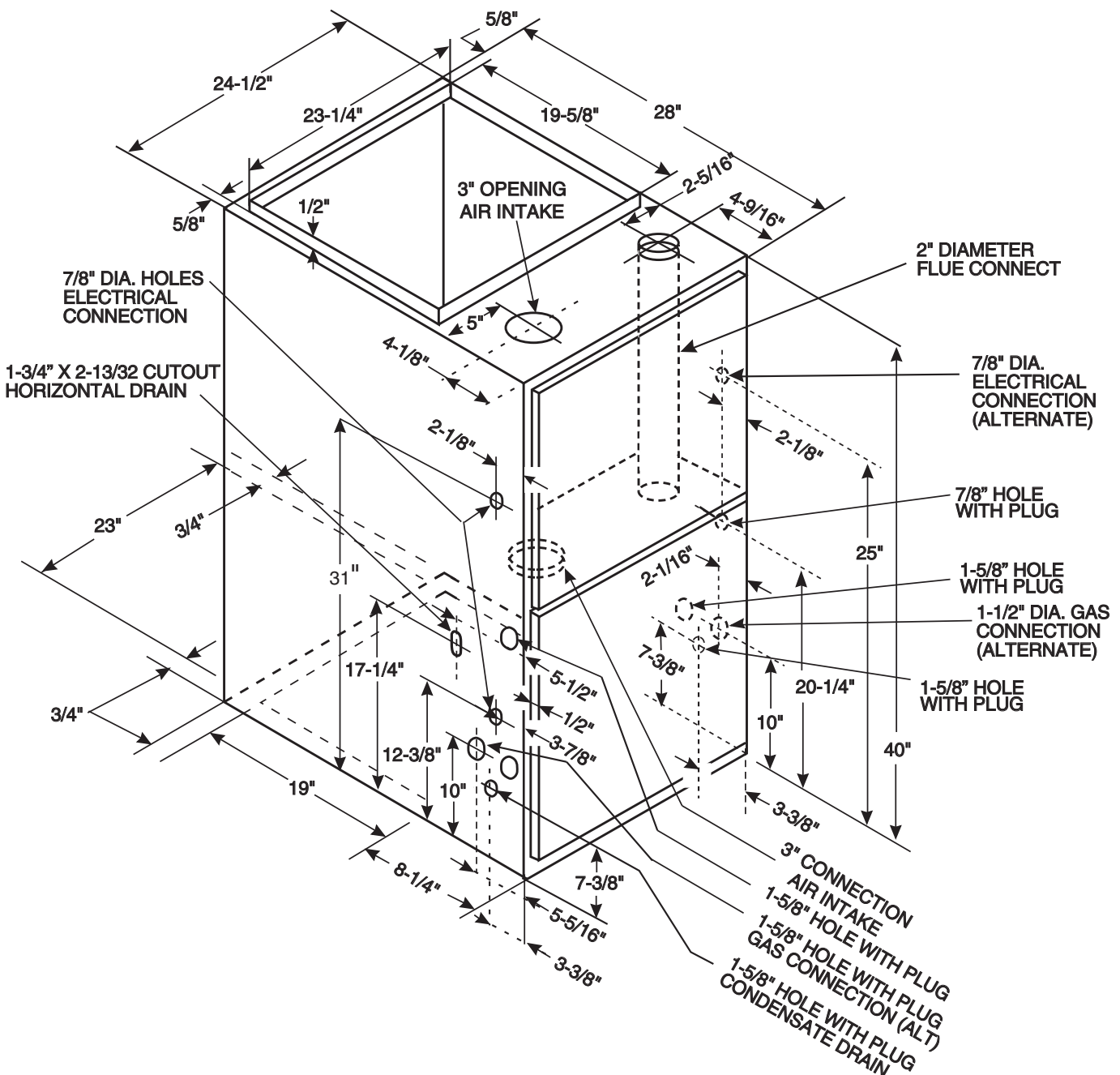


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SUBMITTAL

TDHMD120BCV5VB ADHMD120BCV5VB

Communicating Downflow/Horizontal Right Direct/Non-Direct Vent Modulating Gas Furnace with Variable Speed Inducer



TDHMD120 Airflow - Heating

DHMD120BCV5VB Furnace Heating Airflow (CFM) and Power (Watts) vs. External Static Pressure With Filter								
Heating	Airflow Setting	Target Airflow (See Note 5)	External Static Pressure					
			0.1	0.3	0.5	0.7	0.9	
40% (low) Heat	Low	780	CFM	827	870	800	779	785
			Temp. Rise	57	55	59	61	60
			Watts	76	98	142	175	212
	Medium Low	827	CFM	871	917	846	827	834
			Temp. Rise	55	52	56	57	57
			Watts	85	108	153	188	226
	Medium**	870	CFM	911	959	889	872	878
			Temp. Rise	52	50	53	54	54
			Watts	94	117	165	201	240
	High	959	CFM	994	1047	977	964	969
			Temp. Rise	48	45	49	49	49
			Watts	116	140	191	230	272
65% (medium) Heat	Low	1195	CFM	1214	1282	1211	1209	1212
			Temp. Rise	57	54	57	57	57
			Watts	193	223	285	334	385
	Medium Low	1267	CFM	1281	1353	1282	1283	1286
			Temp. Rise	54	51	54	53	53
			Watts	224	255	322	375	431
	Medium**	1469	CFM	1470	1553	1482	1493	1493
			Temp. Rise	47	44	46	46	46
			Watts	329	366	449	517	592
	High	1685	CFM	1671	1767	1696	1717	1715
			Temp. Rise	41	39	40	40	40
			Watts	479	519	633	722	831
100% (high) Heat	Low	1660	CFM	1648	1743	1671	1691	1690
			Temp. Rise	64	61	63	62	62
			Watts	459	499	609	695	799
	Medium Low	1760	CFM	1741	1842	1770	1795	1792
			Temp. Rise	61	57	60	59	59
			Watts	541	582	709	808	932
	Medium**	1850	CFM	1825	1931	1859	1888	1885
			Temp. Rise	58	55	57	56	56
			Watts	624	663	811	922	1068
	High	2040	CFM	2002	1983	1977	1902	1853
			Temp. Rise	53	53	53	55	57
			Watts	827	925	925	925	925

Notes:

- * First letter may be "A" or "T".
- ^ Letter may be "A" through "Z".
- ** Factory setting.
- Continuous Fan Setting: Heating or cooling airflow is approximately 50% of selected cooling value.
- LOW 350 cfm/ton is recommended for variable speed application for COMFORT & HUMID CLIMATE setting; NORMAL is 400 cfm/ton; HIGH 450 cfm/ton is for DRY CLIMATE setting.
- Target airflow is field selectable for high (100%) heat. Target airflow for low and medium heat are percentages of high heat and are not field selectable.

TDHMD120 Airflow - Cooling

DHMD120BCV5VB Furnace Cooling Airflow (CFM) & Power (Watts) vs. External Static Pressure w/Filter								
Cooling	Unit Outdoor Size (tons)	Airflow Setting	External Static Pressure					
			0.1	0.3	0.5	0.7	0.9	
3.5	290 CFM/ton	CFM	1046	1103	1032	1027	1022	
		Watts	131	157	210	251	295	
	310 CFM/ton	CFM	1111	1172	1102	1099	1095	
		Watts	153	180	237	280	326	
	330 CFM/ton	CFM	1177	1242	1171	1171	1167	
		Watts	178	207	266	313	363	
	350 CFM/ton	CFM	1242	1311	1240	1243	1240	
		Watts	205	236	300	350	404	
	370 CFM/ton	CFM	1307	1381	1310	1315	1312	
		Watts	236	269	337	392	450	
	400 CFM/ton	CFM	1405	1485	1414	1422	1421	
		Watts	289	325	401	464	531	
	430 CFM/ton	CFM	1503	1589	1518	1530	1530	
		Watts	351	389	476	547	627	
	450 CFM/ton	CFM	1569	1658	1587	1602	1603	
		Watts	397	436	533	610	700	
	4	290 CFM/ton	CFM	1181	1247	1176	1176	1172
			Watts	180	209	269	316	365
310 CFM/ton		CFM	1256	1326	1255	1258	1255	
		Watts	212	243	308	359	413	
330 CFM/ton		CFM	1331	1405	1335	1340	1338	
		Watts	248	282	352	408	468	
350 CFM/ton		CFM	1405	1485	1414	1422	1421	
		Watts	289	325	401	464	531	
370 CFM/ton		CFM	1480	1564	1493	1505	1504	
		Watts	336	373	457	526	602	
400 CFM/ton		CFM	1592	1683	1612	1628	1629	
		Watts	415	454	554	634	728	
430 CFM/ton	CFM	1704	1802	1731	1751	1753		
	Watts	507	548	667	761	877		
450 CFM/ton	CFM	1778	1882	1810	1833	1836		
	Watts	577	617	753	857	991		
5	290 CFM/ton	CFM	1452	1534	1463	1474	1473	
		Watts	318	354	436	502	574	
	310 CFM/ton	CFM	1545	1634	1562	1577	1577	
		Watts	380	419	512	587	673	
	330 CFM/ton	CFM	1639	1733	1661	1679	1681	
		Watts	452	492	599	685	787	
	350 CFM/ton	CFM	1732	1832	1760	1782	1784	
		Watts	533	573	699	796	918	
	370 CFM/ton	CFM	1825	1931	1859	1885	1888	
		Watts	624	663	811	922	925	
	400 CFM/ton	CFM	1965	2080	1977	1902	1853	
		Watts	781	925	925	925	925	
430 CFM/ton	CFM	2064	2229	1977	1902	1853		
	Watts	925	925	925	925	925		
450 CFM/ton	CFM	2064	2250	1977	1902	1853		
	Watts	925	925	925	925	925		

NOTE:

CONTINUOUS fan mode during COOLING operation may not be appropriate in humid climates. If the indoor air exceeds 60% relative humidity or simply feels uncomfortably humid, it is recommended that the fan only be used in the AUTO mode.

Notes:

- * First letter may be "A" or "T".
- ^ Letter may be "A" through "Z".
- ** Factory setting.
- Continuous Fan Setting: Heating or cooling airflow is approximately 50% of selected cooling value.
- LOW 350 cfm/ton is recommended for variable speed application for COMFORT & HUMID CLIMATE setting; NORMAL is 400 cfm/ton; HIGH 450 cfm/ton is for DRY CLIMATE setting.

Airflow Adjustment

Check inlet and outlet air temperatures to make sure they are within the range specified on the Furnace rating nameplate. If the airflow needs to be increased or decreased, see the Airflow Label on the Furnace or the unit's Service Facts for information on changing the speed of the Blower Motor for your specific model. Blower speed changes are made on the User Interface.

INDOOR BLOWER TIMING

Heating: The Integrated Furnace Control module controls the Indoor Blower. The Blower start is fixed at 45 seconds after ignition. The FAN-OFF period is field selectable by the User Interface at 60, 100, 140, or 180 seconds. The factory setting is 100 seconds.

MODEL	TDHMD120BCV5VB ADHMD120BCV5VB
TYPE	Downflow/Horizontal Right
RATINGS ②	
40% (low) heat Input BTUH	48,000
40% (low) heat Capacity BTUH (ICS) ③	45,600
100% (high) heat Input BTUH	120,000
100% (high) heat Capacity BTUH (ICS) ③	114,000
Temp. rise (Min.-Max.) °F.	40 - 70
AFUE	95.0
BLOWER DRIVE	DIRECT
Diameter - Width (In.)	10 x 10
No. Used	1
Speeds (No.)	Variable
CFM vs. in. w.g.	See Fan Performance Table
Motor HP	1
R.P.M.	Variable
Volts/Ph/Hz	115/1/60
FLA	9.9
COMBUSTION FAN - Type	Centrifugal
Drive - No. Speeds	Direct - Variable
Motor HP - RPM	1/50 - 5000
Volts/Ph/Hz	33 - 110/3/60 - 180
FLA	1.0
FILTER — Furnished?	Yes
Type Recommended	High Velocity
Hi Vel. (No.-Size-Thk.)	2 - 16x20 - 1 in.
VENT — Size (in.)	3 Round
HEAT EXCHANGER	
Type -Fired	Aluminized Steel - Type I
-Unfired	
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas Qty. — Drill Size	6 — 45
L.P. Gas Qty. — Drill Size ⑤	6 — 56
GAS VALVE	Redundant - Three Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Igniter
BURNERS — Type	Multiport Inshot
Number	6
POWER CONN. — V/Ph/Hz ④	115/1/60
Ampacity (In Amps)	13.5
Max. Overcurrent Protection (Amps)	15
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	H x W x D
Crated (In.)	41-3/4 x 26-1/2 x 30-1/2
WEIGHT	
Shipping (Lbs.)/Net (Lbs)	206 / 196

① Central Furnace heating designs are certified to ANSI Z21.47 / CSA 2.3.

② For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level.
For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 feet above sea level.

③ Based on U.S. government standard tests.

④ The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

⑤ Furnace ships in natural gas configuration. The LP conversion kit used with the modulating furnace is BAYLPSS220B or BAYLPKT220B.

Mechanical Specifications

MODULATING OPERATION

The modulating gas valve provides longer heating cycles for more consistent heating comfort. Modulates from 40% to 100% in less than 1% increments of the furnace's heating capacity saving energy, while at the same time providing maximum homeowner comfort.

COMMUNICATING MODE

Furnace is shipped ready to be connected in communicating mode using three wire hook-up using A/TCONT900 comfort control.

ALTERNATE 24V MODE

Furnace is field configurable to 24V non-communicating mode.

COMFORT CONTROL

Communicating furnace design, offers plug and play – walk away installation. Assures the entire heating and air conditioning system is set up in the proper modes to optimize the engineered performance of the matched system installed. The furnace can also be connected in 24V mode.

NATURAL GAS MODELS

Central Heating furnace designs are certified by the American Gas Association for both natural and L.P. gas. Limit setting and rating data were established and approved under standard rating conditions using American National Standards Institute standards.

ENERGY EFFICIENT OPERATION

Furnace is certified to leak 2% or less of nominal air conditioning CFM delivered when pressurized to .5" water column with all inlets, outlets, and drains sealed.

SAFE OPERATION

The Integrated System Control has solid state devices, which continuously monitor for presence of flame, when the system is in the heating mode of operation. Dual solenoid combination gas valve and regulator provide additional safety.

QUICK HEATING

Durable, cycle tested, heavy gauge aluminumized steel heat exchanger quickly transfers heat to provide warm conditioned air to the structure. Low energy power vent blower, to increase efficiency and provide a positive discharge of gas fumes to the outside.

BURNERS

Multi-port In-shot burners will give years of quiet and efficient service. All models can be converted to L.P. gas without changing burners.

INTEGRATED SYSTEM CONTROL

Exclusively designed operational program provides total control of furnace limit sensors, blowers, gas valve, flame control and includes self diagnostics for ease of service. Also contains connection points for EAC and Humidifier.

AIR DELIVERY

The variable speed blower motor has sufficient airflow for most heating and cooling requirements and will switch from heating to cooling speeds on demand from room thermostat. The blower door safety switch will prevent or terminate furnace operation when the blower door is removed.

SECONDARY HEAT EXCHANGER

The furnace has a special type 29-4C™ stainless steel secondary heat exchanger to reclaim heat from flue gases which would normally be lost.

STYLING

Heavy gauge steel and "wrap-around" cabinet construction is used in the cabinet with baked-on enamel finish for strength and beauty. The heat exchanger section of the cabinet is completely lined with foil faced fiberglass insulation. This results in quiet and efficient operation due to the excellent acoustical and insulating qualities of fiberglass. Built-in bottom pan and alternate bottom, left or right side return air connection provision.

FEATURES AND GENERAL OPERATION

The High Efficiency Gas Furnaces utilize an Adaptive Heat Up Silicon Nitride Hot Surface Ignition system, which eliminates the waste of a constant burning pilot. The integrated system control lights the main burners upon a demand for heat from the room thermostat. Complete front service access.

- a. Low energy power venter
- b. Vent proving pressure switch.

Ingersoll Rand has a policy of continuous product and product data improvement and it reserves the right to change specifications and design without notice.

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