



ASSEMBLY TOOLS AND SYSTEMS



**Automatic screw feeding systems**



## Optimize your cycle time

Shorter your cycle time is better your productivity is and your manufacturing cost are optimized.

Thanks to the DOGA automatic screw feeding systems reduce your cycle time and improve your workstation ergonomics within a quick ROI.

Thus you :

- Eliminate manual steps such as screw positioning on the screwdriver bit.
- Increase the assembly speed avoiding repetitive loading of screws on the workstation.
- Ease and speed up the placement of small screws in restricted area.
- Eliminate manual motion that can spoil your parts during the assembly process.

### **Spare about 1 second per tightening operation !**

Doga automatic screw feeding benefits :

- Easy to use
- No adjustment required
- A robust design
- Silent operating mode



## La gamme



### DMS/DMBS Telescopic Spring version

System with telescopic compression spring perfectly suitable with Push to Start.



### DMA/DMBA Auto advance version

System with pneumatic piston perfectly adapted when the screwing nose must not be in contact with the product.



### DMM-30 Magnetic screw holder

System with screw feeding nozzle retraction and magnetic screw holding . Perfectly suited for difficult access to screw points.



### DA-100 Automation version

Intended for automatic stations or the robotic tightening operations.

# Automatic screw feeding systems



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# Selection Chart

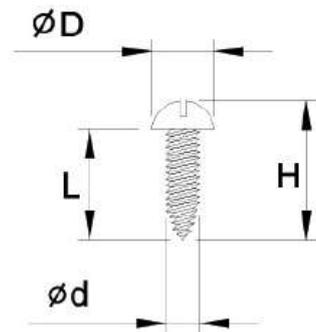
## Suitable screw body diameter

Diameter or thread	1,5	2	2,3	3	4	5	6	7	8
DMS-30									
DMS-40									
DMA-30									
DMA-40									
DMBS-501									
DMBA-501									
DMBS-502									
DMBA-502									
CM-100									
DMM-30									

## Suitable screw length

DMS-30 DMS-40 DMA-30 DMA-40			DMBS-501 DMBA-501 DMBS502 DMBA502		
Screw head diameter $\varnothing D$	Length H mini (mm)	Length H maxi (mm)	Screw head diameter $\varnothing D$	Length H mini (mm)	Length H maxi (mm)
5	8	22	5	8	30
6	9	22	6	9	30
7	10	22	7	10	30
8	11	22	8	11	30
9	12	22	9	12	30
10	13	22	10	13	30
11	15	22	11	15	30
12	16	22	12	16	30
13			13	18	30

1.5 < Ratio H /  $\varnothing D$  ideal



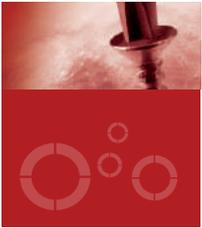
## Suitable screw head shape



## Suitable footprint

Phillips	Pozidriv	Torx	Slot	Hex driver 6-point

\* Except DMM-30 version.

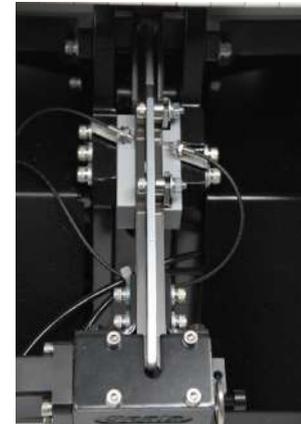


# DMS Telescopic Spring version

The screw feeding unit DMS is equipped with :



Reciprocating blade hopper



Gravity rail with overload cell



Tool with Telescopic spring

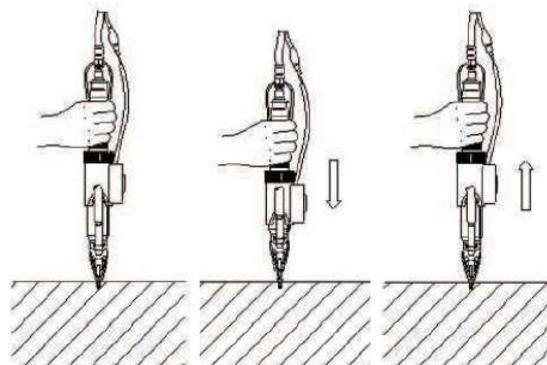


Non return device

- Suitable with Pneumatic or electric screwdriver ideally with push to start system.
- The screw remains protruding after blowing thanks to a non-return device in the screw feeding nozzle.

## Operations :

- The action on the telescope moves the nozzle up to release the screw
- Continuous pressure on the tool allows the tightening



## Specific application cases :

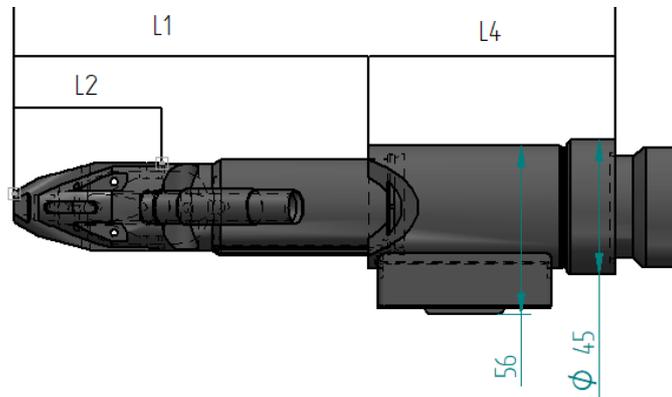
- When the contact of the screw feeding nozzle with the part is allowed
- For self tapping screws

# DMS Telescopic Spring version

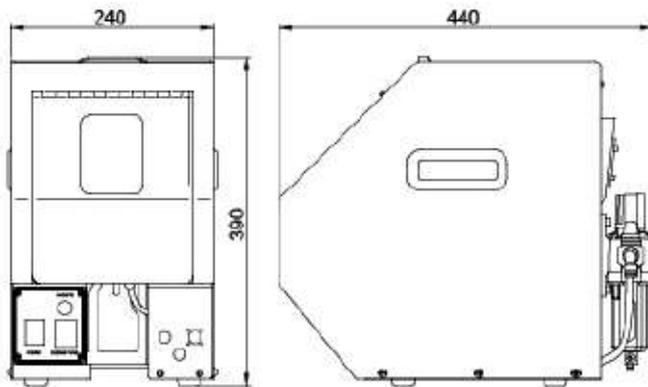
## Features

	DMS version features	
	DMS-30	DMS-40
Suitable screw body diameter	from 2,3 up to 6 mm	from 2 up to 6 mm
Suitable screw length	Up to 22 mm	Up to 22 mm
Screw feeding rate	Max 30 screw /min	Max 30 screw /min
Type of feeder	Reciprocating blade hopper and gravity accumulation rail	Reciprocating blade hopper and vibrating accumulation rail
Hopper capacity	0.7 L	0.7 L
Screw driver number	1	1
Torque	0.4 up to 8 NM	0.4 up to 8 NM
Type of screwdriver	Pneumatic or Electric	Pneumatic or Electric
Starting	Push to start	Push to start
Recommendation to install	Balancer or arm	Balancer or arm

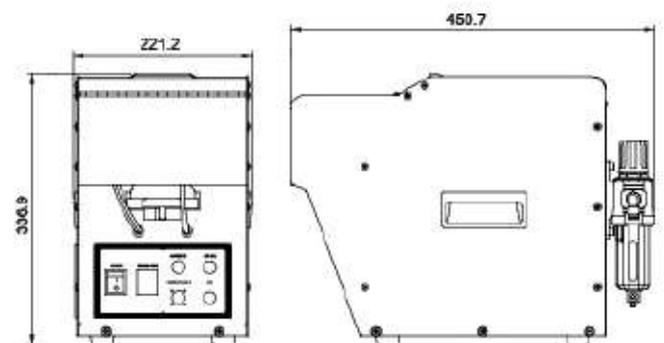
Size :



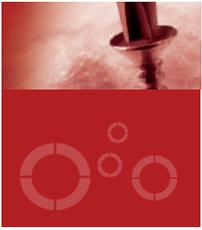
Screw head diameter	L1 (mm)	L2 (mm)	L4 (mm)
Under 7 mm	106	48	75
From 7 up to 9 mm	110	49	75
From 9 up to 12 mm	111	50	75



DMS-30



DMS-40

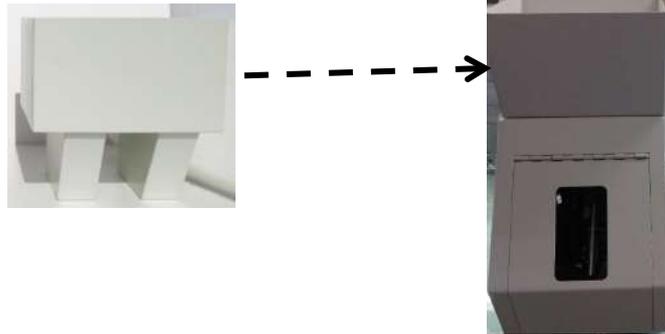


# DMS Telescopic Spring version

Options :

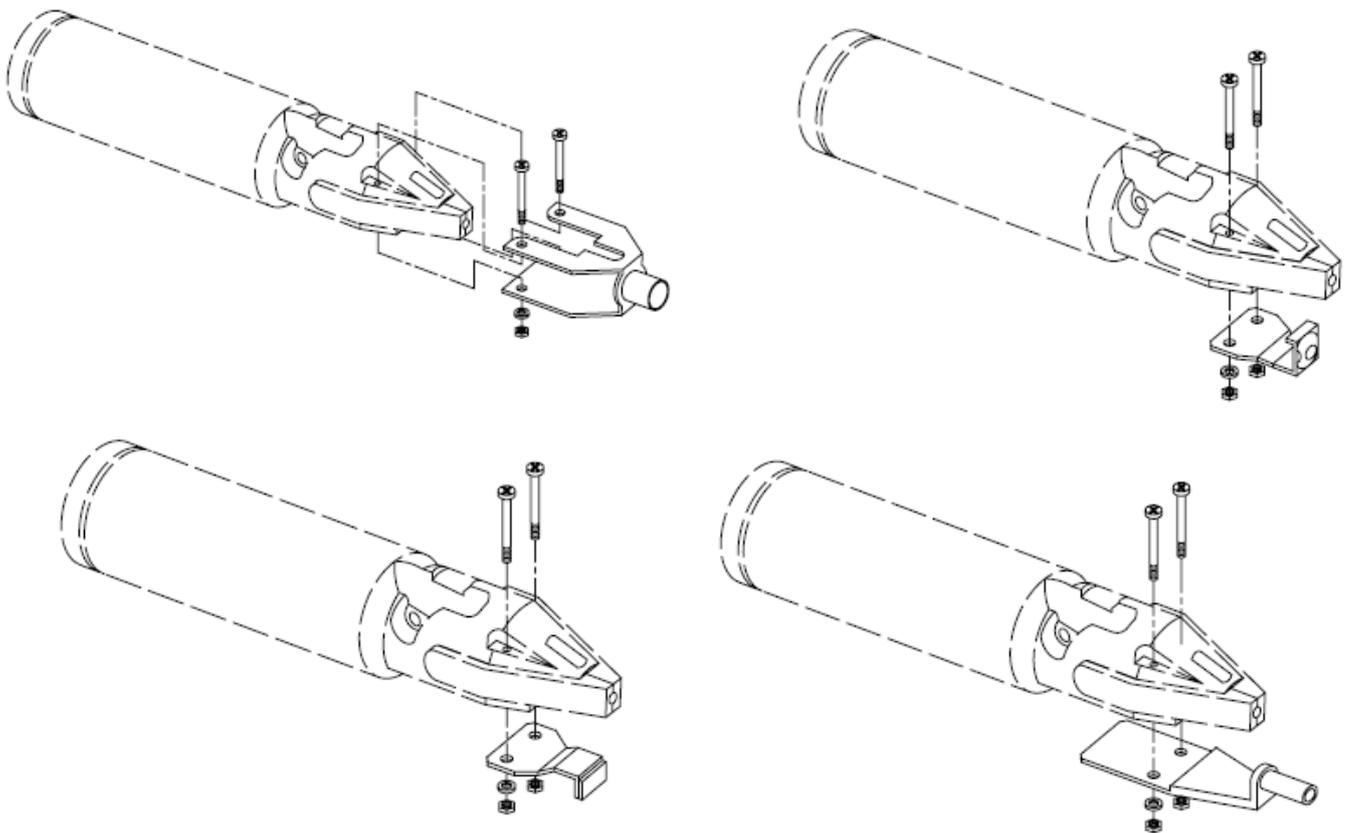
## Additional Hopper

- In order to increase the screw storage capacity , the additional hopper option increases the loading volume.



## Special nozzle equipment

- To quickly position the screw driving nozzle on the part, allow the tightening in deep hole the screw driving nozzle can be equipped with a specific and customized extension.



# DMBS Telescopic Spring version

*The screw feeding unit DMBS is equipped with :*



Feeder with vibrating bowl



Rail with overload cell



Tool with Telescopic spring

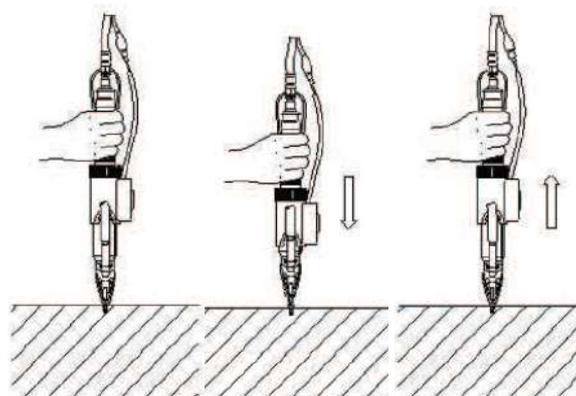


Non return device

- Suitable with Pneumatic or electric screwdriver ideally with push to start system.
- The screw remains protruding after blowing thanks to a non-return device in the screw feeding nozzle.

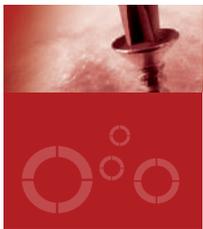
## Operations :

- The action on the telescope moves the nozzle up to release the screw.
- Continuous pressure on the tool allows the tightening.



## Specific application cases :

- When the contact of the screw feeding nozzle with the part is allowed.
- For screws from 22 mm up to 30 mm.
- For smaller and bigger screw diameter from 1.5 to 8 mm.
- For production rates higher than 30 screw/min and up to 50 screw/min.
- For self tapping screws.

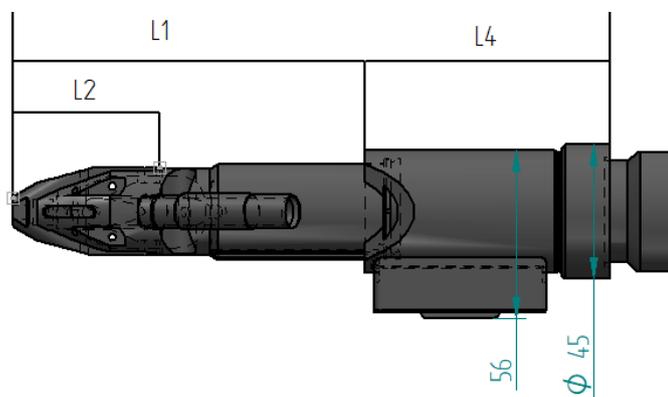


# DMBS Telescopic Spring version

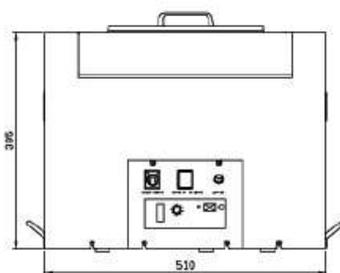
## Features

DMBS version features		
	DMBS-501	DMBS-502
Suitable screw body diameter	from 1.5 up to 8 mm	from 1.5 up to 8 mm
Suitable screw length	Up to 30 mm	Up to 30 mm
Screw feeding rate	Max 50 screw / min	Max 45 screw / min per screwdriver
Type of feeder	Vibrating bowl 1 way	Vibrating bowl 2 ways
Hopper capacity	Depending on the application	Depending on the application
Screw driver number	1	2
Torque	0.4 up to 8 Nm	0.4 up to 8 Nm
Type of screwdriver	Pneumatic or Electric	Pneumatic or Electric
Starting	Push to start	Push to start
Recommendation to install	Balancer or arm	Balancer or arm

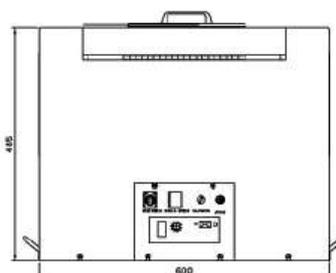
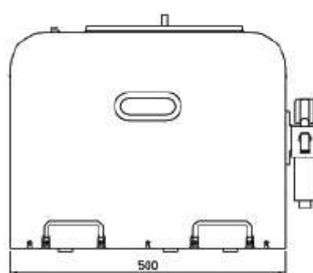
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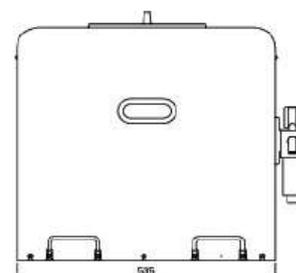
Screw head diameter	L1 (mm)	L2 (mm)	L4 (mm)
Under 7 mm	106	48	75
From 7 up to 9 mm	110	49	75
From 9 up to 12 mm	111	50	75



DMBS-501



DMBS-502



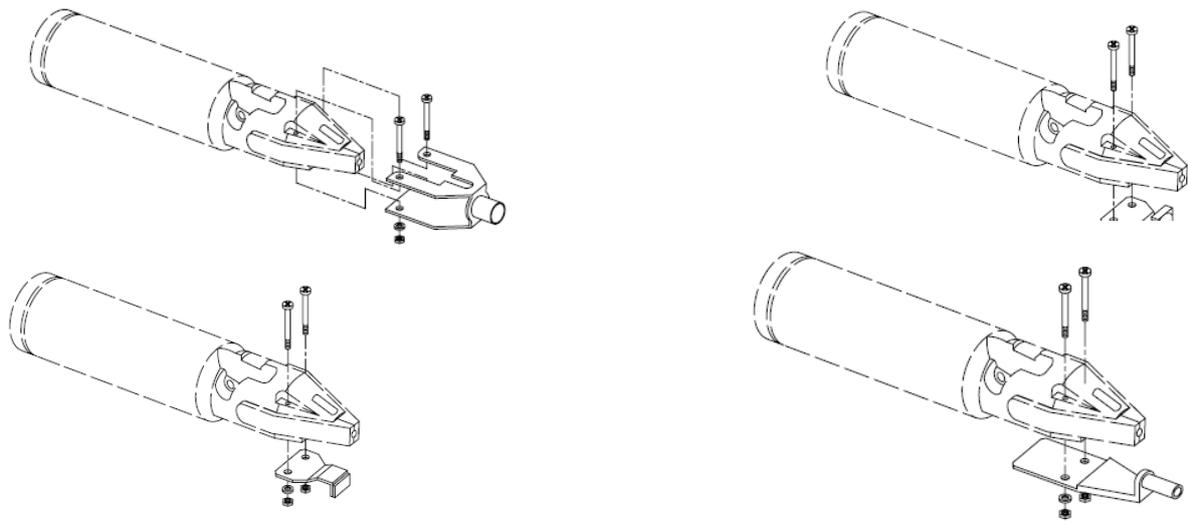
Dimensions subject to change depending on the application

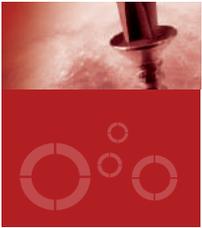
# DMBS Telescopic Spring version

Options :

## Special nozzle equipment

- To quickly position the screw driving nozzle on the part, allow the tightening in deep hole the screw driving nozzle can be equipped with a specific and customized extension.



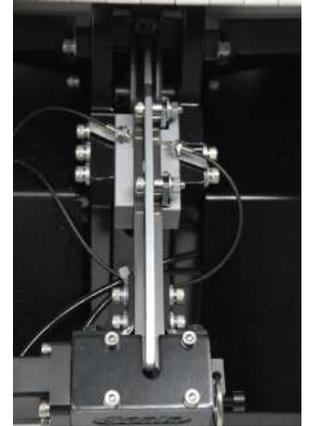


# DMA Auto advance version

*The screw feeding unit DMA is equipped with :*



Reciprocating blade hopper



Gravity rail with overload cell



Toll with pneumatic piston

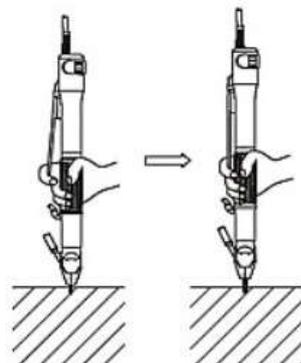


Non return device

- Suitable with an electric screwdriver exclusively with trigger or external start.
- The screw remains protruding after blowing thanks to a non-return device in the screw feeding nozzle.

## Operations :

- Press the Screwdriver trigger to position the screw in the screw driving nozzle.
- The pneumatic piston assist the screw during the tightening process.



## Specific application cases :

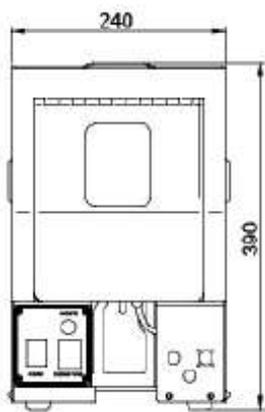
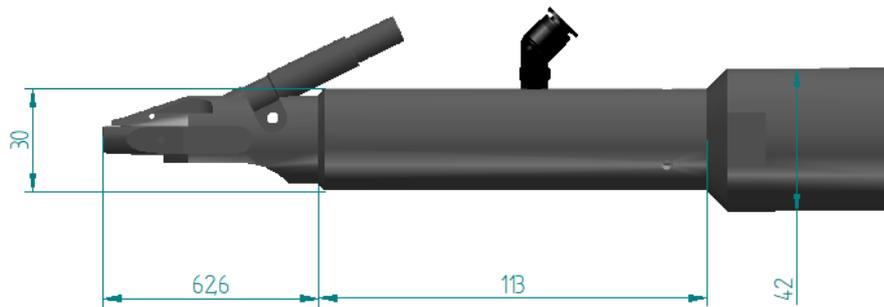
- To avoid contact between the driver nozzle and the part ( to prevent scratches).
- To limit the pushing force of the operator.
- Not suitable with self tapping tightening.

# DMA Auto advance version

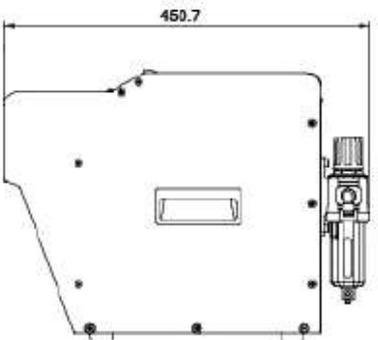
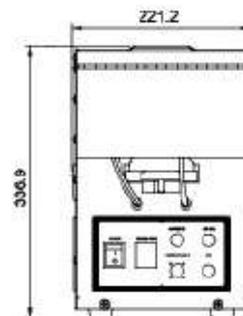
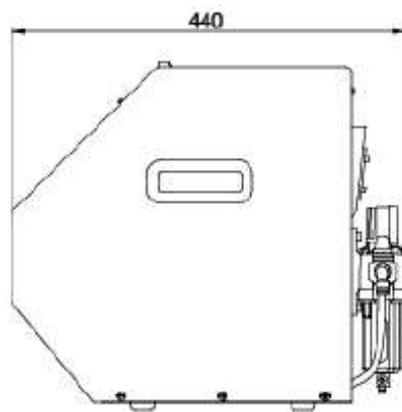
## Features

	DMA version features	
	DMA-30	DMA40
Suitable screw body diameter	from 2,3 up to 6 mm	from 2 up to 6 mm
Suitable screw length	Up to 22 mm	Up to 22 mm
Screw feeding rate	Max 30 screw /min	Max 30 screw /min
Type of feeder	Reciprocating blade hopper and gravity accumulation rail	Reciprocating blade hopper and vibrating accumulation rail
Hopper capacity	0.7 L	0.7 L
Screw driver number	1	1
Torque	0.8 up to 4Nm	0.8 up to 4Nm
Type of screwdriver	Electric	Electric
Starting	trigger or external start	trigger or external start
Recommendation to install	Arm	Arm

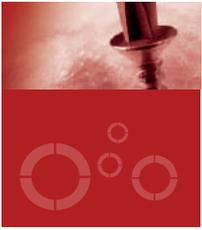
## Size :



DMA-30



DMA-40

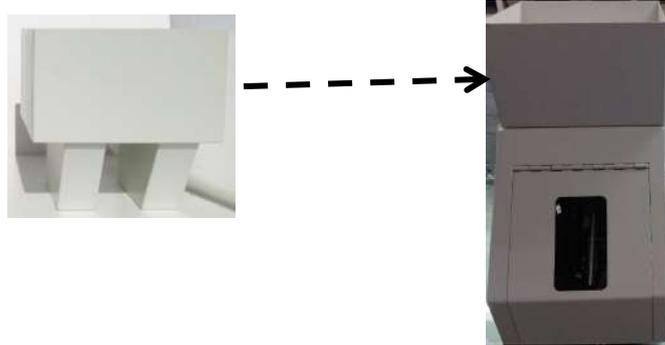


# DMA Auto advance version

Options :

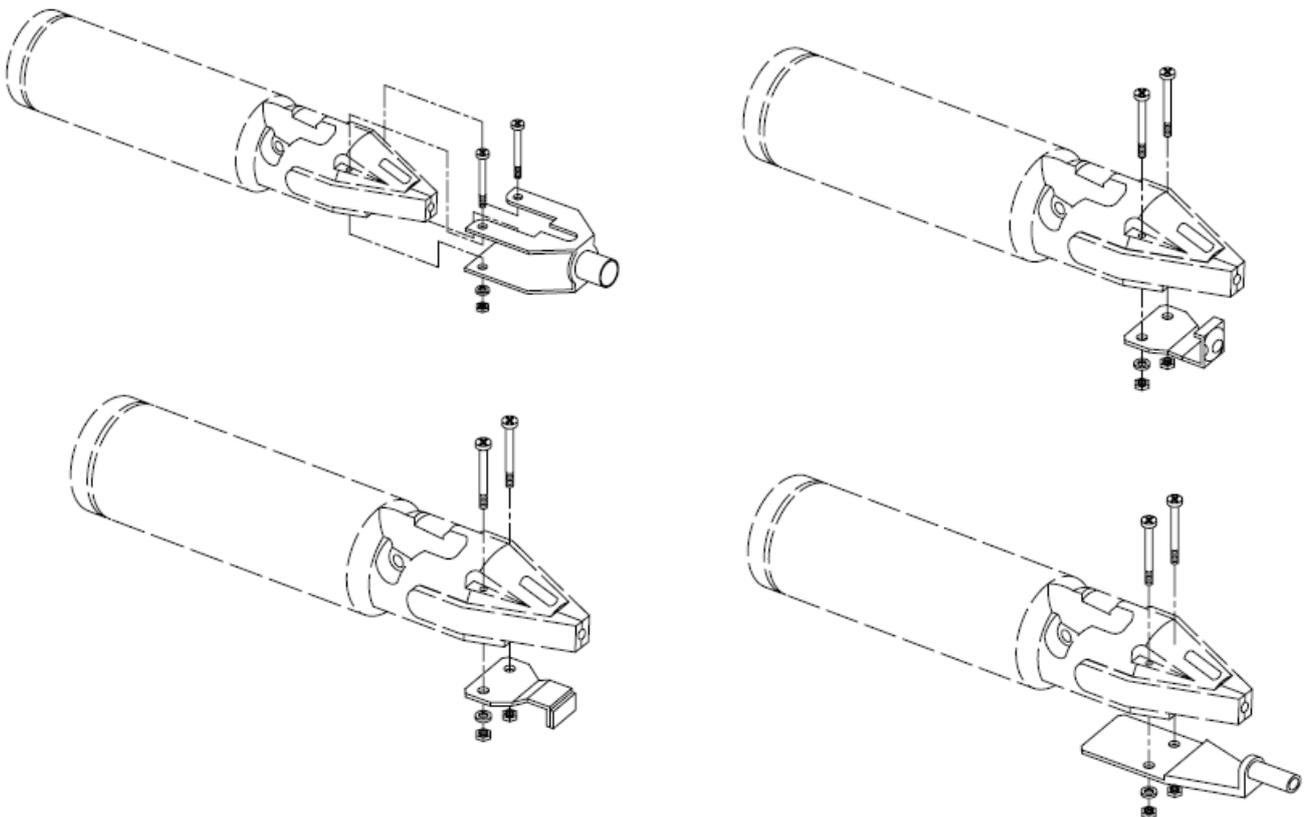
## Additional Hopper

- In order to increase the screw storage capacity , the additional hopper option increases the loading volume.



## Special nozzle equipment

- To quickly position the screw driving nozzle on the part, allow the tightening in deep hole the screw driving nozzle can be equipped with a specific and customized extension.

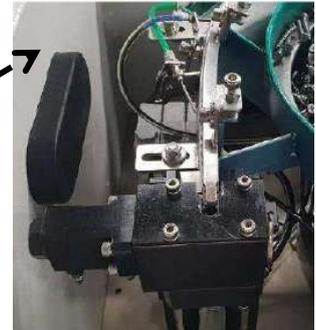


# DMBA Auto advanced version

*The screw feeding unit DMBA is equipped with :*



Feeder with vibrating bowl



Accumulation rail with overload cell



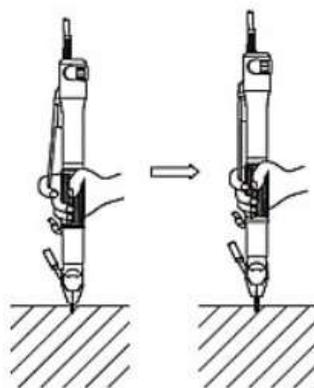
Toll with pneumatic piston

Non return device

- Suitable with an electric screwdriver exclusively with trigger or external start.
- The screw remains protruding after blowing thanks to a non-return device in the screw feeding nozzle.

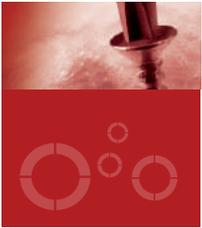
## Operations :

- Press the Screwdriver trigger to position the screw in the screw driving nozzle.
- The pneumatic piston assist the screw during the tightening process.



## Specific application cases :

- To avoid contact between the driver nozzle and the part ( to prevent scratches).
- To limit the pushing force of the operator.
- For screws longer than 22 mm up to 30 mm.
- For smaller and bigger screw diameter from 1.5 to 8 mm.
- For production rates higher than 30 screw/min and up to 50 screw/min.
- Non suitable with self-tapping tightening.

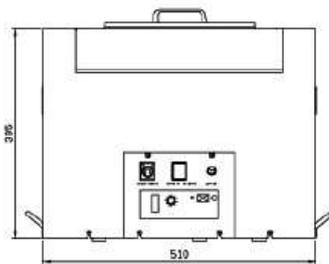
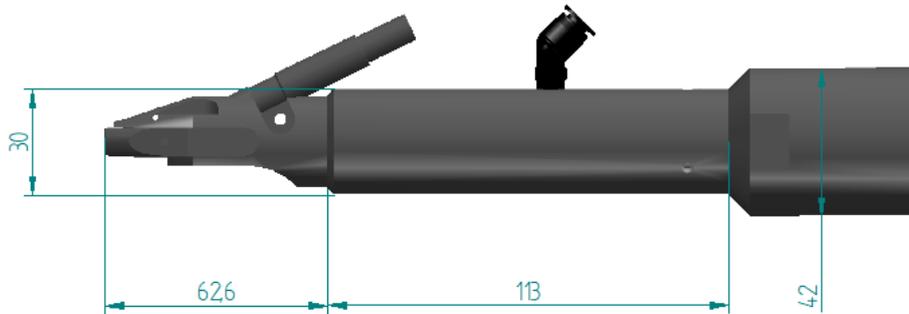


# DMBA Auto advanced version

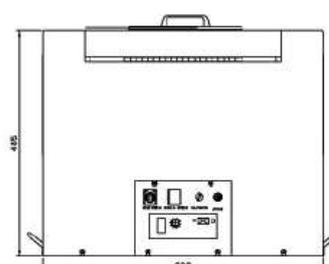
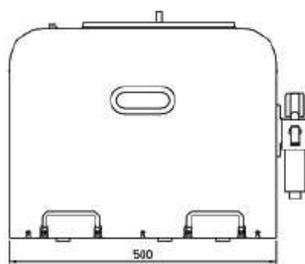
## Features

	DMBA version features	
	DMBA-501	DMBA-502
Suitable screw body diameter	from 1.5 up to 8 mm	from 1.5 up to 8 mm
Suitable screw length	Up to 30 mm	Up to 30 mm
Screw feeding rate	Max 50 screw /min	Max 45 screw /min per screwdriver
Type of feeder	Vibrating bowl 1 way	Vibrating bowl 2 ways
Hopper capacity	Depending on the application	Depending on the application
Screw driver number	1	2
Torque	0.8 up to 4Nm	0.8 up to 4Nm
Type of screwdriver	Electric	Electric
Starting	trigger or external start	trigger or external start
Recommendation to install	Arm	Arm

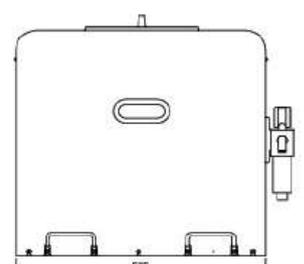
## Size :



DMBA-501



DMBA-502

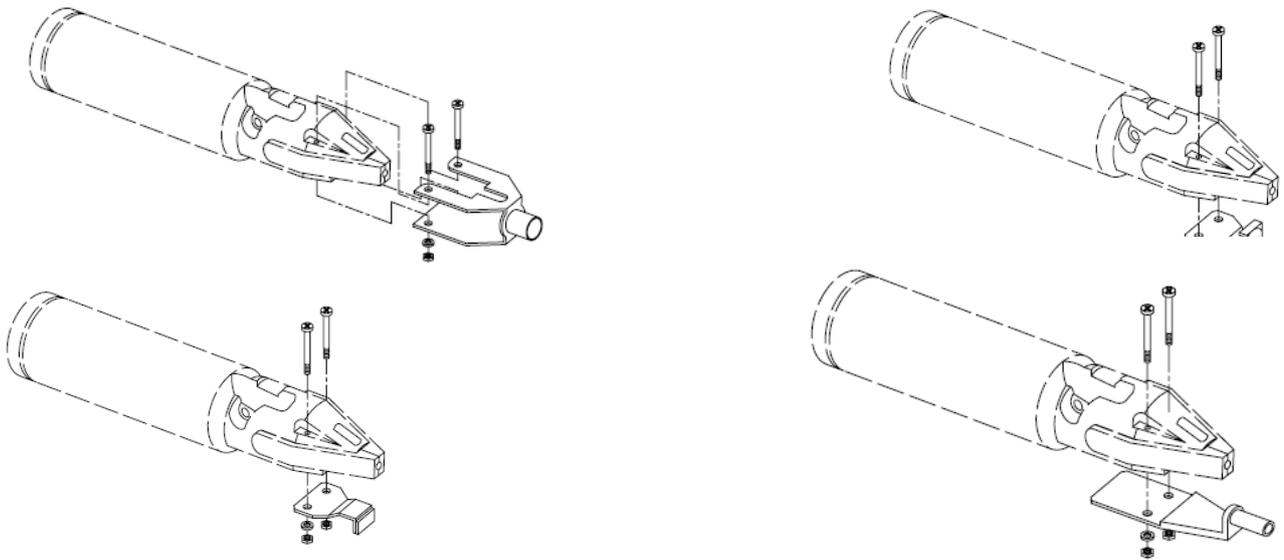


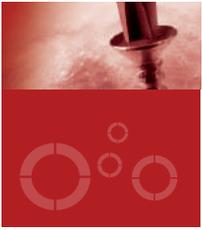
Dimensions subject to change depending on the application

# DMBA Auto advanced version

## Special nozzle equipment

- To quickly position the screw driving nozzle on the part, allow the tightening in deep hole the screw driving nozzle can be equipped with a specific and customized extension.



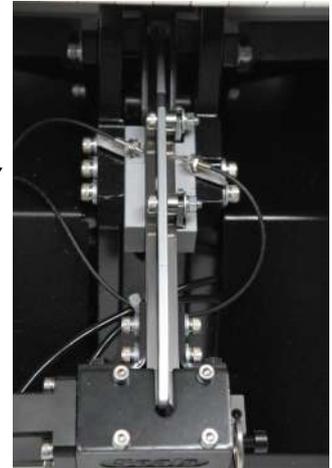


## DMM-30 Magnetic screw holder version

The screw feeding unit DMM-30 is equipped with :



Reciprocating blade hopper



Gravity rail with overload cell



Tool with nozzle retraction



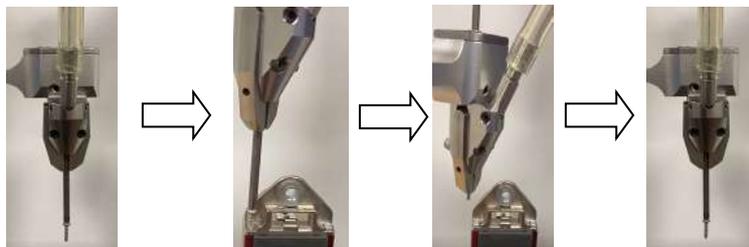
Screw magnetic holder



- Suitable with an external start electric screwdriver.
- The screw is blowed in the screw driving nozzle.
- The screw remains maintained on the magnetic bit holder once the nozzle is retracted.

### Operation :

- Activate the remote start signal.
- At the end of the previous tightening, a screw is fed and the nozzle witch then lift up to release the screw.



### Specific application cases :

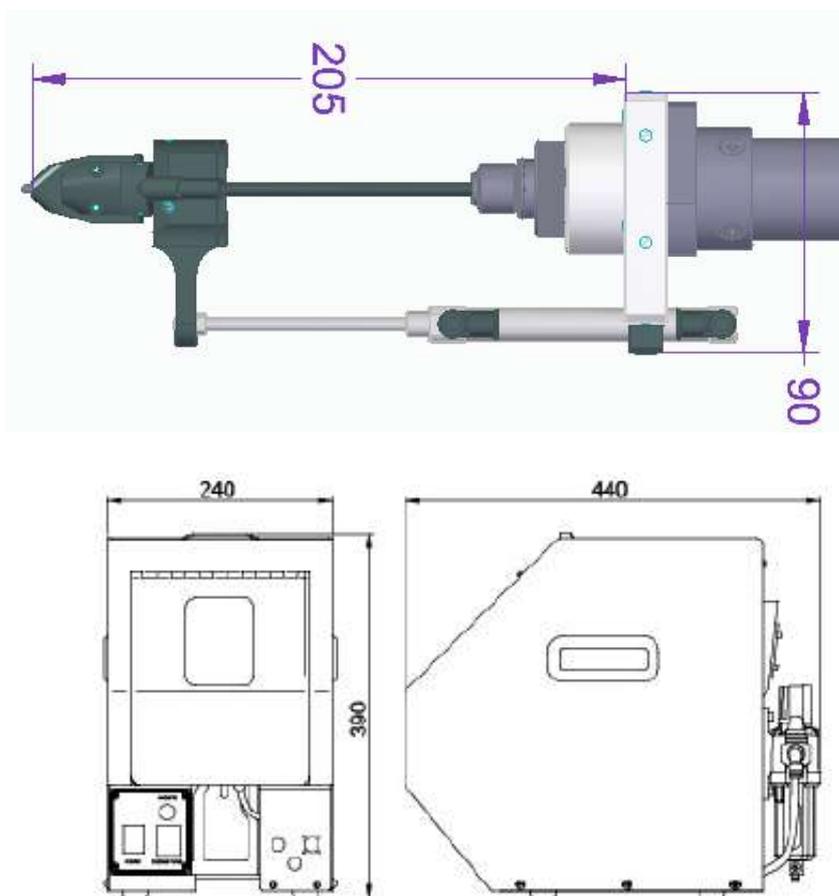
- Ideal for tightening in narrow area, screw in deep hole with tight diameter, on curved surface, near to sidewall.
- Requires screws that can be magnetized.

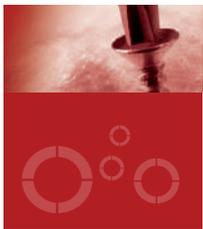
# DMM-30 Magnetic screw holder version

## Features

DMM-30 version features	
	DMM-30
Suitable screw body diameter	from 2 up to 4 mm
Suitable screw length	Up to 12 mm
Screw feeding rate	20 screw /min
Nozzle retract stroke	Max 50 mm
Free end bit length	From 25 up to 30 mm
Type of feeder	Reciprocating blade hopper and gravity accumulation rail
Hopper capacity	0.7 L
Screw driver number	1
Torque	0.4 up to 6 Nm
Type of screwdriver	Electric
Starting	external start
Recommendation of install	Arm

## Size :





# DMM-30 Magnetic screw holding version

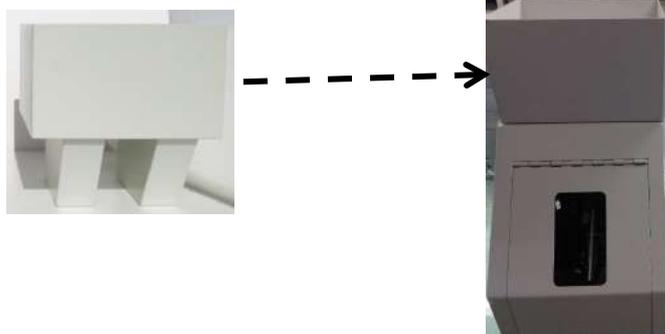
## Mounting interface on arm

Mounting on arm BA40	Mounting on arm BA40 R
Start handle 4-5200681 / 4-5200682 / 4-5200683	Start handle 4-5200681 / 4-5200682 / 4-5200683
Handle clamp 4-5200687	Handle clamp 4-5200687
Interface DMM-30 bras BA40 Ref 4-5230050	Interface DMM-30 bras BA40R Ref 4-5230051
	
	

Options :

### Additional Hopper

- In order to increase the screw storage capacity , the additional hopper option increases the loading volume.

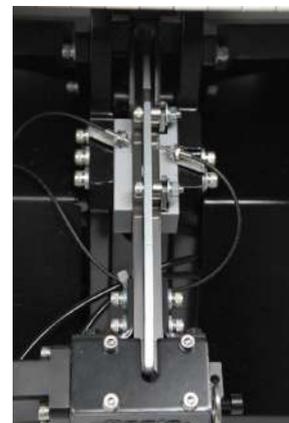


# DA-100 Automation version

The screw feeding unit DA-100 is equipped with :



Reciprocating blade hopper



Gravity rail with overload cell



Double stroke feeding and tightening unit



Nozzle version automation with non return device

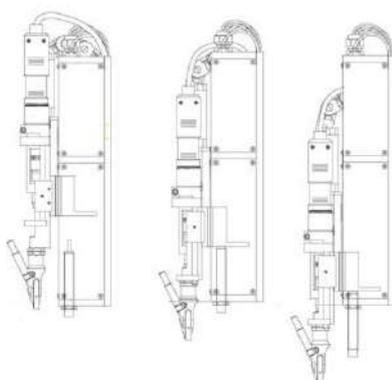


External screw distribution control by PLC

- Suitable with an external start electric screwdriver.
- The screw remains protruding after blowing thanks to a non-return device in the screw feeding nozzle.

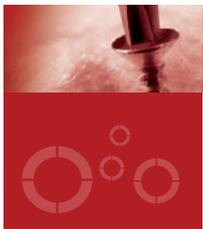
## Operations :

- PLC start signal.
- First stroke to approach the part – second stroke to achieve the tightening operation.



## Application cases :

- On stationary automatic station or robotic operations.

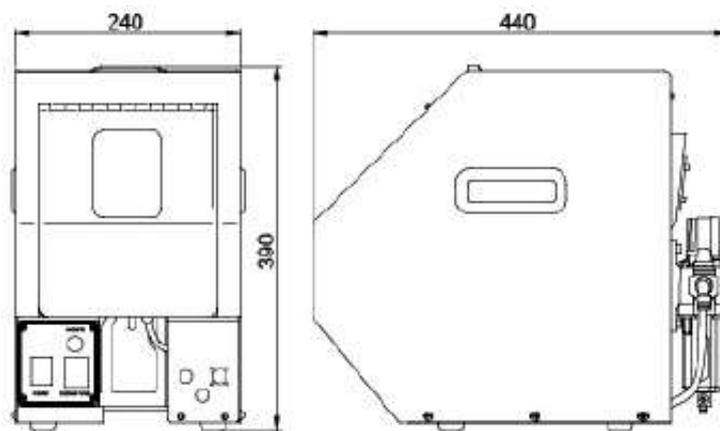
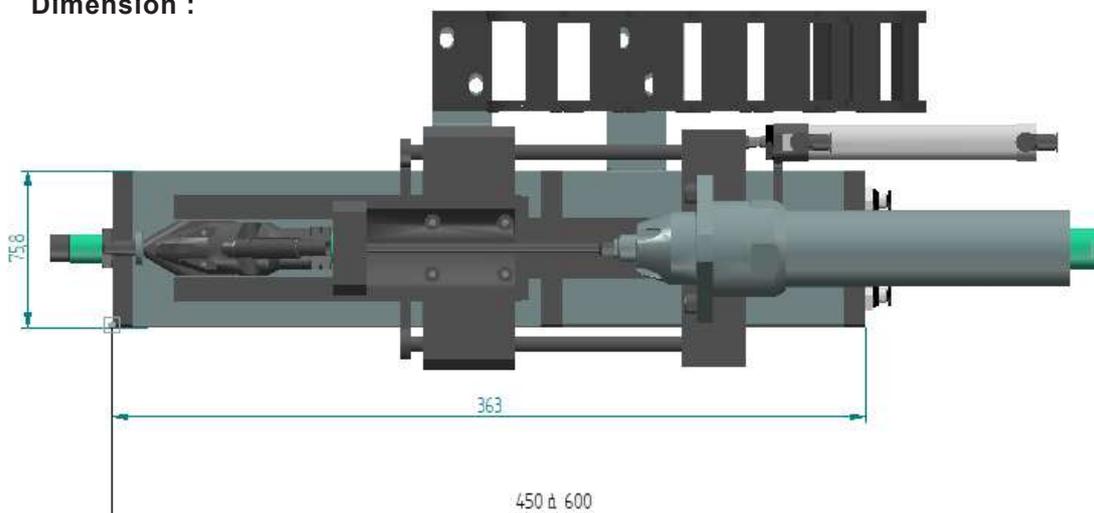


# DA-100 Automation version

## Features

DA-100 version features	
DA-100	
Suitable screw body diameter	From 2.3 up to 6mm
Suitable screw length	Up to 22 mm
Screw feeding rate	Up to 30 screw /min
Type of feeder	Reciprocating blade hopper and gravity accumulation rail
Hopper capacity	0.7 L
Screwdriver number	1
Torque	0.4 up to 10Nm
Type of screwdriver	Electric
Starting	External start
Unit weight	8,5 Kg
Approach stroke	Max 51,5 mm
Tightening stroke	Max 59 mm

## Dimension :

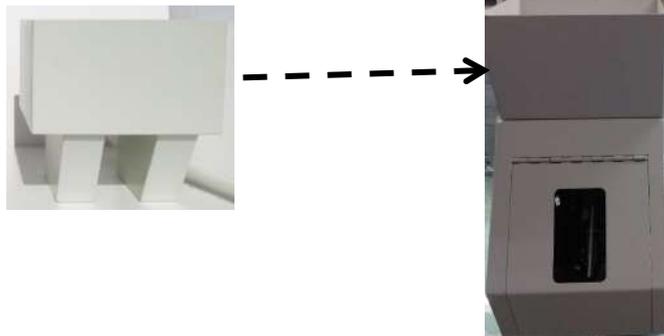


# DA-100 Automation version

## Options :

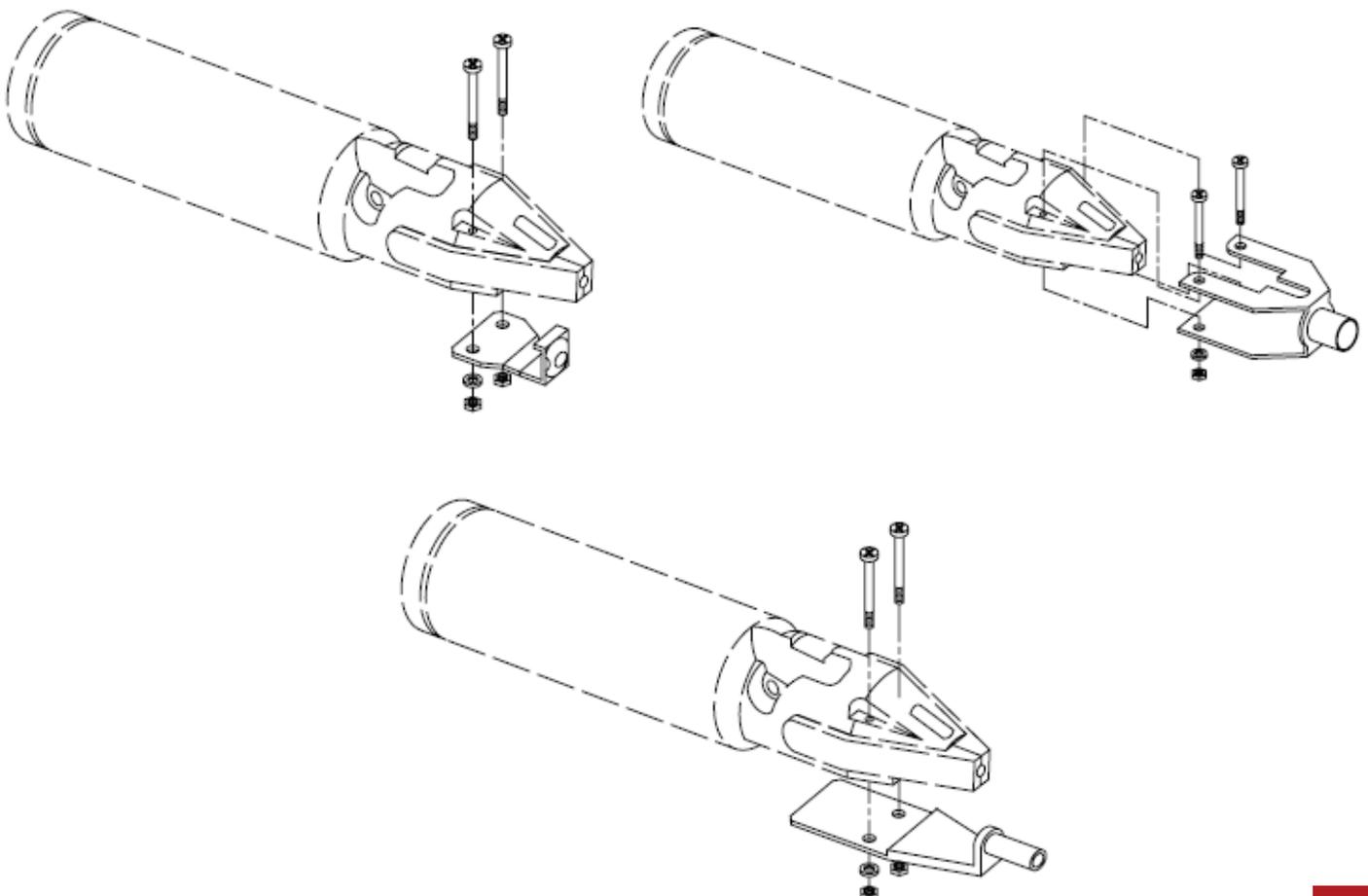
### Additional Hopper

- In order to increase the screw storage capacity , the additional hopper option increases the loading volume.



### Special nozzle equipment

- To allow the tightening in deep hole the screw driving nozzle can be equipped with a specific and customized extension.





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