**VGG Series**

**VGG10.xxxU Gas Valves**

for use with SKPxx.xxxUx electro-hydraulic actuators

ISO 9001 and 14000 REGISTERED FIRM

Only with series SKPxx.xxxUx actuators

**Description**

The normally closed VGG10.xxxU series of single body gas valves combined with SKPxx.xxxUx series electro-hydraulic actuators to provide safety shut-off, gas pressure regulation and/or air-gas ratio control for commercial or industrial gas burners.

<table>
<thead>
<tr>
<th>Model Numbers</th>
<th>Body style</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGG10.154U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
<tr>
<td>VGG10.204U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
<tr>
<td>VGG10.254U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
<tr>
<td>VGG10.404U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
<tr>
<td>VGG10.504U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
<tr>
<td>VGG10.654U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
<tr>
<td>VGG10.804U</td>
<td>Single</td>
<td>NPT thread</td>
</tr>
</tbody>
</table>
Features

- UL listed, FM approved, CSA certified, IRI approvable, ISO 9001 and 14000 certified. CE, Australian and Japanese approved versions available
- ¼" NPT pressure taps on the inlet and outlet (see Table 2 for details)
- Stainless steel mesh inlet filter protects the valve seat as well as downstream components
- Dual stem guides ensure precise disc alignment and tight shut-off
- Valves in connection with SKPxx.xxxUx actuators open slowly and close rapidly
- Contoured valve disc provides smooth release of gas and stable regulating control

Application

All VGG10.xxxU valves can be combined with any SKPxx.xxxUx series actuator. The actuator can be mounted while the valve is installed and under pressure.

SKPxx.xxxUx regulating actuators are applicable for both low and high supply gas pressure applications, eliminating excessive regulator inventories. Maximum pressure ratings vary with valve size (see Table 2).

All VGG10.xxxU valves perform these functions in combination with each of the following actuators:

- SKP15.xxxUx  Safety shut-off
- SKP25.xxxUx  Safety shut-off and constant pressure regulation or zero governor
- SKP55.xxxUx  Safety shut-off, pressure regulation and differential pressure air-gas ratio control
- SKP75.xxxUx  Safety shut-off, pressure regulation and adjustable air/gas ratio control

Since more than one function can be performed by a single valve, fewer components and fittings are required, significantly reducing both the size and weight of the gas train. In addition, smaller diameter gas valves can be used. For details on valve sizing refer to the flow charts (figures 2 and 3).

CAUTION:
Do not oversize valves equipped with a regulating SKP25.xxxUx / SKP55.xxxUx / SKP75.xxxUx actuator. Oversizing may limit turndown and could cause oscillations.
Ordering information

Gas valves and actuators are ordered separately. For additional SKPxx.xxxUx actuator information, see the following technical instructions:

- SKP15.xxxUx 155-751P25
- SKP25.xxxUx 155-752P25
- SKP55.xxxUx 155-753P25
- SKP75.xxxUx 155-754P25

**NOTE:**

The SKPxx.xxxUx actuators have an operating temperature range of 14 °F to 140 °F (-10 °C to 60 °C)!

Table 2. Product numbers

<table>
<thead>
<tr>
<th>Product number</th>
<th>Size NPT</th>
<th>Maximum operating pressure psi</th>
<th>Close-off pressure psi</th>
<th>Capacity CFH Natural gas at P = 1&quot; W.C.</th>
<th>Number of test points, 1/4&quot; NPT</th>
<th>Valve body material</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGG10.154U</td>
<td>½&quot;</td>
<td>20</td>
<td>75</td>
<td>327 / 242*</td>
<td>2</td>
<td>Aluminum</td>
</tr>
<tr>
<td>VGG10.204U</td>
<td>¾&quot;</td>
<td>20</td>
<td>75</td>
<td>614 / 442*</td>
<td>2</td>
<td>Aluminum</td>
</tr>
<tr>
<td>VGG10.254U</td>
<td>1&quot;</td>
<td>20</td>
<td>75</td>
<td>914 / 686*</td>
<td>2</td>
<td>Aluminum</td>
</tr>
<tr>
<td>VGG10.404U</td>
<td>1 ½&quot;</td>
<td>20</td>
<td>75</td>
<td>2,047 / 1,643*</td>
<td>2</td>
<td>Aluminum</td>
</tr>
<tr>
<td>VGG10.504U</td>
<td>2&quot;</td>
<td>20</td>
<td>75</td>
<td>3,511</td>
<td>2</td>
<td>Aluminum</td>
</tr>
<tr>
<td>VGG10.654U</td>
<td>2 ½&quot;</td>
<td>10</td>
<td>25</td>
<td>5,085</td>
<td>1</td>
<td>Cast iron</td>
</tr>
<tr>
<td>VGG10.804U</td>
<td>3&quot;</td>
<td>10</td>
<td>25</td>
<td>6,158</td>
<td>1</td>
<td>Cast iron</td>
</tr>
</tbody>
</table>

* VGG10.xxxU valves, ½-through 1 ½-inch have reduced flow when used with AGA66 (NEMA 4 kit). Capacities shown are with/without NEMA 4 kit

Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGA61</td>
<td>Manual adjusting throttle attachment AGA61 permits VGG10.xxxU series valves to be used as adjustable limiting orifice valves. Once adjusted, the AGA61 has a provision to be sealed from tampering.</td>
</tr>
<tr>
<td>AGA66</td>
<td>Sealing gasket to provide NEMA 3, NEMA 3R, and NEMA 4 protection.</td>
</tr>
<tr>
<td></td>
<td>- Gasket kit to mount between actuator SKPxx.xxxUx and valve VGG10.xxxU</td>
</tr>
<tr>
<td></td>
<td>- Degree of protection increased from IP54 to IP65</td>
</tr>
<tr>
<td></td>
<td>- Refer to Mounting Instruction M7643.2 (74 319 0421 0)</td>
</tr>
</tbody>
</table>
Specifications

Agency approvals/standards

UL/429, FM/7400, CSA/ANSI Z21.21/CSA 6.5 C/I
IRI approvable
Agency marks apply only for VGG10.xxxU series

Gas valve bodies assembled with SKPxx.xxxUx

actuators.

Operating environment

Maximum operating pressure

See Table 2

Maximum back pressure (differential)

2 psi (150 mbar)

Close-off pressure

See Table 2

Permissible gas temperature

14 °F to 140 °F (-10 °C to 60 °C)

Permissible operating temperature

14 °F to 140 °F (-10 °C to 60 °C)

Use

Siemens gas valves in accordance with UL429.

The valve is used as:
- Safety shutoff valve (in connection with SKP15.xxxUx)
- Pressure regulation with safety shutoff function (in connection with SKP25.xxxUx,
SKP55.xxxUx or SKP75.xxxUx)

Perm. mounting position

See Type summary

Types of gases

Suitable natural gases, propane, butane and air

Strainer

Built-in, mesh size 0.9 mm

Physical characteristics

Body materials

See Table 2

Weight

See Table 2

See Table 3

Connections

Pipe connections

NPT threads (see Table 2)

Pressure and vent taps

See Table 2
Operation

All VGG10.xxxU gas valves are normally closed, two-way valves. The valves have a standard, integral, stainless steel mesh filter (0.9 mm) in the inlet to protect the downstream components against contamination.

VGG10.xxxU series gas valves have a contoured valve disc for stable regulating control and smooth release (see Figure 1).

Sectional view of VGG10.xxxU valve

Figure 1. Sectional view of VGG10.xxxU models

Closing spring:
The valve includes a closing spring. The spring force acts as closing force on the valve seat.
Gas flow charts

Figure 2. Sizing VGG10.xxxU valves without AGA66 NEMA 4 kit

Assumptions:
1) Pressure downstream of valve is atmospheric
2) Maximum temperature is 140 °F
3) Valve in fully open position

**NOTE:**
Pressure drop is for one valve when using SKPx5.xxxUx actuator, without a NEMA 4 kit (AGA66).

**CAUTION:**
Do not oversize valves equipped with regulating actuators SKP25.xxxUx, SKP55.xxxUx or SKP75.xxxUx. Oversizing may limit turndown and could cause oscillations.
Gas flow charts, continued

Assumptions:
1) Pressure downstream of valve is atmospheric
2) Maximum temperature is 140 °F
3) Valve in fully open position

NOTE:
Pressure drop is for one valve when using SKPx5.xxxUx actuator, with a NEMA 4 kit (AGA66).

CAUTION:
Do not oversize valves equipped with regulating actuators SKP25.xxxUx, SKP55.xxxUx or SKP75.xxxUx. Oversizing may limit turndown and could cause oscillations.
Dimensions
Dimensions in Inches (mm)

VGG10.xxxU

Ø3.8" (96.52 mm)

1/4" NPT
## Dimensions

Dimensions in Inches (mm)

### Table 3. VGG10.xxxU models

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Nominal size</th>
<th>D inch (mm)</th>
<th>Ø E inch (mm)</th>
<th>F inch (mm)</th>
<th>J inch (mm)</th>
<th>S inch (mm)</th>
<th>T inch (mm)</th>
<th>W inch (mm)</th>
<th>Weight pounds (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGG10.154U</td>
<td>½&quot;</td>
<td>3.11 (79)</td>
<td>3.15 (80)</td>
<td>4.29 (109)</td>
<td>1.26 (32)</td>
<td>1.22 (31)</td>
<td>1.10 (28)</td>
<td>1.81 (46)</td>
<td>1.65 (0.75)</td>
</tr>
<tr>
<td>VGG10.204U</td>
<td>¾&quot;</td>
<td>3.11 (79)</td>
<td>3.15 (80)</td>
<td>4.29 (109)</td>
<td>1.26 (32)</td>
<td>1.22 (31)</td>
<td>1.10 (28)</td>
<td>1.81 (46)</td>
<td>1.65 (0.75)</td>
</tr>
<tr>
<td>VGG10.254U</td>
<td>1&quot;</td>
<td>3.11 (79)</td>
<td>3.15 (80)</td>
<td>4.29 (109)</td>
<td>1.26 (32)</td>
<td>1.22 (31)</td>
<td>1.10 (28)</td>
<td>1.81 (46)</td>
<td>1.50 (0.70)</td>
</tr>
<tr>
<td>VGG10.404U</td>
<td>1 ½&quot;</td>
<td>4.02 (102)</td>
<td>4.96 (126)</td>
<td>5.89 (149.7)</td>
<td>1.61 (41)</td>
<td>1.34 (34)</td>
<td>1.34 (34)</td>
<td>2.36 (60)</td>
<td>3.30 (1.50)</td>
</tr>
<tr>
<td>VGG10.504U</td>
<td>2&quot;</td>
<td>4.21 (107)</td>
<td>4.96 (126)</td>
<td>6.68 (169.7)</td>
<td>1.97 (50)</td>
<td>1.34 (34)</td>
<td>1.34 (34)</td>
<td>2.95 (75)</td>
<td>4.00 (1.80)</td>
</tr>
<tr>
<td>VGG10.654U</td>
<td>2 ½&quot;</td>
<td>5.91 (150)</td>
<td>7.28 (185)</td>
<td>11.42 (290)</td>
<td>3.62 (92)</td>
<td>2.44 (62)</td>
<td>---</td>
<td>3.94 (100)</td>
<td>32.50 (15.80)</td>
</tr>
<tr>
<td>VGG10.804U</td>
<td>3&quot;</td>
<td>5.91 (150)</td>
<td>7.28 (185)</td>
<td>12.20 (310)</td>
<td>3.94 (100)</td>
<td>2.44 (62)</td>
<td>---</td>
<td>4.72 (120)</td>
<td>34.00 (15.50)</td>
</tr>
</tbody>
</table>