



Company: Ariel Corporation  
Quote: AG-14096

### Ariel Performance

Customer: NGC Compression Solutions  
Inquiry:  
Project: CAL 14-8141



7.7.2.2 Case 1: 100-1108

#### Compressor Data:

Elevation,ft:	3372.00	Barmtr,psia:	12.971	Ambient,°F:	95.00
Frame:	JGK/4	Stroke, in:	5.50	Rod Dia, in:	2.000
Max RL Tot, lbf:	74000	Max RL Tens, lbf:	37000	Max RL Comp, lbf:	40000
Rated RPM:	1200	Rated BHP:	2540.0	Rated PS FPM:	1100.0
Calc RPM:	1200.0	BHP:	1216	Calc PS FPM:	1100.0

#### Driver Data:

Type:	Nat. Gas
Mfg:	Waukesha
Model:	L5774LT
BHP:	1280
Avail:	1216 (64)

#### Services

#### Service 1

Gas Model	VMG			
<b>Stage Data:</b>	<b>1</b>	<b>---</b>	<b>2</b>	<b>3</b>
Target Flow, MMSCFD	7.500	---	7.500	7.500
Flow Calc, MMSCFD	8.161	---	8.161	8.161
BHP per Stage	376.4	---	394.2	421.4
Specific Gravity	0.6284	---	0.6284	0.6284
Ratio of Sp Ht (N)	1.2758	---	1.2676	1.2789
Comp Suct (Zs)	0.9764	---	0.9653	0.9306
Comp Disch (Zd)	0.9713	---	0.9614	0.9329
Pres Suct Line, psig	100.00	---	N/A	N/A
Pres Suct Flg, psig	98.87	---	225.69	482.08
Pres Disch Flg, psig	230.69	---	492.08	1119.21
Pres Disch Line, psig	N/A	---	N/A	1108.00
Pres Ratio F/F	2.179	---	2.116	2.287
Temp Suct, °F	60.00	---	120.00	120.00
Temp Clr Disch, °F	120.00	---	120.00	120.00
<b>Cylinder Data:</b>	<b>Throw 2</b>	<b>Throw 4</b>	<b>Throw 3</b>	<b>Throw 1</b>
Cyl Model	11K	11K	11K	7-1/4K
Cyl Bore, in	11.000	11.000	11.000	6.750
Cyl RDP (API), psig	768.2	768.2	768.2	1727.3
Cyl MAWP, psig	845.0	845.0	845.0	1900.0
Cyl Action	DBL	DBL	DBL	DBL
Cyl Disp, CFM	713.9	713.9	713.9	261.4
Pres Suct Intl, psig	90.92	90.92	210.29	451.96
Temp Suct Intl, °F	65	65	125	125
Pres Disch Intl, psig	246.45	246.45	522.09	1192.01
Temp Disch Intl, °F	180	180	244	259
HE Suct Gas Vel, FPM	8688	8688	8688	8509
HE Disch Gas Vel, FPM	7604	7604	7604	8099
HE Spcrs Used/Max	4/4	4/4	4/4	0/4
HE Vol Pkt Avail, %	0.75+43.43	0.75+43.43	0.75+43.43	0.69+49.49
Vol Pkt Used, %	98.45 (V)	98.45 (V)	100.00 (V)	30.00 (V)
HE Min Clr, %	17.50	17.50	17.50	20.78
HE Total Clr, %	73.02	73.02	73.69	36.31
CE Suct Gas Vel, FPM	8400	8400	8400	7762
CE Disch Gas Vel, FPM	7353	7353	7353	7388
CE Spcrs Used/Max	4/4	4/4	4/4	0/4
CE Min Clr, %	18.73	18.73	18.73	24.04
CE Total Clr, %	31.15	31.15	31.15	24.04
Suct Vol Eff HE/CE, %	33.4/69.0	33.4/69.0	35.6/70.2	61.6/72.5
Disch Event HE/CE, ms	6.4/11.3	6.4/11.3	6.8/11.5	8.9/11.4
Suct Pseudo-Q HE/CE	6.3/6.5	6.3/6.5	5.8/5.9	7.9/6.6
Gas Rod Ld Comp, %	37.7 C	37.7 C	75.8 C	70.1 C
Gas Rod Ld Tens, %	37.8 T	37.8 T	75.5 T	61.1 T
Gas Rod Ld Total, %	39.3	39.3	78.8	68.5
Xhd Pin Deg/%RvrsI lbf	163/74.5	163/74.5	177/67.5	168/70.3
Flow Calc, MMSCFD	4.080	4.080	8.161	8.161
Cyl BHP	188.2	188.2	394.2	421.4



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## Ariel Performance

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7.7.2.2 Case 1: 100-1015

### Compressor Data:

Elevation,ft:	3372.00	Barmtr,psia:	12.971	Ambient,°F:	95.00
Frame:	JGK/4	Stroke, in:	5.50	Rod Dia, in:	2.000
Max RL Tot, lbf:	74000	Max RL Tens, lbf:	37000	Max RL Comp, lbf:	40000
Rated RPM:	1200	Rated BHP:	2540.0	Rated PS FPM:	1100.0
Calc RPM:	1200.0	BHP:	1216	Calc PS FPM:	1100.0

### Driver Data:

Type:	Nat. Gas
Mfg:	Waukesha
Model:	L5774LT
BHP:	1280
Avail:	1216 (64)

### Services

Gas Model

### Service 1

VMG

### Stage Data:

	1	---	2	3
Target Flow, MMSCFD	7.500	---	7.500	7.500
Flow Calc, MMSCFD	8.448	---	8.448	8.448
BHP per Stage	379.6	---	424.3	388.1
Specific Gravity	0.6284	---	0.6284	0.6284
Ratio of Sp Ht (N)	1.2761	---	1.2670	1.2804
Comp Suct (Zs)	0.9764	---	0.9661	0.9300
Comp Disch (Zd)	0.9714	---	0.9620	0.9309
Pres Suct Line, psig	100.00	---	N/A	N/A
Pres Suct Flg, psig	98.87	---	220.39	486.73
Pres Disch Flg, psig	225.39	---	496.55	1025.28
Pres Disch Line, psig	N/A	---	N/A	1015.00
Pres Ratio F/F	2.131	---	2.183	2.078
Temp Suct, °F	60.00	---	120.00	120.00
Temp Clr Disch, °F	120.00	---	120.00	120.00

### Cylinder Data:

	Throw 2	Throw 4	Throw 3	Throw 1
Cyl Model	11K	11K	11K	7-1/4K
Cyl Bore, in	11.000	11.000	11.000	6.750
Cyl RDP (API), psig	768.2	768.2	768.2	1727.3
Cyl MAWP, psig	845.0	845.0	845.0	1900.0
Cyl Action	DBL	DBL	DBL	DBL
Cyl Disp, CFM	713.9	713.9	713.9	261.4
Pres Suct Intl, psig	90.92	90.92	205.35	456.28
Temp Suct Intl, °F	65	65	125	124
Pres Disch Intl, psig	240.88	240.88	526.61	1093.58
Temp Disch Intl, °F	177	177	248	245
HE Suct Gas Vel, FPM	8688	8688	8688	8509
HE Disch Gas Vel, FPM	7604	7604	7604	8099
HE Spcrs Used/Max	4/4	4/4	4/4	0/4
HE Vol Pkt Avail, %	0.75+43.43	0.75+43.43	0.75+43.43	0.69+49.49
Vol Pkt Used, %	98.38 (V)	98.38 (V)	70.00 (V)	45.00 (V)
HE Min Clr, %	17.50	17.50	17.50	20.78
HE Total Clr, %	72.99	72.99	60.66	43.73
CE Suct Gas Vel, FPM	8400	8400	8400	7762
CE Disch Gas Vel, FPM	7353	7353	7353	7388
CE Spcrs Used/Max	4/4	4/4	4/4	0/4
CE Min Clr, %	18.73	18.73	18.73	24.04
CE Total Clr, %	31.15	31.15	31.15	24.04
Suct Vol Eff HE/CE, %	35.9/70.1	35.9/70.1	43.3/68.7	61.4/76.3
Disch Event HE/CE, ms	6.8/11.5	6.8/11.5	7.4/11.3	9.3/12.2
Suct Pseudo-Q HE/CE	6.5/6.5	6.5/6.5	6.1/5.9	7.9/6.6
Gas Rod Ld Comp, %	36.4 C	36.4 C	78.1 C	60.9 C
Gas Rod Ld Tens, %	36.4 T	36.4 T	77.9 T	52.1 T
Gas Rod Ld Total, %	37.9	37.9	81.2	59.0
Xhd Pin Deg/%RvrsI lbf	165/74.2	165/74.2	174/75.2	164/76.1
Flow Calc, MMSCFD	4.224	4.224	8.448	8.448
Cyl BHP	189.8	189.8	424.3	388.1