

SUBMITTAL DATA SHEET

Series Name: Star Pro Series
 Model Number: CSS48CD(O)(29T)/ASH48SG32(29M)

Air Handler Heat Pump System	
Location:	Approval:
Engineer:	Date:
Submitted to:	Construction:
Submitted by:	Unit Qty:
Reference:	Unit Designation (Model #):



INDOOR SPECIFICATION	
Indoor Air Flow (High/Low) (CFM)	1690/750
Indoor Noise Level (High/Low) (dBA)	53/46
Dimension (W×D×H)	inch 24-31/64×21-1/32×52-63/64
	mm 622×534×1346
Package (W×D×H)	inch 27-7/8×26-37/64×54-9/64
	mm 708×675×1375
Net/Gross Weight	lbs 165/184
	kg 75/83.5

OUTDOOR SPECIFICATION	
Compressor Type	TWIN-ROTARY
Compressor Model	KTM310D85UMT
Refrigerant	R32
Refrigerant Oil Charge(mL)	870
Refrigerant Oil	VG74
Outdoor Air Flow (Max) (CFM)	2950.0
Outdoor Noise Level (dBA)	60
Dimension (W×D×H)	inch 37-63/64×31-57/64×15-3/4
	mm 965×810×400
Package (W×D×H)	inch 42-1/8×34-41/64×20-43/64
	mm 1070×880×525
Net/Gross Weight	lbs 152/160
	kg 69/72.5

EFFICIENCY			
Cooling		Heating	
SEER2	16.5	HSPF2	8.5
EER2	9.0	COP	3.45

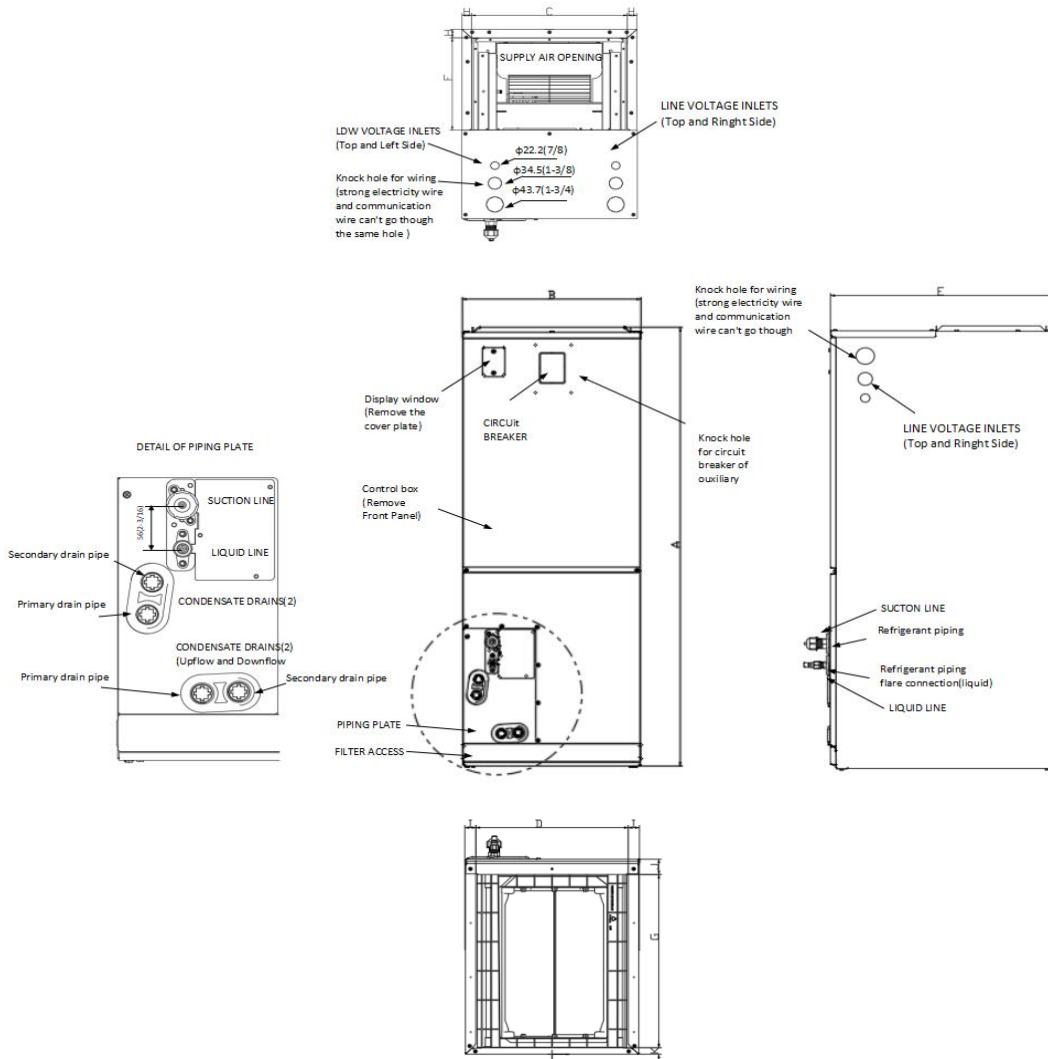
PERFORMANCE of Cooling	
Cooling (Btu/hr)	
Rated Capacity	48000
Min/Max Capacity	16600~49900
Standard Operating Range(°F/°C)	5~131(-15~55)
Rated Cooling Conditions:	Indoor: 80°F DB/67°F WB Outdoor: 95°F DB/75°F WB

PERFORMANCE of Heating	
Heating (Btu/hr)	
1. @ 47°F Rated	48000
2. @ 47°F Min/Max Capacity	15300~49500
3. @ 17°F Rated	28600
4. @ 5°F Rated: Capacity	35000
Standard Operating Range(°F/°C)	-4~75(-20~24)
1. Rated Heating Conditions:	Indoor: 70°F DB/60°F WB Outdoor: 47°F DB/43°F WB
2. Rated Heating Conditions:	Indoor: 70°F DB/60°F WB Outdoor: 17°F DB/15°F WB
3. Heating Conditions, Compressor Operating at Max. Frequency	Indoor: 70°F DB/60°F WB Outdoor: 5°F DB/5°F WB

ELECTRICAL	
Indoor Power Supply	208/230V,60Hz,1Ph
Indoor MCA 115V/(208/230V)	7
Indoor MOP	10
Outdoor Power Supply	208/230V,60Hz,1Ph
Outdoor MCA	37
Outdoor MOP	40
Communication Wiring	AWG 25×3 Shielded
Compressor RLA	5.25
Outdoor Fan Motor RLA	2.5
Outdoor Fan Motor W	150
Indoor Fan Motor RLA	5.4
Indoor Fan Motor W	560
System Power Input @ Cooling (W)	5333(1400 ~ 5350)
System Power Input @ Heating (W)	4100(1025 ~ 4650)
MCA: Min. circuit amps (A)	MOCP: Max. over current protection (A)
RLA: Rated load amps (A)	W: Fan motor rated output (W)

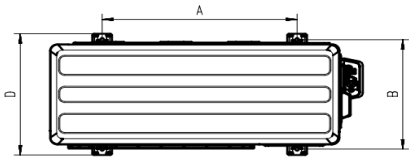
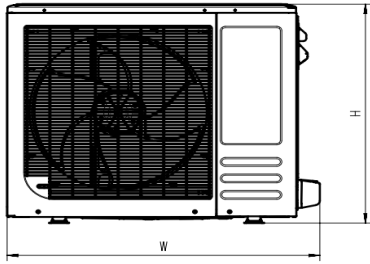
PIPING	
Throttle type(Indoor)	Piston
Throttle type(Outdoor)	Capillary
Liquid Size	9.52mm(3/8in)
Gas Size	19mm(3/4in)
Max. Piping Length(ft/m)	246(75)
Max. Height Difference(ft/m)	98.4(30)
Max. Pre-charged Length(ft/m)	24.6(7.5)
Refrigerant Pre-charged Amount(oz/kg)	105.82(3)
Additional Charge of Refrigerant((oz/ft)/(g/m))	0.52(48)
Connection Method	Flared

Indoor Unit Dimension



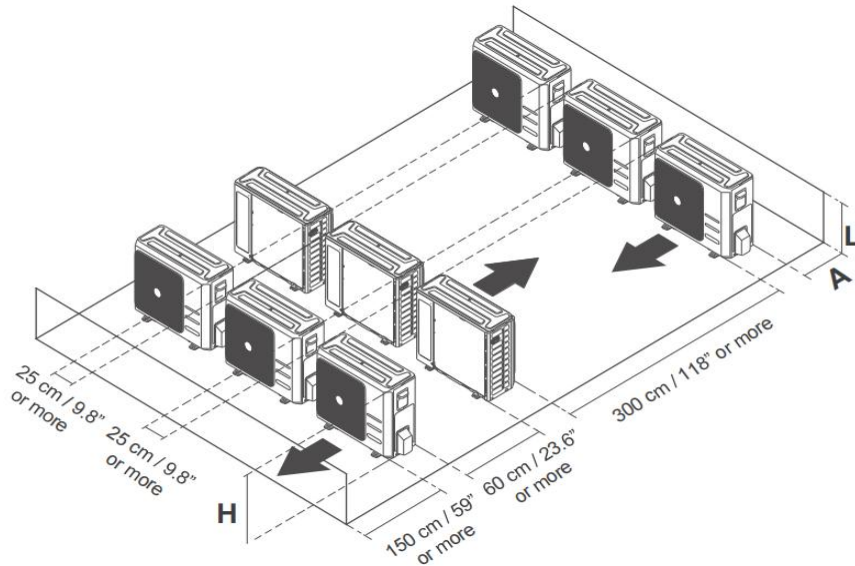
Dimensions		Model	18K/24K		30K/36K		48K/60K	
			inch	mm	inch	mm	inch	mm
A	Model Height		45-3/4	1162	49-9/64	1264	53-47/64	1365
B	Model width		17-41/64	448	21-9/64	537	24-39/64	625
C	Supply Air Opening width		15-5/8	397	19-9/64	486	22-19/32	574
D	Return Air Opening Width		15-25/64	391	18-47/64	476	22-23/64	568
E	Model Depth		21-7/64	536	21-7/64	536	21-7/64	536
F	Supply Air Opening Depth		10-9/32	261	10-9/32	261	10-9/32	261
G	Return Air Opening Depth		18-23/32	475.5	18-23/32	475.5	18-23/32	475.5
H	Supply Air Opening Clearance		15/16	24	15/16	24	15/16	24
I	Return Air Opening Side Clearance		1-1/8	28.5	1-1/8	28.5	1-1/8	28.5
J	Return Air Opening Front Clearance		1-21/32	42	1-21/32	42	1-21/32	42
K	Return Air Opening Back Clearance		45/64	18	45/64	18	45/64	18

Outdoor Unit Dimension

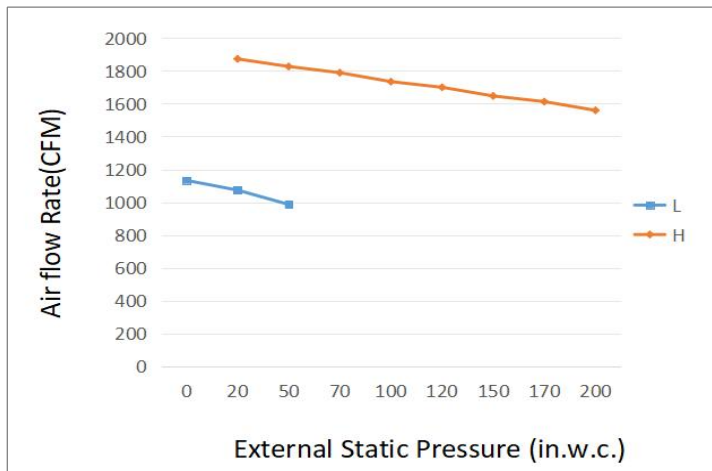


Dimensions		Model		18K/24K		30K/36K/48K/60K	
		inch	mm	inch	mm		
W	Model width	915	36-1/32	965	37-63/64		
H	Model height	650	25-19/32	810	31-57/64		
A	Distance between left and right foot bolts	605	23-13/16	635	25		
B	Distance between front and rear foot bolts	357	14-1/16	405	15-15/16		
D	Model depth	392	15-7/16	448	17-41/64		

Installation Instruction For Outdoor Unit



Fan Performance For Indoor Unit



Features

- High efficiency and energy-saving, SEER2 up to 18.4
- Multi-position installation: horizontal(left or right), vertical(up or down)
- ECM fan motor with constant torque technology
- External static pressure up to 0.80 In.W.G
- 1 inch R4.2 fiberglass free insulation reduces condensation and boosts efficiency(optional)
- Optional Auxiliary heat kit up to 20kW
- Easy Maintenance
- Multiple control options available:
 - Wired controller with built-in WiFi
 - Third-Party 24V Thermostat
- Adaptive Control System
- Crankcase heater equipped as standard

ComfortStar®

Air Conditioning & Heating Products

Performance Capacity Ratings

COOLING PERFORMANCE DATA

OD_Model1	ID_Model1	Furnace	Brand	AR1REF	ID_Type	Stage	Est_Airfl low	ACHP	IsHSVTC												
CSS48CD(O)	ASH48SG32		ComfortStar		A	High	1420	H													
OUTDOOR DB	IWB(°F)	59					63					67					71				
IDB (°F)		72	74	76	78	80	72	74	76	78	80	72	74	76	78	80	72	74	76	78	80
85	TC ¹	45.40	45.54	45.67	45.81	45.95	48.40	48.55	48.69	48.84	48.98	51.50	51.65	51.81	51.96	52.34	54.80	54.96	55.13	55.29	55.46
	Sensible ²	37.76	41.16	44.55	45.40	45.40	30.61	34.00	37.39	40.79	44.19	23.33	26.72	30.11	33.50	36.90	15.96	19.35	22.74	26.13	29.53
	kW	5.14	5.15	5.15	5.16	5.16	5.16	5.17	5.17	5.18	5.18	5.19	5.20	5.20	5.21	5.21	5.22	5.23	5.23	5.24	5.24
90	TC ¹	48.70	48.84	48.99	49.14	49.29	49.44	49.58	49.73	49.88	50.03	50.18	50.33	50.49	50.64	50.79	50.94	51.10	51.25	51.40	51.56
	Sensible ²	27.32	30.70	34.49	38.75	43.54	24.61	27.65	31.07	34.91	39.23	22.17	24.91	27.99	31.45	35.34	29.33	30.33	31.33	32.33	33.33
	kW	5.19	5.20	5.20	5.21	5.21	5.22	5.22	5.23	5.23	5.24	5.24	5.25	5.25	5.26	5.26	5.27	5.27	5.28	5.28	5.29
95	TC ¹	46.20	46.33	46.47	46.61	46.75	46.89	47.04	47.18	47.32	47.46	47.60	47.75	47.89	48.04	48.18	48.32	48.47	48.61	48.76	48.91
	Sensible ²	27.49	32.05	36.62	33.94	38.14	26.26	30.61	34.98	32.42	36.43	25.08	29.24	33.41	30.96	34.79	16.05	20.21	24.37	28.54	32.71
	kW	5.21	5.21	5.22	5.22	5.23	5.23	5.24	5.24	5.25	5.25	5.26	5.26	5.27	5.27	5.28	5.30	5.31	5.33	5.34	5.36
100	TC ¹	38.70	38.82	38.93	39.05	39.17	41.20	41.32	41.45	41.57	41.70	43.90	44.03	44.16	44.30	44.43	46.60	46.74	46.88	47.02	47.16
	Sensible ²	32.16	35.05	37.94	38.70	38.70	26.05	28.94	31.82	34.71	37.60	19.88	22.77	25.65	28.54	31.43	13.57	16.45	19.34	22.22	25.11
	kW	5.29	5.29	5.30	5.30	5.31	5.32	5.32	5.33	5.33	5.34	5.34	5.35	5.35	5.36	5.36	5.37	5.37	5.38	5.38	5.39
105	TC ¹	37.40	37.51	37.62	37.74	37.85	39.90	40.02	40.14	40.26	40.38	42.50	42.63	42.76	42.88	43.01	45.20	45.34	45.47	45.61	45.74
	Sensible ²	31.53	34.41	37.30	37.40	37.40	25.46	28.34	31.23	34.12	37.01	19.29	22.17	25.06	27.95	30.84	13.02	15.90	18.79	21.67	24.56
	kW	5.17	5.18	5.18	5.19	5.19	5.20	5.20	5.21	5.21	5.22	5.22	5.23	5.23	5.24	5.24	5.25	5.25	5.26	5.26	5.27
115	TC ¹	34.70	34.80	34.91	35.01	35.12	37.10	37.21	37.32	37.43	37.55	39.50	39.62	39.74	39.86	39.98	42.10	42.23	42.35	42.48	42.61
	Sensible ²	30.22	33.10	34.70	34.70	34.70	24.19	27.07	29.96	32.85	35.75	18.02	20.90	23.79	26.68	29.57	11.81	14.69	17.58	20.47	23.36
	kW	5.09	5.10	5.10	5.11	5.11	5.12	5.12	5.13	5.13	5.14	5.14	5.15	5.15	5.16	5.16	5.17	5.17	5.18	5.18	5.19

HEATING PERFORMANCE DATA

Model	Heating		Outdoor conditions (DB)										
	Indoor Conditions		5°F	10°F	17°F	20°F	25°F	32°F	35°F	40°F	47°F	50°F	57°F
	DB		-15°C	-12.2°C	-8.3°C	-8.7°C	-3.9°C	0°C	1.7°C	4.4°C	8.3°C	10°C	13.9°C
ASH48SG32 CSS48CD(O) (208-230V)	60°F (15.6°C)	TC	38.99	40.77	44.54	45.74	46.93	48.13	49.33	50.53	51.72	52.92	54.12
		Input	4.93	4.77	4.66	4.58	4.34	4.25	4.18	4.10	3.78	4.25	4.15
	65°F (18.3°C)	TC	35.92	39.58	43.24	44.40	45.57	46.73	47.90	49.06	50.21	51.38	52.54
		Input	5.03	4.87	4.75	4.67	4.43	4.34	4.26	4.18	3.84	4.34	4.23
	70°F (21.1°C)	TC	34.17	38.43	41.98	43.11	44.24	45.37	46.50	47.63	48.32	49.88	51.01
		Input	5.13	4.97	4.85	4.77	4.52	4.43	4.35	4.27	3.92	4.43	4.32
	75°F (23.9°C)	TC	33.82	37.27	40.72	41.82	42.91	44.01	45.11	46.20	47.29	48.38	49.48
		Input	5.23	5.07	4.95	4.87	4.61	4.52	4.44	4.36	4.00	4.52	4.41