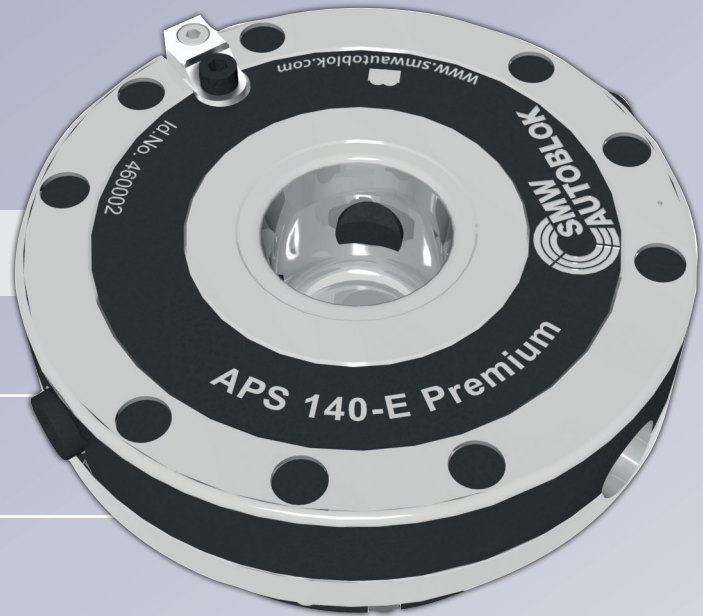


APS zero point clamping system

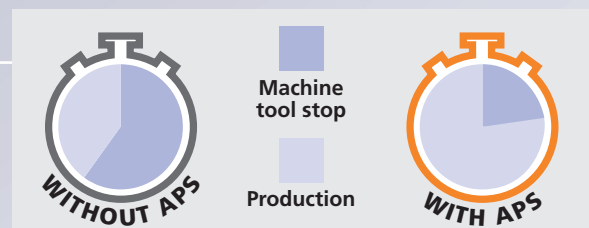


Industry 4.0
Product

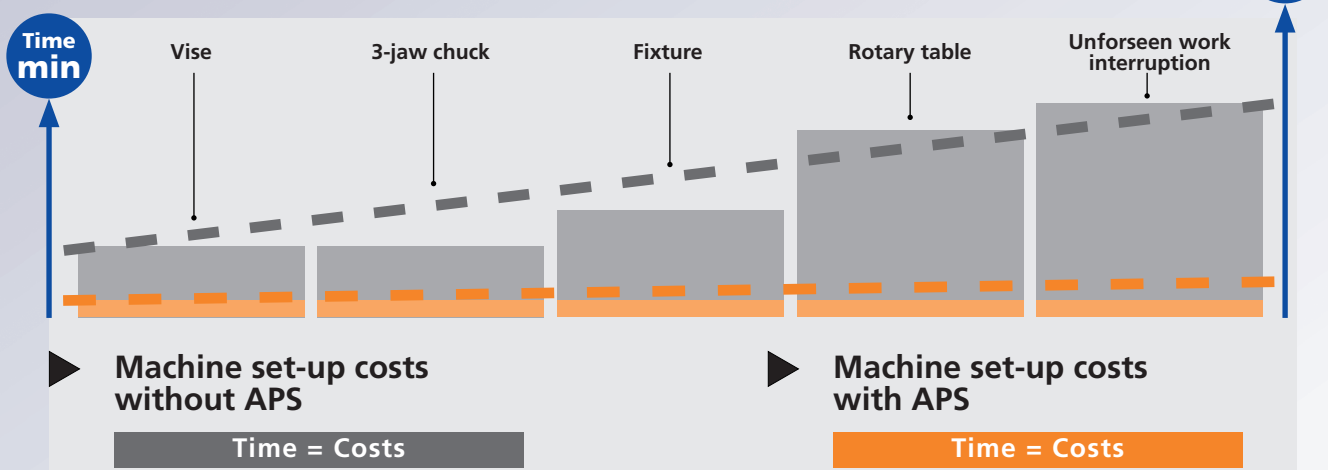


1 Customer benefits

- ▶ Fully sealed (proofline)
- ▶ Highest stiffness by means of 3 clamping slides
- ▶ Low installation height due to the compact design
- ▶ Highest process reliability and repeat accuracy $< 0.005 \text{ mm}$
- ▶ Modular construction kit system:
Existing clamping systems can be modified very easy
- ▶ Significantly reduced costs due to reduced set-up times



2 Machine set-up costs





WATCH THE VIDEO



3 Overview APS versions

► BASIC

- 2 Clamping slides
- Turbo function
- Sealed

► PREMIUM LIGHT

- 3 Clamping slides
- Turbo function
- Air cleaning (except INOX version)
- Sealed
- Stainless steel (only INOX version)
- High temperature (INOX-HEAT)

► PREMIUM LIGHT SC

- 3 Clamping slides
- Turbo function
- Air cleaning
- Stroke control system
- Air sensing
- Sealed

► PREMIUM

- 2-3-6 Clamping slides (based on sizes)
- Turbo function
- Air sensing
- Air cleaning (100-140 sizes)
- Sealed
- 2 or 4 feedings
- Key
- Stroke control system (except 100 size)

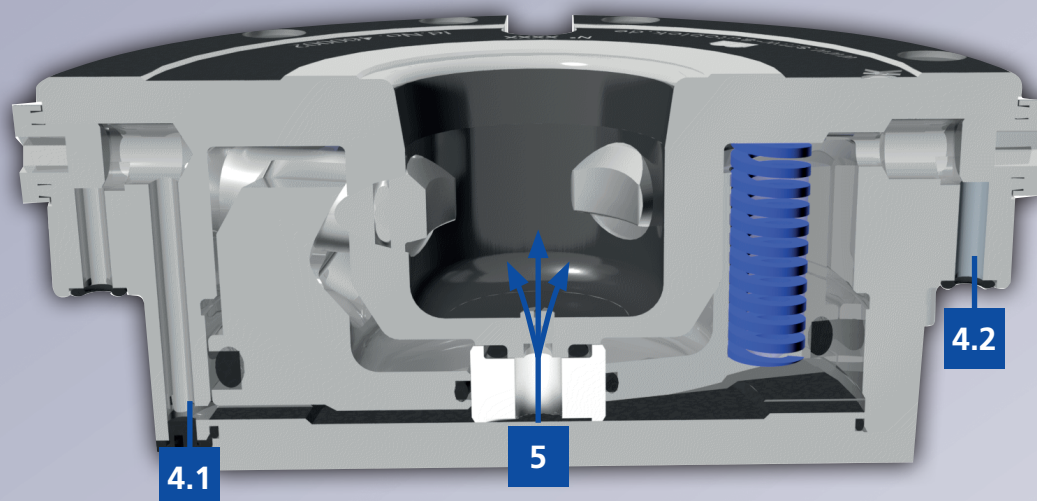
Type	APS classification	Size	Clamping slides	Turbo	Air cleaning	Stroke control	Air sensing	Key	Feedings	+10°C + 70°C	+10°C + 130°C
BASIC	BASIC	100	2	•						•	
		140	2	•						•	
PREMIUM LIGHT	PREMIUM LIGHT	140	3	•	•					•	
	PREMIUM-LIGHT INOX	140	3	•						•	
	PREMIUM-LIGHT INOX-HEAT	140	3	•							•
PREMIUM LIGHT SC	PREMIUM LIGHT SC	140	3	•	•	•	•			•	
	PREMIUM LIGHT SC	160	3	•	•	•	•			•	
PREMIUM	PREMIUM	100	2	•	•		•	•		•	
	PREMIUM SC	140	3	•	•	•	•	•		•	
		190	3	•		•	•	•		•	
		250	6	•		•	•	•		•	
	PREMIUM SC-2INN	190	3	•		•	•	•	•	•	
	PREMIUM SC-4INN	190	3	•		•	•	•	•	•	

APS Features

SIZES 100-140-160-190-250



**Industry 4.0
Product**



1 Maximum rigidity

Jaws with double inclined plane which generates the “PULL DOWN” effect and piston with integral inclined planes.

2 Maximum accuracy

Maximum accuracy of the tapered coupling between the pin and the module.

3 Air sensing

It is possible to monitor the clamping device’s supporting surface through the air sensing.

4 Turbo function

▶ **4.1 Unlocking function**
at 6 bar

▶ **4.2 Turbo function**

The TURBO function is always integrated in APS PREMIUM modules TURBO is the function by means of which the compressed air increases the clamping force applied by the springs until reaching the “PULL DOWN” clamping force.

5 Air cleaning

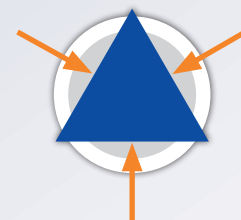
The built-in air cleaning function ensures that the clamping system’s supporting surface remains clean and free of chips while the modules are being opened.



6 Clamping system with 3 jaws at 120°

APS is the only one zero point clamping system with 3 jaws at 120° and thanks to special treatments of the pins and the clamping jaws further improves its durability.

- Centering the stud in the body perfectly
- Vibration dampening with tooling working from any direction
- More accuracy and better vibration dampening

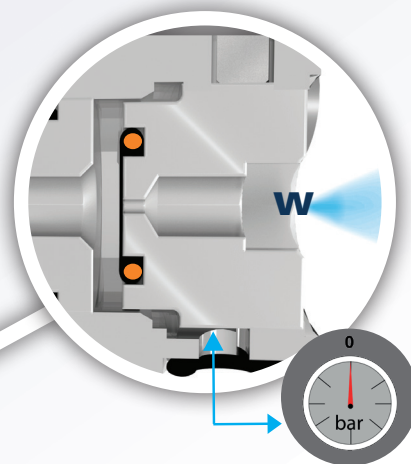
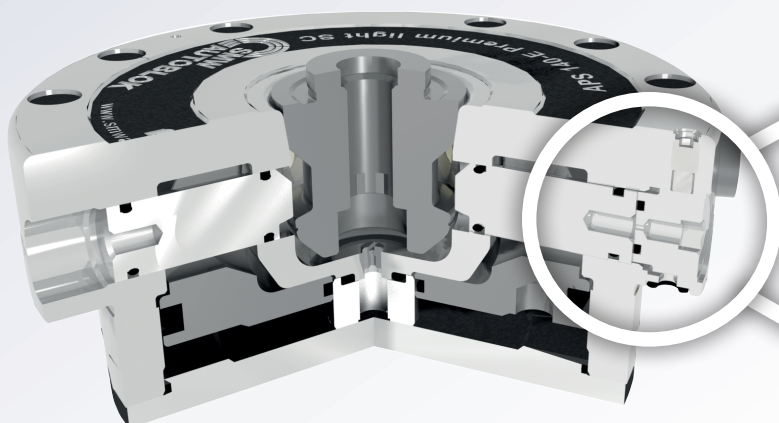


7 Stroke control system

The SC system is ideal for automated applications with robot loading and unloading of the pallets. The APS locking and unlocking is monitored by air pressure.

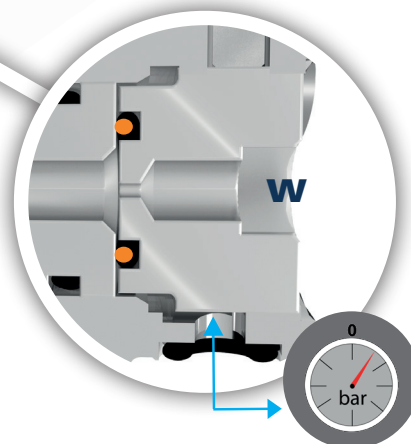
7.1 Locking position

The air enters from the lower side inlet the hole and exits out from the hole **w** = pressure drop in the line and the machine receives a "APS locked" confirmation.



7.2 Unlocking position

The air enters from the lower side inlet and it can't escape from the hole **w** = no pressure drop in the line and the machine receives a "APS unlocked" confirmation.

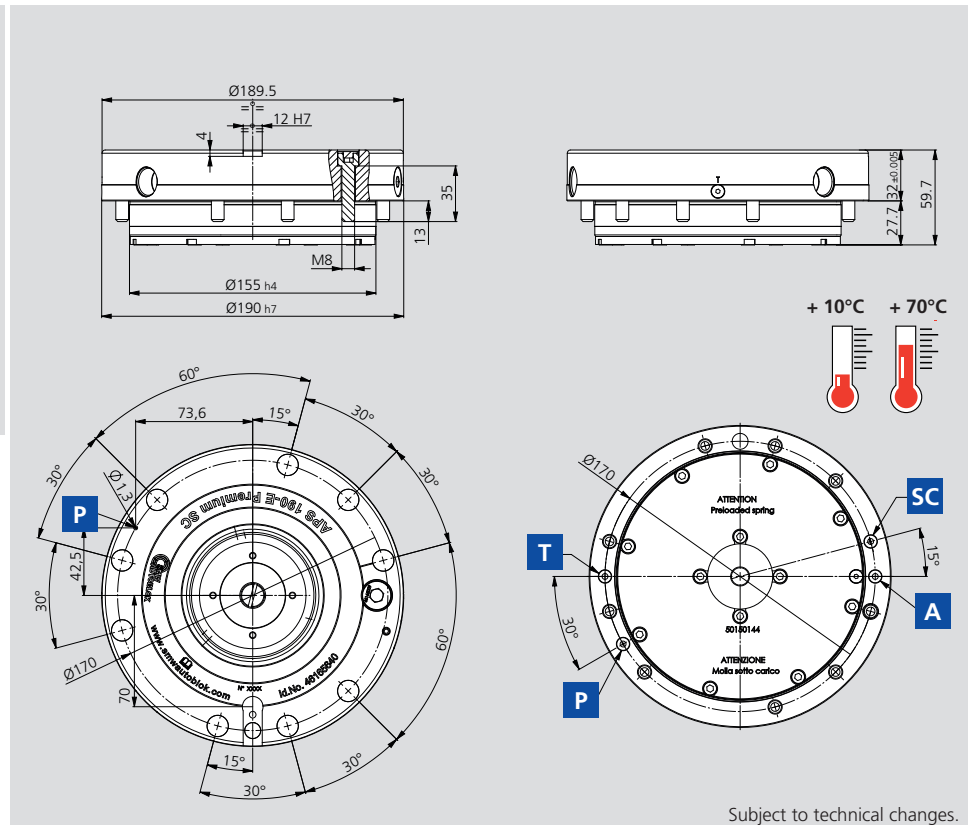


ATTENTION: the pneumatic system of the pressure switch must signal the alarm condition and must prevent the pallet exchange on the APS or any robot operation when the inlet pressure is less than 6 bar.



Technical features

- 3 clamping slides
- Turbo function **T** to increase the pull-down force
- Anti-rotation key seat
- Air sensing **P**
- Pneumatic stroke control **SC**



A = Open

Subject to technical changes.

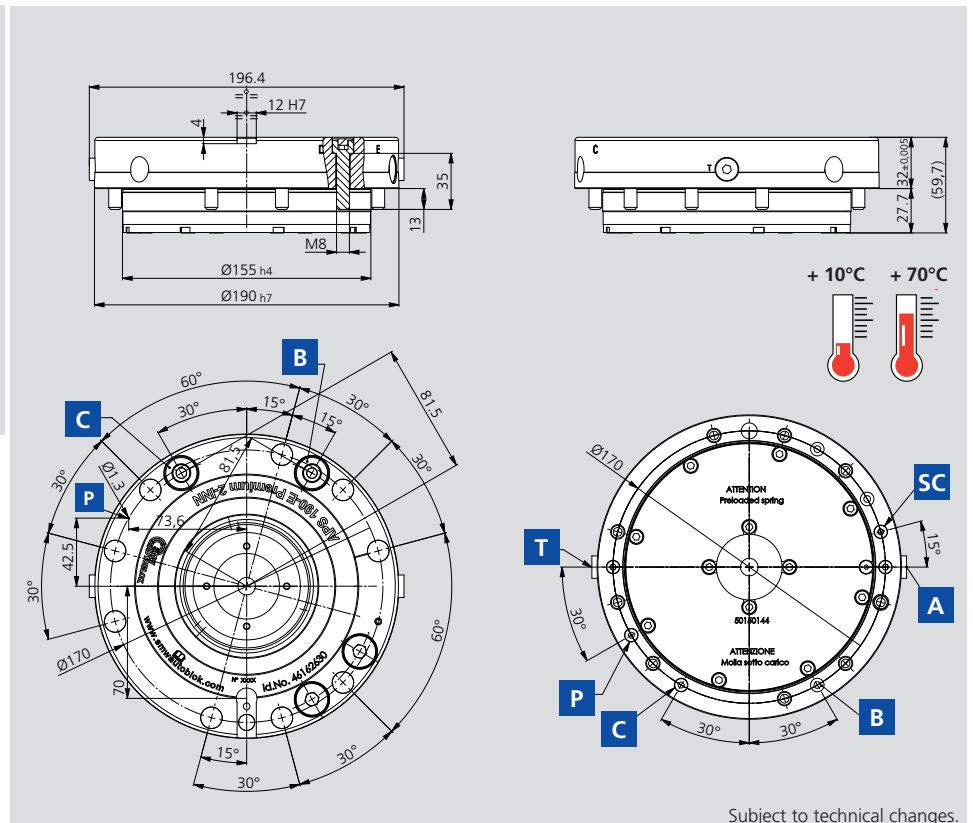
Type	Id. No.	Pull-down force	Holding force*	Unlocking pressure	Repeatability	Weight
APS 190-E PREMIUM SC	46165640	13.5 / 45**KN	50(M12) 75(M16) 80(6xM6) 150(6xM8) kN	6 bar	< 0,005 mm	6.9 kg

* With screws DIN EN ISO 4762 - 12.9 / ** With "turbo effect"



Technical features

- 3 Clamping slides
- Turbo function **T** to increase the pull-down force
- Anti-rotation key seat
- Air sensing **P**
- Pneumatic stroke control **SC**
- N.2 pneumatic / hydraulic feedings **B C**



A = Open

Subject to technical changes.

Type	Id. No.	Pull-down force	Holding force*	Unlocking pressure	Repeatability	Weight
APS 190-E PREMIUM SC 2-INN	46162630	13.5 / 45**KN	50(M12) 75(M16) 80(6xM6) 150(6xM8) kN	6 bar	< 0,005 mm	6.9 kg

* With screws DIN EN ISO 4762 - 12.9 / ** With "Turbo effect"

APS 190-E

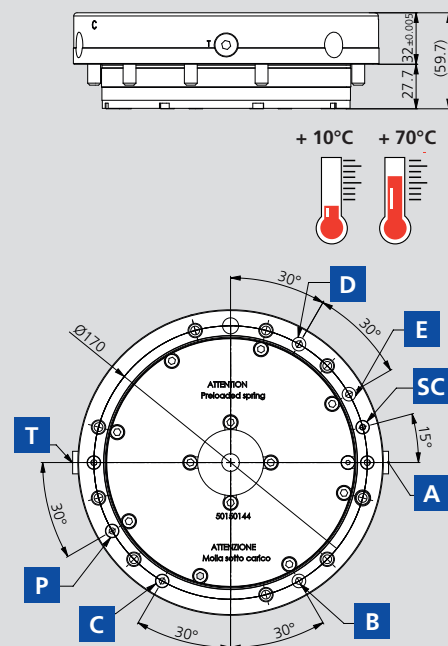
Zero point clamping module

Zero point clamping module



- 3 clamping slides

- Turbo function **T** to increase the pull-down force
- Anti-rotation key seat
- Air sensing **P**
- Pneumatic stroke control **SC**
- N.4 pneumatic / hydraulic feedings



A = Open

Subject to technical changes.

Type	Id. No.	Pull-down force	Holding force*	Unlocking pressure	Repeatability	Weight
APS 190-E PREMIUM SC 4-INN	46162640	13.5 / 45**kN	50(M12) 75(M16) 80(6xM6) 150(6xM8) kN	6 bar	< 0,005 mm	6.9 kg

* With screws DIN EN ISO 4762 - 12.9 / ** With "Turbo effect"

APS 250-E

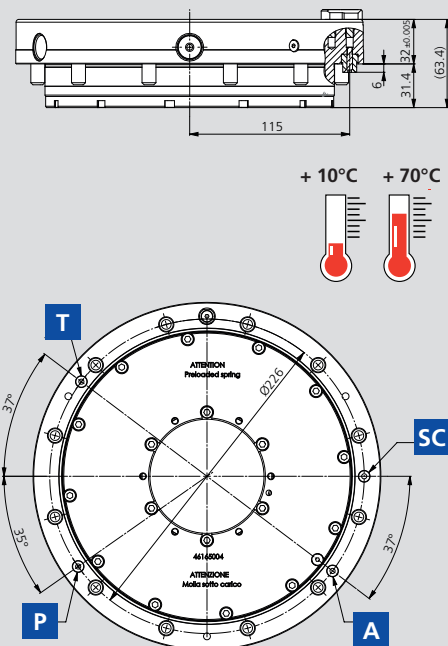
Zero point clamping module

Zero point clamping module



Technical features

- 6 clamping slides
- Turbo function **T** to increase the pull-down force
- Anti-rotation key seat
- Air sensing **P**
- Pneumatic stroke control **SC**



A = Open

Subject to technical changes.

Type	Id. No.	Pull-down force	Holding force*	Unlocking pressure	Repeatability	Weight
APS 250-E PREMIUM SC	46165030	18 / 55**kN	300(6xM12) 210(6xM10) 375(15xM8) kN	6 bar	< 0,005 mm	15 kg

* With screws DIN EN ISO 4762 - 12.9 / ** With "Turbo effect"