

D163

Motorized 3-Way Directional Valve



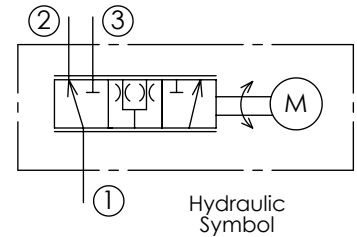
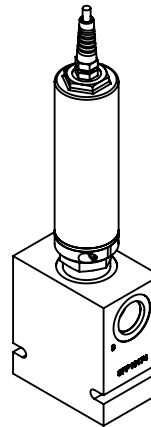
SOURCE
FLUID POWER

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 ϕ .25 orifice)
- **20** 0-20 gpm (Equivalent to ϕ .35 orifice)
- **35** 0-35 gpm (Equivalent to ϕ .49 orifice)
- **50** 0-50 gpm (Equivalent to ϕ .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

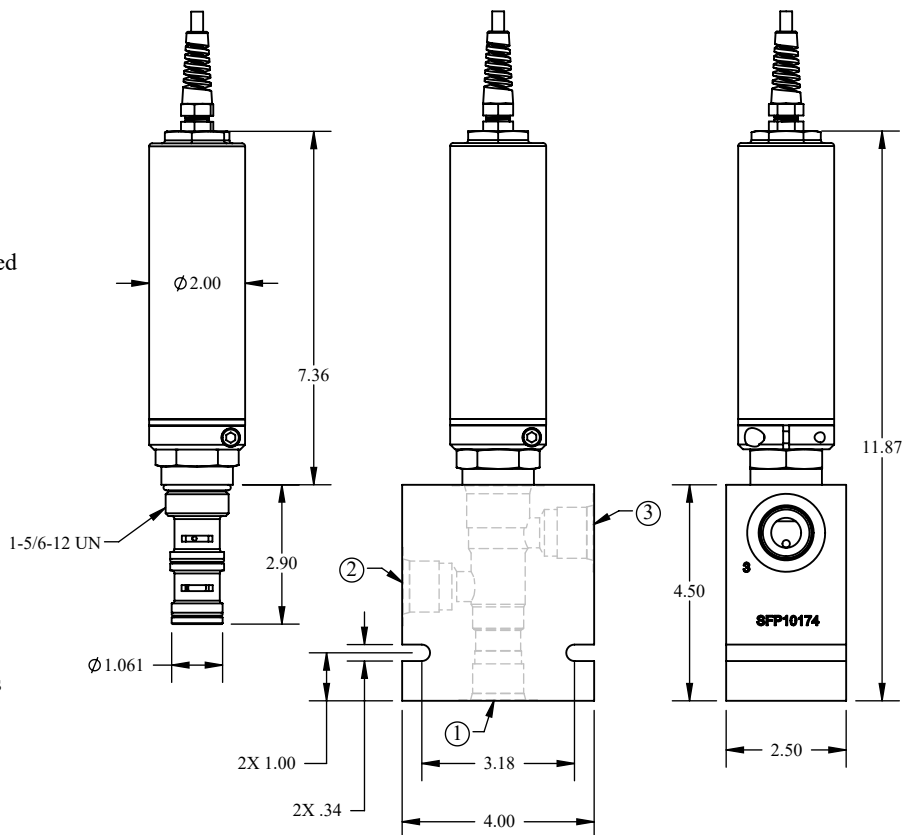
- 65 ft-lbs

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.

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 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 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 feedback 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 feedback 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.