

**BAUER NCU™**  
MULTI-CHANNEL NITROGEN CONTROL UNIT



# BAUER NCU™

## MULTI-CHANNEL NITROGEN CONTROL UNIT



As injection molding processes become more complex and multiple channel configurations are required, the BAUER NCU™ is ready for the challenge. Overcome the limitations of conventional injection molding and discover the economic savings of the gas assist process with the BAUER NCU™.

The BAUER NCU™ will interface with any injection molding machine, regardless of make or model. The operator interface allows real-time access to all programmable functions including: time, pressure, ramp & start delay, real-time process pressure curves, process pressure gauges, inlet pressure meter and safety interlock confirmation.

## GAS INJECTION TECHNOLOGY

Gas injection technology (GIT) is a low-pressure process where a fluid, usually nitrogen gas, is used to create hollow sections in an injection molded part. The gas flows through the part's thicker sections or via a network of strategically located gas channels designed into the part and evacuates the molten resin from the channels. This evacuated resin is either used to fill the remainder of the cavity or expelled from the part into a spillover.

The pressurized gas is then used to pack out the part during cooling. The gas pressure, usually ranging from 500 psi to 3500 psi, is much lower than the internal cavity pressure that is required in conventional injection molding. This lower pressure is also distributed more equally throughout the part, thus reducing stress and warp. Higher quality parts and reduced scrap can be realized with GIT.

Another benefit of GIT is the reduction of the clamping force necessary from the injection molding machine. The added gas channels act as flow runners and lower pressure is needed to fill the cavity. Also, the pressure spike from fill to pack is greatly reduced because of the relatively low pressure of the gas. With GIT, parts can be molded in smaller tonnage molding machines greatly reducing manufacturing costs.

Tooling costs can also be reduced with GIT. The elimination of lifters and coring can simplify the mold design and lower maintenance costs.

## BENEFITS OF GIT:

- › Reduction of part weight
- › Reduction of cycle time
- › Reduction of clamping force
- › Reduced tooling costs
- › Higher quality parts
- › Reduced manufacturing costs

## BAUER OFFERS THE COMPLETE SOLUTION.

Bauer is available to assist through every step of the process. Our experienced staff of GIT experts will assist you with:

- › GIT tool design
- › Part evaluation
- › Process training and development
- › Equipment selection
- › Equipment installation and training
- › GIT mold trial service
- › Gas injectors and nozzles

## STANDARD FEATURES

- › Portable compact design
- › Easily interfaces with any injection molding machine
- › 2, 4, 6 or 8 channels configuration available
- › Precise pressure control with True Track Ramping™ and real time monitoring
- › Process parameter storage
- › Can control separate processes on two (2) injection molding machines at the same time
- › Lowest maintenance cost in the industry
- › Mold purge control with OXYPURGE™ Technology

## SYSTEM FOOTPRINT

DIMENSIONS L x W x H inches (mm)

- › 57 x 24 x 36.375 (1448 x 610 x 924)

WEIGHT pounds (kg)

- › 300 (136)

## CONTROL SYSTEM

State-of-the-art control system with intuitive HMI interface allows for simple operation and realtime diagnostics.

- › 10.5" touch-screen color display
- › Precise electro-pneumatically controlled valves
- › Accurate control of pressure profiles

## COST OF OWNERSHIP

Like all BAUER controllers, the system is designed for long periods between maintenance intervals and has a very low cost of ownership.

- › Lifetime BAUER support

## BAUER EXCLUSIVE PROCESS CONTROL FEATURES



## TRUE TRACK RAMPING™

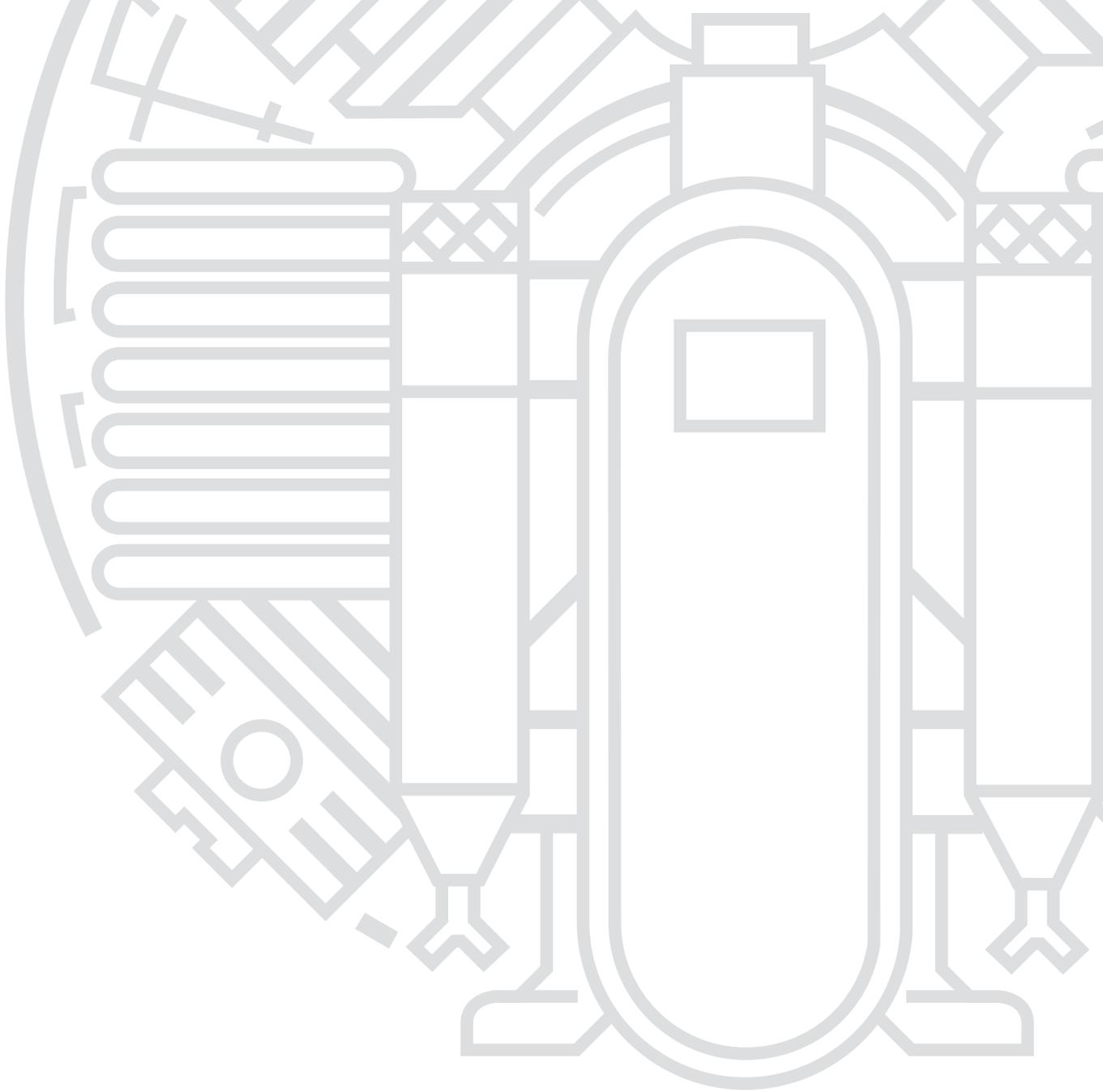
BAUER's TRUE TRACK RAMPING™ technology provides the ability to precisely control the gas injection profile. The processor can program set points to control the rate of gas pressure increase and decrease during each step of the gas injection cycle. With TRUE TRACK RAMPING™, you can prevent gas blow through and minimize gas permeation into the thin wall sections of the part.

## OXYPURGE™

BAUER's OXYPURGE™ technology purges any oxygen from the mold cavity before resin is injected to prevent burning of the material.

## TECHNICAL DATA

Model	Inlet Pressure		Outlet Pressure		Power	
	PSIG	BAR	PSIG	BAR	HZ	V
BAUER NCU	6000	414	5000	345	60 or 50	110 or 220
BAUER NCU-LP	6000	414	1500	103	60 or 50	110 or 220



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