

# D163

## Motorized 3-Way Directional Valve



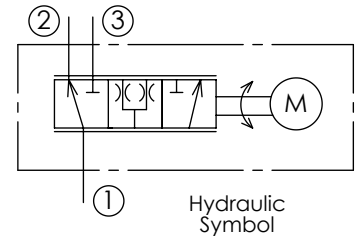
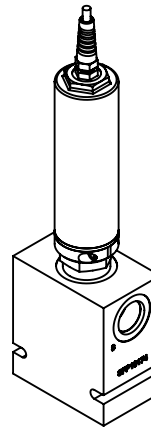
**SOURCE**  
FLUID POWER

### Function

- Motor driven, 3-way directional valve, variable shift speeds, full open-crossover

### Operation

- 3-way selector valve, infinite positioning
- Ideal for timed soft-shift selection between two actuators or circuits. Several timing options to choose, from 1 second to 48 seconds full shift
- Infinite positioning for proportional flow dividing circuits. Ideal for bulk product mixing applications when used with proportional flow dividing compensator SFP26373
- Rotary spool operation allows high-flow capabilities. Spool cannot shift due to internal flow forces or high flow surge situations



### Operating Pressure

- 3000 psi
- Consult factory for higher pressures

### Flow Ranges (Based on 100 psi differential)

- **15** 0-15 gpm (Equivalent to  $\phi$ .25 orifice)
- **20** 0-20 gpm (Equivalent to  $\phi$ .35 orifice)
- **35** 0-35 gpm (Equivalent to  $\phi$ .49 orifice)
- **50** 0-50 gpm (Equivalent to  $\phi$ .56 orifice)

### Internal Leakage

- 5 cu in/minute per 1000 psi

### Voltage

- 12 & 24 VDC

### Construction

- Cage, body and spool: Steel, exposed parts plated
- Motor housing assembly: Anodized aluminum
- Standard line bodies are aluminum
- Steel bodies are available upon request

### Seal Material

- Buna N and polyurethane standard
- Viton optional

### Current Draw (only while adjusting)

- 0.8 amp when powered at 12 volts
- 1.0 amp when powered at 24 volts

### Temperature

- -40 to 120°C

### Operating Speed

- 1 to 48 seconds, See appendix page 1 for details

### Cavity

- C 16-3 industry common cavity

### Valve Installation Torque

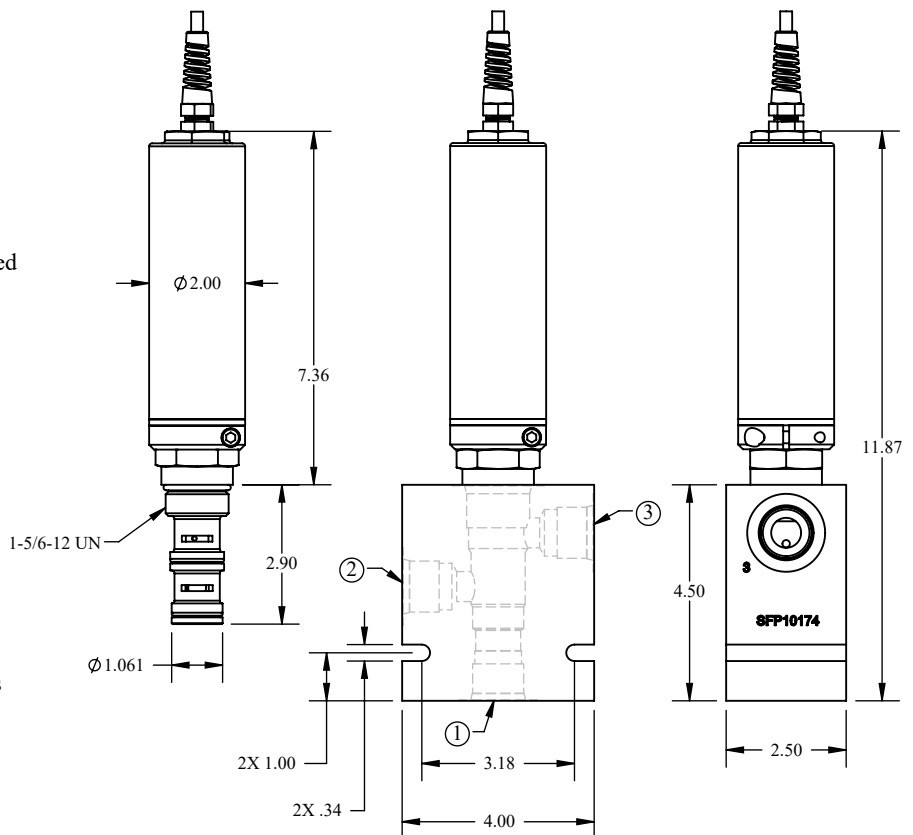
- 65 ft-lbs

### Cartridge Weight

- D163 cartridge only 3.2 lbs
- D163 with aluminum body 6.9 lbs

### Seal Kit

- SFP25662



D163-

### Flow range:

- 15** 0-15 gpm
- 20** 0-20 gpm
- 35** 0-35 gpm
- 50** 0-50 gpm

### Operating Speed/Voltage

Select letter code from appendix page 1

### Options:

See appendix page 2 for available options

### Line Body:

**10174** SAE-12 ports

# Appendix 1: Motor Specification Sheet



Operating speed letter code	Motor Speed	Motor voltage	Description	Where to use
12 VDC Motors				
A	< 1 sec	12 VDC	Basic motor, no electronic braking	For customers who provide their own closed loop control.
B	1.25 sec	12 VDC	Internal PWM speed control, no feedback	Soft start or on/off applications toggle switch control.
C	2.5 sec	12 VDC	Internal PWM speed control, no feedback	Soft start or on/off applications toggle switch control.
D	3.5 sec	12 VDC	Internal PWM speed control, no feedback	Soft start or on/off applications toggle switch control.
E	7 sec	12 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Quick" manual metering.
F	12 sec	12 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Normal" manual metering.
G	24 sec	12 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Fine" manual metering.
H	36 sec	12 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Extra fine" manual metering.
I	48 sec	12 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Extra fine" manual metering.
24 VDC motors				
J	1.25 sec	24 VDC	Internal PWM speed control, no feedback	Soft start or on/off applications toggle switch control.
K	2.5 sec	24 VDC	Internal PWM speed control, no feedback	Soft start or on/off applications toggle switch control.
L	3.5 sec	24 VDC	Internal PWM speed control, no feedback	Soft start or on/off applications toggle switch control.
M	7 sec	24 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Quick" manual metering.
N	12 sec	24 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Normal" manual metering.
O	24 sec	24 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Fine" manual metering.
P	36 sec	24 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Extra fine" manual metering.
Q	48 sec	24 VDC	Internal PWM speed control, no feedback	Toggle switch metering control, "Extra fine" manual metering.
Position Control				
S		12/24 VDC	2-10 volt position control	Valve will adjust to your 2-10 volt input signal. No external driver card.
12 VDC MOTORS WITH POSITION FEEDBACK				
FB	0.9 sec	12 VDC	Motor with feedback for use with PEM-DMC controller card	When used with our PEM-DMC controller card it will adjust per your variable input command.

OBSOLETE USE SERIES

## Cable Length

Our standard cable length is 18 inches. To add additional cord length to your motorized flow control valve add the suffix: C\_\_ (List the cable length in inches.) Omit if not required.

Example: F1015EC8010182 (Cable length is specified to 80 inches.)

## Wire Connectors

We offer connectors crimped onto the end of our cords. We can do other styles of connectors for customers that require them. Consult factory. To add a standard connector to a motorized flow control add the suffix below.

## WPT

Delphi Packard Weather-pack plug tower half. Pin lay out is for 2 pin connector: White wire to A terminal and Black wire to B terminal. Pin lay out for 6 pin connector: black #1 wire to A terminal, black #2 wire to B terminal, black #3 wire to C terminal, black #4 wire to D terminal, Green/yellow wire to E terminal and F terminal plugged. If ordered with a B-Q motor it will come with a 2 pin connector. If ordered with a FB or S motor it will come with a 6 pin connector.

## WPS

Delphi Packard Weather-pack receptacle shroud half. Pin lay out is for 2 pin connector: White wire to A terminal and Black wire to B terminal. Pin lay out for 6 pin connector: black #1 wire to A terminal, black #2 wire to B terminal, black #3 wire to C terminal, black #4 wire to D terminal, Green/yellow wire to E terminal and F terminal plugged. If ordered with a B-Q motor it will come with a 2 pin connector. If ordered with a FB or S motor it will come with a 6 pin connector.

## DT04

Deutsch connector, 2 pin receptacle. Pin layout is white wire to #1 terminal and black wire to #2 terminal.

## DT06

Deutsch connector, 2 pin plug. Pin layout is white wire to #1 terminal and black wire to #2 terminal.

Example: F1015EWPT10182 (2 pin weather pack tower connector).

## Special Flow Ranges

Valves can be supplied with different metering slots to fit special applications. Contact the factory for details and pricing.

## Ordering Example F10 15 E C80 WPT 10182

**F10** = Motorized flow control, 10-2 cavity size

**15** = Gallons per minute at full open and 100 psi pressure differential.

**E** = Motor speed, 7 second full travel operating speed.

**C80** = 80" cord length, 18 gauge cord.

**WPT** = Connector type

**10182** = line body manifold

## Double Pole- Double Throw Toggle Switch

- **44269** - Reversing metal toggle switch DPDP momentary ON-OFF-MOM ON
- **44214** - Toggle boot for toggle switches

## Extension cable

- **SFP25657C-\_\_FT** (List the cable length in feet). This extension cable is for use between our FB or S series motorized control valves and one of our control boxes. It includes WPT and WPS connectors on each end. The cable is housed in a abrasion resistant covering. This is to be used in conjunction with a WPT connector order on a FB or S series valve.

## Seal kits - Replacement seal kits for the wet end (nose portion) of the motorized control valves

- **SFP25247** - Seal kit for the motorized flow control in the F10 size
- **SFP25148** - Seal kit for the motorized pressure control in the P10/PP10 size
- **SFP25674** - Seal kit for the motorized flow control in the F13A size
- **SFP25249** - Seal kit for the motorized flow control in the F16 size
- **SFP25675** - Seal kit for the motorized flow control in the F16A size
- **SFP25662** - Seal kit for the motorized flow control in the FPC16 size
- **SFP25673** - Seal kit for the motorized flow control in the F20 size

## Special Seals / Material

- Optional Viton seals are available on special order.
- Stainless steel valves are suitable for use with water or other fluids and are also available on special order.

## Specialty valves

- We take pride in innovation and creative solutions to meet customer needs. This catalog is only a sample of unique solutions that we have delivered. We can customize any one of these valves to best fit the customers needs.