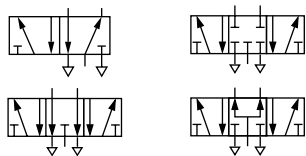


# Nugget 120 Series Valves

## Solenoid actuated spool valves

Modular sub-base with wireway

5/2 & 5/3, 1/4" NPT



### Multipole for easy installation

IP 40, IP 65 and conduit entry models

Power saving and diagnostic features

Indicators and surge suppression as standard

### Technical data

Operating temperature:

Air pilot operated: -4°F to 176°F (-20°C to +80°C)

Solenoid pilot operated: -4°F to 122°F (-20°C to +50°C)

Consult our Technical Service for use below 35°F (2°C).

Average Flow Factor (Cv)\*

5-port, 2-position : 1.17

5-port, 3-position: 0.79

\* Flow rating determined in accordance with ANSI/NFPA/T3.21.3, Pneumatic Fluid Power Flow Test Procedure and Reporting Method, for fixed orifice components

Connector plugs:

D-sub connector (IP 40)

Round type plug (IP 65)

Conduit entry type (IP 65/ NEMA 4)

Valve terminal pins to DIN 43 650 table 'C'.

### Materials

Valve Materials: Body, pistons, spool, subbases, manifolds: aluminum

End Caps: nylon or polyphenylene

Solenoid Adapters:

polybutylene

Spool Seals: hydrogenated nitrile

Gaskets: nitrile

Subbase Materials –

End plates, subbase modules, and manifold: aluminum

| Function | Actuation         | Pilot feed | Mid position | Operating pressure (psig) | Pilot pressure (psig) | Weight oz | Model          | Service kit | Short order code |
|----------|-------------------|------------|--------------|---------------------------|-----------------------|-----------|----------------|-------------|------------------|
| 5/2      | Sol/Spring        | Internal   | –            | 18 ... 150                | –                     | 5.4       | V14R517A-B21*A | V10316-K30  | 13               |
| 5/2      | Sol/Spring        | External   | –            | 26" Hg ... 145            | 18 ... 145            | 5.4       | V14R527A-B21*A | V10316-K30  | 15               |
| 5/2      | Solenoid/Solenoid | Internal   | –            | 18 ... 145                | –                     | 11        | V14R511P-B21*A | V10316-K30  | 21               |
| 5/2      | Solenoid/Solenoid | External   | –            | 26" Hg ... 145            | 18 ... 145            | 11        | V14R522P-B21*A | V10316-K30  | 23               |
| 5/3      | Solenoid/Solenoid | Internal   | APB          | 32 ... 145                | –                     | 12        | V14R611P-B21*A | V10317-K30  | 25               |
| 5/3      | Solenoid/Solenoid | External   | APB          | 26" Hg ... 145            | 32 ... 145            | 12        | V14R622P-B21*A | V10317-K30  | 27               |
| 5/3      | Solenoid/Solenoid | Internal   | COE          | 32 ... 145                | –                     | 12        | V14R711P-B21*A | V10318-K30  | 29               |
| 5/3      | Solenoid/Solenoid | External   | COE          | 26" Hg ... 145            | 32 ... 145            | 12        | V14R722P-B21*A | V10318-K30  | 31               |
| 5/3      | Solenoid/Solenoid | Internal   | COP          | 32 ... 145                | –                     | 12        | V14R811P-B21*A | V10347-K30  | 33               |
| 5/3      | Solenoid/Solenoid | External   | COP          | 26" Hg ... 145            | 32 ... 145            | 12        | V14R822P-B21*A | V10347-K30  | 35               |

APB = All Ports Blocked, COE = Center Open Exhaust, COP = Center Open Pressure.

\* Insert voltage code from table below. Turn & lock manual override as standard.

For push only manual override substitute 10th digit with 3 eg. V14B517A-B31\*A.

### Voltage codes & spare coils

| Voltage       | Codes | Power inrush/hold | Coil part no. |
|---------------|-------|-------------------|---------------|
| 6 V d.c. &    |       |                   |               |
| 12V 50/60Hz   | 1     | 1.5 W 4.1/2.9 VA  | V10025-A11    |
| 12 V d.c.     | 2     | 1.7 W             | V10025-A12    |
| 24 V d.c.     | 3     | 1.7 W             | V10025-A13    |
| 24 V 50/60Hz  | 4     | 4.1/2.9 VA        | V10025-A14    |
| 48 V 50/60Hz  | 6     | 4.1/2.9 VA        | V10025-A16    |
| 110 V 50/60Hz | 8     | 3.5/2.5 VA        | V10025-A18    |
| 240 V 50/60Hz | 9     | 3.5/2.5 VA        | V10025-A19    |

### Electrical details for solenoid operators

|                        |                      |
|------------------------|----------------------|
| Voltage tolerances:    | ±10%                 |
| Rating:                | 100% E.D.            |
| Inlet orifice:         | 0.03"                |
| Electrical connection: | DIN 43 650 Table "C" |
| Protection class:      | IP65 (DIN 40 050)    |

### Electrical details for wireway

| Voltage               | Features                                       | Indicator | Codes | Color code |
|-----------------------|------------------------------------------------|-----------|-------|------------|
| 12 ... 24 V d.c.      | Surge suppression                              | LED (red) | 3     | Green      |
| 24 V d.c.             | Surge suppression, diagnostic with power saver | See right | B3    | Red        |
| 24 ... 48 V 50/60Hz   | Surge suppression                              | Neon      | 6     | Blue       |
| 110 ... 120 V 50/60Hz | Surge suppression                              | Neon      | 8     | Yellow     |
| 220 ... 240 V 50/60Hz | Surge suppression                              | Neon      | 9     | Orange     |

### Diagnostic with power saving

|                        |                                                                          |
|------------------------|--------------------------------------------------------------------------|
| Voltage:               | 24V d.c.                                                                 |
| Suppression:           | Flywheel diode                                                           |
| Diagnostic indication: | Red LED correct armature movement<br>Orange LED failed armature movement |
| Power saving:          | 50% after armature has moved                                             |

## V14 - Nugget 120 valve islands

Solenoid actuated spool valves

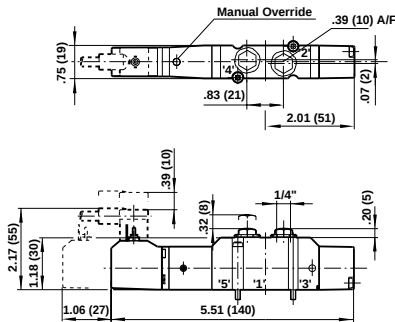
Modular sub-base with wireway

5/2 & 5/3, Ø 8 mm, 1/4" NPT

Dimensions in inches (mm)

Single solenoid valves

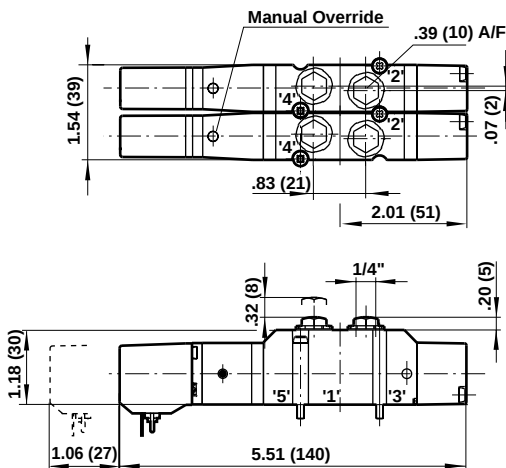
V14B5\*7A



V14R5\*\*P Models

5/2 Double Solenoid Pilot Valves

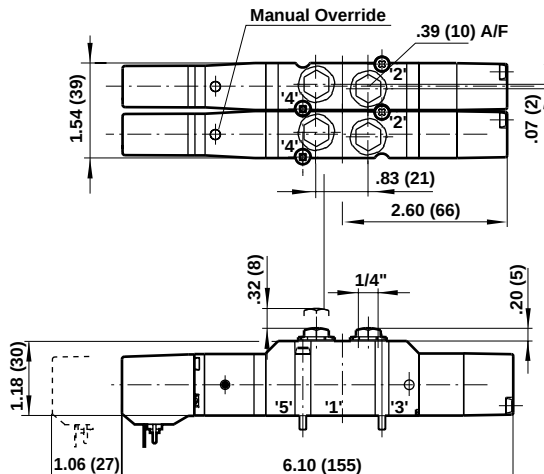
Note: Two manifold stations required



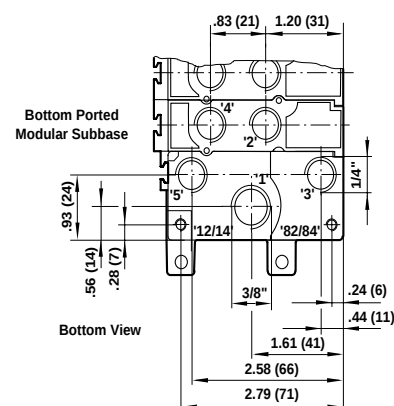
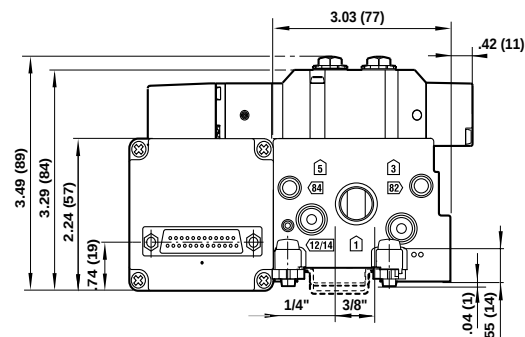
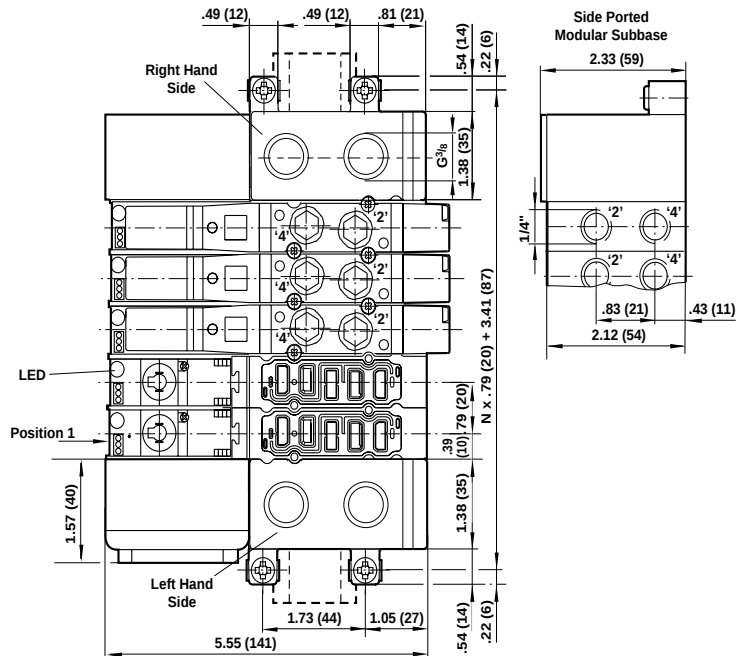
V14R\*\*\*P Models

5/3 Double Solenoid Pilot Valves

for Wireway Applications



Modular Subbase with 25-Pin D Sub-Connector Wireway for V14 valves

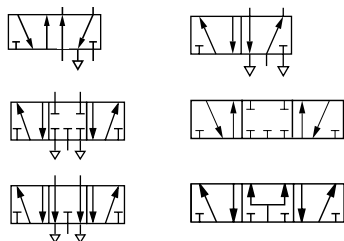


# V14 – Nugget 120

## Solenoid & pilot actuated spool valves

Fixed length manifold, modular sub-base

5/2 & 5/3, 1/4" NPT



### High flow compact valves

#### Sub-base and low profile manifolds

Lightweight, long life corrosion resistant materials

Multipole and Fieldbus compatible

Surface or DIN rail mounting

Flexible single step expansion

### Technical data

Medium:

Compressed air, filtered, lubricated and non lubricated

Operating pressure:

Maximum 145 psi (10 bar). See table for individual details.

Flow:

| Size | Cv   |
|------|------|
| 5/2  | 1.17 |
| 5/3  | 0.79 |

Ambient temperature:

Air pilot operated: -4°F to 176°F (-20°C to +80°C)

Solenoid operated: -4°F to 122°F (-20°C to +50°C)

Consult our Technical Service for use below 35°F (+2°C).

### Materials

Body: aluminum alloy

Piston & spool: aluminum alloy

Sub-base & manifold: aluminum alloy

End caps: glass filled co-polymer

Seals & gaskets: nitrile

| Function | Actuation        | Pilot feed | Mid position | Operating pressure (psi) | Pilot pressure (psi) | Weight lb | Model          | Service kit | Mounting style     |
|----------|------------------|------------|--------------|--------------------------|----------------------|-----------|----------------|-------------|--------------------|
| 5/2      | Sol/Spring       | Internal   | —            | 26 ... 145               | —                    | 0.34      | V14R517A-B21*A | V10316-K30  | All bases          |
| 5/2      | Sol/Spring       | External   | —            | 26" Hg ... 145           | 26 ... 145           | 0.34      | V14R527A-B21*A | V10316-K30  | Sub bases          |
| 5/2      | Sol/Spring       | Int. twin  | —            | 26 ... 145               | —                    | 0.34      | V14R5F7A-B21*A | V10316-K30  | Single & manifold  |
| 5/2      | Sol/Spring       | Ind. ext.  | —            | 26" Hg ... 145           | 26 ... 145           | 0.36      | V14R5E7A-B21*A | V10316-K30  | All bases          |
| 5/2      | Sol/Sol          | Internal   | —            | 26 ... 145               | —                    | 0.47      | V14R511A-B21*A | V10316-K30  | All bases          |
| 5/2      | Sol/Sol          | External   | —            | 26" Hg ... 145           | 17 ... 145           | 0.47      | V14R522A-B21*A | V10316-K30  | Sub bases          |
| 5/2      | Sol/Sol          | Int. twin  | —            | 26 ... 150               | —                    | 0.47      | V14R5FFA-B21*A | V10316-K30  | Single & manifold  |
| 5/2      | Sol/Sol          | Ind. ext.  | —            | 26" Hg ... 145           | 17 ... 145           | 0.52      | V14R5EEA-B21*A | V10316-K30  | All bases          |
| 5/2      | Pilot bias/Pilot | —          | —            | 26" Hg ... 145           | 17 ... 145           | 0.22      | V14R59DA-X0060 | V10316-K30  | All Bases          |
| 5/2      | Pilot/Spring     | —          | —            | 26" Hg ... 145           | 26 ... 150           | 0.22      | V14R5D7A-X0090 | V10316-K30  | All Bases          |
| 5/2      | Pilot/Pilot      | —          | —            | 26" Hg ... 145           | 17 ... 150           | 0.22      | V14R5DDA-X0020 | V10316-K30  | All Bases          |
| 5/3      | Sol/Sol          | Internal   | APB          | 32 ... 145               | —                    | 0.50      | V14R611A-B21*A | V10317-K30  | All Bases          |
| 5/3      | Sol/Sol          | External   | APB          | 26" Hg ... 145           | 32 ... 150           | 0.50      | V14R622A-B21*A | V10317-K30  | Sub-base           |
| 5/3      | Sol/Sol          | Int. twin  | APB          | 32 ... 145               | —                    | 0.50      | V14R6FFA-B21*A | V10317-K30  | Subbase & manifold |
| 5/3      | Sol/Sol          | Internal   | COE          | 32 ... 145               | —                    | 0.50      | V14R711A-B21*A | V10318-K30  | All Bases          |
| 5/3      | Sol/Sol          | External   | COE          | 26" Hg ... 145           | 32 ... 150           | 0.50      | V14R722A-B21*A | V10318-K30  | Sub-base           |
| 5/3      | Sol/Sol          | Internal   | COP          | 32 ... 145               | —                    | 0.50      | V14R811A-B21*A | V10347-K30  | All Bases          |
| 5/3      | Sol/Sol          | External   | COP          | 26" Hg ... 145           | 32 ... 150           | 0.50      | V14R822A-B21*A | V10347-K30  | Sub-base           |
| 5/3      | Pilot/Pilot      | —          | APB          | 26" Hg ... 145           | 32 ... 150           | 0.24      | V14R6DDA-X0020 | V10317-K30  | All Bases          |
| 5/3      | Pilot/Pilot      | —          | COE          | 26" Hg ... 145           | 32 ... 150           | 0.24      | V14R7DDA-X0020 | V10318-K30  | All Bases          |
| 5/3      | Pilot/Pilot      | —          | COP          | 26" Hg ... 145           | 32 ... 150           | 0.24      | V14R8DDA-X0020 | V10347-K30  | All Bases          |

APB = All Ports Blocked, COE = Center open Exhaust, COP = Center open Pressure.

\*Insert voltage code from table below. Turn & lock manual override as standard.

For push only manual override substitute 10th digit with 3 eg. V14R517A-B31\*A. Order connector plugs separately.

### Voltage codes and spare coils

| Voltage                 | Codes | Power inrush/hold | Coil part no. |
|-------------------------|-------|-------------------|---------------|
| 6 V d.c. & 12V 50/60 Hz | 1     | 1.5 W 4.1/2.9 VA  | V10025-A11    |
| 12 V d.c.               | 2     | 1.7 W             | V10025-A12    |
| 24 V d.c.               | 3     | 1.7 W             | V10025-A13    |
| 24 V 50/60 Hz           | 4     | 4.1/2.9 VA        | V10025-A14    |
| 48 V 50/60 Hz           | 6     | 4.1/2.9 VA        | V10025-A16    |
| 110 V 50/60 Hz          | 8     | 3.5/2.5 VA        | V10025-A18    |
| 240 V 50/60 Hz          | 9     | 3.5/2.5 VA        | V10025-A19    |

### IP65 Integral flying lead coils (300 mm)



| Voltage    | Codes | Power  | Coil part no. |
|------------|-------|--------|---------------|
| 12 V d.c.  | B*12G | 2.0 W  | V10617-A12    |
| 24 V d.c.  | B*13G | 2.0 W  | V10617-A13    |
| 110 V a.c. | B*18G | 3.5 VA | V10617-A18    |

\* Insert valve manual override code – 2 = turn & lock, 3 = push only

### Electrical details for solenoid operators

|                        |                      |
|------------------------|----------------------|
| Voltage tolerances:    | ±10%                 |
| Rating:                | 100% E.D.            |
| Inlet orifice:         | 0.8 mm               |
| Electrical connection: | DIN 43 650 table 'C' |
| Protection class:      | IP 65 (DIN 40 050)   |

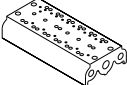
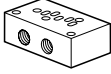
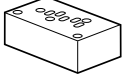
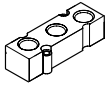
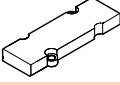
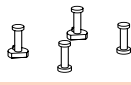
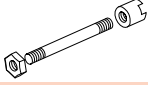
# V14 - Nugget 120

Solenoid & pilot actuated spool valves

Fixed length manifold, modular sub-base

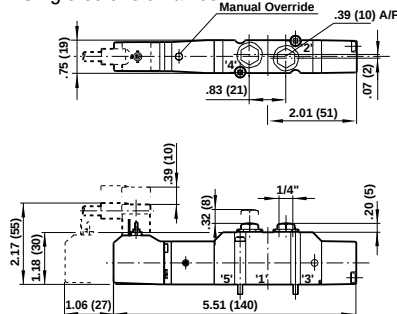
5/2 & 5/3, 1/4" NPT

## Bases and accessories

| Modular sub-base (side ported)                                                     |                                                                                    | PIF Sub-base (side ported)                                                         | End plate kit (side ported)                                                        |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|   |                                                                                    |   |   |                                                                                      |
| V14B517R-Q010N 1/4" PTF                                                            |                                                                                    | V14B517R-Q0108                                                                     | V11240-N30 3/8" PTF                                                                |                                                                                      |
| V14B517R-Q010G 1/4" ISO G                                                          |                                                                                    |                                                                                    | V11240-G30 3/8" ISO G                                                              |                                                                                      |
| Fixed length manifold                                                              | Single station sub-base Side ported                                                | Single station sub-base Bottom ported                                              | Intermediate supply/exhaust plate                                                  |                                                                                      |
|   |   |   |  |                                                                                      |
| V10028-N** PTF (01 -12 stations)                                                   | V10121-N01 1/4" PTF                                                                | V10122-N01 1/4" PTF                                                                | V14B517A-Q240N (NPT)                                                               |                                                                                      |
| V10028-G** ISO G                                                                   | V10121-G01 1/4" ISO G                                                              | V10122-G01 1/4" ISO G                                                              | V14B517A-Q240G (ISO G)                                                             |                                                                                      |
| Blanking plate for unused station                                                  | Pressure indicator                                                                 | DIN-rail mounting kit                                                              |                                                                                    | Tie rod kit                                                                          |
|   |   |   |                                                                                    |   |
| V14B517A-Q2700                                                                     | V14B517A-Q2800                                                                     | V10319-K30                                                                         |                                                                                    | V11072-C02 C20 Tierods                                                               |
|                                                                                    |                                                                                    |                                                                                    |                                                                                    | V00056-C01 Tie rod nut                                                               |
| Pressure regulator block                                                           | Pressure gauge kit for PRV                                                         | Flow regulator block                                                               | Blanking gasket set                                                                | Blanking plug or fixed length manifold                                               |
|  |  |  |  |  |
| V14B517A-Q2103 Dual                                                                | V14B517A-Q2120 Dual                                                                | V14B517A-Q2211                                                                     | V10040-K96 Set                                                                     | V10320-K01 Manifold 3/8" PTF                                                         |
| V14B517A-Q2106 Mono port 2                                                         | V14B517A-Q2121 Mono                                                                | —                                                                                  | V10040-C97 Supply G1 A20                                                           | V10320-K02 Manifold 1/4" PTF                                                         |
| V14B517A-Q2109 Mono port 4                                                         |                                                                                    |                                                                                    | V10040-C96 Exhaust G3 A19                                                          |                                                                                      |
|                                                                                    |                                                                                    |                                                                                    | V10040-C98 Supply & exhaust G5 A21                                                 |                                                                                      |

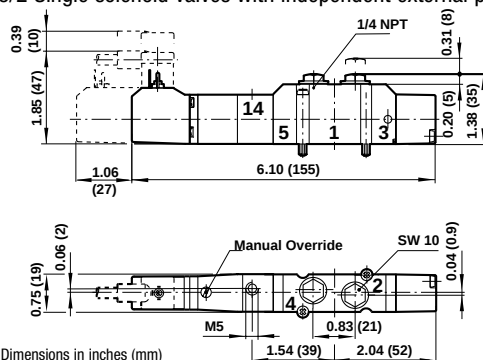
### V14B5\*7A Models

5/2 Single solenoid valves



### V14B5E7A Models

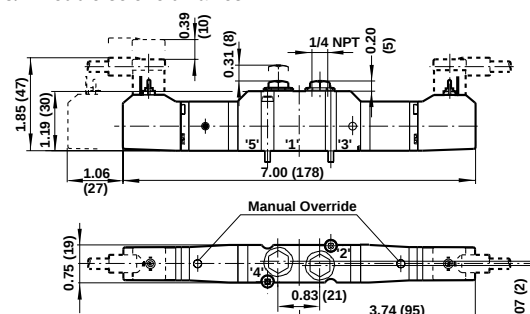
5/2 Single solenoid valves with independent external pilot supply



Dimensions in inches (mm)

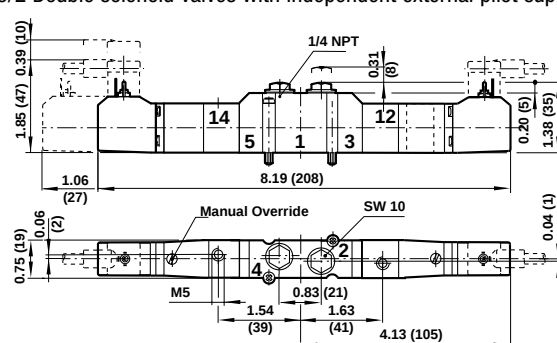
### V14B5\*\*A Models

5/2 Double solenoid valves



### V14B5EEA Models

5/2 Double solenoid valves with independent external pilot supply



## V14 - Nugget 120

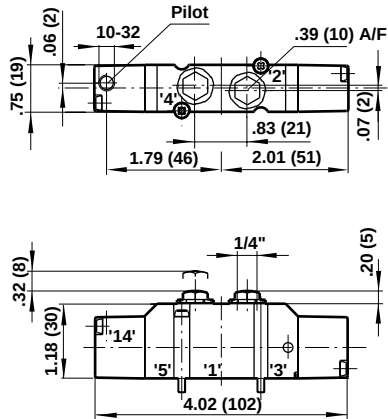
### Solenoid & pilot actuated spool valves

Fixed length manifold, modular sub-base

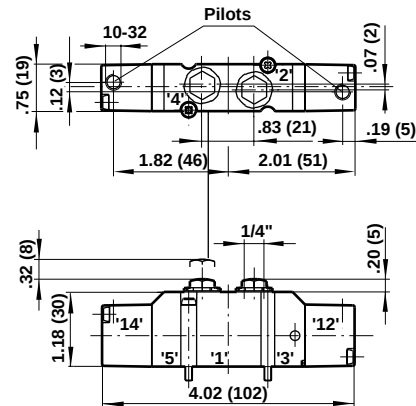
5/2 & 5/3, 1/4" NPT

Dimensions in inches (mm)

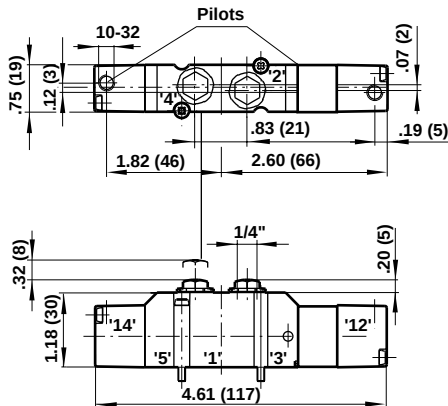
V14R5D7A-X0090  
5/2 Single Air Pilot Valves



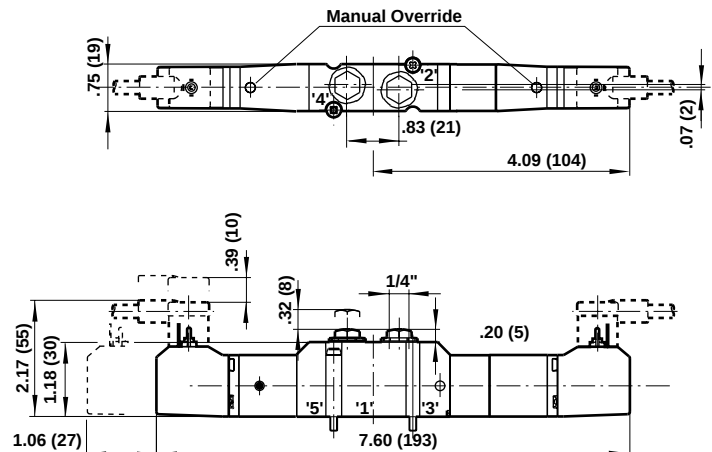
V14R\*\*DA Models  
5/2 Double Air Pilot Valves



V14R\*DDA Models  
5/3 Double Air Pilot Valves



V14R\*\*\*A Models  
5/3 Double Solenoid Pilot Valves



## V14 – Nugget 120

Solenoid & pilot actuated spool valves

Fixed length manifold, modular sub-base

5/2 & 5/3, 1/4" NPT

### D Sub-Connector with Cable

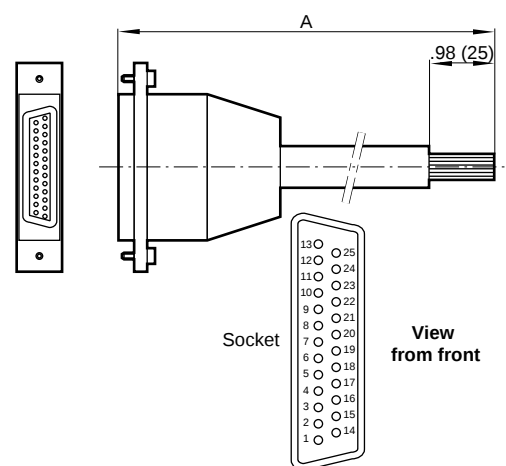
**Type: 25 pin IP 40 D Sub-connector.**  
**Cable size 20 AWG (.52 mm<sup>2</sup>)**

| Model      | A        | Weight (Kg)     |
|------------|----------|-----------------|
| V10020-E01 | 3' (1m)  | 0.61 lbs. (.28) |
| V10020-E03 | 10' (3m) | 1.50 lbs. (.68) |
| V10020-E05 | 16' (5m) | 2.38 (1.08)     |

| Pin no. | Socket      | Plug      | Pin no. | Socket            | Plug         |
|---------|-------------|-----------|---------|-------------------|--------------|
| 1       | Solenoid 1  | Red       | 14      | Solenoid 14       | Green/red    |
| 2       | Solenoid 2  | Blue      | 15      | Solenoid 15       | Yellow/red   |
| 3       | Solenoid 3  | Green     | 16      | Solenoid 16       | White/red    |
| 4       | Solenoid 4  | Yellow    | 17      | Solenoid 17       | Red/black    |
| 5       | Solenoid 5  | White     | 18      | Solenoid 18       | Red/brown    |
| 6       | Solenoid 6  | Brown     | 19      | Common, -negative | Yellow/blue  |
| 7       | Solenoid 7  | Violet    | 20      | Common, -negative | White/blue   |
| 8       | Solenoid 8  | Orange    | 21      | Common, -negative | Blue/black   |
| 9       | Solenoid 9  | Pink      | 22      | Common, -negative | Orange/blue  |
| 10      | Solenoid 10 | Turquoise | 23      | Common, -ground   | Yellow/green |
| 11      | Solenoid 11 | Grey      | 24      | Solenoid 19       | White/green  |
| 12      | Solenoid 12 | Red/blue  | 25      | Solenoid 20       | Orange/green |
| 13      | Solenoid 13 | Black     |         |                   |              |

Solenoid No. 1 is nearest to the socket

IP 40 D Sub-Connector



### Round Connector with Cable

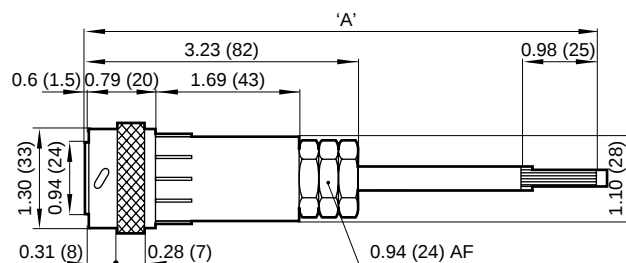
**Type: 23 pin IP65 'Round' connector.**  
**Cable size 20 AWG (.52 mm<sup>2</sup>)**

| Model      | A        | Weight (Kg) |
|------------|----------|-------------|
| V10021-E01 | 3 (1m)   | .75 (.34)   |
| V10021-E03 | 10 (3m)  | 1.63 (.74)  |
| V10021-E05 | 16 (5m)  | 2.51 (1.14) |
| V10021-E08 | 26 (8m)  | 4.67 (2.12) |
| V10021-E10 | 32 (10m) | 5.89 (2.67) |

| Pin no. | Socket      | Plug      | Pin no. | Socket            | Plug         |
|---------|-------------|-----------|---------|-------------------|--------------|
| A       | Solenoid 1  | Red       | N       | Solenoid 13       | Black        |
| B       | Solenoid 2  | Blue      | P       | Solenoid 14       | Green/red    |
| C       | Solenoid 3  | Green     | R       | Solenoid 15       | Yellow/red   |
| D       | Solenoid 4  | Yellow    | S       | Solenoid 16       | White/red    |
| E       | Solenoid 5  | White     | T       | Solenoid 17       | Red/black    |
| F       | Solenoid 6  | Brown     | U       | Solenoid 18       | Red/brown    |
| G       | Solenoid 7  | Violet    | V       | Common, -negative | Yellow/blue  |
| H       | Solenoid 8  | Orange    | W       | Common, -negative | White/blue   |
| J       | Solenoid 9  | Pink      | X       | Common, -negative | Blue/black   |
| K       | Solenoid 10 | Turquoise | Y       | Common, -negative | Orange/blue  |
| L       | Solenoid 11 | Grey      | Z       | Common, -ground   | Yellow/green |
| M       | Solenoid 12 | Red/blue  |         |                   |              |

Solenoid No. 1 is nearest to the connector on valve manifold

IP65 'Round' Connector



Dimensions in inches (mm)