



Company: Ariel Corporation
Quote:

Case Summary

Customer:
Inquiry:
Project:



7.7.15.3

Pkg	Description	Cmpr	Throw 1	Throw 2	Throw 3	Throw 4	Driver
1		JGA/4	10.500JG	4.750JG	10.500JG	8.500JG	

Pkg	Case	Description	Available BHP	Calc Power	RPM	Stgs	Req, E3m3/D	Stg1-Calc, E3m3/D	Ps, psig
1	1	Ps 5psi Pd 250psi	0	137	1200.0	3	0.000	21.841	5.00
1	2	Ps 10psi Pd 250psi	0	158	1200.0	3	0.000	28.019	10.00

Pkg	Case	Pd, psig	Ts, F	Errors
1	1	250.00	60.00	
1	2	250.00	60.00	



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Quote:

Ariel Performance

Customer:
Inquiry:
Project:



7.7.15.3 Case 1: Ps 5psi Pd 250psi

Compressor Data:

Elevation, ft:	1500.00	Barmtr, psia:	13.906	Ambient, F:	100.00
Frame:	JGA/4	Stroke, in:	3.00	Rod Dia, in:	1.125
Max RL Tot, lbf:	20000	Max RL Tens, lbf:	10000	Max RL Comp, lbf:	11000
Rated RPM:	1800	Rated BHP:	560.0	Rated PS FPM:	900.0
Calc RPM:	1200.0	BHP:	137	Calc PS FPM:	600.0

Driver Data:

Type:	Unselected
Mfg:	
Model:	
BHP:	0
Avail:	0

Improvement Opportunity

Services

Gas Model

Service 1

VMG-APRNL2

Stage Data:

	1 (SG)	2	3
Target Flow, E3m3/D	0.000	0.000	0.000
Flow Calc, E3m3/D	21.841	21.841	21.841
BHP per Stage	51.6	48.5	28.4
Specific Gravity	0.6500	0.6503	0.6503
Polytropic Exponent (N)	1.2636	1.2529	1.2598
Comp Suct (Zs)	0.9962	0.9922	0.9800
Comp Disch (Zd)	0.9949	0.9905	0.9775
Pres Suct Line, psig	<u>5.00</u>	N/A	N/A
Pres Suct Flg, psig	<u>4.81</u>	41.46	130.46
Pres Disch Flg, psig	42.82	133.74	255.28
Pres Disch Line, psig	N/A	N/A	250.00
Pres Ratio F/F	3.031	2.667	1.865
Temp Suct, F	60.00	120.00	120.00
Temp Clr Disch, F	120.00	120.00	120.00

Cylinder Data:

	Throw 1	Throw 3	Throw 4	Throw 2
Cyl Model	11JG	11JG	8-7/8JG	5-1/8JG
Cyl Bore, in	10.500	10.500	8.500	4.750
Cyl RDP (API), psig	125.0	125.0	340.9	786.4
Cyl MAWP, psig	150.0	150.0	375.0	865.0
Cyl Action	DBL	DBL	DBL	DBL
Cyl Disp, CFM	358.7	358.7	234.4	71.8
Pres Suct Intl, psig	4.36	4.36	40.52	128.59
Pres Disch Intl, psig	44.17	44.17	136.34	258.77
Temp Disch Intl, F	211	211	260	207
HE Suct Gas Vel, FPM	5050	5050	4504	3976
HE Disch Gas Vel, FPM	4617	4617	4125	3460
HE Spcrs Used/Max	0/4	0/4	0/4	0/1
HE Vol Pkt Avail	1.92+66.50	1.92+66.50	1.86+89.20	1.17+53.15
Vol Pkt Used	0.00 (V) %	0.00 (V) %	0.00 (V) %	0.00 (V) %
HE Min Clr, %	23.83	23.83	21.51	18.16
HE Total Clr, %	25.75	25.75	23.37	19.34
CE Suct Gas Vel, FPM	4992	4992	4425	3753
CE Disch Gas Vel, FPM	4564	4564	4053	3266
CE Spcrs Used/Max	0/4	0/4	0/4	0/1
CE Min Clr, %	24.29	24.29	22.21	20.19
CE Total Clr, %	24.29	24.29	22.21	20.19
Suct Vol Eff HE/CE, %	57.5/59.5	57.5/59.5	66.6/68.0	83.5/82.9
Disch Event HE/CE, ms	8.1/9.4	8.1/9.4	9.0/10.6	12.4/13.8
Suct Pseudo-Q HE/CE	2.6/2.5	2.6/2.5	1.9/1.8	1.1/1.0
Gas Rod Ld Comp, %	31.4 C	31.4 C	49.8 C	22.2 C
Gas Rod Ld Tens, %	34.0 T	34.0 T	53.0 T	20.5 T
Gas Rod Ld Total, %	34.3	34.3	53.9	22.4
Xhd Pin Deg/%RvrsI lbf	136/81.7	136/81.7	170/89.5	168/97.8
Flow Calc, E3m3/D	10.921	10.921	21.841	21.841
Cyl BHP	25.8	25.8	48.5	28.4



Company: Ariel Corporation

Quote:

7.7.15.3 Case 2: Ps 10psi Pd 250psi

Ariel Performance

Customer:

Inquiry:

Project:



Compressor Data:

Elevation,ft:	1500.00	Barmtr,psia:	13.906	Ambient,F:	100.00
Frame:	JGA/4	Stroke, in:	3.00	Rod Dia, in:	1.125
Max RL Tot, lbf:	20000	Max RL Tens, lbf:	10000	Max RL Comp, lbf:	11000
Rated RPM:	1800	Rated BHP:	560.0	Rated PS FPM:	900.0
Calc RPM:	1200.0	BHP:	158	Calc PS FPM:	600.0

Driver Data:

Type:	Unselected
Mfg:	
Model:	
BHP:	0
Avail:	0

Improvement Opportunity

Services

Gas Model

Service 1

VMG-APRNL2

Stage Data:

	1 (SG)	2	3
Target Flow, E3m3/D	0.000	0.000	0.000
Flow Calc, E3m3/D	28.019	28.019	28.019
BHP per Stage	65.3	59.4	25.3
Specific Gravity	0.6500	0.6502	0.6502
Polytropic Exponent (N)	1.2645	1.2546	1.2634
Comp Suct (Zs)	0.9953	0.9904	0.9763
Comp Disch (Zd)	0.9937	0.9885	0.9743
Pres Suct Line, psig	10.00	N/A	N/A
Pres Suct Flg, psig	9.76	55.22	159.99
Pres Disch Flg, psig	56.80	163.53	255.28
Pres Disch Line, psig	N/A	N/A	250.00
Pres Ratio F/F	2.988	2.567	1.548
Temp Suct, F	60.00	120.00	120.00
Temp Clr Disch, F	120.00	120.00	120.00

Cylinder Data:

	Throw 1	Throw 3	Throw 4	Throw 2
Cyl Model	11JG	11JG	8-7/8JG	5-1/8JG
Cyl Bore, in	10.500	10.500	8.500	4.750
Cyl RDP (API), psig	125.0	125.0	340.9	786.4
Cyl MAWP, psig	150.0	150.0	375.0	865.0
Cyl Action	DBL	DBL	DBL	DBL
Cyl Disp, CFM	358.7	358.7	234.4	71.8
Pres Suct Intl, psig	9.19	9.19	54.03	157.72
Pres Disch Intl, psig	58.50	58.50	166.69	258.91
Temp Disch Intl, F	210	210	255	182
HE Suct Gas Vel, FPM	5050	5050	4504	3976
HE Disch Gas Vel, FPM	4617	4617	4125	3460
HE Spcrs Used/Max	0/4	0/4	0/4	0/1
HE Vol Pkt Avail	1.92+66.50	1.92+66.50	1.86+89.20	1.17+53.15
Vol Pkt Used	0.00 (V) %	0.00 (V) %	0.00 (V) %	0.00 (V) %
HE Min Clr, %	23.83	23.83	21.51	18.16
HE Total Clr, %	25.75	25.75	23.37	19.34
CE Suct Gas Vel, FPM	4992	4992	4425	3753
CE Disch Gas Vel, FPM	4564	4564	4053	3266
CE Spcrs Used/Max	0/4	0/4	0/4	0/1
CE Min Clr, %	24.29	24.29	22.21	20.19
CE Total Clr, %	24.29	24.29	22.21	20.19
Suct Vol Eff HE/CE, %	58.3/60.3	58.3/60.3	68.3/69.6	88.5/88.1
Disch Event HE/CE, ms	8.1/9.6	8.1/9.6	9.4/10.8	14.2/15.6
Suct Pseudo-Q HE/CE	2.6/2.5	2.6/2.5	1.9/1.8	1.1/1.0
Gas Rod Ld Comp, %	38.9 C	38.9 C	58.6 C	17.7 C
Gas Rod Ld Tens, %	42.1 T	42.1 T	62.2 T	15.3 T
Gas Rod Ld Total, %	42.4	42.4	63.4	17.4
Xhd Pin Deg/%RvrsI lbf	161/93.6	161/93.6	172/90.1	162/96.9
Flow Calc, E3m3/D	14.009	14.009	28.019	28.019
Cyl BHP	32.6	32.6	59.4	25.3