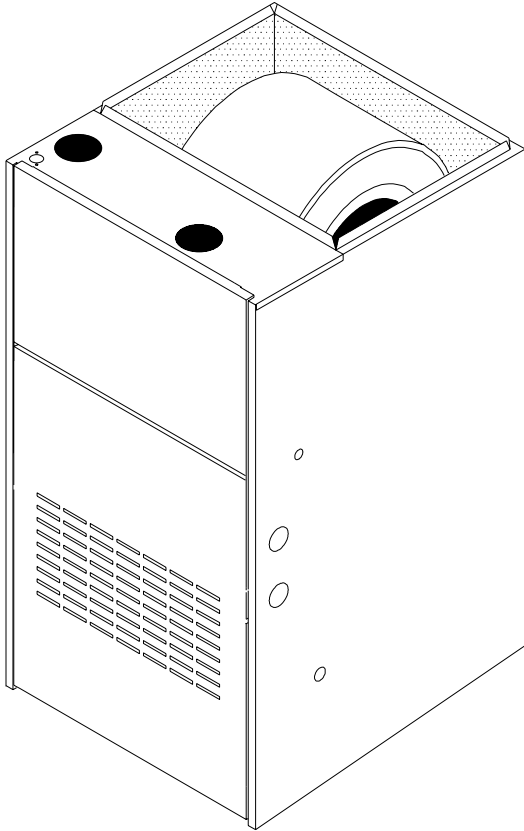


Technical Support Manual

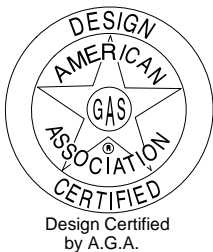


Models

HDDH050N3A1
HDDH075N3A1
HDDH100N4A1
HDDH125N5A1

Manufactured by:
Multi-Ind., Inc.
Lewisburg, TN USA 37091

HDDH - Dual Certified Condensing Gas Furnace



Save This Manual For Future Reference

THIS DATA IS SUBJECT TO CHANGE WITHOUT NOTICE

Manufacturers Number (Mfr No -See Rating Plate)				HDDH050N3A					
Specifications				Circulation Air Blower Data					
GENERAL	Gas Type	Nat	LP	Type & Size	10-8	Filt Type	Washable		
	Input (Btuh) Std/Alt.	50,000	50,000		Motor Amps/RPM	4.6/1050	Filt Size (")	(2)16x18"	
GAS & IGNITION	Output (Btuh) Std/Alt.	45,500	45,500	Motor Type/ H.P.	PSC/1/3	Min. Cool			
	Temp. Rise (°F)	40-70	40-70	Cap. MFD/Volts	5/370	Cap. (Tons)	1.5		
	Electrical (Volts/Hz/FLA)	115/60/5.3	115/60/5.3			Max. Cool			
	Transformer Size (VA)	40	40			Cap. (Tons)	3		
COMBUSTION	T'stat Heat Anticipator	.30	.30	Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)					
	Gas Valve	HW SV9500	HW SV9500	External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
	Regulation Type	SNAP	SNAP		.10	718	840	1109	1473
Manifold Press. (Inch's WC)	3.5	10.0	.20		719	838	1094	1431	
LIMITS & CONTROLS	Std. Main Orifices (No/Size)	2/#42	2/#54	.30	714	837	1086	1396	
	Pilot Orifice Size	.018	.011	.40	692	819	1063	1349	
	Ignition Type/Series	HW HSP	HW HSP	.50	660	791	1027	1291	
	Lock-Out Time	---	---	.60	615	752	986	1222	
GAS & IGNITION	Flue Outlet Size (Inches)	2	2	.70	563	683	934	1141	
	Std. Outlet Temp (°F)	<140	<140	Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)					
COMBUSTION	Comb. Blower (MFD/Volts)	4/250	4/250	External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
	Std. Pressures (Inch's of WC)	@Blower	@Burner Box		Differential	.10	339	396	523	695
LIMITS & CONTROLS	5' No Elbows	-2.30	-.10	-2.4	.20	339	395	516	675
	40' +5-90° DWV Elbows	-2.20	-.20	-2.0	.30	337	395	513	659
	Rollout Switch(°F)	250	250	.40	327	387	502	637	
	Limit Control Setting (°F)	240	240	.50	311	373	485	609	
	Auxiliary Limit (°F)	120	120	.60	290	355	465	577	
	Fan Control (Type)	HW ST9120	HW ST9120	.70	266	322	441	538	
	Fan Control On	30/60	30/60						
	Fan Control Off (Timed-Secs)	60,100,140,180	60,100,140,180						
Std. Pressure Sw. (Part No)	1008944	1008944							
Press Differential (Close)	1.62	1.62							
Press Differential (Open)	1.38	1.38							
High Alt. Press. Sw (Part No)	1008945	1008945							
Press Differential (Close)	1.40	1.40							
Press Differential (Open)	1.18	1.18							

THIS DATA IS SUBJECT TO CHANGE WITHOUT NOTICE

Manufacturers Number (Mfr No -See Rating Plate)				HDDH075N3A					
Specifications				Circulation Air Blower Data					
GENERAL	Gas Type	Nat	LP	Type & Size	10-8	Filt Type	Washable		
	Input (Btuh) Std/Alt.	75,000	75,000		Motor Amps/RPM	6.8/1050	Filt Size (")	(2)16x18"	
GAS & IGNITION	Output (Btuh) Std/Alt.	67,500	67,500	Motor Type/ H.P.	PSC/1/2	Min. Cool			
	Temp. Rise (°F)	40-70	40-70	Cap. MFD/Volts	7.5/370	Cap. (Tons)	2		
	Electrical (Volts/Hz/FLA)	115/60/7.5	115/60/7.5			Max. Cool			
	Transformer Size (VA)	40	40			Cap. (Tons)	3		
COMBUSTION	T'stat Heat Anticipator	.30	.30	Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)					
	Gas Valve	HW SV9500	HW SV9500	External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
	Regulation Type	SNAP	SNAP		.10	778	984	1263	1576
Manifold Press. (Inch's WC)	3.5	10.0	.20		786	1003	1249	1532	
LIMITS & CONTROLS	Std. Main Orifices (No/Size)	3/#42	3/#54	.30	790	1003	1244	1489	
	Pilot Orifice Size	.018	.011	.40	788	1001	1215	1432	
	Ignition Type/Series	HW HSP	HW HSP	.50	781	982	1186	1371	
	Lock-Out Time	---	---	.60	765	962	1146	1308	
GAS & IGNITION	Flue Outlet Size (Inches)	2,2 1/2,3	2,2 1/2,3	.70	743	923	1094	1229	
	Std. Outlet Temp (°F)	<140	<140	Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)					
COMBUSTION	Comb. Blower (MFD/Volts)	4/250	4/250	External Static Pressure Inches of W.C.	TAP	LOW	MED L	MED H	HIGH
	Std. Pressures (Inch's of WC)	@Blower	@Burner Box		Differential	.10	367	464	596	744
LIMITS & CONTROLS	5' No Elbows	-2.3	-.10	-2.2	.20	371	473	589	723
	40' +5-90° DWV Elbows	-2.05	-.15	-1.9	.30	373	473	587	703
	Rollout Switch	200	200	.40	372	472	573	676	
	Limit Control Setting (°F)	180	180	.50	369	463	560	647	
	Auxiliary Limit (°F)	130	130	.60	361	454	541	617	
	Fan Control (Type)	HW ST9120	HW ST9120	.70	351	436	516	580	
	Fan Control On	30/60	30/60						
	Fan Control Off (Timed-Secs)	60,100,140,180	60,100,140,180						
Std. Pressure Sw. (Part No)	1008944	1008819							
Press Differential (Close)	1.62	1.62							
Press Differential (Open)	1.38	1.38							
High Alt. Press. Sw (Part No)	1008945	1008945							
Press Differential (Close)	1.40	1.40							
Press Differential (Open)	1.18	1.18							

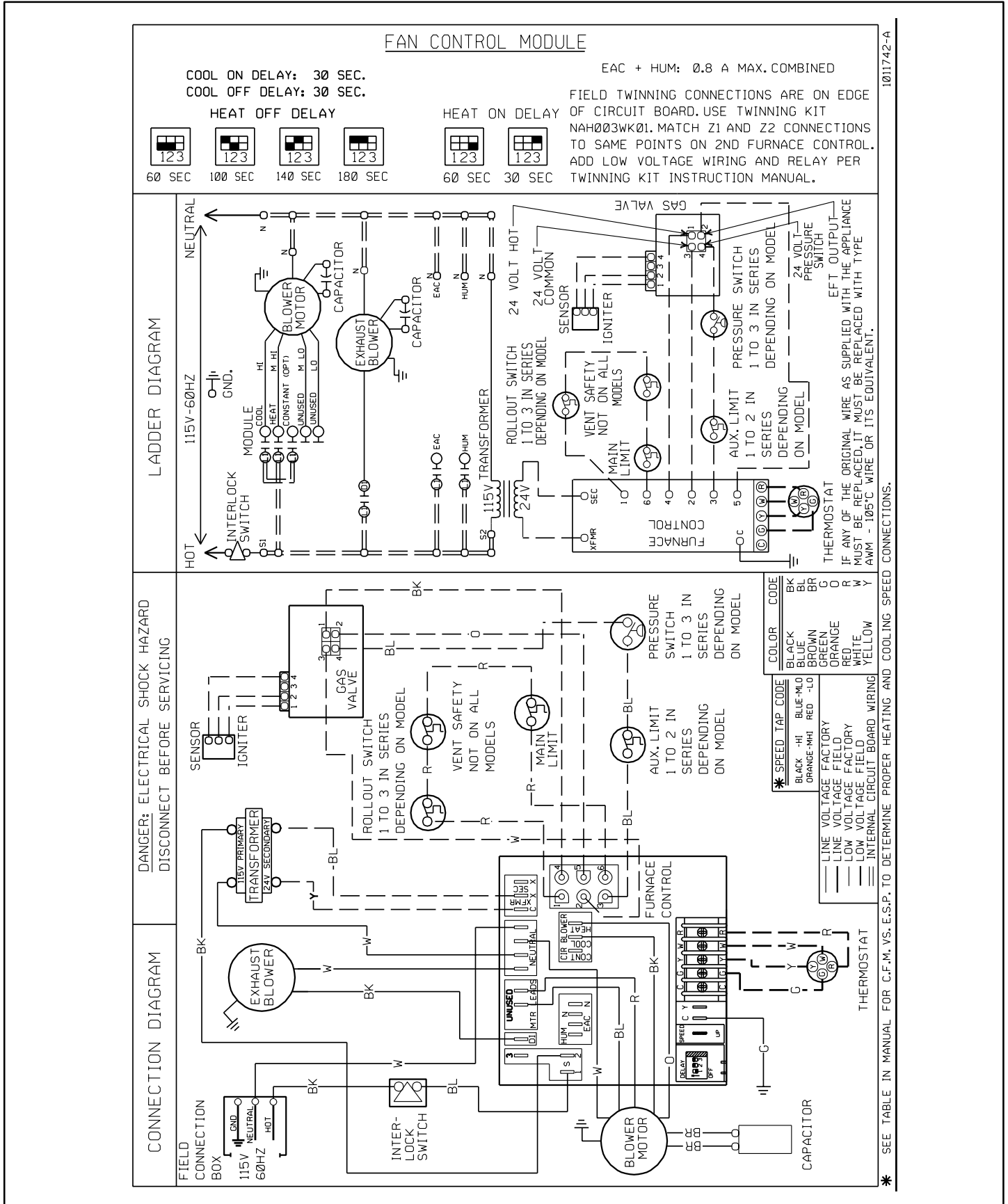
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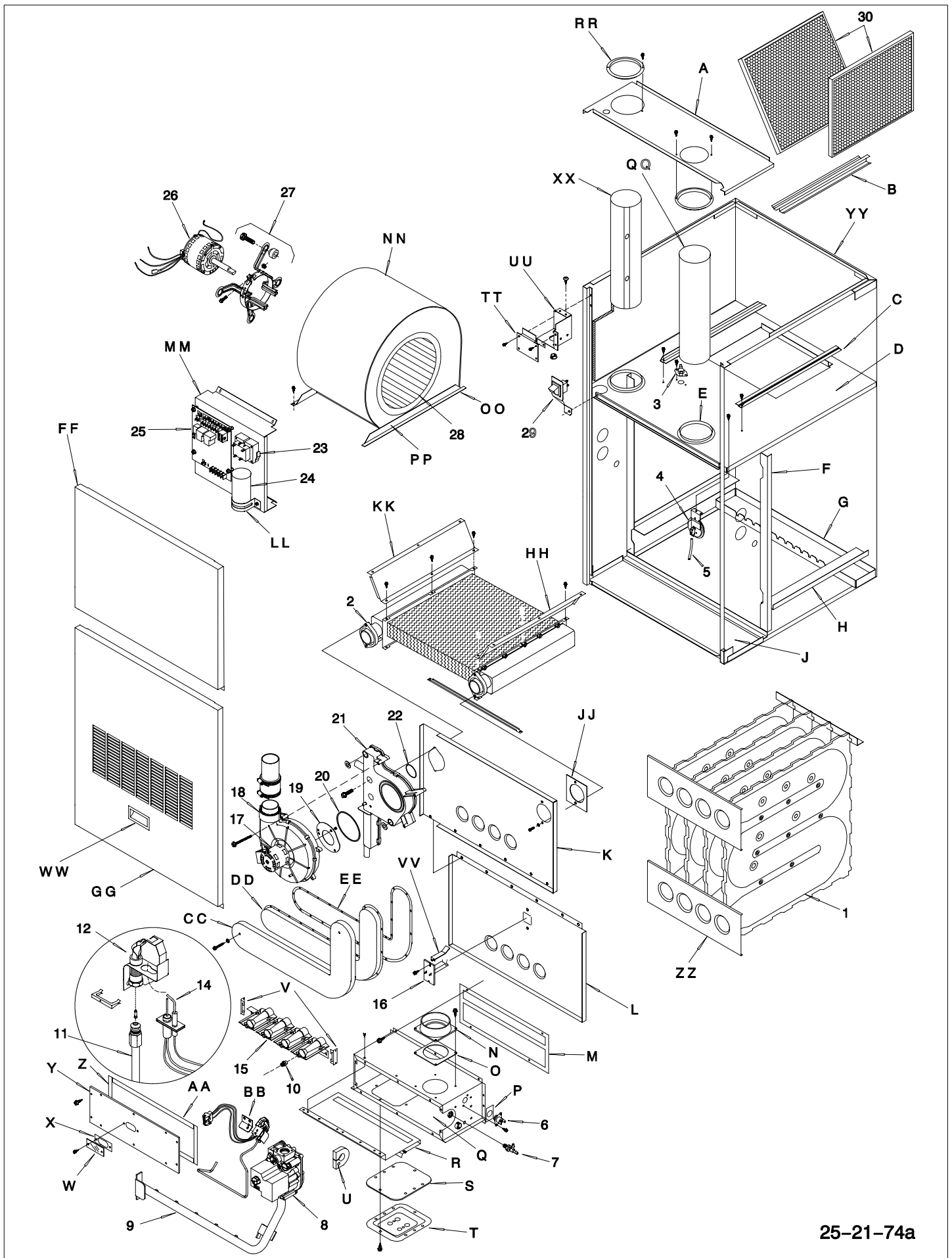
Manufacturers Number (Mfr No -See Rating Plate)				HDDH100N4A					
Specifications				Circulation Air Blower Data					
GENERAL	Gas Type	Nat	LP	Type & Size	10-10	Filt Type	Washable (2)16x18"		
	Input (Btuh) Std/Alt.	100,000	100,000		Motor Amps/RPM			8.5/1050	Filt Size (")
GAS & IGNITION	Output (Btuh) Std/Alt.	90,000	90,000	Motor Type/ H.P.	PSC/1/2	Min. Cool	2		
	Temp. Rise (°F)	40-70	40-70	Cap. MFD/Volts	10/370	Max. Cool			
	Electrical (Volts/Hz/FLA)	115/60/9.2	115/60/9.2			Cap. (Tons)		4	
	Transformer Size (VA)	40	40			Cap. (Tons)			
T'stat Heat Anticipator	.30	.30							
COMBUSTION	Gas Valve	HW SV9500	HW SV9500	Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)					
	Regulation Type	SNAP	SNAP						
	Manifold Press. (Inch's WC)	3.5	10.0						
LIMITS & CONTROLS	Std. Main Orifices (No/Size)	4/#42	4/#54	External Static Pressure Inches of W.C.	TAP LOW MED L MED H HIGH				
	Pilot Orifice Size	.018	.011		.10	954	1312	1698	1925
	Ignition Type/Series	HW HSP	HW HSP		.20	950	1292	1645	1853
	Lock-Out Time	---	---		.30	946	1265	1596	1780
COMBUSTION	Flue Outlet Size (Inches)	2,2 ¹ / ₂ ,3	2,2 ¹ / ₂ ,3	External Static Pressure Inches of W.C.	.40	915	1231	1530	1708
	Std. Outlet Temp (°F)	<140	<140		.50	878	1175	1455	1638
	Comb. Blower (MFD/Volts)	4/250	4/250		.60	830	1118	1362	1546
LIMITS & CONTROLS	Std. Pressures (Inch's of WC)	@Blower	@Burner Box	Differential	.70	778	1020	1241	1435
	5' No Elbows	-2.40	-.10	-2.30					
	40' +5-90° DWV Elbows	-1.98	-.20	-1.78					
	Rollout Switch(°F)	200	200						
LIMITS & CONTROLS	Limit Control Setting (°F)	240	240	Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)					
	Auxiliary Limit (°F)	130	130						
	Fan Control (Type)	HW ST9120	HW ST9120						
	Fan Control On	30/60	30/60						
LIMITS & CONTROLS	(Timed -Secs) Off	60,100,140,180	60,100,140,180	External Static Pressure Inches of W.C.	TAP LOW MED L MED H HIGH				
	Std. Pressure Sw. (Part No)	1008944	1008944		.10	450	619	801	908
	Press Differential (Close)	1.62	1.62		.20	448	610	776	874
	Press Differential (Open)	1.38	1.38		.30	446	597	753	840
LIMITS & CONTROLS	High Alt. Press. Sw (Part No)	1008945	1008945	.40	432	581	722	806	
	Press Differential (Close)	1.40	1.40	.50	414	555	687	773	
	Press Differential (Open)	1.18	1.18	.60	392	528	643	730	
				.70	367	481	586	677	

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Manufacturers Number (Mfr No -See Rating Plate)				HDDH125N5A					
Specifications				Circulation Air Blower Data					
GENERAL	Gas Type	Nat	LP	Type & Size	11.8-10.6	Filt Type	Washable (2)16x18"		
	Input (Btuh) Std/Alt.	125,000	125,000		Motor Amps/RPM			9.8/900	Filt Size (")
GAS & IGNITION	Output (Btuh) Std/Alt.	112,500	112,500	Motor Type/ H.P.	PSC/3/4	Min. Cool	3.5		
	Temp. Rise (°F)	45-75	45-75	Cap. MFD/Volts	10/370	Max. Cool			
	Electrical (Volts/Hz/FLA)	115/60/10.5	115/60/12.0			Cap. (Tons)		5	
	Transformer Size (VA)	40	40			Cap. (Tons)			
T'stat Heat Anticipator	.30	.30							
COMBUSTION	Gas Valve	HW SV9500	HW SV9500	Air Delivery in Cubic Feet per Minute (C.F.M.) (Furnace Rated @0.5" WC ESP)					
	Regulation Type	SNAP	SNAP						
	Manifold Press. (Inch's WC)	3.5	10.0						
LIMITS & CONTROLS	Std. Main Orifices (No/Size)	5/#42	5/#54	External Static Pressure Inches of W.C.	TAP LOW MED L MED H HIGH				
	Pilot Orifice Size	.018	.011		.10	1463	1650	1879	2214
	Ignition Type/Series	HSP	HSP		.20	1429	1635	1859	2154
	Lock-Out Time	---	---		.30	1417	1614	1838	2152
COMBUSTION	Flue Outlet Size (Inches)	3	3	External Static Pressure Inches of W.C.	.40	1389	1579	1806	2106
	Std. Outlet Temp (°F)	<140	<140		.50	1364	1556	1773	2049
	Comb. Blower (MFD/Volts)	4/250	4/250		.60	1339	1513	1725	1981
LIMITS & CONTROLS	Std. Pressures (Inch's of WC)	@Blower	@Burner Box	Differential	.70	1299	1470	1668	1903
	5' No Elbows	-2.40	-.17	-2.23					
	40' +5-90° DWV Elbows	-2.16	-.20	-1.86					
	Rollout Switch(°F)	200	200						
LIMITS & CONTROLS	Limit Control Setting (°F)	150	150	Air Delivery in Liters Per Second (L/S) (Furnace Rated @0.5" WC ESP)					
	Auxiliary Limit (°F)	130	130						
	Fan Control (Type)	HW ST9120	HW ST9120						
	Fan Control On	30/60	30/60						
LIMITS & CONTROLS	(Timed -Secs) Off	60,100,140,180	60,100,140,180	External Static Pressure Inches of W.C.	TAP LOW MED L MED H HIGH				
	Std. Pressure Sw. (Part No)	1008944	1008944		.10	690	779	887	1045
	Press Differential (Close)	1.62	1.62		.20	674	772	877	1017
	Press Differential (Open)	1.38	1.38		.30	669	762	867	1016
LIMITS & CONTROLS	High Alt. Press. Sw (Part No)	1008945	1008945	.40	656	745	852	994	
	Press Differential (Close)	1.40	1.40	.50	644	734	837	967	
	Press Differential (Open)	1.18	1.18	.60	632	714	814	935	
				.70	613	694	787	898	

1. Wiring Diagram





25-21-74a

Replacement Parts - HDDH

Models -HDDH050N3A1, HDDH075N3A1, HDDH100N4A1, HDDH125N5A1 (Natural Gas)

Replacement part supplied will be current active part. For parts not listed, consult place of purchase.

Key No.	Description Functional	Part Number	050	075	100	125	Key No.	Description Non-Functional	Part Number	050	075	100	125	
1	Heat Exchanger Assy	1008876	1	-	-	-	A	Panel Top	1010564	1	1	-	-	
		1008877	-	1	-	-			1010565	-	-	1	-	
		1008878	-	-	1	-			1010566	-	-	-	1	
		1008879	-	-	-	1			B	Filter Holder	33411100	1	1	1
2	Heat Exchanger, Sec.	1010495	1	1	-	-	C	Rail Blower Slide	33406100	2	2	2	2	
		1010496	-	-	1	-	D	Blower Partition	1011036	1	1	-	-	
		1010497	-	-	-	1			1011037	-	-	1	-	
3	Limit Switch, Auxillary	613839	-	1	1	-			1011038	-	-	-	1	
		1065702	-	-	-	1	E	Plate, Fill-in	1011072	1	1	-	-	
		1056172	1	-	-	-			1011073	-	-	1	-	
4	Switch, Pressure	1010895	1	1	1	1			1011074	-	-	-	1	
	Switch, Pressure (Hi Alt)	1008945	1	1	1	1	F	Angle, Vertical	1008807	2	2	2	2	
5	Tube, Sensor (36" Length)	1006298	1	1	1	1	G	Base, Rear	1010234	1	-	-	-	
6	Limit Switch, Rollout	1005548	1	-	-	-			1010235	-	1	-	-	
		1010575	-	1	1	1			1010348	-	-	1	-	
7	Tap, Pressure	1005606	1	1	1	1			1010350	-	-	-	1	
8	Valve Gas Nat HW & LP	1011024	1	1	1	1	H	Baffle Air	1009880	2	-	-	-	
		1008737	1	-	-	-			707010031	-	2	2	2	
9	Manifold Gas	1008738	-	1	-	-	J	Base, Front	1010090	1	1	-	-	
		1008739	-	-	1	-			1010236	-	-	1	-	
		1008740	-	-	-	1			1010237	-	-	-	1	
		1004143	2	3	4	5	K	Partition Top Front	1009493	1	-	-	-	
10	Orifice Burner Nat #42 Brass	1004143	2	3	4	5			1009494	-	1	-	-	
	LP #54 Silver	*1004142	*2	*3	*4	*5			1009495	-	-	1	-	
	Hi Alt Orifice Nat #44 Brass	1065253	2	3	4	5			1009496	-	-	-	1	
	Nat #45 Brass	1065121	2	3	4	5			1009497	1	-	-	-	
	LP #55 Silver	*1065255	*2	*3	*4	*5	L	Partition Bot Front	1009498	-	1	-	-	
	LP #56 Silver	*1065167	*2	*3	*4	*5			1009499	-	-	1	-	
11	Pilot Tubing, Aluminum	64930	1	1	1	1			1009500	-	-	-	1	
12	Pilot Assembly Nat & LP	1149856	1	1	1	1			1008759	1	1	-	-	
13	Orifice, Pilot .020 Nat	1160403	1	1	1	1	M	Gasket, Bunner Box	1008760	-	-	1	-	
	Orifice, Pilot .011 LP	*1009136	*1	*1	*1	*1			1008761	-	-	-	1	
14	Igniter/Sensor with Clip	1009524	1	1	1	1			1008744	1	1	1	1	
15	Burner, Assy	1008723	1	-	-	-	N	Coupling, Air Intake	1008746	1	1	1	1	
		1008724	-	1	-	-	O	Gasket, Air Intake	1008778	1	1	1	1	
		1008725	-	-	1	-	P	Gasket, Rollout	1010381	1	1	-	-	
		1008726	-	-	-	1	Q	Burner Box Assy	1010382	-	-	1	-	
16	Limit Control	1320547	-	1	-	-			1010383	-	-	-	1	
		1320549	1	-	1	-	R	Baffle Burner Box	1008709	1	1	-	-	
		1009774	-	-	-	1			1008710	-	-	1	-	
17	Capacitor, 4/250	1149252	1	1	1	1			1008711	-	-	-	1	
18	Blower Exhaust	1010527	1	1	1	1			1008763	1	1	1	1	
19	Restrictor Exh Blwr	1008696	1	1	-	-	S	Diaphragm, Silicone Rubber	1068036	1	1	1	1	
		1009386	-	-	1	-	T	Cover Diaphragm	1008741	1	1	1	1	
		1008699	-	-	-	1	U	Grommet, Manifold	1008722	2	2	2	2	
20	O Ring, Exhaust Blower	1009035	1	1	1	1	V	Bracket, Burner Box	2480678	1	1	1	1	
21	Drain Trap/Transition	1010537	1	1	1	1	W	Viewport Cover Lexan	1093666	1	1	1	1	
22	O Ring, Header Box	1009036	1	1	1	1	X	Gasket, Sight Glass	1008748	1	1	-	-	
23	Transformer, 40VA	1011103	1	1	1	1	Y	Cover Burner Box	1008749	-	-	1	-	
24	Capacitor, 10/370	1094956	-	-	1	1			1008750	-	-	-	1	
		5/370	1094954	1	-	-	-	Z	Seal, Cover Sides	1008755	2	2	2	2
		7.5/370	1094239	-	1	-	-	AA	Strip, Seal Burner Box	1008762	2	2	-	-
25	Control Module/Fan Timer	1009838	1	1	1	1			1009243	-	-	2	-	
		1009054	1	-	-	-			1009244	-	-	-	2	
		1009053	-	1	-	-	BB	Bracket Pilot	1010901	1	1	1	1	
		1009052	-	-	1	-	CC	Board, Insulating	1009552	1	1	-	-	
26	Motor, 4 Speed	1008619	-	-	-	1			1009553	-	-	1	-	
		609227	1	1	1	1			1009554	-	-	-	1	
27	Kit, Motor Mount	522020024	-	-	-	1			1008673	1	1	-	-	
		600587	1	1	-	-	DD	Box, Collector	1008674	-	-	1	-	
28	Wheel, Blower	601210	-	-	1	-			1008675	-	-	-	1	
		1009147	-	-	-	1			1009536	1	1	-	-	
		1010886	1	1	1	1	EE	Gasket, Collector Box	1009537	-	-	1	-	
29	Switch-Interlock	1009750	2	2	2	2			1009538	-	-	-	1	
		1009750	2	2	2	2								

* Only used when furnace has been converted to LPgas

Replacement Parts - HDDH

Models -HDDH050N3A1, HDDH075N3A1, HDDH100N4A1, HDDH125N5A1 (Natural Gas)

Replacement part supplied will be current active part. For parts not listed, consult place of purchase.

Key No.	Description Functional	Part Number	050	075	100	125
)(PART NOT ILLUSTRATED						
)(	Wire Harness	1011086	1	1	1	1
)(	Clamp Hose	1002793	4	4	4	4
)(	Coupling, Discharge	1002522	2	2	2	2
)(	Reducer, 3" to 2"	1005779	1	1	1	1
)(	Elbow Union	2971503	1	1	1	1
)(	Manual Install	441 01 3302 00	1	1	1	1
)(	Manual Tech	441 03 3302 00	1	1	1	1
)(	Manual Homeowners	441 02 3301 00	1	1	1	1
)(	Flue Pipe, ABS 2" x 22"	1009566	1	1	1	1
)(	Screen 3"	1007340	1	1	1	1
)(	Screen 2"	1007339	1	1	1	1
)(	Washer Exhaust Blower	1009037	2	2	2	2
)(	Clip, Plastic Pin	2344276	3	3	3	3

Key No.	Description Non-Functional	Part Number	050	075	100	125
FF	Door Louvered(HDDH ONLY) (HDDH ONLY) (HDDH ONLY)	1010171	1	1	-	-
		1010172	-	-	1	-
		1010173	-	-	-	1
GG	Door, Fan (HDDH ONLY) (HDDH ONLY) (HDDH ONLY)	1010255	1	1	-	-
		1010256	-	-	1	-
		1010257	-	-	-	1
HH	Bracket, Mount LH	1008693	1	1	1	1
JJ	Gasket, Header Box	1010510	1	1	1	1
KK	Bracket, Mount RH	1008694	1	1	1	1
LL	Clamp, Capacitor	1095020	1	1	1	1
MM	Bracket, Control Board	1011178	1	1	1	1
NN	Blower Housing	1007787	1	1	-	-
		1007753	-	-	1	-
		1007769	-	-	-	1
OO	Blower Cutoff	721020013	1	1	-	-
		721020008	-	-	1	1
PP	Hanger, Blower	33403100	2	2	2	2
QQ	Shield, Vent Pipe	2311159	1	1	1	1
RR	Endplate, Vent Pipe	57083	4	4	4	4
TT	Cover, Field Connect	1010360	1	1	1	1
UU	Box, Field Connect	1011941	1	1	1	1
VV	Shield, Limit	1008797	-	-	1	-
WW	Door Handle	1010073	1	1	1	1
XX	Vent, Chase	1010540	1	1	1	1
		1010570	1	1	-	-
		1010571	-	-	1	-
YY	Casing	1010572	-	-	-	1
		2480904	2	-	-	-
ZZ	Gasket, Heat Exchanger	2480905	-	2	-	-
		2480906	-	-	2	-
		2480907	-	-	-	2
		2480907	-	-	-	2

Horizontal Condensate Switch Kit All Models

NAHL001HK

Gas Conversion Kits All Models

Nat to LP NAHF002LP *1009509

LP to Nat NAHF002NG *1009510

*Order from Service Parts