VR10 / VR15 Series for Multipole (IP40) Valve Island

NORGREN

Installation and Maintenance Quick Guide



SAFETY, WARNINGS

This product is intended for use in industrial compressed air or hydraulic system only. Do not use this product where pressures and temperatures can exceed those under 'Technica Data'.

Before using this product with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult Norgren. Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specification warnings found in instruction sheets packed and shipped with this product.

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IMI

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Breakthroug

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· Vibration: In applications where there is significant vibration, the axis of the spool (longitudinal axis of the valve) should be at 90° to the direction of the motion

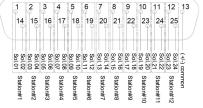
 Tightening torque: 			
M2: 0.15~0.2 Nm (1.3~			
M3: 0.4~0.5 Nm (3.5~4.	4 lbf·in)		
M4: 0.7~0.8 Nm (6.2~7.	1 lbf·in)		
 Port Identification: 	,		
Function		Port / Identification	
Main / Internal pilot air su	ply	P/1	
Exhaust		E/3/5	
Outlet		A/4&B/2	
External pilot air supply (if	used)	12 / 14	
Collected exhaust of pilot	valves	82 / 84	

WIRING RULES FOR MULTIPOLE SERIES

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The Multipole has 25 pins, and the output follows the rules below: If valve stations ≤ 12, 2 pins are always reserved for each valve station* (see table below), but for the station with single solenoid, only Pin No. of Solenoid A (14 Solenoid) is connected.

Station	1	2	3	- 4	5	6	7	8	9	10	11	12
Pin No. of Sol. A	1	2	3	4	5	6	7	8	9	10	11	12
Pin No. of Sol. B	14	15	16	17	18	19	20	21	22	23	24	25
* The one nearest to D-Sub Connector is considered as the 1 st station (Station #1). Mapping relation between station and Pin No. of D-Sub Connector is shown below:												



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Specific warnings:

Valve Island

. Check that the specification of the Valve Island and marking on the item of the equipment are suitable for the application being used on.

 Check technical data, such as operating pressure, voltage level, current type and
temperature, on the product label or in the data sheets for compliance with the existing operating conditions.

After removing the packaging, ensure that no contamination enters the system.
Check before the installation of the system that no contamination exists in the piping and

- Check during installation of the system that gaskets have not become damaged.
- Take measures to avoid unintentional or improper activation.
 Prior to the first electrical operation, ensure no danger would result from the medium
- exhausting from any open ports.
 Consider in case of pressurised systems that lines, valves and other components should
- not be removed. · To avoid damaging the product, please make sure that the maximum torque values are not exceed
- · IMPORTANT: Always switch off the air supply, exhaust the residual pressure and unplug all electrical connections before performing any maintenance.
- Ensure the machine is in a safe condition before operating manual over
- Pay due course and attention to the different polarity types available PNP/NPN. · A polarity protection diode is built in: Incorrect polarity does not cause a short circuit and does not require replacement valve slices. In this case only LED indicator works, but not valve slices

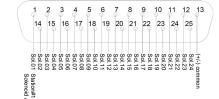
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- . If 12 < valve stations ≤ 24, special rules are required since only 1 pin is allocated to valve station with single solenoid. Step 1: Sequence all solenoids following the rules below by starting from 1st station
- which is the station closest to control module: If 1st station is with double solenoids, sequence solenoid A as Sol.01, solenoid B as
- Sol.02, following the 2nd station solenoid A as Sol.03, solenoid B as Sol.04...... If 1st station is with single solenoid, sequence solenoid A as Sol.01, following 2nd
- If a station is originally configured as blank, always 2 solenoid numbers are allocated.
 If a station is originally configured as blank, always 2 solenoid numbers are allocated. The rest of stations should also adhere to the sequence rules above
- Step 2: Map each Sol. sequence to Pin No. of D-Sub Connector (see illustration below):



An example (Valve Island with 14 stations) is shown below.





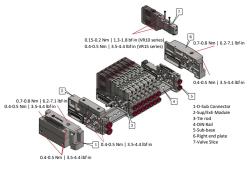
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TECHNICAL DATA

Valve Island

Medium: Compressed air, filtered (40µm) lubricated or non-lubricated Operating pressure: Piloting pressure: +2 to +7 bar (+29 psi to +101 psi) Operating pressure (Internal pilot supply): +2 to +7 bar (+29 psi to +101 psi) Operating pressure (External pilot supply): -1 to +7 bar (-14.5 psi to +101 psi) Operating temperature: -5°C to +50°C (+23°F to +122°F) * Air supply must be dry enough to avoid use formation below +2°C (+35°F) Power Supply: 24V DC +/- 10% / 12V DC +/- 10% Polarity type: PNP (-com) or NPN (+com) for 24V DC PNP (-com) for 12V DC

INSTALLATION



Notes:

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 Lubrication: Valves will function reliably when they are supplied with clean dry air either lubricated or non-lubricated. If the air supply is lubricated, then lubrication must be supplied during the life of the product.

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Installation and Maintenance Quick Guide **PIN ALLOCATING & WIRE COLOURS IDENTIFYING**

Pin no.	Wire colour	Solenoid	Pilot	Station
1	Black	Solenoid 1-a	14	1
2	Black, White	Solenoid 2-a	14	2
3	Brown	Solenoid 3-a	14	3
4	Brown, White	Solenoid 4-a	14	4
5	Red	Solenoid 5-a	14	5
6	Red, Yellow	Solenoid 6-a	14	6
7	Red, White	Solenoid 7-a	14	7
8	Pink	Solenoid 8-a	14	8
9	Pink, White	Solenoid 9-a	14	9
10	Yellow	Solenoid 10-a	14	10
11	Yellow, Red	Solenoid 11-a	14	11
12	Yellow, Blue	Solenoid 12-a	14	12
13	Green	Common		
14	Green, Yellow	Solenoid 1-b	12	1
15	Green, White	Solenoid 2-b	12	2
16	Blue	Solenoid 3-b	12	3
17	Blue, Yellow	Solenoid 4-b	12	4
18	Blue, White	Solenoid 5-b	12	5
19	Violet	Solenoid 6-b	12	6
20	Violet, White	Solenoid 7-b	12	7
21	Grey	Solenoid 8-b	12	8
22	Grey, Red	Solenoid 9-b	12	9
23	White	Solenoid 10-b	12	10
24	White, Red	Solenoid 11-b	12	11
25	White, Blue	Solenoid 12-b	12	12

 This table is based on the female D-Sub cables that NORGREN supplies, IP40 version, Part Numbers of D-Sub cables: 1) VR10569-E15, 2) VR10569-E03, 3) VR10569-E05. . The example (in the columns of Solenoid, Pilot, Station) is based on the configuration of 12 stations, double solenoids.

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