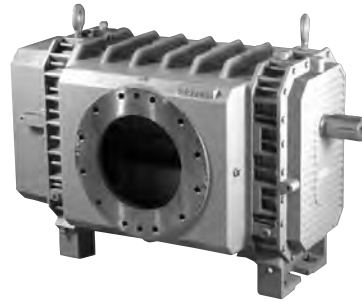




Roots

832 RCS-J

Part Number – call 816-741-0282



Patented WHISPAIR™ blowers reduce noise and power loss by utilizing an exclusive wrap-around plenum and proprietary WHISPAIR jet to control pressure equalization-feeding backflow in the direction of impeller movement, thereby aiding rotation. This design results in longer bearing life, lower vibration, and reduces noise up to 5 dBA pressure or vacuum.

- Heavy-duty unit with integral-shaft ductile iron impellers with an involute profile
- Rigid one-piece casing, drive end cover, end cover, and headplates are grey iron
- Carburized and ground alloy steel spur timing gears
- Cylindrical roller bearings on drive end
- Ball bearings on gear end
- Piston rings reduce air leakage
- Lip type oil seals prevent lubrication from entering the air chamber.
- Splash oil lubricated gears on drive and gear ends
- Horizontal and vertical configurations available

Also Available in:

- RCS-J with Std Aluminum Tube Oil Cooler
- Plugged Impeller Option
- VJ (Water Sealed Exhauster Whispair)



816-741-0282

Quick Specs

Flow Range	to 4676 CFM
Max ΔPressure	10 PSI
Max ΔVacuum	15" Hg
Max ΔVacuum with Oil Cooler	16" Hg
Maximum RPM	2150
Minimum RPM	880
Max ΔT	230°F
Max ΔT with Oil Cooler	260°F
Inlet Connection Size	14" Flange
Discharge Connection Size	12" Flange
Shaft Dia.	2.75"
Min Sheave Dia.	13.25"
Drive End Lubrication	Oil
Gear End Lubrication	Oil
Oil Sump Horiz Config	~376 oz
Oil Sump Vert Config	~224 oz
Bare Unit Weight	2325 lbs
Container	Wood Skid
Skid Size (L x W x H)	54" x 32" x 36"
Shipping Weight on Skid	~2375 lbs
Recommended to Ship Via	Truck





816-741-0282

Repair Kits

Repair kits are bundled with the parts you need to complete a standard repair. It is more cost effective to buy a repair kit than to purchase individual parts. However, if you need parts not listed in the kit, it is recommended that you call Pathfinder Systems for parts pricing.

Item #	Part Name	Qty.
1	Headplate	2
3	Gearbox	1
4	Gear	2
5	Drive End Cover	1
7	Gasket	2
8	Nameplate	1
9	Lubrication Label	2
10	Shim	4
11	Cylinder	1
12	Impeller & Shaft Drive	1
13	Impeller & Shaft Driven	1
14	Bearing	4
16	Pin, Dowel	4
17	Spring Pin	2
19	Key	1
20	Drive Screw	10
21	Breather-Filler Plug	2
22	Drain Plug	4
23	Capscrew	44
27	Seal-Lip, Headplate	4
28	Seal Ring	4
29	Washer, Wavy Spring	2
30	Washer-Gear Mounting	2
31	Capscrew	2
32	Capscrew	16
33	Seal, Lip D. E. Cover	1
34	Clamp Plate, Drive End	2
36	Lockwasher	1
37	Oil Level Gauge	2
38	Sleeve	4
40	Slinger - D.E.	1
42	Rotation Arrow	1
44	Label, Whispair	2
45	Pipe Plug	2
46	Slinger - G.E.	1
48	Washer	2
49	Capscrew-Butt. Hd.	2
54	Clamp Plate, Gear End	2
56	Oil Leader, G.E. & D.E. Left Side Driven Impeller	2
57	Oil Leader, G.E. & D.E. Right Side Driven Impeller	2
58	Oil Leader, G.E. & D.E. Right Side Drive Impeller	2
59	Oil Leader, G.E. & D.E. Left Side Drive Impeller	2
62	Capscrew	1
63	Eyebolt	2
64	Pipe Plug	4
69	Washer	6
74	Spring Pin	1

P/N 571791RK Kit for 8" RCS-J

Item	Qty	Kit Description	P/N
7	2	Gasket Headplate	57178021
10	1	Shim Set	640950SS
14	4	Bearing, Roller	10222041
27	2	Hydrodynamic Seal, (PTFE) CW	13309023
27.1	2	Hydrodynamic Seal, (PTFE) CCW	13309024
28	4	Piston, Ring Seal	12283005
29	2	Washer, Spring, Wavy	10135019
31	2	Hex Cap Screw 7/8	12467017
33	1	Hydrodynamic Seal, (PTFE)	13440004
37	1	Sight Plug Oil Level ¾	12066001
38	4	Sleeve, GE & OGE 800 RCS-J	57161020
40	1	Sight Plug Oil Level ¾	12066001
69	2	Washer, HDN	12750003
83	2	Sleeve Seal Install 8" Inboard	13365023
84	1	Sleeve Seal Install 8" DSft Outboard	13365012



816-741-0282

Table 2 - Recommended Oil Grades

Ambient* Temperature °F (°C)	ISO Viscosity No.
Above 90° (32°)	320
32° to 90° (0° to 32°)	220
0° to 32° (-18° to 0°)	150
Below 0° (-18°)	100

*Ambient temperature is defined as the temperature of the space in which the blower and drive are located.

Use a good grade of **industrial type** non-detergent, rust inhibiting, anti-foaming oil and of correct viscosity per Table 2. Roots synthetic oil (Roots P/N 813-106-) is **specified and recommended**. Roots does not recommend automotive type lubricants, as they are not formulated with the properties mentioned above.

Due to sludge build-up and seal leakage problems, Roots recommendation is DO NOT USE Mobil SHC synthetic oils in ROOTS blowers.

Table 4 - Approximate Oil Fill Amounts

Frame Series	Gearbox		Drive End	
	Pints	(Liters)	Pints	(Liters)
800 JH	16.0	7.6	7.5	3.5
800 JV	2.0	0.95	0.5	0.24

These capacities are provided to assist stocking the correct amount of oil. Exact sump capacity may differ slightly. See "Lubrication" section for proper filling instructions.

ROOTS® Synthetic Oil: ISO-VG-320 Grade	
	Part Number
Quart	13106004
Gallon	13106005
Case (12 qts)	13106007
ROOTS® Synthetic Oil: ISO-VG-220 Grade	
	Part Number
Quart	13106001
Gallon	13106002
Case (12 qts)	13106008
ROOTS® Synthetic Oil: ISO-VG-150 Grade	
	Part Number
Quart	13106020
Gallon	13106021
Case (12 qts)	13106023
5 Gallon Pail	13106022
55 Gallon Drum	13106025
ROOTS® Synthetic Oil: ISO-VG-100 Grade	
	Part Number
Quart	13106011
Gallon	13106012
Case (12 qts)	13106014
5 Gallon Pail	13106013
55 Gallon Drum	13106016

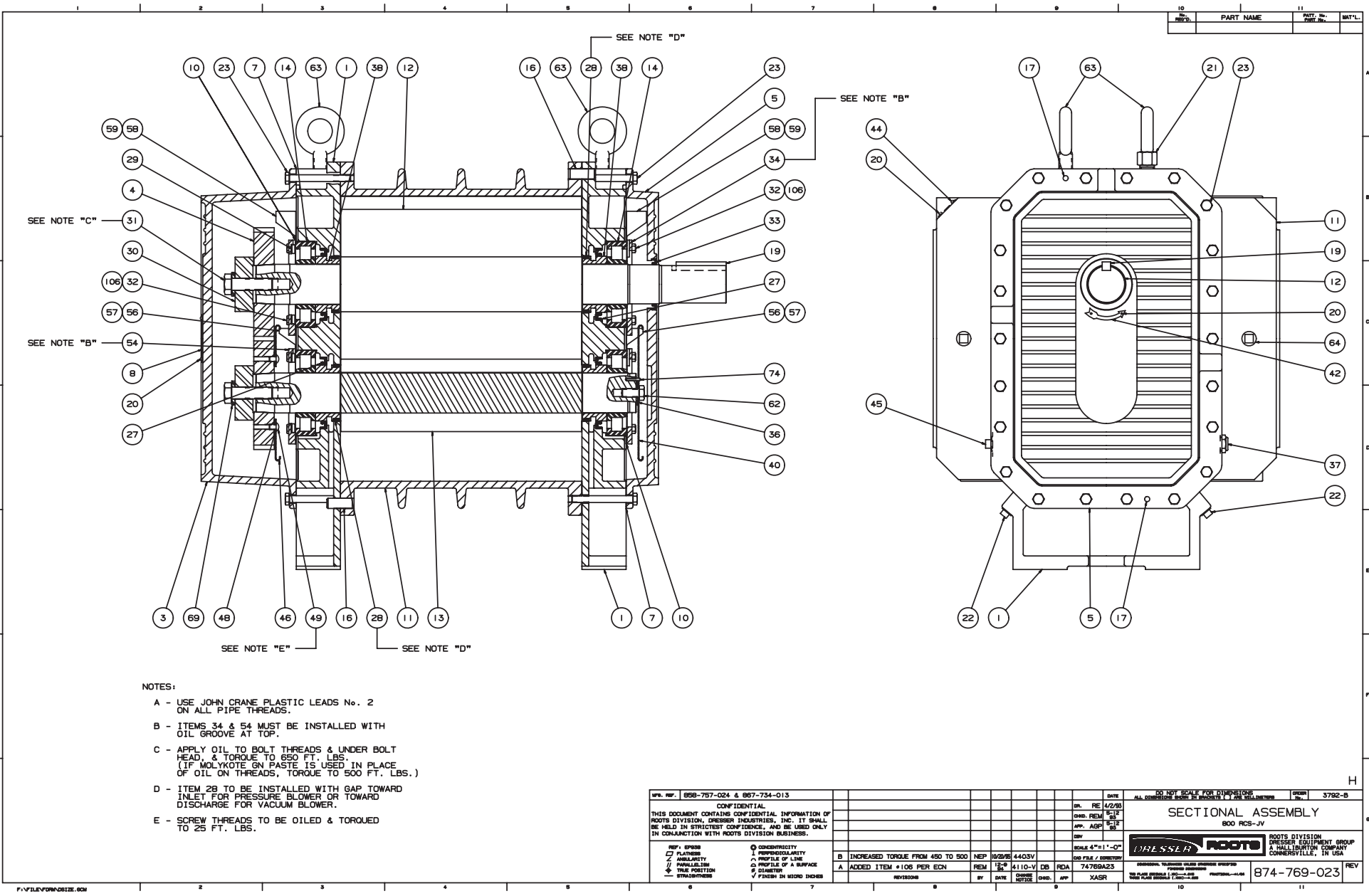
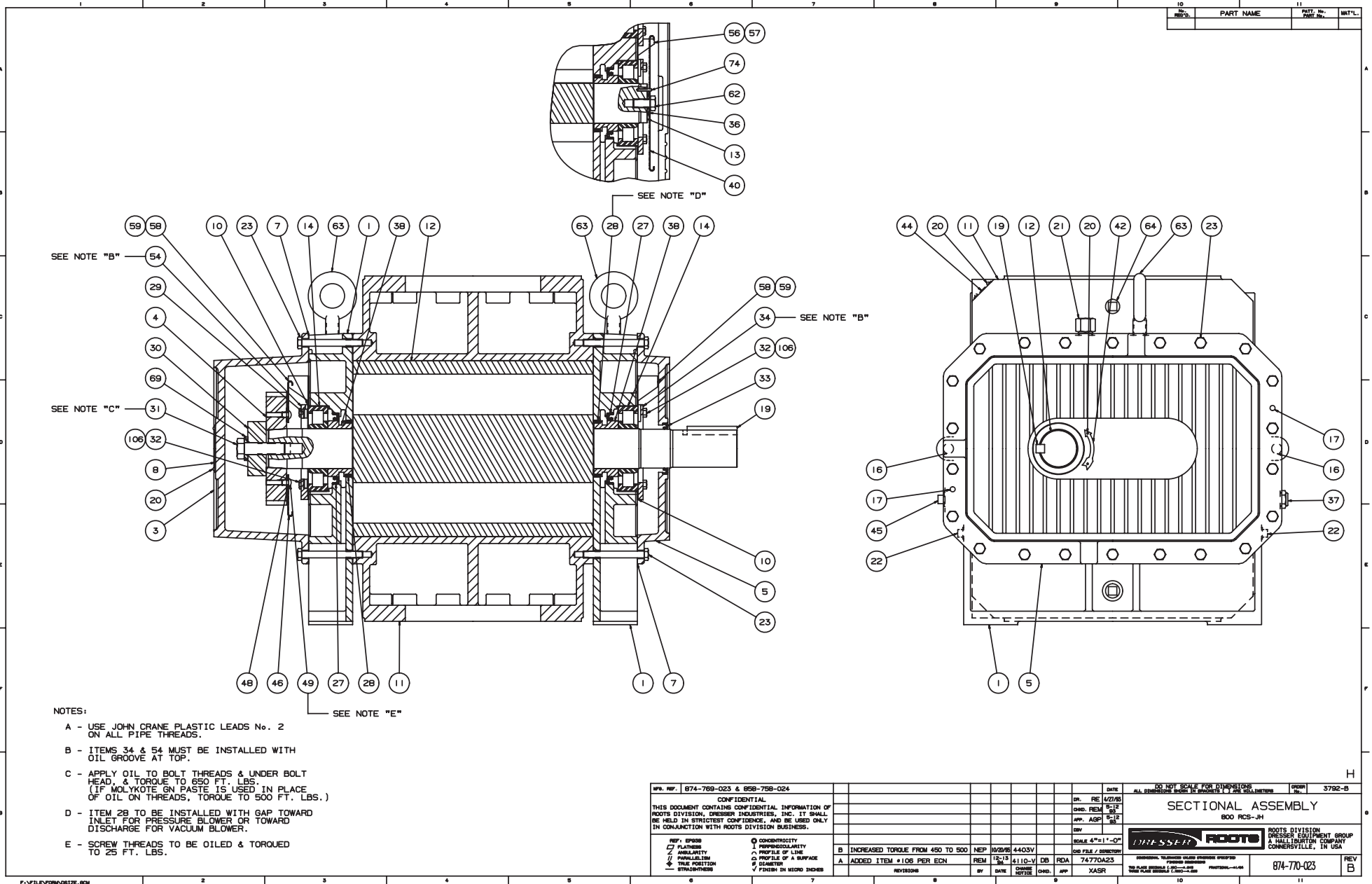


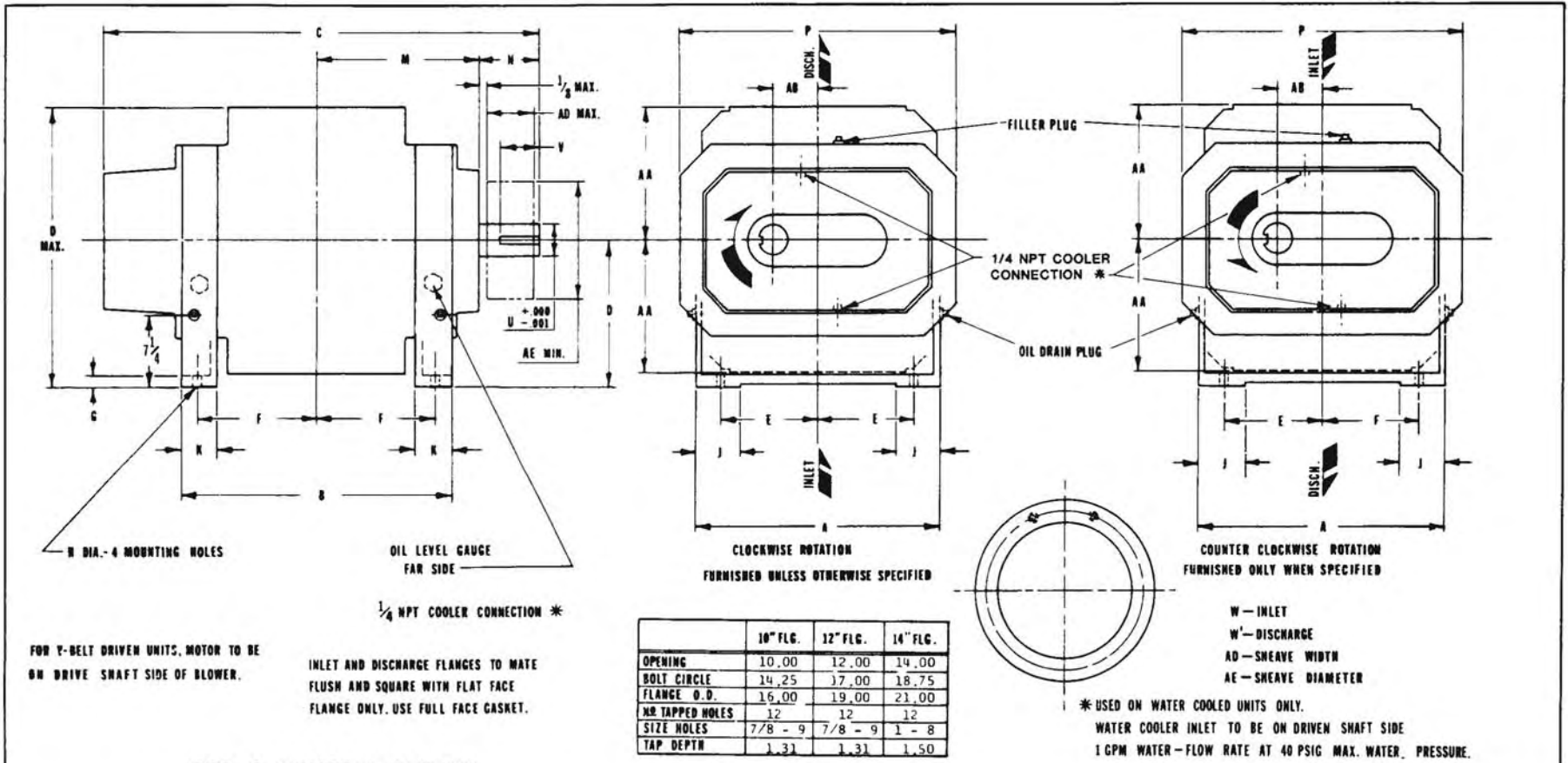
Figure 6 - Assembly of RCS-J WHISPAIR Vertical Style Blowers



- NOTES:
- A - USE JOHN CRANE PLASTIC LEADS No. 2 ON ALL PIPE THREADS.
 - B - ITEMS 34 & 54 MUST BE INSTALLED WITH OIL GROOVE AT TOP.
 - C - APPLY OIL TO BOLT THREADS & UNDER BOLT HEAD, & TORQUE TO 650 FT. LBS. (IF MOLYKOTE GN PASTE IS USED IN PLACE OF OIL ON THREADS, TORQUE TO 500 FT. LBS.)
 - D - ITEM 28 TO BE INSTALLED WITH GAP TOWARD INLET FOR PRESSURE BLOWER OR TOWARD DISCHARGE FOR VACUUM BLOWER.
 - E - SCREW THREADS TO BE OILED & TORQUED TO 25 FT. LBS.

W.P. REF. 874-769-023 & 858-758-024		DATE		DO NOT SCALE FOR DIMENSIONS		OWNER	
CONFIDENTIAL		DR. RE 4/21/85		ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED		3792-B	
THIS DOCUMENT CONTAINS CONFIDENTIAL INFORMATION OF ROOTS DIVISION, DRESSER INDUSTRIES, INC. IT SHALL BE HELD IN STRICTEST CONFIDENCE, AND BE USED ONLY IN CONNECTION WITH ROOTS DIVISION BUSINESS.		DMD. REM. SCL. 1/2"		SECTIONAL ASSEMBLY		ROOTS DIVISION	
		APP. AGR. SCL. 1/2"		800 RCS-JH		DRESSER EQUIPMENT GROUP	
		D.V.		SCALE 4"=1'-0"		A HALLIBURTON COMPANY	
		REV. 12-13		D.B. RDA 74-770A23		CONNEYSVILLE, IN USA	
		DATE		APP. XASR		874-770-023	
		REV. 12-13		APP. XASR		REV. B	
		DATE		APP. XASR		REV. B	
		DATE		APP. XASR		REV. B	

Figure 7 - Assembly of RCS-J WHISPAIR Horizontal Style Blowers



RCS-J WHISP AIR BLOWER

FRAME SIZE	A	B	C	D	E	F	G	H	J	K	M	N	O	P	U	V	KEYWAY	W	W'	AA	AB	AD	AE	OIL CAPACITY		APPROX. WEIGHT
																								G.E.	D.E.	
817JW	22.00	24.25	38.63	13.00	8.75	10.75	1.00	1.00	4.00	3.25	14.50	5.00	25.75	25.00	2.75	4.00	.625 x .313	10" FLG	10" FLG	12.75	4.00	7.19	13.2	256 FL. OZ.	120 FL. OZ.	1620 LBS.
821JW	"	27.88	42.25	"	"	12.56	"	"	"	"	16.31	"	"	"	"	"	"	12" FLG	10" FLG	"	"	"	"	"	"	1800 LBS.
826JW	"	33.13	47.50	"	"	15.19	"	"	"	"	18.94	"	"	"	"	"	"	12" FLG	12" FLG	"	"	"	"	"	"	2075 LBS.
832JW	"	38.50	52.88	"	"	17.88	"	"	"	"	21.63	"	"	"	"	"	"	14" FLG	12" FLG	"	"	"	"	"	"	2325 LBS.

CERTIFIED CORRECT FOR

CUSTOMER ORDER NO. _____

ROOTS ORD. NO. _____

DATE _____

V-BELT DRIVE DATA

BELTS _____

DRIVE SHEAVE _____

DRIVEN SHEAVE _____

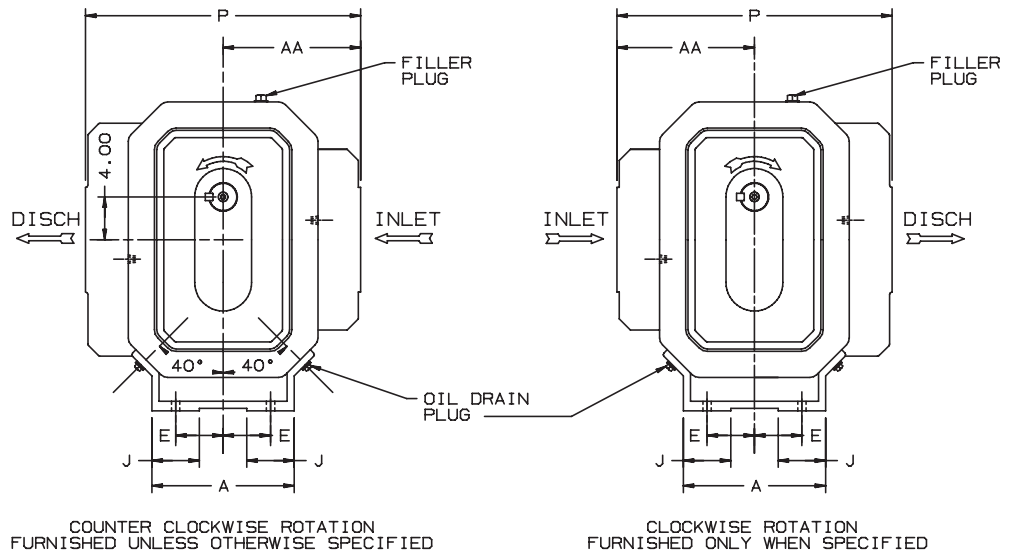
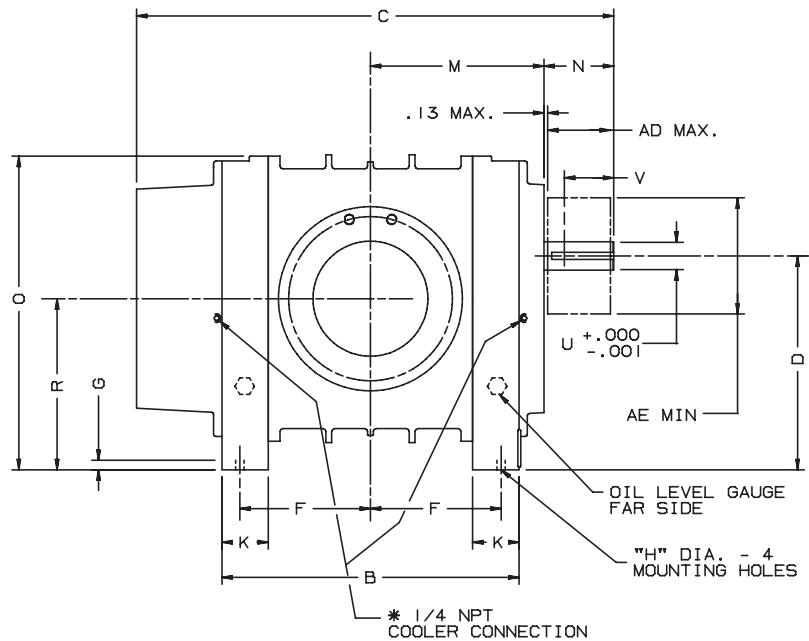
CENTER DISTANCE _____



DRESSER INDUSTRIES, INC.
 ROOTS OPERATIONS
 900 WEST MOUNT STREET, CONNERSVILLE, INDIANA 47331
 TELEPHONE: 317/825-2181

858-791-021

COOLER CON., REV. 100 8/21/82 9/74 - COOLER CONNECTIONS ADDED 8/12/82 REM REV. PER ECN 2820V 4/22/82 NS



FOR V-BELT DRIVEN UNITS
MOTOR TO BE LOCATED ON
INLET SIDE OF BLOWER

INLET AND DISCHARGE FLANGES TO MATE
FLUSH AND SQUARE WITH FLAT FACE
FLANGES ONLY. USE FULL FACE GASKETS

* USED ON OIL COOLED UNITS ONLY.
WATER COOLER INLET TO BE ON DISCHARGE SIDE OF HEADPLATE.
1 GPM WATER-FLOW RATE AT 40 PSIG MAX. WATER PRESSURE.

W - INLET
W' - DISCHARGE
AD - SHEAVE WIDTH
AE - SHEAVE DIAMETER
ALL DIMENSIONS IN INCHES

	10"FLG	12"FLG	14"FLG
OPENING	10.00	12.00	14.00
BOLT CIRCLE	14.25	17.00	18.75
FLANGE O.D.	16.00	19.00	21.00
No TAPPED HOLES	12	12	12
SIZE HOLES	7/8-9	7/8-9	1 - 8
TAP DEPTH	1.31	1.13	1.50

FRAME SIZE	A	B	C	D	E	F	G	H	J	K	M	N	O	P	R	U	V	KEYWAY	W	W'	AA	AD	AE	OIL CAPACITY		APPROX WEIGHT
																								G.E.	D.E.	
817	13.75	24.25	38.63	21.00	4.63	10.75	1.00	1.00	3.50	3.25	14.50	5.00	30.00	25.50	7.00	2.75	4.00	.625 X .313	10"FLG	10"FLG	12.75	7.19	13.2	144FL.OZ.	80FL.OZ.	1620 LBS
821	"	27.88	42.25	"	"	12.56	"	"	"	"	16.31	"	"	"	"	"	"	"	12"FLG	10"FLG	"	"	"	"	"	1800 LBS
826	"	33.13	47.50	"	"	15.19	"	"	"	"	18.94	"	"	"	"	"	"	"	12"FLG	12"FLG	"	"	"	"	"	2075 LBS
832	"	38.50	52.00	"	"	17.88	"	"	"	"	21.63	"	"	"	"	"	"	"	14"FLG	12"FLG	"	"	"	"	"	2325 LBS

CERTIFIED CORRECT FOR				V-BELT DRIVE DATA	
CUSTOMER ORDER No. _____				BELTS	
ROOTS ORDER No. _____		B	REV DIM (F) ON 832	RDR	7323V
DATE _____		A	REVISED PER ECN	MS	2820V
		REVISIONS		BY	DATE
				CHKD.	APP.
				CENTER DISTANCE	

RCS-J
WHISPAIR
BLOWER



Dresser ROOTS, Dresser, Inc.
Connersville, IN USA

DBN				58792021	REV. B
DR	CHKD	APP			

Figure 8 - Vertical and Horizontal Blower Oil Cooler Installation

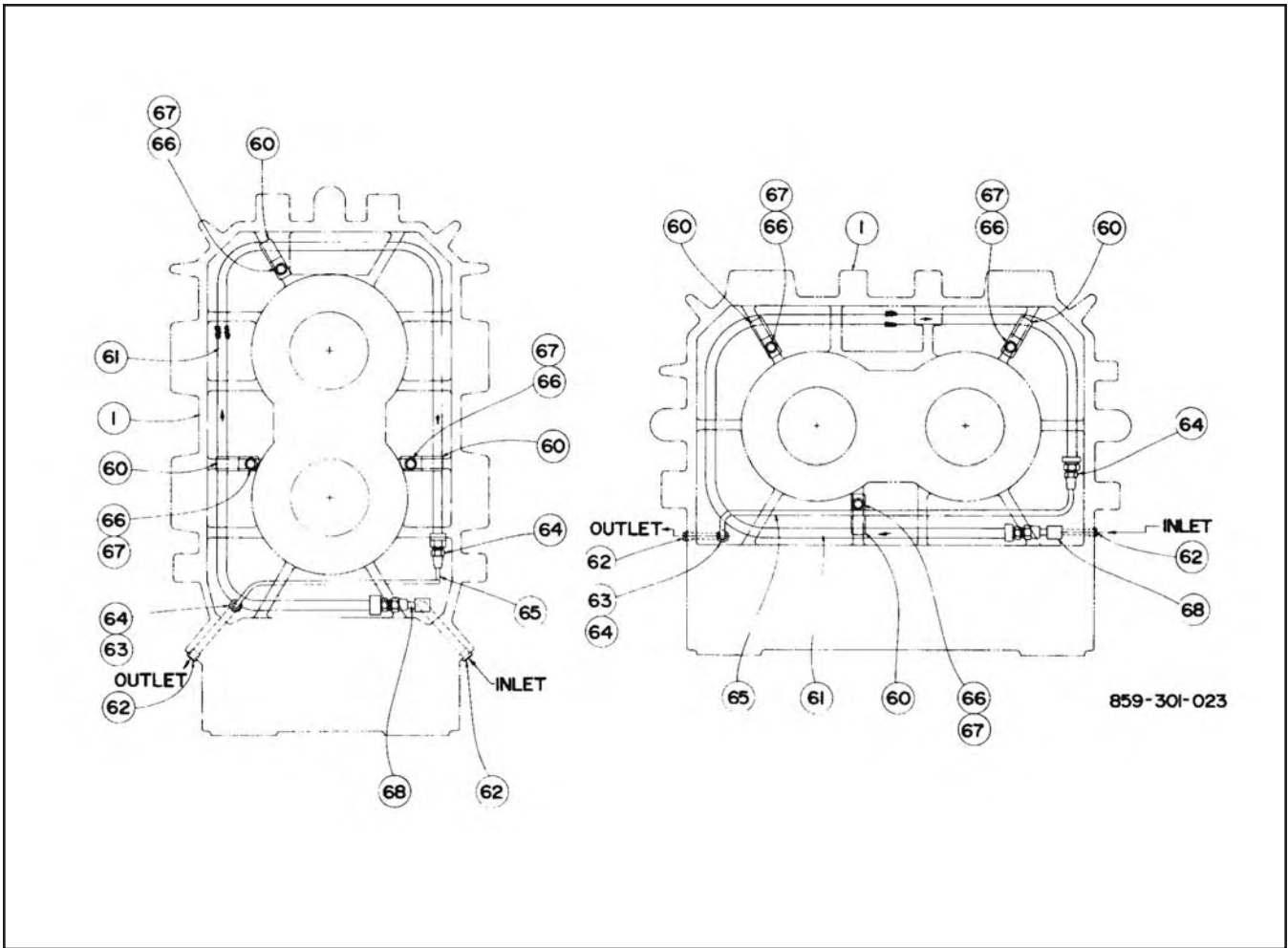


Table 7 - Parts Identification List for Figure 8

Item #	Part Name	Qty.
1	Headplate	2
60	Clamp - Oil Cooler	6
61	Oil Cooler	2
62	Cover Plug - Inlet, Outlet	4
63	Union	2
64	Union Nut	4
65	Copper Tubing	2
66	Lockwasher	6
67	Capscrew	6
68	Adapter	2

ROOTSTM RCS-J WHISPAIRTM Rotary Positive Blowers

Frames 715J thru 832J

BASIC BLOWER DESCRIPTION

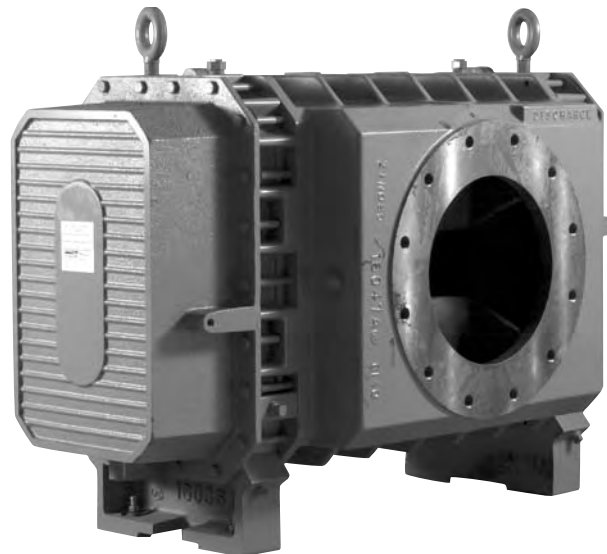
RCS-J WHISPAIRTM rotary blowers are heavy-duty units designed with integral-shaft ductile iron impellers having an involute profile. WHISPAIR blowers reduce noise and power loss by utilizing an exclusive wrap-around plenum and proprietary WHISPAIR jet to control pressure equalization – feeding backflow in the direction of impeller movement, thereby aiding rotation.

The headplates, gear cover, drive end cover and rigid, one-piece casing are grey iron. Carburized and ground alloy steel spur timing gears are taper mounted on the shafts, secured with a locknut. Cylindrical roller bearings are used.

Piston rings reduce air leakage through the shaft openings in the headplates, and lip-type oil seal prevent lubricant from entering the air chamber. The RCS-J incorporates thrust control, with splash oil lubrication at both ends of the blower.

Frame sizes 715J and 721J are designed with detachable rugged steel mounting feet that permit in-field adaptability to either vertical or horizontal installation requirements.

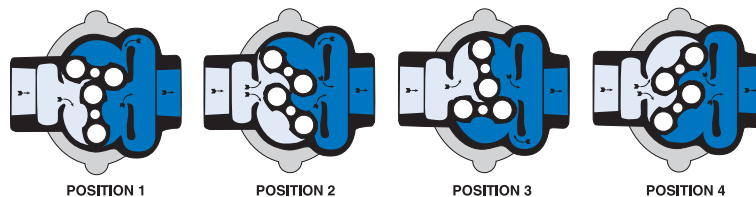
The top shaft is extended for drive on side outlet blowers, and either shaft can be extended for drive on top or bottom outlet blowers.



DESIGN AND CONSTRUCTION FEATURES

1. Low noise level, less operating power required
2. Alloy steel timing gears
3. Cylindrical roller bearings
4. Piston ring air seals
5. Lip-type oil seals
6. Splash oil lubrication
7. High volumetric efficiency
8. Horizontal and vertical configurations available

OPERATING PRINCIPLE



Incoming air is trapped by the impellers. Simultaneously, pressurized air (right) is being discharged. As the lower impeller passes wrap-around flange, Whispair jet equalizes pressure between trapped air and discharge area, aiding impeller movement and reducing power. Impellers move air into the discharge area (right). Backflow is controlled, resulting in reduction of noise relative to conventional blowers.

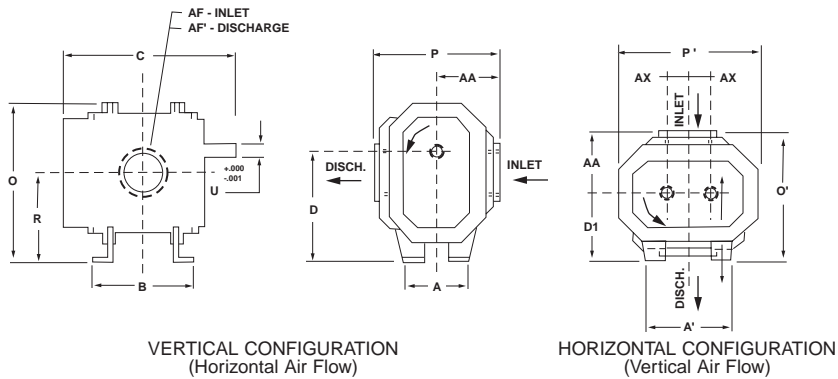


PERFORMANCE TABLE

FRAME SIZE	SPEED RPM	4 PSI		6 PSI		8 PSI		10 PSI		12 PSI		15 PSI		18 PSI		MAX. VACUUM		
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	"Hg	CFM	BHP
715J	1180	935	23.0	870	33.4	815	44.0	766	54.6	722	65.0	663	81.0			14.0	705	37.2
	1770	1548	37.3	1483	53.0	1428	68.8	1379	84.5	1335	100.3	1276	123.9			15.0	1281	61.4
	2600	2410	63.4	2345	86.0	2290	108.5	2241	131.0	2198	153.7	2138	187.5			15.0	2144	95.4
721J	1180	1266	30.5	1178	44.8	1103	59.0	1037	73.5	978	87.8	892	109.2			14.0	955	50.0
	1770	2096	49.1	2008	70.4	1933	91.7	1867	113.1	1808	134.4	1727	166.4			15.0	1735	81.7
	2600	3264	81.4	3176	112.0	3101	142.5	3035	173.1	2976	203.7	2895	249.5			15.0	2903	124.8
817J	880	982	24.9	895	36.8	821	48.7	756	60.6									
	1770	2368	55.0	2280	78.5	2206	102.0	2142	125.4	2083	148.9	2004	184.1	2055	219.4	16.0	1962	95.9
	2250	3116	75.6	3028	105.0	2955	134.0	2890	164.0	2830	193.0	2751	237.0	2680	281.0	16.0	2707	126.0
821J	880	1179	29.6	1074	43.9	985	58.1	907	72.4									
	1770	2842	65.7	2738	93.9	2648	122.1	2571	150.3	2500	178.4	2405	220.7			16.0	2354	114.8
	2250	3740	92.3	3635	127.0	3546	163.0	3468	198.0	3398	233.0	3302	286.0			16.0	3249	153.0
826J	880	1473	37.1	1342	55.0	1231	72.8	1134	90.7									
	1770	3554	81.4	3423	116.7	3311	151.9	3214	187.1	3126	222.3					16.0	2944	142.8
	2250	4676	105.0	4545	156.0	4434	200.0	4336	247.0	4248	288.0					16.0	4062	188.0
832J	880	1768	44.4	1610	65.8	1477	87.2	1360	108.6									
	1770	4264	97.5	4107	139.8	3972	182.0	3857	224.3							16.0	3531	168.4
	2250	5610	134.0	5452	186.0	5320	239.0	5202	292.0							16.0	4874	225.0

- Notes:**
1. Pressure ratings based on inlet air at standard pressure of 14.7 psia, standard temperature of 68° F, and specific gravity of 1.0.
 2. Vacuum ratings based on inlet air at standard temperature of 68°F, discharge pressure of 30" Hg and specific gravity of 1.0.
 3. 800J frame size only – Operation above 15 psi pressure rise, 15" Hg vacuum or 230° F temperature rise requires oil coolers – refer to Factory. Oil cooler not available on 600J and 700J frame sizes.

OUTLINE DRAWING & DIMENSIONAL TABLE



- NOTES:**
1. All dimensions are in inches.
 2. Do not use for construction.

FRAME SIZE	A	A'	B	C	Drive Shaft Location		O	O'	P	P'	R	U	Keyway	AF Inlet Diameter	AF' Discharge Diameter	AA	AX	Approx. NetWt (lbs)
					D	D1												
715J	19.00	26.00	21.50	33.38	17.00	10.00	25.13	19.00	18.00	23.25	13.50	2.375	.625 x.313	10.0 FLG	8.0 FLG	9.00	3.50	1100
721J	19.00	26.00	27.00	39.38	17.00	10.00	25.13	19.00	18.00	23.25	13.50	2.375	.625 x.313	12.0 FLG	10.0 FLG	9.00	3.50	1200
817J	13.75	22.00	24.25	38.63	21.00	13.00	30.00	25.75	25.50	25.00	17.00	2.750	.625 x.313	10.0 FLG	10.0 FLG	12.75	4.00	1620
821J	13.75	22.00	27.88	42.25	21.00	13.00	30.00	25.75	25.50	25.00	17.00	2.750	.625 x.313	12.0 FLG	10.0 FLG	12.75	4.00	1800
826J	13.75	22.00	33.13	47.50	21.00	13.00	30.00	25.75	25.50	25.00	17.00	2.750	.625 x.313	12.0 FLG	12.0 FLG	12.75	4.00	2075
832J	13.75	22.00	38.50	52.88	21.00	13.00	30.00	25.75	25.50	25.00	17.00	2.750	.625 x.313	14.0 FLG	12.0 FLG	12.75	4.00	2325

Dresser, Inc.



Roots

Dresser ROOTS
2135 Hwy 6 South
Houston, TX 77077
PH: 281-966-4700
FX: 281-966-4309
Toll Free: 1-877-363-ROOT(S)

Dresser ROOTS - Connersville
900 West Mount Street
Connersville, IN 47331
PH: 765-827-9200
FX: 765-827-9266

Dresser ROOTS - Holmes Operation
PO Box B7
Off St. Andrews Rd
Turnbridge, Huddersfield
England HD1 6RB
PH: +44-1484-422222
FX: +44-1484-422668

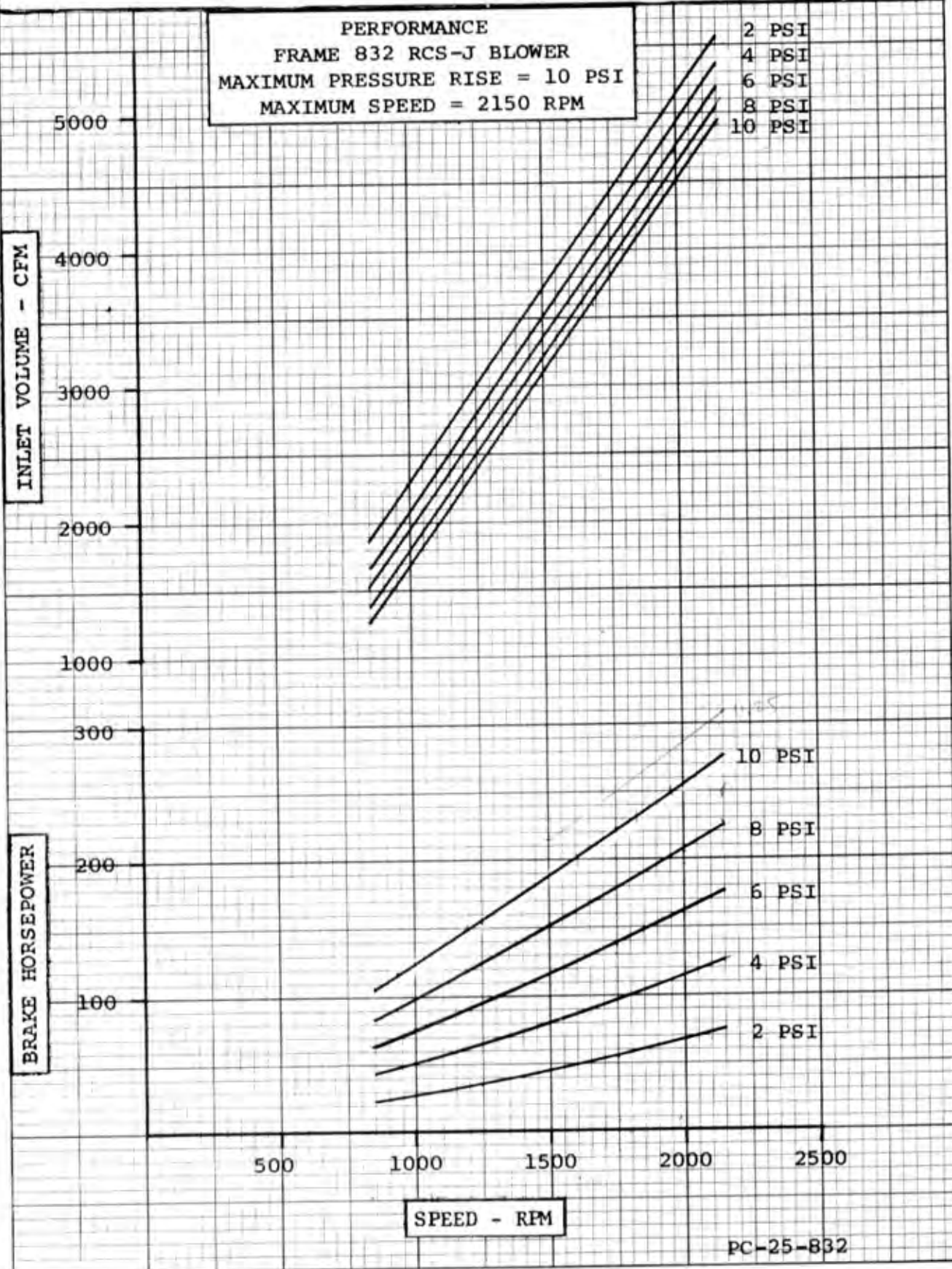
S-5197
February 2004

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Dresser Design is a registered trademark of Dresser, Inc.

website: www.rootsblower.com • email: ROOTS@dresser.com

DRESSER INDUSTRIES, INC.
ROOTS BLOWER OPERATION
CONNERSVILLE, INDIANA
PRINTED IN U.S.A.

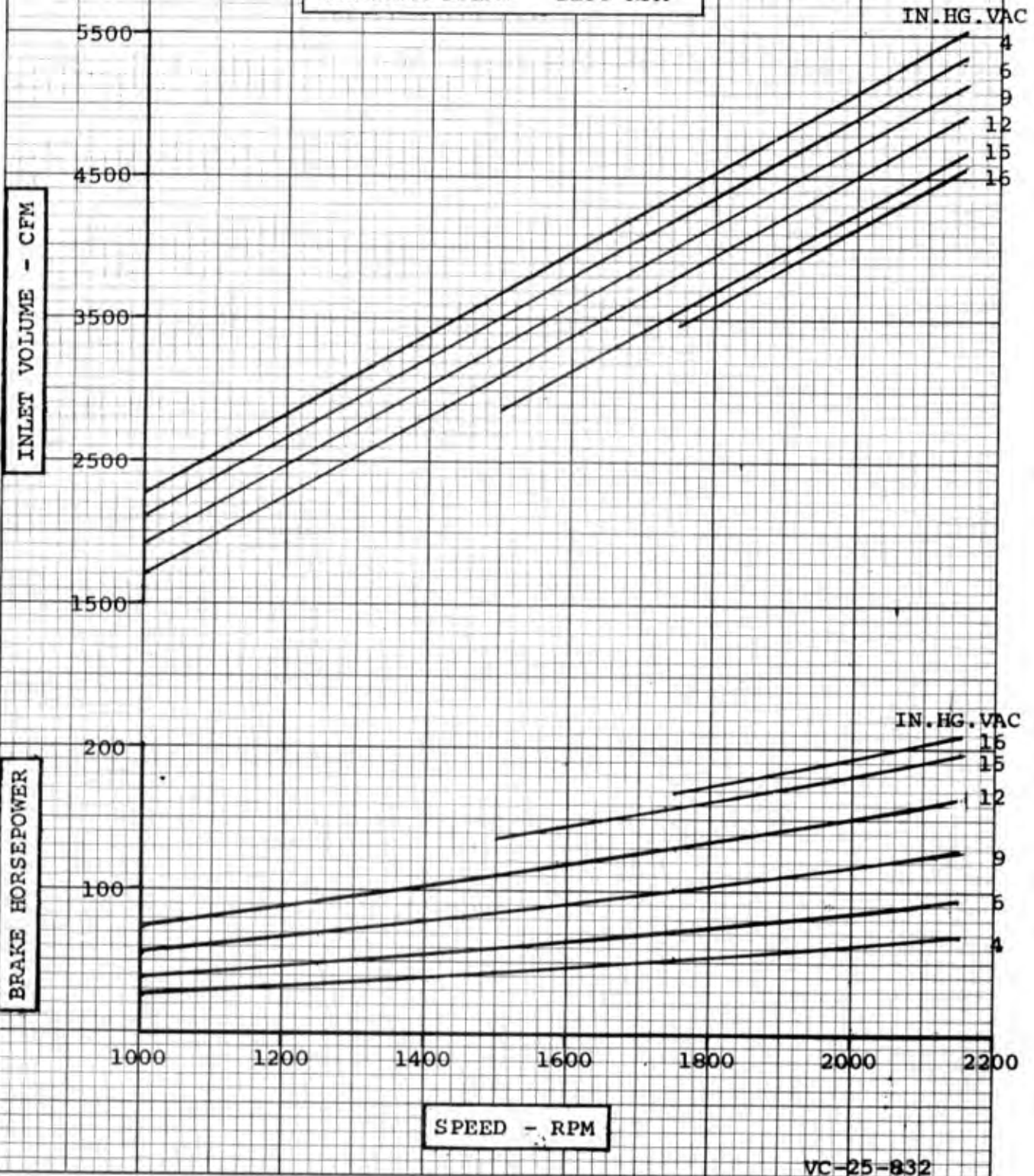
PERFORMANCE BASED ON
INLET AIR AT 14.7 PSIA & 68° F
MAY, 1980



DRESSER INDUSTRIES, INC.
ROOTS BLOWER OPERATION
CONNSVILLE, INDIANA
PRINTED IN U.S.A.

PERFORMANCE BASED ON 68°F
INLET AIR AND DISCHARGE
PRESSURE = 30" HG. ABS.
MAY, 1980

PERFORMANCE
FRAME 832 RCS-J BLOWER
MAXIMUM VACUUM = 16 IN. HG.
MAXIMUM SPEED = 2150 RPM



VC-25-832