



# *LWHA Double Wall Low Height Air Handler*

*for tight fitting ceiling hung applications*



# General Specification

Model		LWHA 013	LWHA 020	LWHA 023	LWHA 033	LWHA 043	LWHA 053	
Nominal Airflow at 2.54 m/s (500 ft/min) Coil Face Velocity	CFM	1076	1250	1750	2042	2625	3188	
	CMH	1829	2124	2973	3469	4460	5416	
<b>Unit Dimensions</b>								
Unit Width x Height x Length	mm	992 x 428 x 1087	1118 x 428 x 1087	1118 x 528 x 1087	1271 x 528 x 1087	1578 x 528 x 1087	1578 x 593 x 1207	
Basic Weight	kg	104	112	146	139	182	213	
<b>Filter Data</b>								
Filter Type - Standard		2" Washable , Pleated / Equivalent to Filter Class G3 / Initial Resistance = 35 Pa , Final Resistance = 200 Pa						
Filter Size x qty		24"W x 12"H x 2" -1pc	16"W x 12"H x 2" -2pcs	20"W x 16"h x 2" -2pcs	20"W x 16"h x 2" -2pcs	20"W x 16"h x 2" -3pcs	20"W x 20"H x 2" -3pcs	
<b>Coil Capacity Data</b>								
Chilled Water Coil 4 Row/144 Fin per Foot	Cooling Capacity	MBH (KW)	28.3 (8.28)	37.1 (10.88)	52 (15.23)	66 (19.33)	92.5 (27.11)	112.3 (32.92)
	Water Flow Rate	GPM (L/S)	5.71 (0.36)	7.45 (0.47)	10.3 (0.65)	13.16 (0.83)	18.39 (1.16)	22.35 (1.41)
	Water Pressure Drop	ft.wg (kPa)	0.97 (2.9)	1.71 (5.1)	1.74 (5.2)	2.95 (8.8)	6.4 (19.1)	6.5 (19.4)
Chilled Water Coil 6 Row/144 Fin per Foot	Cooling Capacity	MBH (KW)	43.8 (12.84)	53.4 (15.64)	74.7 (21.90)	90.4 (26.49)	121 (35.46)	147 (43.07)
	Water Flow Rate	GPM (L/S)	8.72 (0.55)	10.62 (0.67)	14.9 (0.94)	18.07 (1.14)	24.09 (1.52)	29.32 (1.85)
	Water Pressure Drop	ft.wg (kPa)	3.01 (9.0)	4.69 (14.0)	4.76 (14.2)	7.37 (22.0)	14.77 (44.1)	14.94 (44.6)
Hot Water Coil 1 Row/144 Fin per Foot	Heating Capacity	MBH (KW)	24 (7.04)	28.8 (8.43)	40.3 (11.80)	48.2 (14.14)	64.2 (18.82)	74.3 (21.77)
	Water Flow Rate	GPM (L/S)	2.69 (0.17)	3.17 (0.20)	4.44 (0.28)	5.39 (0.34)	7.13 (0.45)	8.24 (0.52)
	Water Pressure Drop	ft.wg (kPa)	0.44 (1.3)	0.64 (1.9)	0.67 (2)	1 (3)	1.94 (5.8)	2.01 (6)
<b>Cooling Coil Data</b>								
Coil - Width, ( Vertical Dim.)	inch	10	10	14	14	14	17	
Coil - Length, (Horizontal Dim.)	inch	31	36	36	42	54	54	
	ft2	2.15	2.50	3.50	4.08	5.25	6.38	
	m2	0.20	0.23	0.33	0.38	0.49	0.59	
Coil Face Area	ft <sup>2</sup> ( m <sup>2</sup> )	2.15 (0.20)	2.5 (0.23)	3.5 (0.33)	4.08 (0.38)	5.25 (0.49)	6.38 (0.59)	
Coil Rows		4 or 6 Rows	4 or 6 Rows	4 or 6 Rows	4 or 6 Rows	4 or 6 Rows	4 or 6 Rows	
Fin Material		Aluminum						
Tube Material / Size, OD	Inch	COPPER - 3/8" OD						
Header Material / Size (Standard)	Inch	MILD STEEL PIPE / 1-1/2" BSPT (Ext. Thd.)						
Header Material / Size (Optional)	Inch	Cu Tube / 1-5/8" ODM						
<b>Condensate Drain Connection Size</b>		1" BSPT (Ext Thd.)						
<b>HW Coil Data</b>								
Coil - Width / Length / Face Area/ Fin & Tube Material	Inch	SAME AS Cooling Coil Data						
Coil Rows		3/8" Coil , 1 Row x 1/2 Circuit						
Header Material / Size (Standard)	Inch	MILD STEEL PIPE / 1-1/2" BSPT (Ext. Thd.)						
Header Material / Size (Optional)	Inch	Cu Tube / 1- 5/8" ODM						
<b>Electric Heater</b>								
Voltage/Phase	V/Hz	SAME AS Motor Voltage/Phase						
1-Steps Of Control Heating Capacity (MIN - MAX)	kW	1.2- 4.2	1.2- 4.2	2.1 - 6.6	2.1 - 6.6	3.0 - 9.6	3.0 - 9.6	
2-Steps Of Control Heating Capacity (MIN - MAX)	kW	1.2- 8.4	1.2- 8.4	2.1 - 15.6	2.1 - 15.6	3.0 - 21.0	3.0 - 21.0	
<b>BELT DRIVE OPTION:</b>								
<b>Fan Data (Belt Driven)</b>								
Fan Type		Centrifugal Forward Curve Fan						
Fan Size		FC 8/8 S	FC 8/8 S	FC 9/7 S	FC 9/7 S	FC 9/7 S2	FC 10/8 S2	
Discharge Opening, H x W x qty.	mm	228 x 259 x 1no	228 x 259 x 1no	262 x 232 x 1no	262 x 232 x 1no	262 x 232 x 2nos	289 x 265 x 2nos	
Max RPM		1750	1750	1750	1750	1750	1750	
Available ESP		5 - 300 Pa ( 0.2 - 1.2" wg)						
<b>Motor Data (Belt Driven)</b>								
Motor Type		3 Phase, 50/60Hz, 4 Poles, TEFC, Class F Insulation, IEC Standard Induction Motor						
Motor Size - Low/ Std/ High Static	kW	0.18/ 0.37/ 0.75	0.18/ 0.37/ 0.75	0.37/ 0.75/ 1.1	0.75/ 1.1/ 1.5	0.75/ 1.1/ 1.5	1.1/ 1.5/ 2.2	
Electrical Rating / Utilization Range		380 - 420 Vac, 3Phase, 50Hz						
FLA @ 415 Vac, 3Phase, 50Hz		0.59/ 1.03/ 1.78	0.59/ 1.03/ 1.78	1.03/ 1.78/ 2.56	1.03/ 1.78/ 2.56	1.78/ 2.56/ 3.26	2.56/ 3.26/ 4.67	
LRA @ 415 Vac, 3Phase, 50Hz		2.4/ 5.2/ 11	2.4/ 5.2/ 11	5.2/ 11/ 16	5.2/ 11/ 16	11/ 16/ 21	16/ 21/ 35	
<b>DIRECT DRIVE OPTION:</b>								
<b>Fan Data (Direct Driven)</b>								
Fan Type		Centrifugal Forward Curve (FC) Fan						
Fan Size		KDD-9/7T, 350 Watt	KDD-9/7T, 550 Watt	KDD-9/9T, 550 Watt	KD2-9/7T, 600 Watt	KD2-9/7, 750 Watt	KD2- 9/9, 1550 Watt	
Discharge Opening, H X W		270 x 240 x 1no	270 x 240 x 1no	270 x 306 x 1no	270 x 240 x 2nos	270 x 240 x 2nos	270 x 306 x 2nos	
<b>Motor Data ( Direct Driven)</b>								
Motor Type		3 speed / 4Pole - 220-240VAC , 1 Phase, 50Hz only						
Motor/Fan Speed , Low / Med / High		1200/ 1275/ 1350	1150/ 1250/ 1300	1150/ 1250/ 1300	1250/ 1300/ 1350	1250/ 1300/ 1350	1300/ 1355/ 1400	
Motor Size	Watt	350	550	550	600	750	1550	
FLA (Full Load Current) - Low/ Med / High	Amp	2.2/ 3.0/ 4.3	4.0/ 4.7/ 5.4	4.2/ 5.3/ 6.3	3.8/ 4.4/ 5.2	4.4/ 5.4/ 5.8	4.7/ 6.5/ 9.0	
	High	Pa	320	380	280	260	360	310
TSP at Nominal Airflow.	Medium	Pa	340	100	180	190		
	Low	Pa	290					

Note:

- Cooling coil performance is rated at 26.7°C (80 °F) EDB / 19.4 °C (67 °F) EWB and 6.67 °C (44 °F) EWT/ 12.22°C (54 °F) LWT at Nominal air flow rate.
- Heating performance are rated at 15 °C (59 °F) EDB and 60 °C (140 °F) EWT/ 50 °C (122 °F) LWT at Nominal air flow rate.
- Unit Basic weigh is based on Belt Drive Type unit c/w 4Row Coil & Std. Static Motor.

LWHA 063	LWHA 083	LWHA 113	LWHA 133
3837	4740	6510	7726
6519	8053	11061	13126
1858 x 593 x 1207	1858 x 720 x 1255	2126 x 822 x 1379	2476 x 822 x 1379
242	276	365	431
20"W x 20"H x 2" -3pcs	20"W x 20"H x 2" -1pc 24"W x 20"H x 2" -2pcs	16"W x 25"H x 2" -1pc 20"W x 25"H x 2" -3pcs	16"W x 25"H x 2" -1pc 25"W x 25"H x 2" -3pcs
140.8 (41.25)	173.9 (50.96)	232.6 (68.18)	285.7 (83.74)
28.06 (1.77)	34.71 (2.19)	46.44 (2.93)	57.06 (3.60)
11.05 (33.0)	11.32 (33.8)	6.97 (20.8)	11.25 (33.6)
180.9 (53.02)	223.5 (65.49)	302.5 (88.65)	366.5 (107.40)
36.14 (2.28)	44.54 (2.81)	60.39 (3.81)	73.07 (4.61)
24.75 (73.9)	25.18 (75.2)	15.14 (45.2)	24.08 (71.9)
91.3 (26.75)	113.9 (33.37)	164.7 (48.26)	199.4 (58.44)
10.14 (0.64)	12.68 (0.80)	18.39 (1.16)	22.19 (1.40)
3.25 (9.7)	3.32 (9.9)	2.24 (6.7)	3.48 (10.4)
17	21	25	25
65	65	75	89
7.67	9.48	13.02	15.45
0.71	0.88	1.21	1.44
7.67 (0.71)	9.48 (0.88)	13.02 (1.21)	15.45 (1.44)
4 or 6 Rows	4 or 6 Rows	4 or 6 Rows	4 or 6 Rows
COPPER 1/2"OD			
1/2" Coil , 1 Row x 1/2 Circuit			
5.1- 10.5	5.1- 10.5	5.1- 10.5	5.1- 10.5
5.1 - 21.0	5.1 - 21.0	5.1 - 21.0	5.1 - 21.0
FC 10/8 S2	FC 12/9 S2	FC 15/11 S2	FC 15/11 S2
289 x 265 x 2nos	341 x 309 x 2nos	404 x 373 x 2nos	404 x 373 x 2nos
1750	2000	2000	2000
1.5/ 2.2/ 3.0	1.5/ 2.2/ 3.0	2.2/ 3.0/ 4.0	3.0/ 4.0/ 5.5
3.26/ 4.67/ 6.21			
21/ 35/ 51			

NOT AVAILABLE

### Casing

Unit casing shall be constructed with 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 = 0.02 W/m K. The panels shall be constructed of baked polyester powder painted steel sheet on exterior wall and galvanized sheet on inner wall.

### Coil

Coils shall be copper tubes, mechanically bonded to Trane innovative Wavy-3BS aluminum fin collars. This coil design provides higher heat transfer efficiency with its increased heat transfer surface. All coils shall be factory pressure tested at 25.9kg/cm<sup>2</sup> (375 psi) to ensure it works well at recommended working pressure 17 kg/cm<sup>2</sup> (250 psi).

### Fan/ Motors

Fans and motor bearing shall be permanently lubricated. All wirings shall be terminated into a terminal box mounted outside of the front casing.



## FEATURE SUMMARY

### Specialized For Tight Fits

The Trane Penang LWHA Air Handlers are compact horizontal draw through units, designed for tight ceiling space. It is the most attractive commercial solution for new or replacement markets. They are designed for installation in schools, hospitals, offices, stores and other applications where cooling and heating are required, in compact spaces.

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

### Computerized Selection Software

Powerful, detailed & accurate performance reports are available through the Trane Official Product Selection program [TOPSS]

### Simplified Servicing

Latch doors on both sides allow easy access for fan, motor and belts maintenance. Quick latches are standard for side access panels. External slide sliding filter rail for easy filter maintenance.

### Ease of Installation

Suspension brackets are provided as standard to ease unit installation in ceiling, reduces installation time on a job and, therefore, lowers project cost.

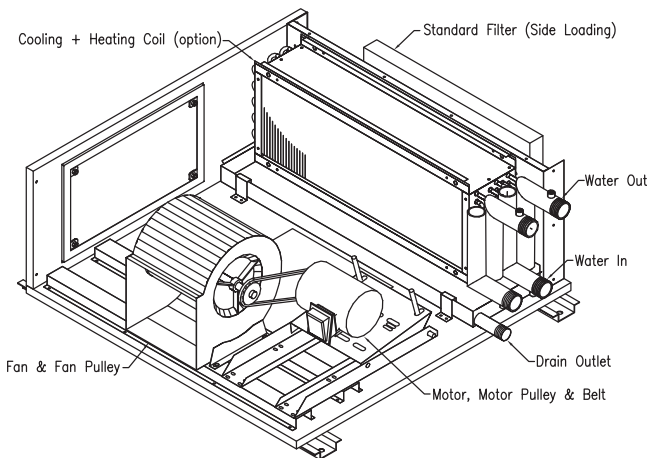
### Sloped Drain Pan Design

Standard Coated GI drain pan ensures proper drainage, preventing water stagnation that could result in microbial growth and is completely corrosion resistant.

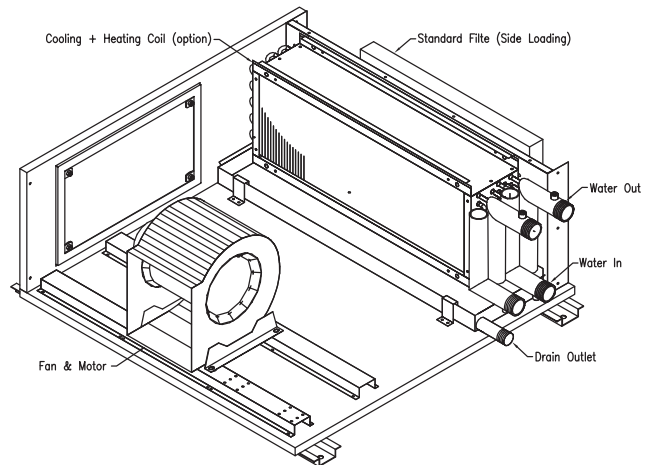
### Optional feature:

- Stainless Steel Drain Pan
- Copper header for coil
- UL listed Step Control Heater
- Adjustable motor pulley
- Special Voltage/Hz for Belt Driven Motor

#### BELT DRIVE TYPE



#### DIRECT DRIVE TYPE



Ingersoll Rand (NYSE:IR) advances the quality of life by creating and sustaining safe, comfortable and efficient environments. Our people and our family of brands – including Club Car®, Ingersoll Rand®, Schlage®, Thermo King® and Trane® – work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; secure homes and commercial properties; and increase in industrial productivity and efficiency. We are a \$14 billion global business committed to a world of sustainable progress and enduring results.



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