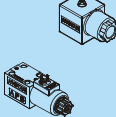
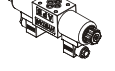
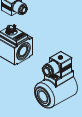
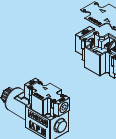
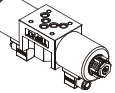
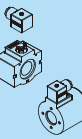
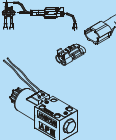
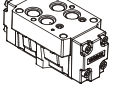
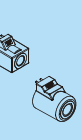
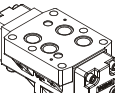
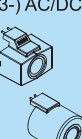
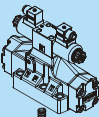
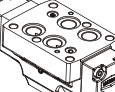


■ Ordering Code

DSG - 3C2 - N - 01 - D2 - 30 - RW - *P*D

Series No	Spool Type	Type of Ele. Conduit	Valve Size	Coil Voltage	Design No	Special Kits	Pilot and Drain
DSGX 	3C94(-01) 	N: DIN Type 	(DSG-) 01 (NFFPA-D03) 	(N-01-) AC/DC 	30 DIN 912 bolts 	RW(RA/RB) Stroke Limiter 01/03  04/06 	*P Pilot Plug (1/16, 1/8, 1/4) 
DSG(-N-01) 	3C60(-03) 	None:Box Type 	(DSG-) 03 (NFFPA-D05) 	(N-03-) AC/DC 	3090 UNC bolts (North America) 	V: Viton Seal 	*D Drain Plug (1/16, 1/8, 1/4) 
DSG(-N-03) 	3C5(-04) 	Y:Lead-Wire 	(DSHG-) 04 (NFFPA-D07) 	(01-) AC/DC 		Orifice Plug 0.8/0.1/1.2 mm 	
DSHG(-0*) 	3C3(-06) 		(DSHG-) 06 (NFFPA-D08) 	(03-) AC/DC 	C: Check Valve P Port (5 bar) 	C: Check Valve P Port (5 bar)  Fig-1	
DHG(-0*) 	3C60(-10) 		DSHG-10 (NFFPA-D10) 	(Y-01/03-) DC 	Fig-1 	RAC Type Shockless Rectifier built-in 	

COIL TYPE POWER SOURCE VOLTAGE

AC	A1:	AC100V(50/60Hz) AC110V(60Hz)	DC	D1:DC12V	D2:DC24V	D3:DC36V
	A2:	AC200V(50/60Hz) AC220V(60Hz)		D4:DC48V	D5:DC60V	D6:DC72V
	A3:	AC110V(50Hz)	RECTIFIED	D14.5:DC14.5V D28:DC28V		
	A4:	AC220V(50Hz)		R1:RAC100	R2:RAC200	
	A5:	AC240V(50Hz)		R3:RAC110	R4:RAC220	

For voltages other than specified, consult HYKING for details.

VALVE SIZE

01-(1/8") 03-(3/8") 04-(1/2") 06-(3/4") 10-(1-1/4")

ELECTRICAL CONDUIT CONNECTION

N: DIN connector with light, DIN 43650.ISO6952.
Y: SWP connector.
None: Terminal box type with indicator lamp.

SPOOL TYPES

SERIES NUMBER

DSG: Solenoid operated directional valves, subplate mounting.
DSGX: Solenoid operated directional valves, mini type.
DSGH: Solenoid controlled pilot operated directional valves.
DHG: Hydraulic Operated Directional Valves.

PILOT/DRAIN CONNECTION (DSHG ONLY)

1P1D: Internal pilot, internal drain
1P2D: Internal pilot, external drain
2P1D: External pilot, internal drain
2P2D: External pilot, external drain

MODEL WITH SPECIAL KITS (OPTION - Omit If Not Required)

C: Check Valve P Port (5 bar) V: Viton seals
S: Shockless type RB: Stroke limiter "B" stroke
RA: Stroke limiter "A" stroke SK: Surgeless (Surge Killer)
RW: Stroke limiter "A+B" stroke WP: Water proof type.
PK: Sparkless (Spark Killer) type. VP: Vibration proof type.

DESIGN NO

30: with DIN 912 bolts
3090: with UNC (North American) bolts

Design number is changed from 20 to 30 (2090 to 3090).

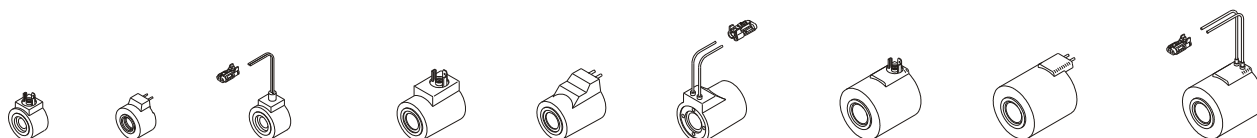
N (DIN Types), all parts are interchangeable with 20(2090)

Terminal box type equipped with new conduit box design, reference page 35 for details.

A

SOLENOID SPECIFICATIONS

AC/DC CURRENT		AC				DC			
						RECTIFIED INSIDE			
VOLTAGE (V)		AC110V		AC220V		R110V	R220V	DC12	DC24
FREQUENCY (Hz)		50	60	50	60	50/60	50/60		
DSGX (01) 1/8"	Starting current (A)	0.56	0.50	0.27	0.25	-	-	-	-
	Holding current (A)	0.12	0.12	0.56	0.52	0.068	0.038	0.44	0.22
	Holding electrical power (W)	-	-	-	-	5.0	5.0	5.0	5.0
DSG (01) 1/8"	Starting current (A)	2.38	2.33	1.19	1.17	-	-	-	-
	Holding current (A)	0.40	0.45	0.20	0.23	0.30	0.15	2.2	1.1
	Holding electrical power (W)	-	-	-	-	26	26	26	26
DSG (03) 3/8"	Starting current (A)	5.37	5.03	2.69	2.52	-	-	-	-
	Holding current (A)	0.70	0.75	0.30	0.35	0.48	0.24	3.16	1.57
	Holding electrical power (W)	-	-	-	-	38	38	38	38
Permissible voltage		95~120		200~235		95~120	200~235	11.0~13.2	22~26.4
Insulation resistance (M Ω)		100 or above (500V)							



VALVES RESPONSE CAPACITY

Unit : Times/Second				
Model	Working Direction	Spring Centered Type (3C*)	No Spring Type (2D*)	Spring Offset Type (2B*)
DSGX-01 AC	Energization	0.01~0.02	0.01~0.02	0.01~0.02
	Spring back	0.015~0.05	-----	0.015~0.05
DSGX-01 DC/RAC	Energization	0.02~0.05	0.02~0.05	0.02~0.05
	Spring back	0.015~0.05	-----	0.015~0.05
DSG-01-AC	Energization	0.01~0.02	0.01~0.02	0.01~0.02
	Spring back	0.015~0.05	-----	0.015~0.05
DSG-01-DC/RAC	Energization	0.02~0.05	0.02~0.05	0.02~0.05
	Spring back	0.015~0.05	-----	0.015~0.05
DSG-03-AC	Energization	0.005~0.025	0.010~0.020	0.01~0.02
	Spring back	0.005~0.030	-----	0.010~0.030
DSG-03-DC/RAC	Energization	0.030~0.090	0.030~0.090	0.030~0.050
	Spring back	0.020~0.050	-----	0.020~0.040

1) Above response time test condition base on follow terms.

DSG-01 based on 140 bar (2000 psi) , 30 lpm (7.9 USgpm)

DSG-03 based on 140 bar (2000 psi) , 45 lpm (11.9 USgpm)

2) Changeover response time changes a little by the test condition (pressure, flow, viscosity.....etc.).

DESCRIPTIONS & INSTRUCTIONS**HIGH FLOW**

The high flow rate 63 ℓ/min (16.6 gpm) of the DSG-(N)-01 valves corresponds to conventional 03 valves.

DSG-(N)-03 is capable of controlling oil flow up to 120 ℓ/min . (31.7 gpm)

DSHG-(N)-04 are capable of controlling oil flow up to 300 ℓ/min . (79.3 gpm)

DSHG-(N)-06 are capable of controlling oil flow up to 500 ℓ/min . (132 gpm)

And DSHG-(N)-10 are capable of controlling oil flow up to 1000 ℓ/min . (291 gpm)

[Flow rate is a little different between different spool type.]

HIGH PRESSURE

The DSG-(N)-01/03 solenoid valves, DSHG-(N)-04/06/10 Max operating pressure up to 315 bar(4500 PSI).

LONG SERVICE LIFE

Durable Life: Durability to 50 million spool shifts.(Average)

Life Of Sealing : No oil leaks due to use of no-dynamic seals.

POWERFUL QUIET WET ARMATURE SOLENOID.

Totally enclosed molded coil. Specially treated pressure resistant inner tube(SUS304). High grade steel cored(C2503) coil with wet solenoid. All moving parts are immersed in operating oil and muffled to provide low noise operation.

NO OIL LEAKAGE

Special design of over-ride pins and seals prevent oil leakage.

LOW PRESSURE DROP

See technical data of pressure drop for details. (P-25)

HIGH BACKPRESSURE ALLOWED IN TANK (DRAIN) LINE.

The DSG-(N)-01/03 can be used with back pressure up to 160 bars(2300 PSI) on the tank port "T".

DSHG-(N)-04/06/10 permissible backpressure, internal drain 160 bars(2300 PSI),

and 210 bar (3000 PSI) for external drain type. Pipe the return back to tank below the oil level.

INDICATOR LIGHTS (LEDS)

Solenoid indicator lights are standard, all DSG-01/03 (terminal box type), DSG-N-01/03 (DIN type) with all voltages, ensuring easy testing and maintenance at a glance.

DIN connector meet CE, IP 65, DIN 40050, ISO 6952 water proof standard.

(AC: Red led., DC: Yellow led. RAC: Green led.)

COIL

Insulation high voltage test : 1500 V/min. (1800 V/sec.)

Double insulation wiring, hermetically sealed for moisture-resistance. Insulation class : H

Maximum allowable coil temperature: +150C (+300F)

Do not exceed permissible voltage range of the coil used.

Do not supply electric power to the AC solenoid unless the coil is mounted to the valve.

DIN type coil with 360 possible orientation.

No-spring type (DSHG-2N*-04/06/10) one of the coil should be energized continuously to avoid malfunction.

On double solenoid valves, do not energize both at the same time as it will result in coils burning out.

HI-TENSILE CAST IRON (FC 30)

Bodies are of high tensile cast iron with large shell cored passages. Spool bores are precision honed with accurately machined land locations.

SPOOLS

Spoos are hardened alloy steel(SCM21), precision ground and incorporate balancing grooves. All spoos are interchangeable with valve body simplifying maintenance. Many options in spool type selection.

3 STANDARD ELECTRICAL CONNECTIONS TYPE, VARIOUS COIL VOLTAGES.

There are 3 types (DIN, Terminal Box, SWP) for standard electrical connection and variety of AC,DC & RAC coil voltages. Coil voltages. AC:AC100V/AC110V/AC200V/AC220V/AC240V (50/60HZ) DC:DC12/24/36/48

RAC:RAC100V/AC110V/AC200V/AC220V/AC240V

HYDRAULIC SHOCKLESS TYPE (S)- LOW NOISE TYPE

The DC/RAC type solenoid valves with a cushion device, results in a smooth com- mutation from a position to another position (smooth start and stop performance). This will greatly reduce the noise which comes from changing over and vibrating pipes.

The optional stroke limiter (RW/RA/RB) can be 1/4., 1/3., 1/2 micro adjustments search for the best soft smooth cushion. When the stroke limiter is screwed in, the main spool stroke becomes shorter and flow rate becomes lower.The max adjustment range details as follow.

DSGX-(N)-01-DC/RAC: max. 1.4 mm

DSG-(N)-01-DC/RAC: max. 1.4 mm

DSG-(N)-03-DC/RAC: max. 2.2 mm

DSHG-(N)-04-AC/DC/RAC: max. 7 mm

DSHG-(N)-06-AC/DC/RAC: max. 12 mm

SPECIAL TYPE, (VOLTAGES) ARE AVAILABLE.

(A) Shockless + shifting time adjustable. (B) Stroke limiter adjustable.(RA/RB/RW types)

(C) Lead wire type (SWP connector terminals) for marine, mobile parts.

(D) Explosion proof (flame proof) type. (E) Surgeless (Surge Killer) type.

(F) Sparkless (Spark Killer) type. (G) Water proof type. (H) Vibration proof type.

(I) AC24., DC 14.50., DC28., DC36., DC 48., DC110 (J) Viton seals were available.

Consult local agent for details.

ASSEMBLY INSTALLATION

The no-spring valves (DSHG-2N-04/06/10 TYPE) shall mounted with longitudinal axis horizontal as they work under impulse.

Spring centered (3C*), spring offset (2B*) and detented (2D*) valves have no orientation limitation. The DSG-(N)-01/03 & DSHG-(N)-04/06/10 mounting surface dimensions conform to ISO 4401, Hydraulic fluid power-Four-port directional control valves-Mounting surface. The installation surface should be finer than 6.3 S.

SUBPLATE & MANIFOLDS

Comprehensive range of sub-plates, multi-station manifolds and stackable modules.

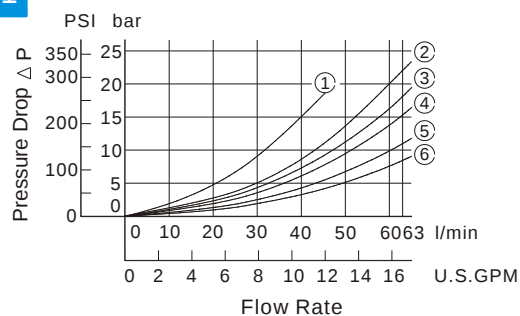
MOUNTING BOLTS + ACCESSORIES.

Hexagonal socket head cap screw (Metric or American fixing bolts), and DIN connector + led as standard with no extra cost.

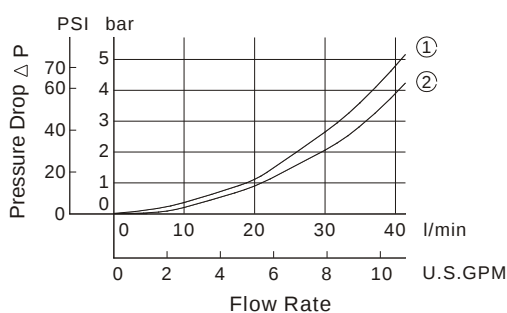
PRESSURE DROP

A

DSG-01



DSG-01-S

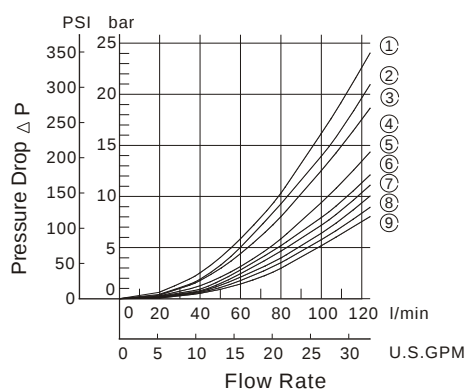


Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSG-01	3C2	⑤	⑤	⑤	⑤	—
	3C3	⑥	⑥	⑥	⑥	④
	3C4	⑤	⑥	⑤	⑥	—
	3C40	⑤	⑤	⑤	⑤	—
	3C60	①	①	①	①	④
	3C9	⑥	⑤	⑥	⑤	—
	3C10	⑤	⑥	⑤	⑥	—
	3C12	⑤	⑤	⑤	⑥	—
	2D2	⑤	②	⑤	②	—
	2B2	②	②	⑤	⑤	—
	2B3	③	③	⑤	⑥	—
	2B8	⑤	—	⑤	—	—

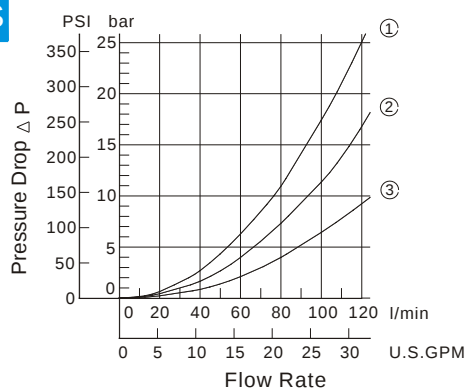
Series	Spool Type	Pressure Drop Curve Number			
		P→A	B→T	P→B	A→T
DSG-01-S	3C2	①	①	①	①
	3C4	①	②	①	②
	2B2	①	①	①	①

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

DSG-03



DSG-03-S



Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSG-03	3C2	⑦	⑦	⑦	⑦	—
	3C3	⑨	⑨	⑨	⑨	⑤
	3C4	⑦	⑧	⑦	⑧	—
	3C40	⑦	⑦	⑦	⑦	—
	3C60	⑥	⑤	⑥	⑤	①
	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	⑨	⑨	—
	2B8	⑥	—	⑤	—	—

Series	Spool 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) .

FLOW LIMITATIONS :

Pressure drop is influenced by forces acting within the valve. The graphs shown assume simultaneous equal flow rates P to A or B, and from A or B to T.

Care should be taken in applications where high flow rates are used in conjunction with high pressure i.e. greater than 250 bar(3600PSI). Also when single flow paths, or substantially different simultaneous flow rates are required between P to A or B, and A or B to T.

FLOW RATINGS CHART

A

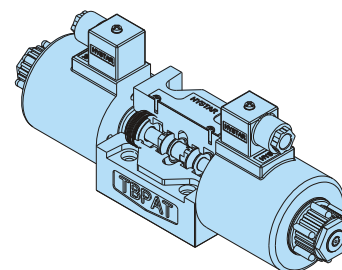
DSG-(N)-03-DC-RAC.

No. of Valve Positions	Spool -Spring Arrangement	Model Numbers & Description	Graphic Symbols	Max. Flow lpm(USgpm)								
							P → A [Port "B" Blocked]			P → B [Port "A" Blocked]		
				100bar 1430PSI	205bar 2930PSI	315bar (4500PSI)	100bar (1430PSI)	205bar (2930PSI)	315bar (4500PSI)	100bar (1430PSI)	205bar (2930PSI)	315bar (4500PSI)
Two Positions	Spring Offset	DSG-2B2-03 P → A, B → T (2 Way)		110(29.1) 100(26.4)	110(29.1) 100(26.4)	110(29.1) 100(26.4)	68(18)	43(11.2)	38(10)	120(31.7)	94(24.8) 70(18.5)	63(16.6) 48(12.7)
		DSG-2B3-03 P → A, B → T (2 Way)		120(31.7)	120(31.7)	120(31.7)					77(20.3)	77(20.3)
		DSG-2B8-03 P → A, B & T Blocked(2 Way)		-	-	-	53(14)	28(7.4)	23(6.1)	120(31.7)	91(24) 51(13.4)	47(12.4) 37(9.8)
	No-Spring Detented	DSG-2D2-03 P → A, B → T Detented		120(31.7)	120(31.7)	120(31.7)	45(11.9)	33(8.7)	28(7.4)	60(15.9)	50(13.2)	35(9.3)
Three Positions	Spring Centered	DSG-3C2-03 Closed Center All Ports		120(31.7)	120(31.7)	120(31.7)	120(31.7)	100(26.4) 77(20.3)	55(14.5) 43(11.4)	120(31.7)	100(26.4) 77(20.3)	55(14.5) 43(11.4)
		DSG-3C3-03 Open Center All Ports		120(31.7)	120(31.7)	120(31.7)	120(31.7)	120(31.7)	120(31.7)	120(31.7)	120(31.7)	120(31.7)
		DSG-3C4-03 Closed Center P Only		120(31.7)	120(31.7)	120(31.7)	120(31.7)	120(31.7)	64(16.9) 53(14)	120(31.7)	120(31.7)	64(16.9) 53(14)
		DSG-3C40-03 Closed Center A & B Restricted to T		120(31.7)	120(31.7)	120(31.7)	120(31.7)	91(24) 80(21.1)	49(12.9) 42(11.1)	120(31.7)	91(24) 80(21.1)	49(12.9) 42(11.1)
		DSG-3C60-03 Tandem Open		120(31.7)	120(31.7)	-	120(31.7)	120(31.7)	-	120(31.7)	120(31.7)	-
		DSG-3C9-03 Open Center T Blocked		120(31.7)	120(31.7)	120(31.7)	100(26.4)	100(26.4)	100(26.4)	100(26.4)	100(26.4)	100(26.4)
		DSG-3C10-03 Open Center P & A Blocked		120(31.7)	120(31.7)	65(17.2) 50(13.2)	120(31.7)	86(22.7) 57(15.0)	51(13.5) 40(10.6)	120(31.7)	86(22.7) 57(15.0)	51(13.5) 40(10.6)
		DSG-3C12-03 Closed Center P & B		120(31.7)	120(31.7)	65(17.2) 50(13.2)	120(31.7)	91(24.0) 66(17.4)	51(13.5) 40(10.6)	120(31.7)	91(24.0) 66(17.4)	51(13.5) 40(10.6)

● : Closed Center Crossover

● : Open Center Crossover

● Where two figures are shown in the same column, the upper is at rated voltage and the latter is at the min permissible solenoid voltage.



FLOW RATINGS CHART

DSG-***-(N)-01-AC.

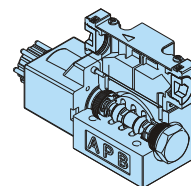
A

No. of Valve Positions	Spool -Spring Arrangement	Model Numbers & Description	Graphic Symbols	Max. Flow lpm (USgpm)								
				P → A → B → T B → A → T			P → A [Port "B" Blocked]			P → B [Port "A" Blocked]		
				80bar (1140PSI)	190bar (2715PSI)	315bar (4500PSI)	80bar (1140PSI)	190bar (2715PSI)	315bar (4500PSI)	80bar (1140PSI)	190bar (2715PSI)	315bar (4500PSI)
Two Positions	Spring Offset	DSG-2B2-01 P → A, B → T (2 Way)		63(16.6)	63(16.6)	63(16.6)	20(5.3)	20(5.3)	20(5.3)	63(16.6) 60(15.9)	63(16.6) 50(13.2)	63(16.6) 45(11.9)
		DSG-2B3-01 P → A, B → T (2 Way)		63(16.6) 60(15.9)	63(16.6) 60(15.9)	63(16.6) 60(15.9)	50(13.2)	50(13.2)	50(13.2)	63(16.6) 55(14.5)	63(16.6) 55(14.5)	63(16.6) 55(14.5)
		DSG-2B8-01 P → A, B & T Blocked (2 Way)		-	-	-	18(4.8)	10(2.6)	10(2.6)	63(16.6) 25(6.6) 50(13.2) 20(5.3)	63(16.6) 18(4.8) 10(2.6)	63(16.6) 10(2.6) 5(1.3)
	No-Spring Detented	DSG-2D2-01 P → A, B → T Detented		63(16.6)	63(16.6)	63(16.6)	45(11.9)	45(11.9) 40(10.6) 43(11.4) 38(10)	45(11.9) 25(6.6) 30(7.9) 20(5.3)	45(11.9)	45(11.9) 40(10.6) 43(11.4) 38(10)	45(11.9) 25(6.6) 30(7.9) 20(5.3)
		DSG-3C2-01 Closed Center All Ports		63(16.6)	63(16.6)	63(16.6)	63(16.6) 25(6.6) 38(10) 20(5.2)	55(14.5) 13(3.4) 15(4.0) 5(1.3)	40(10.6) 10(2.6) 13(3.4) 5(1.3)	63(16.6) 25(6.6) 38(10) 20(5.2)	55(14.5) 13(3.4) 15(4.0) 5(1.3)	40(10.6) 10(2.6) 13(3.4) 5(1.3)
		DSG-3C3-01 Open Center All Ports		63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)
Three Positions	Spring Centered	DSG-3C4-01 Closed Center P Only		63(16.6)	63(16.6)	63(16.6) 48(12.7) 63(16.6) 43(11.4)	63(16.6) 23(6.1) 50(13.2) 18(4.8)	63(16.6) 15(4.0) 28(7.4) 13(3.4)	55(14.5) 10(2.6) 13(3.4) 5(1.3)	63(16.6) 23(6.1) 50(13.2) 18(4.8)	63(16.6) 15(4.0) 28(7.4) 13(3.4)	55(14.5) 10(2.6) 13(3.4) 5(1.3)
		DSG-3C40-01 Closed Center A & B Restricted to T		63(16.6)	63(16.6)	63(16.6) 25(6.6) 38(10) 20(5.2)	63(16.6) 13(3.4) 15(4.0) 8(2.1)	40(10.6) 10(2.6) 13(3.4) 5(1.3)	63(16.6) 25(6.6) 38(10) 20(5.2)	63(16.6) 13(3.4) 15(4.0) 8(2.1)	55(14.5) 10(2.6) 13(3.4) 5(1.3)	40(10.6) 10(2.6) 13(3.4) 5(1.3)
		DSG-3C60-01 Tandem Open		43(11.4)	40(10.6)	-	43(11.4)	40(10.6)	-	43(11.4)	40(10.6)	-
		DSG-3C9-01 Open Center T Blocked		63(16.6)	63(16.6)	63(16.6)	25(6.6)	13(3.4)	10(2.6)	25(6.6)	13(3.4)	10(2.6)
		DSG-3C10-01 Open Center P & A Blocked		63(16.6)	63(16.6)	63(16.6)	63(16.6) 33(8.7) 55(14.5) 28(7.4)	63(16.6) 20(5.3) 25(6.6) 15(4.0)	63(16.6) 13(3.4) 15(4.0) 8(2.1)	63(16.6) 33(8.7) 55(14.5) 28(7.4)	63(16.6) 20(5.3) 25(6.6) 15(4.0)	63(16.6) 13(3.4) 15(4.0) 8(2.1)
		DSG-3C12-01 Closed Center P & B		63(16.6)	63(16.6)	63(16.6)	63(16.6) 28(7.4) 50(13) 20(5.2)	63(16.6) 20(5.3) 15(4.0) 10(2.6)	63(16.6) 15(4.0) 50(13) 20(5.2)	63(16.6) 28(7.4) 50(13) 20(5.2)	63(16.6) 20(5.3) 15(4.0) 10(2.6)	63(16.6) 15(4.0) 10(2.6)

● : Closed Center Crossover

● : Open Center Crossover

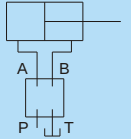
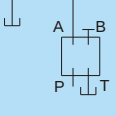
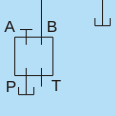
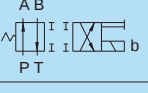
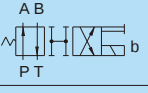
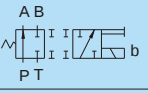
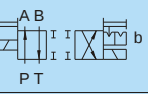
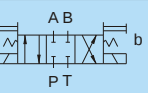
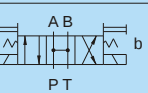
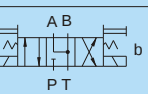
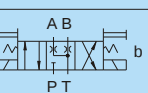
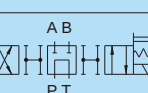
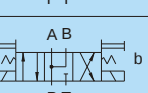
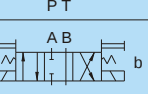
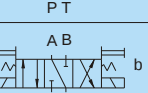
● Where two figures are shown in the same column, the upper is at rated voltage(50Hz), and the latter is at rated voltage(60Hz).



FLOW RATINGS CHART

A

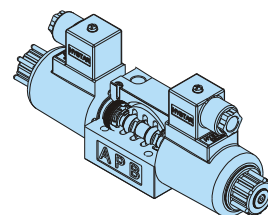
DSG-***-(N)-01-DC-RAC.

No. of Valve Positions	Spool Spring Arrangement	Model Numbers & Description	Graphic Symbols	Max. Flow lpm(USgpm)								
				P → A → B → T B → A			P → A [Port "B" Blocked]			P → B [Port "A" Blocked]		
												
				80bar (1140PSI)	190bar (2715PSI)	315bar (4500PSI)	80bar (1140PSI)	190bar (2715PSI)	315bar (4500PSI)	80bar (1140PSI)	190bar (2715PSI)	315bar (4500PSI)
Two Positions	Spring Offset	DSG-2B2-01 P → A, B → T (2 Way)		63(16.6)	63(16.6)	63(16.6)	20(5.3)	18(4.8)	18(4.8)	58(15.3)	35(9.2)	30(7.9)
				53(14)	53(14)	53(14)				40(10.6)	30(7.9)	25(6.6)
		DSG-2B3-01 P → A, B → T (2 Way)		38(10)	38(10)	38(10)	48(12.7)	45(11.9)	40(10.6)	63(16.6)	63(16.6)	63(16.6)
				28(7.4)	28(7.4)	28(7.4)	45(11.9)	40(10.6)	38(10)	60(15.9)	60(15.9)	60(15.9)
		DSG-2B8-01 P → A, B & T Blocked (2 Way)		-	-	-	18(4.8)	8(2.1)	8(2.1)	35(9.2)	20(5.3)	15(4.0)
										25(6.6)	15(4.0)	10(2.6)
Three Positions	No-Spring Detented	DSG-2D2-01 P → A, B → T Detented		63(16.6)	63(16.6)	63(16.6)	45(11.9)	45(11.9)	30(7.9)	45(11.9)	45(11.9)	30(7.9)
				55(14.5)	55(14.5)	55(14.5)						
	Spring Centered	DSG-3C2-01 Closed Center All Ports		63(16.6)	63(16.6)	63(16.6)	40(10.6)	18(4.8)	13(3.4)	40(10.6)	18(4.8)	13(3.4)
							28(7.4)	13(3.4)	10(2.6)	28(7.4)	13(3.4)	10(2.6)
		DSG-3C3-01 Open Center All Ports		63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)	63(16.6)
		DSG-3C4-01 Closed Center P Only		63(16.6)	63(16.6)	35(9.2)	53(14)	33(8.7)	28(7.4)	53(14)	33(8.7)	28(7.4)
						23(6.1)	40(10.6)	20(5.3)	13(3.4)	40(10.6)	20(5.3)	13(3.4)
		DSG-3C40-01 Closed Center A & B Restricted to T		63(16.6)	63(16.6)	63(16.6)	40(10.6)	18(4.8)	13(3.4)	40(10.6)	18(4.8)	13(3.4)
							28(7.4)	13(3.4)	10(2.6)	28(7.4)	13(3.4)	10(2.6)
		DSG-3C60-01 Tandem Open		43(11.4)	40(10.6)	-	43(11.4)	40(10.6)	-	43(11.4)	40(10.6)	-
		DSG-3C9-01 Open Center T Blocked		63(16.6)	63(16.6)	63(16.6)	23(6.1)	13(3.4)	10(2.6)	23(6.1)	13(3.4)	10(2.6)
		DSG-3C10-01 Open Center P & A Blocked		63(16.6)	63(16.6)	45(11.9)	55(14.5)	33(8.7)	20(5.3)	55(14.5)	33(8.7)	20(5.3)
						23(6.1)	40(10.6)	23(6.1)	13(3.4)	40(10.6)	23(6.1)	13(3.4)
		DSG-3C12-01 Closed Center P & B		63(16.6)	63(16.6)	38(10)	60(15.9)	33(8.7)	20(5.3)	60(15.9)	33(8.7)	20(5.3)
						23(6.1)	38(10)	25(6.6)	15(4.0)	38(10)	25(6.6)	15(4.0)

●  : Closed Center Crossover

●  : Open Center Crossover

● Where two figures are shown in the same column, the upper is at rated voltage and the latter is at the min permissible solenoid voltage.



FLOW RATINGS CHART

DSG-(N)-03-AC.

A

No. of Valve Positions	Spool -Spring Arrange -ment	Model Numbers & Description	Graphic Symbols	Max.Flow lpm(USgpm)								
				P → A → B → T			P → A [Port "B" Blocked]			P → B [Port "A" Blocked]		
				100bar 1430PSI	205bar 2930PSI	315bar (4500PSI)	100bar 1430PSI	205bar 2930PSI	315bar (4500PSI)	100bar 1430PSI	205bar 2930PSI	315bar (4500PSI)
Two Positions	Spring Offset	DSG-2B2-03 P → A, B → T (2 Way)		100(26.4) 90(23.8)	100(26.4) 90(23.8)	100(26.4) 90(23.8)	34(9.0)	22(5.8)	19(5.0)	100(26.4) 62(16.4) 80(21.1) 42(11.1)	100(26.4) 53(14.0) 68(18.0) 35(9.2)	94(24.8) 37(9.8) 51(13.5) 33(8.7)
		DSG-2B3-03 P → A, B → T (2 Way)		100(26.4) 100(26.4) 75(19.8)	100(26.4) 100(26.4) 75(19.8)	100(26.4) 100(26.4) 75(19.8)	57(15.1)	57(15.1)	57(15.1)	100(26.4) 79(20.9) 92(24.3) 92(24.3)	100(26.4) 68(18.0) 83(21.9) 37(9.8)	100(26.4) 59(15.6) 70(18.5) 27(7.1)
		DSG-2B8-03 P → A, B & T Blocked(2 Way)		-	-	-	26(6.9)	18(4.8)	16(4.2)	100(26.4) 35(9.2) 45(11.9) 21(5.5)	74(19.5) 12(3.2) 24(6.3) 10(2.6)	49(12.9) 7(1.8) 11(2.9) 6(1.6)
	No-Spring Detented	DSG-2D2-03 P → A, B → T Detented		100(26.4)	100(26.4)	100(26.4)	40(10.6)	35(9.2)	28(7.4)	60(15.9)	50(13.2)	35(9.3)
		DSG-3C2-03 Closed Center All Ports		100(26.4)	100(26.4)	100(26.4)	100(26.4) 70(18.5) 90(23.8) 49(13.0)	98(25.9) 38(10.0) 43(11.3) 43(11.4)	65(17.1) 24(6.3) 26(6.8) 15(4.0)	100(26.4) 70(18.5) 90(23.8) 49(13.0)	98(25.9) 38(10.0) 43(11.3) 43(11.4)	65(17.1) 24(6.3) 26(6.8) 15(4.0)
		DSG-3C3-03 Open Center All Ports		90(23.8)	90(23.8)	90(23.8)	100(26.4) 81(21.4) 100(26.4) 81(21.4)	100(26.4) 81(21.4) 100(26.4) 81(21.4)	100(26.4) 81(21.4) 100(26.4) 81(21.4)	100(26.4) 81(21.4) 100(26.4) 81(21.4)	100(26.4) 81(21.4) 100(26.4) 81(21.4)	100(26.4) 81(21.4) 100(26.4) 81(21.4)
Three Positions	Spring Centered	DSG-3C4-03 Closed Center P Only		80(21.1)	80(21.1)	80(21.1) 25(6.6) 30(7.9) 15(4.0)	100(26.4) 58(15.3) 90(23.8) 47(12.4)	88(23.2) 27(7.1) 39(10.3) 22(5.8) 22(5.8)	46(12.1) 19(5.0) 22(5.8) 15(4.0)	100(26.4) 58(15.3) 90(23.8) 47(12.4)	88(23.2) 27(7.1) 39(10.3) 22(5.8) 22(5.8)	46(12.1) 19(5.0) 22(5.8) 15(4.0)
		DSG-3C40-03 Closed Center A & B Restricted to T		100(26.4)	100(26.4)	100(26.4) 75(19.8) 100(26.4) 25(6.6)	100(26.4) 62(16.4) 62(16.4) 40(10.6)	92(24.3) 30(7.9) 37(9.8) 21(11.1)	48(12.7) 18(4.8) 20(5.3) 12(3.2)	100(26.4) 62(16.4) 62(16.4) 40(10.6)	92(24.3) 30(7.9) 37(9.8) 21(11.1)	48(12.7) 18(4.8) 20(5.3) 12(3.2)
		DSG-3C60-03 Tandem Open		70(18.5)	70(18.5)	-	100(26.4)	100(26.4)	-	100(26.4)	100(26.4)	-
		DSG-3C9-03 Open Center T Blocked		100(26.4)	100(26.4)	100(26.4)	60(15.9)	60(15.9)	60(15.9)	60(15.9)	60(15.9)	60(15.9)
		DSG-3C10-03 Open Center P & A Blocked		80(21.1)	80(21.1)	80(21.1) 20(5.3) 20(5.3) 15(4.0)	100(26.4) 55(15.9) 60(15.9) 38(10)	80(21.1) 28(7.4) 35(6.6) 19(5)	34(9.0) 16(4.2) 17(4.5) 11(2.9)	100(26.4) 55(15.9) 60(15.9) 38(10)	80(21.1) 28(7.4) 35(6.6) 19(5)	34(9.0) 16(4.2) 17(4.5) 11(2.9)
		DSG-3C12-03 Closed Center P & B		90(23.8)	90(23.8)	90(23.8) 20(5.3) 20(5.3) 15(4.0)	100(26.4) 55(15.9) 60(15.9) 38(10)	80(21.1) 28(7.4) 35(6.6) 19(5)	34(9.0) 16(4.2) 17(4.5) 11(2.9)	100(26.4) 55(15.9) 60(15.9) 38(10)	80(21.1) 28(7.4) 35(6.6) 19(5)	34(9.0) 16(4.2) 17(4.5) 11(2.9)

● :Closed Center Crossover

● :Open Center Crossover

● Where two figures are shown in the same column,the upper is at rated voltage(50Hz),and the latter is at rated voltage(60Hz).

