Detergent Arch

0953XX / 0963XX

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Control Voltage (Photo Eyes)	24VDC
Air Pressure from ACP	Approx. 40 PSI
Approx. Dimensions	*Varies - See Arch Cut Sheet
Internal Clearance	*Varies - See Arch Cut Sheet
Optimal Side Manifold Flow (@40PSI)	13 GPM
Optimal Top Manifold Flow (@40PSI)	8 GPM

*Arch Cut Sheets contain Parts Breakdowns and other information, if necessary, that is specific to the arch

General Info

The purpose of this manual is to provide the necessary information to install and operate the Hydro-Chem equipment to exceed your defined expectation.

The Detergent Arches (ODA or DA) will come shipped as 2 leg assemblies and 1 crossbeam assembly. These are constructed and anchored on-site per the project specific MEP. If the arch oscillates, air plumbing details are also included in the project MEP or Set-Up packet. If the arch includes photo eyes, wiring specs may be found within the document holder of the MCP.

Arch Part Number Code

09 6 3 0 3 S - PE

Misc Configurations (May have multiple)

PE-	Photo Eyes on Arch	**WAX-**	Wax Arch configuration
SAN-	Sanitize Arch configuration	**FRA-**	Final Rinse Arch
SFRA-	50PSI @ 50 GPM Spot Free Rinse	**11-**	11 Nozzles on Rinse UCW

Special Configurations (May have multiple)

A-		**H-**	Hi/Low Configuration	**O-**		**V-**	Vortex Spinner Arch
B-	Nozzled to 12'-6"H	**I-**		**P-**	Presoak fixed on Arch	**W-**	Vortex Top Spinners instead of Mop
C-	Nozzled to 7'-6"H	**J-**		**Q-**	NO Top Mop	**X-**	X-Arch Assembly
D-		**K-**		**R-**	Rear extended off Arch	**Y-**	
E-		**L-**		**S-**	12'-6" Tall Frame	**Z-**	Snowblast Manifold
F-	Foaming Nozzles	**M-**		**T-**	15'-6" Tall Frame		
G-		**N-**		**U-**	PVC Undercarriage		

Manifold Configurations

PVC		*Galv*	
1-	Sides Only	**1-**	Sides Only
2-	Sides & Rear/Top	**2-**	Sides & Mop
3-	Pre-Soak, Sides & Rear	**3-**	Sides & Vortex Spinners
4-	Sides & Rear from Sides	**4-**	Sides, Mop & Rear Spray
5-	Pre-Soak, Sides & Rear from Sides	**5-**	Sides, Mop, Rear Spray & UCW
6-	Pre-Soak, Sides, Rear from Sides & Rear	**6-**	Sides, Mop, Rear Spray, UCW & WSA
7-	2 Sides & Rear	**7-**	Sides, Mop, Rear from Sides, UCW & WSA
8-	Pre-Soak, 2 Sides & Rear	**8-**	Sides, Mop & Wheel Spinners
9-	Pre-Soak, 2 Sides, Rear Sides & Rear	**9-**	Sides, Mop & UCW
0-	2 Pre-Soak, 2 Sides, 2 Rear Sides & 2 Rear	**0-**	Sides, Mop, UCW & WSA

Oscillation Configuration

0- Oscillating Sides
1- Fixed Sides

Examples

096302-PE
- *Stainless Osc Detergent Arch, Sides & Rear*

096303-PE
- *Stainless Osc Detergent Arch, Pre-soak, Sides & Rear*

096606
- *Stainless Osc Rinse Arch w/ Mop, UCW, WSA & Rear Blast*

Manifold Material

3- PVC
6- Galvanized

Arch Frame

5- Aluminum
6- Stainless Steel

HCS Assembly

System Overview

For a full system overview, review the Cut Sheet or Parts Breakdown for the specific arch that is being used. Figure 1 breaks down the nozzle assemblies of the standard detergent arches. The single nozzle body assembly is located on the left while the double hinged assembly is located on the right. The double hinged assembly may be adjusted by loosening the hex fitting circled.

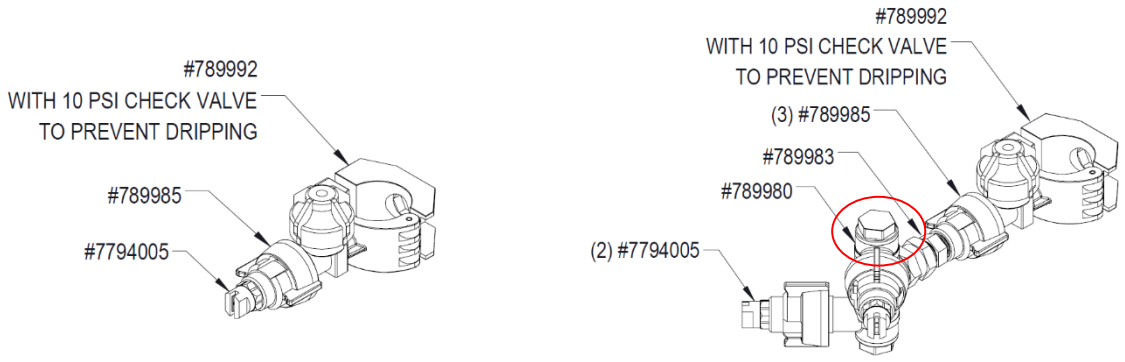

Figure 1. Single and Hinged Nozzle Assemblies

Figure 2 shows the air cylinder assembly for arches that have oscillating side manifolds. The cylinders are fed from the Detergent Air Control Panels (ACP-D) at approximately 40 PSI.

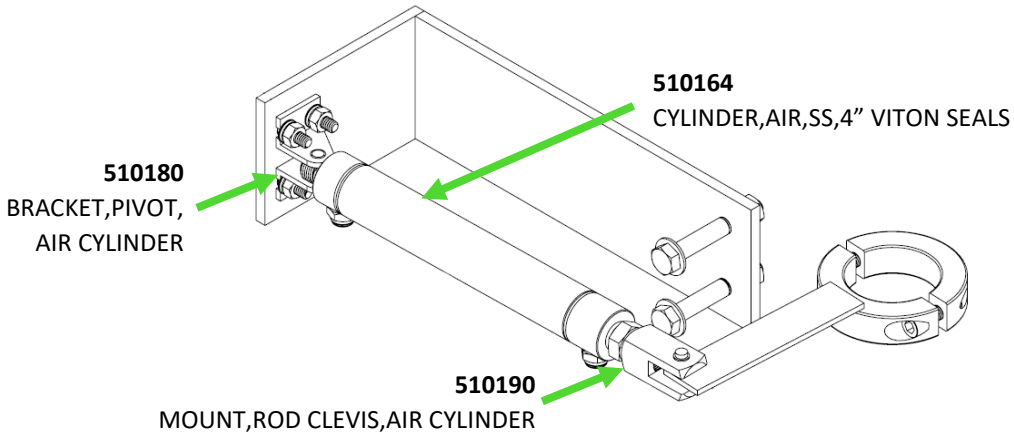

Figure 2. Air Cylinder Assembly for Oscillation

Installation & Set-Up

The arch assembly is to be assembled and anchored within the wash bay per the project MEP, utilizing the supplied support legs and 3/8" hardware. Arch breakdown sheets can be found in the project Set-Up packet or Manual, providing a detailed BOM. The wiring instructions for any Photo Eyes (PE) are found within the Electrical Packet for the system. All field wiring should be landed on the terminals provided within the MCP and called out in the Electrical Packet. For oscillating manifolds, review the project packets and MEP for air plumbing specifications.

When installing the arch, the detergent nozzles will come attached to their cap and must be installed on the arch per the arch breakdown sheet within the Set-Up packet. At system start-up, the ACP-D should be set at 40 PSI and fine-tuned from there. Before testing any detergent manifolds, the plugs and caps on each manifold should be removed and each line should be flushed. Once this is done, reinstall all plugs and caps on the detergent manifolds.

Maintenance

Periodically, the arches should be reviewed while running to ensure proper pressure and spray patterns. If a nozzle is "leaking", dripping, or not spraying at all, remove the cap, checking that the inside of the assembly is clean and free of any debris and that the gasket is clean and in-tact as well.

If manifolds are not activating or oscillating as intended, review the troubleshooting table here, and if necessary, the MCP and ACP troubleshooting sections as well.

Troubleshooting

Issue	Potential Solution
Manifolds aren't spraying	Check that the MCP is powered on
	Check that no System Stop buttons are pushed in
	Is there water being supplied to the Detergent Module? **Yes** - Does the Solenoid open in Test Mode on the Touch Panel? ***Yes*** -Check the input that would typically activate the manifold. Check that the coil has voltage supplied to it. If it does, replace the bad coil. ***No*** - Check that the coil has voltage supplied to it. If it does, replace the bad coil. If not, troubleshoot the voltage coming from the Master Control Panel. **No** - Does the input that activates the manifold operate correctly (Loop or Photo Eye) and is it activating on the Touch Panel? ***Yes*** - Check programming and the Output on the PLC - Although unusual, an output could be burnt. ***No*** - If it is a Photo Eye, ensure they are aligned and that their signal light is activating when blocked. If it is a Loop, check if the Loop Detector shows a fault - if not then check wires from the loop for continuity.
Low or No pressure from the manifolds	Does the Booster Pump activate properly? **Yes** - There may be a leak in the lines after the Boost Pump **No** - Check if the Boost Pump Motor Starter has an overload tripped. If so, reset it and check amp draw. If not, check programming and the Output on the PLC.
Manifolds not oscillating during a wash	Are other outputs such as the Booster Pump turning on? **Yes** - Ensure that the solenoid is receiving a signal from the MCP and that it has 24VAC being supplied to it. If so, replace the solenoid on the valve. **No** - Check that no system stop buttons are pushed in. If they aren't, ensure that no breakers are tripped within the MCP and that there is 24VAC available in the panel where it should be.
Manifolds are oscillating too slow	Check that fluid has not built up in the filter bowl. This should be drained.
	Increase the pressure on the regulator to that arch. This is done by pulling the adjustment knob upwards until you hear a click. Turn clockwise to increase pressure or counterclockwise to decrease the pressure. Once the desired pressure is obtained, push the adjustment knob down until you hear the click to secure it.
	If the pressure is already optimal, the oscillating sweep timer in the PLC program may be adjusted.