

BY JOHNSON CONTROLS

Q1120561  
Devon Ferrier - Battery Gas Compressor

G3606LE SGC-3524 #1  
Enerflex Energy Systems, Inc. - Bruce Hock  
Version **8.2.0**

Date **11/09/2012**  
Atmospheric **13.0 psi**  
Elevation **3380 ft**

### COMPRESSOR

Model **SGCB 3524**  
Vi Control **Variable Vi**  
Disc Port **Oversized**  
Rotors **Standard**  
Bearings **Standard**  
Casing **Gray Iron**

### PERFORMANCE

Shaft Power **1550.1 hp**  
Suction Flow **100.0 %**  
Slide Valve Pos **100.0 %**  
Speed **100.0 %**  
Speed **3612 rpm**  
Volumetric Eff **94.1 %**  
Adiabatic Eff **79.8 %**

### CONDITIONS

Comp Ratio **2.85**  
Ideal Vi **2.26**  
Actual Vi **2.26**  
Disc Port **6.1 %**  
Disc DewPoint **57.0 °F**  
Bearing Oil Req **6.9 cSt**

### UPSTREAM

Flow **25.352 MMSCFD**  
Flow **1029.9 lbm/min**  
Temperature **39.6 °F**  
Pressure **29.0 psig**  
Line Pres Drop **2.0 psi**

### DOWNSTREAM

Flow **25.352 MMSCFD**  
Flow **1029.9 lbm/min**  
Temperature **109.4 °F**  
Pressure **87.0 psig**  
Line Pres Drop **14.0 psi**  
Aftercooler HR **1834.6 kbtu/hr**

### SIDE

### COMPRESSOR

Suction Temp **39.6 °F**  
Suction Pres **27.0 psig**  
Discharge Temp **167.4 °F**  
Discharge Pres **101.0 psig**  
Suction Flow **6128 cfm**  
Discharge Flow **2685 cfm**

### OIL SYSTEM

Oil **CP-1005-100**  
Supply Temp **160.0 °F**  
Heat Reject **229 kbtu/hr**  
Bearing Flow **20.8 gpm**  
Main Inj Flow **115.6 gpm**  
Total Oil Flow **136.4 gpm**

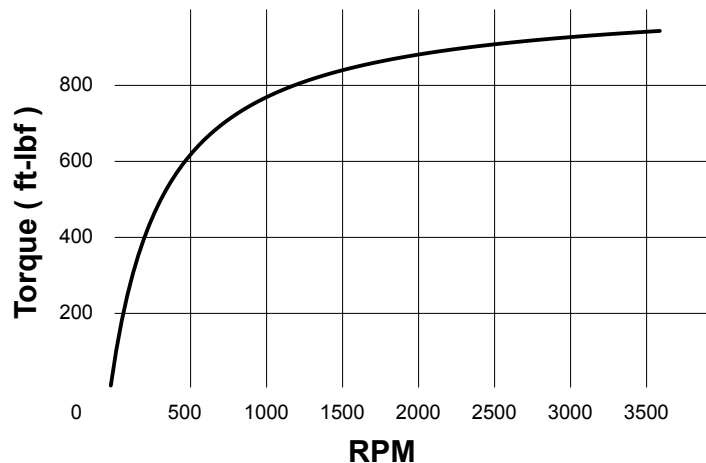
### OIL SYSTEM

Main Inj Valve **2.00 in**  
Valve Open **100.0 %**  
Main Inj Orifice **0.709 in**  
Pump Piping **All Oil**  
Pump Boost **40.0 psi**  
System dP **15.0 psi**  
Bal Piston dP **0.0 psi**

### FLUID

	Mole	Mass
<b>Methane</b>	<b>76.05</b>	<b>54.97</b>
<b>Ethane</b>	<b>10.73</b>	<b>14.53</b>
<b>Propane</b>	<b>6.94</b>	<b>13.78</b>
<b>n-Butane</b>	<b>2.20</b>	<b>5.76</b>
<b>Isobutane</b>	<b>0.97</b>	<b>2.54</b>
<b>n-Pentane</b>	<b>0.54</b>	<b>1.75</b>
<b>Isopentane</b>	<b>0.59</b>	<b>1.92</b>
<b>n-Hexane</b>	<b>0.33</b>	<b>1.28</b>
<b>n-Heptane</b>	<b>0.27</b>	<b>1.22</b>
<b>Nitrogen</b>	<b>0.41</b>	<b>0.52</b>
<b>Water</b>	<b>0.17</b>	<b>0.14</b>
<b>Carbon Dioxide</b>	<b>0.80</b>	<b>1.59</b>

### STARTING TORQUE



### WARNINGS

BY JOHNSON CONTROLS

Q1120561  
Devon Ferrier - Battery Gas Compressor

G3606LE SGC-3524 #2  
Enerflex Energy Systems, Inc. - Bruce Hock  
Version **8.2.0**

Date **11/09/2012**  
Atmospheric **13.0 psi**  
Elevation **3380 ft**

### COMPRESSOR

Model **SGCB 3524**  
Vi Control **Variable Vi**  
Disc Port **Oversized**  
Rotors **Standard**  
Bearings **Standard**  
Casing **Gray Iron**

### PERFORMANCE

Shaft Power **1391.8 hp**  
Suction Flow **100.0 %**  
Slide Valve Pos **100.0 %**  
Speed **100.0 %**  
Speed **3612 rpm**  
Volumetric Eff **95.2 %**  
Adiabatic Eff **85.7 %**

### CONDITIONS

Comp Ratio **2.21**  
Ideal Vi **1.82**  
Actual Vi **1.82**  
Disc Port **11.3 %**  
Disc DewPoint **57.0 °F**  
Bearing Oil Req **6.9 cSt**

### UPSTREAM

Flow **33.226 MMSCFD**  
Flow **1349.8 lbm/min**  
Temperature **39.6 °F**  
Pressure **40.6 psig**  
Line Pres Drop **2.0 psi**

### DOWNSTREAM

Flow **33.226 MMSCFD**  
Flow **1349.8 lbm/min**  
Temperature **109.4 °F**  
Pressure **87.0 psig**  
Line Pres Drop **14.0 psi**  
Aftercooler HR **1032.7 kbtu/hr**

### SIDE

### COMPRESSOR

Suction Temp **39.6 °F**  
Suction Pres **38.6 psig**  
Discharge Temp **134.6 °F**  
Discharge Pres **101.0 psig**  
Suction Flow **6199 cfm**  
Discharge Flow **3322 cfm**

### OIL SYSTEM

Oil **CP-1005-100**  
Supply Temp **134.6 °F**  
Heat Reject **0 kbtu/hr**  
Bearing Flow **11.9 gpm**  
Main Inj Flow **101.3 gpm**  
Total Oil Flow **113.2 gpm**

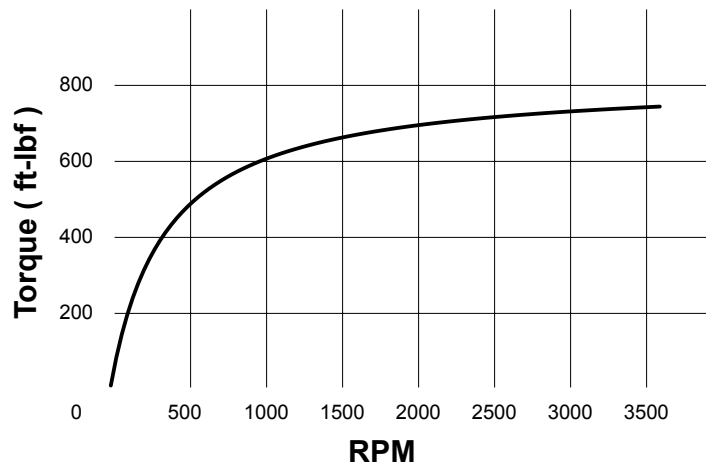
### OIL SYSTEM

Main Inj Valve **2.00 in**  
Valve Open **100.0 %**  
Main Inj Orifice **0.709 in**  
Pump Piping **All Oil**  
Pump Boost **40.0 psi**  
System dP **15.0 psi**  
Bal Piston dP **0.0 psi**

### FLUID

	Mole	Mass
<b>Methane</b>	<b>76.05</b>	<b>54.97</b>
<b>Ethane</b>	<b>10.73</b>	<b>14.53</b>
<b>Propane</b>	<b>6.94</b>	<b>13.78</b>
<b>n-Butane</b>	<b>2.20</b>	<b>5.76</b>
<b>Isobutane</b>	<b>0.97</b>	<b>2.54</b>
<b>n-Pentane</b>	<b>0.54</b>	<b>1.75</b>
<b>Isopentane</b>	<b>0.59</b>	<b>1.92</b>
<b>n-Hexane</b>	<b>0.33</b>	<b>1.28</b>
<b>n-Heptane</b>	<b>0.27</b>	<b>1.22</b>
<b>Nitrogen</b>	<b>0.41</b>	<b>0.52</b>
<b>Water</b>	<b>0.17</b>	<b>0.14</b>
<b>Carbon Dioxide</b>	<b>0.80</b>	<b>1.59</b>

### STARTING TORQUE



### WARNINGS

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G3606LE SGC-3524 #3  
Enerflex Energy Systems, Inc. - Bruce Hock  
Version **8.2.0**

Date **11/09/2012**  
Atmospheric **13.0 psi**  
Elevation **3380 ft**

**COMPRESSOR**

Model **SGCB 3524**  
Vi Control **Variable Vi**  
Disc Port **Oversized**  
Rotors **Standard**  
Bearings **Standard**  
Casing **Gray Iron**

**PERFORMANCE**

Shaft Power **1197.8 hp**  
Suction Flow **97.3 %**  
Slide Valve Pos **97.9 %**  
Speed **100.0 %**  
Speed **3612 rpm**  
Volumetric Eff **93.7 %**  
Adiabatic Eff **85.1 %**

**CONDITIONS**

Comp Ratio **1.70**  
Ideal Vi **1.47**  
Actual Vi **1.70**  
Disc Port **23.3 %**  
Disc DewPoint **57.9 °F**  
Bearing Oil Req **6.9 cSt**

**UPSTREAM**

Flow **44.000 MMSCFD**  
Flow **1787.5 lbm/min**  
Temperature **39.6 °F**  
Pressure **58.0 psig**  
Line Pres Drop **2.0 psi**

**DOWNSTREAM**

Flow **44.000 MMSCFD**  
Flow **1787.5 lbm/min**  
Temperature **102.9 °F**  
Pressure **90.0 psig**  
Line Pres Drop **14.0 psi**  
Aftercooler HR **0.0 kbtu/hr**

**SIDE**

**COMPRESSOR**

Suction Temp **39.6 °F**  
Suction Pres **56.0 psig**  
Discharge Temp **102.9 °F**  
Discharge Pres **104.0 psig**  
Suction Flow **6100 cfm**  
Discharge Flow **4036 cfm**

**OIL SYSTEM**

Oil **CP-1005-100**  
Supply Temp **102.9 °F**  
Heat Reject **0 kbtu/hr**  
Bearing Flow **5.6 gpm**  
Main Inj Flow **81.9 gpm**  
Total Oil Flow **87.6 gpm**

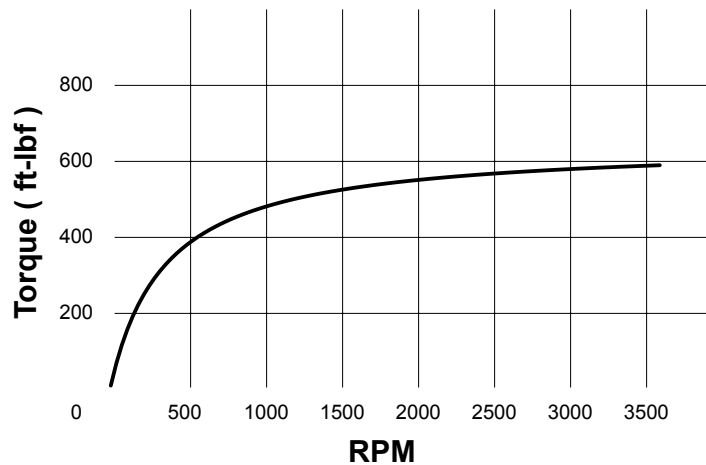
**OIL SYSTEM**

Main Inj Valve **2.00 in**  
Valve Open **100.0 %**  
Main Inj Orifice **0.709 in**  
Pump Piping **All Oil**  
Pump Boost **40.0 psi**  
System dP **15.0 psi**  
Bal Piston dP **0.0 psi**

**FLUID**

	Mole	Mass
<b>Methane</b>	<b>76.05</b>	<b>54.97</b>
<b>Ethane</b>	<b>10.73</b>	<b>14.53</b>
<b>Propane</b>	<b>6.94</b>	<b>13.78</b>
<b>n-Butane</b>	<b>2.20</b>	<b>5.76</b>
<b>Isobutane</b>	<b>0.97</b>	<b>2.54</b>
<b>n-Pentane</b>	<b>0.54</b>	<b>1.75</b>
<b>Isopentane</b>	<b>0.59</b>	<b>1.92</b>
<b>n-Hexane</b>	<b>0.33</b>	<b>1.28</b>
<b>n-Heptane</b>	<b>0.27</b>	<b>1.22</b>
<b>Nitrogen</b>	<b>0.41</b>	<b>0.52</b>
<b>Water</b>	<b>0.17</b>	<b>0.14</b>
<b>Carbon Dioxide</b>	<b>0.80</b>	<b>1.59</b>

**STARTING TORQUE**



**WARNINGS**

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G3606LE SGC-3524 #4  
Enerflex Energy Systems, Inc. - Bruce Hock  
Version **8.2.0**

Date **11/09/2012**  
Atmospheric **13.0 psi**  
Elevation **3380 ft**

### COMPRESSOR

Model **SGCB 3524**  
Vi Control **Variable Vi**  
Disc Port **Oversized**  
Rotors **Standard**  
Bearings **Standard**  
Casing **Gray Iron**

### PERFORMANCE

Shaft Power **1775.0 hp**  
Suction Flow **89.2 %**  
Slide Valve Pos **92.2 %**  
Speed **100.0 %**  
Speed **3612 rpm**  
Volumetric Eff **83.0 %**  
Adiabatic Eff **76.4 %**

### CONDITIONS

Comp Ratio **3.58**  
Ideal Vi **2.77**  
Actual Vi **2.77**  
Disc Port **3.7 %**  
Disc DewPoint **64.6 °F**  
Bearing Oil Req **6.9 cSt**

### UPSTREAM

Flow **22.366 MMSCFD**  
Flow **908.6 lbm/min**  
Temperature **39.6 °F**  
Pressure **29.0 psig**  
Line Pres Drop **2.0 psi**

### DOWNSTREAM

Flow **22.366 MMSCFD**  
Flow **908.6 lbm/min**  
Temperature **109.4 °F**  
Pressure **116.0 psig**  
Line Pres Drop **14.0 psi**  
Aftercooler HR **2062.6 kbtu/hr**

### SIDE

### COMPRESSOR

Suction Temp **39.6 °F**  
Suction Pres **27.0 psig**  
Discharge Temp **182.4 °F**  
Discharge Pres **130.0 psig**  
Suction Flow **5406 cfm**  
Discharge Flow **1928 cfm**

### OIL SYSTEM

Oil **CP-1005-100**  
Supply Temp **160.0 °F**  
Heat Reject **856 kbtu/hr**  
Bearing Flow **26.3 gpm**  
Main Inj Flow **140.7 gpm**  
Total Oil Flow **167.0 gpm**

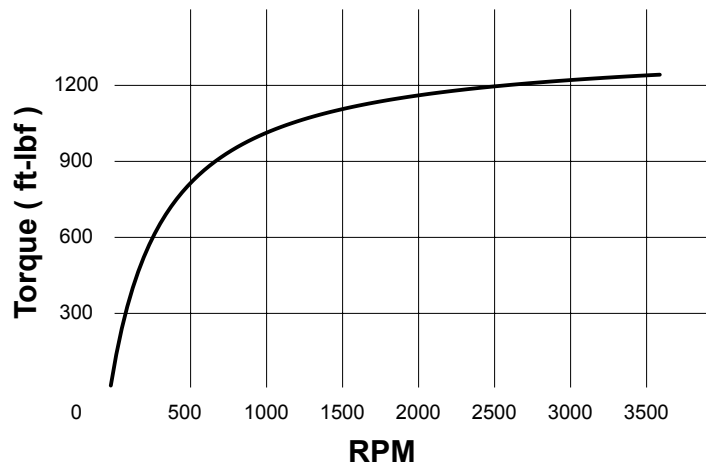
### OIL SYSTEM

Main Inj Valve **2.00 in**  
Valve Open **100.0 %**  
Main Inj Orifice **0.709 in**  
Pump Piping **All Oil**  
Pump Boost **40.0 psi**  
System dP **15.0 psi**  
Bal Piston dP **0.0 psi**

### FLUID

	Mole	Mass
<b>Methane</b>	<b>76.05</b>	<b>54.97</b>
<b>Ethane</b>	<b>10.73</b>	<b>14.53</b>
<b>Propane</b>	<b>6.94</b>	<b>13.78</b>
<b>n-Butane</b>	<b>2.20</b>	<b>5.76</b>
<b>Isobutane</b>	<b>0.97</b>	<b>2.54</b>
<b>n-Pentane</b>	<b>0.54</b>	<b>1.75</b>
<b>Isopentane</b>	<b>0.59</b>	<b>1.92</b>
<b>n-Hexane</b>	<b>0.33</b>	<b>1.28</b>
<b>n-Heptane</b>	<b>0.27</b>	<b>1.22</b>
<b>Nitrogen</b>	<b>0.41</b>	<b>0.52</b>
<b>Water</b>	<b>0.17</b>	<b>0.14</b>
<b>Carbon Dioxide</b>	<b>0.80</b>	<b>1.59</b>

### STARTING TORQUE



### WARNINGS

Q1120561  
Devon Ferrier - Battery Gas Compressor

G3606LE SGC-3524 #5  
Enerflex Energy Systems, Inc. - Bruce Hock  
Version **8.2.0**

Date **11/09/2012**  
Atmospheric **13.0 psi**  
Elevation **3380 ft**

### COMPRESSOR

Model **SGCB 3524**  
Vi Control **Variable Vi**  
Disc Port **Oversized**  
Rotors **Standard**  
Bearings **Standard**  
Casing **Gray Iron**

### PERFORMANCE

Shaft Power **1695.0 hp**  
Suction Flow **86.3 %**  
Slide Valve Pos **89.4 %**  
Speed **100.0 %**  
Speed **3612 rpm**  
Volumetric Eff **81.0 %**  
Adiabatic Eff **78.6 %**

### CONDITIONS

Comp Ratio **2.77**  
Ideal Vi **2.20**  
Actual Vi **2.20**  
Disc Port **6.8 %**  
Disc DewPoint **64.6 °F**  
Bearing Oil Req **6.9 cSt**

### UPSTREAM

Flow **28.269 MMSCFD**  
Flow **1148.4 lbm/min**  
Temperature **39.6 °F**  
Pressure **40.6 psig**  
Line Pres Drop **2.0 psi**

### DOWNSTREAM

Flow **28.269 MMSCFD**  
Flow **1148.4 lbm/min**  
Temperature **109.4 °F**  
Pressure **116.0 psig**  
Line Pres Drop **14.0 psi**  
Aftercooler HR **2024.9 kbtu/hr**

### SIDE

### COMPRESSOR

Suction Temp **39.6 °F**  
Suction Pres **38.6 psig**  
Discharge Temp **166.5 °F**  
Discharge Pres **130.0 psig**  
Suction Flow **5274 cfm**  
Discharge Flow **2371 cfm**

### OIL SYSTEM

Oil **CP-1005-100**  
Supply Temp **160.0 °F**  
Heat Reject **231 kbtu/hr**  
Bearing Flow **24.1 gpm**  
Main Inj Flow **132.6 gpm**  
Total Oil Flow **156.6 gpm**

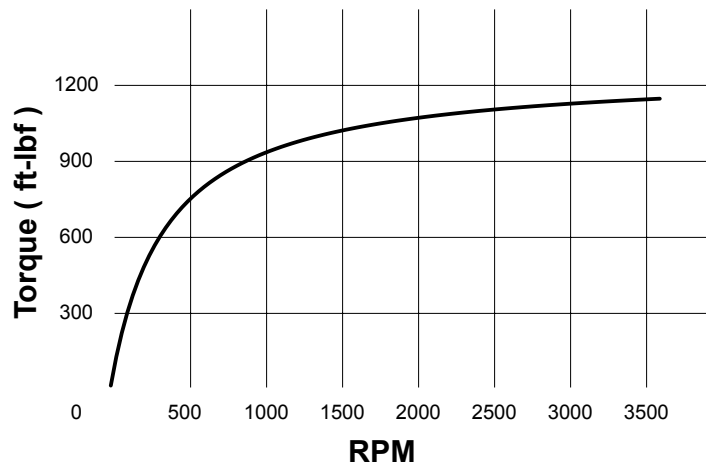
### OIL SYSTEM

Main Inj Valve **2.00 in**  
Valve Open **100.0 %**  
Main Inj Orifice **0.709 in**  
Pump Piping **All Oil**  
Pump Boost **40.0 psi**  
System dP **15.0 psi**  
Bal Piston dP **0.0 psi**

### FLUID

	Mole	Mass
<b>Methane</b>	<b>76.05</b>	<b>54.97</b>
<b>Ethane</b>	<b>10.73</b>	<b>14.53</b>
<b>Propane</b>	<b>6.94</b>	<b>13.78</b>
<b>n-Butane</b>	<b>2.20</b>	<b>5.76</b>
<b>Isobutane</b>	<b>0.97</b>	<b>2.54</b>
<b>n-Pentane</b>	<b>0.54</b>	<b>1.75</b>
<b>Isopentane</b>	<b>0.59</b>	<b>1.92</b>
<b>n-Hexane</b>	<b>0.33</b>	<b>1.28</b>
<b>n-Heptane</b>	<b>0.27</b>	<b>1.22</b>
<b>Nitrogen</b>	<b>0.41</b>	<b>0.52</b>
<b>Water</b>	<b>0.17</b>	<b>0.14</b>
<b>Carbon Dioxide</b>	<b>0.80</b>	<b>1.59</b>

### STARTING TORQUE



### WARNINGS

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Devon Ferrier - Battery Gas Compressor

G3606LE SGC-3524 #6  
Enerflex Energy Systems, Inc. - Bruce Hock  
Version **8.2.0**

Date **11/09/2012**  
Atmospheric **13.0 psi**  
Elevation **3380 ft**

### COMPRESSOR

Model **SGCB 3524**  
Vi Control **Variable Vi**  
Disc Port **Oversized**  
Rotors **Standard**  
Bearings **Standard**  
Casing **Gray Iron**

### PERFORMANCE

Shaft Power **1624.7 hp**  
Suction Flow **98.6 %**  
Slide Valve Pos **98.9 %**  
Speed **100.0 %**  
Speed **3612 rpm**  
Volumetric Eff **93.7 %**  
Adiabatic Eff **88.2 %**

### CONDITIONS

Comp Ratio **2.07**  
Ideal Vi **1.74**  
Actual Vi **1.74**  
Disc Port **14.0 %**  
Disc DewPoint **64.6 °F**  
Bearing Oil Req **6.9 cSt**

### UPSTREAM

Flow **44.000 MMSCFD**  
Flow **1787.5 lbm/min**  
Temperature **39.6 °F**  
Pressure **58.0 psig**  
Line Pres Drop **2.0 psi**

### DOWNSTREAM

Flow **44.000 MMSCFD**  
Flow **1787.5 lbm/min**  
Temperature **109.4 °F**  
Pressure **116.0 psig**  
Line Pres Drop **14.0 psi**  
Aftercooler HR **844.2 kbtu/hr**

### SIDE

### COMPRESSOR

Suction Temp **39.6 °F**  
Suction Pres **56.0 psig**  
Discharge Temp **124.9 °F**  
Discharge Pres **130.0 psig**  
Suction Flow **6100 cfm**  
Discharge Flow **3423 cfm**

### OIL SYSTEM

Oil **CP-1005-100**  
Supply Temp **124.9 °F**  
Heat Reject **0 kbtu/hr**  
Bearing Flow **11.0 gpm**  
Main Inj Flow **104.8 gpm**  
Total Oil Flow **115.8 gpm**

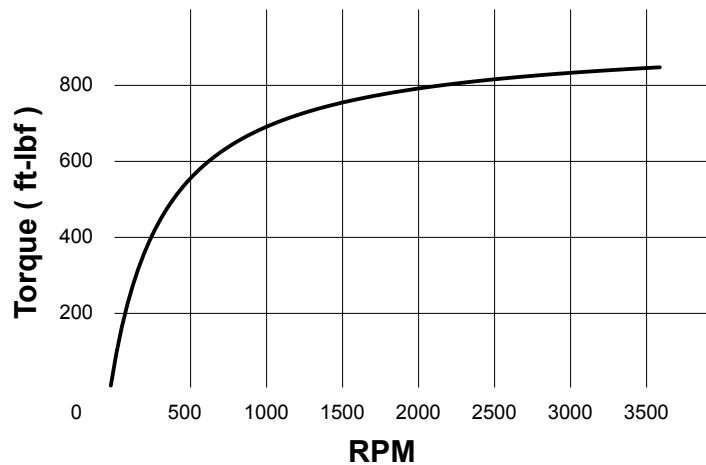
### OIL SYSTEM

Main Inj Valve **2.00 in**  
Valve Open **100.0 %**  
Main Inj Orifice **0.709 in**  
Pump Piping **All Oil**  
Pump Boost **40.0 psi**  
System dP **15.0 psi**  
Bal Piston dP **0.0 psi**

### FLUID

	Mole	Mass
<b>Methane</b>	<b>76.05</b>	<b>54.97</b>
<b>Ethane</b>	<b>10.73</b>	<b>14.53</b>
<b>Propane</b>	<b>6.94</b>	<b>13.78</b>
<b>n-Butane</b>	<b>2.20</b>	<b>5.76</b>
<b>Isobutane</b>	<b>0.97</b>	<b>2.54</b>
<b>n-Pentane</b>	<b>0.54</b>	<b>1.75</b>
<b>Isopentane</b>	<b>0.59</b>	<b>1.92</b>
<b>n-Hexane</b>	<b>0.33</b>	<b>1.28</b>
<b>n-Heptane</b>	<b>0.27</b>	<b>1.22</b>
<b>Nitrogen</b>	<b>0.41</b>	<b>0.52</b>
<b>Water</b>	<b>0.17</b>	<b>0.14</b>
<b>Carbon Dioxide</b>	<b>0.80</b>	<b>1.59</b>

### STARTING TORQUE



### WARNINGS