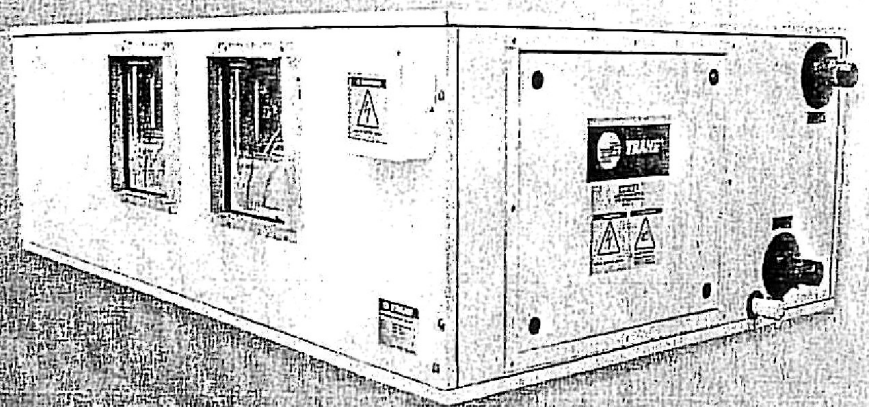


LWHA Double Wall Low Height Air Handler

**Model : LWHA 013 - 063
800 - 6800 CMH / 470 - 4000 CFM
7 - 50 kW / 23 - 170 MBH
Belt or Direct Drive**

**For Tight Fitting Ceiling Hung
Applications**





Specialized for tight fits

The Trane LWHA Air Handlers are compact horizontal draw through units, designed for tight ceiling space. It is the most attractive commercial unit and ideal solution for new or replacement market.

They are designed for installation in schools, hospitals, offices, stores and other applications where cooling and heating are required.

The LWHA Air Handler is available in either a direct drive fan or belt drive fan options. The direct drive unit with 3 speed motor offers a cost-effective way of air conditioning your building. The belt drive unit, with 3 motor sizes offered for every model, offers high static and maximum airflow capabilities.

Double Wall Construction-Injected Polyurethane Foam Panels

All panels are injected with high-efficient PU foam insulation. PU foam panels provide superior thermal resistance properties, and have excellent noise reduction characteristics. In addition, polyurethane foam does not absorb moisture and will not promote fungus growth, a plus for any indoor air quality requirement.

Space-saving design

With less than 590 mm in height, this unit fits into almost any ceiling space.

Simplified Servicing

A large bottom opening and a conveniently positioned service panel allow easy access for fan, motor and belts maintenance. Quick latches are standard for side and bottom access panels.

Trane Innovative Wavy 3BS Slit Fin Coil For Cooling And Heating

Trane Wavy 3BS Coil Technology is proven and tested to operate up to 700 FPM without moisture carry-over. This type of fin surface breaks down the surface tension of water-bridging due to water droplets, forming a film that clings to the fins, and then runs down the water from fins and drains off into the drainpan without water carry-over. This coil design also provides higher heat transfer efficiency with its increased heat transfer surface.

Ease of Installation

Suspension brackets are provided as standard to ease unit installation in ceiling, it makes less time on the job and, therefore, lowers project cost.

GI Sloped Drain Pan (Stainless Steel As Option)

The drain pan insures proper drainage, preventing water stagnation that could result in microbial growth and is completely corrosion resistant.

Adjustable motor pulley (Optional)

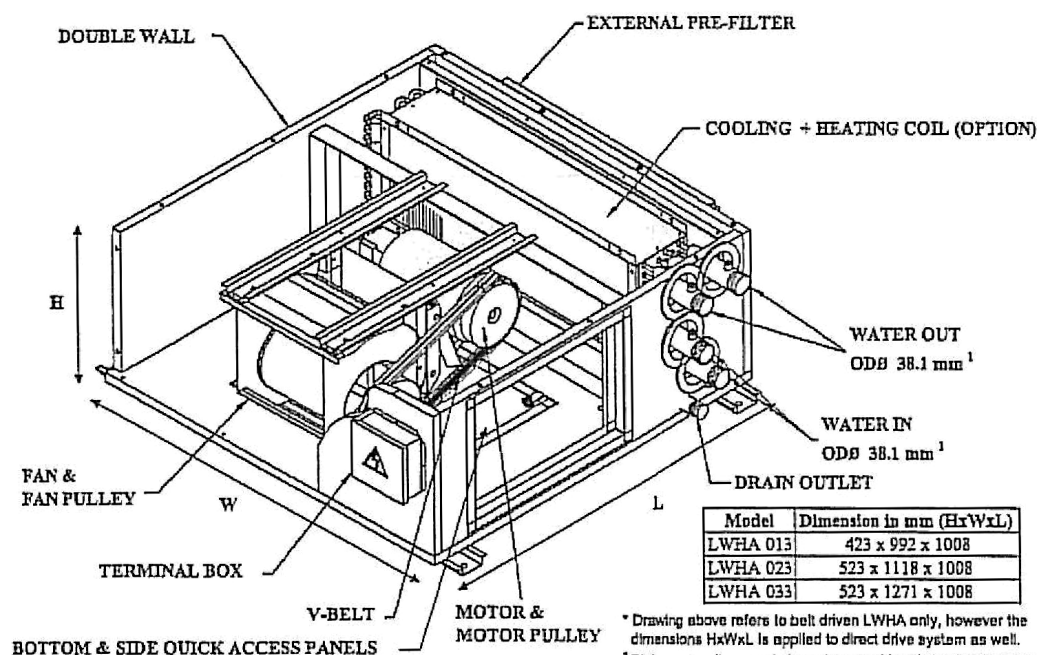
An adjustable motor pulley is offered to allow precise tuning to a wide range of on-site static pressure and air flow requirements.

Factory Mounted Controls (Optional)

Trane ZN (Direct Digital Control System) eliminates time-consuming accessory field installation. It gives precise automatic control on temperature, humidity etc. for ideal working conditions.

Copper Header (Optional)

Copper Headers are provided for better corrosion resistance.



Mechanical Specification



General

Unit shall be completely factory assembled, including fan, coil, drain pan, motor and filters in an insulated casing. The LWHA unit shall be either a direct drive fan or belt drive fan options to suit your application.

Casing

Unit casing shall be constructed of mainly 25mm Double Wall panels injected with polyurethane foam to provide a rigid, sturdy and easily cleaned enclosure.

This double wall construction keeps the insulation out of the air stream and contributes towards improved indoor air quality.

The insulating material is a closed cell, rigid polyurethane foam which is totally free of CFC blowing agent and has no ozone depletion potential.

Insulating Material Specification:
Thermal conductivity, 'K' factor = 0.20
W/m² K.

The panels shall be constructed of baked polyester powder painted steel sheet on exterior wall and galvanized sheet on inner wall.

Filter

One inch washable filters shall be provided as standard and 2" washable filters as an option. Side sliding filter rail shall be provided as standard.

Coil

Coils shall be 9.5mm OD. (3/8") copper tubes, mechanically bonded to Wavy-3BS aluminium fin collars. Standard cooling coil shall be 4 rows-144 FPF and 6 rows-144FPF. Standard heating coil shall be 1 row 144 FPF. Standard heating coils shall be 1 row 144FPF. All coils shall be factory pressure tested at 25.9kg/cm² (375 psi). Recommended working pressure is 13.8 kg/cm² (200 psi). Coils shall be arranged for draw-thru air flow and supplied with standard GI steel drain pan (option stainless steel drain pan)

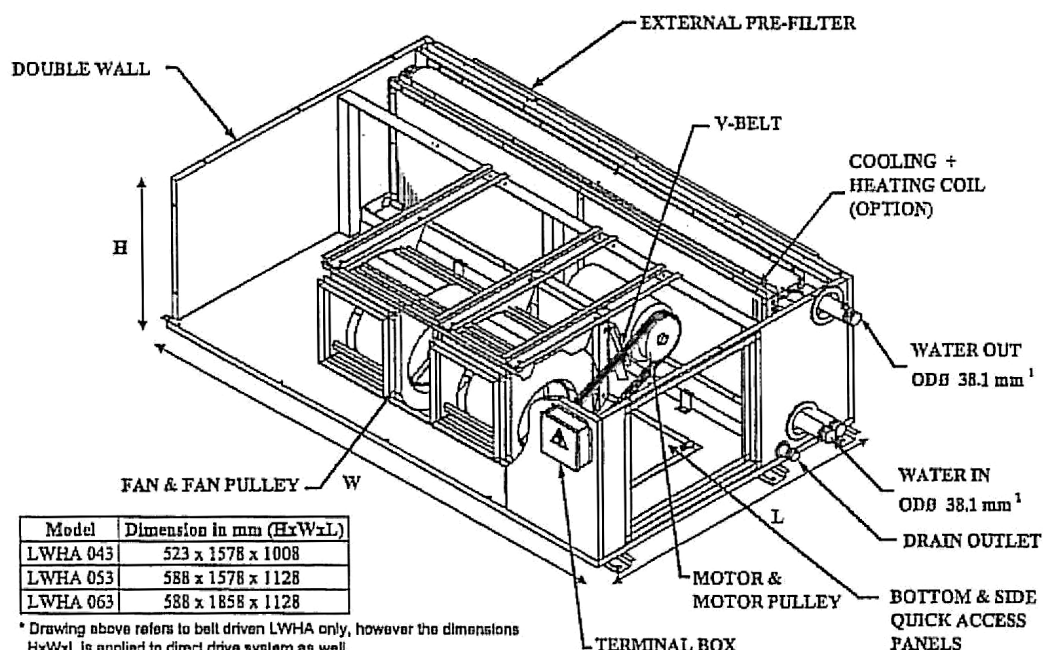
Fan

Fans to be centrifugal type, double width-double inlet, forward-curved. Belt drive fans shall be supplied with constant pitch pulley as standard. Adjustable pitch pulley shall be provided as an option. Fans and motor bearing shall be permanently lubricated.

Motors

Motors are suitable for 220-240v / 50Hz / 1Ph (direct drive) or 380-415v / 50Hz / 3Ph (belt drive). Direct drive motor shall have 3 speed with permanent split capacitor.

All wirings shall be terminated into a terminal box mounted outside of the front casing.



* Drawing above refers to belt driven LWHA only, however the dimensions HxWxL is applied to direct drive system as well.

Piping outer diameter is based on steel header outer diameter.

General Specifications

Model		LWHA 013	LWHA 023	LWHA 033	LWHA 043	LWHA 053	LWHA 063	
Nominal Airflow		CFM	953	1610	1865	2409	2662	3926
		CMH	1619	2735	3168	4093	4696	6670
Cooling Coil								
Coil Face Area		Sq. ft. (m ²)	2.15 (0.20)	3.50 (0.33)	4.08 (0.38)	5.25 (0.49)	6.37 (0.59)	7.67 (0.71)
Chilled Water Coil 4 Row	Row/FPI		4 / 12					
	Cooling Capacity	MBH (kW)	27.28 (7.99)	51.80 (15.18)	65.24 (19.12)	87.99 (25.78)	102.56 (30.06)	137.34 (40.24)
	Water Flow Rate	GPM (L/S)	5.44 (0.34)	10.32 (0.65)	13.00 (0.82)	17.53 (1.11)	20.44 (1.29)	27.37 (1.73)
	Water Pressure Drop	ft. wg (kPa)	0.96 (2.9)	1.84 (5.5)	3.05 (9.2)	4.93 (14.7)	4.10 (12.3)	6.31 (18.9)
Chilled Water Coil 6 Row	Row/FPI		6 / 12					
	Cooling Capacity	MBH (kW)	41.46 (12.15)	72.80 (21.33)	84.85 (24.86)	103.87 (30.43)	132.62 (38.66)	173.96 (50.97)
	Water Flow Rate	GPM (L/S)	8.26 (0.52)	14.51 (0.92)	16.91 (1.07)	20.70 (1.31)	26.43 (1.67)	34.67 (2.19)
	Water Pressure Drop	ft. wg (kPa)	2.69 (8.6)	4.82 (14.4)	5.58 (16.7)	4.8 (14.4)	7.41 (22.2)	9.51 (28.4)
Hot Water Coil 1 Row	Row/FPI		1 / 12					
	Cooling Capacity	MBH (kW)	14.74 (4.32)	28.23 (8.27)	36.08 (10.57)	50.65 (14.84)	66.72 (19.55)	88.7 (26.0)
	Water Flow Rate	GPM (L/S)	1.74 (0.11)	3.17 (0.20)	3.96 (0.25)	5.71 (0.36)	7.45 (0.47)	9.99 (0.63)
	Water Pressure Drop	ft. wg (Pa)	0.07 (204)	0.11 (327)	0.18 (544)	0.38 (1137)	0.38 (1137)	0.70 (2091)
Fins Material		Aluminium						
Header Material		Steel (Copper header as option)						
Tube Size (OD)		In (mm)	3/8" (9.525)					
Header Diameter (OD)		in (mm)	1-1/2 (38.1) BSPT					
Drain Connection Size		in (mm)	1.0 (25.4) BSPT					

Fan / Motor								
Drive Type		Belt-Driven						
Std Motor		3 Phase, 50/60Hz, 4 Poles, TEFC IP55, Class F insulation						
Motor Size - Lo / Std / Hi		kW	0.18 / 0.37 / 0.75	0.37 / 0.75 / 1.1	0.37 / 0.75 / 1.1	0.75 / 1.1 / 1.5	1.1 / 1.5 / 2.2	1.5 / 2.2 / 3.0
FLA ⁽¹⁾		Amp	0.66 / 1.21 / 2.10	1.21 / 2.10 / 2.65	1.21 / 2.10 / 2.65	2.10 / 2.65 / 3.60	2.65 / 3.80 / 5.08	3.80 / 5.08 / 6.62
LRA ⁽²⁾		Amp	2.6 / 5.3 / 11.0	5.3 / 11.0 / 16.0	5.3 / 11.0 / 16.0	11.0 / 16.0 / 21.0	16.0 / 21.0 / 34.0	21.0 / 34.0 / 49.0
Fan Type		Centrifugal Forward-curved Fan						
Fan Size			7-7	9-7	9-7	9-7D	10-8D	10-8D
No. of Fans			1	1	1	2	2	2
Available ESP			50 - 300 Pa (0.2 - 1.2 in. wg)					

Fan		Direct Drive					
Drive Type		Centrifugal Forward-curved Fan					
Fan Type							
Fan Size			9-7T	9-9T	9-7T	9-7	9-9
No. of Fans			1	1	2	2	2
Fan Rated Speed - Low/Med/Hi		RPM	1050 / 1150 / 1330	1250 / 1390 / 1350	1250 / 1300 / 1350	1250 / 1300 / 1350	1235 / 1345 / 1410
ESP (incl. 1" filter & 4 - 1 row) at Nom. Airflow		High Pa	176	51	79	157	170
		Medium Pa	-	-	4	122	120
		Low Pa	-	-	-	-	5
Std Motor		3 Speed, 4 Poles, 220-240V / 1 Ph / 50Hz Only					
Motor Size		Watt	350	550	600	750	1100
FLA - Hi / Med / Lo		Amp	1.9 / 1.7 / 1.3	3.6 / 3.4 / 3.2	3.3 / 2.9 / 2.7	4.5 / 3.9 / 3.3	5.4 / 4.6 / 4.0

Filters		1" Washable fillers (2" Washable fillers as option)						
Filter Type								
Quantity - Size	in	1 - 12" x 24"	2 - 16" x 20"	2 - 16" x 20"	3 - 16" x 20"	2 - 16" x 20"	3 - 20" x 20"	
						1 - 20" x 20"		
Approx. Operating Weight	kg	180	200	210	220	230	250	
Unit Dimensions :	HxWxL mm	423 x 992 x 1008	523 x 1118 x 1008	523 x 1271 x 1008	623 x 1578 x 1008	588 x 1578 x 1128	688 x 1858 x 1128	

Note:

1. Cooling coil performances are rated at 26.7°C (80°F) EDB, 19.4°C (67°F) EWB and nominal airflow listed (6.67°C EWT / 42.22°C LWT).
2. Heating coil performances are rated at 15°C (59°F) EAT and nominal airflow listed (60°C EWT / 50°C LWT).
3. Motor current rated as per 380V/3ph/50Hz.

Please refer to the submittal drawing for more details on unit dimension



Literature Order Number: BC-SLBD05-E4

Date: March 2006

Supersedes: New

Stocking location: Malaysia

Trane
www.trane.com

For more information, contact your local district office

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specification without notice.