

SUBMITTAL DATA SHEET

Series Name: Star Pro Series
Model Number: CSS60CD(O)(29U)/ASH60SG32(29N)

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)	1740/750
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	15.8	HSPF2	8.5
EER2	8.0	COP	3.55

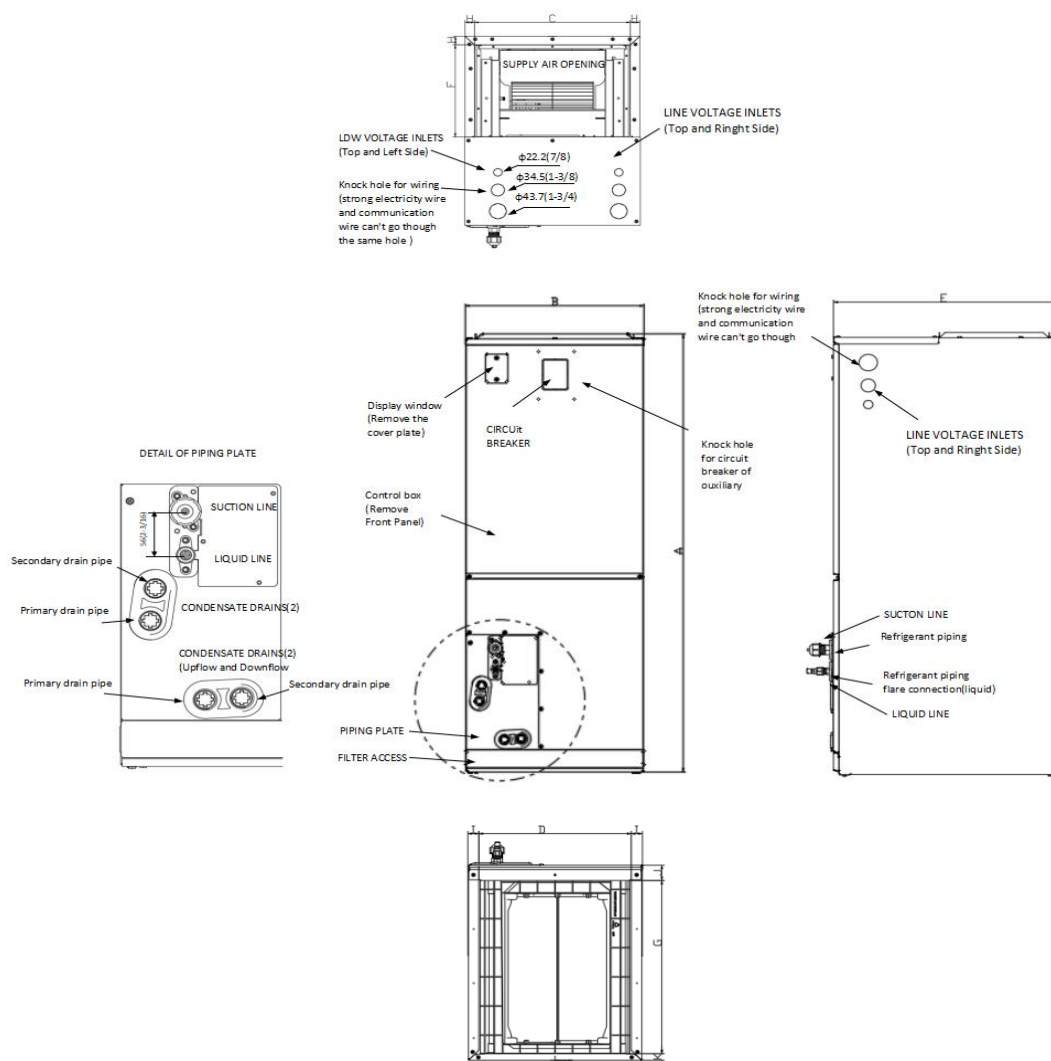
PERFORMANCE of Cooling	
Cooling (Btu/hr)	
Rated Capacity	53000
Min/Max Capacity	21000~55000
Standard Operating Range(°F/°C)	5~131(-15~55)
Rated Cooling Conditions: Indoor: 80°F DB/67°F WB Outdoor: 95°F DB/75°F WB	

PERFORMANCE of Heating	
Heating (Btu/hr)	
1. @ 47°F Rated	55000
2. @ 47°F Min/Max Capacity	26000~55000
3. @ 17°F Rated	33200
4. @ 5°F Rated: Capacity	36000
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	42
Outdoor MOP	50
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)	6625(1800 ~ 6410)
System Power Input @ Heating (W)	4550(975 ~ 4810)
MCA: Min. circuit amps (A)	MOCP: Max. over current protection (A)
RLA: Rated load amps (A)	W: Fan motor rated output (W)

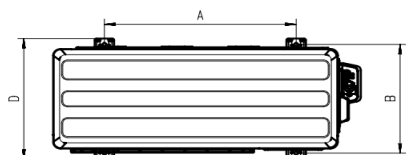
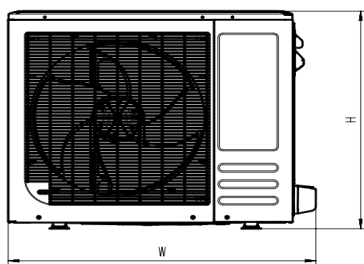
PIPING	
Throttle type(Indoor)	Piston
Throttle type(Outdoor)	Capillary
Liquid Size	9.52mm(3/8in)
Gas Size	19mm(3/4in)
Max. Piping Length(ft/m)	246(75)
Max. Height Difference(ft/m)	98.4(30)
Max. Pre-charged Length(ft/m)	24.6(7.5)
Refrigerant Pre-charged Amount(oz/kg)	105.82(3)
Additional Charge of Refrigerant((oz/ft)/(g/m))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

Indoor Unit Dimension



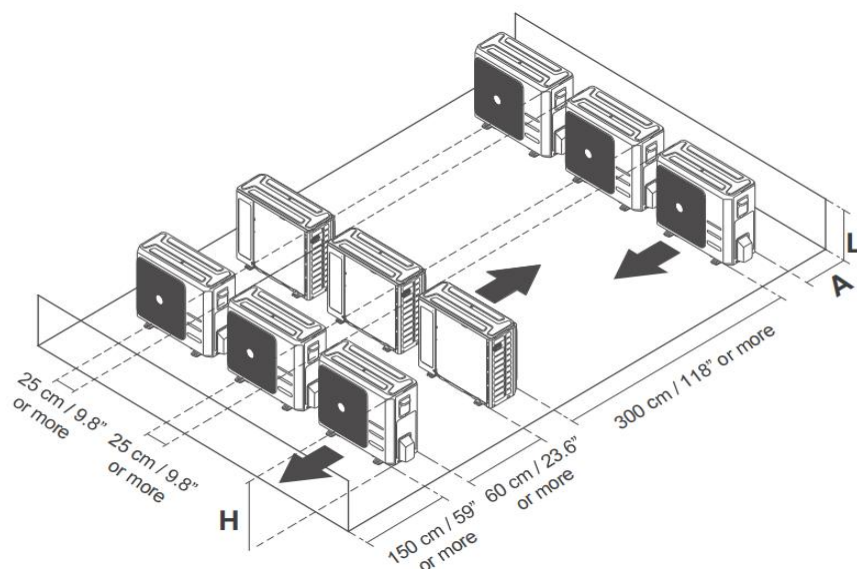
Dimensions		Model		18K/24K		30K/36K		48K/60K	
				inch	mm	inch	mm	inch	mm
A	Model Height			45-3/4	1162	49-49/64	1264	53-47/64	1365
B	Model width			17-41/64	448	21-9/64	537	24-39/64	625
C	Supply Air Opening width			15-5/8	397	19-9/64	486	22-19/32	574
D	Return Air Opening Width			15-25/64	391	18-47/64	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

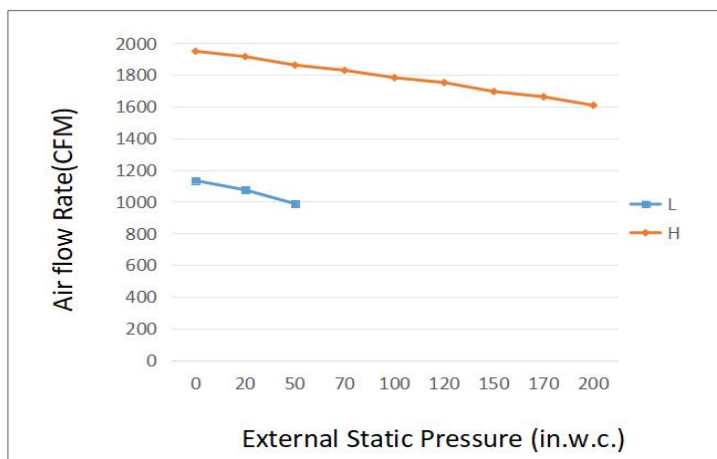


Dimensions \ Model		18K/24K		30K/36K/48K/60K	
		inch	mm	inch	mm
W	Model width	915	36-1/32	965	37-63/64
H	Model height	650	25-19/32	810	31-57/64
A	Distance between left and right foot bolts	605	23-13/16	635	25
B	Distance between front and rear foot bolts	357	14-1/16	405	15-15/16
D	Model depth	392	15-7/16	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_Model	ID_Model	Furnace	Brand	ARIREF	ID_Type	Stage	Est_Airf_low	ACHP	IsHSVTC												
CSS60CD(O)	ASH60SG32		ComfortStar		A	High	1630	H													
OUTDOOR	IWB(F)	59					63					67					71				
DB	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	48.07	48.21	48.36	48.50	48.65	51.29	51.45	51.60	51.75	51.91	54.62	54.78	54.95	55.11	55.28	58.05	58.23	58.40	58.58	58.75
	Sensible ²	41.16	44.55	47.94	51.34	52.20	33.91	37.30	40.70	44.09	47.49	26.52	29.91	33.30	36.69	40.09	19.05	22.44	25.82	29.21	32.60
	kW	6.22	6.23	6.24	6.26	6.27	6.28	6.29	6.31	6.32	6.33	6.35	6.36	6.37	6.38	6.40	6.41	6.42	6.43	6.45	6.46
90	TC ¹	47.12	47.27	47.41	47.55	47.69	50.29	50.44	50.59	50.74	50.89	53.55	53.71	53.87	54.03	54.20	56.92	57.09	57.26	57.43	57.60
	Sensible ²	40.40	43.79	47.19	50.58	50.70	33.21	36.60	39.99	43.38	46.78	25.87	29.25	32.64	36.04	39.43	18.40	21.79	25.17	28.56	31.96
	kW	6.35	6.36	6.37	6.38	6.40	6.41	6.42	6.44	6.45	6.46	6.47	6.49	6.50	6.51	6.53	6.54	6.55	6.57	6.58	6.59
95	TC ¹	46.20	46.34	46.48	46.62	46.76	49.30	49.45	49.60	49.75	49.89	52.50	52.66	52.82	52.97	53.13	55.80	55.97	56.14	56.30	56.47
	Sensible ²	38.26	41.67	45.09	46.20	46.20	31.08	34.49	37.91	41.32	44.75	23.76	27.17	30.59	34.01	37.42	16.32	19.73	23.14	26.56	29.97
	kW	6.48	6.49	6.50	6.51	6.53	6.54	6.55	6.57	6.58	6.59	6.61	6.62	6.63	6.65	6.66	6.67	6.69	6.70	6.71	6.73
100	TC ¹	43.89	44.02	44.15	44.29	44.42	46.84	46.98	47.12	47.26	47.40	49.88	50.02	50.17	50.33	50.48	53.01	53.17	53.33	53.49	53.65
	Sensible ²	38.95	42.34	45.74	47.80	47.80	31.76	35.15	38.54	41.94	45.34	24.49	27.87	31.27	34.66	38.06	17.08	20.46	23.85	27.24	30.64
	kW	6.35	6.36	6.37	6.38	6.40	6.41	6.42	6.44	6.45	6.46	6.47	6.49	6.50	6.51	6.53	6.54	6.55	6.57	6.58	6.59
105	TC ¹	41.70	41.82	41.95	42.07	42.20	44.49	44.63	44.76	44.89	45.03	47.38	47.52	47.67	47.81	47.95	50.36	50.51	50.66	50.81	50.97
	Sensible ²	38.16	41.55	44.94	46.20	46.20	31.02	34.41	37.81	41.20	44.60	23.76	27.14	30.54	33.93	37.30	16.36	19.75	23.13	26.53	29.92
	kW	6.22	6.23	6.24	6.26	6.27	6.28	6.29	6.31	6.32	6.33	6.35	6.36	6.37	6.38	6.40	6.41	6.42	6.43	6.45	6.46
115	TC ¹	39.61	39.73	39.85	39.97	40.09	42.27	42.40	42.52	42.65	42.78	45.01	45.15	45.28	45.42	45.55	47.84	47.99	48.13	48.27	48.42
	Sensible ²	36.49	39.89	42.80	42.80	42.80	29.43	32.82	36.21	39.61	43.01	22.17	25.56	28.95	32.35	36.55	14.86	18.25	21.64	25.04	28.43
	kW	6.10	6.11	6.12	6.13	6.14	6.16	6.17	6.18	6.19	6.21	6.22	6.23	6.24	6.26	6.27	6.28	6.29	6.31	6.32	6.33

HEATING PERFORMANCE DATA

Model	Heating		Outdoor conditions (DB)										
	Indoor Conditions DB		5°F	10°F	17°F	20°F	25°F	32°F	35°F	40°F	47°F	50°F	57°F
			-15°C	-12.2°C	-8.3°C	-6.7°C	-3.9°C	0°C	1.7°C	4.4°C	8.3°C	10°C	13.9°C
ASH60SG32 CSS60CD(O) (208-230V)	60°F (15.6°C)	TC	38.27	41.72	45.17	47.26	49.35	51.44	53.53	55.62	57.82	59.91	62.00
		Input	5.72	5.58	5.46	5.16	4.93	4.65	4.56	4.47	4.38	4.29	4.21
	65°F (18.3°C)	TC	37.15	40.50	43.86	45.89	47.92	49.94	51.97	54.00	56.14	58.16	60.19
		Input	5.84	5.69	5.58	5.26	5.03	4.74	4.65	4.56	4.47	4.38	4.29
	70°F (21.1°C)	TC	36.07	39.33	42.58	44.55	46.52	48.49	51.46	53.31	55.21	56.47	58.44
		Input	5.96	5.81	5.69	5.37	5.13	4.84	4.74	4.65	4.56	4.47	4.38
	75°F (23.9°C)	TC	35.35	38.54	41.73	43.66	45.59	47.52	49.45	51.38	53.41	55.34	57.27
		Input	6.14	5.98	5.86	5.53	5.28	4.98	4.89	4.79	4.70	4.60	4.51