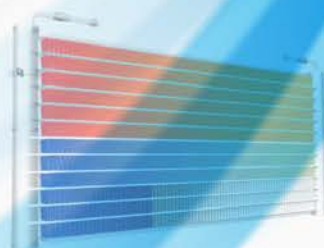


**SANHUA**

# **MICRO-CHANNEL HEAT EXCHANGERS**



**SANHUA**  
SINCE 1984

# SUMMARY

SANHUA MCHE Series <b>SD10</b> Condenser	04
SANHUA MCHE Series <b>SD11</b> Condenser	06
SANHUA MCHE Series <b>SD12</b> Condenser	08
SANHUA MCHE Series <b>SD13</b> Condenser	10
SANHUA MCHE Series <b>SD14</b> Condenser	12
SANHUA MCHE Series <b>SD15</b> Condenser	14
SANHUA MCHE Series <b>SD16</b> Condenser	16
SANHUA MCHE Series <b>SD17</b> Condenser	18
SANHUA MCHE Series <b>SD18</b> Condenser	20
SANHUA MCHE Series <b>SD19</b> Condenser	22
SANHUA MCHE Series <b>SD20</b> Condenser	24



MCHE-EN-R0914

# SANHUA Micro-Channel Heat Exchangers - Standard Range

## BENEFITS

- No galvanic corrosion (100% aluminum)
- Refrigerant charge reduction – up to 70%
- Long life alloy for very aggressive environments
- Helps manufacturers to meet high SEER (Seasonal Efficiency Ratio) and HSPF (Heating Seasonal Performance Factor) requirements  
MCHE is more than 30% higher HT efficiency
- Up to 30% lower airside dP
- MCHE is lighter in weight, smaller in volume: up to 50%
- 100% Aluminum, easy to cycle
- Minimum performances decrease with lifetime (100% brazed)
- Special tube bending structure for A-coil
- Special desing for good refrigerant distribution
- Special fin desing for good water drainage

## Manufacturing capabilities



ASSEMBLY

HELIUM DETECTOR



FURNACES



SHIPPING PALLET



FIN MACHINE



FIN PROCESS













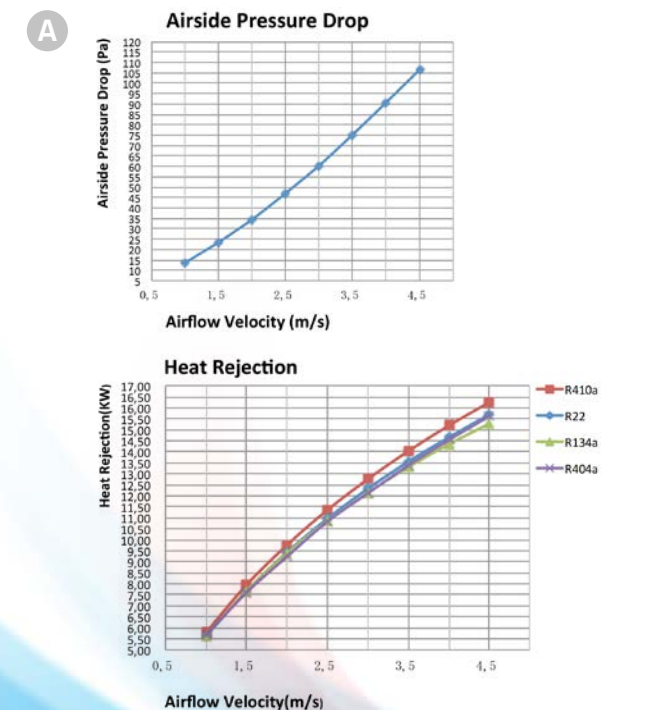


# SANHUA Micro-Channel Heat Exchangers - Standard Range

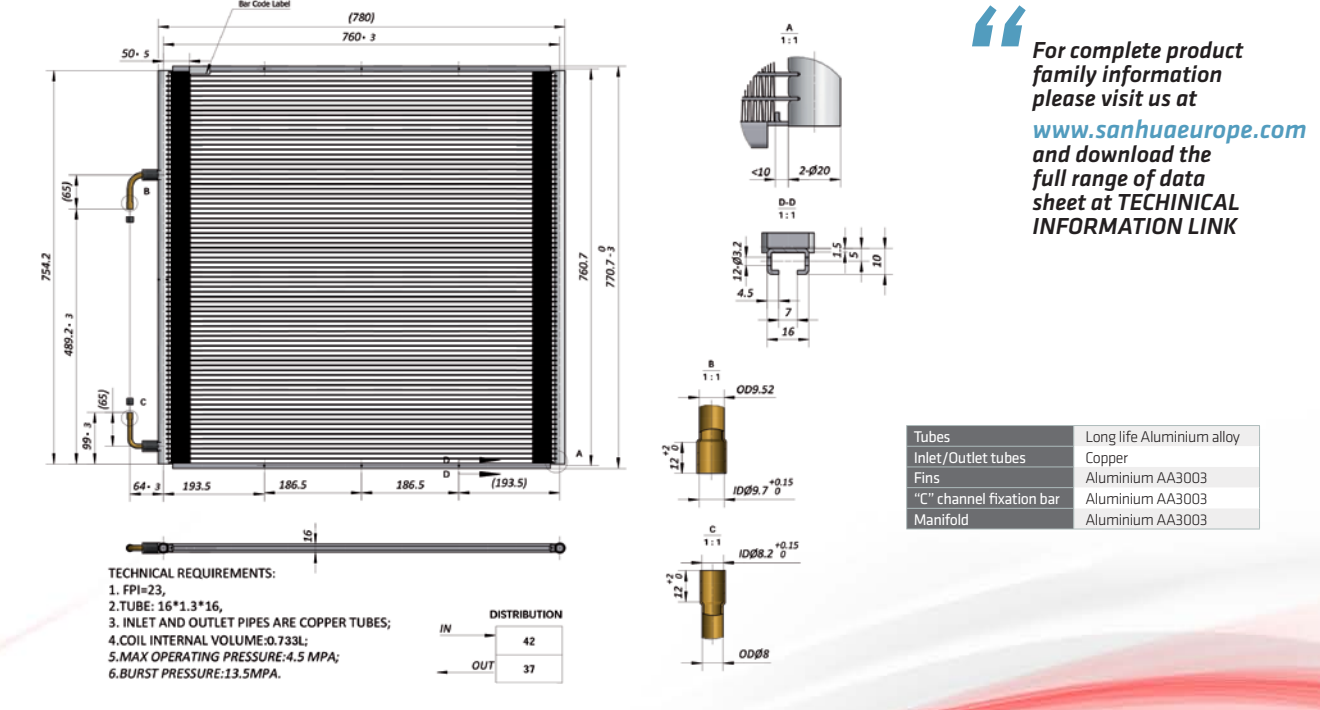
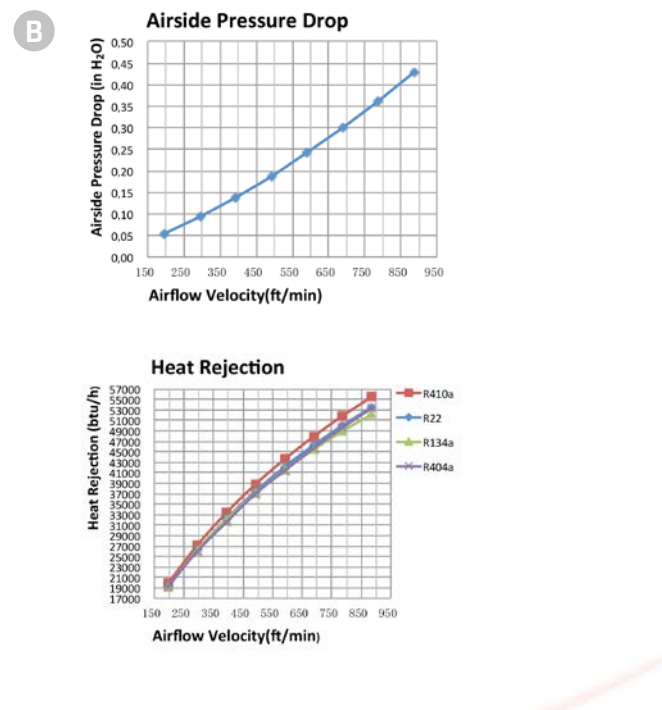
## SD14 Condenser



Sanhua Micro Channel Heat Exchanger; Condenser calculation																
Model	Unit	Design Conditions	R410a								R22					
			16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G
Total length (L)	mm		780	780	780	780	780	780	780	780	780	780	780	780	780	780
Total height (H)	mm		754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2	754.2
Manifold diameter (Ø H)	mm		20	20	20	20	20	20	20	20	20	20	20	20	20	20
Fin width (cD)	mm		16	16	16	16	16	16	16	16	16	16	16	16	16	16
Fins Per Inch			23	23	23	23	23	23	23	23	23	23	23	23	23	23
Inlet connection (Ø I)	mm															
Outlet connection (Ø O)	mm															
Fin height	mm		8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of tubes			79	79	79	79	79	79	79	79	79	79	79	79	79	79
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2
Pass Distribution			4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237
Refrigerant circuit																
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R22	R22	R22	R22	R22	R22	R22
Heat rejection	KW		5,805	7,948	9,763	11,355	12,761	14,034	15,194	16,254	15,681	14,659	13,551	12,328	10,962	9,428
Inlet temperature	°C		76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
Condensing temperature	°C		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Subcooling	°C		6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Air side																
Inlet temperature	°C		35	35	35	35	35	35	35	35	35	35	35	35	35	35
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	m/s		1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50
Pressure drop	pa		13.50	23.19	34.33	46.75	60.30	74.81	90.25	106.38						



Sanhua Micro Channel Heat Exchanger; Condenser calculation																
Model	Unit	Design Conditions	R410A								R22					
			16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G	16-FPI23-2G
Total length (L)	in		30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71	30.71
Total height (H)	in		29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69	29.69
Manifold diameter (Ø H)	in		0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Fin width (cD)	in		0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Fins Per Inch			23	23	23	23	23	23	23	23	23	23	23	23	23	23
Inlet connection (Ø I)	in															
Outlet connection (Ø O)	in															
Fin height	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of tubes			79	79	79	79	79	79	79	79	79	79	79	79	79	79
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2
Pass Distribution			4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237	4237
Refrigerant circuit																
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R22	R22	R22	R22	R22	R22	R22
Heat rejection	btu/h		19812	27127	33320	38755	43555	47898	51857	55476	53520	50300	46250	42075	37414	32176
Inlet temperature	°F		168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
Condensing temperature	°F		114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8
Subcooling	°F		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Air side																
Inlet temperature	°F		95	95	95	95	95	95	95	95	95	95	95	95	95	95
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	ft/m		196.74	295.11	393.48	491.85	590.22	688.59	786.96	885.33	885.33	786.96	688.59	590.22	491.85	393.48
Pressure drop	inH <sub>2</sub> O		0.05	0.09	0.14	0.19	0.24	0.30	0.36	0.43						



For complete product family information please visit us at [www.sanhuaeurope.com](http://www.sanhuaeurope.com) and download the full range of data sheet at **TECHNICAL INFORMATION LINK**







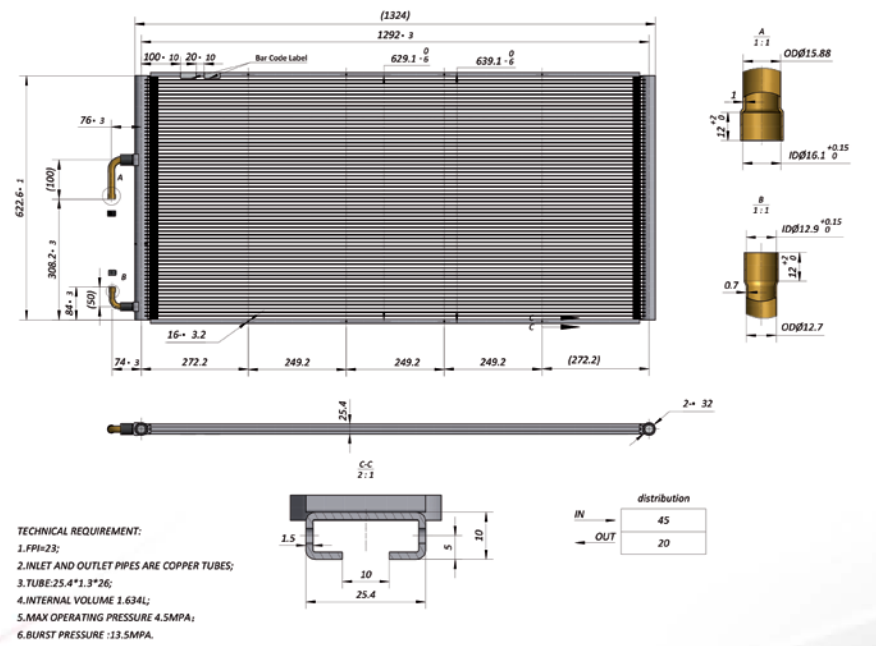
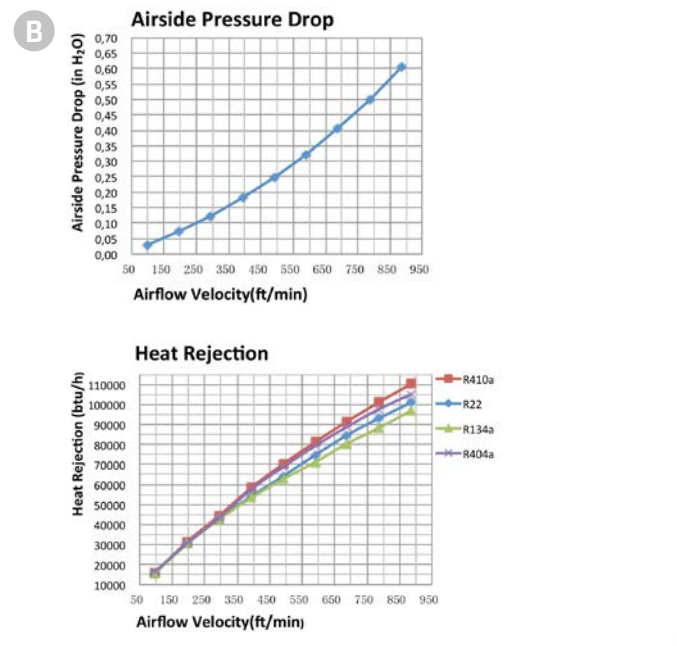
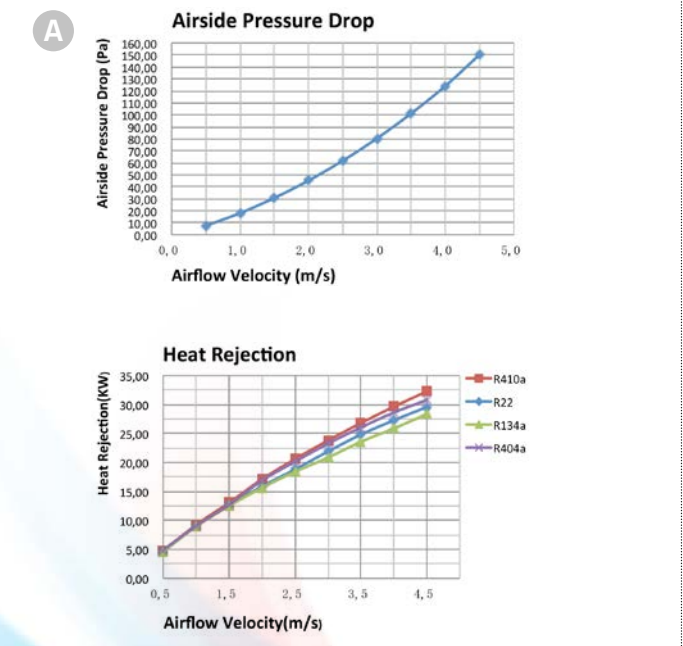
# SANHUA Micro-Channel Heat Exchangers - Standard Range

## SD17 Condenser



		Sanhua Micro Channel Heat Exchanger: Condenser calculation																		
Model	Unit	Design Conditions	R410a								R134a									
			25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C			
Total length (L)	mm		1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	1324	
Total height (H)	mm		622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	622.6	
Manifold diameter (ØH)	mm		32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	
Fin width (cD)	mm		25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	
Fin height	mm		23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
Inlet connection (ØI)	mm		15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	15.88	
Outlet connection (ØO)	mm		12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	
Fin height	mm		8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No. of tubes			65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Pass Distribution			4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	
Refrigerant circuit																				
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	
Heat rejection	kW		4.714	9.224	13.056	17.119	20.588	23.794	26.813	29.632	32.285	4.612	8.922	12.507	15.633	18.395	20.850	23.575	25.889	28.360
Inlet temperature	°C		76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
Condensing temperature	°C		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Subcooling	°C		6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Air side																				
Inlet temperature	°C		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	m/s		0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
Pressure drop	pa		751	18.06	30.68	45.22	61.76	80.38	101.23	124.13	150.31	751	18.06	30.68	45.22	61.76	80.38	101.23	119.13	150.31

		Sanhua Micro Channel Heat Exchanger: Condenser calculation																				
Model	Unit	Design Conditions	R410A								R134a											
			25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C	25.4-FP23-2C					
Total length (L)	in		52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13	52.13		
Total height (H)	in		24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51	24.51		
Manifold diameter (ØH)	in		1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26		
Fin width (cD)	in		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Fin height	in		23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23		
Inlet connection (ØI)	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32		
Outlet connection (ØO)	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32		
Fin height	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32		
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
No. of tubes			65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65		
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Pass Distribution			4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520	4520		
Refrigerant circuit																						
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a		
Heat rejection	btu/h		16086	31472	44548	58411	67247	76247	81184	88184	9485	101105	11057	15737	30441	42672	53341	62765	71139	80439	88332	96763
Inlet temperature	°C		168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
Condensing temperature	°C		114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8
Subcooling	°C		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Air side																						
Inlet temperature	°F		95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	ft/m		98.37	196.74	295.11	393.48	491.85	590.22	688.59	786.96	885.33	983.7	196.74	295.11	393.48	491.85	590.22	688.59	786.96	885.33	983.7	
Pressure drop	inH <sub>2</sub> O		0.03	0.07	0.12	0.18	0.25	0.32	0.41	0.50	0.60	0.03	0.07	0.12	0.18	0.25	0.32	0.41	0.50	0.60	0.03	0.07



“ For complete product family information please visit us at [www.sanhuaeurope.com](http://www.sanhuaeurope.com) and download the full range of data sheet at **TECHNICAL INFORMATION LINK** ”

Tubes	Long life Aluminium alloy
Inlet/Outlet tubes	Copper
Fins	Aluminium AA3003
“C” channel fixation bar	Aluminium AA3003
Manifold	Aluminium AA3003





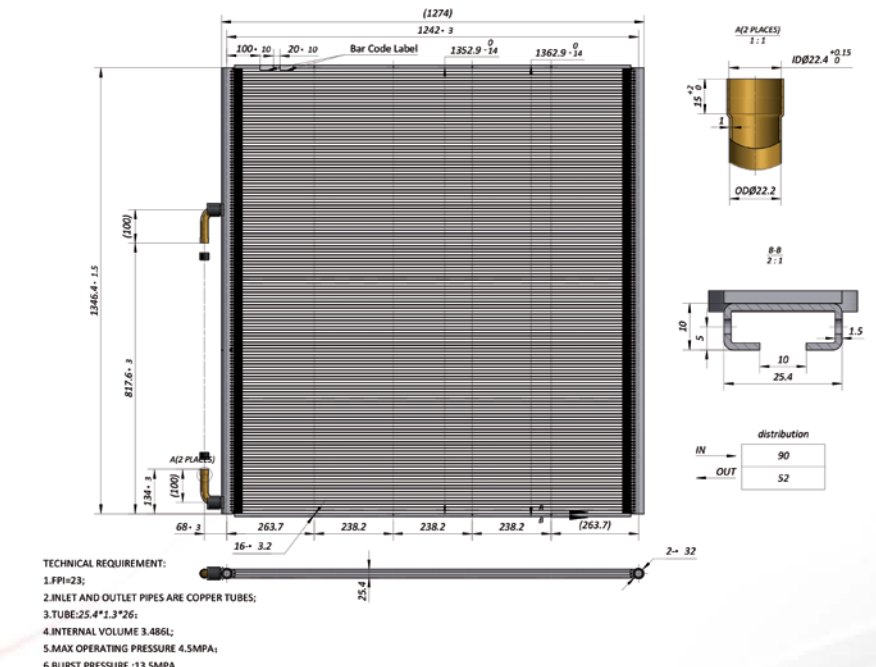
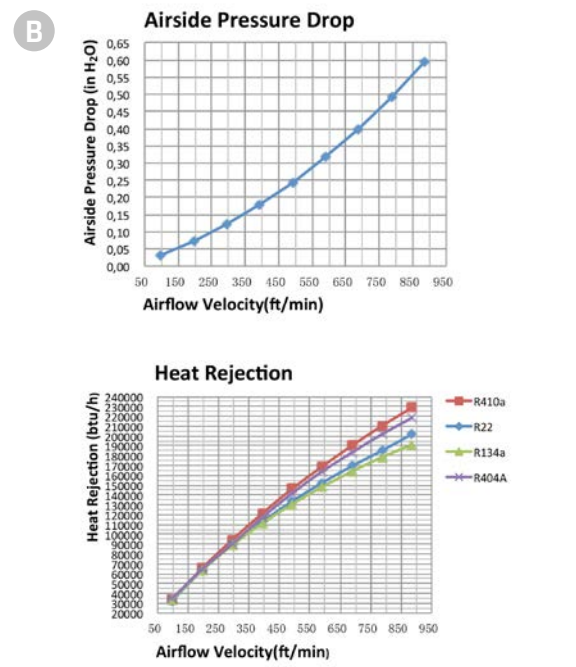
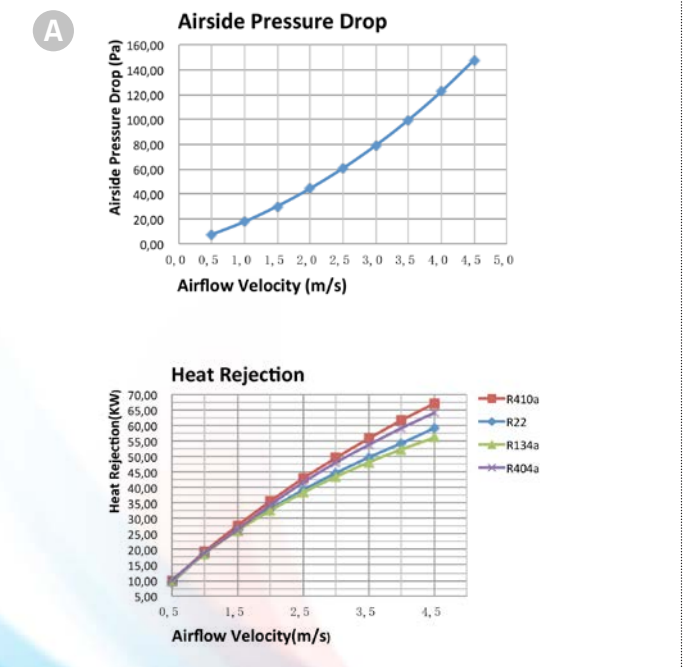
# SANHUA Micro-Channel Heat Exchangers - Standard Range

## SD19 Condenser



Sanhua Micro Channel Heat Exchanger: Condenser calculation																			
Model	Unit	Design Conditions	R410a										R134a						
			25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G
Total length (L)	mm		1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274
Total height (H)	mm		1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4
Manifold diameter (ØH)	mm		32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Fin width (cD)	mm		25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Fins Per Inch			23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Inlet connection (ØI)	mm																		
Outlet connection (ØO)	mm																		
Fin height	mm		8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of tubes			142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Pass Distribution			9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052
<b>Refrigerant circuit</b>																			
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Heat rejection	kW		9.848	19.267	27.669	35.530	42.884	49.478	55.743	61.628	67.035	9.808	18.607	26.069	32.557	38.293	43.422	48.077	52.243
Inlet temperature	°C		76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
Condensing temperature	°C		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Subcooling	°C		6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
<b>Air side</b>																			
Inlet temperature	°C		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	m/s		0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00
Pressure drop	pa		7.38	17.76	30.20	44.45	60.71	79.01	99.51	122.37	147.75	7.38	17.76	30.20	44.45	60.71	79.01	99.51	122.37

Sanhua Micro Channel Heat Exchanger: Condenser calculation																				
Model	Unit	Design Conditions	R410A										R134a							
			25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G	25.4-FP03-2G
Total length (L)	in		50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	50.16	
Total height (H)	in		53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	53.01	
Manifold diameter (ØH)	in		1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	
Fin width (cD)	in		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Fins Per Inch			23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
Inlet connection (ØI)	in																			
Outlet connection (ØO)	in																			
Fin height	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No. of tubes			142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Pass Distribution			9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	9052	
<b>Refrigerant circuit</b>																				
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	
Heat rejection	btu/h		33610	65757	94433	121262	146363	168866	190251	210335	228790	33474	63504	88971	11117	130692	148199	164084	178304	
Inlet temperature	°F		168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
Condensing temperature	°F		114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8
Subcooling	°F		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
<b>Air side</b>																				
Inlet temperature	°F		95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	
Velocity	ft/m		98.37	196.74	295.11	393.48	491.85	590.22	688.59	786.96	885.33	98.37	196.74	295.11	393.48	491.85	590.22	688.59	786.96	
Pressure drop	inH <sub>2</sub> O		0.03	0.07	0.12	0.18	0.24	0.32	0.40	0.49	0.59	0.03	0.07	0.12	0.18	0.24	0.32	0.40	0.49	



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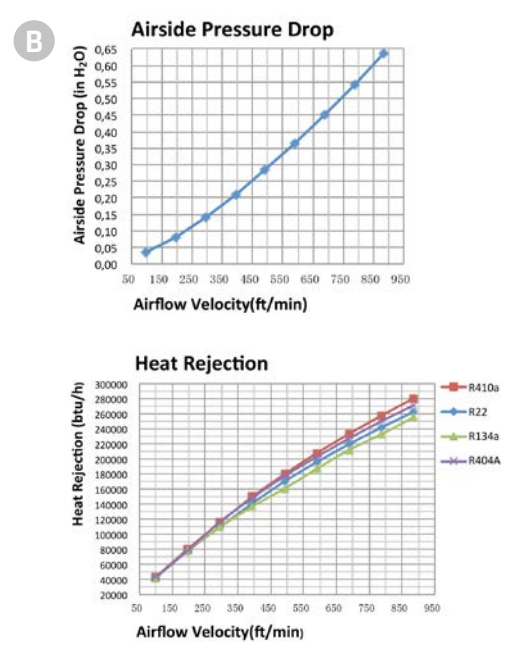
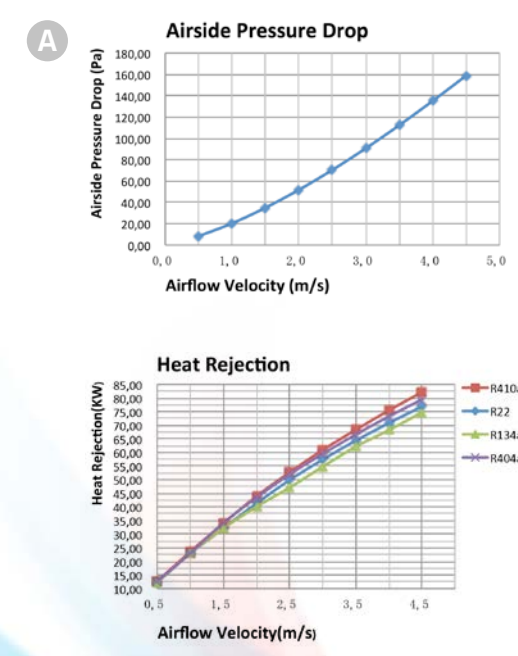
Tubes	Long life Aluminium alloy
Inlet/Outlet tubes	Copper
Fins	Aluminium AA3003
"C" channel fixation bar	Aluminium AA3003
Manifold	Aluminium AA3003

# SANHUA Micro-Channel Heat Exchangers - Standard Range

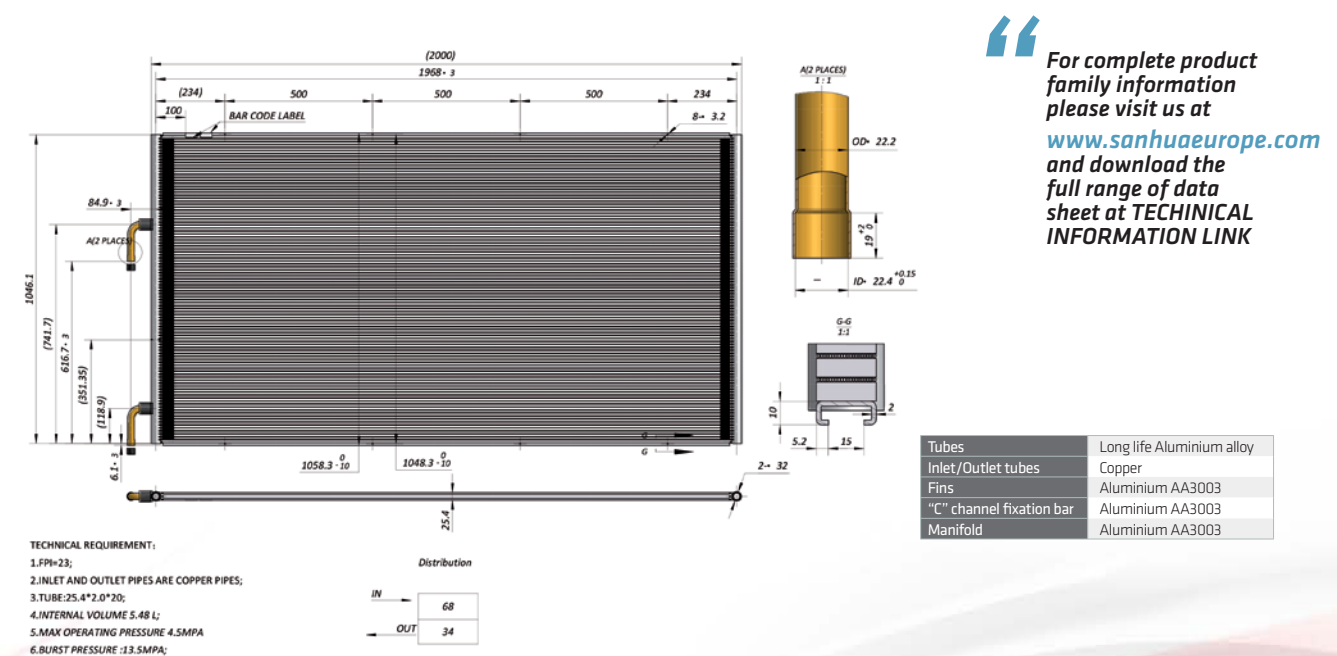
## SD20 Condenser



Sanhua Micro Channel Heat Exchanger: Condenser calculation																				
Model	Unit	Design Conditions	R410a										R134a							
			254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C
Total length (L)	mm		2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Total height (H)	mm		1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	1041.1	
Manifold diameter (ØH)	mm		32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	
Fin width (cD)	mm		25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	
Fin height	mm		23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	
Inlet connection (ØI)	mm		25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	
Outlet connection (ØO)	mm		25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	
Fin height	mm		8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No. of tubes			102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Pass Distribution			6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	
Refrigerant circuit																				
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	
Heat rejection	KW		12.561	23.548	33.926	43.932	52.713	60.933	68.392	75.501	82.240	12.351	22.991	32.142	40.093	47.135	54.810	62.175	68.252	74.817
Inlet temperature	°C		76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
Condensing temperature	°C		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Subcooling	°C		6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Air side																				
Inlet temperature	°C		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	m/s		0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
Pressure drop	pa		8.32	20.42	35.07	51.86	70.51	90.78	112.42	135.20	158.89	8.32	20.42	35.07	51.86	70.51	90.78	112.42	135.20	158.89



Sanhua Micro Channel Heat Exchanger: Condenser calculation																				
Model	Unit	Design Conditions	R410A										R134a							
			254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C	254-FP023-4C
Total length (L)	in		78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74	78.74
Total height (H)	in		40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99
Manifold diameter (ØH)	in		1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Fin width (cD)	in		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fin height	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Inlet connection (ØI)	in		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Outlet connection (ØO)	in		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fin height	in		0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Banks			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
No. of tubes			102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102
No. of passes			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Pass Distribution			6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834	6834
Refrigerant circuit																				
Type of refrigerant			R410a	R410a	R410a	R410a	R410a	R410a	R410a	R410a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Heat rejection	btu/h		42869	80370	115790	149939	179909	207964	233421	257682	280683	42152	78469	109700	136836	160869	187064	212202	232942	255347
Inlet temperature	°C		168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8	168.8
Condensing temperature	°C		114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8	114.8
Subcooling	°C		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Air side																				
Inlet temperature	°F		95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
Relative humidity	%	0	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28	39.28
Velocity	ft/m		98.37	196.74	295.11	393.48	491.85	590.22	688.59	786.96	885.33	98.37	196.74	295.11	393.48	491.85	590.22	688.59	786.96	885.33
Pressure drop	inH <sub>2</sub> O		0.03	0.08	0.14	0.21	0.28	0.36	0.45	0.54	0.64	0.03	0.08	0.14	0.21	0.28	0.36	0.45	0.54	0.64



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- TECHNICAL REQUIREMENT:
- 1.FPN=23;
  - 2.INLET AND OUTLET PIPES ARE COPPER PIPES;
  - 3.TUBE:25.4\*2.0\*20;
  - 4.INTERNAL VOLUME 5.48 L;
  - 5.MAX OPERATING PRESSURE 4.5MPA
  - 6.BURST PRESSURE :13.5MPA;



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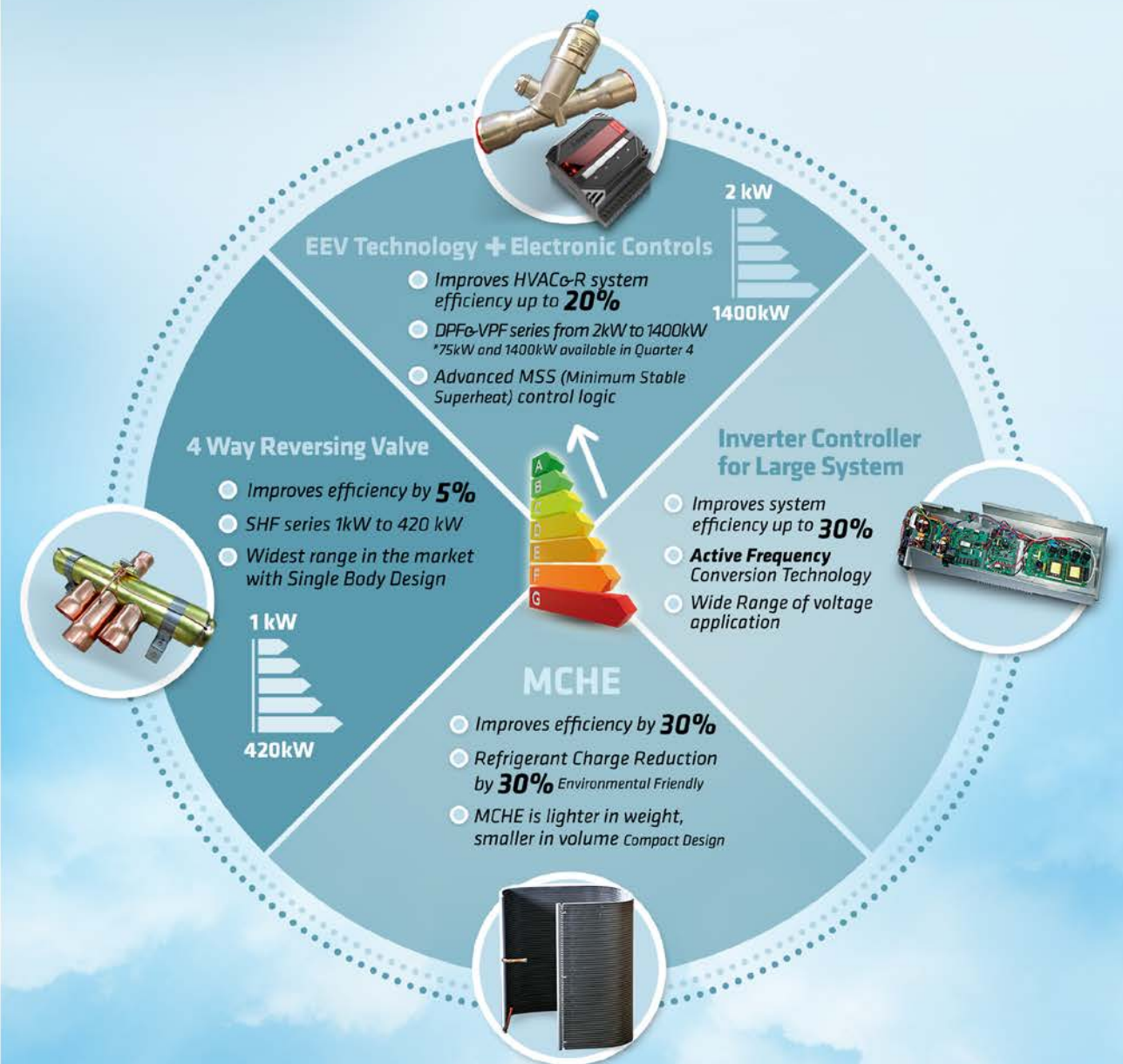
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