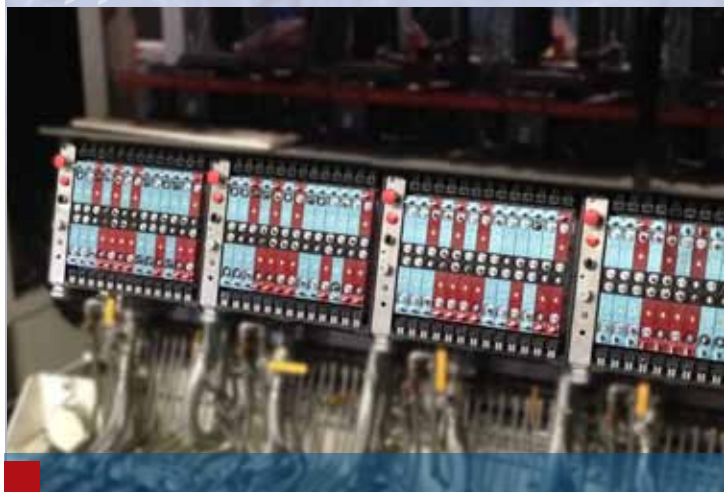


## Breaking News

Updated Version - 5 November 2015

We are pleased to announce that, since the official release of the product for Glasstec 2014, over 5,000 valves have been installed in about 30 plants, and are running perfectly to the full satisfaction of users. At plants where tests are completed, our product has been standardized as a replacement solution for the OEM supplied valves. Additional 3000 to 5000 units are planned to be installed in the coming 6 months.



MAC Valves, Inc. is proposing a solution that features the following benefits for the users:

- 100% drop-in replacement solution.
- Higher flow, essential for the invert/revert, and mould open/close functions.
- Highly repeatable response times that guarantee accurate movements and a better quality of the final product.
- MAC patented technology that guarantees a better life time.
- No leakage through the manual override.

To know more about this solution, please read the attached Technical Bulletin.

## Glasstec 2016

We will be pleased to meet you during Glasstec 2016 in Düsseldorf from September 20<sup>th</sup> to 23<sup>rd</sup>

New solutions dedicated to the glass industry will be presented on site, all aiming at improving your pack to melt.

# glasstec



The MAC Glass Gazette – Technical Bulletin – November 5<sup>th</sup>, 2015  
MAC Valves Europe, Inc., Rue Marie Curie 12, 4431 Loncin (Liège), Belgium  
Tel : +32 4 239 68 68 – Fax : +32 4 263 19 42 – E-Mail : [nicolas.mathieu@macvalves.be](mailto:nicolas.mathieu@macvalves.be)



The MAC Valves Glass Gazette is the MAC Valves newsletter for the Glass Industry ■ TO FIND YOUR LOCAL DISTRIBUTOR, visit [WWW.MACVALVES.COM](http://WWW.MACVALVES.COM)  
Wixom, MI, USA – Liège, Belgium Taoyuan, Taiwan – Penrose, Auckland, New Zealand ■ Date : November 2015.





## Technical Bulletin

Updated Version - 5 November 2015

### Release of New Generation High Flow Solenoid Valves for Replacement of OEM Supplied Valves on 26 Line Blank Side Valve Blocks and 6 (or 7) Line Blow Side Valve Blocks.



MAC Valves, Inc. is pleased to announce the release of a 100% drop-in solution valve replacing the traditional cartridge type OEM supplied valve used on IS glass container forming equipment for the following specific functions:

- 26 line blank side valve block
- 6 (or 7) line blow side valve block
- Quick exhaust proportional valve solution

#### The OEM supplied valves are:

- 210-C-499-05 (NC Valves)
- 210-C-498-05 (NO Valves)



The MAC Glass Gazette 2 – Technical Bulletin – November 5<sup>th</sup>, 2015 - Page 1 of 5  
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Wixom, MI, USA – Liège, Belgium Taoyuan, Taiwan – Penrose, Auckland, New Zealand ■ Date: November 2015.



### Requirements from the field

**M**AC Valves has taken the specific needs of users into consideration to create this new valve integrating all MAC Valves features and technology. The main complaints received from numerous users around the world were:

- Short life time due to Skinner pilot and cartridge.
- Weakness of the spring.
- Small air orifices inside the valves – solenoid exposed to contamination.
- Slow response times – affecting some movements like invert/revert or mold open/close.

#### Components of OEM supplied valve



Skinner type pilot



Skinner type pilot disassembled



Weak return spring



Small air orifice



OEM SUPPLIED CARTRIDGES

MAC Valves' main focus is to put on the market an innovative product developed with the input of users and offering :

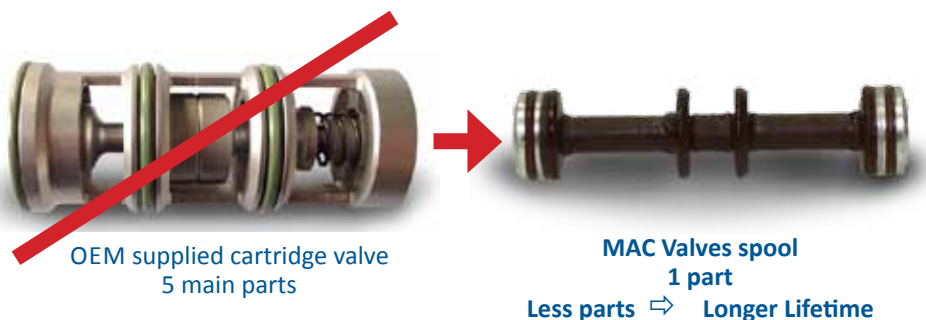
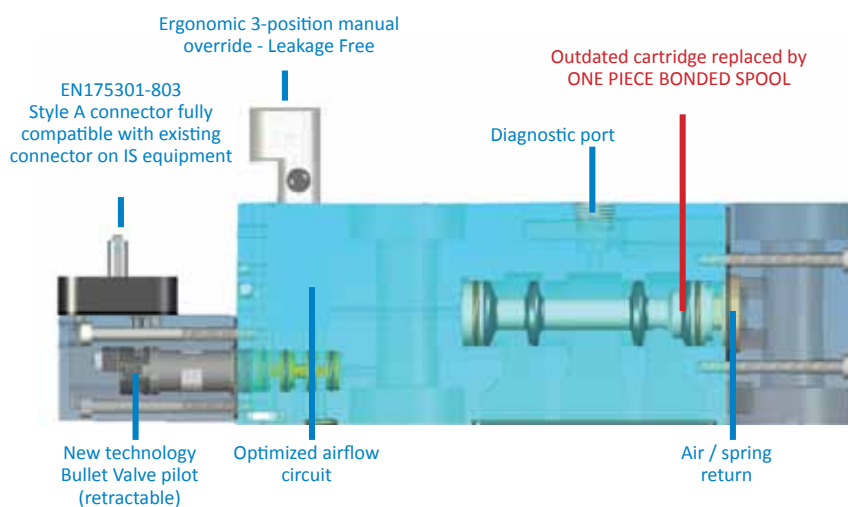
- An increased production due to less downtime.
- An increased quality of the bottles produced - thanks to fast/repeatable response times and higher flow.
- A user friendlier solution for both operators and maintenance teams.



### MAC Valves Features / Advantages

MAC Valves now proposes new units integrating the feedback from the field :

- 100% drop in solution - the footprint, the dimensions, the position of the electrical connector and the position of LEDs are identical to the OEM supplied product.
- No cartridge inside the valve – spool technology for higher flow / less parts for a superior reliability.
- MAC technology patented Bullet Valve® pilot for a significant increase of the lifetime.
- High resistance to contamination and pressure variation.
- Fast switching response times.
- High temperature modification for all parts inside the valve.
- Fully repairable valve.
- Color code to identify NC/NO valves.
- Diagnostic port on the valve body giving direct access to cylinder port for troubleshooting or diagnostics.



	MAC VALVES				Électro distributeur			
	NC ERT	NC DRT	NO ERT	NO DRT	NC ERT	NC DRT	NO ERT	NO DRT
2 bar / 29 PSI	9,6	9,4	9,4	9,6	14,8	21,2	16,4	19,6
3 bar / 43 PSI	8,2	10	8,4	10,2	19,6	18	20,4	20
4 bar / 58 PSI	7,8	10,6	7,8	11,2	17,6	18	18,4	20,8

Times are in ms / ERT = Energizing Reponse Times / DRT = De-energizing Reponse Times

## Technical Bulletin

Updated Version - 5 November 2015

### Specific Features

#### A- New manual override

Important leakages on the OEM supplied manual override and a weak detent have been reported by a series of users. To solve the issues met by the operators / users of the OEM supplied valve, MAC Valves developed a specific manual override to solve the issues met by the operators/users of the OEM supplied valve :

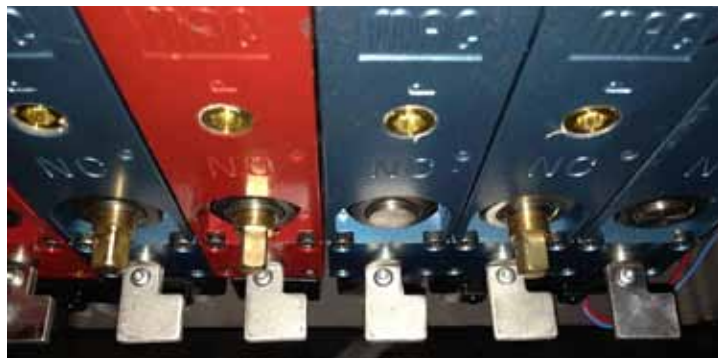
- We focused on minimizing leakages by implementing a tighter manual override.
- The MAC Valves manual override has a more positive detented action preventing inadvertent operations.
- Our most recent product update allows an easy operation of the manual override with security gloves.



#### B- Color code distinction

To prevent any confusion between normally closed and normally open valves, MAC Valves paints the main body in different colors : Blue = NC ; Red = NO.

For a better visibility, the letters NO and NC are engraved directly on the body of the valve.



## Technical Bulletin

Updated Version - 5 November 2015



### C- Fully repairable valve and test base

MAC Valves is proposing different repair kits in order to give the alternative to the user to repair the valve. Available also:

- A complete on-site maintenance training along with the maintenance literature
- A test base

### D- Diagnostic port

MAC Valves designed the new valve with a port on the body intended to be used for trouble shooting or diagnostics. It gives direct access to the cylinder port.



Diagnostic port

## How to order

Normally Closed (NC):	EMA-A1B-BV3-BFEO-CTR Mod. EP92
Normally Open (NO):	EMA-A2B-BV3-BFEO-CTR Mod. EP92
Pilot valve:	BV310A-CD1-00-BFEA-CTA Mod. 8468
Repair Kit NC / NO:	K-EM04 / K-EM06
Individual Test Base:	KE-EMA03

The MAC Glass Gazette 2 – Technical Bulletin – November 5<sup>th</sup>, 2015 - Page 5 of 5  
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# NEW GENERATION HIGH FLOW Individual Solenoid Valve for 26 Line Blocks

- Drop-in solution - Quick & easy exchange
- High flow characteristics (up to 3000 NI/min) in a very compact package
- No cartridge - Spool technology for higher flow, less parts, more reliability
- Designed to work in harsh environments
- MAC technology patented Bullet Valve® pilot for a significant increase of the lifetime
- High resistance to contamination and pressure variation
- Highly durable, accurate switching, increased reliability
- Fast switching response times
- High temperature modification up to 80°C for complete valve (coil included)
- Less downtime – Increased pack to melt
- Fully repairable valve (pilot and main body)
- Color code to identify NO/NC valves (Red = NO / Blue = NC)
- Diagnostic port on valve body giving direct access into cylinder port for trouble shooting or diagnostic
- 100 million cycles (est.) MTBF life time



## INNOVATIVE FEATURES

EN175301-803  
Style A connector fully compatible with existing connector on IS equipment

New Technology  
Bullet Valve® pilot  
(replaceable)

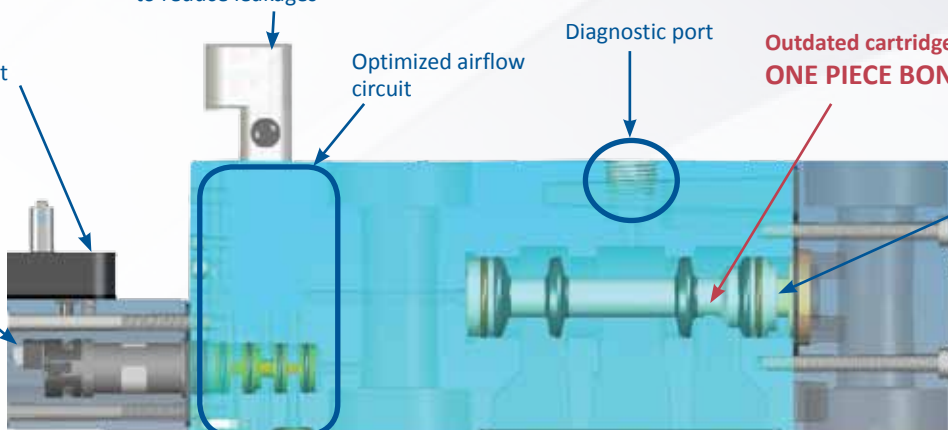
Ergonomic 3-position manual  
override with tighter set up  
to reduce leakages

Optimized airflow  
circuit

Diagnostic port

Outdated cartridge replaced by  
**ONE PIECE BONDED SPOOL**

Air / spring  
return



**FULLY REPAIRABLE UNIT - 100% DROP IN SOLUTION**

MAC Valves - Highly engineered solutions for the highest performing applications since 1948



MAC Valves Inc, Wixom, Michigan - MAC Valves Inc, Dundee, Michigan  
MAC Valves Europe Inc, Liège, Belgium - MAC Valves Asia Inc, Taiwan

To find your *local* distributor, visit [www.macvalves.com](http://www.macvalves.com)





# NEW GENERATION HIGH FLOW Individual Solenoid Valve for 26 Line Blocks

## TECHNICAL DATA

<b>Fluid:</b>	<i>Compressed air, vacuum, inert gases</i>
<b>Pressure range:</b>	<i>External pilot 0 to 8 bar / 0 to 120 PSI</i>
<b>Pilot pressure:</b>	<i>2,5 to 8 bar / 37.5 to 120 PSI</i>
<b>Lubrication:</b>	<i>Not required if used select a medium aniline point lubricant (between 80°C and 100°C / 176°F and 212°F)</i>
<b>Filtration:</b>	<i>40 µ</i>
<b>Temperature:</b>	<i>-18°C to + 80°C / 0°F to 176°F</i>
<b>Flow (at 6 bar, Δ P=1bar):</b>	<i>Up to 3000 NI/min - Cv 3.0</i>
<b>Coil:</b>	<i>Epoxy encapsulated - Class F wires - Long energization</i>
<b>Voltage range:</b>	<i>-15% to +10% of nominal voltage</i>
<b>MOD. EP92:</b>	<i>Viton seals, spool and poppet - High temperature grease - Glass industry manual override design</i>

## RESPONSE TIMES COMPARISON

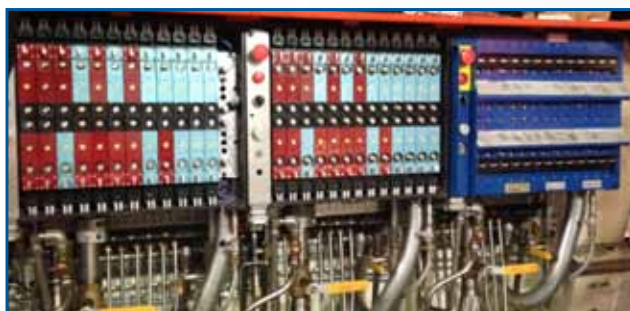
	MAC VALVES				OEM supplied valves			
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<b>4 bar / 58 PSI</b>	7,8	10,6	7,8	11,2	17,6	18	18,4	20,8

Times are in ms / ERT = Energizing Response Times / DRT = De-energizing Response Times  
NO = Normally Open / NC = Normally Closed

## MAC SOLUTION - HOW TO ORDER

<b>Normally Closed (NC):</b>	<i>EMA-A1B-BV3-BFE0-CTR Mod. EP92</i>
<b>Normally Open (NO):</b>	<i>EMA-A2B-BV3-BFE0-CTR Mod. EP92</i>
<b>Pilot Valve:</b>	<i>BV310A-CD1-00-BFEA-CTA Mod. 8468</i>
<b>Repair Kit NC / NO:</b>	<i>K-EM004 / K-EM006</i>
<b>Individual Test Base:</b>	<i>KE-EMA03</i>

## IN SITU



*Blank side*



*Blow Side*



3500 factory certified specialists in over 45 countries focused on optimizing customers needs  
To find your **MDN** distributor, visit [www.macvalves.com](http://www.macvalves.com)

