



Product Catalog

Heat Rejection Air Cooled Condensers and Condensing Units for use with Precision Air Conditioners (60 Hz)





Introduction

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Features and Benefits

TR-SCS MC Offers Outstanding Advantages

Choosing an Outdoor Air Cooled Condenser

Trane offers a standard Air Cooled condenser and a Micro- Channel based design. Capacity, environment, and other application specific requirements may dictate the use of a particular unit. When possible, choose the latest Micro-Channel Condenser.

A Micro-Channel Air Cooled condenser provides the same heat rejection as the standard unit with the following increased efficiencies:

- 20% less refrigerant
- 40% smaller footprint
- 50% lighter weight

Figure 1. Micro-channel design

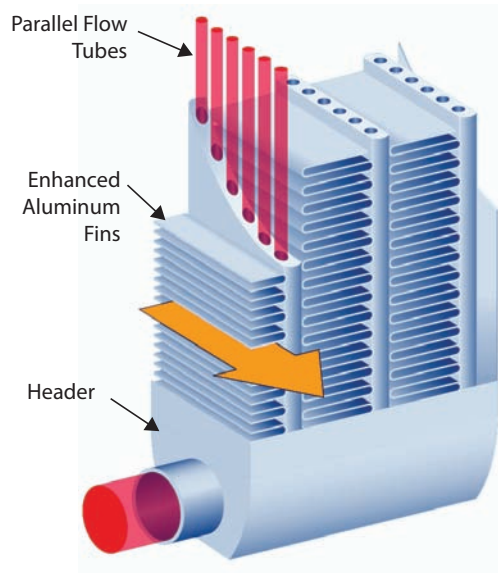
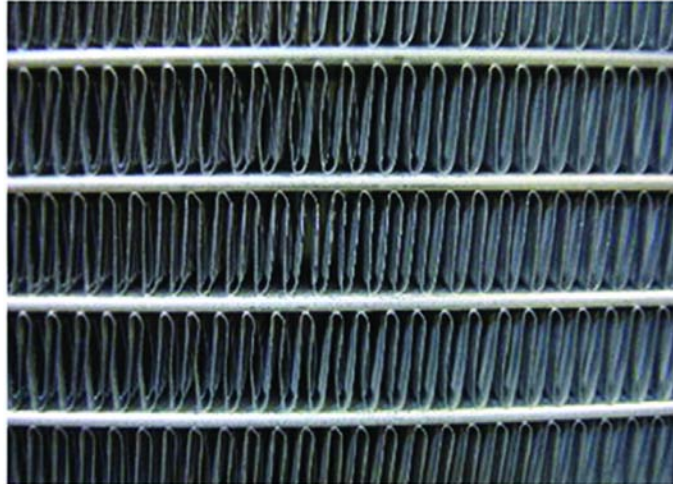


Figure 2. Micro-channel coil



Micro-Channel Design

- Micro-Channel condenser coil technology
- All aluminum brazed fin construction
- Fins located between flat micro-channel tubes
- Two refrigerant manifolds

Micro-Channel Condenser Features

Micro-Channel Condensers are high efficiency state-of-the-art condensers with high total heat rejection, reduced weight, a smaller footprint, and improved Standard Coefficient of Performance (SCOP).

Thermal Performance

- Improved heat rejection compared to a standard 3-row, Al/Cu coil
- Low ambient temperature control options (-30° F)
- Factory installed and piped receiver

Efficiency

- Uses highly efficient axial fans with EC motor configurations
- Integrated control box with main disconnect and motor protection

Build Quality

- Structurally Robust - more durable, even with significant weight reduction
- Superior corrosion resistance due to all aluminum construction (cabinet and fins)
- Aluminum brazed fin construction superior to Al/ Cu (2- metal) coils

Environmentally Friendly

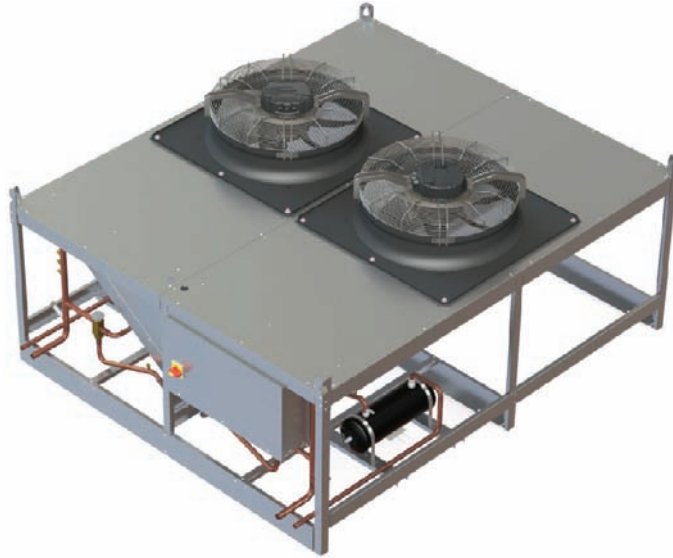
- R-410A and R-407C refrigerant
- Smaller volume, up to 20% less refrigerant use

Serviceability

Easily cleaned and field repaired

TR-SCS-MC Micro-Channel Outdoor Air Cooled Condensers

Figure 3. Model TR-SCS-MC-142-D





Model Number Descriptions - TR-SCS-MC

Digit 1,2,3,4,5,6,7 – Unit Configuration

TR-SCS-MC= Condenser Section with
Micro-Channel Coil

Digit 8,9,10 - Capacity (kW)

015
018
031
035
056
071
111
128
142
223
264
334

Digit 11 - Circuits

S = Single
D = Dual

Digit 12,13 - Fan Options

SA = Variable Speed Control
EC = Variable Speed Control
(Electronically Commutated Fans)
LN = Low Noise Variable Speed
Control
(Electronically Commutated Fans)

Digit 14 - Receiver Options

O = Standard
F = Flooded Head Pressure Control
with Receiver

Digit 15 - Refrigerant

1 = R407C
2 = R410A



Performance Data - TR-SCS-MC

Table 1. EC models

Model	CFM	THR w/R-410A (MBh)			THR w/R-407C (MBh)			Noise dBA	Refrigerant Connection	
		@95°F	@105°F	@115°F	@95°F	@105°F	@115°F		Hot Gas Line (in.)	Liquid Line (in.)
TR-SCS-MC-015-S()	2,525	54	40	26	52	39	26	73	1/2	1/2
TR-SCS-MC-018-S()	2,775	67	50	33	65	49	33	73	1/2	1/2
TR-SCS-MC-031-S()	4,750	113	80	53	103	77	52	79	5/8	5/8
TR-SCS-MC-031-D()	4,750	113	80	53	103	77	52	79	5/8	5/8
TR-SCS-MC-035-S()	5,100	125	94	62	121	90	61	79	7/8	7/8
TR-SCS-MC-035-D()	5,100	125	94	62	121	90	61	79	5/8	5/8
TR-SCS-MC-056-S()	9,500	202	150	97	192	140	94	82	7/8	7/8
TR-SCS-MC-056-D()	9,500	202	150	97	192	140	94	82	5/8	5/8
TR-SCS-MC-071-S()	10,400	254	190	126	245	184	124	82	1-1/8	7/8
TR-SCS-MC-071-D()	10,400	254	190	126	245	184	124	82	7/8	7/8
TR-SCS-MC-111-S() (1x2)	19,000	403	299	193	384	280	188	85	1-1/8	7/8
TR-SCS-MC-111-D() (2x1)	19,000	403	299	193	384	280	188	85	7/8	7/8
TR-SCS-MC-128-D()	20,000	457	333	221	429	321	216	85	7/8	7/8
TR-SCS-MC-142-D()	20,800	509	380	253	490	367	249	85	1-1/8	7/8
TR-SCS-MC-223-D() (2x2)	38,000	807	598	387	768	560	376	88	1-1/8	7/8
TR-SCS-MC-223-D() (1x4)	38,000	807	598	387	768	560	376	88	1-1/8	7/8
TR-SCS-MC-264-D()	40,000	932	684	454	881	659	445	88	1-1/8	1-1/8
TR-SCS-MC-334-D()	57,000	1211	897	580	1152	840	564	90	1-1/8	1-1/8

Table 2. LN models

Model	CFM	THR w/R-410A (MBh)			THR w/R-407C (MBh)			Noise dBA	Refrigerant Connection	
		@95°F	@105°F	@115°F	@95°F	@105°F	@115°F		Hot Gas Line (in.)	Liquid Line (in.)
TR-SCS-MC-015-SLN	1,135	30	22	N/A	28	21	N/A	58	1/2	1/2
TR-SCS-MC-018-SLN	1,250	36	27	18	34	25	N/A	58	1/2	1/2
TR-SCS-MC-031-SLN	2,140	58	44	29	55	42	28	63	5/8	5/8
TR-SCS-MC-031-DLN	2,140	58	44	29	55	42	28	63	5/8	5/8
TR-SCS-MC-035-SLN	2,295	66	49	33	63	47	31	63	7/8	7/8
TR-SCS-MC-035-DLN	2,295	66	49	33	63	47	31	63	5/8	5/8
TR-SCS-MC-056-SLN	4,275	109	82	55	104	78	52	66	7/8	7/8
TR-SCS-MC-056-DLN	4,275	109	82	55	104	78	52	66	5/8	5/8
TR-SCS-MC-071-SLN	4,680	134	101	67	127	96	64	66	1-1/8	7/8
TR-SCS-MC-071-DLN	4,680	134	101	67	127	96	64	66	7/8	7/8
TR-SCS-MC-111-SLN (1x2)	8,550	219	164	109	208	155	104	69	1-1/8	7/8
TR-SCS-MC-111-DLN (2x1)	8,550	219	164	109	208	155	104	69	7/8	7/8
TR-SCS-MC-128-DLN	9,000	243	182	121	231	173	115	69	7/8	7/8
TR-SCS-MC-142-DLN	9,360	268	201	134	255	191	128	69	1-1/8	7/8
TR-SCS-MC-223-DLN (2x2)	17,100	437	327	218	416	311	207	72	1-1/8	7/8



Performance Data - TR-SCS-MC

Table 2. LN models (continued)

Model	CFM	THR w/R-410A (MBh)			THR w/R-407C (MBh)			Noise dBA	Refrigerant Connection	
		@95°F	@105°F	@115°F	@95°F	@105°F	@115°F		Hot Gas Line (in.)	Liquid Line (in.)
TR-SCS-MC-223-DLN (1x4)	17,100	437	327	218	416	311	207	72	1-1/8	7/8
TR-SCS-MC-264-DLN	18,000	494	371	247	469	352	235	72	1-1/8	1-1/8
TR-SCS-MC-334-DLN	25,650	656	491	327	623	466	311	74	1-1/8	1-1/8

Altitude Correction

Elevation above sea level has an effect on the performance of Air Cooled condensers. Multiply the rated condenser THR at sea level by the elevation correction factor in the table below when selecting the required condenser.

Table 3. Elevation correction factors

Elevation (ft.)	1000	2000	3000	4000	5000	6000	8000	1000	12000
Correction Factor	0.94	0.93	0.90	0.88	0.86	0.83	0.79	0.75	0.71



Technical Data - TR-SCS-MC

Table 4. Dimensions and weight

Model	Unit		Shipping	
	Overall Dimensions (in.)	Weight	Approximate Dimensions (in.)	Weight
TR-SCS-MC-015-S()	27.5 W x 29.7 H x 30.5 D	83	36 W x 42 H x 43 D	130
TR-SCS-MC-018-S()	37.0 W x 35.7 H x 30.5 D	104	45 W x 48 H x 43 D	175
TR-SCS-MC-031-S()	37.0 W x 35.7 H x 37.0 D	139	45 W x 48 H x 49 D	225
TR-SCS-MC-031-D()	37.0 W x 35.7 H x 44.6 D	139	45 W x 48 H x 57 D	225
TR-SCS-MC-035-S()	37.0 W x 35.7 H x 49.3 D	161	45 W x 48 H x 62 D	260
TR-SCS-MC-035-D()	37.0 W x 35.7 H x 56.9 D	161	45 W x 48 H x 69 D	260
TR-SCS-MC-056-S()	37.0 W x 35.7 H x 49.3 D	223	45 W x 48 H x 62 D	360
TR-SCS-MC-056-D()	37.0 W x 35.7 H x 56.9 D	223	45 W x 48 H x 69 D	360
TR-SCS-MC-071-S()	37.0 W x 35.7 H x 89.2 D	303	45 W x 48 H x 102 D	490
TR-SCS-MC-071-D()	37.0 W x 35.7 H x 96.9 D	303	45 W x 48 H x 109 D	490
TR-SCS-MC-111-S() (1x2)	37.0 W x 35.7 H x 89.2 D	402	45 W x 48 H x 102 D	650
TR-SCS-MC-111-D() (2x1)	73.8 W x 35.7 H x 49.3 D	415	82 W x 48 H x 62 D	670
TR-SCS-MC-128-D()	73.8 W x 35.7 H x 64.7 D	484	82 W x 48 H x 77 D	785
TR-SCS-MC-142-D()	73.8 W x 35.7 H x 89.2 D	560	82 W x 48 H x 102 D	1065
TR-SCS-MC-223-D() (2x2)	73.8 W x 35.7 H x 89.2 D	772	82 W x 48 H x 102 D	1240
TR-SCS-MC-223-D() (1x4)	37.0 W x 35.7 H x 176.8 D	772	45 W x 48 H x 189 D	1240
TR-SCS-MC-264-D()	73.8 W x 35.7 H x 129.2 D	898	82 W x 48 H x 142 D	1425
TR-SCS-MC-334-D()	73.8 W x 35.7 H x 129.2 D	1110	82 W x 48 H x 142 D	1625

Table 5. AA, SA, and EC A/C models used with

AA, SA and EC Models	w/R-410A			w/R-407C		
	@95°F	@105°F	@115°F	@95°F	@105°F	@115°F
TR-SCS-MC-015	FCS-018 FCS-024 FCS-036 TR-OHS-012 TR-OHS-018 TR-OHS-024 TR-OHS-032 TR-OHS-040	FCS-018 FCS-024 TR-OHS-012 TR-OHS-018 TR-OHS-024	FCS-018 TR-OHS-012 TR-OHS-018	TR-CCU/D-41 TR-CCU/D-61 TR-CCU/D-81 TR-COS-024 FCS-018 FCS-024 FCS-036 TR-OHS-012 TR-OHS-018 TR-OHS-024 TR-OHS-032 TR-OHS-040	TR-CCU/D-41 TR-CCU/D-61 TR-COS-024 FCS-018 FCS-024 TR-OHS-012 TR-OHS-018 TR-OHS-024	TR-CCU/D-41 FCS-018 TR-OHS-012 TR-OHS-018
TR-SCS-MC-018	CRS-042	FCS-036 TR-OHS-032 TR-OHS-040	FCS-024 TR-OHS-024	TR-CCU/D-121	TR-CCU/D-81 FCS-036 TR-OHS-032 TR-OHS-040	TR-COS-024 FCS-024 TR-OHS-024
TR-SCS-MC-031	FCS-060 TR-OHS-048 TR-OHS-060 TR-OHS-084	CRS-042 FCS-060 TR-OHS-048 TR-OHS-060	FCS-036 TR-OHS-032 TR-OHS-040	TR-CCU/D-171 TR-CCU/D-201 TR-COS-060 FCS-060 TR-OHS-048 TR-OHS-060 VFS-072	TR-CCU/D-121 TR-CCU/D-171 TR-COS-060 TR-OHS-048	TR-CCU/D-61 TR-CCU/D-81 FCS-036 TR-OHS-032 TR-OHS-040
TR-SCS-MC-035	TR-CFU/D-021 CRS-084			MCS-084 TR-OHS-084	FCS-060 TR-OHS-060	TR-CCU/D-121



Technical Data - TR-SCS-MC

Table 5. AA, SA, and EC A/C models used with (continued)

AA, SA and EC Models	w/R-410A			w/R-407C		
	@95°F	@105°F	@115°F	@95°F	@105°F	@115°F
TR-SCS-MC-056	TR-CFU/D-028 TR-CFU/D-035	TR-CFU/D-021 TR-CFU/D-028 CRS-084 TR-OHS-084	CRS-042 FCS-060 TR-OHS-048 TR-OHS-060	CCH-120 TR-COS-096 TR-COS-120 MCS-120 VFS-096 VFS-120	TR-CCU/D-201 TR-COS-096 MCS-084 TR-OHS-084 VFS-072 VFS-096	TR-CCU/D-171 TR-CCU/D-201 TR-COS-060 FCS-060 TR-OHS-048 TR-OHS-060 VFS-072
TR-SCS-MC-071		TR-CFU/D-035	TR-CFU/D-021 CRS-084 TR-OHS-084	MCS-192	CCH-120 TR-COS-120 MCS-120 VFS-120	TR-COS-096 MCS-084 TR-OHS-084
TR-SCS-MC-111	TR-CFU/D-053 TR-CFU/D-070 TR-CFU/D-088	TR-CFU/D-053	TR-CFU/D-028 TR-CFU/D-035	CCH-210 CCH-260 MCS-240 VFS-180 VFS-240	MCS-192 VFS-180	CCH-120 TR-COS-120 MCS-120 VFS-096 VFS-120
TR-SCS-MC-128		TR-CFU/D-070		VFS-312		CCH-210 MCS-240
TR-SCS-MC-142	TR-CFU/D-105			CCH-330 VFS-360	VFS-240	MCS-192
TR-SCS-MC-223		TR-CFU/D-088 TR-CFU/D-105	TR-CFU/D-053 TR-CFU/D-070 TR-CFU/D-088		CCH-260 CCH-330 VFS-312 VFS-360	CCH-210 CCH-260 MCS-240 VFS-180 VFS-240
TR-SCS-MC-264						VFS-312
TR-SCS-MC-334			TR-CFU/D-105			CCH-330 VFS-360

Table 6. LN Models A/C models used

LN Models	w/R-410A			w/R-407C		
	@95°F	@105°F	@115°F	@95°F	@105°F	@115°F
TR-SCS-MC-015	FCS-018 TR-OHS-012 TR-OHS-018	TR-OHS-012		TR-CCU/D-41 FCS-018 TR-OHS-012 TR-OHS-018	TR-OHS-012	
TR-SCS-MC-018	FCS-024 TR-OHS-024	FCS-018 TROHS-18	TR-OHS-012	TR-CCU/D-61 TR-COS-024 FCS-024 TR-OHS-024	TR-CCU/D-41 FCS-018 TROHS-018	
TR-SCS-MC-031	FCS-036 TR-OHS-032 TR-OHS-040	FCS-024 TROHS-024 TR-OHS-032 TR-OHS-040	FCS-018 TROHS-018	TR-CCU/D-81 FCS-036 TR-OHS-032 TR-OHS-040	TR-COS-024 FCS-024 TR-OHS-024 TROHS-032	TR-CCU/D-41 FCS-018 TR-OHS-012 TR-OHS-018
TR-SCS-MC-035	CRS-042	FCS-036	FCS-024 TROHS-024	TR-CCU/D-121	TR-CCU/D-81 FCS-036 TR-OHS-040	FCS-024 TR-OHS-024

Table 6. LN Models A/C models used (continued)

LN Models	w/R-410A			w/R-407C		
	@95°F	@105°F	@115°F	@95°F	@105°F	@115°F
TR-SCS-MC-056	FCS-060 TR-OHS-048 TR-OHS-060	CRS-042 FCS-060 TR-OHS-048 TR-OHS-060	FCS-036 TR-OHS-032 TR-OHS-040	CCU/D-171 CCU/D-201 TR-COS-060 FCS-060 TR-OHS-048 TR-OHS-060 VFS-072	CCU/D-121 CCU/D-171 TR-COS-060 TR-OHS-048	CCU/D-61 CCU/D-81 TR-COS-024 FCS-036 TR-OHS-032 TR-OHS-040
TR-SCS-MC-071	TR-CFU/D-021 CRS-084 TR-OHS-084		CRS-042	TR-COS-096 MCS-084 TR-OHS-084	CCU/D-201 FCS-060 TR-OHS-060 VFS-072	CCU/D-121
TR-SCS-MC-111	TR-CFU/D-028 TR-CFU/D-035	TR-CFU/D-021 TR-CFU/D-028 TR-CFU/D-035 CRS-084 TR-OHS-084	FCS-060 TR-OHS-048 TR-OHS-060	TR-COS-120 MCS-120 VFS-096 VFS-120	TR-COS-096 MCS-084 MCS-120 TR-OHS-084 VFS-096	CCU/D-171 CCU/D-201 TR-COS-060 FCS-060 TR-OHS-048 TR-OHS-060 VFS-072
TR-SCS-MC-128			TR-OHS-084		TR-COS-120 VFS-120	TR-OHS-084
TR-SCS-MC-142	TR-CFU/D-053		TR-CFU/D-021 CRS-084	MCS-192 VFS-180		TR-COS-096 MCS-084
TR-SCS-MC-223	TR-CFU/D-070 TR-CFU/D-088	TR-CFU/D-053 TR-CFU/D-070	TR-CFU/D-028 TR-CFU/D-035	MCS-240 VFS-240 VFS-312	MCS-192 VFS-180	TR-COS-120 MCS-120 VFS-096 VFS-120
TR-SCS-MC-264	TR-CFU/D-105				MCS-240 VFS-240	
TR-SCS-MC-334		TR-CFU/D-088 TR-CFU/D-105	TR-CFU/D-053 TR-CFU/D-070	VFS-360	VFS-312	MCS-192 VFS-180
2 X TR-SCS-MC-223			TR-CFU/D-088		VFS-360	MCS-240 VFS-240 VFS-312
2 X TR-SCS-MC-264			TR-CFU/D-105			
2 X TR-SCS-MC-334						VFS-360



Technical Data - TR-SCS-MC

Table 7. TR-SCS-MC air cooled condensers - single circuit

TR-SCS-MC-()	015	018	031	035	056	071	111
-SSA - Variable Fan Speed Control Package							
208/230/1/60, 277/1/60							
Fan RPM	1260	1260	1490	1490	N/A	N/A	N/A
Motor HP (Qty)	0.35 (1)	0.35 (1)	1.23 (1)	1.23 (1)	N/A	N/A	N/A
208/230/3/60							
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	1500 (1) 1585 (1)
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	3.85 (1) 3.58 (1)
460/3/60, 575/3/60							
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	1500 (1) 1650 (1)
Motor HP (Q)	N/A	N/A	N/A	N/A	N/A	N/A	3.85 (1) 3.90 (1)
-SEC - Intelligent Control Package with EC Fans							
208/230/1/60, 277/1/60							
Fan RPM	1630	1630	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	0.55 (1)	0.55 (1)	N/A	N/A	N/A	N/A	N/A
208/230/3/60							
Fan RPM	N/A	N/A	1450	1450	1500	1500	1500
Motor HP (Qty)	N/A	N/A	1.39 (1)	1.39 (1)	3.85 (1)	3.85 (1)	3.85 (2)
460/3/60, 575/3/60							
Fan RPM	N/A	N/A	1440	1440	1500	1500	1500
Motor HP (Qty)	N/A	N/A	1.41 (1)	1.41 (1)	3.85 (1)	3.85 (1)	3.85 (2)
-SLN - Low Noise Intelligent Control Package with EC Fans							
208/230/1/60, 277/1/60							
Fan RPM	1000	1000	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	0.55 (1)	0.55 (1)	N/A	N/A	N/A	N/A	N/A
208/230/3/60							
Fan RPM	N/A	N/A	890	890	915	915	915
Motor HP (Qty)	N/A	N/A	1.39 (1)	1.39 (1)	3.85 (1)	3.85 (1)	3.85 (2)
460/3/60, 575/3/60							
Fan RPM	N/A	N/A	885	885	915	915	915
Motor HP (Qty)	N/A	N/A	1.41 (1)	1.41 (1)	3.85 (1)	3.85 (1)	3.85 (2)

Table 8. TR-SCS-MC Air Cooled Condensers - Dual Circuit

TR-SCS-MC-()	031	035	056	071	111	128	142	223	264	334
-DSA - Variable Fan Speed Control Package										
208/230/1/60, 277/1/60										
Fan RPM	1490	1490	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	1.23 (1)	1.23 (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/230/3/60										
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1500 (2)	1500 (2)	1500 (2)
								1585 (2)	1585 (2)	1585 (4)
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.85 (2)	3.85 (2)	3.85 (2)
								3.58 (2)	3.58 (2)	3.58 (4)
460/3/60, 575/3/60										
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1500 (2)	1500 (2)	1500 (2)
								1650 (2)	1650 (2)	1650 (4)
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.85 (2)	3.85 (2)	3.85 (2)
								3.90 (2)	3.90 (2)	3.90 (4)
-DEC - Intelligent Control Package with EC Fans										
208/230/3/60										
Fan RPM	1450	1450	1500	1500	1500	1500	1500	1500	1500	1500
Motor HP (Qty)	1.39 (1)	1.39 (1)	3.85 (1)	3.85 (1)	3.85 (2)	3.85 (2)	3.85 (2)	3.85 (4)	3.85 (4)	3.85 (6)
460/3/60, 575/3/60										
Fan RPM	1440	1440	1500	1500	1500	1500	1500	1500	1500	1500
Motor HP (Qty)	1.41 (1)	1.41 (1)	3.85 (1)	3.85 (1)	3.85 (2)	3.85 (2)	3.85 (2)	3.85 (4)	3.85 (4)	3.85 (6)
-DLN - Low Noise Intelligent Control Package with EC Fans										
208/230/3/60										
Fan RPM	890	890	915	915	915	915	915	915	915	915
Motor HP (Qty)	1.39 (1)	1.39 (1)	3.85 (1)	3.85 (1)	3.85 (2)	3.85 (2)	3.85 (2)	3.85 (4)	3.85 (4)	3.85 (6)
460/3/60, 575/3/60										
Fan RPM	885	885	915	915	915	915	915	915	915	915
Motor HP (Qty)	1.41 (1)	1.41 (1)	3.85 (1)	3.85 (1)	3.85 (2)	3.85 (2)	3.85 (2)	3.85 (4)	3.85 (4)	3.85 (6)



Electrical Data - TR-SCS-MC

TR-SCS-MC Condensers without Outdoor Receiver- Single and Dual Circuit

Table 9. SA models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-MC-015-()SA	1.8	2.1	15	1.5	1.7	15	N/A			N/A			N/A		
TR-SCS-MC-018-()SA	1.8	2.1	15	1.5	1.7	15	N/A			N/A			N/A		
TR-SCS-MC-031-()SA	4.8	5.9	15	3.7	4.5	15	N/A			N/A			N/A		
TR-SCS-MC-035-()SA	4.8	5.9	15	3.7	4.5	15	N/A			N/A			N/A		
TR-SCS-MC-111-()SA	N/A			N/A			19.3	21.8	30	9.3	10.2	15	7.5	8.3	15
TR-SCS-MC-223-()SA	N/A			N/A			38.1	40.6	50	18.0	19.0	20	14.5	15.3	20
TR-SCS-MC-264-()SA	N/A			N/A			38.1	40.6	50	18.0	19.0	20	14.5	15.3	20
TR-SCS-MC-334-()SA	N/A			N/A			56.3	58.8	60	27.9	28.8	30	22.4	23.2	25

Table 10. EC and LN models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-MC-015-()EC/LN	3.4	4.1	15	2.7	3.2	15	N/A			N/A			N/A		
TR-SCS-MC-018-()EC/LN	3.4	4.1	15	2.7	3.2	15	N/A			N/A			N/A		
TR-SCS-MC-031-()EC/LN	N/A			N/A			4.3	5.2	15	2.1	2.5	15	1.8	2.1	15
TR-SCS-MC-035-()EC/LN	N/A			N/A			4.3	5.2	15	2.1	2.5	15	1.8	2.1	15
TR-SCS-MC-056-()EC/LN	N/A			N/A			10.2	12.7	20	4.3	5.3	15	3.6	4.3	15
TR-SCS-MC-071-()EC/LN	N/A			N/A			10.2	12.7	20	4.3	5.3	15	3.6	4.3	15
TR-SCS-MC-111-()EC/LN	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-MC-128-()EC/LN	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-MC-142-()EC/LN	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-MC-223-()EC/LN	N/A			N/A			39.4	41.9	50	15.8	16.8	20	12.8	13.5	15
TR-SCS-MC-264-()EC/LN	N/A			N/A			39.4	41.9	50	15.8	16.8	20	12.8	13.5	15
TR-SCS-MC-334-()EC/LN	N/A			N/A			58.9	61.3	70	23.5	24.4	25	18.9	19.7	20

TR-SCS-MC Condensers with Integral Receiver- Single Circuit

Table 11. SEC and SLN models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-MC-015-SEC/SLN	4.0	5.0	15	3.1	3.9	15	N/A			N/A			N/A		
TR-SCS-MC-018-SEC/SLN	4.0	5.0	15	3.1	3.9	15	N/A			N/A			N/A		
TR-SCS-MC-031-SEC/SLN	N/A			N/A			4.9	6.1	15	2.3	2.9	15	2.0	2.5	15
TR-SCS-MC-035-SEC/SLN	N/A			N/A			4.9	6.1	15	2.3	2.9	15	2.0	2.5	15
TR-SCS-MC-056-SEC/SLN	N/A			N/A			10.8	13.5	20	4.6	5.8	15	3.8	4.7	15
TR-SCS-MC-071-SEC/SLN	N/A			N/A			10.8	13.5	20	4.6	5.8	15	3.8	4.7	15
TR-SCS-MC-111-SEC/SLN	N/A			N/A			20.6	25.7	30	8.4	10.5	15	6.8	8.6	15

TR-SCS-MC Condensers with Integral Receiver - Dual Circuit

Table 12. DSA models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-MC-031-DSA	6.0	7.5	15	4.6	5.8	15	N/A			N/A			N/A		
TR-SCS-MC-035-DSA	6.0	7.5	15	4.6	5.8	15	N/A			N/A			N/A		
TR-SCS-MC-223-DSA	N/A			N/A			39.3	49.2	50	18.6	23.2	25	15.0	18.7	20
TR-SCS-MC-264-DSA	N/A			N/A			39.3	49.2	50	18.6	23.2	25	15.0	18.7	20
TR-SCS-MC-334-DSA	N/A			N/A			57.5	71.9	80	28.4	35.5	40	22.8	28.5	30

Table 13. DEC and DLN models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-MC-031-DEC/DLN	N/A			N/A			5.5	6.8	15	2.6	3.3	15	2.2	2.7	15
TR-SCS-MC-035-DEC/DLN	N/A			N/A			5.5	6.8	15	2.6	3.3	15	2.2	2.7	15
TR-SCS-MC-056-DEC/DLN	N/A			N/A			11.4	14.3	20	4.9	6.1	15	4.0	5.0	15
TR-SCS-MC-071-DEC/DLN	N/A			N/A			11.4	14.3	20	4.9	6.1	15	4.0	5.0	15
TR-SCS-MC-111-DEC/DLN	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.8	15
TR-SCS-MC-128-DEC/DLN	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.8	15
TR-SCS-MC-142-DEC/DLN	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.8	15
TR-SCS-MC-223-DEC/DLN	N/A			N/A			40.6	50.8	60	16.4	20.5	25	13.2	16.5	20
TR-SCS-MC-264-DEC/DLN	N/A			N/A			40.6	50.8	60	16.4	20.5	25	13.2	16.5	20
TR-SCS-MC-334-DEC/DLN	N/A			N/A			60.1	75.1	80	24.0	30.0	35	19.3	24.1	25

Dimensional Data - TR-SCS-MC

TR-SCS-MC Micro-Channel Air Cooled Condensers – 015/018/031/035 S - Single Circuit

Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 4. SCS-MC-015-S

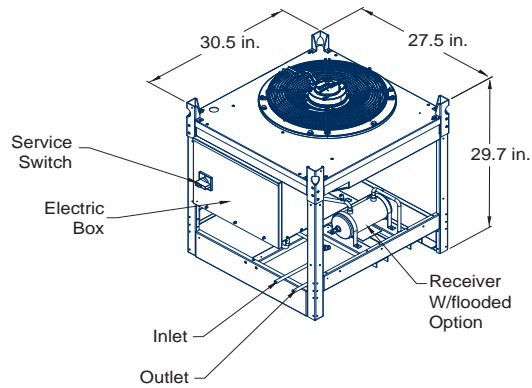


Figure 5. SCS-MC-018-S

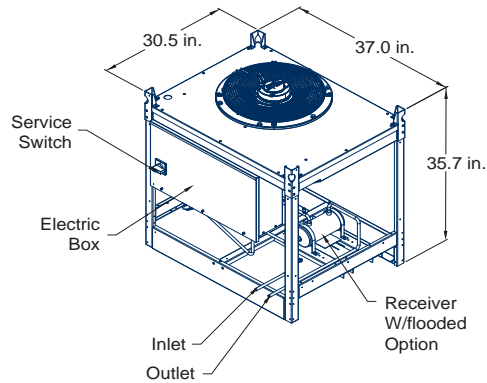


Figure 6. SCS-MC-031-S

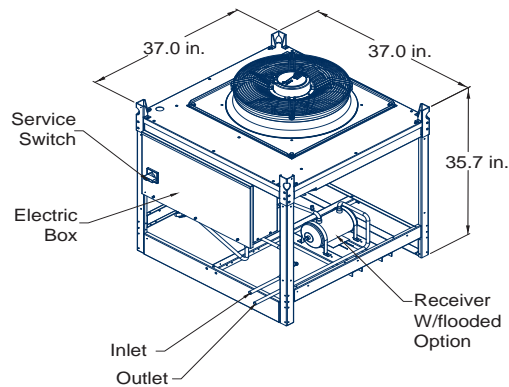
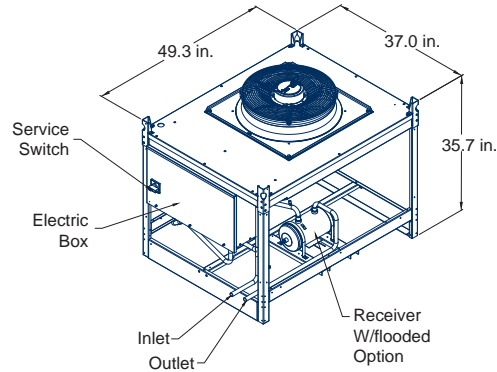


Figure 7. SCS-MC-035-S



TR-SCS-MC Micro-Channel Air Cooled Condensers - 056/071/111-S - Single Circuit

Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 8. TR-SCS-MC-056-S

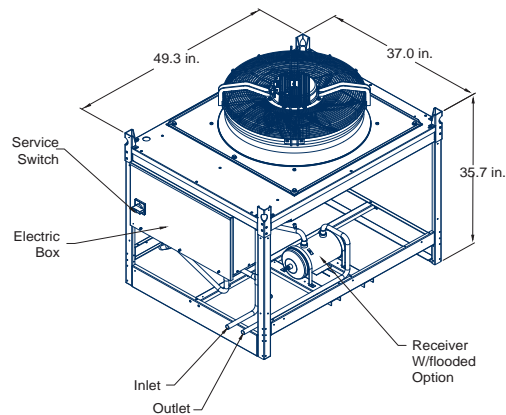
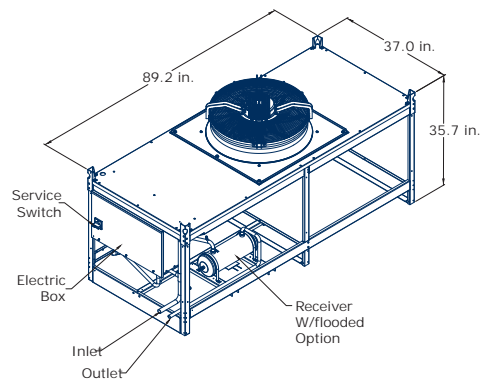
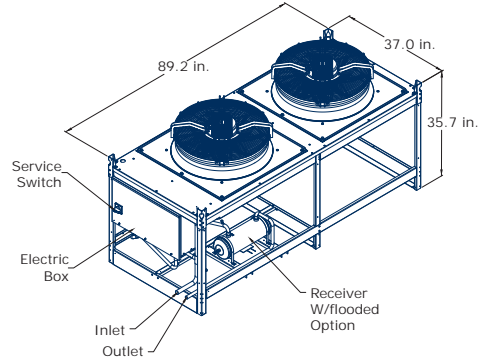


Figure 9. TR-SCS-MC-071-S



Dimensional Data - TR-SCS-MC

Figure 10. TR-SCS-MC-111-S



TR-SCS-MC Micro-Channel Air Cooled Condensers - Dual Circuit

Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 11. TR-SCS-MC-031-D

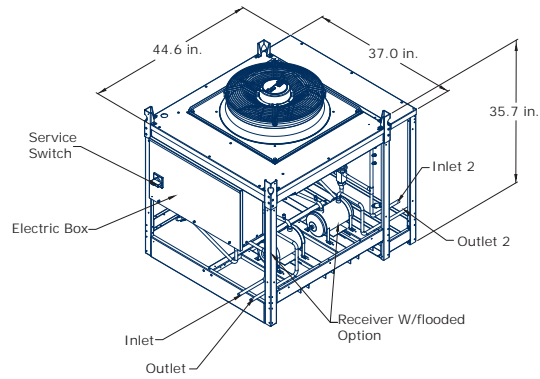


Figure 12. TR-SCS-MC-035-D

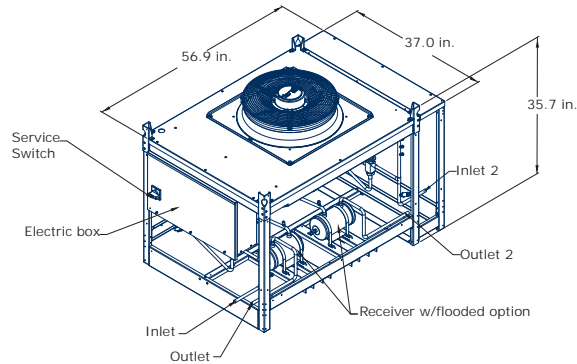
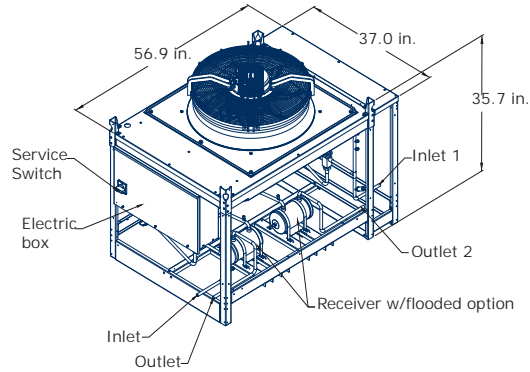


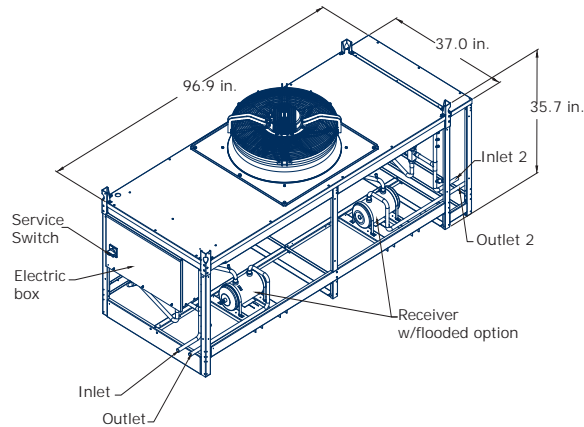
Figure 13. TR-SCS-MC-056-D



TR-SCS-MC Micro-Channel Air Cooled Condensers 071/111-D - Dual Circuit

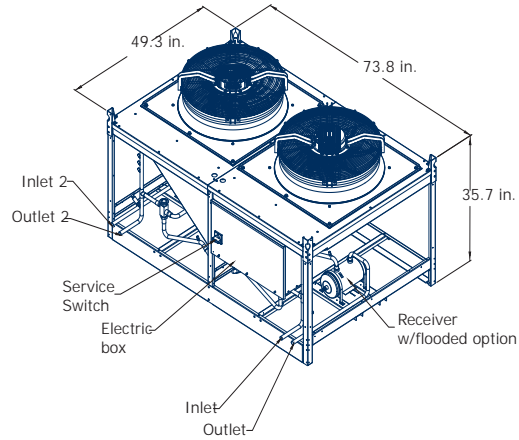
Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 14. TR-SCS-MC-071-D



Dimensional Data - TR-SCS-MC

Figure 15. TR-SCS-MC-111-D



TR-SCS-MC Micro-Channel Air Cooled Condensers – 128/142-D - Dual Circuit

Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 16. TR-SCS-MC-128-D

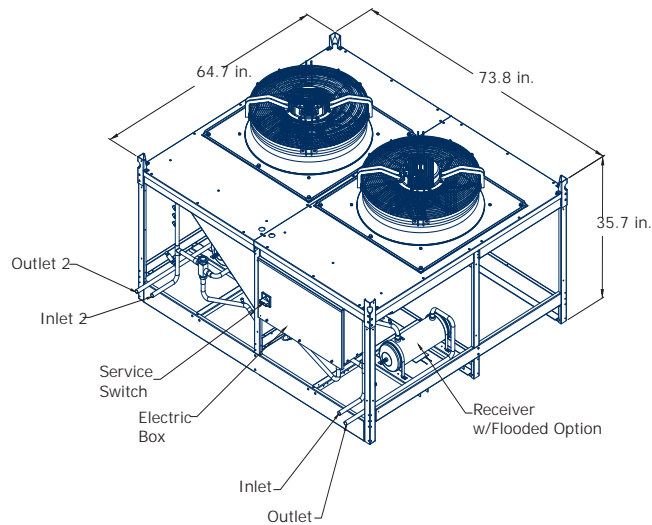
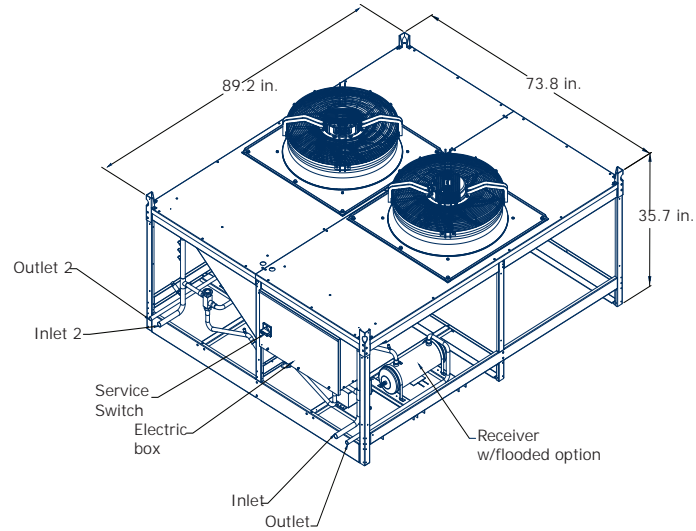


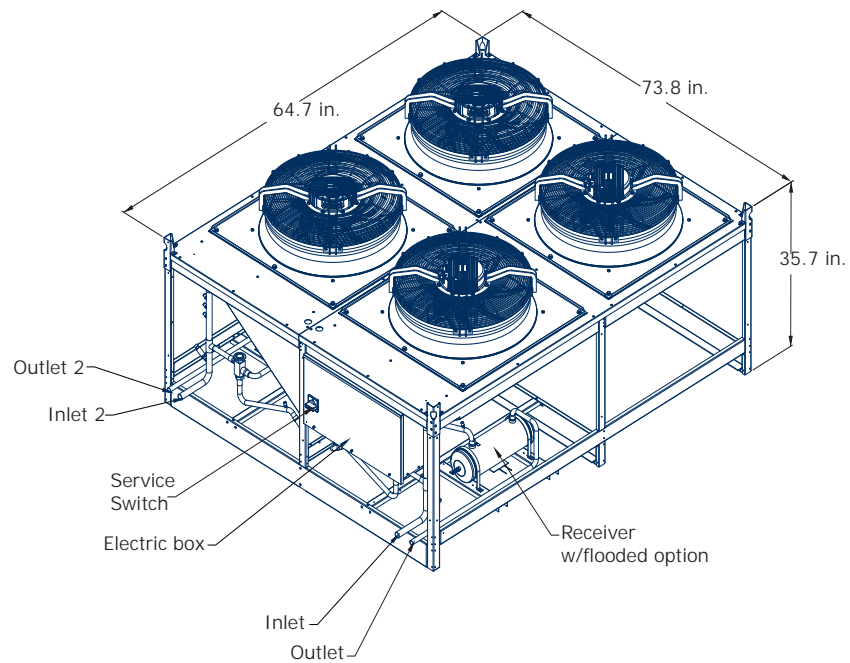
Figure 17. TR-SCS-MC-142-D



TR-SCS-MC Micro-Channel Air Cooled Condensers 223-D (2x2/1x4) - Dual Circuit

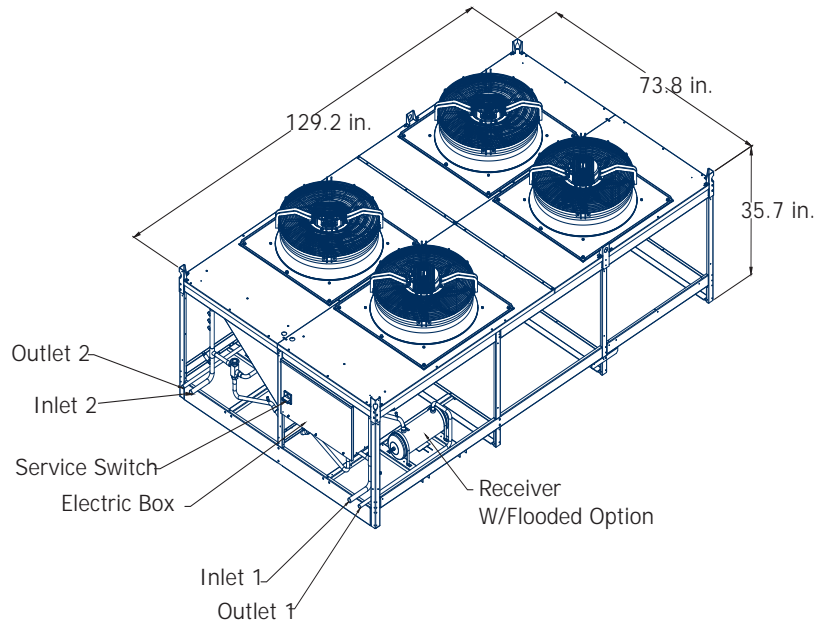
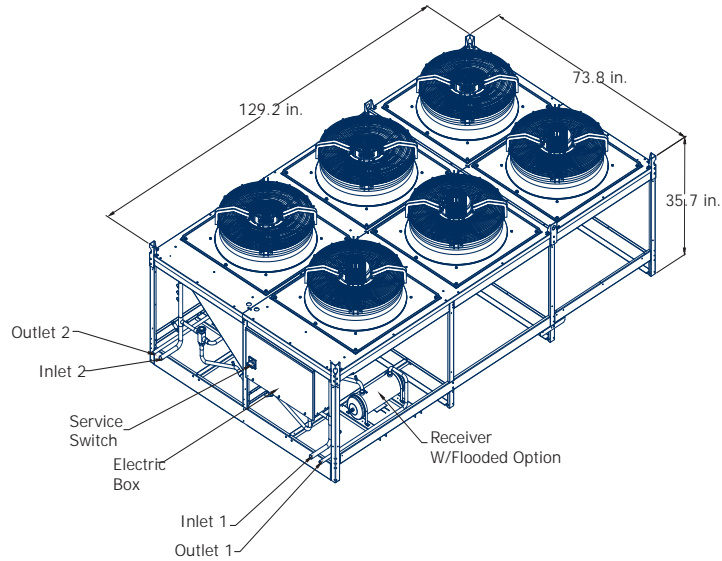
Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 18. TR-SCS-MC-223-D



TR-SCS-MC Micro-Channel Air Cooled Condensers – 264/334-D - Dual Circuit

Note: Dimensions do not include Inlet ring, fan, fan motor, fan guard, electrical box and disconnect switch handle.

Figure 19. TR-SCS-MC-264-D

Figure 20. TR-SCS-MC-334-D




Specifications -TR-SCS-MC

Micro-Channel Air Cooled Condenser

Summary

This specification describes requirements for a refrigerant condensing system to be used with a DX-based precision environmental control system. The Micro-Channel Condenser is an outdoor Air Cooled condenser with a direct driven, external rotor-motor integrated in an axial fan(s) unit. The Micro-Channel Condenser is a high efficiency state-of-the-art condenser that provides a high total heat of rejection with reduced weight and a smaller footprint than other condensers. The Micro-Channel Condenser is designed for both single and dual refrigeration circuits. The Micro-Channel Condenser model number shall be, TR-SCS-MC-()-().

Design Requirements

The unit shall be designed for outdoor installation with a removable front electric access panel. No allowance for side service access shall be required; however the side and rear are accessible.

(SA) -20°F Variable Fan Speed Control

The Air Cooled system shall incorporate a low ambient variable speed fan head pressure control for year round A/C system operation down to -20°F DB minimum ambient air temperature. The number one fan is speed controlled based on refrigerant discharge pressure. All remaining fan(s) shall be controlled by pressure fan cycling controls.

(EC) -20°F Intelligent Control

The Air Cooled system shall incorporate a low ambient variable speed fan head pressure control for year round A/C system operation down to -20°F DB minimum ambient air temperature. All fans shall be high efficient, electronically commutated EC Axial Fan(s).

The control system shall be provided with refrigerant pressure transducer(s) to monitor refrigerant discharge pressure and control the EC fan(s) to the precise speed to maintain design refrigerant discharge pressures.

(LN) -20°F Low Noise Intelligent Control

The Air Cooled system shall incorporate a low ambient variable speed fan head pressure control for year round A/C system operation down to -20°F DB minimum ambient air temperature. All fans shall be operated at a lower RPM. Fans shall be low noise, highly efficient, electronically commutated EC Axial Fan(s).

The low noise fan shall suit customer requirements and required maximum noise emissions standards. The control system shall be provided with refrigerant pressure transducer(s) to monitor refrigerant discharge pressure and control the low noise EC fan(s) to the precise speed as needed to maintain design refrigerant discharge pressures.

-30°F Flooded Head Pressure Control with Receiver

The condenser shall incorporate a low ambient flooded head pressure control package for year-round system operation and start-up down to -30°F DB minimum ambient air temperature. Each condenser is provided with a factory installed receiver package.

Each receiver package shall include an insulated liquid refrigerant receiver with receiver liquid sight glass, a receiver heater pad with internal thermostat control and a head pressure control valve. The head pressure control valve and receiver heater pad will be factory installed. The condenser shall include branch circuit protection and power source for the receiver heater pads.

Refrigerant

Condensing units shall be designed for use with R-407C or R-410A refrigerant. The system is provided with a dry nitrogen charge and requires field evacuation and refrigerant charging.



Specifications -TR-SCS-MC

Quality Assurance

The manufacturer shall maintain a set of international standards of quality management to ensure product quality. Each system shall be subjected to a complete operational and functional test procedure at the factory prior to shipment.

Cabinet

The condenser cabinet shall be constructed of 0.090 inch aluminum and shall be securely fastened to a frame constructed of 0.125 inch aluminum. The condenser cabinet shall house the condenser coil, fan(s), fan guard(s), condenser motor control and NEMA 3R electric box. The receiver will be mounted on cabinet frame and come pre-piped when required.

Mechanical Components

EC Axial Fans

The fans shall be direct driven, external rotor-motor integrated in an axial fan unit. The fan blades shall be constructed of a weather resistance, long life coated steel or aluminum. Each fan shall be low noise and low vibration. Each fan impeller shall be dynamically and statically balanced in two planes to minimize vibration during operation.

Micro-Channel Coil

The Micro-Channel coil shall be constructed of brazed aluminum. The coil is designed with high performance fins to provide low airside pressure drop and high heat transfer. Micro-Channel tubes offer a more predictable performance and improved air to refrigerant approach temperatures are achieved. Optional coil coating shall be available.

Electrical System

The electrical system shall conform to National Electrical Code (NEC) requirements. In accordance with NEC Class II circuits, the control circuit shall be 24 volts AC and control circuit wiring shall not be smaller than 18 AWG. All wiring shall be neatly wrapped, run in conduit or cable trays, and routed in bundles. Each wire shall end with a service loop and be securely fastened by an approved method. Each wire in the unit shall be numbered for ease of service tracing.

All electrically actuated components shall be easily accessible without reaching over exposed high voltage components or rotating parts. Each high voltage circuit shall be individually protected with circuit breakers or manual motor starters on each phase. The blower motor shall have thermal and short circuit protection. Line voltage and 24 volt control circuit wiring shall be routed in separate bundles. The electric box shall include all the contactors, starters, fuses, circuit breakers and terminal boards required for operation of the Micro-Channel Condenser unit.

Main Power Service Switch

The Micro-Channel Condenser unit shall be provided with a unit mounted main power service switch.

Code Conformance

The unit is in compliance with the following:

UL1995 (2011 Ed.4)

CSA C22.2 No. 236 (2011 Ed.4)



TR-SCS Outdoor Air Cooled Condensers

Features and Benefits

- R-410A or R-407C refrigerant
- All aluminum cabinet construction
- Uses highly efficient axial fans with EC motor configurations
- Integrated control box with main disconnect and motor protection
- Various fan speed control options based on refrigerant pressure
- Single and dual circuit configurations
- Low ambient temperature control options (-30° F)
- Receiver skid provided for -30°F applications

Figure 21. Model TR-SCS-940-D





Model Number Descriptions - TR-SCS

Digit 1,2,3,4,5 – Unit Configuration

TR-SCS-MC= Series Condenser

Digit 8,9,10,11 - Capacity (kW)

012
018
024
036
060
096
120
144
192
252
276
312
447
525
597
683
940
1366

Digit 12 - Circuits

S = Single
D = Dual

Digit 13,14 - Fan Options

AA = Fan Cycle Control
SA = Variable Speed Control
EC = Variable Speed Control
(Electronically Commutated Fans)



Performance Data - TR-SCS Series Condenser

Table 14. AA, SA, and EC models

Model	CFM	THR w/R-410A (MBh)		THR w/R-407C (MBh)		Noise dBA	Refrigerant Connection	
		@95°F	@105°F	@95°F	@105°F		Hot Gas Line (in.)	Liquid Line (in.)
TR-SCS-012-S()	2,575	17	N/A	18	N/A	73	5/8	5/8
TR-SCS-018-S()	2,450	22	N/A	25	N/A	73	5/8	5/8
TR-SCS-024-S()	2,350	31	20	35	22	73	7/8	7/8
TR-SCS-036-S()	4,900	51	32	57	35	79	7/8	7/8
TR-SCS-060-S()	4,550	66	41	75	45	79	7/8	7/8
TR-SCS-060-D()	4,550	66	41	75	45	79	7/8	7/8
TR-SCS-096-S()	9,775	102	63	115	71	82	1-1/8	7/8
TR-SCS-096-D()	9,775	102	63	115	71	82	1-1/8	7/8
TR-SCS-120-S()	9,100	135	86	148	94	82	1-1/8	7/8
TR-SCS-120-D()	9,100	135	86	148	94	82	1-1/8	7/8
TR-SCS-144-S()	8,675	152	97	170	104	82	1-1/8	7/8
TR-SCS-144-D()	8,675	152	97	170	104	82	1-1/8	7/8
TR-SCS-192-S()	19,325	246	157	243	154	85	1-1/8	7/8
TR-SCS-192-D()	19,325	246	157	243	154	85	1-1/8	7/8
TR-SCS-252-S()	18,400	331	208	326	204	85	1-3/8	1-1/8
TR-SCS-252-D()	18,409	331	208	326	204	85	1-3/8	1-1/8
TR-SCS-276-D()	18,475	352	221	355	213	85	1-3/8	1-1/8
TR-SCS-312-D()	17,525	400	252	396	248	85	1-3/8	1-1/8
TR-SCS-447-D()	15,925	429	272	438	275	85	1-3/8	1-1/8
TR-SCS-525-D()	27,975	530	333	532	332	87	1-5/8	1-3/8
TR-SCS-597-D()	26,300	602	380	595	372	87	1-5/8	1-3/8
TR-SCS-683-D()	25,525	644	409	688	449	87	1-5/8	1-3/8
TR-SCS-940-D()	33,650	859	545	1032	598	88	2-1/8	1-5/8
TR-SCS-1366-D()	50,500	1288	817	1376	897	90	2-1/8	1-5/8

Altitude Correction

Elevation above sea level has an effect on the performance of Air Cooled condensers. Multiply the rated condenser THR at sea level by the elevation correction factor in the table below when selecting the required condenser.

Table 15. Elevation correction factors

Elevation (ft.)	1000	2000	3000	4000	5000	6000	8000	1000	12000
Correction Factor	0.94	0.93	0.90	0.88	0.86	0.83	0.79	0.75	0.71



Technical Data - TR-SCS Series Condenser

Table 16. Dimensions and weight

Model	Unit		Shipping	
	Overall Dimensions (in.)	Weight	Approximate Dimensions (in.)	Weight
TR-SCS-012-S()	27.5 W x 31.0 H x 36.0 D	75	36 W x 43 H x 48 D	100
TR-SCS-018-S()	27.5 W x 31.0 H x 36.0 D	80	36 W x 43 H x 48 D	105
TR-SCS-024-S()	27.5 W x 31.0 H x 36.0 D	85	36 W x 43 H x 48 D	110
TR-SCS-036-S()	32.8 W x 35.5 H x 44.5 D	140	41 W x 48 H x 57 D	180
TR-SCS-060-S()	32.8 W x 35.5 H x 44.5 D	150	41 W x 48 H x 57 D	195
TR-SCS-060-D()	32.8 W x 35.5 H x 44.5 D	150	41 W x 48 H x 57 D	195
TR-SCS-096-S()	32.8 W x 35.5 H x 76.0 D	220	41 W x 48 H x 88 D	285
TR-SCS-096-D()	32.8 W x 35.5 H x 76.0 D	220	41 W x 48 H x 88 D	285
TR-SCS-120-S()	32.8 W x 35.5 H x 76.0 D	240	41 W x 48 H x 88 D	310
TR-SCS-120-D()	32.8 W x 35.5 H x 76.0 D	240	41 W x 48 H x 88 D	310
TR-SCS-144-S()	32.8 W x 35.5 H x 76.0 D	255	41 W x 48 H x 88 D	330
TR-SCS-144-D()	32.8 W x 35.5 H x 76.0 D	255	41 W x 48 H x 88 D	330
TR-SCS-192-S()	48.3 W x 48.0 H x 108.5 D	455	57 W x 60 H x 121 D	590
TR-SCS-192-D()	48.3 W x 48.0 H x 108.5 D	455	57 W x 60 H x 121 D	590
TR-SCS-252-S()	48.3 W x 48.0 H x 108.5 D	495	57 W x 60 H x 121 D	645
TR-SCS-252-D()	48.3 W x 48.0 H x 108.5 D	495	57 W x 60 H x 121 D	645
TR-SCS-276-D()	48.3 W x 48.0 H x 108.5 D	520	57 W x 60 H x 121 D	675
TR-SCS-312-D()	48.3 W x 48.0 H x 108.5 D	555	57 W x 60 H x 121 D	720
TR-SCS-447-D()	48.3 W x 48.0 H x 108.5 D	620	57 W x 60 H x 121 D	810
TR-SCS-525-D()	48.3 W x 48.0 H x 155.5 D	835	57 W x 60 H x 168 D	1085
TR-SCS-597-D()	48.3 W x 48.0 H x 155.5 D	890	57 W x 60 H x 168 D	1160
TR-SCS-683-D()	48.3 W x 48.0 H x 155.5 D	1000	57 W x 60 H x 168 D	1300
TR-SCS-940-D() (1X4)	48.3 W x 48.0 H x 204.0 D	1300	57 W x 60 H x 216 D	1690
TR-SCS-940-D() (2X2)	93.3 W x 48.0 H x 108.5 D	1300	102 W x 60 H x 121 D	1690
TR-SCS-1366-D()	93.7 W x 48.0 H x 155.5 D	1950	102 W x 60 H x 168 D	2535

Table 17. A/C models

AA, SA and EC Models	w/R-410A		w/R-407C	
	@95°F	@105°F	@95°F	@105°F
TR-SCS-012	TR-OHS-012		TR-OHS-012	
TR-SCS-018			CCU/D-41 FCS-018 TR-OHS-018	
TR-SCS-024	FCS-018 TR-OHS-018	TR-OHS-012	CCU/D-61 TR-COS-024 FCS-024 TR-OHS-024	TR-OHS-012
TR-SCS-036	FCS-024 FCS-036 TR-OHS-024 TR-OHS-032 TR-OHS-040	FCS-018 FCS-024 TR-OHS-018 TR-OHS-024	CCU/D-81 FCS-036 TR-OHS-032 TR-OHS-040	CCU/D-41 CCU/D-61 TR-COS-024 FCS-018 FCS-024 TR-OHS-018 TR-OHS-024



Technical Data - TR-SCS Series Condenser

Table 17. A/C models (continued)

AA, SA and EC Models	w/R-410A		w/R-407C	
	@95°F	@105°F	@95°F	@105°F
TR-SCS-060	CRS-042	TR-OHS-032	CCU/D-121 CCU/D-171 TR-OHS-048	CCU/D-81 FCS-036 TR-OHS-032 TR-OHS-040
TR-SCS-096	FCS-060 TR-OHS-048 TR-OHS-060	FCS-036 TR-OHS-040	CCU/D-201 TR-COS-060 FCS-060 TR-OHS-060 TR-OHS-084 VFS-072	CCU/D-121 TR-OHS-048
TR-SCS-120	TR-CFU/D-021 CRS-084 TR-OHS-084	CRS-042 FCS-060 TR-OHS-048 TR-OHS-060	TR-COS-096 MCS-084 VFS-096	CCU/D-171 CCU/D-201 TR-COS-060 FCS-060 TR-OHS-060 VFS-072
TR-SCS-144	TR-CFU/D-028		TR-COS-120 MCS-120 VFS-120	
TR-SCS-192	TR-CFU/D-035	TR-CFU/D-021 TR-CFU/D-028 TR-OHS-084 CRS-084	MCS-192	TR-COS-096 MCS-084 MCS-120 TR-OHS-084 VFS-096
TR-SCS-252	TR-CFU/D-053 TR-CFU/D-070	TR-CFU/D-035	MCS-240 VFS-180	TR-COS-120 VFS-120
TR-SCS-276			VFS-240	
TR-SCS-312	TR-CFU/D-088		VFS-312	MCS-192
TR-SCS-447		TR-CFU/D-053		VFS-180
TR-SCS-525	TR-CFU/D-105	TR-CFU/D-070	VFS-360	MCS-240 VFS-240
TR-SCS-597				
TR-SCS-683		TR-CFU/D-088		VFS-312
TR-SCS-940		TR-CFU/D-105		VFS-360
TR-SCS-1366				

TR-SCS Outdoor Air Cooled Condensers- Single Circuit

Table 18. TR-SCS air cooled condensers - single circuit

TR-SCS-()	012	018	024	036	060	096	120	144	192	252
-SAA - Fan Cycling Control Package										
208/1/60, 277/1/60										
Fan RPM	1260	1260	1260	1490	1490	1490	1490	1490	N/A	N/A
Motor HP (Qty)	0.35 (1)	0.35 (1)	0.35 (1)	1.23 (1)	1.23 (1)	1.23 (2)	1.23 (2)	1.23 (2)	N/A	N/A
208/230/3/60										
Fan RPM	N/A	N/A	N/A	1445	1445	1445	1445	1445	1585	1586
Motor HP (Qty)	N/A	N/A	N/A	1.58 (1)	1.58 (1)	1.58 (2)	1.58 (2)	1.58 (2)	3.58 (2)	3.58 (2)
460/3/60, 575/3/60										
Fan RPM	1520	1520	1520	1545	1545	1545	1545	1545	1650	1651
Motor HP (Qty)	0.31 (1)	0.31 (1)	0.31 (1)	1.76 (1)	1.76 (1)	1.76 (2)	1.76 (2)	1.76 (2)	3.90 (2)	3.90 (2)
-SSA - Variable Fan Speed Control Package										
208/1/60, 277/1/60										
Fan RPM	1260	1260	1260	1490	1490	1490	1490	1490	N/A	N/A
Motor HP (Qty)	0.35 (1)	0.35 (1)	0.35 (1)	1.23 (1)	1.23 (1)	1.23 (2)	1.23 (2)	1.23 (2)	N/A	N/A
208/230/3/60										
Fan RPM	N/A	N/A	N/A	N/A	N/A	1490 (1)	1490 (1)	1490 (1)	1500 (1)	1500 (1)
						1445 (1)	1445 (1)	1445 (1)	1585 (1)	1585 (1)
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	1.23 (1)	1.23 (1)	1.23 (1)	3.85 (1)	3.85 (1)
						1.58 (1)	1.58 (1)	1.58 (1)	3.58 (1)	3.58 (1)
460/3/60, 575/3/60										
Fan RPM	N/A	N/A	N/A	N/A	N/A	1440 (1)	1440 (1)	1440 (1)	1500 (1)	1500 (1)
						1545 (1)	1545 (1)	1545 (1)	1650 (1)	1650 (1)
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	1.41 (1)	1.41 (1)	1.41 (1)	3.85 (1)	3.85 (1)
						1.76 (1)	1.76 (1)	1.76 (1)	3.90 (1)	3.90 (1)
-SEC - Intelligent Control Package with EC Fans										
208/1/60, 277/1/60										
Fan RPM	1630	1630	1630	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	0.55 (1)	0.55 (1)	0.55 (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/230/3/60										
Fan RPM	N/A	N/A	N/A	1450	1450	1450	1450	1450	1500	1500
Motor HP (Qty)	N/A	N/A	N/A	1.39 (1)	1.39 (1)	1.39 (2)	1.39 (2)	1.39 (2)	3.85 (2)	3.85 (2)
460/3/60, 575/3/60										
Fan RPM	N/A	N/A	N/A	1440	1440	1440	1440	1440	1500	1500
Motor HP (Qty)	N/A	N/A	N/A	1.41 (1)	1.41 (1)	1.41 (2)	1.41 (2)	1.41 (2)	3.85 (2)	3.85 (2)

Table 19. TR-SCS Air Cooled Condensers - Dual Circuit (060-276)

TR-SCS-()	060	096	120	144	192	252	276
-DAA - Fan Cycling Control Package							
208/1/60, 277/1/60							
Fan RPM	1490	1490	1490	1490	N/A	N/A	N/A
Motor HP (Qty)	1.23 (1)	1.23 (2)	1.23 (2)	1.23 (1)	N/A	N/A	N/A
208/230/3/60							



Technical Data - TR-SCS Series Condenser

Table 19. TR-SCS Air Cooled Condensers - Dual Circuit (060-276) (continued)

TR-SCS-()	060	096	120	144	192	252	276
Fan RPM	1445	1445	1445	1445	1585	1585	1585
Motor HP (Qty)	1.58 (1)	1.58 (2)	1.58 (2)	1.58 (2)	3.58 (2)	3.58 (2)	3.58 (2)
460/3/60, 575/3/60							
Fan RPM	1545	1545	1545	1545	1650	1650	1650
Motor HP (Qty)	1.76 (1)	1.76 (2)	1.76 (2)	1.76 (1)	3.90 (2)	3.90 (2)	3.90 (2)
-DSA - Variable Fan Speed Control Package							
208/1/60, 277/1/60							
Fan RPM	1490	1490	1490	1490	N/A	N/A	N/A
Motor HP (Qty)	1.23 (1)	1.23 (2)	1.23 (2)	1.23 (2)	N/A	N/A	N/A
208/3/60							
Fan RPM	N/A	1490 (1)	1490 (1)	1490 (1)	1500 (1)	1500 (1)	1500 (1)
		1445 (1)	1445 (1)	1445 (1)	1585 (1)	1585 (1)	1585 (1)
Motor HP (Qty)	N/A	1.23 (1)	1.23 (1)	1.23 (1)	3.85 (1)	3.85 (1)	3.85 (1)
		1.58 (1)	1.58 (1)	1.58 (1)	3.58 (1)	3.58 (1)	3.58 (1)
460/3/60, 575/3/60							
Fan RPM	N/A	1440 (1)	1440 (1)	1440 (1)	1500 (1)	1500 (1)	1500 (1)
		1545 (1)	1545 (1)	1545 (1)	1650 (1)	1650 (1)	1650 (1)
Motor HP (Qty)	N/A	1.41 (1)	1.41 (1)	1.41 (1)	3.85 (1)	3.85 (1)	3.85 (1)
		1.76 (1)	1.76 (1)	1.76 (1)	3.90 (1)	3.90 (1)	3.90 (1)
-DEC - Intelligent Control Package with EC Fans							
208/1/60, 277/1/60							
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/3/60							
Fan RPM	1450	1450	1450	1450	1500	1500	1500
Motor HP (Qty)	1.39 (1)	1.39 (2)	1.39 (2)	1.39 (2)	3.85 (2)	3.85 (2)	3.85 (2)
460/3/60, 575/3/60							
Fan RPM	1440	1440	1440	1440	1500	1500	1500
Motor HP (Qty)	1.41 (1)	1.41 (2)	1.41 (2)	1.41 (2)	3.85 (2)	3.85 (2)	3.85 (2)

Technical Data - TR-SCS Series Condenser

Table 20. TR-SCS Air Cooled Condensers - Dual Circuit (312-1366)

TR-SCS-()	312	447	525	597	683	940	1366
-DAA - Fan Cycling Control Package							
208/1/60, 277/1/60							
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/230/3/60							
Fan RPM	1585	1585	1585	1585	1585	1585	1585
Motor HP (Qty)	3.58 (2)	3.58 (2)	3.58 (3)	3.58 (3)	3.58 (3)	3.58 (4)	3.58 (6)
460/3/60, 575/3/60							
Fan RPM	1650	1650	1650	1650	1650	1650	1650
Motor HP (Qty)	3.90 (2)	3.90 (2)	3.90 (3)	3.90 (3)	3.90 (3)	3.90 (4)	3.90 (6)
-DSA - Variable Fan Speed Control Package							
208/1/60, 277/1/60							
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/3/60							
Fan RPM	1500 (1)	1500 (1)	1500 (1)	1500 (1)	1500 (1)	1500 (1)	1500 (2)
	1585 (1)	1585 (1)	1585 (2)	1585 (2)	1585 (2)	1585 (3)	1585 (4)
Motor HP (Qty)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (2)
	3.58 (1)	3.58 (1)	3.58 (2)	3.58 (2)	3.58 (2)	3.58 (3)	3.58 (4)
460/3/60, 575/3/60							
Fan RPM	1500 (1)	1500 (1)	1500 (1)	1500 (1)	1500 (1)	1500 (1)	1500 (2)
	1650 (1)	1650 (1)	1650 (2)	1650 (2)	1650 (2)	1650 (3)	1650 (4)
Motor HP (Qty)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (1)	3.85 (2)
	3.90 (1)	3.90 (1)	3.90 (2)	3.90 (2)	3.90 (2)	3.90 (3)	3.90 (4)
-DEC - Intelligent Control Package with EC Fans							
208/1/60, 277/1/60							
Fan RPM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motor HP (Qty)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/230/3/60							
Fan RPM	1500	1500	1500	1500	1500	1500	1500
Motor HP (Qty)	3.85 (2)	3.85 (2)	3.85 (3)	3.85 (3)	3.85 (3)	3.85 (4)	3.85 (6)
460/3/60, 575/3/60							
Fan RPM	1500	1500	1500	1500	1500	1500	1500
Motor HP (Qty)	3.85 (2)	3.85 (2)	3.85 (3)	3.85 (3)	3.85 (3)	3.85 (4)	3.85 (3)



Electrical Data

TR-SCS Condensers without Receiver Skid- Single and Dual Circuit

Table 21. AA models

Models	208/1/60			277/1/60			208/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-012-()AA	1.8	2.1	15	1.7	2.0	15	N/A			0.9	1.0	15	N/A		
TR-SCS-018-()AA	1.8	2.1	15	1.7	2.0	15	N/A			0.9	1.0	15	N/A		
TR-SCS-024-()AA	1.8	2.1	15	1.7	2.0	15	N/A			0.9	1.0	15	N/A		
TR-SCS-036-()AA	4.8	5.9	15	3.7	4.5	15	4.2	5.1	15	2.4	2.9	15	2.0	2.4	15
TR-SCS-060-()AA	4.8	5.9	15	3.7	4.5	15	4.2	5.1	15	2.4	2.9	15	2.0	2.4	15
TR-SCS-096-()AA	9.1	10.2	15	6.9	7.7	15	7.8	8.7	15	4.4	4.9	15	3.6	4.0	15
TR-SCS-120-()AA	9.1	10.2	15	6.9	7.7	15	7.8	8.7	15	4.4	4.9	15	3.6	4.0	15
TR-SCS-144-()AA	9.1	10.2	15	6.9	7.7	15	7.8	8.7	15	4.4	4.9	15	3.6	4.0	15
TR-SCS-192-()AA	N/A			N/A			18.7	21.0	30	10.4	11.6	15	8.4	9.4	15
TR-SCS-252-()AA	N/A			N/A			18.7	21.0	30	10.4	11.6	15	8.4	9.4	15
TR-SCS-276-()AA	N/A			N/A			18.7	21.0	30	10.4	11.6	15	8.4	9.4	15
TR-SCS-312-()AA	N/A			N/A			18.7	21.0	30	10.4	11.6	15	8.4	9.4	15
TR-SCS-447-()AA	N/A			N/A			18.7	21.0	30	10.4	11.6	15	8.4	9.4	15
TR-SCS-525-()AA	N/A			N/A			27.8	30.0	35	15.3	16.6	20	12.4	13.3	15
TR-SCS-597-()AA	N/A			N/A			27.8	30.0	35	15.3	16.6	20	12.4	13.3	15
TR-SCS-683-()AA	N/A			N/A			27.8	30.0	35	15.3	16.6	20	12.4	13.3	15
TR-SCS-940-()AA	N/A			N/A			36.9	39.1	45	20.3	21.5	25	16.3	17.3	20
TR-SCS-1366-()AA	N/A			N/A			55.0	57.3	60	30.1	31.4	35	24.2	25.2	30

Table 22. SA models

Models	208/1/60			277/1/60			208/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-012-()SA	1.8	2.1	15	1.7	2.0	15	N/A			N/A			N/A		
TR-SCS-018-()SA	1.8	2.1	15	1.7	2.0	15	N/A			N/A			N/A		
TR-SCS-024-()SA	1.8	2.1	15	1.7	2.0	15	N/A			N/A			N/A		
TR-SCS-036-()SA	4.8	5.9	15	3.7	4.5	15	N/A			N/A			N/A		
TR-SCS-060-()SA	4.8	5.9	15	3.7	4.5	15	N/A			N/A			N/A		
TR-SCS-096-()SA	9.1	10.2	15	6.9	7.7	15	8.5	9.5	15	4.0	4.4	15	3.3	3.6	15
TR-SCS-120-()SA	9.1	10.2	15	6.9	7.7	15	8.5	9.5	15	4.0	4.4	15	3.3	3.6	15
TR-SCS-144-()SA	9.1	10.2	15	6.9	7.7	15	8.5	9.5	15	4.0	4.4	15	3.3	3.6	15
TR-SCS-192-()SA	N/A			N/A			19.3	22.0	30	9.3	10.2	15	7.5	8.3	15
TR-SCS-252-()SA	N/A			N/A			19.3	22.0	30	9.3	10.2	15	7.5	8.3	15
TR-SCS-276-()SA	N/A			N/A			19.3	22.0	30	9.3	10.2	15	7.5	8.3	15
TR-SCS-312-()SA	N/A			N/A			19.3	22.0	30	9.3	10.2	15	7.5	8.3	15
TR-SCS-447-()SA	N/A			N/A			19.3	22.0	30	9.3	10.2	15	7.5	8.3	15
TR-SCS-525-()SA	N/A			N/A			28.4	31.0	40	14.0	15.2	20	12.0	12.0	15
TR-SCS-597-()SA	N/A			N/A			28.4	31.0	40	14.0	15.2	20	12.0	12.0	15
TR-SCS-683-()SA	N/A			N/A			28.4	31.0	40	14.0	15.2	20	12.0	12.0	15
TR-SCS-940-()SA	N/A			N/A			37.5	40.0	45	19.0	20.1	25	15.0	16.0	20
TR-SCS-1366-()SA	N/A			N/A			56.3	59.0	60	28.0	28.9	30	22.0	23.0	25

Table 23. EC models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-012-()EC	3.4	4.1	15	2.7	3.2	15	N/A			N/A			N/A		
TR-SCS-018-()EC	3.4	4.1	15	2.7	3.2	15	N/A			N/A			N/A		
TR-SCS-024-()EC	3.4	4.1	15	2.7	3.2	15	N/A			N/A			N/A		
TR-SCS-036-()EC	N/A			N/A			4.3	5.2	15	2.1	2.5	15	1.8	2.1	15
TR-SCS-060-()EC	N/A			N/A			4.3	5.2	15	2.1	2.5	15	1.8	2.1	15
TR-SCS-096-()EC	N/A			N/A			8.0	9.0	15	3.6	4.0	15	3.0	3.3	15
TR-SCS-120-()EC	N/A			N/A			8.0	9.0	15	3.6	4.0	15	3.0	3.3	15
TR-SCS-144-()EC	N/A			N/A			8.0	9.0	15	3.6	4.0	15	3.0	3.3	15
TR-SCS-192-()EC	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-252-()EC	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-276-()EC	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-312-()EC	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-447-()EC	N/A			N/A			20.0	22.4	30	8.2	9.1	15	6.6	7.4	15
TR-SCS-525-()EC	N/A			N/A			29.7	32.1	40	12.0	12.9	15	9.7	10.4	15
TR-SCS-597-()EC	N/A			N/A			29.7	32.1	40	12.0	12.9	15	9.7	10.4	15
TR-SCS-683-()EC	N/A			N/A			29.7	32.1	40	12.0	12.9	15	9.7	10.4	15
TR-SCS-940-()EC	N/A			N/A			39.4	41.9	50	15.8	16.8	20	12.7	13.5	15
TR-SCS-1366-()EC	N/A			N/A			58.9	61.3	70	23.5	24.4	25	18.9	19.6	20

TR-SCS Condensers with Receiver Skid- Single Circuit

Table 24. SSA models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-012-SAA	2.4	3.0	15	2.2	2.8	15	N/A			1.1	1.4	15	N/A		
TR-SCS-018-SAA	2.4	3.0	15	2.2	2.8	15	N/A			1.1	1.4	15	N/A		
TR-SCS-024-SAA	2.4	3.0	15	2.2	2.8	15	N/A			1.1	1.4	15	N/A		
TR-SCS-036-SAA	5.4	6.8	15	4.2	5.3	15	4.8	6.0	15	2.7	3.4	15	2.3	2.9	15
TR-SCS-060-SAA	5.4	6.8	15	4.2	5.3	15	4.8	6.0	15	2.7	3.4	15	2.3	2.9	15
TR-SCS-096-SAA	9.7	12.1	15	7.3	9.1	15	8.4	10.5	15	4.7	5.9	15	3.8	4.8	15
TR-SCS-120-SAA	9.7	12.1	15	7.3	9.1	15	8.4	10.5	15	4.7	5.9	15	3.8	4.8	15
TR-SCS-144-SAA	9.7	12.1	15	7.3	9.1	15	8.4	10.5	15	4.7	5.9	15	3.8	4.8	15
TR-SCS-192-SAA	N/A			N/A			19.3	24.1	30	10.7	13.4	15	8.6	10.8	15

Table 25. SEC Models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-012-SEC	4.0	5.0	15	3.1	3.9	15	N/A			N/A			N/A		
TR-SCS-018-SEC	4.0	5.0	15	3.1	3.9	15	N/A			N/A			N/A		
TR-SCS-024-SEC	4.0	5.0	15	3.1	3.9	15	N/A			N/A			N/A		
TR-SCS-036-SEC	N/A			N/A			4.9	6.1	15	2.3	2.9	15	2.0	2.5	15
TR-SCS-060-SEC	N/A			N/A			4.9	6.1	15	2.3	2.9	15	2.0	2.5	15



Electrical Data

Table 25. SEC Models (continued)

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-096-SEC	N/A			N/A			8.6	10.8	15	3.9	4.9	15	3.2	4.0	15
TR-SCS-120-SEC	N/A			N/A			8.6	10.8	15	3.9	4.9	15	3.2	4.0	15
TR-SCS-144-SEC	N/A			N/A			8.6	10.8	15	3.9	4.9	15	3.2	4.0	15
TR-SCS-192-SEC	N/A			N/A			20.6	25.8	30	8.4	10.5	15	6.8	8.5	15

TR-SCS Condensers with Receiver Skid - Dual Circuit

Table 26. DAA models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-060-DAA	6.0	7.5	15	4.6	5.8	15	5.4	6.8	15	3.0	3.8	15	2.5	3.1	15
TR-SCS-096-DAA	10.3	12.9	15	7.8	9.8	15	9.0	11.3	15	4.9	6.1	15	4.0	5.0	15
TR-SCS-120-DAA	10.3	12.9	15	7.8	9.8	15	9.0	11.3	15	4.9	6.1	15	4.0	5.0	15
TR-SCS-144-DAA	10.3	12.9	15	7.8	9.8	15	9.0	11.3	15	4.9	6.1	15	4.0	5.0	15
TR-SCS-192-DAA	N/A			N/A			19.9	24.9	30	10.9	13.6	15	8.8	11.0	15
TR-SCS-252-DAA	N/A			N/A			19.9	24.9	30	10.9	13.6	15	8.8	11.0	15
TR-SCS-276-DAA	N/A			N/A			19.9	24.9	30	10.9	13.6	15	8.8	11.0	15
TR-SCS-312-DAA	N/A			N/A			19.9	24.9	30	10.9	13.6	15	8.8	11.0	15
TR-SCS-447-DAA	N/A			N/A			19.9	24.9	30	10.9	13.6	15	8.8	11.0	15
TR-SCS-525-DAA	N/A			N/A			29.0	36.3	40	15.9	19.9	20	12.8	16.0	20
TR-SCS-597-DAA	N/A			N/A			29.0	36.3	40	15.9	19.9	20	12.8	16.0	20
TR-SCS-683-DAA	N/A			N/A			29.0	36.3	40	15.9	19.9	20	12.8	16.0	20
TR-SCS-940-DAA	N/A			N/A			38.1	47.6	50	20.8	26.0	30	16.7	20.9	25
TR-SCS-1366-DAA	N/A			N/A			57.4	71.8	80	31.2	39.0	40	25.1	31.4	35

Table 27. DSA models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-060-DSA	6.0	7.5	15	6.0	7.5	15	N/A			N/A			N/A		
TR-SCS-096-DSA	10.3	12.9	15	10.3	12.9	15	9.7	12.1	15	4.6	5.8	15	3.8	4.8	15
TR-SCS-120-DSA	10.3	12.9	15	10.3	12.9	15	9.7	12.1	15	4.6	5.8	15	3.8	4.8	15
TR-SCS-144-DSA	10.3	12.9	15	10.3	12.9	15	9.7	12.1	15	4.6	5.8	15	3.8	4.8	15
TR-SCS-192-DSA	N/A			N/A			20.5	25.6	30	9.8	12.3	15	8.0	10.0	15
TR-SCS-252-DSA	N/A			N/A			20.5	25.6	30	9.8	12.3	15	8.0	10.0	15
TR-SCS-276-DSA	N/A			N/A			20.5	25.6	30	9.8	12.3	15	8.0	10.0	15
TR-SCS-312-DSA	N/A			N/A			20.5	25.6	30	9.8	12.3	15	8.0	10.0	15
TR-SCS-447-DSA	N/A			N/A			20.5	25.6	30	9.8	12.3	15	8.0	10.0	15
TR-SCS-525-DSA	N/A			N/A			29.6	37.0	40	14.8	18.5	20	11.9	14.9	15
TR-SCS-597-DSA	N/A			N/A			29.6	37.0	40	14.8	18.5	20	11.9	14.9	15
TR-SCS-683-DSA	N/A			N/A			29.6	37.0	40	14.8	18.5	20	11.9	14.9	15
TR-SCS-940-DSA	N/A			N/A			38.7	48.4	50	19.7	24.6	25	15.8	19.8	20
TR-SCS-1366-DSA	N/A			N/A			58.7	73.4	80	29.0	36.3	40	23.3	29.1	30

Table 28. DEC models

Models	208-230/1/60			277/1/60			208-230/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-SCS-060-DEC	N/A			N/A			5.5	6.9	15	2.6	3.3	15	2.2	2.8	15
TR-SCS-096-DEC	N/A			N/A			9.2	11.5	15	2.6	3.3	15	3.5	4.4	15
TR-SCS-120-DEC	N/A			N/A			9.2	11.5	15	2.6	3.3	15	3.5	4.4	15
TR-SCS-144-DEC	N/A			N/A			9.2	11.5	15	2.6	3.3	15	3.5	4.4	15
TR-SCS-192-DEC	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.9	15
TR-SCS-252-DEC	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.9	15
TR-SCS-276-DEC	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.9	15
TR-SCS-312-DEC	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.9	15
TR-SCS-447-DEC	N/A			N/A			21.2	26.5	30	8.7	10.9	15	7.1	8.9	15
TR-SCS-525-DEC	N/A			N/A			30.9	38.6	40	12.5	15.6	20	10.1	12.6	15
TR-SCS-597-DEC	N/A			N/A			30.9	38.6	40	12.5	15.6	20	10.1	12.6	15
TR-SCS-683-DEC	N/A			N/A			30.9	38.6	40	12.5	15.6	20	10.1	12.6	15
TR-SCS-940-DEC	N/A			N/A			40.6	50.8	60	16.4	20.5	25	13.2	16.5	20
TR-SCS-1366-DEC	N/A			N/A			61.3	76.6	80	24.6	30.8	35	19.7	24.6	25



Dimensional Data - TR-SCS

TR-SCS 012 to TR-SCS 144 Outdoor Air Cooled Condensers

Figure 22. TR-SCS-012 thru 024-()

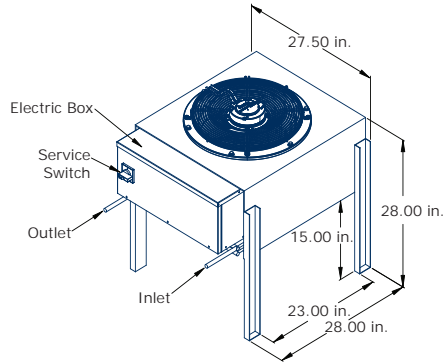


Figure 23. TR-SCS-036 thru 060-()

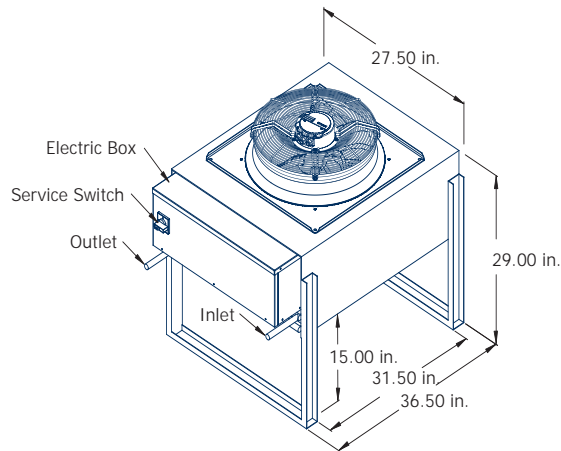
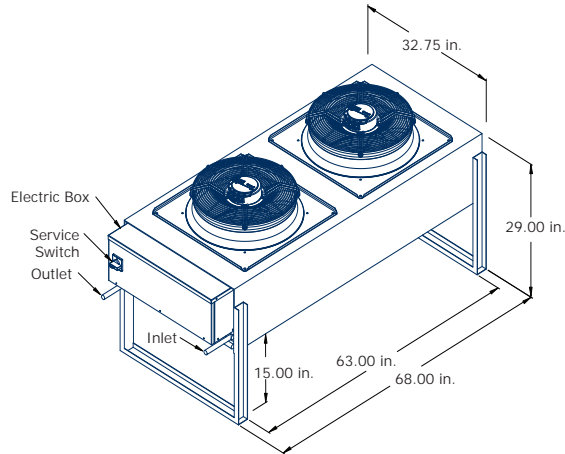
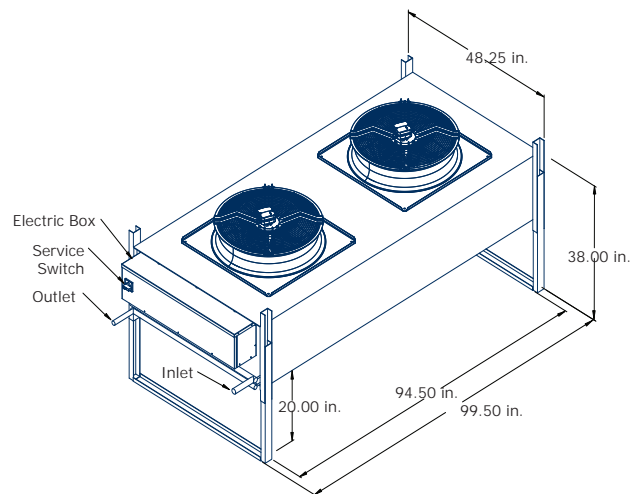


Figure 24. TR-SCS-096 thru 144-()



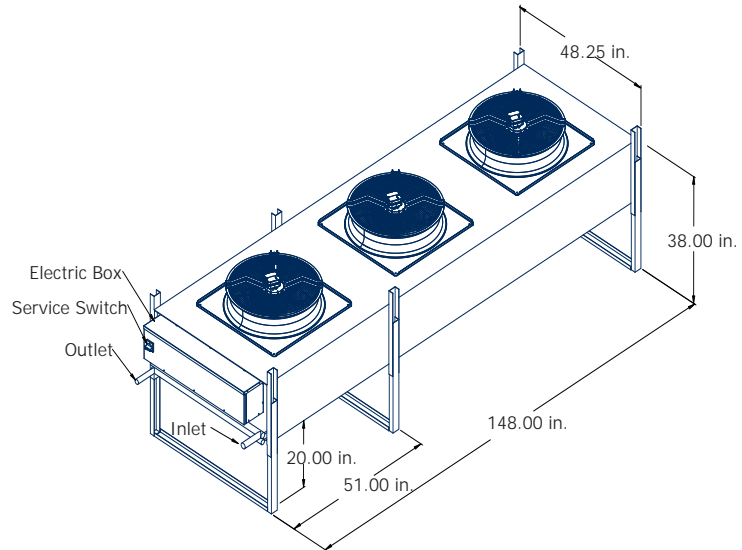
TR-SCS-192 to TR-SCS-683 Outdoor Air Cooled Condensers

Figure 25. TR-SCS-192 thru 447-()



Dimensional Data - TR-SCS

Figure 26. TR-SCS-525 thru 683-()



TR-SCS 940 - Outdoor Air Cooled Condensers

Figure 27. TR-SCS-940-() 1 x 4 Fan Configuration

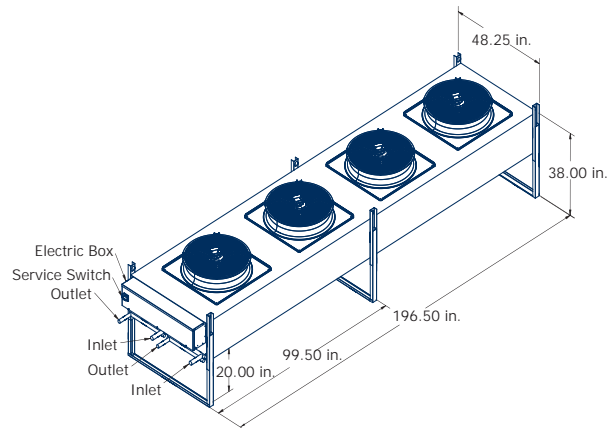
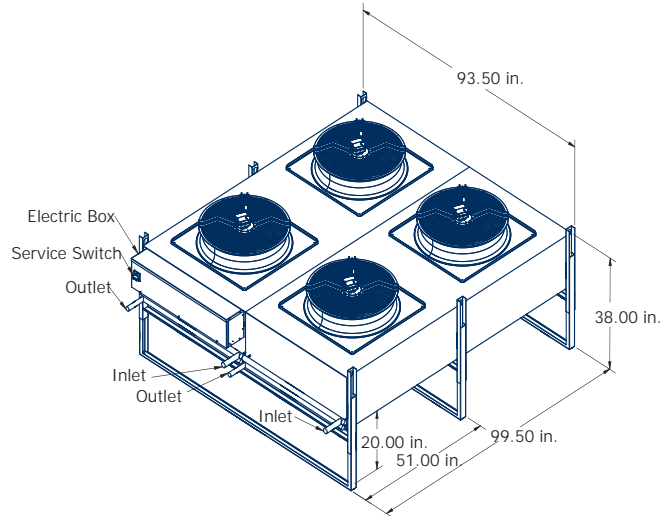
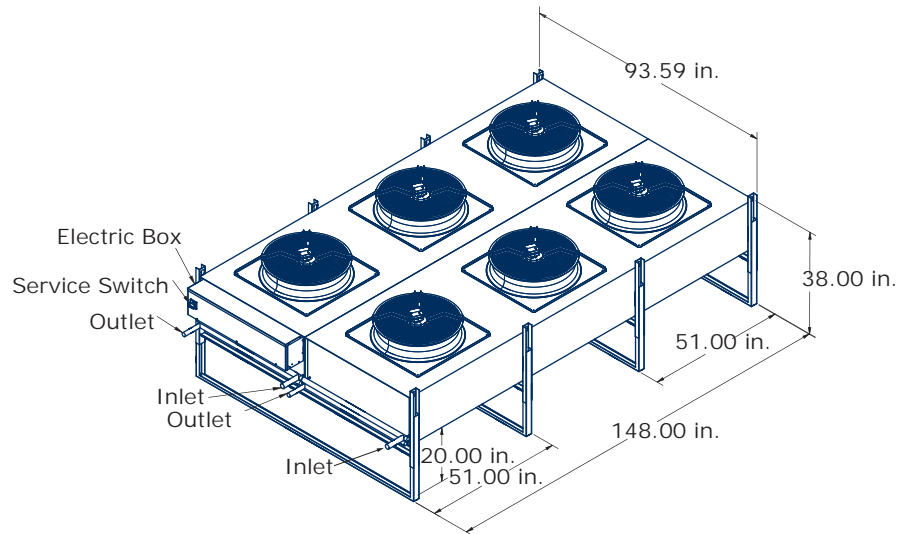


Figure 28. TR-SCS-940-() 2 x 2 Fan Configuration



TR-SCS 1366 - Outdoor Air Cooled Condensers

Figure 29. TR-SCS-1366-()

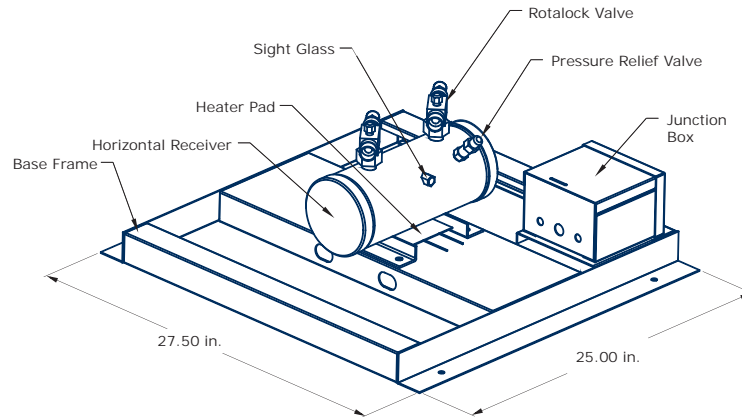


Dimensional Data - TR-SCS

TR-SCS Receiver Skids - For 30°F Applications

Size	Used on	Weight (lbs)
25.00 in. X 27.50 in.	SCS-012/024-S()	45

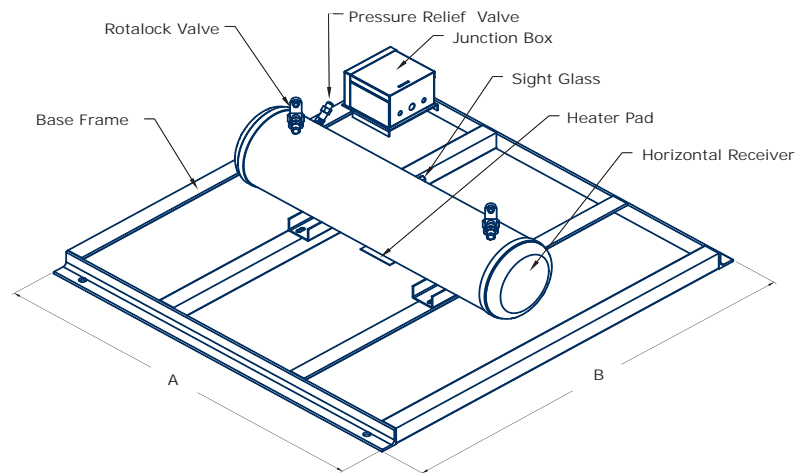
Figure 30.



Dimensional Data - TR-SCS

Size		Used On	Weight (lbs)
A (inches)	B (inches)		
30.00	32.75	TR-SCS-036/096-S()	55
30.00	32.75	TR-SCS-120-S()	60
30.00	32.75	TR-SCS-144-S()	85
45.00	48.25	TR-SCS-252-S()	90
45.00	48.25	TR-SCS-276/312-S()	110
45.00	48.25	TR-SCS-447-S()	115

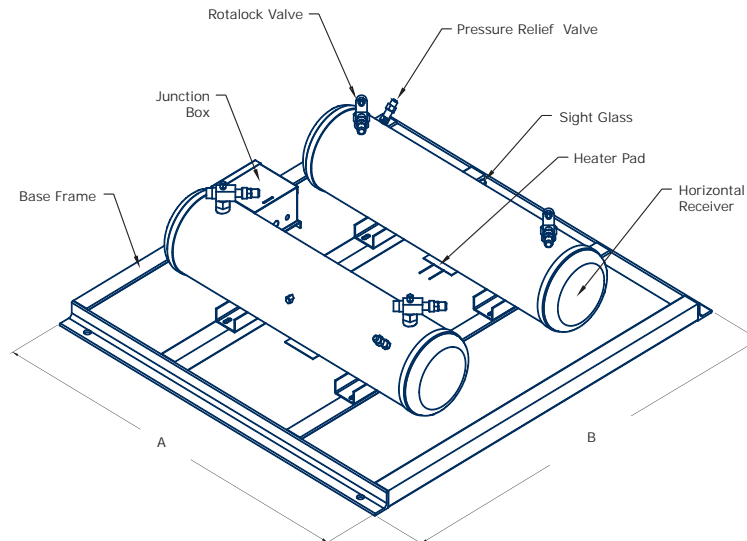
Figure 31.



Dimensional Data - TR-SCS

Size		Used On	Weight (lbs)
A (inches)	B (inches)		
30.00	32.75	TR-SCS-060/096-D()	60
30.00	32.75	TR-SCS-120/144-D()	75
45.00	48.25	TR-SCS-192/252-D()	100
45.00	48.25	TR-SCS-276/447-D()	140
45.00	48.25	TR-SCS-525/683-D()	180
45.00	48.25	TR-SCS-940-D()	190
45.00	48.25	TR-SCS-1366-D()	240

Figure 32.





Specifications -TR-SCS

Air Cooled Condenser

Summary

This specification describes requirements for a refrigerant condensing system to be used with a DX based precision environmental control system. The Trane TR-SCS Condenser is an outdoor Air Cooled condenser equipped with direct-driven, external rotor-motor integrated in an axial fan(s) unit. The Trane TR-SCS Condenser is a state-of-the-art condenser that provides the total heat of rejection for the corresponding Trane A/C unit evaporators. The TR-SCS Condenser is designed for both single and dual refrigeration circuits. The Air Cooled condenser model number shall be TR-SCS-()-().

Design Requirements

The unit shall be designed for outdoor installation with removable front electric access panel. No allowance for side service access shall be required.

(AA) 0°F Fan Cycling (OHS only)

The Air Cooled system shall incorporate a low ambient fan cycling/fan speed head pressure control for year-round A/C system operation down to 0°F DB minimum ambient air temperature. By cycling the condenser fan(s) on refrigerant pressure, the refrigerant head pressure is maintained.

(SA) -20°F Variable Fan Speed Control

The Air Cooled system shall incorporate a low ambient variable speed fan head pressure control for year-round A/C system operation down to -20°F DB minimum ambient air temperature. Fan number one (closest to the header) is speed controlled based on refrigerant discharge pressure. All remaining fan(s) shall be controlled by pressure fan cycling controls.

(EC) -20°F Intelligent Control

The Air Cooled system shall incorporate a low ambient variable speed fan head pressure control for year-round A/C system operation down to -20°F DB minimum ambient air temperature. All fans shall be high efficiency, electronically commutated EC Axial Fan(s).

The control system shall be provided with refrigerant pressure transducer(s) to monitor refrigerant discharge pressure and control the EC fan(s) to the precise speed as needed to maintain design refrigerant discharge pressures.

(AA) -30°F Flooded Head Pressure Control With Receiver

The condenser shall incorporate a low ambient flooded head pressure control package for year-round system operation and start-up down to -30°F DB minimum ambient air temperature.

CeilAir (TR-OHS) Models

The TR-SCS-()-() Air Cooled condenser shall be provided for a TR-OHS CeilAir series A/C unit. Each CeilAir refrigerant circuit shall be provided with a factory installed crankcase heater, cold-start delay, liquid refrigerant receiver with receiver liquid level sight glass and head pressure control valve for flooded condenser option.

Refrigerant

Condensing units shall be designed for use with R-407C or R-410A refrigerant. The system is provided with a dry nitrogen charge and requires field evacuation and refrigerant charging.

Quality Assurance

The manufacturer shall maintain a set of international standards of quality management to ensure product quality. Each system shall be subjected to a complete operational and functional test procedure at the factory prior to shipment.



Specifications -TR-SCS

Cabinet

The condenser cabinet shall be constructed of 0.080 inches aluminum with heavy gauge galvanized steel support legs. The condenser cabinet shall house the condenser coil, fan(s), fan guard(s), condenser motor control and NEMA 3R electric box.

Mechanical Components

AC and EC Axial Fans

The fans shall be direct driven, external rotor-motor integrated in an axial fan unit. The fan blades shall be constructed of weather resistant, long life coated steel or aluminum. Each fan shall be low noise and low vibration. Each fan impeller shall be dynamically and statically balanced in two planes to minimize vibration during operation.

Coil

The condenser coil shall be constructed of copper tubes with aluminum fins spaced no greater than 14 FPI. Coils shall be factory pressure tested to UL1995.

Electrical System

The electrical system shall conform to National Electrical Code (NEC) requirements. In accordance with NEC Class II circuits, the control circuit shall be 24 volts AC and control circuit wiring shall not be smaller than 18 AWG. All wiring shall be neatly wrapped, run in conduit or cable trays, and routed in bundles. Each wire shall end with a service loop and be securely fastened by an approved method. Each wire in the unit shall be numbered for ease of service tracing.

All electrically actuated components shall be easily accessible without reaching over exposed high voltage components or rotating parts. Each high voltage circuit shall be individually protected with circuit breakers or manual motor starters on each phase. The blower motor shall have thermal and short circuit protection. Line voltage and 24-volt control circuit wiring shall be routed in separate bundles. The electric box shall include all the contactors, starters, fuses, circuit breakers and terminal boards required for operation of the Trane TR-SCS Condenser unit.

Main Power Service Switch

The Trane TR-SCS Condenser unit shall be provided with a unit mounted main power service switch.

Code Conformance

The unit is in compliance with the following:

- UL1995 (2011 Ed.4)
- CSA C22.2 No. 236 (2011 Ed.4)

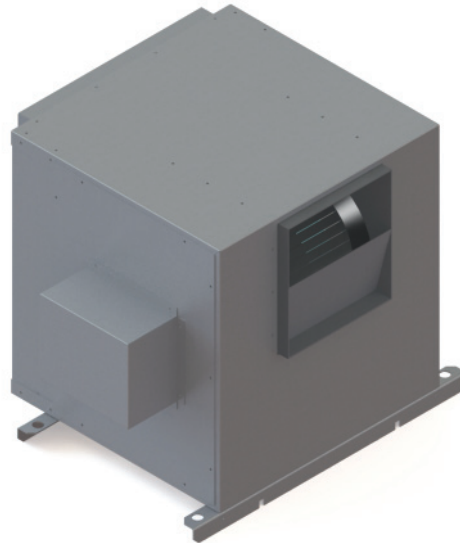


TR-HES Indoor Air Cooled Condensers

Features and Benefits

- R-410A or R-407C refrigerant
- All aluminum cabinet construction
- Integrated control box with main disconnect and motor protection
- Centrifugal Blower
- Blower speed control based on refrigerant pressure
- Single and dual circuit configurations
- Low ambient temperature flooded control option (-30° F)

Figure 33. Model TR-HES-040-CAA





Model Number Descriptions - TR-HES

Digit 1,2,3,4,5 – Unit Configuration

TR-HES= Remote Indoor Condenser

Digit 6,7,8,9 - Capacity (kW)

012
018
024
032
040
048
060
048D
072D
084D
120D

Digit 10,11,12 - Fan Options

CAA= Fan Cycle Control



Performance Data - TR-HES Indoor Air Cooled Condenser

Table 29. CAA models

Model	CFM	THR (MBh) @95°F	Refrigerant Connection	
			Suction Line OD (in.)	Liquid Line OD (in.)
TR-HES-012-CAA	750 (0.3 in.)	18	1/2	3/8
TR-HES-018-CAA	1400 (0.3 in.)	24	1/2	3/8
TR-HES-024-CAA	2000 (0.3 in.)	32	5/8	3/8
TR-HES-032-CAA	2000 (0.3 in.)	41	5/8	1/2
TR-HES-040-CAA	2000 (0.3 in.)	44	7/8	1/2
TR-HES-048-CAA	3200 (0.5 in.)	70	7/8	1/2
TR-HES-060-CAA	3200 (0.5 in.)	77	7/8	1/2
TR-HES-048D-CAA	2800 (0.5 in.)	63	5/8	3/8
TR-HES-072D-CAA	4000 (0.5 in.)	87	5/8	1/2
TR-HES-084D-CAA	4900 (0.5 in.)	110	7/8	1/2
TR-HES-120D-CAA	6400 (0.5 in.)	153	7/8	1/2

Altitude Correction

Elevation above sea level has an effect on the performance of Air Cooled condenser. Multiply the rated condenser THR at sea level by the elevation correction factor in the table below when selecting the required condenser.

Table 30. Elevation correction factors

Elevation (ft.)	1000	2000	3000	4000	5000	6000	8000	1000	12000
Correction Factor	0.94	0.93	0.90	0.88	0.86	0.83	0.79	0.75	0.71



Technical Data - TR-HES Indoor Air Cooled Condenser

Dimensions and Weights

Table 31. Dimensions and weights

Model	Unit		Shipping	
	Overall Dimensions (in.)	Weight	Approximate Dimensions (in.)	Weight
TR-HES-012-CAA	30.5 W x 19.5 H x 21.2 D	70	39 W x 26 H x 29 D	88
TR-HES-018-CAA	30.5 W x 19.5 H x 21.2 D	75	39 W x 26 H x 29 D	94
TR-HES-024-CAA	30.5 W x 19.5 H x 21.2 D	75	39 W x 26 H x 29 D	94
TR-HES-032-CAA	30.5 W x 24.5 H x 21.2 D	85	39 W x 31 H x 29 D	105
TR-HES-040-CAA	30.5 W x 24.5 H x 21.2 D	85	39 W x 31 H x 29 D	105
TR-HES-048-CAA	46.0 W x 27.5 H x 43.0 D	215	54 W x 34 H x 51 D	265
TR-HES-048D-CAA	40.0 W x 27.5 H x 55.0 D	210	48 W x 34 H x 63 D	260
TR-HES-060-CAA	46.0 W x 27.5 H x 43.0 D	220	54 W x 34 H x 51 D	275
TR-HES-072D-CAA	40.0 W x 27.5 H x 55.0 D	225	48 W x 34 H x 63 D	280
TR-HES-084D-CAA	40.0 W x 27.5 H x 55.0 D	250	48 W x 34 H x 63 D	310
TR-HES-120D-CAA	60.0 W x 27.5 H x 62.0 D	300	68 W x 34 H x 70 D	375

Table 32. Trane A/C models used with

Condenser Model	A/C model @95°F
TR-HES-012-CAA	TR-OHS-012
TR-HES-018-CAA	TR-OHS-018
TR-HES-024-CAA	TR-COS-024 TR-OHS-024
TR-HES-032-CAA	TR-OHS-032
TR-HES-040-CAA	TR-OHS-040
TR-HES-048-CAA	TR-COS-042 TR-OHS-048
TR-HES-048D-CAA	TR-OHS-048-D
TR-HES-060-CAA	TR-COS-060 TR-OHS-060
TR-HES-072-DCA	TR-OHS-072-D
TR-HES-084-DCA	TR-OHS-084-D
TR-HES-120-DCA	TR-COS-096 TR-COS-120 TR-OHS-120-D

Table 33. TR-HES Indoor air cooled condensers

TR-HES-()-CAA	12	18	24	32	40	48	60	048D	072D	084D	120D
208/1, 277/1											
Motor HP	1/3	1/2	1/2	1/2	1/2	N/A	N/A	N/A	N/A	N/A	N/A
Drive Method	Direct Driven	Direct Driven	Direct Driven	Direct Driven	Direct Driven	N/A	N/A	N/A	N/A	N/A	N/A
208/3, 460/3, 575/3											
Motor HP	N/A	N/A	N/A	N/A	N/A	2	2	1.5	3	3	5
Drive Method	N/A	N/A	N/A	N/A	N/A	Belt Driven	Belt Driven	Belt Driven	Belt Driven	Belt Driven	Belt Driven
Condenser Coil											

Technical Data - TR-HES Indoor Air Cooled Condenser

Table 33. TR-HES Indoor air cooled condensers (continued)

TR-HES-()-CAA	12	18	24	32	40	48	60	048D	072D	084D	120D
Row/Face Area (Ft ²)	4/2.1	4/2.1	4/2.1	4/2.8	4/2.8	4/5.0	4/5.0	4/4.2	4/6.7	4/6.7	4/10.0
Low Ambient Control											
Standard Minimum Operating Ambient	0°F	0°F	0°F	0°F	0°F	-30°F	-30°F	-30°F	-30°F	-30°F	-30°F
Head Pressure Method	Motor Speed	Motor Speed	Motor Speed	Motor Speed	Motor Speed	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded



Electrical Data - TR-HES Indoor Air Cooled Condensers

Table 34. CAA models

Models	208/1/60			277/1/60			208/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-HES-012-CAA	3.4	4.3	15	2.3	2.9	15	N/A			N/A			N/A		
TR-HES-018-CAA	4.7	5.9	15	3.4	4.3	15	N/A			N/A			N/A		
TR-HES-024-CAA	4.7	5.9	15	3.4	4.3	15	4.7 ^(a)	5.9 ^(a)	15 ^(a)	2.1 ^(a)	2.6 ^(a)	15 ^(a)	N/A		
TR-HES-032-CAA	4.7	5.9	15	3.4	4.3	15	4.7 ^(a)	5.9 ^(a)	15 ^(a)	2.1 ^(a)	2.6 ^(a)	15 ^(a)	N/A		
TR-HES-040-CAA	4.7	5.9	15	3.4	4.3	15	4.7 ^(a)	5.9 ^(a)	15 ^(a)	2.1 ^(a)	2.6 ^(a)	15 ^(a)	N/A		
TR-HES-048-CAA	N/A			N/A			7.0	8.8	15	3.4	4.3	15	2.8	3.5	15
TR-HES-060-CAA	N/A			N/A			7.0	8.8	15	3.4	4.3	15	2.8	3.5	15
TR-HES-048D-CAA	N/A			N/A			5.1	6.4	15	2.9	3.6	15	2.4	3.0	15
TR-HES-072D-CAA	N/A			N/A			9.3	11.6	20	4.8	6.0	15	3.9	4.9	15
TR-HES-084D-CAA	N/A			N/A			9.3	11.6	20	4.8	6.0	15	3.9	4.9	15
TR-HES-120D-CAA	N/A			N/A			14.1	17.6	30	6.7	8.4	15	5.8	7.3	15

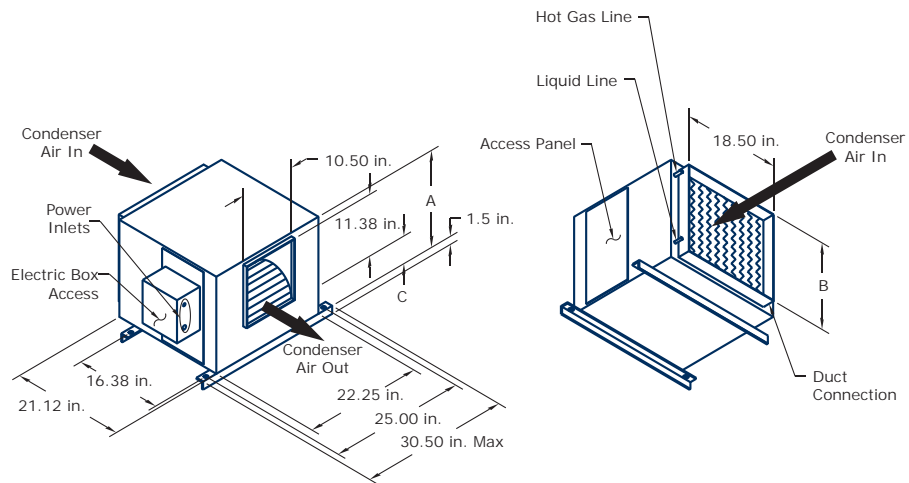
(a) Nameplated as single phase. May be connected to 3 phase main power supply using only 2 legs of the 3 phase supply

Dimensional Data - TR-HES Indoor Air Cooled Condenser

TR-HES – 012 to 060-CAA Indoor Air Cooled Condenser Single Circuit

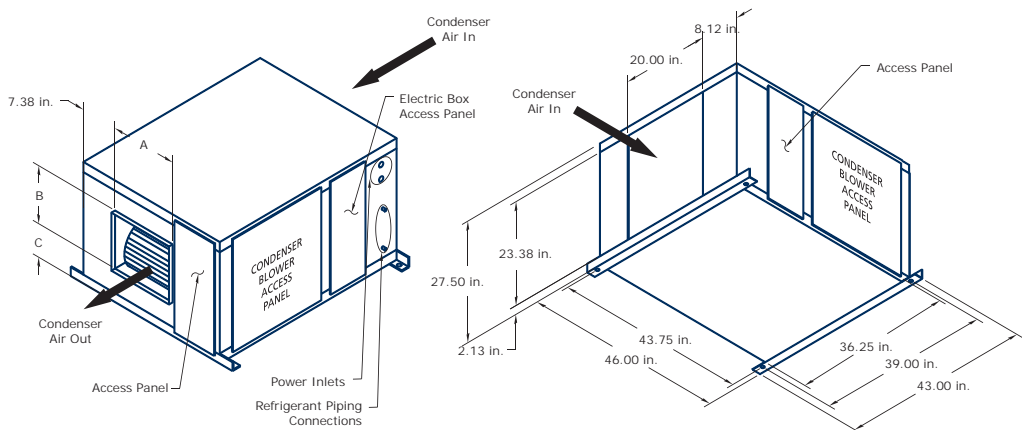
Dimensions			
Model	A	B	C
TR-HES-012,018 & 024-CAA	18.00 in.	16.12 in.	5.62 in.
TR-HES-032 & 040-CAA	23.00 in.	22.12 in.	10.62 in.

Figure 34. TR-HES-012/018/024/032/040-CAA



Dimensions			
Model	A	B	C
TR-HES-048 & 060-CAA	13.12 in.	11.38 in.	6.63 in.

Figure 35. TR-HES-048/060-CAA

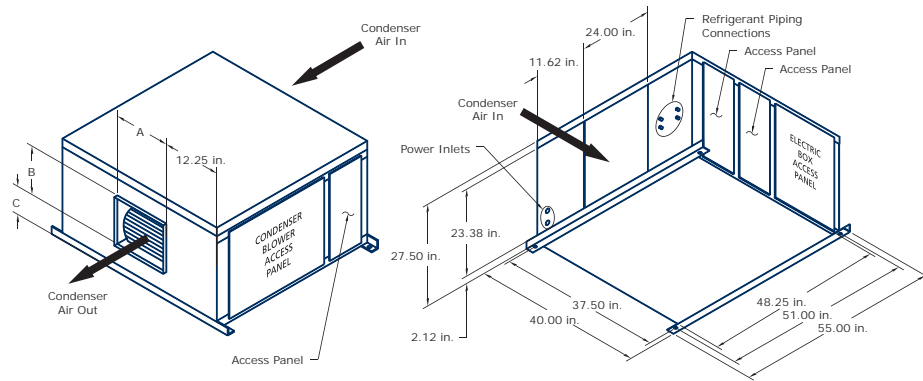


Dimensional Data - TR-HES Indoor Air Cooled Condenser

TR-HES – 048D to 0120D-CAA Indoor Air Cooled Condenser Dual Circuit

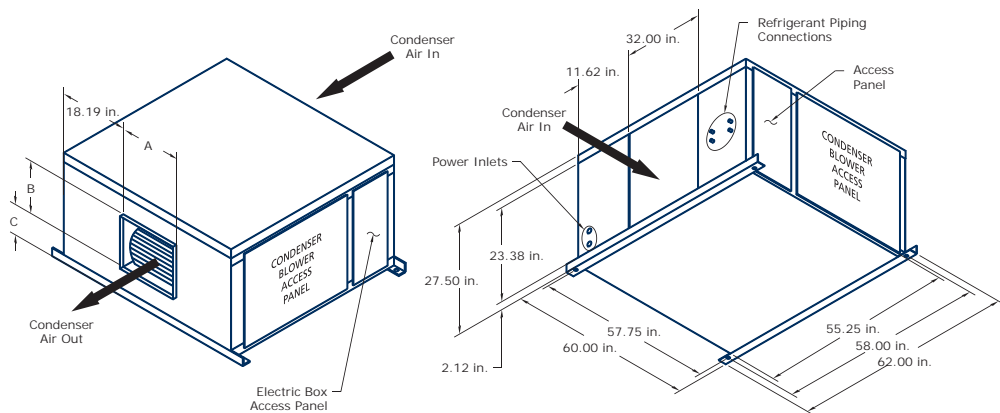
Dimensions			
Model	A	B	C
TR-HES-048D-CAA	13.12 in.	11.40 in.	6.63 in.
TR-HES-072 & 084D-CAA	15.70 in.	13.50 in.	7.63 in.

Figure 36. TR-HES-048/072/084-DCA



Dimensions			
Model	A	B	C
TR-HES-120-DCAA	18.62 in.	15.88 in.	9.00 in.

Figure 37. TR-HES-120-DCA





Specifications -TR-HES

Indoor Air Cooled Condenser

Summary

This specification describes requirements for a refrigerant condensing system to be used with a DX based precision environmental control system. The TR-HES Condenser is an indoor Air Cooled condenser with a centrifugal blower. The TR-HES Condenser is a state-of-the-art condenser that provides the total heat of rejection for Trane A/C unit evaporators. The TR-HES condenser shall be designed for both single and dual refrigeration circuits. The Air Cooled condenser model number shall be TR-HES-()-().

Design Requirements

The unit shall be designed for indoor installation and shall be equipped with removable service access panels.

0°F Fan Cycling

The Air Cooled system shall incorporate a low ambient fan cycling/fan speed head pressure control for year-round A/C system operation down to 0°F DB minimum ambient air temperature. By cycling the condenser fan on refrigerant pressure, the refrigerant head pressure is maintained. The control circuit shall be provided with a 24V control transformer, fan contactors and pressure controls.

-30°F Flooded Control

The Air Cooled system shall incorporate a low ambient flooded head pressure control for year-round A/C system operation down to -30°F DB minimum ambient air temperature. Each refrigerant circuit shall be provided with a factory installed crankcase heater, cold-start relay, liquid refrigerant receiver with receiver liquid level sight glass and head pressure regulating valve for flooded condenser option.

Refrigerant

Condensing units shall be designed for use with R-407C or R-410A refrigerant. The system is provided with a dry nitrogen charge and requires field evacuation and refrigerant charging.

Quality Assurance

The manufacturer shall maintain a set of international standards of quality management to ensure product quality. Each system shall be subjected to a complete operational and functional test procedure at the factory prior to shipment.

Cabinet

The condenser cabinet shall be constructed of aluminum. The condenser cabinet shall house the condenser coil, blower, blower motor, receivers (if applicable), condenser motor control and electric box. The compressor(s) shall be located with the evaporator section.

Electrical System

The electrical system shall conform to National Electrical Code (NEC) requirements. In accordance with NEC Class II circuits, the control circuit shall be 24 volts AC and control circuit wiring shall not be smaller than 18 AWG.

All wiring shall be neatly wrapped, run in conduit or cable trays, and routed in bundles. Each wire shall end with a service loop and be securely fastened by an approved method. Each wire in the unit shall be numbered for ease of service tracing.

All electrically actuated components shall be easily accessible without reaching over exposed high voltage components or rotating parts. Each high voltage circuit shall be individually protected with circuit breakers or manual motor starters on each phase.



Specifications -TR-HES

The blower motor shall have thermal and short circuit protection. Line voltage and 24-volt control circuit wiring shall be routed in separate bundles. The electric box shall include all the contactors, starters, fuses, circuit breakers and terminal boards required for operation of the TR-HES Condenser unit.

Code Conformance

The unit is in compliance with the following:

- UL1995
- CSA C22.2 No. 236



TR-OHS-RCU Indoor/Outdoor Air Cooled Condensing Units

Features and Benefits

- R-407C refrigerant
- All aluminum cabinet construction
- Indoor and Outdoor Rated Models
- Integrated control box with main disconnect and motor protection
- Blower speed control based on refrigerant pressure
- Single and dual circuit configurations
- Low ambient temperature flooded control option (-30° F)

Figure 38. Model TR-OHS-048-RCU-I (Indoor Unit)

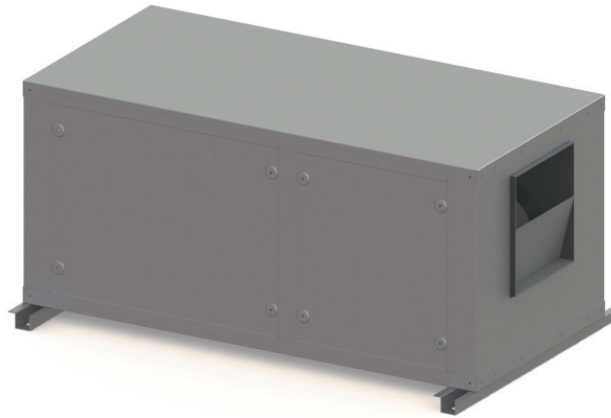


Figure 39. Model TR-OHS-060-RCU-O (Outdoor Unit)





Model Number Descriptions - TR-OHS-RCU

Digit 1,2,3,4,5 – Unit Configuration

TR-OHS = Over Head Systems

Digit 6,7,8,9 - Capacity (kW)

012
018
024
032
040
042
048
060
048D
072D
084D
120D

Digit 10,11,12 - RCU

RCU= Remote Condensing Unit

Digit 13 - Rating

I = Indoor
O = Outdoor



Performance Data - TR-OHS-RCU Indoor/Outdoor Air Cool Condensing Unit

Table 35. Outdoor models

Model	CFM (@ Free Discharge)	THR (MBh) @95°F	Refrigerant Connection	
			Suction Line OD (in.)	Liquid Line OD (in.)
TR-OHS-012-RCU-O	750	18	5/8	3/8
TR-OHS-018-RCU-O	1400	24	3/4	3/8
TR-OHS-024-RCU-O	1400	32	3/4	3/8
TR-OHS-032-RCU-O	2000	41	3/4	1/2
TR-OHS-040-RCU-O	2000	44	7/8	1/2
TR-OHS-042-RCU-O	3200	60	7/8	1/2
TR-OHS-048-RCU-O	3200	70	7/8	1/2
TR-OHS-060-RCU-O	3200	77	7/8	1/2

Table 36. Indoor models

Model	CFM (@ e.s.p)	THR (MBh) @95°F	Refrigerant Connection	
			Suction Line OD (in.)	Liquid Line OD (in.)
TR-OHS-012-RCU-I	750 (0.3 in.)	18	5/8	3/8
TR-OHS-018-RCU-I	1,400 (0.3 in. in.)	24	3/4	3/8
TR-OHS-024-RCU-I	1,400 (0.3 in.)	32	3/4	3/8
TR-OHS-032-RCU-I	2,000 (0.3 in.)	41	3/4	1/2
TR-OHS-040-RCU-I	2,000 (0.3 in.)	44	7/8	1/2
TR-OHS-042-RCU-I	2,800 (0.3 in.)	60	7/8	1/2
TR-OHS-048-RCU-I	3,200 (0.5 in.)	70	7/8	1/2
TR-OHS-060-RCU-I	3,200 (0.5 in.)	77	7/8	1/2
TR-OHS-048D-RCU-I	2,800 (0.5 in.)	63	3/4 (2)	3/8 (2)
TR-OHS-072D-RCU-I	4,000 (0.5 in.)	87	7/8 (2)	1/2 (2)
TR-OHS-084D-RCU-I	4,900 (0.5 in.)	110	7/8 (2)	1/2 (2)
TR-OHS-120D-RCU-I	6,400 (0.5 in.)	153	7/8 (2)	1/2 (2)

Altitude Correction

Elevation above sea level has an effect on the performance of Air Cooled condenser. Multiply the rated condenser THR at sea level by the elevation correction factor in the table below when selecting the required condenser.

Table 37. Elevation correction factors

Elevation (ft.)	1000	2000	3000	4000	5000	6000	8000	1000	12000
Correction Factor	0.94	0.93	0.90	0.88	0.86	0.83	0.79	0.75	0.71



Technical Data - TR-OHS-RCU Indoor/Outdoor Air Cooled Condensing Unit

Table 38. Dimensions and weight - Outdoor models

Model	Unit		Shipping	
	Overall Dimensions (in.)	Weight	Approximate Dimensions (in.)	Weight
TR-OHS-012-RCU-O	30.4 W x 19.3 H x 31.0 D	145	36 W x 25 H x 37 D	180
TR-OHS-018-RCU-O	30.4 W x 19.3 H x 31.0 D	140	36 W x 25 H x 37 D	175
TR-OHS-024-RCU-O	30.4 W x 19.3 H x 31.0 D	140	36 W x 25 H x 37 D	175
TR-OHS-032-RCU-O	30.4 W x 25.3 H x 31.0 D	175	36 W x 31 H x 37 D	215
TR-OHS-040-RCU-O	30.4 W x 25.3 H x 31.0 D	180	36 W x 31 H x 37 D	225
TR-OHS-042-RCU-O	41.4 W x 27.3 H x 33.0 D	235	47 W x 33 H x 39 D	290
TR-OHS-048-RCU-O	41.4 W x 27.3 H x 33.0 D	235	47 W x 33 H x 39 D	290
TR-OHS-060-RCU-O	41.4 W x 27.3 H x 33.0 D	235	47 W x 33 H x 39 D	290

Table 39. Dimensions and weight - Indoor models

Model	Unit		Shipping	
	Overall Dimensions (in.)	Weight	Approximate Dimensions (in.)	Weight
TR-OHS-012-RCU-I	46.8 W x 22.5 H x 28.0 D	150	53 W x 29 H x 34 D	185
TR-OHS-018-RCU-I	46.8 W x 22.5 H x 28.0 D	155	53 W x 29 H x 34 D	190
TR-OHS-024-RCU-I	46.8 W x 22.5 H x 28.0 D	160	53 W x 29 H x 34 D	200
TR-OHS-032-RCU-I	46.8 W x 26.5 H x 28.0 D	195	53 W x 33 H x 34 D	240
TR-OHS-040-RCU-I	46.8 W x 26.5 H x 28.0 D	205	53 W x 33 H x 34 D	255
TR-OHS-042-RCU-I	46.8 W x 26.5 H x 28.0 D	210	53 W x 33 H x 34 D	260
TR-OHS-048-RCU-I	46.0 W x 27.5 H x 61.0 D	350	52 W x 33 H x 67 D	435
TR-OHS-048D-RCU-I	48.0 W x 27.5 H x 69.0 D	410	54 W x 33 H x 75 D	510
TR-OHS-060-RCU-I	46.0 W x 27.5 H x 61.0 D	360	52 W x 33 H x 67 D	450
TR-OHS-072D-RCU-I	48.0 W x 27.5 H x 69.0 D	430	54 W x 33 H x 75 D	535
TR-OHS-084D-RCU-I	48.0 W x 27.5 H x 69.0 D	470	54 W x 33 H x 75 D	585
TR-OHS-120D-RCU-I	68.8 W x 27.5 H x 85.0 D	570	75 W x 33 H x 91 D	710

Table 40. Trane A/C models used with - Outdoor RCU

RCU Model	A/C model @95°F
TR-OHS-012-RCU-O	TR-OHS-012
TR-OHS-018-RCU-O	TR-OHS-018
TR-OHS-024-RCU-O	TR-COS-024 TR-OHS-024 TR-OHS-48D (2)
TR-OHS-032-RCU-O	TR-OHS-032 TR-OHS-072D (2)
TR-OHS-040-RCU-O	TR-OHS-040
TR-OHS-042-RCU-O	TR-COS-042 TR-OHS-084D (2)
TR-OHS-048-RCU-O	TR-OHS-048
TR-OHS-060-RCU-O	TR-COS-060 TR-OHS-060 TR-OHS-120D (2)

Technical Data - TR-OHS-RCU Indoor/Outdoor Air Cooled Condensing Unit

Table 41. Trane A/C model used with Indoor RCU

RCU Model	A/C model @95°F
TR-OHS-012-RCU-I	TR-OHS-012
TR-OHS-018-RCU-I	TR-OHS-018
TR-OHS-024-RCU-I	TR-COS-024 TR-OHS-024
TR-OHS-032-RCU-I	TR-OHS-032
TR-OHS-040-RCU-I	TR-OHS-040
TR-OHS-042-RCU-I	TR-COS-042
TR-OHS-048-RCU-I	TR-OHS-048
TR-OHS-048D-RCU-I	TR-OHS-048D
TR-OHS-060-RCU-I	TR-COS-060 TR-OHS-060
TR-OHS-072D-RCU-I	TR-OHS-072D
TR-OHS-084D-RCU-I	TR-OHS-084D
TR-OHS-120D-RCU-I	TR-OHS-120D

Table 42. Outdoor condensing units

TR-OHS-()-RCU-O	012	018	024	032	040	042	048	060
208/1, 277/1								
Motor HP	1/4	1/3	1/3	1/2	1/2	N/A	N/A	N/A
Drive Method	Direct Driven	Direct Driven	Direct Driven	Direct Driven	Direct Driven	N/A	N/A	N/A
208/3, 460/3, 575/3								
Motor HP	N/A	N/A	1/3	1/2	1/2	3/4	3/4	3/4
Drive Method	N/A	N/A	Direct Driven	Direct Driven	Direct Driven	Direct Driven	Direct Driven	Direct Driven
Condenser Coil								
Row/Face Area @95°F (Ft ²)	4 (2.1)	4 (2.1)	4 (2.1)	4 (2.8)	4 (2.8)	4 (5.0)	4 (5.0)	4 (5.0)
Row/Face Area @105°F (Ft ²)	4 (2.8)	4 (2.8)	4 (2.8)	4 (5.0)	4 (5.0)	N/A	N/A	N/A
Compressor								
Type (Qty)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)
Watts Input	1,360	1,600	2,190	2,800	2,930	4,023	4,550	5,050
Low Ambient Control Std. Minimum Operating Ambient								
Fan Cycling	0°F	0°F	0°F	0°F	0°F	0°F	0°F	0°F
Flooded Head Pressure Method	-30°F	-30°F	-30°F	-30°F	-30°F	-30°F	-30°F	-30°F



Technical Data - TR-OHS-RCU Indoor/Outdoor Air Cooled Condensing Unit

Table 43. Indoor condensing units

TR-OHS-()-RCU-O	012	018	024	032	040	042	048	060	048D	072D	084D	120D
208/1, 277/1												
Motor HP	1/3	1/3	1/3	1/2	1/2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drive Method	Direct Driven	Direct Driven	Direct Driven	Direct Driven	Direct Driven	N/A	N/A	N/A	N/A	N/A	N/A	N/A
208/3, 460/3, 575/3												
Motor HP	N/A	N/A	1/3	1/2	1/2	1 1/2	2	2	1.5	3	3	5
Drive Method	N/A	N/A	Direct Driven	Direct Driven	Direct Driven	Belt Driven	Belt Driven	Belt Driven	Belt Driven	Belt Driven	Belt Driven	Belt Driven
Condenser Coil												
Row/Face Area(Ft ²)	4 (2.1)	4 (2.1)	4 (2.1)	4 (2.8)	4 (2.8)	4 (5.0)	4 (5.0)	4 (5.0)	4 (4.2)	4 (6.7)	4 (6.7)	4 (10.0)
Compressor												
Type (Qty)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (1)	Scroll (2)	Scroll (2)	Scroll (2)	Scroll (2)
Watts Input	1,405	1,614	2,092	2,711	2,842	3,848	4,415	4,959	2,050	2,797	3,848	4,959
Low Ambient Control												
Std. Minimum Operating Ambient	0°F	0°F	0°F	0°F	0°F	-30°F	-30°F	-30°F	-30°F	-30°F	-30°F	-30°F
Head Pressure Method	Motor Speed	Motor Speed	Motor Speed	Motor Speed	Motor Speed	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded	Flooded



Electrical Data - TR-OHS-RCU Indoor/Outdoor Air Cooled Condensing Units

Table 44. Outdoor condensing units

Models	208/1/60			277/1/60			208/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-OHS-012-RCU-O	9.6	15.1	20	8.6	14.1	20	N/A			N/A			N/A		
TR-OHS-018-RCU-O	12.0	17.5	25	9.8	14.6	20	N/A			N/A			N/A		
TR-OHS-024-RCU-O	14.7	22.9	35	11.7	18.6	30	9.8	13.5	20	4.7	7.0	15	N/A		
TR-OHS-032-RCU-O	17.1	26.2	40	14.8	22.1	35	11.3	18.0	30	5.7	9.5	15	4.6	7.0	15
TR-OHS-040-RCU-O	17.1	26.2	40	14.8	22.1	35	11.3	18.0	30	5.7	9.5	15	4.6	7.0	15
TR-OHS-042-RCU-O	N/A			N/A			15.7	25.5	40	8.0	11.9	15	6.5	9.0	15
TR-OHS-048-RCU-O	N/A			N/A			17.1	25.5	40	8.5	11.9	15	6.9	9.1	15
TR-OHS-060-RCU-O	N/A			N/A			21.6	28.2	45	9.5	13.4	20	7.7	11.6	15

Table 45. Indoor condensing units

Models	208/1/60			277/1/60			208/3/60			460/3/60			575/3/60		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
TR-OHS-012-RCU-I	9.5	15.0	20	7.9	13.4	20	N/A			N/A			N/A		
TR-OHS-018-RCU-I	12.6	18.1	25	9.7	14.5	20	N/A			N/A			N/A		
TR-OHS-024-RCU-I	15.3	23.5	35	11.6	18.5	30	12.1	15.8	20	5.5	7.8	15	N/A		
TR-OHS-032-RCU-I	17.0	26.1	40	14.0	21.3	35	13.0	19.7	30	6.3	10.1	15	N/A		
TR-OHS-040-RCU-I	17.0	26.1	40	14.0	21.3	35	13.0	19.7	30	6.3	10.1	15	N/A		
TR-OHS-042-RCU-I	N/A			N/A			16.7	26.5	40	8.9	12.8	20	7.2	9.7	15
TR-OHS-048-RCU-I	N/A			N/A			20.0	28.4	45	9.9	13.3	20	8.0	10.2	15
TR-OHS-060-RCU-I	N/A			N/A			24.5	31.1	50	10.9	14.8	20	8.8	12.7	20
TR-OHS-048D-RCU-I	N/A			N/A			19.9	25.1	30	9.7	13.3	15	N/A		
TR-OHS-072D-RCU-I	N/A			N/A			25.9	36.3	45	13.2	19.2	25	10.5	14.3	15
TR-OHS-084D-RCU-I	N/A			N/A			32.5	47.8	60	16.8	22.6	30	13.5	17.0	20
TR-OHS-120D-RCU-I	N/A			N/A			49.1	57.5	70	21.7	27.2	35	17.8	23.6	30

Dimensional Data - TR-OHS

TR-OHS 012 to 060 - Outdoor Remote Condensing Units

Figure 40. TR-OHS-012/018/024-RCU-O

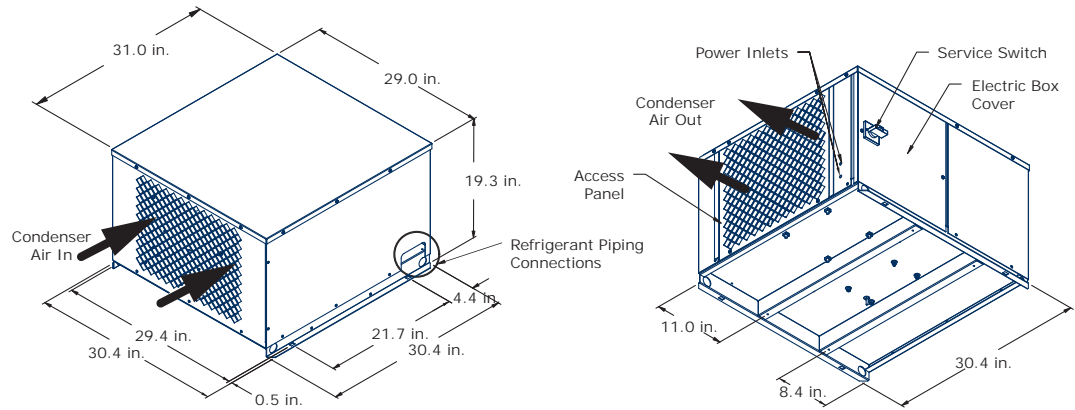


Figure 41. TR-OHS-032/040-RCU-O

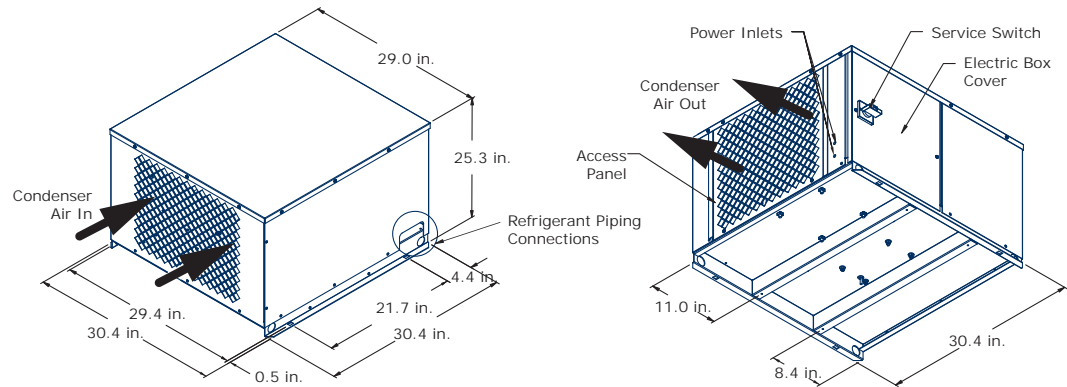
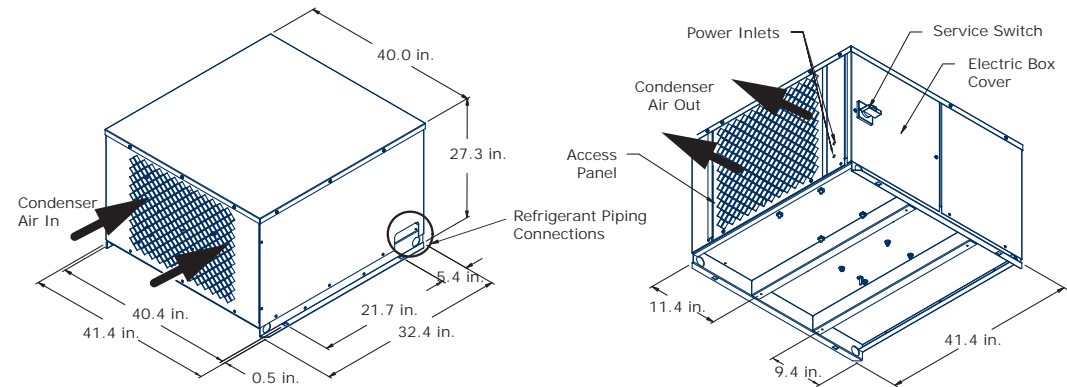


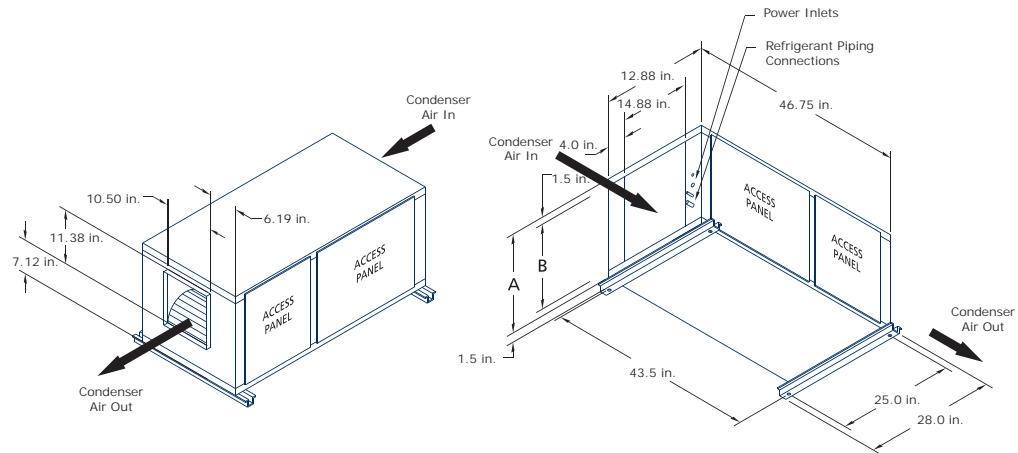
Figure 42. TR-OHS-042/048/060-RCU-O



Indoor Remote Condensing Units

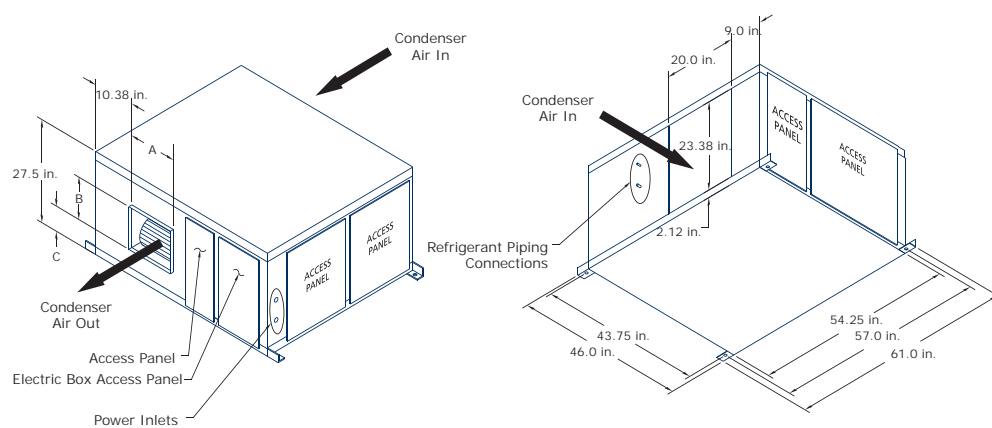
Dimensions		
Model	A	B
TR-OHS-012, 018, 024-RCU-I	21.0 in.	18.0 in.
TR-OHS-032, 040, 042-RCU-I	25.0 in.	22.0 in.

Figure 43. TR-OHS-012/018/024/032/040/042-RCU-I



Dimensions			
Model	A	B	C
TR-OHS-048 & 060-RCU-I	13.12 in.	11.38 in.	6.62 in.

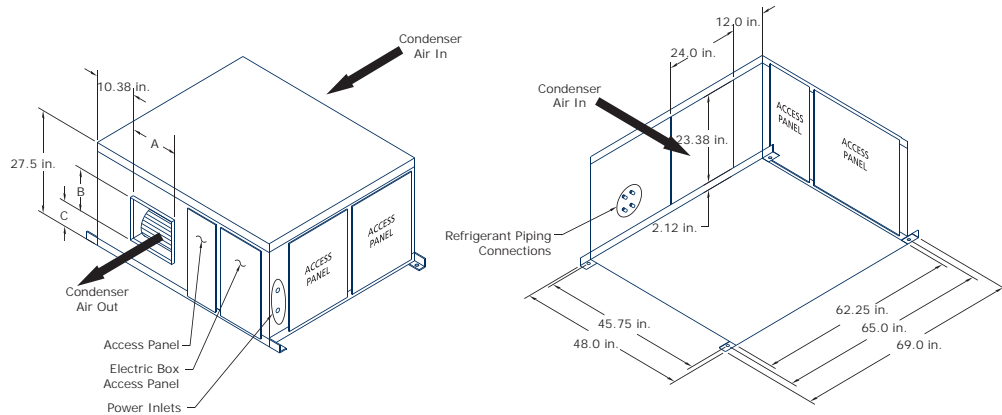
Figure 44. TR-OHS-048/060-RCU-1



TR-OHS 048D to 120D Indoor Remote Condensing Units

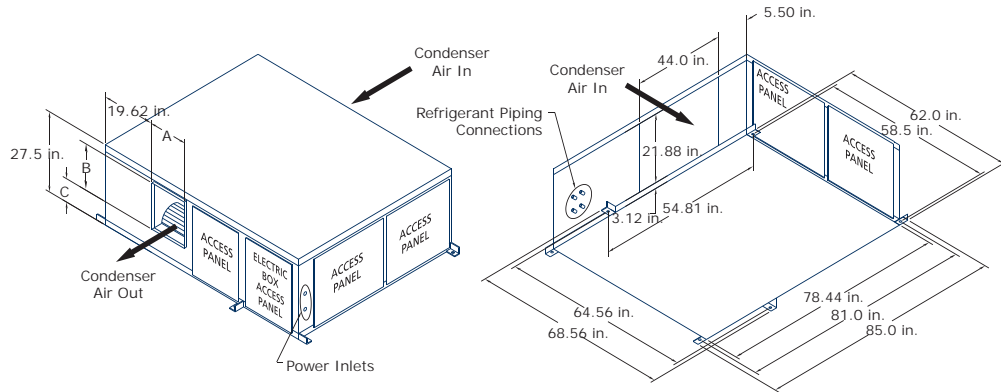
Dimensions			
Model	A	B	C
TR-OHS-048D-RCU-I	13.12 in.	11.38 in.	6.62 in.
TR-OHS-072 & 084D-RCU-I	15.62 in.	13.44 in.	7.62 in.

Figure 45. TR-OHS-048D/072D/084D-RCU-I



Dimensions			
Model	A	B	C
TR-OHS-120D-RCU-I	15.62 in.	13.44 in.	7.25 in.

Figure 46. TR-OHS-120D-RCU-I





Specifications -TR-OHS-RCU

Condensing Unit

Summary

This specification describes requirements for a refrigerant condensing system to be used with a DX based precision environmental control system. The TR-OHS-RCU Condensing unit is an Air Cooled refrigerant condensing unit. The TR-OHS-RCU condensing unit is a state-of-the-art condenser which provides the total heat of rejection for the corresponding A/C unit evaporators. The TR-OHS- RCU condensing unit shall be designed for both single and dual refrigeration circuits. The Air Cooled condensing unit model number shall be TR-OHS-()-RCU-().

Design Requirements

Outdoor Remote Condensing Units (Models TR-OHS-()-RCU-O)

The system shall be an outdoor Air Cooled remote condensing unit with direct-driven, propeller fan. The condensing unit shall be sized to provide the total heat of rejection of the system for the corresponding model TR-OHS.

0°F Fan Cycling

The Air Cooled system shall incorporate a low ambient fan cycling head pressure control for year-round A/C system operation down to 0°F DB minimum ambient air temperature. By cycling the condenser fan(s) on refrigerant pressure, the refrigerant head pressure is maintained. The control circuit shall be provided with a 24V control transformer, fan contactors, and pressure controls.

-30°F Flooded Control

The Air Cooled system shall incorporate a low ambient flooded head pressure control for year-round A/C system operation down to -30°F DB minimum ambient air temperature. Each refrigerant circuit shall be provided with a factory installed crankcase heater, cold-start delay, liquid refrigerant receiver with receiver liquid level sight glass and head pressure regulating valve for flooded condenser option.

Indoor Remote Condensing Units (Models TR-OHS-()-RCU-I)

The system shall be an indoor Air Cooled remote condensing unit with centrifugal blower. The condensing unit shall be sized to provide the total heat of rejection of the system for the corresponding Air Handling Unit.

0°F Fan Cycling

The Air Cooled system shall incorporate a low ambient fan cycling head pressure control for year-round A/C system operation down to 0°F DB minimum ambient air temperature. By cycling the condenser fan(s) on refrigerant pressure, the refrigerant head pressure is maintained. The control circuit shall be provided with a 24V control transformer, fan contactors, and pressure controls.

-30°F Flooded Control

The Air Cooled system shall incorporate a low ambient flooded head pressure control for year-round A/C system operation down to -30°F DB minimum ambient air temperature. Each refrigerant circuit shall be provided with a factory installed crankcase heater, cold-start delay, liquid refrigerant receiver with liquid level sight glass and head pressure regulating valve for flooded condenser option.

Refrigerant

Air Cooled remote condensing units shall be designed for use with R-407C refrigerant. The system is provided with a dry nitrogen charge and requires field evacuation and refrigerant charging.



Specifications -TR-OHS-RCU

Quality Assurance

The manufacturer shall maintain a set of international standards of quality management to ensure product quality. Each system shall be subjected to a complete operational and functional test procedure at the factory prior to shipment.

Cabinet

The condensing unit cabinet shall be constructed of aluminum. The system compressor(s) shall be located with the remote condensing unit section. The condensing unit cabinet shall also contain the condenser coil, blower, blower motor and condensing unit motor control / enabling box.

Electrical System

The condensing unit shall require only single point main power supply connection. The electrical system shall conform to National Electrical Code (NEC) requirements. In accordance with NEC Class II circuits, the control circuit shall be 24-volts AC and control circuit wiring shall not be smaller than 18 AWG.

All wiring shall be neatly wrapped, run in conduit or cable trays, and routed in bundles. Each wire shall end with a service loop and be securely fastened by an approved method. Each wire in the unit shall be numbered for ease of service tracing.

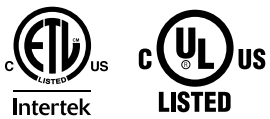
All electrically actuated components shall be easily accessible without reaching over exposed high voltage components or rotating parts. Each high voltage circuit shall be individually protected with circuit breakers or manual motor starters on each phase.

The blower motor shall have thermal and short circuit protection. Line voltage and 24-volt control circuit wiring shall be routed in separate bundles. The electric box shall include all the contactors, starters, fuses, circuit breakers and terminal boards required for operation of the Trane TR-OHS Condensing unit.

Code Conformance

The unit is in compliance with the following:

- Conform to UL STD 1995
- Certified to (CAN/CSA C22.2 No. 236)
- Listed with ETL



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