

# PRODUCT DATA SHEET INFORMATION

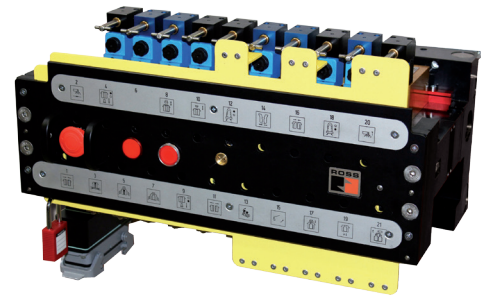
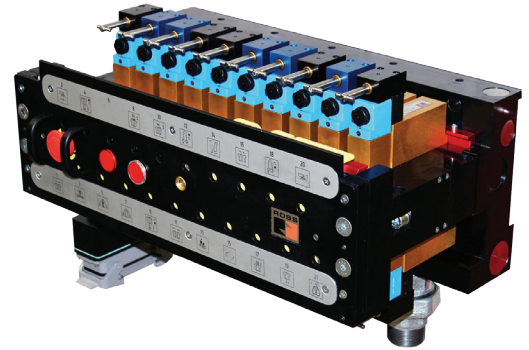


## 21-VALVE BLOCK – For IS Glass Machines

*This extremely compact multifunctional package can provide pilot air for the main control valves as well as directly controlling the actuators for cylinder applications.*

### Features:

- Quick-and-easy exchange feature
- Very precise air return poppet
- Highly reliable, accurate switching
- Rugged manual actuators involved
- All valves with indicator lights
- High flow characteristics




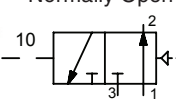

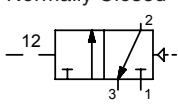
The ROSS 21-Valve Block is available in various designs.

*For more information on 21-Valve Block, and valve integration into your system please contact your nearest ROSS location or your local distributor.*

The picture above shows a model conforming to Lockout/Togout (LOTO) requirements.

Valves used in the block are easy-to-service cartridge valves in normally open and normally closed version.

See ROSS Glass Sheet, Form RGlass-10 for detailed information on these products.

Model Number	
<b>D371H97</b>	<b>D369H97</b>
 <p>Normally Open</p> 	 <p>Normally Closed</p> 

### Standard Specifications:

**Construction:** Poppet.  
**Solenoid Pilot:** Rated for continuous duty.  
**Standard Voltages:** 24 volts DC.  
**Power Consumption** (each solenoid): 3.5 watts nominal.  
**Enclosure Rating:** IP 65.  
**Coil:** 100 % ED.  
**Actuation Time:** 20 ms.

**Flow of Valve:** 4500 NI/min.  
**Nominal Diameter:** 14 mm.  
**Ambient Temperature:** 40° to 175° F (4° to 80° C).  
**Media Temperature:** 40° to 220° F (4° to 105° C).  
**Flow Media:** Filtered air.  
**Pressure Range:** 15 to 87 psig (1 to 6 bar).

ROSS VALVES  
FOR IS GLASS MACHINES:

- 21-Valve Block • Blow Head On/Off • Blow Mold Vacuum • Blow Pistol • Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure • Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close • Plunger Up or Down, Cooling • Proportional Valve • Pusher



### WARRANTY, CAUTIONS and WARNINGS

Standard ROSS warranty, cautions and warnings apply, available upon request or at [www.rosscontrols.com](http://www.rosscontrols.com).

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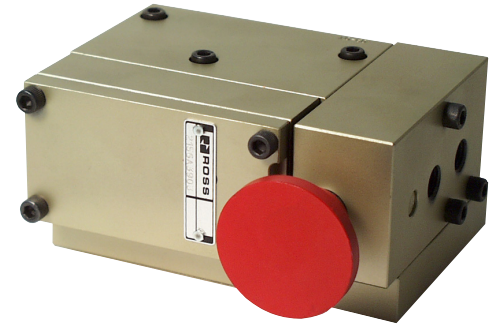
# PRODUCT DATA SHEET INFORMATION



## MOLD OPEN/CLOSE AND BLOW HEAD ON/OFF

### Features:

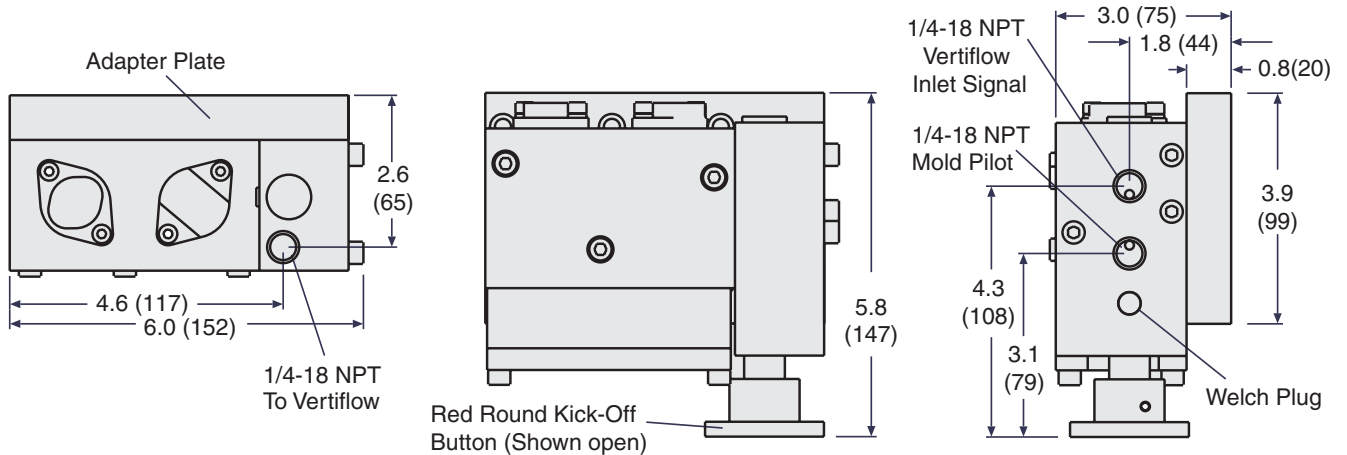
- High speed poppet construction
- Constant repeatability
- Low-friction seat seals
- Non-lube
- Specialized low-wear body coating extends seal life
- Separate Mold open/close valve available
- Built-in pressure boosters
- Includes Kick-Off function with two mounting options



Mold Open/Close Valve (Right Hand)  
with Red, Round Kick-Off Button

Mold Open/Close and Blow Head On/Off	
Description	Model Number
Mold Open/Close with Right Hand Kick-Off and Adapter Plate	2156A3903
Blow Head On/Off with Left Hand Kick-Off and Adapter Plate	2156A3904
Mold Open/Close with Right Hand Kick-Off without Adapter Plate	2156A3906
Blow Head On/Off with Left Hand Kick-Off without Adapter Plate	2156A3907

### Dimensions - inches (mm)



### Standard Specifications:

**Construction:** Poppet.

**Ambient Temperature:** 0 to 300°F (-17 to 150°C).

**Media Temperature:** 0 to 300°F (-17 to 150°C).

**Flow Media:** Filtered air.

**Inlet Pressure:** 30 to 150 psig (2 to 10 bar).

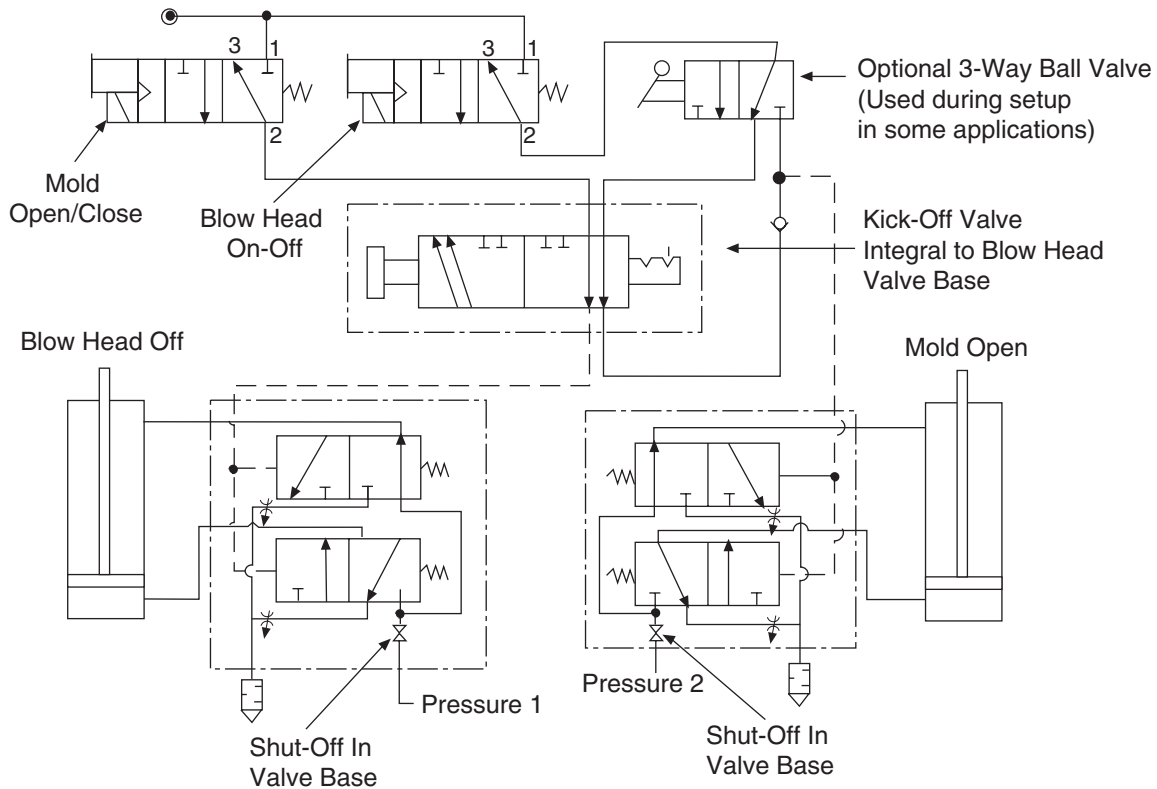


**Applications:** IS Glass Machines.

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## Typical Circuit



### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block
- Blow Head On/Off
- Blow Mold Vacuum
- Blow Pistol
- Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure
- Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close
- Plunger Up or Down, Cooling
- Proportional Valve
- Pusher

Your local ROSS distributor is:



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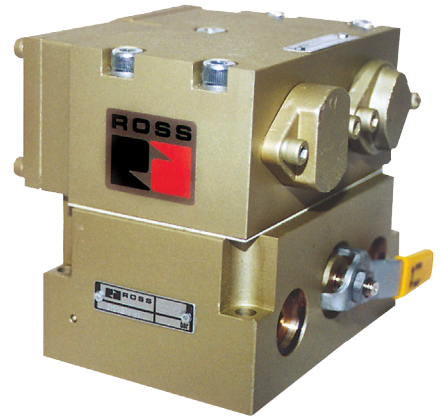
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## MOLD OPEN/CLOSED VALVES

### 4/2 Directional Control Valve Pressure Operated with Pressure Booster

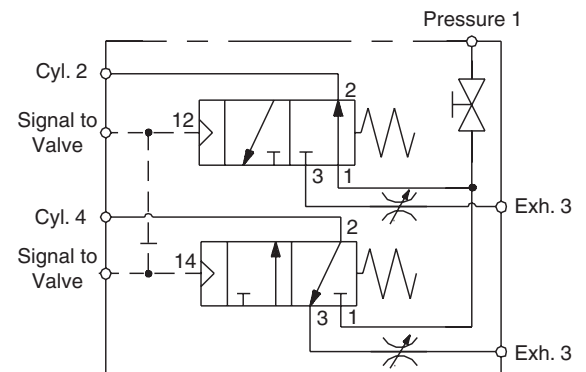
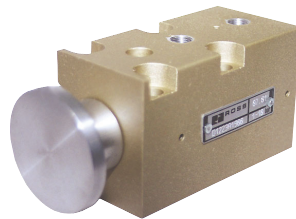


#### Features:

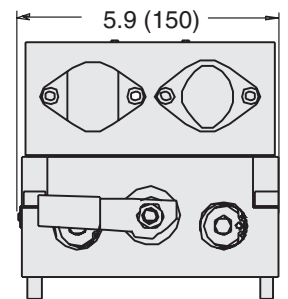
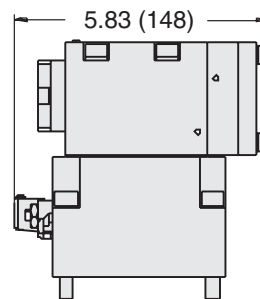
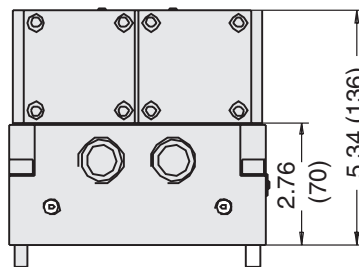
- High-speed poppet construction
- Constant repeatability
- Non-friction Viton seals on metal seats
- Non-lube
- Specialized low-wear body coating
- Blowhead compatible
- Separate Kick-Off valve available
- Built-in flow controls and inlet shut-off
- Built-in pressure boosters\*
- Special base and two signal options

<b>Model Number</b>	<b>D3900B0700</b>
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Kick-Off Valve	
<b>Model Number</b>	D1223A1900



#### Dimensions - inches (mm)



#### Standard Specifications:

**Construction:** Poppet  
**Ambient Temperature:** 0° to 300° F (-17° to 150° C).  
**Media Temperature:** 0° to 300° F (-17° to 150° C).  
**Flow Media:** Filtered air.

**Inlet Pressure:** 30 to 150 psig (2 to 10 bar).\*

\* Pressure Booster option may allow for operation with inlet and pilot pressures lower than 30 psig (2 bar). Consult ROSS for specifics.

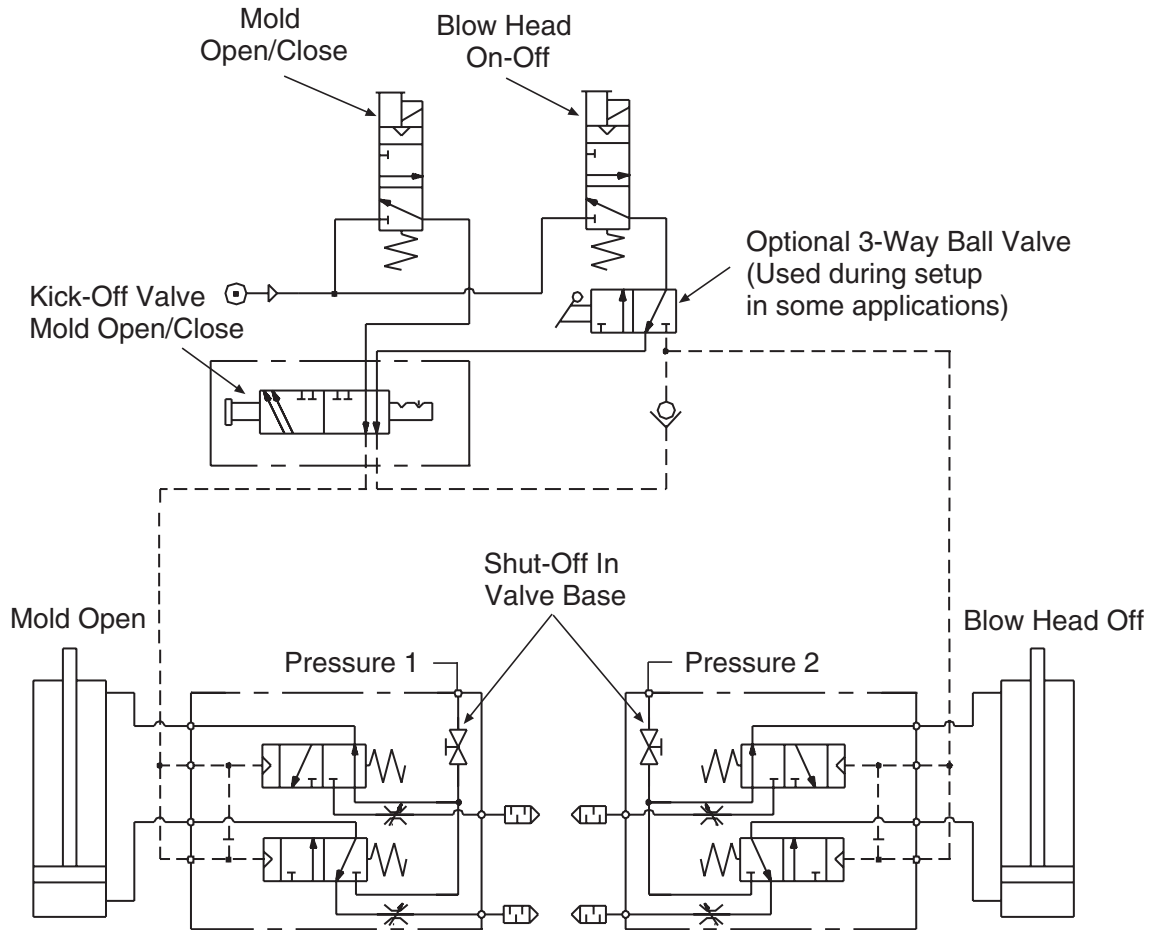


**Applications:** IS Glass Machines.

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## Typical Circuit



### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block
- Blow Head On/Off
- Blow Mold Vacuum
- Blow Pistol
- Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure
- Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close
- Plunger Up or Down, Cooling
- Proportional Valve
- Pusher

Your local ROSS distributor is:



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## 3/2 Valve Block Cartridge Valve – Size 14mm

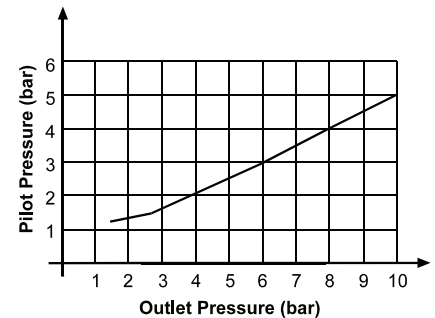
For 21- or 26-Valve Block on IS Glass Machines

### FEATURES:

- High quality, aircraft grade, aluminum outer housings
- High temperature, Viton seals
- High temperature, Stainless Steel poppets
- New machining on the outer housing evident by our improved and stronger “3-leg” design
- Improved compressed air and exhaust “through flow”
- No need to orient this valve with the model “H”, (the previous “G” version was recommended to be installed in the 6 o’clock position)
- Optimized flow with nominal Size 14mm
- Pistons with O-ring and TEFLON guides for: reduced friction, reduced housing wear, constant response time
- Optimized guidance of moving parts by spacing of pistons
- Optimized poppet alignment to housing seat as design feature
- Robust stainless steel poppets with curled O-ring
- 2-piston design integrates pressure booster function (see chart on the right)
- Integrated return spring does not interfere with inlet or exhaust flow

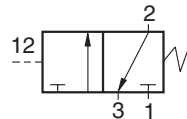
### ACTUATION

Maintained pressure signal to pilot, spring returned.  
Pilot pressure required, see chart below (min. 1 bar recommended).



## Block Cartridge Valve – Normally Closed, Spring Return

Model Number	D365H97
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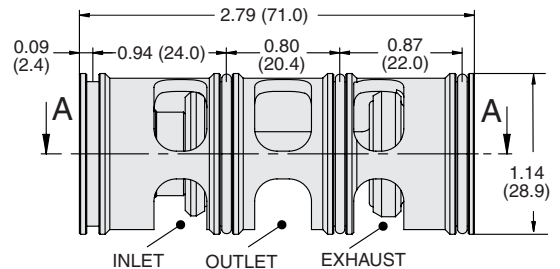
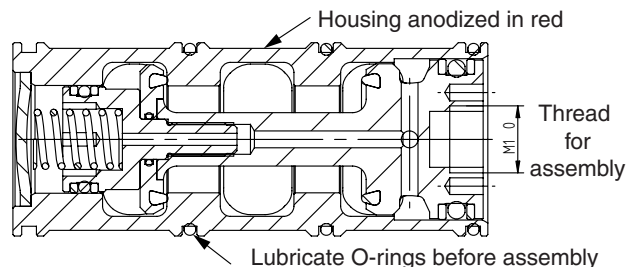


### OPERATION:

**Signal exhausted:** 1 closed, 2 exhausted via 3.

**Signal present:** 1 open to 2, 3 exhausted.

### Dimensions - inches (mm)



### Standard Specifications (for valve on this page):

**Poppet valve:** Viton-seals on metal seat.

**Body:** Aluminum alloy, anodized red.

**Piston:** Aluminum alloy.

**Poppet:** Stainless steel.

**Ambient/Media temperature:** 39° to 221°F (4° to 105°C).

**Flow media:** Filtered air.

**Operating pressure range:** 0 to 105 psig (0 to 7 bar).

**APPLICATIONS:** IS Glass Machines.

# PRODUCT DATA SHEET INFORMATION

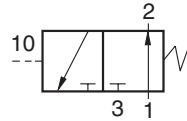


## 3/2 Valve Block Cartridge Valve – Size 14mm

For 21- or 26-Valve Block on IS Glass Machines

### Block Cartridge Valve – Normally Open, Spring Return

Model Number	D366H97
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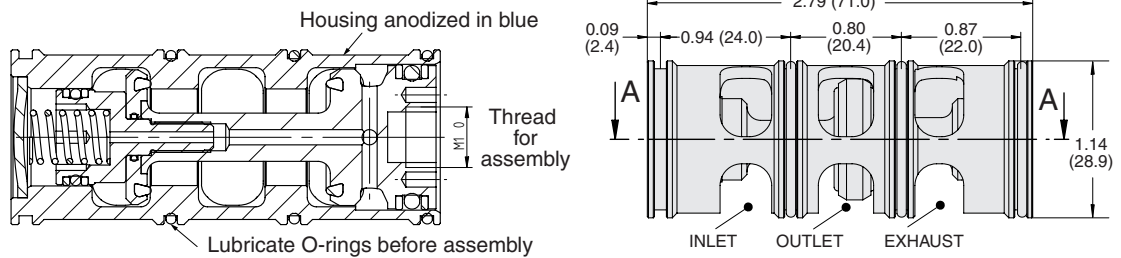


#### OPERATION:

Signal exhausted: 1 open, 2, 3 exhausted.

Signal present: 1 closed to 2 exhausted via 3.

#### Dimensions - inches (mm)



#### Standard Specifications (for valve on this page):

**Poppet valve:** Viton-seals on metal seat.

**Body:** Aluminum alloy, anodized blue.

**Piston:** Aluminum alloy.

**Poppet:** Stainless steel.

**Ambient/Media temperature:** 39° to 221°F (4° to 105°C).

**Flow media:** Filtered air.

**Operating pressure range:** 0 to 105 psig (0 to 7 bar).

For further inquiries please contact your nearest ROSS location,  
or your local distributor.

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## BLOW MOLD VACUUM VALVE

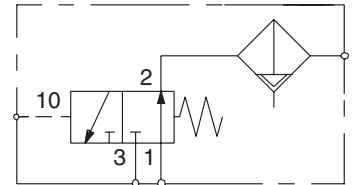
### 3/2 Directional Control Valve Normally Closed – Pressure Controlled



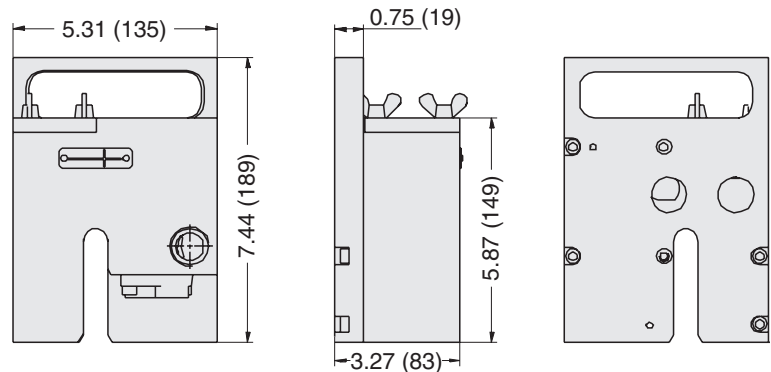
#### Features:

- High-speed poppet construction
- Viton-seals on metal seat
- Constant repeatability
- Specialized low-wear body-coating
- Hard piston coating
- Built-in steel filter
- Non-lube
- EMHART interface
- Integrated handle
- Special versions available, consult ROSS.

<b>Model Number</b>	<b>D1254A6907</b>
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#### Dimensions - inches (mm)



#### Standard Specifications:

**Construction:** Poppet.  
**Ambient Temperature:** 0° to 300° F (-17° to 150° C).  
**Media Temperature:** 0° to 300° F (-17° to 150° C).

**Flow Medium:** Vacuum service.  
**Inlet Pressure:** Vacuum to 0 psig (-1 to 0 bar).  
**Signal Pressure:** 30 to 150 psig (2 to 10 bar).

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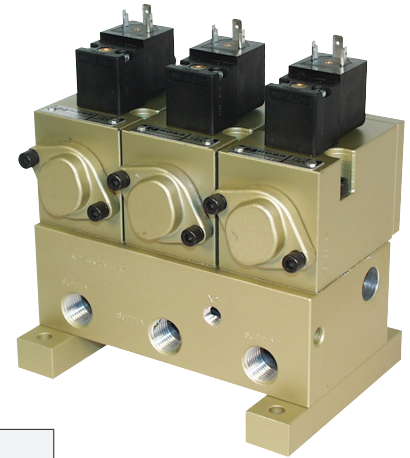
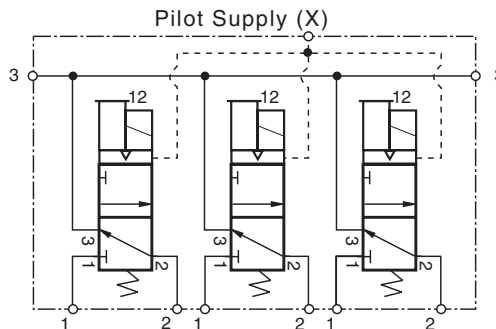


## PLUNGER UP OR DOWN, COOLING VALVE MANIFOLD

### 3/2 Directional Control Valve Manifold Design

#### Features:

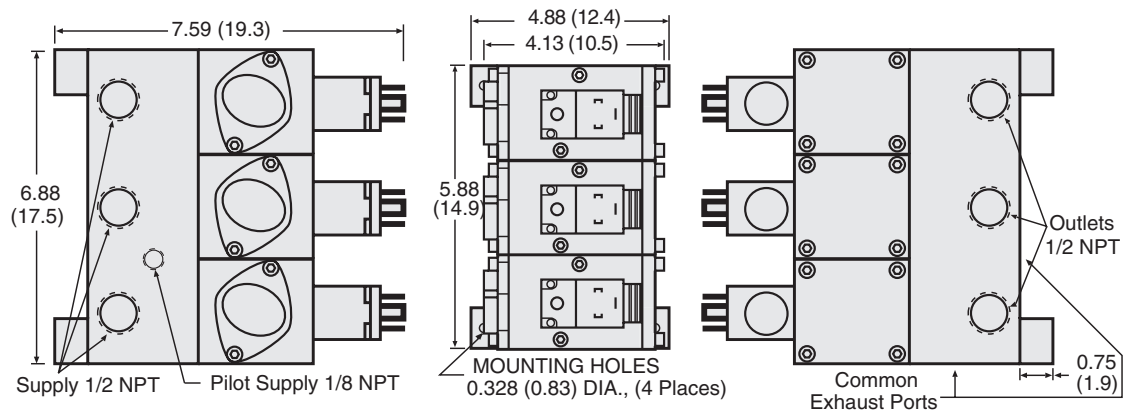
- Non-friction seat seals
- High-speed poppet valves
- Constant repeatability
- Non-lube



Model Number	Qty.	Description
2173E5943	3	Hi-temp solenoid pilot valves
801H91*	1	Common inlet manifold for Cooling applications
802H91*	1	Individual inlet manifold for Plunger-Up applications

\*Only one manifold is needed. Use 801H91 for Cooling applications or 802H91 for Plunger-Up applications.

#### Dimensions - inches (mm)



#### Standard Specifications:

**Construction:** Poppet.

**Solenoid Pilot:** Rated for continuous duty.

**Standard Voltages:** 100-110 volts AC, 50 Hz; 100-120 volts AC, 60 Hz; 110 volts DC, 24 volts DC.

**Power Consumption** (each solenoid): 8 VA inrush, 6 VA holding

on 50 or 60 Hz; 6 watts on DC.

**Flow Media:** Filtered air.

**Ambient Temperature:** 0° to 250° F (-17° to 122° C).

**Media Temperature:** 0° to 300° F (-17° to 150° C).

**Inlet Pressure:** 30 to 150 psig (2 to 10 bar).

#### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block
- Blow Head On/Off
- Blow Mold Vacuum
- Blow Pistol
- Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure
- Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close
- Plunger Up or Down, Cooling
- Proportional Valve
- Pusher

#### WARRANTY, CAUTIONS and WARNINGS

Standard ROSS warranty, cautions and warnings apply, available upon request or at [www.rosscontrols.com](http://www.rosscontrols.com).

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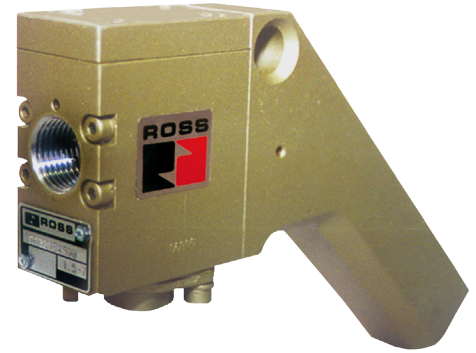


# PRODUCT DATA SHEET INFORMATION



## BLOW PISTOL VALVE

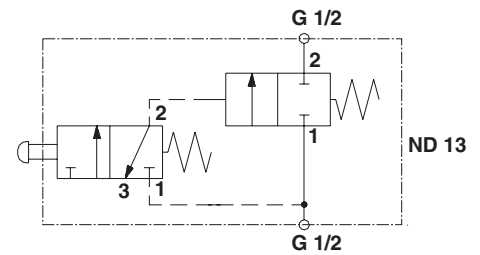
### 2/2 Directional Control Valve Normally Closed – Manually Operated



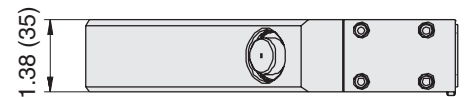
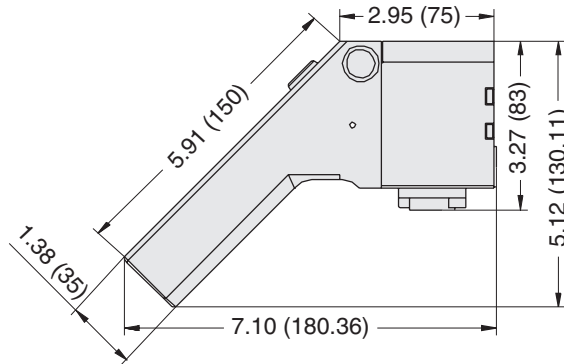
#### Features:

- Poppet construction
- High flow, low pressure
- Resilient seal on metal seat
- Integrated handle

<b>Model Number</b>	<b>D1221B4900</b>
---------------------	-------------------



#### Dimensions - inches (mm)



#### Standard Specifications:

**Construction:** Poppet.

**Ambient Temperature:** 40° to 175° F (4° to 80° C).

**Media Temperature:** 40° to 175° F (4° to 80° C).

**Flow Medium:** Filtered air.

**Inlet Pressure:** 5 to 150 psig (0.3 to 10 bar).

#### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block • Blow Head On/Off • Blow Mold Vacuum • Blow Pistol • Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure • Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close • Plunger Up or Down, Cooling • Proportional Valve • Pusher



#### WARRANTY, CAUTIONS and WARNINGS

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# PRODUCT DATA SHEET INFORMATION



## PROPORTIONAL VALVE – PLUNGER CONTROL, COUNTERBLOW, FINAL BLOW

Poppet valve with force-balanced valve elements, one valve element being used for pressurizing the downstream system.

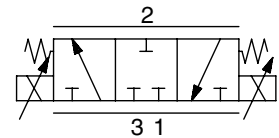
### Features:

- Proportional pressurizing and exhausting
- Poppet construction
- “Plug-and-play” concept
- Excellent hysteresis
- Long service life
- Various interfaces available
- Digital control
- Self-adjusting zero-point
- Customer-specific electrical supply

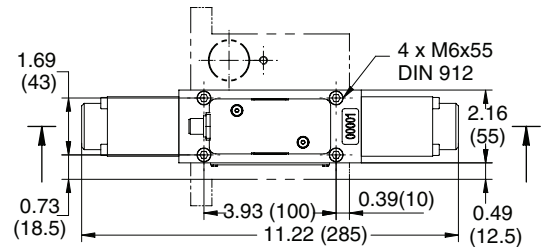
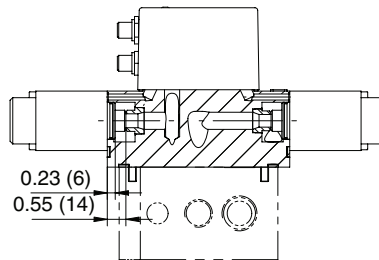
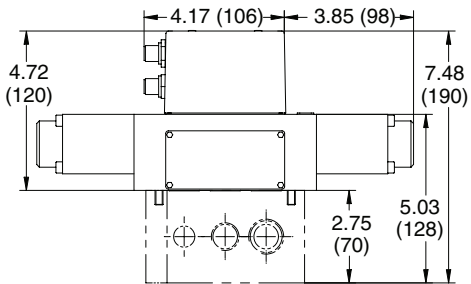


IP 65,  
water-resistant

<b>Model Number</b>	<b>01-SOP-03-00-0-0</b>
For other models, contact ROSS.	



### Dimensions - inches (mm)



### Standard Specifications:

**Construction:** Poppet.

**Actuator:** Proportional solenoid.

**Ambient Temperature:** 32° to 158° F (0° to 70° C).

**Flow Media:** Filtered air.

**Inlet Pressure:** 80 psi (5.5 bar) max. 100.\*

**Operating Pressure:** 0 to 50 (0 to 3.5 bar) max.\*

\*For other pressures consult ROSS.

### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block • Blow Head On/Off • Blow Mold Vacuum • Blow Pistol • Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure • Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close • Plunger Up or Down, Cooling • Proportional Valve • Pusher



### WARRANTY, CAUTIONS and WARNINGS

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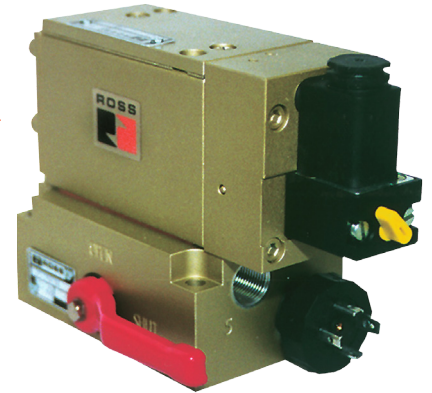
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# PRODUCT DATA SHEET INFORMATION



## PUSHER VALVE

### 5/2 Cartridge Poppet Valve Solenoid Pilot Operated - Internal Pilot Supply

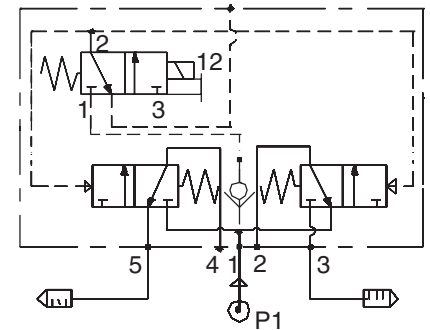


#### Features:

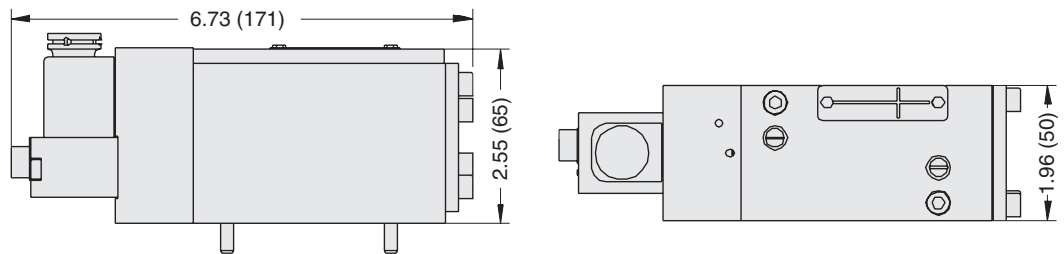
- High-speed poppet construction
- Constant repeatability
- Non-friction seat seals
- Non-lube
- Viton-seals on metal seat
- Solenoid, remote pilot options
- Dual pressure options
- Special versions available

<b>Model Number*</b>	<b>D2176D2903</b>
*Can be used for replacement of <b>W7476A2910</b> .	

**Size:** ND 9, for existing ANSI-sub-base (Cv = 1), e.g., W500B91.  
ISO interface also available.



#### Dimensions - inches (mm)



#### Standard Specifications:

**Construction:** Poppet.

**Solenoid Pilot:** Rated for continuous duty.

**Standard Voltages:** 200-240 volts AC, 50/60 Hz; 100-120 volts AC, 50/60 Hz; 110 volts DC; 24 volts DC.

**Power Consumption** (each solenoid): 10.9 VA max. inrush, 8.5 VA

max. holding on 50 or 60 Hz; 6.5 watts nominal on DC.

**Ambient Temperature:** 0° to 175° F (-17° to 80° C).

**Media Temperature:** 0° to 300° F (-17° to 150° C).

**Flow Medium:** Filtered air.

**Inlet Pressure:** 15 to 90 psig (1 to 6 bar).

#### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block • Blow Head On/Off • Blow Mold Vacuum • Blow Pistol • Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure • Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close • Plunger Up or Down, Cooling • Proportional Valve • Pusher



#### WARRANTY, CAUTIONS and WARNINGS

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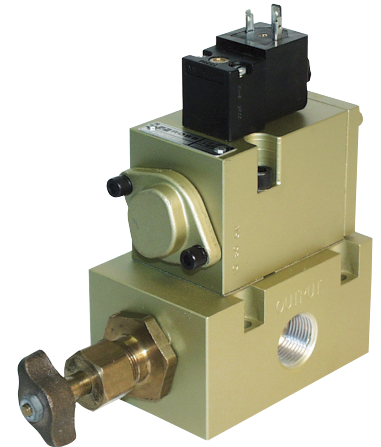


## FINAL BLOW, SETTLE BLOW, FINISH COOLING VALVES

### 3/2 Valve – High-Speed Poppet Design

#### Features:

- Non-friction seat seals
- High-temperature service
- Solenoid, remote pilot options
- Non-lube
- Specialized low-wear body coating
- Quick exhaust models available
- Locking or non-locking manual overrides
- Pressure booster option\*
- High-speed poppet design



ROSS Slim Line Glass Valve and Base with Shut-off

### Slim Line Valves

Operation	Position	Description	Model Number
Pressure Controlled	Normally Closed	Valve (signal port in valve)	2153D5915
		Valve with Pressure Booster	2153D5916
		Valve with Quick Exhaust	2153D5917
		Valve with Pressure Booster & Quick Exhaust	2153D5918
		Valve (signal port through base)	2153D5933
		Valve with Quick Exhaust	2153D5937
Solenoid Pilot Controlled	Normally Closed	Valve (standard configuration)	2173D5943
		Valve with Quick Exhaust	2173D5941
		Valve with Quick Exhaust with Locking Manual Override	2173D5964
		Valve with Quick Exhaust & Pressure Booster	2173D5942
		Valve with Locking Manual Override	2173D5963
	Normally Open	Valve (standard configuration)	2174B5920
		Valve with Pressure Booster	2174B5917
		Valve with Quick Exhaust	2174B5918
		Valve with Quick Exhaust & Pressure Booster	2174C5919
		Valve with Locking Manual Override	2174B5921

#### Standard Specifications:

**Construction:** Poppet.

**Solenoid Pilot:** Rated for continuous duty.

**Standard Voltages:** 100-110 volts AC, 50 Hz; 100-120 volts AC, 60 Hz; 110 volts DC.

**Power Consumption:** 8 VA inrush, 6 VA holding on 50 or 60 Hz; 6 watts nominal on DC.

**Ambient Temperature:** 0° to 250° F (-17° to 122° C).

**Media Temperature:** 0° to 300° F (-17° to 150° C).

**Flow Media:** Filtered air.

**Inlet Pressure:** 30 to 150 psig (2 to 10 bar)\*.

\*Pressure Booster option may allow for operation with inlet and pilot pressures lower than 30 psig (2 bar). Consult ROSS for specifics.



**Applications:** IS Glass Machines.

ROSS CONTROLS®

www.rosscontrols.com



## Pressure Boosters and Quick Exhausts

*ROSS Slim Line valves are available with Pressure Boosters and Quick Exhausts!*

### Use A Quick Exhaust When:

- Exhaust cycle of the signal valve is too slow (i.e., 21-Valve block)
- Better repeatability is needed
- A decrease in time between cycles is needed
- Over-Lubrication is the cause of pooling oil in the valve pilot section or in the line from the signal valve to the main valve

### Use A Pressure Booster When:

- Signal pressure is below 30 psi (2 bar)
- Line pressure is higher than signal pressure
- Greater repeatability is needed

## Slim Line Bases

Number of Stations	Port Size	Description	Model Number
Single Station	3/4	Side Ported	850H91
	3/4	Side Ported with Shutoff	868G91
	3/4	Bottom Ported Inlet with Shutoff	852G91
Dual Station	3/4 (BSPP)	Common Supply (For Cooling)	D846H91
	3/4" (BSPP)	Individual Supply Ports (For Plunger)	D847H91
	1/2	Individual Supply Ports (For Plunger)	880H91
Three Station	1/2	Common Supply and Exhaust (Cooling Manifold)	801H91
	1/2	Individual Supply Ports, Common External Pilot Port & Exh. Ports (Plunger Up)	802H91
	1/2	Common Supply & Exhaust Ports, Individual External Pilot Ports	881H91
	1/2	Plunger Up, Individual Supply Ports & External Pilot Ports, External Pilot Port Above Outlet	882H91
	1/2	Common Supply, Ext. Pilot & Exhaust Ports (Cooler Manifold), External Pilot Port Above Outlet	883H91
	1/2	Plunger Up, Individual Supply Ports, Common External Pilot Port & Exhaust Ports, External Pilot Port Above Outlet	884H91

### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block
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- Blow Mold Vacuum
- Blow Pistol
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- Counterblow Vacuum or Hi-Lo Pressure
- Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close
- Plunger Up or Down, Cooling
- Proportional Valve
- Pusher

Your local ROSS distributor is:



### WARRANTY, CAUTIONS and WARNINGS

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# PRODUCT DATA SHEET INFORMATION



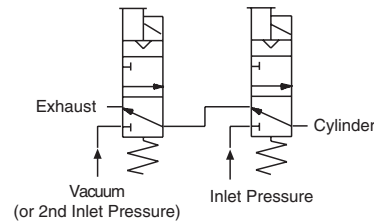
## COUNTERBLOW VACUUM OR HI-LOW PRESSURE VALVE

### 3/2 Directional Control Valve, High-Speed Poppet Design

#### Features:

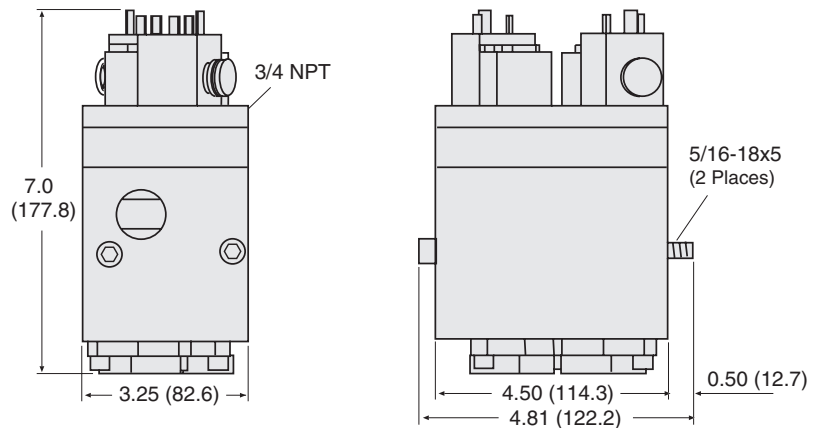
- High-speed poppet construction
- Consistent repeatability
- Non friction seat seals
- Non-lube
- Specialized low-wear body-coating
- Pressure booster option\*
- Solenoid, remote pilot options
- Non-locking manual overrides
- Base options

For options, consult ROSS.



<b>Model Number</b>	<b>2175C5912</b>
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#### Dimensions - inches (mm)



#### Standard Specifications:

**Construction:** Poppet.

**Solenoid Pilot:** Rated for continuous duty.

**Standard Voltages:** 200-240 volts AC, 50/60 Hz; 100-120 volts AC, 50/60 Hz; 110 volts DC; 24 volts DC.

**Power Consumption** (each solenoid): 10.8 VA inrush, 8.5 VA holding on 50 or 60 Hz; 6 watts on DC.

**Ambient Temperature:** 0° to 175° F (-17° to 80° C).

**Media Temperature:** 0° to 300° F (-17° to 150° C).

**Flow Media:** Filtered air.

**Inlet Pressure:** 30 to 150 psig (2 to 10 bar).\*

\*Pressure Booster option may allow for operation with inlet and pilot pressures lower than 30 psig (2 bar). Consult ROSS for specifics.

#### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block • Blow Head On/Off • Blow Mold Vacuum • Blow Pistol • Cartridge Valve, Open or Closed
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<b>ROSS CANADA</b> (6077170 CANADA INC. AN INDEPENDENT REPRESENTATIVE)	Canada	Tel: 1-416-251-7677 (416-251-ROSS)	web site: <a href="http://www.rosscanada.com">www.rosscanada.com</a>

# PRODUCT DATA SHEET INFORMATION



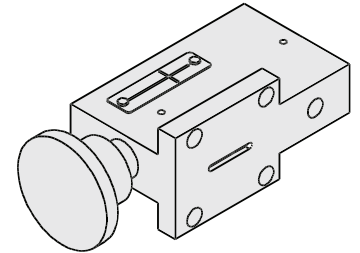
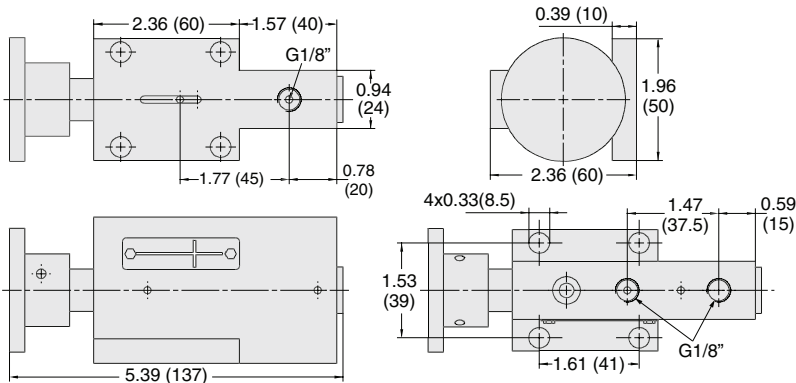
## KICK-OFF VALVES

### Controlling Mould Open/Close, Blow Head Operations and other Functions on IS Glass Machines

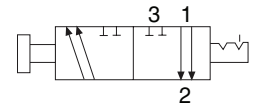
#### Space Saving Double Function

<b>Model Number</b>	<b>D1223A1901</b>
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Dimensions - inches (mm)



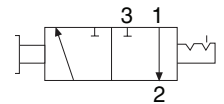
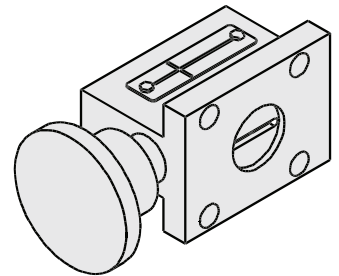
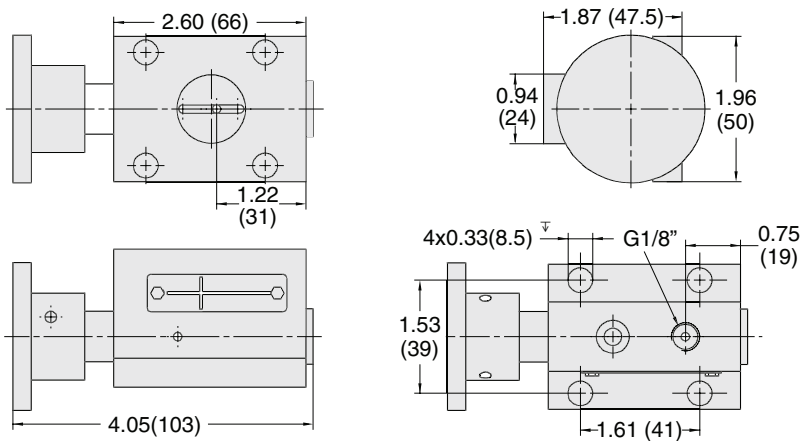
Model with Kick-Off Valve mounted on the right-side



#### Space Saving Single Function

<b>Model Number</b>	<b>D1223A1902</b>
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Dimensions - inches (mm)



Applications: IS Glass Machines.

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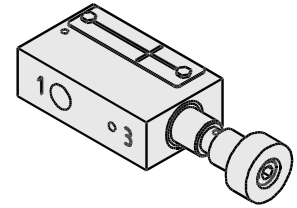
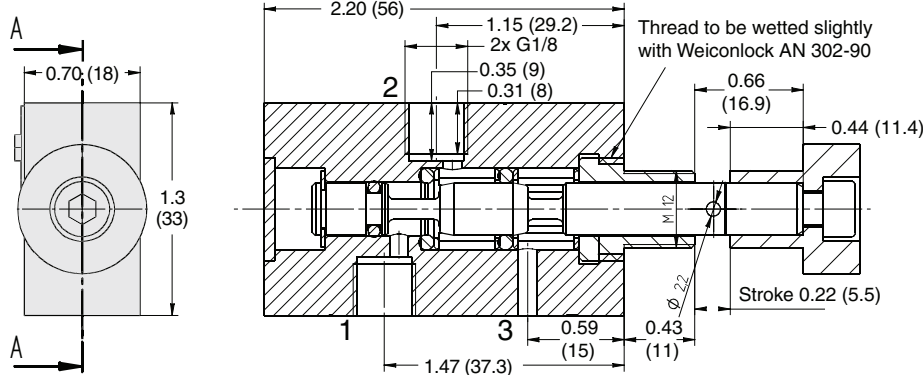
# Kick-Off Valves - Controlling Mould Open/Close, Blow Head Operations and other Functions on IS Glass Machines



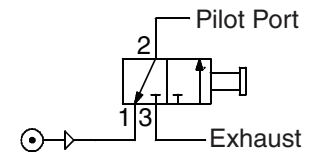
## Miniature Single Function

Model Number	D1223A1903
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Dimensions - inches (mm)



Handle pulled: 1 connected with 2  
Handle pushed: 2 connected with 3

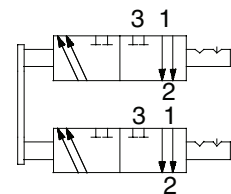
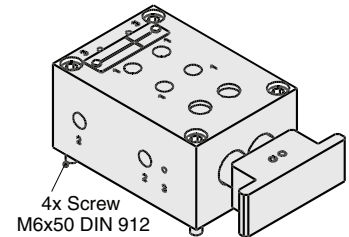
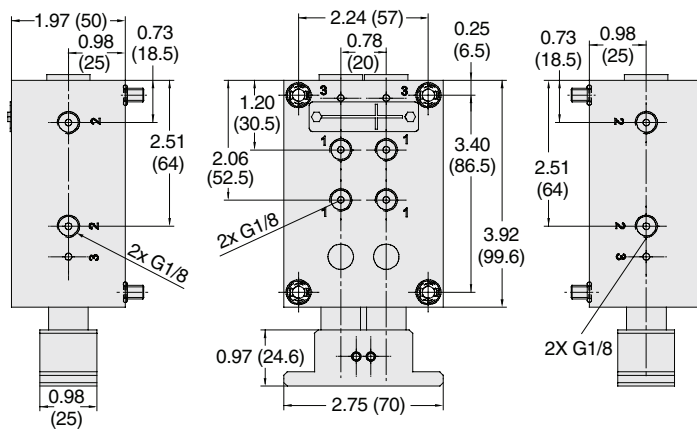


Test pressure: 4 bar

## Standard Triple or 4-Fold Output

Model Number	D1223A1904
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Dimensions - inches (mm)



### ROSS VALVES FOR IS GLASS MACHINES:

- 21-Valve Block
- Blow Head On/Off
- Blow Mold Vacuum
- Blow Pistol
- Cartridge Valve, Open or Closed
- Counterblow Vacuum or Hi-Lo Pressure
- Final Blow, Settle Blow, Finish Cooling, Blow Off
- Mold Open/Close
- Plunger Up or Down, Cooling
- Proportional Valve
- Pusher

Your local ROSS distributor is:



### WARRANTY, CAUTIONS and WARNINGS

Standard ROSS warranty, cautions and warnings apply, available upon request or at [www.rosscontrols.com](http://www.rosscontrols.com).

ROSS CONTROLS	USA	Tel: Tech. Svs. 1-888-TEK-ROSS / Cust. Svs. 1-800-GET-ROSS	web site: <a href="http://www.rosscontrols.com">www.rosscontrols.com</a>
ROSS EUROPA GmbH	Germany	Tel: 49-6103-7597-0	web site: <a href="http://www.rosseuropa.com">www.rosseuropa.com</a>
ROSS ASIA K.K.	Japan	Tel: 81-42-778-7251	web site: <a href="http://www.rossasia.co.jp">www.rossasia.co.jp</a>
ROSS UK Ltd.	UK	Tel: 44-1543-671495	web site: <a href="http://www.rossuk.co.uk">www.rossuk.co.uk</a>
ROSS SOUTH AMERICA Ltda.	Brazil	Tel: 55-11-4335-2200	email: <a href="mailto:vendas@rosscontrols.com">vendas@rosscontrols.com</a>
ROSS CONTROLS INDIA Pvt. Ltd.	India	Tel: 91-44-2624-9040	email: <a href="mailto:ross.chennai@rosscontrols.com">ross.chennai@rosscontrols.com</a>
ROSS CONTROLS (CHINA) Ltd.	China	Tel: 86-21-6915-7961	web site: <a href="http://www.rosscontrolschina.com">www.rosscontrolschina.com</a>
ROSS FRANCE S.A.S.	France	Tel: 33-1-49-45-65-65	web site: <a href="http://www.rossfrance.com">www.rossfrance.com</a>
ROSS CANADA	Canada	Tel: 1-416-251-7677 (416-251-ROSS)	web site: <a href="http://www.rosscanada.com">www.rosscanada.com</a>
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