Operation Manual: WIWA External Manual Mixing Block

- Manual External Mixing Block
  incl. Individual Flushing Arrangement

Part No.: 0650946
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Please note, this Operation Manual only refers to the function of the External Manual Mixing Block described herein. The same safety and operational guidelines apply as found in the User's Handbook covering WIWA DUOMIX Plural Component Equipment. If the operator does not have a copy of the User's Handbook, this equipment may not be used until the Handbook is available and has been read and understood by the operator.
Component Description

Signs located on the mixing block

<table>
<thead>
<tr>
<th>Location</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>This sign is mounted on the mixing block itself.</td>
<td>The sign refers to the SPRAY LEVER and shows the direction the lever has to be moved to open (ON) or close (OFF) the two inbound base/hardener ball valves. Please note, the ON and OFF positions are opposite those of the other signs!</td>
</tr>
<tr>
<td>This sign is located on the left side of the mounting plate, next to the FLUSH A BALL VALVE.</td>
<td>The sign refers to the FLUSH A BALL VALVE and shows the direction the lever has to be moved to open (ON) or close (OFF) the ball valve.</td>
</tr>
<tr>
<td>This sign is located on the right side of the mounting plate, next to the FLUSH B BALL VALVE.</td>
<td>The sign refers to the FLUSH B BALL VALVE and shows the direction the lever has to be moved to open (ON) or close (OFF) the ball valve.</td>
</tr>
<tr>
<td>This sign is located on the left side of the mounting plate, next to the CIRCULATION / DRAIN LEVER.</td>
<td>The sign refers to the CIRCULATION / DRAIN LEVER and shows the direction the lever has to be moved to open (ON) or close (OFF) the two return ball valves.</td>
</tr>
</tbody>
</table>
Component Description

### Ball valve and mixing block description

<table>
<thead>
<tr>
<th>Operation</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>The two inbound ball valves under the FLUSH A &amp; B BALL VALVES are opened and closed by way of the SPRAY LEVER.</td>
<td>These two inbound ball valves allow base (left) and hardener (right) to flow into the mixing block.</td>
</tr>
<tr>
<td>The FLUSH A &amp; B BALL VALVES are located above the inbound base and hardener ball valves and can be opened and closed by way of the levers mounted on the sides.</td>
<td>These two valves enable solvent to flush the base (A) and hardener (B) check valves individually. They can both be turned on at the same time when flushing the mixing block, hose and gun.</td>
</tr>
<tr>
<td>The circulation / drain ball valves are opened and closed by way of the CIRCULATION / DRAIN LEVER.</td>
<td>These valves reroute inbound base (A) and hardener (B) components to allow them to flow back to the feed containers.</td>
</tr>
<tr>
<td>The two inbound base and hardener connections, as well as the two flush lines are connected directly to the mixing block.</td>
<td>The primary purpose of the mixing block is to pre-mix paint before it goes through the static mixer (connected outbound from the mixing block).</td>
</tr>
</tbody>
</table>
Operation

Never!

During operation, the SPRAY LEVER and CIRCULATION / DRAIN LEVER should never come into contact. This position would result in opening both the spray valves and the circulation valves, leading to improper mixing results and coating failure!!

During operation, the SPRAY LEVER and the FLUSH A and/or B BALL VALVES should never be opened (ON) at the same time. This would result in solvent being added to the mixed paint, leading to improper mixing results and coating failure!!

Initial Start-Up

When first starting up a WIWA DUOMIX Plural Component System, it is recommended to flush the entire unit with solvent, to remove any remaining test medium used for quality control at WIWA’s factory (described in detail in the User’s Handbook for the DUOMIX unit).

To do this, the levers must be positioned as follows:

The SPRAY LEVER is set at the ON position.
The FLUSH A & B LEVERS are in the OFF position.
The CIRCULATION / DRAIN LEVER is set at the OFF position.

After setting up the system for initial flushing as described in the User’s Handbook, solvent will flush the entire system as soon as the spray gun is triggered. This should be done until all test medium has left the system (only pure solvent exits the spray gun).
Operation

Circulation

When first starting a WIWA DUOMIX Plural Component System, it is recommended to circulate the base (A) and hardener (B) components, to ensure that any air pockets in the lines are removed and to allow the components to be brought up to the appropriate spray temperature (if heating is necessary).

To enable the operator to circulate the unit, the levers on the mixing block must be positioned as follows:

- With the CIRCULATION / DRAIN LEVER pressed forward, the two return valves are opened. Base and hardener bypass the mixing block and flow back to the feed containers.
- The SPRAY LEVER is set at the OFF position.
- The FLUSH A & B LEVERS are in the ON position. If the spray gun is triggered during circulation, the solvent pump will start cycling and solvent will be sprayed out of the gun.

Spray

Once the materials have reached the desired spray temperature and all air has been removed from the system, the unit is now ready for spraying.

To do this, the operator must position the levers as follows:

- The SPRAY LEVER is set at the ON position.
- The FLUSH A & B LEVERS are in the OFF position.
- The CIRCULATION / DRAIN LEVER is set at the OFF position.
- The mixing block is now fed with base (A) and hardener (B) at the mixing ratio defined by the choice of material pumps for each component. The pre-mixed paint then exits the mixing block and passes through the static mixer.
**Operation**

**Flushing**

If at any time during operation it becomes necessary to flush the parts that come into contact with mixed material (i.e. mixing block, hose, spray gun) then the mixing block valves must be set for flushing. This refers to any breaks in work, maintenance or repairs on the pump or stopping work at the end of the shift.

Always remember to take into account the pot life of the mixed paint being worked with to avoid any unwanted hardening in the lines and damage to the unit.

This mixing block enables the operator to flush not only the block, hose and gun, but also the inbound check valves for the base (A) and hardener (B) components. Also, to provide a more thorough flush, these valves can be flushed individually before engaging both solvent lines for complete flushing.

**Base (A) Component Check Valve Flush**

The SPRAY LEVER is set at the OFF position.

The FLUSH A LEVER is in the ON position.

The FLUSH A LEVER is in the OFF position.

The CIRCULATION / DRAIN LEVER is set at the ON position.

In this position, the flow of inbound base and hardener has been stopped. When the gun is triggered, solvent will flow through the base (A) check valve in the mixing block, through the block, static mixer, hose and gun.

WIWA recommends flushing in this position for 5 – 10 seconds for better flushing results.

Please note, pictured at the left the CIRCULATION / DRAIN LEVER is in the ON position. If the operator intends to resume work shortly after flushing, he may want to circulate the base (A) and hardener (B) components to ensure that the required spray temperature is maintained.
Operation

Hardener (B) Component Check Valve Flush

The SPRAY LEVER is set at the OFF position.

The FLUSH A LEVER is in the OFF position.

The FLUSH A LEVER is in the ON position.

The CIRCULATION / DRAIN LEVER is set at the ON position.

In this position, the flow of inbound base and hardener has been stopped. When the gun is triggered, solvent will flow through the hardener (B) check valve in the mixing block, through the block, static mixer, hose and gun.

WIWA recommends flushing in this position for 5 – 10 seconds for better flushing results.

Base (A) and Hardener (B) Flush

The SPRAY LEVER is set at the OFF position.

The FLUSH A LEVER is in the ON position.

The FLUSH A LEVER is in the ON position.

The CIRCULATION / DRAIN LEVER is set at the ON position.

In this position, the flow of inbound base and hardener has been stopped. When the gun is triggered, solvent will flow through both the base (A) and hardener (B) check valves in the mixing block, through the block, static mixer, hose and gun.
Deaerating / Draining

If during operation it becomes necessary to deaerate the system, this can be done quickly by engaging the CIRCULATION / DRAIN LEVER when inbound air has been cut off to the WIWA DUOMIX pumps and any feed pumps being used. After cutting off the air supply (as described in the User’s Handbooks for the respective components), position the mixing block as follows:

- With the CIRCULATION / DRAIN LEVER pressed forward, the two return valves are opened. Remaining material pressure is relieved through the hoses heading back to the feed containers.
- The SPRAY LEVER is set at the OFF position.
- The FLUSH A & B LEVERS are in the ON position. If the spray gun is triggered during circulation, the solvent pump will start cycling and solvent will be sprayed out of the gun.

Should the operator desire to change coatings or completely flush the system, base (A) and hardener (B) still located within the unit can be saved by draining them back into the respective feed containers. This is accomplished by removing the suction hoses from the feed containers and allowing the pump to circulate (CIRCULATION / DRAIN LEVER positioned as above). The operator must pay attention to the return lines in the feed containers and, once base (A) and hardener (B) stop flowing, the main pump must be shut down. This process is also described in the User’s Handbook for the WIWA DUOMIX.

Technical Specifications

- Connection for inbound solvent hose: 1/4” NPSM
- Connection for outbound base (A) return hose: 3/8” NPSM
- Connection for outbound hardener (B) return hose: 1/4” NPSM
- Connection for inbound base (A): 3/8” NPSM
- Connection for inbound hardener (B): 1/4” NPSM
- Maximum operating pressure: 6525 psi (450 bar)