D03 Stack Valves

www.FluiDyneFP.com
# Table of Contents:
FluiDyne Modular Stack Valves
D03 Size

<table>
<thead>
<tr>
<th>Function</th>
<th>Basic Symbol</th>
<th>Basic Model</th>
<th>Features</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relief</td>
<td></td>
<td>WFDGMC</td>
<td>Pilot operated relief</td>
<td>2-3</td>
</tr>
<tr>
<td>Reducing/Relieving</td>
<td></td>
<td>WFDGMX</td>
<td>Piloted from and reduced psi in port P, A, or B</td>
<td>4-5</td>
</tr>
<tr>
<td>Direct Check</td>
<td></td>
<td>WFDGMDC</td>
<td>Single check in any port; Dual check in ports A and B</td>
<td>6-7</td>
</tr>
<tr>
<td>Pilot Operated Check</td>
<td></td>
<td>WFDGMPC</td>
<td>Single in port A or B; dual in ports A and B</td>
<td>8-9</td>
</tr>
<tr>
<td>Flow Restrictor</td>
<td></td>
<td>WFDGMFN</td>
<td>Single or dual port, meter-in or meter-out</td>
<td>10-11</td>
</tr>
</tbody>
</table>

**Further information:**
Mounting bolts
Pressure drop at other viscosities
Types H adjusters

<table>
<thead>
<tr>
<th>Model</th>
<th>Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGMC</td>
<td>2.9</td>
</tr>
<tr>
<td>DGMC2</td>
<td>5.5</td>
</tr>
<tr>
<td>DGMR (1)</td>
<td>2.9</td>
</tr>
<tr>
<td>DGMX</td>
<td>2.9</td>
</tr>
<tr>
<td>DGMDMDC</td>
<td>2.2</td>
</tr>
<tr>
<td>DGMPDC</td>
<td>1.8</td>
</tr>
<tr>
<td>DCMFN</td>
<td>2.2</td>
</tr>
</tbody>
</table>
Relief Valve
WFDGMC3 41 & WFDGMC23 41

40 mm Stack Height  Removeable Hand Knob
D03 Mounting  18 Month Warranty

The pressure relief valve functions by relieving system pressure from the A, B, or P line to the T line. The pressure can be adjusted on the valve by the use of hand knobs.

Model Code Breakdown

<table>
<thead>
<tr>
<th>WFDGMC</th>
<th>2</th>
<th>3AT</th>
<th>B</th>
<th>H</th>
<th>(BT</th>
<th>B</th>
<th>H)</th>
<th>41</th>
</tr>
</thead>
</table>

**Relief Valve**

**Type**
2 - Dual relief function
Omit for single relief function

**First Function**
Single relief, or first line of dual models

<table>
<thead>
<tr>
<th>Pressure limited in</th>
<th>Discharge Into</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>P</td>
<td>T</td>
</tr>
<tr>
<td>AB*</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>BA</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>AT</td>
<td>A</td>
<td>T</td>
</tr>
<tr>
<td>BT</td>
<td>B</td>
<td>T</td>
</tr>
</tbody>
</table>

**Pressure Adjustment Range, First Function**
B - 3-100 bar (45-1450 psi)
C - 10-200 bar (145-2900 psi)
F - 50-315 bar (725-4500 psi)

**Pressure Adjustment/Locking Method, First Function**
H - Handknob
W* - Screw with locknut

**Second Function**
Second line of dual models

<table>
<thead>
<tr>
<th>Pressure limited in</th>
<th>Discharge Into</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA*</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>BT</td>
<td>B</td>
<td>T</td>
</tr>
</tbody>
</table>

Omit for single line models

* Available in Reman only

Pressures limited in psi:
- B: 3-100 bar (45-1450 psi)
- C: 10-200 bar (145-2900 psi)
- F: 50-315 bar (725-4500 psi)

Pressures limited in psi: x

* Available in Reman only
Relief Valve
WFDGMC3 41

Performance Characteristics
Typical performance with mineral oil at 21 cSt (102 SUS) and at 50° C (122° F)

Operation

Dimensions (inches)

Single Relief Function

Dual Relief Function

www.FluiDyneFP.com
Pressure Reducing Valve
WFDG MX23 40

40 mm Stack Height    Removeable Hand Knob
D03 Mounting    18 Month Warranty

Pressure reducing valves maintain a reduced outlet pressure regardless of inlet pressures. Pressure is reduced in “P” and is adjustable with the handknob.

The flow path of the pressure reducing valve is normally open, but if the pilot pressure is greater than the pressure setting on the valve, the spring will close the valve.

Model Code Breakdown

Pressure Reducing Valve

Function Ports
- **PA** - Pressure reducing function in line P, piloted from A
- **PB** - Pressure reducing function in line P, piloted from B
- **PP** - Pressure reducing function in line P, piloted from P

Pressure Adjustment Range
- **B** - 3.5-70 bar (50-1000 psi)
- **C** - 10-140 bar (145-2000 psi)
- **F** - 20-250 bar (290-3625 psi)

40 Series
Subject to change

P: (586) 296-7200  E: Sales@FluiDyneFP.com
Pressure Reducing Valve
WFDGMX23 40

Performance Characteristics
DGMX*-3-P*  Low Pressure/Flow Rate Minimum Performance

Operation

Dimensions (inches)
Direct Check Valves
WFDGMDC3 41

40 mm Stack Height    Same Day Shipments
D03 Mounting    18 Month Warranty

These valves enable free flow in one direction but restrict flow in the opposite direction.

Model Code Breakdown

WFDGMDC3  X  A  R  41

Direct Check Valve

Direction of Flow
X - Free flow away from actuator
Y - Free flow towards actuator

Check Location
A - A line
B - B line
P - P line with free flow towards actuator Y in 1
T - T line with free flow away from actuator X in 1

41 Series
Subject to change

Check Valve Opening/Cracking Pressure
L - 5 psi (0.34 bar)
R - 60 psi (4.14 bar)

Call, Email or LiveChat Today!
**Direct Check Valve**

**WFDGMDC3 41**

**Performance Characteristics**

**Internal Leakage Across Closed Check Valve:** Less than 0.25 ml/min (0.015 in³/min) at 250 bar (3625 psi)

Typical performance with mineral oil at 21 cSt (102 SUS) and at 50°C (122°F). Pressure drop: free flow through check valve.

**Operation**

**Dimensions (inches)**

![Diagram of Dimensions](image)
Pilot Operated Check Valve
WFDGMPC3 41

40 mm Stack Height 14.5 psi (1 bar) Cracking Pressure
D03 Mounting 18 Month Warranty

These valves enable flow through one or both service lines A or B, and allow the flow to travel the opposite direction through the other service line using a pilot operated check. If there is pressure in one service line, the check valve will be open on the other service line.

Model Code Breakdown

Pilot Operated Check Valve

Function
- AB - Check in line A, pilot operated from Line B
- BA - Check in line B, pilot operated from Line A

Check Valve Opening/Cracking Pressure

41 Series Subject to change

Second Function of Dual Models
- BA - Check in Line B, pilot operated from Line A
- Remove for single line models

Second Check Valve Opening Cracking Pressure
- K - 1 bar (14.5 psi)
Pilot Operated Check Valve
WFDGMP3 41

Performance Characteristics
Pressure Drop Data. Typical performance with mineral oil at 21 cSt (102 SUS) and at 50°C (122°F).
Pressure drop: flow path A to A1, or B to B1 with check valve pilot-operated fully open.

Operation

Dimensions
Flow Control Valve
WFDGMFN3 41

40 mm Stack Height  Removeable Hand Knob(s)
D03 Mounting  18 Month Warranty

These valves control flow by using an adjustable orifice that is not pressure compensated. They enable meter-in or meter-out control.

Model Code Breakdown

Flow Control Valve

Direction of Flow Control (with respect to machine actuator)
X - Meter-in control, applicable to lines A and B
Y - Meter-out control, applicable to lines A and B

Location of Control Function (single model or first line of dual model)
A - Line A (single model or first line of dual model)
B - Meter-out control, applicable to lines A and B

Type of Control Needle/Orifice (single model or first line of dual model)
2 - Standard control

Adjuster Type (single model or first line of dual model)
H - Hand knob
W* - Screw with locknut

41 Series
Subject to change

Adjuster Type (second line of dual models)
H - Hand knob
Omit for single models

Type of Control Needle/Orifice (second line of dual models)
2 - Standard control
Omit for single models

Control in Second Line
B - Line B (use for dual models with “A” specified)
Omit for single models

* Available in Reman only

P: (586) 296-7200  E: Sales@FluiDyneFP.com
Flow Control Valve
WFDGMFN3 41

Performance Characteristics

Pressure Drop: Typical performance with mineral oil at 21 cSt (102 SUS) and at 50°C (122°F).

![Graph showing pressure drop vs flow rate](image)

**Operation**

**Dimensions (inches)**

**Single Function**

**Dual Function**
Further Information

Mounting Bolts:
The length of mounting bolt used to install a FluiDyne Fluid Power assembly is dependent on how many valves are being utilized.

D03 Bolt Kits:
FluiDyne Fluid Power offers certain selections of bolt kits. Use the following guide to determine your requirements:

<table>
<thead>
<tr>
<th>Valve</th>
<th>Length</th>
<th>Kit #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve only</td>
<td>1.75&quot; (44.45 mm)</td>
<td>WFBK702500</td>
</tr>
<tr>
<td>Valve + 1 modules</td>
<td>3.5&quot; (88.9 mm)</td>
<td>WFBK702501</td>
</tr>
<tr>
<td>Valve + 2 modules</td>
<td>5&quot; (127 mm)</td>
<td>WFBK702502</td>
</tr>
<tr>
<td>Valve + 3 modules</td>
<td>6.5&quot; (165.10 mm)</td>
<td>WFBK702503</td>
</tr>
</tbody>
</table>

Type H Adjuster:
Valve settings can be adjusted by loosening the M4 locking screw, then rotating the hand knob to the desired location. The M4 locking screw should be re-tightened after adjusting. They are available on our WFDGMC-3, WFDGMFN-3, and WFDGMX-3.

Turn clockwise to increase pressure; counter-clockwise to decrease pressure.