Two-Way Types for bleeding pilots of larger valves, for bleeding cylinders or small pressure systems, operating air tools or motors, opening or closing air lines.

Three-Way Types for controlling pilots or diaphragms of larger valves or small cylinders or any pressure system that is alternately pressurized and exhausted.

Service: Pneumatic-vacuum to 200 psi (14 bar). Two way can be used for hydraulic pressures to 500 psi.

Note: All Series “B” valves utilize the basic design and parts of the button-operated types shown below. Basic dimensions and parts lists shown on page 7. Those parts listed and dimensions shown for specific valve types, are required in addition to or in place of the basic parts and dimensions shown on page 7.

**PLAIN BUTTON**

**WITHOUT GUARD:**
For palm, finger, knee, or straight-line mechanical operation. Can also be cam actuated if cam rise is gradual. Aluminum button is 3/16” above valve body, the distance required for full actuation. Nominal operating force is 3.75 lb. + .05 times line pressure.

Suffix Options:
—67 Stainless steel button
—68 Mtg. holes clear #10 screw
—155 Fluorocarbon seals
—294B Rubber button cover

**WITH GUARD:**
For fingertip or straight-line mechanical operation. Button is flush with extended guard to protect against accidental actuation. Aluminum button travels 3/16” for full actuation. Nominal operating force is 3.75 lb. + .05 times line pressure.

Suffix Options:
—67 Stainless steel button
—68 Mtg. holes clear #10 screw
—155 Fluorocarbon seals
—167 Body (and nuts where applicable), brass internals and aluminum button electroless nickel plated.
—S Strong spring for applications with marginal lubrication.
**PALM BUTTON**

Large-diameter black plastic button is standard, for comfortable operation. Green Knob or Red Knob is available. See suffix options below. Nominal operating force is 3.75 lb. + .05 times line pressure.

<table>
<thead>
<tr>
<th>Palm Button</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Mtg.*</td>
<td>Panel Mtg.*</td>
<td></td>
</tr>
<tr>
<td>TWO WAY</td>
<td>BIK-2208-P-25B</td>
<td>BIK-2208-25B</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BIK-3208-P-25B</td>
<td>BIK-3208-25B</td>
</tr>
</tbody>
</table>

Green knob or red knob is available. See Suffix options below.

**Suffix Options:**
- —25BG Green Knob
- —25BR Red Knob
- —67 Stainless steel button
- —68 Mtg. holes clear #10 screw
- —155 Fluorocarbon seals

—167 Body (and nuts where applicable), brass internals and aluminum button 2209-03-25B are electroless nickel plated.
—S Strong spring for applications with marginal lubrication.

*See page 7 for panel Mtg. dimensions.

---

**PALM LEVER**

Can be operated by hand or knee. A light touch is sufficient.

<table>
<thead>
<tr>
<th>Palm Lever</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BLK-2208</td>
<td>BLK-2206</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BLK-3208</td>
<td>BLK-3206</td>
</tr>
</tbody>
</table>

**Suffix Options:**
- —67 Stainless steel button
- —68 Mtg. holes clear #10 screw
- —155 Fluorocarbon seals

—167 Body (and nuts where applicable), brass internals and aluminum button electroless nickel plated.
—S Strong spring for applications with marginal lubrication.

Bracket and Palm Lever is sub-assembly BA-3200-69L
**HAND LEVER**

Light force, offsetting the handle 25° from vertical, is sufficient to operate.

**SPRING RETURN:** Remains actuated only while handle is held in offset position.

<table>
<thead>
<tr>
<th>Hand Lever (Spring Return)</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BHS-2208</td>
<td>BHS-2206</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BHS-3208</td>
<td>BHS-3206</td>
</tr>
</tbody>
</table>

**DETENTED:** Once offset, handle will stay in position, springs back when pushed slightly out of position.

<table>
<thead>
<tr>
<th>Hand Lever (Detented)</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BHK-2208-S</td>
<td>BHK-2206-S</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BHK-3208-S</td>
<td>BHK-3206-S</td>
</tr>
</tbody>
</table>

**Suffix Options:**

- **—68**  Mtg. holes clear #10 screw
- **—155** Fluorocarbon seals
- **—167** Body, brass internals, lever cap are electroless nickel plated

**—S**  Strong spring for applications with marginal lubrication. Std on detented type.

**BALL CAM**

Can be operated by a cam or machine member from any angle, but pressure angle should not exceed 20° from vertical center line.

Cam follower is hardened chrome alloy steel.

<table>
<thead>
<tr>
<th>Ball Cam</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BIK-2208-66</td>
<td>BIK-2206-66</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BIK-2308-66</td>
<td>BIK-2306-66</td>
</tr>
</tbody>
</table>

**Suffix Options:**

- **—68**  Mtg. holes clear #10 screw
- **—155** Fluorocarbon seals
- **—167** Body, brass internals, lever cap are electroless nickel plated

- **—S**  Strong spring for applications with marginal lubrication.
CAM LEVER

Actuated by cam movement in either direction. Cam follower is hardened.

<table>
<thead>
<tr>
<th>Cam Lever</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BCK-2208</td>
<td>BCK-2206</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BCK-3208</td>
<td>BCK-3206</td>
</tr>
</tbody>
</table>

Suffix Options:
- —67 Stainless steel button
- —68 Mtg. holes clear #10 screw
- —155 Fluorocarbon seals
- —167 Body, brass internals, bracket and aluminum button are plated with electroless nickel.
- —S Strong spring for applications with marginal lubrication.

BALL CAM WITH OVERTRAVEL

Can be operated by a cam or machine member. Has 3/16" over-travel after full actuation. This valve can be panel mounted. Pressure angle should not exceed 15° from vertical center line. Cam follower is hardened 430F stainless steel.

<table>
<thead>
<tr>
<th>Ball Cam With Overtravel</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BIK-2208-66-18</td>
<td>BIK-2206-66-18</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BIK-3208-66-18</td>
<td>BIK-3206-66-18</td>
</tr>
</tbody>
</table>

Suffix Options:
- —68 Mtg. holes clear #10 screw
- —155 Fluorocarbon seals
- —167 Body, brass internals, cam cap are electroless nickel plated.
- —S Strong spring for applications with marginal lubrication.
TRIP-CAM LEVER

Actuated by cam travel in one direction only. Overriding device prevents actuation on return stroke. Cam follower is hardened.

<table>
<thead>
<tr>
<th>Trip-Cam Lever</th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWO WAY</td>
<td>BCK-2208-35</td>
<td>BCK-2206-35</td>
</tr>
<tr>
<td>THREE WAY</td>
<td>BCK-3208-35</td>
<td>BCK-3206-35</td>
</tr>
</tbody>
</table>

Suffix Options:
- 67 Stainless steel button
- 68 Mtg. holes clear #10 screw
- 155 Fluorocarbon seals

PILOT

Controlled by a low-pressure signal applied to a small pilot piston integrated into the valve. This actuates the valve. When the pressure is exhausted, the valve returns to the unactuated position. Pilot medium is separate from medium being controlled.

<table>
<thead>
<tr>
<th>⅛ NPT Pilot Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piston</td>
</tr>
<tr>
<td>Pilot Cap</td>
</tr>
<tr>
<td>&quot;U&quot; Cup</td>
</tr>
<tr>
<td>Nut</td>
</tr>
</tbody>
</table>

Minimum Pilot Pressure required for Actuation (PSI):

<table>
<thead>
<tr>
<th>If Inlet Pressure (PSI) is:</th>
<th>0-20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
<th>120</th>
<th>140</th>
<th>160</th>
<th>180</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>20</td>
<td>22</td>
<td>24</td>
<td>26</td>
<td>28</td>
<td>30</td>
<td>32</td>
<td>34</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

Suffix Options:
- 67 Brass and stainless steel internals
- 68 Mtg. holes clear #10 screw
- 155 Fluorocarbon seals

- 167 Body, brass internals, pilot cap are electroless nickel plated.
- S Strong spring for applications with marginal lubrication. Increases pilot pressure by 45%.
BASIC VALVE
DIMENSIONS AND PARTS

NORMALLY CLOSED

NORMALLY OPEN

* Maximum panel thickness is 7/16" except for valves without button guard. For these, maximum panel thickness is 1/4".

<table>
<thead>
<tr>
<th>Repair Kits</th>
<th>Basic Valve Kit</th>
<th>Fluorocarbon Valve Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manual &amp; Mechanical</td>
<td>Pilot</td>
</tr>
<tr>
<td>2 way NO</td>
<td>B-2207</td>
<td>B-2207-P</td>
</tr>
<tr>
<td>2 way NC</td>
<td>B-2209</td>
<td>B-2209-P</td>
</tr>
<tr>
<td>3 way NO</td>
<td>B-3207</td>
<td>B-3207-P</td>
</tr>
<tr>
<td>3 way NC</td>
<td>B-3209</td>
<td>B-3209-P</td>
</tr>
</tbody>
</table>

MANIFOLD MOUNTING TYPE

Any of the standard Series "B" Valves can be supplied for manifold mounting. O-ring recessed ports are provided on one of the body. Valves can be grouped on a common multiple manifold, as shown below. A common inlet supplies all valves on the manifold. Custom designs are also available.

Consult factory for information about types of multiple manifolds available.
Versa has been supplying the oil and gas industry with pneumatic and hydraulic components for over 50 years. We have built a reputation for quality that is unsurpassed in the market for high performance solenoids, pneumatic relays, resets and pilot valves.

WARNINGS REGARDING THE DESIGN APPLICATION, INSTALLATION AND SERVICE OF VERSA PRODUCTS

The warnings below must be read and reviewed before designing a system utilizing, installing, servicing, or removing a Versa product. Improper use, installation or servicing of a Versa product could create a hazard to personnel and property.

DESIGN APPLICATION WARNINGS
Versa products are intended for use where compressed air or industrial hydraulic fluids are present. For use with media other than specified or for non-industrial applications or other applications not within published specifications, consult Versa.

Versa products are not inherently dangerous. They are only a component of a larger system. The system in which a Versa product is used must include adequate safeguards to prevent injury or damage in the event of system or product failure, whether this failure be of switches, regulators, cylinders, valves or any other system component. System designers must provide adequate warnings for each system in which a Versa product is utilized. These warnings, including those set forth herein, should be provided by the designer to those who will come in contact with the system.

Where questions exist regarding the applicability of a Versa product to a given use, inquiries should be addressed directly to the manufacturer. Confirmation should be obtained directly from the manufacturer regarding any questioned application prior to proceeding.

INSTALLATION, OPERATION AND SERVICE WARNINGS
Do not install or service any Versa product on a system or machine without first depressurizing the system and turning off any air, fluid, or electricity to the system or machine. All applicable electrical, mechanical, and safety codes, as well as applicable governmental regulations and laws must be complied with when installing or servicing a Versa product.

Versa products should only be installed or serviced by qualified, knowledgeable personnel who understand how these specific products are to be installed and operated. The individual must be familiar with the particular specifications, including specifications for temperature, pressure, lubrication, environment and filtration for the Versa product which is being installed or serviced. Specifications may be obtained upon request directly from Versa. If damages should occur to a Versa product, do not Operate the system containing the Versa product. Consult Versa for technical information.

VERSAL LIMITED WARRANTY DISCLAIMER AND LIMITATION OF REMEDIES
Versa’s Series products are warranted to be free from defective material and workmanship for a period of ten years from the date of manufacture, provided said products are used in accordance with Versa specifications. Versa’s liability pursuant to that warranty is limited to the replacement of the Versa product proved to be defective provided the allegedly defective product is returned to Versa or its authorized distributor. Versa provides no other warranties, expressed or implied, except as stated above. There are no implied warranties of merchantability or fitness for a particular purpose. Versa’s liability for breach of warranty as herein stated is the only and exclusive remedy and in no event shall Versa be responsible or liable for incidental or consequential damages.

Versa Products Company Inc.
22 Spring Valley Road
Paramus, New Jersey 07652
USA
Phone: 201-843-2400
Fax: 201-843-2931

Versa BV
Prins Willem Alexanderlaan
1429
7321 GB Apeldoorn
The Netherlands
Phone: 01131-55-368-1900
Fax: 01131-55-368-1909

www.versa-valves.com
email: sales@versa-valves.com