F10

Motorized Flow Control Valve



Function

Motor driven, variable orifice, restrictive type, hydraulic flow control, non-pressure compensated. Pressure balanced, bi-directional flow.

Operating Pressure

- 3000 psi maximum differential
- Consult factory for higher operating pressures

Flow Ranges

Based on 100 PSI pressure differential with valve fully open. See pressure drop curves for additional application data

03 0-3 gpm (Equivalent to Ø.14" orifice at full open)

05 0-5 gpm (Equivalent to Ø.18" orifice at full open)

10 0-10 gpm (Equivalent to Ø.25" orifice at full open)

15 0-15 gpm (Equivalent to Ø.31" orifice at full open)

- Custom ranges are available upon request

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

Internal Leakage

1 cubic inch per minute per 1000 psi

Temperature

-40 to 120°C

Operating Speed

1-48 seconds, See appendix page 1 for details

Cavity

C 10-2 industry common cavity

Valve Installation Torque

35 ft-lbs

Cartridge Weight

- F10 cartridge only 2.5 lbs
- F10 with aluminum body 3.6 lbs

Seal kit

SFP25247

Flow range:

03 0-3 gpm

0-5 gpm **05** 0-10 gpm

15 0-15 gpm

Operating Speed/Voltage

Select letter code from appendix page 1.

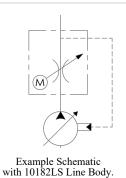
F10

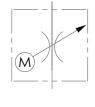
Options:

See appendix page 2 for available options.

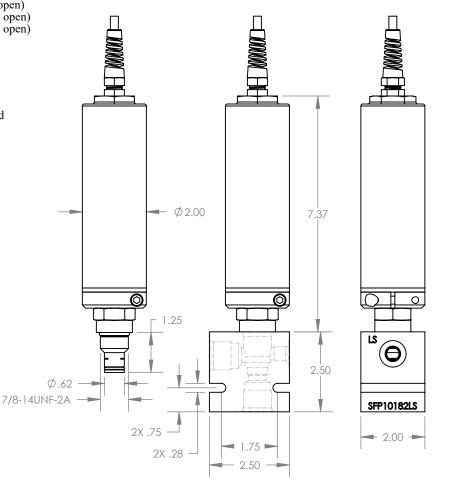
Line bodies:

10182 SAE-8 ports **10182LS** SAE-10 ports and SAE-4 LS port





Hydraulic Symbol



Appendix 1: Motor Specification Sheet



Operating speed	Motor	Motor		
Operating speed letter code	Speed	voltage	Description	Where to use
12 VDC Motors				
Α	<1 sec	12 VDC	Basic motor, no electronic braking	For customers who provide their own
				closed loop control.
В	1.25 sec	12 VDC	Internal PWM speed control, no	Soft start or on/off applications toggle
			feedback	switch control.
С	2.5 sec	12 VDC	Internal PWM speed control, no	Soft start or on/off applications toggle
			feedback	switch control.
D	3.5 sec	12 VDC	Internal PWM speed control, no	Soft start or on/off applications toggle
			feedback	switch control.
E	7 sec	12 VDC	Internal PWM speed control, no	Toggle switch metering control,
			feedback	"Quick" manual metering.
F	12 sec	12 VDC	Internal PWM speed control, no	Toggle switch metering control,
			feedback	"Normal" manual metering.
G	24 sec	12 VDC	Internal PWM speed control, no	Toggle switch metering control,
			feedback	"Fine" manual metering.
Н	36 sec	12 VDC	Internal PWM speed control, no	Toggle switch metering control, "Extra
			feedback	fine" manual metering.
1	48 sec	12 VDC	Internal PWM speed control, no	Toggle switch metering control, "Extra
			feedback	fine" manual metering.
24 VDC motors				
J	1.25 sec	24 VDC	Internal PWM speed control, no	Soft start or on/off applications toggle
			feedback	switch control.
K	2.5 sec	24 VDC	Internal PWM speed control, no	Soft start or on/off applications toggle
			feedback	switch control.
L	3.5 sec	24 VDC	Internal PWM speed control, no	Soft start or on/off applications toggle
			feedback	switch control.
M	7 sec	24 VDC	Internal PWM speed control, no	Toggle switch metering control,
			feedback	"Quick" manual metering.
N	12 sec	24 VDC	Internal PWM speed control, no	Toggle switch metering control,
			feedback	"Normal" manual metering.
0	24 sec	24 VDC	Internal PWM speed control, no	Toggle switch metering control,
			feedback	"Fine" manual metering.
Р	36 sec	24 VDC	Internal PWM speed control, no	Toggle switch metering control, "Extra
			feedback	fine" manual metering.
Q	48 sec	24 VDC	Internal PWM speed control, no	Toggle switch metering control, "Extra
			feedback	fine" manual metering.
Position Control				
S		12/24	2-10 volt postion control	Valve will adjust to your 2-10 volt
		VDC		input signal. No external driver card.
12 VDC MOTORS WITH POSITION FEEDBACK				
FB	0.9 sec	12 VDC	Motor with feedback for use with	When used with our PEM-DMC
IOBSOLE	ETE L	JSE S	PENT De roller card	controller card it will adjust per your
				variable input command.

8.1

Appendix 2 Motorized Control Valve Options



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 <u>F10 15 E C80 WPT 10182</u>

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

Motorized Control Valve Accessories



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.