



บริษัท ฟลูเทค จำกัด  
Flu-tech co.,ltd  
Authorized Distributor



**PNEUMAX**



**AUTOMOTIVE**  
CATALOGUE



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FLU-TECH CO.,LTD | บริษัท ฟลูเทค จำกัด  
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# Automotive Catalogue

The ultimate clamping technology

Innovation begins with Research and Development and extends to industrial processes and business activities, with the ultimate aim of total customer satisfaction.





# Pneumax

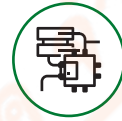
## Smart Technologies and Human Competence

Founded in 1976, **PNEUMAX S.p.A.** is today one of the leading, international manufacturers of components and systems for industrial automation. It is at the fore front of a group of 23 companies, with over 730 employees worldwide.

Ongoing investment in research and development has allowed **Pneumax** to continually expand its range of standard products and customised solutions, adding to the well-established pneumatic technology, a range of electric drive actuators and fluid control components.



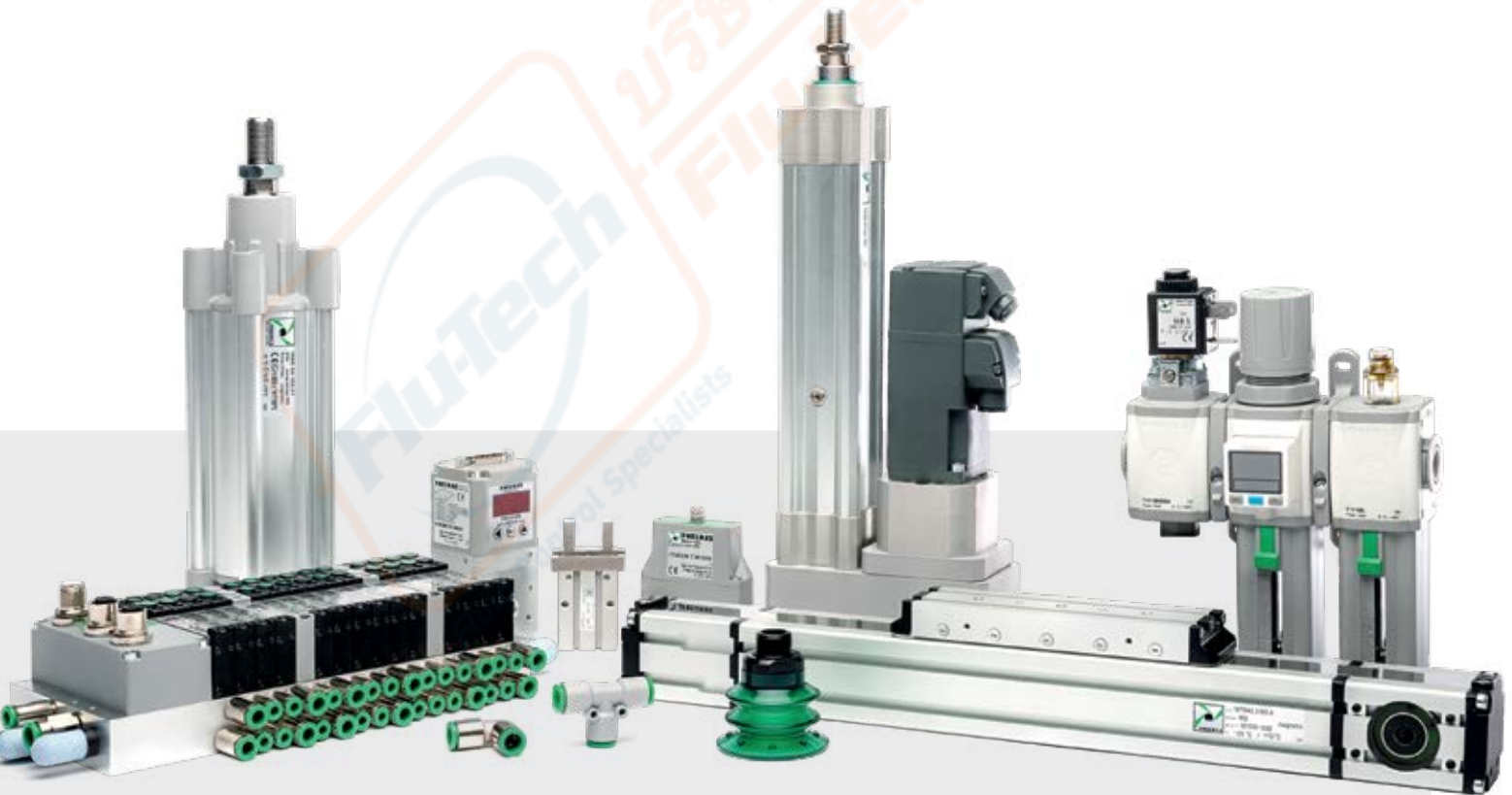
Pneumatic  
Technology



Electric  
Actuation



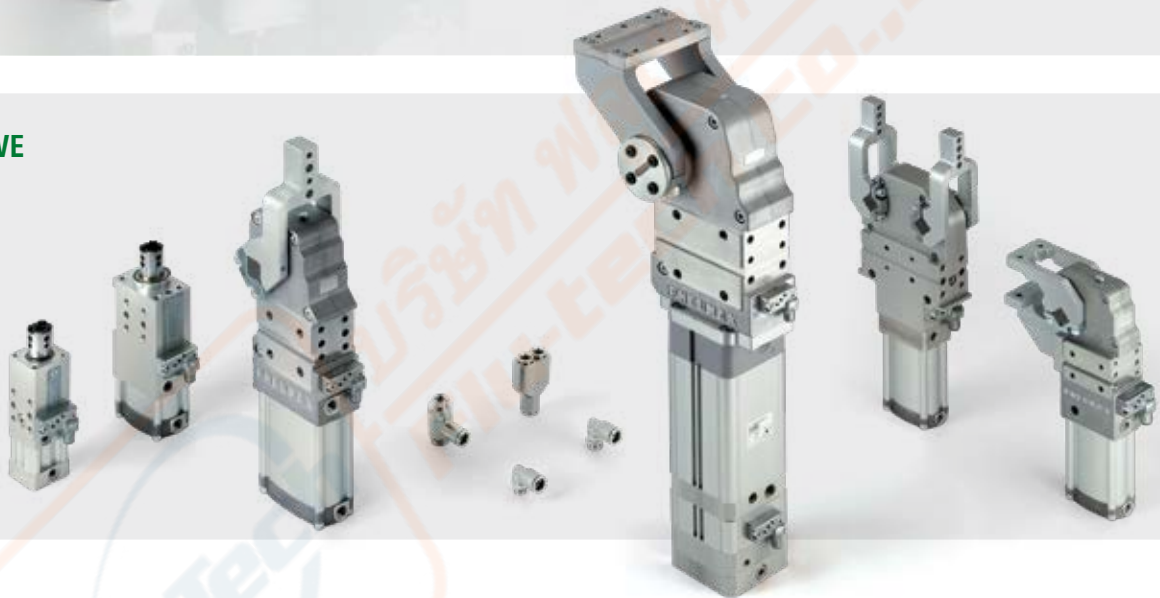
Fluid  
Control



INDUSTRIAL AUTOMATION

PROCESS  
AUTOMATION

## AUTOMOTIVE



The ability to provide various technologies and solutions for our clients' applications is the main objective of our company, making us the ideal strategic partner.

What defines us is "**Pneumax Business Attitude**", born out of the capacity to combine industry sectors, technology and our application skills via client collaboration with our business sector and product sector specialists. This represents the main distinguishing factor of what Pneumax offers.



# The Automotive division

## Product development

The Automotive division of Pneumax **designs and manufactures a complete range of products dedicated to the production lines of the automotive field, focusing on Body in White applications.**



Pneumax offers a comprehensive range of clamping units, pivot units, pin packages as well as grippers and complete multi-axis positioning systems.

Developed by a team of specialized technicians, the product is designed to ensure maximum reliability, precision and repeatability in compliance with the latest international mounting standards.

Particular attention has been paid to energy efficiency which through patented designs provides the largest energy saving solutions available in this market.

Every stage of manufacturing and product testing is carried within our specially equipped departments at our headquarters in Lurano (BG).

The worldwide presence of Pneumax ensures optimized and coordinated project management: the highest level of service is provided to all of our international customers.

**Market requirement evaluation and product specs definition** by product management. The project team analyzes the technical feasibility and sets a general timeline.



### 1 CONCEPT



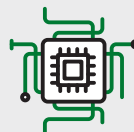
### 2 PROTOTYPING

After a **structural mechanics simulation analysis**, the R&D team prepares a CAD model which is used with a **3 axis printing-moulding machine** to manufacture the first prototypal batches.

Electronic components are developed and manufactured **in-house** by Pneumax to be integrated in any system or as interface to any protocol.

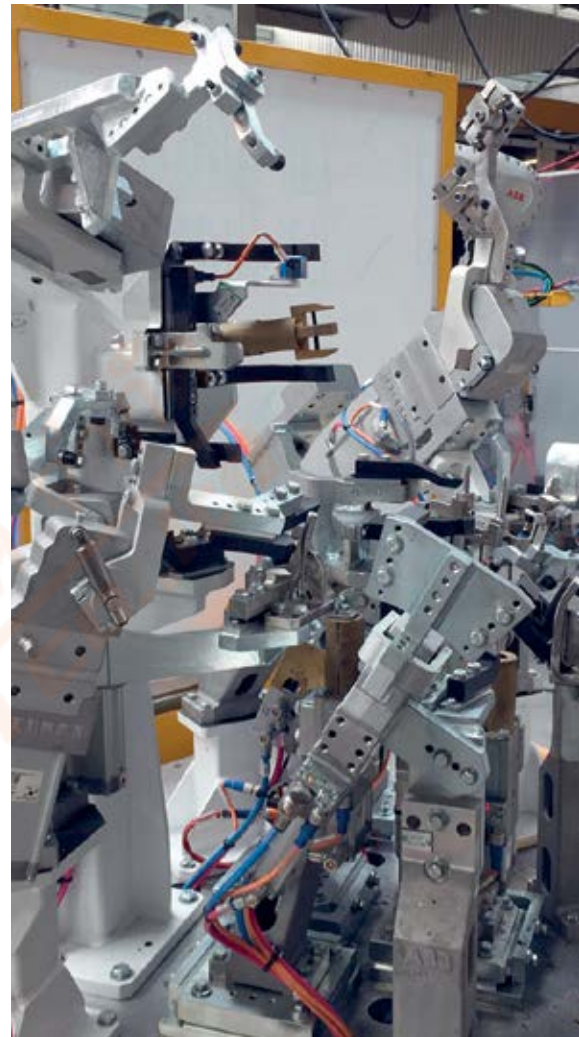


### 3 ELECTRONICS INTEGRATION



### 4 FMEA

The first close-to-series samples are machined, using the **latest generation machinery**. The first **FMEA** is prepared.



Life test and approval. The products are subjected to **functional, performance, temperature tests** for millions of cycles.



The industrialization team together with the technical department develop any **specific equipment and tool required**. Suppliers' evaluation is accomplished.



5

**EVALUATION AND INSPECTION**



6

**ENGINEERING**

The engineering department evaluates and adopts the most suitable manufacturing technology and assembly procedure to implement, using **3D simulation programs**.



7

**PRODUCT INDUSTRIALIZATION**

8

**PILOT SERIES RELEASE AND PRODUCT AUDIT**

**Verification and validation** that the product meets the requirements.

# Accessories

## Sensor

M12 or M8  
connector;  
PNP or NPN



Patented



## EC001

Sensor cable



## Auto-retaining device

for opening position An extremely light device which maintains the clamping arm in its defined opening position in case of air loss. The AR-series has been designed for **maximum load capacity** and due to its compact dimensions, it can be used on the same side of the manual operation handle.



Patented



## Shims and spacers



## AR-Series



### Optional: auto-retaining device for opening position

An extremely light device which maintains the clamping arm in its defined opening position in case of air loss. The AR-series has been designed for **maximum load capacity** and due to its compact dimensions, it can be used on the same side of the manual operation handle. It locks the manual lever and guarantees the working position of the pin package with no air. It can easily be assembled on the right, as well as on the left side of the unit.



Patented



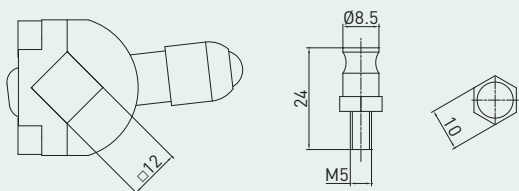
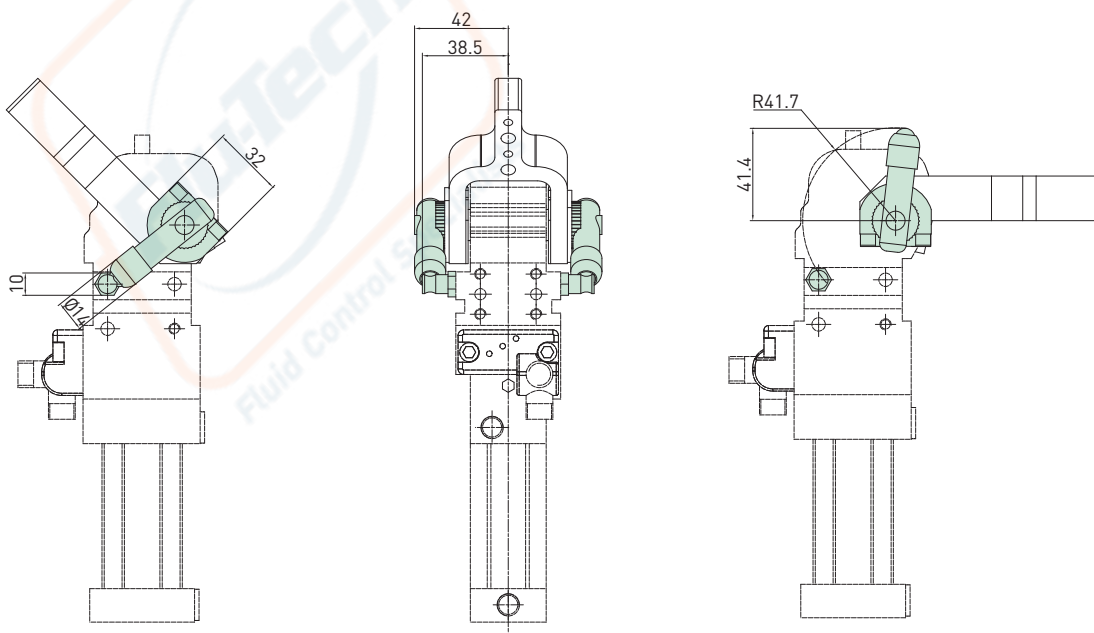
### Ordering string

#### AR-Series

**AR 12**

AR	PRODUCT	AR	= Auto-retaining device	
12	SIZE	12	= Clamp's shaft 12 mm	19N = Clamp's shaft 19 mm NAAMS
		16	= Clamp's shaft 16 mm	22N = Clamp's shaft 22 mm NAAMS
		19	= Clamp's shaft 19 mm	30N = Clamp's shaft 30 mm NAAMS
		22	= Clamp's shaft 22 mm	09R = for RD250 pin packages
		30	= Clamp's shaft 30 mm	

#### AR12 / Clamp's shaft 12 mm



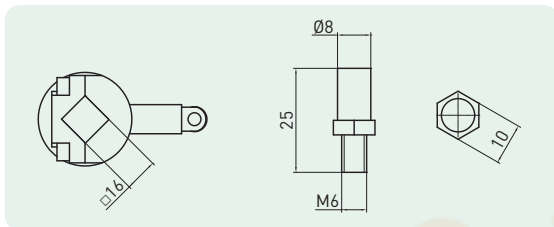
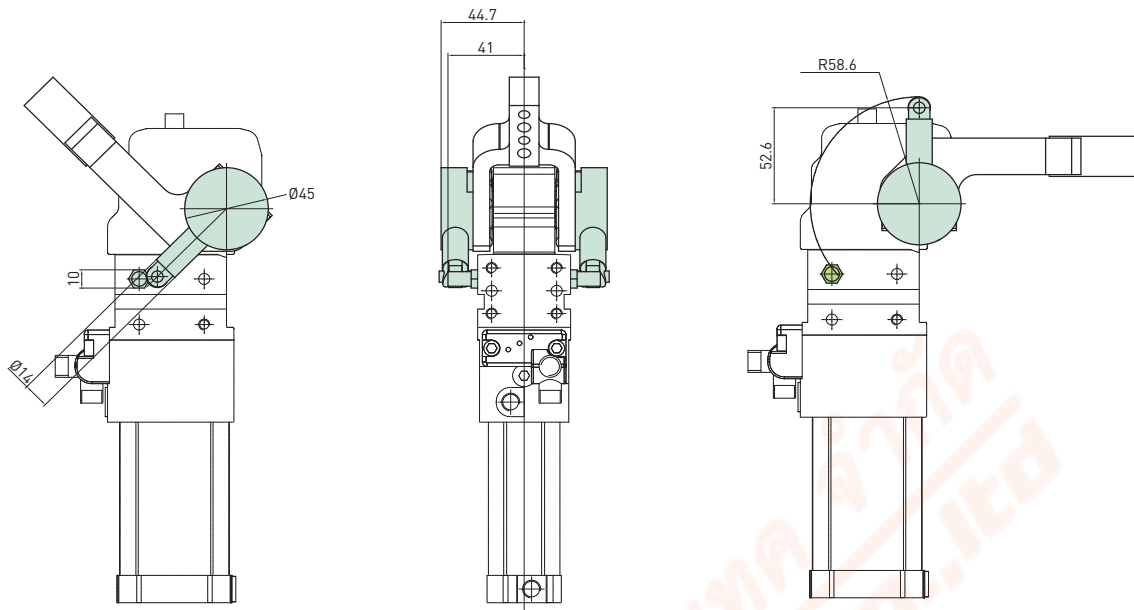
\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$

DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 17/02/2016



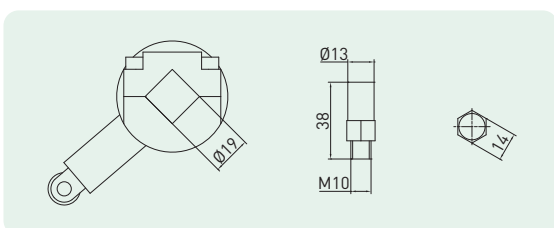
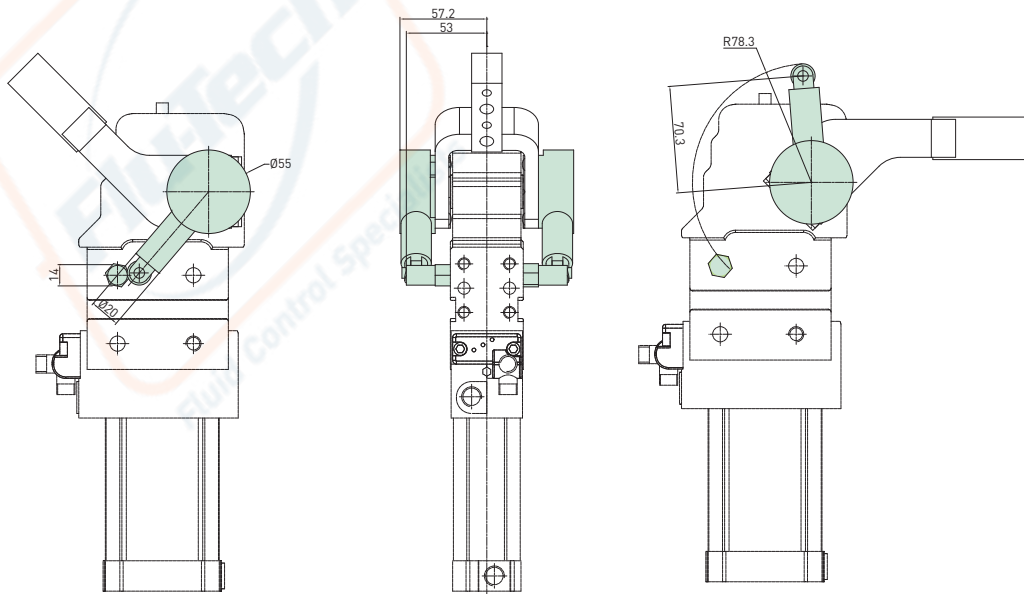
**AR16 / Clamp's shaft 16 mm**



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 16/02/2016

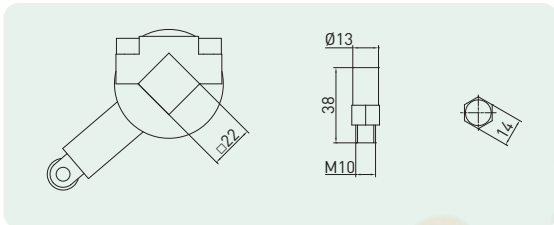
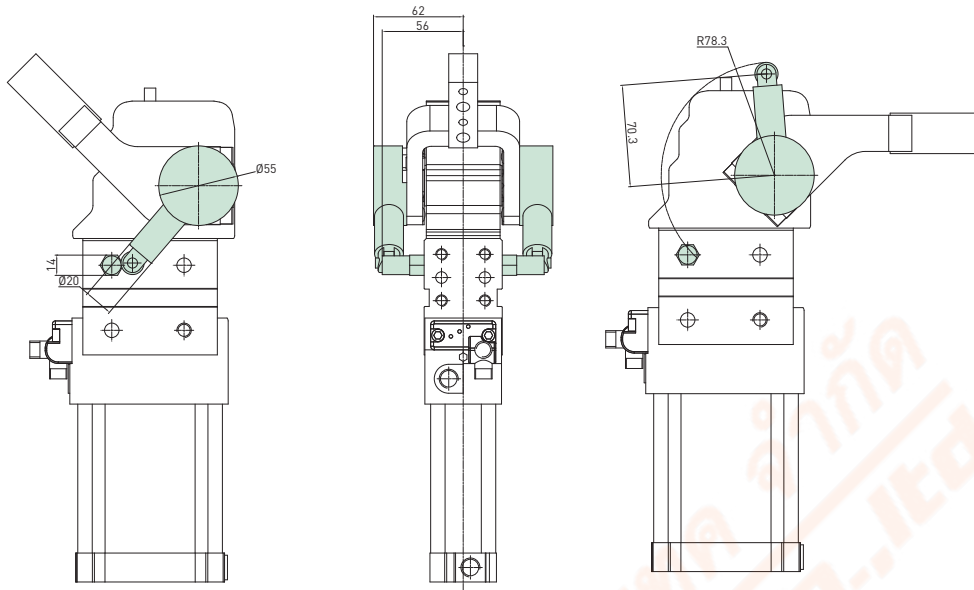
**AR19 / Clamp's shaft 19 mm**



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 16/02/2016

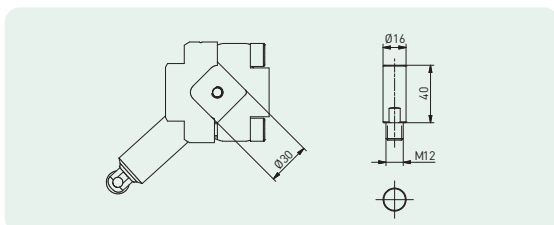
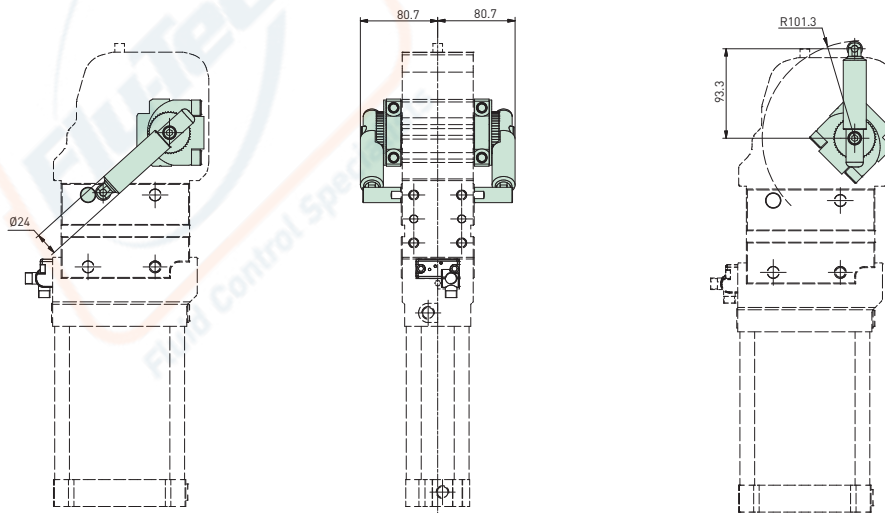
**AR22 / Clamp's shaft 22 mm**



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 16/02/2016

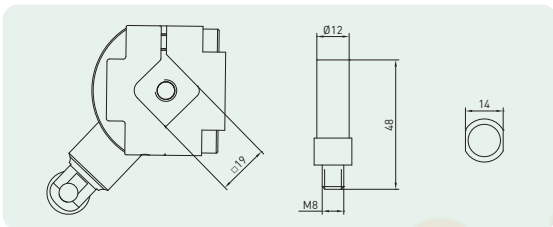
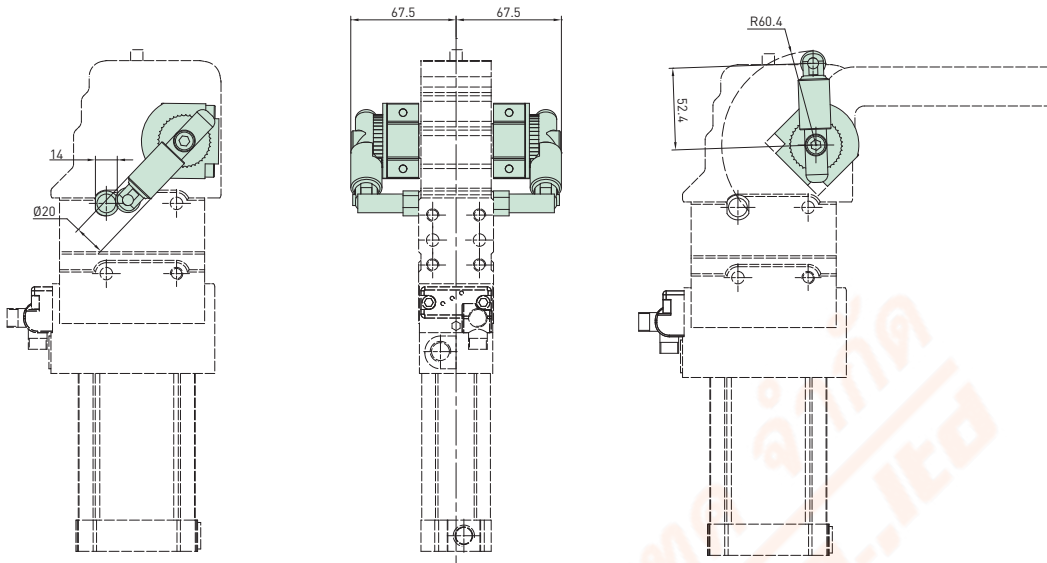
**AR30 / Clamp's shaft 30 mm**



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV 00 - 29/03/2019

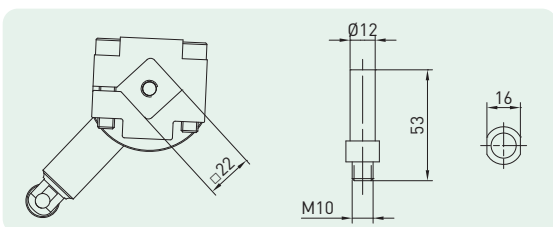
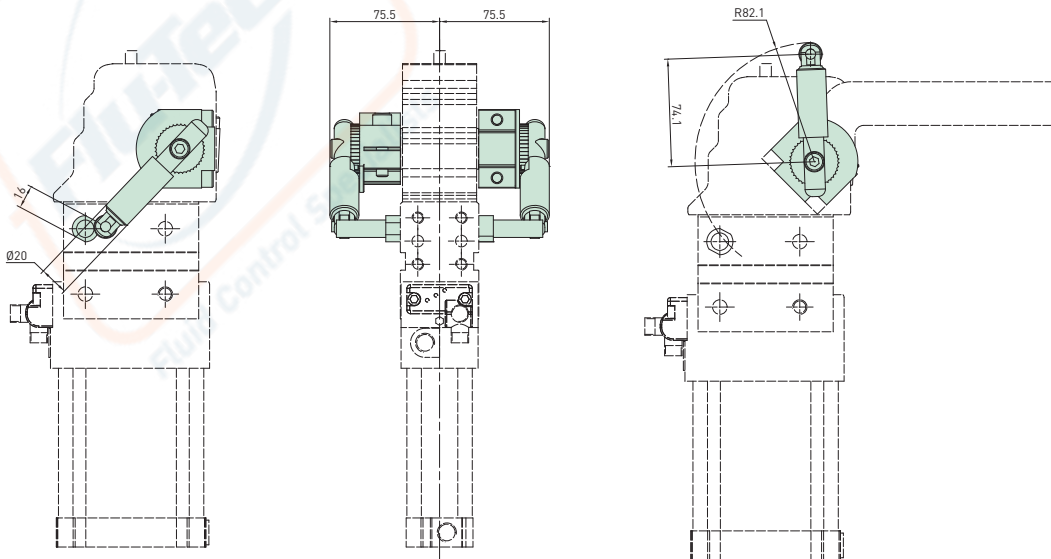
**AR19N** / Clamp's shaft 19 mm - NAAMS std



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV 00 - 29/03/2019

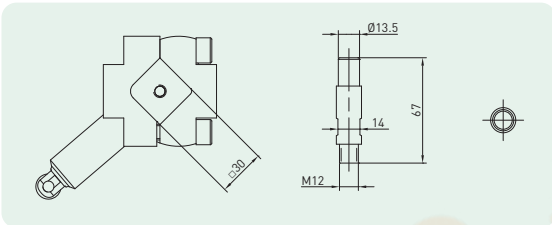
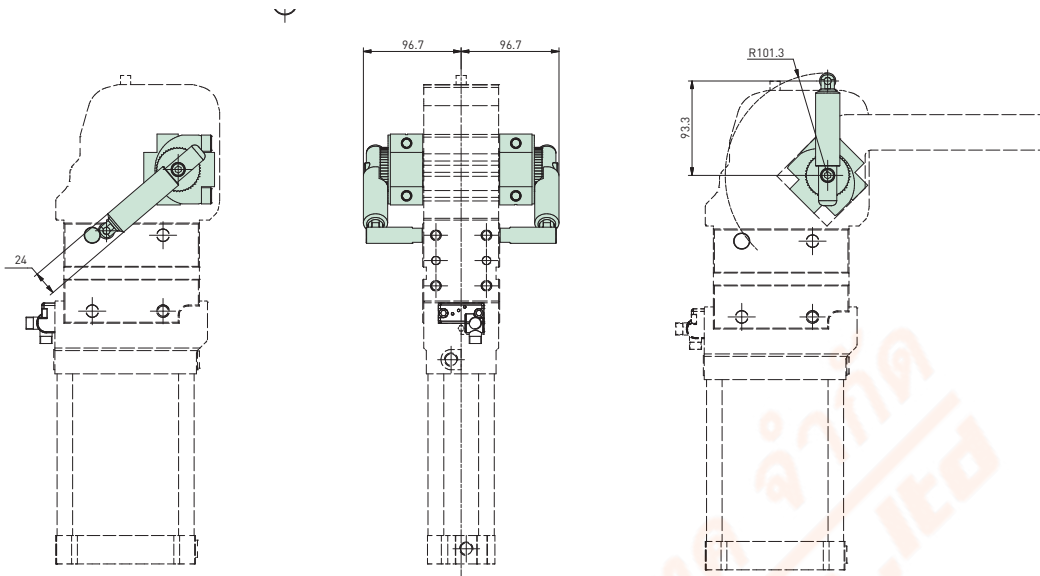
**AR22N** / Clamp's shaft 22 mm - NAAMS std



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV 00 - 29/03/2019

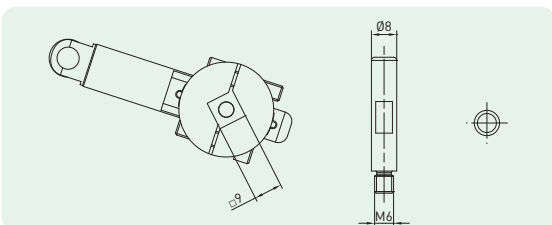
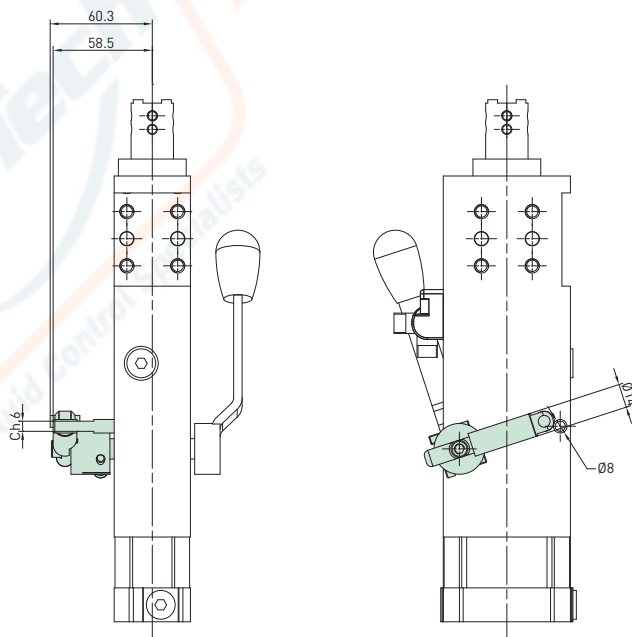
**AR30N** / Clamp's shaft 30 mm - NAAMS Std



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV 00 - 29/03/2019

**AR09RD** / Auto-retaining system for pin packages with manual operation



\* DIMENSIONAL TOLERANCE  
FOR DOWEL HOLES:  $\pm 0.02$   
DIMENSIONAL TOLERANCE  
FOR THREADED HOLES:  $\pm 0.1$

REV. 00 - 05/03/2018

# Auto-retaining device

## Quick installation guide

### Caution

Any maintenance operation may only be carried out by qualified and authorized personnel. For any reason, do not reach into the pivoting range of the clamping arms, when the clamps are in operation. Disconnect and lock out pneumatic and electric supply lines before operating on or around clamps.

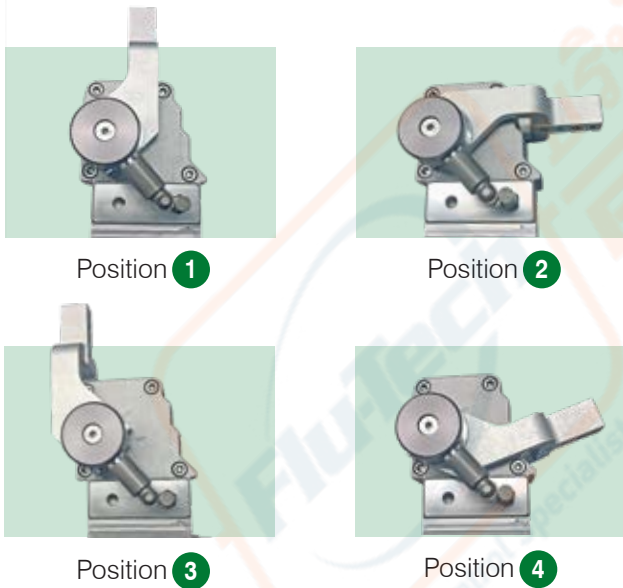
A worksheet for the right sizing of the pin packages is available upon request. Visit our website for technical documents

<https://flutech.co.th/>



### Clamps in open position with auto-retain device

#### Clamp arm assembly



Please check the max opening angle related to the different arm position in our catalogue.

#### Auto-retaining device for opening position



Patented

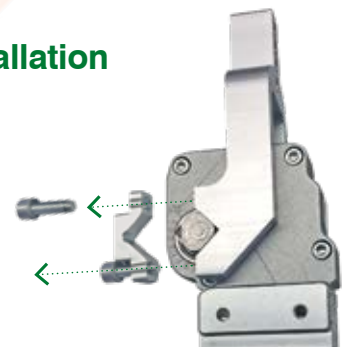
An extremely light device which maintains the clamping arm in its defined opening position in case of air loss. The AR-series has been designed for **maximum load capacity** and due to its compact dimensions, it can be used on the same side of the manual operation handle.

### With the clamping arm in the opening position

#### Clamp arm installation

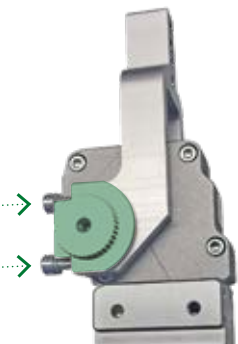
##### Step 1

Remove the standard bracket.



##### Step 2

Replace the standard bracket with the specific bracket included AR kit, and tighten it.



##### Step 3

Adjust the retaining device according to the opening angle, install the pin screw in the threaded hole of the side mount and tighten the retaining device with its screw.



##### Step 4

Set the interference between the holding device and the pin screw by slightly increasing or decreasing the opening angle adjustment, till the function is secured.

