

Bell Hydromatics

Solenoid Operated

DSG-03-DC



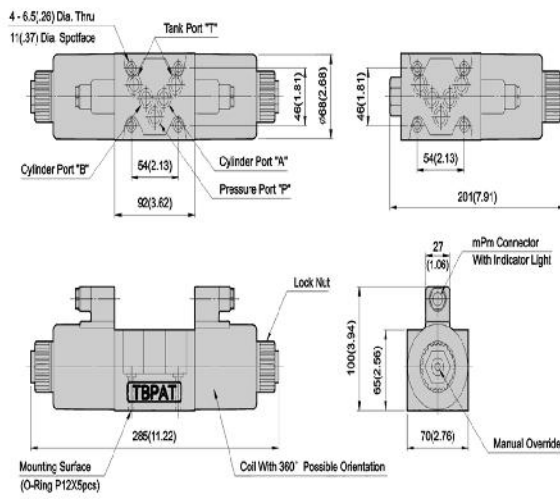
Features:

- High Flow rate upto 120 lpm (31.7 USgpm)
- Maximum Operating pressure upto 315 bar (4500 PSI)
- Long service life with average durability of 50 million spool shifts.

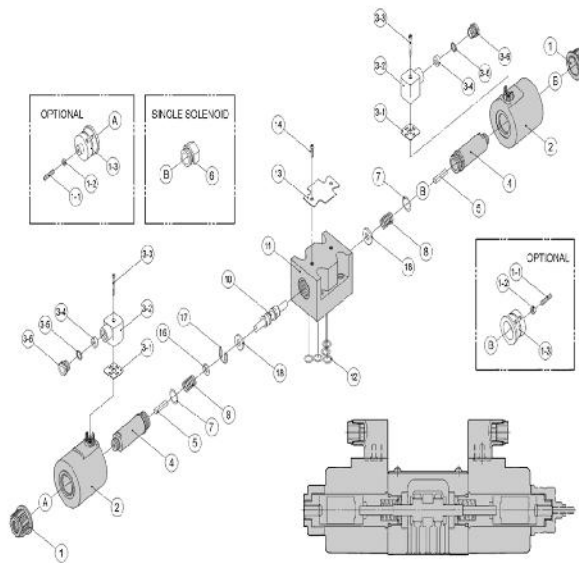
Technical Specifications

| Spool Type & Graphic Symbols | | DSG – 03 (3/8") | |
|--|-------------------|---|-----------------------|
| Symbols | Model Number | Rated Flow Capacity | Maximum Flow Capacity |
| | DSG-03-2B2-**-** | 70 lpm (18.5 USgpm) | 120 lpm (31.7 USgpm) |
| | DSG-03-2B3-**-** | | |
| | DSG-03-2B8-**-** | | |
| | DSG-03-2D2-**-** | | |
| | DSG-03-2D3-**-** | | |
| | DSG-03-3C2-**-** | | |
| | DSG-03-3C3-**-** | | |
| | DSG-03-3C4-**-** | | |
| | DSG-03-3C40-**-** | | |
| | DSG-03-3C7-**-** | | |
| | DSG-03-3C9-**-** | | |
| | DSG-03-3C10-**-** | | |
| | DSG-03-3C11-**-** | | |
| | DSG-03-3C12-**-** | | |
| | DSG-03-3C5-**-** | 70 lpm (18.5 USgpm) | 100 lpm (26.4 USgpm) |
| | DSG-03-3C6-**-** | | |
| | DSG-03-3C60-**-** | | |
| Max. Operating Pressure (P,A,B) (bar) | | 315 (4500 PSI) | |
| Max. Operating Pressure 3C5/3C6 Types (bar) | | 250 (3600 PSI) | |
| Permissible Back Pressure (T) (bar) | | 160 (2300 PSI) | |
| Weight (Kgs) | Double Solenoid | 4.8 | |
| | Single Solenoid | 3.8 | |
| Switching Frequency (times/min) | | 240 | |
| Hydraulic Fluids | | Use Hydraulic Fluids Equivalent to ISO VG32 or VG46 | |
| Operating Temperature Range (°C) | | -15 ~ +70 (+5 ~ +160 °F) | |
| Operating Viscosity (cSt) | | 15 ~ 400 (80 ~ 1800 SSU) | |
| Filtration | | 25 Microns Absolute or Finer | |

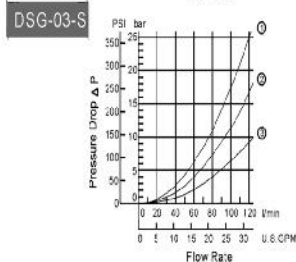
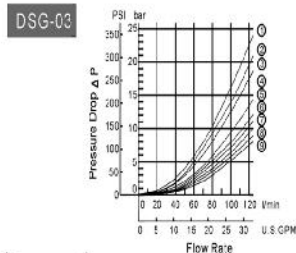
Dimensions



Assembly



Performance Graphs



| Series | Socot Type | Pressure Drop Curve Number | | | |
|--------|------------|----------------------------|-----|-----|-----|
| | | P→A | B→T | P→B | A→T |
| DSG-03 | 3C2 | 7 | 7 | 7 | 7 |
| | 3C3 | 8 | 8 | 8 | 8 |
| | 3C4 | 7 | 8 | 7 | 5 |
| | 3C4C | 7 | 7 | 7 | 7 |
| | 3C50 | 6 | 5 | 6 | 5 |
| | 3C9 | 9 | 7 | 9 | 7 |
| | 3C10 | 7 | 8 | 7 | 7 |
| | 3C12 | 7 | 7 | 7 | 8 |
| | 2D2 | 4 | 3 | 6 | 6 |
| | 2B2 | 2 | 1 | 7 | 7 |
| | 2B3 | 3 | 2 | 6 | 6 |
| | 2B8 | 6 | - | 6 | - |

| Series | Socot Type | Pressure Drop Curve Number | | | |
|----------|------------|----------------------------|-----|-----|-----|
| | | P→A | B→T | P→B | A→T |
| DSG-03-S | 3C2 | 2 | 2 | 2 | 2 |
| | 3C4 | 2 | 2 | 3 | 3 |
| | 2B2 | 1 | 2 | 2 | 2 |

Graphs based on fluid viscosity of 35 cSt(162 SSU)

Solenoid Specifications

| Voltage (V) | | DC 12V | DC24V |
|---------------|------------------------------|--------|-------|
| DSG (03) 3/8" | Holding Current (A) | 3.16 | 1.57 |
| | Holding Electrical Power (W) | 38 | 38 |

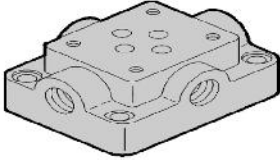
Valve Response Capacity

| Working Direction | Energisation | Spring Back |
|---------------------------|---------------|---------------|
| Spring Centard Type (3C*) | 0.030 ~ 0.090 | 0.020 ~ 0.050 |
| No Spring Type (2D*) | 0.030 ~ 0.090 | — |
| Spring Offset Type (2B*) | 0.030 ~ 0.050 | 0.020 ~ 0.040 |

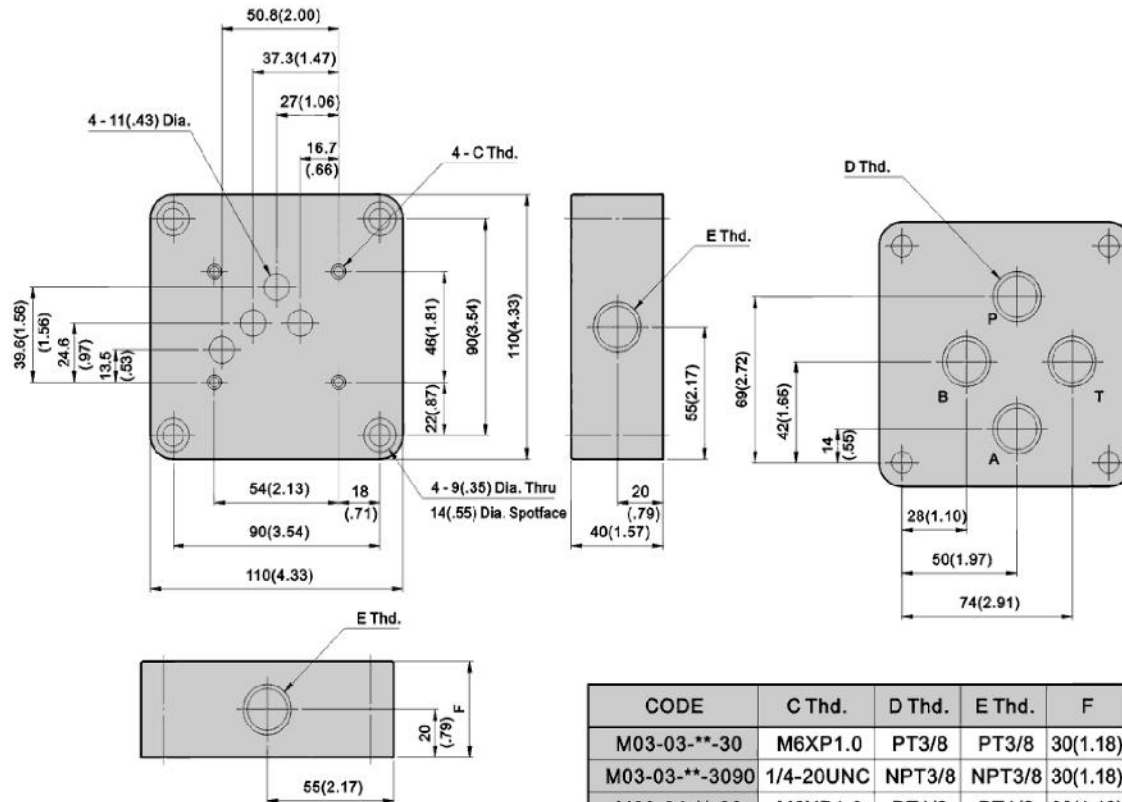
1. Above response time test condition based on 140 bar (2000 psi), 30 lpm (7.9 USgpm).
 2. Changeover response time changes a little by test condition (pressure, flow, viscosity... etc.)

Subplates

Ordering Code

| M03 | 03 | 4B | 36 |
|---|-------------------|--|--------------------|
| Series Number | Port Size | Port Position | Design No. |
|  | 02: 1/4" | 4S: Four side ports (A,B,P,T) | 36: with PT thread |
| | 03: 3/8" | 4B: Four back ports (A,B,P,T) | |
| | 04: 1/2" | 2S2B: Two ports (A,B) in side and Two ports (P,T) in back. | |
| | 06: 3/4" | 3S1B: Three ports (A,B,P) in side and one port (T) in back. | |
| | 10: 1- 1/4" | 3S1B2: Three ports (A,B,P) in side (A+B on one side) and one port (T) in back. | |
| | | 4S4B: Four ports (A,B,P,T) in side and four ports (A,B,P,T) in back and supplied with 4 pcs plugs. | |

Subplate Dimensions



| CODE | C Thd. | D Thd. | E Thd. | F |
|----------------|-----------|--------|--------|----------|
| M03-03-**-30 | M6XP1.0 | PT3/8 | PT3/8 | 30(1.18) |
| M03-03-**-3090 | 1/4-20UNC | NPT3/8 | NPT3/8 | 30(1.18) |
| M03-04-**-30 | M6XP1.0 | PT1/2 | PT1/2 | 30(1.18) |
| M03-04-**-3090 | 1/4-20UNC | NPT1/2 | NPT1/2 | 30(1.18) |

" F " is for port position " 4B " type only.

Ordering Code

| DSG | 3C2 | N | 03 | D1 | 36 |
|------------|--|------------------------------|----------------------|----------------|------------------------|
| Series No. | Spool Type | Electrical Conduit Type | Valve Size | Coil Voltage | Design No. |
| DSG | Spring centered 3 Position (3C94, 3C60, 3C6, 3C3 etc.) | N: DIN connector with light. | 03 – 3/8" (NFPA-D05) | D1: DC12V | 36: with DIN 912 bolts |
| | Spring Offset 2 Position(2B2, 2B3, 2B8, 2B29 etc.) | | | D2: DC24V | |
| | Spring Detented 2 Position(2D2, 2D3 etc.) | | | D3: DC36V | |
| | For complete list see Spool Types tab below | | | D4: DC48V | |
| | | | | D5: DC60V | |
| | | | | D6: DC72V | |
| | | | | D14.5: DC14.5v | |
| | | | | D28: DC28V | |