Directional Control Valve
DG4V–3(S)–*N–FJ/FW–60
DG4V–3(S)–*A(L)/B(L)–FJ/FW–60
DG4V–3(S)–*A(L)/B(L)–FJ/FW–60
Spring offset/Spring centered

Single solenoid valves, solenoid at "A" port end. Transient condition only.

Single solenoid valves, solenoid at "B" port end. Transient condition only.

Model | Knob | Core Tube S/A
--- | --- | ---
DG4V–3–AC | 508113 | 508111
DG4V–3–DC | 508113 | 508124
DG4V–3S–AC | 694274 | 890246
DG4V–3S–DC | 694272 | 694323

Note
Right hand assembly shown, for left hand assembly all parts reversed except body (& spool on "B" builds) and electrical connectors (where applicable).

- 507724 Plug AC
- 507908 Plug DC
- 262342 "O" Ring
- 472553 Pin
- 576915 Screw (ground)
- 617605 Washer AC (2 Req’d)

- 890333 Cover
- 890332 Gasket
- 890330 Strap
- 36212 Screw (2 Req’d)
- 473710 screw (2 Req’d)
- 890341 Terminal box (W builds)
- 890342 Terminal box (J builds)
- 890332 Gasket

- 36212 Screw (2 Req’d)
- 473710 Screw (2 Req’d)
- 890341 Terminal box (W builds)
- 890342 Terminal box (J builds)

- 472553 Pin
- Orifice Plug (see table)

- 617605 Washer AC (2 Req’d)

- Available in seal kit only
- Available in spool accessory kit (see table)
- Available in mounting kit 893236 only
- Available in qty’s. of 25 or more only
- Not available for sale
  - Torque 44–62 lbf. ft.(5.0–7.0 N.m)
  - Torque 18–25 lbf. in.(2.3–2.8 N.m)
  - Torque 22–27 lbf. ft.(30–36 N.m)
  - Torque 21–26 lbf. in.(2.5–3.0 N.m)
**DG4V-3(S)-C-FJ/FW-60**

Spring centered

Double solenoid valves, spring centered

Transient condition only.

---

**NOTE**
Refer to other end of valve for common part numbers.
DG4V–3(S)–*N–FJ/FW–60
No spring detented

Double solenoid valves, two position, detented. Transient condition only.

- 02–113349 Screw (4 Req’d)
- 890333 Cover
- 890332 Gasket
- 473710 Screw (2 Req’d)
- 36212 Screw (2 Req’d)
- 890330 Strap
- 576915 Screw (ground)
- 507334 Body (flying lead) shown
- 507731 Body (Din)
- 890341 Terminal box (W builds)
- 890342 Terminal box (J builds)
- 890332 Gasket
- 472553 Roll Pin
- 262332 “O” Ring (4 Req’d)
- Orifice Plug (see table)

NOTE
Refer to other end of valve for common part numbers.

- Available in seal kit only
- Available in spool accessory kit (see table)
- Available in mounting kit 893236 only
- Available in qty’s. of 25 or more only
- Not available for sale
- Torque 44–62 lbf. ft.(5.0–7.0 N.m)
- Torque 18–25 lbf. in.(2.3–2.8 N.m)
- Torque 22–27 lbf. ft.(30–36 N.m)
- Torque 21–26 lbf. in.(2.5–3.0 N.m)
DG4V–3(A(L)/B(L)–S3/S4–FJ/FW–60
Switch option

LIMIT SWITCH ADJUSTMENT
Remove cover and energize solenoid. Loosen switch retaining screws and position switch to obtain complete circuit from common (C) thru normally open (NO) contacts. De-energize solenoid and make sure switch returns to normally open (NO) position before re-installing cover.

NOTE
Right hand assembly shown, for left hand assembly all parts reversed except body (& spool on “B” builds) and electrical connectors (where applicable).

Refer to AL/BL–60 for part & kit numbers...
**BLANK NAMEPLATES (DG4V–3S–60 STANDARD VALVE)**

<table>
<thead>
<tr>
<th>MODEL CODE</th>
<th>NAMEPLATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DG4V–3S–<strong>-</strong>-M–U–**60</td>
<td>694302</td>
</tr>
<tr>
<td>DG4V–3S–<strong>-</strong>-M–F/FP A3/FP A5–**–60</td>
<td>694366</td>
</tr>
<tr>
<td>DG4V–3S–<strong>-</strong>-M–FPB–**–60</td>
<td>694363</td>
</tr>
<tr>
<td>DG4V–3S–<strong>-</strong>-M–FPBL–**–60</td>
<td>694362</td>
</tr>
</tbody>
</table>

**BLANK NAMEPLATES (DG4V–3–60 HIGH PERFORMANCE VALVE)**

<table>
<thead>
<tr>
<th>MODEL CODE</th>
<th>NAMEPLATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DG4V–3–<strong>-</strong>-M–S(*)–U–*7–60</td>
<td>694303</td>
</tr>
<tr>
<td>DG4V–3–<strong>-</strong>-M–S(*)–U–*2/6–60</td>
<td>694451</td>
</tr>
<tr>
<td>DG4V–3–<strong>-</strong>-M–S(*)–F/FP A3/FP A5–*7–60</td>
<td>694387</td>
</tr>
<tr>
<td>DG4V–3–<strong>-</strong>-M–FPB–**–60</td>
<td>865929</td>
</tr>
<tr>
<td>DG4V–3–<strong>-</strong>-M–FPBL–**–60</td>
<td>865930</td>
</tr>
</tbody>
</table>

**NOTE**

Use blank nameplates when converting to other valve configurations. Model number, assembly number, coil designator, tank pressure, and graphic symbol must be imprinted by person performing conversion.

**RESTRICTOR PLUG**

Install In P.T.A, Or B As Required

<table>
<thead>
<tr>
<th>CODE</th>
<th>ORIFICE DIA.</th>
<th>PART #</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>0.30 (0.012)</td>
<td>694341</td>
</tr>
<tr>
<td>06</td>
<td>0.60 (0.024)</td>
<td>694342</td>
</tr>
<tr>
<td>08</td>
<td>0.80 (0.030)</td>
<td>694343</td>
</tr>
<tr>
<td>10</td>
<td>1.00 (0.040)</td>
<td>694344</td>
</tr>
<tr>
<td>13</td>
<td>1.30 (0.050)</td>
<td>694345</td>
</tr>
<tr>
<td>15</td>
<td>1.50 (0.060)</td>
<td>694346</td>
</tr>
<tr>
<td>20</td>
<td>2.00 (0.080)</td>
<td>694347</td>
</tr>
<tr>
<td>23</td>
<td>2.30 (0.090)</td>
<td>694348</td>
</tr>
</tbody>
</table>

**CAUTION**

There is no coil/coretube/part interchangeability between the –60 design and the previous design valves.

- Seal kits
- Seal kit 858996 for (F type coil)
- Seal kit 858995 for (U type coil)
- Seal kit 859049 for (MS spool position monitor switch)

**Bolt spacer kit 893225** (spacers required when using –40 design bolts to mount a –60 design valve)

**NOTE**

For satisfactory service life of these components in industrial applications, use full flow filtration to provide fluid which meets ISO 4406 cleanliness code 20/16 for up to 200 bar (3000 psi) and 18/14 for above 200 bar (3000 psi) or cleaner.

**Spool accessory kits**

These kits contain the correct centering washers, centering springs, and seal kit to service or convert all valve build types. Some extra parts may exist after service or conversion (seals, spring, etc). Spool not included in kit and must be ordered separately.

- DG4V–3S–AC/DC 893240
  - all spools, all builds, except detent builds
- DG4V–3S–AC 893242
  - all spools, detent builds only
- DG4V–3S–DC 893243
  - all spools, detent builds only
- DG4V–3–AC 893238
  - all spools, all builds, except 8B/8C, or detent builds
- DG4V–3–AC/DC 893239
  - 8B/8C builds only
- DG4V–3–AC/DC 893242
  - all spools, detent builds only
- DG4V–3–DC 893239
  - all spools, all builds, except detent
- DG4V–3L–DC 893239
  - all spools, low power only
- DG4V–3L–AC 893241
  - all spools, all builds, low power only, except 8B/8C
- DG4V–3L–AC 893239
  - low power, 8B/8C only
Flow path during spool shift.

<table>
<thead>
<tr>
<th>SPOOL CODE</th>
<th>SPOOL #</th>
<th>SPOOL</th>
<th>SPOOL FUNCTIONAL GRAPHIC SYMBOLS</th>
</tr>
</thead>
</table>
| ♣ OA(L) | 617498 | OA | OAL |!
| OB(L)/OC | 617121 | OB | OBL | OC |!
| ♣ 2A(L) | 617120 | 2A | 2AL |!
| ♣ 2B(L)/2C | 617118 | 2B | 2BL | 2C |!
| ♣ 2N | 617126 | 2N |!
| 6B(L)/6C | 617119 | 6B | 6BL | 6C |!
| 7B(L)/7C | 617125 | 7B | 7BL | 7C |!
| 8B(L)/8C | 458950 | 8B | 8BL | 8C |!
| ♣ 22A(L) | 617122 | 22A | 22AL |!
| 22B(L)/22C | 617455 | 22B | 22BL | 22C |!
| 24A(L) | 617456 | 24A | 24AL |!
| 33B(L)/33C | 617123 | 33B | 33BL | 33C |!
| 34B(L)/34C | 617128 | 34B | 34BL | 34C |!
| ♣ 52BL/52C | 617131 | 52B | 52BL | 52C |!
| ♣ 56BL/56C | 617132 | 56B | 56BL | 56C |!
| 66B(L)/66C | 698745 | 66B | 66BL | 66C |!
| ♣ 521B | 617131 | 521B |!
| ♣ 561B | 617132 | 561B |!

**SPOOL ASSEMBLY NOTES**

Spool orientation unimportant except where indicated.

♣ These spools to be installed as shown in above table with left hand end towards "A" port (reverse 180° for all "AL" builds).
**COILS (DG4V–3S–60 STANDARD VALVE)**

<table>
<thead>
<tr>
<th>CODE</th>
<th>VOLTS AC 50 Hz</th>
<th>VOLTS AC 60 Hz</th>
<th>FLYING LEAD COIL</th>
<th>DIN COIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NN</td>
<td>24</td>
<td>24</td>
<td>02–111630</td>
<td>02–111255</td>
</tr>
<tr>
<td>N</td>
<td>24</td>
<td>24</td>
<td>02–111631</td>
<td>02–111541</td>
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<tr>
<td>K</td>
<td>48</td>
<td>48</td>
<td>02–111633</td>
<td>02–111542</td>
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<tr>
<td>A</td>
<td>110</td>
<td>110</td>
<td>02–101730</td>
<td>02–101725</td>
</tr>
<tr>
<td>EK</td>
<td>110</td>
<td>115</td>
<td>02–111635</td>
<td>02–111258</td>
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<tr>
<td>B</td>
<td>110</td>
<td>120</td>
<td>02–101731</td>
<td>02–101726</td>
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<tr>
<td>DN</td>
<td>110</td>
<td>220</td>
<td>02–111638</td>
<td>02–111545</td>
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<td>D</td>
<td>220</td>
<td>240</td>
<td>02–101733</td>
<td>02–101728</td>
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<td>EM</td>
<td>440</td>
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<td>02–111643</td>
<td>02–111262</td>
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**COILS (DG4V–3–60 HIGH PERFORMANCE VALVE)**

<table>
<thead>
<tr>
<th>CODE</th>
<th>VOLTS AC 50 Hz</th>
<th>VOLTS AC 60 Hz</th>
<th>FLYING LEAD COIL</th>
<th>DIN COIL</th>
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<tbody>
<tr>
<td>NN</td>
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<td>24</td>
<td>865853</td>
<td>865835</td>
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<tr>
<td>N</td>
<td>24</td>
<td>24</td>
<td>865853</td>
<td>865835</td>
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<tr>
<td>K</td>
<td>48</td>
<td>48</td>
<td>508166</td>
<td>507825</td>
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<tr>
<td>A</td>
<td>110</td>
<td>115</td>
<td>866458</td>
<td>866456</td>
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<td>EK</td>
<td>110</td>
<td>120</td>
<td>508169</td>
<td>507833</td>
</tr>
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<td>B</td>
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<td>120</td>
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<tr>
<td>DN</td>
<td>110</td>
<td>220</td>
<td></td>
<td>02–124586</td>
</tr>
<tr>
<td>D</td>
<td>220</td>
<td>240</td>
<td>508170</td>
<td>507834</td>
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<tr>
<td>EM</td>
<td>440</td>
<td></td>
<td>865836</td>
<td>865856</td>
</tr>
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</table>

**COILS (DG4V–3(S)–60 STANDARD/HIGH PERFORMANCE VALVE)**

*Available For High Performance Valve Only*

<table>
<thead>
<tr>
<th>CODE</th>
<th>VOLTS DC 50 Hz</th>
<th>VOLTS DC 60 Hz</th>
<th>FLYING LEAD COIL</th>
<th>DIN COIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>12</td>
<td>12</td>
<td>508172</td>
<td>507847</td>
</tr>
<tr>
<td>GL*</td>
<td>12</td>
<td>12</td>
<td>508175</td>
<td>507855</td>
</tr>
<tr>
<td>H</td>
<td>24</td>
<td>24</td>
<td>508173</td>
<td>507848</td>
</tr>
<tr>
<td>HL*</td>
<td>24</td>
<td>24</td>
<td>508174</td>
<td>507852</td>
</tr>
<tr>
<td>DK</td>
<td>32</td>
<td>32</td>
<td>865863</td>
<td>865881</td>
</tr>
<tr>
<td>OJ</td>
<td>48</td>
<td>48</td>
<td>865864</td>
<td>865882</td>
</tr>
<tr>
<td>DM</td>
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<td>865865</td>
<td>865883</td>
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<tr>
<td>DJ</td>
<td>98</td>
<td>98</td>
<td>865839</td>
<td>865637</td>
</tr>
<tr>
<td>P</td>
<td>110</td>
<td>110</td>
<td>865866</td>
<td>865884</td>
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<td>DP</td>
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<td>Z</td>
<td>180</td>
<td>180</td>
<td>865868</td>
<td>865886</td>
</tr>
<tr>
<td>EJ</td>
<td>196</td>
<td>196</td>
<td>865640</td>
<td>865638</td>
</tr>
<tr>
<td>S</td>
<td>220</td>
<td>220</td>
<td>865869</td>
<td>865887</td>
</tr>
</tbody>
</table>

**CAUTION**

Electrical power must be disconnected before removing/replacing terminal block, receptacle plug, indicator lights or limit switch.

**NOTE**

Refer to valve model drawing for balance of part numbers.

---

**DG4V–3(S)–FTJ/FTW–60**
Terminal block.

★ 890345 Terminal block S/A

**DG4V–3(S)–FTJL/FTWL–60**
Terminal block with lights.

★ Light kit (see table)

★ 890345 Terminal block S/A

**NOTE**

Refer to valve model drawing for balance of part numbers.
Terminal block with male receptacle

- **DG4V–3(S)–A/B–FPA5W–60**
  - 890346 Warning tag
  - Terminal block
  - Solenoid lead
  - 2 Lead (black)
  - 3 Lead (white)
  - 02–126782 Male receptacle
  - 1 green lead (ground) on valve body
  - 3 white lead to terminal block
  - 2 black lead to terminal block

- **DG4V–3(S)–A/B–FPA5W–60**
  - 890347 Warning tag
  - Terminal block
  - 5 Lead (black)
  - 1 Lead (white)
  - 02–126783 Male receptacle
  - 1 white lead to terminal block
  - 5 black lead to terminal block
  - 4 lead capped

**Accessory kits**
- **Terminal box accessory kit 893236** (contains all parts for mounting box)
- **Terminal strip kit 890345** (includes all attaching hardware)
- **Limit switch kit 892951** (contains all minor parts for servicing limit switch)

**NOTE**
- Light kits cannot be installed without a terminal strip.

<table>
<thead>
<tr>
<th>Light kits (terminal strip not included)</th>
<th>VOLTAGE</th>
<th>KIT #</th>
</tr>
</thead>
<tbody>
<tr>
<td>12VDC</td>
<td>893263</td>
<td></td>
</tr>
<tr>
<td>24 VDC</td>
<td>893232</td>
<td></td>
</tr>
<tr>
<td>98 VDC</td>
<td>893233</td>
<td></td>
</tr>
<tr>
<td>120 VAC</td>
<td>893234</td>
<td></td>
</tr>
<tr>
<td>240 VAC</td>
<td>893235</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**
- Refer to valve model drawing for balance of part numbers.

**CAUTION**
- Electrical power must be disconnected before removing/replacing terminal block, receptacle plug, indicator lights or limit switch.

**DG4V–3(S)–C/N–FPA5W–60**

- 2 Lead (red)
- Solenoid lead A
- 1 white lead to terminal block
- 4 orange lead to terminal block
- 3 green lead (ground) on valve body
- 2 red lead to terminal block

- 4 Lead (orange)
- Common (black)
- S3 Lead red for (NO)
- S4 Lead white for (NC)

- 5 black lead to terminal block
- 02–126783 Male receptacle

- 3 green lead (ground) on valve body
- 2 red lead to terminal block
DG4V–3(S)–FPB–60
Instaplug male/female receptacle

Instaplug male/female receptacle with lights

676230 Handle (2 Req’d)
989583 Seal (2 Req’d)
575642 Ring (2 Req’d)
422004 Screw (4 Req’d)
Nameplate (Refer to DWG. J–682451)
Carrier (see table)
633746 Gasket

CAUTION
Electrical power must be disconnected before removing/replacing terminal block, receptacle plug, indicator lights or limit switch.

989709 Screw (2 Req’d)
632673 Female receptacle S/A
576915 Screw (ground)

CARRIER
633732 Insta–plug & lights
635065 Lights
635066 Insta–plug

507902 Male receptacle S/A
358410 Warning tag

AX–417358 Screw (includes washer)
2 Req’d A/B models
4 Req’d C/N models

630855 Terminal box (W 1/2 NPT thread)
866038 Terminal box (J 20mm thread)

633743 Adapter (2 Req’d)
471112 Setscrew (2 Req’d)
676231 Gasket

VOLTAGE RANGE LIGHT KIT

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Light Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V AC/DC</td>
<td>926499</td>
</tr>
<tr>
<td>24V AC/DC</td>
<td>926431</td>
</tr>
<tr>
<td>115V AC/DC</td>
<td>926432</td>
</tr>
<tr>
<td>230V AC/DC</td>
<td>926458</td>
</tr>
</tbody>
</table>

NOTE
Insta–plug part numbers and assembly/disassembly sequence are the same for single and double solenoid valves.

(PB) Insta–plug kit 893237
This kit is required to add the “PB” option to both standard and high performance valves. Kit contains all parts to convert a standard terminal box equipped valve to the Insta–plug (PB) version.
Model Code

DG4V - 3(S) - *** (L) - * - (V) M - (S*) *** **** * ** (L) - * 60 - (EN*) - (P* - A* - B* - T*)

1  D — Directional control valve
G — Subplate mounted
4 — Solenoid operated
V — 350 Bar (5075 psi) P, A, & B ports

2  Standard/High performance
3 — High performance 80 l/min (21 gpm) at 350 bar (5075 psi)
3S — Standard performance 40 l/min (10.5 gpm) at 350 bar (5075 psi)

3  Spool type (see table)

4  Spool/Spring arrangement
A — Spring offset, single solenoid
AL — Same as A but left hand build
B — Spring centered, single solenoid
BL — Same as B but left hand build
C — Spring centered
F — Spring offset, shift to center
N — No spring detented

5  Manual override options
Blank — Plain override solenoid end only
H — Waterproof override solenoid end only
H2 — Waterproof override both ends of single solenoid
P2 — Plain override both ends of single solenoid
Y — Lockable manual override solenoid ends only
Z — No overrides in either end

6  Solenoid energisation identity
Blank — Standard arrangement for ANSI B33.9 (energise solenoid A for flow A to P port)
V — Solenoid A at port A end and/or solenoid B at port B end, regardless of spool type.
(All 8 spool valves are V code)

7  Flag
Electrical options & features

8  Spool indicator switch
Available on high performance models, DG4V-3, only.
Omit when not required.
For DG4V-3—*A(L)—*(Z)—(V)M—S*—U valves having type 2 and 22 spools with proximity type DC switch:
S1 — Switch, normally open.
S2 — Switch, normally closed.
For DG4V-3—*A(L)—*(Z)—(V)M—S*—FP A5W valves having mechanical type AC switch, wired to 5 pin receptacle:
S3 — Switch, wired normally open.
S4 — Switch, wired normally closed.
For DG4V-3—*A(L)—*(Z)—(V)M—S*—FWJ valves having mechanical type AC switch:
S5 — Switch, free leads

9  Coil type
U — ISO 4400
F — Flying lead
SP1 — Single 6.3 series spade to IEC 760
SP2 — Dual 6.3 series spade to IEC 760
X1 — Flameproof solenoids
TP EEx—d—11B—T4
X2 — Hazardous location solenoids to meet UL & CSA approval
X3 — Special protection solenoids to BASEEFA standard SFA009:1972, protection class Ex—S—11—T4

10  Electrical connections (F type coil only) omit if not required
T — Wired terminal block
PA — Instaplug male receptacle only
PB — Instaplug male & female receptacle
PA3 — Three pin connector
PA5 — Five pin connector

11  Housing (F type coils only)
W — 1/2 NPT thread wiring housing
J — 20 mm thread wiring housing

12  Solenoid indicator lights (omit if not required)
Not available on PA, U, SP1, & SP2 builds

13  Coil identification (see table)
(*L coils not available on DG4V-3S builds)

14  Tank pressure rating
Standard performance DG4V-3S
5 — 100 Bar (72 psi)
High performance DG4V-3
2 — 10 Bar (145 psi)
4 — 70 Bar (1015 psi)
6 — 160 Bar (2320 psi) AC valves
7 — 210 Bar (3045 psi) DC valves

15  Design

16  Special modifications (omit if not required)

17  Port orifice plugs (see table) omit if not required