Northman

Reliability & Satisfaction

PRODUCT INFORMATION – FAQ's

Directional Control Valves – *General*

What certifications do Northman valves have?

We hold certifications for both CSA and CE, as well as ISO 9001.

What is the seal material in the directional control valves?

Buna N is standard. Viton® seals are available.

The circuit schematic for the spring offset and detent valves look similar to the spring centered schematics. What is the difference?

The spring offset and detent valves are actually two-position valves where the valve spool travels from end-to-end passing through the center configuration. The three-position spring centered valves can stop in the center position. The solid vs. the broken box lines intend to indicate this.

Do all spool designs in a valve series have the same flow and pressure ratings?

No. The spool type will affect flow and pressure ratings.

For example, the commonly used closed center spool, C2, for the G02 series is rated for 16.8 GPM, while the commonly used tandem spool, C6, is rated for 10.7 GPM. Check the detailed technical information in the catalog for ratings.

Other than spool designs, are there other factors affecting the flow rating of valves?

Yes. In some cases the type of electric supply affects the flow rating of valves. Check the detailed technical information in the catalog for ratings.

Do the manually operated (hand lever) valves come with an integral relief valve?

No. These are of the industrial valve design rather than the mobile type design where that feature is sometimes available.

When I call about the larger G04, G06 and G10 series of pilot operated valves, what do I need to know about the part numbering system?

There are actually two valves making up the pilot operated valve - the main slave valve that controls the directional flow of the oil in the system, and the smaller pilot valve that provides the hydraulic pressure to shift the main valve.

The main valve has a number in the form of HPD-G06-, or HPD-G08-, or HPD-G10-, and the pilot valve has the number in the form of SWH-G02- . Together, they create a single functioning valve with the catalog part number in the form of SW-G06-, or SW-G08-, or SW-G10. It is only the complete valve part number that is stamped on the valve nameplate.

If you need to identify or replace just the pilot valve, mention that when you supply us with the part number of your valve and we can reference the unique part number for just the pilot valve.

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What pilot valves are mounted on the main slave valves in the bigger pilot operated G04, G06 and G10 valve series?

These bigger “piggyback” valves all use our G02 series as the pilot valve.

The G04, G06 and G10 piggyback valves do not come with an integral pilot pressure check valve with the open center spool designs. How do I get sufficient pilot pressure to shift the valve if my valve has the open center spool configuration (C3, C5, C6, C60)?

Use the external pilot option (“-E”). Pressure to the X port on the manifold or subplate from another source in your system will shift the valve. (See the pressure specifications in the catalog for the acceptable pressure range.)

If the valve must be internally piloted in your system, then install a back pressure check valve in the tank line. (See the pressure specifications in the catalog for the acceptable pressure range.) The valve must be externally drained with this method.

Can I field change the pilot configuration of my piggyback valves?

Yes, both the pilot pressure and drain configurations can be independently converted between internal and external designs. See the instructional sheets on our website.

Can the larger “piggyback” valves be outfitted with a pilot choke?

Yes. The larger slave and pilot valve combinations in the G04, G06 and G10 sizes are all piloted by the SWH-G02 series valve. A “meter-out” modular flow control valve (MT-02W-K) can be sandwiched between the main slave valve and the pilot valve to control the rate of the pilot valve spool shift.

What series directional control valve is the “PB” option (Push Button for the manual overrides) available on?

The SWH-G02 series.

What is the “PT” port thread designation I see on some of the valves in the catalog?

The PT port thread is for an ISO designation (ISO 7/1) for tapered threads that are equivalent to DIN 2999, BSP Tr, JIS B0203, R 1/8 and R ¼ Keg, Etc. The PT thread is similar to NPT, but not interchangeable.

Because the PT thread is seldom used in the US and it could be mistakenly identified as an NPT thread, it is not offered on the Northman products stocked at the North American facility.

Directional Control Valves – *Electric*

What electric connections are available in AC?

-10: Junction Box with1/2" NPT conduit connection, indicating light
-20: Hirschman DIN connector, indicating light

What electric connections are available in DC?

-10: Junction Box with1/2" NPT conduit connection, indicating light
-20: Hirschman DIN connector, indicating light
-31: Lead wire, 11.75" long
-41: Dual spades, SAE J858A

In AC valves, what is the "Rectified" option?

This is an AC voltage option. When the voltage is specified as –R110, –R120, –R220, –R240 (instead of –A110, –A120, –A220, –A240), the AC power supplied to the valve is converted to DC power. AC current is more readily available and AC solenoids have faster cycle times, but AC solenoids have a natural tendency to audibly "click" and under certain circumstances can emit a "hum." Specifying the rectified option provides a DC operation to the incoming AC power.

Can I change the solenoids on my valve so I can have a different voltage?

Yes and No.

You can order a replacement solenoid coil of a different AC or DC voltage, but there are limitations on interchange. The valve core is originally matched to an AC current or to a DC current. Therefore, you can replace an original AC solenoid with one of a different voltage. Likewise for the DC voltage. However, you cannot change from an AC to a DC voltage or from a DC to an AC voltage in the field by just replacing the solenoid coil. The core must be changed as well

It must be remembered that the rectified AC coil has a DC solenoid core, so its interchange is with other rectified AC coils or with DC coils, not with a standard AC coil. And in reverse, a DC coil may be replaced with another DC coil or with an AC rectified coil, but not with a standard AC coil.

Why do I need to know if my junction box has "straight" or "diagonal" terminals?

This is only necessary if you are replacing the terminals in the G02 size valve. There were two different manufacturing designs used. Functionally they are the same.

Are the directional control valves surge protected?

Our valves come standard with electrical surge control.

There is also a low surge voltage option (–LS) in the G02 and G03 series. The LS increases the drop-out time when the incoming electric signal is removed. This helps protect against solenoid drop-out if there is a momentarily drop in the incoming current.

Can the above LS option be added in the field?

Yes. If you are converting a valve with the DIN connector, you will simply replace the DIN connector. If the valve has a junction box connection, replace the terminal blocks in the junction block. (Note: if the valve is the G02 size, you must specify which of the two types of terminals your valve has - straight or diagonal.)

Are explosion proof coils available?

They are not an option at this time.

If I lose electric power, can I shift my valve?

Yes. Manual overrides are standard. The spool can be shifted by depressing the pin in the end of the solenoid core.