

ROSS Valves for Glass Machines



Cartridge



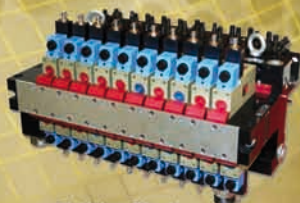
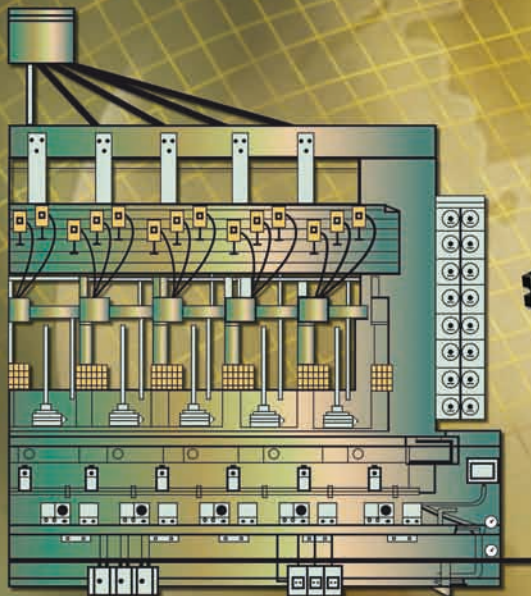
BlowHead On/Off



Pusher



Blow Mold Vacuum



21-Valve-Block



Proportional Regulator



Blow Pistol



Counterblow Vacuum
or Hi-Lo Pressure



Plunger Up or
Down Cooling



Final Blow, Settle Blow
Finish Cooling, Blow Off



Mold Open/Close

21 Valve Block —

The Compact Solution for Minimized Downtimes on IS Glass Machines

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

STANDARD SPECIFICATIONS

Temperature Range:

Ambient: 4° to 80°C.

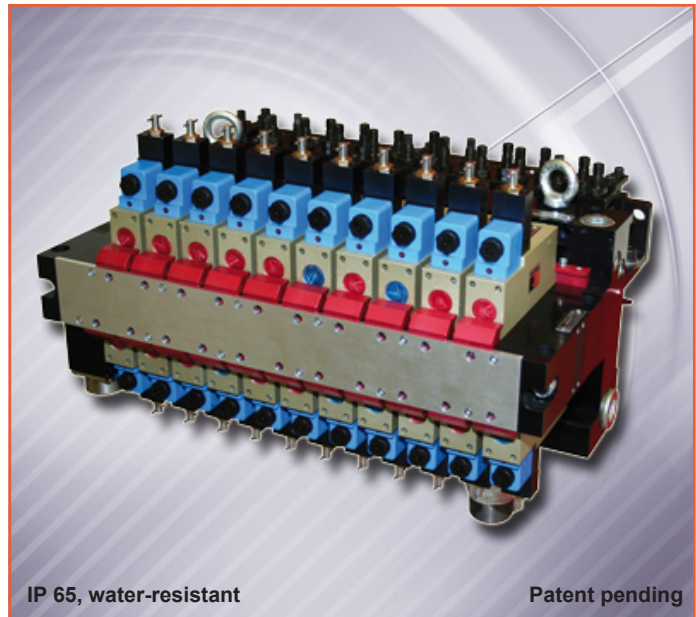
Media: 4° to 105°C.

Flow Media: Filtered air.

Pressure Range: 1 to 10 bar.

Pilot Pressure: Must be equal to or greater than inlet pressure, but should not exceed maximum inlet pressure.

Enclosure Rating: IP 65, power consumption 3.5 W nominal



Save Time and Money with The new 21-Valve-Block

Quick exchange of faulty valves (approximately 20 seconds per item), due to the special ROSS "one-touch snap-mechanism" (patent pending).

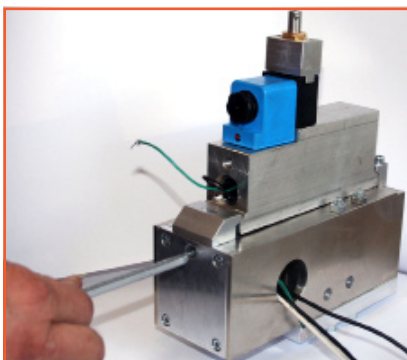


Photo illustrates easy exchange handling. Only one central screw needs to be turned during exchange process.

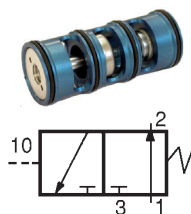
Valves used in the block are easy-to-service cartridge valves in normally open and normally closed version.

See ROSS Glass Info Sheets Form RE-E-A10209 and Form RE-E-A10210 for detailed information on these products.

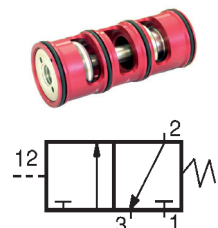
Model-No. D366G97

Model-No. D365G97

Normally Open



Normally Closed



We reserve the right to introduce technical modifications without notice.

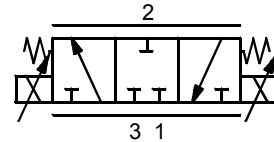
PROPORTIONAL VALVE

Plunger Control, Counterblow, Final Blow

- 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



Model Number: 01-SOP-03-00-0-0
(For other models, contact ROSS)



DESIGN FEATURES

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

Housing: Aluminum alloy

Actuator: Proportional solenoid.

TECHNICAL SPECIFICATIONS

Flow medium: Compressed air or other neutral gases

Ambient temperature: 0° to 70° C

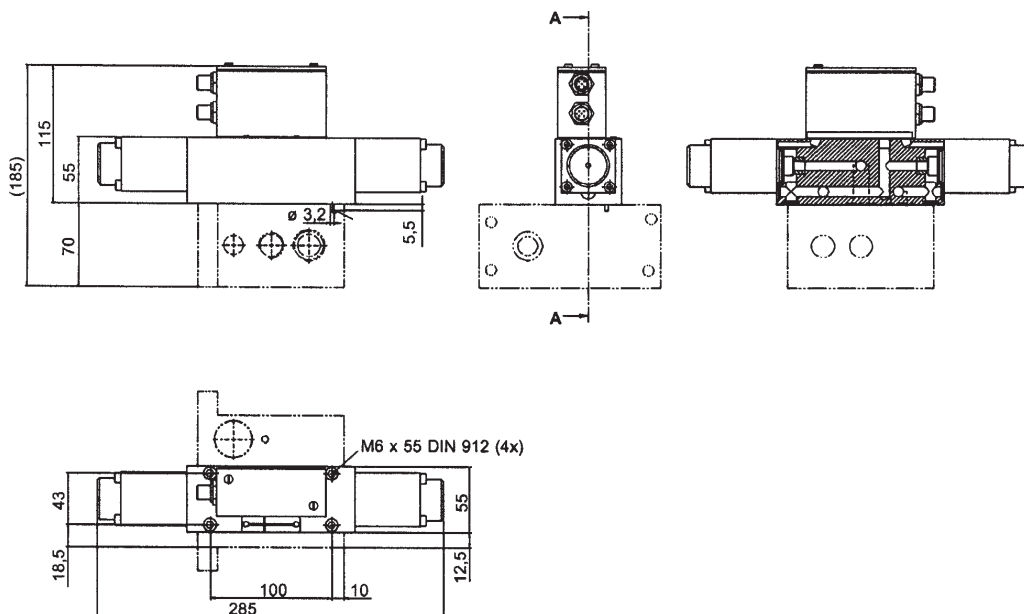
Inlet pressure: 5.5 bar max.*

Operating pressure: 0 to 3.5 bar max.*

* For other pressures, contact ROSS.

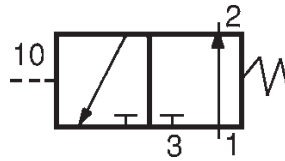
We reserve the right to introduce technical modifications without notice.

Dimensions - mm



CARTRIDGE SIZE 14mm for 21-Valve Block on I/S Glass Machines

3/2-Way, Normally Open — Blue Housing



**Model Number:
D366G97**

- Optimized flow with nominal Size 14 mm
- 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 poppet with curled O-Ring
- 2-piston design integrates pressure booster function (see graph below)
- Integrated return spring does not interfere with inlet or exhaust flow

DESIGN

Poppet valve: Viton-seals on metal seat.

Body: Aluminum alloy, anodized

Piston: Aluminum alloy

Poppet: Stainless steel

ACTUATION

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

OPERATION

Signal exhausted: 1 open to 2, 3 exhausted.

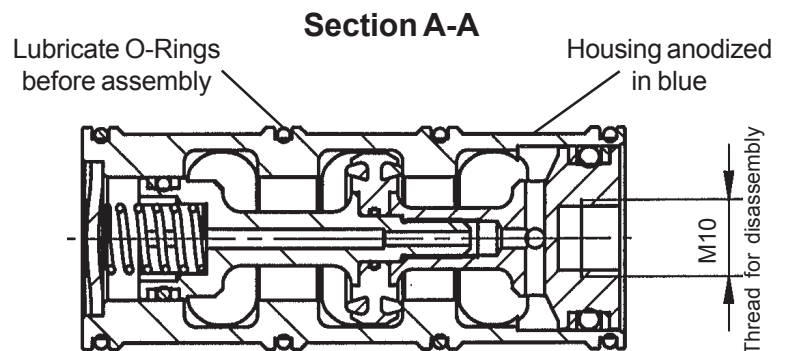
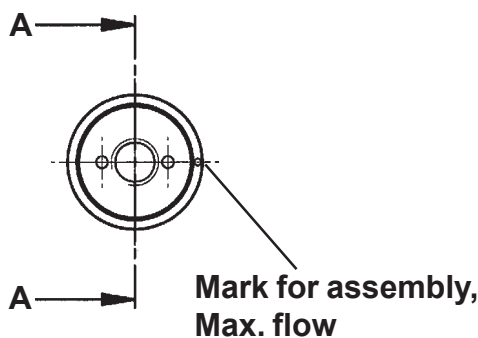
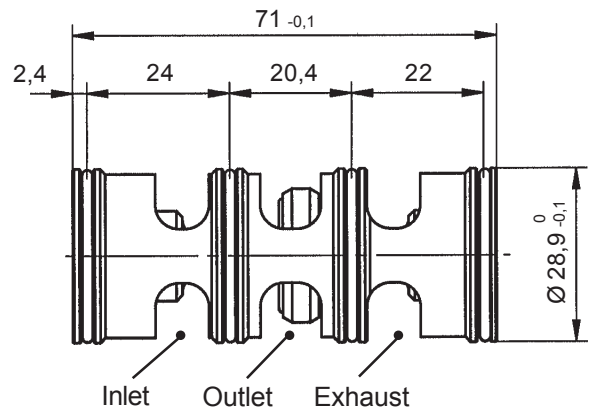
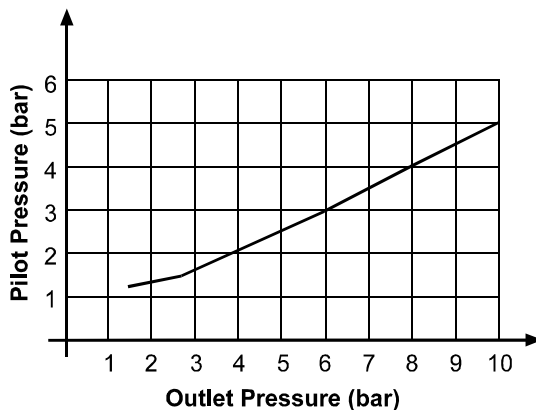
Signal present: 1 closed, 2 exhausted via 3.

Operating pressure range: 0 - 10 bar.

CHARACTERISTICS

Ambient/Media temperature: 4°C to 105°C

Flow medium: compressed air, filtered

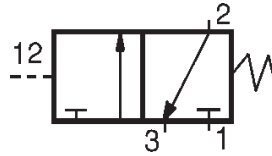


Subject to technical change.



CARTRIDGE SIZE 14mm for 21-Valve Block on I/S Glass Machines

3/2-Way, Normally Closed — **Red Housing**



**Model Number:
D365G97**

- Optimized flow with nominal Size 14 mm
- 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 graph)
- Integrated return spring does not interfere with inlet or exhaust flow

DESIGN

Poppet valve: Viton-seals on metal seat.

Body: Aluminum alloy, anodized

Piston: Aluminum alloy

Poppet: Stainless steel

ACTUATION

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

OPERATION

Signal exhausted: 1 closed, 2 exhausted via 3.

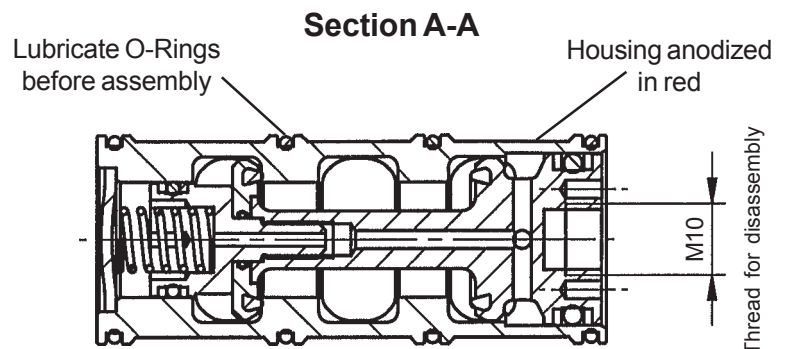
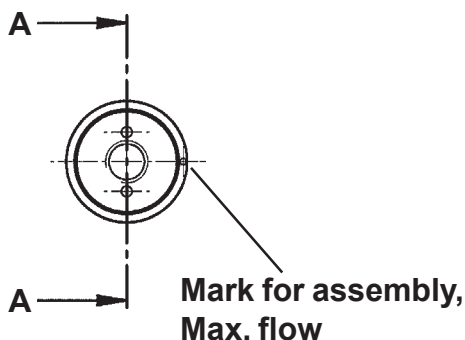
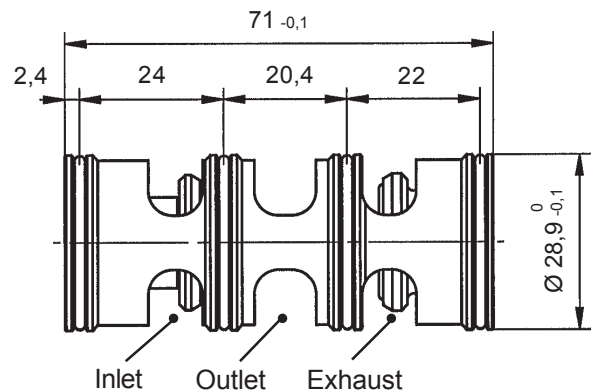
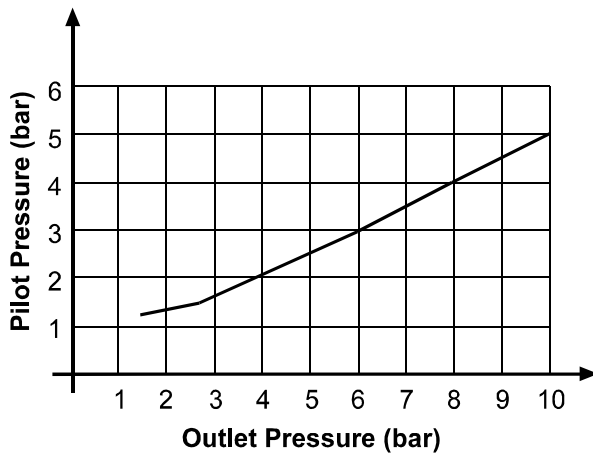
Signal present: 1 open to 2, 3 exhausted.

Operating pressure range: 0 - 10 bar.

CHARACTERISTICS

Ambient/Media temperature: 4°C to 105°C

Flow medium: compressed air, filtered



Subject to technical change.

BLOW MOLD VACUUM VALVE

3/2 Directional Control Valve - Normally Closed - Pressure Operated

- High-speed poppet construction
- Constant repeatability
- Specialised low-wear body-coating
- Hard piston coating
- Non-lube
- Built-in steel filter
- EMHART interface
- Integrated handle
- Special versions available



Model Number: D2154A6907

DESIGN

Poppet Valve: Viton-seals on metal seat.

Body: Aluminum alloy, anodized.

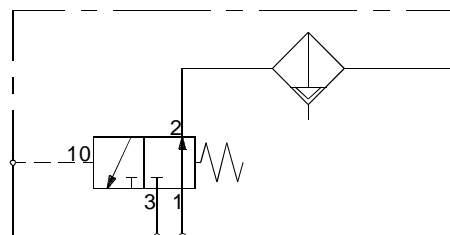
Piston: Hard coated,
original OEM steel filter.

STANDARD SPECIFICATIONS

Flow Medium: Vacuum service.

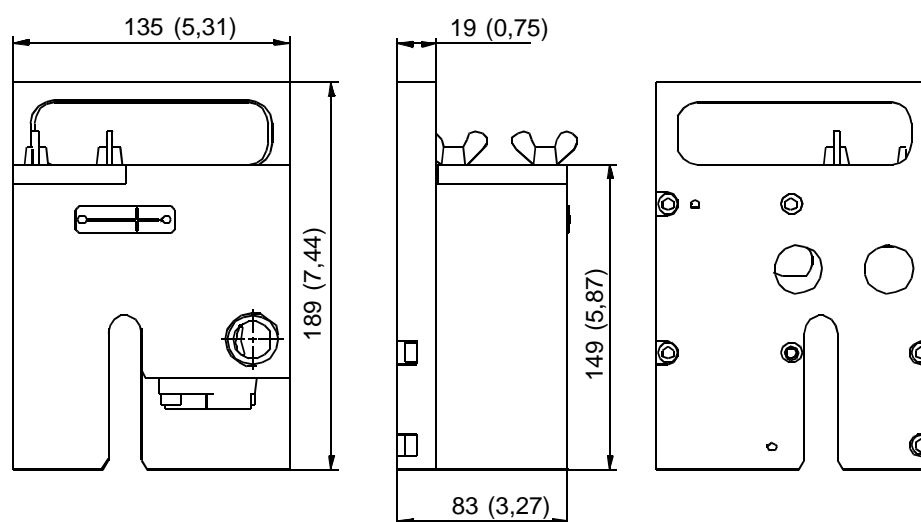
Ambient Temperature: -17° to 150° C (0° to 300° F).

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



We reserve the right to introduce technical modifications.

Dimensions - mm (inches)



BLOW PISTOL

2/2 Directional Control Valve - Normally Closed - Manually Operated

- Poppet construction
- High flow, low pressure
- Integrated handle
- Safety approvals



DESIGN

Poppet Valve: Resilient seal on metal seat.

Housing Material: Aluminum alloy.

Push Button: Aluminum.

Model Number: D1221B4900

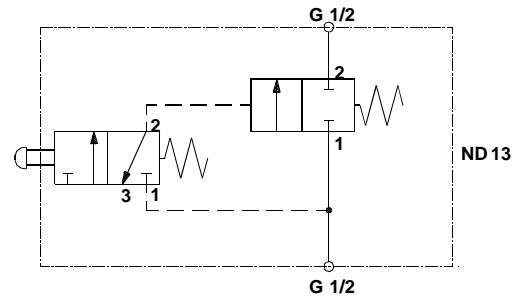
STANDARD SPECIFICATIONS

Flow Medium: Compressed air, filtered.

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

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

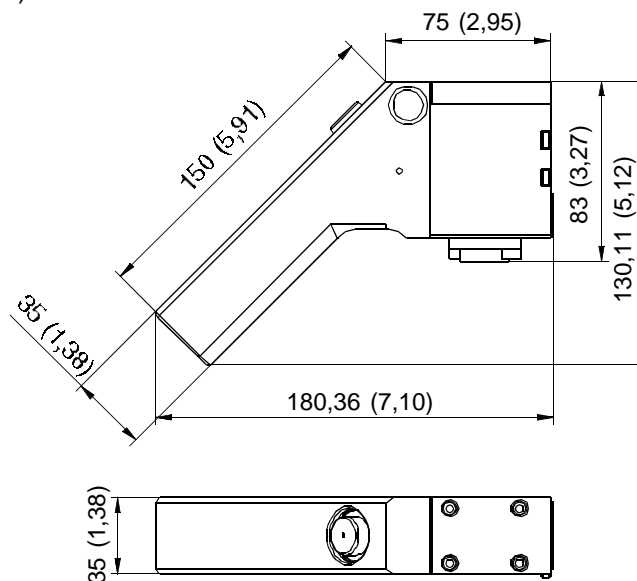
Inlet Pressure: 0,3 to 10 bar (5 to 150 psig)



ND 13

We reserve the right to introduce technical modifications.

Dimensions - mm (inches)



COUNTERBLOW VACUUM or Hi-Lo PRESSURE

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

- High-speed poppet construction
- Constant repeatability
- Non friction seat seals
- Non-lube
- Specialised low-wear body-coating
- Pressure booster option
- Solenoid, remote pilot options
- Locking, non locking manual overrides
- Base options



Model Number: 2175C5912

STANDARD SPECIFICATIONS

Solenoids: Standard voltages 200-240 volts 50/60 Hz; 100-120 volts 50/60 Hz; 110 volts d.c. 24 volts d.c.

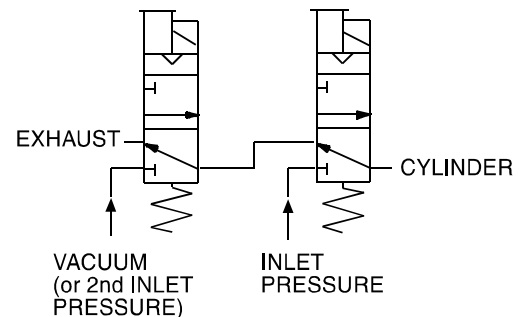
Power Consumption: 10,8 VA inrush, 8,5 VA holding on 50 or 60 Hz; 6 watts on d.c.

Flow Medium: Filtered air.

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

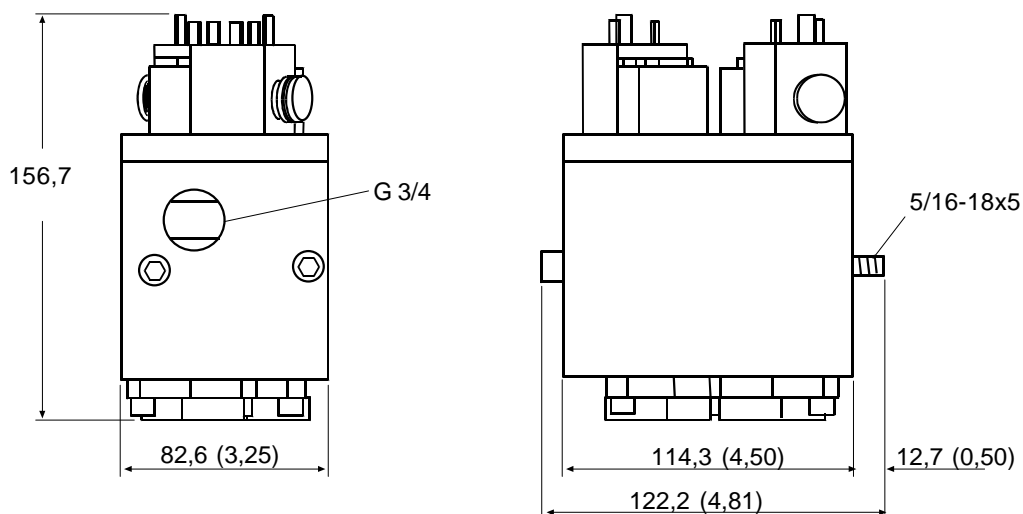
Media Temperature: -17° to 150° C (0° to 300° F).

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



We reserve the right to introduce technical modifications.

Dimensions - mm (inches)



COUNTERBLOW VACUUM or Hi-Lo PRESSURE

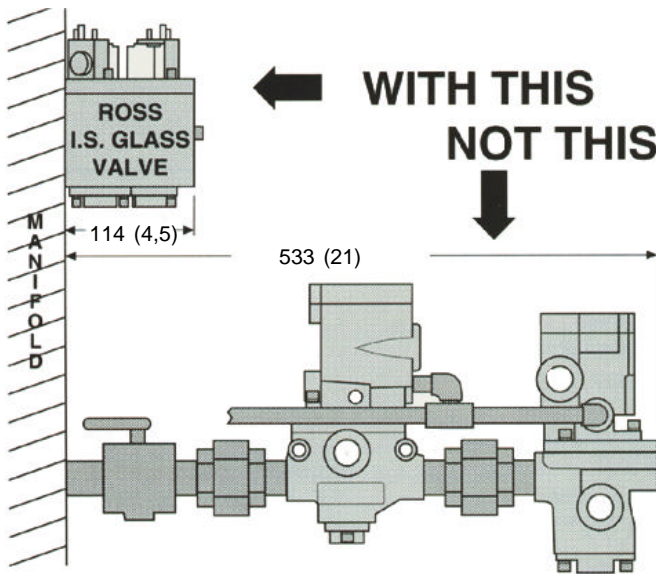
3/2 Directional Control Valve - High-Speed Poppet Design

REDUCE:

- Piping
- Number of Fittings
- Maintenance
- Downtime
- Labor Cost
- Volume to be Evacuated
- Compressed Air Usage

INCREASE:

- Reaction Speed
- Repeatability
- Flexibility: Ports located to suit user's piping
- Output
- PROFITS



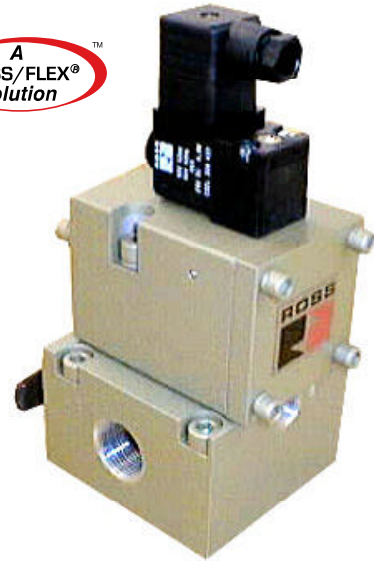
INSTALLATION COMPARISON (For Three-Gob System)

	ROSS	Present Std.
Space Needed	385 in ³	5250 in ³
Time to Change-Out	< 1 min.	> 1 hour
Response Speed	RAPID	SLOW
Nipples	0	15
Petcocks	0	3
Unions	0	12
Tees	0	6
Elbows	0	8
Hard-wired junction boxes	0	6
Length of tubing	0	about 16 ft.
Threads to be made	12	75

FINAL BLOW, SETTLE BLOW, FINISH COOLING, BLOW OFF

3/2 Directional Control Valve - Pressure Booster Options

- High-speed poppet construction
- Constant repeatability
- Non friction seat seals
- Non-lube
- Specialised low-wear body-coating
- Quick exhaust, pressure booster options
- Locking, non-locking manual overrides
- Special base options



Model Numbers
D2173A5950 (Valve)
D749G91 (Base)

STANDARD SPECIFICATIONS

Solenoids: Standard voltages 200-240 volts 50/60 Hz;
 100-120 volts 50/60 Hz; 110 volts d.c. 24 volts d.c.

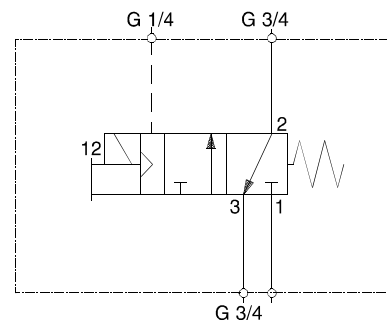
Power Consumption: 30 VA inrush, 16 VA holding on 50
 or 60 Hz; 11 watts on d.c.

Flow Medium: Filtered air.

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

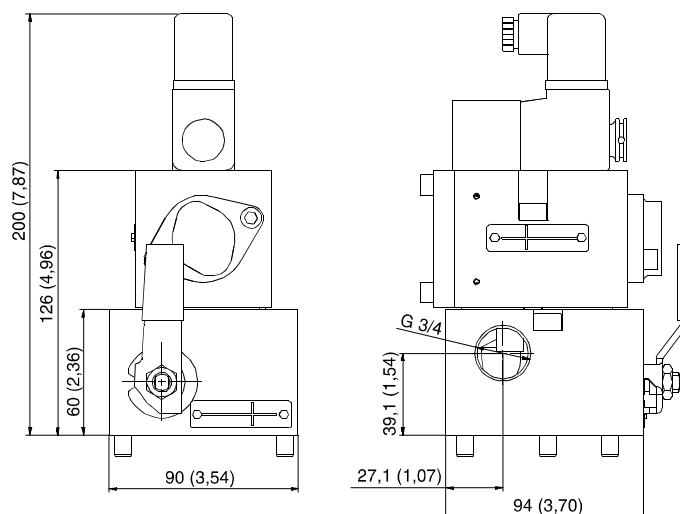
Media Temperature: -17° to 150° C (0° to 300° F).

Inlet Pressure: 2 to 10 bar (30 to 150 psig).
 Consult ROSS for lower inlet pressure.



We reserve the right to introduce technical modifications.

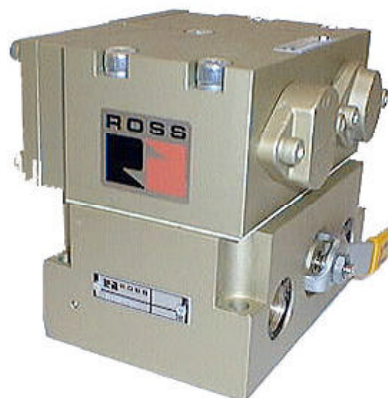
Dimensions - mm (inches)



MOLD OPEN / CLOSE VALVE

3/2 Directional Control Valve - Pressure Operated with Pressure Booster

- High-speed poppet construction
- Constant repeatability
- Non-friction seat seals
- Non-lube
- Specialised low-wear body-coating
- Blowhead compatible
- Separate kick-off available
- Built-in flow controls and inlet shut-off
- Built-in pressure boosters
- Special base and two signal options



Model Number: D3900B0700

DESIGN

Poppet Valve: Viton-seals on metal seats.

Body: Aluminum alloy, anodized.

STANDARD SPECIFICATIONS

Flow Medium: Compressed air, filtered.

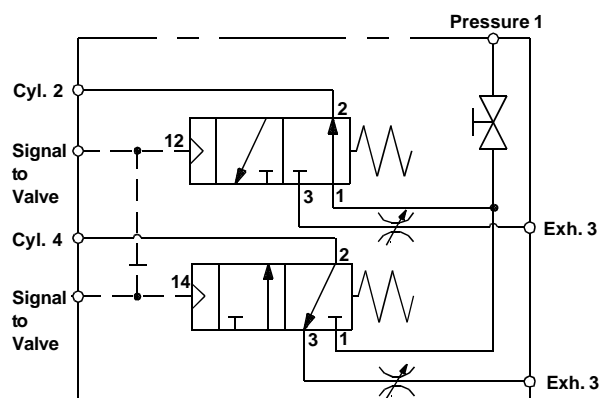
Ambient Temperature: -17° to 150° C (0° to 300° F)

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

Kick-off Valve

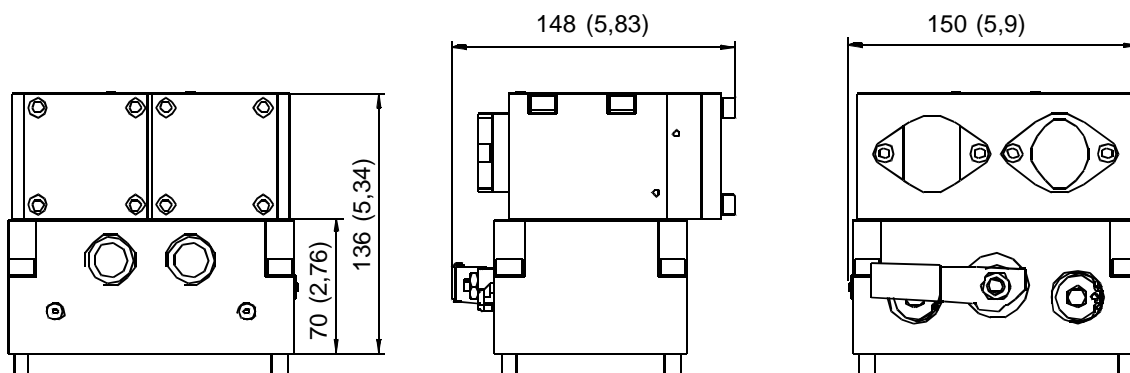


Model Number: D1223A1900



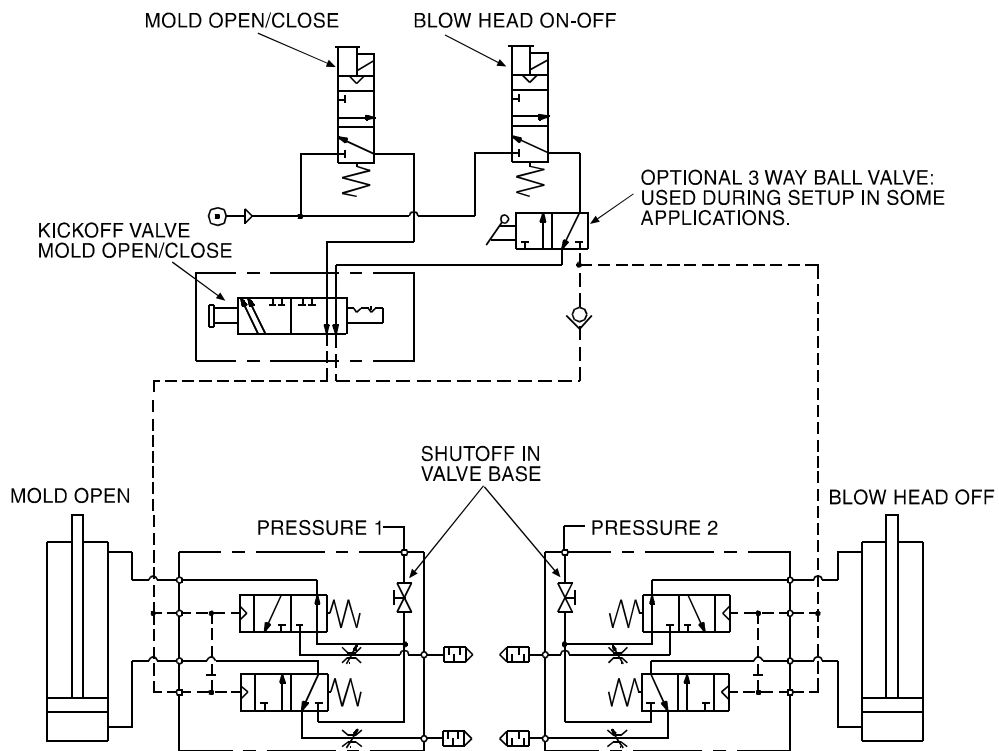
We reserve the right to introduce technical modifications.

Dimensions - mm (inches)



MOLD OPEN / CLOSE VALVE

3/2 Directional Control Valve - Pressure Operated with Pressure Booster



PLUNGER UP or DOWN, COOLING

3/2 Directional Control Valve - Manifold Design

- High-speed poppet construction
- Constant repeatability
- Non friction seat seals
- Non-lube
- Specialised low-wear body-coating
- Quick exhaust, pressure booster options
- Solenoid, remote pilot options
- Locking, non-locking manual overrides
- Base options



STANDARD SPECIFICATIONS

Solenoids: Standard voltages 200-240 volts 50/60 Hz;
100-120 volts 50/60 Hz; 110 volts d.c. 24 volts d.c.

Power Consumption: 10,9 VA inrush, 8,5 VA holding on 50
or 60 Hz; 6 watts on d.c.

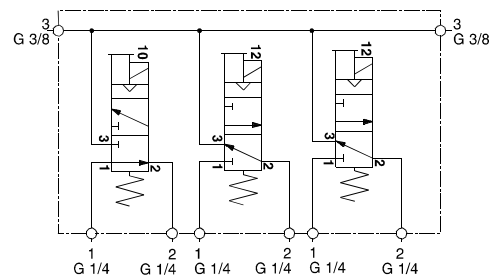
Flow Medium: Filtered air.

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

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

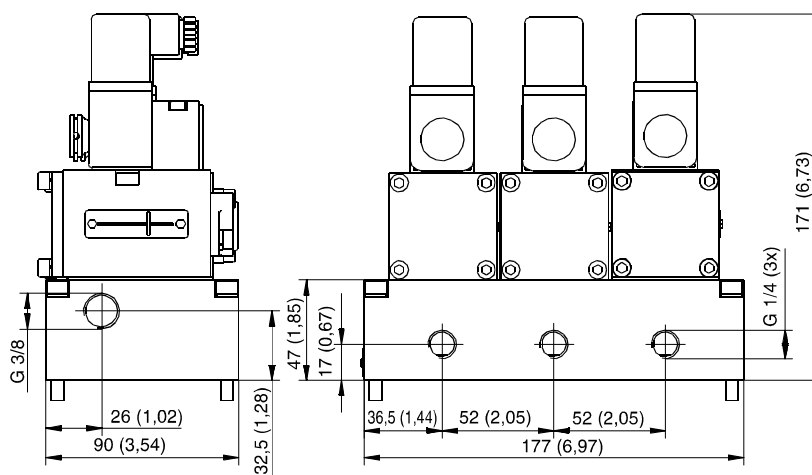
Inlet Pressure: 2 to 10 bar (30 to 150 psig).

Model Number: D3900A0844



We reserve the right to introduce technical modifications.

Dimensions - mm (inches)



PUSHER VALVE

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

- High-speed poppet construction
- Constant repeatability
- Non-friction seat seals
- Non-lube
- Solenoid, remote pilot options
- Dual pressure options
- Locking, non-locking manual overrides
- Special versions available



Model Number: D2176D2903
(can be used for replacement of W7476A2910)

DESIGN

Poppet Valve: Viton-seals on metal seat.

Body: Aluminum alloy.

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

STANDARD SPECIFICATIONS

Solenoids: Rated for continuous duty; AC or DC power.

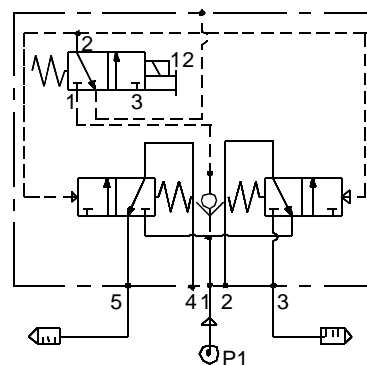
Power Consumption: 10,9 VA max. inrush, 8,5 VA max. holding on 50 or 60 Hz; 6,5 watts nominal on DC.

Flow Medium: Compressed air, filtered.

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

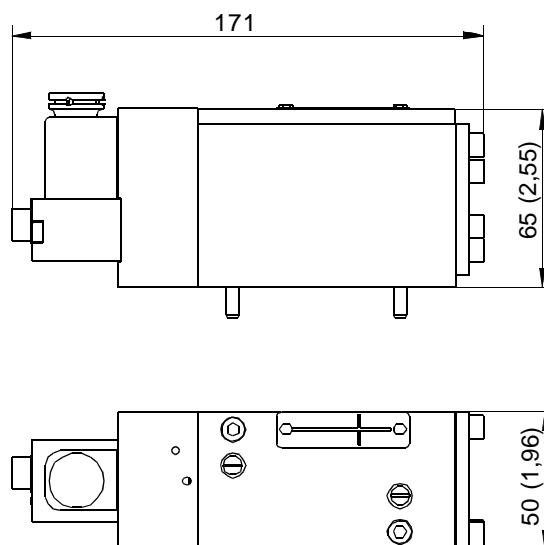
Media Temperature: -17° to 150° C (0° to 300° F).

Inlet Pressure: 1,0 to 6 bar (15 to 90 psig).



We reserve the right to introduce technical modifications.

Dimensions - mm (inches)





GLOBAL Reach with a LOCAL TouchSM

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