

VICKERS®

Proportional Valves

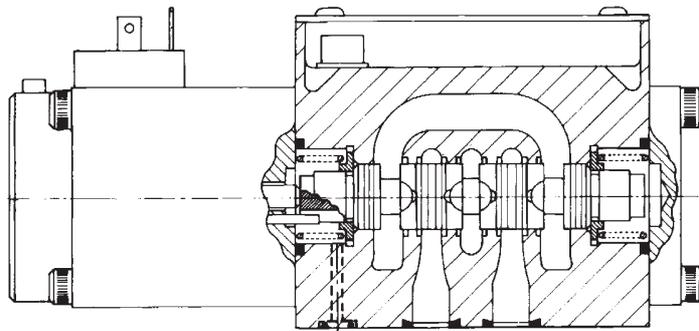


Proportional Directional Valves Without Feed Back

K(A)D/TG4V-5, 3* Series

Typical Section

KTG4V-5



KAD/TG4V-5KAD/TG4V-5

A range of proportional directional and throttle valves with control amplifiers built directly on, and prewired to, the valves. Factory-set adjustments of gain, spool deadband compensation, dither and offset ensure high repeatability valve-to-valve.

The only electrical inputs required are power supply (24V) and a voltage command signal of $\pm 10V$. Electrical connections are via a standard 7-pin plug.

A monitor point allows the function of the amplifier to be checked. Ramp functions, if required, must be generated externally.

Features and Benefits

- Factory-sealed adjustments increase valve-to-valve accuracy
- Valve and amplifier selected, ordered, delivered and installed as a performance-tested package
- Standard 24V DC supply with wide tolerance band
- Standard $\pm 10V$ DC command signals
- Installation wiring reduced and simplified
- Standard 7-pin connector
- LED status indication and monitor point help troubleshooting
- Simple valve removal and replacement for service
- Vibration and shock tested
- Supported by auxiliary function modules

General Description

Vickers proportional valves shown in this catalog are designed to provide a controlled oil flow in proportion to a command signal. They are available in two types, firstly a double solenoid version that will provide reversible flow and return to an actuator, and secondly a single solenoid version that provides a single direction of flow. Hydrostats are available for load compensation and if flow enhancement is required for the single solenoid version, parallel flow path modules are available that will boost the flow capacity to nearly twice that of the standard valve.

Additionally, both of these valve types can be supplied with or without an integral amplifier built directly onto the valve.

KD/TG4V-5

This version is supplied without the integral amplifier.

Features and Benefits

- Wide range of spool and flow rate options
- Supported by amplifiers and auxiliary function modules from the Vickers range
- Electronic feedback LVDT ensures accurate speed control
- Current feedback provides inherent protection from electrical interference
- Vibration and shock tested

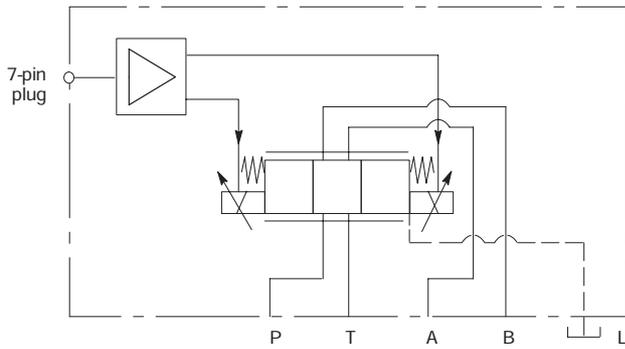
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This product has been designed and tested to meet specific standards outlined in the European Electromagnetic Compatibility Directive (EMC) 89/336/EEC, amended by 91/263/EEC, 92/31/EEC and 93/68/EEC, article 5. For instructions on installation requirements to achieve effective protection levels, see this leaflet, the Installation Wiring Practices for Vickers Electronic Products leaflet 2468 and leaflet 02-123931A which is packed with every KA valve. Wiring practices relevant to this Directive are indicated by Electromagnetic Compatibility (EMC).

Functional Symbols

Model Types KADG4V-5



Available Spools for K(A)DG4V-5

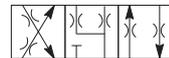
2C**N, meter-in/meter-out



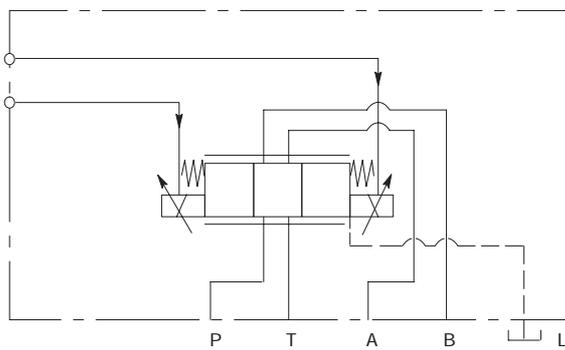
2C65S, meter-out only



33C**N, meter-in/meter-out



Model Types KDG4V-5

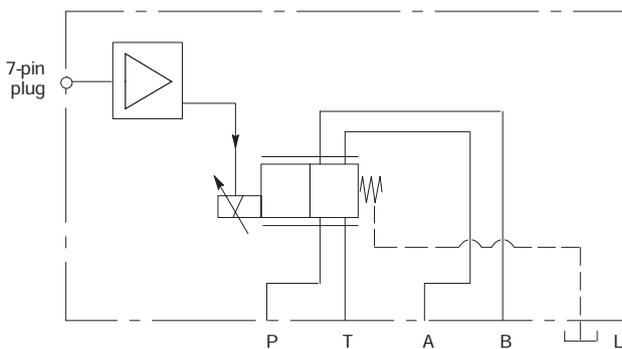


Available Spools for K(A)TG4V-5

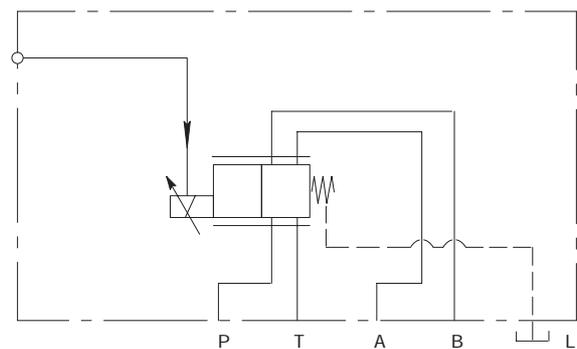
2B**N, meter-in/meter-out



Model Types KATG4V-5



Model Types KTG4V-5



Model Code

K(A) * G4V-5- ** * *** -Z- (V) M- * - *** -H * - 3***

1
2
3
4
5
6
7
8

1 Series type designator

A = Integral amplifier
Omit for non-integral amplifier

2 Control type

D = Directional valve
T = Throttle valve

3 Spool type

See "Functional Symbols" on previous page

Flow rating and metering

$\Delta p = 5 \text{ bar (72 psi)}$ per metering flow path, e.g. B to T

Spools for K(A)TG valves

2B30N = 30 L/min (7.9 USgpm)
2B50N = 50 L/min (13.2 USgpm)
2B70N = 70 L/min (18.5 USgpm)

Symmetric spools for K(A)DG valves

2C30N = 30 L/min (7.9 USgpm)
2C50N = 50 L/min (13.2 USgpm)
2C65S = 65 L/min (17.2 USgpm)
33C30N = 30 L/min (7.9 USgpm)
33C50N = 50 L/min (13.2 USgpm)

Asymmetric spools for K(A)DG valves

2C50N25 = 50 L/min (13.2 USgpm)
"A" port flow
25 L/min (6.6 USgpm)
"B" port flow

4 Solenoid energization identity

V = Solenoid "A" is at port "A" end and solenoid "B" at port "B" end, independent of spool type

Blank = US ANSI B93.9 standard requiring solenoid "A" energization to connect P to A and solenoid "B" to connect P to B

5 Solenoid electrical connector

U = ISO 4400/DIN 43650, non-integral amplifier type only
F = Flying lead, integral amplifier type only

6 Electrical connection (KA valves only)

PD7 = 7-pin connector with plastic plug

See warning note below

7 Port T limit code

6 = For 2C**S spools
7 = For all other spools

8 Design number, 30 series

Subject to change. Installation dimensions unaltered for design numbers 30 to 39 inclusive.

Solenoid plugs KD/TG4V valves only

To be ordered separately.
710775 for black plugs, marked B
710776 for gray plugs, marked A



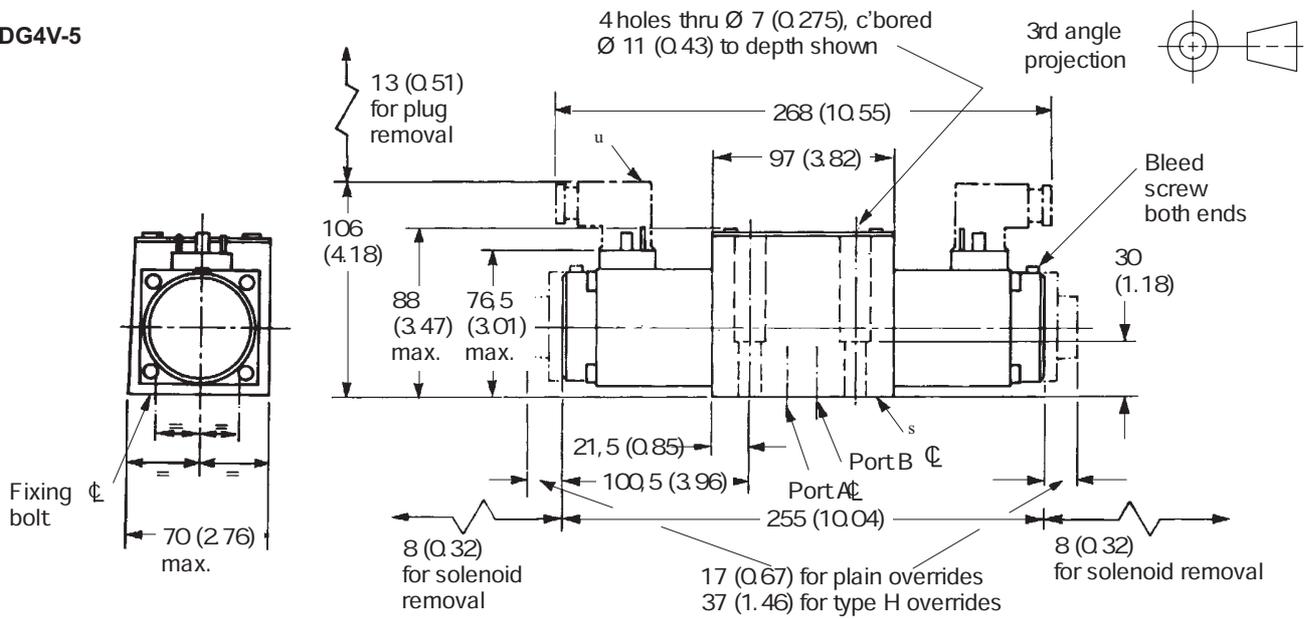
Warning

To conform to the EC Electromagnetic Compatibility Directive (EMC) the valve with integral amplifiers 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. This must be tightened with a torque of 2-2,5 Nm (1.5-2.0 lbf-ft) to achieve the IP67 rating. Alternatively a non IP67 rated connector is available from ITT-Cannon, part no. CA 06 COM-E 14S A7 S.

The plastic plug, part number 694534, is only suitable for use in a sealed electromagnetic environment or outside of the European Community.

Installation Dimensions in mm (in)

KDG4V-5



u Electrical plug connections (without indicator light) to ISO 4400/DIN 43650. Must be separately ordered by part number(s).

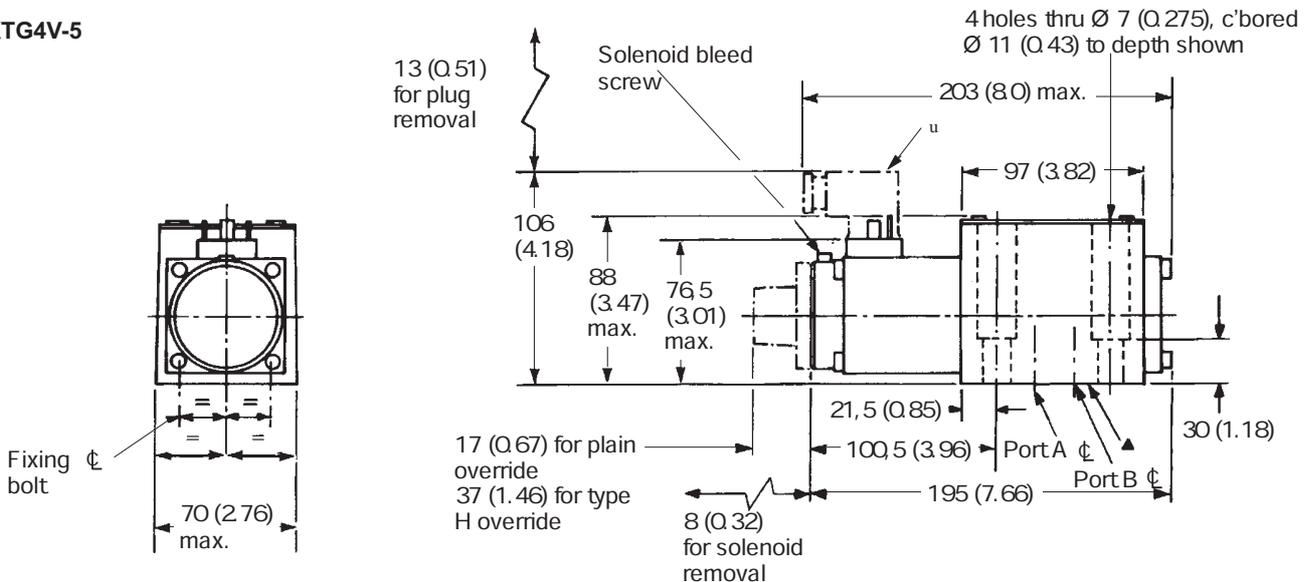
| Part No | Color | Solenoid coil | Cable gland |
|---------|-------|---------------|------------------------|
| 710775 | Black | Solenoid B | Pg. 11 |
| 710776 | Gray | Solenoid A | Ø 6-10 (0.23-0.39 dia) |

Solenoid and plug identities

| At port "A" end | At port "B" end | For |
|-----------------|-----------------|------------------------|
| A | B | KDG 4V-5-°C ***(-°)-VM |
| B | A | KDG 4V-5-°C ***(-°)-M |

The cable entry can be repositioned at 90° intervals from the position shown. This is done by re-assembling the contact holder into the appropriate position inside the plug connector housing.

KTG4V-5



u Electrical plug connections (without indicator light) to ISO 4400/DIN 43650. Must be separately ordered by part number(s).

| Part No | Color | Solenoid coil | Cable gland | For valve |
|---------|-------|---------------|------------------------|------------------------|
| 710775 | Black | Solenoid B | Pg. 11 | KTG 4V-5-°B ***(-°)-M |
| 710776 | Gray | Solenoid A | Ø 6-10 (0.23-0.39 dia) | KTG 4V-5-°B ***(-°)-VM |

The cable entry can be repositioned at 90° intervals from the position shown. This is done by re-assembling the contact holder into the appropriate position inside the plug connector housing.

s Mounting surface, seals supplied. For mating surface dimensions and subplate options, see catalog 2336. For mounting bolt kit options see catalog 2314.