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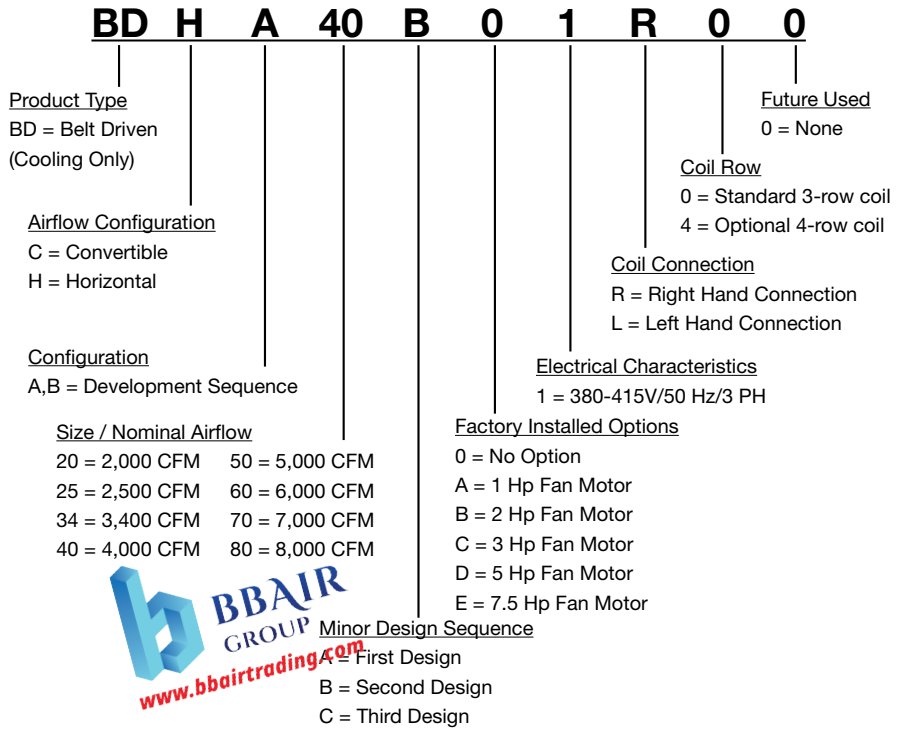
# BDHA / BDCB

Chilled Water  
Air Handling Units  
2,000 - 8,000 CFM 50 Hz

**IR** Ingersoll Rand®



# Model Nomenclature



## General Data

### Product Specification

MODEL		BDHA20	BDHA25	BDHA34	BDHA40	BDHA50	BDHA60	BDHA70	BDHA80
Rated - Volts/Ph/Hz		380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
<b>SYSTEM DATA</b>									
Nominal Airflow	CFM	2,000	2,500	3,400	4,000	5,000	6,000	7,000	8,000
Nominal Capacity	MBH	60	75	100	120	160	180	210	240
Water Inlet Connection Size	in	1 1/4	1 1/4	1 1/4	1 1/2	2	2	2	2
Water Outlet Connection Size	in	1 1/4	1 1/4	1 1/4	1 1/2	2	2	2	2
Water Connection Type		Steel Pipe - MPT							
<b>COIL</b>									
Fin Type		Slit Uncoated	Slit Uncoated	Slit Uncoated	Slit Uncoated	Slit Uncoated	Slit Uncoated	Slit Coated	Slit Coated
Fins per inch*									
3-Row coil		14	14	14	14	14	14	14	14
4-Row coil		12	13	14	13	14	14	14	14
Drain Connection Size	in	1	1	1	1	1	1	1	1
<b>FAN</b>									
Fan Type		Double Inlet Centrifugal Forward Curved Wheel							
Dai. x Width		10 x 10	10 x 10	10 x 8	10 x 10	12 x 12	12 x 12	15 x 15	15 x 15
No. used		1	1	2	2	2	2	2	2
Drive Type		Adjustable Belt Drive							
<b>FAN MOTOR</b>									
Qty of Motor		1	1	1	1	1	1	1	1
Motor Power	W	550	750	1,500	1,500	1,500	2,200	2,200	3,700
No. of Speed		1	1	1	1	1	1	1	1
V/ph/Hz		380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
RLA/LRA		1.61/8.4	1.99/11.0	3.66/21.0	3.66/21.0	3.66/21.0	5.08/34.0	5.08/34.0	8.03/63.0
<b>RETURN FILTER</b>									
Filter Type		Washable Air Filter							
<b>DIMENSION (HxWxD)</b>									
Packing (Shipping)	mm	673 x 1,410 x 970	673 x 1,410 x 970	673 x 1,778 x 970	772 x 1,778 x 970	920 x 2,152 x 994	920 x 2,152 x 994	998 x 2,640 x 1,555	998 x 2,640 x 1,555
Unit (Net)	mm	520 x 1,406 x 916	520 x 1,406 x 916	520 x 1,774 x 916	620 x 1,774 x 916	798 x 2,059 x 1,260	798 x 2,059 x 1,260	850 x 2,440 x 1,555	850 x 2,440 x 1,555
<b>WEIGHT</b>									
Unit (Net) 3-Row Coil	kg	90	92	139	141	181	190	214	225
Unit (Net) 4-Row Coil	kg	92	96	145	148	191	201	221	235

\*Note : 1. 3-Row coil is standard coil  
2. 4-Row coil is optional coil  
3. Please refer to BDCB specification sheet for your further reference if needed





# Performance Data

## Cooling Capacities

### Model BDHA/BDCB

#### Cooling Capacity for 3-Row Coil

TC = Total Capacity, MBH PD = Water Pressure Drop, Ft of Water  
 SC = Sensible Capacity, MBH EWT = Entering Water Temperature  
 GPM = Water Flow Rate, gpm WTR = Water Temperature Rise

EWT (F)	Rated Unit	WTR Airflow (F)	Entering Air Temp - EDB/EWB (F)															
			72/61			74/63			80/67			84/71						
			TC	SC	GPM	PD	TC	SC	GPM	PD	TC	SC	GPM	PD	TC	SC	GPM	PD
40	20	8	57.16	42.51	14.23	8.21	66.59	45.55	16.58	10.71	86.70	55.20	21.59	16.98	108.70	61.09	27.06	25.23
		10	51.09	39.84	10.18	4.56	60.02	42.68	11.95	6.03	80.18	52.41	15.97	9.98	102.10	58.31	20.35	15.23
		12	44.55	37.06	7.40	2.61	53.17	39.80	8.83	3.54	73.21	49.52	12.15	6.17	95.30	55.51	15.82	9.76
	25	8	69.39	52.00	17.27	12.73	80.71	55.66	20.09	16.57	104.80	67.35	26.09	26.18	131.10	74.38	32.65	38.80
		10	62.65	49.04	12.48	7.18	73.10	52.35	14.56	9.40	97.19	64.07	19.36	15.44	123.50	71.15	24.60	23.48
		12	55.79	46.09	9.26	4.26	65.77	49.23	10.92	5.66	89.15	60.71	14.80	9.61	115.50	67.87	19.17	15.11
	34	8	93.94	71.64	23.39	12.85	108.00	76.77	27.10	16.61	140.00	93.22	34.85	25.79	173.80	103.29	43.27	37.70
		10	84.83	67.55	16.90	7.25	98.71	72.23	19.66	9.44	130.00	88.72	25.88	15.25	163.80	98.87	32.63	22.87
		12	75.15	63.30	12.47	4.26	88.61	67.84	14.71	5.67	119.30	84.11	19.81	9.51	153.40	94.33	25.46	14.74
	40	8	113.70	87.06	28.31	9.88	131.40	93.09	32.71	12.71	169.00	113.01	42.00	19.74	209.90	125.08	52.24	28.84
		10	102.50	82.07	20.42	5.57	119.30	87.71	23.76	7.24	156.70	107.55	31.22	11.65	197.37	119.65	39.37	17.48
		12	90.30	76.73	14.99	3.24	106.70	82.24	17.71	4.32	144.00	101.99	23.90	7.28	184.90	114.14	30.69	11.25
45	20	8	67.80	67.31	9.01	1.33	84.49	72.96	11.22	1.94	124.00	93.70	16.48	3.78	164.10	105.55	21.80	6.15
		10	149.70	112.35	37.26	10.84	172.80	120.38	43.02	13.93	221.00	145.82	55.03	21.41	273.30	161.45	68.05	31.06
		12	121.20	99.60	20.12	3.68	142.70	106.93	23.69	4.88	191.20	132.42	31.74	8.11	244.10	148.37	40.52	12.42
	25	8	95.90	88.81	12.74	1.65	116.80	95.86	15.51	2.32	166.80	122.01	22.15	4.31	219.60	137.96	29.17	6.95
		10	172.40	130.85	42.91	15.23	198.60	139.83	49.45	19.51	253.70	169.06	63.16	29.93	313.50	186.58	78.04	43.38
		12	157.60	124.21	31.39	8.79	182.20	132.48	36.29	11.31	237.40	161.71	47.28	17.94	297.30	179.35	59.21	26.60
	34	8	142.40	117.51	23.64	5.34	166.10	125.38	27.57	6.98	220.10	154.16	36.53	11.38	280.30	171.93	46.53	17.36
		10	117.40	106.83	15.59	2.58	139.90	114.25	18.58	3.49	194.60	143.35	25.84	6.18	252.90	160.47	33.60	9.76
		12	98.00	151.06	49.29	13.41	228.30	161.39	56.82	17.18	292.10	195.19	72.71	26.44	361.20	215.47	89.93	38.40
	40	8	180.50	143.17	35.95	7.70	208.90	152.74	41.61	9.93	272.70	186.53	54.31	15.79	342.00	206.96	68.11	23.47
		10	161.90	135.04	26.88	4.62	189.50	144.23	31.46	6.08	252.20	177.65	41.87	9.98	321.80	198.23	53.42	15.27
		12	129.70	121.37	17.23	2.12	156.80	130.41	20.82	2.95	221.60	164.74	29.43	5.37	289.40	184.63	38.44	8.54
50	20	8	224.80	170.91	55.96	17.20	259.50	182.80	61.61	12.11	332.10	221.17	82.67	34.04	410.80	244.34	102.30	49.46
		10	205.00	161.97	40.84	9.88	237.60	172.47	47.74	12.74	310.20	211.36	61.78	20.33	389.00	234.71	77.49	30.24
		12	185.20	153.20	30.74	6.00	216.80	163.83	35.81	7.84	287.00	201.20	47.63	12.85	366.30	224.81	60.80	19.67
	25	8	152.00	139.05	20.19	2.87	170.70	145.83	24.11	3.91	253.10	186.88	33.61	6.95	329.70	209.45	43.79	11.01
		10	47.19	38.19	11.75	5.81	57.70	40.83	13.88	7.77	75.69	50.54	18.95	13.24	97.59	56.44	24.30	20.66
		12	41.51	35.81	8.27	3.14	48.80	38.32	10.15	3.91	68.84	47.74	13.72	7.56	90.76	53.69	18.08	12.25
	34	8	35.44	33.33	5.89	1.73	42.95	35.62	5.45	2.42	62.22	45.14	10.33	4.60	83.55	50.89	13.87	7.68
		10	23.86	23.54	3.17	0.59	31.56	25.10	4.19	0.96	51.60	41.10	6.86	2.24	71.81	46.50	9.54	3.97
		12	57.44	46.79	14.30	9.05	67.65	50.02	16.85	12.04	91.55	61.71	22.80	20.42	117.80	68.79	29.33	31.77
	40	8	51.37	44.24	10.24	5.03	60.72	47.14	12.10	6.73	83.54	58.43	16.65	11.72	109.80	65.56	21.87	18.90
		10	45.08	41.64	7.49	2.91	53.79	44.32	8.93	3.95	76.05	55.44	12.63	7.21	101.40	62.28	16.84	11.90
		12	34.40	32.74	4.57	1.23	42.56	39.90	5.66	1.78	64.86	51.13	8.62	3.68	88.16	57.29	11.71	6.28
55	20	8	77.82	64.48	19.38	9.15	91.30	69.02	22.74	12.08	122.40	85.40	30.47	20.14	156.20	95.51	38.89	30.90
		10	69.42	60.87	13.83	5.06	81.98	65.04	16.33	6.76	111.80	80.90	22.28	11.60	145.80	91.08	29.04	18.43
		12	60.35	57.07	10.02	2.88	72.22	60.98	11.99	3.93	101.90	76.80	16.91	7.14	134.80	86.54	22.38	11.63
	25	8	38.51	37.97	5.14	1.00	55.28	54.15	7.35	1.67	86.23	70.53	11.46	3.60	117.30	79.61	15.58	6.15
		10	94.37	78.51	23.50	7.06	110.50	83.85	27.51	9.29	147.60	103.55	36.76	15.40	188.40	115.70	46.93	23.62
		12	83.87	74.00	16.71	3.88	99.10	79.03	19.74	5.19	135.00	98.26	26.91	8.89	175.70	110.28	35.00	14.07
	34	8	72.29	69.14	12.00	2.18	86.78	73.91	14.41	2.99	123.00	93.27	20.43	5.47	162.20	104.77	26.94	8.86
		10	62.75	61.85	8.37	0.87	64.42	60.63	8.56	1.20	103.30	85.41	13.73	2.72	141.00	96.39	18.74	4.67
		12	124.40	101.01	30.97	7.76	145.70	108.17	36.28	10.22	193.90	133.62	48.28	16.83	246.20	149.30	61.32	25.58
	40	8	111.40	95.37	22.20	4.33	131.60	102.15	26.23	5.78	178.60	127.00	35.58	9.83	231.30	142.84	46.08	15.44
		10	97.53	89.51	16.20	2.49	116.60	95.86	19.37	3.40	163.70	120.76	27.18	6.12	215.40	136.17	35.76	9.87
		12	72.67	70.69	9.66	1.01	91.33	85.55	12.14	1.50	139.70	111.05	18.57	3.14	189.30	125.64	25.15	5.31
50	8	143.60	118.03	35.75	10.94	167.60	126.03	41.73	14.33	222.40	142.00	55.37	23.49	282.10	172.71	70.24	35.65	
	10	130.10	112.17	25.91	6.22	152.40	119.52	30.37	8.20	205.30	147.84	40.90	13.77	265.10	165.55	52.83	21.53	
	12	115.90	106.24	19.25	3.70	137.00	113.08	22.75	4.94	189.10	141.07	31.40	8.64	247.20	158.13	41.05	13.78	
60	20	8	92.19	89.84	12.25	1.68	111.90	102.86	14.87	2.35	164.30	131.11	21.84	4.56	218.80	146.80	29.07	7.50
		10	164.80	136.41	41.04	9.63	192.40	145.52	47.91	12.61	255.70	179.17	63.67	20.71	324.60	199.44	80.88	31.51
		12	148.60	129.34	29.61	5.43	174.50	137.85	34.77	7.18	235.60	170.58	46.93	12.10	304.70	190.94	60.71	18.96
	25	8	131.10	121.98	21.77	3.17	155.70	130.03	25.86	4.27	216.40	162.61	35.94	7.56	283.40	182.20	47.06	12.10
		10	99.35	94.56	13.25	1.38	123.60	117.04	16.42	1.93	186.40	150.61	24.77	3.93	249.90	168.91	33.20	6.54
		12	186.90	153.98	46.54	12.32	218.50	164.57	54.42	16.18	290.80	202.94	72.43	26.68	369.50	226.20	92.02	40.61
	34	8	169.10	146.26	33.70	6.98	198.20	155.89	39.49	9.20	267.80	193.04	53.35	15.55	346.80	216.48	24.45	8.64
		10	150.60	138.53	25.01	4.14	178.10	147.47	29.57	5.54	245.90	183.93	40.84	9.71	322.80	206.58	53.60	15.60
		12	118.70	115.53	15.78	1.85	144.90	133.93	19.26	2.61	213.60	170.91	28.38	5.12	284.60	191.39	37.82	8.43</

# Features and Benefits



Proportional Thermostat (Option)



TPICCV Valve (Option)



Trane Control Valve (Option)



AHU Starter Panel (Option)

## Aeriscoat R (Option)



Before Coated



After Coated & Curing

## Flexibility

Wide performance range availability with 4-row coil option helps increase application variety. Compact size unit allows it to be properly fit in the field.

## Low Installation Cost

The unit shipped from factory with necessary accessories for operation make it inexpensive to install.

## General

Air handler units shall be completely factory assembled including coil, condensate drain pan, fan motor (s), filters in an insulated casing that can be applied in dedicated horizontal configuration for BDHA models (or vertical or horizontal configuration option for BDCB model) shall be rated in accordance with ARI standard 210.

## Unit casing

Units casing shall be constructed of zinc coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized and finished with a polyester powder painted and weather resistant baked enamel finish. Casing is completely insulated with fire-retardant, permanent, odorless Polyethylene foam.

## Fans

Fans are double width, double inlet, multiblade centrifugal type fans, statically and dynamically balanced and tested after being installed on properly sized shafts. Fan shafts do not pass through the housing. Fan shafts do not pass through the housing at critical speed as unit comes up to rated rpm.

Fan housings constructed with dieformed, streamlined inlets and side sheets. Fan bearings are grease lubricated ball bearings selected for 200,000 hours average life.

## Coils

Configured aluminum fin surface shall be mechanically bonded to internally enhanced copper tubing and factory pressure and leak tested at 380 psig. Coil is arranged for draw through airflow and shall provide condensate drain pan constructed of PVC plastic for BDCB models, galvanized steel with rubber insulator, polyester powder painted drain pan for BDHA.

## Filters

1-inch, washable filters shall be standard on air handlers. Filters shall be accessible from the side coil access panel. Filter rack can be field converted to 2 inch capability for BDCB models.

## Fan Motor

Motor bearings shall be permanently lubricated. oversized motors shall be available as an option for high static application.

## Accessories

### Oversized Motors

Field installed oversized motors shall be available for high static pressure applications.

### Discharge Plenum

Accessory discharge plenum shall be available for free blow

### Return Air grille (For BDCB)

Accessory return air grille shall be provide for free return air.

## Option

**Trane Proportional Thermostat** monitors the adjustable control valve by 0-10 vdc signal, 15°C - 30°C temperature setting and connectable with the external sensor

**"TPICCV" Trane Pressure Independent Characterized Control Valves (Option - 5 Years Warranty)** combines a differential pressure regulator with a 2-way control valve which supplies a specific constant flow for each degree of valve opening regardless of pressure variation in the system. Recommend to use with Trane Thermostat for precise temperature control.

**Trane Control Valve** controls the opening and closing of the pipe in the HVAC system for room temperature monitor. Recommend to use with Trane Thermostat for precise temperature control. \* Control valve option cannot be factory installed inside unit. It will be provided separately.

**Trane AHU Starter Panel** particularly controls the HVAC system. Integrated with motor and compressor protection system, reliable according to UL/IEC/NEMA standard and easy to install.

**Aeriscoat R** removes and protects all micro organisms, biofilm & corrosion in one step certified by CSIRO & approved by USEPA. The effectiveness lasts 5 years and reduces maintenance. Applicable to coil in heat exchanger & evaporator especially for use in humid climate, seaside, factories, hotels, etc.



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ทราน (ประเทศไทย)

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