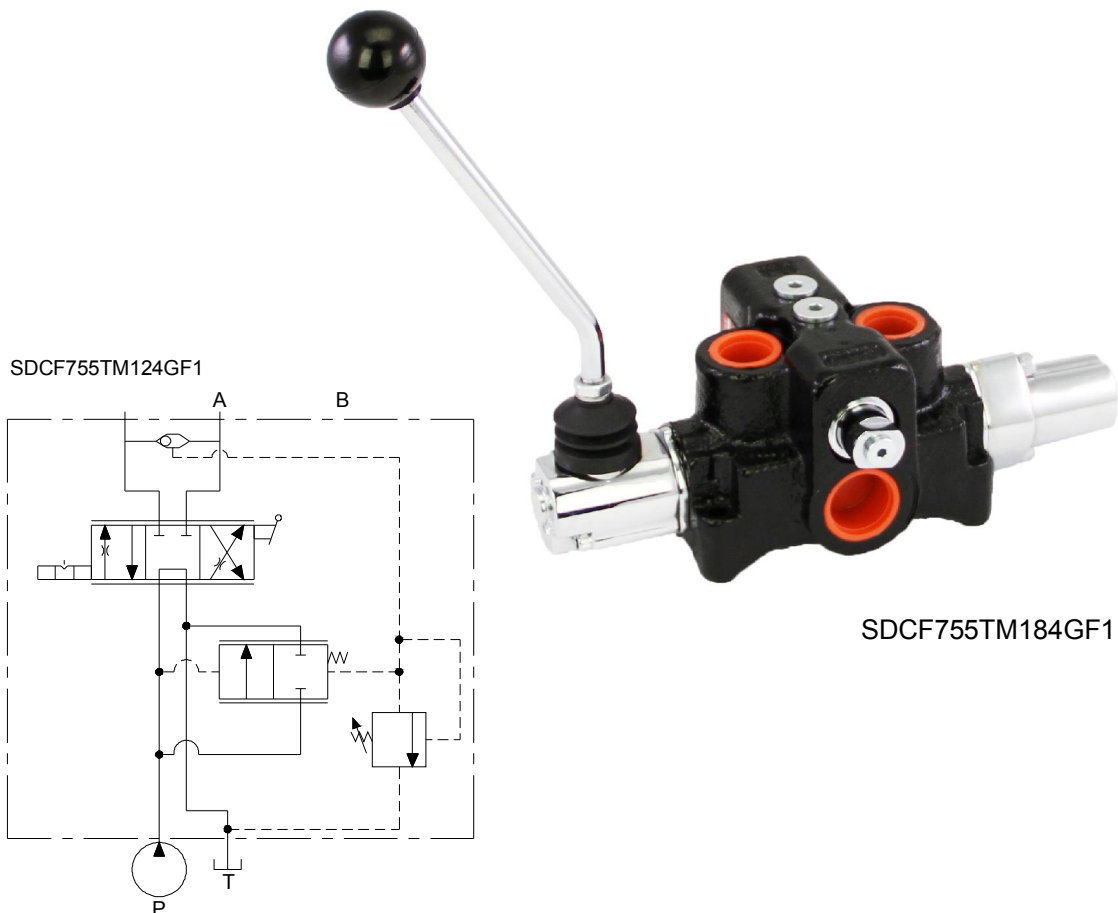


SDCF Series



Monoblock Directional Flow Control Valve - Pressure Compensated

4 – WAY DIRECTIONAL CONTROL WITH PRESSURE COMPENSATED FLOW CONTROL “SDCF”



FEATURES:

- ADJUSTABLE PILOT OPERATED RELIEF VALVE is standard on every SDCF. FULL RANGE PRESSURE COMPENSATED by-pass type flow control valve built in.
- SDCF REDUCES the number of fittings, plumbing and potential leaks in hydraulic circuits.
- FINE POSITIVE METERING in either direction with the manual handle.
- PRECISION GROUND IOSSO PLATED SPOOL that assures long life.
- OPTIONAL O’RING PORTS to eliminate leakage.

SPECIFICATIONS:

- Rated for 0-18 gpm (0-68.1 lpm).
- Rated for 3000 psi (207 bar).
- Weighs 6-1/2 lbs. (2.9 kg).
- 30 – Micron filtration recommended.

MATERIALS:

- Cast Iron Body
- Buna N O’Rings
- IOSSO Plated Steel Spool
- Consult Factory for Stainless Steel Spools

SDCF Series



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SDCF – GENERAL INFORMATION:

The Brand, SDCF combines the features of a four-way directional control valve, a full range pressure compensated by-pass type flow control valve, and an adjustable pilot operated pressure relief valve all in one compact package. This valve reduces the number of fittings, plumbing and potential leakage points in hydraulic circuits. The manual handle allows the customer to meter the flow out of either port. Flow to the work port is directly proportional to the movement of the lever. Flow out of each work port is constant regardless of load changes, this allows the customer to maintain smooth and constant movement of a cylinder or motor. Every SDCF comes standard with a pilot operated relief. The tank port must be plumbed directly back to tank.

SPOOL TYPE – The spool types we offer are tandem center (T), open center (O), open meter center (OM), fine metering (M), and tandem metering (TM). (See chart on next page and schematics on page #4 for information on spool types)

ACTUATORS – Standard enclosed lever handle (G) pressurizes the B port when the handle is pushed towards the valve body (vertical mount). Enclosed lever handle (C) is similar to (G) except horizontal mount. Lever handle (L) pressurizes the B port when the handle is pushed towards the valve body. Lever handle (J) pressurizes A port when the handle is pushed towards the valve body. Rotary handle (H) is used to rotate spool in or out of valve body. No actuator (N) G type spool. No actuator (M) J type spool.

SPOOL ACTION – Three-position detent (D) holds the spool in neutral and both active positions. Friction detent (F1) applies friction to the spool so that the spool does not move when the handle is released either side of neutral, a detent groove clearly indicates neutral position. Spring center (S) returns the handle to neutral when the handle is released. Spring center detent (SD) springs back to neutral from one position and is mechanically detented in the other position (flow out port A in detent). Spring center friction detent (SF1) springs back to neutral from one direction and functions similar to standard F1 in other direction (flow out port B in friction detent). Spring offset (SO) spring holds spool in one active position (flow out port B). Spring offset (SO2) spring holds spool in one active position (P to B in offset position, neutral and P to A). Rotary friction detent (E) applies friction to the spool as it is rotated so that the spool does not rotate when the handle is released either side of neutral, a detent groove clearly indicates neutral position. Two-position detent (2D) P to B only. Two-position detent (D2) P to A only. Two-position friction (F2) P to A only. Normally closed electric switch (WC) used with (S), (F1) and (D) options only. Normally open electric switch (WO) used with (S), (F1) and (D) options only.

SDCF – EXAMPLES OF COMMON MODEL CODES:

SDCF755TM64GF1..... 3/4" inlet and outlet ports, 1/2" work ports, 0-6 gpm (0-22.7 lpm) tandem metering spool, G style handle and neutral position friction detent.
SDCF120TM184GF1..... #12SAE inlet and outlet ports, #10SAE work ports, 0-18 gpm (0-68.0 lpm) tandem metering spool, G style handle and neutral position friction detent.

SDCF – COMPLETE LIST OF OPTIONS AND ACCESSORIES:

SDC-D..... Three-position detent kit.
SDC-F1..... Ball friction detent.
SDC-S..... Spring centering kit.
SDC-SD..... Spring centering detent kit (P to A in detent).
SDC-SF1..... Spring center / friction detent (P to B in friction detent).
SDC-SO..... Spring offset kit (P to B in offset position and neutral).
SDC-SO2..... Spring offset kit (P to B in offset position, neutral and P to A)
SDC-SWC..... Spring centering kit with normally closed electric switch.
SDC-SWO..... Spring centering kit with normally open electric switch.
SDC-WC..... Three-position detent kit with normally closed electric switch.
SDC-WO..... Three-position detent kit with normally open electric switch.
SDC-F1WC..... Ball friction detent with normally closed electric switch.
SDC-F1WO..... Ball friction detent with normally open electric switch.

SDCF Series



Monoblock Directional Flow Control Valve - Pressure Compensated

SDCF – COMPLETE LIST OF OPTIONS AND ACCESSORIES CONT...

SDC-HG..... G style handle kit (recommended).
 SDC-HJ..... J style handle kit.
 SDC-HL..... L style handle kit.
 SDCF-K..... Seal kit for SDCF.
 SDCF-CART..... Pilot operated pressure relief cartridge for SDCF.

SDCF – CREATING A MODEL CODE FOR SDCF'S:

S D C F 4 — — —

PORT SIZE:

755 – 3/4" inlet/outlet and 1/2" work ports
 120 – #12SAE inlet/outlet and #10SAE work ports

SPOOL TYPE:

T – Tandem Center
 O – Open Center
 OM – Open metering
 M – Fine metering
 TM – Tandem metering

FLOW SETTING:

Omit – When using T and O spool
 6 – 0-6 gpm (0-22.7 lpm) OM, M and TM only
 12 – 0-12 gpm (0-45.4 lpm) OM, M and TM only
 18 – 0-18 gpm (0-68.0 lpm) OM, M and TM only

HANDLE OPTION:

G – Enclosed handle (B port is active when handle is pushed, recomb)
 C – Enclosed handle (horizontal mount)
 L – Lever handle (B port is active when handle is pushed)
 J – Lever handle (A port is active when handle is pushed)
 N – No actuator (G type spool)
 M – No actuator (J type spool)
 H – Rotary handle (Used only in conjunction with rotary friction detent)

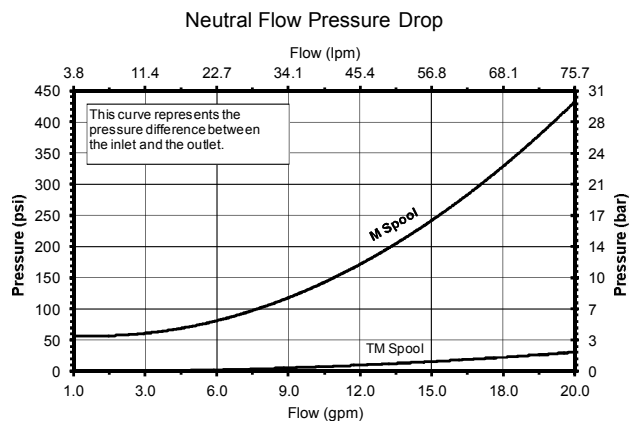
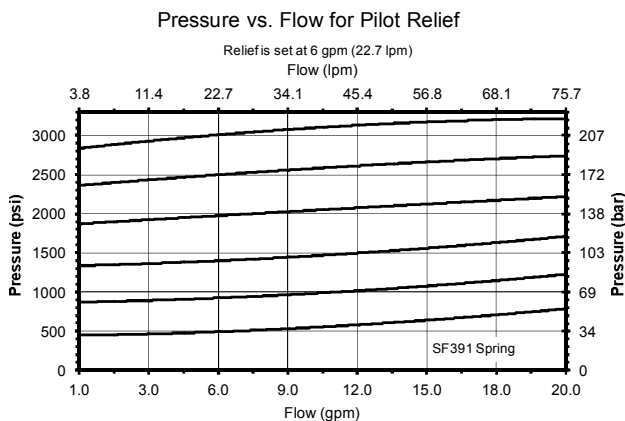
RELIEF OPTION:

Omit – Standard relief
 N – No relief

SPOOL ACTION:

S – Spring center
 D – Three-position detent
 F1 – Friction detent
 WC – Norm. close elec. switch (used with S, D and F1)
 WO – Norm. open elec. switch (used with S, D and F1)
 SO – Spring offset (P to B and neutral)
 SO2 – Spring offset (P to B in offset position, neutral and P to A)
 SD – Spring center / detent (P to A in detent)
 SF1 – Spring center / friction detent (P to B in friction detent)
 2D – Two-position detent P to B
 D2 – Two-position detent P to A
 F2 – Two-position friction P to A
 F2M – Two-position friction P to A with stroke limiter
 E – Rotary friction detent
 M – Stroke limiter

SDCF – FLOW AND PRESSURE INFO:

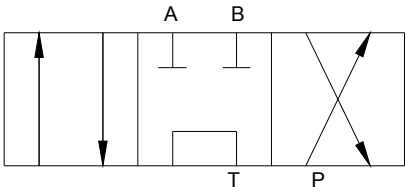


SDCF Series

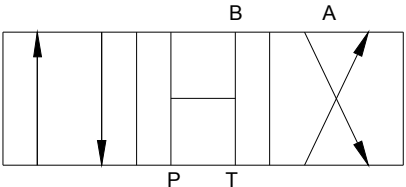


Monoblock Directional Flow Control Valve - Pressure Compensated

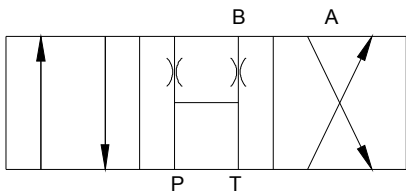
SPOOL SCHEMATICS:



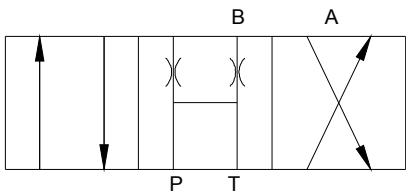
Tandem Center (T) - Powers cylinder or motor in both directions (metering capability is very limited). Pump unloads to tank when spool is in neutral. Cylinder or motor blocked when spool in neutral.



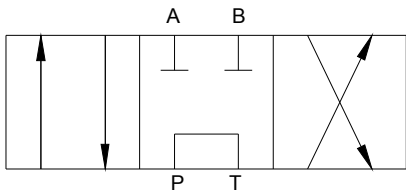
Open Center (O) - All of the ports are connected to tank when the spool is in neutral. Allows cylinder to move or motor to rotate when spool is in neutral.



Fine Metering Spool (M) - The pressure drop in neutral is higher than the (OM) and (TM) spools. Requires external locking valves to hold cylinder, because ports A and B are open (orificed) in the neutral position. Extremely fine metering control.



Open Metering Spool (OM) - The neutral pressure drop is much lower than the (M) spool. Extremely fine metering control. Ports A and B are open (orificed) in the neutral position.



Tandem Metering Spool (TM) - Similar to (T) spool except much finer metering control. The pressure drop in neutral is lower than the (M) spool. Cylinder or motor blocked in neutral and pump unloads to tank.

DIMENSIONAL DATA (SDCF755TM124GF1 SHOWN): inches & [millimeters]

