

**Vickers®**

## **Directional Controls**

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### **Pilot Operated Directional Valves**

DG3V-10 Hydraulic Pilot Operated; 1100 l/min (290 USgpm) 350 bar (5000 psi)

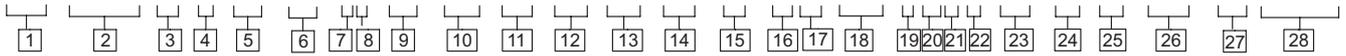
DG5V-10 Solenoid Pilot Operated; 1100 l/min (290 USgpm) 350 bar (5000 psi)

NFPA D10, ISO-4401-10, CETOP 10

# DG5V-10 Pilot Operated Directional Valves

## Model Code

(F\*) - DG5V -10- \* - (R) - (B) - \*\* - (L) - (\*\*\*) - (X) - (\*) - (E) - (T) - (\*) - (V)M - (S\*) - \* \*\* \* \* - (L) - (\*) - \*\* - (\*\*\*) - 10 - (EN\*\*\*)



### 1 Special Seals

(Omit if not required)

**F3** - Seals for fire resistant fluids.

**F6** - Seals for water glycol.

### 2 Directional Control Valve

**DG5V** - Subplate mounting; solenoid controlled; pilot operated. Pressure rating 350 bar (5000 psi) for P, A, & B ports. (See maximum pressure tabulation on pg. 13.)

#### Note

Note: 210 bar (3000 psi) for pressure centered D models.

### 3 Valve Size

**10** - Valve size CETOP 10, ISO 4401-10, NFPA D10

### 4 Pilot Valve Type

**H** - CETOP 3 mounting pattern, High performance

**S** - CETOP 3 mounting pattern, Std. performance

**A** - CETOP 5 mounting pattern, Air gap

**F** - CETOP 5 mounting pattern, Wet armature

**V** - CETOP 5 mounting pattern, Wet armature

**W** - CETOP 5 mounting pattern, Wet armature

(See pg. 18 for descriptions)

### 5 Reducer Module

(Omit if not required)

**R** - A (air gap) and W (wet armature) piloted models when pilot pressure exceeds 210 bar (3000 psi); F and V (wet armature) when pilot pressure exceeds 310 bar (4500 psi).

### 6 Gauge Ports

**Blank** - .4375-20 UNF-2B Thread

**B** - 1/4 BSP Thread

**M** - ISO 6149 port

### 7 Spool Types

**0** - Open to T all ports

**1** - Open P&A to T, closed B

**2** - Closed to T all ports

**3** - Closed P&B, open A to T

**4** - Tandem P to T, closed crossover

**6** - Closed P only, open A&B to T

**7** - Open P to A&B, closed T

**8** - Tandem P to T, open crossover

**9** - Open to T all ports over tapers

**11** - Open P&B to T, closed A

**31** - Closed P&A, open B to T

**33** - Closed P, open A&B to T over tapers

**52** - Closed center, regen. by sol. 'A'

**56** - A&B to T, P blocked, regen. by sol. 'A'

**521** - Closed center, regen. by sol. 'B'

**561** - A&B to T, P blocked, regen. by sol. 'B'

### 8 Spool/Spring Arrangement

**A** - Spring offset

**B** - Spring centered with solenoid 'A' removed

**C** - Spring centered

**D** - Pressure centered 210-350 bar (2000-3000 psi)

**DA** - Pressure centered 20-70 bar (300-1000 psi)

**DB** - Pressure centered 70-210 bar (1000-2000 psi)

**N** - Detented

(See pg. 13 for spool/spring combinations)

### 9 Left Hand Build

**L** - Single solenoid models only, omit if not required.

### 10 Manual Override Options

CETOP 3 piloted models only, omit if not required.

**Blank** - Plain override in solenoid ends only.

**H** - Waterproof override in solenoid ends only.

**H2** - Waterproof override in both ends of single solenoid.

**P2** - Plain override in both ends of single solenoid.

**Y** - Lockable manual override in solenoid ends only.

**Z** - No override in either end.

### 11 Fast Response

**X** - (Omit for standard internal pilot pressure models)

#### Note

Not available for pilot pressures above 210 bar (3000 psi), pressure centered models must have 'DA' 20-70 bar (300-1000 psi) in model code. Not available for H or S piloted models.

### 12 Spool Control Modifications

(Omit if not required)

**1** - Stroke adjustment (both ends) (available on B, C, & N models)

**2** - Pilot choke adjustment (available on all models)

**3** - Pilot choke and stroke adjustments (both ends) (available on B, C, & N models)

**7** - Stroke adjustment on cylinder 'A' end only (available on A, B, C, & N models)

**8** - Stroke adjustment on cylinder 'B' end only (available on AL, B, C, N, & D(\*) models)

**2-7** - If both are required (available on A, B, C, & N models)

**2-8** - If both are required (available on AL, B, C, N, & D(\*) models)

#### CAUTION



Stroke adjust pilot pressure models are rated to a maximum of 210 bar (3000 psi). Use reducer module if pilot pressure exceeds 210 bar (3000 psi).

### 13 External Pilot Pressure

**E** - External pilot pressure. Omit for internal pilot pressure models.

### 14 Internal Pilot Drain

**T** - Internal pilot drain to 'T' port. Omit for external pilot drain models.

### 15 Check Valve in Pressure Port

Not available for D(\*) models. Omit if not required.

**K** - 0,3 bar (5 psi) check

**Q** - 2,5 bar (35 psi) check

**R** - 3,5 bar (50 psi) check

**S** - 5, bar (75 psi) check

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## Model Code (continued)

### 16 Solenoid Energization Identity

**Blank** - Standard arrangement for ANSI B93.9 (i.e. energize solenoid A to follow flow P to A).

**V** - Solenoid identification determined by position of solenoid (i.e. solenoid A at port A end/solenoid B at port B end).

#### Note

4 and 8 type spools are always V.  
Solenoid energization identity is independent of mainstage porting.

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### 17 Heading Electrical Flag Symbol

**M** - Features and options for pilot valve.

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### 18 Pilot Valve Monitoring Switch

(Omit if not required)

**S** - Indicator switch

(A & W piloted models only)

**S3**- Limit switch normally open, wired to electrical connector with PA/PB/PA5 (H piloted models only)

**S4**- Limit switch normally closed, wired to electrical connector with PA/PB/PA5

(H piloted models only)

**S5**- Limit switch - FW, FJ (H piloted models only)

**S6**- Position switch with U coils (H piloted models only)

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### 19 Coil Type

**F** - Flying lead (required for wiring housing option)

**KU** - Top exit flying lead (H & S piloted models only)

**P** - Plug in (H & S piloted models only)

**SP1**- Single 6.3mm spade (H & S piloted models only)

**SP2**- Dual 6.3mm spade

(H & S piloted models only)

**U** - ISO 4400 (DIN 43650)

**X** - Explosion proof solenoids ('A' piloted models only)

**X1** - Flameproof solenoids BASEEFA/CENELEC (S piloted models only)

**X2** - Explosion proof solenoids CSA/UL (S piloted models only)

**X3** - Explosion proof solenoids BASEEFA ExS

(S piloted models only)

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### 20 Electrical Connections

(F type coils only, omit if not required)

**PA** - Insta-plug, male receptacle only

**PB** - Insta-plug, male and female receptacle

**PA3**- 3-pin connector

**PA5**- 5-pin connector

**PM4**-Mini-connector

**T** - Wired terminal block (wiring housing option also required)

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### 21 Wiring Housing

**Blank** - Optional for A & W piloted models only

**W** - 1/2" NPT threaded connection

**J** - 20mm threaded connection

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### 22 Electrical Options

(Omit if not required)

U-type coils only

1- Fitted connector

2- Fitted connector and variable grommet

3- Fitted connector with lights

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### 23 Solenoid Indicator Lights

(Omit if not required)

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### 24 Surge Suppressor/Damper

DC voltages only, omit if not required. For H, S, & W piloted models only.

**D1**- Encapsulated diode (industrial applications)

**D2**- Encapsulated diode (mobile applications)

**D7**- Encapsulated tranzorb

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### 25 Coil Voltage Identification Letter

See electrical information on page 27 for voltages available. Others available upon request.

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### 26 Pilot Valve Port Orifices

For H & S piloted models only, omit if not required.

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### 27 Design Number

Subject to change. Installation dimensions same for -10 thru -19 design.

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### 28 Special Modifications

(Omit if not required)

**EN503**- Reduced overall axial length for close quarter applications.

# Spool Type and Center Position

## Spool Type and Center Position

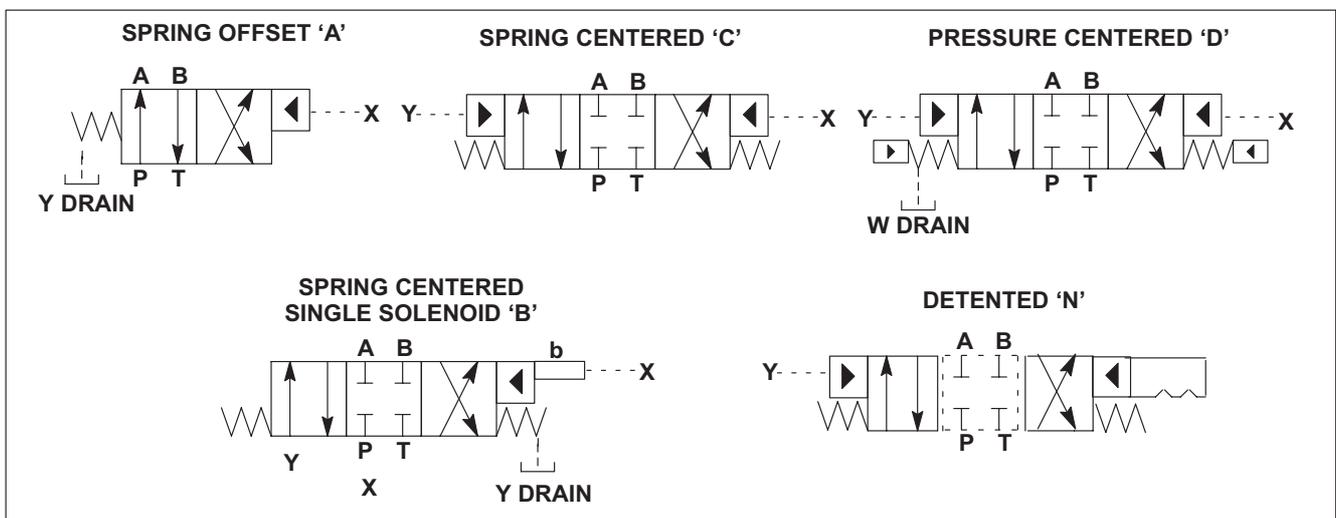
Spool Type	Center Position	Spool Type	Center Position	Spool Type	Center Position	Spool Type	Center Position	Spool Type	Center Position
0		3		7		11		52	
1		4	 (Closed Crossover)	8	 (Open Crossover)	31			
2		6		9		33			

## Minimum Pilot Pressure Requirements (when operating at 210 bar (3000 psi) maximum)

Spool Type	Flow l/min (USgpm)	Shifting P to A bar (psi)		Shifting P to B bar (psi)	
		Pressure Centered Models●	All Other Models	Pressure Centered Models●	All Other Models
All Spools	0	5 (75)	5 (75)	14 (200)	5 (75)
0, 4, 8 & 9	946 (250)	5 (75)	5 (75)	14 (200)	5 (75)
2, 3, 6 & 33	946 (250)	10 (150)	10 (150)	27,5 (400)	10 (150)

● On pressure centered models end covers cannot be interchanged. Pilot pressure is not available through use of integral check valves.

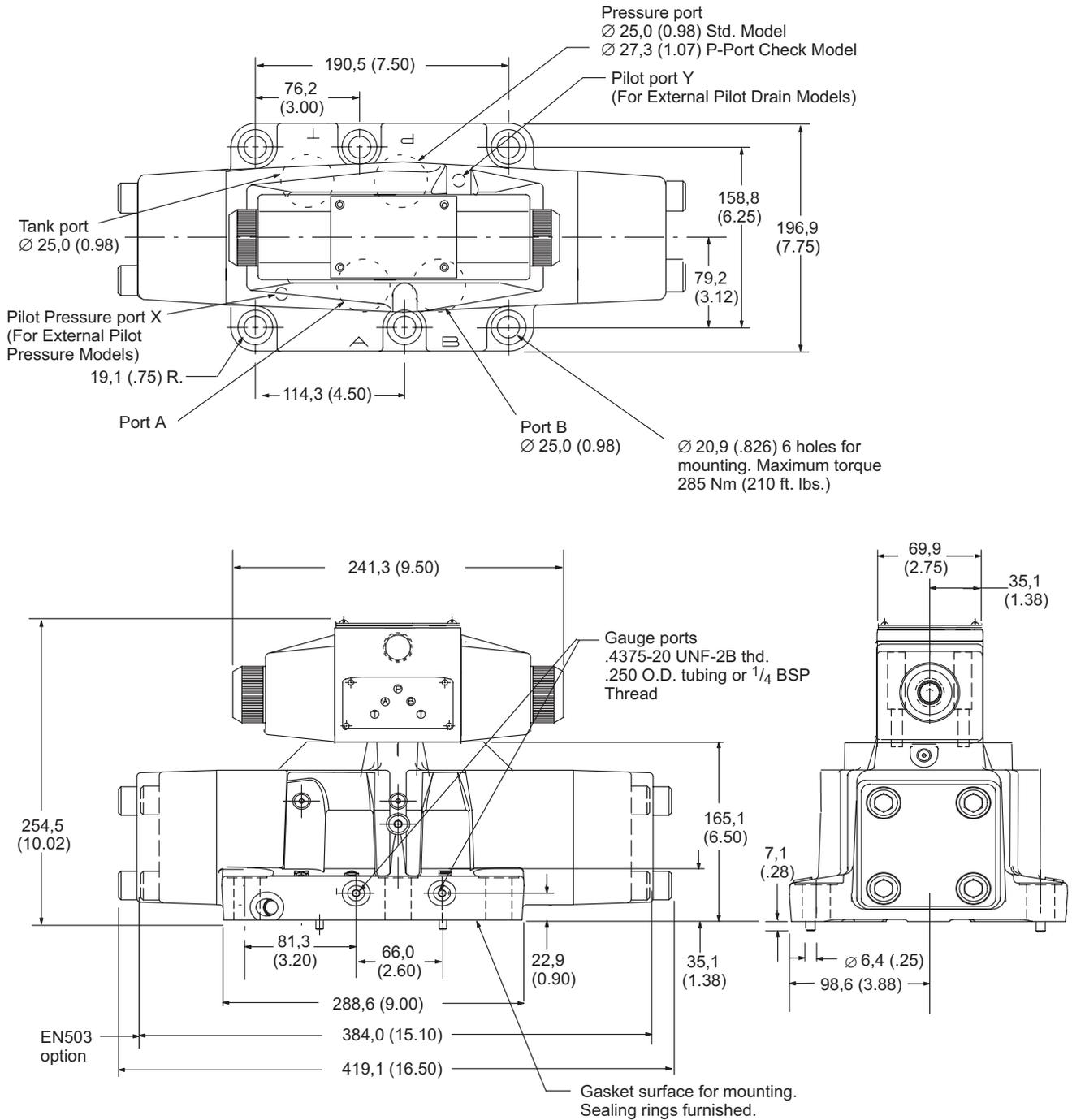
## Graphical Symbols



# Installation Dimensions

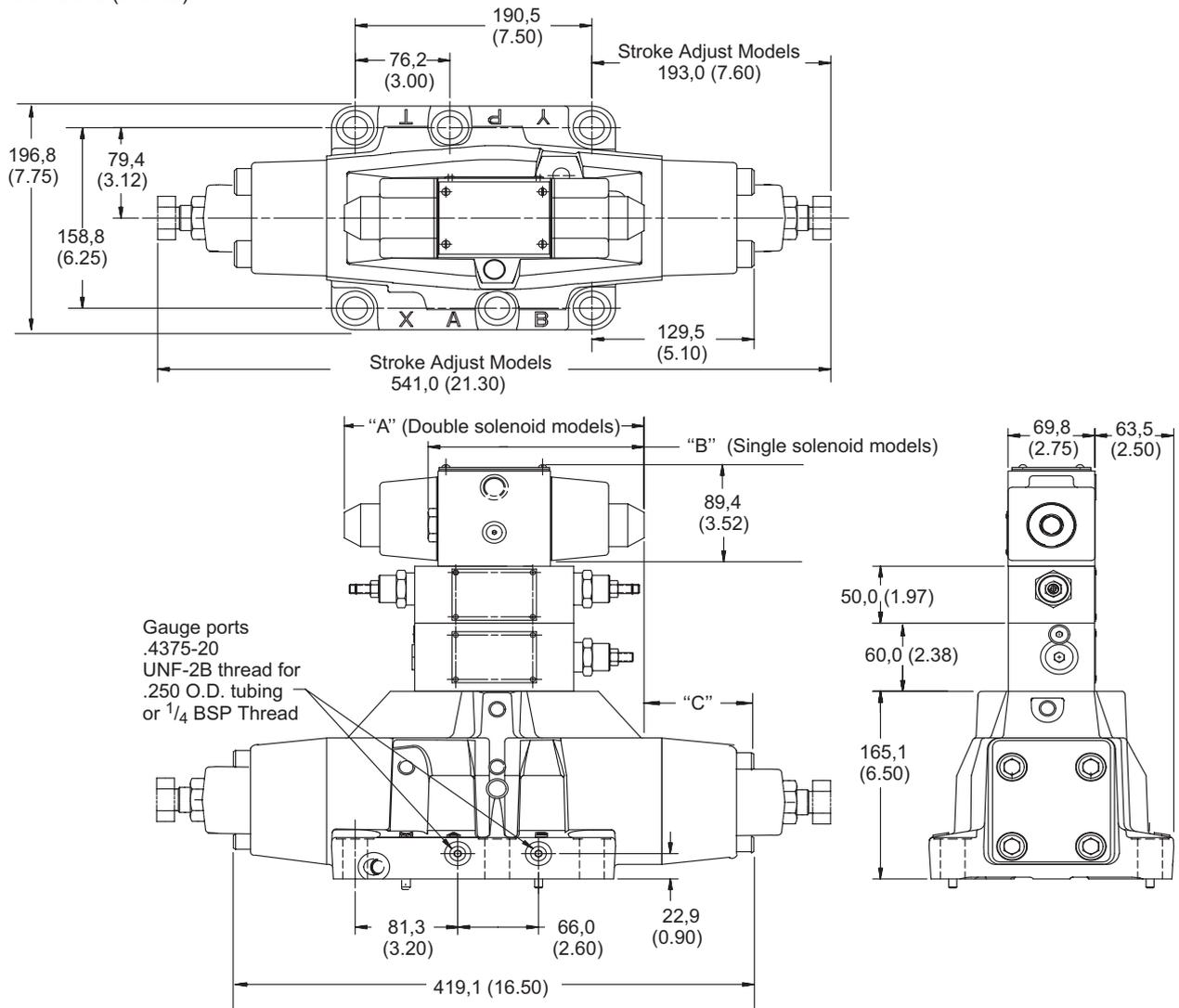
## DG5V-102C-WB-10 Double Solenoid Detented & Spring Centered Models

Weight: 45,4 kg (100 lbs.)



**DG5V-10-A/W/F/V-\*\***  
**Spring Centered Stroke Adjust**  
**Models**

Millimeters (inches)



Installation Dimension Table

"A" Dimension				"B" Dimension				"C" Dimension			
"A" Pilot Valve		"W" Pilot Valve		"A" Pilot Valve		"W" Pilot Valve		"A" Pilot Valve		"W" Pilot Valve	
"AC"	"DC"	"AC"	"DC"	"AC"	"DC"	"AC"	"DC"	"AC"	"DC"	"AC"	"DC"
261,9 (10.31)	306,3 (12.06)	241,2 (9.50)	318,4 (12.54)	187,5 (7.38)	209,8 (8.25)	173,8 (6.84)	212,4 (8.36)	78,3 (3.08)	56,2 (2.21)	88,4 (3.48)	51,8 (2.04)