



# PRODUCT OPERATING MANUAL

**PANBLAST™**

***HELIX 100 BSP/NPT INLET VALVE ASSEMBLY***

***Manual Number: ZVP-PC-0169-00***

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## 1.0 GENERAL INFORMATION

### 1.1 Panblast notice to purchasers and users

1.1.1 All products and equipment designed and manufactured by Panblast are intended for use by experienced users of abrasive blasting equipment and its associated operations and abrasive blasting media.

1.1.2 It is the responsibility of the user to:

- Determine if the equipment and abrasive media is suitable for the users' intended use and application.
- Familiarize themselves with any appropriate laws, regulations and safe work practices, which may apply within the users' working environment.
- Provide appropriate operator training and a safe working environment including operator protective equipment (PPE) such as, but not limited to, blasting suit, safety footwear, protective eyewear and hearing protection.

1.1.3 Panblast Standard Terms and Conditions of Sale apply. Contact your local Panblast office or distributor should you require any further information or assistance.

1.2 **⚠ ! WARNING! - READ THIS SECTION CAREFULLY BEFORE USING THIS EQUIPMENT/APPARATUS.**

1.2.1 Heavy metal paint, asbestos and other toxic material dusts will cause serious lung disease or death without the use of properly designed and approved supplied air respiratory (SAR) equipment by blast operators and all personnel within the work site area.

1.2.2 The compressor must have adequate output and the plumbing between the compressor and the point of attaching the air supply hose must have sufficient capacity to supply the volume of air at the pressure required.

### 1.3 Standard safety precautions

1.3.1 Approved safety eyewear, hearing and footwear protection should be worn at all times by the operator and all personnel in the immediate area that may be exposed to any hazards generated by the abrasive blasting process.

1.3.2 Suitably approved respiratory protection should also be worn when handling abrasive media, abrasive refuse dust and when carrying out any service/maintenance work where any dust may be present.

1.3.3 Any work performed on electrical wiring or components must only be carried out by suitably qualified and registered electrical trades' personnel.

1.3.4 Under no circumstances should any safety interlocks/lockouts or features be altered or disabled in any way.

1.3.5 All equipment must be isolated from the compressed air supply and electrical power source prior to any service or maintenance work being carried out.

1.3.6 All care must be taken by the operator(s) when lifting or moving equipment or components in order to prevent injury. Pressure blast pots must always be emptied of abrasive media before any attempt is made to move them.

1.3.7 Any modification of the equipment or use of non-genuine PanBlast™ replacement parts will void warranty.

1.3.8 Always check the Material Safety Data Sheet (MSDS) on the abrasive media being used to ensure that it is free of harmful substances, in particular, free silica, cyanide, arsenic or lead.

1.3.9 Test the surface to be blasted for harmful substances, taking the appropriate measures and precautions to ensure the safety of the operator and all personnel.

1.3.10 The operator should carry out a daily inspection before start up of all wearing and safety items to ensure that they are in correct operating order. In particular check all blast hose couplings and nozzle holders, ensuring that all couplings have engaged correctly and the safety locking pins are fitted and in good condition. Always install safety whip check cables at every connection. Ensure that the blast nozzle has been securely screwed into the nozzle holder and the nozzle holder has been secured to the blast hose correctly and that all screws are engaged.

## 2.0 INTRODUCTION

2.1 These instructions cover the operation and maintenance of the PanBlast™ Helix 100 Remote Inlet Valve which is recommended to be used in conjunction with the PanBlast™ Helix 50 Remote Outlet Valve.

2.2 The PanBlast™ Helix 100 Remote Inlet Valve is a piston type inlet valve. The Helix 100 Valve is ideally suited to blast pots with inlet sockets of 25mm (1") through to 38mm (1½") with an operating pressure not exceeding 1034kPa (150psi).

2.3 The Helix 100 is recommended to be operated/activated with the PanBlast™ AirFlo Remote Control Handle or PanBlast™ QuikStop IIS Remote Control Handle.

**NOTE: UNDER OSHA 1915:34(c)(1)(iv) DEAD MAN CONTROL. A DEADMAN CONTROL DEVICE SHALL BE PROVIDED AT THE NOZZLE END OF THE BLAST HOSE EITHER TO PROVIDE DIRECT CUTOFF OR TO SIGNAL THE POT TENDER BY MEANS OF A VISUAL AND AUDIBLE SIGNAL TO CUT OFF THE FLOW, IN THE EVENT THE BLASTER LOSES CONTROL OF THE HOSE. THE POT TENDER SHALL BE AVAILABLE AT ALL TIMES TO RESPOND IMMEDIATELY TO THE SIGNAL.**

## 3.0 OPERATING INSTRUCTIONS

**⚠ ! WARNING! THE COMPRESSED AIR SOURCE MUST BE ISOLATED BEFORE PERFORMING ANY INSTALLATION WORK. FAILURE TO DO SO MAY CAUSE SERIOUS INJURY OR DEATH.**

**⚠ ! WARNING! - READ THIS SECTION CAREFULLY BEFORE USING THIS EQUIPMENT/APPARATUS.**

3.1 Before connecting mains supply air, check the operation of the remote control handle. Ensure that the remote control handle safety lever lock is operational and that the handle lever is free in its action.

3.2 Ensure that all hose fittings are secured and safety locking pins and safety whip check cables are in place.

3.3 The PanBlast™ Helix 100 Remote Inlet Valve should be supplied with a 32mm (1¼") I.D. or larger compressed air supply line to provide the adequate volume at the required pressure.

3.4 To prevent accidental activation of the Helix 100 Remote Control Valve. It is recommended to install a ¼" mini ball valve at one of the Helix 100 activation ports. By installing the ¼" mini ball valve allows the operator to open the mini ball valve and bleed the activation air during an emergency or maintenance shutdown.

3.5 Connect the twinline hose from the marked (IN) port of the remote control handle to the live air source on the Helix 100 Remote Inlet Valve. Proceed to connect the second twinline hose from the remote control handle marked (OUT) port to the Helix 100 Remote Inlet Valve's air activation port. Then lay the twinline hose out alongside the blast hose for its full length.

3.6 Using cable ties, heavy tape or similar, attach the twinline hose directly to the blast hose at approximately 1000mm (40") intervals. The remote control handle should be cable tied to the blast hose at a point directly behind the previously fitted nozzle holder.

3.7 Start the compressor and slowly open the main air inlet ball valve to the blast pot.

3.8 Close the mini ball valve on the Helix 100 Remote Inlet Valve. After closing the mini ball valve there should be air escaping from the bleed hole located on the remote control handle assembly. The system is now ready for abrasive blasting.

3.9 Pull back the safety lever lock on the remote control handle assembly and depress the lever handle. This will close off the bleed hole on the remote control handle and send a return signal to the Helix 100 Remote Inlet Valve, simultaneously opening the valve which then pressurizes the blast pot and pusher line and closing the connected Helix 50 outlet valve preventing the blast pot from exhausting.

3.10 Release the remote control handle to stop blasting, this will engage the safety lever lock preventing inadvertent operation of the remote control handle and opens the remote control handle bleed hole, removing the return signal to the Helix 100 Remote Inlet Valve. This in turn closes the inlet valve and opens the exhaust valve which depressurizes the blast pot and shuts down the abrasive blasting process.

4.0 MAINTENANCE

**⚠ ! WARNING! THE SYSTEM MUST BE IN SHUT DOWN MODE AND THE COMPRESSED AIR DISCONNECTED BEFORE PERFORMING ANY MAINTENANCE WORK. FAILURE TO DO SO MAY RESULT IN PREMATURE ACTIVATION OF THE SYSTEM THAT MAY CAUSE SERIOUS INJURY OR DEATH.**

4.1 Periodically the Helix 100 inlet valve should be disassembled and checked for wear and lubrication of the inlet piston, U seal, and O-rings. Check for scoring of the housing bore and inlet piston, if either is badly scored they or the valve assembly should be replaced.

4.2 Periodically inspect all fittings and end cap gaskets for any air leaks. If air leaks are detected, reseal the fittings with thread sealant.

If there is any air leakage from either end caps replace the end cap gaskets.

4.3 On a monthly basis it is recommended to apply a liberal amount of grease to the inlet piston and U seals.

5.0 TROUBLE SHOOTING GUIDE

PROBLEM	PROBABLE SOLUTION
<b>Unable to start blasting operations.</b>	Make sure the mini ball valve at the top of the inlet valve is closed.
	Check the main air supply.
	Check the blast nozzle for a blockage.
	Check if the pop up valve is fully lifted, if a rattle or hovering can be detected there is insufficient air supply.
	Make sure that there are no air leaks in the twinline control hoses.
	Is there air escaping from the remote control handle bleed hole when the lever handle is released? If not, the air supply to the remote handle is blocked. Check the restricted orifice nipple in the "live" air supply fitting to the remote handle and ensure that it is not blocked.
	Open the upper mini ball valve on the inlet valve and depress the remote control handle lever, is there air escaping from the mini ball valve? If not, and there is air supply to the remote handle there is an air leakage from the return signal side of the system, either at the remote handle or along the return signal hose.
<b>Blasting operation cannot be shut down or stopped.</b>	If there is air escaping from the mini ball valve when in operation, it is likely that the piston in the inlet valve is seized up. Disassemble and check piston and O-rings, replace if necessary.
	Check if there is air escaping from the exhaust valve when the remote handle lever is depressed. If so, the diaphragm should be inspected for wear and replaced. Also check and ensure that the seat in the casting is not worn.
	Verify if the twinline hoses have been connected to the remote control handle correctly. Check if the "live" air supply line is connected to the remote handles inlet fitting and signal line to the remote handles outlet fitting.
	Check and ensure that the remote handle bleed hole is not blocked or restricted.
	If there is no air escaping from the mini ball valve when the remote handle has been released and the blast pot continues to blast then it is likely that the piston in the inlet valve has seized up. Disassemble and check the inlet piston, O-rings, piston, U seals and housing bore. Replace as necessary.

## 6.0 ASSEMBLIES, PARTS LISTING & EXPLODED VIEW

### 6.1 Helix 100 Inlet Valve Assembly

Stock Code	Description	Weight
BAC-RC-PB-0305	Helix 100 Inlet Valve Assembly	2 Kg (4.41 lbs)

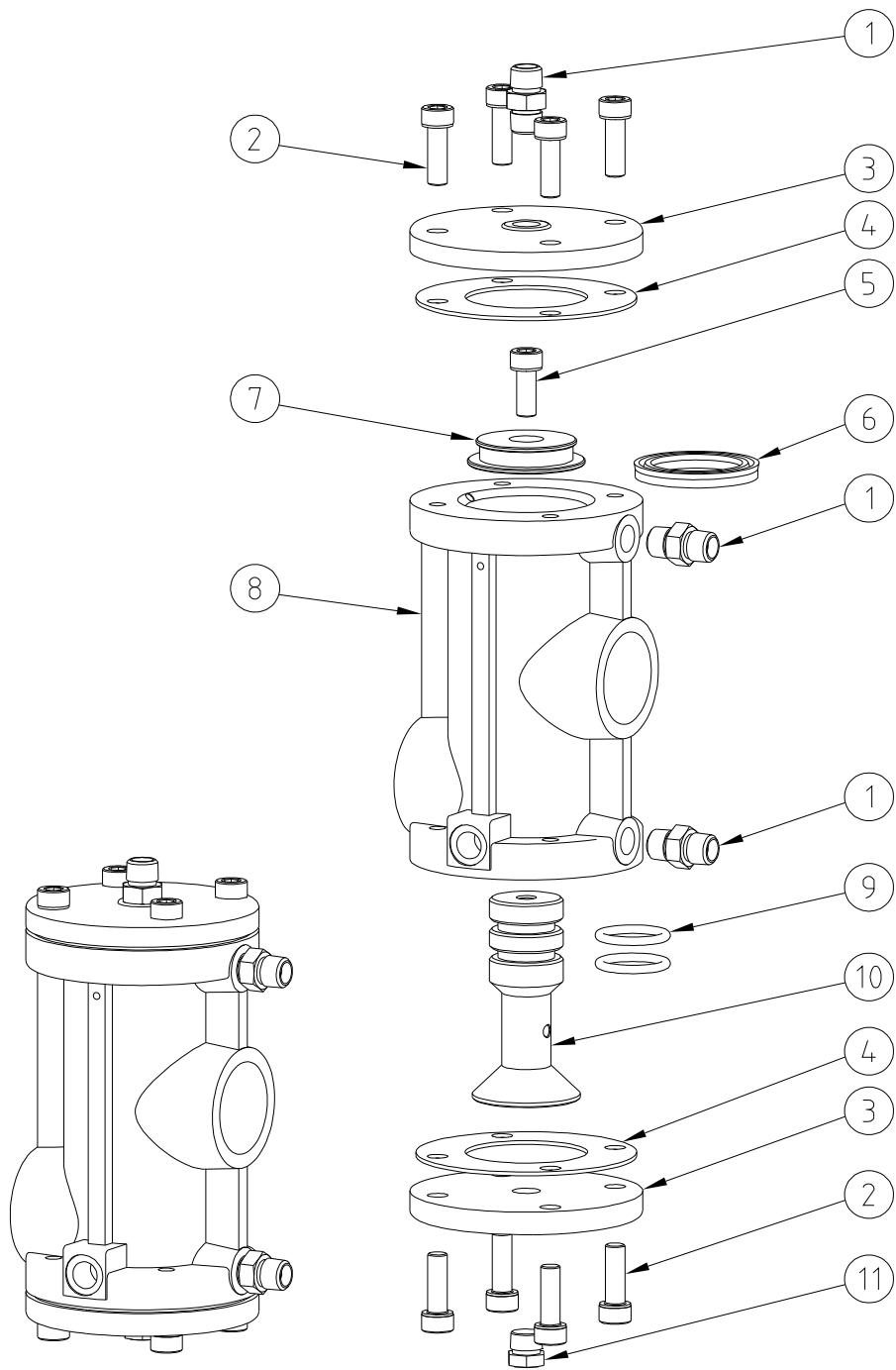
#### 6.1.1 Helix 100 BSP Remote Inlet Valve Parts Listing

Item	Stock Code	Description	Qty
1	YAC-PF-PB-0041	Nipple	3
2	YAC-FN-PB-0278	Screw	8
3	YAC-RC-PB-0317	Cylinder Housing Cap	2
4	YAC-RC-PB-0319	Cap Gasket	2
5	YAC-FN-PB-0280	Screw	1
6	YAC-RC-PB-0325	Piston U-Seal	1
7	YAC-RC-PB-0324	Piston	1
8	YAC-RC-PB-0322	Housing	1
9	YAC-BS-PB-0047	O-Ring	2
10	YAC-RC-PB-0320	Inlet Piston	1
11	YAC-PF-PB-0119	Plug	1

#### 6.1.2 Helix 100 Inlet Valve Service Kits

Stock Code	Description
YAC-RC-PB-0335	End Cap Kit - Includes Items 1, 3, 4
BAC-RC-0477-00	Helix 100 Valve Seal Kit - Includes Items 4(2 Off), 6, 9(2 Off)

6.1.3 Helix 100 Inlet Valve Product Exploded View



## 6.2 Helix 100 NPT Remote Inlet Valve Assembly

Stock Code	Description	Weight
BAC-RC-PB-0309	Helix 100 NPT Inlet Valve Assembly	2 Kg (4.41 lbs)

### 6.2.1 Helix 100 NPT Remote Inlet Valve Parts Listing

Item	Stock Code	Description	Qty
1	YAC-PF-PB-0243	Nipple	3
2	YAC-FN-PB-0279	Screw	8
3	YAC-RC-PB-0318	Cylinder Housing Cap	2
4	YAC-RC-PB-0319	Cap Gasket	2
5	YAC-FN-PB-0281	Screw	1
6	YAC-RC-PB-0325	Piston U-Seal	1
7	YAC-RC-PB-0324	Piston	1
8	YAC-RC-PB-0323	Housing - NPT	1
9	YAC-BS-PB-0047	O-Ring	2
10	YAC-RC-PB-0321	Inlet Piston	1
11	YAC-PF-PB-0242	Hex Plug	1

### 6.2.2 Helix 100 NPT Remote Inlet Valve Service Kits

Stock Code	Description
YAC-RC-PB-0336	End Cap Kit NPT - Includes Items 1, 3, 4
BAC-RC-0477-00	Helix 100 Valve Seal Kit - Includes Items 4(2 Off), 6, 9(2 Off)

6.2.3 Helix 100 NPT Remote Inlet Valve Product Exploded View

