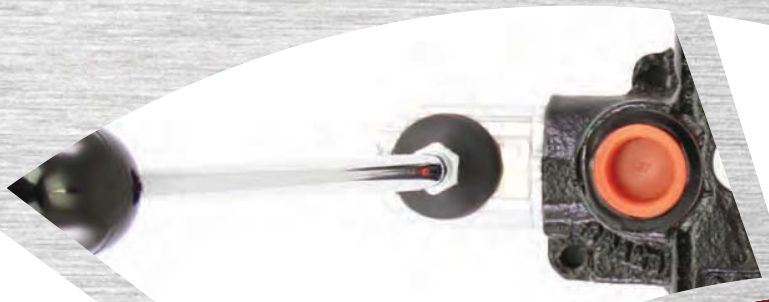






BRAND HYDRAULICS Co.

Made in the Heartland of America Serving the World

Engineering & Manufacturing Solutions

SDCF

4-Way Directional Control With Pressure Compensated Flow Control



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





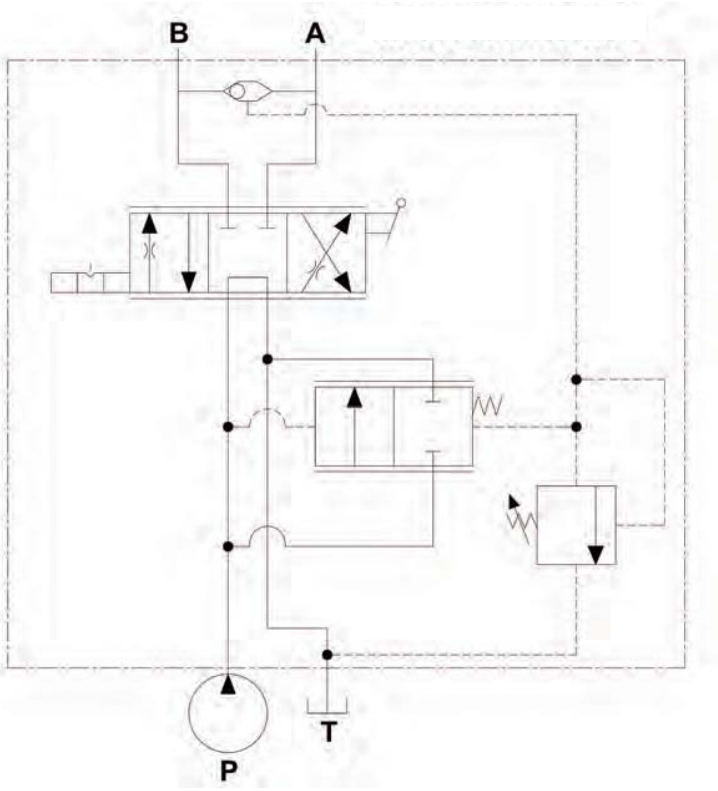
ISO 9001:2008 WITH DESIGN
Certificate #02.002.1

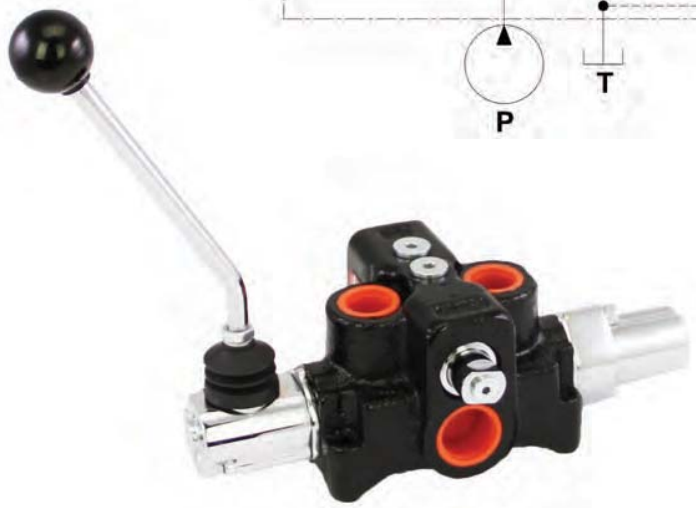
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SDCF

4-Way Directional Control
With Pressure Compensated Flow Control

SDCF755TM184GF1





MATERIALS:

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

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.

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 (1500 psi (102 bar) standard setting). 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)**
- **Tandem metering (TM)**

HANDLE OPTIONS –

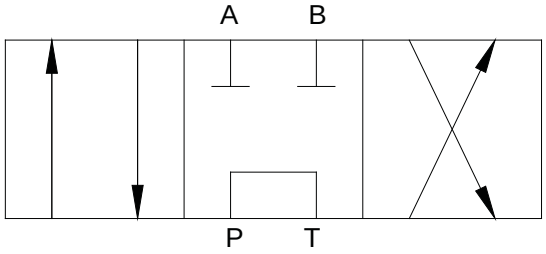
- **Standard enclosed lever handle (G)** pressurizes the B port when the handle is pushed towards the valve body (vertical mount).
- **Enclosed lever handle (C)** is similar to **(G)** except horizontal mount.
- **Lever handle (L)** pressurizes the B port when the handle is pushed towards the valve body.
- **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 –

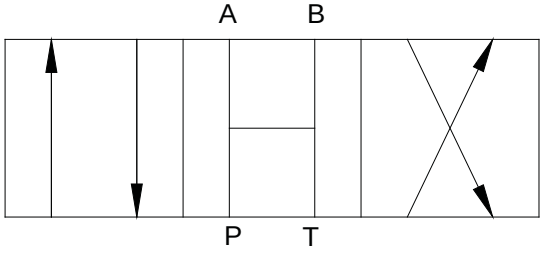
- **Three-position detent (D)** holds the spool in neutral and both active positions.
- **Friction detent (F1)** applies friction to the spool so that the spool does not move when the handle is released either side of neutral, a detent groove clearly indicates neutral position.
- **Spring center (S)** 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).
- **Detent spring center (DS)** springs back to neutral from one position and is mechanically detented in the other position (flow out port B 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 toA).
- **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 and neutral only.
- **Two-position detent (D2)** P to A and neutral only.
- **Two-position friction (F2)** P to A and neutral 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 4-Way Directional Control With Pressure Compensated Flow Control

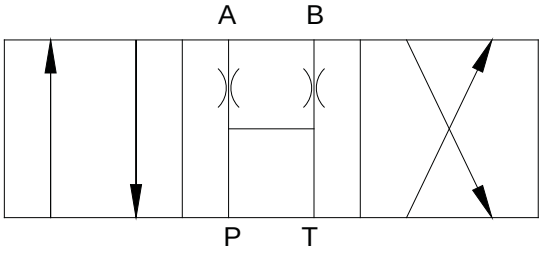
SPOOL SCHEMATICS:



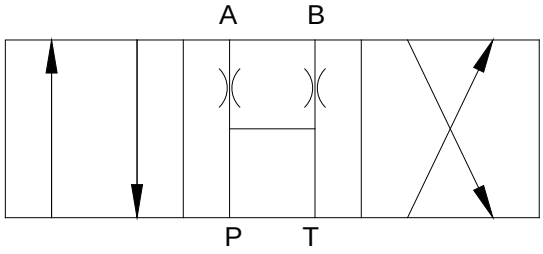
Tandem Center (T) - Powers cylinder or motor in both directions (metering capability is very limited). Pump unloads to tank when spool is in neutral. Cylinder or motor blocked when spool in neutral.



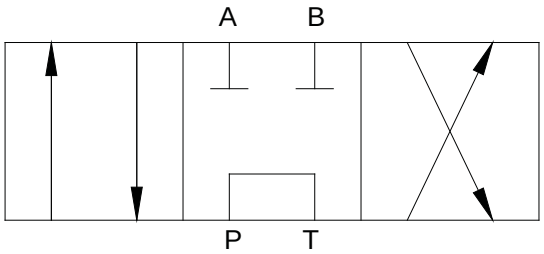
Open Center (O) - All of the ports are connected to tank when the spool is in neutral. Allows cylinder to move or motor to rotate when spool is in neutral.



Fine Metering Spool (M) - The pressure drop in neutral is higher than the (OM) and (TM) spools. P to T is blocked by the main spool but the valve remains open center due to the compensating spool passage way. 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.

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, recommended)
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)
DS – Detent (P to B in detent) / Spring center
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 – 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.

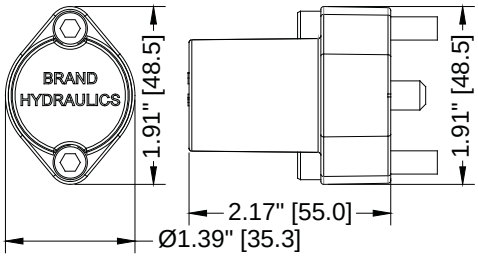
SDCF120TM184GF1…….#12SAE inlet and outlet ports, #10SAE work ports, 0-18 gpm (0-68.0 lpm) tandem metering spool, G style handle and neutral position friction detent.

SDCF

4-Way Directional Control
With Pressure Compensated Flow Control

SDCF – COMPLETE LIST OF KITS:

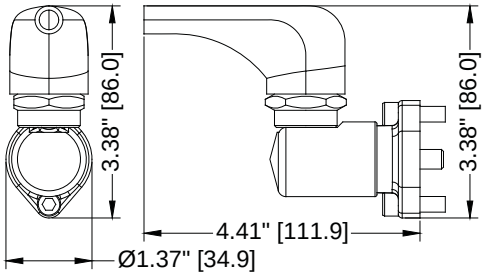
SDC-D……..Three-position detent kit.
SDC-F1…….Ball friction detent.
SDC-S……....Spring centering kit.
SDC-SD……Spring centering detent kit (P to A in detent).
SDC-DS……Detent spring center kit (P to B in detent).
SDC-SF1……...Spring center / friction detent (P to B in friction detent).
SDC-SO……Spring offset 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)





External dimensions are the same for all kits listed above.

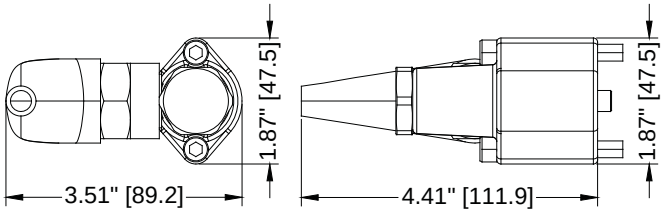
SDC-SWC……..…..Spring centering kit with normally closed electric switch.
SDC-SWO……....Spring centering kit with normally open electric switch.





External dimensions are the same for all kits listed above.

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.

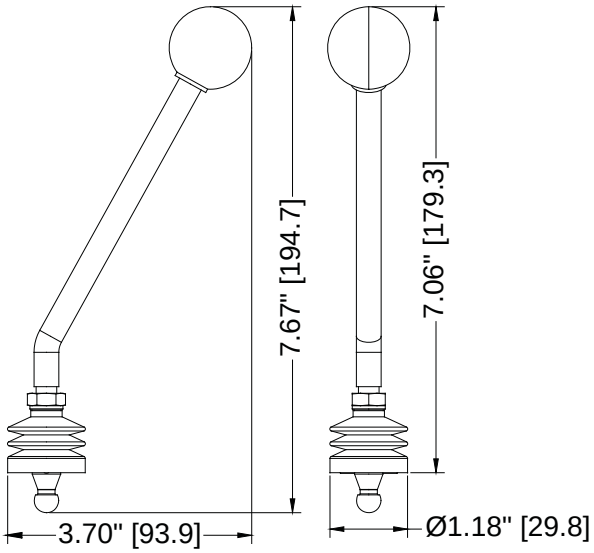




External dimensions are the same for all kits listed above.

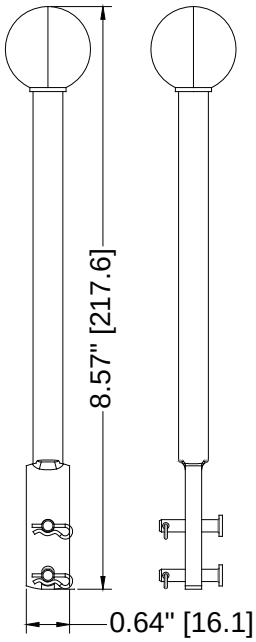
SDCF – COMPLETE LIST OF KITS: *(continued)*

SDC-HG…….....G style handle kit (recommended). Enclosed lever handle pressurizes the B port when the handle is pushed towards the valve body.





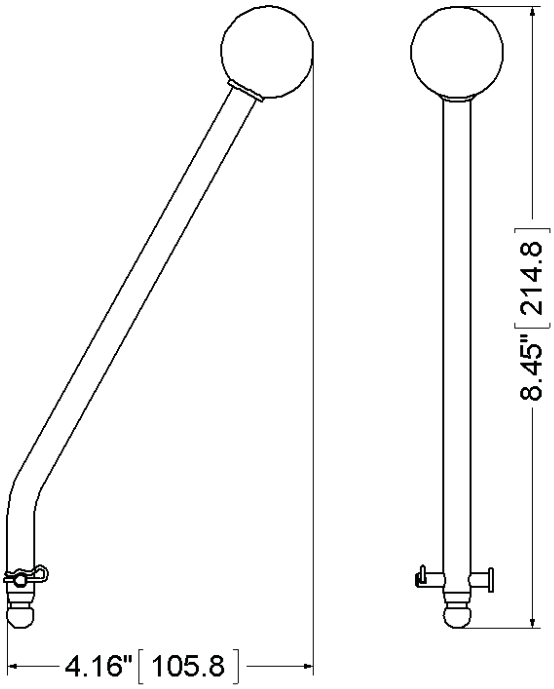
SDC-HJ……...J style handle kit. Lever handle pressurizes the A port when the handle is pushed towards the valve body.





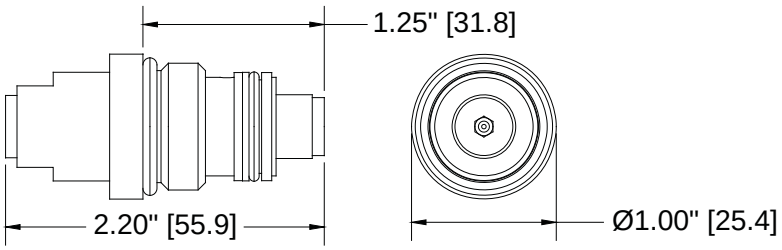
SDCF – COMPLETE LIST OF KITS: *(continued)*

SDC-HL…….....L style handle kit. Lever handle pressurizes the B port when the handle is pushed towards the valve body.



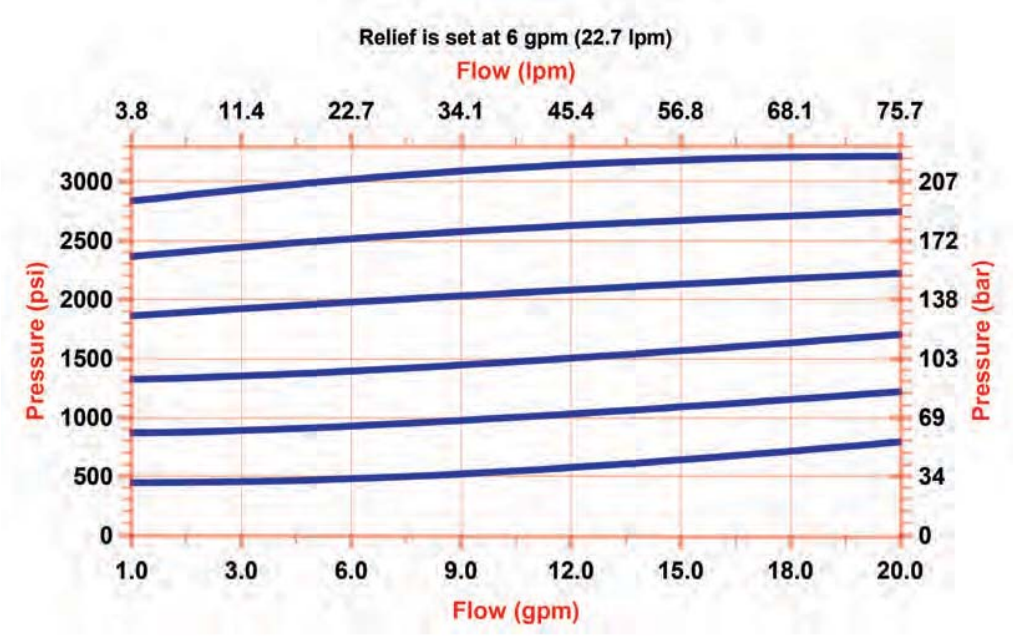


SDCF-K…….....Seal kit for SDCF.
SDCF-CART……..…...Pilot operated pressure relief cartridge for SDCF.



SDCF – FLOW AND PRESSURE INFO:

Pressure VS. Flow for Pilot Relief



Neutral Flow Pressure Drop



SDCF 4-Way Directional Control With Pressure Compensated Flow Control

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

