ENGINEERING DATA

HWC

Magic-Pak® Thru-The-Wall Units

Gas Heating Input - 7.6 to 14.9 kW (26 000 to 51 000 Btuh)

Net Cooling - 3.5 to 8.5 kW (12 000 to 29 000 Btuh)

Bulletin No. 490085
August 1999

FEATURES

Applications
- Completely self-contained.
- Ideal for apartments, condominium and hotels for individual control of units.
- No outside condensing unit, no external refrigerant lines no separate indoor coil.
- Slide out cooling chassis.
- Pre-wired and pre-charged.

Completely Tested
- Each unit is factory run tested to ensure proper operation.

Unit Cabinet
- Baked-on powder paint finish provides rust and corrosion protection.
- Mounts flush with any wall.

Direct Drive Blower
- Units are equipped with quiet multi-speed direct drive blower.
- Each blower assembly is statically and dynamically balanced.
- Multiple-speed motor is resiliently mounted.
- See blower performance table.

Gas Control Valve
- 24 volt redundant combination gas control valve combines a manual main shutoff valve, pressure regulation and automatic electric valve (dual) into one compact combination control.

Unit Showing Slide-Out Cooling Section

Direct Spark Ignition
- Solid-state electronic direct spark ignition control provides positive and safe main burner ignition.
- Spark is intermittent and occurs only when required.
- Separate electronic flame sensor control assures safe and reliable operation.
- Should loss of flame occur, flame sensor controls will initiate a re-ignition trial before locking out unit operation for 60 minutes.
- Ignition control has LED to indicate status and as an aid in troubleshooting.
- Watchguard circuit automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance calls for service.

Tubular Heat Exchanger
- Constructed of aluminized steel for superior resistance to corrosion and oxidation.
- Curving design allows complete exposure of heating surfaces to supply air stream.
- Round surfaces create minimum air resistance and allow air to surround all surfaces for excellent heat transfer.
- Compact design reduces space requirements in unit cabinet.

Inshot Burners
- Aluminized steel inshot burners provide efficient trouble free operation.
- Burner venturi mixes air and gas in correct proportion for proper combustion.
- Assembly is removeable from the unit as a single component for ease of service and each burner may be removed individually.

Induced Draft Blower
- Shaded pole heavy duty induced draft blower prepurges heat exchanger and safely vents flue products.
- Pressure switch prevents unit operation in case of blockage of combustion air or flue outlet.
- Induced draft blower operates only during heating cycle.

Compressor
- High efficiency scroll or rotary compressor.
- Designed for dependable efficiency with minimum operating cost.
- Suction cooled and overload protected with internal pressure relief.
- Hermetically sealed with built-in protection from excessive current and temperatures.

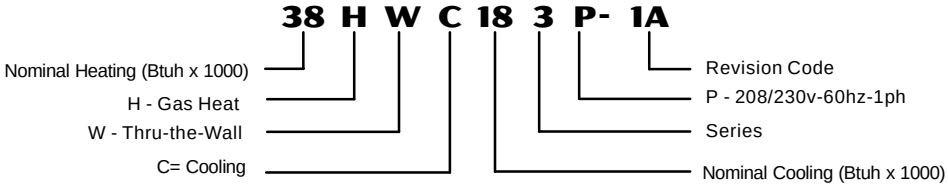
Copper Tube/Enhanced Fin Coil
- Ripple-edged aluminum fins.
- Copper tube construction.
- Coil is factory tested under high pressure to insure leakproof construction.

Controls
- Standard trade available components.
- Color coded wiring for easy service.

OPTIONAL ACCESSORIES

Wall Sleeve (40L33)
- Use for roughing in opening for units.
- Unit cabinet slides into the wall sleeve for ease of installation.

MODEL NUMBER IDENTIFICATION



SPECIFICATIONS

Model Number			26HWC123	38HWC123	38HWC183	51HWC183	38HWC243	51HWC243	51HWC303
Heating Data	Input - kW (Btuh)		7.6 (26 000)	11.1 (38 000)		14.9 (51 000)	11.1 (38 000)	14.9 (51 000)	
	Output - kW (Btuh)		5.9 (20 000)	8.8 (30 000)		11.7 (40 000)	8.8 (30 000)	11.7 (40 000)	
	Efficiency		80.0%						
	Temperature Rise Range		40 - 70°F (22 - 39°C)						
Cooling Data	kW (Btuh)		3.5 (12 000)		5.2 (17 800)		6.9 (23 600)		8.5 (29 000)
	EER		9.0		8.8		8.7		9.0
	Sensible/Total		.72		.72		.74		.74
Outdoor Coil Fan	Diameter - mm (in.)		457 (18)						
	Motor output - W (hp)		92 (1/8)				187 (1/4)		
	Rev/Min		1075						
Indoor Blower	Blower wheel nominal diameter x width - mm (in.)		254 x 102 (10 x 4)						
	Nominal motor output - W (hp)		93 (1/6)		246 (1/3)				
	Voltage & phase		208/230v-60hz-1ph						
Refrigerant charge furnished — kg (oz.) HCFC-22			1162 (41)		1361 (48)				1814 (64)
Shipping weight — kg (lbs.) 1 package			(147) 325		159 (350)		163 (360)		172 (380)
Electrical Data	Line voltage and Phase - 60 hz		208/230 - 1						
	Compressor	Rated load amps	5.0		8.3		11.6		14.1
		Locked rotor amps	26.3		48.3		62.5		73.0
	Outdoor Coil Fan Motor - Rated load amps		0.9				1.8		
	Minimum Circuit Ampacity		8.3		13.6		18.6		21.9
	Maximum Fuse/HACR Breaker		15		20		25		30
OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA									
Wall Sleeve			CA-239 (**40L33**)						

NOTE — Refer to local electrical codes to determine wire, fuse and disconnect size requirements.

BLOWER PERFORMANCE

Model No.	Blower Speed	L/s (cfm) at external static pressure with filter - Pa (in. wc)			
		50 (0.2)	75 (0.3)	100 (0.4)	125 (0.5)
HWC123	High	307 (650)	290 (615)	271 (575)	255 (540)
	Medium	224 (475)	212 (450)	201 (425)	189 (400)
	Low	196 (415)	191 (405)	184 (390)	179 (380)
HWC183 HWC243 HWC303	High	413 (875)	389 (825)	366 (775)	342 (725)
	Medium	401 (850)	380 (805)	359 (760)	335 (710)
	Low	297 (630)	286 (605)	271 (575)	260 (550)

COOLING PERFORMANCE EXTENDED RATINGS

HWC-123 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																						
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F
17.2°C (63°F)	190	400	3.7	12 600	0.82	.78	.92	1.00	3.5	12 000	0.91	.80	.95	1.00	3.3	11 400	1.00	.82	.95	1.00	3.2	10 800	1.09	.85	1.00	1.00
	210	450	3.8	12 800	0.82	.82	.97	1.00	3.6	12 200	0.91	.85	1.00	1.00	3.4	11 600	1.00	.87	1.00	1.00	3.2	11 000	1.09	.90	1.00	1.00
	235	500	3.8	13 100	0.82	.87	1.00	1.00	3.6	12 400	0.91	.90	1.00	1.00	3.5	11 800	1.00	.92	1.00	1.00	3.3	11 200	1.09	.95	1.00	1.00
19.4°C (67°F)	190	400	3.9	13 400	0.82	.59	.74	.89	3.7	12 700	0.91	.60	.76	.91	3.5	12 100	1.01	.62	.79	1.00	3.4	11 500	1.11	.63	.81	.96
	210	450	4.0	13 600	0.82	.62	.78	.94	3.8	12 900	0.91	.64	.80	.97	3.6	12 300	1.01	.65	.83	1.00	3.4	11 700	1.11	.67	.86	1.00
	235	500	4.1	13 900	0.82	.65	.82	.99	3.9	13 200	0.91	.67	.84	1.00	3.7	12 600	1.01	.69	.88	1.00	3.5	11 900	1.11	.70	.91	1.00
21.7°C (71°F)	190	400	4.2	14 200	0.83	.40	.56	.72	4.0	13 500	0.92	.40	.57	.74	3.8	12 800	1.02	.41	.58	.76	3.5	12 100	1.12	.41	.59	.78
	210	450	4.2	14 400	0.83	.42	.59	.76	4.0	13 700	0.92	.42	.60	.78	3.8	13 000	1.02	.43	.62	.80	3.6	12 300	1.12	.43	.63	.82
	235	500	4.3	14 700	0.83	.44	.62	.80	4.1	14 000	0.92	.44	.63	.82	3.9	13 300	1.02	.45	.65	.84	3.7	12 600	1.12	.45	.66	.87

HWC-183 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																						
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	260	550	5.4	18 400	1.37	.75	.90	1.00	5.0	17 100	1.47	.78	.92	1.00	4.6	15 700	1.55	.82	.96	1.00	4.2	14 400	1.64	.86	.96	1.00
	285	600	5.5	18 700	1.38	.78	.93	1.00	5.1	17 400	1.48	.81	.96	1.00	4.7	16 000	1.56	.85	1.00	1.00	4.3	14 600	1.65	.89	1.00	1.00
	305	650	5.5	18 900	1.39	.81	.96	1.00	5.2	17 600	1.49	.84	.99	1.00	4.7	16 200	1.57	.88	1.00	1.00	4.3	14 800	1.66	.92	1.00	1.00
19°C (67°F)	260	550	5.8	19 800	1.41	.58	.72	.87	5.4	18 500	1.51	.59	.74	.89	5.0	17 100	1.60	.62	.78	.94	4.6	15 600	1.70	.64	.80	.96
	285	600	5.9	20 100	1.42	.60	.75	.90	5.5	18 800	1.52	.62	.77	.93	5.1	17 400	1.61	.64	.81	.98	4.7	15 900	1.71	.66	.83	1.00
	305	650	6.0	20 400	1.43	.62	.78	.93	5.6	19 000	1.53	.64	.80	.96	5.2	17 600	1.62	.66	.84	1.00	4.7	16 100	1.72	.68	.86	1.00
22°C (71°F)	260	550	6.2	21 200	1.45	.40	.55	.69	5.8	19 700	1.55	.40	.56	.72	5.4	18 300	1.65	.41	.58	.75	4.9	16 700	1.75	.41	.60	.78
	285	600	6.3	21 500	1.46	.42	.57	.72	5.9	20 000	1.56	.42	.59	.75	5.5	18 600	1.66	.43	.61	.78	5.0	17 000	1.76	.43	.62	.81
	305	650	6.4	21 800	1.47	.43	.59	.74	5.9	20 300	1.57	.43	.60	.78	5.5	18 800	1.67	.44	.63	.81	5.0	17 200	1.77	.44	.64	.84

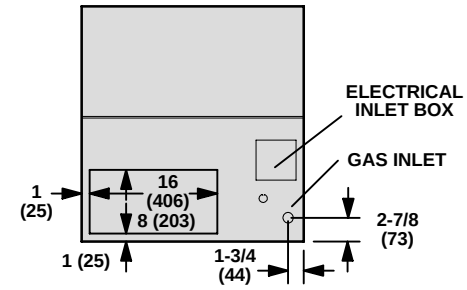
HWC-243 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																						
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	330	700	7.1	24 300	1.87	.74	.88	1.00	6.8	23 200	2.11	.76	.89	1.00	6.4	21 800	2.38	.78	.94	1.00	6.2	21 000	2710	.80	.95	1.00
	380	800	7.2	24 700	1.87	.78	.93	1.00	6.9	23 600	2.11	.80	.94	1.00	6.5	22 200	2.38	.82	.99	1.00	6.2	21 300	2710	.84	1.00	1.00
	425	900	7.4	25 200	1.88	.82	.98	1.00	7.1	24 100	2.12	.85	.99	1.00	6.6	22 600	2.39	.87	1.00	1.00	6.4	21 700	2720	.89	1.00	1.00
19°C (67°F)	330	700	7.6	25 900	1.89	.57	.71	.85	7.2	24 700	2.13	.58	.72	.86	6.9	23 600	2.40	.59	.75	.91	6.6	22 400	2750	.60	.76	.92
	380	800	7.7	26 300	1.89	.60	.75	.90	7.4	25 100	2.13	.61	.76	.91	7.0	24 000	2.40	.62	.79	.96	6.7	22 800	2750	.63	.80	.97
	425	900	7.9	26 800	1.90	.63	.79	.95	7.5	25 600	2.14	.64	.80	.96	7.2	24 500	2.41	.66	.84	1.00	6.8	23 200	2760	.67	.85	1.00
22°C (71°F)	330	700	8.0	27 300	1.91	.40	.55	.69	7.6	26 100	2.15	.40	.55	.70	7.3	24 900	2.43	.40	.56	.72	6.9	23 700	2770	.40	.57	.74
	380	800	8.1	27 700	1.91	.42	.58	.73	7.8	26 500	2.15	.42	.58	.74	7.4	25 300	2.43	.42	.59	.76	7.1	24 100	2770	.42	.60	.78
	425	900	8.3	28 300	1.92	.44	.61	.77	7.9	27 000	2.16	.44	.61	.78	7.6	25 800	2.44	.44	.62	.80	7.2	24 600	2780	.44	.63	.82

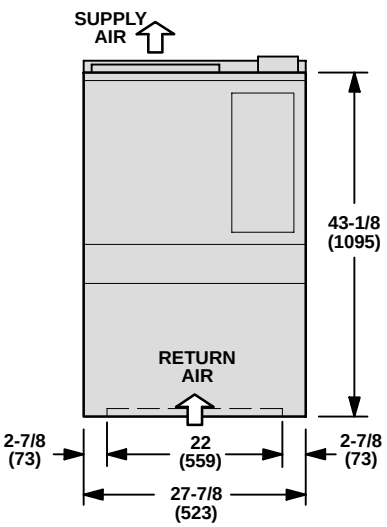
HWC-303 COOLING CAPACITY

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																						
			29°C (85°F)						35°C (95°F)						41°C (105°F)						46°C (115°F)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
	m^3/s	cfm	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F	kW	Btuh		24°C 75°F	27°C 80°F	29°C 85°F
17°C (63°F)	365	775	8.4	28 500	2.15	.72	.84	.97	8.0	27 300	2.39	.73	.87	1.00	7.6	26 100	2.67	.74	.89	1.00	7.3	24 800	2.99	.76	.90	1.00
	400	850	8.5	28 900	2.16	.74	.87	1.00	8.1	27 600	2.40	.76	.90	1.00	7.7	26 400	2.68	.77	.93	1.00	7.4	25 100	3.00	.79	.93	1.00
	435	925	8.6	29 300	2.17	.77	.90	1.00	8.2	28 000	2.41	.79	.93	1.00	7.9	26 800	2.69	.80	.96	1.00	7.4	25 400	3.01	.82	.96	1.00
19°C (67°F)	365	775	8.9	30 400	2.19	.56	.69	.82	8.5	29 000	2.44	.57	.71	.84	8.1	27 800	2.72	.58	.73	.88	7.7	26 400	3.05	.59	.73	.88
	400	850	9.0	30 800	2.20	.58	.71	.85	8.6	29 400	2.45	.59	.73	.87	8.2	28 100	2.73	.60	.75	.91	7.8	26 700	3.06	.61	.76	.91
	435	925	9.1	31 200	2.21	.60	.73	.87	8.7	29 800	2.46	.61	.76	.90	8.4	28 500	2.74	.62	.78	.94	7.9	27 100	3.07	.63	.79	.94
22°C (71°F)	365	775	9.4	32 200	2.22	.40	.54	.68	9.0	30 800	2.48	.41	.55	.69	8.6	29 300	2.76	.41	.56	.71	8.2	28 000	3.09	.42	.57	.73
	400	850	9.6	32 600	2.23	.41	.56	.70	9.1	31 200	2.49	.42	.57	.71	8.7	29 700	2.77	.42	.58	.73	8.3	28 300	3.10	.43	.59	.75
	435	925	9.7	33 000	2.24	.42	.57	.72	9.3	31 600	2.50	.43	.58	.73	8.8	30 100	2.78	.43	.60	.76	8.4	28 700	3.11	.45	.61	.78

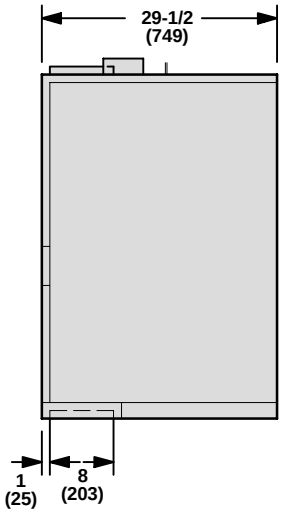
DIMENSIONS – INCHES (MM)



TOP VIEW

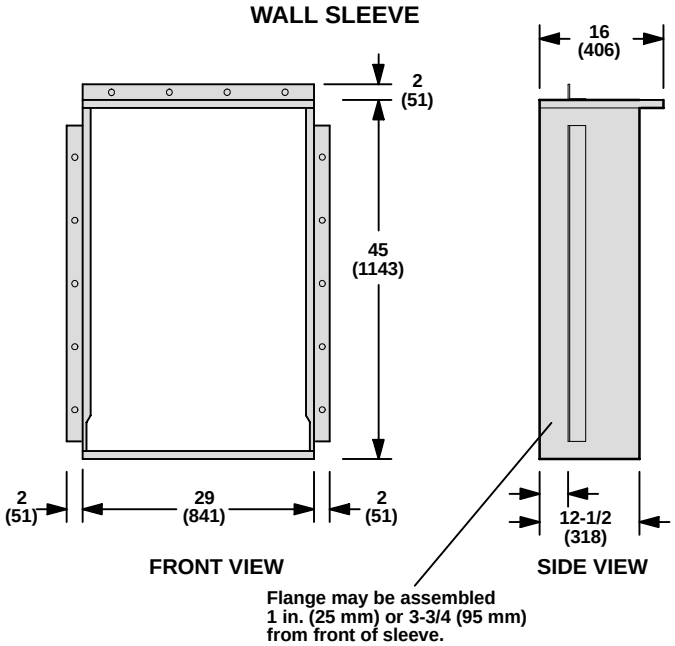


FRONT VIEW



SIDE VIEW

ACCESSORY DIMENSIONS – INCHES (MM)



FRONT VIEW

SIDE VIEW