

SYNERGY

FIELD SERVICES

COMPRESSION YOU NEED AT THE PRICES YOU WANT.

Unit 190808 Specs:

-Packager: Hanover

-Year Built: 2004

-Engine: Caterpillar G3304NA, 1800 RPM- 95 HP

-Frame: Ariel JGQ-2/3 Stage

-Cylinder Configuration: 5.75" M (480 psi), 4.375" P (1,270 psi), 2.5" P (1,440 psi)

-Cooler: Air X-Changers 32VV

- MAWP- IC1: 645 psi
- MAWP- IC 2: 1,270 psi
- MAWP- AC: 1,440 psi

-Current Condition:

Engine: Field-run (running) condition. (Video evidence provided.)

Frame: Completely overhauled 5/6/2021:

- ALL valves rebuilt
- ALL piston rings changed
- ALL cylinders mic'd and inspected for excessive wear
- BOTH packing glands rebuilt
- BOTH VVCP's rebuilt
- ALL main and rod bearings replaced
- NEW tandem piston rod installed due to .003" wear
- NEW crossheads (qty. 2) installed due to JGQ conversion
- NEW connecting rods (qty. 2) installed due to JGQ conversion
- Painted 5/13/21 with NACE level 1 Mesa Tan

-Price: \$60,000

(Inspections welcome at our shop in Longview, TX.)



Ariel Performance

Company: Synergy Field Services, LLC
 Quote:
 Case 1:

Customer:
 Inquiry:
 Project:



7.7.6.0

Compressor Data:

Elevation,ft:	50.00	Barmtr,psia:	14.669	Ambient,F:	100.00
Frame:	JGQ/2	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:	280.0	Rated PS FPM:	900.0
Calc RPM:	1800.0	BHP:	94	Calc PS FPM:	900.0

Driver Data:

Type:	Nat. Gas
Mfg:	Caterpillar
Model:	G3304B NA
BHP:	95
Avail:	95

Services

Gas Model

Service 1

VMG-APRNL2

Stage Data:

	1 (SG)	2	3
Target Flow, MMSCFD	0.500	0.500	0.500
Flow Calc, MMSCFD	0.523	0.523	0.522
BHP per Stage	27.6	37.9	22.9
Specific Gravity	0.6500	0.6496	0.6487
Ratio of Sp Ht (N)	1.2591	1.2518	1.2758
Comp Suct (Zs)	0.9830	0.9711	0.9145
Comp Disch (Zd)	0.9789	0.9667	0.9205
Pres Suct Line, psig	75.00	N/A	N/A
Pres Suct Flg, psig	74.10	178.65	597.56
Pres Disch Flg, psig	183.65	607.56	1262.65
Pres Disch Line, psig	N/A	N/A	1250.00
Pres Ratio F/F	2.234	3.219	2.086
Temp Suct, F	80.00	120.00	120.00
Temp Clr Disch, F	120.00	120.00	120.00

Cylinder Data:

	Throw 1	Throw 2	Throw 2
Cyl Model	5-3/4M	4-3/8P-HE	2-3/4P-CE
Cyl Bore, in	5.750	4.375	2.500
Cyl RDP (API), psig	436.4	1154.5	1363.6
Cyl MAWP, psig	480.0	1270.0	1500.0
Cyl Action	<u>CE(HEVR)</u>	HE	CE
Cyl Disp, CFM	78.0	47.0	12.2
Pres Suct Intl, psig	67.13	169.52	564.34
Temp Suct Intl, F	87	125	123
Pres Disch Intl, psig	198.64	631.36	1320.51
Temp Disch Intl, F	207	293	238
HE Suct Gas Vel, FPM	3136	7211	0
HE Disch Gas Vel, FPM	N/A	6121	N/A
HE Spcrs Used/Max	N/A	0/1	N/A
HE Vol Pkt Avail	N/A	No Pkt	N/A
Vol Pkt Used	N/A %	No Pkt	N/A %
HE Min Clr, %	N/A	18.98	N/A
HE Total Clr, %	N/A	18.98	N/A
CE Suct Gas Vel, FPM	9049	0	7493
CE Disch Gas Vel, FPM	8147	N/A	6266
CE Spcrs Used/Max	0/2	N/A	0/2
CE Min Clr, %	17.05	N/A	29.87
CE Total Clr, %	17.05	N/A	29.87
Suct Vol Eff HE/CE, %	N/A/79.8	63.7/N/A	N/A/72.5
Disch Event HE/CE, ms	N/A/8.0	5.2/N/A	N/A/7.9
Suct Pseudo-Q HE/CE	N/A/7.6	3.2/N/A	N/A/2.8
Gas Rod Ld Comp, %	2.5 C	49.8 C	49.8 C
Gas Rod Ld Tens, %	30.6 T	44.3 T	44.3 T
Gas Rod Ld Total, %	16.7	49.5	49.5
Xhd Pin Deg/%Rvrsl lbf	152/55.5	157/96.9	157/96.9
Flow Calc, MMSCFD	0.523	0.523	0.522
Cyl BHP	27.6	37.9	22.9



Innovation. Experience. Performance. ®

PROPOSAL NO. 041391-A7R0
 Date 11/20/2019
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1	Purchaser	Ultimate User		
2	Inquiry	Destination		
3	No. Units	1	Model: 32VV	Reference
4	Assembly:	PACKAGED	Draft: FORCED	Overall Size (WxLxH), ft: ~ Est. Wt., lbs: 1,479

PERFORMANCE

5	Service	IC1	IC2	AC
6	Flow	0.36 MMSCFD	0.36 MMSCFD	0.75 MMSCFD
7	Fluid	0.65 SPGR	0.65 SPGR	0.65 SPGR
8	Temp. In / Out, f	228.0 / 115.6	314.0 / 112.9	283.0 / 141.1
9	Pressure, psia	152.0	486.0	1000.0
10	Pressure Drop	2.0	2.0	5.1
11	Heat Load, btu/hr	47,060	90,049	139,977
12	True LMTD, f	46.8	61.8	75.4
13	Overall Rate, U, btu/hr ft ² f	64.6	81.6	119.4
14	Fouling Factor, ft ² hr f / btu	0.0010	0.0010	0.0010
15	Surface, bare / Extended, sq.ft.	16 / 247	18 / 284	16 / 247
16	Sections, No. / Connected	(1) SINGLY	(1) SINGLY	(1) SINGLY
17	Design Temp. (Max / Min), f	350 / -10	350 / -10	350 / -10
18	Design / Test Press., psig	645 / 838	1292 / 1679	1440 / 1872
19	Pass Arrangement	CROSSFLOW	CROSSFLOW	CROSSFLOW
20	No. Tube Rows / Tube Passes	3 / 3	3 / 5	3 / 5
21	Section Weight, lbs	294	355	367
22	Tubes, OD x BWG	5/8X16(0.060MIN)	5/8X16(0.060MIN)	5/8X16(0.060MIN)
23	Material	SA214	SA214	SA214
24	No. Per Section / Length, ft	20 / 5	23 / 5	20 / 5
25	Retarders			
26	Accelerators			
27	L-Tension / Fins, Type	L-TENSION / WHEEL	L-TENSION / WHEEL	L-TENSION / WHEEL
28	Material	ALUMINUM	ALUMINUM	ALUMINUM
29	Nozzles, Rating / Type	300 RFWN	600 RFWN	1500 RFWN
30	Material / Bore	SA105 / SCH-	SA105 / SCH-	SA105 / SCH-
31	(No. Inlets) / Size, in	(1) / 3 IN	(1) / 2 IN	(1) / 2 IN
32	(No. Outlets) / Size, in	(1) / 3 IN	(1) / 2 IN	(1) / 2 IN
33	Headers, Type	BOX W/PLUGS	BOX W/PLUGS	BOX W/PLUGS
34	Material	SA516 70	SA516 70	SA516 70
35	Corrosion Allow., in			
36	Grooved Tubesheet	YES	YES	YES
37	Plugs, Type	SHOULDER	SHOULDER	SHOULDER
38	Plugs Material	SA105	SA105	SA105
39	Industry Specifications	AXC-STD	AXC-STD	AXC-STD
40	ASME Code Stamp / N.B.	YES	YES	YES
41	Canadian Registration #			
42	PWHT			
43	NACE			
44	Inspection / NDT			

F = 100% R.T. of all header seam & nozzle butt welds PLUS 100% U.T. of all attachment welds.
 S = Spot R.T. of 1 long seam & 1 end closure, per header.
 U = 100% UT of all header seam, attachment & nozzle butt welds.

B = 100% R.T. of all nozzle butt welds.
 SB = S PLUS B as each are described above.
 UB = U PLUS B as each are described above.

AIR-SIDE PERFORMANCE

45	Ambient Air Temp., In, f	100
46	Elevation, ft	2000
47	Air Flow, SCFM	10,531
48	Air Temp., Out, f	124.3
49	Min. Ambient, f	
50		
51		







