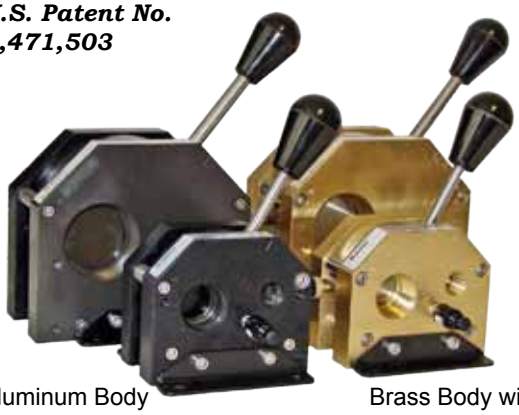
SWAP® VALVE
Quickly Purge Cooling Water using Shop Air

U.S. Patent No. 6,471,503



Aluminum Body with PTFE Anodize

Brass Body with Stainless Disc

Reinforced Molded Body with Stainless Disc

Now available in 3 material choices:

1 and 2-inch sizes in Anodized Aluminum or Brass with Stainless Steel Disc

Most Economical: Reinforced Molded Body, 1-inch size with Glass-Filled Nylon Outer Plates and Stainless Steel Disc

General Description

The Smartflow **SWAP Valve** supplies cooling water to the mold during processing. Secondly, it supplies air to purge the water from the mold, cooling lines, Supply and Return manifolds before tool change. It also provides a manual vent to release built-up air pressure within the cooling water loop after purging.

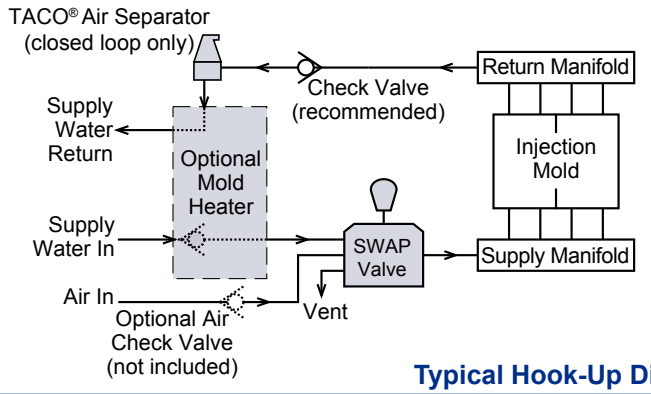
A check valve should be installed in the return line downstream from the Return manifold to prevent backflow to the mold.

Tubing may be connected to the manual vent-drain port so after the purge cycle any residual water can be released into a container or drain.

An optional spring-loaded, locking pin is available for molders who require two-hand operation. This prevents accidental valve handle movement.

Benefits

- **Implements SMED** by dramatically reducing tool change time.
- **Identifies Supply Lines** by noting which manifold is connected to the SWAP Valve.
- **Full Port Design** provides maximum cooling water flow with minimum pressure drop.
- **Prevents Slip Hazard** by keeping shop floors dry.
- **Prepares Injection Mold** for preventive maintenance and storage.
- **Optional Positive Locking Pin** prevents accidental valve handle movement.



Typical Hook-Up Diagram

Application

The SWAP valve is well-suited for cooling water Supply lines up to 2-inch NPT. It is permissible to adapt 3/4", 1-1/4" and 1-1/2" line sizes providing adequate cooling water flow can be achieved.

Typical mounting is on press or safety door frame. Mounting on any suitable surface, such as a platen, mold or manifold stand is acceptable.

For Normal Processing	Select WATER. Cooling Water is available to the Supply manifold. Purge Air is blocked.
to Evacuate Cooling Water	Select PURGE. Purge Air is available to the Supply manifold. Cooling Water is blocked
To Bleed Trapped Pressure and Drain Residual Water	Select VENT Press Manual Vent-Drain Valve. Purge Air is blocked. Cooling Water is blocked.

Installation of an air separator in the return line of a closed loop cooling system is recommended. See the Typical Hook-Up Diagram (above) for location.

SWAP® VALVE
Purge Cooling Water using Shop Air

Molded Body, Stainless Disc (1" only)

Specifications

Maximum Pressure 150psi (10.3bar)
Maximum Operating Temperature.....250°F (121°C)
Normal Working Air Pressure.....80 to 100psi
Pressure Drop across Purge Valve .....1psi at 50gpm

Wetted Parts

Body .....Glass-Filled Nylon
Valve Disc ..... Stainless Steel
O-Rings.....EPDM
Check Valve (recommended) ..... Brass

Model Numbers with Check Valve

Model	Thread Size	Locking Pin	Weight
SPV8-A-M	1"NPT	no	2.5kg 5.5lbs
SPV8-L-M	1"NPT	yes	
SPV8B-A-M	1"BSPP	no	
SPV8B-L-M	1"BSPP	yes	

Model Numbers without Check Valve

Model	Thread Size	Locking Pin	Weight
SPV8-A-MN	1"NPT	no	2.1kg 4.7lbs
SPV8-L-MN	1"NPT	yes	
SPV8B-A-MN	1"BSPP	no	
SPV8B-L-MN	1"BSPP	yes	

Brass Body, Stainless Disc (1" or 2" models)

Specifications

Maximum Pressure 150psi (10.3bar)
Maximum Operating Temperature.....250°F (121°C)
Normal Working Air Pressure.....80 to 100psi
Pressure Drop across Purge Valve .....1psi at 50gpm

Wetted Parts

Body ..... Brass
Valve Disc ..... Stainless Steel
O-Rings.....EPDM
Check Valve (recommended) ..... Brass

Model Numbers with Check Valve

Model	Thread Size	Locking Pin	Weight
SPV8-A-B	1"NPT	no	5.4kg 12lbs
SPV8-L-B	1"NPT	yes	
SPV8B-A-B	1"BSPP	no	
SPV8B-L-B	1"BSPP	yes	
SPV16-A-B	2"NPT	no	14.5kg 32lbs
SPV16-L-B	2"NPT	yes	
SPV16B-A-B	2"BSPP	no	
SPV16B-L-B	2"BSPP	yes	

Model Numbers without Check Valve

Model	Thread Size	Locking Pin	Weight
SPV8-A-BN	1"NPT	no	5kg 11.1lbs
SPV8-L-BN	1"NPT	yes	
SPV8B-A-BN	1"BSPP	no	
SPV8B-L-BN	1"BSPP	yes	
SPV16-A-BN	2"NPT	no	13.4kg 29.6lbs
SPV16-L-BN	2"NPT	yes	
SPV16B-A-BN	2"BSPP	no	
SPV16B-L-BN	2"BSPP	yes	

SWAP® VALVE
Purge Cooling Water using Shop Air

Aluminum Body and Disc, PTFE Impregnated Anodize (1" or 2" models)

Specifications

Maximum Pressure 150psi (10.3bar)
Maximum Operating Temperature..... 250°F (121°C)
Normal Working Air Pressure..... 80 to 100psi
Pressure Drop across Purge Valve ..... 1psi at 50gpm

Wetted Parts

Body and Valve Disc..... Aluminum, PTFE Impregnated Hard Anodize Coating
O-Rings..... EPDM
Check Valve (recommended) ..... Brass

Galvanic Corrosion

A Dielectric Fitting is included with the aluminum SWAP Valve. Galvanic corrosion can occur in the presence of: more noble metals, electrolytic connection, water treatment with copper or bleach or elevated water temperatures. A dielectric fitting breaks the electrical connection between dissimilar metals helping reduce the incidence of galvanic corrosion. Installation in front of the supply to the SWAP Valve is recommended.

A Dielectric Fitting is included with all Aluminum SWAP Valves.

Model Numbers with Check Valve

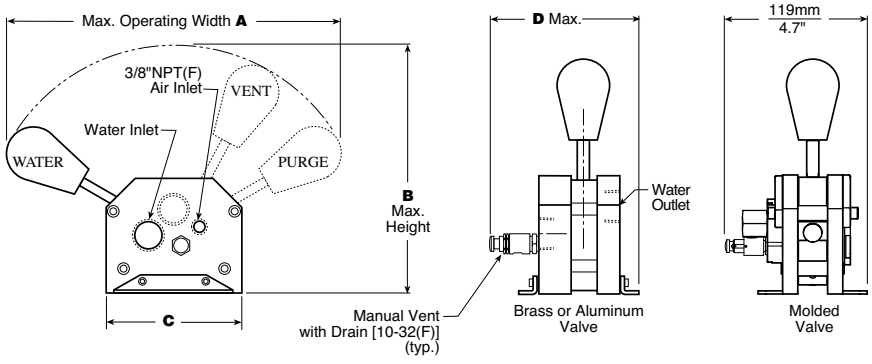
Model	Thread Size	Locking Pin	Weight
SPV8-A-A	1"NPT	no	2.7kg 6lbs
SPV8-L-A	1"NPT	yes	
SPV8B-A-A	1"BSPP	no	
SPV8B-L-A	1"BSPP	yes	
SPV16-A-A	2"NPT	no	6.1kg 13.5lbs
SPV16-L-A	2"NPT	yes	
SPV16B-A-A	2"BSPP	no	
SPV16B-L-A	2"BSPP	yes	

Model Numbers without Check Valve

Model	Thread Size	Locking Pin	Weight
SPV8-A-AN	1"NPT	no	2.4kg 5.2lbs
SPV8-L-AN	1"NPT	yes	
SPV8B-A-AN	1"BSPP	no	
SPV8B-L-AN	1"BSPP	yes	
SPV16-A-AN	2"NPT	no	5kg 11.1lbs
SPV16-L-AN	2"NPT	yes	
SPV16B-A-AN	2"BSPP	no	
SPV16B-L-AN	2"BSPP	yes	

All Models, Maximum Dimensions

Dimension	SPV8	SPV16
A	299mm/11.75"	395mm/15.5"
B	221mm/8.7"	297mm/11.7"
C	119mm/4.7"	173mm/6.8"
D	130mm/5.1"	160mm/6.3"



Accessories, All Models

Part Number	Description
DN-8*	Dielectric Fitting 1"NPT
DN-8B*	Dielectric Fitting 1"BSPT
DN-16*	Dielectric Fitting 2"NPT
DN-16B*	Dielectric Fitting 2"BSPT

* Included with new Aluminum SWAP Valve only

Part Number	Description
PVCV-100	Brass Check Valve 1"NPT
PVCV-200	Brass Check Valve 2"NPT
PVCV-100B	Brass Check Valve 1"BSPP
PVCV-200B	Brass Check Valve 2"BSPP
PVCV-3	Air Check Valve 3/8"NPT

SMARTFLOW® SWAP® VALVE
Purge Cooling Water using Shop Air

TACO® 4900 Series Air Separators

TACO 4900 Series Air Separators are designed for the complete elimination of air from closed loop water circulating systems. Small air bubbles and micro-bubbles adhere to surfaces on pall rings in the water path and join together to form larger air bubbles. The combined bubbles travel up through the water and into the conical air chamber to be released by the vent at the top.

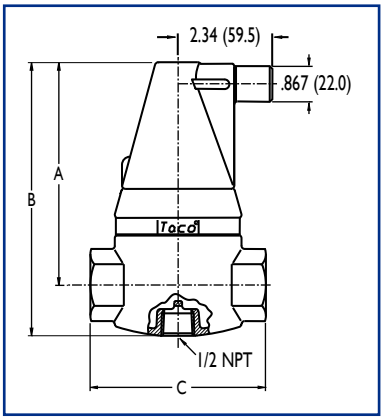
Recommended for use with ***SMARTFLOW*** **SWAP Valve** in a closed loop cooling water system.

Specifications

Connection Sizes	1" & 2"NPT(F)
Housing Material	Brass
Pall Ring Material	Stainless Steel
Venting Unit Materials	Stainless Steel
	EPDM, Viton, Engineered Plastics
Operating Pressure Max	150psi (10bar)
Operating Temperature Max.	240°F (115°C)
Operating Temperature Min.	25°F(-4°C)
Media	Water or Water/Glycol
Max. Velocity	5ft/sec

Dimensions & Weights

Model Number	Connection Size	A	B	C	Weight	
					kg	lbs.
49-100	1"	5-1/2" 139mm	6-3/4" 171mm	4-3/8" 111mm	2	4.5
49-200	2"	6-5/8" 169mm	8-7/16" 214mm	5-3/16" 13mm	2.7	6.0



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