



PRODUCT OPERATING MANUAL

PANBLAST™

HELIX 50 BSP/NPT OUTLET VALVE ASSEMBLY

Manual Number: ZVP-PC-0170-00

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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, safety footwear, protective eyewear and hearing protection.

1.1.3 Panblast Standard Terms and Conditions of Sale apply. Contact your local Panblast office 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 air supplied 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 any personnel in the immediate area that may be exposed to hazards generated by the abrasive blasting process.

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

1.3.3 Any work performed on any electrical wiring or components must only be carried out by suitably qualified and registered electrical 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 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. 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 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 to ensure the safety of all personnel.

1.3.10 The operator should carry out a daily inspection of all related components prior to startup of all wearing and safety items to ensure they are in correct operating order. In particular check all hose couplings and nozzle holders, ensuring that all hose couplings are fitted correctly and the safety locking pins are engaged and in good order. Always install safety whip check cables at every hose 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 all screws are engaged.

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.


2.0 INTRODUCTION

2.1 **Scope:** These instructions cover the installation, operation and maintenance of the PanBlast™ Helix 50 Outlet Valve Assembly.

2.2 **Application:** The Helix 50 Remote Outlet Valve features a durable cast aluminium body with 19mm (3/4") connection and exhaust air ports. The Helix 50 Remote Outlet Valve is a piston activated diaphragm valve and is designed to work in tandem with an inlet remote control valve to depressurize the compressed air stored within the blast pot.

2.3 The PanBlast™ Helix 50 Remote Outlet Valve is recommended to be used with the PanBlast™ range of remote control inlet valves which includes the Helix 100, Tandem, Sola 10, Sola 30 and Sola 5 valves.

3.0 INSTALLATION

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

NOTE: IF THE HELIX 50 REMOTE OUTLET VALVE HAS BEEN SUPPLIED FACTORY FITTED TO THE BLAST POT SKIP THIS SECTION.

3.1 Depressurize and disconnect the compressed air supply from the blast pot.

- 3.2 Disconnect the pilot air line connecting the inlet remote control valve and the outlet remote control valve.
- 3.3 Unscrew and remove the existing outlet remote control valve from the exhaust air socket located on the blast pot.

- 3.4 Install the Helix 50 Remote Outlet Valve to the exhaust air socket on the blast pot. Ensure the Helix 50 is attached to the blast pot via the 19mm (3/4") supplied nipple. Tighten the assembly positioning the 19mm (3/4") female exhaust air socket in an appropriate position for fitting of the (optional) PanBlast™ exhaust air muffler.

NOTE: EXHAUSTING/DEPRESSURIZING THE BLAST POT CREATES HIGH EXCESSIVE NOISE WHICH CAN DAMAGE HEARING. IT IS RECOMMENDED TO ALWAYS INSTALL THE PANBLAST EXHAUST AIR MUFFLER.

- 3.5 Reconnect the pilot air line connecting the inlet remote control valve to the Helix 50 Remote Outlet Valve.

4.0 OPERATING INSTRUCTIONS

- 4.1 Before connecting the main compressed air supply, check the operation of the remote control handle and ensure that the handle safety lever lock is operational and that the remote control handle lever is free in its action.
- 4.2 Ensure that all air and blast hose fittings are secured and coupling safety locking pins and safety whip check cables are engaged.
- 4.3 Connect the blast pot to an air supply that is adequate for the application, check the blast nozzle air volume requirement and the minimum air pressure required to operate the remote control valve.
- 4.4 Ensure that the safety mini ball valve or safety pet cock on the remote control inlet valve is in the isolated/closed position.
- 4.5 After following all start up procedures as detailed in the blast pot operator's manual, press the safety lever lock on the remote control handle, and depress the lever handle. This will deliver the pilot air to open the remote control inlet valve and close the Helix 50 outlet valve at the blast pot and initiate the abrasive blasting process. Blasting will begin within a few seconds.
- 4.6 To stop blasting, release the lever handle on the remote control handle, the safety lever lock will spring up preventing the lever handle from being depressed. The remote control inlet valve will close and Helix 50 outlet valve will open. The abrasive blasting will cease within few seconds.

5.0 MAINTENANCE

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

- 5.1 Inspect the Helix 50 internal casting, piston, exhaust base and exhaust manifold for wear or damage, replace as necessary.

- 5.2 Carefully inspect the internal diaphragm, U seal and O-ring for any signs of wear, splits or cracks, replace if any signs of wear are evident.
- 5.3 Ensure that the 19mm (3/4") connection nipple has no signs of accelerated wear of the internal bore, replace immediately if any sign of wear.

6.0 TROUBLE SHOOTING GUIDE

| PROBLEM | PROBABLE SOLUTION |
|--|---|
| The blast pot is extremely slow to depressurize. | Ensure the internal valve body or blast pot exhaust socket is not obstructed or blocked. Clean or replace as necessary. |
| | Check that there is no accumulation of wet or damp abrasive encasing the internal diaphragm. |
| The Helix 50 Remote Outlet Valve is constantly bleeding compressed air. | Inspect the internal diaphragm for splits, cracks or excessive wear, replace as necessary. |
| | Ensure the pilot airline connecting the inlet remote control valve to the Helix 50 outlet valve is not broken or leaking air. Ensure the fittings connecting the two valves are air tight. Replace the pilot airline if any splits or cracks are evident. |
| | Inspect the pilot airline and all related fittings for any blockages, clean or replace as necessary. |

7.0 ASSEMBLIES, PARTS LISTING & EXPLODED VIEW

7.1 Helix 50 Outlet Valve Assembly

| Stock Code | Description | Weight |
|----------------|--------------------------------|--------------------|
| BAC-RC-PB-0306 | Helix 50 Outlet Valve Assembly | 2.13 Kg (4.69 lbs) |

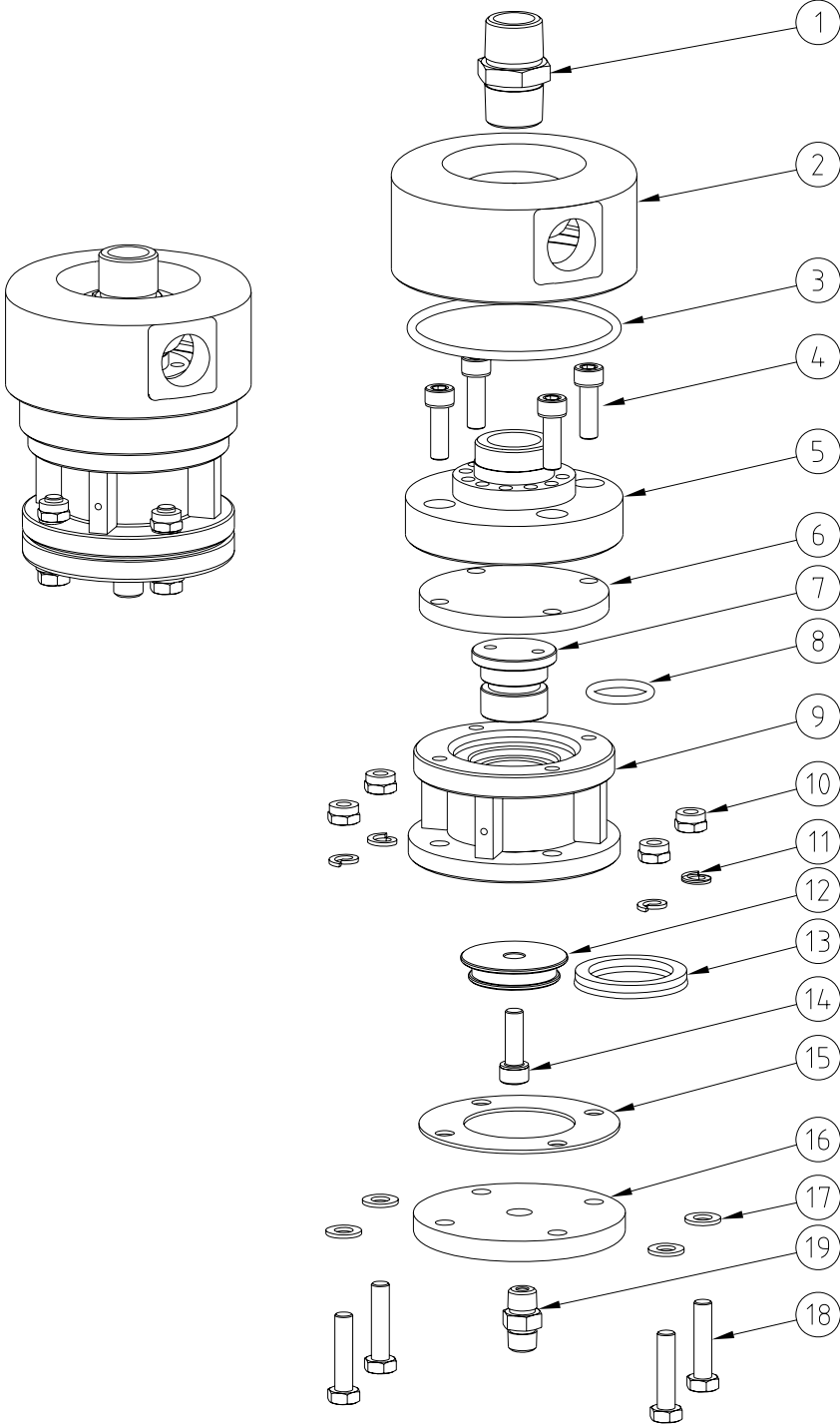
7.1.1 Helix 50 BSP Outlet Valve Parts Listing

| Item | Stock Code | Description | Qty |
|------|----------------|----------------------|-----|
| 1 | YAC-PF-PB-0052 | Nipple | 1 |
| 2 | YAC-RC-PB-0333 | Exhaust Manifold | 1 |
| 3 | YAC-BS-PB-0048 | O-Ring | 1 |
| 4 | YAC-FN-PB-0278 | Screw | 4 |
| 5 | YAC-RC-PB-0331 | Exhaust Base | 1 |
| 6 | YAC-RC-PB-0330 | Diaphragm | 1 |
| 7 | YAC-RC-PB-0328 | Outlet Piston | 1 |
| 8 | YAC-BS-PB-0047 | O-Ring | 1 |
| 9 | YAC-RC-PB-0326 | Exhaust Cylinder | 1 |
| 10 | YAC-FN-PB-0198 | M8 Lock Nut | 4 |
| 11 | YAC-FN-PB-0021 | Spring Washer | 4 |
| 12 | YAC-RC-PB-0324 | Piston | 1 |
| 13 | YAC-RC-PB-0325 | Piston U-Seal | 1 |
| 14 | YAC-FN-PB-0280 | Screw | 1 |
| 15 | YAC-RC-PB-0319 | Cap Gasket | 1 |
| 16 | YAC-RC-PB-0317 | Cylinder Housing Cap | 1 |
| 17 | YAC-FN-PB-0022 | Flat Washer | 4 |
| 18 | YAC-FN-PB-0197 | Screw | 4 |
| 19 | YAC-PF-PB-0041 | Nipple | 1 |

7.1.2 Helix 50 BSP Outlet Valve Service Kits

| Stock Code | Description |
|----------------|---|
| YAC-RC-PB-0335 | End Cap Kit - Includes Items 15, 16 & 19 |
| BAC-RC-0476-00 | Helix 50 Valve Seal Kit - Includes Items 3, 6, 8, 13 & 15 |

7.1.3 Helix 50 BSP Outlet Valve Product Exploded View



7.2 Helix 50 NPT Outlet Valve Assembly

| Stock Code | Description | Weight |
|----------------|------------------------------------|--------------------|
| BAC-RC-PB-0310 | Helix 50 NPT Outlet Valve Assembly | 2.13 Kg (4.69 lbs) |

7.2.1 Helix 50 NPT Outlet Valve Parts Listing

| Item | Stock Code | Description | Qty |
|------|----------------|------------------------|-----|
| 1 | YAC-PF-PB-0244 | Nipple - NPT | 1 |
| 2 | YAC-RC-PB-0334 | Exhaust Manifold - NPT | 1 |
| 3 | YAC-BS-PB-0048 | O-Ring | 1 |
| 4 | YAC-FN-PB-0279 | Screw | 4 |
| 5 | YAC-RC-PB-0332 | Exhaust Base - NPT | 1 |
| 6 | YAC-RC-PB-0330 | Diaphragm | 1 |
| 7 | YAC-RC-PB-0329 | Outlet Piston - NPT | 1 |
| 8 | YAC-BS-PB-0047 | O-Ring | 1 |
| 9 | YAC-RC-PB-0327 | Exhaust Cylinder - NPT | 1 |
| 10 | YAC-FN-PB-0283 | Lock Nut | 4 |
| 11 | YAC-FN-PB-0021 | Spring Washer | 4 |
| 12 | YAC-RC-PB-0324 | Piston | 1 |
| 13 | YAC-RC-PB-0325 | Piston U-Seal | 1 |
| 14 | YAC-FN-PB-0281 | Screw | 1 |
| 15 | YAC-RC-PB-0319 | Cap Gasket | 1 |
| 16 | YAC-RC-PB-0318 | Cylinder Housing Cap | 1 |
| 17 | YAC-FN-PB-0022 | Flat Washer | 4 |
| 18 | YAC-FN-PB-0282 | Screw | 4 |
| 19 | YAC-PF-PB-0243 | Nipple | 1 |

7.2.2 Helix 50 NPT Outlet Valve Service Kits

| Stock Code | Description |
|----------------|---|
| YAC-RC-PB-0336 | End Cap Kit NPT - Includes Items 15, 16 & 19 |
| BAC-RC-0476-00 | Helix 50 Valve Seal Kit - Includes Items 3, 6, 8, 13 & 15 |

7.2.3 Helix 50 NPT Outlet Valve Product Exploded View

