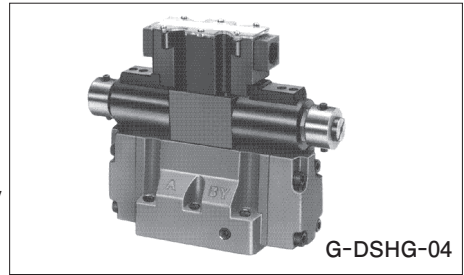
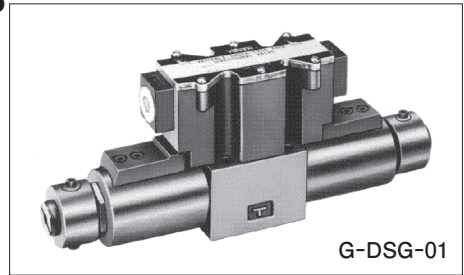
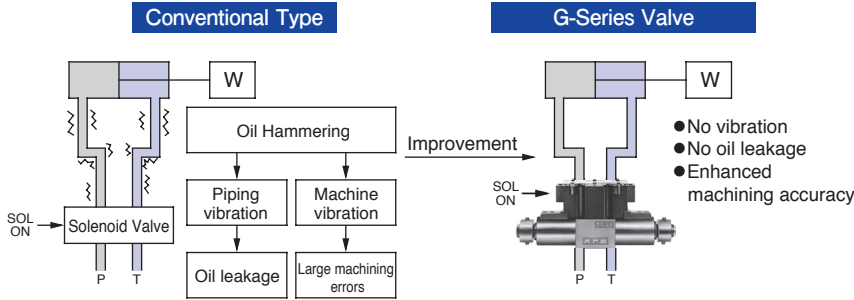


"G" Series Shockless Type Solenoid Operated / Solenoid Controlled Pilot Operated Directional Valves

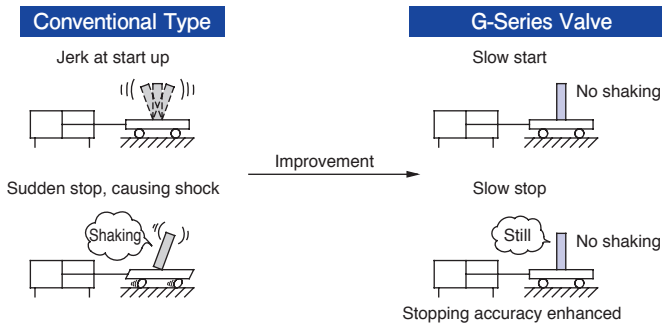
Patent Number
1775681

The shifting time of conventional Solenoid Operated, Shockless, and Directional Valves is constant and cannot be adjusted. The G-Series Solenoid Operated Directional Valves incorporate electronic circuits enable adjustment of the spool shifting time, it can be set at an optimal level to minimise shocks to the machine.

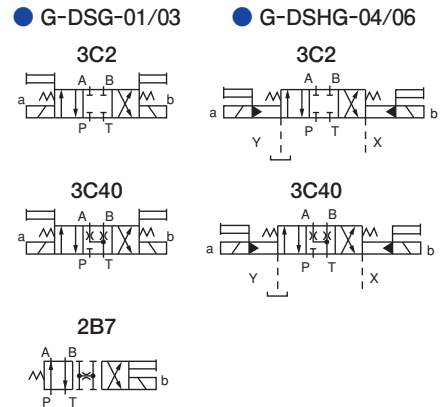
1 Reduces oil hammering during spool changeover.



2 Reduces shock caused by acceleration and deceleration



Graphic Symbols



Specifications

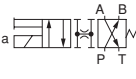
| Model Numbers | Max. Flow L/min | Max. Operating Pressure MPa | Max. T-Line Back Pressure MPa | Pilot Pressure MPa | | Pilot Flow L/min | | Shifting Time Range s | | Mass kg | |
|--------------------|----------------------|-----------------------------|-------------------------------|--------------------|------|------------------|---------------|-----------------------|---------|---------|-----|
| | | | | Max. | Min. | at Normal | at Transition | for ON | for OFF | 3C* | 2B7 |
| G-DSG-01-***-51 | 10 20 30 40 | 25 | 16 | — | — | — | — | 0.1 - 1 | | 3 | 2.1 |
| G-DSG-03-***-51 | 40 60 80 | 25 | 16 | — | — | — | — | 0.3 - 1 | | 7.5 | 5.3 |
| G-DSHG-04-3C***-50 | 160 | 25 | 16 | 16 | 1.5 | 1 | 4 | 0.06 - 1.5 | 0.1 - 2 | 12 | — |
| G-DSHG-06-3C***-50 | 250 | | | | | 1 | 6 | 0.1 - 1 | 0.2 - 2 | 15 | — |

Electrical Specifications

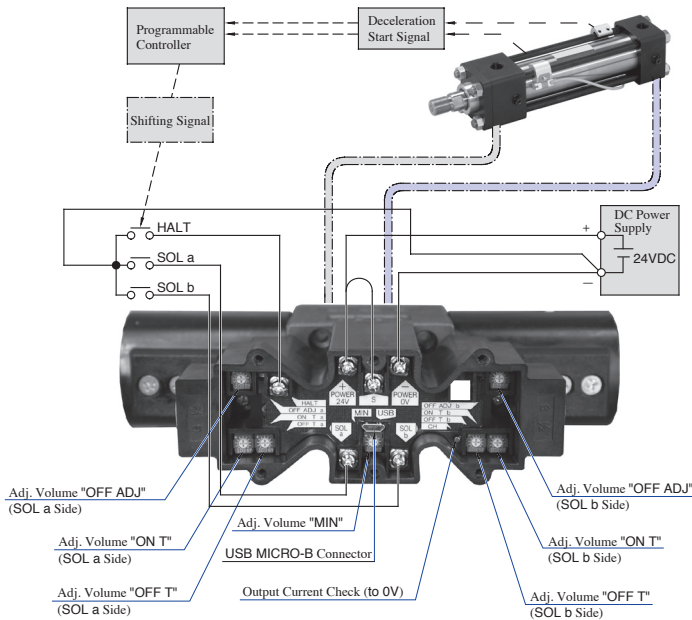
| Model Numbers | Electric Power Supply | | Shifting Signal, low speed operation halt signal (HALT) | | |
|--------------------|--|-------------|--|---|------------------------|
| | Voltage | Input Power | Voltage | Current | Input Interface |
| G-DSG-01-***-51 | 24 V DC (21 - 28 V DC Included Ripple) Use a stable power supply | 36 W | 5 - 48 V DC (Can be used in common with electric power supply) Use a stable power supply | Constant at 10 mA (A constant current circuit is used) | Sink Type, Source Type |
| G-DSG-03-***-51 | | | | | |
| G-DSHG-04-3C***-50 | | | | | |
| G-DSHG-06-3C***-50 | | | | | |

— For details of "G" Series Shockless Type Solenoid Operated / Solenoid Controlled Pilot Operated Directional Valves, please contact us. —

Model Number Designation

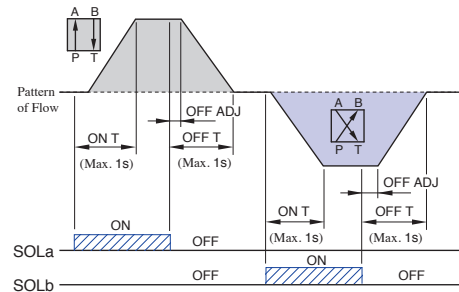
| G-DSG | -01 | -10 | -2B7 | — | — | -S | -51 | -L |
|---|------------|--|---------------------------------------|-----------------------|--|--|---------------|--|
| G-DSHG | -04 | — | -3C2 | -E | -R2 | -S | -50 | — |
| Series Number | Valve Size | Metered Flow Capacity | Spool Type (Refer to Graphic symbols) | Pilot Connection | Input only for options below | Input Interface | Design Number | Models with reverse mtg. of solenoid |
| G-DSG : “G” Series Shockless Type Solenoid Operated Directional Valves (Sub-plate Mounting Type) | 01 | None : 40L/min 10 : 10L/min 20 : 20L/min | 3C2 3C40 | — | — | None : Sink Type (Standard) S : Source Type | 51 | L : Input only for reverse mtg. of solenoid. (Only for 2B7)  |
| | | None : 30L/min 10 : 10L/min 20 : 20L/min | 2B7 | | | | | |
| | 03 | None : 80L/min 40 : 40L/min 60 : 60L/min | 3C2 3C40 | | | | | |
| | | None : 60L/min 40 : 40L/min | 2B7 | | | | | |
| G-DSHG : “G” Series Shockless Type Solenoid Controlled Pilot Operated Directional Valves (Sub-plate Mounting Type) | 04 | — | 3C2 3C40 | None : Internal Pilot | R2 : With Stroke Adjustment, Both Ends RA : With Stroke Adjustment, Port "A" End RB : With Stroke Adjustment, Port "B" End | | 50 | — |
| | 06 | | | E : External Pilot | | | 50 | |

System Diagram (Example of sink type wiring)

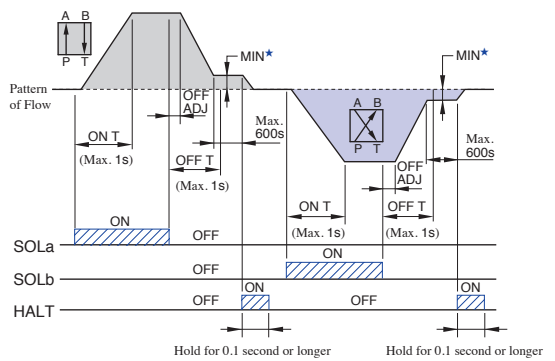


Relationships between SOL signals and flow patterns

Without HALT functions



With HALT functions



★ The minimum adjustment volume is common for SOL a and b, and it is not possible to set a different volume for each SOL a and b individually.
If the HALT functions are not used, set the minimum adjustment volume to zero.

Interchangeability between Current and New Product

“G ” Series Shockless Type Solenoid Operated Directional Valves have changed models from 50 design to 51 design by installation of new amplifier.

| Current Model Numbers | New Model Numbers |
|-----------------------------|-----------------------------|
| G-DSG-01- * - * * * - * -50 | G-DSG-01- * - * * * - * -51 |
| G-DSG-03- * - * * * - * -50 | G-DSG-03- * - * * * - * -51 |

Major Changes

Use newly developed Digital Control Amplifier.

Interchangeability

Adjusting trimmer is inherited from the current model. Same as on the current model, trimmer adjustment allows to modify the time of spool switching in accordance with the machine.

New Functions

USB MICRO-B connector has been added and adjustment on PC using specialized software made available.

Making minute adjustments and readjusting has become easier compared to current model. Copying of set adjustment value made available. There is a maintenance function that allows to check working conditions of the valve such as solenoid current value and operating time on PC.

Interchangeability in Installation

Yes

Comparison between Current and New

No changes in specifications, characteristics, dimensions, installations, connecting terminal and trimmer arrangement.

USB MICRO-B connector has been added to the on-board amplifier.

