

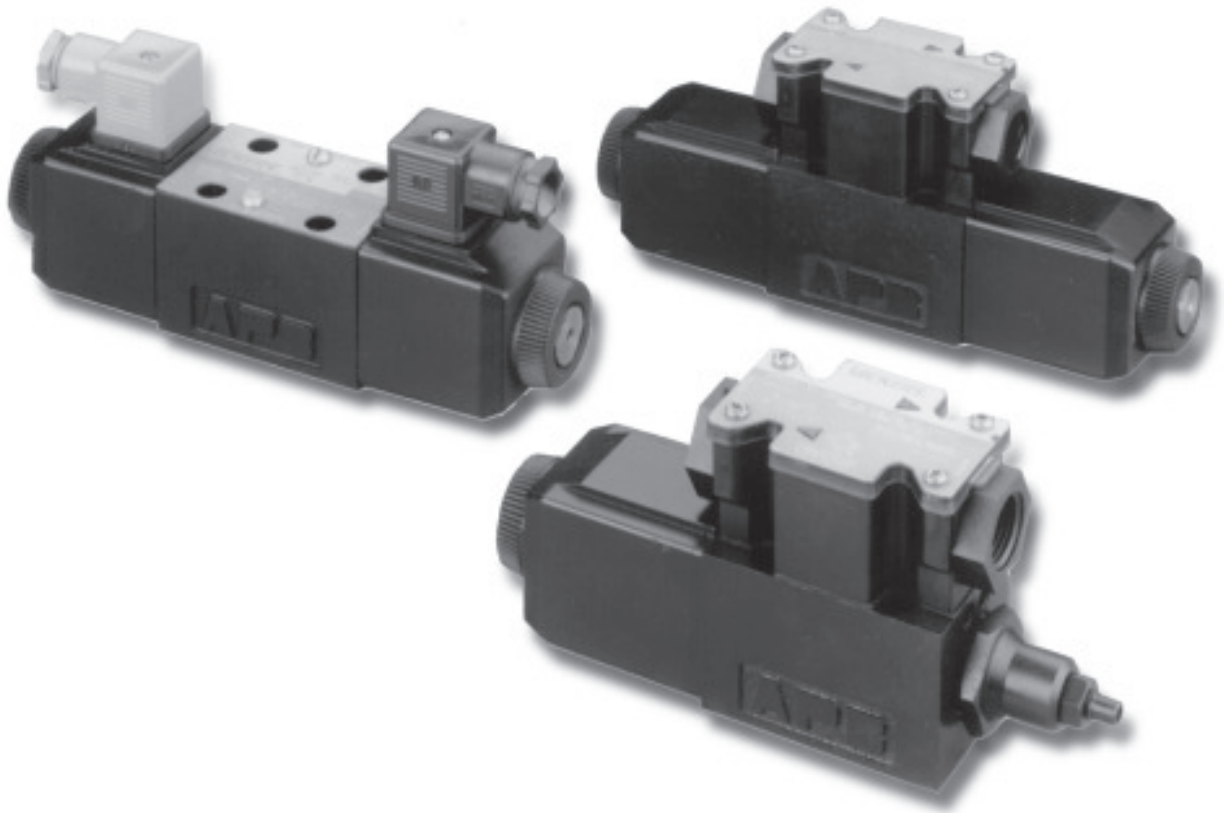
Vickers®

## Proportional Valves



### Proportional Directional and Throttle Valves – Solenoid Operated

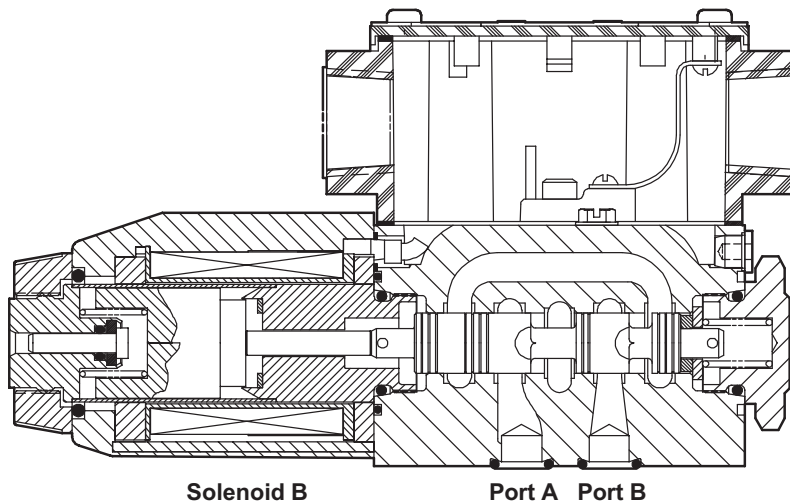
KDG4V-3S and KTG4V-3S standard performance series  
K(A)DG4V-3 and K(A)TG4V-3 high performance series  
ISO 4401-03 (NFPA D03) – Pressures to 350 bar (5075 psi)



**VICKERS**

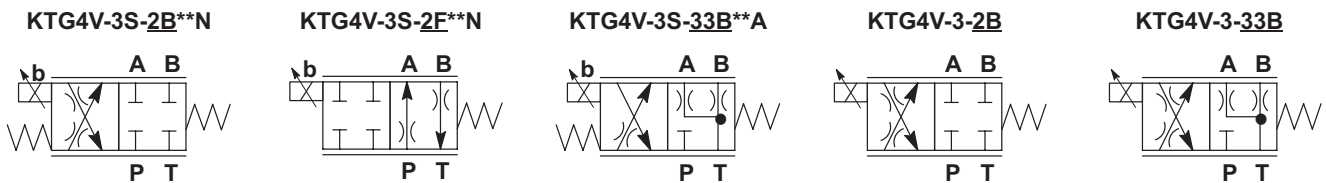
Revised 11/98

## Cross Section of Typical Valve (KTG4V-3S)

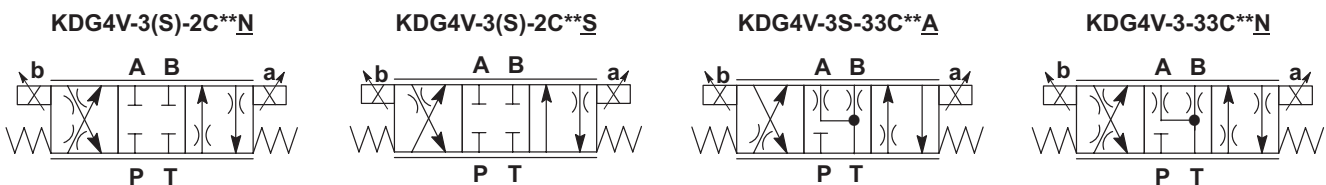


## Graphical Symbols

### KTG4V



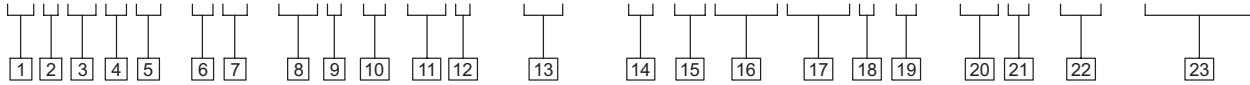
### KDG4V



Note: On all models, when solenoid "a" is energized, flow is always "P" to "A". When solenoid "b" is energized, flow is always "P" to "B". This is in accordance with the ANSI-B93.9 standard. Solenoid designations "a" and "b" are identified on the diagram plate on the side of the valve.

# Model Code – K\*G4V-3S Standard Performance Valves

**K \* G 4 V - 3 S - \* \* \* (L) \* \* \* - ( \* \* ) - (V) M \* \* \* \* \* \* \* (1) - \* \* 5 - 60 - (EN \* \* )**



**1 Valve type**

K – Proportional

**2 Valve function**

D – Directional valve (Double solenoid, C models. See item 9.)  
T – Throttle valve (Single solenoid, B and F models. See item 9.)

**3 Mounting**

G – Subplate/manifold mounted

**4 Operation**

4 – Solenoid operated

**5 Pressure rating**

V – 350 bar (5075 psi) on P, A, and B ports

**6 Interface**

3 – ISO 4401-03, CETOP 3 (NFPA D03)

**7 Performance**

S – Standard performance

**8 Spool type (center condition)**

2 – Closed center (all ports)  
33 – P port closed, bleed A and B to T

**9 Spool/spring arrangement**

B – Spring centered, solenoid A removed  
C – Spring centered, dual solenoid  
F – Spring offset to A port, shift to center

**10 Build**

L – Left-hand build (single solenoid only)  
Blank – Standard right-hand build

**11 Spool flow rating**

For looped flow path P→A→B→T or P→B→A→T: Δp=10 bar (145 psid).  
For single flow path P→A or B→T: Δp= 5 bar (72 psi).

08 – 8 L/min (2 USgpm)  
15 – 15 L/min (4 USgpm)  
19 – 19 L/min (5 USgpm)  
22 – 22 L/min (5.8 USgpm) – available with KDG4V-3S-33C22A only

**12 Metering condition**

S – Meter out only  
A – Meter in only  
N – Meter in and meter out  
*Note: See table on page 8 for available combinations of spools, spool/spring arrangements, and metering conditions.*

**13 Manual override**

P2 – Plain override in both ends of single solenoid models  
H – Waterproof override in solenoid ends only  
Blank – Plain override in solenoid ends only

**14 Solenoid energization identity**

V – Solenoid identification determined by position of solenoid (solenoid A on A port end, solenoid B on B port end)  
Blank – Standard per ANSI B93.9 (energize solenoid A, flow is (P→A))

**15 Flag symbol**

M – Electrical options and features

**16 Coil type**

F – Flying lead and wiring box  
U – DIN 43650 connector  
SP1 – Single 6,3 mm spade IEC-760 (direct DC only)  
SP2 – Dual 6,3 mm spade IEC-760

**17 Electrical connections**

T – Wiring terminal block  
PA3 – 3-pin conduit connector  
PA5 – 5-pin conduit connector

**18 Wiring housing thread**

W – 1/2" NPT  
J – 20 mm

**19 Electrical options**

1 – ISO 4400 with DIN 43650 plug supplied (U coil type models only)

**20 Coil voltage rating**

G – 12V DC\*  
H – 24V DC\*  
GP – Direct 12V DC or EM-VP/VT amplifier  
HA – Direct 24V DC or EM-VP/VT amplifier  
*\* Amplified models, current controlled*

**21 Tank pressure rating**

5 – 100 bar (1450 psi) for

**22 Design number**

Subject to change.

**23 Special modifications**

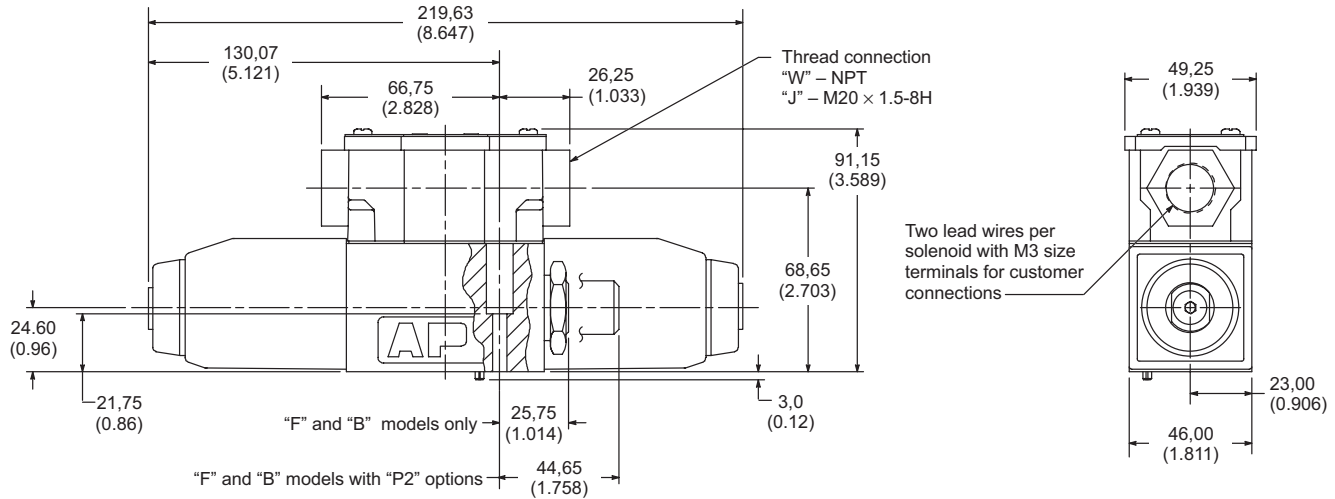
EN-427 – Applies to KTG4V only. One spool designation only and preset adjuster; see page 16.  
*Note: This valve is recommended for use with Vickers Valvistor® control valve.*

# KDG4V-3S and KTG4V-3S Installation Dimensions

## KDG4V-3S and KTG4V-3S with Junction Box

Dimensions in mm (inches)

3rd angle projection 



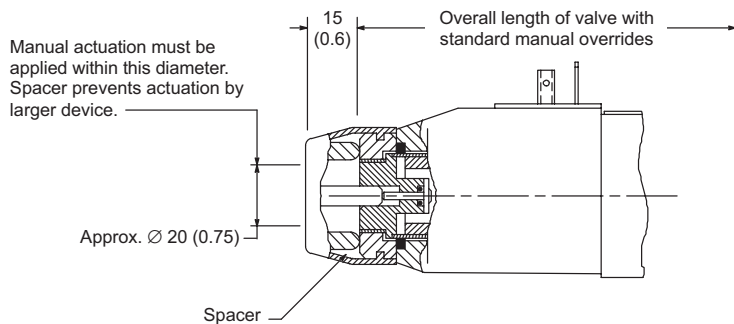
## Water-resistant Manual Override on Solenoid

### K\*G4V-3S-\*\*(L)-H-(V)M-\*\*-\*\*-60

Dimensions in mm (inches)

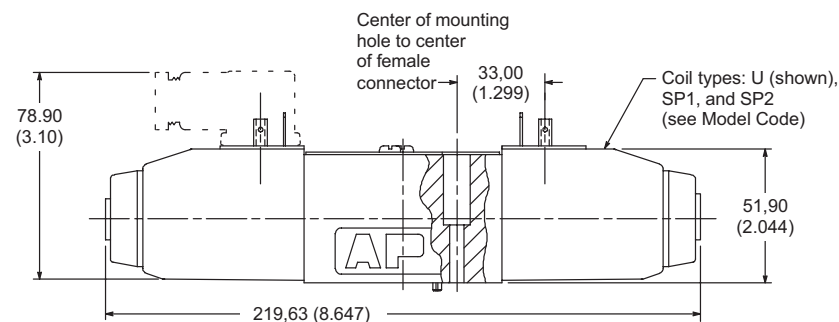
Use where finger operation is required. (Standard manual overrides cannot be operated without using small tool.)

This "H" feature is not field-convertible from other models. Please specify with order.



## KDG4V-3S (shown) and KTG4V-3S with DIN Connectors

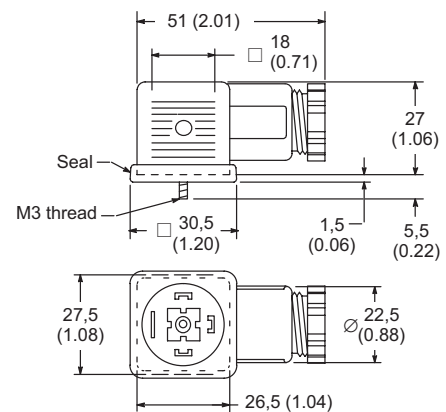
Dimensions in mm (inches).



Plug connector can be positioned in 90° increments on valve by removing connector housing and re-assembling contact holder at desired orientation inside housing.

DIN 43650 plug connector can be ordered separately or included with valve by specifying 1 for Model Code item 19.

Means of connection: screw terminals

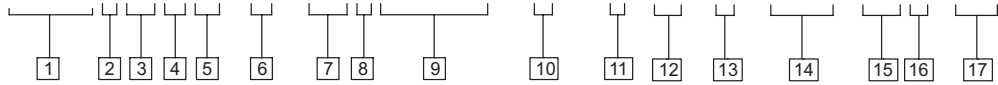


Conductor cross-sectional area: 0,5 to 1,5 mm<sup>2</sup> (0.0008 to 0.0023 in<sup>2</sup>)

Cable diameter: 6 to 10 mm (0.24 to 0.40 in)

# Model Code – K(A)\*G4V-3 High Performance Valves

**K(A)\*G4V-3 - \* \* \* \* \* - (\* ) - (V) M - U - \* \* \* - \* \* 7 - 60**



**1 Valve type**

K – Proportional  
KA– Proportional with integral amplifier

**2 Valve function**

D – Directional valve (Double solenoid, C models. See item 8.)  
T – Throttle valve (Single solenoid, B models. See item 8.)

**3 Mounting**

G – Subplate/manifold mounted

**4 Operation**

4 – Solenoid operated

**5 Pressure rating**

V – 350 bar (5075 psi) on P, A, and B ports

**6 Interface**

3 – ISO 4401-03, CETOP 3 (NFPA D03)

**7 Spool type (center condition)**

2 – Closed center (all ports)  
33 – P port closed, bleed A and B to T

**8 Spool/spring arrangement**

B – Spring centered, solenoid A removed – KTG4V-3  
C – Spring centered, dual solenoid – KDG4V-3

**9 Spool flow rating**

For looped flow path P→A→B→T or P→B→A→T: Δp= 10 bar (145 psi).  
For single flow path P→A or B→T: Δp= 5 bar (72 psi).

*Symmetric Spools*

03F – 3 l/min (0.8 USgpm)  
07N – 7 l/min (1.8 USgpm)  
13N – 13 l/min (3.4 USgpm)  
20N – 20 l/min (5.3 USgpm)  
28S – 28 l/min (7.4 USgpm) – available with type 2 spool only

*Asymmetric Spool – KDG4V Only*

First figure (20N) is flow rating P→A or A→T; last figure (N10) is flow rating P→B or B→T.

20N10 – 20 l/min (5.3 USgpm) “A” port flow, and 10 l/min (2.65 USgpm) “B” port flow

**10 Manual override(s)**

H – Water-resistant  
Z – No override(s)  
Blank – Plain override(s)

**11 Solenoid energization identity**

V – Solenoid identification determined by position of solenoid (solenoid A on A port end, solenoid B on B port end)  
Blank – Standard per ANSI B93.9 (energize solenoid A, flow is (P→A))

**12 Flag symbol**

M – Electrical options and features

**13 Coil type**

U – DIN 43650 connector. Order solenoid plug separately; see page 30.  
F – Flying lead solenoids (KA type valves only)

**14 Electrical connection (KA valves only)**

PD7 – 7-pin connector with plastic plug. See warning note below.

**15 Coil voltage rating**

G – 12V DC  
H – 24V DC†  
GP – Direct 12V DC or EM-VP/VT amplifier  
HA – Direct 24V DC or EM-VP/VT amplifier  
† KA type valves must have H type coils.

**16 Tank pressure rating**

7 – 210 bar (3000 psi)

**17 Design number**

Subject to change.



**Warning:** To conform to the EC Electromagnetic Compatibility directive (EMC), this KADG4V or KATG4V valve must be fitted with a metal 7-pin plug. The screen of the cable must be securely connected to the shell of the metal connector. A suitable IP67 rated connector is available from Vickers, part no. 934939. Alternatively, a non IP67 rated connector is available from ITT-Cannon, part no. CA 02 COM-E 14S A7 P.

Additionally, the cable must be fitted with a ferrite EMC suppression core not more than 4cm from the connector referred to above. Suitable types include Farnell 535-898 or Farnell 535-904 which snap-fit over the cable. The plastic plug, part no. 694534, is only suitable for use in a sealed electromagnetic environment or outside of the European Community