



## OIL FIRED LOWBOY FURNACE SPECIFICATIONS

MODEL NO.	VLF-DBP (Front Flue) or VLR-DBP (Rear Flue) (BECKETT AFG)				VLF-DCP (Front Flue) or VLR-DCP (Rear Flue) (CARLIN EZ-1HP)			
	High Fire	Med-High Fire	Med-Low Fire [5]	Low Fire	High Fire	Med-High Fire	Med-Low Fire [5]	Low Fire
HEATING CAPACITY								
HEAT INPUT RATE (BTUH)	140,000	119,000	105,000	84,000	140,000	119,000	105,000	84,000
OUTPUT BTUH [1]	114,000	98,000	88,000	70,000	114,000	98,000	88,000	70,000
SEASONAL EFFICIENCY [2]	85.0%				86.0%			
LARGEST REC A/C	4 Tons				4 Tons			
NOMINAL TEMP RISE	70° F				70° F			
BIO FUEL APPROVAL	B20				B20			
CASING HEIGHT	41.5"				41.5"			
CASING WIDTH	22.25"				22.25"			
CASING DEPTH	47"				47"			
NOMINAL FLUE OUTLET DIA.	6"				6"			
APPROX SHIPPING WEIGHT (LBS)	305				305			
APPROVAL AGENCY	ETL				ETL			
QTY AND SIZE OF PERMANENT FILTERS	(2) 10" X 20"				(2) 10" X 20"			
ELECTRICAL REQUIREMENTS	120v / 60hz / 1ph				120v / 60hz / 1ph			
TOTAL CURRENT (AMPS)	11.2				11.2			
MAX FUSE SIZE (AMPS)	15				15			
HEIGHT FROM FLOOR TO CENTER OF FLUE	30.375"				30.375"			
SUPPLY AIR OUTLET SIZE	20" X 20"				20" X 20"			
RETURN AIR INLET SIZE	20" x 12.5"				20" x 12.5"			
	<b>ACCESSORY ITEMS</b>				<b>ACCESSORY ITEMS</b>			
FURNACE PARTS KIT	AOPS2695				-			
BURNER FRESH AIR VENT KIT	AOPS7482				AOPS7482			
SUPPLY PLENUM	PK20X202				PK20X202			
RETURN PLENUM	PK126X202				PK126X202			
BLOCKED VENT KIT [4]	350156				350156			
CASED COIL 2-3 TON	HE33936PA212				HE33936PA212			
CASED COIL 2-3 TON HIGH EFF.	HE47936PA212				HE47936PA212			
CASED COIL 3.5-4.0 TON	HE50960PA212				HE50960PA212			

1 OUTPUT BTUH BASED ON ANNUAL FUEL UTILIZATION EFFICIENCY RATED BY MANUFACTURER.

2 SEASONAL EFFICIENCY (ALSO CALLED AFUE - ANNUAL FUEL UTILIZATION EFFICIENCY) RATINGS ARE BASED ON TESTS FOLLOWING U.S. DEPARTMENT OF ENERGY TEST PROCEDURES.

4 NOT TO BE USED IN SIDEWALL VENT APPLICATIONS, USE ONLY WHEN CHIMNEY VENTED.

5 AFUE RATINGS AS SHIPPED.

**SEE NEXT PAGE FOR MORE DATA-**

## OIL FIRED HORIZONTAL/COUNTERFLOW FURNACE SPECIFICATIONS

MODEL NO.	VC-CBP (BECKETT AFG)		
	Med-High Fire	Med-Low Fire [5]	Low Fire
HEATING CAPACITY			
HEAT INPUT RATE (BTUH)	119,000	105,000	84,000
OUTPUT BTUH[1]	97,000	88,000	69,000
SEASONAL EFFICIENCY[2]	85.0%		
LARGEST REC A/C[3]	4 Tons		
NOMINAL TEMP RISE	70°	62°	70°
BIO FUEL APPROVAL	B20		
CASING HEIGHT	22.25" (in horizontal configuration, flue exits horizontally forward)		
	61.25" (in counterflow /vertical configuration)		
CASING WIDTH	61.25" (in horizontal configuration)"		
	22.25" (in counterflow /vertical configuration)		
CASING DEPTH	22.25"		
NOMINAL FLUE OUTLET DIA.	6"		
APPROX SHIPPING WEIGHT (LBS)	300		
APPROVAL AGENCY	ETL		
QTY AND SIZE OF PERMANENT FILTERS	NONE SUPPLIED		
ELECTRICAL REQUIREMENTS	120v / 60hz / 1ph		
TOTAL CURRENT (AMPS)	10.2		
MAX FUSE SIZE (AMPS)	15		
HEIGHT FROM FLOOR TO CENTER OF FLUE	11" (in horizontal configuration flue exits horizontally forward)		
	30.5" (in counterflow /vertical configuration, flue exits horizontally)		
SIDE/TOP			
SUPPLY AIR OUTLET SIZE	16" X 16"		
RETURN AIR INLET SIZE	16" X 16"		
	<b>ACCESSORY ITEMS</b>		
FURNACE PARTS KIT	AOPS2695		
COMBUSTIBLE FLOOR BASE	VC-BASE		
OPTIONAL 4 TON AIRFLOW KIT	S00S4140		
BURNER FRESH AIR VENT KIT	AOPS7482		
SUPPLY PLENUM	PK163X163		
RETURN PLENUM	PK163X163		
BLOCKED VENT KIT[4]	350156		
HORIZONTAL CASED COIL 2-3 TON[6]	HE33936CH210		
HORIZONTAL CASED COIL 2-3 TON[6]	HE47936CH210		
HORIZONTAL CASED COIL 3.5-4 TON[6]	HE50960CH210		

1 OUTPUT BTUH BASED ON ANNUAL FUEL UTILIZATION EFFICIENCY RATED BY MANUFACTURER.

2 SEASONAL EFFICIENCY (ALSO CALLED AFUE - ANNUAL FUEL UTILIZATION EFFICIENCY) RATINGS ARE BASED ON TESTS FOLLOWING U.S. DEPARTMENT OF ENERGY TEST PROCEDURES.

3 TO PERMIT LARGEST RECOMMENDED AIR CONDITIONING (AT .5 STATIC PRESSURE), OPTIONAL BLOWER UPGRADE KIT IS REQUIRED

4 NOT TO BE USED IN SIDEWALL VENT APPLICATIONS, USE ONLY WHEN CHIMNEY VENTED.

5 AFUE RATINGS AS SHIPPED.

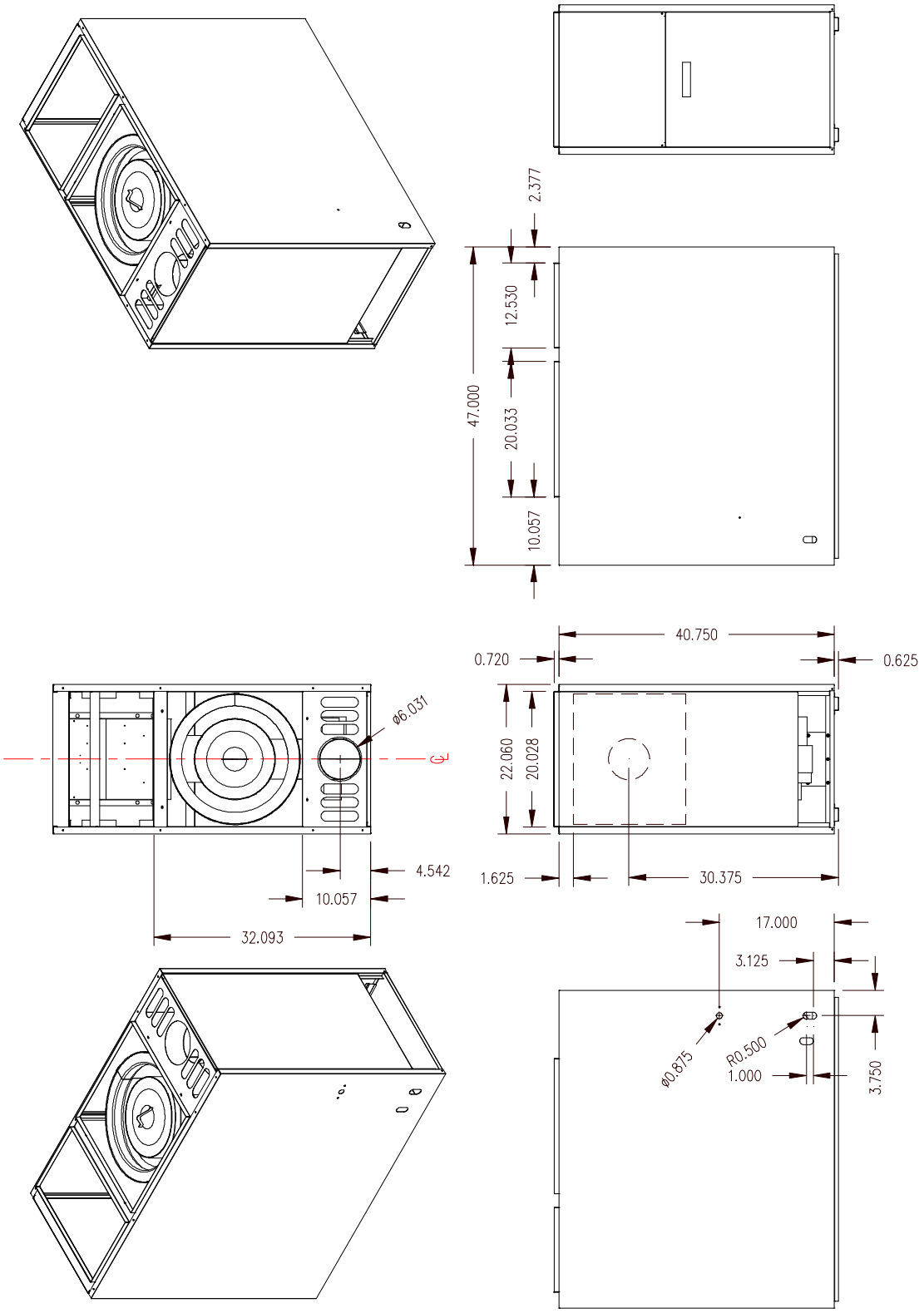
6 WILL NEED FIELD SUPPLIED TRANSITION TO CONNECT CASED COIL.

**SEE NEXT PAGE FOR MORE DATA-**

Model Number Digit	1	2	3		4	5	6
	<b>Model</b>	<b>Configuration</b>	<b>Flue</b>		<b>Design Change</b>	<b>Burner</b>	<b>Blower Motor</b>
<b>Oil Furnace Model Nomenclature Example Model Numbers</b>	<b>V</b>	<b>L</b>	<b>F</b>	<b>-</b>	<b>D</b>	<b>B</b>	<b>P</b>
<b>V=Product Line Designation</b>	<b>V</b>						
<b>L = Lowboy, C = Counterflow/Horizontal</b>		<b>L</b>					
<b>F = Front, R = Rear (VL series option only)</b>			<b>F</b>				
				<b>-</b>			
<b>Design Change</b>					<b>D</b>		
<b>Burner Type: B = Beckett AFG, C = Carlin</b>						<b>B</b>	
<b>Motor Type: P=PSC, T= CTM (Constant torque ECM)</b>							<b>P</b>

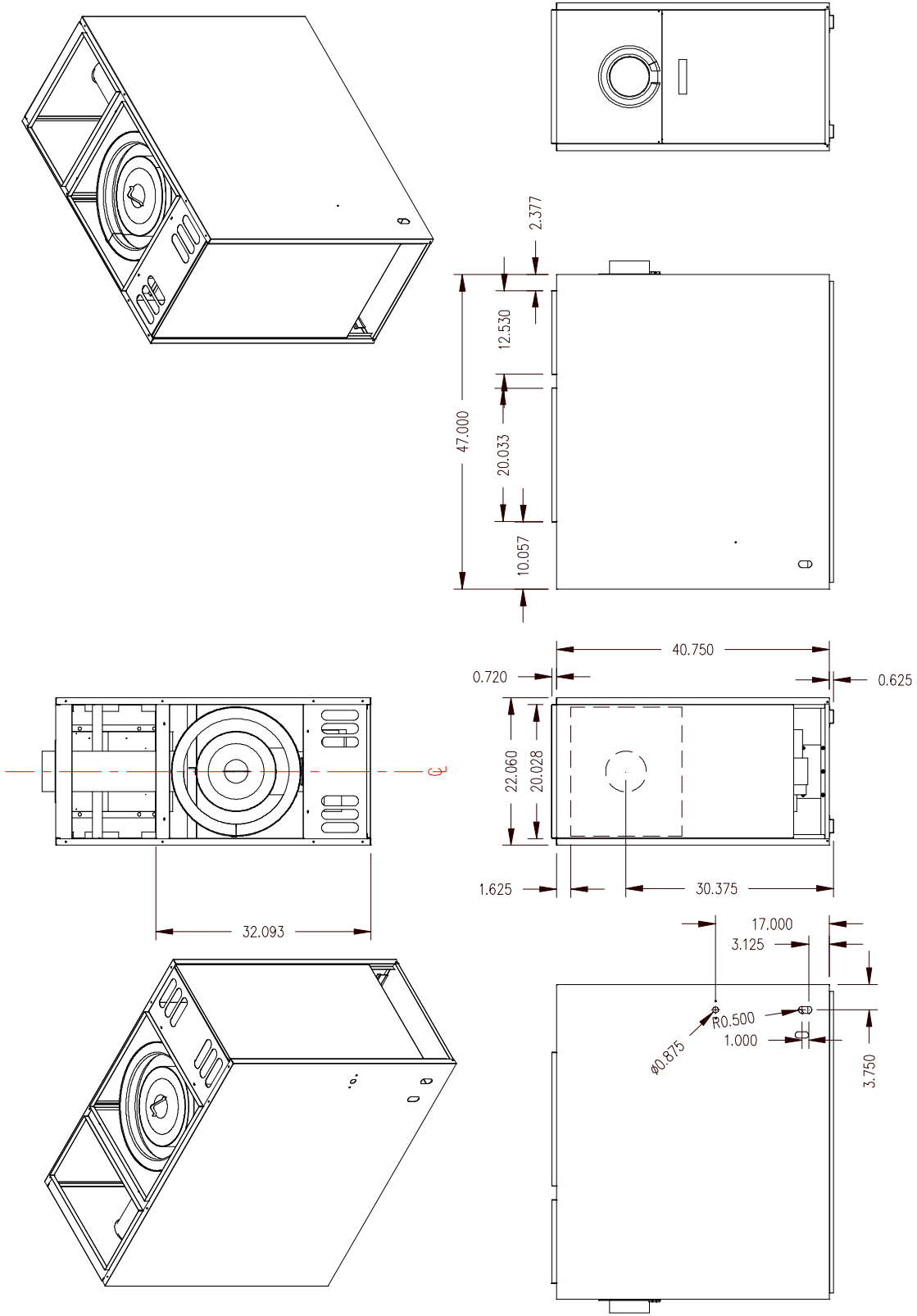
SEE NEXT PAGE FOR MORE DATA-

# OIL FIRED LOWBOY FRONT FLUE FURNACE SPECIFICATIONS



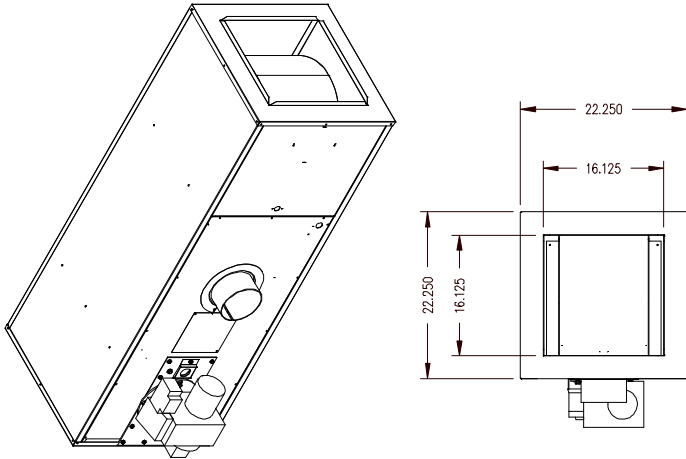
SEE NEXT PAGE FOR MORE DATA-

# OIL FIRED LOWBOY REAR FLUE FURNACE SPECIFICATIONS

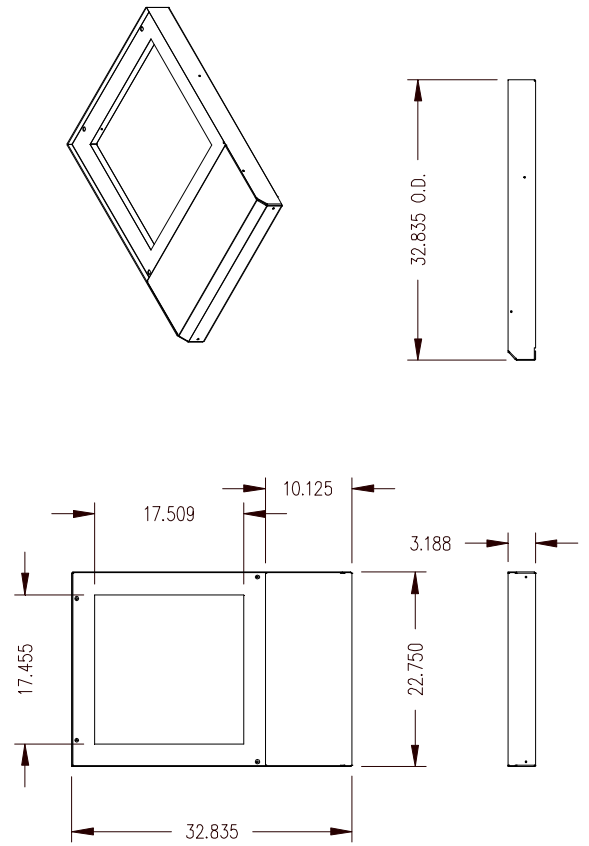
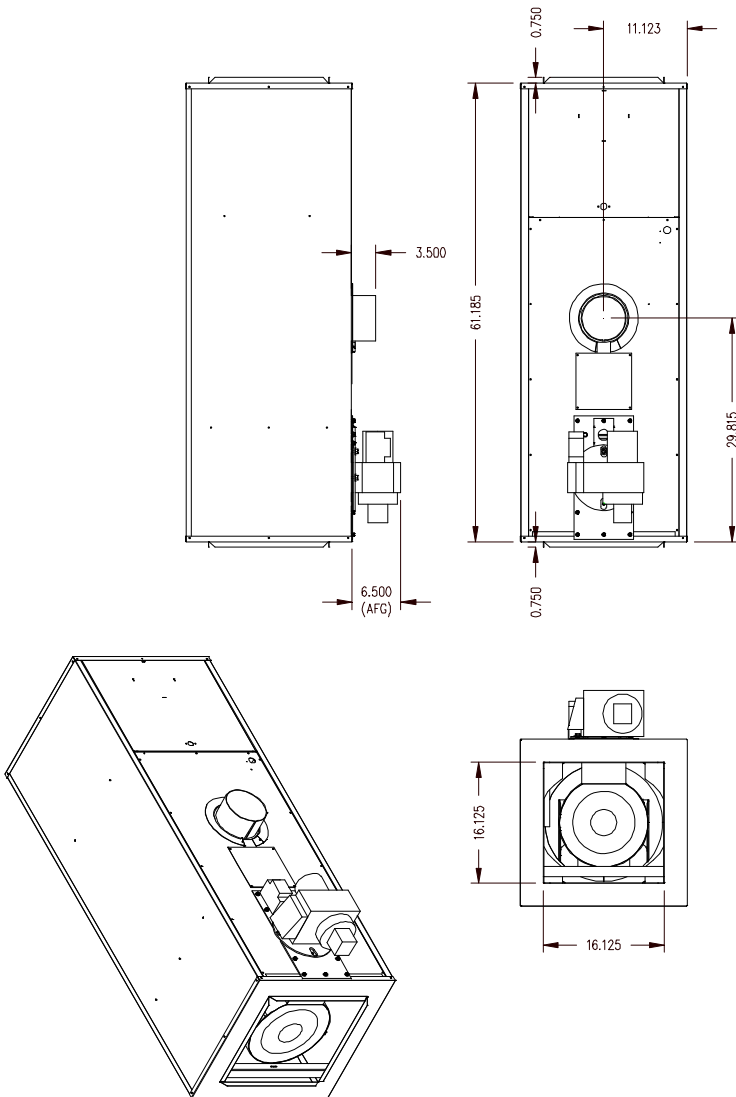


SEE NEXT PAGE FOR MORE DATA-

# OIL FIRED HORIZONTAL/COUNTERFLOW FURNACE SPECIFICATIONS



# COMBUSTIBLE FLOOR BASE



SEE NEXT PAGE FOR MORE DATA-

<b>BLOWER DATA:</b>	<b>VLF-D*P</b>	<b>VLR-D*P</b>	<b>VC-CBP</b>
BLOWER MODEL DIRECT DRIVE	10-9R		
MOTOR H.P.	3/4 HP	3/4 HP	1/2 HP
MOTOR TYPE & NUMBER OF SPEEDS	Permanent split capacitor, 4		
HIGH SPEED AIRFLOW (SCFM) @ 0.5 IN. W.G. EXTERNAL STATIC PRESSURE:	1500	1500	1350

<b>BLOWER DATA:</b>	<b>N/A</b>	<b>N/A</b>	<b>VC-CBP</b>
<b>OPTIONAL 4TON AIRFLOW KIT</b>			
BLOWER MODEL DIRECT DRIVE			12-9T
MOTOR H.P.			¾ HP
MOTOR TYPE & NUMBER OF SPEEDS			PSC-4
HIGH SPEED AIRFLOW (SCFM) @ 0.5 IN. W.G. EXTERNAL STATIC PRESSURE:			1648

<b>BURNER DATA</b>	<b>R.W. BECKETT pressure atomizing type, Model AFG</b>			
AIR TUBE LENGTH (IN.)	5.875, effective			
BURNER HEAD TYPE:	Fixed, flame retention			
FUEL TYPE / BIO APPROVAL:	#2 distillate (domestic heating oil) / B20			
NOZZLE RATING (GPH):	1.0	0.85	0.75	0.6
SPRAY ANGLE (DEG.):	80°			
SPRAY PATTERN:	HOLLOW (A)			
OIL PUMP PRESSURE (PSIG):	130 PSI			
COMBUSTION CHAMBER TYPE:	Preformed, refractory (ceramic fiber matrix material)			

<b>BURNER DATA</b>	<b>CARLIN EZ-1HP</b>			
AIR TUBE LENGTH (IN.)	5.875, effective			
BURNER HEAD TYPE:	N/A			
FUEL TYPE / BIO APPROVAL:	#2 distillate (domestic heating oil) / B20			
NOZZLE RATING (GPH):	0.85	0.75	0.65	0.55
SPRAY ANGLE (DEG.):	60°	60°	60°	70°
SPRAY PATTERN:	HOLLOW (A)			
OIL PUMP PRESSURE (PSIG):	140 PSI			
COMBUSTION CHAMBER TYPE:	Preformed, refractory (ceramic fiber matrix material)			

<b>CLEARANCES</b>	<b>VLF-D*P</b>	<b>VLR-D*P</b>	<b>VC-CBP</b>
	MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS:		
SIDES	3"	3"	3"
FRONT (SERVICE ACCESS)	8"	3"	22"
REAR	3"	3"	3"
FLUE	9"	9"	9"
TOP PLENUM	3"	3"	3"
SIDES PLENUM	3"	3"	3"

SEE NEXT PAGE FOR MORE DATA-

**VLF-D\*P  
4 Ton**

<b>ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE</b>					
COOLING UNIT	<b>Heating Speed by Input</b>				Recommended CLG Speed
	Low Fire	ML Fire	MH Fire	High Fire	
	84,000	105,000	119,000	140,000	
24,000	Low	ML	MH	High	Low
30,000	Low	ML	MH	High	Low
36,000	Low	ML	MH	High	ML
42,000	Low	ML	MH	High	MH
48,000	Low	ML	MH	High	High

Speed Tap\ Static Pressure	<b>Furnace Airflow (CFM) vs. External Static pressure (in. WC.)</b>						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	1103	1106	1080	1056	1023	981	858
ML	1358	1339	1309	1264	1216	1167	1098
MH	1620	1572	1511	1443	1376	1311	1224
High	1920	1822	1730	1649	1564	1483	1397
	<b>Blower Motor Current Draw (Amps) vs. External Static Pressure (in. WC.)</b>						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	5.39	5.12	4.86	4.64	4.37	4.16	3.70
ML	6.55	6.33	6.04	5.72	5.44	5.11	4.80
MH	7.68	7.24	6.92	6.56	6.21	5.93	5.54
High	11.3	11	10.7	10.5	10.3	10.1	9.98

**SEE NEXT PAGE FOR MORE DATA -**



## VLF-D\*P 4 Ton

Speed Tap\ Static Pressure	High Fire (140,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	96	95	98	100	103	108	123
ML	78	79	81	84	87	90	96
MH	65	67	70	73	77	81	86
High	55	58	61	64	67	71	76

Speed Tap\ Static Pressure	Med-High Fire (119,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	82	82	84	86	89	92	106
ML	67	68	69	72	75	78	83
MH	56	58	60	63	66	69	74
High	47	50	52	55	58	61	65

Speed Tap\ Static Pressure	Med-Low Fire (105,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	73	73	75	76	79	82	94
ML	59	60	62	64	66	69	73
MH	50	51	53	56	59	61	66
High	42	44	47	49	52	54	58

Speed Tap\ Static Pressure	Low Fire (84,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	59	59	60	61	63	66	76
ML	48	48	50	51	53	56	59
MH	40	41	43	45	47	49	53
High	34	36	37	39	41	44	46



**Recommended Operation Range**

**SEE NEXT PAGE FOR MORE DATA –**

**VLR-D\*P  
4 Ton**

<b>ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE</b>					
COOLING UNIT	Heating Speed by Input				Recommended CLG Speed
	Low Fire	ML Fire	MH Fire	High Fire	
	84,000	105,000	119,000	140,000	
24,000	Low	ML	MH	High	Low
30,000	Low	ML	MH	High	Low
36,000	Low	ML	MH	High	ML
42,000	Low	ML	MH	High	MH
48,000	Low	ML	MH	High	High

Speed Tap\ Static Pressure	Furnace Airflow (CFM) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	1110	1107	1091	1068	1031	973	887
ML	1366	1330	1303	1247	1187	1124	1046
MH	1622	1545	1484	1419	1356	1274	1172
High	1844	1771	1694	1612	1538	1451	1355
	Blower Motor Current Draw (Amps) vs. External Static Pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	5.34	5.2	4.95	4.76	4.5	4.19	3.86
ML	6.33	6.15	5.86	5.48	5.18	4.83	4.57
MH	7.61	7.11	6.72	6.34	6.08	5.74	5.36
High	11	10.8	10.6	10.4	10.2	10	9.9

**SEE NEXT PAGE FOR MORE DATA –**

**VLR-D\*P  
4 Ton**

Speed Tap\ Static Pressure	High Fire (140,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	95	95	97	99	102	108	119
ML	77	79	81	85	89	94	101
MH	65	68	71	74	78	83	90
High	57	60	62	65	69	73	78

Speed Tap\ Static Pressure	Med-High Fire (119,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	82	82	83	85	88	93	102
ML	66	68	70	73	76	81	87
MH	56	59	61	64	67	71	77
High	49	51	54	56	59	63	67

Speed Tap\ Static Pressure	Med-Low Fire (105,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	73	73	74	75	78	83	91
ML	59	61	62	65	68	72	77
MH	50	52	54	57	59	63	69
High	44	45	48	50	52	56	59

Speed Tap\ Static Pressure	Low Fire (84,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	58	59	59	61	63	67	73
ML	47	49	50	52	55	58	62
MH	40	42	44	46	48	51	55
High	35	37	38	40	42	45	48



**Recommended Operation Range**

**SEE NEXT PAGE FOR MORE DATA –**

**VC-CBP  
3.5 Ton**

<b>ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE</b>					
COOLING UNIT	Heating Speed by Input				Recommended CLG Speed
	Low Fire	ML Fire	MH Fire	High Fire	
	80,000	105,000	119,000		
24,000	Low	ML	MH		Low
30,000	Low	ML	MH		Low
36,000	Low	ML	MH		MH
42,000	Low	ML	MH		High
48,000					

Speed Tap\ Static Pressure	Furnace Airflow (CFM) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	1166	1139	1107	1064	1017	955	871
ML	1320	1274	1228	1176	1111	1043	950
MH	1447	1397	1343	1284	1209	1127	1043
High	1616	1550	1482	1406	1347	1231	1144
	Blower Motor Current Draw (Amps) vs. External Static Pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	4.66	4.43	4.24	4.00	3.78	3.56	3.29
ML	5.19	4.87	4.63	4.39	4.14	3.91	3.65
MH	5.70	5.41	5.17	4.88	4.64	4.40	4.17
High	7.15	6.92	6.72	6.52	6.36	6.09	5.93

**SEE NEXT PAGE FOR MORE DATA –**

**VC-CBP  
3.5 Ton**

Speed Tap\ Static Pressure	Med-High Fire (119,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	78	80	82	85	89	95	104
ML	69	71	74	77	82	87	96
MH	63	65	68	71	75	81	87
High	56	59	61	65	67	74	79

Speed Tap\ Static Pressure	Med-Low Fire (105,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	69	71	73	76	79	84	92
ML	61	63	66	68	73	77	85
MH	56	58	60	63	67	71	77
High	50	52	54	57	60	65	70

Speed Tap\ Static Pressure	Low Fire (84,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	56	57	59	61	64	68	74
ML	49	51	53	55	58	62	68
MH	45	46	48	50	54	58	62
High	40	42	44	46	48	53	57



**Recommended Operation Range**

**SEE NEXT PAGE FOR MORE DATA –**

## VC-CBP 4 Ton

ALTERATIONS REQ'D FOR A/C @ DESIGN EXTERNAL STATIC PRESSURE					
COOLING UNIT	Heating Speed by Input				Recommended CLG Speed
	Low Fire	ML Fire	MH Fire	High Fire	
	84,000	105,000	119,000		
24,000	Low	ML	MH		Low
30,000	Low	ML	MH		Low
36,000	Low	ML	MH		ML
42,000	Low	ML	MH		MH
48,000	Low	ML	MH		High

Speed Tap\ Static Pressure	Furnace Airflow (CFM) vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	1116	1105	1084	1058	1038	1001	955
ML	1355	1342	1311	1273	1230	1183	1133
MH	1615	1572	1521	1468	1412	1355	1308
High	1901	1837	1790	1714	1648	1584	1496
	Blower Motor Current Draw (Amps) vs. External Static Pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	5.21	5.05	4.91	4.73	4.62	4.40	4.18
ML	6.29	6.07	5.88	5.69	5.48	5.21	5.01
MH	7.47	7.18	6.93	6.63	6.33	6.15	5.92
High	11.1	11.0	10.8	10.6	10.5	10.4	10.1

SEE NEXT PAGE FOR MORE DATA –

## VC-CBP 4 Ton

Speed Tap\ Static Pressure	Med-High Fire (119,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	81	82	84	86	87	91	95
ML	67	68	69	71	74	77	80
MH	56	58	60	62	64	67	69
High	48	49	51	53	55	57	61

Speed Tap\ Static Pressure	Med-Low Fire (105,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	72	73	74	76	78	80	84
ML	59	60	61	63	65	68	71
MH	50	51	53	55	57	59	62
High	42	44	45	47	49	51	54

Speed Tap\ Static Pressure	Low Fire (84,000 BTU/HR Input) Temp Rise vs. External Static pressure (in. WC.)						
	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Low	58	59	60	61	62	65	68
ML	48	48	49	51	53	55	57
MH	40	41	43	44	46	48	50
High	34	35	36	38	39	41	43



**Recommended Operation Range**