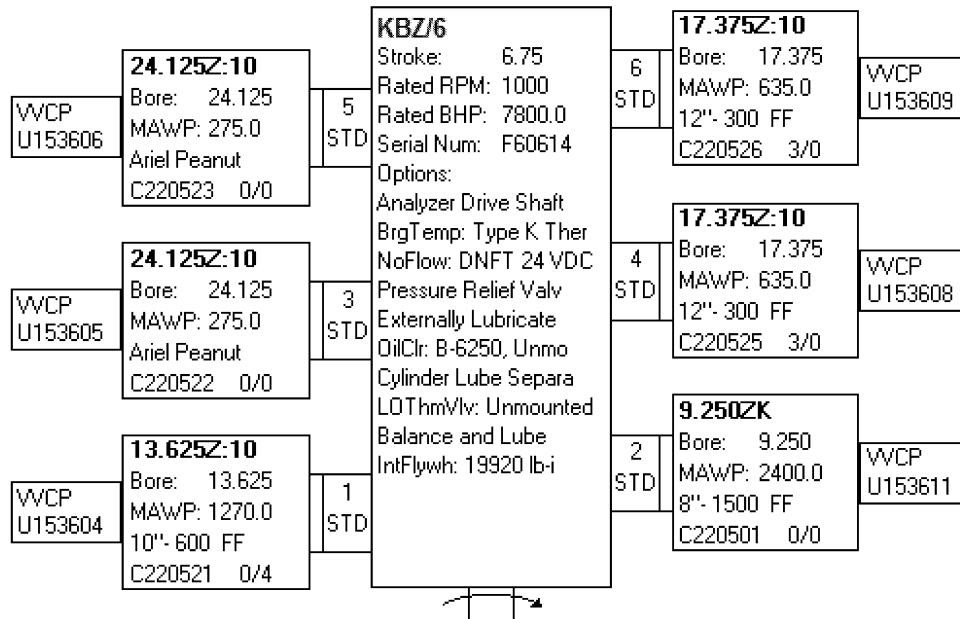




## Ariel Lubrication Sheet

Order #: 86333 (AP034266)



		Cycle Time seconds	Oil Flow Pints/day
	<b>Cylinder Oil (Mineral Oil)</b>	<b>Normal @ 1000.0 RPM</b>	
<b>Throw 1, 3, 5 (Primary)</b>	R&O Oil (ISO 220) Cylinder Oil (ISO 220) w/ Compounding	10.0	48.5
<b>Throw 2, 4, 6 (Primary)</b>	R&O Oil (ISO 220) Cylinder Oil (ISO 220) w/ Compounding	10.0	39.5
<b>Total:</b>			<b>88.0</b>

**No-flow devices:** (2) DNFT 24 VDC Non-Programmable

Cylinder oil requires an overhead tank for independent lube oil supply. Ariel provides a filter for the separate cylinder lube supply.

### Frame Oil Types (allowed in Frame):

Mineral Oil (Selected)	Synthetics	Synthetic PAG
SAE 40 wt Engine Oil R&O Oil (ISO 150) Refrigerant Oil (ISO 150)	Synthetic Ester (ISO 150) Synthetic PAO (ISO 100) Synthetic PAO (ISO 150)	Synthetic PAG (ISO 100)

Refer to Section 6 of the Ariel Packager Standards for more information on both the Cylinder and Frame Lubrication Systems.



# Ariel Lubrication Sheet

Order #: 86333 (AP034266)



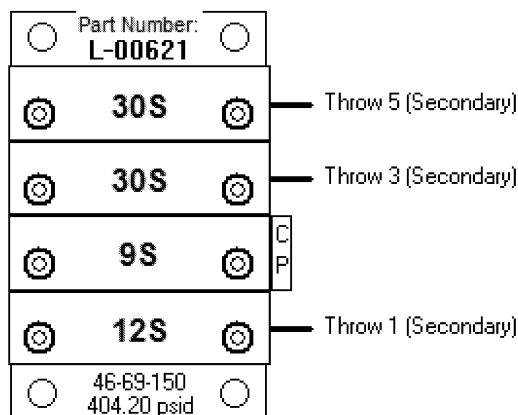
Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
1	13.625Z:10	1270.0	Service 1	3	259.64	613.82	C220521
3	24.125Z:10	275.0	Service 1	1	32.53	88.93	C220522
5	24.125Z:10	275.0	Service 1	1	32.53	88.93	C220523

Applied Speed, RPM	1000
Cycle Time at Applied Speed, sec	10.0 (see chart, lower right)
Break-In Cycle Time, sec	7.0 (For period of 200 hours)
Cylinder lubricant (Mineral Oil) for application and pressures	R&O Oil (ISO 220) Cylinder Oil (ISO 220) w/ Compounding

Automatic Relief Valve	3000.00 psig cracking press (Green Spring and Indicator Pin)
Pressure Gauge	3000.00 psig
Pump Qty and Size feeding this block	(2) 3/8" ( 0.3750 in )
Base feed rate	0.50 Pints/day/in of bore diameter

## Throw 1, 3, 5 (Primary)



Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/ Calc	RPM	Cycle Time, sec		Pints/day	
						Normal	Break-In	Normal	Break-In
Throw 5 (Secondary)	N/A	18.67	17.95	96%	1000	10.0	7.0	48.5	72.7
Throw 3 (Secondary)	N/A	18.67	17.95	96%	900	11.1	7.8	43.6	65.4
Throw 1 (Secondary)	N/A	12.11	12.57	104%	800	12.5	8.8	38.8	58.2
					700	14.3	10.0	34.0	50.9
					600	16.7	11.7	29.1	43.6
					500	20.0	14.0	24.3	36.3

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. See Section 6 of the Ariel Packager Standards for more information.



# Ariel Lubrication Sheet

Order #: 86333 (AP034266)



Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
5	24.125Z:10	275.0	Service 1	1	32.53	88.93	C220523

## Throw 5 (Secondary)

<input type="radio"/>	Part Number:	<input type="radio"/>
<input checked="" type="radio"/>	<b>A-2786</b>	<input type="radio"/>
<input checked="" type="radio"/>	<b>6S</b>	<input checked="" type="radio"/>
<input checked="" type="radio"/>	<b>12S</b>	<input checked="" type="radio"/>
<input checked="" type="radio"/>	<b>12S</b>	<input checked="" type="radio"/>
<input type="radio"/>	28.20 psid	<input type="radio"/>

Throw 5: Packing

Throw 5: Cyl 24.125Z:10

Throw 5: Cyl 24.125Z:10

Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/Calc
Throw 5: Packing	1.25	3.59	3.59	100%
Throw 5: Cylinder 24.125Z:10	1.25	7.54	7.18	95%
Throw 5: Cylinder 24.125Z:10	1.25	7.54	7.18	95%

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. [See Section 6 of the Ariel Packager Standards for more information.](#)



# Ariel Lubrication Sheet

Order #: 86333 (AP034266)



Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
3	24.125Z:10	275.0	Service 1	1	32.53	88.93	C220522

## Throw 3 (Secondary)

<input type="radio"/>	Part Number:	<input type="radio"/>
<input checked="" type="radio"/>	<b>A-2786</b>	<input type="radio"/>
<input checked="" type="radio"/>	<b>6S</b>	<input checked="" type="radio"/>
<input checked="" type="radio"/>	<b>12S</b>	<input checked="" type="radio"/>
<input checked="" type="radio"/>	<b>12S</b>	<input checked="" type="radio"/>
<input type="radio"/>	28.20 psid	<input type="radio"/>

Throw 3: Packing

Throw 3: Cyl 24.125Z:10

Throw 3: Cyl 24.125Z:10

Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/ Calc
Throw 3: Packing	1.25	3.59	3.59	100%
Throw 3: Cylinder 24.125Z:10	1.25	7.54	7.18	95%
Throw 3: Cylinder 24.125Z:10	1.25	7.54	7.18	95%

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. [See Section 6 of the Ariel Packager Standards for more information.](#)



# Ariel Lubrication Sheet

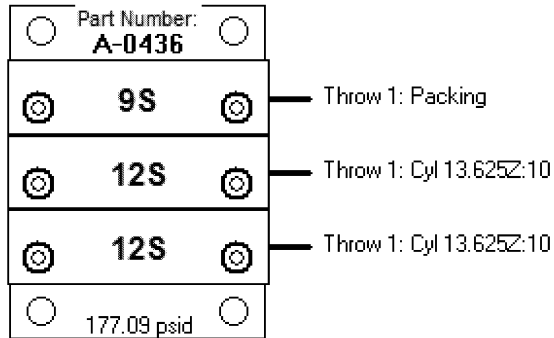
Order #: 86333 (AP034266)



Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
1	13.625Z:10	1270.0	Service 1	3	259.64	613.82	C220521

## Throw 1 (Secondary)



Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/Calc
Throw 1: Packing	1.25	3.59	3.43	95%
Throw 1: Cylinder 13.625Z:10	1.25	4.26	4.57	107%
Throw 1: Cylinder 13.625Z:10	1.25	4.26	4.57	107%

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. See Section 6 of the Ariel Packager Standards for more information.



# Ariel Lubrication Sheet

Order #: 86333 (AP034266)



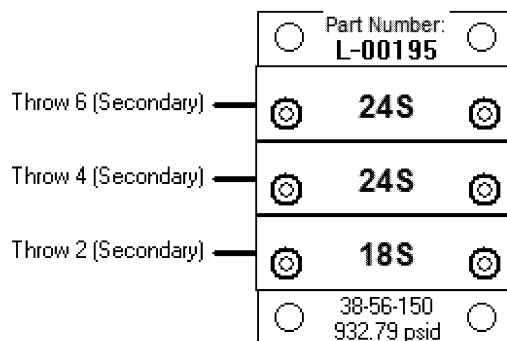
Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
2	9.250ZK	2400.0	Service 1	4	597.31	1441.12	C220501
4	17.375Z:10	635.0	Service 1	2	86.42	266.07	C220525
6	17.375Z:10	635.0	Service 1	2	86.42	266.07	C220526

Applied Speed, RPM	1000
Cycle Time at Applied Speed, sec	10.0 (see chart, lower right)
Break-In Cycle Time, sec	7.0 (For period of 200 hours)
Cylinder lubricant (Mineral Oil) for application and pressures	R&O Oil (ISO 220) Cylinder Oil (ISO 220) w/ Compounding

Automatic Relief Valve	5000.00 psig cracking press (Gray Spring and Indicator Pin)
Pressure Gauge	5000.00 psig
Pump Qty and Size feeding this block	(2) 3/8" ( 0.3750 in )
Base feed rate	0.50 Pints/day/in of bore diameter

## Throw 2, 4, 6 (Primary)



Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/ Calc
Throw 6 (Secondary)	N/A	14.45	14.36	99%
Throw 4 (Secondary)	N/A	14.45	14.36	99%
Throw 2 (Secondary)	N/A	11.25	10.77	96%

RPM	Cycle Time, sec		Pints/day	
	Normal	Break-In	Normal	Break-In
1000	10.0	7.0	39.5	59.2
900	11.1	7.8	35.5	53.3
800	12.5	8.8	31.6	47.4
700	14.3	10.0	27.6	41.4
600	16.7	11.7	23.7	35.5
500	20.0	14.0	19.8	29.6

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. See Section 6 of the Ariel Packager Standards for more information.



# Ariel Lubrication Sheet

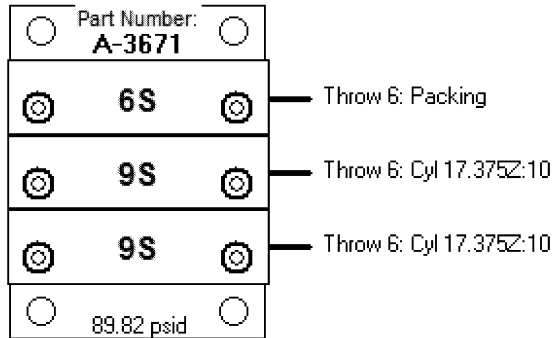
Order #: 86333 (AP034266)



Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
6	17.375Z:10	635.0	Service 1	2	86.42	266.07	C220526

## Throw 6 (Secondary)



Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/ Calc
Throw 6: Packing	1.25	3.59	3.59	100%
Throw 6: Cylinder 17.375Z:10	1.25	5.43	5.39	99%
Throw 6: Cylinder 17.375Z:10	1.25	5.43	5.39	99%

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. See Section 6 of the Ariel Packager Standards for more information.



# Ariel Lubrication Sheet

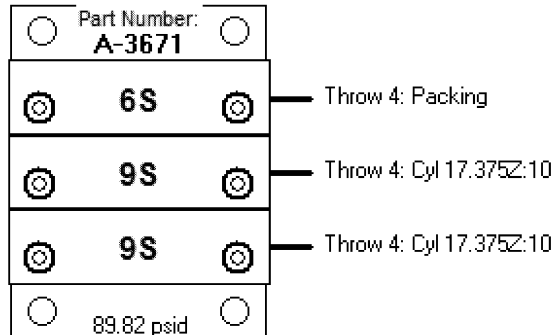
Order #: 86333 (AP034266)



Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
4	17.375Z:10	635.0	Service 1	2	86.42	266.07	C220525

## Throw 4 (Secondary)



Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/ Calc
Throw 4: Packing	1.25	3.59	3.59	100%
Throw 4: Cylinder 17.375Z:10	1.25	5.43	5.39	99%
Throw 4: Cylinder 17.375Z:10	1.25	5.43	5.39	99%

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. See Section 6 of the Ariel Packager Standards for more information.





# Ariel Lubrication Sheet

Order #: 86333 (AP034266)



Frame: KBZ/6 Stroke, in: 6.75 Rod Dia, in: 2.875 Frame S/N: F60614  
Configured: RunReviewer - 09/19/2018

Throw	Cylinder Model	MAWP psig	Service	Stage #	Suct Press psia	Disch Press psia	Serial No.
2	9.250ZK	2400.0	Service 1	4	597.31	1441.12	C220501

## Throw 2 (Secondary)

<input type="radio"/>	Part Number:	<input type="radio"/>
<input checked="" type="radio"/>	<b>A-4312</b>	<input type="radio"/>
<input checked="" type="radio"/>	<b>12S</b>	<input checked="" type="radio"/>
<input checked="" type="radio"/>	<b>9S</b>	<input checked="" type="radio"/>
<input checked="" type="radio"/>	<b>9S</b>	<input checked="" type="radio"/>
<input type="radio"/>	421.90 psid	<input type="radio"/>

Throw 2: Packing

Throw 2: Cyl 9.250ZK

Throw 2: Cyl 9.250ZK

Lube Point Description	Base Rate Multiplier	Calculated Pints/day	Delivered Pints/day	Del/ Calc
Throw 2: Packing	1.50	4.31	4.31	100%
Throw 2: Cylinder 9.250ZK	1.50	3.47	3.23	93%
Throw 2: Cylinder 9.250ZK	1.50	3.47	3.23	93%

**\*\*NOTE:** Lube rates are to be within 90 - 125% of the delivered/calculated amount for cylinders and packings. If the lubricants or flow rates do not appear to work adequately, flow rates and/or lubricant types may need to be changed. Please contact Ariel for specific lubricant requirements. See Section 6 of the Ariel Packager Standards for more information.



**Ariel Lubrication Sheet**  
**Order #: 86333 (AP034266)**



## Special Oil Requirements

**Frame: F60614**

**Model: KBZ/6**

This notice is to alert the customer that this unit has a special oil requirement that may require that the force feed lubricator, which supplies lubricating oil to the compressor cylinders and piston rod packings, have an independent oil supply.

These oil requirements are based on the gas composition and operating conditions provided. Please refer to the ARIEL CORPORATION Lubrication Sheet(s) for the details of the above frame including the correct cylinder bore sizes and throw positions.

Avoid mixing oil types that are not compatible with each other. Contact the oil manufacturer regarding the compatibility of their product with other fluids. A system flush may be required when changing to a different fluid.

The following information should be reviewed regarding Independent Oil Supply in Section 6 Lubrication of the Reciprocating Packager's Standards within Ariel's Application Manual.

Paragraphs:

Independent Oil Supply

Cylinder Lubrication

Lubricator Cycle Time

Warranty

### Contact Ariel

Contact	Telephone	FAX	E-Mail
Ariel Response Center	888-397-7766	740-397-1060	arc@arielcorp.com
Spare Parts	(toll free USA-Canada) or	740-393-5054	spareparts@arielcorp.com
Order Entry	740-397-3602 (International)	740-397-6450	----
Ariel World Headquarters	740-397-0311	740-397-3856	info@arielcorp.com
Technical Field Service			fieldservice@arielcorp.com



# Valve Selection Report

Order #: 86333 (AP034266)



The compressor valves were selected based on the operating conditions listed below.

Contact an Ariel Distributor or the Ariel Response Center to review the compressor valve selection if:  
The operating pressures are +/- 15% different than those listed if using the listed compressor valves.

Frame		Operating Conditions	
Model	KBZ/6	Application	Gathering
Stroke, in	6.75	RPM	1000.0
Rod Dia, in	2.875	Suction Press, psia	72.86
Serial Number	<b>F60614</b>	Suction Temp, F	50.00
		Discharge Press, psia	1412.86

<b>Throw 3:</b>	24-1/8Z:10	<b>Operating Conditions:</b>	Stage 1
Bore, in	24.125	Suction Press, psia	72.13
MAWP, psig	275.0	Suction Temp, F	50.00
		Discharge Press, psia	173.03
Serial Number	<b>C220522</b>	Specific Gravity	0.8265

Location	End	Part #	Model	Clr, in3	AdjEqArea, in2	Lift, in	Lift		Qty
Suct	CE/HE	B-8029-HP	174CP	17.030	19.660	0.079	Std		8
Disch	CE/HE	B-8030-HP	174CP	17.030	19.660	0.079	Std		8

<b>Throw 5:</b>	24-1/8Z:10	<b>Operating Conditions:</b>	Stage 1
Bore, in	24.125	Suction Press, psia	72.13
MAWP, psig	275.0	Suction Temp, F	50.00
		Discharge Press, psia	173.03
Serial Number	<b>C220523</b>	Specific Gravity	0.8265

Location	End	Part #	Model	Clr, in3	AdjEqArea, in2	Lift, in	Lift		Qty
Suct	CE/HE	B-8029-HP	174CP	17.030	19.660	0.079	Std		8
Disch	CE/HE	B-8030-HP	174CP	17.030	19.660	0.079	Std		8

<b>Throw 4:</b>	17-7/8Z:10	<b>Operating Conditions:</b>	Stage 2
Bore, in	17.375	Suction Press, psia	168.47
MAWP, psig	635.0	Suction Temp, F	130.00
		Discharge Press, psia	420.25
Serial Number	<b>C220525</b>	Specific Gravity	0.8265

Location	End	Part #	Model	Clr, in3	AdjEqArea, in2	Lift, in	Lift		Qty
Suct	CE/HE	B-7678-HP	165CP	19.150	15.370	0.059	Low		6
Disch	CE/HE	B-7679-HR	165CP	18.120	15.370	0.059	Low		6

<b>Throw 6:</b>	17-7/8Z:10	<b>Operating Conditions:</b>	Stage 2
Bore, in	17.375	Suction Press, psia	168.47
MAWP, psig	635.0	Suction Temp, F	130.00
		Discharge Press, psia	420.25
Serial Number	<b>C220526</b>	Specific Gravity	0.8265

Location	End	Part #	Model	Clr, in3	AdjEqArea, in2	Lift, in	Lift		Qty
Suct	CE/HE	B-7678-HP	165CP	19.150	15.370	0.059	Low		6
Disch	CE/HE	B-7679-HR	165CP	18.120	15.370	0.059	Low		6

<b>Throw 1:</b>	14-1/8Z:10	<b>Operating Conditions:</b>	Stage 3
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## Valve Selection Report

Order #: 86333 (AP034266)



<b>Throw 1:</b>		14-1/8Z:10		<b>Operating Conditions:</b>		Stage 3			
Bore, in		13.625		Suction Press, psia		410.68			
MAWP, psig		1270.0		Suction Temp, F		130.00			
				Discharge Press, psia		833.54			
Serial Number		<b>C220521</b>		Specific Gravity		0.8265			
<b>Location</b>	<b>End</b>	<b>Part #</b>	<b>Model</b>	<b>Clr, in3</b>	<b>AdjEqArea, in2</b>	<b>Lift, in</b>	<b>Lift</b>		<b>Qty</b>
Suct	CE/HE	B-8410-HP	174CP	23.490	16.730	0.059	Low		4
Disch	CE/HE	B-8411-HR	174CP	27.160	16.730	0.059	Low		4

<b>Throw 2:</b>		9-1/4ZK	<b>Operating Conditions:</b>		Stage 4				
Bore, in		9.250	Suction Press, psia		813.39				
MAWP, psig		2400.0	Suction Temp, F		130.00				
			Discharge Press, psia		1441.12				
Serial Number		<b>C220501</b>	Specific Gravity		0.8265				
<b>Location</b>	<b>End</b>	<b>Part #</b>	<b>Model</b>	<b>Clr, in3</b>	<b>AdjEqArea, in2</b>	<b>Lift, in</b>	<b>Lift</b>		<b>Qty</b>
Suct	CE/HE	B-7630-HQ	136CP	15.190	9.898	0.059	Std		4
Disch	CE/HE	B-7631-HQ	136CP	15.800	9.898	0.059	Std		4