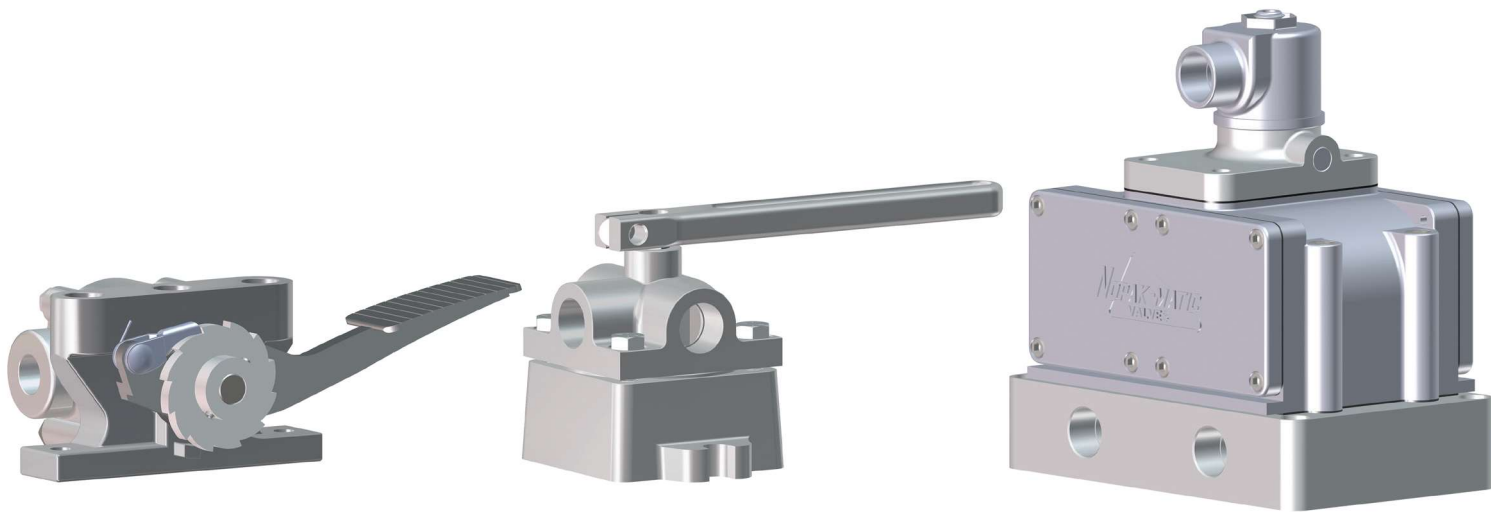


# Directional Control Valves

Hand, Foot and Solenoid

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## NOPAK DIRECTIONAL CONTROL VALVES

NOPAK Directional Control Valves are noted throughout industry for their simplicity of design, rugged construction, long-lived, trouble-free service, and low maintenance. The original NOPAK Valve design, with its patented, rotating lapped disc, has been augmented with other designs until today the NOPAK line includes valves for control of fluid power under practically all operating conditions.

In specifying NOPAK Valves, operating requirements are the most important consideration. Such factors as unusual working conditions (heat, cold or moisture), the operating medium to be used (air, oil or water), line pressure and capacity, type of control (hand, foot, solenoid or pilot valve) - all must be considered in choosing the particular NOPAK Valve best suited for the application.

# FEATURES AND BENEFITS ORDERING INFORMATION

## FEATURES AND BENEFITS

NOPAK Disc-Type Valves have a well-earned reputation of being “practically indestructible.” They have established an enviable record for efficient, trouble-free operation, freedom from leakage and pressure loss, and long service life under extremely rugged operating conditions. These benefits are a direct result of the simplicity and ruggedness of the basic NOPAK Rotating Disc design. The flat, lapped disc, rotating at right angles to the stream flow, results in the following advantages:

### PRECISION CONTROL

Positive precision control through the complete cycle of valve operation, from slow gradual throttling action to instant full opening, without damaging shock, impact or pressure cutting.

### SEALING SURFACES IMPROVE WITH USE

The precision-lapped sealing surfaces of disc and seat actually improve with use because the “lapping-in” process continues while the valve is operated. The flat disc and seat have no interlocking contours; therefore, they cannot stick and always remain free for easy operation.

### PROTECTED AGAINST GRIT, ABRASION OR WIRE DRAWING

The valve seat is always covered by the rotating disc so that both sealing surfaces are always shielded from direct pressure flow and possible abrasion caused by grit, scale or other foreign matter usually present in air or hydraulic lines. An internal channel in the disc carries off such abrasive materials without damage to the sealing surfaces.

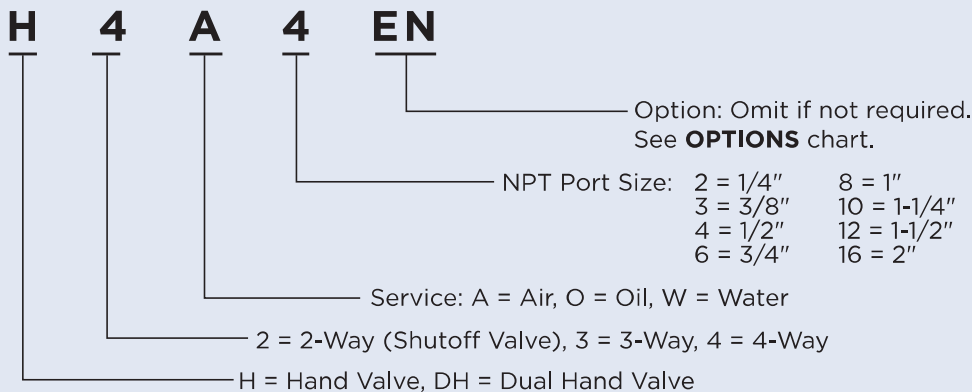
### PRESSURE SEALING

Line pressure is exerted against the valve disc at all times to keep the lapped surfaces of disc and seat positively sealed.

### PACKLESS CONSTRUCTION

NOPAK Valves depend entirely upon metal-to-metal, precision-lapped sealing surfaces for their leakproof construction. When used for hydraulic service (oil or water), additional protection against leakage past the valve stem has been provided by the use of an O-ring in the valve body and around the stem, just below the operating handle.

### ORDERING CODE EXAMPLE - HAND VALVES

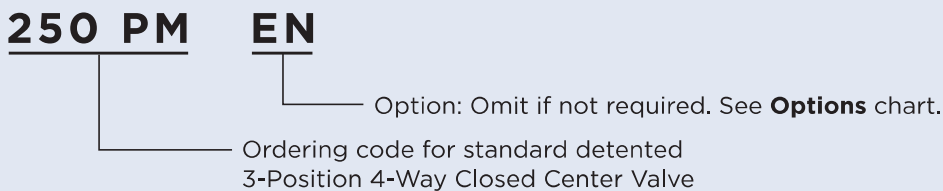


### OPTIONS

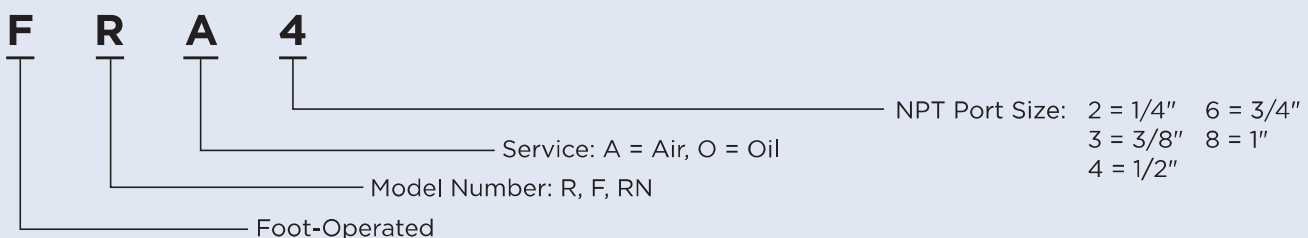
CODE	DESCRIPTION
EN	Exhaust In Neutral
SRN	Spring Return To Neutral
ST	Short Throw
STR	Short Throw & Spring Return
STNS	Short Throw No Spring
ENR	Exhaust In Neutral & Spring Return Neutral
B	Bleeder/Bleed Off
OC	Open Center
CC	Closed Center

### ORDERING CODE EXAMPLE - HAND VALVES, PANEL MOUNT

One size available: 1/4" NPT. See page 146.



### ORDERING CODE EXAMPLE - FOOT VALVES

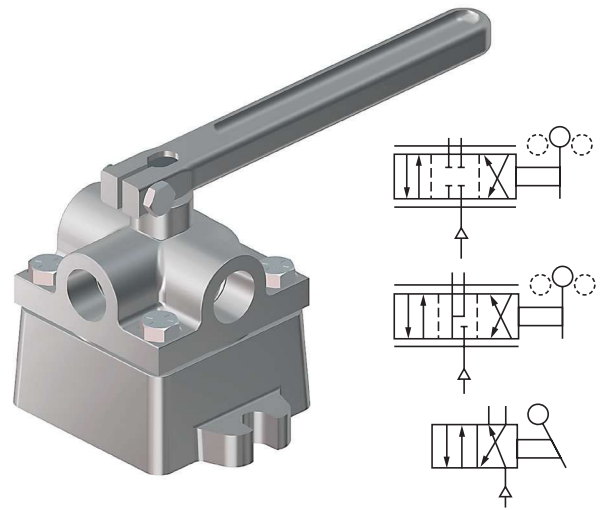


## 4-WAY, 3-POSITION AIR AND HYDRAULIC VALVES

The standard 4-way valve has two cycles of operation and is generally used to actuate double-acting cylinders. The construction and materials are identical to the 3-way valve. Both 3- and 4-way hand-operated air valves, 3/4" pipe size and larger, are fitted with grease cups to lubricate lapped surfaces.

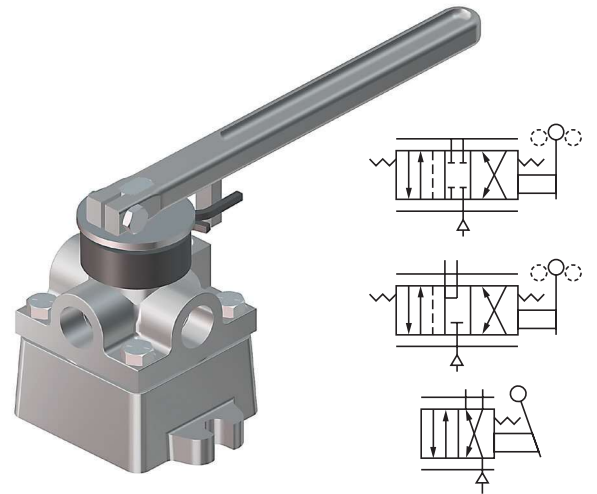
### 4-Way, 2-Position, Short Throw

This valve has no neutral and is available with a total lever throw of 45° in the 1/4", 3/8", 1/2", 3/4" and 1" pipe sizes. It is available with a total lever throw of 60° in the 1-1/4", 1-1/2" and 2" pipe sizes. It is dimensionally identical with the standard 4-way valve and identified by "2/P" stamped on the spindle end.



## 4-WAY SPRING RETURN TO NEUTRAL VALVES

Having the same basic construction and cycles of operation as the 4-way valves above, this valve is available in 1/4" through 1" pipe size for air, water and oil service at line pressures up to 100 PSI. Moving the lever to either extreme position pressurizes either cylinder port. A torsion spring located under the operating lever returns the lever to the neutral position when released. It is also available in the 2-position short throw valve.



## 3-WAY AIR AND HYDRAULIC VALVES

The 3-way valve has two lever positions, pressure and exhaust, and is used to actuate single-acting cylinders.

The body and cap are made of semi-steel, the disc of hard bronze. This construction provides the best friction coefficient for air service and ensures easy operating and long wearing qualities.

These same materials are used for oil hydraulic service along with an O-ring in the body for extra precaution against stem leakage. For Water Service the valve body is constructed of cast bronze, uses a bronze spindle, a Nye-Koted cap, and the stem is equipped with an O-ring.

A 3-way, 3-position valve with a hold position can be had by using a standard 4-way valve and plugging one cylinder port.

