SystemStak™ Valves
ISO 4401 Size 03

Build a Compact, Cost-Effective, Reliable Hydraulic System with Eaton SystemStak™ Valves

Reduces System Space Requirements
SystemStak valves make compact hydraulic systems in which specific function valves are “sandwich” mounted between a directional valve and a standard mounting surface.

Reduce Cost
SystemStak valves eliminate intervalve piping and leak-prone tube and pipe connections. Installed cost is less than when using conventional valves.

Versatile and Easy to Install
SystemStak valves have all the internal passages necessary to serve the directional valve topping them. Mounting surfaces and port patterns are to international standards: any valve conforming to ISO 4401 size 03; ANSI/B93.7M size D03; NFPA-D03; CETOP 3; and DIN 24340, NG6 mounting interface can be used with these SystemStak valves.

Rugged and Reliable
Internal working parts are produced from hardened steel and mounted in ductile (spheroidal graphite) iron bodies. Excellent reliability is ensured. Working parts are accessible without removing valves from an assembled stack.

SystemStak Systems... Easy to Understand, Easy to Design
SystemStak circuitry is best shown using slightly different symbols than those for traditional valve configurations. Each SystemStak symbol has the same basic form and size as shown in fig. 1.

Figure 1

For ease of understanding, remember the directions of flow for each line, and that all four flow paths pass through each valve (see fig. 2). For clarity, directional valves are drawn vertically in SystemStak circuit diagrams (see fig. 3).

Figure 3

Each station (valve stack) is a combination of functions. When designing and assembling SystemStak valves, care must be taken to ensure that they interact as required by stacking the functions in the correct sequence (fig. 4 is an example).

Figure 4

Relief valves should normally be positioned next to the mounting surface (i.e. at the bottom of the stack). When both a flow control and a pilot operated check valve are required, it is recommended that the flow control valve be between the check valve and the actuator to prevent check valve chatter.

Figure 5

A combination of directional valve, SystemStak valve(s) and subplate/manifold block (fig. 5: single station subplate and fig. 6: multi-station manifold) completes the assembly.

Figure 6

Fig. 7 represents a complete SystemStak system, showing typical use of functions available from this range. The circuit diagram also shows the use of a tapping plate for accessing line pressure readings, and a blanking plate to close off an unused station of a multi-station manifold.

Figure 7
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<table>
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<th>Basic symbol</th>
<th>Basic model</th>
<th>Features</th>
<th>Page</th>
</tr>
</thead>
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<td>Relief</td>
<td>![Relief Icon]</td>
<td>DGMC</td>
<td>Single, dual and crossport models</td>
<td>5</td>
</tr>
<tr>
<td>Counterbalance</td>
<td>![Counterbalance Icon]</td>
<td>DGMR</td>
<td>Control in port T</td>
<td>8</td>
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<tr>
<td>Sequence</td>
<td>![Sequence Icon]</td>
<td>DGMR1</td>
<td>Single port P sequence</td>
<td>8</td>
</tr>
<tr>
<td>Reducing/relieving</td>
<td>![Reducing/relieving Icon]</td>
<td>DGMX</td>
<td>Piloted from (and reduced pressure in) port P, A or B</td>
<td>8</td>
</tr>
<tr>
<td>Direct check</td>
<td>![Direct Check Icon]</td>
<td>DGMDC</td>
<td>Single check in any port; dual check in ports A and B</td>
<td>11</td>
</tr>
<tr>
<td>Pilot operated check</td>
<td>![Pilot Operated Check Icon]</td>
<td>DGMPC</td>
<td>Single in port A or B; dual in ports A and B</td>
<td>14</td>
</tr>
<tr>
<td>Flow restrictor</td>
<td>![Flow Restrictor Icon]</td>
<td>DGMFN</td>
<td>Single or dual port, meter-in or meter-out</td>
<td>17</td>
</tr>
</tbody>
</table>

Further information:  
- Mounting bolts, subplates and manifold blocks  
- Hydraulic fluids  
- Filtration requirements  
- Temperature limits  
- Pressure drop at other viscosities  
- Types H and K adjusters  
- Warranty and repair  
- Ordering procedure  

Additional information on page 20
SystemStak™ Relief Valves

DGMC-3-41
DGMC2-3-41

General Description

These two-stage adjustable pressure relief valves limit the maximum pressure in the line(s) controlled by the integral relief valve elements.

Pressure adjustment options of control knob (with or without keylock) or screw/locknut design are available. The two-stage operation is basically identical to long-established balanced piston valves, described in detail in Eaton Industrial hydraulics manual.

Model Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Pressure adjustment range, first function</th>
<th>Pressure adjustment/locking method, first function</th>
<th>Pressure adjustment range, second function</th>
<th>Pressure adjustment/locking method, second function</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>A – 3-50 bar (45-725 psi)</td>
<td>H – Handknob</td>
<td>Options as in 4</td>
<td>Options as in 7</td>
</tr>
<tr>
<td>AB</td>
<td>B – 3-100 bar (45-1450 psi)</td>
<td>K – Micrometer with keylock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td>C – 10-200 bar (145-2900 psi)</td>
<td>W – Screw and locknut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT</td>
<td>G – 50-315 bar (725-4500 psi)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Typical Section

![Typical Section Diagram]

<table>
<thead>
<tr>
<th>Type</th>
<th>First function</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Single relief, or first line of dual models</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Discharge Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Single only</td>
</tr>
<tr>
<td>A</td>
<td>Single, or dual with BA</td>
</tr>
<tr>
<td>B</td>
<td>Single only</td>
</tr>
<tr>
<td>T</td>
<td>Single, or dual with BT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure adjustment/locking method, second function</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Discharge Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>Dual with AB</td>
</tr>
<tr>
<td>BT</td>
<td>Dual with AT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gauge port: option on AT and PT single models only</th>
</tr>
</thead>
<tbody>
<tr>
<td>B – G1/4“1/4 BSPF</td>
</tr>
<tr>
<td>S – SAE 4 (7/16”-20 UNF-2B)</td>
</tr>
<tr>
<td>Blank – No gauge</td>
</tr>
</tbody>
</table>

Design number, 41 series

Subject to change. Installation dimensions unchanged for design numbers 40 to 49 inclusive.
Functional Symbols

For simplicity these two-stage valves are represented as single-stage models

DGMC-3-PT-41  DGMC-3-PT-A**-BT-41

DGMC-3-BA-41  DGMC-3-AB**-BA-41

Operating Data

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum flow rate</td>
<td>60 L/min (16 USgpm)</td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>315 bar (4500 psi)</td>
</tr>
<tr>
<td>Pressure drops</td>
<td>See graphs</td>
</tr>
<tr>
<td>Mounting position</td>
<td>Optional</td>
</tr>
<tr>
<td>Mass Approx.</td>
<td>DGMC- 1.3kg (2.9lb)</td>
</tr>
<tr>
<td></td>
<td>DGMC2- 2.5kg (5.5lb)</td>
</tr>
</tbody>
</table>

Performance Data

Pressure override Typical performance for PT models at max. pressure settings with mineral oil at 21 cSt (102 SUS) and at 50°C (122°F).
Installation Dimensions

in mm (inches)

DGMC(2)-3**-**(-B**-**)-41
Models with type VV adjuster

To adjust valve setting slacken off locknut and turn adjuster screw.

- Turn clockwise to increase pressure; counter-clockwise to decrease pressure
Re-tighten locknut after completing adjustment.

Line A adjustment

Line B or Line P adjustment (according to model type)

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGMC-3-AT-*W-41</td>
<td>–</td>
<td>–</td>
<td>154 (6.1)</td>
<td>–</td>
</tr>
<tr>
<td>DGMC-3-BT-*W-41</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>156 (6.2)</td>
</tr>
<tr>
<td>DGMC-3-AT-*W-*41</td>
<td>–</td>
<td>160 (6.3)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DGMC-3-PT-*W-41</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>156 (6.2)</td>
</tr>
<tr>
<td>DGMC-3-PT-*W-*41</td>
<td>–</td>
<td>160 (6.3)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DGMC-2-AT-*W-BT-*W-41</td>
<td>234 (9.2)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

● For gage port thread options see model code [8]
Installation Dimensions
in mm (inches)

<table>
<thead>
<tr>
<th>Model</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGMC-3-AB-*W-41</td>
<td>–</td>
<td>–</td>
<td>164 (6.5)</td>
</tr>
<tr>
<td>DGMC-3-BA-*W-*41</td>
<td>–</td>
<td>164 (6.5)</td>
<td>–</td>
</tr>
<tr>
<td>DGMC2-3-AB-*W-BA-*W-41</td>
<td>234 (9.2)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
SystemStak™
Pressure Controls: Counterbalance, Sequence and Pressure Reducing Valves

DGMR(1)-3-40
DGMX*-3-40

General Description
These single-stage valves operate by the application of pressure on the end of the valve spool, acting against a spring which is loaded by means of the adjustment mechanism.

In the counterbalance and sequence valves the spool is offset by the spring such that flow cannot pass through the valve. When the force exerted by the pilot pressure on the spool exceeds the force of the main spring, the spool is moved to allow flow through the valve.

In the pressure reducing valve the flow path is normally open and is closed as the pilot pressure exceeds the setting of the valve. Excessive pressure in the reduced-pressure line is prevented by a pressure relieving function.

Pressure adjustment options of control knob (with or without keylock) or screw/locknut design are available.

Model Code

<table>
<thead>
<tr>
<th>Type</th>
<th>Function ports</th>
<th>Pressure adjustment/locking method</th>
<th>Gauge port</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For DGMR only:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TA – Counterbalance</td>
<td>PA – Pressure reducing</td>
<td>B – G1/8 &quot; (1/8 BSPF)</td>
</tr>
<tr>
<td></td>
<td>control function</td>
<td>function in line P, piloted</td>
<td>S – SAE 4(7/16&quot;-20 UNF-2B)</td>
</tr>
<tr>
<td></td>
<td>in “T” port, controlled by</td>
<td>from A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pressure in “A” port</td>
<td>PB – Pressure reducing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For DGMX1 only:</td>
<td>function in line P, piloted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PP – Sequence control</td>
<td>from B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in “P” port, controlled by</td>
<td>PP – Pressure reducing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>function in line P, piloted</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>from P</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blank – Adjuster at “B”-port end</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Option on DGMX only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L – Adjuster at “A”-port end</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of valve</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Performance Data

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

Functional Symbols

Operating Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum flow rate</td>
<td>60 L/min (16 USgpm)</td>
</tr>
<tr>
<td>Maximum operating pressure</td>
<td>315 bar (4500 psi)</td>
</tr>
<tr>
<td>Pressure drops</td>
<td>See graphs</td>
</tr>
<tr>
<td>Mounting position</td>
<td>Optional</td>
</tr>
</tbody>
</table>
| Mass Approx.                | DGMR*- 1.3kg (2.9lb)  
DGMX*- 1.3kg (2.9lb)    |
Performance Data
(contd...)

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

Effect of Back-Pressure
The effective reduced pressure is equal to the valve adjustment setting plus any back-pressure in line T.

Dead Head Leakage
Typical leakage flow at 250 bar inlet pressure from reduced pressure line into T at “Dead Head” condition (i.e. No flow required at the reduced pressure outlet.)

Installation Dimensions
in mm (inches)

**DGMR-3-TA-**-**-40**
**DGMR1-3-PP-**-**-40**
**DGMX(*)-3-P*(L)-**-**-40**

Models with type W adjuster
To adjust valve setting slacken off locknut and turn adjuster screw.

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

Re-tighten locknut after completing adjustment.

DGMX2-3-**L** models have adjuster and end cap/gage port locations interchanged from positions shown.

For gage port thread options see model code (pressure plug fitted).
**SystemStak™**

**Direct Check Valves**

**DGMDC-3-41**

**General Description**
These valves allow free flow in one direction in the line in which the check valve element(s) is (are) located; flow in the opposite direction is not possible.

**Model Code**

**DGMDC -3- * - * * (-* *) - 41**

- **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 (X)
  - T – T line with free flow away from actuator (Y)

- **Check valve opening/ cracking pressure**
  - K – 1 bar (14.5 psi)
  - M – 2.5 bar (36 psi)
  - N – 5 bar (72 psi)

- **Check valve opening/ cracking pressure (second function of dual model)**
  Options as in 3

- **Design number, 40 series**
  Subject to change. Installation dimensions unchanged for design numbers 40 to 49 inclusive.

**Functional Symbols**

- **DGMDC-3-X-A**
- **DGMDC-3-Y-A**
- **DGMDC-3-X-B**
- **DGMDC-3-Y-B**
- **DGMDC-3-Y-P**
- **DGMDC-3-X-T**
- **DGMDC-3-Y-A-B**
Maximum flow rate 60 L/min (16 USgpm)
Maximum operating pressure 315 bar (4500 psi)
Pressure drops See graphs
Mounting position Optional
Mass approximate 1 kg (2.2 lb)

Performance Characteristics

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

Pressure drop: free flow through check valve

For other viscosities, see “Further Information”.

Internal Leakage Across Closed Check Valve
Less than 0,25 ml/min (0.015 in³/min) at 250 bar (3625 psi)
Installation Dimensions in mm (inches)

**DGMDC-3-Y-A*-B*-41**

```
+---+---+---+---+
|   |   |   |   |
|   |   |   |   |
|   |   |   |   |
+---+---+---+---+
```

- A: 13 (0.51)
- T: 101 (4) max.
- B: 40 (1.57)
- P: 3.5 (0.14)
- Ø3 (0.12 dia)
- 4 holes through: Ø5.3 (0.21 dia)
- 4 off "O" seals supplied for this mounting face

**Model Type**

<table>
<thead>
<tr>
<th>Model Type</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGMDC-3-X-A*-41</td>
<td></td>
</tr>
<tr>
<td>DGMDC-3-X-B*-41</td>
<td>16.75</td>
</tr>
<tr>
<td>DGMDC-3-Y-P*-41</td>
<td>(0.66)</td>
</tr>
<tr>
<td>DGMDC-3-X-T*-41</td>
<td></td>
</tr>
<tr>
<td>DGMDC-3-Y-A*-41</td>
<td>23.25</td>
</tr>
<tr>
<td>DGMDC-3-Y-B*-41</td>
<td>(0.92)</td>
</tr>
<tr>
<td>DGMDC-3-Y-A*-B*-41</td>
<td></td>
</tr>
</tbody>
</table>
SystemStak™

Pilot Operated Check Valves

DGMPC-3-41

General Description

These valves provide pilot operated check functions in one or both service lines (A or B), the operating pilot supply coming from the opposite service line. Thus with pressure in one service line the check valve in the other service line will be open (subject to system/actuator pressures being correct for the valve area ratios).

A 3:1 area ratio of pilot piston to check valve seat is supplemented by an optional 10:1 decompression feature.

Model Code

DGMPC -3- (D)** *[-(D)** *] - 41

1 Decompression feature
D – 10:1 decompression ratio
Omit if not required

2 Function
AB – Check in line A, pilot operated from line B
D – Check in line B, pilot operated from line A (single check model only)

3 Check valve opening/cracking pressure
K – 1 bar (14.5 psi)
M – 2.5 bar (36 psi)
N – 5 bar (72 psi)

4 Decompression feature (second function of dual models)
As in 1
Omit for single line models, and if not required for dual models
Note: "D" must be specified here, for dual models, if called for in 3

5 Second function of dual models
BA – Check in line B, pilot operated from line A
Omit for single line models

6 Check valve opening/cracking pressure (second function of dual models)
Options as in 4
Omit for single line models

7 Design number, 41 series
Subject to change. Installation dimensions unchanged for design numbers 40 to 49 inclusive.

Functional Symbols

DGMPC-3-(D)AB*--(D)BA*

DGMPC-3-(D)AB*

DGMPC-3-(D)BA*
Operating Data

Performance Data

Pressure Drop Data

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

Pressure drop: flow path A1 to A or B1 to B (no pilot-pressure operation)

Pressure drop: flow path A to A1, or B to B1 with check valve pilot-operated fully open

Pilot Pressures

Pilot area ratios:
Main check valve ................. 3:1
Decompression poppet ............ 10:1
Use applicable ratio and opening/cracking pressure to calculate pilot pressure to open valve element, applied to the following formulae:

To open valve or decompression poppet in line A:
Pressure at B1 = \( \frac{p_B + p_C - p_{A1}}{\text{Area ratio factor}} + p_{A1} \)

To open valve or decompression poppet in line B:
Pressure at A1 = \( \frac{p_B + p_C - p_{B1}}{\text{Area ratio factor}} + p_{B1} \)

Where:
\( p_A \) = Pressure at A
\( p_C \) = Cracking/opening pressure
\( p_{A1} \) = Pressure at A1
\( p_B \) = Pressure at B
\( p_{B1} \) = Pressure at B1
A =  
B =  
A1 = see functional symbols
B1 = Service line location;

Leakage

Less than 0,25 ml/min (0.015 in3/min) at 250 bar (3625 psi).
### Installation Dimensions in mm (inches)

**DGMPC-3-(D)AB*--(D)BA*-41**

- A(A1): 40 (1.57)
- B(B1): 23 (0.9)
- T: 3.5 (0.14)
- Ø 3 (0.12 dia)

- 4 holes through: Ø 5.3 (0.21 dia)
- 4 off “O” seals supplied for this mounting face

**DGMPC-3-(D)AB*-41**

- 101 (4) max.
- 13 (0.51)
- 12 (0.47)
- 97 (3.82)

**DGMPC-3-(D)BA*-41**

- 47 (1.8)
- 46 (1.8)
- 39 (1.54)
- 76 (3)
- 13 (0.51)
- 97 (3.82)
SystemStak™
Flow Restrictor Valves

DGMFN-3-41

General Description
These valves regulate flow by means of an adjustable orifice which is not pressure compensated, and flow through the valve is entirely dependent upon pressure drop at any particular setting of the orifice.
Dual service-line models with an integral non-return valve around each control orifice provide for meter-in or meter-out control; single line versions of these are available.
For flow restriction in P or T lines (where reverse free flow is not required) models without check valves are available.
Adjustment options are either screw/locknut or handknob.

Model Code

DGMFN -3- * * * (-* * *) - 41

1 2 3 4 5 6 7 8

1 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
Z – Meter-in control, line P only and meter-out control, line T only.

2 Location of control function (single model or first line of dual model)
P – Line P (single model only)
T – Line T (single model only)
A – Line A (single model or first line of dual model)
B – Line B (single model only)

3 Type of control needle/orifice (single model or first line of dual model)
1 – Fine control
2 – Standard control

4 Adjuster type (single model or first line of dual model)
H – Handknob
W – Screw/locknut

5 Control in second line
B – Line B (use for dual models with “A” specified at 3)
Omit for single models

6 Type of control needle/orifice (second line of dual models)
Options as in 3
Omit for single models

7 Adjuster type (second line of dual models)
Options as in 4
Omit for single models

8 Design number, 41 series
Subject to change. Installation dimensions unaltered for design numbers 40 to 49 inclusive.
Functional Symbols

DGMFN-3-X-A**-B**

DGMFN-3-Z-P**

DGMFN-3-Z-T**

DGMFN-3-Y-A**-B**

Operational Data

Maximum flow rate 60 L/min (16 USgpm)
Maximum operating pressure 315 bar (4500 psi)
Pressure drops See graphs
Mounting position Optional
Mass approximate 1.1 kg (2.2 lb)

Performance Characteristics

Pressure Drop

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

Type “1” needle (see model codes and )

Type “2” needle (see model codes and )

Free flow through check valve

• For other viscosities see “Further Information”.

- Functional Symbols
- Operational Data
- Performance Characteristics
- Pressure Drop
- Free flow through check valve
Installation Dimensions in mm (inches)

DGMFN-3-X-***(-***)-41
DGMFN-3-Y-***(-***)-41
DGMFN-3-Z-***-41

Models with type W adjuster

To adjust valve setting, slacken off locknut and turn screw. Re-tighten locknut after completing adjustment.

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGMFN-3-X-A*W-41</td>
<td>121 (4.76)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>16,75 (0.7)</td>
</tr>
<tr>
<td>DGMFN-3-X-A<em>W-B</em>W-41</td>
<td>–</td>
<td>–</td>
<td>167 (6.6)</td>
<td>–</td>
<td>16,75 (0.7)</td>
</tr>
<tr>
<td>DGMFN-3-X-B*W-41</td>
<td>–</td>
<td>122 (4.8)</td>
<td>–</td>
<td>–</td>
<td>16,75 (0.7)</td>
</tr>
<tr>
<td>DGMFN-3-Y-A*W-41</td>
<td>121 (4.76)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>23,25 (0.9)</td>
</tr>
<tr>
<td>DGMFN-3-Y-A<em>W-B</em>W-41</td>
<td>–</td>
<td>–</td>
<td>167 (6.6)</td>
<td>–</td>
<td>23,25 (0.9)</td>
</tr>
<tr>
<td>DGMFN-3-Y-B*W-41</td>
<td>–</td>
<td>122 (4.8)</td>
<td>–</td>
<td>–</td>
<td>23,25 (0.9)</td>
</tr>
<tr>
<td>DGMFN-3-Z-P*W-41</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>123 (4.8)</td>
<td>16,75 (0.7)</td>
</tr>
<tr>
<td>DGMFN-3-Z-T*W-41</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>123 (4.8)</td>
<td>23,25 (0.9)</td>
</tr>
</tbody>
</table>
Further Information

Mounting Bolts, Subplates and Manifold Blocks

Mounting Bolts

The length of mounting bolt used to install a SystemStak assembly is dependent on the number of valves being used, plus the length needed for mounting other valves in the assembly, such as:

- solenoid operated, or other type of directional valve
- tapping plate
- blanking or crossover plate

Eaton offers a large selection of bolt kits (one bolt kit for these SystemStak valves comprises 4 bolts) in metric and inch sizes as listed. To determine your needs, use the following guide for bolt length calculation.

### Bolt Kit Selection

<table>
<thead>
<tr>
<th>Metric: M5-6g</th>
<th>Inch: 10-24 UNC-3A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (mm)</td>
<td>Eaton bolt kit number</td>
</tr>
<tr>
<td>50</td>
<td>BKDG3699M 2.0</td>
</tr>
<tr>
<td>60</td>
<td>BK466836M 2.375</td>
</tr>
<tr>
<td>80</td>
<td>BK464125M 2.75</td>
</tr>
<tr>
<td>100</td>
<td>BK466837M 3.125</td>
</tr>
<tr>
<td>120</td>
<td>BK464125M 3.937</td>
</tr>
<tr>
<td>140</td>
<td>BK466840M 4.312</td>
</tr>
<tr>
<td>160</td>
<td>BK466841M 4.75</td>
</tr>
<tr>
<td>180</td>
<td>BK466842M 5.125</td>
</tr>
<tr>
<td>200</td>
<td>BK464125M 5.5</td>
</tr>
<tr>
<td>220</td>
<td>BK466843M 5.937</td>
</tr>
<tr>
<td>240</td>
<td>BK466844M 6.312</td>
</tr>
<tr>
<td>260</td>
<td>BK466845M 6.687</td>
</tr>
</tbody>
</table>

### Subplates and Manifold Blocks

See “Subplates and Auxiliary Connection Plates” catalog 2425.

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A = Bolt clamp length in directional valve, blanking plate, crossover plate, etc.

B = Height of intermediate valve stack, comprising Eaton SystemStak valve(s) plus tapping plates, etc.

C = Depth of thread engagement in subplate/ manifold block:

8/10 mm (0.3/0.4), valid for: 315 bar (4500 psi) when using cast iron or steel subplates/manifold blocks, or 210 bar (3045 psi) when using Eaton aluminium alloy manifold blocks.

L = Required bolt length; select from the table.

### Notes

1. Bolts should be torqued to 7-9 Nm (63-80 lbf in) with threads lubricated.
2. If not using Eaton bolt kits, bolts must be to Grade 12.9 (ISO 898) or better.
Further Information

**Pressure Drop at Other Viscosities**

Published pressure drop data is valid for a fluid viscosity of 21 cSt (102 SUS). The graph shows the approximate percentage change in pressure drop for a range of other viscosities. To determine the approximate pressure drop for any given fluid viscosity, multiply the published data by the % factor for the required viscosity.

**Type H Adjuster**

To adjust valve setting, slacken M4 locking screw and rotate knob ⬇️. Retighten locking screw after completing adjustment.

Available on
- DGMC-3
- DGMR-3
- DGMX-3

**Type K Adjuster**

Key must be inserted and turned to allow valve to be adjusted ⬇️. When key is removed, adjustment mechanism can be freely turned without changing valve setting.

Available on
- DGMC-3
- DGMR-3
- DGMX-3

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