

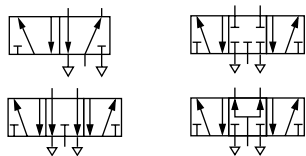
Valves

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 Orange LED failed armature movement
Power saving:	50% after armature has moved

V14 - Nugget 120 valve islands

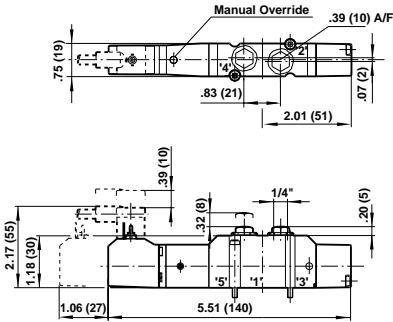
Solenoid actuated spool valves

Modular sub-base with wireway

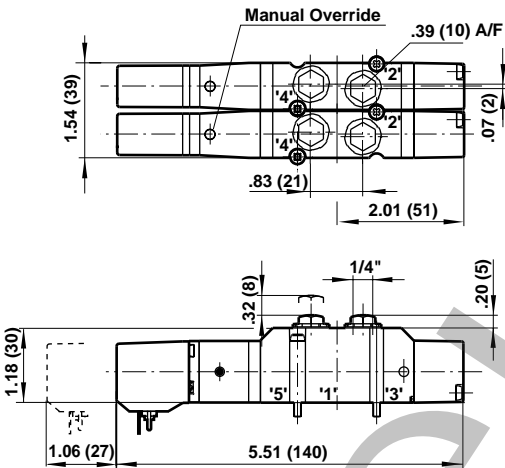
5/2 & 5/3, Ø 8 mm, 1/4" NPT

Dimensions in inches (mm)

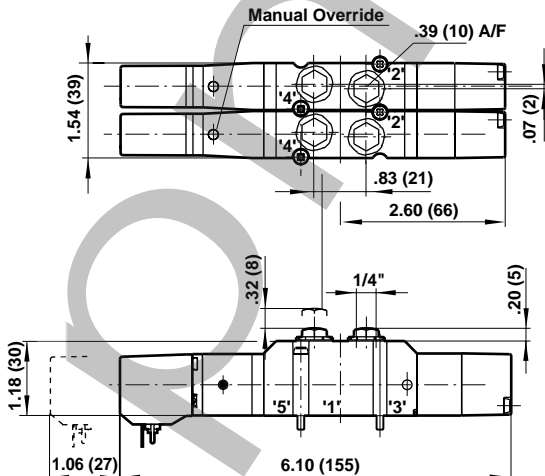
Single solenoid valves
V14B5*7A



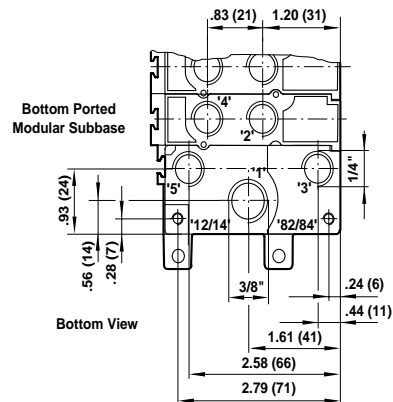
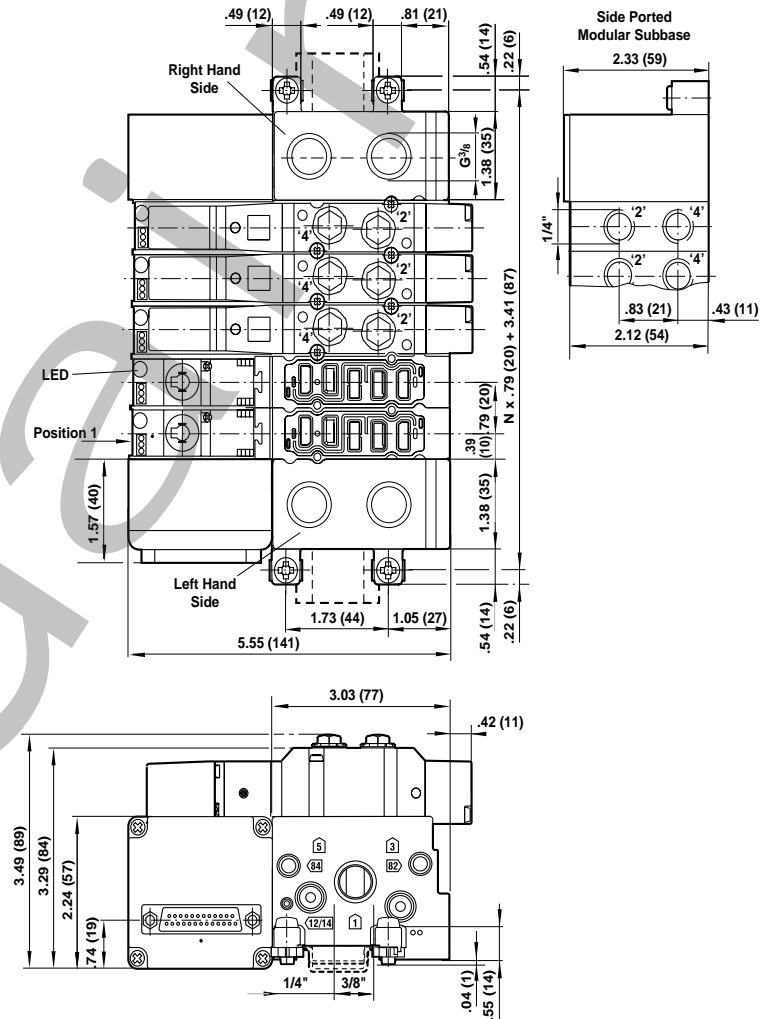
V14R5**P Models
5/2 Double Solenoid Pilot Valves
Note: Two manifold stations required



V14R***P Models
5/3 Double Solenoid Pilot Valves
for Wireway Applications



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



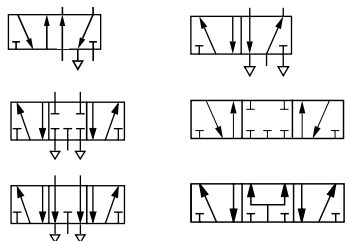
Valves

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

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)

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

V14 - Nugget 120

Solenoid & pilot actuated spool valves

Fixed length manifold, modular sub-base

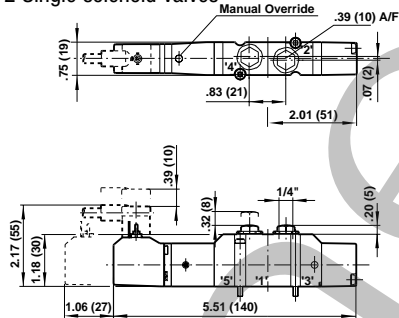
5/2 & 5/3, 1/4" NPT

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	
V10028-N** PTF (01 -12 stations)		V10121-N01 1/4" PTF		V10122-N01 1/4" PTF	
V10028-G** ISO G		V10121-G01 1/4" ISO G		V10122-G01 1/4" ISO G	
				Intermediate supply/exhaust plate	
				V14B517A-Q240N (NPT)	
				V14B517A-Q240G (ISO G)	
Blanking plate for unused station		Pressure indicator		DIN-rail mounting kit	
V14B517A-Q2700		V14B517A-Q2800		V10319-K30	
				DIN-rail	
				V10009-C00 1 m	
				Tie rod kit	
				V11072-C02 C20 Tierods	
				V00056-C01 Tie rod nut	
Pressure regulator block		Pressure gauge kit for PRV		Flow regulator block	
V14B517A-Q2103 Dual		V14B517A-Q2120 Dual		V14B517A-Q2211	
V14B517A-Q2106 Mono port 2		V14B517A-Q2121 Mono		-	
V14B517A-Q2109 Mono port 4					
				Blanking gasket set	
				V10040-K96 Set	
				V10040-C97 Supply G1 A20	
				V10040-C96 Exhaust G3 A19	
				V10040-C98 Supply & exhaust G5 A21	
				Blanking plug or fixed length manifold	
				V10320-K01 Manifold 3/8" PTF	
				V10320-K02 Manifold 1/4" PTF	

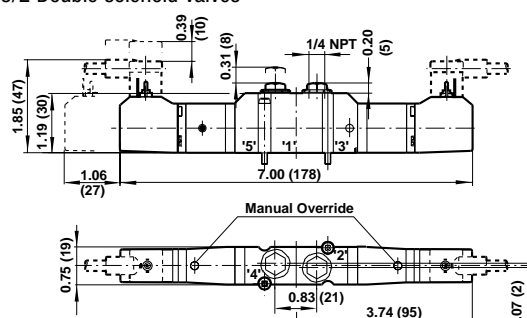
V14B5*7A Models

5/2 Single solenoid valves



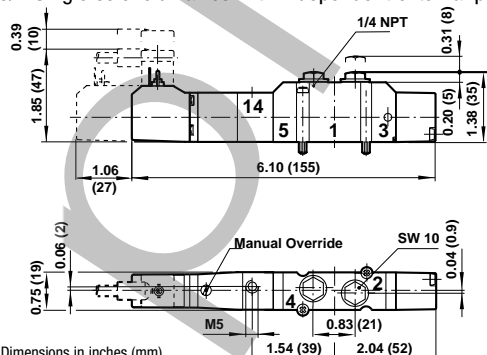
V14B5**A Models

5/2 Double solenoid valves



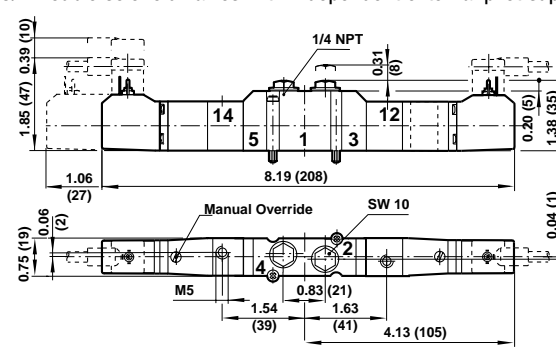
V14B5E7A Models

5/2 Single solenoid valves with independent external pilot supply



V14B5EEA Models

5/2 Double solenoid valves with independent external pilot supply



Dimensions in inches (mm)

Valves

V14 - Nugget 120

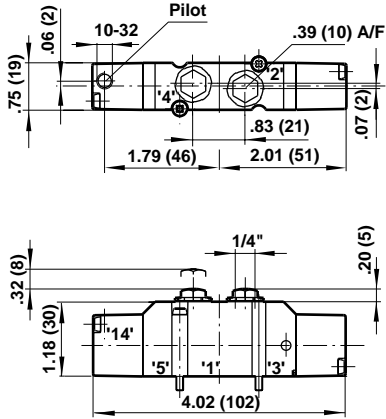
Solenoid & pilot actuated spool valves

Fixed length manifold, modular sub-base

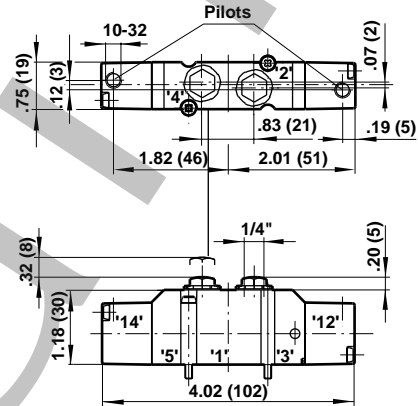
5/2 & 5/3, 1/4" NPT

Dimensions in inches (mm)

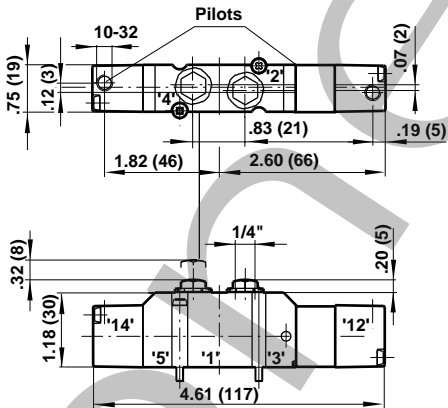
V14R5D7A-X0090
5/2 Single Air Pilot Valves



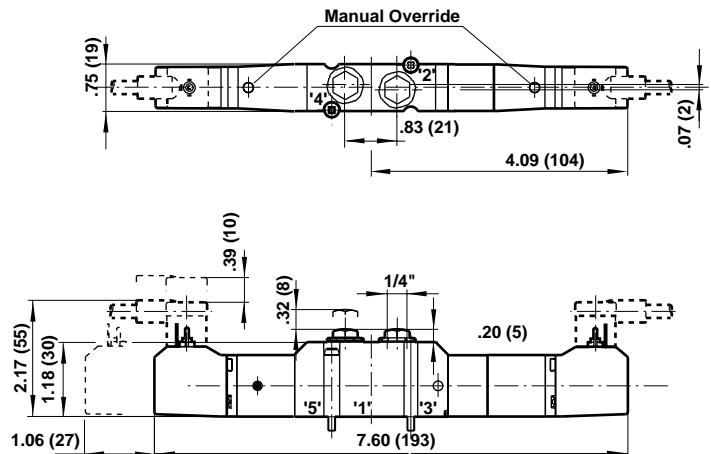
V14R**DA Models
5/2 Double Air Pilot Valves



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

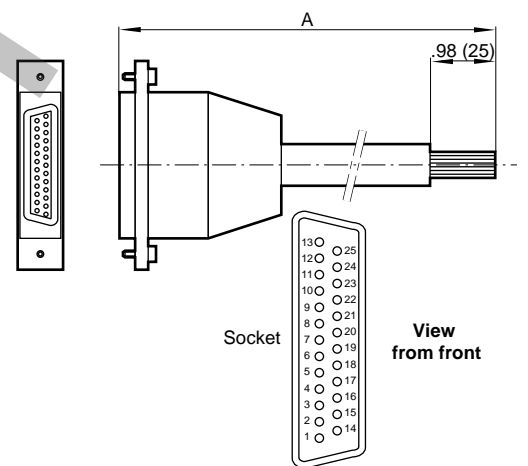
Type: 25 pin IP 40 D Sub-connector.
Cable size 20 AWG (.52 mm²)

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

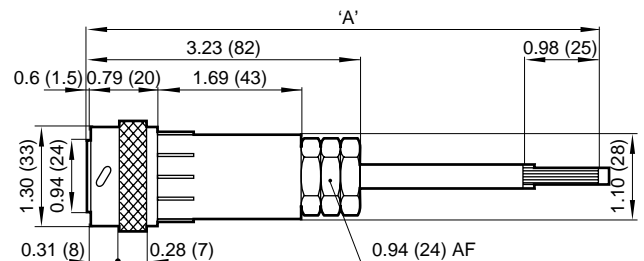
Type: 23 pin IP65 'Round' connector.
Cable size 20 AWG (.52 mm²)

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)