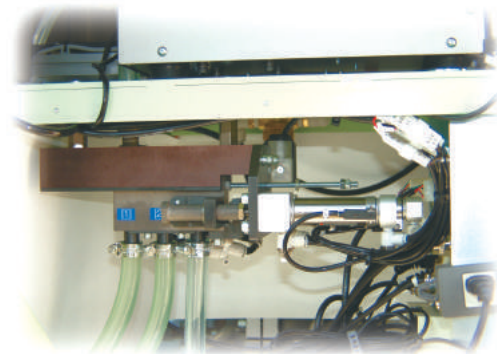
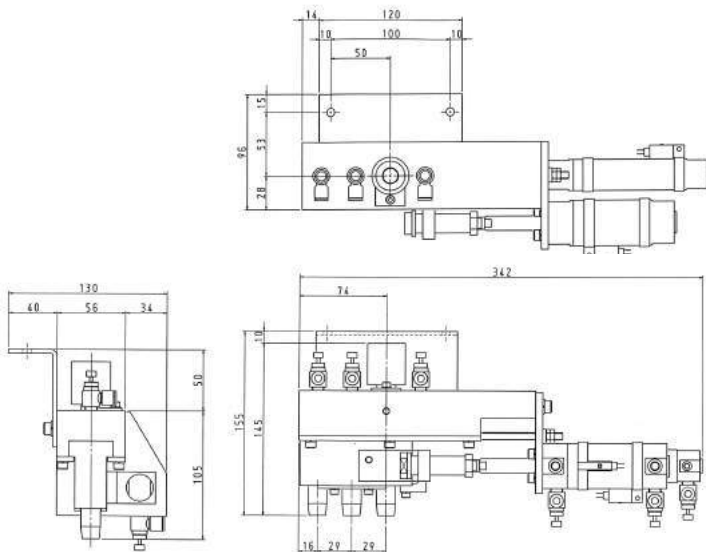
2-axis escape

● F10002-00



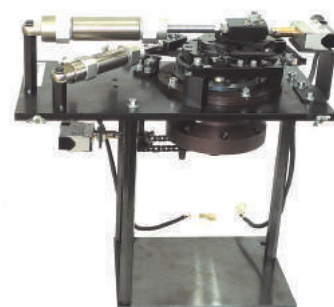
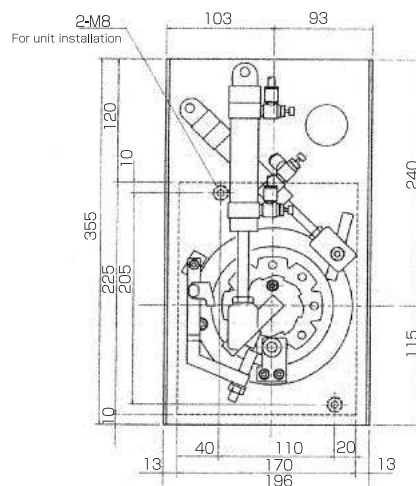
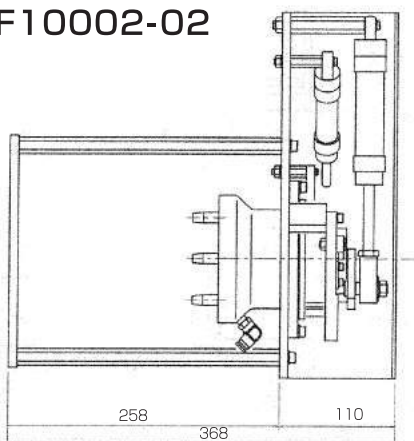
3-axis escape

● F10002-01



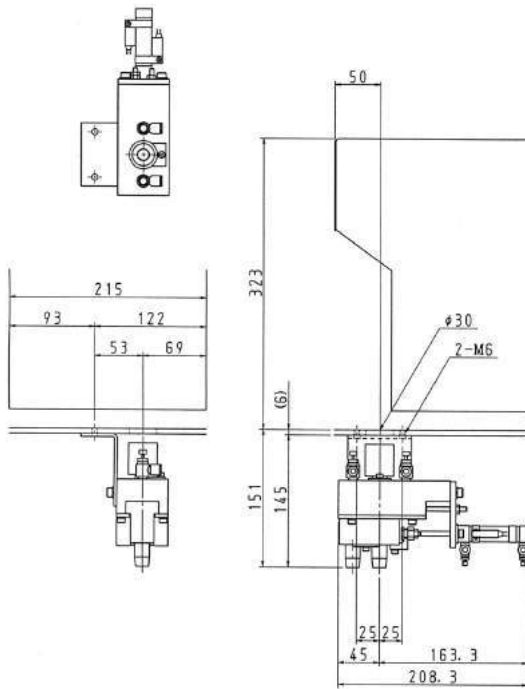
Rotary escape

● F10002-02

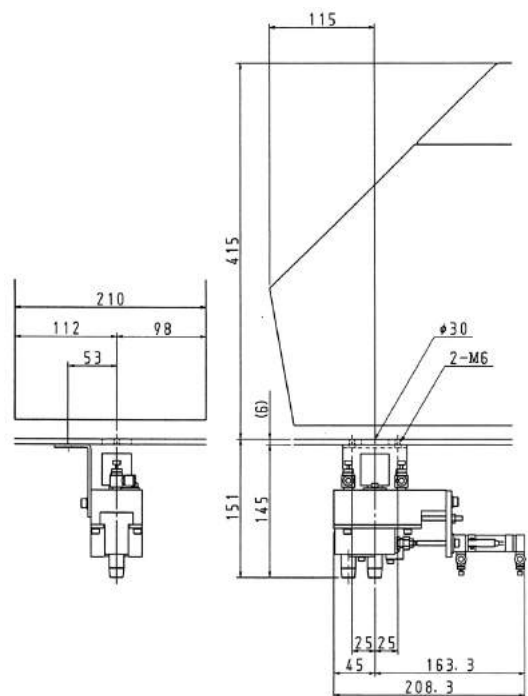


2-axis escape

● Vis Setter (MK-3150V)

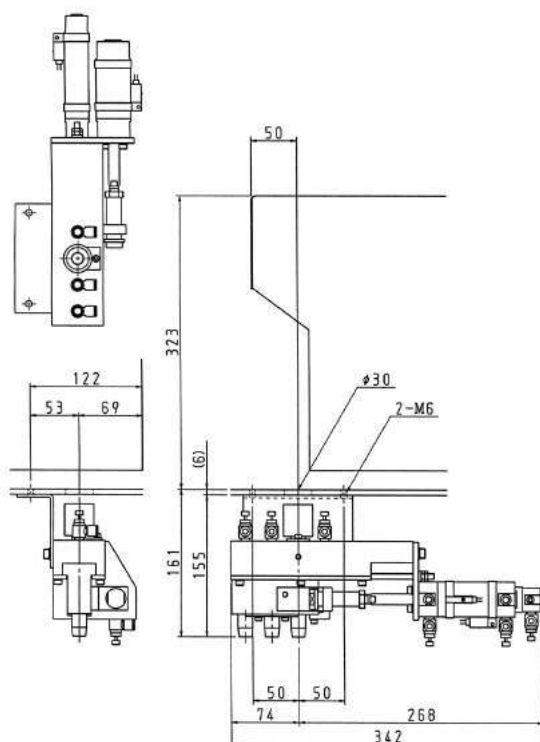


● Vis Setter (MK-3020)

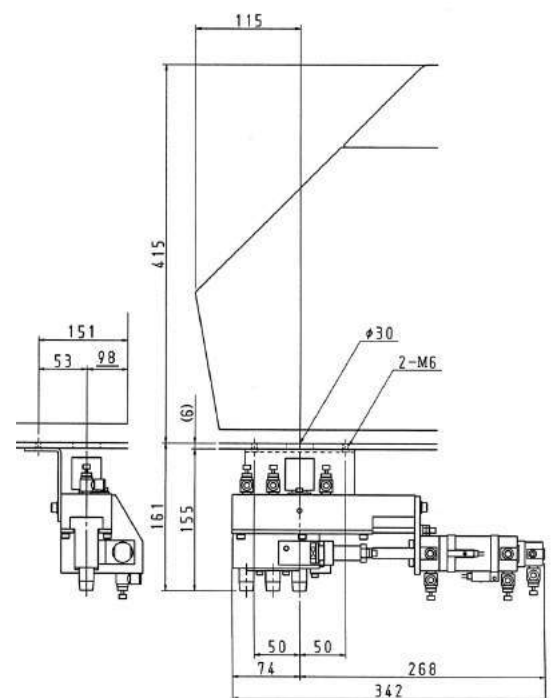


3-axis escape

● Vis Setter (MK-3150V)



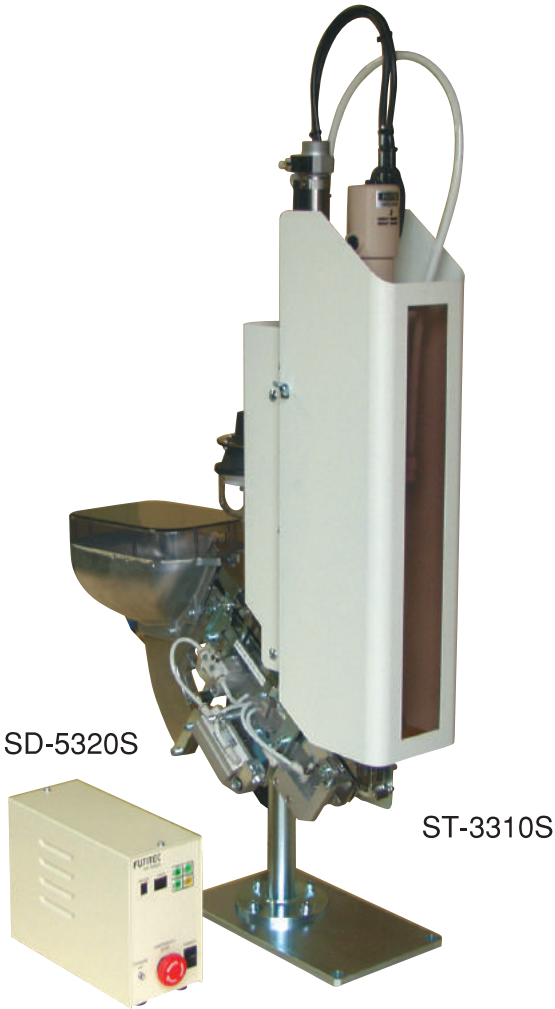
● Vis Setter (MK-3020)



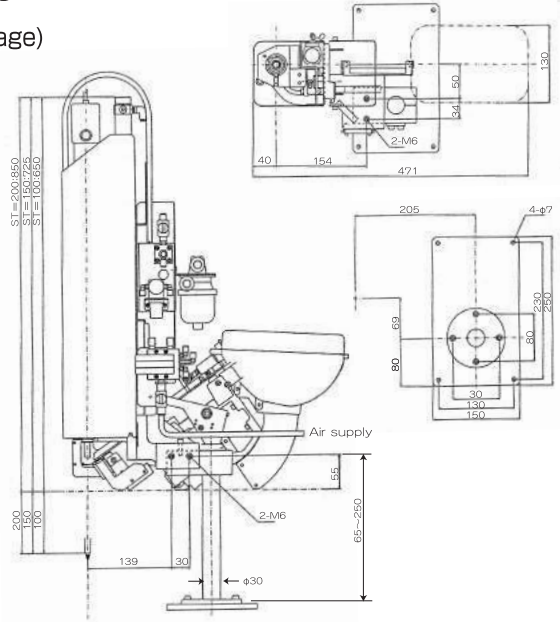
Stand

NSSE (Vertical screw fasteners)

- Temporary fastening mode
- Catcher screw presence detection attachment mode
- Height switchover 2stage fastening mode (option/16stage)
- torque up 2stage fastening mode (option/16stage)
- Out change 2stage mode (option/16stage)
- Vacuum cut mode



Dimensions (mm)



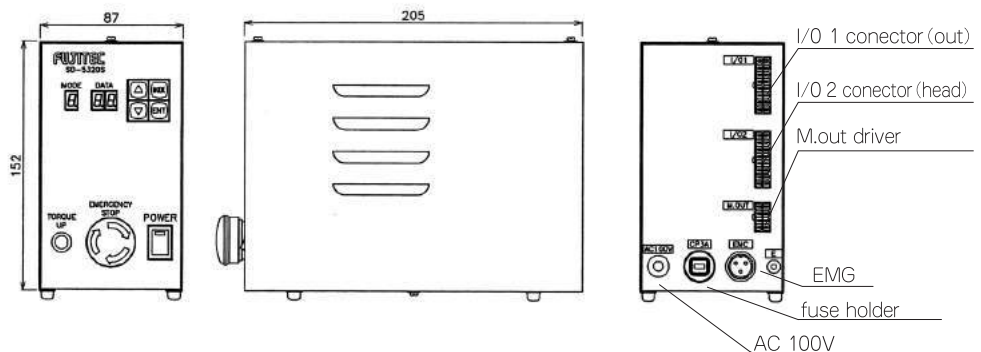
The change of the screw supports easily, too

The screw supply for a change of the many kinds production immediately, The cassette type which can support
Screw cassette FT-H401 (separate sale for the exchange)

Specifications

Screws size(standard)	φ2.5 to φ5.0 L=5 to 30
Screw type	Small screws, tapping screws
Tightening stroke	100 mm (custom: 150, 200)
Tightening pipe dimensions	Screw head size + 2mm (up to 30 mm from tip)
Hopper capacity	330 cc (e.g. : approx. 1,000 pcs at M4×10L)
Air pressure	0.49 MPa (5 kg/cm ²), 1/4"
Maximum air pressure	Approx. 25 liters per minute (unlimited air quantity)
Weight	Main unit 12 kg Electronic control 3kg

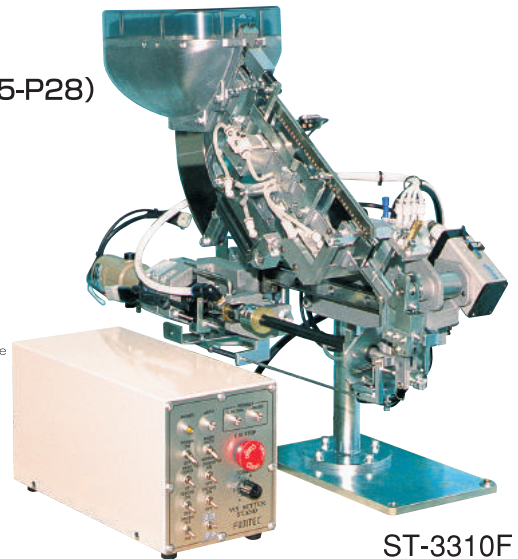
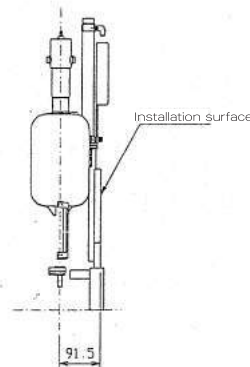
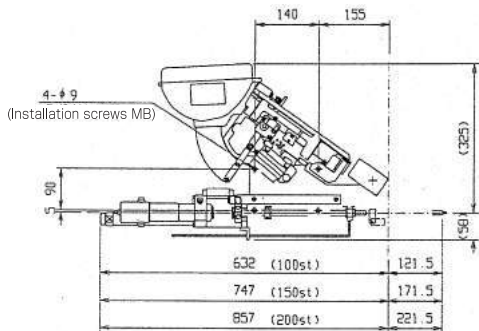
Controller dimensions Electronic driver control



NSSE (Horizontal screw fasteners)

- Screw fastener driver
Electronic control driver
(For details of the Electronic control driver, see P25-P28)

Dimensions (mm)



SD-1310F

ST-3310F

NSSE (Vertical screw fasteners)

- Screw fastener driver
AC servo driver

※Main body dimensions are the same as screw fastener electronic control driver specs on page 23

Basic Specifications

Controller

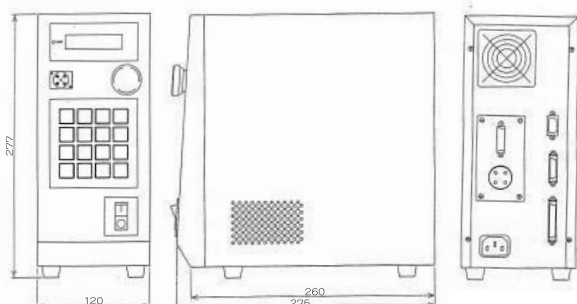
Shaft control	Screw tightener shaft
Drive method	AC servomotor
Screw tightening pattern	32 types
External I/O signals	Input 14 points
	Output 14 points

Primary power supply	100 VAC (±10%), 5
Weight Main body	12Kg
Electronic control	4Kg

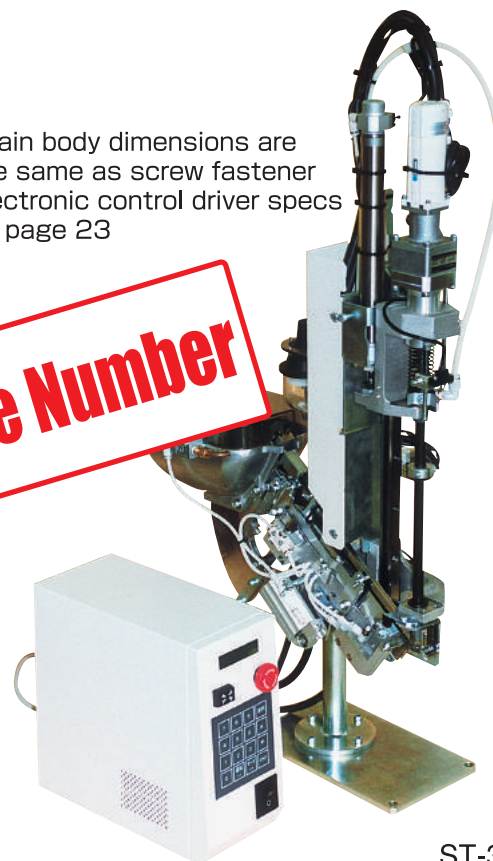
Options

- Catcher screw detection
- Screw floating detection

AC servo driver



Waste Number



SD-2310SA

ST-3310A

Screw Driving Motors & Controllers

New Brushless Drivers For automatic machines

- Drivers MB-1330H·1330M·1350L
- Controller DO-1390C

- Gives same effective results as servo and stepping motors, yet price is actually lower than servo and stepping motors!
- Screw-tightening utilizing up to 32 channels & 32 programs

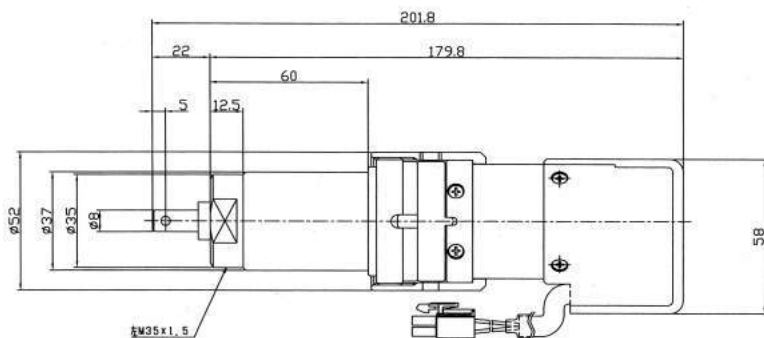
The basics of tightening screws include a slow-start during bit
 Also specifying a slow speed & torque during screw seating is e



Driver cord is sold separately (3.5m Standard length)

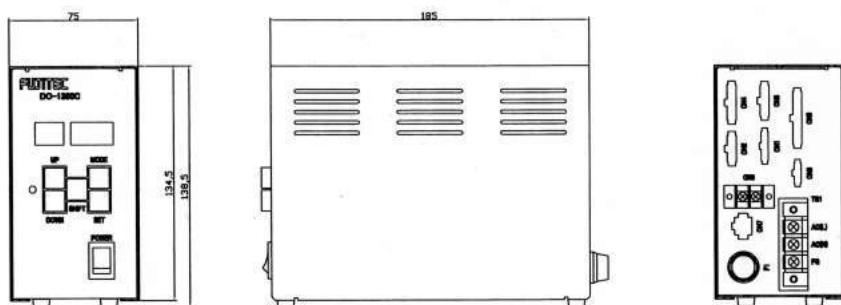
- Power cable 910040035
- Signal cable 910060035

● Driver section (MB-1330H·MB-1330M·MB-1350L)



Specifications			
Model No.	MB-1330H	MB-1330M	MB-1350L
Calculated output torque (N·m)	0.4 to 1.5	0.3 to 2.3	1.0 to 5
Rotational speed with no load (rpm)	20 to 1060	170 to 640	10 to 450
Weight (g)	Approx. 750		
Output axis diameter (mm)	φ8 (standard) or φ6 (option)		
Gripper outer diameter (mm)	φ37±0.1		

● Controller (DO-1390C) for MB-1330H·MB-1330M·MB-1350L



Specifications	
Input voltage	100 to 240 V AC
Rated current	6A
Display	7-segment display
External I/O	Start input
	Stop input: 2 points
	Completion signal output
Weight	Approx. 1500g

Constant voltage, high voltage, and overcurrent detection functions
 Error display function such as for the number of revolutions error, angle not reached, open-circuit fault, and no program setting.

What it can do!

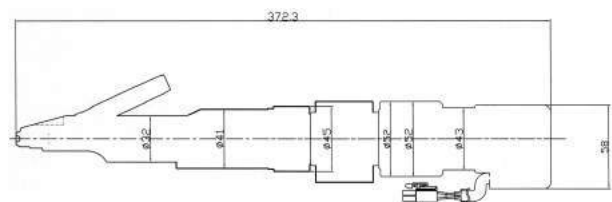
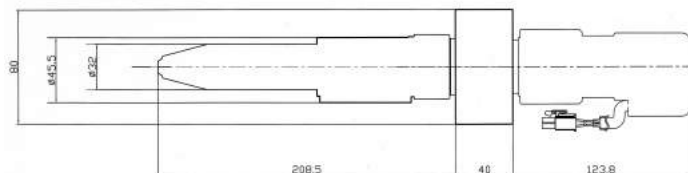
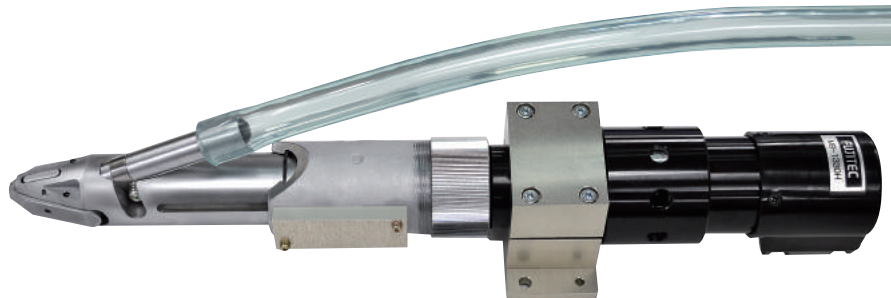
Allows separate setting of rotation and torque.

Allows selecting mode from torque mode, angle mode, or rotation

<p>Example 1</p>	<p>Slow rotation during screw bite-in</p> <p>CH1</p> <p>CH2</p> <p>User can set a torque value at maximum speed during intermediate screw-in.</p> <p>CH3</p> <p>User can set torque control for slow rotation during final screw seating.</p> <p>Workpiece surface</p> <p>CH1,2,3 User can make individual the number of revolutions and torque settings. Settings entered for CH2 and CH3 operation can be used.</p>
<p>Example 2</p>	<p>Input 1: Enter the angle or the number of revolutions.</p> <p>Input 2: Set the rotation to slow and select the torque</p> <p>Workpiece surface</p>
<p>Example 3</p>	<p>After Input 2 in Example 2, operation stops at any desired angle (angles can be set in 10 degree units)</p>

Can put it on actuator, a robot quickly
An effect is provided by low-priced investment

- Driver
 - MB-1330H
 - MB-1330M
 - MB-1350L



Screw Driving Motors & Controllers

Driver

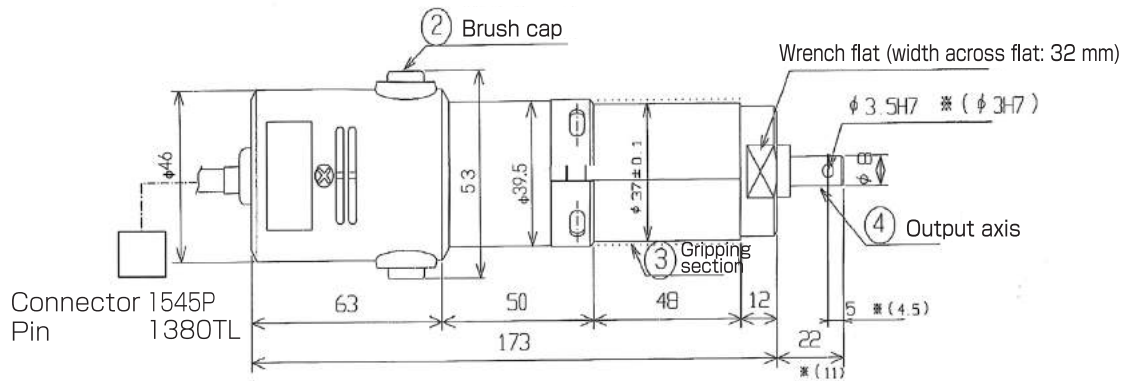
MO-1330 1350 Sries



Driver Specifications: Current Part No.

Part No.	Output torque	No load rpm	Remarks	Controller
	(N·m)	(r.p.m)		
MO-1330A	0.73~3.20	130~450	Standard	DO-1390A (1 step; standard feature)
MO-1330B	0.48~2.33	170~640		DO-1390A-2 (2-step torque selector)
MO-1330C	0.16~0.90	590~2050		
MO-1330D	0.27~1.55	280~1060		
MO-1350A	1.19~4.80	130~450	Standard	DO-1390B (16 type torque selector)

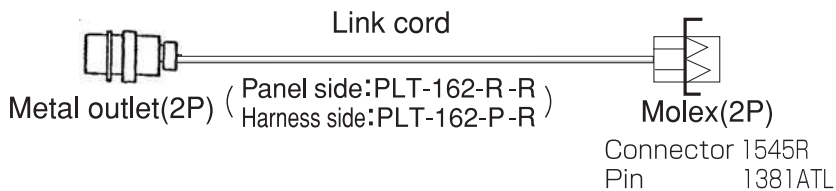
Driver Dimensions



note:※mark Out axis φ6 size. Shipped with a X each number end.

Driver cord (standard 3.5m) Separate sale

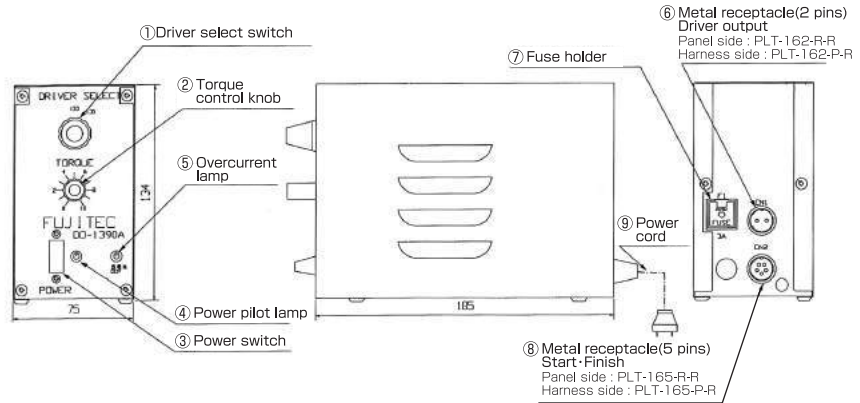
910060250



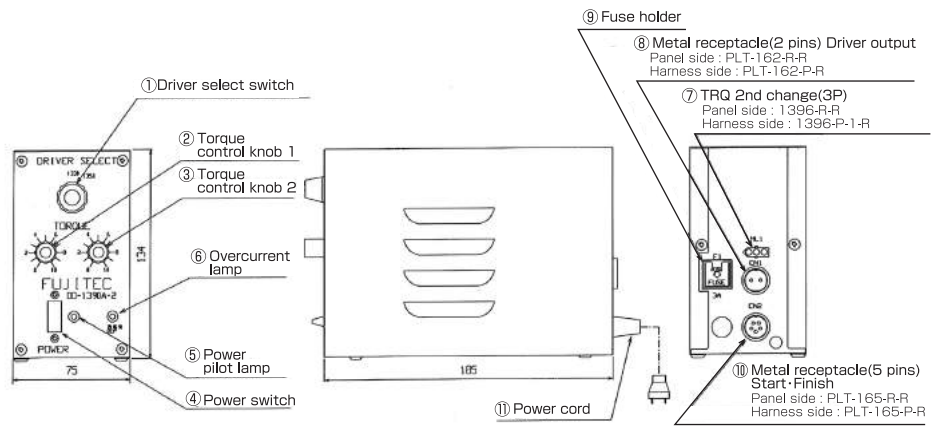
Controllers



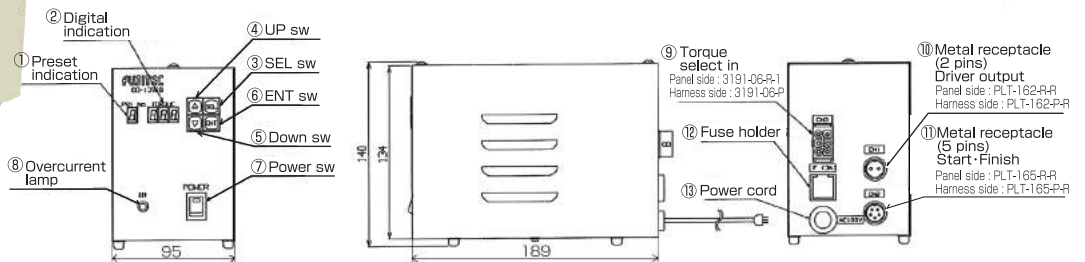
DO-1390A
(1 step; standard feature)



DO-1390A-2
(2-step torque selector)



DO-1390B
(16type torque selector)

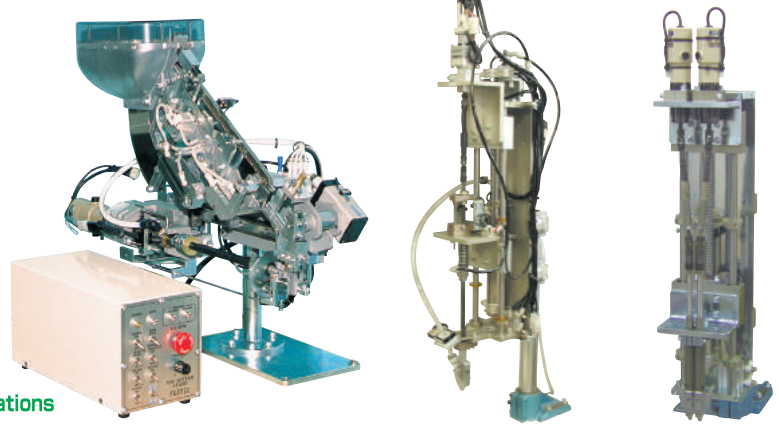




Vis Setter

Screw fastening Machine Handheld and Automated

- Handy (Handheld drivers and Screw Feeder)
- NSSE (stand type Vertical Screw Fastener)
- NSSE (stand type Horizontal Screw Fastener)
- NUE (Slide Units)
- NSRE (Screw Fastening Robots)
- NSE (Multi-axis Screw Fastening Systems)
- Screw Driving Motors & Controllers
- Multiple Escapement Options for Assembly Stations



For more information, please contact:

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