Electronic Displacement Control

- P-E Normally Open
- P-F Normally Closed
- P-E/F Normally Open with Load Sense
- P-F/F Normally Closed with Load Sense
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## Reference Material

PVG Open Loop Pumps, Sales............................................. Bulletin 47019
Specifications and performance data for PVG pumps

PVG Application Guidelines ............................................. Bulletin 847019
Notes and guidelines for proper use of PVG pumps

Information in this bulletin subject to change without notice. Current versions of the documents referenced in this bulletin may have a letter at the end to denote the revision level. The latest release of any document, including this one, can be found on the Oilgear web site or by contacting your Oilgear representative.
Operational Description

The **Electronic Displacement Control (EDC)** combines electronic proportional stroke control with mechanical pressure override. There are four configurations for this control P-E Normally Open (N.O.), P-F Normally Closed (N.C.), P-E/F N.O with Load Sense and P-F/F N.C. with Load Sense.

The pump stroke will respond to changes in the electrical command signal sent to the EDC proportional valve, provided that the pressure is below the mechanical override setting. The command signal can be changed in response to external events such as a change in engine RPM, system pressure, horsepower or other externally monitored condition (on graphs below). If the pressure reaches the override setting, the mechanical control overrides the electrical command signal and de-strokes the pump (2). If the pressure drops back below the setpoint the pump stroke returns to the level set by the proportional command (3).

**Normally Open P-E Control** - An increase in the command to the proportional valve results in a decrease in pump stroke. Zero command equals Full Stroke provided the outlet pressure is less than the pressure override setting. In the event of a loss of the electrical signal, the P-E control will operate as a standard pressure control.

**Normally Closed P-F Control** - An increase in the command to the proportional valve results in an increase in pump stroke. With Zero command the pump will remain at Neutral.
WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
82 LBS [37KG] FOR SIDE PORT VERSION  
87 LBS [40KG] FOR THRU SHAFT VERSION  

OPTIONAL MAXIMUM VOLUME STOP  
.250" INTERNAL HEX  
1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

PRESSURE COMPENSATOR ADJUSTMENT  
.188" INTERNAL HEX  
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)  
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065  
200 TO 3750 PSI (14 TO 260 BAR) FOR 075  
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE  

LIFTING HOLE  
.375-16 UNF-2B THD.  

WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
82 LBS [37KG] FOR SIDE PORT VERSION  
87 LBS [40KG] FOR THRU SHAFT VERSION  

OPTIONAL MAXIMUM VOLUME STOP  
.250" INTERNAL HEX  
1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

PRESSURE COMPENSATOR ADJUSTMENT  
.188" INTERNAL HEX  
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)  
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065  
200 TO 3750 PSI (14 TO 260 BAR) FOR 075  
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE  

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.375-16 UNF-2B THD.  

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87 LBS [40KG] FOR THRU SHAFT VERSION  

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RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

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.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

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LIFTING HOLE  
.375-16 UNF-2B THD.  

WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
82 LBS [37KG] FOR SIDE PORT VERSION  
87 LBS [40KG] FOR THRU SHAFT VERSION  

OPTIONAL MAXIMUM VOLUME STOP  
.250" INTERNAL HEX  
1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

PRESSURE COMPENSATOR ADJUSTMENT  
.188" INTERNAL HEX  
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)  
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065  
200 TO 3750 PSI (14 TO 260 BAR) FOR 075  
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE  

LIFTING HOLE  
.375-16 UNF-2B THD.  

WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
82 LBS [37KG] FOR SIDE PORT VERSION  
87 LBS [40KG] FOR THRU SHAFT VERSION  

OPTIONAL MAXIMUM VOLUME STOP  
.250" INTERNAL HEX  
1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

PRESSURE COMPENSATOR ADJUSTMENT  
.188" INTERNAL HEX  
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)  
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065  
200 TO 3750 PSI (14 TO 260 BAR) FOR 075  
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE  

LIFTING HOLE  
.375-16 UNF-2B THD.  

WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
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87 LBS [40KG] FOR THRU SHAFT VERSION  

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1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

PRESSURE COMPENSATOR ADJUSTMENT  
.188" INTERNAL HEX  
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)  
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065  
200 TO 3750 PSI (14 TO 260 BAR) FOR 075  
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE  

LIFTING HOLE  
.375-16 UNF-2B THD.  

WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
82 LBS [37KG] FOR SIDE PORT VERSION  
87 LBS [40KG] FOR THRU SHAFT VERSION  

OPTIONAL MAXIMUM VOLUME STOP  
.250" INTERNAL HEX  
1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)  

PRESSURE COMPENSATOR ADJUSTMENT  
.188" INTERNAL HEX  
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)  
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065  
200 TO 3750 PSI (14 TO 260 BAR) FOR 075  
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE  

LIFTING HOLE  
.375-16 UNF-2B THD.  

WEIGHT:  
79 LBS [36KG] FOR REAR PORT VERSION SHOWN  
82 LBS [37KG] FOR SIDE PORT VERSION  
87 LBS [40KG] FOR THRU SHAFT VERSION  

OPTIONAL MAXIMUM VOLUME STOP  
.250" INTERNAL HEX  
1 TURN CW DECREASES DELIVERY 8%  
RANGE 100% TO 0%  
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE  

REMOTE PILOT PORT "RP1"  
#4 SAE STR. THD. PORT  
.438-20 UNF-2B THD.  
(SHOWN PLUGGED)
WEIGHT:
79 LBS [36KG] FOR REAR PORT VERSION SHOWN
82 LBS [37KG] FOR SIDE PORT VERSION
87 LBS [40KG] FOR THRU SHAFT VERSION

For pump dimensions and specifications see Bulletin 47019
**Installation Drawing P-F Industrial**

**Technical Reference Bulletin 47619**

For pump dimensions and specifications see Bulletin 47019

Weight:
- 82 LBS [37KG] for Rear Port Version shown
- 85 LBS [39KG] for Side Port Version
- 90 LBS [41KG] for Thru Shaft Version

Optional Maximum Volume Stop
- .250" INTERNAL HEX
- 1 TURN CW DECREASES DELIVERY 8%
- RANGE 100% TO 0%
- FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE

Remote Pilot Port "RP1"
- #4 SAE STR. THD. PORT
- A38-20 UNF-2B THD.
- (SHOWN PLUGGED)

Pressure Compensator Adjustment
- .188" INTERNAL HEX
- 1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)
- RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065
  200 TO 3750 PSI (14 TO 260 BAR) FOR 075
- FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE

Lifting Hole
- .375-16 UNF-2B THD.

For pump dimensions and specifications see Bulletin 47019
**Installation Drawing P-F Mobile**

**Weight:**
- 82 LBS [37KG] FOR REAR PORT VERSION SHOWN
- 85 LBS [39KG] FOR SIDE PORT VERSION
- 90 LBS [41KG] FOR THRU SHAFT VERSION

**Remote Pilot Port “RP1”**
- #4 SAE STR. THD. PORT
- .438-20 UNF-2B THD. (SHOWN PLUGGED)

**Hydraulic Circuit**

**Pressure Compensator Adjustment**
- .188" Internal Hex
- 1 Turn CW decreases delivery 8%
- Range: 100% to 0%
- Factory set at maximum volume unless specified otherwise

**Optional Maximum Volume Stop**
- .250" Internal Hex
- 1 Turn CW decreases delivery 8%
- Range: 100% to 0%
- Factory set at maximum volume unless specified otherwise

**Lifting Hole**
- .375-16 UNF-2B Thd.

**Weight:**
- 82 LBS [37KG] FOR REAR PORT VERSION SHOWN
- 85 LBS [39KG] FOR SIDE PORT VERSION
- 90 LBS [41KG] FOR THRU SHAFT VERSION

For pump dimensions and specifications see Bulletin 47019
2.93
3.26
5.35
7.29
WEIGHT:
81 LBS [37KG] FOR REAR PORT VERSION SHOWN
84 LBS [38KG ] FOR SIDE PORT VERSION
89 LBS [40KG] FOR THRU SHAFT VERSION

WEIGHT:
81 LBS [37KG] FOR REAR PORT VERSION SHOWN
84 LBS [38KG ] FOR SIDE PORT VERSION
89 LBS [40KG] FOR THRU SHAFT VERSION

PRESSURE COMPENSATOR ADJUSTMENT
.188” INTERNAL HEX
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065
200 TO 3750 PSI (14 TO 260 BAR) FOR 075
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE

LOAD SENSE ADJUSTER
.188” INTERNAL HEX
1 TURN CW INCREASES SETTING 42 PSI (3 BAR)
RANGE: 200 TO 600 PSI (14 TO 43 BAR)
FACTORY SET AT MINIMUM UNLESS OTHERWISE SPECIFIED

LOAD SENSE PORT
#6 SAE STR. THD. PORT
.562-18 UNF-2B THD.

REMOTE PILOT PORT "RP1"
#4 SAE STR. THD. PORT
.A38-20 UNF-2B THD.
(SHOWN PLUGGED)

HYDRAULIC CIRCUIT

LIFTING HOLE
.375-16 UNF-2B THD.

OPTIONAL MAXIMUM VOLUME STOP
.250” INTERNAL HEX
1 TURN CW DECREASES DELIVERY 8%
RANGE 100% TO 0%
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE

LIFTING HOLE
.375-16 UNF-2B THD.

REMOTE PILOT PORT "RP1"
#4 SAE STR. THD. PORT
.562-18 UNF-2B THD.

LOAD SENSE PORT
#6 SAE STR. THD. PORT
.562-18 UNF-2B THD.

For pump dimensions and specifications see Bulletin 47019
WEIGHT:
81 LBS [37KG] FOR REAR PORT VERSION SHOWN
84 LBS [38KG] FOR SIDE PORT VERSION
89 LBS [40KG] FOR THRU SHAFT VERSION

PRESSURE COMPENSATOR ADJUSTMENT
.188" INTERNAL HEX
1 TURN CW INCREASES SETTING 1160 PSI (80 BAR)
RANGE: 200 TO 5000 PSI (14 TO 345 BAR) FOR 048 AND 065
200 TO 3750 PSI (14 TO 260 BAR) FOR 075
FACTORY SET AT MINIMUM UNLESS SPECIFIED OTHERWISE

LOAD SENSE ADJUSTER
.188" INTERNAL HEX
1 TURN CW INCREASES SETTING 42 PSI (3 BAR)
RANGE: 200 TO 600 PSI (14 TO 43 BAR)
FACTORY SET AT MINIMUM UNLESS OTHERWISE SPECIFIED

LOAD SENSE PORT
#6 SAE STR. THD. PORT
.562-18 UNF-2B THD.

REMOTE PILOT PORT "RP1"
#4 SAE STR. THD. PORT
.438-20 UNF-2B THD.
(SHOWN PLUGGED)

OPTIONAL MAXIMUM VOLUME STOP
.250" INTERNAL HEX
1 TURN CW DECREASES DELIVERY 8%
RANGE: 100% TO 0%
FACTORY SET AT MAXIMUM VOLUME UNLESS SPECIFIED OTHERWISE

LIFTING HOLE
.375-16 UNF-2B THD.

For pump dimensions and specifications see Bulletin 47019
For pump dimensions and specifications see Bulletin 47019
For pump dimensions and specifications see Bulletin 47019
Cross Section P-F/F
All of the items shown in this view are included in Item 351D which is part of the proportional control valve service kit.
## O-Ring Seals

### Item Number | AS 568A Number | Shore A Durometer | Viton
---|---|---|---
313 | -243 | 70 | 
313 | -243 | 90 | 
331 | -014 | 90 | 
333 | -021 | 90 | 
334 | -028 | 90 | 
335 | -035 | 90 | 
336 | -036 | 90 | 
337 | -042 | 90 | 
338 | -043 | 90 | 
358 | -010 | 90 | 
359 | -016 | 90 | 

* Load Sense Only

### Item Number | AS 568A Number | Shore A Durometer | Viton
---|---|---|---
360 | -906 | 90 | 
361 | -912 | 90 | 
362 | -016 | 90 | 
356D | -902 | 90 | 
357D | -904 | 90 | 
358D | -908 | 90 | 
359D | -132 | 70 | 
360D | -013 | 90 | 
361D | -015 | 90 | 
394C | -014 | 90 | 
395C | -912 | 90 | 
396C | -014 | 90 | 

* Teflon Backup Ring

### Screw and Plug Torques

<table>
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<th>Description</th>
<th>Head Size / Type</th>
<th>Tightening Torque</th>
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<tr>
<td>306</td>
<td>PLUG, END</td>
<td>7/8” external</td>
<td>50 ft-lb (68 Nm)</td>
</tr>
<tr>
<td>308</td>
<td>SEAT</td>
<td>7/16” external</td>
<td>200 in-lb (23 Nm)</td>
</tr>
<tr>
<td>309</td>
<td>BONNET, PRESSURE COMPENSATOR</td>
<td>1” external</td>
<td>80 ft-lb (108 Nm)</td>
</tr>
<tr>
<td>315</td>
<td>SCREW, SHC, 5/16-18 UNC 3.75 Long</td>
<td>1/4” internal</td>
<td>30 ft-lb (41 Nm)</td>
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<tr>
<td>316</td>
<td>SCREW, SHC, .7/16-14 UNC 2.50 Long</td>
<td>3/8” internal</td>
<td>65 ft-lb (88 Nm)</td>
</tr>
<tr>
<td>316A</td>
<td>SCREW, SHC, 7/16-14 UNC 1.25 Long</td>
<td>3/8” internal</td>
<td>65 ft-lb (88 Nm)</td>
</tr>
<tr>
<td>319</td>
<td>PLUG, .062 NPTF</td>
<td>5/32” internal</td>
<td>48 in-lb (5 Nm)</td>
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<tr>
<td>321</td>
<td>PLUG, #4 HP</td>
<td>3/16” internal</td>
<td>120 in-lb (14 Nm)</td>
</tr>
<tr>
<td>322</td>
<td>PLUG, END, COMPENSATOR VALVE</td>
<td>7/8” external</td>
<td>50 ft-lb (68 Nm)</td>
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<td>323</td>
<td>PLUG, #12 HP</td>
<td>9/16” internal</td>
<td>85 ft-lb (115 Nm)</td>
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<tr>
<td>325</td>
<td>ORIFICE, .062 NPTF</td>
<td>5/32” internal</td>
<td>48 in-lb (5 Nm)</td>
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<tr>
<td>344</td>
<td>ORIFICE, .062 NPTF</td>
<td>5/32” internal</td>
<td>48 in-lb (5 Nm)</td>
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<tr>
<td>351</td>
<td>BONNET, LOAD SENSE</td>
<td>1 1/4” external</td>
<td>85 ft-lb (115 Nm)</td>
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<tr>
<td>354</td>
<td>SEAT, LOAD SENSE</td>
<td>5/8” external</td>
<td>70 in-lb (8 Nm)</td>
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<tr>
<td>356</td>
<td>SCREW, SHC #10-24 1.50 Long</td>
<td>5/32” internal</td>
<td>57 in-lb (6 Nm)</td>
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<tr>
<td>364</td>
<td>SCREW, CPS #10-24 0.19 Long</td>
<td>5/32” internal</td>
<td>20 in-lb (2 Nm)</td>
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<tr>
<td>391C</td>
<td>BONNET, MAX. VOL. STOP</td>
<td>1 1/4” external</td>
<td>85 ft-lb (115 Nm)</td>
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<tr>
<td>351D</td>
<td>SCREW, SHC #10-24 0.50 Long</td>
<td>5/32” internal</td>
<td>57 in-lb (6 Nm)</td>
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<td></td>
<td>ASM, SOLENOID CONTROL</td>
<td>5/8” external</td>
<td>15 ft-lb (20 Nm)</td>
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<td>353D</td>
<td>PLUG, #2 HP</td>
<td>1/8” internal</td>
<td>45 in-lb (5 Nm)</td>
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<tr>
<td>354D</td>
<td>PLUG, #4 HP</td>
<td>3/16” internal</td>
<td>120 in-lb (14 Nm)</td>
</tr>
<tr>
<td>355D</td>
<td>PLUG, #8 HP</td>
<td>5/16” internal</td>
<td>45 ft-lb (61 Nm)</td>
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<tr>
<td>362D</td>
<td>ORIFICE, .062 NPTF</td>
<td>5/32” internal</td>
<td>48 in-lb (5 Nm)</td>
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Control Valve Exploded View
* Item 18
** Item 19
<table>
<thead>
<tr>
<th>Description</th>
<th>Kit No.</th>
<th>Series</th>
<th>Items Included (quantity is 1 unless noted)</th>
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<tbody>
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<td><strong>Control Piston and Spring</strong></td>
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<td>N.O. P-E, P-E/F</td>
<td>L723987-004</td>
<td>F1</td>
<td>302, 303, 329</td>
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<td>N.C. P-F, P-F/F</td>
<td>L723987-005</td>
<td>F1</td>
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<td><strong>Pressure Compensator Relief</strong></td>
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<td>P-E, P-F, P-E/F, P-F/F</td>
<td>L723987-101</td>
<td>F1</td>
<td>307, 308, 312(4), 327, 333</td>
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<td><strong>Load Sense / Pressure Compensator Relief</strong></td>
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<td><strong>Pressure Compensator Spool</strong></td>
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<td>P-E, P-F, P-E/F, P-F/F</td>
<td>L723987-202</td>
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<td><strong>Pressure Compensator Adjustor</strong></td>
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<td>L300574HS07</td>
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<td><strong>Pressure Compensator Adjustor</strong></td>
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<td>P-E/F, P-F/F</td>
<td>L318966-002</td>
<td>F1</td>
<td>351, 352, 359, 361, 362, 365</td>
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<td><strong>Adjustable Maximum Volume Stop</strong></td>
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<td>P-E, P-F, P-E/F, P-F/F</td>
<td>L516319-001</td>
<td>F1</td>
<td>391C, 392C, 393C, 394C, 395C, 396C</td>
</tr>
<tr>
<td><strong>Control Seal Kit</strong></td>
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<td></td>
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<tr>
<td><strong>End Cap Assembly</strong></td>
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<tr>
<td><strong>Proportional Control Valve Assembly</strong></td>
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</tr>
<tr>
<td>P-E, P-E/F - 13V Mobile</td>
<td>L520342-304</td>
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<tr>
<td>P-E, P-E/F - 27V Mobile</td>
<td>L520342-305</td>
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<td></td>
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<tr>
<td>P-F, P-F/F - 24V Industrial</td>
<td>L520342-306</td>
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<tr>
<td>P-F, P-F/F - 13V Mobile</td>
<td>L520342-307</td>
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<tr>
<td>P-F, P-F/F - 27V Mobile</td>
<td>L520342-308</td>
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<tr>
<td><strong>Proportional Amplifier</strong></td>
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<tr>
<td>P-E, P-F, P-E/F, P-F/F - 24V Industrial</td>
<td>407932-902</td>
<td>F1</td>
<td>020</td>
</tr>
<tr>
<td>P-E, P-F, P-E/F, P-F/F - 13V and 27V Mobile</td>
<td></td>
<td>F1</td>
<td></td>
</tr>
</tbody>
</table>
**Amplifier Connections-Industrial Coil Only**

- **A**: 0 Volt Supply
- **B**: 24 Volt Supply
- **C**: Signal 0 Volt
- **D**: 3 to 8 Volt Command*
- **E**: Unused
- **F**: Unused

*For use with 4-20mA command source, install a 500Ω resistor between terminals C and D. Functional command range would be 6mA - 16mA (3 to 8 volt).

Signal 0V and Supply 0V are internally linked. If 0 Volt signals are linked outside of connector use only 0 Volt supply terminal.

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**Solenoid Connections**

**Mobile Solenoid Connector**

1. + Signal
2. 0V Signal

Mating connector for Mobile Solenoid: Deutsch DT04-2P

**Industrial Solenoid Connector**

Mating connector for Industrial Solenoid: Hirschmann GDM 209

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**Specifications**

<table>
<thead>
<tr>
<th></th>
<th><strong>Industrial 24V</strong></th>
<th><strong>Mobile 24V</strong></th>
<th><strong>Mobile 12V</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>24 Volt DC +0.5V</td>
<td>27 Volt DC</td>
<td>13 Volt DC</td>
</tr>
<tr>
<td></td>
<td>fused at 1.5 A</td>
<td>fused at 1.5 A</td>
<td>fused at 2.5 A</td>
</tr>
<tr>
<td><strong>Control Signal</strong></td>
<td>3 to 8 VDC = 100%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>to 0% stroke</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><em>PWM</em> Switching Frequency</em>*</td>
<td>150 Hz</td>
<td>180 Hz</td>
<td>180 Hz</td>
</tr>
<tr>
<td><strong>Maximum Continuous Current</strong></td>
<td>1 A</td>
<td>1 A</td>
<td>2 A</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>-5°C to 70°C</td>
<td>-5°C to 70°C</td>
<td>-5°C to 70°C</td>
</tr>
<tr>
<td><strong>Nominal Coil Resistance</strong></td>
<td>24 Ω</td>
<td>28 Ω</td>
<td>7 Ω</td>
</tr>
</tbody>
</table>

* Pulse Width Modulated
PWM Examples

Industrial

PWM: 75% On 25% Off

Mobile

PWM: 50% On 50% Off

PWM: 25% On 75% Off