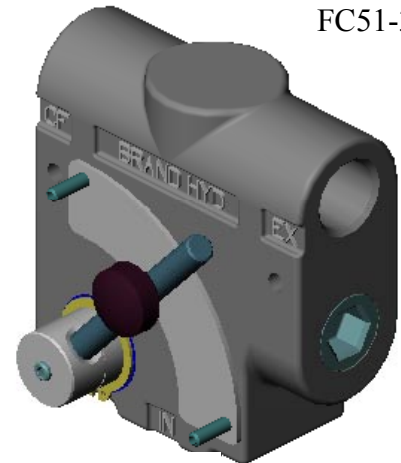
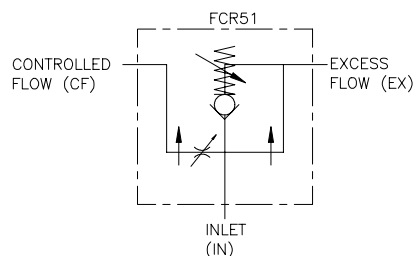
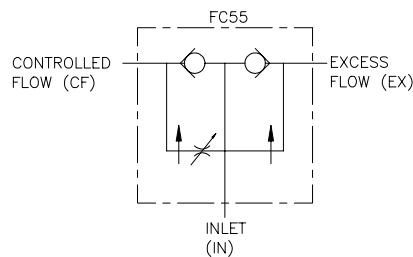
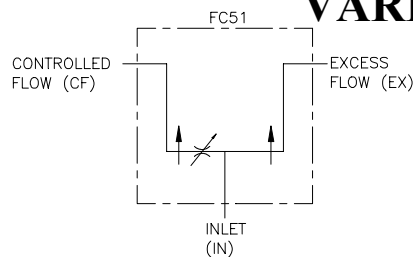
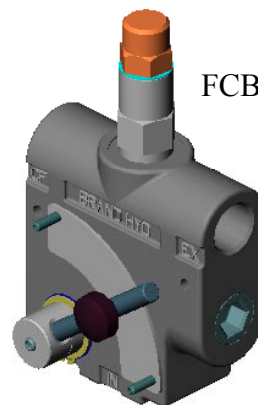


FULL RANGE PRESSURE COMPENSATING VARIABLE FLOW CONTROL

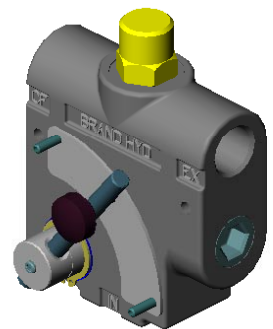
“FC”



FC51-3/4



FCB51-3/4



FCR51-3/4

FEATURES:

- **DIAMOND HONED SPOOL BORE** provides consistent spool fit with low leakage.
- **EVERY FC IS TESTED** for shutoff, linearity, max. flow, and pressure compensation.
- **STANDARD 3-PORT** allows for pressure compensated flow out of two ports.
- **EXTERNAL SEALS ON SIDE LEVER SPOOL** prevents contamination from locking up spool.
- **OPTIONAL TOP PORT** allows the customer to plumb their pipe directly in line with the inlet.
- **OPTIONAL 2-PORT** allows for pressure compensated flow out of one port.
- **OPTIONAL FREE REVERSE FLOW** allows fluid to move from the CF (control flow) and EX (excess flow) port to the inlet. (Single reverse flow is optional)
- **OPTIONAL BALL SPRING RELIEF AND HIGH LIFT BALL SPRING RELIEF CF** (control flow) port.
- **OPTIONAL TEMPERATURE COMPENSATED SIDE LEVER SPOOL** allows the customer to maintain the same flow setting regardless of the fluid's temperature.

SPECIFICATIONS:

- See flow chart for capacity.
- Rated for 3000 psi (207 bar).
- Weighs 7- 3/4 lbs. (3.52 kg).
- 30-Micron Filtration Recommended.

MATERIALS:

- Cast Iron Body.
- Heat Treated Steel Spools. (Stainless available)
- Buna N O'Rings (Standard)
- Heat Treated Free Reverse Check Seat.

FC – GENERAL INFORMATION

The Brand, full range pressure compensating variable flow control is designed so that the orifice area varies as the lever is rotated. Fluid travels past the variable orifice, through the compensator spool and then out the controlled flow port. Therefore the flow out of the CF port is proportional to the orifice area which can vary from closed to open. The sum of the controlled flow and the excess flow equal the inlet flow and as the controlled flow increases the excess flow decreases. Both outlet flows are pressure compensated with a spool that maintains a constant flow while adjusting for pressure. Hunting between the compensated pump and our valve is dampened with a dashpot on the compensator spool. Thus, the outlet flow is smooth and constant regardless of the pressure on the CF and EX port. External seals on the side lever spool prevent contamination from getting between the spool and the casting, thus preventing the spool from locking in one position. Please consult the factory for stainless steel side lever spools when the valve is going to be used in a corrosive environment. We also offer the FC with outlet ports coming from the top of the casting.

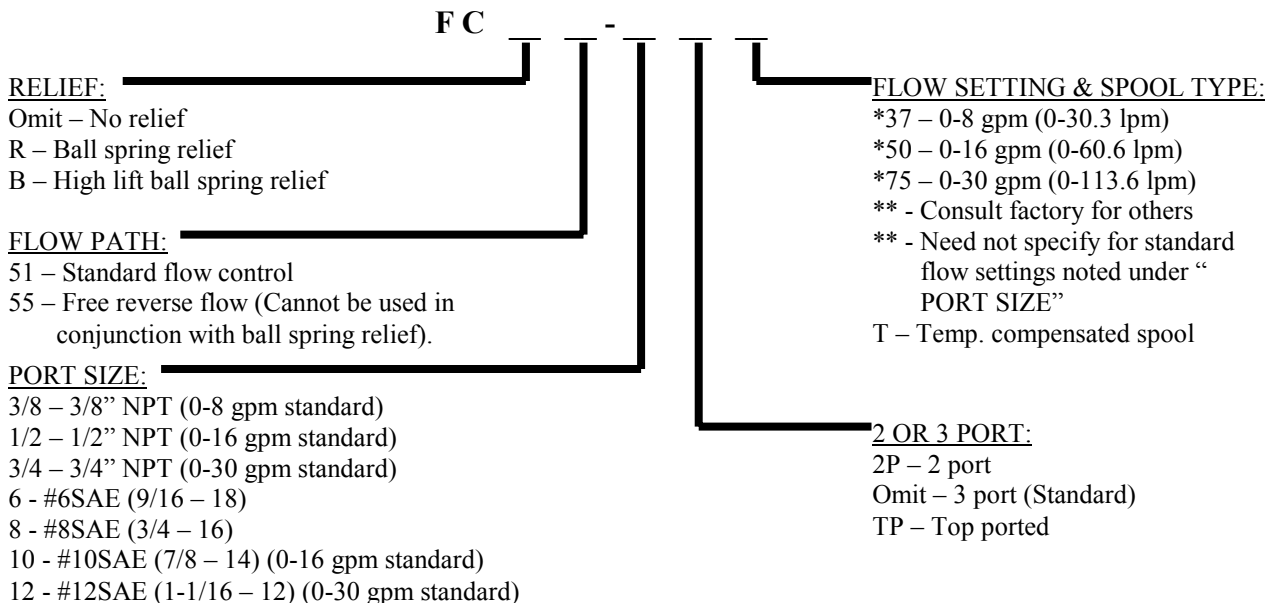
BALL SPRING RELIEFS – The ball spring relief (R) and the high lift ball spring relief (B) allow the customer pressure compensated flow up to the pressure setting on the relief. Once the pressure on the CF port increases above the relief setting the relief valve opens and diverts flow to the EX port while maintaining the pressure on the CF port. The EX port must be plumbed back to tank for both of these reliefs. The B option's advantage over the R option is that the cracking pressure at low and high flow is virtually the same. The B option is also more stable when flow is traveling past the ball and spring. (See relief flow charts on next page)

FREE REVERSE FLOW – The free reverse flow (55) option is designed primarily where cylinders and motors are needed to go in reverse. Flow can go in reverse from either the EX or the CF port to the inlet. Flow is not metered when it goes in reverse. The non-metered flow travels past the poppet, down the center of the valve, past the compensator spool and through the inlet. The steel poppet seat inside the free reverse flow check is heat treated to assure a long life.

FC – EXAMPLES OF COMMON MODEL CODES:

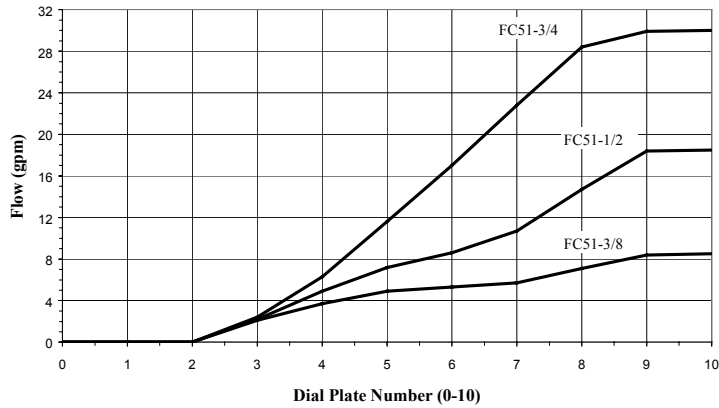
FC51-3/4..... 3/4" ports and a max flow of 30 gpm.
FCR51-3/8..... Ball spring relief, 3/8" ports, and a max flow of 8 gpm.
FC55-1/2..... Free reverse flow, 1/2" ports, and a max flow of 16gpm.

FC – CREATING A MODEL CODE FOR FC'S:

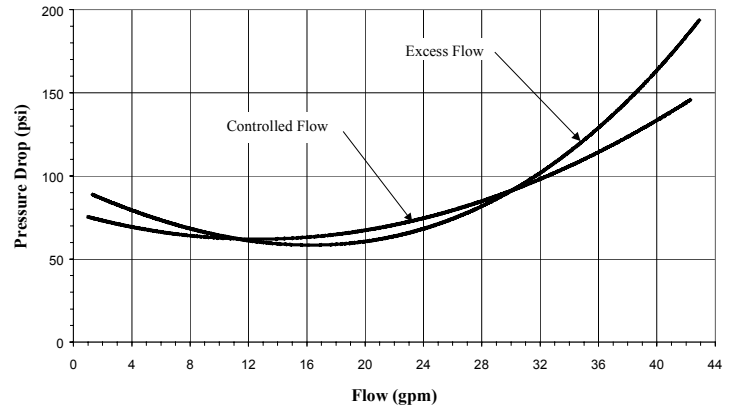


FC FLOW & PRESSURE INFO:

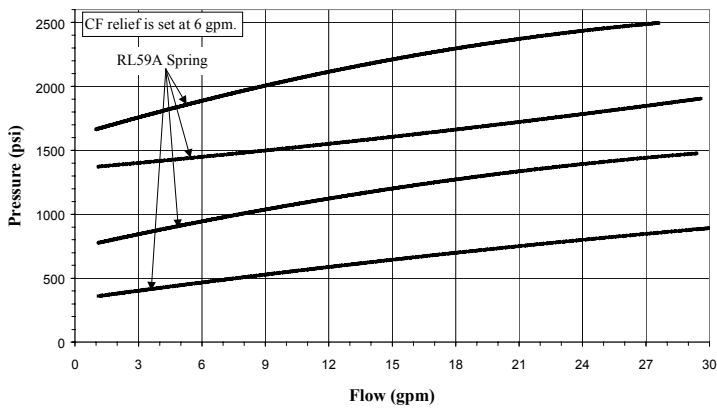
Controlled Flow vs. Dial Plate for FC Series



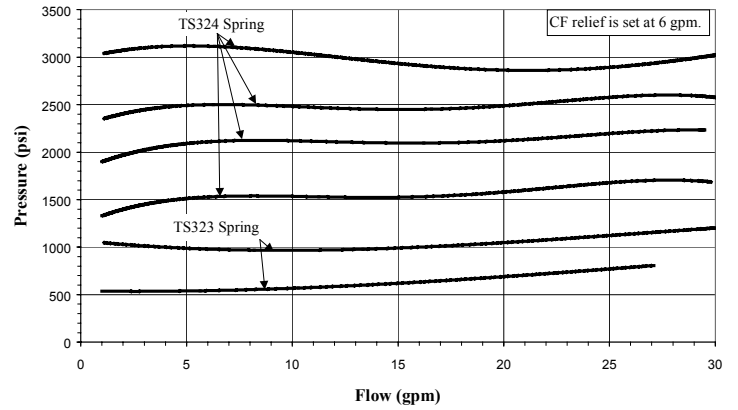
Pressure Drop vs. Flow for FC Series



Pressure vs. Flow for FCR51

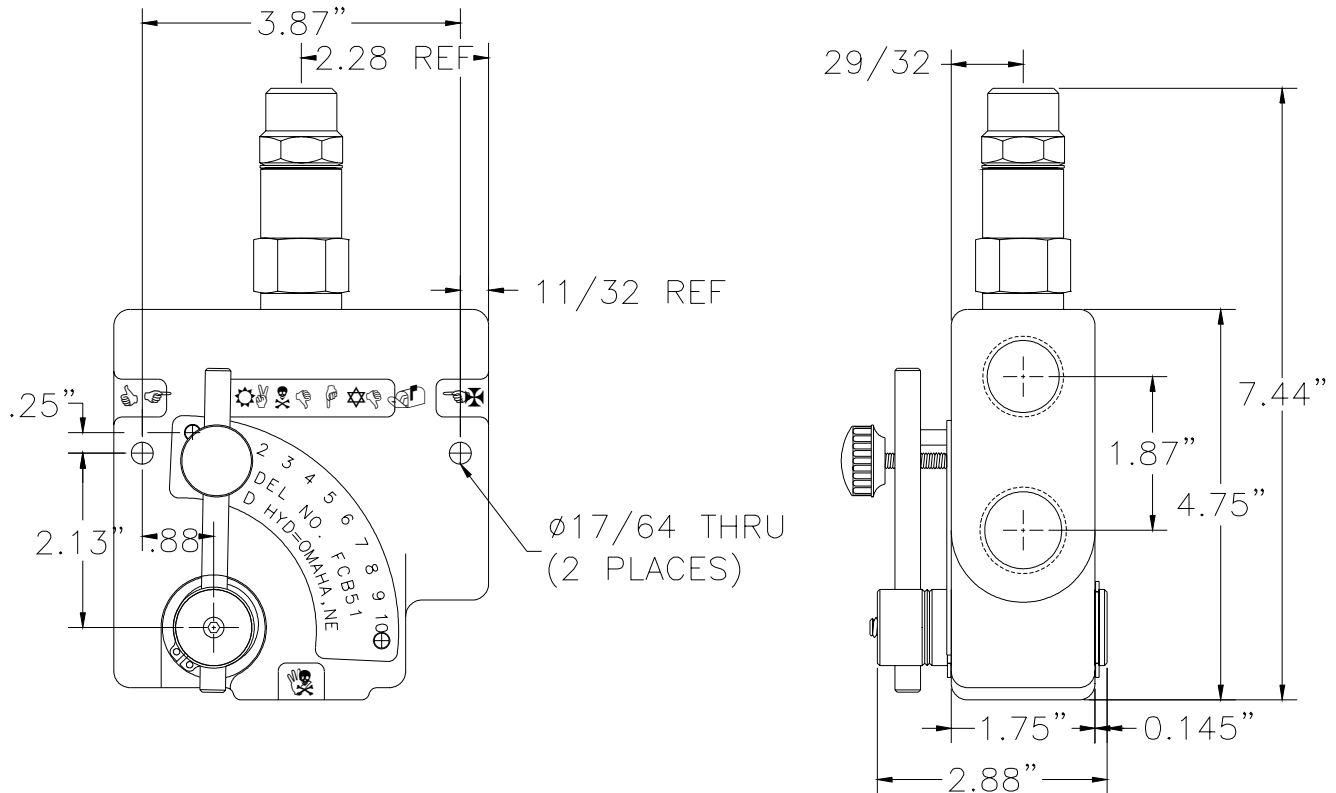


Pressure vs. Flow for FCB51

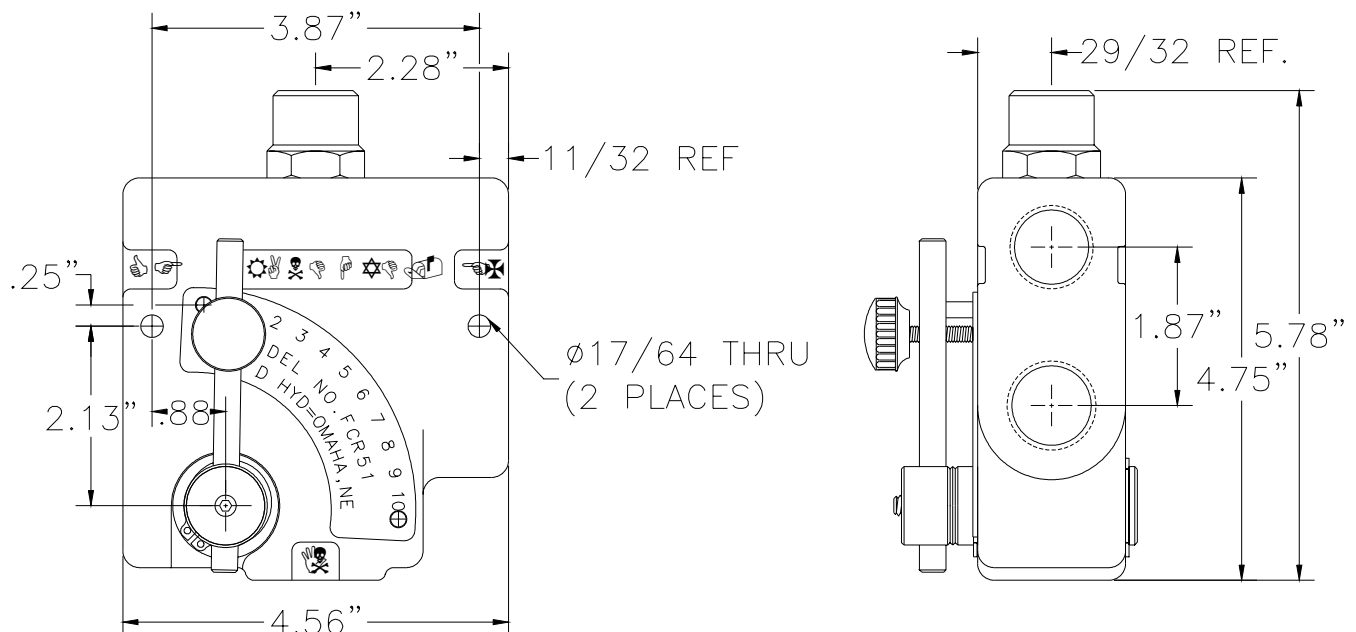


DIMENSIONAL DATA:

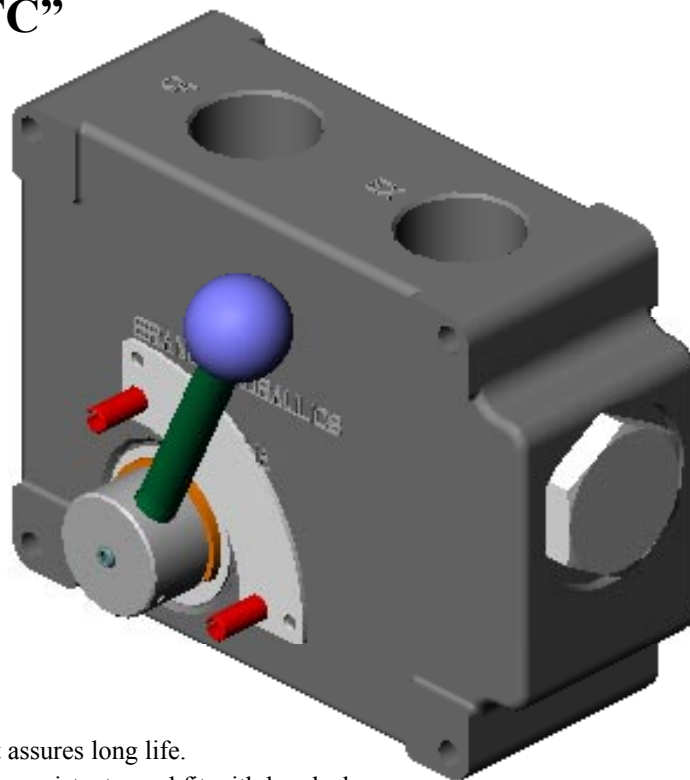
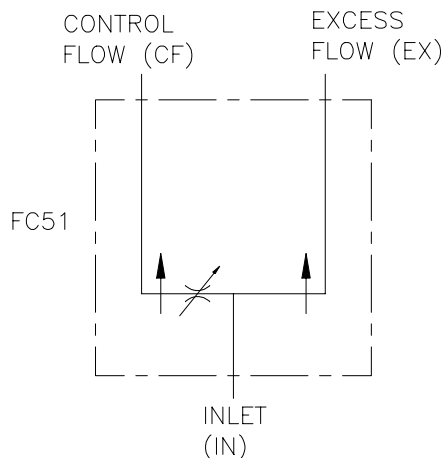
FCB51 AND FC51 DIMENSIONAL DATA (FCB51 SHOWN):



FCR51 AND FC51 DIMENSIONAL DATA (FCR51 SHOWN):



HIGH VOLUME FULL RANGE PRESSURE COMPENSATING VARIABLE FLOW CONTROL “FC”



FEATURES:

- **PRECISION GROUND PLATED SPOOL** that assures long life.
- **DIAMOND LAPPED SPOOL BORE** provides consistent spool fit with low leakage.
- **EVERY FC IS TESTED** for shutoff, linearity, and pressure compensation.
- **STANDARD 3-PORT** allows for pressure compensated flow out of two ports.

SPECIFICATIONS:

- See flow chart for capacity.
- **Rated for 3000 psi (207 bar).**
- **Weights 28 – 3/4 lbs. (13.0 kg).**
- **30-Micron Filtration Recommended.**
- **Torque to turn side lever spool.**
 - **40 in*lbs with 3000 psi on CF port.**
 - **40 ft*lbs with 3000 psi on EX port.**

MATERIALS:

- **Cast Iron Body.**
- **Heat Treated Steel Spools.**
- **Buna N O'Rings.**
- **Consult factory for stainless steel side-lever spool.**

FC – GENERAL INFORMATION

The Brand, full range pressure compensating variable flow control is designed so that the orifice area varies as the lever is rotated. Fluid travels past the variable orifice, by the compensator spool and then out the controlled flow port. Therefore the flow out of the CF port is proportional to the orifice area which can vary from closed to wide open. The sum of the controlled flow and the excess flow equal the inlet flow and as the controlled flow increases the excess flow decreases. Both outlet flows are pressure compensated with a spool that maintains a constant flow while adjusting for pressure. Hunting between the compensated pump and our valve is dampened with a cross hole in the casting. Thus, the outlet flow is smooth and constant regardless of the pressure on the CF and EX port.

FC – EXAMPLES OF COMMON MODEL CODES:

FC51-1..... 1" ports and standard 50 gpm side lever spool.
 FC51-1 1/2..... 1 1/2" ports and 90 gpm side lever spool.
 FC51-24*100..... Number 24SAE ports and 50 gpm side lever spool.

FC – CREATING A MODEL CODE FOR FC'S:

F C 5 1

PORT SIZE:

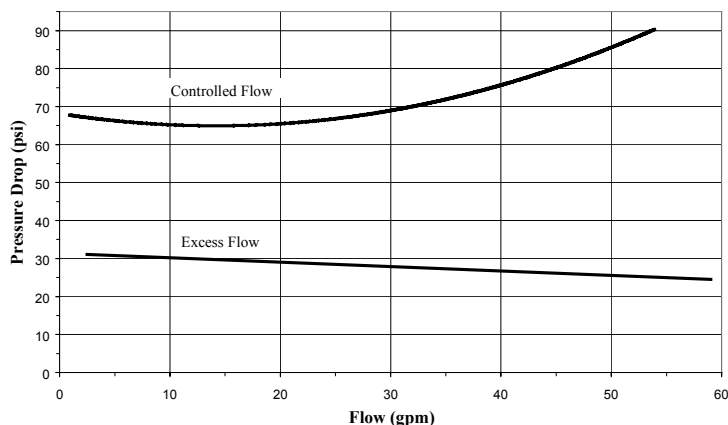
1 – 1" NPT (0-50 gpm standard)
 1 1/4 – 1 1/4" NPT (0-90 gpm standard)
 1 1/2 – 1 1/2" NPT (0-90 gpm standard)
 16 - #16SAE (1 5/16 – 12) (0-50 gpm standard)
 24 - #24SAE (1 7/8 – 12) (0-90 gpm standard)

FLOW SETTING:

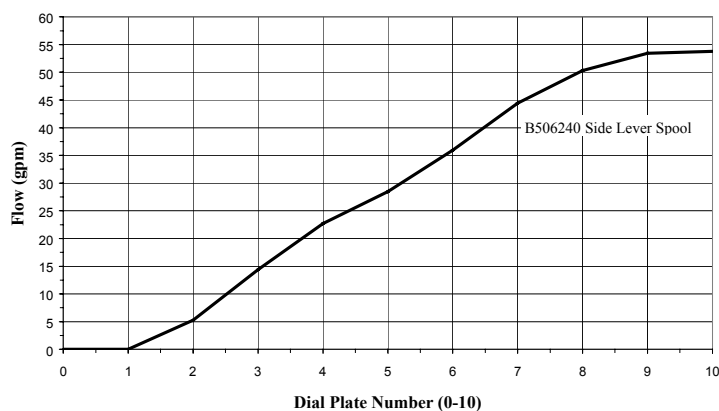
*100 – 0-50 gpm (0-189.3 lpm)
 ** - Need not specify for standard flow setting noted under "PORT SIZE"
 ** - Consult factory for others

FC FLOW & PRESSURE INFO:

Pressure Drop vs. Flow for FC51-1



Flow vs. Dial Plate for FC51-1



DIMENSIONAL DATA:

