

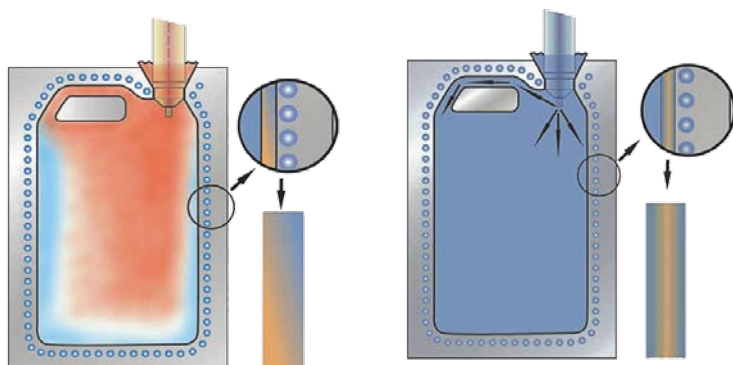
## Compressed Air Chiller for Extrusion Blow Molding

Cooling time is the longest part of the total blow molding process and is often extended to get the heat from the part all the way through the wall to the mold. During the mold cooling process, the internal surface of the part (hollow) remains at a much higher temperature than the external surface of the part. The difference between the external and internal surface temperatures in the mold causes material stress and poor product quality. But, extending the cooling time slows the production and shrinks the profit.

Comet's CAC Compressed Air Chiller is an energy saving, internal cooling system that distributes dry, chilled compressed air (-31°F) inside the product to accelerate heat removal from every surface. This process is guaranteed to reduce material stress and cooling time, as well as dramatically boost production by up to 50% (depending on the product).

Blow pins are specially designed for individual products to guide the air to areas with thicker walls and areas that are not well cooled by the mold. Blow valves are designed to form the product with the highest air pressure available for the process, then drop the air pressure while chilled air is being exchanged inside the product.

Five standard sizes are available with a complete set of blow valves and individually designed blow pins, Process air volumes are between 74.75 SCFM up to 336.5 SCFM.



**Blowing process with normal air**

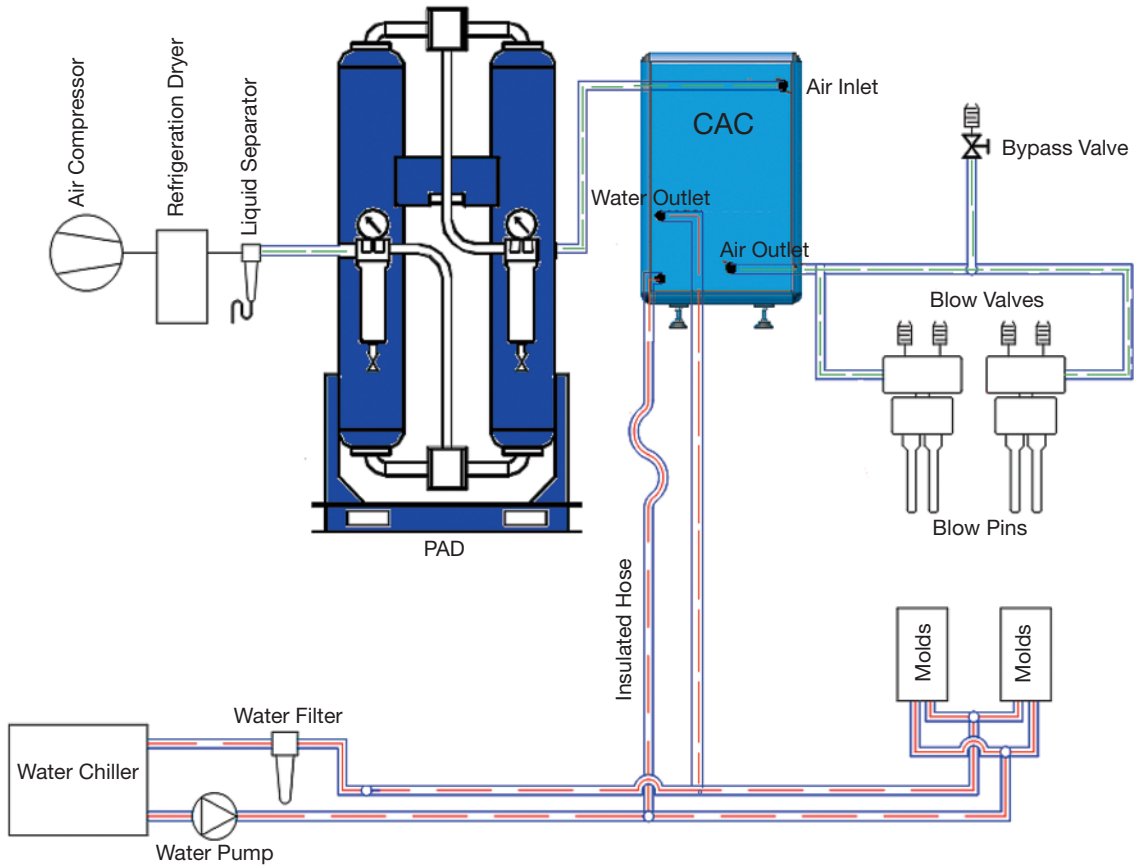
**Blowing process with chilled compressed air**



### Advantages of the CAC System

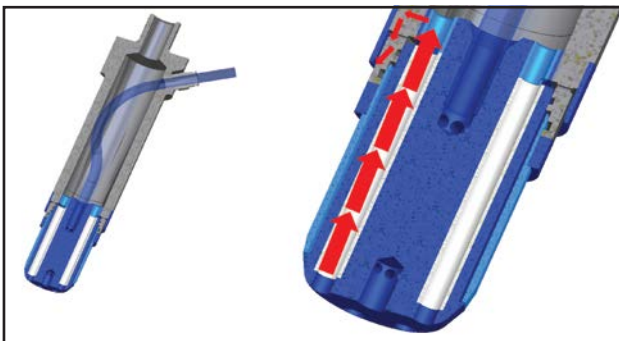
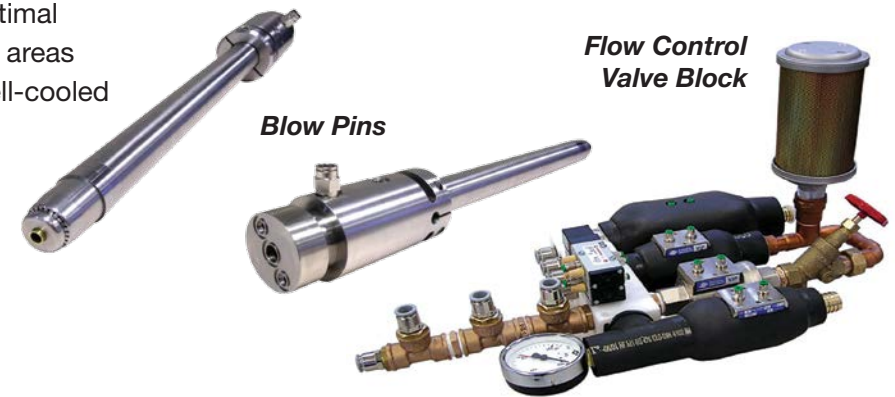
- Increased part quality because heat is removed from inside the molded product.
- Up to 50% production increase (depending on the product) and, in some cases, even higher.
- Suitable for virtually all blow molding machines.
- Microprocessor controller and graphic display for accurate control and data display.
- Easy integration into the production process with fully automatic operation.
- No maintenance required when good air and water quality (industry standard) is provided for the internal air cooling system
- Low energy consumption and maintenance expenses.
- Quick return on investment.
- No CFC to harm the ozone layer of the earth's atmosphere.

## Working Principle

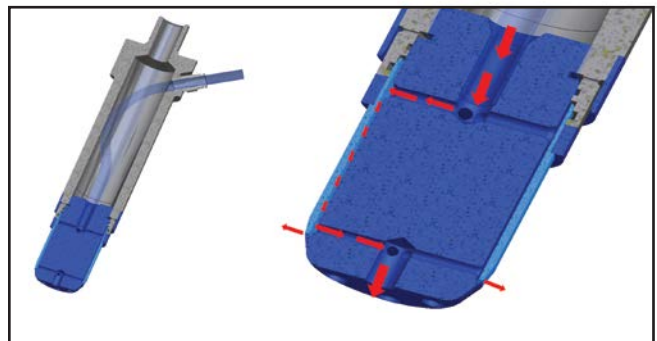


Specially designed blow pins guarantee optimal exchange of chilled air by guiding the air to areas with thicker walls and areas that are not well-cooled by the mold.

Blow valves are designed to form the product with the highest air pressure available for the process, then drop the air pressure while chilled air is being exchanged inside the product.

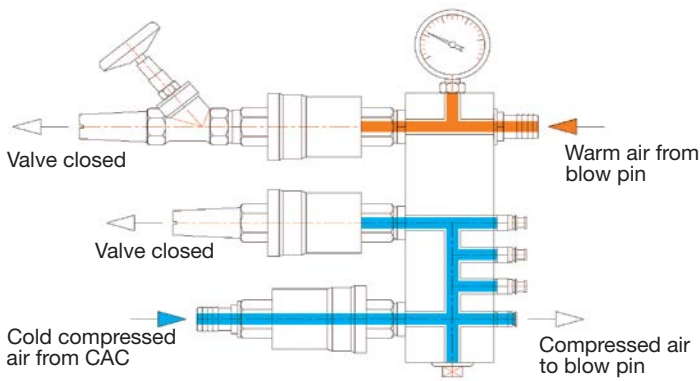


**Blown Air Tubing**

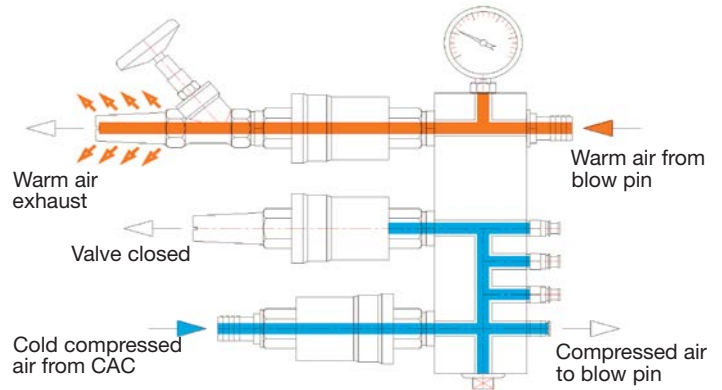


**Exhaust Air Tubing**

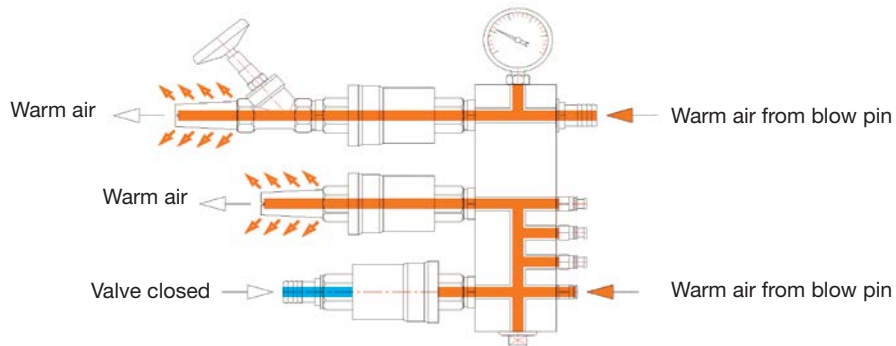
## Pressure & Continuous Blowing



**1. Cold compressed air inflates the product**

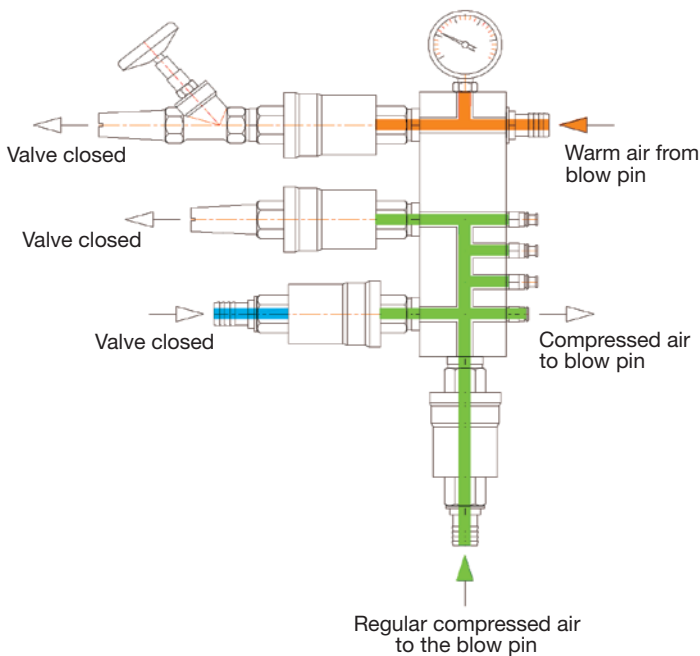


**2. Cold compressed air flushes the product**

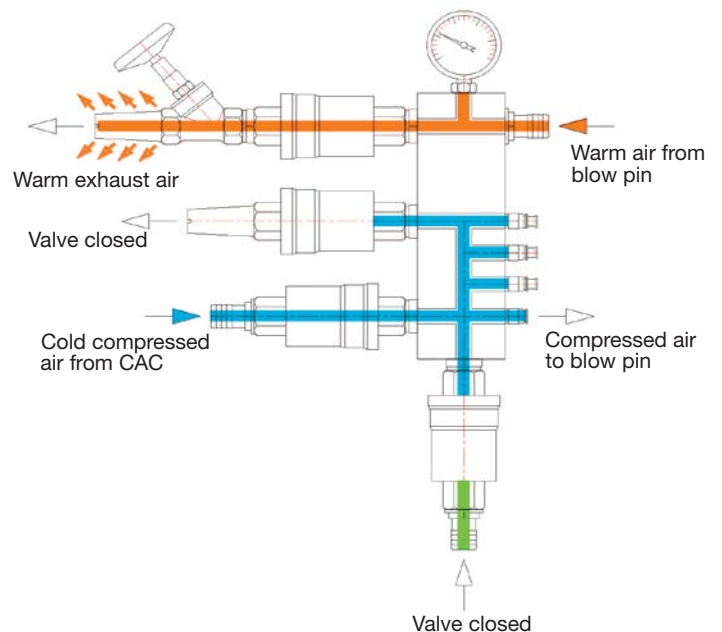


**3. Warm exhaust over both silencers**

## Pre-Blowing with Compressed Air



**1. Regular compressed to the blow pin**



**2. Cold, compressed air flushes the product**

## Specifications

Model	Electrical Power kW	Compressed Air Connection		Chilled Water Connection		Dimensions in. / mm			Weight lb. / kg
		AI	AO	WI	WO	B	T	H	
CAC 120	2.2	1"	1"	1/2"	1/2"	26.75 / 680	25 / 640	43½ / 1103	611 / 277
CAC 180	3.0	1"	1"	1/2"	1/2"	26.75 / 680	25 / 640	43½ / 1103	617 / 280
CAC 240	4.5	1"	1"	1/2"	1/2"	26.75 / 680	25 / 640	43½ / 1103	683 / 310
CAC 360	6.1	1½"	1½"	1/2"	1/2"	39 / 990	34½ / 880	63½ / 1613	970 / 440
CAC 540	8.5	1½"	1 ½"	1/2"	1/2"	39 / 990	34½ / 880	63½ / 1613	1080 / 490

Model	Air Flow SCFM / Nm³/h	Min. Air Flow SCFM / Nm³/h	Max. Pressure PSI / bar	Power Consumption kW	Chilled Water Load kW
CAC 120	74.75 / 120	42.37 / 68	145 - 218 / 10 - 15	2.2	5.0
CAC 180	112.15 / 180	74.77 / 120		3.0	7.6
CAC 240	149.50 / 240	99.69 / 160		4.5	10.1
CAC 360	224.30 / 360	149.53 / 240		6.1	15.2
CAC 540	336.50 / 540	224.30 / 360		8.5	23.0

Electrical power consumption is based on a standard voltage of 3 x 400V / 50Hz.

Chilled water load is based on air inlet temperature of 95°F (35°C).

We reserve the right to change specifications without prior notice.



### Required air quality pressure per ISO 8573.1

- Rest oil: (Kl. 1) 0.01 mg/m<sup>3</sup>
- Rest humidity: (Kl. 5) + 44.6°F (7°C) pressure dewpoint
- Rest dust: (Kl. 2) 1 µm or 1 mg/m<sup>3</sup>

**Chilled water pressure drop** 29 PSI (2 bar),

**Air pressure** up to 217.5 PSI (15 bar).

### Chilled Water Temperature

Max. 59°F (15°C) / Min. 35.5°F (2°C)

### Standard voltages (other voltages on request)

- 3 x 400V / 50Hz
- 3 x 460V / 60Hz