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SEFC FLOW CONTROL INSTALLATION & USER GUIDE

SAFETY PRECAUTIONS:

- It is the purchaser's responsibility to determine the suitability of any Brand Hydraulics Co. product for an intended application, and to ensure that it is installed in accordance with all federal, state, local, private safety and health regulations, codes and standards. Due to the unlimited variety of machines, vehicles and equipment on which our products can be used, it is impossible for Brand Hydraulics Co. to offer expert advice on the suitability of a product for a specific application. It is our customer's responsibility to undertake the appropriate precautions, testing and evaluation to prevent injury to the end-user.
- Overpressure may cause sudden and unexpected failure of a component in the hydraulic system, resulting in serious personal injury or death. Always use a gauge when adjusting a relief valve.

SPECIFICATIONS:

- 3000 psi (207 bar) rating.
- Weighs 8-1/2 lbs. (3.9 kg).
- Standard Port size #12SAE (1-1/16 – 12).
- 10-Micron Filtration Recommended.
- Response Time
 - 0.035" Standard dash pot (375 ms).
 - 0.020" Dash pot (900 ms).
 - 0.093 Dash pot (175 ms to 350 ms depending on flow).
- Spool leakage (3.05 in³/min. @ 1000 psi ((50 ml/min. @ 68.9 bar) on EX port).
- Pulse Frequency (90 to 115 hz).
- Coil
 - 12 VDC standard (24 VDC).
 - 9.6 ohms (48 ohms).
 - 15 watts (15 watts).
 - 1.0 amp max (0.5 amp max.).

FEATURES:

- **CF port (Controlled Flow)** - Flow coming from the CF port is pressure compensated and proportional to the current received by the coil. Flow can vary from closed to wide open.
- **EX port (Excess Flow)** - Flow coming from the EX port is also pressure compensated. Note: When zero current is received by valve, entire flow will exit valve via the EX port.

MOUNTING & ADJUSTMENT INSTRUCTIONS:

- **Mounting** – Valve can be mounted in any orientation. Valve must be mounted on a flat surface. Special attention should be paid to not bend or twist the stack valve when mounting. Doing so may cause leaks or spools to bind, causing valve to fail.
- **Manual Override Adjustment** – The flow rate from each section can be manually adjusted. This feature can be used if power to the coil is lost.
To manually adjust controlled flow: With a 7/16" wrench, remove the acorn nut and loosen the jam nut. Turn the override screw clockwise with a flat head screwdriver to manually adjust the flow out of the CF port. A screw stop prevents the override screw from being screwed out too far.
- **Relief Adjustment** – Relief setting is factory preset to 1500 psi, unless otherwise noted within model code. Relief valve can be set anywhere within the range of 500 psi to 3000psi.
To adjust relief pressure: First, remove chrome hex plug above with a 7/8" combination wrench, and set aside. You will then have access to the relief set screw (5/16" hex). Turning this screw clockwise 1 turn will increase pressure approximately 800psi.



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FREQUENTLY ASKED QUESTIONS:

Q: Can the CF port be blocked or plugged?

A: No. If the CF port is blocked or plugged for any reason the compensation spool will attempt to compensate for increasing pressure, and shift thus blocking the EX port as well, and rendering valve inoperable. **DO NOT BLOCK CF PORT.**

Q: Can the EX port be blocked or plugged?

A: The EX port can be blocked or plugged, but doing so requires a pressure compensated or load sense pump. Plugging the EX port may create instability issues that can be remedied by switching the compensator spool to a different spool. (Part # XDC609)

FREQUENTLY ASKED QUESTIONS cont'd:

Q: Can return flow from the first EFC be returned to the second section for series operation?

A: Yes, normally used in conveyor/spreader applications with the first (inlet) section operating the conveyor and the second section operating the spreader motor.

Q: How many amps are required to shift orifice spool to full flow?

A: 1 amp is required to fully shift orifice spool. 350mA is generally the amperage needed to see flow begin from the CF port.

Q: What kits are available for this valve?

A: Please contact the factory to determine which seal kits are required for your valve.

Q: What is the correct torque for the tie rod nuts?

A: The correct torque spec on the tie rod nuts is 85 inch pounds [9.6Nm]. Using a 1/2" socket and wrench, both nuts on each rod should be tightened at the same time to prevent bind in the section.

TROUBLESHOOTING:

Problem: *Valve chatters or has stability issues.* Instability generally occurs when the valve sees an application that has rapidly changing loads. (ie: Fan, Vibration, etc.) Because of these changing loads the compensator spool tries to compensate rapidly. This causes the valve to become unstable, as well as begin to make noises, including a chatter.

Solution: Most instability issues can be solved by using a different compensator spool or spring. A replacement spool designed for load changing applications can be ordered. (Part #: XDC609)



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DIMENSIONAL DATA:

TWO EFC'S IN SERIES WITH RELIEF PROTECTION

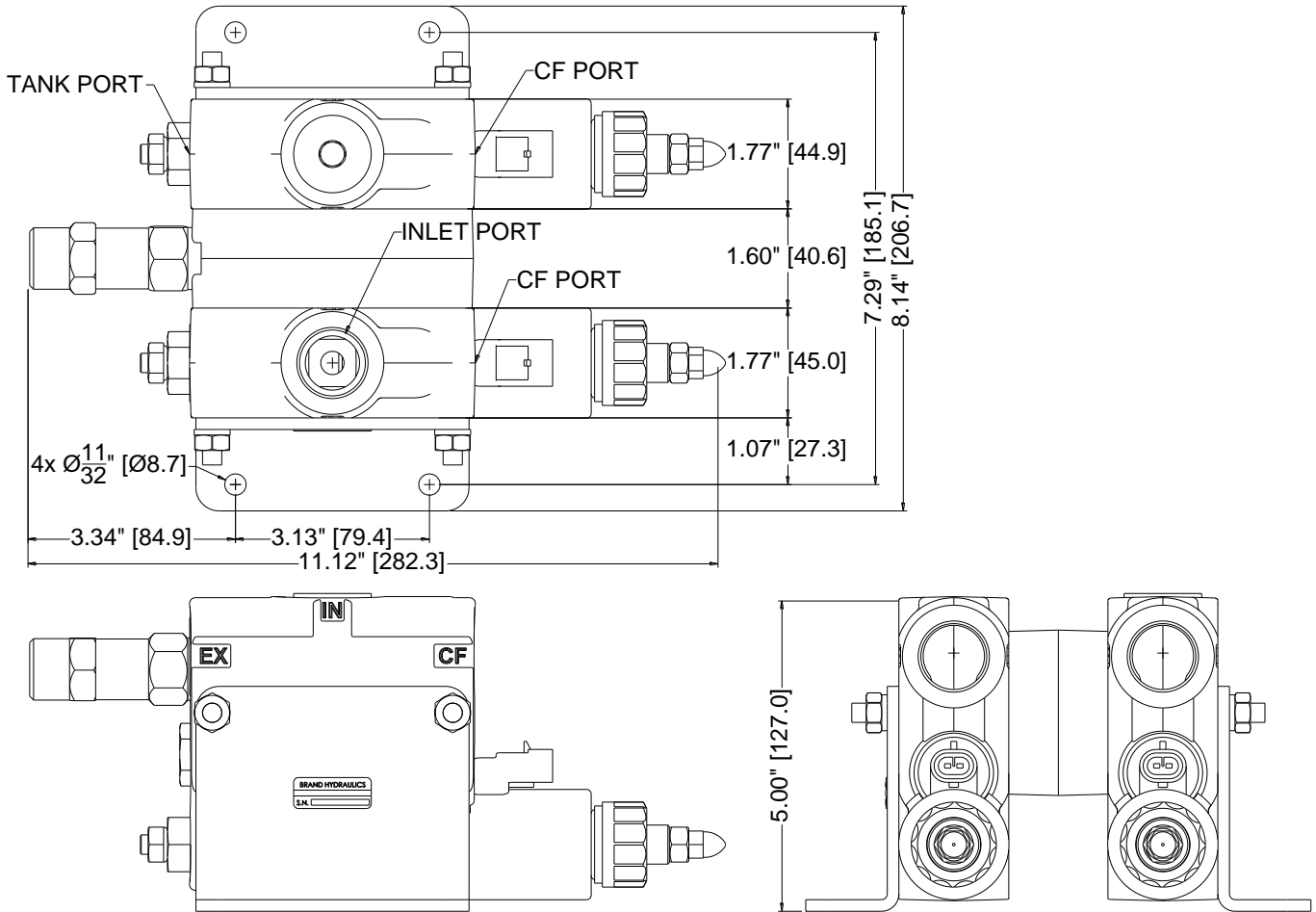


Figure 1: Dimensional Data for SEFC valves (SEFC with relief shown).



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WIRING & HYDRAULIC SCHEMATIC (2 OR 3 PORT):

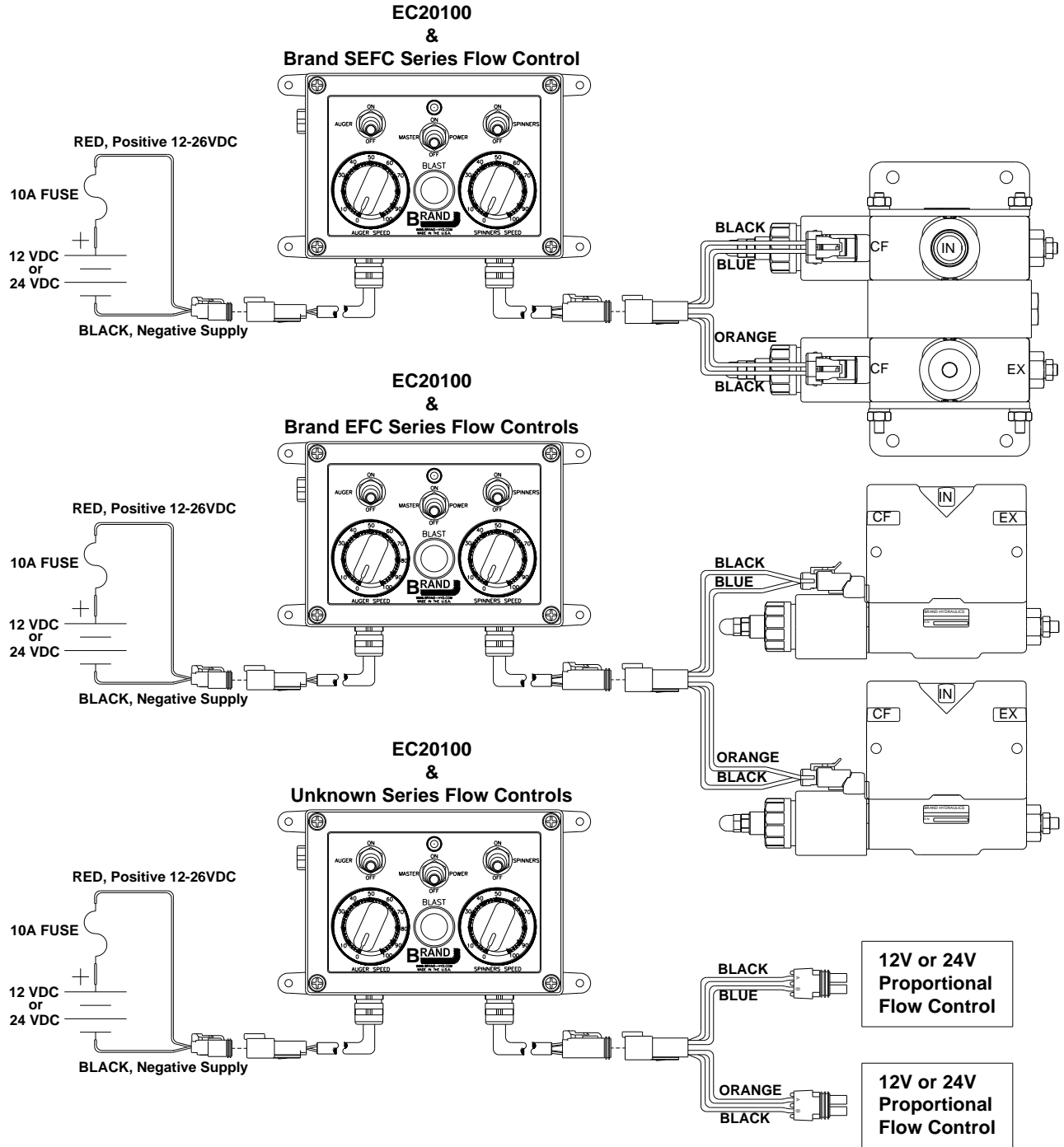


Figure 2: Wiring schematic with EC20100 controller



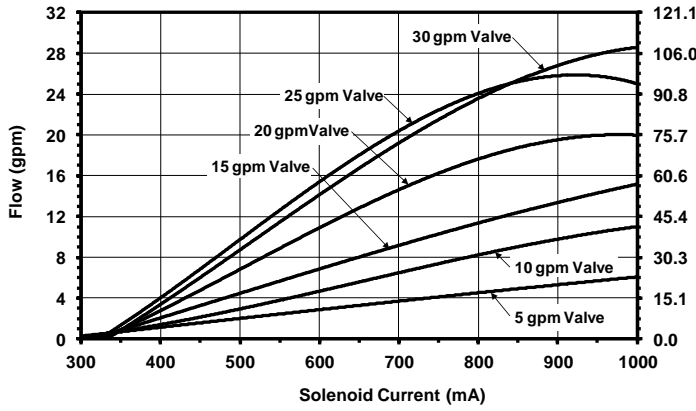
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FLOW & SOLENOID CURRENT INFORMATION (2 OR 3 PORT):

Flow vs. Solenoid Current for EFC 3-Port

Oil Temp = 100 deg. F w/ 140 - 147 SUS Oil



Flow vs. Solenoid Current for EFC 2-Port

Oil Temp = 100 deg. F w/ 140 - 147 SUS Oil

