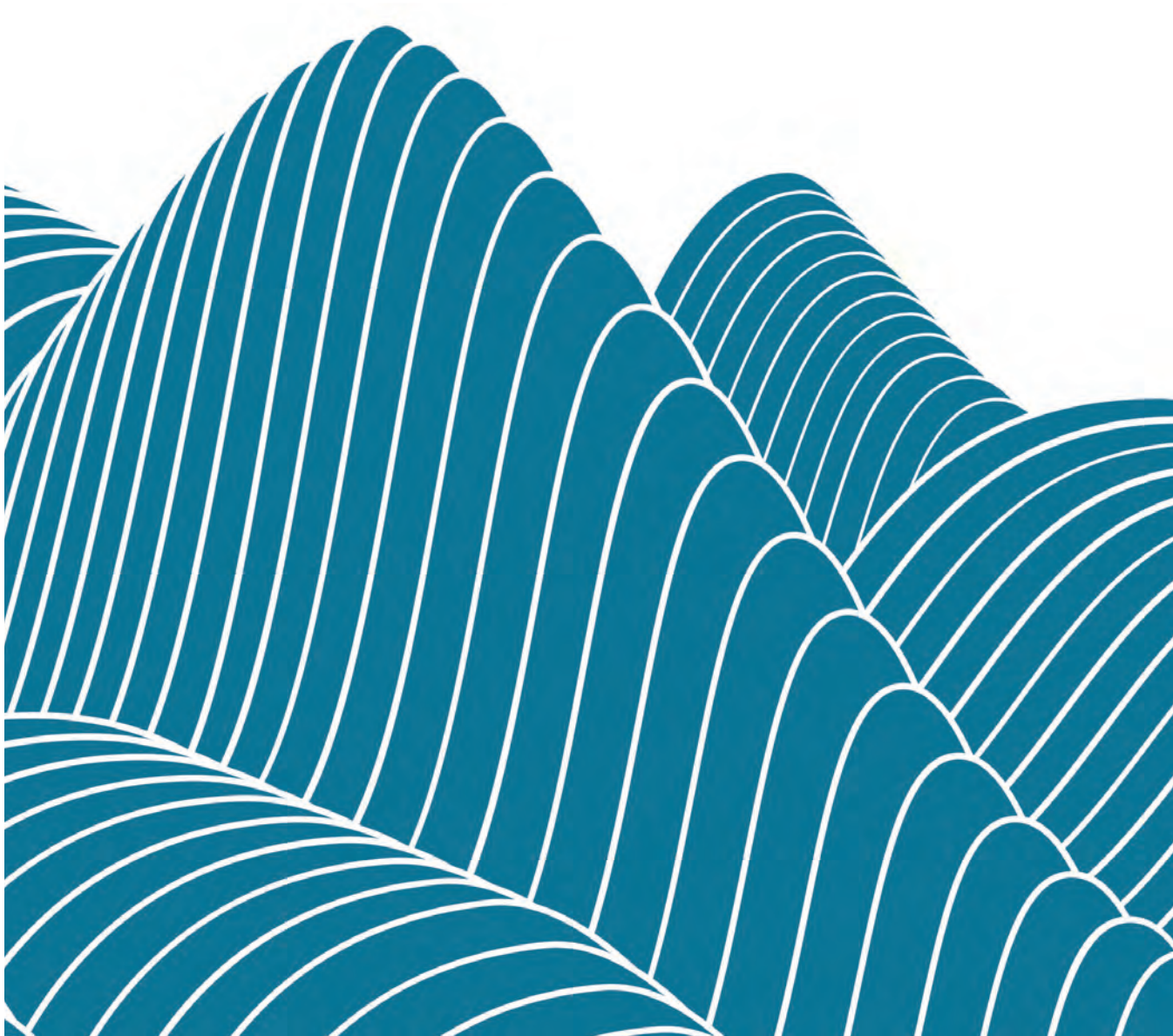


# SANHUA

## MICRO-CHANNEL HEAT EXCHANGERS

*Get more for your business*



Sanhua MCHE condensers – step forward toward ECO requirements.  
Reduce energy consumption, refrigerant charge, dimensions with Sanhua MCHE solutions.  
Optimized MCHE solution for Commercial Refrigeration Applications.

# SANHUA

*“Strive for perfection,  
Pursuit of excellence”*

Sanhua is a leading HVAC&R manufacturer of controls and components with a global footprint and 35 years of experience. Our co-operation with the largest companies in the Automotive, Appliance and HVAC&R industry makes Sanhua a leading worldwide OEM supplier providing the highest quality components at the most competitive price.

CHILLING IDEAS  
WORLDWIDE

# SUMMARY

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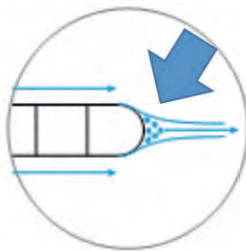
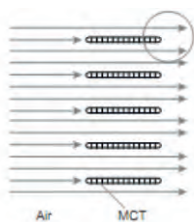
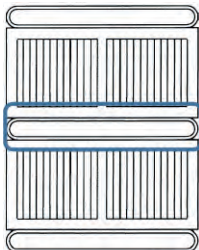
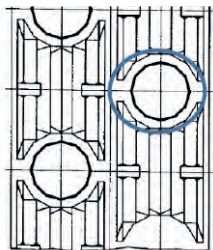
	DIMENSIONS		
	Length x Height [mm]	Depth [mm]	
Series <b>SD10</b> Condenser	330 x 300,7	16,0	08
Series <b>SD11</b> Condenser	385 x 347,7	16,0	10
Series <b>SD12</b> Condenser	460 x 432,3	16,0	12
Series <b>SD13</b> Condenser	550 x 516,9	16,0	14
Series <b>SD14</b> Condenser	780 x 770,7	16,0	16
Series <b>SD15</b> Condenser	1074 x 516,9	25,4	18
Series <b>SD16</b> Condenser	1280 x 620,3	16,0	20
Series <b>SD17</b> Condenser	1324 x 639,1	25,4	22
Series <b>SD18</b> Condenser	1074 x 1212,5	25,4	24
Series <b>SD19</b> Condenser	1274 x 1362,9	25,4	26
Series <b>SD20</b> Condenser	2000 x 1062,6	25,4	28
Series <b>SD21</b> Condenser	751 x 503,3	12,0	30
Series <b>SD22</b> Condenser	756 x 509,8	16,0	32
Series <b>SD23</b> Condenser	803 x 669,6	16,0	34
Series <b>SD24</b> Condenser	966 x 801,2	16,0	36
Series <b>SD25</b> Condenser	973 x 1196	16,0	38

	DIMENSIONS		
	Length x Height [mm]	Depth [mm]	
Series <b>SD26</b> Condenser	1544 x 707,2	16,0	40
Series <b>SD27</b> Condenser	1544 x 500,4	16,0	42
Series <b>SD28</b> Condenser	1544 x 603,8	16,0	44
Series <b>SD29</b> Condenser	1694 x 509,8	16,0	46
Series <b>SD30</b> Condenser	1544 x 810,6	16,0	48
Series <b>SD31</b> Condenser	2363 x 603,8	16,0	50
Series <b>SD32</b> Condenser	1938 x 857,6	16,0	52
Series <b>SD33</b> Condenser	1694 x 707,2	16,0	54
Series <b>SD34</b> Condenser	2363 x 904,6	16,0	56
Series <b>SD35</b> Condenser	1938 x 961	16,0	58
Series <b>SD36</b> Condenser	1938 x 754,2	16,0	60
Series <b>SD37</b> Condenser	1944 x 1064,4	20,6	62
Series <b>SD38</b> Condenser	2293 x 1008	20,6	64
Series <b>SD39</b> Condenser	2220 x 1064,4	20,6	66
Series <b>SD40</b> Condenser	1836 x 857,6	16,0	68
Series <b>SD41</b> Condenser	1818 x 1064,4	20,6	70

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## Micro-Channel Heat Exchangers - Standard Range

### BENEFITS – Comparison with Fin & Tubes technology



1. Higher Heat Transfer:  
(Based on the same footprint)
2. Higher Internal Heat Transfer Coefficient:  
tubes with small section provide higher refrigerant speed and higher turbulence besides a bigger internal surface
3. Higher External Heat Transfer Coefficient:  
the overall tubes surface touched by the air is much bigger than in T&F coils
4. Reduction on Footprint  
(Based on the same heat rejection)
5. Less Air Pressure Drops  
(Based on same heat rejection and same air speed value)
6. Smaller Internal Volume & Refrigerant Charge Reduction (up to 70%)
7. Compact dimension and limited Weight
8. No risk of galvanic corrosion  
(Coil 100% in Aluminum alloy)
9. Coil easy to recycle (100% aluminum)
10. Tubes in Long Life Alloy (LLA) for aggressive environments

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## Micro-Channel Heat Exchangers - Standard Range



### Tubes Aluminum Alloy – Benefit of Long Life Alloy

The state of the art for Aluminum Alloy used in the MCHE tubes is 3102

Sanhua offers for his Micro-Channel Heat Exchangers Standard Range a new aluminum alloy so defined Long Life Alloy (LLA)

Sanhua LLA alloy guarantees higher mechanical properties and an higher corrosion resistance

Aluminum Alloy	Si	Fe	Cu	Mn
3102	< 0.4	< 0.7	< 0.1	0.05 ~ 0.40
LLA	< 0.1	< 0.12	< 0.01	0.90 ~ 1.10

1. Long Life Alloy (LLA) is a special aluminum alloy with an higher content of Manganese (Mn) and a lower content of Copper (Cu), Silicon (Si) and Iron (Fe) than the standard 3102.



LLA



3102

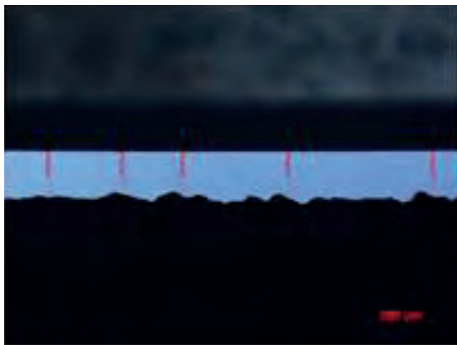
2. Long Life Alloy (LLA) has a very fine grain microstructure before and after brazing. A small grain structure increases:
  - a. the mechanical strength before but also after the brazing activity
  - b. the resistance to the inter-granular corrosion

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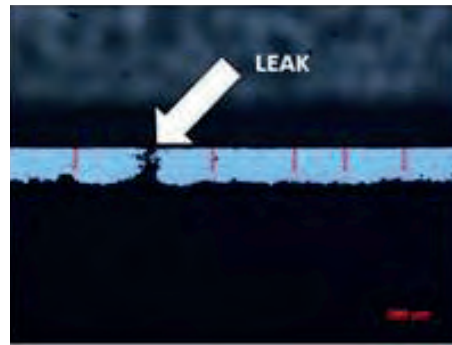
## *Micro-Channel Heat Exchangers - Standard Range*

### Long Life Alloy – Corrosion Test Results

3. Test based on ASTM G85-A3 (Acidified Synthetic Sea Water Test):  
The test verifies the mechanical resistance/characteristics of the MCHE coils in aggressive and corrosive environment:
  - a. After 700 hours coils in 3102 and LLA passed the test
  - b. After 2000 hours only coil in LLA passed the test; the coil in 3102 showed a mechanical deformation due to the internal pressure and the thinning of pipes thickness



LLA



3102

4. Test based on ASTM G85-A3 (Acidified Synthetic Sea Water Test):
  - a. After 4500 hours the coil in LLA shows tube surface still smooth without any leakage points or risks
  - b. After 4500 hours the coil in 3102 shows a sharp localized attack due to a more concentrate corrosion effect

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## Micro-Channel Heat Exchangers - Standard Range



### Common Nominal Working Conditions

The Heat Rejection data valid for all the standard coils, present in the performance table in this catalogue has been calculated according to the following Nominal Working Conditions:

Nominal Working Conditions	Metric units		
Inlet Air Temperature	°C	30	TA.in
Inlet Relative Humidity	%	40	RH
Sub-Cooling	K	5	SC
<b>Input data: (<math>\Delta T=10</math> K)</b>			
Condensing Temperature	°C	40	TC
Inlet refrigerant temperature	°C	70	
<b>Input data: (<math>\Delta T=20</math> K)</b>			
Condensing Temperature	°C	50	TC
Inlet refrigerant temperature	°C	80	
<b>Input data: (<math>\Delta T=30</math> K)</b>			
Condensing Temperature	°C	60	TC
Inlet refrigerant temperature	°C	90	

Nominal Working Conditions	Imperial units		
Inlet Air Temperature	°F	86	TA.in
Inlet Relative Humidity	%	40	RH
Sub-Cooling	°F	9	SC
<b>Input data: (<math>\Delta T=18</math> °F)</b>			
Condensing Temperature	°F	104	TC
Inlet refrigerant temperature	°F	158	
<b>Input data: (<math>\Delta T=36</math> °F)</b>			
Condensing Temperature	°F	122	TC
Inlet refrigerant temperature	°F	176	
<b>Input data: (<math>\Delta T=54</math> °F)</b>			
Condensing Temperature	°F	140	TC
Inlet refrigerant temperature	°F	194	

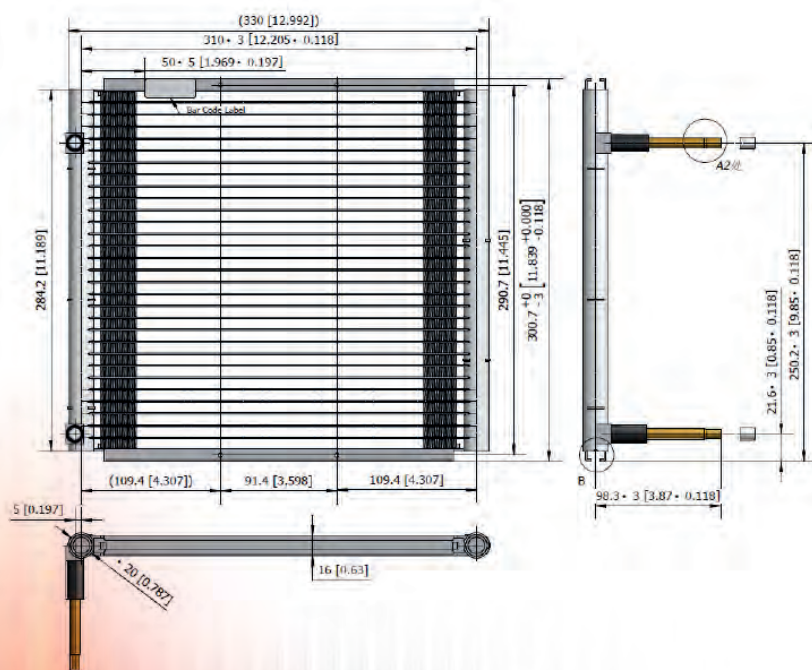
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD10 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	330	(L)
Total height	mm	300,7	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	290	(L1)
Heat exchanger height	mm	284,2	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,082418	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	6,15	(Ø IN)
Outlet connection (ID)	mm	6,15	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,174	
Coil Internal Volume	liters	0,0606	
Manifold Internal Volume	liters	0,1134	
Number of tubes		28	(-)
Number of passes		6	(-)
Pass Distribution (step 1/2/3/4/5/6)		6/6/5/5/3/3	
<b>Physical Characteristics</b>			
Max. Operating Pressure*	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	0,8	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 3.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	12,99	(L)
Total height	in	11,84	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	11,42	(L1)
Heat exchanger height	in	11,19	(H1)
Heat exchanger front surface	in <sup>2</sup>	1277	(S)
<b>Solder Connections</b>			
Inlet connection (ODM)	in	1/4"	(Ø IN)
Outlet connection (ODM)	in	1/4"	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	10,62	
Coil Internal Volume	in <sup>3</sup>	3,70	
Manifold Internal Volume	in <sup>3</sup>	6,92	
Number of tubes		28	(-)
Number of passes		6	(-)
Pass Distribution (step 1/2/3/4/5/6)		6/6/5/5/3/3	
<b>Physical Characteristics</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	1,76	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 3.3	
UL	-	UL 207	

\* **Note:** MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	273,5	14,0	0,77	0,06	1,63	0,15	2,49	0,30	0,74	0,17	1,54	0,27	2,38	0,45	0,76	0,08	1,63	0,21	2,50	0,45
1,5	410,2	24,3	1,06	0,09	2,28	0,27	3,50	0,53	1,01	0,22	2,11	0,39	3,29	0,80	1,03	0,11	2,27	0,41	3,49	0,77
2	546,9	36,0	1,31	0,11	2,85	0,41	4,39	0,77	1,24	0,27	2,68	0,61	4,07	1,18	1,27	0,14	2,83	0,59	4,35	1,10
2,5	683,7	49,0	1,54	0,14	3,37	0,54	5,20	1,02	1,43	0,31	3,14	0,76	4,77	1,51	1,57	0,22	3,33	0,77	5,13	1,43
3	820,4	63,2	1,81	0,19	3,84	0,67	5,94	1,27	1,61	0,34	3,55	0,90	5,38	1,82	1,78	0,26	3,78	0,94	5,83	1,76
3,5	957,1	78,5	2,02	0,23	4,28	0,80	6,62	1,52	1,76	0,37	3,89	1,14	5,94	2,12	1,98	0,30	4,19	1,11	6,47	2,07
4	1093,9	94,6	2,21	0,26	4,69	0,93	7,25	1,76	1,91	0,40	4,22	1,29	6,44	2,40	2,16	0,34	4,56	1,27	7,05	2,37
4,5	1230,6	111,5	2,39	0,29	5,07	1,06	7,84	2,00	2,03	0,42	4,48	1,49	6,90	2,65	2,32	0,43	4,91	1,42	7,60	2,66

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	273,5	14,0	0,48	0,06	1,37	0,15	2,26	0,28	0,76	0,09	1,57	0,15	2,42	0,25	0,77	0,08	1,65	0,24	2,52	0,45
1,5	410,2	24,3	0,65	0,08	1,93	0,25	3,14	0,56	1,04	0,12	2,21	0,25	3,37	0,46	1,05	0,11	2,30	0,42	3,51	0,78
2	546,9	36,0	0,80	0,09	2,42	0,35	3,93	0,80	1,29	0,14	2,77	0,34	4,22	0,69	1,36	0,18	2,86	0,61	4,39	1,12
2,5	683,7	49,0	0,92	0,10	2,85	0,43	4,63	1,04	1,51	0,17	3,27	0,43	4,97	0,90	1,61	0,23	3,37	0,79	5,17	1,46
3	820,4	63,2	1,02	0,11	3,23	0,59	5,26	1,28	1,71	0,19	3,71	0,58	5,65	1,11	1,83	0,27	3,82	0,96	5,88	1,79
3,5	957,1	78,5	1,12	0,12	3,58	0,69	5,84	1,51	1,88	0,21	4,12	0,69	6,28	1,31	2,03	0,31	4,24	1,14	6,52	2,12
4	1093,9	94,6	1,20	0,12	3,89	0,83	6,37	1,73	2,05	0,22	4,47	0,83	6,85	1,51	2,20	0,40	4,62	1,30	7,12	2,42
4,5	1230,6	111,5	1,27	0,13	4,19	0,94	6,86	1,95	2,20	0,24	4,82	0,93	7,38	1,69	2,37	0,45	4,97	1,46	7,66	2,71

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	161,0	0,1	2,61	0,94	5,56	2,14	8,52	4,40	2,52	2,39	5,25	3,98	8,12	6,46	2,58	1,20	5,58	3,05	8,53	6,45
295	241,4	0,1	3,62	1,30	7,78	3,97	11,95	7,70	3,44	3,18	7,21	5,72	11,25	11,62	3,52	1,63	7,75	6,01	11,91	11,14
394	321,9	0,1	4,48	1,61	9,74	5,99	15,00	11,23	4,22	3,85	9,14	8,86	13,91	17,14	4,32	2,00	9,66	8,60	14,87	16,01
492	402,4	0,2	5,24	2,08	11,51	7,87	17,76	14,84	4,90	4,42	10,71	10,97	16,28	21,91	5,36	3,18	11,37	11,17	17,51	20,81
591	482,9	0,3	6,19	2,81	13,13	9,77	20,28	18,46	5,49	4,93	12,13	12,98	18,38	26,37	6,09	3,81	12,91	13,69	19,91	25,57
689	563,4	0,3	6,90	3,27	14,63	11,67	22,59	22,03	6,03	5,38	13,27	16,55	20,28	30,74	6,76	4,40	14,30	16,10	22,09	30,09
787	643,8	0,4	7,56	3,71	16,02	13,51	24,75	25,50	6,51	5,78	14,40	18,67	21,99	34,74	7,38	4,97	15,58	18,45	24,08	34,38
886	724,3	0,4	8,17	4,14	17,30	15,32	26,76	28,96	6,95	6,14	15,29	21,61	23,55	38,40	7,91	6,19	16,76	20,66	25,95	38,58

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	161,0	0,1	1,65	0,84	4,68	2,19	7,71	4,07	2,59	1,25	5,37	2,16	8,25	3,63	2,64	1,20	5,63	3,45	8,60	6,55
295	241,4	0,1	2,23	1,09	6,59	3,67	10,74	8,08	3,57	1,69	7,56	3,66	11,52	6,67	3,60	1,63	7,84	6,12	12,00	11,34
394	321,9	0,1	2,72	1,29	8,25	5,02	13,41	11,59	4,41	2,08	9,46	4,99	14,40	10,07	4,65	2,60	9,77	8,80	14,98	16,30
492	402,4	0,2	3,13	1,45	9,73	6,30	15,81	15,10	5,16	2,41	11,17	6,29	16,98	13,12	5,48	3,28	11,50	11,40	17,67	21,23
591	482,9	0,3	3,48	1,59	11,03	8,49	17,97	18,56	5,83	2,72	12,67	8,47	19,31	16,12	6,24	3,92	13,05	13,98	20,07	25,98
689	563,4	0,3	3,81	1,70	12,24	9,99	19,94	21,90	6,43	3,00	14,07	9,94	21,44	19,01	6,92	4,54	14,47	16,48	22,28	30,69
787	643,8	0,4	4,09	1,80	13,29	12,07	21,76	25,10	6,99	3,26	15,28	11,97	23,40	21,84	7,52	5,77	15,76	18,89	24,30	35,04
886	724,3	0,4	4,35	1,88	14,31	13,59	23,44	28,22	7,50	3,50	16,46	13,45	25,21	24,53	8,09	6,46	16,97	21,22	26,17	39,31

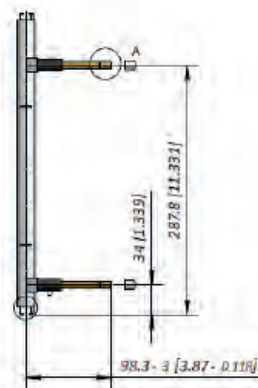
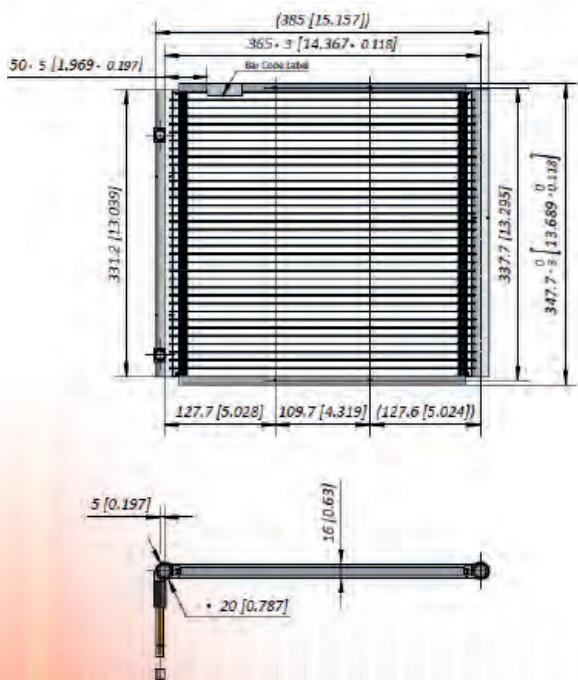
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD11 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	385	(L)
Total height	mm	347,7	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	345	(L1)
Heat exchanger height	mm	331,2	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,114264	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	6,15	(Ø IN)
Outlet connection (ID)	mm	6,15	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,219	
Coil Internal Volume	liters	0,1411	
Manifold Internal Volume	liters	0,0779	
Number of tubes		34	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2/3/4)		10/9/8/7	
<b>Physical Characteristics</b>			
Max. Operating Pressure*	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	1,0	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 3.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	15,16	(L)
Total height	in	13,69	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	13,58	(L1)
Heat exchanger height	in	13,04	(H1)
Heat exchanger front surface	in <sup>2</sup>	177,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	1/4"	(Ø IN)
Outlet connection (ID)	in	1/4"	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	13,36	
Coil Internal Volume	in <sup>3</sup>	8,61	
Manifold Internal Volume	in <sup>3</sup>	4,75	
Number of tubes		34	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2/3/4)		10/9/8/7	
<b>Physical Characteristics</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	2,20	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 3.3	
UL	-	UL 207	

\* **Note:** MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	395,2	13,6	1,09	0,04	2,29	0,08	3,59	0,17	1,05	0,11	2,22	0,19	3,37	0,24	1,08	0,06	2,27	0,10	3,60	0,25
1,5	592,8	23,8	1,50	0,06	3,26	0,14	5,04	0,29	1,44	0,15	3,05	0,26	4,76	0,44	1,47	0,08	3,26	0,23	5,03	0,43
2	790,4	35,4	1,86	0,07	4,08	0,23	6,32	0,43	1,77	0,18	3,77	0,33	5,92	0,70	1,81	0,09	4,07	0,34	6,30	0,62
2,5	988,0	48,1	2,18	0,09	4,83	0,30	7,49	0,57	2,06	0,21	4,41	0,40	6,95	0,91	2,10	0,11	4,80	0,44	7,44	0,82
3	1185,6	61,8	2,47	0,10	5,51	0,38	8,56	0,71	2,32	0,24	5,03	0,49	7,88	1,11	2,36	0,13	5,46	0,54	8,47	1,02
3,5	1383,2	76,4	2,73	0,11	6,14	0,45	9,56	0,85	2,55	0,26	5,70	0,64	8,72	1,31	2,60	0,14	6,07	0,65	9,42	1,21
4	1580,8	91,8	2,97	0,12	6,73	0,53	10,49	1,00	2,76	0,28	6,20	0,75	9,49	1,49	2,81	0,15	6,62	0,74	10,30	1,40
4,5	1778,4	108,0	3,19	0,13	7,29	0,60	11,35	1,13	2,95	0,30	6,62	0,91	10,20	1,67	3,01	0,16	7,14	0,84	11,12	1,58

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	395,2	13,6	0,65	0,04	1,97	0,10	3,18	0,14	1,08	0,06	2,26	0,10	3,42	0,13	1,10	0,06	2,32	0,11	3,63	0,25
1,5	592,8	23,8	0,93	0,05	2,72	0,14	4,52	0,31	1,49	0,08	3,12	0,14	4,86	0,25	1,51	0,08	3,29	0,24	5,07	0,43
2	790,4	35,4	1,13	0,06	3,37	0,18	5,66	0,46	1,84	0,10	3,88	0,18	6,08	0,40	1,85	0,09	4,11	0,34	6,35	0,63
2,5	988,0	48,1	1,31	0,07	3,94	0,22	6,69	0,60	2,16	0,11	4,55	0,22	7,18	0,52	2,15	0,11	4,85	0,45	7,50	0,83
3	1185,6	61,8	1,46	0,08	4,64	0,29	7,62	0,74	2,44	0,13	5,35	0,29	8,19	0,65	2,41	0,13	5,52	0,55	8,55	1,03
3,5	1383,2	76,4	1,60	0,08	5,15	0,38	8,47	0,89	2,69	0,14	5,95	0,38	9,11	0,77	2,65	0,14	6,13	0,66	9,51	1,23
4	1580,8	91,8	1,72	0,09	5,62	0,47	9,27	1,02	2,93	0,15	6,48	0,47	9,97	0,89	2,87	0,15	6,70	0,76	10,39	1,42
4,5	1778,4	108,0	1,83	0,10	6,06	0,54	10,00	1,16	3,15	0,17	6,99	0,55	10,76	1,01	3,36	0,24	7,22	0,86	11,22	1,61

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	232,6	0,1	3,72	0,62	7,82	1,10	12,25	2,42	3,60	1,62	7,57	2,71	11,52	3,45	3,69	0,81	7,76	1,47	12,29	3,57
295	348,9	0,1	5,13	0,86	11,12	2,07	17,20	4,26	4,92	2,18	10,42	3,82	16,26	6,40	5,04	1,11	11,12	3,31	17,18	6,24
394	465,2	0,1	6,36	1,08	13,92	3,32	21,59	6,24	6,05	2,65	12,89	4,85	20,20	10,13	6,18	1,37	13,90	4,87	21,51	9,06
492	581,5	0,2	7,45	1,28	16,48	4,39	25,59	8,27	7,04	3,07	15,06	5,79	23,75	13,14	7,18	1,60	16,38	6,37	25,40	11,91
591	697,8	0,2	8,43	1,46	18,82	5,47	29,25	10,34	7,91	3,45	17,19	7,15	26,93	16,10	8,07	1,82	18,64	7,88	28,94	14,78
689	814,1	0,3	9,32	1,63	20,98	6,56	32,64	12,39	8,70	3,79	19,45	9,28	29,80	18,93	8,87	2,01	20,71	9,35	32,18	17,55
787	930,4	0,4	10,14	1,79	23,00	7,63	35,81	14,44	9,43	4,10	21,17	10,88	32,43	21,62	9,60	2,19	22,62	10,77	35,18	20,28
886	1046,7	0,4	10,90	1,94	24,88	8,68	38,76	16,45	10,08	4,38	22,60	13,14	34,83	24,22	10,27	2,35	24,40	12,19	37,97	22,95

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	232,6	0,1	2,21	0,54	6,72	1,48	10,87	2,06	3,69	0,84	7,70	1,44	11,69	1,90	3,77	0,81	7,92	1,58	12,40	3,61
295	348,9	0,1	3,16	0,77	9,28	2,09	15,45	4,47	5,09	1,14	10,67	2,05	16,59	3,59	5,14	1,11	11,24	3,42	17,32	6,29
394	465,2	0,1	3,86	0,92	11,49	2,65	19,33	6,62	6,30	1,40	13,25	2,63	20,76	5,74	6,31	1,37	14,04	4,95	21,68	9,13
492	581,5	0,2	4,46	1,04	13,45	3,16	22,84	8,70	7,37	1,64	15,55	3,16	24,53	7,56	7,34	1,61	16,56	6,49	25,61	12,03
591	697,8	0,2	4,99	1,14	15,83	4,24	26,02	10,77	8,33	1,86	18,26	4,24	27,96	9,36	8,24	1,82	18,85	8,03	29,19	14,91
689	814,1	0,3	5,45	1,23	17,60	5,44	28,94	12,85	9,20	2,06	20,30	5,45	31,11	11,13	9,06	2,02	20,94	9,53	32,48	17,77
787	930,4	0,4	5,87	1,31	19,18	6,83	31,65	14,83	10,01	2,24	22,14	6,82	34,03	12,88	9,80	2,20	22,87	11,01	35,50	20,56
886	1046,7	0,4	6,26	1,40	20,69	7,79	34,17	16,78	10,75	2,41	23,86	7,93	36,75	14,59	11,48	3,42	24,67	12,45	38,30	23,29

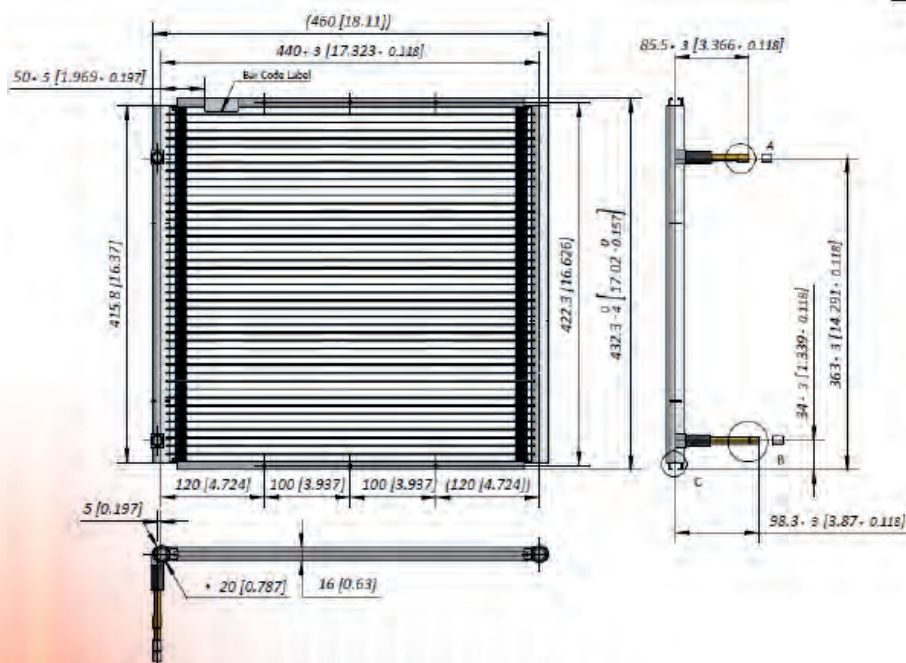
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD12 Condenser

Dimensional Characteristics		Metric units	
Total length	mm	460	(L)
Total height	mm	432,3	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	420	(L1)
Heat exchanger height	mm	415,8	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,174636	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	8,2	(Ø IN)
Outlet connection (ID)	mm	6,15	(Ø OUT)
<b>Internal Nomenclature:</b>		16-FPI23-2G	
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,3	
Coil Internal Volume	liters	0,1411	
Manifold Internal Volume	liters	0,1589	
Number of tubes		43	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2/3/4)		14/12/10/7	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	1,5	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 3.3	
UL	-	UL 207	

Dimensional Characteristics		Imperial units	
Total length	in	18,11	(L)
Total height	in	17,02	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	16,54	(L1)
Heat exchanger height	in	16,37	(H1)
Heat exchanger front surface	in <sup>2</sup>	270,7	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	5/16"	(Ø IN)
Outlet connection (ID)	in	1/4"	(Ø OUT)
<b>Internal Nomenclature:</b>		16-FPI23-2G	
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	18,31	
Coil Internal Volume	in <sup>3</sup>	8,61	
Manifold Internal Volume	in <sup>3</sup>	9,70	
Number of tubes		43	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2/3/4)		14/12/10/7	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	3,31	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 3.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	608,6	13,6	1,71	0,06	3,63	0,13	5,56	0,27	1,65	0,15	3,43	0,26	5,30	0,38	1,69	0,08	3,64	0,20	5,57	0,40
1,5	912,8	23,8	2,35	0,08	5,07	0,25	7,79	0,48	2,24	0,21	4,72	0,36	7,34	0,74	2,30	0,11	5,06	0,37	7,77	0,70
2	1217,1	35,4	2,92	0,10	6,35	0,37	9,79	0,70	2,75	0,25	5,98	0,54	9,10	1,07	2,83	0,13	6,31	0,54	9,71	1,00
2,5	1521,4	48,1	3,42	0,12	7,51	0,49	11,59	0,92	3,20	0,29	7,02	0,66	10,65	1,38	3,50	0,19	7,42	0,70	11,44	1,31
3	1825,7	61,8	4,04	0,17	8,57	0,61	13,23	1,15	3,59	0,32	7,93	0,86	12,04	1,67	3,98	0,23	8,43	0,86	13,01	1,60
3,5	2129,9	76,4	4,50	0,20	9,54	0,73	14,74	1,37	3,94	0,35	8,69	1,07	13,29	1,95	4,41	0,29	9,36	1,01	14,44	1,89
4	2434,2	91,8	4,93	0,22	10,45	0,84	16,15	1,60	4,26	0,38	9,42	1,21	14,43	2,20	4,81	0,33	10,20	1,16	15,75	2,17
4,5	2738,5	108,0	5,33	0,27	11,29	0,96	17,47	1,81	4,55	0,40	10,06	1,36	15,46	2,45	5,19	0,37	10,98	1,30	16,97	2,44

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	608,6	13,6	1,07	0,05	3,06	0,14	5,03	0,27	1,69	0,08	3,50	0,14	5,38	0,22	1,73	0,08	3,68	0,20	5,61	0,41
1,5	912,8	23,8	1,46	0,07	4,22	0,20	7,01	0,50	2,33	0,11	4,84	0,20	7,52	0,43	2,35	0,11	5,12	0,38	7,83	0,71
2	1217,1	35,4	1,77	0,08	5,39	0,30	8,76	0,72	2,89	0,13	6,18	0,30	9,40	0,63	2,89	0,13	6,38	0,55	9,79	1,02
2,5	1521,4	48,1	2,05	0,09	6,35	0,41	10,33	0,94	3,37	0,16	7,29	0,41	11,08	0,82	3,57	0,20	7,51	0,71	11,53	1,33
3	1825,7	61,8	2,29	0,10	7,22	0,50	11,74	1,16	3,81	0,18	8,30	0,50	12,61	1,01	4,07	0,23	8,53	0,88	13,12	1,63
3,5	2129,9	76,4	2,50	0,11	7,99	0,64	13,04	1,37	4,21	0,20	9,18	0,64	14,01	1,19	4,51	0,30	9,46	1,04	14,56	1,93
4	2434,2	91,8	2,68	0,12	8,70	0,76	14,24	1,58	4,58	0,21	10,00	0,75	15,31	1,37	4,92	0,34	10,31	1,19	15,89	2,21
4,5	2738,5	108,0	2,85	0,13	9,37	0,85	15,34	1,77	4,91	0,23	10,77	0,85	16,50	1,54	5,27	0,41	11,11	1,34	17,12	2,49

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	358,2	0,1	5,83	0,87	12,39	1,84	18,99	3,97	5,62	2,23	11,72	3,73	18,10	5,58	5,77	1,13	12,42	2,88	19,01	5,82
295	537,3	0,1	8,04	1,21	17,32	3,66	26,61	6,95	7,66	2,98	16,13	5,26	25,07	10,77	7,87	1,53	17,27	5,41	26,54	10,09
394	716,4	0,1	9,96	1,51	21,70	5,41	33,43	10,17	9,41	3,62	20,43	7,77	31,07	15,58	9,65	1,89	21,54	7,77	33,16	14,55
492	895,5	0,2	11,67	1,78	25,65	7,11	39,57	13,41	10,92	4,17	23,97	9,62	36,38	20,00	11,95	2,78	25,35	10,10	39,08	18,96
591	1074,5	0,2	13,80	2,45	29,27	8,85	45,18	16,67	12,27	4,66	27,07	12,50	41,11	24,24	13,59	3,31	28,79	12,42	44,44	23,26
689	1253,6	0,3	15,38	2,84	32,59	10,53	50,36	19,94	13,47	5,09	29,66	15,52	45,40	28,22	15,06	4,19	31,95	14,68	49,30	27,44
787	1432,7	0,4	16,85	3,21	35,70	12,22	55,16	23,14	14,55	5,48	32,19	17,56	49,27	31,96	16,44	4,77	34,83	16,84	53,79	31,50
886	1611,8	0,4	18,20	3,94	38,57	13,85	59,65	26,29	15,54	5,83	34,36	19,73	52,80	35,56	17,72	5,32	37,49	18,92	57,95	35,36

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	358,2	0,1	3,64	0,78	10,44	2,05	17,17	3,86	5,79	1,17	11,96	2,01	18,39	3,13	5,89	1,13	12,56	2,93	19,16	5,91
295	537,3	0,1	4,98	1,04	14,42	2,90	23,94	7,28	7,97	1,58	16,55	2,94	25,67	6,18	8,04	1,54	17,47	5,54	26,75	10,27
394	716,4	0,1	6,06	1,23	18,40	4,36	29,93	10,49	9,86	1,95	21,11	4,33	32,09	9,09	9,86	1,90	21,79	7,94	33,43	14,79
492	895,5	0,2	6,99	1,38	21,68	5,99	35,26	13,67	11,52	2,27	24,89	5,98	37,84	11,85	12,20	2,84	25,63	10,34	39,38	19,27
591	1074,5	0,2	7,81	1,51	24,67	7,27	40,10	16,82	13,02	2,56	28,35	7,24	43,06	14,59	13,88	3,38	29,12	12,71	44,79	23,69
689	1253,6	0,3	8,52	1,63	27,27	9,28	44,53	19,89	14,38	2,83	31,37	9,24	47,83	17,26	15,39	4,34	32,31	15,05	49,72	27,93
787	1432,7	0,4	9,16	1,73	29,71	11,04	48,62	22,87	15,63	3,07	34,15	10,92	52,29	19,92	16,80	4,93	35,23	17,22	54,26	32,11
886	1611,8	0,4	9,74	1,83	32,01	12,39	52,39	25,74	16,78	3,30	36,79	12,27	56,36	22,39	18,00	6,01	37,93	19,36	58,47	36,06

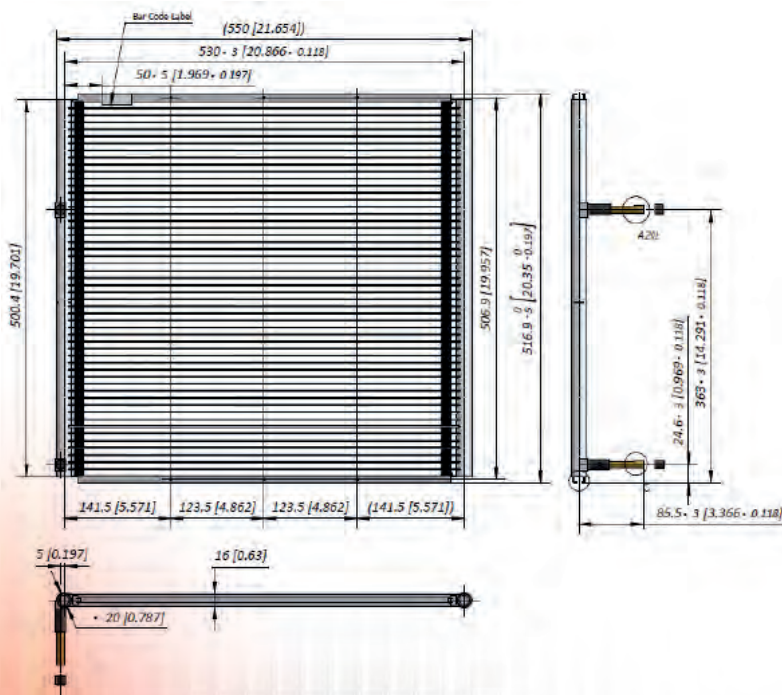
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD13 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	550	(L)
Total height	mm	516,9	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	510	(L1)
Heat exchanger height	mm	500,4	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,255204	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	9,7	(Ø IN)
Outlet connection (ID)	mm	8,2	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,4	
Coil Internal Volume	liters	0,1978	
Manifold Internal Volume	liters	0,2022	
Number of tubes		52	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		28/24	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	2,1	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 3.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	21,65	(L)
Total height	in	20,35	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	20,08	(L1)
Heat exchanger height	in	19,70	(H1)
Heat exchanger front surface	in <sup>2</sup>	395,6	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	3/8"	(Ø IN)
Outlet connection (ID)	in	5/16"	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	24,41	
Coil Internal Volume	in <sup>3</sup>	12,07	
Manifold Internal Volume	in <sup>3</sup>	12,34	
Number of tubes		52	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		28/24	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	4,63	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 3.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	894,4	13,5	2,28	0,02	5,11	0,04	8,02	0,07	2,32	0,06	4,97	0,10	7,59	0,13	2,37	0,03	5,08	0,05	8,07	0,11
1,5	1341,6	23,6	3,27	0,03	7,06	0,06	11,27	0,13	3,20	0,08	6,85	0,14	10,48	0,19	3,23	0,04	6,96	0,08	11,29	0,19
2	1788,8	35,1	4,06	0,04	8,76	0,08	14,16	0,19	3,94	0,10	8,48	0,18	13,01	0,24	3,96	0,05	9,04	0,14	14,17	0,28
2,5	2236,1	47,7	4,75	0,05	10,69	0,12	16,79	0,26	4,59	0,12	9,93	0,22	15,80	0,39	4,60	0,06	10,68	0,20	16,77	0,38
3	2683,3	61,3	5,37	0,05	12,22	0,17	19,22	0,32	5,18	0,13	11,23	0,25	17,96	0,53	5,19	0,07	12,19	0,25	19,15	0,47
3,5	3130,5	75,8	5,94	0,06	13,65	0,20	21,47	0,39	5,70	0,15	12,42	0,28	19,97	0,63	5,71	0,07	13,58	0,29	21,35	0,56
4	3577,7	91,0	6,46	0,06	14,97	0,24	23,57	0,45	6,18	0,16	13,51	0,31	21,83	0,73	6,19	0,08	14,87	0,34	23,40	0,65
4,5	4024,9	107,1	6,95	0,07	16,21	0,27	25,55	0,52	6,63	0,17	14,52	0,34	23,57	0,83	6,62	0,09	16,08	0,39	25,33	0,75

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	894,4	13,5	1,43	0,02	4,39	0,06	7,15	0,08	2,20	0,03	5,05	0,05	7,69	0,07	2,43	0,03	5,13	0,05	8,14	0,11
1,5	1341,6	23,6	1,84	0,03	6,05	0,08	9,90	0,11	3,25	0,04	6,98	0,08	10,66	0,10	3,31	0,04	7,01	0,08	11,39	0,20
2	1788,8	35,1	2,46	0,03	7,49	0,10	12,67	0,19	4,02	0,05	8,67	0,10	13,27	0,14	4,06	0,05	9,15	0,15	14,29	0,29
2,5	2236,1	47,7	2,84	0,04	8,78	0,12	14,99	0,28	4,71	0,06	10,18	0,12	16,11	0,22	4,71	0,06	10,81	0,20	16,92	0,38
3	2683,3	61,3	3,18	0,04	9,95	0,14	17,12	0,34	5,33	0,07	11,55	0,14	18,39	0,30	5,30	0,07	12,34	0,25	19,32	0,48
3,5	3130,5	75,8	3,48	0,05	11,01	0,15	19,09	0,41	5,89	0,08	12,81	0,15	20,52	0,36	5,82	0,07	13,74	0,30	21,54	0,57
4	3577,7	91,0	3,75	0,05	11,99	0,17	20,93	0,48	6,41	0,08	13,96	0,17	22,50	0,41	6,30	0,08	15,05	0,35	23,63	0,67
4,5	4024,9	107,1	4,00	0,05	12,90	0,18	22,65	0,54	6,89	0,09	15,04	0,19	24,36	0,47	6,74	0,09	16,28	0,40	25,55	0,76

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	526,4	0,1	7,80	0,26	17,45	0,58	27,39	1,00	7,92	0,87	16,96	1,47	25,92	1,86	8,11	0,43	17,36	0,78	27,56	1,60
295	789,7	0,1	11,18	0,45	24,12	0,86	38,47	1,91	10,92	1,20	23,38	2,08	35,79	2,72	11,04	0,59	23,78	1,14	38,57	2,81
394	1052,9	0,1	13,85	0,57	29,93	1,12	48,37	2,81	13,45	1,46	28,96	2,63	44,44	3,55	13,54	0,73	30,87	1,97	48,39	4,11
492	1316,1	0,2	16,21	0,67	36,52	1,78	57,35	3,74	15,68	1,70	33,90	3,14	53,97	5,61	15,72	0,85	36,49	2,86	57,27	5,45
591	1579,3	0,2	18,34	0,77	41,74	2,45	65,62	4,69	17,67	1,91	38,34	3,62	61,32	7,70	17,74	0,97	41,63	3,56	65,40	6,80
689	1842,5	0,3	20,27	0,85	46,60	2,95	73,31	5,64	19,48	2,10	42,40	4,08	68,20	9,17	19,51	1,07	46,37	4,26	72,93	8,17
787	2105,7	0,4	22,07	0,94	51,12	3,43	80,49	6,60	21,12	2,28	46,14	4,51	74,56	10,61	21,13	1,17	50,79	4,96	79,90	9,50
886	2369,0	0,4	23,72	1,01	55,38	3,92	87,26	7,55	22,64	2,45	49,58	4,91	80,49	12,02	22,61	1,26	54,91	5,64	86,52	10,87

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	526,4	0,1	4,87	0,30	15,00	0,80	24,43	1,11	7,51	0,39	17,23	0,78	26,27	1,02	8,30	0,43	17,50	0,76	27,80	1,63
295	789,7	0,1	6,29	0,36	20,66	1,12	33,79	1,63	11,10	0,61	23,83	1,11	36,42	1,50	11,30	0,59	23,95	1,12	38,91	2,86
394	1052,9	0,1	8,39	0,50	25,59	1,43	43,27	2,72	13,74	0,75	29,62	1,41	45,33	1,97	13,85	0,73	31,24	2,21	48,80	4,18
492	1316,1	0,2	9,70	0,57	29,99	1,71	51,21	3,99	16,08	0,88	34,77	1,70	55,04	3,13	16,10	0,85	36,93	2,93	57,80	5,55
591	1579,3	0,2	10,85	0,63	33,98	1,97	58,47	4,98	18,19	0,99	39,44	1,96	62,81	4,31	18,08	0,97	42,15	3,65	65,99	6,92
689	1842,5	0,3	11,88	0,69	37,61	2,22	65,21	5,97	20,11	1,10	43,74	2,22	70,07	5,16	19,87	1,07	46,93	4,37	73,57	8,31
787	2105,7	0,4	12,81	0,73	40,93	2,44	71,49	6,94	21,88	1,20	47,69	2,46	76,83	6,01	21,51	1,17	51,41	5,08	80,69	9,68
886	2369,0	0,4	13,65	0,77	44,07	2,67	77,35	7,90	23,53	1,29	51,37	2,69	83,18	6,86	23,01	1,26	55,59	5,78	87,27	11,04

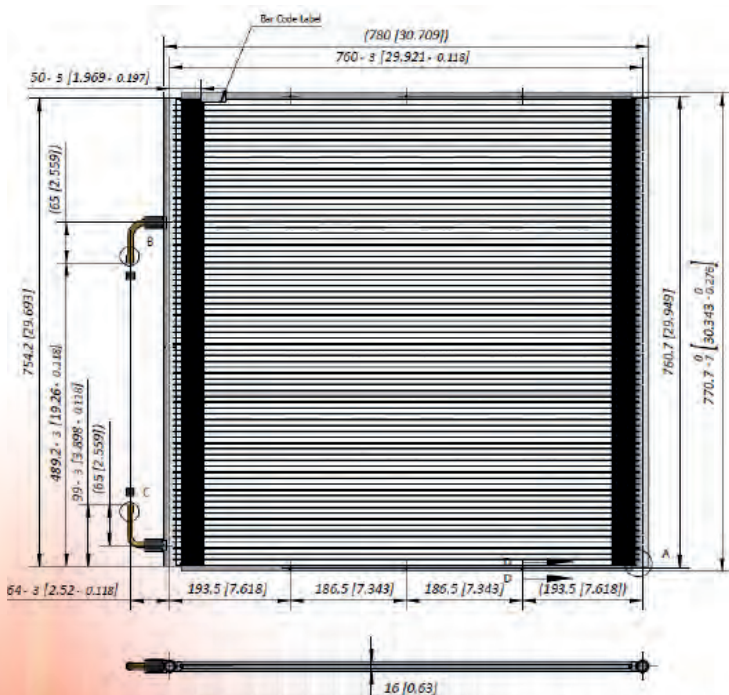
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD14 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	780	(L)
Total height	mm	770,7	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	740	(L1)
Heat exchanger height	mm	754,2	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,558108	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	9,7	(Ø IN)
Outlet connection (ID)	mm	8,2	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,733	
Coil Internal Volume	liters	0,4361	
Manifold Internal Volume	liters	0,2969	
Number of tubes		79	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		42/37	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	4,4	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 3.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	30,71	(L)
Total height	in	30,34	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	29,13	(L1)
Heat exchanger height	in	29,69	(H1)
Heat exchanger front surface	in <sup>2</sup>	865,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	3/8"	(Ø IN)
Outlet connection (ID)	in	5/16"	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	44,73	
Coil Internal Volume	in <sup>3</sup>	26,61	
Manifold Internal Volume	in <sup>3</sup>	18,12	
Number of tubes		79	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		42/37	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	9,70	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 3.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1972,8	13,3	5,54	0,05	11,54	0,10	18,00	0,21	5,33	0,13	11,12	0,23	16,90	0,30	5,48	0,07	11,44	0,13	18,03	0,31
1,5	2959,3	23,3	7,64	0,07	16,37	0,18	25,25	0,37	7,27	0,18	15,29	0,33	23,77	0,55	7,48	0,10	16,33	0,29	25,17	0,54
2	3945,7	34,6	9,46	0,09	20,51	0,29	31,68	0,54	8,93	0,22	18,86	0,42	29,43	0,87	9,17	0,12	20,37	0,42	31,46	0,78
2,5	4932,1	47,1	11,08	0,11	24,25	0,38	37,53	0,71	10,36	0,26	22,00	0,50	34,47	1,13	10,66	0,14	23,99	0,55	37,10	1,02
3	5918,5	60,5	12,53	0,13	27,67	0,48	42,85	0,89	11,63	0,29	24,77	0,58	38,95	1,37	11,98	0,16	27,22	0,68	42,17	1,26
3,5	6904,9	74,8	13,86	0,14	30,82	0,57	47,77	1,07	12,78	0,32	27,85	0,80	42,97	1,61	13,17	0,18	30,22	0,80	46,81	1,49
4	7891,4	89,8	15,08	0,16	33,75	0,66	52,33	1,24	13,80	0,35	30,23	1,00	46,66	1,84	14,25	0,20	32,95	0,93	51,09	1,72
4,5	8877,8	105,6	16,19	0,17	36,48	0,76	56,60	1,41	14,74	0,37	32,29	1,14	50,00	2,05	15,23	0,21	35,47	1,04	55,02	1,94

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1972,8	13,3	3,52	0,05	9,92	0,13	16,02	0,18	5,48	0,07	11,36	0,12	17,20	0,16	5,60	0,07	11,52	0,13	18,17	0,31
1,5	2959,3	23,3	4,76	0,07	13,66	0,18	22,67	0,40	7,55	0,10	15,71	0,18	24,33	0,31	7,63	0,10	16,51	0,30	25,37	0,54
2	3945,7	34,6	5,79	0,08	16,96	0,23	28,33	0,58	9,33	0,12	19,52	0,23	30,40	0,50	9,36	0,12	20,60	0,43	31,72	0,78
2,5	4932,1	47,1	6,69	0,09	19,86	0,28	33,41	0,76	10,92	0,14	22,89	0,28	35,86	0,66	10,88	0,14	24,25	0,56	37,39	1,03
3	5918,5	60,5	7,46	0,10	22,45	0,33	38,01	0,93	12,33	0,16	26,21	0,38	40,82	0,81	12,23	0,16	27,55	0,69	42,55	1,27
3,5	6904,9	74,8	8,17	0,11	25,66	0,53	42,22	1,11	13,62	0,18	29,53	0,53	45,35	0,96	13,43	0,18	30,55	0,82	47,22	1,51
4	7891,4	89,8	8,79	0,11	28,00	0,62	46,09	1,28	14,80	0,19	32,23	0,61	49,53	1,11	14,53	0,20	33,32	0,94	51,55	1,74
4,5	8877,8	105,6	9,36	0,12	30,16	0,70	49,69	1,45	15,89	0,21	34,74	0,69	53,38	1,25	16,89	0,30	35,87	1,06	55,52	1,97

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1161,2	0,1	18,92	0,76	39,43	1,39	61,48	3,02	18,22	1,94	37,99	3,30	57,72	4,31	18,72	0,99	39,07	1,86	61,59	4,45
295	1741,8	0,1	26,10	1,07	55,90	2,62	86,25	5,33	24,84	2,63	52,21	4,73	81,19	8,00	25,53	1,38	55,77	4,23	85,97	7,76
394	2322,3	0,1	32,32	1,35	70,03	4,22	108,20	7,78	30,48	3,23	64,40	6,06	100,50	12,64	31,33	1,72	69,56	6,09	107,43	11,24
492	2902,9	0,2	37,83	1,61	82,82	5,58	128,18	10,34	35,38	3,76	75,14	7,30	117,71	16,36	36,41	2,04	81,94	8,00	126,69	14,75
591	3483,5	0,2	42,81	1,85	94,49	6,93	146,33	12,89	39,72	4,23	84,59	8,42	133,01	19,92	40,90	2,32	92,97	9,84	144,03	18,27
689	4064,1	0,3	47,34	2,08	105,25	8,29	163,16	15,47	43,63	4,67	95,13	11,56	146,74	23,30	44,96	2,59	103,22	11,67	159,86	21,62
787	4644,7	0,4	51,49	2,30	115,25	9,63	178,70	17,99	47,13	5,06	103,25	14,51	159,34	26,64	48,65	2,83	112,52	13,43	174,47	24,95
886	5225,3	0,4	55,29	2,50	124,59	10,95	193,31	20,50	50,35	5,42	110,29	16,53	170,77	29,73	52,01	3,06	121,13	15,13	187,91	28,08

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1161,2	0,1	12,01	0,72	33,88	1,82	54,72	2,61	18,73	1,01	38,80	1,77	58,73	2,38	19,11	0,99	39,35	1,84	62,05	4,49
295	1741,8	0,1	16,24	0,96	46,66	2,60	77,41	5,79	25,77	1,39	53,67	2,56	83,10	4,51	26,06	1,38	56,37	4,29	86,65	7,84
394	2322,3	0,1	19,78	1,14	57,93	3,35	96,77	8,36	31,87	1,72	66,65	3,32	103,82	7,25	31,97	1,73	70,35	6,19	108,31	11,37
492	2902,9	0,2	22,85	1,30	67,82	4,05	114,12	10,97	37,28	2,03	78,19	4,03	122,48	9,50	37,16	2,05	82,83	8,11	127,70	14,93
591	3483,5	0,2	25,49	1,43	76,66	4,84	129,83	13,55	42,12	2,31	89,51	5,56	139,39	11,74	41,76	2,34	94,10	10,01	145,31	18,46
689	4064,1	0,3	27,90	1,56	87,63	7,76	144,20	16,09	46,52	2,57	100,86	7,65	154,87	13,95	45,87	2,60	104,33	11,85	161,28	21,91
787	4644,7	0,4	30,01	1,66	95,61	8,95	157,42	18,55	50,54	2,80	110,07	8,83	169,14	16,11	49,61	2,85	113,79	13,64	176,06	25,31
886	5225,3	0,4	31,97	1,76	102,99	10,11	169,69	20,96	54,26	3,03	118,64	9,97	182,30	18,13	57,68	4,34	122,50	15,38	189,62	28,56

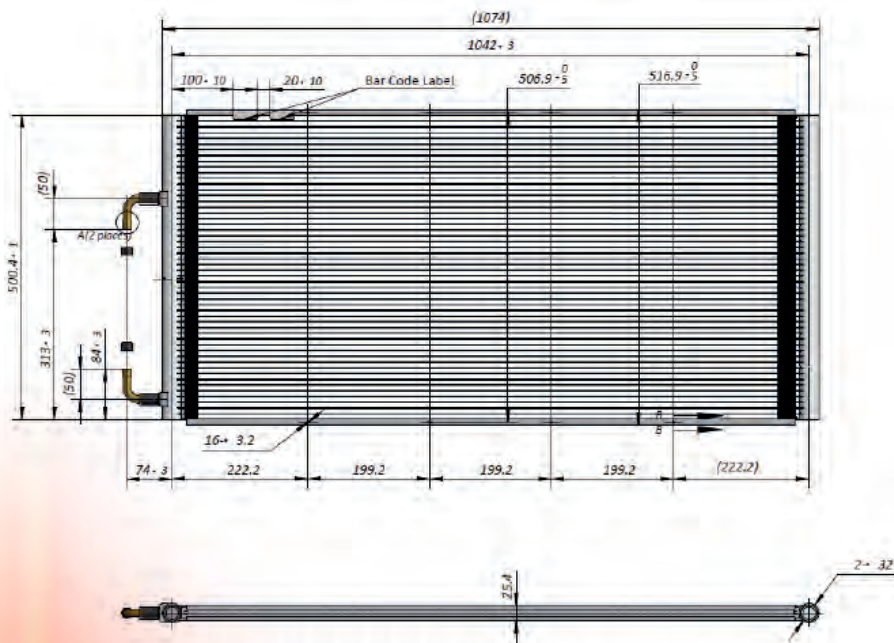
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD15 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1074	(L)
Total height	mm	516,9	(H)
Manifold diameter	mm	32	(Ø D)
Heat exchanger length	mm	1010	(L1)
Heat exchanger height	mm	500,4	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,505404	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,9	(Ø IN)
Outlet connection (ID)	mm	12,9	(Ø OUT)
<b>Internal Nomenclature:</b>	25.4-FPI23-2G		
Coil Depth	mm	25,4	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,152	
Coil Internal Volume	liters	0,6417	
Manifold Internal Volume	liters	0,5103	
Number of tubes		52	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		28/24	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	6,4	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat. I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	42,28	(L)
Total height	in	20,35	(H)
Manifold diameter	in	1,26	(Ø D)
Heat exchanger length	in	39,76	(L1)
Heat exchanger height	in	19,70	(H1)
Heat exchanger front surface	in <sup>2</sup>	783,4	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	1/2"	(Ø IN)
Outlet connection (ID)	in	1/2"	(Ø OUT)
<b>Internal Nomenclature:</b>	25.4-FPI23-2G		
Coil Depth	in	1,00	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	70,30	
Coil Internal Volume	in <sup>3</sup>	39,16	
Manifold Internal Volume	in <sup>3</sup>	31,14	
Number of tubes		52	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		28/24	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	14,11	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat. I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1788,8	18,2	5,60	0,07	11,47	0,12	17,60	0,24	5,38	0,17	11,02	0,28	16,67	0,36	5,58	0,09	11,43	0,16	17,65	0,35
1,5	2683,3	30,7	7,97	0,10	16,61	0,22	25,36	0,44	7,54	0,24	15,59	0,41	23,77	0,66	7,86	0,13	16,57	0,35	25,27	0,64
2	3577,7	45,4	10,10	0,12	21,23	0,36	32,47	0,66	9,44	0,30	19,63	0,54	30,10	1,07	9,88	0,16	21,07	0,53	32,19	0,95
2,5	4472,1	62,2	12,05	0,15	25,50	0,49	39,05	0,89	11,12	0,35	23,24	0,66	35,69	1,41	11,69	0,19	25,15	0,70	38,49	1,27
3	5366,5	81,2	13,83	0,18	29,46	0,63	45,14	1,14	12,63	0,40	26,50	0,78	40,73	1,74	13,33	0,23	28,89	0,88	44,26	1,60
3,5	6260,9	102,4	15,48	0,20	33,14	0,76	50,83	1,39	13,99	0,45	29,73	1,05	45,23	2,06	14,83	0,26	32,33	1,06	49,55	1,91
4	7155,4	125,7	17,03	0,23	36,59	0,89	56,16	1,64	15,23	0,49	32,67	1,24	49,38	2,35	16,20	0,28	35,50	1,23	54,48	2,24
4,5	8049,8	151,2	18,46	0,25	39,83	1,03	61,19	1,89	16,37	0,52	34,63	1,50	53,14	2,64	18,48	0,41	38,46	1,39	59,02	2,54

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1788,8	18,2	3,65	0,07	9,89	0,16	15,84	0,22	5,53	0,09	11,26	0,15	16,95	0,20	5,69	0,09	11,54	0,16	17,79	0,35
1,5	2683,3	30,7	5,10	0,09	14,06	0,23	22,85	0,48	7,84	0,12	16,05	0,22	24,46	0,37	8,02	0,13	16,75	0,36	25,47	0,64
2	3577,7	45,4	6,36	0,11	17,82	0,30	29,11	0,71	9,91	0,16	20,37	0,30	31,16	0,62	10,09	0,16	21,30	0,54	32,44	0,96
2,5	4472,1	62,2	7,46	0,13	21,20	0,37	34,86	0,95	11,78	0,19	24,29	0,37	37,30	0,83	11,94	0,20	25,44	0,72	38,83	1,29
3	5366,5	81,2	8,43	0,14	24,65	0,53	40,11	1,20	13,49	0,22	28,20	0,52	42,94	1,04	13,61	0,23	29,23	0,90	44,63	1,62
3,5	6260,9	102,4	9,33	0,15	27,83	0,66	44,95	1,45	15,07	0,25	31,86	0,64	48,13	1,25	15,15	0,26	32,70	1,08	49,99	1,95
4	7155,4	125,7	10,13	0,17	30,40	0,84	49,42	1,68	16,53	0,27	34,80	0,81	52,96	1,45	17,10	0,35	35,89	1,25	54,96	2,27
4,5	8049,8	151,2	10,87	0,18	32,94	0,95	53,57	1,92	17,88	0,30	37,73	0,93	57,43	1,65	18,95	0,43	38,91	1,43	59,52	2,57

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1052,9	0,1	19,14	0,96	39,19	1,68	60,10	3,45	18,36	2,49	37,65	4,07	56,93	5,21	19,05	1,26	39,04	2,28	60,28	5,08
295	1579,3	0,1	27,22	1,39	56,72	3,20	86,60	6,35	25,75	3,46	53,25	6,01	81,17	9,54	26,84	1,82	56,59	5,14	86,29	9,22
394	2105,7	0,2	34,50	1,80	72,52	5,28	110,88	9,57	32,23	4,33	67,05	7,85	102,79	15,54	33,74	2,34	71,94	7,65	109,92	13,76
492	2632,2	0,2	41,15	2,20	87,09	7,16	133,35	12,97	37,97	5,11	79,36	9,61	121,90	20,49	39,93	2,82	85,89	10,22	131,45	18,46
591	3158,6	0,3	47,23	2,57	100,59	9,07	154,17	16,54	43,13	5,82	90,50	11,26	139,11	25,26	45,53	3,28	98,68	12,81	151,17	23,14
689	3685,1	0,4	52,87	2,93	113,19	11,03	173,58	20,13	47,77	6,46	101,52	15,24	154,48	29,85	50,64	3,70	110,42	15,38	169,23	27,75
787	4211,5	0,5	58,15	3,28	124,97	12,97	191,79	23,78	52,00	7,05	111,56	17,97	168,63	34,13	55,34	4,10	121,24	17,85	186,04	32,42
886	4737,9	0,6	63,06	3,61	136,02	14,90	208,98	27,40	55,90	7,61	118,25	21,79	181,49	38,26	63,11	5,95	131,33	20,22	201,57	36,78

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1052,9	0,1	12,48	0,95	33,78	2,26	54,10	3,14	18,88	1,28	38,45	2,16	57,88	2,87	19,45	1,26	39,42	2,26	60,75	5,13
295	1579,3	0,1	17,42	1,30	48,01	3,34	78,02	6,94	26,77	1,81	54,81	3,23	83,55	5,44	27,39	1,82	57,19	5,23	86,97	9,33
394	2105,7	0,2	21,71	1,58	60,85	4,39	99,43	10,35	33,84	2,29	69,55	4,28	106,43	8,94	34,45	2,35	72,74	7,78	110,80	13,91
492	2632,2	0,2	25,49	1,83	72,40	5,40	119,07	13,79	40,23	2,75	82,95	5,30	127,39	11,99	40,76	2,84	86,89	10,41	132,60	18,72
591	3158,6	0,3	28,79	2,04	84,18	7,66	137,00	17,42	46,06	3,17	96,29	7,52	146,65	15,07	46,49	3,31	99,83	13,07	152,40	23,49
689	3685,1	0,4	31,86	2,24	95,03	9,58	153,51	20,96	51,47	3,57	108,79	9,28	164,39	18,12	51,73	3,74	111,67	15,65	170,72	28,22
787	4211,5	0,5	34,58	2,42	103,84	12,16	168,77	24,43	56,44	3,95	118,86	11,80	180,87	21,05	58,39	5,06	122,58	18,18	187,71	32,92
886	4737,9	0,6	37,12	2,57	112,50	13,82	182,95	27,80	61,06	4,30	128,84	13,44	196,12	23,97	64,71	6,21	132,89	20,72	203,28	37,32

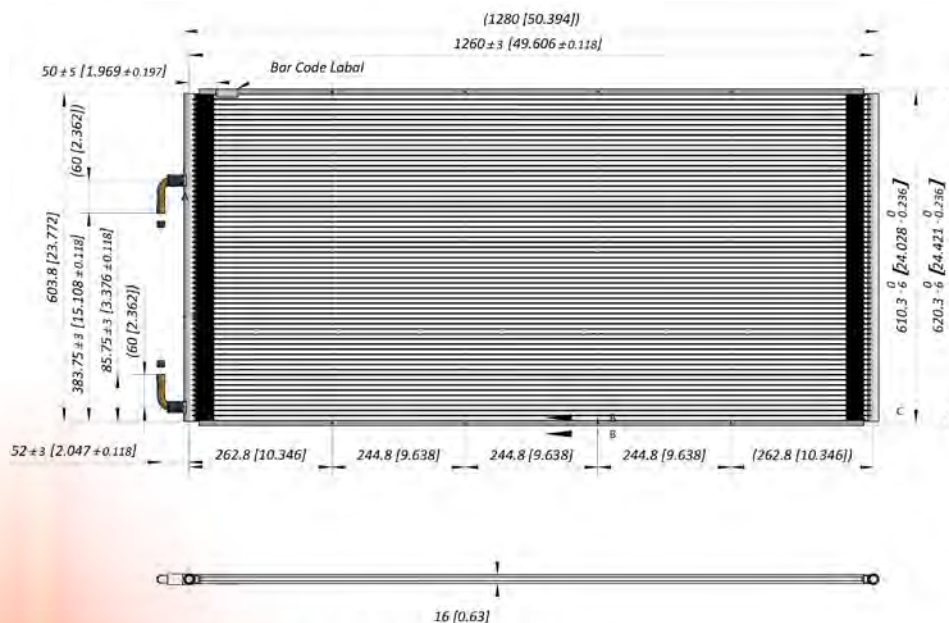
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD16 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1280	(L)
Total height	mm	620,3	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1240	(L1)
Heat exchanger height	mm	603,8	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,748712	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,9	(Ø IN)
Outlet connection (ID)	mm	12,9	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,809	
Coil Internal Volume	liters	0,5827	
Manifold Internal Volume	liters	0,2263	
Number of tubes		63	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		43/20	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	5,9	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 3.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	50,39	(L)
Total height	in	24,42	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	48,82	(L1)
Heat exchanger height	in	23,77	(H1)
Heat exchanger front surface	in <sup>2</sup>	1160,5	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	1/2"	(Ø IN)
Outlet connection (ID)	in	1/2"	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	49,37	
Coil Internal Volume	in <sup>3</sup>	35,56	
Manifold Internal Volume	in <sup>3</sup>	13,81	
Number of tubes		63	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		43/20	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	13,00	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 3.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2658,1	13,8	7,66	0,13	16,00	0,42	24,35	0,82	7,21	0,32	15,04	0,72	22,91	1,18	7,54	0,17	15,91	0,64	24,20	1,17
1,5	3987,2	23,8	10,72	0,25	22,29	0,77	34,00	1,42	9,75	0,43	20,57	1,13	31,14	2,03	10,63	0,34	21,96	1,08	33,47	1,96
2	5316,3	35,1	13,45	0,35	27,78	1,10	42,46	2,03	11,85	0,51	25,20	1,50	38,08	2,73	13,16	0,47	27,12	1,49	41,44	2,72
2,5	6645,3	47,5	15,84	0,45	32,68	1,42	49,98	2,63	13,65	0,58	29,20	1,81	43,99	3,33	15,39	0,59	31,65	1,88	48,37	3,41
3	7974,4	60,8	18,00	0,54	37,09	1,73	56,75	3,21	15,21	0,64	32,19	2,17	49,15	3,84	17,36	0,70	35,60	2,24	54,52	4,04
3,5	9303,4	74,9	19,98	0,63	41,09	2,04	62,93	3,76	16,57	0,69	34,89	2,49	53,62	4,29	19,02	0,83	39,14	2,57	60,07	4,62
4	10632,5	89,7	21,81	0,71	44,77	2,33	68,64	4,28	17,83	0,88	37,40	2,71	57,62	4,69	20,44	0,97	42,34	2,87	65,04	5,14
4,5	11961,6	105,2	23,27	0,86	48,16	2,60	73,85	4,76	19,34	1,03	39,66	2,91	61,23	5,04	21,83	1,07	45,24	3,15	69,60	5,61

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2658,1	13,8	4,88	0,11	13,66	0,42	21,94	0,85	7,55	0,17	15,56	0,41	23,53	0,69	7,69	0,17	16,07	0,66	24,39	1,19
1,5	3987,2	23,8	6,55	0,15	18,91	0,67	30,37	1,43	10,36	0,24	21,58	0,67	32,52	1,24	10,87	0,36	22,19	1,10	33,75	2,00
2	5316,3	35,1	7,92	0,17	23,46	0,92	37,62	2,00	12,78	0,29	26,79	0,91	40,35	1,73	13,47	0,49	27,42	1,52	41,76	2,75
2,5	6645,3	47,5	9,05	0,19	27,19	1,25	43,95	2,53	14,89	0,34	31,11	1,24	47,19	2,20	15,74	0,61	31,98	1,93	48,79	3,47
3	7974,4	60,8	10,02	0,20	30,61	1,49	49,57	3,03	16,98	0,49	35,06	1,48	53,20	2,64	17,77	0,73	36,05	2,30	55,00	4,12
3,5	9303,4	74,9	10,87	0,21	33,67	1,72	54,60	3,49	18,95	0,58	38,60	1,71	58,72	3,03	19,35	0,91	39,61	2,63	60,60	4,71
4	10632,5	89,7	11,66	0,22	36,42	1,93	59,13	3,89	20,57	0,65	41,86	1,92	63,67	3,40	20,93	1,02	42,85	2,94	65,64	5,24
4,5	11961,6	105,2	12,32	0,23	38,91	2,12	63,27	4,28	22,06	0,72	44,79	2,12	68,16	3,73	22,37	1,12	45,82	3,24	70,25	5,73

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1564,5	0,1	26,16	1,95	54,65	6,07	83,16	11,94	24,62	4,69	51,36	10,49	78,23	17,10	25,73	2,48	54,32	9,32	82,65	17,04
295	2346,8	0,1	36,63	3,58	76,13	11,21	116,11	20,60	33,28	6,20	70,26	16,37	106,34	29,41	36,32	5,00	75,00	15,63	114,31	28,38
394	3129,0	0,1	45,95	5,09	94,87	15,89	145,02	29,41	40,49	7,42	86,05	21,69	130,06	39,54	44,95	6,84	92,62	21,65	141,51	39,45
492	3911,3	0,2	54,11	6,48	111,62	20,61	170,70	38,12	46,62	8,43	99,74	26,19	150,25	48,31	52,54	8,57	108,10	27,23	165,21	49,48
591	4693,5	0,2	61,48	7,82	126,68	25,16	193,82	46,50	51,94	9,28	109,94	31,47	167,85	55,69	59,29	10,17	121,57	32,54	186,20	58,65
689	5475,8	0,3	68,24	9,11	140,37	29,54	214,93	54,57	56,59	9,99	119,15	36,05	183,11	62,24	64,96	12,05	133,67	37,33	205,16	66,93
787	6258,1	0,4	74,48	10,37	152,91	33,72	234,43	62,09	60,90	12,71	127,73	39,23	196,78	68,05	69,80	14,05	144,58	41,61	222,13	74,55
886	7040,3	0,4	79,45	12,51	164,46	37,74	252,20	68,98	66,06	14,92	135,46	42,19	209,11	73,09	74,56	15,46	154,50	45,66	237,71	81,38

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1564,5	0,1	16,67	1,65	46,64	6,06	74,93	12,37	25,78	2,53	53,14	5,97	80,36	10,00	26,25	2,49	54,89	9,53	83,29	17,32
295	2346,8	0,1	22,37	2,10	64,58	9,76	103,72	20,74	35,39	3,43	73,70	9,66	111,07	17,96	37,12	5,21	75,77	15,89	115,25	28,95
394	3129,0	0,1	27,04	2,45	80,11	13,32	128,48	28,98	43,64	4,21	91,50	13,22	137,81	25,12	45,99	7,13	93,64	22,09	142,62	39,95
492	3911,3	0,2	30,89	2,69	92,86	18,14	150,11	36,74	50,86	4,89	106,24	17,93	161,16	31,91	53,75	8,92	109,22	27,94	166,63	50,37
591	4693,5	0,2	34,23	2,92	104,53	21,64	169,29	43,89	58,00	7,07	119,75	21,48	181,69	38,36	60,69	10,60	123,13	33,37	187,82	59,80
689	5475,8	0,3	37,12	3,09	114,98	24,97	186,46	50,67	64,70	8,44	131,83	24,75	200,53	43,94	66,08	13,15	135,27	38,21	206,97	68,29
787	6258,1	0,4	39,81	3,24	124,39	28,06	201,95	56,48	70,25	9,47	142,96	27,90	217,46	49,30	71,47	14,78	146,33	42,68	224,18	76,07
886	7040,3	0,4	42,08	3,36	132,90	30,82	216,07	62,12	75,34	10,43	152,97	30,72	232,79	54,09	76,39	16,25	156,49	46,92	239,92	83,04

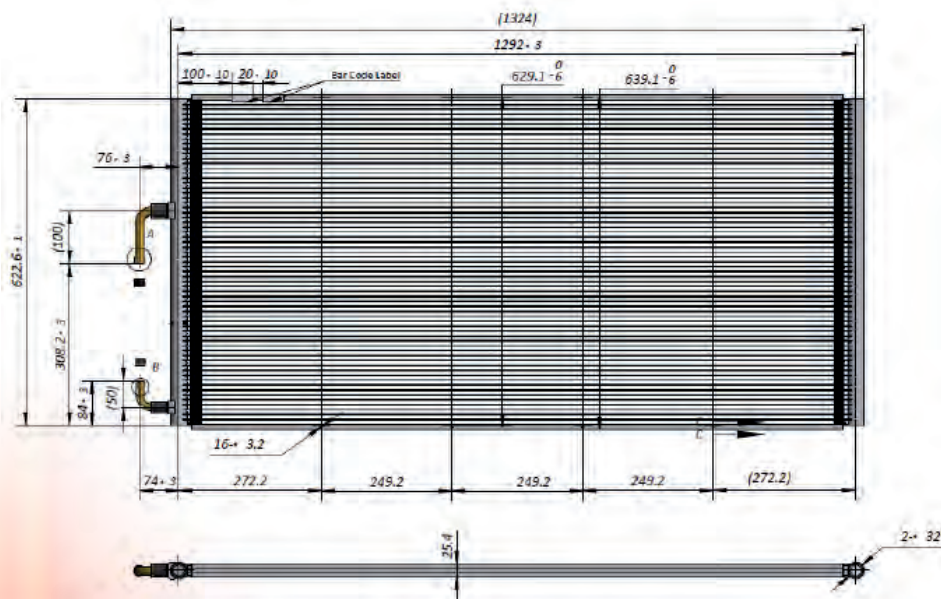
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD17 Condenser

Dimensional Characteristics		Metric units	
Total length	mm	1324	(L)
Total height	mm	639,1	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1284	(L1)
Heat exchanger height	mm	622,6	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,7994184	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	15,88	(Ø IN)
Outlet connection (ID)	mm	12,9	(Ø OUT)
<b>Internal Nomenclature:</b>		25.4-FPI23-2G	
Coil Depth	mm	25,4	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,634	
Coil Internal Volume	liters	1,0085	
Manifold Internal Volume	liters	0,6255	
Number of tubes		65	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		45/20	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	9,6	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat. I	
UL	-	UL 207	

Dimensional Characteristics		Imperial units	
Total length	in	52,13	(L)
Total height	in	25,16	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	50,55	(L1)
Heat exchanger height	in	24,51	(H1)
Heat exchanger front surface	in <sup>2</sup>	1239,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	5/8"	(Ø IN)
Outlet connection (ID)	in	1/2"	(Ø OUT)
<b>Internal Nomenclature:</b>		25.4-FPI23-2G	
Coil Depth	in	1,00	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	99,71	
Coil Internal Volume	in <sup>3</sup>	61,54	
Manifold Internal Volume	in <sup>3</sup>	38,17	
Number of tubes		65	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		45/20	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	21,16	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat. I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2786,0	17,7	8,76	0,09	18,09	0,23	27,44	0,43	8,40	0,23	17,22	0,37	26,17	0,68	8,73	0,12	18,14	0,33	27,47	0,63
1,5	4178,9	29,9	12,48	0,13	26,03	0,40	39,50	0,79	11,78	0,31	24,50	0,70	37,25	1,13	12,30	0,17	25,88	0,62	39,32	1,12
2	5571,9	44,2	15,82	0,16	33,15	0,64	50,56	1,18	14,74	0,39	30,95	0,97	46,80	1,72	15,93	0,29	32,91	0,90	50,00	1,65
2,5	6964,9	60,7	19,30	0,28	39,84	0,86	60,75	1,59	17,37	0,45	36,67	1,23	55,46	2,22	19,01	0,38	39,19	1,19	59,72	2,17
3	8357,9	79,2	22,28	0,35	45,98	1,08	70,18	2,00	19,72	0,50	41,92	1,47	63,20	2,68	21,83	0,47	44,96	1,47	68,60	2,68
3,5	9750,8	99,8	25,06	0,41	51,68	1,31	78,97	2,41	21,85	0,55	46,57	1,69	70,22	3,11	24,44	0,55	50,22	1,74	76,61	3,18
4	11143,8	122,6	27,66	0,48	57,01	1,52	87,19	2,82	23,78	0,59	50,87	1,90	76,61	3,49	26,84	0,63	55,09	2,00	84,23	3,58
4,5	12536,8	147,4	30,13	0,54	62,02	1,74	94,85	3,20	25,64	0,64	54,33	2,11	82,40	3,83	29,08	0,70	59,59	2,24	91,29	4,04

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2786,0	17,7	5,72	0,08	15,46	0,21	24,93	0,44	8,67	0,12	17,58	0,20	26,62	0,38	8,91	0,12	18,33	0,34	27,67	0,64
1,5	4178,9	29,9	7,99	0,11	22,22	0,40	35,70	0,78	12,30	0,17	25,29	0,40	38,20	0,66	12,56	0,17	26,15	0,63	39,62	1,14
2	5571,9	44,2	9,95	0,13	28,28	0,57	45,38	1,20	15,56	0,21	32,22	0,57	48,58	1,04	16,29	0,31	33,21	0,92	50,40	1,68
2,5	6964,9	60,7	11,67	0,15	33,80	0,74	54,21	1,58	18,51	0,25	38,55	0,73	58,10	1,37	19,46	0,40	39,59	1,21	60,21	2,21
3	8357,9	79,2	13,18	0,16	38,89	0,91	62,29	1,96	21,20	0,29	44,35	0,90	66,81	1,71	22,34	0,49	45,44	1,51	69,15	2,72
3,5	9750,8	99,8	14,57	0,18	43,53	1,07	69,73	2,33	23,68	0,32	49,73	1,06	74,81	2,02	24,98	0,57	50,80	1,79	77,36	3,22
4	11143,8	122,6	15,81	0,19	47,39	1,33	76,57	2,68	25,98	0,35	54,20	1,31	82,25	2,33	27,48	0,66	55,72	2,04	84,97	3,68
4,5	12536,8	147,4	16,89	0,20	51,23	1,49	82,93	3,02	28,75	0,51	58,78	1,48	89,14	2,63	29,78	0,74	60,31	2,30	92,03	4,12

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1639,7	0,1	29,92	1,32	61,79	3,35	93,70	6,26	28,67	3,34	58,80	5,43	89,37	9,81	29,81	1,71	61,94	4,82	93,81	9,13
295	2459,6	0,1	42,61	1,88	88,90	5,85	134,92	11,40	40,22	4,55	83,68	10,13	127,21	16,45	42,00	2,39	88,39	8,94	134,28	16,29
394	3279,5	0,2	54,04	2,39	113,23	9,30	172,68	17,10	50,35	5,60	105,69	14,13	159,83	24,98	54,42	4,27	112,39	13,06	170,76	23,86
492	4099,4	0,2	65,91	4,05	136,06	12,43	207,47	23,00	59,32	6,50	125,25	17,85	189,40	32,19	64,93	5,56	133,85	17,24	203,94	31,45
591	4919,2	0,3	76,10	5,04	157,03	15,66	239,67	29,03	67,35	7,30	143,15	21,28	215,84	38,88	74,56	6,79	153,55	21,32	234,26	38,81
689	5739,1	0,4	85,59	5,99	176,49	18,94	269,69	34,99	74,61	7,99	159,04	24,56	239,80	45,08	83,46	7,96	171,51	25,24	261,63	46,06
787	6559,0	0,5	94,48	6,93	194,68	22,02	297,76	40,84	81,21	8,61	173,72	27,54	261,64	50,55	91,68	9,13	188,14	28,96	287,65	51,96
886	7378,9	0,6	102,90	7,86	211,82	25,17	323,94	46,45	87,57	9,25	185,54	30,66	281,43	55,53	99,32	10,22	203,52	32,54	311,76	58,62

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1639,7	0,1	19,55	1,18	52,80	3,01	85,14	6,34	29,61	1,76	60,05	2,93	90,92	5,58	30,43	1,71	62,59	4,88	94,48	9,27
295	2459,6	0,1	27,30	1,60	75,89	5,84	121,91	11,35	42,02	2,45	86,37	5,74	130,47	9,61	42,89	2,40	89,29	9,10	135,30	16,58
394	3279,5	0,2	34,00	1,92	96,57	8,32	154,97	17,36	53,12	3,07	110,02	8,20	165,90	15,06	55,64	4,44	113,40	13,34	172,12	24,31
492	4099,4	0,2	39,85	2,17	115,42	10,76	185,14	22,96	63,23	3,63	131,65	10,66	198,42	19,92	66,44	5,79	135,21	17,59	205,62	31,99
591	4919,2	0,3	45,02	2,39	132,82	13,16	212,74	28,48	72,41	4,14	151,46	13,08	228,16	24,76	76,30	7,07	155,17	21,83	236,16	39,38
689	5739,1	0,4	49,75	2,59	148,68	15,51	238,13	33,83	80,89	4,60	169,85	15,43	255,49	29,35	85,32	8,30	173,50	25,92	264,18	46,69
787	6559,0	0,5	53,99	2,75	161,83	19,24	261,51	38,93	88,73	5,04	185,11	19,05	280,90	33,85	93,84	9,51	190,29	29,65	290,19	53,34
886	7378,9	0,6	57,67	2,88	174,95	21,64	283,21	43,84	98,18	7,40	200,73	21,53	304,43	38,09	101,72	10,67	205,98	33,34	314,28	59,79

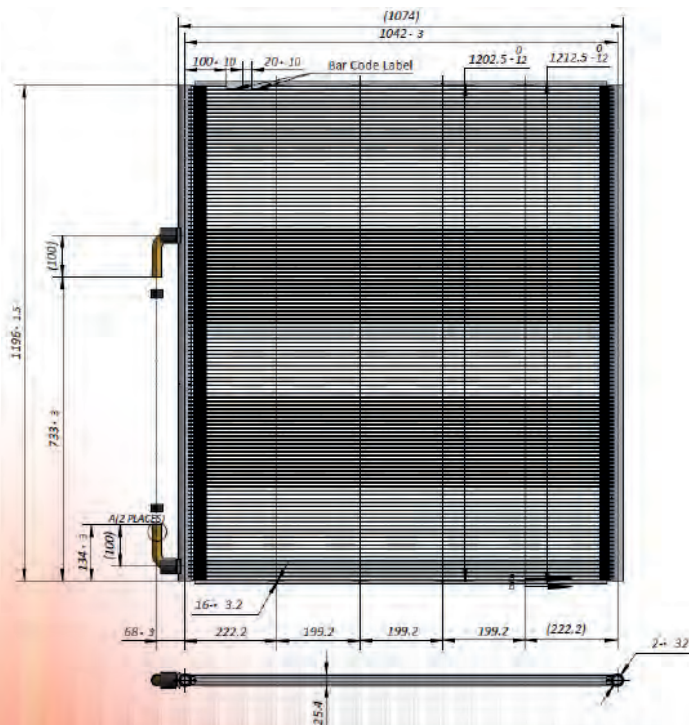
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD18 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1074	(L)
Total height	mm	1212,5	(H)
Manifold diameter	mm	32	(Ø D)
Heat exchanger length	mm	1010	(L1)
Heat exchanger height	mm	1196	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,20796	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	22,4	(Ø IN)
Outlet connection (ID)	mm	22,4	(Ø OUT)
<b>Internal Nomenclature:</b>		25.4-FPI23-2G	
Coil Depth	mm	25,4	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	2,794	
Coil Internal Volume	liters	1,567	
Manifold Internal Volume	liters	1,227	
Number of tubes		126	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		76/50	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	14,7	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat. I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	42,28	(L)
Total height	in	47,74	(H)
Manifold diameter	in	1,26	(Ø D)
Heat exchanger length	in	39,76	(L1)
Heat exchanger height	in	47,09	(H1)
Heat exchanger front surface	in <sup>2</sup>	1872,3	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	7/8"	(Ø IN)
Outlet connection (ID)	in	7/8"	(Ø OUT)
<b>Internal Nomenclature:</b>		25.4-FPI23-2G	
Coil Depth	in	1,00	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	170,50	
Coil Internal Volume	in <sup>3</sup>	95,62	
Manifold Internal Volume	in <sup>3</sup>	74,88	
Number of tubes		126	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		76/50	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	32,40	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat. I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4293,0	17,7	13,46	0,06	27,57	0,10	42,30	0,23	12,98	0,16	26,59	0,26	40,16	0,32	13,41	0,08	27,49	0,14	42,42	0,33
1,5	6439,5	29,9	19,16	0,09	39,98	0,21	60,95	0,41	18,25	0,22	37,64	0,38	57,78	0,64	18,92	0,11	40,01	0,31	60,86	0,61
2	8586,0	44,2	24,30	0,11	51,12	0,34	78,13	0,63	22,91	0,28	47,58	0,49	73,10	0,98	23,80	0,15	50,89	0,50	77,74	0,91
2,5	10732,5	60,7	29,00	0,14	61,37	0,47	94,04	0,85	27,04	0,32	56,50	0,59	86,96	1,32	28,20	0,17	60,87	0,67	93,01	1,21
3	12879,0	79,2	33,32	0,16	71,04	0,59	108,83	1,08	30,80	0,37	65,60	0,89	99,50	1,64	32,19	0,20	70,03	0,84	107,21	1,52
3,5	15025,5	99,8	37,31	0,18	79,99	0,72	122,65	1,32	34,19	0,41	73,23	1,04	110,88	1,94	36,64	0,28	78,50	1,01	120,26	1,83
4	17172,0	122,6	41,03	0,20	88,46	0,85	135,64	1,55	37,31	0,44	80,25	1,18	121,31	2,23	41,39	0,35	86,31	1,17	132,40	2,13
4,5	19318,5	147,4	46,19	0,30	96,33	0,97	147,87	1,79	40,16	0,48	86,70	1,32	130,97	2,51	44,96	0,40	93,62	1,33	143,74	2,42

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4293,0	17,7	8,45	0,06	23,77	0,14	38,11	0,19	13,31	0,08	27,10	0,14	40,77	0,18	13,69	0,08	28,08	0,18	42,73	0,34
1,5	6439,5	29,9	12,29	0,08	33,83	0,21	55,19	0,41	18,91	0,12	38,66	0,20	59,00	0,36	19,30	0,11	40,36	0,34	61,35	0,61
2	8586,0	44,2	15,34	0,10	42,96	0,27	70,31	0,67	23,93	0,15	49,11	0,27	75,25	0,58	24,29	0,15	51,41	0,51	78,31	0,92
2,5	10732,5	60,7	18,05	0,11	51,83	0,41	84,23	0,90	28,50	0,18	59,66	0,41	90,22	0,78	28,80	0,17	61,50	0,68	93,81	1,23
3	12879,0	79,2	20,42	0,13	60,09	0,52	97,09	1,13	32,67	0,20	68,79	0,51	104,02	0,98	32,88	0,20	70,76	0,85	108,10	1,55
3,5	15025,5	99,8	22,64	0,14	67,52	0,61	108,95	1,36	36,53	0,23	77,30	0,61	116,82	1,18	38,42	0,32	79,36	1,02	121,27	1,86
4	17172,0	122,6	24,58	0,15	74,47	0,71	120,01	1,59	40,10	0,25	85,26	0,70	128,71	1,37	42,31	0,37	87,37	1,20	133,52	2,17
4,5	19318,5	147,4	26,43	0,16	80,21	0,89	130,32	1,81	43,45	0,27	91,95	0,88	139,85	1,57	45,98	0,41	94,81	1,36	144,93	2,46

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2526,8	0,1	45,96	0,90	94,16	1,52	144,46	3,28	44,32	2,34	90,83	3,75	137,15	4,68	45,81	1,17	93,89	2,04	144,86	4,84
295	3790,1	0,1	65,44	1,28	136,55	3,11	208,17	6,02	62,32	3,22	128,55	5,45	197,32	9,31	64,61	1,66	136,66	4,48	207,85	8,79
394	5053,5	0,2	83,00	1,65	174,60	4,99	266,82	9,10	78,23	4,01	162,49	7,06	249,65	14,27	81,29	2,11	173,80	7,24	265,48	13,13
492	6316,9	0,2	99,03	1,99	209,58	6,78	321,16	12,33	92,35	4,70	192,97	8,59	296,97	19,18	96,31	2,53	207,87	9,68	317,65	17,59
591	7580,3	0,3	113,78	2,31	242,60	8,57	371,68	15,70	105,18	5,34	224,05	12,85	339,82	23,79	109,92	2,92	239,16	12,14	366,14	22,05
689	8843,7	0,4	127,44	2,62	273,19	10,42	418,87	19,12	116,76	5,91	250,11	15,07	378,67	28,11	125,14	4,12	268,10	14,59	410,71	26,53
787	10107,1	0,5	140,14	2,92	302,11	12,28	463,23	22,53	127,41	6,44	274,05	17,15	414,28	32,33	141,34	5,13	294,78	16,98	452,18	30,89
886	11370,4	0,6	157,74	4,30	328,99	14,11	505,00	26,00	137,17	6,92	296,10	19,12	447,30	36,33	153,54	5,81	319,72	19,31	490,90	35,16

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2526,8	0,1	28,87	0,80	81,17	2,07	130,15	2,82	45,45	1,20	92,56	2,00	139,25	2,59	46,76	1,16	95,89	2,55	145,94	4,88
295	3790,1	0,1	41,96	1,18	115,54	3,01	188,48	5,95	64,57	1,69	132,02	2,94	201,49	5,25	65,93	1,66	137,84	4,94	209,52	8,89
394	5053,5	0,2	52,40	1,43	146,71	3,92	240,14	9,71	81,72	2,13	167,73	3,85	257,00	8,40	82,94	2,11	175,57	7,34	267,45	13,29
492	6316,9	0,2	61,65	1,65	177,02	5,95	287,66	13,02	97,32	2,54	203,74	5,98	308,11	11,28	98,37	2,53	210,02	9,82	320,37	17,86
591	7580,3	0,3	69,75	1,84	205,22	7,47	331,57	16,39	111,57	2,92	234,94	7,42	355,26	14,19	112,28	2,93	241,65	12,33	369,17	22,44
689	8843,7	0,4	77,33	2,00	230,60	8,88	372,07	19,72	124,76	3,27	264,00	8,82	398,95	17,09	131,20	4,59	271,04	14,86	414,17	27,01
787	10107,1	0,5	83,93	2,14	254,32	10,28	409,87	22,99	136,96	3,59	291,18	10,19	439,58	19,93	144,51	5,31	298,37	17,35	456,01	31,44
886	11370,4	0,6	90,26	2,28	273,95	12,93	445,07	26,21	148,40	3,91	314,02	12,72	477,60	22,74	157,04	6,01	323,80	19,71	494,98	35,74

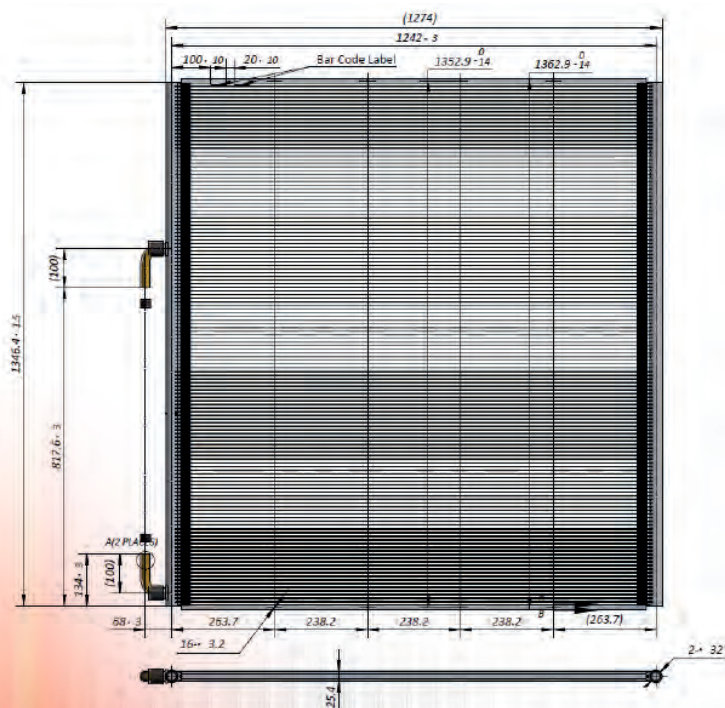
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD19 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1274	(L)
Total height	mm	1362,9	(H)
Manifold diameter	mm	32	(Ø D)
Heat exchanger length	mm	1210	(L1)
Heat exchanger height	mm	1346,4	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,629144	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	22,4	(Ø IN)
Outlet connection (ID)	mm	22,4	(Ø OUT)
<b>Internal Nomenclature:</b>	25.4-FPI23-2G		
Coil Depth	mm	25,4	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	3,486	
Coil Internal Volume	liters	2,1157	
Manifold Internal Volume	liters	1,3703	
Number of tubes		142	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		90/52	
<b>Physical Characteristics</b>			
<b>Metric units</b>			
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	19,5	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat. I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	50,16	(L)
Total height	in	53,66	(H)
Manifold diameter	in	1,26	(Ø D)
Heat exchanger length	in	47,64	(L1)
Heat exchanger height	in	53,01	(H1)
Heat exchanger front surface	in <sup>2</sup>	2525,2	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	7/8"	(Ø IN)
Outlet connection (ID)	in	7/8"	(Ø OUT)
<b>Internal Nomenclature:</b>	25.4-FPI23-2G		
Coil Depth	in	1,00	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	212,73	
Coil Internal Volume	in <sup>3</sup>	129,11	
Manifold Internal Volume	in <sup>3</sup>	83,62	
Number of tubes		142	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		90/52	
<b>Physical Characteristics</b>			
<b>Metric units</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	42,98	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat. I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5801,3	17,7	18,33	0,09	37,67	0,20	57,22	0,37	17,52	0,22	35,84	0,36	54,46	0,58	18,22	0,11	37,82	0,28	57,24	0,54
1,5	8702,0	29,9	26,09	0,13	54,18	0,34	82,31	0,67	24,55	0,30	50,63	0,52	77,52	0,99	25,67	0,16	53,87	0,54	81,95	0,97
2	11602,7	44,2	33,08	0,16	69,14	0,55	105,40	1,01	30,70	0,38	64,27	0,86	97,32	1,54	32,28	0,21	68,46	0,79	104,19	1,42
2,5	14503,3	60,7	39,46	0,19	82,97	0,74	126,53	1,36	36,12	0,44	76,18	1,09	115,11	1,99	39,27	0,32	81,55	1,04	124,41	1,89
3	17404,0	79,2	46,42	0,30	95,75	0,94	146,23	1,72	40,99	0,50	86,84	1,31	131,07	2,42	45,40	0,41	93,58	1,29	142,80	2,34
3,5	20304,6	99,8	52,24	0,36	107,60	1,13	164,44	2,08	45,34	0,55	96,62	1,52	145,41	2,82	50,81	0,48	104,51	1,53	159,67	2,77
4	23205,3	122,6	57,70	0,41	118,71	1,33	181,54	2,43	49,33	0,59	105,45	1,71	158,45	3,19	55,85	0,55	114,54	1,76	175,26	3,19
4,5	26106,0	147,4	62,78	0,47	129,15	1,52	197,53	2,78	52,96	0,63	111,13	2,03	170,28	3,53	60,49	0,62	124,09	1,99	189,70	3,59

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5801,3	17,7	11,95	0,08	32,20	0,20	51,93	0,38	18,09	0,12	36,66	0,20	55,47	0,33	18,60	0,11	38,19	0,29	57,68	0,54
1,5	8702,0	29,9	16,67	0,11	45,83	0,29	74,25	0,71	25,65	0,16	52,24	0,29	79,63	0,57	26,20	0,16	54,46	0,54	82,55	0,98
2	11602,7	44,2	20,77	0,13	58,86	0,50	94,47	1,05	32,39	0,21	67,09	0,49	101,16	0,91	32,94	0,21	69,08	0,80	104,98	1,44
2,5	14503,3	60,7	24,36	0,15	70,36	0,65	112,84	1,39	38,53	0,24	80,28	0,64	120,89	1,21	40,45	0,34	82,45	1,06	125,37	1,91
3	17404,0	79,2	27,52	0,17	80,90	0,79	129,75	1,73	44,13	0,28	92,39	0,79	138,96	1,50	46,46	0,42	94,57	1,32	143,94	2,37
3,5	20304,6	99,8	30,30	0,18	90,17	0,99	145,13	2,07	49,29	0,31	103,29	0,96	155,52	1,79	52,00	0,50	105,66	1,57	161,01	2,82
4	23205,3	122,6	32,92	0,19	98,49	1,19	159,18	2,39	54,03	0,34	112,69	1,17	170,88	2,07	57,14	0,57	115,89	1,81	176,75	3,25
4,5	26106,0	147,4	35,22	0,20	106,54	1,34	172,45	2,70	58,44	0,37	122,01	1,32	185,08	2,33	61,67	0,66	125,37	2,04	191,35	3,65

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3414,5	0,1	62,59	1,27	128,66	2,83	195,41	5,32	59,83	3,22	122,41	5,24	185,97	8,48	62,22	1,66	129,15	4,11	195,49	7,79
295	5121,8	0,1	89,09	1,82	185,03	4,96	281,10	9,71	83,86	4,42	172,91	7,60	264,76	14,32	87,66	2,35	183,96	7,76	279,86	14,04
394	6829,1	0,2	112,97	2,34	236,14	7,99	359,95	14,61	104,84	5,46	219,50	12,40	332,38	22,28	110,26	2,98	233,79	11,40	355,83	20,63
492	8536,3	0,2	134,76	2,83	283,34	10,76	432,11	19,72	123,37	6,38	260,16	15,78	393,13	28,85	134,12	4,70	278,51	15,08	424,87	27,36
591	10243,6	0,3	158,55	4,34	327,00	13,59	499,41	24,95	139,98	7,20	296,58	18,96	447,62	35,12	155,05	5,90	319,58	18,67	487,70	33,87
689	11950,9	0,4	178,42	5,18	367,48	16,41	561,58	30,14	154,86	7,91	329,98	21,99	496,60	40,92	173,52	6,97	356,91	22,23	545,31	40,23
787	13658,1	0,5	197,05	6,01	405,41	19,26	620,01	35,29	168,47	8,58	360,14	24,75	541,13	46,24	190,74	7,99	391,17	25,56	598,54	46,23
886	15365,4	0,6	214,40	6,82	441,08	22,06	674,59	40,34	180,87	9,17	379,52	29,43	581,54	51,23	206,60	8,97	423,78	28,90	647,86	52,13

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3414,5	0,1	40,81	1,19	109,97	2,91	177,34	5,44	61,77	1,70	125,19	2,83	189,45	4,78	63,51	1,65	130,42	4,16	196,99	7,89
295	5121,8	0,1	56,92	1,60	156,52	4,24	253,58	10,32	87,60	2,38	178,43	4,17	271,97	8,27	89,46	2,34	185,99	7,90	281,91	14,19
394	6829,1	0,2	70,93	1,93	201,03	7,23	322,63	15,23	110,63	3,98	229,14	7,13	345,47	13,19	112,50	2,98	235,93	11,65	358,54	20,91
492	8536,3	0,2	83,19	2,21	240,30	9,40	385,36	20,20	131,60	5,54	274,17	9,30	412,85	17,54	138,13	4,98	281,59	15,39	428,15	27,66
591	10243,6	0,3	93,97	2,44	276,29	11,49	443,13	25,13	150,72	4,07	315,52	11,43	474,57	21,83	158,66	6,12	322,96	19,12	491,57	34,43
689	11950,9	0,4	103,49	2,65	307,95	14,30	495,64	29,99	168,32	4,55	352,74	13,87	531,12	26,01	177,60	7,23	360,86	22,76	549,89	40,84
787	13658,1	0,5	112,43	2,82	336,38	17,25	543,64	34,65	184,52	4,99	384,87	17,01	583,58	29,97	195,14	8,29	395,78	26,23	603,62	47,08
886	15365,4	0,6	120,27	2,96	363,86	19,47	588,93	39,14	199,58	5,41	416,67	19,19	632,08	33,85	210,60	9,59	428,16	29,55	653,50	52,98

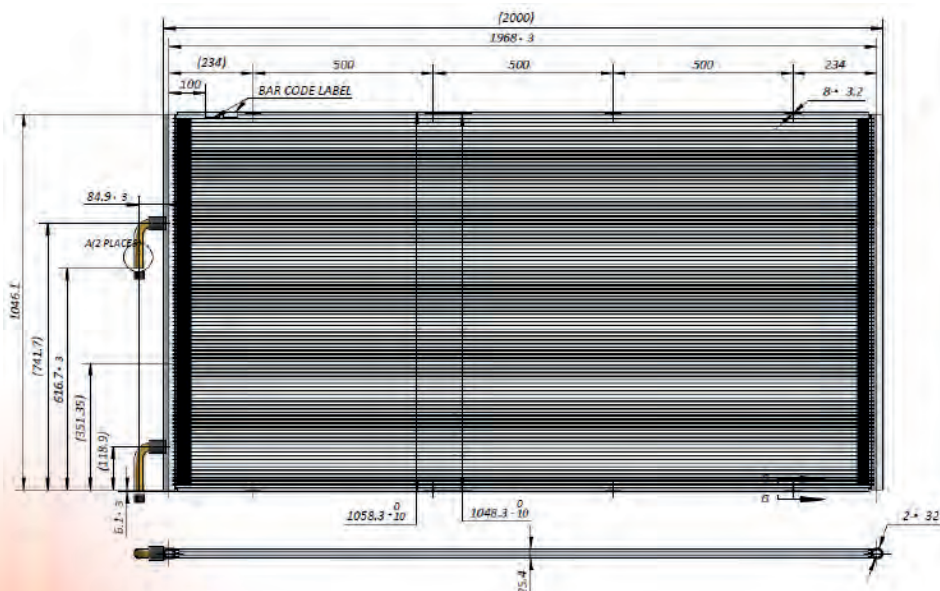
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD20 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	2000	(L)
Total height	mm	1062,6	(H)
Manifold diameter	mm	32	(Ø D)
Heat exchanger length	mm	1936	(L1)
Heat exchanger height	mm	1046,1	(H1)
Heat exchanger front surface	m <sup>2</sup>	2,03	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	22,4	(Ø IN)
Outlet connection (ID)	mm	22,4	(Ø OUT)
<b>Internal Nomenclature:</b>	25.4-FPI23-4G		
Coil Depth	mm	25,4	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	2,0	
Total internal volume	liters	5,48	
Coil Internal Volume	liters	2,43	
Manifold Internal Volume	liters	3,05	
Number of tubes		102	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		68/34	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 150	(TS)
Coil weight	kg	25	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat. II	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	78,74	(L)
Total height	in	41,83	(H)
Manifold diameter	in	1,26	(Ø D)
Heat exchanger length	in	76,22	(L1)
Heat exchanger height	in	41,19	(H1)
Heat exchanger front surface	in <sup>2</sup>	3139,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	7/8"	(Ø IN)
Outlet connection (ID)	in	7/8"	(Ø OUT)
<b>Internal Nomenclature:</b>	25.4-FPI23-4G		
Coil Depth	in	1,00	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,08	
Total internal volume	in <sup>3</sup>	334,41	
Coil Internal Volume	in <sup>3</sup>	148,29	
Manifold Internal Volume	in <sup>3</sup>	186,12	
Number of tubes		102	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		68/34	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 302	(TS)
Coil weight	lb	55,10	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat. II	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	7199,2	20,7	22,50	0,06	46,56	0,15	70,68	0,30	21,80	0,14	44,37	0,23	67,65	0,46	22,35	0,07	46,69	0,24	70,81	0,44
1,5	10798,7	35,7	31,86	0,08	66,72	0,30	101,61	0,55	30,59	0,20	63,57	0,48	95,91	0,87	32,32	0,14	66,63	0,43	101,30	0,79
2	14398,3	52,6	41,32	0,14	85,31	0,44	129,85	0,82	38,32	0,24	80,38	0,68	121,32	1,26	41,05	0,20	84,64	0,64	128,98	1,17
2,5	17997,9	71,0	49,54	0,19	102,19	0,60	155,94	1,11	45,20	0,28	95,52	0,87	143,99	1,64	48,98	0,26	101,00	0,85	154,06	1,55
3	21597,5	90,8	57,18	0,23	117,93	0,76	180,19	1,40	51,43	0,32	108,15	1,16	164,45	2,01	56,31	0,32	115,99	1,06	177,19	1,93
3,5	25197,0	111,8	64,30	0,28	132,61	0,92	202,85	1,69	57,07	0,36	120,20	1,36	183,11	2,36	62,68	0,42	129,75	1,26	198,53	2,30
4	28796,6	133,8	70,71	0,35	146,39	1,08	223,96	1,99	64,05	0,53	131,13	1,55	200,17	2,69	68,84	0,48	142,66	1,46	218,29	2,67
4,5	32396,2	156,8	76,91	0,41	159,32	1,23	243,88	2,28	69,11	0,59	141,20	1,72	215,77	2,99	74,53	0,55	154,57	1,65	236,63	3,01

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	7199,2	20,7	14,75	0,05	39,72	0,13	64,26	0,29	22,35	0,07	45,21	0,13	68,65	0,26	22,78	0,07	47,19	0,25	71,34	0,44
1,5	10798,7	35,7	20,53	0,07	57,30	0,27	91,83	0,57	31,61	0,10	65,23	0,27	98,22	0,50	33,04	0,15	67,32	0,44	102,07	0,80
2	14398,3	52,6	25,53	0,08	72,87	0,39	116,89	0,85	39,89	0,13	83,00	0,39	125,08	0,74	41,95	0,21	85,54	0,65	129,96	1,19
2,5	17997,9	71,0	29,93	0,09	86,75	0,56	139,76	1,13	47,39	0,15	99,02	0,55	149,68	0,98	50,07	0,27	102,12	0,87	155,34	1,58
3	21597,5	90,8	33,82	0,10	99,68	0,70	160,75	1,41	54,22	0,18	113,85	0,69	172,24	1,23	57,28	0,36	117,28	1,08	178,66	1,97
3,5	25197,0	111,8	37,22	0,11	111,55	0,84	180,12	1,69	62,38	0,28	127,55	0,83	193,08	1,47	64,08	0,44	131,25	1,29	200,15	2,35
4	28796,6	133,8	40,51	0,12	122,57	0,97	198,13	1,96	68,66	0,32	140,21	0,96	212,47	1,70	70,36	0,51	144,25	1,50	220,06	2,71
4,5	32396,2	156,8	43,36	0,13	132,80	1,10	214,90	2,23	74,56	0,36	152,11	1,08	230,49	1,93	76,21	0,57	156,37	1,69	238,56	3,06

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4237,3	0,1	76,84	0,80	159,00	2,25	241,38	4,34	74,46	2,05	151,55	3,39	231,03	6,70	76,32	1,04	159,46	3,51	241,81	6,36
295	6355,9	0,1	108,82	1,15	227,86	4,33	347,02	7,92	104,47	2,83	217,10	7,00	327,55	12,62	110,37	2,03	227,55	6,28	345,96	11,47
394	8474,5	0,2	141,12	2,08	291,35	6,44	443,46	11,87	130,89	3,51	274,52	9,83	414,33	18,30	140,20	2,92	289,08	9,26	440,50	16,96
492	10593,2	0,3	169,20	2,73	348,99	8,71	532,57	16,03	154,35	4,11	326,22	12,63	491,76	23,85	167,28	3,79	344,93	12,27	526,13	22,50
591	12711,8	0,4	195,29	3,38	402,76	10,99	615,37	20,34	175,66	4,67	369,36	16,80	561,64	29,20	192,32	4,66	396,13	15,32	605,14	28,04
689	14830,4	0,4	219,58	4,04	452,89	13,28	692,76	24,56	194,89	5,17	410,51	19,66	625,35	34,29	214,05	6,05	443,11	18,27	678,01	33,37
787	16949,1	0,5	241,48	5,14	499,93	15,60	764,88	28,79	218,73	7,73	447,84	22,43	683,63	38,97	235,11	7,02	487,22	21,19	745,51	38,71
886	19067,7	0,6	262,65	5,88	544,12	17,90	832,90	33,01	236,02	8,57	482,23	24,93	736,90	43,43	254,53	7,95	527,90	24,00	808,12	43,67

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4237,3	0,1	50,38	0,73	135,66	1,86	219,47	4,28	76,34	1,08	154,39	1,81	234,45	3,77	77,81	1,04	161,15	3,60	243,65	6,44
295	6355,9	0,1	70,13	0,98	195,68	3,96	313,60	8,34	107,94	1,50	222,76	3,91	335,43	7,25	112,84	2,11	229,90	6,42	348,60	11,61
394	8474,5	0,2	87,17	1,18	248,87	5,64	399,19	12,34	136,24	1,89	283,47	5,59	427,18	10,71	143,26	3,02	292,13	9,47	443,82	17,22
492	10593,2	0,3	102,23	1,35	296,28	8,14	477,29	16,43	161,84	2,25	338,18	8,02	511,17	14,23	171,00	3,93	348,75	12,58	530,50	22,91
591	12711,8	0,4	115,51	1,50	340,42	10,15	549,00	20,52	185,18	2,57	388,81	10,02	588,23	17,78	195,62	5,28	400,54	15,68	610,14	28,55
689	14830,4	0,4	127,11	1,61	380,96	12,14	615,15	24,56	213,05	4,01	435,59	11,99	659,41	21,29	218,86	6,32	448,26	18,73	683,56	34,02
787	16949,1	0,5	138,33	1,74	418,61	14,08	676,66	28,48	234,50	4,61	478,84	13,90	725,62	24,71	240,29	7,33	492,65	21,72	751,53	39,34
886	19067,7	0,6	148,09	1,83	453,53	15,96	733,93	32,30	254,63	5,18	519,49	15,73	787,15	27,96	260,28	8,31	534,04	24,54	814,73	44,40

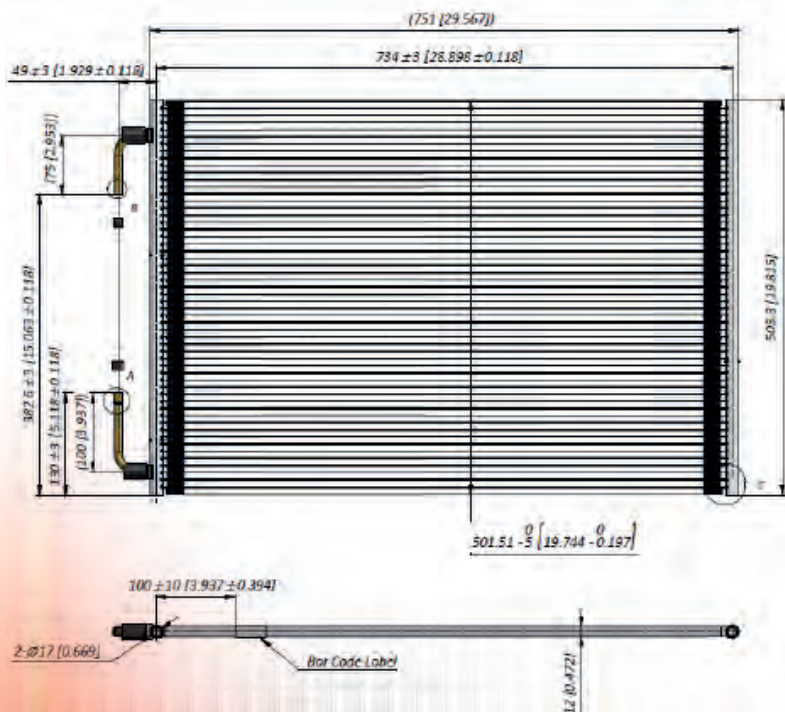
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD21 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	751	(L)
Total height	mm	503,3	(H)
Manifold diameter	mm	17	(Ø D)
Heat exchanger length	mm	717	(L1)
Heat exchanger height	mm	501,51	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,36	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	9,52	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	12-FPI21-2G		
Coil Depth	mm	12	(cD)
Fins Distance	mm	1,2	
Fin height	mm	8,1	
Tubes height	mm	1,0	
Total internal volume	liters	0,314	
Coil Internal Volume	liters	0,162	
Manifold Internal Volume	liters	0,152	
Number of tubes		54	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		21/15/11/7	
<b>Physical Characteristics</b>			
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	1,759	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	29,57	(L)
Total height	in	19,81	(H)
Manifold diameter	in	0,67	(Ø D)
Heat exchanger length	in	28,23	(L1)
Heat exchanger height	in	19,74	(H1)
Heat exchanger front surface	in <sup>2</sup>	5574	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	3/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	12-FPI21-2G		
Coil Depth	in	0,47	(cD)
Fins Per Inch	FPI	21	
Fin height	in	0,32	
Tubes height	in	0,04	
Total internal volume	in <sup>3</sup>	19,16	
Coil Internal Volume	in <sup>3</sup>	9,89	
Manifold Internal Volume	in <sup>3</sup>	9,28	
Number of tubes		54	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		21/15/11/7	
<b>Physical Characteristics</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	3,88	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1271,3	10,0	3,49	0,45	7,07	1,52	10,75	2,82	2,97	0,73	6,33	1,88	9,51	3,44	3,38	0,64	6,85	2,00	10,41	3,60
1,5	1907,0	18,2	4,71	0,75	9,53	2,41	14,50	4,42	3,82	0,89	8,10	2,72	12,30	4,74	4,45	1,01	9,04	2,96	13,79	5,27
2	2542,6	27,4	5,69	1,07	11,54	3,20	17,62	5,83	4,61	1,16	9,51	3,22	14,45	5,61	5,31	1,28	10,77	3,73	16,49	6,58
2,5	3178,3	37,7	6,55	1,32	13,25	3,90	20,26	7,04	5,17	1,27	10,59	3,56	16,17	6,22	6,02	1,50	12,19	4,33	18,72	7,64
3	3814,0	49,1	7,24	1,57	14,73	4,51	22,55	8,10	5,63	1,36	11,31	3,87	17,59	6,68	6,53	1,71	13,38	4,83	20,60	8,48
3,5	4449,6	61,5	7,88	1,76	16,02	5,05	24,57	8,99	6,00	1,41	12,04	4,06	18,78	7,02	7,01	1,86	14,40	5,24	22,22	9,15
4	5085,2	75,0	8,44	1,94	17,18	5,50	26,36	9,78	6,32	1,44	12,66	4,20	19,81	7,27	7,41	1,97	15,27	5,57	23,61	9,70
4,5	5720,9	89,5	8,94	2,09	18,20	5,91	27,98	10,50	6,51	1,47	13,19	4,29	20,72	7,46	7,76	2,06	16,03	5,83	24,83	10,16

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1271,3	10,0	2,00	0,24	4,21	1,21	9,48	2,66	3,27	0,43	6,80	1,20	10,17	2,30	3,46	0,67	6,93	2,05	10,50	3,68
1,5	1907,0	18,2	2,53	0,28	5,61	1,93	12,56	3,97	4,44	0,67	8,98	1,93	13,51	3,45	4,55	1,06	9,15	3,04	13,92	5,39
2	2542,6	27,4	2,91	0,31	6,68	2,51	15,02	5,02	5,36	0,83	10,67	2,51	16,19	4,38	5,44	1,34	10,91	3,83	16,64	6,74
2,5	3178,3	37,7	3,20	0,32	7,61	2,95	17,06	5,87	6,09	1,01	12,11	2,95	18,42	5,11	6,11	1,61	12,35	4,46	18,90	7,82
3	3814,0	49,1	3,41	0,32	8,41	3,30	18,77	6,55	6,72	1,16	13,31	3,31	20,30	5,72	6,69	1,80	13,55	4,98	20,80	8,68
3,5	4449,6	61,5	3,58	0,33	8,94	3,56	20,25	7,07	7,28	1,26	14,37	3,62	21,95	6,20	7,19	1,97	14,59	5,40	22,44	9,38
4	5085,2	75,0	3,77	0,35	9,49	3,80	21,53	7,55	7,78	1,35	15,28	3,86	23,39	6,61	7,61	2,09	15,48	5,74	23,86	9,94
4,5	5720,9	89,5	3,85	0,35	9,96	3,98	22,67	7,95	8,22	1,43	16,09	4,06	24,65	6,95	7,98	2,20	16,26	6,03	25,08	10,42

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	748,3	0,0	11,92	6,49	24,16	22,04	36,71	40,85	10,14	10,54	21,62	27,25	32,46	49,88	11,54	9,31	23,39	28,95	35,56	52,26
295	1122,4	0,1	16,10	10,88	32,54	34,90	49,53	64,17	13,05	12,84	27,66	39,40	42,00	68,70	15,19	14,61	30,87	42,91	47,11	76,40
394	1496,5	0,1	19,45	15,58	39,41	46,38	60,16	84,60	15,74	16,82	32,47	46,66	49,35	81,37	18,14	18,60	36,77	54,04	56,32	95,40
492	1870,7	0,2	22,38	19,12	45,26	56,52	69,18	102,05	17,65	18,47	36,17	51,58	55,22	90,25	20,56	21,78	41,62	62,78	63,93	110,78
591	2244,8	0,2	24,72	22,72	50,30	65,38	77,01	117,42	19,23	19,69	38,63	56,12	60,07	96,83	22,31	24,86	45,70	70,00	70,37	122,92
689	2619,0	0,2	26,90	25,58	54,72	73,19	83,92	130,36	20,49	20,44	41,12	58,89	64,14	101,87	23,94	26,94	49,16	75,96	75,89	132,65
787	2993,0	0,3	28,81	28,12	58,67	79,81	90,02	141,89	21,58	20,85	43,24	60,89	67,65	105,51	25,31	28,64	52,15	80,71	80,63	140,74
886	3367,2	0,4	30,53	30,36	62,15	85,75	95,56	152,28	22,23	21,27	45,05	62,25	70,76	108,25	26,49	29,95	54,75	84,61	84,80	147,30

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	748,3	0,0	6,83	3,54	14,37	17,53	32,37	38,51	11,15	6,24	23,22	17,43	34,73	33,41	11,82	9,66	23,65	29,67	35,85	53,38
295	1122,4	0,1	8,63	4,12	19,17	28,06	42,89	57,51	15,18	9,66	30,68	28,02	46,13	50,03	15,55	15,30	31,23	44,11	47,53	78,14
394	1496,5	0,1	9,93	4,43	22,81	36,47	51,29	72,85	18,31	12,01	36,46	36,44	55,28	63,52	18,56	19,48	37,25	55,50	56,84	97,78
492	1870,7	0,2	10,92	4,60	25,98	42,75	58,26	85,12	20,79	14,63	41,35	42,83	62,90	74,16	20,86	23,41	42,17	64,68	64,55	113,46
591	2244,8	0,2	11,65	4,71	28,71	47,80	64,12	94,99	22,96	16,86	45,47	48,05	69,33	82,95	22,86	26,17	46,28	72,18	71,05	125,96
689	2619,0	0,2	12,22	4,80	30,54	51,69	69,16	102,61	24,87	18,34	49,06	52,51	74,96	89,97	24,56	28,52	49,84	78,37	76,64	135,98
787	2993,0	0,3	12,88	5,07	32,40	55,04	73,53	109,53	26,56	19,60	52,18	55,93	79,88	95,87	26,00	30,32	52,87	83,23	81,49	144,18
886	3367,2	0,4	13,17	5,04	34,02	57,76	77,42	115,24	28,07	20,70	54,95	58,83	84,18	100,83	27,25	31,84	55,53	87,43	85,65	151,17

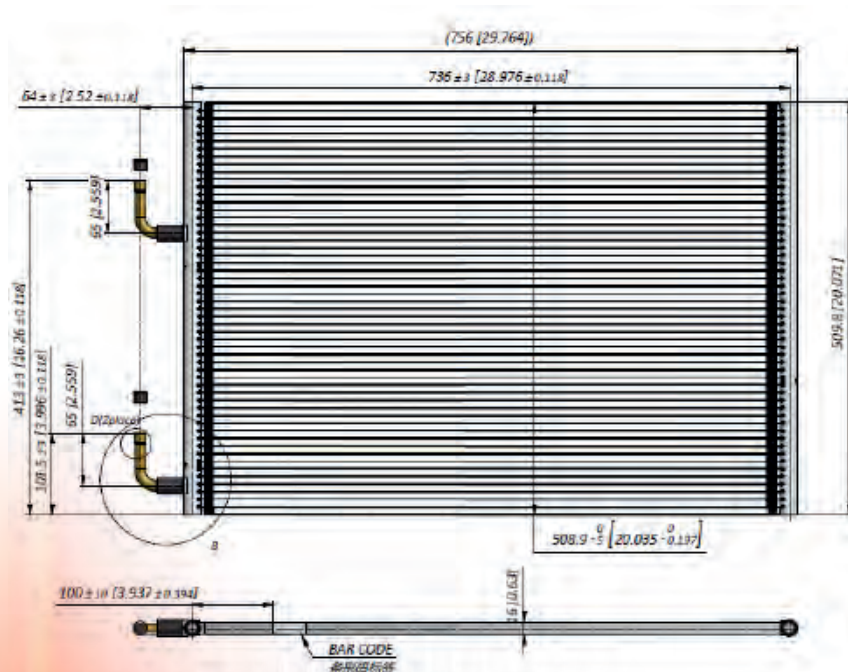
# SANHUA Micro-Channel Heat Exchangers - Standard Range

## SD22 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	756	(L)
Total height	mm	509,8	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	716	(L1)
Heat exchanger height	mm	508,9	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,36	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	12,7	(Ø OUT)
<b>Internal Nomenclature:</b>			
		16-FPI23-2G	
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,491	
Coil Internal Volume	liters	0,2786	
Manifold Internal Volume	liters	0,2124	
Number of tubes		53	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		21/15/11/6	
<b>Physical Characteristics</b>			
<b>Metric units</b>			
Max. Operating Pressure*	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	2,739	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	29,76	(L)
Total height	in	20,07	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	28,19	(L1)
Heat exchanger height	in	20,04	(H1)
Heat exchanger front surface	in <sup>2</sup>	564,8	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	4/8	(Ø OUT)
<b>Internal Nomenclature:</b>			
		16-FPI23-2G	
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	29,96	
Coil Internal Volume	in <sup>3</sup>	17,00	
Manifold Internal Volume	in <sup>3</sup>	12,96	
Number of tubes		53	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		21/15/11/6	
<b>Physical Characteristics</b>			
<b>Metric units</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	6,04	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1286,8	13,6	3,77	0,20	7,75	0,61	11,78	1,18	3,46	0,39	7,28	0,84	10,98	1,60	3,75	0,27	7,68	0,88	11,66	1,64
1,5	1930,2	23,4	5,25	0,30	10,76	1,06	16,39	2,01	4,66	0,50	9,90	1,37	14,87	2,58	5,16	0,45	10,55	1,44	16,06	2,67
2	2573,6	34,6	6,54	0,46	13,40	1,50	20,42	2,83	5,79	0,69	11,96	1,90	18,15	3,35	6,38	0,60	12,99	1,97	19,80	3,61
2,5	3217,0	47,1	7,69	0,58	15,73	1,93	24,01	3,62	6,68	0,81	13,76	2,27	20,88	4,00	7,37	0,80	15,10	2,44	23,07	4,46
3	3860,4	60,8	8,68	0,75	17,82	2,33	27,22	4,36	7,45	0,91	15,31	2,59	23,26	4,55	8,27	0,95	16,95	2,87	25,92	5,22
3,5	4503,8	75,4	9,61	0,88	19,72	2,71	30,13	5,05	8,13	0,99	16,46	2,01	25,34	5,00	9,08	1,08	18,60	3,25	28,47	5,90
4	5147,2	91,0	10,46	0,99	21,43	3,06	32,78	5,68	8,74	1,06	17,61	3,12	27,19	5,39	9,74	1,23	20,06	3,59	30,75	6,50
4,5	5790,7	107,2	11,19	1,13	23,01	3,40	35,24	6,28	9,29	1,12	18,64	3,31	28,83	5,70	10,39	1,34	21,40	3,90	32,83	7,03

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1286,8	13,6	2,34	0,14	6,62	0,49	10,57	1,16	3,64	0,21	7,55	0,49	11,34	0,98	3,83	0,27	7,76	0,90	11,74	1,68
1,5	1930,2	23,4	3,13	0,17	9,13	0,85	14,59	1,91	5,06	0,32	10,43	0,85	15,65	1,65	5,28	0,46	10,67	1,48	16,18	2,74
2	2573,6	34,6	3,76	0,20	11,20	1,25	18,02	2,62	6,30	0,43	12,83	1,25	19,35	2,27	6,48	0,67	13,14	2,02	19,97	3,70
2,5	3217,0	47,1	4,28	0,22	13,03	1,59	20,99	3,26	7,37	0,52	14,96	1,56	22,57	2,82	7,54	0,84	15,27	2,51	23,25	4,58
3	3860,4	60,8	4,96	0,27	14,60	1,89	23,61	3,84	8,33	0,60	16,77	1,89	25,41	3,33	8,48	1,00	17,15	2,95	26,15	5,38
3,5	4503,8	75,4	5,34	0,29	16,01	2,15	25,95	4,36	9,14	0,73	18,42	2,16	27,98	3,78	9,25	1,16	18,82	3,35	28,71	6,06
4	5147,2	91,0	5,64	0,31	17,28	2,39	28,06	4,81	9,92	0,80	19,91	2,39	30,28	4,21	9,97	1,29	20,31	3,69	31,04	6,68
4,5	5790,7	107,2	5,90	0,32	18,43	2,61	29,97	5,23	10,63	0,88	21,27	2,61	32,38	4,55	10,63	1,41	21,67	4,02	33,12	7,22

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	757,4	0,1	12,88	2,87	26,46	8,87	40,23	17,09	11,83	5,60	24,88	12,17	37,48	23,27	12,80	3,88	26,21	12,73	39,80	23,83
295	1136,1	0,1	17,95	4,41	36,76	15,36	55,98	29,16	15,93	7,27	33,83	19,88	50,78	37,37	17,62	6,47	36,02	20,85	54,83	38,69
394	1514,8	0,1	22,34	6,61	45,76	21,75	69,75	41,07	19,77	10,07	40,85	27,55	61,98	48,65	21,78	8,69	44,37	28,51	67,64	52,40
492	1893,5	0,2	26,26	8,45	53,73	27,94	82,00	52,56	22,81	11,78	47,00	32,93	71,33	58,07	25,16	11,65	51,57	35,44	78,78	64,68
591	2272,2	0,2	29,65	10,89	60,85	33,75	92,97	63,25	25,45	13,18	52,30	37,52	79,44	65,94	28,26	13,74	57,90	41,66	88,52	75,77
689	2650,9	0,3	32,83	12,70	67,34	39,31	102,89	73,20	27,77	14,32	56,21	29,11	86,54	72,51	31,01	15,63	63,51	47,18	97,23	85,62
787	3029,6	0,4	35,73	14,41	73,19	44,38	111,96	82,39	29,85	15,35	60,15	45,27	92,85	78,14	33,26	17,88	68,51	52,08	105,03	94,26
886	3408,3	0,4	38,20	16,43	78,59	49,28	120,36	91,06	31,72	16,19	63,66	48,03	98,46	82,71	35,47	19,39	73,08	56,51	112,12	102,01

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	757,4	0,1	7,98	1,96	22,60	7,12	36,11	16,77	12,44	3,10	25,77	7,04	38,74	14,21	13,09	3,98	26,49	13,07	40,11	24,40
295	1136,1	0,1	10,68	2,50	31,18	12,30	49,82	27,65	17,27	4,64	35,62	12,26	53,46	23,94	18,03	6,73	36,43	21,45	55,27	39,70
394	1514,8	0,1	12,86	2,89	38,24	18,15	61,54	37,94	21,51	6,19	43,81	18,06	66,08	32,87	22,13	9,76	44,87	29,30	68,21	53,68
492	1893,5	0,2	14,61	3,20	44,49	23,11	71,68	47,30	25,18	7,47	51,11	22,61	77,08	40,91	25,76	12,25	52,16	36,47	79,40	66,48
591	2272,2	0,2	16,95	3,93	49,86	27,45	80,64	55,71	28,47	8,65	57,26	27,38	86,79	48,30	28,95	14,45	58,58	42,78	89,29	77,96
689	2650,9	0,3	18,23	4,23	54,69	31,24	88,64	63,16	31,22	10,52	62,91	31,26	95,54	54,83	31,58	16,82	64,27	48,56	98,06	87,90
787	3029,6	0,4	19,26	4,45	59,02	34,68	95,83	69,77	33,87	11,65	68,01	34,70	103,42	61,00	34,06	18,72	69,38	53,56	105,99	96,81
886	3408,3	0,4	20,14	4,61	62,95	37,84	102,36	75,84	36,29	12,70	72,63	37,88	110,57	66,06	36,30	20,42	74,00	58,25	113,12	104,77

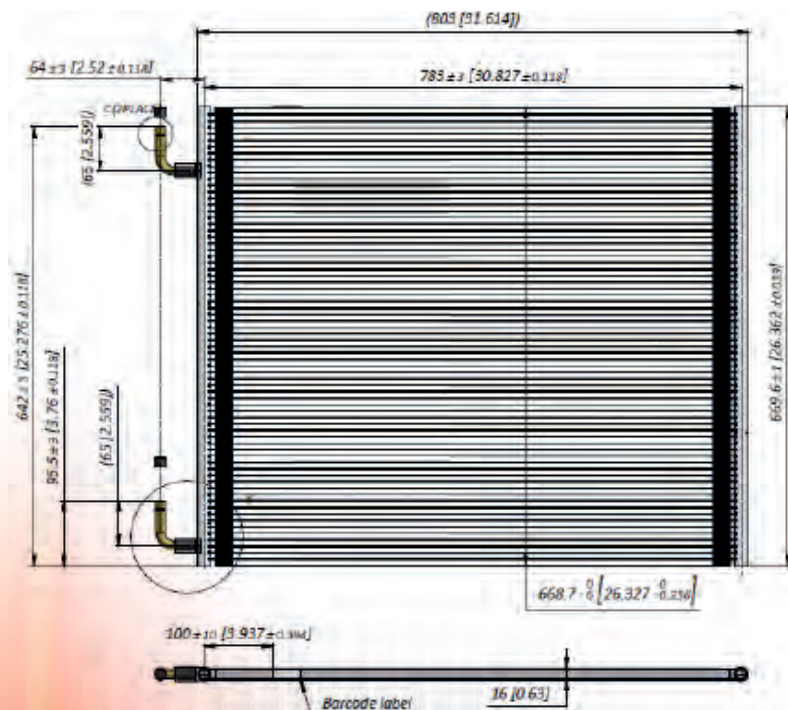
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD23 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	803	(L)
Total height	mm	669,6	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	763	(L1)
Heat exchanger height	mm	668,7	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,51	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	12,7	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,673	
Coil Internal Volume	liters	0,3921	
Manifold Internal Volume	liters	0,2809	
Number of tubes		70	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		30/20/14/6	
<b>Physical Characteristics</b>			
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	3,805	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	31,61	(L)
Total height	in	26,36	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	30,04	(L1)
Heat exchanger height	in	26,33	(H1)
Heat exchanger front surface	in <sup>2</sup>	790,8	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	4/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	41,07	
Coil Internal Volume	in <sup>3</sup>	23,93	
Manifold Internal Volume	in <sup>3</sup>	17,14	
Number of tubes		70	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		30/20/14/6	
<b>Physical Characteristics</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	8,39	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1805,7	13,5	5,31	0,24	10,86	0,77	16,50	1,55	4,87	0,41	10,20	1,06	15,42	1,88	5,27	0,32	10,76	1,09	16,31	2,13
1,5	2708,5	23,2	7,38	0,41	15,11	1,33	22,96	2,62	6,68	0,63	13,90	1,56	20,90	2,91	7,24	0,54	14,78	1,77	22,43	3,42
2	3611,3	34,3	9,20	0,56	18,76	1,87	28,58	3,67	8,15	0,78	16,80	2,14	25,48	0,00	8,88	0,78	18,18	2,41	27,61	4,59
2,5	4514,2	46,7	10,76	0,76	22,04	2,38	33,56	4,67	9,40	0,90	19,34	2,52	29,32	4,48	10,31	0,96	21,08	2,98	32,05	5,60
3	5417,0	60,2	12,20	0,92	24,95	2,86	37,99	5,58	10,49	1,00	21,53	2,86	32,64	5,07	11,58	1,14	23,62	3,48	35,94	6,47
3,5	6319,8	74,7	13,49	1,06	27,56	3,33	41,99	6,42	11,45	1,08	23,09	3,19	35,49	5,56	12,69	1,29	25,86	3,93	39,35	7,23
4	7222,7	90,1	14,68	1,20	29,98	3,74	45,67	7,20	12,22	1,15	24,68	3,42	38,02	5,97	13,55	1,46	27,85	4,31	42,35	7,87
4,5	8125,5	106,2	15,69	1,36	32,17	4,14	49,00	7,91	12,85	1,28	26,06	3,62	40,25	6,30	14,42	1,58	29,63	4,66	45,05	8,44

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	1805,7	13,5	3,27	0,14	9,27	0,65	14,83	1,43	5,18	0,26	10,58	0,65	15,91	1,20	5,38	0,33	10,87	1,13	16,43	2,21
1,5	2708,5	23,2	4,37	0,18	12,74	1,10	20,44	2,32	7,15	0,39	14,58	1,09	21,95	1,99	7,40	0,56	14,93	1,83	22,59	3,54
2	3611,3	34,3	5,40	0,25	15,72	1,48	25,22	3,11	8,85	0,50	18,02	1,48	27,15	2,69	9,08	0,81	18,37	2,49	27,80	4,74
2,5	4514,2	46,7	6,08	0,28	18,30	1,84	29,36	3,87	10,36	0,60	21,03	1,83	31,67	3,30	10,55	1,01	21,31	3,08	32,30	5,77
3	5417,0	60,2	6,61	0,31	20,42	2,20	33,01	4,55	11,64	0,74	23,52	2,18	35,65	3,87	11,84	1,20	23,89	3,60	36,20	6,67
3,5	6319,8	74,7	7,03	0,32	22,38	2,50	36,21	5,14	12,83	0,84	25,83	2,46	39,19	4,39	12,89	1,39	26,16	4,07	39,63	7,45
4	7222,7	90,1	7,36	0,33	24,12	2,77	39,09	5,68	13,91	0,92	27,91	2,72	42,37	4,85	13,89	1,54	28,17	4,46	42,67	8,12
4,5	8125,5	106,2	7,62	0,34	25,68	3,01	41,70	6,14	14,89	1,00	29,78	2,96	45,29	5,27	14,77	1,68	29,97	4,82	45,33	8,70

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1062,8	0,1	18,14	3,52	37,09	11,22	56,34	22,52	16,62	5,88	34,82	15,31	52,65	27,31	18,00	4,70	36,74	15,85	55,70	30,90
295	1594,2	0,1	25,22	5,92	51,61	19,28	78,41	38,06	22,82	9,19	47,48	22,68	71,38	42,20	24,73	7,86	50,46	25,65	76,60	49,66
394	2125,5	0,1	31,42	8,12	64,08	27,11	97,61	53,26	27,84	11,34	57,37	31,02	87,02	0,00	30,34	11,24	62,08	34,96	94,28	66,57
492	2656,9	0,2	36,76	11,01	75,26	34,57	114,62	67,67	32,12	13,03	66,05	36,54	100,14	64,91	35,21	13,90	72,01	43,17	109,45	81,18
591	3188,3	0,2	41,66	13,30	85,22	41,54	129,75	80,93	35,83	14,45	73,53	41,42	111,48	73,55	39,53	16,49	80,67	50,50	122,74	93,89
689	3719,7	0,3	46,08	15,42	94,13	48,26	143,42	93,06	39,10	15,73	78,86	46,28	121,21	80,68	43,33	18,77	88,32	56,98	134,40	104,80
787	4251,1	0,4	50,14	17,47	102,40	54,25	155,96	104,37	41,75	16,75	84,28	49,67	129,85	86,63	46,29	21,11	95,10	62,56	144,65	114,16
886	4782,5	0,4	53,59	19,73	109,87	60,03	167,33	114,66	43,89	18,60	89,00	52,57	137,46	91,41	49,25	22,97	101,18	67,56	153,85	122,44

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1062,8	0,1	11,18	2,10	31,66	9,42	50,65	20,68	17,68	3,74	36,14	9,38	54,33	17,46	18,38	4,83	37,12	16,32	56,11	31,98
295	1594,2	0,1	14,91	2,67	43,52	15,92	69,80	33,59	24,42	5,61	49,78	15,82	74,98	28,79	25,27	8,19	50,99	26,48	77,16	51,34
394	2125,5	0,1	18,43	3,59	53,69	21,53	86,13	45,12	30,24	7,22	61,53	21,44	92,71	39,01	31,01	11,79	62,73	36,08	94,93	68,78
492	2656,9	0,2	20,75	4,12	62,50	26,65	100,28	56,07	35,37	8,65	71,81	26,53	108,15	47,93	36,04	14,71	72,78	44,65	110,31	83,75
591	3188,3	0,2	22,57	4,43	69,74	31,92	112,73	65,95	39,75	10,78	80,33	31,61	121,74	56,12	40,44	17,38	81,59	52,26	123,64	96,80
689	3719,7	0,3	24,00	4,62	76,43	36,25	123,66	74,56	43,80	12,15	88,22	35,75	133,86	63,64	44,03	20,13	89,35	58,98	135,34	107,99
787	4251,1	0,4	25,13	4,77	82,37	40,18	133,50	82,34	47,49	13,40	95,31	39,46	144,70	70,28	47,42	22,36	96,21	64,75	145,71	117,75
886	4782,5	0,4	26,01	4,86	87,72	43,61	142,40	89,04	50,86	14,54	101,71	42,91	154,68	76,37	50,45	24,32	102,36	69,94	154,82	126,11

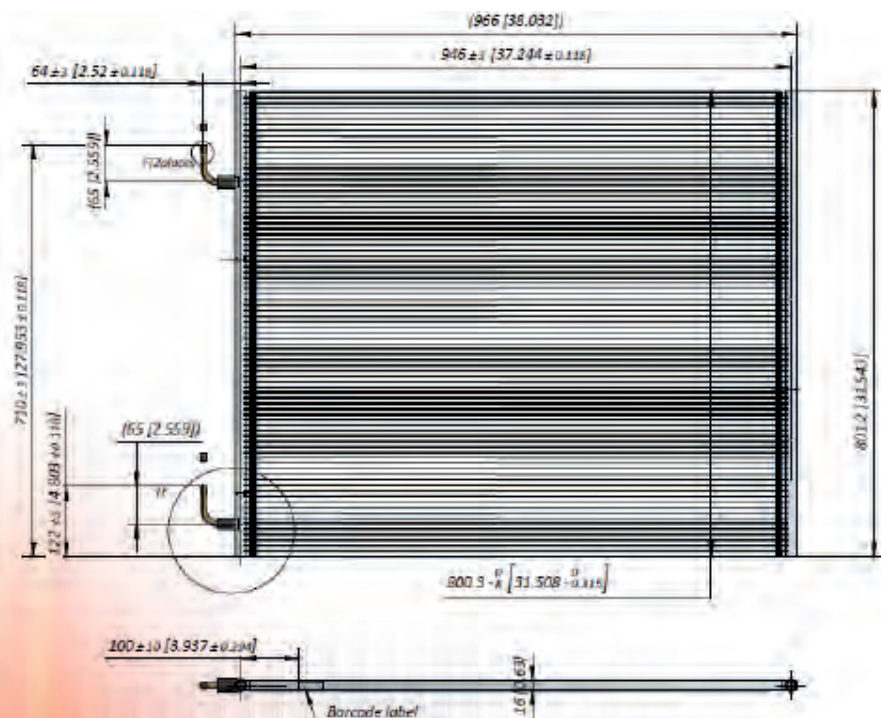
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD24 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	966	(L)
Total height	mm	801,2	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	926	(L1)
Heat exchanger height	mm	800,3	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,74	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	9,52	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,907	
Coil Internal Volume	liters	0,5711	
Manifold Internal Volume	liters	0,3360	
Number of tubes		84	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		30/24/19/11	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	5,434	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	38,03	(L)
Total height	in	31,54	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	36,46	(L1)
Heat exchanger height	in	31,51	(H1)
Heat exchanger front surface	in <sup>2</sup>	1148,7	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	3/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	55,35	
Coil Internal Volume	in <sup>3</sup>	34,85	
Manifold Internal Volume	in <sup>3</sup>	20,50	
Number of tubes		84	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		30/24/19/11	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	11,98	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2630,5	13,4	7,76	0,36	15,68	1,15	23,76	2,13	6,77	0,63	14,21	1,52	21,29	2,79	7,60	0,47	15,28	1,56	23,16	2,83
1,5	3945,7	23,0	10,70	0,60	21,55	1,91	32,72	3,50	8,90	0,81	18,60	2,32	28,09	4,07	10,29	0,77	20,60	2,44	31,32	4,36
2	5261,0	34,1	13,13	0,88	26,51	2,63	40,31	4,80	10,78	1,05	22,10	2,86	33,42	5,03	12,36	1,09	24,89	3,18	37,99	5,65
2,5	6576,2	46,5	15,28	1,10	30,77	3,28	46,87	5,95	12,23	1,19	24,49	3,33	37,72	5,72	14,03	1,34	28,49	3,80	43,59	6,71
3	7891,5	59,9	17,03	1,34	34,49	3,87	52,57	6,99	13,42	1,28	26,70	3,63	41,33	6,23	15,51	1,53	31,51	4,31	48,35	7,61
3,5	9206,7	74,4	18,69	1,54	37,79	4,40	57,71	7,88	14,44	1,35	28,58	3,84	44,33	6,64	16,76	1,69	34,12	4,75	52,50	8,36
4	10522,0	89,7	20,14	1,72	40,73	4,87	62,29	8,70	15,31	1,41	30,15	4,02	46,92	6,97	17,86	1,83	36,40	5,11	56,10	8,98
4,5	11837,2	105,7	21,46	1,88	43,36	5,29	66,42	9,42	16,01	1,44	31,52	4,16	49,18	7,22	18,83	1,94	38,42	5,43	59,29	9,50

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2630,5	13,4	4,66	0,22	13,28	0,95	21,08	2,07	7,37	0,37	15,13	0,94	22,58	1,79	7,77	0,48	15,45	1,60	23,35	2,88
1,5	3945,7	23,0	6,06	0,27	17,88	1,58	28,53	3,26	10,14	0,56	20,43	1,57	30,62	2,83	10,44	0,86	20,83	2,49	31,59	4,45
2	5261,0	34,1	7,10	0,30	21,50	2,15	34,63	4,29	12,41	0,71	24,62	2,13	37,23	3,71	12,66	1,14	25,21	3,27	38,34	5,77
2,5	6576,2	46,5	7,88	0,32	24,58	2,59	39,71	5,13	14,36	0,85	28,23	2,58	42,76	4,47	14,37	1,41	28,85	3,91	44,00	6,87
3	7891,5	59,9	8,45	0,33	27,19	2,95	44,06	5,85	15,97	0,99	31,30	2,95	47,52	5,09	15,89	1,61	31,94	4,44	48,84	7,79
3,5	9206,7	74,4	8,98	0,345	29,45	3,26	47,86	6,44	17,38	1,14	33,97	3,30	51,66	5,63	17,20	1,78	34,60	4,89	53,03	8,55
4	10522,0	89,7	9,29	0,347	31,40	3,51	51,15	6,95	18,67	1,23	36,30	3,52	55,34	6,06	18,32	1,93	36,92	5,27	56,70	9,20
4,5	11837,2	105,7	9,56	0,352	33,12	3,73	54,08	7,38	19,82	1,31	38,37	3,75	58,58	6,44	19,30	2,05	38,96	5,61	59,95	9,75

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1548,3	0,1	26,49	5,17	53,56	16,72	81,15	30,91	23,11	9,20	48,52	22,05	72,70	40,53	25,94	6,82	52,19	22,66	79,10	40,98
295	2322,4	0,1	36,53	8,69	73,59	27,69	111,73	50,79	30,40	11,70	63,51	33,71	95,95	59,05	35,16	11,17	70,34	35,37	106,97	63,28
394	3096,5	0,1	44,84	12,73	90,55	38,20	137,65	69,58	36,80	15,23	75,49	41,43	114,13	72,90	42,22	15,74	85,01	46,14	129,75	81,92
492	3870,6	0,2	52,17	15,96	105,09	47,57	160,08	86,31	41,77	17,22	83,63	48,22	128,83	82,94	47,92	19,44	97,31	55,16	148,86	97,25
591	4644,8	0,2	58,16	19,48	117,80	56,11	179,52	101,32	45,84	18,57	91,18	52,64	141,15	90,35	52,95	22,23	107,62	62,56	165,13	110,37
689	5418,9	0,3	63,81	22,31	129,06	63,84	197,09	114,31	49,31	19,61	97,61	55,74	151,40	96,25	57,25	24,45	116,53	68,83	179,30	121,19
787	6193,0	0,4	68,78	24,88	139,10	70,68	212,72	126,15	52,29	20,42	102,96	58,29	160,25	101,05	61,01	26,49	124,31	74,13	191,61	130,23
886	6967,1	0,4	73,30	27,22	148,08	76,73	226,84	136,64	54,68	20,87	107,66	60,34	167,97	104,67	64,30	28,12	131,21	78,70	202,48	137,81

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1548,3	0,1	15,91	3,24	45,35	13,78	71,99	30,07	25,15	5,30	51,67	13,62	77,11	25,96	26,53	6,98	52,77	23,18	79,73	41,79
295	2322,4	0,1	20,70	3,98	61,05	22,99	97,43	47,35	34,63	8,14	69,76	22,80	104,58	41,00	35,64	12,52	71,13	36,18	107,88	64,53
394	3096,5	0,1	24,23	4,39	73,44	31,18	118,25	62,17	42,37	10,37	84,07	30,87	127,14	53,78	43,24	16,52	86,10	47,42	130,93	83,64
492	3870,6	0,2	26,90	4,64	83,96	37,55	135,62	74,44	49,03	12,29	96,41	37,39	146,03	64,81	49,07	20,41	98,54	56,71	150,27	99,64
591	4644,8	0,2	28,87	4,79	92,87	42,80	150,46	84,79	54,54	14,37	106,88	42,80	162,29	73,79	54,26	23,38	109,08	64,46	166,80	112,92
689	5418,9	0,3	30,68	5,01	100,59	47,23	163,46	93,47	59,35	16,49	116,00	47,91	176,43	81,60	58,73	25,88	118,18	70,87	181,10	124,02
787	6193,0	0,4	31,71	5,04	107,23	50,92	174,69	100,77	63,75	17,88	123,97	51,09	189,00	87,84	62,57	27,96	126,07	76,47	193,65	133,43
886	6967,1	0,4	32,66	5,11	113,10	54,03	184,70	106,99	67,69	19,06	131,03	54,46	200,07	93,43	65,93	29,73	133,05	81,36	204,75	141,40

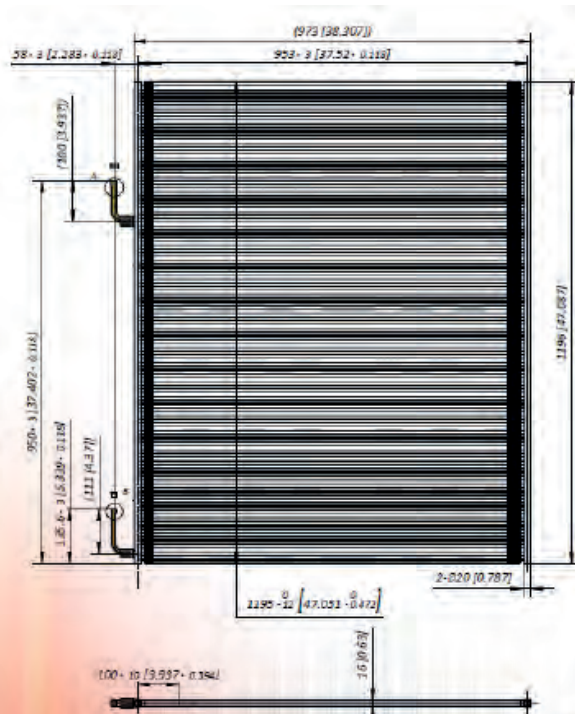
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD25 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	973	(L)
Total height	mm	1196	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	933	(L1)
Heat exchanger height	mm	1195	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,11	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,368	
Coil Internal Volume	liters	0,8631	
Manifold Internal Volume	liters	0,5047	
Number of tubes		126	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		48/37/25/16	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	8,158	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	38,31	(L)
Total height	in	47,09	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	36,73	(L1)
Heat exchanger height	in	47,05	(H1)
Heat exchanger front surface	in <sup>2</sup>	1728,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	83,47	
Coil Internal Volume	in <sup>3</sup>	52,67	
Manifold Internal Volume	in <sup>3</sup>	30,80	
Number of tubes		126	(-)
Number of passes		4	(-)
Pass Distribution (step 1/2)		48/37/25/16	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	17,98	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	3962.4	13,3	11,71	0,36	23,66	1,18	35,86	2,19	10,30	0,63	21,55	1,56	32,32	2,83	11,43	0,52	23,11	1,59	35,00	2,89
1,5	5943,7	22,9	16,16	0,62	32,57	1,95	49,47	3,60	13,61	0,80	28,33	2,35	42,88	4,11	15,55	0,79	31,23	2,48	47,50	4,44
2	7924,9	33,8	19,86	0,90	40,14	2,67	61,04	4,90	16,54	1,05	33,87	2,89	51,23	5,05	18,78	1,11	37,88	3,23	57,78	5,73
2,5	9906,1	46,1	23,15	1,13	46,66	3,34	71,08	6,07	18,80	1,18	37,68	0,00	58,10	5,73	21,46	1,34	43,42	3,86	66,42	6,82
3	11887,3	59,4	25,86	1,37	52,39	3,94	79,92	7,11	20,69	1,27	41,25	3,65	63,76	6,24	23,64	1,55	48,15	4,38	73,84	7,71
3,5	13868,5	73,8	28,37	1,56	57,48	4,48	87,70	8,01	22,24	1,35	44,21	3,86	68,59	6,66	25,63	1,71	52,26	4,81	80,26	8,44
4	15849,8	89,0	30,62	1,74	62,03	4,95	94,85	8,84	23,32	1,44	46,77	4,04	72,78	6,97	27,31	1,84	55,81	5,18	85,96	9,05
4,5	17831,0	104,8	32,65	1,90	66,16	5,39	101,28	9,58	24,45	1,48	48,97	9,01	76,44	7,21	28,78	1,96	58,94	5,49	90,91	9,57

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	3962,4	13,3	7,06	0,22	20,05	0,97	31,89	2,11	11,14	0,36	22,85	0,96	34,16	1,83	11,70	0,54	23,37	1,63	35,30	2,95
1,5	5943,7	22,9	9,23	0,27	27,10	1,61	43,26	3,31	15,37	0,56	30,97	1,60	46,45	2,87	15,80	0,88	31,60	2,54	47,90	4,52
2	7924,9	33,8	10,86	0,29	32,67	2,17	52,62	4,34	18,85	0,71	37,46	2,16	56,61	3,77	19,20	1,16	38,34	3,32	58,27	5,88
2,5	9906,1	46,1	12,09	0,31	37,45	2,61	60,51	5,19	21,66	0,92	43,05	2,61	65,20	4,52	21,86	1,43	43,98	3,96	67,03	6,98
3	11887,3	59,4	13,21	0,34	41,52	2,98	67,31	5,90	24,20	1,04	47,84	2,99	72,70	5,11	24,23	1,64	48,79	4,50	74,53	7,89
3,5	13868,5	73,8	13,80	0,34	45,03	3,28	73,21	6,51	26,44	1,16	52,00	3,30	79,15	5,67	26,24	1,81	52,95	4,96	81,07	8,65
4	15849,8	89,0	14,27	0,35	48,11	3,53	78,41	7,00	28,42	1,25	55,70	3,57	84,92	6,11	28,03	1,96	56,58	5,35	86,81	9,28
4,5	17831,0	104,8	14,61	0,35	50,90	3,75	82,99	7,44	30,22	1,33	58,97	3,79	90,06	6,48	29,55	2,07	59,81	5,67	91,83	9,82

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2332.2	0,1	39,99	5,15	80,82	17,12	122,48	31,69	35,17	9,09	73,59	22,59	110,39	41,02	39,03	7,52	78,92	23,07	119,54	41,86
295	3498,3	0,1	55,19	8,95	111,25	28,27	168,94	52,15	46,46	11,54	96,76	34,10	146,45	59,62	53,11	11,44	106,66	36,01	162,22	64,38
394	4664,4	0,1	67,84	13,00	137,09	38,79	208,46	71,06	56,49	15,20	115,67	41,94	174,96	73,30	64,12	16,08	129,35	46,90	197,32	83,15
492	5830,5	0,2	79,06	16,32	159,34	48,42	242,75	88,01	64,20	17,12	128,69	0,00	198,43	83,08	73,30	19,50	148,29	55,97	226,84	98,92
591	6996,6	0,2	88,32	19,85	178,93	57,13	272,93	103,09	70,66	18,47	140,86	52,89	217,75	90,52	80,73	22,51	164,44	63,59	252,18	111,79
689	8162,7	0,3	96,88	22,67	196,29	65,04	299,51	116,20	75,95	19,58	150,97	56,00	234,26	96,52	87,54	24,82	178,47	69,73	274,11	122,43
787	9328,8	0,4	104,56	25,28	211,84	71,85	323,95	128,16	79,64	20,94	159,72	58,62	248,57	101,12	93,27	26,75	190,61	75,14	293,56	131,27
886	10494,9	0,4	111,50	27,62	225,93	78,15	345,88	138,93	83,49	21,42	167,25	130,69	261,06	104,63	98,29	28,40	201,31	79,56	310,47	138,85

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2332.2	0,1	24,12	3,15	68,48	14,08	108,91	30,55	38,03	5,21	78,02	13,96	116,65	26,54	39,94	7,80	79,80	23,66	120,55	42,83
295	3498,3	0,1	31,53	3,85	92,55	23,35	147,74	47,94	52,51	8,10	105,76	23,24	158,63	41,60	53,95	12,77	107,92	36,86	163,59	65,62
394	4664,4	0,1	37,09	4,26	111,57	31,53	179,71	62,88	64,38	10,31	127,94	31,31	193,32	54,72	65,57	16,80	130,92	48,13	198,99	85,26
492	5830,5	0,2	41,28	4,53	127,90	37,92	206,65	75,33	73,98	13,31	147,03	37,90	222,68	65,61	74,66	20,73	150,21	57,46	228,93	101,24
591	6996,6	0,2	45,11	4,92	141,78	43,23	229,89	85,53	82,63	15,15	163,39	43,31	248,30	74,15	82,74	23,76	166,61	65,28	254,55	114,49
689	8162,7	0,3	47,12	4,99	153,80	47,63	250,03	94,39	90,29	16,79	177,58	47,89	270,30	82,23	89,62	26,25	180,84	72,00	276,88	125,42
787	9328,8	0,4	48,75	5,02	164,31	51,22	267,77	101,56	97,08	18,13	190,21	51,75	290,00	88,54	95,72	28,39	193,23	77,61	296,48	134,63
886	10494,9	0,4	49,91	5,04	173,84	54,40	283,44	107,93	103,21	19,36	201,41	55,03	307,56	94,00	100,91	30,01	204,26	82,20	313,60	142,35

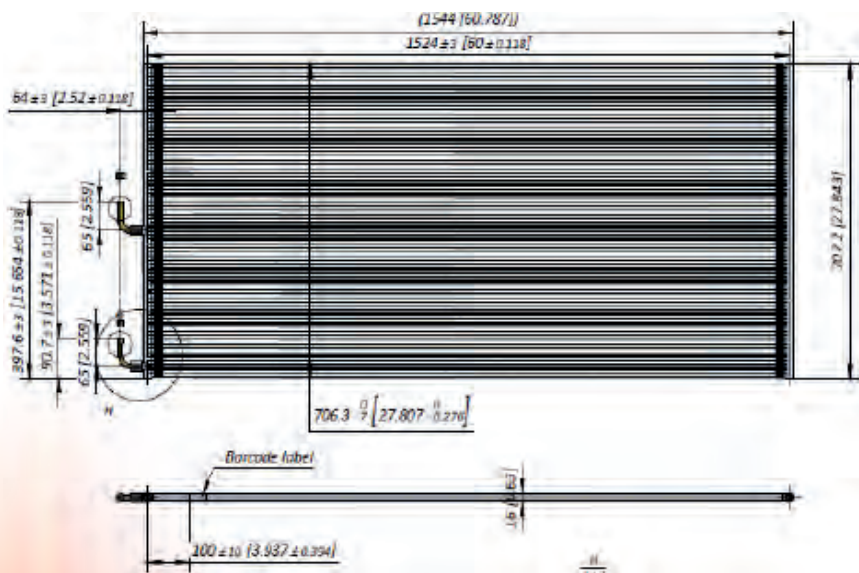
# SANHUA Micro-Channel Heat Exchangers - Standard Range

## SD26 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1544	(L)
Total height	mm	7072	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1504	(L1)
Heat exchanger height	mm	706,3	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,06	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,113	
Coil Internal Volume	liters	0,8171	
Manifold Internal Volume	liters	0,2958	
Number of tubes		74	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		54/20	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	7,564	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	60,79	(L)
Total height	in	27,84	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	59,21	(L1)
Heat exchanger height	in	27,81	(H1)
Heat exchanger front surface	in <sup>2</sup>	1646,5	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	67,92	
Coil Internal Volume	in <sup>3</sup>	49,86	
Manifold Internal Volume	in <sup>3</sup>	18,05	
Number of tubes		74	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		54/20	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	16,67	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	3784,8	13,1	11,11	0,26	22,73	0,78	34,51	1,45	10,09	0,45	21,00	1,16	31,72	1,91	10,81	0,36	22,42	1,09	34,04	1,99
1,5	5677,2	22,6	15,43	0,43	31,50	1,31	47,92	2,45	13,49	0,58	28,34	1,73	42,66	3,08	15,02	0,58	30,64	1,76	46,61	3,19
2	7569,6	33,4	19,19	0,59	39,06	1,85	59,52	3,41	16,26	0,68	34,35	2,20	51,51	3,96	18,46	0,77	37,49	2,37	57,19	4,24
2,5	9462,0	45,4	22,53	0,75	45,71	2,35	69,68	4,32	18,57	1,00	38,46	2,60	58,86	4,64	21,43	0,94	43,28	2,90	66,26	5,17
3	11354,3	58,7	25,51	0,90	51,56	2,83	78,72	5,17	20,52	1,11	42,30	3,03	65,11	5,18	23,65	1,11	48,39	3,37	74,14	5,93
3,5	13246,7	73,2	28,03	1,09	56,84	3,27	86,87	5,94	21,98	1,21	45,72	3,28	70,48	5,62	25,80	1,31	52,86	3,77	81,15	6,61
4	15139,1	89,0	30,38	1,25	61,65	3,66	94,26	6,64	23,97	1,28	48,62	3,48	75,25	5,98	27,71	1,44	56,81	4,12	87,41	7,17
4,5	17031,5	106,0	32,57	1,39	65,98	4,04	101,11	7,28	25,30	1,33	51,18	3,66	79,45	6,25	29,42	1,56	60,37	4,42	93,08	7,68

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	3784,8	13,1	6,91	0,15	19,33	0,70	30,92	1,44	10,72	0,25	22,00	0,69	33,07	1,25	11,20	0,38	22,65	1,11	34,30	2,03
1,5	5677,2	22,6	9,18	0,19	26,58	1,10	42,43	2,34	14,64	0,33	30,29	1,09	45,44	2,03	15,37	0,60	30,98	1,80	47,01	3,25
2	7569,6	33,4	10,98	0,21	32,30	1,47	52,05	3,16	17,96	0,55	36,95	1,47	55,85	2,74	18,90	0,80	37,92	2,42	57,69	4,33
2,5	9462,0	45,4	12,46	0,23	37,34	1,94	60,30	3,89	21,16	0,69	42,79	1,93	64,81	3,39	21,66	0,98	43,79	2,98	66,86	5,27
3	11354,3	58,7	13,72	0,25	41,70	2,26	67,48	4,53	23,76	0,80	47,87	2,26	72,61	3,94	24,18	1,22	48,92	3,45	74,87	6,08
3,5	13246,7	73,2	14,75	0,27	45,55	2,55	73,82	5,09	26,08	0,90	52,35	2,55	79,52	4,44	26,40	1,38	53,53	3,86	81,92	6,76
4	15139,1	89,0	15,61	0,33	48,94	2,80	79,61	5,57	28,16	0,99	56,34	2,81	85,71	4,87	28,40	1,52	57,53	4,24	88,30	7,33
4,5	17031,5	106,0	16,35	0,34	51,98	3,02	84,65	6,00	30,05	1,07	59,92	3,04	91,37	5,24	30,16	1,64	61,20	4,55	94,01	7,85

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2227,6	0,1	37,95	3,84	77,63	11,31	117,86	21,01	34,46	6,46	71,72	16,80	108,33	27,63	36,92	5,29	76,57	15,79	116,26	28,85
295	3341,5	0,1	52,70	6,29	107,58	19,06	163,66	35,47	46,07	8,36	96,79	25,07	145,69	44,63	51,30	8,35	104,64	25,50	159,18	46,29
394	4455,3	0,1	65,53	8,63	133,40	26,77	203,27	49,46	55,53	9,85	117,31	31,86	175,92	57,43	63,04	11,14	128,04	34,30	195,31	61,51
492	5569,1	0,2	76,95	10,92	156,11	34,08	237,97	62,71	63,42	14,44	131,35	37,65	201,02	67,33	73,19	13,70	147,81	42,05	226,31	75,00
591	6682,9	0,2	87,14	13,03	176,09	40,97	268,84	74,97	70,08	16,15	144,46	43,95	222,36	75,17	80,77	16,13	165,26	48,80	253,19	86,02
689	7796,7	0,3	95,72	15,87	194,12	47,37	296,68	86,08	75,07	17,48	156,14	47,60	240,70	81,48	88,11	18,99	180,53	54,67	277,15	95,89
787	8910,6	0,4	103,75	18,14	210,55	53,15	321,91	96,29	81,86	18,49	166,05	50,53	256,99	86,70	94,63	20,92	194,02	59,70	298,51	103,99
886	10024,4	0,4	111,24	20,09	225,33	58,54	345,31	105,65	86,40	19,30	174,79	53,08	271,34	90,68	100,47	22,58	206,17	64,17	317,87	111,37

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2227,6	0,1	23,59	2,19	66,01	10,12	105,60	20,85	36,60	3,57	75,15	10,03	112,96	18,09	38,25	5,48	77,37	16,13	117,15	29,41
295	3341,5	0,1	31,35	2,71	90,76	15,98	144,91	33,90	50,00	4,81	103,45	15,86	155,19	29,42	52,48	8,66	105,79	26,07	160,54	47,17
394	4455,3	0,1	37,50	3,09	110,33	21,33	177,76	45,87	61,33	8,00	126,18	21,38	190,74	39,80	64,55	11,62	129,51	35,15	197,02	62,84
492	5569,1	0,2	42,55	3,40	127,53	28,20	205,92	56,37	72,25	9,96	146,15	28,05	221,35	49,12	73,96	14,27	149,57	43,20	228,34	76,38
591	6682,9	0,2	46,84	3,60	142,42	32,79	230,45	65,75	81,14	11,60	163,49	32,79	247,98	57,17	82,58	17,75	167,07	50,03	255,70	88,12
689	7796,7	0,3	50,36	3,88	155,57	36,97	252,12	73,81	89,06	13,10	178,78	37,05	271,56	64,34	90,15	19,97	182,82	56,02	279,76	98,02
787	8910,6	0,4	53,31	4,83	167,15	40,64	271,88	80,73	96,16	14,42	192,41	40,71	292,70	70,62	97,00	22,08	196,47	61,47	301,55	106,35
886	10024,4	0,4	55,83	4,92	177,51	43,81	289,09	87,09	102,61	15,56	204,65	44,02	312,04	76,02	103,01	23,76	209,02	65,98	321,06	113,79

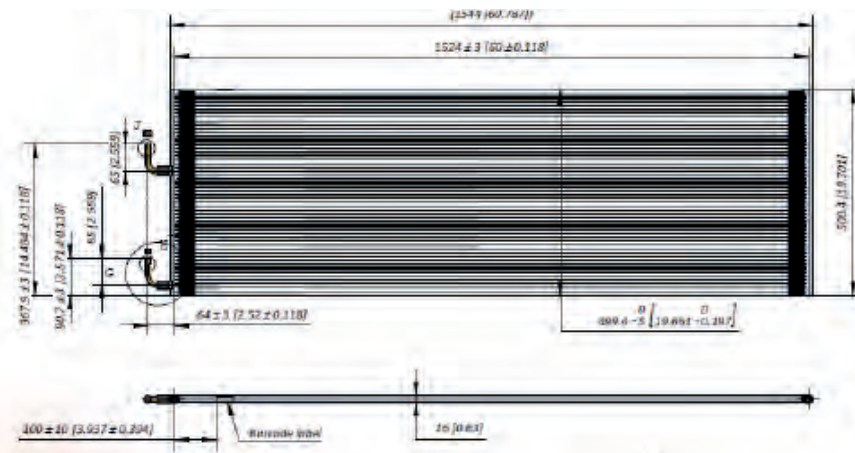
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD27 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1544	(L)
Total height	mm	500,4	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1504	(L1)
Heat exchanger height	mm	499,4	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,75	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,782	
Coil Internal Volume	liters	0,5742	
Manifold Internal Volume	liters	0,2075	
Number of tubes		52	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		37/15	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	5,361	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	60,79	(L)
Total height	in	19,70	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	59,21	(L1)
Heat exchanger height	in	19,66	(H1)
Heat exchanger front surface	in <sup>2</sup>	1164,2	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	47,70	
Coil Internal Volume	in <sup>3</sup>	35,04	
Manifold Internal Volume	in <sup>3</sup>	12,66	
Number of tubes		52	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		37/15	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	11,82	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2672.5	10.2	7.06	0.18	14.70	0.61	22.33	1.20	6.56	0.41	13.68	1.00	20.84	1.63	7.05	0.30	14.53	0.91	22.09	1.67
1.5	4008.8	18.3	9.72	0.35	19.95	1.07	30.40	1.97	8.67	0.53	18.22	1.48	27.55	2.62	9.51	0.47	19.54	1.45	29.76	2.63
2	5345.1	27.5	11.94	0.48	24.47	1.48	37.31	2.72	10.39	0.62	21.94	1.88	33.07	3.37	11.59	0.63	23.72	1.94	36.20	3.51
2.5	6681.3	37.7	13.90	0.60	28.42	1.87	43.40	3.44	11.84	0.69	25.09	2.21	37.71	4.00	13.39	0.77	27.31	2.39	41.73	4.28
3	8017.6	49.0	15.65	0.71	31.95	2.24	48.81	4.09	12.97	0.81	27.62	2.52	41.75	4.52	14.97	0.89	30.46	2.76	46.58	4.95
3.5	9353.8	61.3	17.24	0.82	35.13	2.58	53.68	4.72	14.32	1.05	29.46	2.88	45.24	4.96	16.37	1.01	33.20	3.13	50.92	5.56
4	10690.1	74.7	18.70	0.92	38.01	2.90	58.14	5.30	15.29	1.13	31.38	3.09	48.36	5.33	17.36	1.19	35.71	3.44	54.83	6.08
4.5	12026.4	89.2	19.84	1.09	40.65	3.21	62.19	5.83	16.16	1.19	33.10	3.27	51.15	5.63	18.45	1.29	37.97	3.73	58.37	6.55

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	2672.5	10.2	4.46	0.14	12.50	0.59	20.05	1.21	6.91	0.22	14.25	0.58	21.54	0.98	7.22	0.31	14.68	0.93	22.24	1.70
1.5	4008.8	18.3	5.85	0.17	16.90	0.91	27.04	1.93	9.28	0.30	19.28	0.91	29.00	1.67	9.74	0.49	19.76	1.48	29.99	2.69
2	5345.1	27.5	6.99	0.20	20.58	1.21	32.90	2.59	11.27	0.36	23.54	1.21	35.32	2.26	11.86	0.65	23.98	1.99	36.54	3.59
2.5	6681.3	37.7	7.96	0.22	23.51	1.59	37.95	3.20	13.20	0.56	26.93	1.58	40.78	2.79	13.70	0.80	27.63	2.44	42.09	4.36
3	8017.6	49.0	8.75	0.23	26.21	1.86	42.38	3.74	14.78	0.65	30.07	1.85	45.57	3.25	15.32	0.93	30.78	2.85	46.99	5.06
3.5	9353.8	61.3	9.42	0.25	28.61	2.11	46.30	4.22	16.19	0.74	32.86	2.10	49.86	3.68	16.54	1.12	33.62	3.21	51.39	5.67
4	10690.1	74.7	10.00	0.26	30.75	2.33	49.94	4.66	17.46	0.81	35.35	2.33	53.72	4.06	17.76	1.25	36.16	3.54	55.32	6.22
4.5	12026.4	89.2	10.52	0.27	32.69	2.52	53.13	5.05	18.62	0.88	37.63	2.53	57.23	4.40	18.91	1.09	38.46	3.83	58.91	6.68

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1573.0	0.0	24.11	2.54	50.19	8.78	76.25	17.37	22.42	5.96	46.72	14.47	71.16	23.60	24.08	4.38	49.62	13.23	75.43	24.20
295	2359.5	0.1	33.21	5.10	68.14	15.47	103.81	28.62	29.62	7.67	62.23	21.40	94.08	38.03	32.48	6.85	66.74	21.02	101.64	38.21
394	3146.0	0.1	40.78	6.92	83.58	21.42	127.44	39.50	35.49	9.00	74.94	27.20	112.94	48.91	39.60	9.10	81.02	28.19	123.64	50.85
492	3932.5	0.2	47.46	8.64	97.07	27.06	148.21	49.85	40.42	10.06	85.68	32.00	128.77	58.07	45.72	11.14	93.26	34.60	142.53	62.08
591	4719.0	0.2	53.45	10.30	109.11	32.42	166.70	59.26	44.31	11.77	94.32	36.61	142.58	65.60	51.13	12.95	104.04	40.06	159.09	71.85
689	5505.5	0.2	58.88	11.82	119.99	37.38	183.31	68.41	48.90	15.22	100.60	41.72	154.50	71.92	55.91	14.68	113.39	45.38	173.91	80.70
787	6292.0	0.3	63.87	13.32	129.81	42.09	198.54	76.92	52.22	16.37	107.17	44.81	165.16	77.29	59.28	17.26	121.95	49.82	187.24	88.21
886	7078.5	0.4	67.75	15.79	138.84	46.51	212.39	84.62	55.20	17.24	113.04	47.46	174.69	81.60	63.02	18.71	129.68	54.03	199.35	94.97

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1573.0	0.0	15.23	2.05	42.69	8.56	68.48	17.52	23.58	3.25	48.65	8.48	73.55	14.25	24.67	4.56	50.14	13.54	75.95	24.60
295	2359.5	0.1	19.99	2.54	57.72	13.21	92.35	28.01	31.69	4.32	65.85	13.14	99.04	24.29	33.27	7.13	67.48	21.47	102.43	38.98
394	3146.0	0.1	23.87	2.91	70.28	17.49	112.37	37.63	38.50	5.21	80.38	17.49	120.63	32.71	40.50	9.45	81.91	28.87	124.79	52.05
492	3932.5	0.2	27.19	3.19	80.29	23.03	129.60	46.39	45.09	8.07	91.98	22.88	139.27	40.42	46.78	11.61	94.35	35.41	143.74	63.29
591	4719.0	0.2	29.87	3.39	89.52	26.98	144.74	54.23	50.48	9.42	102.70	26.89	155.64	47.20	52.31	13.55	105.13	41.38	160.47	73.39
689	5505.5	0.2	32.18	3.57	97.70	30.58	158.14	61.21	55.29	10.66	112.21	30.45	170.29	53.31	56.47	16.27	114.81	46.50	175.51	82.26
787	6292.0	0.3	34.16	3.72	105.01	33.77	170.56	67.57	59.62	11.81	120.74	33.73	183.45	58.91	60.67	18.11	123.49	51.30	188.94	90.20
886	7078.5	0.4	35.92	3.85	111.64	36.57	181.44	73.29	63.61	12.75	128.52	36.74	195.43	63.86	64.59	15.81	131.36	55.48	201.19	96.95

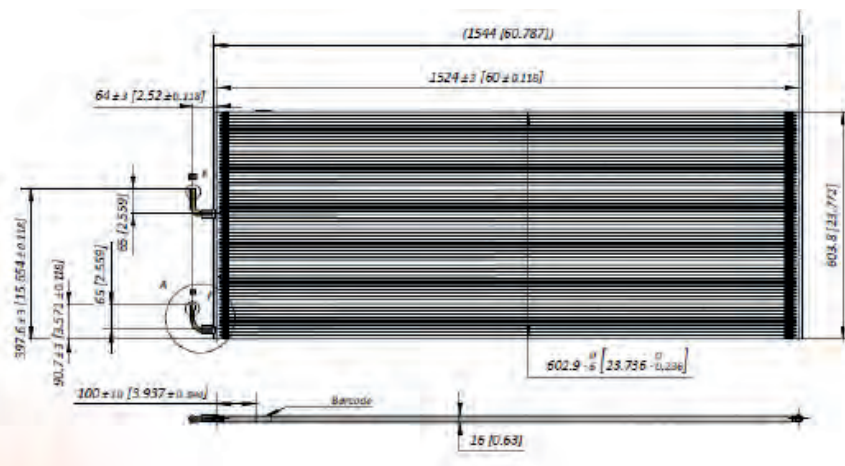
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD28 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1544	(L)
Total height	mm	603,8	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1504	(L1)
Heat exchanger height	mm	602,9	(H1)
Heat exchanger front surface	m <sup>2</sup>	0,91	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,947	
Coil Internal Volume	liters	0,6956	
Manifold Internal Volume	liters	0,2517	
Number of tubes		63	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		46/17	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	6,463	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	60,79	(L)
Total height	in	23,77	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	59,21	(L1)
Heat exchanger height	in	23,74	(H1)
Heat exchanger front surface	in <sup>2</sup>	1405,5	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	57,81	
Coil Internal Volume	in <sup>3</sup>	42,45	
Manifold Internal Volume	in <sup>3</sup>	15,36	
Number of tubes		63	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		46/17	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	14,24	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	3228,7	13,1	9,47	0,27	19,39	0,78	29,49	1,46	8,67	0,45	18,05	1,16	27,45	1,91	9,37	0,37	19,17	1,09	29,09	1,99
1,5	4843,0	22,6	13,16	0,43	26,92	1,32	40,96	2,45	11,65	0,58	24,44	1,74	36,86	3,07	12,86	0,58	26,28	1,76	39,98	3,20
2	6457,3	33,4	16,37	0,60	33,43	1,85	50,94	3,42	14,09	0,68	29,74	2,20	44,76	3,97	15,82	0,77	32,26	2,37	49,12	4,25
2,5	8071,6	45,4	19,21	0,75	39,15	2,36	59,75	4,34	16,29	1,00	34,13	2,60	51,37	4,65	18,41	0,95	37,37	2,91	57,14	5,16
3	9685,9	58,7	21,76	0,90	44,29	2,83	67,62	5,19	18,08	1,11	37,11	3,03	57,10	5,18	20,52	1,13	41,85	3,37	64,12	5,94
3,5	11300,3	73,2	23,89	1,09	48,86	3,28	74,73	5,96	19,62	1,21	40,19	3,29	62,06	5,63	22,27	1,31	45,83	3,78	70,34	6,61
4	12914,6	89,0	25,91	1,25	53,08	3,68	81,24	6,67	20,99	1,28	42,97	3,45	66,48	5,98	23,99	1,45	49,37	4,13	75,96	7,18
4,5	14529,0	106,0	27,78	1,39	56,93	4,05	87,18	7,30	22,20	1,33	45,30	3,67	70,39	6,26	25,50	1,56	52,59	4,44	81,00	7,69

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	3228,7	13,1	5,90	0,15	16,52	0,70	26,44	1,45	9,15	0,25	18,81	0,70	28,32	1,26	9,56	0,38	19,38	1,12	29,33	2,04
1,5	4843,0	22,6	7,90	0,19	22,75	1,10	36,35	2,34	12,54	0,33	25,97	1,10	38,99	2,03	13,13	0,60	26,56	1,81	40,30	3,26
2	6457,3	33,4	9,46	0,21	28,05	1,47	44,73	3,17	15,62	0,55	32,08	1,48	48,07	2,75	16,18	0,80	32,62	2,44	49,60	4,34
2,5	8071,6	45,4	10,77	0,23	32,20	1,94	51,99	3,91	18,21	0,69	36,93	1,94	55,92	3,40	18,83	0,99	37,82	2,99	57,65	5,28
3	9685,9	58,7	11,82	0,25	36,04	2,26	58,40	4,54	20,49	0,80	41,43	2,27	62,85	3,96	20,85	1,22	42,36	3,46	64,70	6,08
3,5	11300,3	73,2	12,75	0,32	39,46	2,56	64,03	5,10	22,52	0,90	45,42	2,56	69,03	4,44	22,82	1,38	46,38	3,87	71,00	6,77
4	12914,6	89,0	14,16	0,33	42,57	2,81	69,08	5,58	24,37	1,00	49,00	2,82	74,56	4,88	24,56	1,52	50,00	4,24	76,65	7,35
4,5	14529,0	106,0	14,72	0,34	45,30	3,03	73,69	6,03	26,04	1,08	52,23	3,04	79,62	5,26	26,13	1,64	53,27	4,55	81,75	7,87

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1900,3	0,1	32,36	3,85	66,21	11,36	100,70	21,11	29,62	6,46	61,63	16,87	93,75	27,70	31,99	5,31	65,48	15,82	99,33	28,93
295	2850,5	0,1	44,93	6,31	91,95	19,13	139,87	35,51	39,79	8,37	83,47	25,17	125,89	44,58	43,91	8,38	89,75	25,59	136,55	46,47
394	3800,6	0,1	55,90	8,67	114,17	26,86	173,98	49,58	48,13	9,85	101,57	31,92	152,85	57,59	54,04	11,17	110,18	34,37	167,75	61,64
492	4750,8	0,2	65,61	10,94	133,71	34,19	204,04	62,93	55,65	14,48	116,57	37,67	175,44	67,43	62,89	13,74	127,64	42,14	195,15	74,87
591	5700,9	0,2	74,30	13,08	151,25	41,05	230,94	75,25	61,73	16,16	126,73	44,01	194,99	75,18	70,08	16,35	142,94	48,86	218,97	86,20
689	6651,1	0,3	81,59	15,80	166,85	47,50	255,21	86,49	67,02	17,50	137,26	47,70	211,95	81,62	76,06	19,06	156,51	54,83	240,21	95,81
787	7601,3	0,4	88,49	18,20	181,28	53,42	277,43	96,73	71,68	18,52	146,75	49,98	227,04	86,67	81,92	20,97	168,61	59,87	259,42	104,17
886	8551,4	0,4	94,86	20,18	194,43	58,68	297,74	105,81	75,83	19,30	154,71	53,18	240,39	90,79	87,09	22,60	179,59	64,35	276,63	111,56

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	1900,3	0,1	20,15	2,19	56,42	10,14	90,29	20,96	31,25	3,56	64,26	10,08	96,71	18,21	32,66	5,50	66,20	16,20	100,16	29,55
295	2850,5	0,1	26,97	2,72	77,69	16,00	124,15	33,96	42,82	4,82	88,68	15,93	133,15	29,46	44,84	8,68	90,71	26,19	137,62	47,21
394	3800,6	0,1	32,31	3,09	95,79	21,39	152,78	46,00	53,35	8,03	109,58	21,44	164,16	39,92	55,27	11,65	111,40	35,34	169,40	62,88
492	4750,8	0,2	36,78	3,40	109,96	28,18	177,55	56,67	62,20	9,99	126,14	28,11	190,99	49,27	64,32	14,31	129,16	43,33	196,88	76,56
591	5700,9	0,2	40,38	3,60	123,09	32,85	199,45	65,81	69,97	11,65	141,47	32,91	214,65	57,39	71,21	17,77	144,67	50,24	220,98	88,11
689	6651,1	0,3	43,53	4,66	134,76	37,10	218,66	73,97	76,90	13,09	155,10	37,07	235,76	64,45	77,92	20,04	158,40	56,08	242,47	98,12
787	7601,3	0,4	48,35	4,83	145,40	40,80	235,94	80,98	83,23	14,49	167,35	40,93	254,64	70,75	83,89	22,07	170,77	61,51	261,77	106,65
886	8551,4	0,4	50,28	4,93	154,71	43,95	251,67	87,39	88,92	15,62	178,39	44,13	271,92	76,22	89,23	23,83	181,92	66,04	279,18	114,13

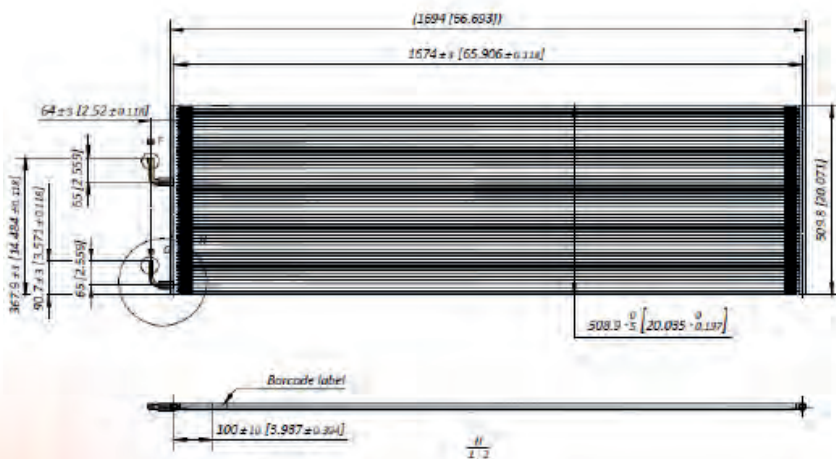
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD29 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1694	(L)
Total height	mm	509,8	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1654	(L1)
Heat exchanger height	mm	508,9	(H1)
Heat exchanger front surface	m <sup>2</sup>	0.84	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	0,855	
Coil Internal Volume	liters	0,6436	
Manifold Internal Volume	liters	0,2115	
Number of tubes		53	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		37/16	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	5,980	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Art. 4.3	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	66,69	(L)
Total height	in	20,07	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	65,12	(L1)
Heat exchanger height	in	20,04	(H1)
Heat exchanger front surface	in <sup>2</sup>	1304,7	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	52,18	
Coil Internal Volume	in <sup>3</sup>	39,27	
Manifold Internal Volume	in <sup>3</sup>	12,91	
Number of tubes		53	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		37/16	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	13,18	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Art. 4.3	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





**PERFORMANCE DATA (Metric Units)**

**A**

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			$\Delta T=10\text{K}$		$\Delta T=20\text{K}$		$\Delta T=30\text{K}$		$\Delta T=10\text{K}$		$\Delta T=20\text{K}$		$\Delta T=30\text{K}$		$\Delta T=10\text{K}$		$\Delta T=20\text{K}$		$\Delta T=30\text{K}$	
			Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$
1	2723,0	13,6	7,89	0,20	16,34	0,75	24,84	1,39	7,28	0,46	15,15	1,13	22,88	1,98	7,88	0,35	16,16	1,05	24,50	1,91
1,5	4084,0	23,4	11,09	0,42	22,66	1,27	34,49	2,34	9,75	0,60	20,46	1,69	30,86	3,04	10,80	0,56	22,08	1,71	33,59	3,08
2	5446,0	34,6	13,79	0,57	28,13	1,78	42,86	3,28	11,77	0,71	24,84	2,16	37,34	3,92	13,31	0,74	27,03	2,30	41,29	4,10
2,5	6807,0	47,1	16,18	0,73	32,92	2,28	50,22	4,17	13,45	0,79	28,06	2,61	42,71	4,62	15,46	0,92	31,30	2,83	47,87	5,03
3	8169,0	60,8	18,33	0,87	37,20	2,73	56,79	4,98	15,03	1,09	30,80	3,01	47,34	5,18	17,07	1,14	35,00	3,29	53,64	5,81
3,5	9530,0	75,4	20,04	1,08	41,02	3,17	62,69	5,75	16,30	1,19	33,27	3,27	51,35	5,62	18,65	1,29	38,26	3,69	58,77	6,52
4	10892,0	90,9	21,76	1,22	44,48	3,56	68,08	6,43	17,44	1,26	35,43	3,47	54,87	5,99	20,05	1,42	41,17	4,05	63,36	7,09
4,5	12253,0	107,3	23,31	1,35	47,68	3,94	72,99	7,08	18,40	1,32	37,38	3,68	57,99	6,28	21,31	1,54	43,79	4,36	67,55	7,60

**B**

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			$\Delta T=10\text{K}$		$\Delta T=20\text{K}$		$\Delta T=30\text{K}$		$\Delta T=10\text{K}$		$\Delta T=20\text{K}$		$\Delta T=30\text{K}$		$\Delta T=10\text{K}$		$\Delta T=20\text{K}$		$\Delta T=30\text{K}$	
			Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$
1	2723,0	13,6	4,97	0,16	13,91	0,68	22,26	1,40	7,70	0,25	15,83	0,67	23,82	1,21	8,06	0,36	16,31	1,08	24,69	1,95
1,5	4084,0	23,4	6,61	0,20	19,13	1,07	30,55	2,28	10,53	0,34	21,84	1,06	32,76	1,98	11,06	0,58	22,32	1,75	33,88	3,13
2	5446,0	34,6	7,93	0,23	23,32	1,54	37,56	3,09	12,93	0,42	26,68	1,51	40,31	2,68	13,61	0,77	27,36	2,36	41,62	4,20
2,5	6807,0	47,1	9,03	0,25	26,97	1,90	43,55	3,81	15,25	0,67	30,92	1,89	46,82	3,32	15,71	0,98	31,67	2,90	48,29	5,14
3	8169,0	60,8	9,92	0,26	30,16	2,23	48,80	4,45	17,14	0,78	34,63	2,22	52,52	3,87	17,46	1,20	35,44	3,38	54,15	5,94
3,5	9530,0	75,4	10,65	0,27	32,96	2,52	53,52	5,01	18,83	0,88	37,90	2,50	57,59	4,36	19,09	1,35	38,79	3,80	59,29	6,63
4	10892,0	90,9	11,29	0,28	35,45	2,77	57,64	5,51	20,33	0,97	40,83	2,77	62,18	4,80	20,53	1,49	41,70	4,15	63,97	7,24
4,5	12253,0	107,3	11,82	0,29	37,69	2,98	61,38	5,95	21,78	1,05	43,47	3,00	66,24	5,17	21,82	1,61	44,36	4,48	68,17	7,77

**PERFORMANCE DATA (Imperial Units)**

**A**

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			$\Delta T=18^\circ\text{F}$		$\Delta T=36^\circ\text{F}$		$\Delta T=54^\circ\text{F}$		$\Delta T=18^\circ\text{F}$		$\Delta T=36^\circ\text{F}$		$\Delta T=54^\circ\text{F}$		$\Delta T=18^\circ\text{F}$		$\Delta T=36^\circ\text{F}$		$\Delta T=54^\circ\text{F}$	
			Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$
197	1602,7	0,1	26,95	2,89	55,81	10,91	84,83	20,09	24,86	6,67	51,73	16,41	78,13	28,72	26,90	5,08	55,18	15,26	83,68	27,74
295	2403,8	0,1	37,87	6,06	77,40	18,43	117,79	33,89	33,29	8,67	69,89	24,56	105,38	44,08	36,90	8,06	75,40	24,76	114,72	44,66
394	3205,4	0,1	47,10	8,32	96,06	25,86	146,36	47,59	40,18	10,22	84,85	31,27	127,53	56,91	45,45	10,80	92,32	33,35	141,02	59,48
492	4006,5	0,2	55,26	10,52	112,43	33,04	171,51	60,46	45,94	11,44	95,85	37,91	145,87	66,94	52,81	13,27	106,88	41,07	163,48	73,00
591	4808,1	0,2	62,60	12,59	127,04	39,60	193,94	72,22	51,34	15,88	105,19	43,63	161,68	75,05	58,29	16,53	119,55	47,76	183,18	84,21
689	5609,1	0,3	68,44	15,67	140,10	45,92	214,10	83,37	55,67	17,21	113,63	47,42	175,37	81,54	63,68	18,71	130,66	53,58	200,73	94,49
787	6410,8	0,4	74,31	17,73	151,91	51,64	232,51	93,32	59,55	18,29	120,99	50,31	187,39	86,87	68,47	20,58	140,60	58,79	216,38	102,86
886	7211,8	0,4	79,61	19,61	162,84	57,11	249,28	102,70	62,84	19,16	127,65	53,35	198,05	91,13	72,76	22,28	149,53	63,25	230,70	110,17

**B**

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			$\Delta T=18^\circ\text{F}$		$\Delta T=36^\circ\text{F}$		$\Delta T=54^\circ\text{F}$		$\Delta T=18^\circ\text{F}$		$\Delta T=36^\circ\text{F}$		$\Delta T=54^\circ\text{F}$		$\Delta T=18^\circ\text{F}$		$\Delta T=36^\circ\text{F}$		$\Delta T=54^\circ\text{F}$	
			Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$	Cap.	$\Delta P$
197	1602,7	0,1	16,97	2,30	47,51	9,81	76,02	20,27	26,31	3,67	54,06	9,66	81,36	17,56	27,54	5,28	55,71	15,64	84,33	28,24
295	2403,8	0,1	22,57	2,87	65,34	15,45	104,32	33,03	35,97	4,96	74,58	15,37	111,88	28,69	37,79	8,37	76,24	25,35	115,71	45,44
394	3205,4	0,1	27,08	3,28	79,63	22,39	128,27	44,78	44,15	6,06	91,11	21,97	137,66	38,89	46,49	11,21	93,45	34,22	142,13	60,95
492	4006,5	0,2	30,85	3,57	92,11	27,62	148,73	55,27	52,10	9,65	105,59	27,46	159,90	48,08	53,65	14,22	108,17	42,09	164,93	74,54
591	4808,1	0,2	33,88	3,79	102,99	32,34	166,65	64,60	58,53	11,27	118,26	32,23	179,35	56,12	59,64	17,36	121,05	48,99	184,92	86,19
689	5609,1	0,3	36,36	3,94	112,55	36,48	182,77	72,67	64,29	12,75	129,42	36,32	196,67	63,28	65,20	19,63	132,49	55,07	202,48	96,13
787	6410,8	0,4	38,55	4,09	121,06	40,11	196,84	79,92	69,44	14,04	139,46	40,21	212,34	69,58	70,10	21,64	142,42	60,18	218,45	105,03
886	7211,8	0,4	40,36	4,22	128,72	43,28	209,62	86,24	74,38	15,27	148,46	43,50	226,23	75,05	74,52	23,39	151,49	65,00	232,82	112,67

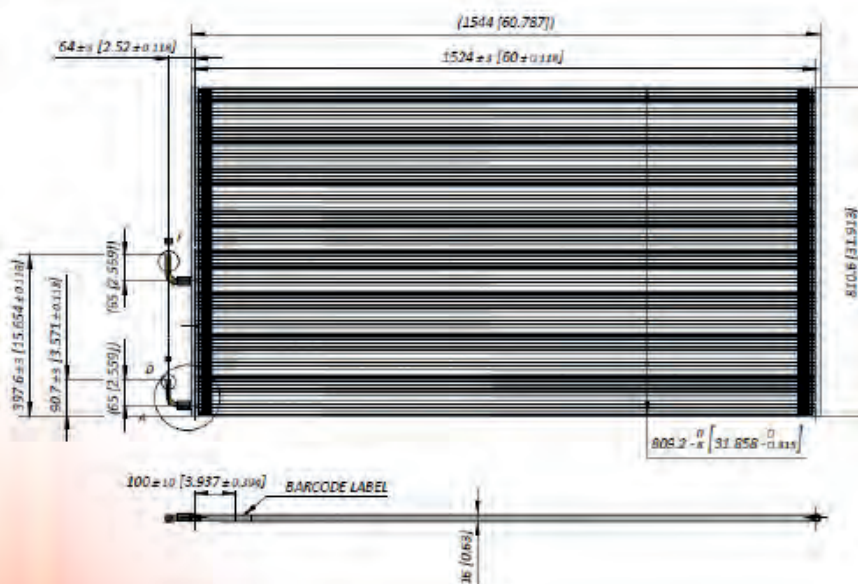
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD30 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1544	(L)
Total height	mm	810,6	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1504	(L1)
Heat exchanger height	mm	809,2	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,22	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,280	
Coil Internal Volume	liters	0,9386	
Manifold Internal Volume	liters	0,3412	
Number of tubes		85	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		62/23	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	8,665	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	60,79	(L)
Total height	in	31,91	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	59,21	(L1)
Heat exchanger height	in	31,86	(H1)
Heat exchanger front surface	in <sup>2</sup>	1886,4	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	78,09	
Coil Internal Volume	in <sup>3</sup>	57,27	
Manifold Internal Volume	in <sup>3</sup>	20,82	
Number of tubes		85	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		62/23	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	19,10	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







### PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4340,9	13,6	12,75	0,26	26,08	0,78	39,64	1,45	11,67	0,44	24,28	1,16	36,93	1,89	12,60	0,36	25,80	1,08	39,16	1,99
1,5	6511,4	23,4	17,70	0,43	36,22	1,31	55,08	2,44	15,68	0,58	32,89	1,73	49,57	3,07	17,30	0,57	35,35	1,75	53,82	3,18
2	8681,8	34,6	22,02	0,59	44,97	1,84	68,57	3,40	18,97	0,68	40,02	2,19	60,24	3,95	21,29	0,77	43,40	2,36	66,19	4,23
2,5	10852,3	47,1	25,85	0,75	52,67	2,35	80,35	4,32	21,93	1,00	45,93	2,58	69,13	4,63	24,78	0,94	50,29	2,89	76,42	5,15
3	13022,7	60,8	29,27	0,90	59,57	2,82	90,97	5,16	24,33	1,11	49,94	3,03	76,82	5,17	27,62	1,13	56,33	3,37	86,30	5,92
3,5	15193,2	75,4	32,17	1,09	65,78	3,25	100,59	5,92	26,41	1,20	54,09	3,28	83,54	5,62	29,97	1,31	61,67	3,78	94,70	6,61
4	17363,6	90,9	34,86	1,25	71,42	3,66	109,27	6,60	28,25	1,28	57,77	3,48	89,50	5,97	32,28	1,44	66,42	4,11	102,21	7,17
4,5	19534,1	107,3	37,37	1,38	76,59	4,04	117,29	7,33	29,89	1,33	61,02	3,65	94,73	6,25	34,33	1,55	70,74	4,42	109,01	7,68

**A**

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4340,9	13,6	7,94	0,15	22,23	0,70	35,58	1,44	12,30	0,25	25,32	0,69	38,09	1,24	12,87	0,38	26,07	1,11	39,45	2,02
1,5	6511,4	23,4	10,63	0,19	30,61	1,10	48,90	2,33	16,87	0,33	34,93	1,09	52,46	2,02	17,67	0,60	35,73	1,79	54,22	3,23
2	8681,8	34,6	12,74	0,21	37,74	1,47	60,19	3,15	21,02	0,55	43,17	1,47	64,67	2,74	21,79	0,80	43,88	2,42	66,71	4,32
2,5	10852,3	47,1	14,50	0,23	43,32	1,94	69,97	3,91	24,51	0,69	49,69	1,93	75,24	3,38	25,34	0,98	50,89	2,97	77,55	5,25
3	13022,7	60,8	15,92	0,25	48,50	2,26	78,57	4,52	27,56	0,80	55,75	2,26	84,56	3,94	28,07	1,22	57,03	3,44	87,07	6,07
3,5	15193,2	75,4	17,16	0,27	53,09	2,55	86,15	5,08	30,30	0,90	61,11	2,55	92,87	4,43	30,70	1,38	62,43	3,86	95,53	6,76
4	17363,6	90,9	19,07	0,33	57,31	2,80	92,96	5,57	32,78	0,99	65,91	2,80	100,31	4,86	33,05	1,52	67,29	4,22	103,11	7,32
4,5	19534,1	107,3	19,85	0,34	60,96	3,02	99,15	5,99	35,04	1,07	70,28	3,03	107,12	5,24	35,17	1,64	71,66	4,54	109,98	7,84

**B**

### PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2555,0	0,1	43,54	3,83	89,07	11,29	135,39	20,96	39,84	6,44	82,91	16,78	126,13	27,47	43,04	5,27	88,10	15,73	133,73	28,80
295	3832,4	0,1	60,46	6,27	123,71	19,01	188,12	35,34	53,54	8,35	112,33	25,05	169,28	44,50	59,08	8,33	120,73	25,41	183,79	46,17
394	5109,9	0,1	75,20	8,62	153,60	26,69	234,17	49,36	64,77	9,83	136,67	31,82	205,72	57,30	72,72	11,12	148,23	34,24	226,04	61,36
492	6387,4	0,2	88,30	10,88	179,88	34,04	274,43	62,60	74,89	14,44	156,86	37,41	236,10	67,19	84,63	13,68	171,74	41,91	261,00	74,69
591	7664,9	0,2	99,97	13,01	203,46	40,85	310,68	74,81	83,09	16,10	170,57	43,88	262,36	75,04	94,34	16,36	192,36	48,81	294,74	85,91
689	8942,4	0,3	109,86	15,75	224,66	47,15	343,54	85,92	90,19	17,43	184,73	47,53	285,30	81,50	102,36	18,98	210,61	54,85	323,43	95,84
787	10219,8	0,4	119,04	18,12	243,91	53,11	373,19	95,78	96,47	18,49	197,29	50,53	305,64	86,65	110,25	20,90	226,84	59,55	349,08	103,95
886	11497,3	0,4	127,63	20,07	261,57	58,54	400,56	106,31	102,09	19,29	208,39	53,00	323,51	90,68	117,23	22,55	241,59	64,05	372,28	111,33

**A**

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2555,0	0,1	27,12	2,18	75,91	10,08	121,53	20,82	42,02	3,57	86,48	10,01	130,08	18,04	43,94	5,46	89,03	16,10	134,75	29,31
295	3832,4	0,1	36,31	2,71	104,53	15,92	167,00	33,82	57,62	4,81	119,30	15,83	179,16	29,31	60,35	8,64	122,01	26,01	185,17	46,91
394	5109,9	0,1	43,50	3,09	128,89	21,28	205,55	45,70	71,78	8,00	147,43	21,33	220,86	39,69	74,40	11,60	149,86	35,12	227,83	62,65
492	6387,4	0,2	49,52	3,40	147,93	28,06	238,97	56,67	83,69	9,95	169,70	28,03	256,97	49,02	86,54	14,24	173,80	43,13	264,84	76,12
591	7664,9	0,2	54,36	3,60	165,64	32,73	268,35	65,61	94,13	11,58	190,39	32,76	288,77	57,16	95,86	17,71	194,76	49,82	297,38	87,97
689	8942,4	0,3	58,59	3,93	181,31	36,94	294,23	73,68	103,49	13,05	208,70	36,98	317,18	64,18	104,85	19,95	213,20	55,92	326,26	98,03
787	10219,8	0,4	65,13	4,83	195,74	40,58	317,47	80,74	111,95	14,38	225,09	40,68	342,59	70,47	112,89	22,00	229,82	61,17	352,15	106,21
886	11497,3	0,4	67,78	4,93	208,20	43,74	338,62	86,88	119,66	15,54	240,03	43,94	365,84	75,93	120,10	23,79	244,73	65,85	375,60	113,73

**B**

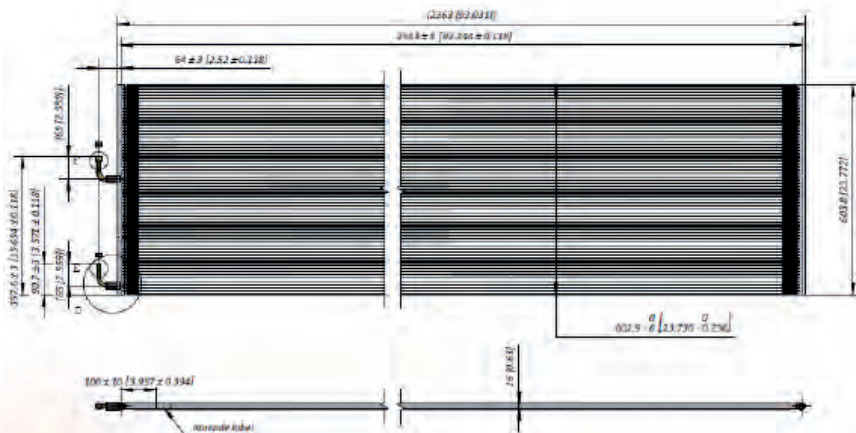
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD31 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	2363	(L)
Total height	mm	603,8	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	2323	(L1)
Heat exchanger height	mm	602,9	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,40	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FP18-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,4	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,327	
Coil Internal Volume	liters	1,0744	
Manifold Internal Volume	liters	0,2528	
Number of tubes		63	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		46/17	
<b>Physical Characteristics</b>			
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	9,677	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	93,03	(L)
Total height	in	23,77	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	91,46	(L1)
Heat exchanger height	in	23,74	(H1)
Heat exchanger front surface	in <sup>2</sup>	2170,8	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FP18-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	18	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	80,99	
Coil Internal Volume	in <sup>3</sup>	65,57	
Manifold Internal Volume	in <sup>3</sup>	15,43	
Number of tubes		63	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		46/17	
<b>Physical Characteristics</b>			
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	21,33	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4998,6	6,9	13,53	0,67	27,32	1,98	41,40	3,60	11,57	0,85	24,08	2,37	36,26	4,15	13,07	0,86	26,31	2,51	39,92	4,44
1,5	7497,9	11,9	18,22	1,02	36,56	3,05	55,52	5,50	14,81	1,03	31,12	3,08	46,66	5,41	17,24	1,23	34,48	3,59	52,58	3,27
2	9997,2	17,6	22,12	1,33	44,12	3,98	67,15	7,09	17,34	1,36	35,91	3,57	54,67	6,31	20,59	1,51	40,91	4,39	62,64	7,53
2,5	12496,4	24,0	25,04	1,70	50,49	4,76	77,01	8,37	19,21	1,44	39,21	3,96	60,88	6,72	22,72	1,78	46,17	4,98	70,83	8,51
3	14995,7	31,0	27,76	1,95	56,00	5,42	85,54	9,48	20,75	1,49	42,35	4,14	65,99	7,07	24,76	1,96	50,57	5,42	77,54	9,27
3,5	17495,0	38,4	30,14	2,16	60,81	5,98	93,04	10,41	22,03	1,51	44,96	4,26	70,21	7,32	26,47	2,08	54,21	5,75	82,79	9,97
4	19994,3	46,4	32,20	2,35	65,10	6,45	99,74	11,16	23,13	1,52	47,13	4,34	73,65	7,51	28,77	2,16	57,33	6,02	87,11	10,54
4,5	22493,6	54,7	34,06	2,50	68,89	6,85	105,69	11,83	24,03	1,53	48,93	4,39	76,15	7,69	29,12	2,22	59,88	6,25	90,72	11,00

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4998,6	6,9	7,99	0,28	22,92	1,61	36,40	3,34	12,84	0,52	26,12	1,60	39,01	2,91	13,37	0,89	26,61	2,57	40,25	4,53
1,5	7497,9	11,9	10,00	0,32	29,78	2,41	47,88	4,82	17,01	0,90	34,16	2,37	51,49	4,19	17,66	1,28	34,90	3,68	53,01	6,34
2	9997,2	17,6	11,24	0,34	35,29	3,01	57,01	5,92	20,35	1,12	40,56	3,03	61,48	5,16	20,65	1,66	41,44	4,50	63,24	7,65
2,5	12496,4	24,0	12,03	0,34	39,78	3,45	64,53	6,76	23,13	1,28	45,88	3,47	69,68	5,91	23,25	1,91	46,78	5,13	71,48	8,69
3	14995,7	31,0	12,57	0,35	43,53	3,78	70,89	7,39	25,49	1,42	50,35	3,83	76,75	6,48	25,39	2,08	51,24	5,58	78,11	9,53
3,5	17495,0	38,4	12,97	0,35	46,70	4,02	76,32	7,87	27,52	1,51	54,19	4,10	82,81	6,93	27,21	2,21	55,02	5,94	83,40	10,26
4	19994,3	46,4	13,26	0,35	49,42	4,19	81,04	8,26	29,32	1,58	57,54	4,31	88,13	7,27	28,69	2,30	58,15	6,22	87,78	10,85
4,5	22493,6	54,7	13,49	0,35	51,77	4,33	85,29	8,56	30,89	1,64	60,48	4,48	92,81	7,55	29,96	2,37	60,75	6,47	91,45	11,31

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2942,0	0,0	46,20	9,75	93,31	28,76	141,38	52,26	39,53	12,36	82,25	34,33	123,83	60,20	44,63	12,47	89,85	36,46	136,34	64,40
295	4413,1	0,0	62,23	14,80	124,85	44,30	189,60	79,74	50,57	15,00	106,30	44,70	159,34	78,42	58,89	17,80	117,77	52,02	179,57	47,42
394	5884,1	0,1	75,55	19,28	150,68	57,76	229,33	102,76	59,20	19,72	122,63	51,78	186,71	91,53	70,32	21,87	139,72	63,68	213,93	109,16
492	7355,1	0,1	85,53	24,59	172,44	69,01	262,99	121,45	65,61	20,94	133,89	57,37	207,92	97,51	77,61	25,78	157,66	72,18	241,90	123,45
591	8826,2	0,1	94,79	28,29	191,24	78,59	292,14	137,54	70,88	21,57	144,64	59,99	225,38	102,53	84,56	28,45	172,69	78,64	264,83	134,40
689	10297,2	0,2	102,92	31,35	207,67	86,75	317,75	151,05	75,23	21,92	153,54	61,71	239,77	106,13	90,40	30,20	185,14	83,46	282,74	144,62
787	11768,2	0,2	109,98	34,01	222,33	93,51	340,64	161,87	78,99	22,11	160,95	62,95	251,54	108,99	98,25	31,35	195,78	87,29	297,50	152,93
886	13239,2	0,2	116,31	36,19	235,27	99,31	360,96	171,52	82,07	22,14	167,10	63,73	260,07	111,55	99,46	32,19	204,50	90,60	309,81	159,49

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2942,0	0,0	27,27	4,01	78,27	23,35	124,31	48,51	43,84	7,51	89,21	23,24	133,23	42,21	45,67	12,96	90,89	37,34	137,47	65,71
295	4413,1	0,0	34,16	4,58	101,71	35,00	163,51	69,87	58,11	13,09	116,65	34,31	175,83	60,75	60,33	18,57	119,18	53,37	181,05	91,90
394	5884,1	0,1	38,40	4,86	120,54	43,72	194,70	85,90	69,50	16,22	138,53	43,93	209,96	74,91	70,52	24,09	141,51	65,31	215,98	110,96
492	7355,1	0,1	41,08	4,99	135,85	50,02	220,37	98,01	78,99	18,63	156,69	50,38	237,99	85,70	79,39	27,70	159,76	74,34	244,10	126,02
591	8826,2	0,1	42,94	5,03	148,67	54,79	242,09	107,24	87,06	20,55	171,95	55,57	262,11	93,97	86,71	30,18	174,98	80,88	266,76	138,19
689	10297,2	0,2	44,28	5,05	159,47	58,28	260,66	114,20	93,98	21,90	185,05	59,49	282,80	100,45	92,92	32,07	187,91	86,12	284,83	148,86
787	11768,2	0,2	45,29	5,06	168,79	60,77	276,76	119,72	100,13	22,96	196,52	62,58	300,96	105,50	97,99	33,42	198,58	90,19	299,79	157,36
886	13239,2	0,2	46,06	5,06	176,81	62,84	291,27	124,13	105,51	23,81	206,56	64,92	316,95	109,52	102,33	34,35	207,46	93,79	312,30	164,07

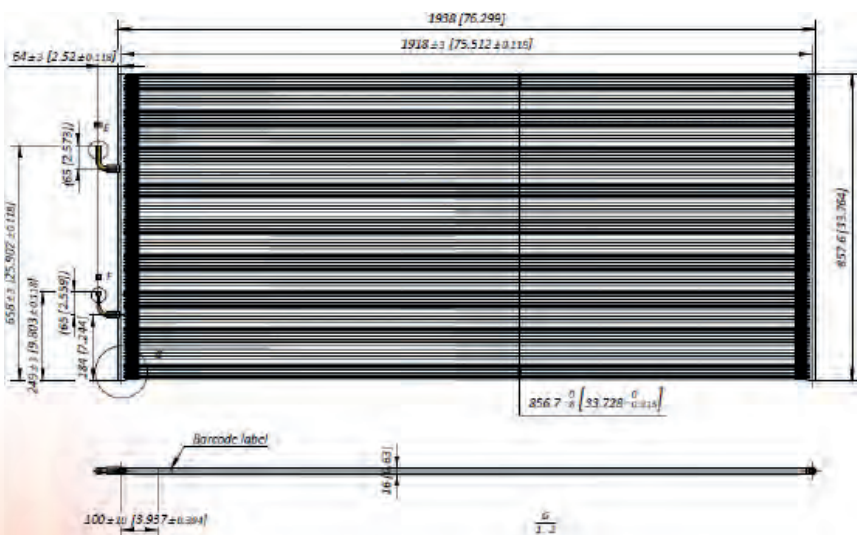
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD32 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1938	(L)
Total height	mm	857,6	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1898	(L1)
Heat exchanger height	mm	856,7	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,63	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,615	
Coil Internal Volume	liters	1,2541	
Manifold Internal Volume	liters	0,3612	
Number of tubes		90	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		65/25	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	11,450	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	76,30	(L)
Total height	in	33,76	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	74,72	(L1)
Heat exchanger height	in	33,73	(H1)
Heat exchanger front surface	in <sup>2</sup>	2520,3	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	98,57	
Coil Internal Volume	in <sup>3</sup>	76,53	
Manifold Internal Volume	in <sup>3</sup>	22,04	
Number of tubes		90	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		65/25	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	25,24	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5805,1	13,5	17,06	0,47	34,55	1,37	52,39	2,52	15,04	0,67	31,22	1,82	47,06	3,19	16,65	0,62	33,70	1,83	51,10	3,27
1,5	8707,7	23,6	23,51	0,74	47,51	2,25	72,11	4,09	19,86	0,84	41,54	2,54	62,31	4,53	22,58	0,94	45,43	2,80	69,16	4,94
2	13003,9	35,1	29,05	1,00	58,40	3,05	88,86	5,51	23,68	1,19	49,29	3,09	74,39	5,46	27,47	1,21	55,01	3,59	84,05	6,27
2,5	14512,9	47,7	33,72	1,26	67,83	3,78	103,40	6,78	26,75	1,32	54,55	3,58	84,25	6,10	30,95	1,51	63,02	4,23	96,60	7,33
3	17415,4	61,3	37,55	1,56	76,08	4,43	116,13	7,88	29,29	1,40	59,62	3,85	92,65	6,56	34,22	1,70	69,84	4,74	107,34	8,13
3,5	20318,0	75,8	41,13	1,77	83,32	4,99	127,54	8,81	31,45	1,45	63,90	4,03	99,56	6,88	37,02	1,85	75,75	5,14	116,67	8,83
4	23220,6	91,0	44,35	1,96	89,92	5,49	137,63	9,66	33,30	1,48	67,56	4,16	105,51	7,13	39,43	1,97	80,95	5,39	124,67	9,38
4,5	26123,2	107,1	47,23	2,12	95,85	5,91	146,99	10,37	35,02	1,50	70,73	4,25	110,70	7,32	41,60	2,05	85,49	5,73	131,62	9,88

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5805,1	13,5	10,39	0,22	29,21	1,16	46,49	2,42	16,31	0,39	33,27	1,15	49,83	2,10	17,02	0,64	34,06	1,87	51,47	3,33
1,5	8707,7	23,6	13,56	0,27	39,71	1,77	63,05	3,74	22,28	0,68	45,35	1,77	67,65	3,25	23,10	0,97	45,97	2,87	69,72	5,03
2	13003,9	35,1	15,91	0,30	47,52	2,44	76,52	4,83	27,15	0,89	54,45	2,44	82,34	4,20	27,86	1,29	55,70	3,68	84,77	6,41
2,5	14512,9	47,7	17,63	0,31	54,37	2,90	87,93	5,71	31,31	1,06	62,47	2,90	94,75	5,00	31,68	1,59	63,82	4,35	97,50	7,48
3	17415,4	61,3	18,84	0,33	60,27	3,27	97,66	6,43	34,90	1,19	69,37	3,29	105,47	5,63	35,06	1,79	70,75	4,87	108,40	8,32
3,5	20318,0	75,8	19,91	0,35	65,23	3,56	106,17	0,00	38,07	1,31	75,41	3,60	114,85	6,14	37,94	1,96	76,77	5,30	117,71	9,01
4	23220,6	91,0	20,36	0,35	69,62	3,80	113,68	7,47	40,85	1,40	80,62	3,85	123,16	6,54	40,46	2,09	82,02	5,64	125,79	9,63
4,5	26123,2	107,1	20,71	0,35	73,50	3,99	120,38	7,87	43,38	1,48	85,33	4,08	130,61	6,91	42,64	2,18	86,65	5,92	132,48	10,18

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3416,8	0,1	58,26	6,76	118,00	19,87	178,91	36,51	51,35	9,71	106,64	26,37	160,73	46,30	56,86	8,97	115,08	26,47	174,51	47,42
295	5125,2	0,1	80,30	10,78	162,24	32,59	246,28	59,31	67,83	12,25	141,86	36,84	212,81	65,69	77,10	13,57	155,15	40,59	236,19	71,72
394	7653,8	0,1	99,20	14,52	199,46	44,30	303,46	79,94	80,86	17,32	168,35	44,82	254,05	79,14	93,81	17,48	187,88	52,07	287,06	90,90
492	8542,0	0,2	115,17	18,29	231,66	54,87	353,15	98,36	91,34	19,18	186,31	51,95	287,74	88,44	105,70	21,91	215,23	61,36	329,89	106,28
591	10250,3	0,2	128,23	22,58	259,83	64,28	396,60	114,25	100,03	20,35	203,60	55,77	316,42	95,07	116,86	24,66	238,53	68,75	366,59	117,88
689	11958,7	0,3	140,47	25,65	284,56	72,34	435,56	127,72	107,40	21,10	218,22	58,41	340,03	99,85	126,43	26,86	258,71	74,55	398,46	127,99
787	13667,1	0,4	151,46	28,37	307,09	79,68	470,04	140,03	113,71	21,51	230,72	60,29	360,33	103,41	134,65	28,52	276,45	78,18	425,78	136,02
886	15375,5	0,4	161,31	30,79	327,33	85,69	502,01	150,36	119,59	21,81	241,57	61,62	378,04	106,12	142,08	29,80	291,95	83,11	449,52	143,24

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3416,8	0,1	35,48	3,24	99,76	16,84	158,78	35,14	55,69	5,62	113,63	16,75	170,16	30,46	58,14	9,29	116,33	27,14	175,79	48,36
295	5125,2	0,1	46,32	3,90	135,60	25,60	215,34	54,22	76,09	9,93	154,88	25,61	231,04	47,18	78,89	14,11	156,98	41,57	238,12	72,97
394	7653,8	0,1	54,34	4,29	162,28	35,40	261,34	70,04	92,73	12,86	185,96	35,37	281,20	60,91	95,15	18,75	190,22	53,42	289,49	92,94
492	8542,0	0,2	60,21	4,55	185,69	42,03	300,30	82,87	106,93	15,31	213,35	42,08	323,60	72,48	108,21	23,07	217,97	63,11	332,98	108,48
591	10250,3	0,2	64,33	4,75	205,83	47,49	333,53	93,18	119,18	17,33	236,90	47,75	360,21	81,59	119,73	26,01	241,63	70,62	370,21	120,73
689	11958,7	0,3	67,99	5,05	222,79	51,67	362,60	0,00	130,02	18,99	257,55	52,21	392,23	89,07	129,56	28,41	262,20	76,80	402,00	130,60
787	13667,1	0,4	69,52	5,06	237,77	55,10	388,24	108,36	139,50	20,30	275,35	55,89	420,62	94,88	138,17	30,29	280,12	81,80	429,58	139,59
886	15375,5	0,4	70,74	5,06	251,01	57,86	411,11	114,16	148,15	21,44	291,40	59,10	446,05	100,18	145,61	31,68	295,92	85,79	452,45	147,62

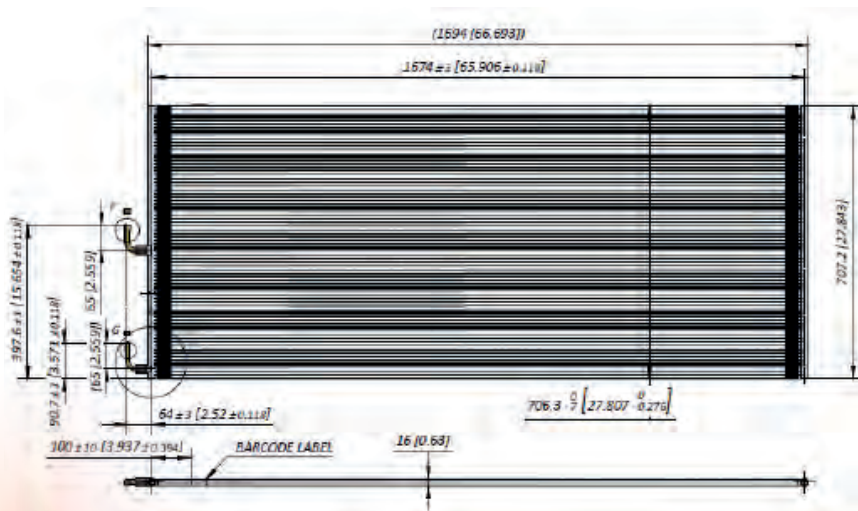
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD33 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1694	(L)
Total height	mm	707,2	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1654	(L1)
Heat exchanger height	mm	706,3	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,17	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,196	
Coil Internal Volume	liters	0,8986	
Manifold Internal Volume	liters	0,2970	
Number of tubes		74	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		51/23	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	8,282	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	66,69	(L)
Total height	in	27,84	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	65,12	(L1)
Heat exchanger height	in	27,81	(H1)
Heat exchanger front surface	in <sup>2</sup>	1810,7	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	72,96	
Coil Internal Volume	in <sup>3</sup>	54,84	
Manifold Internal Volume	in <sup>3</sup>	18,12	
Number of tubes		74	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		51/23	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	18,25	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4164,8	13,5	12,09	0,30	24,94	0,94	37,84	1,72	10,98	0,55	22,84	1,36	34,42	2,40	12,02	0,43	24,49	1,30	37,14	2,34
1,5	6247,2	23,6	16,95	0,52	34,45	1,58	52,36	2,88	14,60	0,70	30,61	2,00	46,00	3,58	16,42	0,68	33,27	2,07	50,64	3,69
2	8329,6	35,1	21,01	0,71	42,59	2,20	64,81	3,99	17,51	0,82	36,92	2,50	55,31	4,50	20,11	0,90	40,52	2,75	61,84	4,88
2,5	10411,9	47,7	24,60	0,89	49,67	2,77	75,69	5,01	19,88	0,91	40,91	3,04	62,85	5,23	22,92	1,15	46,68	3,33	71,40	5,87
3	12494,3	61,3	27,46	1,14	55,89	3,30	85,24	5,94	22,07	1,23	44,88	3,36	69,26	5,78	25,44	1,35	51,95	3,83	79,70	6,69
3,5	14576,7	75,8	30,20	1,31	61,47	3,79	93,82	6,80	23,81	1,31	48,29	3,62	74,79	6,21	27,68	1,51	56,55	4,26	86,98	7,39
4	16659,1	91,0	32,67	1,48	66,47	4,23	101,69	7,57	25,33	1,37	51,24	3,80	79,64	6,53	29,62	1,64	60,63	4,61	93,45	7,99
4,5	18741,5	107,1	34,92	1,62	71,01	4,63	108,79	8,25	26,65	1,42	53,88	3,95	83,88	6,80	31,36	1,75	64,27	4,90	99,27	8,49

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	4164,8	13,5	7,54	0,19	21,16	0,83	33,78	1,73	11,74	0,31	24,10	0,82	36,16	1,50	12,30	0,45	24,75	1,33	37,44	2,38
1,5	6247,2	23,6	10,00	0,23	28,96	1,29	46,09	2,76	16,00	0,41	33,04	1,28	49,41	2,40	16,79	0,70	33,65	2,12	51,05	3,77
2	8329,6	35,1	11,88	0,26	34,97	1,86	56,31	3,69	19,65	0,63	40,00	1,84	60,47	3,21	20,56	0,93	41,00	2,81	62,41	4,97
2,5	10411,9	47,7	13,38	0,28	40,24	2,26	64,98	4,50	22,96	0,80	46,16	2,26	69,90	3,91	23,40	1,22	47,23	3,42	72,05	5,98
3	12494,3	61,3	14,57	0,29	44,77	2,62	72,56	5,18	25,75	0,93	51,46	2,61	78,08	4,52	26,05	1,42	52,64	3,92	80,45	6,84
3,5	14576,7	75,8	15,56	0,31	48,84	2,91	79,13	5,78	28,17	1,04	56,11	2,92	85,31	5,04	28,34	1,58	57,31	4,37	87,82	7,57
4	16659,1	91,0	16,32	0,31	52,30	3,18	84,93	6,29	30,36	1,13	60,22	3,19	91,66	5,49	30,36	1,73	61,45	4,74	94,42	8,18
4,5	18741,5	107,1	16,98	0,32	55,37	3,39	90,19	6,72	32,33	1,21	63,89	3,41	97,47	5,89	32,16	1,85	65,16	5,06	100,40	8,68

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2451,3	0,1	41,28	4,42	85,16	13,70	129,24	25,01	37,50	7,93	78,01	19,75	117,56	34,79	41,04	6,29	83,63	18,88	126,85	33,98
295	3676,9	0,1	57,89	7,52	117,64	22,95	178,82	41,76	49,85	10,21	104,53	28,95	157,10	51,98	56,08	9,86	113,62	30,02	172,94	53,53
394	4902,6	0,1	71,75	10,27	145,45	31,86	221,33	57,82	59,79	11,96	126,07	36,20	188,91	65,25	68,67	13,03	138,37	39,85	211,21	70,72
492	6128,2	0,2	84,00	12,89	169,63	40,11	258,50	72,66	67,91	13,24	139,71	44,10	214,66	75,89	78,28	16,65	159,41	48,31	243,85	85,07
591	7353,9	0,2	93,80	16,56	190,88	47,86	291,12	86,16	75,37	14,84	153,27	48,76	236,55	83,84	86,88	19,59	177,43	55,57	272,19	97,00
689	8579,5	0,3	103,13	19,07	209,93	54,94	320,42	98,69	81,31	16,00	164,93	52,45	255,43	90,00	94,52	21,83	193,13	61,74	297,05	107,12
787	9805,2	0,4	111,57	21,40	227,01	61,39	347,30	109,81	86,50	17,94	175,01	55,13	271,97	94,76	101,14	23,74	207,05	66,84	319,15	115,92
886	11030,8	0,4	119,24	23,54	242,51	67,17	371,52	119,69	91,02	20,54	184,01	57,25	286,48	98,55	107,10	25,42	219,48	71,14	339,03	123,10

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	2451,3	0,1	25,77	2,73	72,28	12,05	115,36	25,07	40,11	4,43	82,29	11,90	123,48	21,72	42,00	6,54	84,53	19,29	127,86	34,56
295	3676,9	0,1	34,16	3,36	98,90	18,75	157,39	40,08	54,64	5,99	112,83	18,63	168,74	34,81	57,34	10,21	114,92	30,73	174,36	54,61
394	4902,6	0,1	40,58	3,79	119,41	26,91	192,30	53,56	67,10	9,17	136,62	26,62	206,51	46,58	70,22	13,55	140,03	40,81	213,13	72,02
492	6128,2	0,2	45,68	4,09	137,43	32,83	221,92	65,20	78,40	11,63	157,65	32,75	238,73	56,74	79,93	17,72	161,32	49,54	246,07	86,68
591	7353,9	0,2	49,76	4,27	152,91	37,97	247,81	75,17	87,93	13,44	175,74	37,83	266,66	65,60	88,96	20,54	179,77	56,81	274,77	99,21
689	8579,5	0,3	53,14	4,45	166,79	42,24	270,25	83,83	96,20	15,01	191,61	42,39	291,35	73,13	96,77	22,96	195,72	63,39	299,92	109,80
787	9805,2	0,4	55,74	4,56	178,62	46,08	290,04	91,19	103,67	16,40	205,66	46,22	313,03	79,58	103,67	25,02	209,88	68,68	322,46	118,61
886	11030,8	0,4	58,01	4,67	189,11	49,14	308,03	97,45	110,41	17,58	218,19	49,47	332,89	85,39	109,84	26,79	222,52	73,33	342,90	125,86

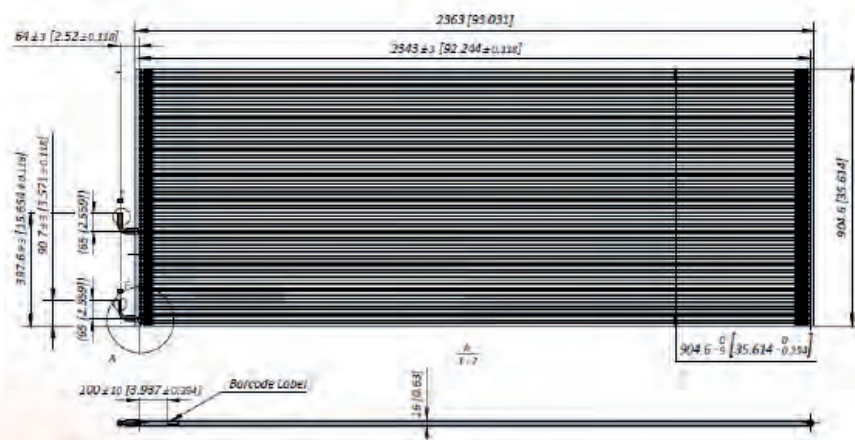
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD34 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	2363	(L)
Total height	mm	904,6	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	2323	(L1)
Heat exchanger height	mm	904,6	(H1)
Heat exchanger front surface	m <sup>2</sup>	2,10	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>		16-FP18-2G	
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,4	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	2,002	
Coil Internal Volume	liters	1,6202	
Manifold Internal Volume	liters	0,3813	
Number of tubes		95	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		69/26	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	14,474	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	93,03	(L)
Total height	in	35,61	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	91,46	(L1)
Heat exchanger height	in	35,61	(H1)
Heat exchanger front surface	in <sup>2</sup>	3257,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>		16-FP18-2G	
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	18	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	122,14	
Coil Internal Volume	in <sup>3</sup>	98,87	
Manifold Internal Volume	in <sup>3</sup>	23,27	
Number of tubes		95	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		69/26	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	31,90	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	7503,3	6,7	20,07	0,66	40,49	1,96	61,33	3,56	1716	0,85	35,74	2,35	53,79	4,12	19,38	0,85	39,02	2,50	59,19	4,39
1,5	11254,9	11,5	26,96	1,01	54,07	3,01	82,09	5,43	22,00	1,03	46,10	3,07	69,07	5,40	25,54	1,22	51,05	3,56	77,80	6,18
2	15006,6	16,9	32,69	1,32	65,23	3,94	99,24	7,02	25,57	1,36	53,48	3,56	80,80	6,21	30,46	1,50	60,55	4,36	92,68	7,48
2,5	18758,2	22,9	37,00	1,68	74,63	4,71	113,81	8,31	28,47	1,44	58,09	3,95	90,21	6,72	34,17	1,79	68,32	4,94	104,88	8,46
3	22509,8	29,5	41,02	1,93	82,74	5,38	126,34	9,40	30,78	1,49	62,79	4,14	97,78	7,07	36,70	1,95	74,90	5,40	114,99	9,22
3,5	26261,5	36,5	44,60	2,14	89,88	5,95	137,52	10,34	32,70	1,51	66,67	4,26	104,20	7,32	39,27	2,08	80,36	5,74	123,19	9,89
4	30013,1	43,8	47,67	2,33	96,27	6,41	147,51	11,10	34,32	1,52	69,92	4,34	109,39	7,51	41,43	2,16	85,05	6,00	129,76	10,47
4,5	33764,8	51,6	50,40	2,48	101,92	6,81	156,32	11,76	35,72	1,53	72,71	4,40	113,54	7,67	43,28	2,21	89,05	6,22	135,30	10,93

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	7503,3	6,7	11,86	0,28	33,94	1,60	54,00	3,29	19,02	0,52	38,71	1,59	57,82	2,87	19,82	0,88	39,44	2,55	59,70	4,48
1,5	11254,9	11,5	14,87	0,32	44,19	2,41	70,88	4,78	25,18	0,89	50,74	2,35	76,21	4,15	26,16	1,27	51,68	3,64	78,50	6,32
2	15006,6	16,9	16,75	0,34	52,25	3,00	84,35	5,89	30,11	1,11	60,02	3,00	90,91	5,13	30,57	1,66	61,31	4,49	93,55	7,65
2,5	18758,2	22,9	17,93	0,34	58,89	3,44	95,43	6,73	34,21	1,28	67,89	3,46	103,11	5,89	34,39	1,90	69,23	5,10	105,85	8,64
3	22509,8	29,5	18,79	0,35	64,44	3,75	104,85	7,35	37,70	1,40	74,46	3,81	113,49	6,46	37,60	2,08	75,85	5,55	115,99	9,47
3,5	26261,5	36,5	19,43	0,35	69,16	4,00	112,96	7,86	40,72	1,50	80,18	4,09	122,48	6,90	40,35	2,21	81,61	5,95	124,09	10,18
4	30013,1	43,8	19,92	0,35	73,26	4,18	120,03	8,24	43,39	1,58	85,16	4,30	130,41	7,25	42,60	2,30	86,29	6,21	130,82	10,77
4,5	33764,8	51,6	20,29	0,35	76,78	4,33	127,49	8,59	45,75	1,63	89,56	4,47	137,37	7,54	44,52	2,37	90,31	6,43	136,34	11,25

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4416,3	0,0	68,54	9,64	138,27	28,40	209,45	51,59	58,61	12,35	122,05	34,08	183,71	59,82	66,17	12,36	133,25	36,20	202,14	63,73
295	6624,4	0,0	92,07	14,63	184,66	43,71	280,34	78,75	75,13	15,01	157,45	44,50	235,88	78,39	87,22	17,64	174,33	51,69	265,70	89,58
394	8832,5	0,1	111,63	19,08	222,79	57,17	338,94	101,78	87,33	19,71	182,64	51,57	275,96	90,01	104,02	21,69	206,78	63,27	316,52	108,54
492	11040,7	0,1	126,37	24,31	254,89	68,37	388,68	120,48	97,25	20,90	198,38	57,27	308,09	97,43	116,69	26,01	233,32	71,61	358,18	122,73
591	13248,8	0,1	140,08	28,02	282,57	77,99	431,47	136,28	105,12	21,58	214,43	60,00	333,94	102,56	125,34	28,34	255,80	78,31	392,70	133,78
689	15456,9	0,1	152,31	31,07	306,95	86,23	469,67	149,93	111,68	21,92	227,70	61,78	355,85	106,12	134,10	30,13	274,43	83,28	420,71	143,43
787	17665,1	0,2	162,80	33,79	328,77	92,90	503,76	161,00	117,19	22,07	238,77	62,92	373,57	108,88	141,50	31,26	290,45	87,05	443,15	151,88
886	19873,2	0,2	172,12	36,00	348,06	98,78	533,87	170,52	121,99	22,24	248,32	63,77	387,77	111,25	147,82	32,12	304,12	90,27	462,08	158,50

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4416,3	0,0	40,50	4,03	115,91	23,14	184,42	47,70	64,95	7,51	132,21	22,99	197,45	41,61	67,69	12,83	134,71	37,03	203,89	65,00
295	6624,4	0,0	50,77	4,59	150,92	34,91	242,07	69,31	86,00	12,98	173,27	34,09	260,29	60,24	89,33	18,40	176,48	52,79	268,09	91,68
394	8832,5	0,1	57,20	4,86	178,45	43,53	288,05	85,36	102,84	16,12	204,99	43,48	310,46	74,45	104,39	24,04	209,40	65,11	319,47	110,88
492	11040,7	0,1	61,25	4,99	201,12	49,87	325,93	97,55	116,82	18,56	231,87	50,12	352,12	85,40	117,43	27,49	236,42	73,92	361,51	125,30
591	13248,8	0,1	64,19	5,03	220,09	54,40	358,08	106,58	128,75	20,37	254,29	55,24	387,59	93,68	128,41	30,14	259,02	80,54	396,13	137,28
689	15456,9	0,1	66,36	5,05	236,19	58,04	385,78	113,95	139,06	21,81	273,82	59,25	418,29	100,12	137,82	32,07	278,72	86,27	423,79	147,59
787	17665,1	0,2	68,02	5,06	250,18	60,63	409,91	119,48	148,19	22,94	290,83	62,38	445,36	105,20	145,48	33,31	294,70	90,07	446,78	156,21
886	19873,2	0,2	69,29	5,06	262,22	62,73	435,39	124,54	156,24	23,71	305,87	64,83	469,13	109,36	152,03	34,31	308,43	93,30	465,62	163,14

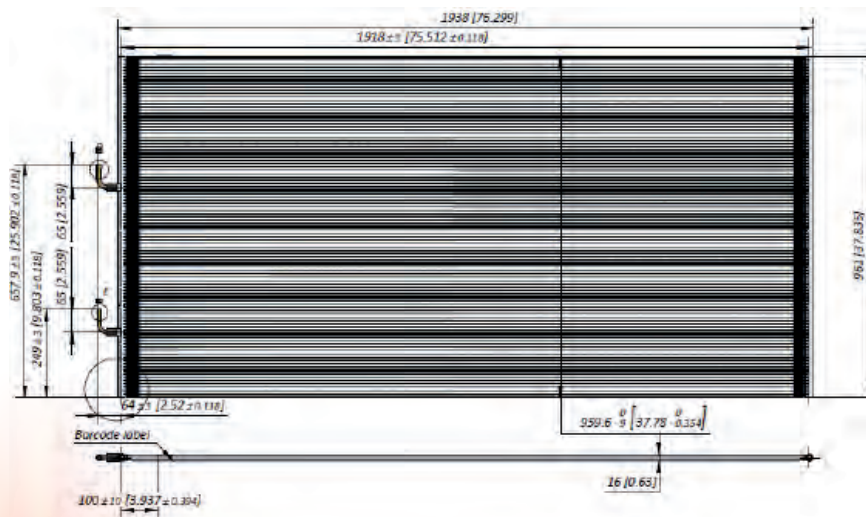
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD35 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1938	(L)
Total height	mm	961	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1898	(L1)
Heat exchanger height	mm	959,6	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,82	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,813	
Coil Internal Volume	liters	1,4074	
Manifold Internal Volume	liters	0,4054	
Number of tubes		101	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		74/27	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	12,826	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	76,30	(L)
Total height	in	37,83	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	74,72	(L1)
Heat exchanger height	in	37,78	(H1)
Heat exchanger front surface	in <sup>2</sup>	2823,0	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	110,63	
Coil Internal Volume	in <sup>3</sup>	85,88	
Manifold Internal Volume	in <sup>3</sup>	24,74	
Number of tubes		101	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		74/27	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	28,27	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	6507,9	13,3	19,13	0,47	38,75	1,39	58,76	2,55	16,92	0,66	35,10	1,83	52,90	3,21	18,68	0,63	37,84	1,85	57,33	3,32
1,5	9761,9	23,3	26,37	0,75	53,31	2,28	80,95	4,15	22,35	0,83	46,74	2,55	70,19	4,54	25,34	0,95	51,07	2,82	77,67	4,99
2	13015,9	34,6	32,59	1,02	65,62	3,10	99,79	5,59	26,68	1,20	55,85	3,09	83,91	5,46	30,86	1,22	61,86	3,62	94,55	6,32
2,5	16269,8	47,1	38,01	1,26	76,23	3,83	116,14	6,85	30,16	1,33	61,60	3,58	95,15	6,09	34,79	1,52	70,91	4,26	108,68	7,36
3	19523,8	60,5	42,16	1,57	85,54	4,47	130,67	7,94	33,04	1,41	67,39	3,85	104,66	6,53	38,49	1,71	78,60	4,75	120,78	8,18
3,5	22777,8	74,8	46,22	1,78	93,77	5,04	143,41	8,89	35,50	1,45	72,27	4,02	112,58	6,86	41,64	1,86	85,33	5,16	131,19	8,85
4	26031,7	89,8	49,86	1,97	101,18	5,53	154,88	9,69	37,71	1,46	76,44	4,15	119,37	7,11	44,48	2,00	91,28	5,48	139,93	9,45
4,5	29285,7	105,6	53,12	2,14	107,91	5,98	165,36	10,41	39,56	1,50	80,09	4,24	125,26	7,30	46,83	2,06	96,33	5,74	147,25	10,00

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	6507,9	13,3	11,66	0,22	32,77	1,18	52,19	2,45	18,29	0,38	37,35	1,17	55,94	2,12	19,10	0,65	38,22	1,89	57,79	3,38
1,5	9761,9	23,3	15,24	0,26	44,58	1,78	70,81	3,78	25,01	0,69	50,94	1,78	76,00	3,27	25,93	0,99	51,66	2,89	78,35	5,10
2	13015,9	34,6	17,91	0,29	53,42	2,46	86,05	4,86	30,52	0,90	61,22	2,46	92,59	4,23	31,50	1,28	62,62	3,73	95,32	6,46
2,5	16269,8	47,1	19,82	0,31	61,17	2,93	98,89	5,74	35,20	1,06	70,34	2,92	106,67	5,02	35,63	1,60	71,81	4,38	109,67	7,53
3	19523,8	60,5	21,54	0,35	67,78	3,28	109,98	6,47	39,25	1,20	78,13	3,30	118,82	5,64	39,44	1,80	79,67	4,90	121,90	6,74
3,5	22777,8	74,8	22,15	0,35	73,47	3,57	119,64	7,03	42,83	1,32	84,99	3,61	129,48	6,16	42,71	1,97	86,48	5,31	132,31	9,08
4	26031,7	89,8	22,61	0,35	78,46	3,81	128,16	7,48	46,01	1,41	90,95	3,88	138,93	6,58	45,55	2,10	92,43	5,65	140,93	9,74
4,5	29285,7	105,6	22,97	0,35	82,89	3,99	135,78	7,84	48,84	1,49	96,31	4,08	147,37	6,91	48,04	2,19	97,63	5,92	148,26	10,30

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3830,4	0,1	65,34	6,86	132,35	20,17	200,68	37,03	57,80	9,61	119,86	26,53	180,65	46,57	63,79	9,07	129,24	26,79	195,79	48,08
295	5745,6	0,1	90,06	10,90	182,05	33,03	276,45	60,16	76,34	12,09	159,63	37,04	239,69	65,81	86,55	13,73	174,41	40,97	265,24	72,32
394	7660,9	0,1	111,31	14,72	224,11	44,89	340,80	81,12	91,13	17,41	190,73	44,74	286,55	79,13	105,38	17,65	211,26	52,57	322,89	91,66
492	9576,1	0,2	129,80	18,21	260,34	55,55	396,62	99,29	103,01	19,26	210,36	51,96	324,95	88,36	118,82	22,02	242,17	61,72	371,16	106,68
591	11491,3	0,2	143,98	22,72	292,12	64,89	446,25	115,19	112,85	20,39	230,15	55,86	357,44	94,75	131,45	24,84	268,42	68,87	412,50	118,70
689	13406,5	0,3	157,86	25,87	320,26	73,08	489,77	128,95	121,24	21,09	246,80	58,36	384,50	99,48	142,20	26,94	291,42	74,83	448,03	128,39
787	15321,7	0,4	170,28	28,62	345,54	80,16	528,93	140,49	128,79	21,12	261,06	60,17	407,68	103,11	151,89	28,99	311,74	79,49	477,89	137,13
886	17236,9	0,4	181,41	31,01	368,53	86,78	564,72	150,95	135,09	21,80	273,51	61,55	427,77	105,83	159,93	29,91	328,98	83,20	502,89	145,01

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3830,4	0,1	39,81	3,19	111,93	17,07	178,23	35,54	62,46	5,57	127,57	16,93	191,04	30,81	65,22	9,40	130,54	27,44	197,37	49,03
295	5745,6	0,1	52,03	3,84	152,25	25,88	241,81	54,78	85,43	10,03	173,97	25,85	259,55	47,48	88,56	14,32	176,44	41,92	267,58	73,90
394	7660,9	0,1	61,16	4,25	182,45	35,71	293,86	70,50	104,22	12,99	209,09	35,61	316,21	61,37	107,59	18,61	213,87	54,03	325,54	93,68
492	9576,1	0,2	67,70	4,53	208,91	42,47	337,73	83,30	120,22	15,41	240,21	42,40	364,30	72,76	121,67	23,23	245,25	63,49	374,54	109,20
591	11491,3	0,2	73,58	5,03	231,49	47,64	375,59	93,78	134,06	17,43	266,83	47,87	405,80	81,87	134,71	26,13	272,08	71,01	416,31	97,80
689	13406,5	0,3	75,66	5,05	250,93	51,76	408,59	101,90	146,27	19,09	290,25	52,39	442,19	89,28	145,85	28,50	295,33	77,08	451,86	131,62
787	15321,7	0,4	77,22	5,06	267,97	55,28	437,68	108,49	157,12	20,46	310,62	56,20	474,49	95,41	155,56	30,39	315,66	81,94	481,30	141,21
886	17236,9	0,4	78,44	5,06	283,09	57,88	463,71	113,77	166,79	21,56	328,90	59,24	503,29	100,24	164,06	31,83	333,43	85,92	506,33	149,35

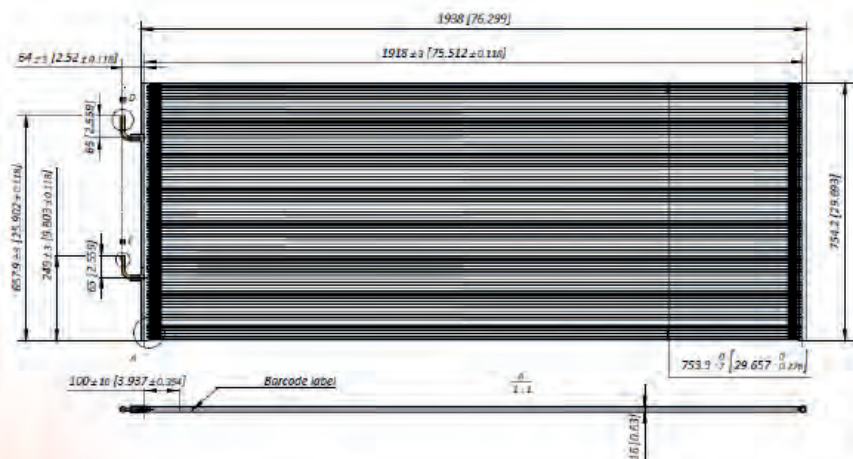
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD36 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1938	(L)
Total height	mm	754.2	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1898	(L1)
Heat exchanger height	mm	753.3	(H1)
Heat exchanger front surface	m <sup>2</sup>	1.43	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12.7	(Ø IN)
Outlet connection (ID)	mm	9.52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1.1	
Fin height	mm	8.1	
Tubes height	mm	1.3	
Total internal volume	liters	1,418	
Coil Internal Volume	liters	1,1008	
Manifold Internal Volume	liters	0,3171	
Number of tubes		79	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		57/22	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	10,074	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	76,30	(L)
Total height	in	29,69	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	74,72	(L1)
Heat exchanger height	in	29,66	(H1)
Heat exchanger front surface	in <sup>2</sup>	2216,1	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	86,52	
Coil Internal Volume	in <sup>3</sup>	67,18	
Manifold Internal Volume	in <sup>3</sup>	19,35	
Number of tubes		79	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		57/22	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	22,20	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5102	12,0	14,98	0,47	30,36	1,37	46,02	2,52	13,20	0,67	27,43	1,82	41,33	3,20	14,63	0,62	29,60	1,83	44,89	3,27
1,5	7654	21,0	20,67	0,74	41,73	2,25	63,37	4,09	17,44	0,85	36,49	2,55	54,73	4,53	19,83	0,93	39,93	2,80	60,77	4,95
2	10205	31,1	25,52	1,00	51,34	3,06	78,08	5,52	20,79	1,19	43,29	3,09	65,32	5,46	24,13	1,21	48,34	3,60	73,82	6,28
2,5	12756	42,5	29,61	1,27	59,61	3,79	90,86	6,79	23,49	1,32	47,89	3,58	73,97	6,11	27,17	1,51	55,34	4,24	84,85	7,31
3	15307	55,0	32,97	1,55	66,85	4,44	102,04	7,89	25,72	1,40	52,34	3,84	81,34	6,56	30,04	1,70	61,33	4,74	94,29	8,16
3,5	17858	68,7	36,14	1,77	73,24	5,00	112,04	8,81	27,61	1,45	56,09	4,03	87,39	6,89	32,50	1,85	66,52	5,15	102,43	8,82
4	20409	83,6	38,96	1,96	79,02	5,48	121,00	9,65	29,23	1,48	59,30	4,16	92,71	7,13	34,62	1,97	71,04	5,37	109,51	9,38
4,5	22961	99,6	41,48	2,12	84,18	5,91	129,11	10,37	30,74	1,51	62,08	4,25	97,17	7,33	36,52	2,06	75,05	5,74	115,63	9,88

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5102,4	12,0	9,13	0,22	25,66	1,16	40,86	2,43	14,32	0,39	29,23	1,15	43,78	2,11	14,96	0,64	29,92	1,87	45,27	3,34
1,5	7653,5	21,0	11,91	0,27	34,87	1,77	55,39	3,74	19,57	0,68	39,85	1,76	59,41	3,25	20,28	0,97	40,39	2,87	61,28	5,03
2	10204,7	31,1	13,97	0,30	41,74	2,44	67,23	4,84	23,85	0,89	47,82	2,44	72,33	4,21	24,46	1,30	48,92	3,68	74,48	6,41
2,5	12755,9	42,5	15,47	0,31	47,74	2,90	77,31	5,74	27,51	1,06	54,88	2,91	83,23	5,00	27,83	1,59	56,05	4,35	85,62	7,48
3	15307,1	55,0	16,53	0,33	52,91	3,27	85,76	6,45	30,66	1,19	60,93	3,30	92,63	5,63	30,79	1,80	62,11	4,85	95,20	8,32
3,5	17858,3	68,7	17,48	0,35	57,28	3,56	93,23	7,01	33,44	1,31	66,24	3,60	100,90	6,15	33,32	1,96	67,42	5,29	103,40	9,03
4	20409,4	83,6	17,87	0,35	61,13	3,81	99,82	7,48	35,89	1,40	70,83	3,86	108,17	6,58	35,53	2,09	72,02	5,64	110,47	9,62
4,5	22960,6	99,6	18,19	0,35	64,53	3,99	105,68	7,86	38,09	1,48	74,92	4,08	114,65	6,90	37,45	2,19	76,10	5,92	116,38	10,17

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3003,1	0,0	51,16	6,76	103,68	19,89	157,17	36,55	45,09	9,71	93,67	26,41	141,15	46,38	49,97	8,98	101,09	26,52	153,31	47,45
295	4504,7	0,1	70,58	10,77	142,53	32,59	216,41	59,29	59,57	12,26	124,62	36,98	186,90	65,73	67,71	13,55	136,35	40,61	207,53	71,81
394	6006,3	0,1	87,16	14,52	175,34	44,37	266,67	80,02	71,01	17,30	147,84	44,79	223,08	79,23	82,40	17,50	165,09	52,21	252,11	91,07
492	7507,8	0,2	101,12	18,37	203,58	55,01	310,30	98,42	80,22	19,18	163,55	51,92	252,62	88,54	92,81	21,93	188,99	61,48	289,78	106,02
591	9009,4	0,2	112,59	22,52	228,31	64,34	348,48	114,37	87,82	20,36	178,74	55,67	277,79	95,13	102,61	24,70	209,44	68,71	322,01	118,28
689	10511,0	0,3	123,42	25,65	250,11	72,54	382,63	127,72	94,29	21,09	191,56	58,47	298,45	99,94	110,98	26,83	227,16	74,73	349,80	127,94
787	12012,5	0,3	133,06	28,39	269,86	79,52	413,25	139,90	99,84	21,53	202,52	60,31	316,62	103,35	118,23	28,52	242,62	77,81	374,00	136,08
886	13514,1	0,4	141,68	30,78	287,50	85,77	440,93	150,33	104,98	21,87	212,01	61,62	331,85	106,25	124,74	29,86	256,31	83,26	394,90	143,23

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3003,1	0,0	31,17	3,25	87,62	16,88	139,54	35,24	48,91	5,64	99,84	16,74	149,51	30,53	51,08	9,30	102,17	27,15	154,61	48,43
295	4504,7	0,1	40,66	3,91	119,10	25,65	189,16	54,23	66,83	9,92	136,09	25,55	202,90	47,14	69,26	14,10	137,92	41,67	209,27	72,96
394	6006,3	0,1	47,71	4,30	142,54	35,42	229,59	70,20	81,47	12,84	163,30	35,33	247,02	61,13	83,53	18,86	167,08	53,36	254,35	92,94
492	7507,8	0,2	52,83	4,56	163,06	42,04	264,02	83,30	93,94	15,30	187,43	42,17	284,24	72,46	95,04	23,05	191,41	63,03	292,42	108,53
591	9009,4	0,2	56,47	4,76	180,70	47,47	292,87	93,48	104,71	17,32	208,10	47,82	316,35	81,62	105,15	26,03	212,11	70,63	325,13	120,71
689	10511,0	0,3	59,71	5,05	195,61	51,67	318,38	101,66	114,21	18,96	226,21	52,22	344,59	89,24	113,80	28,41	230,26	76,77	353,14	130,97
787	12012,5	0,3	61,05	5,06	208,77	55,22	340,89	108,42	122,56	20,31	241,89	55,92	369,41	95,47	121,35	30,30	245,95	81,74	377,27	139,55
886	13514,1	0,4	62,13	5,06	220,38	57,83	360,91	114,02	130,10	21,46	255,87	59,10	391,55	100,09	127,89	31,73	259,90	85,84	397,46	147,46

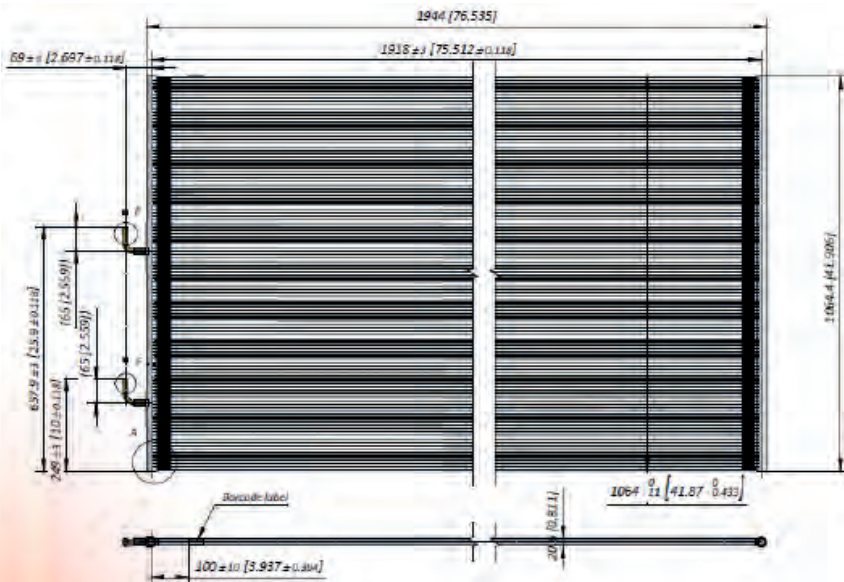
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD37 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1944	(L)
Total height	mm	1064,4	(H)
Manifold diameter	mm	26	(Ø D)
Heat exchanger length	mm	1892	(L1)
Heat exchanger height	mm	1064	(H1)
Heat exchanger front surface	m <sup>2</sup>	2,01	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	mm	20,6	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	2,860	
Coil Internal Volume	liters	2,0920	
Manifold Internal Volume	liters	0,7684	
Number of tubes		112	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		82/30	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	18,268	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	76,54	(L)
Total height	in	41,91	(H)
Manifold diameter	in	1,02	(Ø D)
Heat exchanger length	in	74,49	(L1)
Heat exchanger height	in	41,89	(H1)
Heat exchanger front surface	in <sup>2</sup>	3120,3	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	in	0,81	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	174,55	
Coil Internal Volume	in <sup>3</sup>	127,66	
Manifold Internal Volume	in <sup>3</sup>	46,89	
Number of tubes		112	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		82/30	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	40,26	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	7188	13,4	22,26	0,31	45,15	0,90	68,35	1,66	20,26	0,51	41,78	1,32	63,48	2,13	21,95	0,43	44,54	1,25	67,38	2,26
1,5	10782	23,7	31,31	0,52	63,44	1,55	96,27	2,84	27,51	0,67	57,18	1,96	86,01	3,47	30,49	0,68	61,75	2,03	93,57	3,63
2	14376	35,6	39,32	0,72	79,51	2,19	120,77	4,00	33,34	0,83	70,02	2,48	105,01	4,42	37,84	0,91	76,42	2,72	116,06	4,85
2,5	17970	48,8	46,45	0,91	93,71	2,80	142,51	5,10	38,64	1,13	80,06	2,93	121,04	5,16	44,22	1,12	88,79	3,35	135,53	5,87
3	21563	63,6	52,90	1,09	106,40	3,37	162,04	6,08	42,93	1,25	87,55	3,35	134,84	5,71	48,97	1,37	99,78	3,86	152,77	6,72
3,5	25157	80,0	58,04	1,35	117,85	3,90	179,67	6,96	46,64	1,33	94,93	3,61	146,76	6,14	53,62	1,53	109,47	4,30	167,89	7,44
4	28751	97,8	63,16	1,52	128,27	4,36	195,82	7,78	49,90	1,39	101,40	3,80	157,67	6,46	57,75	1,67	118,12	4,68	181,44	8,04
4,5	32345	117,0	67,80	1,68	137,81	4,78	210,71	8,50	52,77	1,43	107,11	3,95	166,76	6,73	61,45	1,79	125,72	4,98	193,58	8,56

A

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	7188	13,4	14,00	0,17	38,46	0,80	61,29	1,65	21,52	0,29	43,76	0,80	65,61	1,42	22,43	0,44	45,01	1,28	67,90	2,30
1,5	10782	23,7	18,89	0,22	53,57	1,28	85,25	2,69	29,85	0,39	61,09	1,27	91,40	2,34	31,19	0,71	62,38	2,08	94,37	3,71
2	14376	35,6	22,80	0,25	66,17	1,76	105,80	3,65	37,37	0,66	75,87	1,74	113,52	3,18	38,71	0,95	77,12	2,81	116,98	4,93
2,5	17970	48,8	25,99	0,27	76,72	2,26	123,44	4,49	43,74	0,82	87,84	2,26	132,78	3,90	45,05	1,18	89,87	3,43	136,73	5,99
3	21563	63,6	28,52	0,29	86,12	2,63	139,01	5,21	49,38	0,95	98,85	2,63	149,68	4,54	50,11	1,44	101,04	3,97	154,02	6,86
3,5	25157	80,0	31,47	0,34	94,39	2,95	152,80	5,81	54,43	1,07	108,62	2,96	164,86	5,08	54,89	1,61	110,84	4,41	169,41	7,60
4	28751	97,8	32,58	0,35	101,79	3,22	165,16	6,34	58,98	1,17	117,36	3,24	178,46	5,55	59,18	1,76	119,62	4,83	183,13	8,23
4,5	32345	117,0	33,26	0,35	108,43	3,45	176,35	6,77	63,12	1,26	125,40	3,47	190,72	5,93	62,98	1,89	127,58	5,14	195,33	8,77

B

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4230,6	0,1	76,01	4,52	154,18	13,08	233,41	24,11	69,19	7,44	142,68	19,08	216,79	30,94	74,96	6,17	152,10	18,07	230,12	32,76
295	6345,9	0,1	106,94	7,49	216,66	22,41	328,79	41,23	93,95	9,68	195,27	28,49	293,74	50,37	104,13	9,83	210,90	29,44	319,57	52,61
394	8461,2	0,1	134,28	10,42	271,54	31,79	412,46	57,97	113,86	12,06	239,13	35,90	358,64	64,08	129,22	13,20	260,98	39,44	396,36	70,32
492	10576,5	0,2	158,64	13,22	320,02	40,59	486,71	73,90	131,96	16,40	273,42	42,47	413,38	74,79	151,00	16,19	303,24	48,58	462,86	85,08
591	12691,8	0,3	180,65	15,87	363,36	48,84	553,39	88,13	146,60	18,07	298,99	48,56	460,50	82,82	167,23	19,87	340,76	56,02	521,73	97,51
689	14807,1	0,3	198,22	19,60	402,49	56,50	613,59	100,94	159,27	19,27	324,20	52,32	501,21	88,99	183,12	22,19	373,87	62,33	573,36	107,97
787	16922,3	0,4	215,70	22,11	438,06	63,17	668,77	112,77	170,41	20,14	346,31	55,10	538,47	93,72	197,22	24,24	403,39	67,82	619,65	116,56
886	19037,6	0,5	231,53	24,36	470,65	69,37	719,60	123,24	180,23	20,69	365,80	57,23	569,52	97,55	209,86	25,98	429,36	72,19	661,12	124,16

A

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4230,6	0,1	47,83	2,54	131,34	11,65	209,32	23,87	73,48	4,16	149,43	11,54	224,07	20,66	76,61	6,41	153,71	18,51	231,90	33,32
295	6345,9	0,1	64,50	3,19	182,96	18,56	291,13	39,06	101,94	5,68	208,64	18,44	312,14	33,88	106,51	10,22	213,06	30,16	322,27	53,81
394	8461,2	0,1	77,86	3,64	225,98	25,56	361,34	52,95	127,63	9,62	259,09	25,21	387,69	46,08	132,20	13,77	263,39	40,73	399,50	71,51
492	10576,5	0,2	88,76	3,96	262,01	32,81	421,58	65,13	149,37	11,85	299,97	32,72	453,47	56,50	153,85	17,18	306,94	49,73	466,95	86,95
591	12691,8	0,3	97,39	4,22	294,13	38,20	474,73	75,50	168,65	13,77	337,61	38,12	511,19	65,77	171,14	20,87	345,06	57,63	525,99	99,50
689	14807,1	0,3	107,47	4,94	322,37	42,76	521,84	84,32	185,89	15,45	370,95	42,90	563,03	73,70	187,45	23,41	378,55	64,01	578,56	110,23
787	16922,3	0,4	111,27	5,02	347,64	46,71	564,05	91,96	201,42	16,94	400,79	47,04	609,46	80,46	202,12	25,58	408,51	70,00	625,44	119,42
886	19037,6	0,5	113,59	5,04	370,32	50,02	602,26	98,16	215,58	18,21	428,25	50,30	651,35	85,96	215,09	27,45	435,71	74,53	667,09	127,23

B

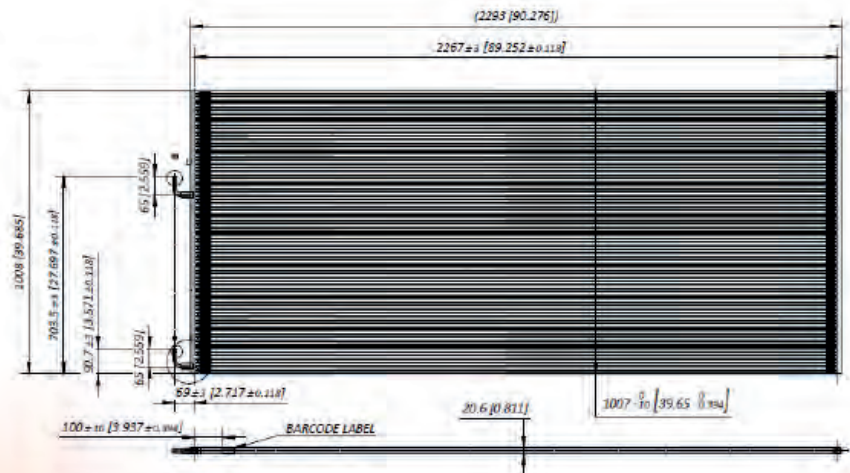
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD38 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	2293	(L)
Total height	mm	1008	(H)
Manifold diameter	mm	26	(Ø D)
Heat exchanger length	mm	2241	(L1)
Heat exchanger height	mm	1007	(H1)
Heat exchanger front surface	m <sup>2</sup>	2.26	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	mm	20,6	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	3,072	
Coil Internal Volume	liters	2,3452	
Manifold Internal Volume	liters	0,7272	
Number of tubes		106	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		75/31	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	20,332	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	90,28	(L)
Total height	in	39,69	(H)
Manifold diameter	in	1,02	(Ø D)
Heat exchanger length	in	88,23	(L1)
Heat exchanger height	in	39,65	(H1)
Heat exchanger front surface	in <sup>2</sup>	34979	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	in	0,81	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	18749	
Coil Internal Volume	in <sup>3</sup>	143,11	
Manifold Internal Volume	in <sup>3</sup>	44,37	
Number of tubes		106	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		75/31	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	44,81	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU







## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	8068	13,4	24,88	0,45	50,17	1,32	75,87	2,41	21,92	0,70	45,27	1,79	68,12	3,12	24,31	0,61	48,93	1,77	74,00	3,16
1,5	12102	23,7	34,81	0,74	69,89	2,21	105,97	4,01	29,25	0,89	60,92	2,54	91,22	4,53	33,39	0,94	66,82	2,77	101,54	4,89
2	16135	35,6	43,44	1,01	86,83	3,07	131,80	5,51	34,96	1,06	73,28	3,10	109,59	5,51	41,01	1,22	81,55	3,61	124,36	6,29
2,5	20169	48,8	50,52	1,33	101,47	3,83	154,40	6,84	39,81	1,35	80,82	3,64	124,68	6,20	46,38	1,55	93,91	4,29	143,75	7,40
3	24203	63,6	56,77	1,61	114,36	4,52	174,31	8,01	43,73	1,43	88,56	3,92	137,40	6,68	51,48	1,75	104,50	4,83	160,55	8,30
3,5	28237	80,0	62,41	1,84	125,86	5,15	192,15	9,01	47,12	1,48	95,07	4,10	147,99	7,03	55,83	1,91	113,62	5,26	175,11	9,00
4	32271	97,8	67,49	2,04	136,05	5,65	208,14	9,90	49,90	1,50	100,65	4,22	157,14	7,28	59,64	2,02	121,78	5,60	187,75	9,57
4,5	36305	117,0	72,05	2,22	145,35	6,12	222,71	10,65	52,35	1,52	105,48	4,32	165,06	7,46	62,83	2,11	128,71	5,87	198,86	10,00

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	8067,7	13,4	15,27	0,24	42,47	1,14	67,46	2,35	23,81	0,40	48,30	1,12	72,17	2,04	24,84	0,63	49,44	1,81	74,59	3,21
1,5	12101,6	23,7	20,16	0,29	58,47	1,76	92,57	3,71	32,77	0,55	66,70	1,75	99,24	3,22	34,17	0,98	67,59	2,84	102,39	4,96
2	16135,5	35,6	23,77	0,31	70,49	2,47	113,30	4,87	40,48	0,90	80,66	2,45	121,81	4,23	41,56	1,33	82,60	3,72	125,49	6,42
2,5	20169,4	48,8	26,36	0,33	81,10	2,96	130,83	5,81	46,95	1,08	93,11	2,96	140,96	5,05	47,48	1,63	95,16	4,41	145,11	7,55
3	24203,2	63,6	28,13	0,34	90,13	3,35	145,95	6,57	52,59	1,23	103,93	3,36	157,54	5,74	52,76	1,84	105,91	4,98	162,17	8,47
3,5	28237,1	80,0	29,48	0,34	97,92	3,65	159,12	7,18	57,50	1,35	113,09	3,70	172,10	6,30	57,20	2,01	115,23	5,41	176,88	9,19
4	32271,0	97,8	30,45	0,35	104,72	3,90	170,77	7,67	61,90	1,45	121,18	3,96	184,82	6,71	61,15	2,15	123,41	5,77	189,57	9,80
4,5	36304,8	117,0	31,19	0,35	110,69	4,09	181,11	8,06	65,82	1,52	128,47	4,19	196,52	7,09	64,53	2,25	130,50	6,06	200,59	10,30

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4748,5	0,1	84,96	6,60	171,34	19,16	259,11	34,92	74,86	10,11	154,61	25,96	232,65	45,28	83,04	8,78	167,10	25,64	252,72	45,79
295	7122,7	0,1	118,88	10,75	238,70	32,11	361,89	58,12	99,91	12,90	208,05	36,90	311,55	65,67	114,05	13,62	228,22	40,18	346,76	70,88
394	9497,0	0,1	148,34	14,72	296,52	44,51	450,12	79,86	119,40	15,31	250,26	44,90	374,27	79,89	140,05	17,72	278,51	52,39	424,71	91,29
492	11871,2	0,2	172,54	19,23	346,54	55,50	527,32	99,15	135,96	19,53	276,01	52,81	425,80	89,94	158,41	22,46	320,72	62,21	490,93	107,34
591	14245,5	0,3	193,87	23,36	390,58	65,56	595,29	116,10	149,34	20,73	302,44	56,83	469,25	96,92	175,80	25,37	356,89	70,07	548,31	120,38
689	16619,7	0,3	213,15	26,65	429,82	74,74	656,23	130,74	160,94	21,43	324,68	59,49	505,41	101,94	190,68	27,66	388,03	76,26	598,02	130,58
787	18994,0	0,4	230,51	29,58	464,63	81,89	710,84	143,65	170,41	21,77	343,74	61,26	536,66	105,58	203,67	29,35	415,89	81,22	641,21	138,82
886	21368,2	0,5	246,06	32,15	496,39	88,76	760,58	154,50	178,78	22,00	360,23	62,61	563,71	108,19	214,58	30,60	439,57	85,14	679,14	145,08

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4748,5	0,1	52,16	3,44	145,03	16,48	230,38	34,06	81,33	5,85	164,95	16,31	246,48	29,51	84,84	9,12	168,85	26,27	254,74	46,56
295	7122,7	0,1	68,86	4,15	199,68	25,48	316,14	53,82	111,93	7,97	227,78	25,36	338,92	46,69	116,70	14,15	230,84	41,26	349,69	71,91
394	9497,0	0,1	81,17	4,55	240,74	35,85	386,95	70,68	138,24	13,09	275,47	35,60	416,02	61,31	141,93	19,24	282,09	53,88	428,59	93,06
492	11871,2	0,2	90,02	4,78	276,97	42,98	446,81	84,21	160,33	15,69	318,00	42,87	481,40	73,30	162,17	23,63	324,98	63,89	495,57	109,56
591	14245,5	0,3	96,09	4,92	307,82	48,57	498,45	95,24	179,59	17,85	354,95	48,71	538,03	83,20	180,18	26,75	361,70	72,27	553,86	122,83
689	16619,7	0,3	100,67	4,99	334,40	52,99	543,42	104,07	196,37	19,63	386,23	53,61	587,75	91,31	195,36	29,22	393,53	78,39	604,08	133,28
787	18994,0	0,4	104,00	5,02	357,64	56,53	583,21	111,19	211,40	20,99	413,87	57,41	631,19	97,37	208,82	31,11	421,47	83,67	647,43	142,07
886	21368,2	0,5	106,54	5,04	378,03	59,32	618,52	116,96	224,80	22,11	438,76	60,73	671,13	102,78	220,37	32,60	445,68	87,96	685,05	149,41

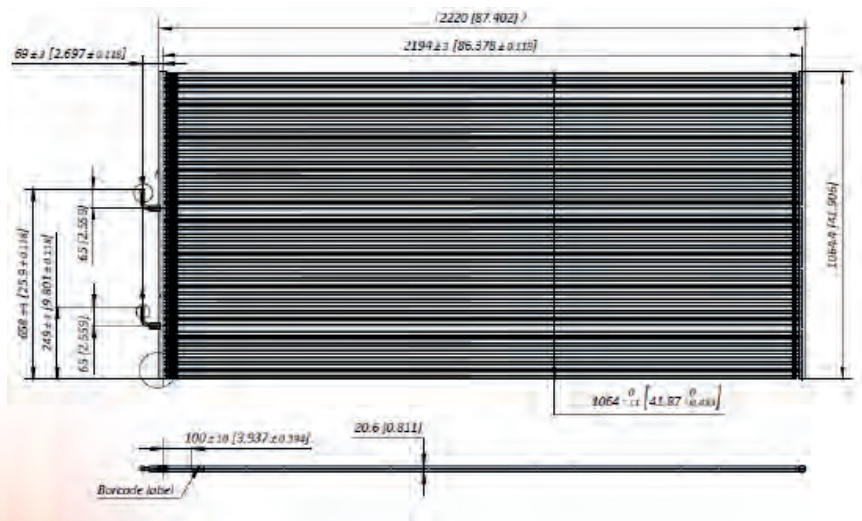
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD39 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	2220	(L)
Total height	mm	1064,4	(H)
Manifold diameter	mm	26	(Ø D)
Heat exchanger length	mm	2168	(L1)
Heat exchanger height	mm	1064	(H1)
Heat exchanger front surface	m <sup>2</sup>	2,31	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	mm	20,6	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	3,166	
Coil Internal Volume	liters	2,3972	
Manifold Internal Volume	liters	0,7684	
Number of tubes		112	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		82/30	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	20,797	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	87,40	(L)
Total height	in	41,91	(H)
Manifold diameter	in	1,02	(Ø D)
Heat exchanger length	in	85,35	(L1)
Heat exchanger height	in	41,89	(H1)
Heat exchanger front surface	in <sup>2</sup>	3575,5	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	in	0,81	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	193,17	
Coil Internal Volume	in <sup>3</sup>	146,29	
Manifold Internal Volume	in <sup>3</sup>	46,89	
Number of tubes		112	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		82/30	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	45,84	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	8242	13,4	25,48	0,44	51,41	1,26	77,81	2,31	22,70	0,65	46,81	1,71	70,54	2,97	24,95	0,58	50,36	1,69	76,16	3,04
1,5	12363	23,7	35,69	0,71	71,89	2,13	108,91	3,85	30,51	0,83	63,37	2,46	95,11	4,33	34,40	0,90	69,11	2,67	104,89	4,72
2	16484	35,6	44,63	0,97	89,54	2,95	135,81	5,32	36,76	1,18	76,92	3,00	115,00	5,31	42,37	1,18	84,66	3,49	129,05	6,08
2,5	20605	48,8	52,47	1,22	104,95	3,70	159,50	6,61	41,88	1,32	85,32	3,54	131,49	6,01	48,25	1,49	97,94	4,16	149,75	7,17
3	24726	63,6	58,71	1,54	118,62	4,37	180,78	7,75	46,17	1,41	93,90	3,81	145,54	6,47	53,75	1,69	109,33	4,69	167,61	8,04
3,5	28847	80,0	64,73	1,77	130,74	4,96	199,55	8,73	49,94	1,46	101,17	4,00	157,27	6,83	58,45	1,85	119,22	5,11	183,20	8,76
4	32968	97,8	70,11	1,96	141,76	5,48	216,61	9,59	53,07	1,49	107,43	4,14	167,45	7,09	62,61	1,97	128,06	5,45	196,25	9,37
4,5	37089	117,0	74,98	2,14	151,68	5,94	232,15	10,32	55,79	1,51	112,86	4,24	176,24	7,30	66,15	2,07	135,59	5,73	207,23	9,95

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	8242	13,4	15,79	0,22	43,59	1,09	69,20	2,24	24,47	0,37	49,62	1,08	74,28	1,94	25,51	0,60	50,88	1,74	76,74	3,09
1,5	12363	23,7	21,00	0,27	60,39	1,69	95,63	3,56	33,92	0,66	68,83	1,68	102,56	3,09	35,19	0,94	69,90	2,73	105,72	4,80
2	16484	35,6	24,96	0,30	73,17	2,37	117,57	4,68	41,87	0,87	83,66	2,37	126,41	4,06	43,38	1,23	85,72	3,58	130,19	6,21
2,5	20605	48,8	27,85	0,32	84,53	2,85	136,22	5,60	48,72	1,04	97,05	2,85	146,90	4,89	49,41	1,57	99,17	4,27	151,00	7,33
3	24726	63,6	29,91	0,34	94,27	3,24	152,60	6,33	54,70	1,19	108,66	3,25	164,73	5,53	55,05	1,78	110,74	4,82	169,17	8,21
3,5	28847	80,0	31,30	0,35	102,74	3,54	166,87	6,94	59,99	1,31	118,64	3,58	180,47	6,08	59,94	1,96	120,84	5,28	184,63	8,96
4	32968	97,8	32,00	0,35	110,17	3,80	179,49	7,44	64,69	1,41	127,51	3,85	194,50	6,52	64,18	2,09	129,69	5,62	197,66	9,65
4,5	37089	117,0	32,57	0,35	116,78	3,99	190,86	7,83	68,94	1,49	135,50	4,08	207,12	6,89	67,89	2,20	137,40	5,92	208,75	10,26

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4851.0	0,1	87,02	6,32	175,57	18,30	265,74	33,51	77,52	9,37	159,86	24,85	240,91	43,15	85,19	8,43	171,99	24,56	260,11	44,02
295	7276,5	0,1	121,89	10,29	245,52	30,83	371,95	55,88	104,20	12,02	216,42	35,67	324,82	62,87	117,47	13,07	236,02	38,76	358,21	68,41
394	9702,0	0,1	152,42	14,13	305,80	42,75	463,82	77,18	125,54	17,16	262,70	43,51	392,75	77,05	144,69	17,12	289,14	50,59	440,72	88,16
492	12127,5	0,2	179,19	17,71	358,42	53,72	544,72	95,86	143,03	19,09	291,38	51,41	449,06	87,18	164,80	21,59	334,49	60,30	511,42	104,01
591	14553,0	0,3	200,51	22,38	405,11	63,37	617,40	112,38	157,68	20,44	320,69	55,31	497,05	93,90	183,58	24,58	373,38	68,00	572,43	116,55
689	16978,5	0,3	221,06	25,63	446,50	71,90	681,50	126,63	170,55	21,12	345,51	57,99	537,11	99,03	199,62	26,80	407,17	74,13	625,67	126,98
787	19404,1	0,4	239,44	28,50	484,14	79,55	739,76	139,07	181,24	21,63	366,89	60,08	571,87	102,84	213,83	28,60	437,34	79,11	670,22	135,86
886	21829,6	0,5	256,07	31,03	518,01	86,16	792,83	149,70	190,53	21,86	385,44	61,50	601,89	105,81	225,92	29,98	463,07	83,14	707,72	144,25

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	4851,0	0,1	53,91	3,17	148,86	15,76	236,33	32,48	83,58	5,40	169,46	15,63	253,70	28,09	87,11	8,76	173,76	25,20	262,07	44,83
295	7276,5	0,1	71,72	3,88	206,26	24,55	326,59	51,60	115,84	9,56	235,06	24,38	350,25	44,81	120,18	13,63	238,71	39,62	361,05	69,66
394	9702,0	0,1	85,25	4,30	249,90	34,36	401,51	67,87	142,99	12,60	285,71	34,37	431,72	58,87	148,15	17,90	292,73	51,89	444,62	90,04
492	12127,5	0,2	95,13	4,58	288,67	41,38	465,22	81,26	166,38	15,15	331,45	41,34	501,69	70,90	168,76	22,81	338,67	61,88	515,69	106,27
591	14553,0	0,3	102,16	4,88	321,96	47,00	521,15	91,77	186,80	17,28	371,08	47,13	562,58	80,22	188,00	25,89	378,20	69,84	577,73	119,04
689	16978,5	0,3	106,90	5,06	350,89	51,33	569,89	100,63	204,88	19,04	405,19	51,98	616,34	88,22	204,71	28,41	412,71	76,51	630,55	129,90
787	19404,1	0,4	109,29	5,06	376,25	55,07	612,99	107,86	220,93	20,41	435,47	55,86	664,25	94,63	219,18	30,38	442,92	81,57	675,05	139,96
886	21829,6	0,5	111,22	5,07	398,84	57,83	651,82	113,58	235,45	21,60	462,77	59,15	707,34	99,94	231,86	31,90	469,26	85,79	712,92	148,74

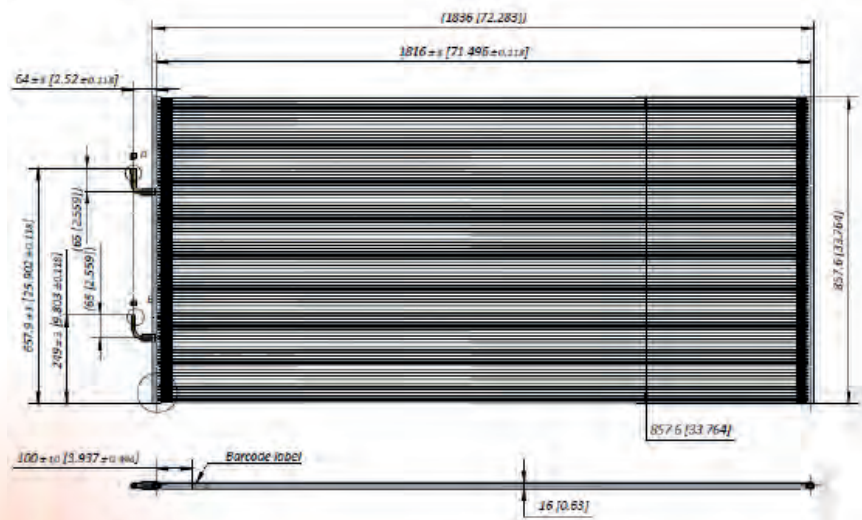
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD40 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1836	(L)
Total height	mm	857,6	(H)
Manifold diameter	mm	20	(Ø D)
Heat exchanger length	mm	1796	(L1)
Heat exchanger height	mm	857,6	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,54	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	mm	16	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	1,548	
Coil Internal Volume	liters	1,1867	
Manifold Internal Volume	liters	0,3612	
Number of tubes		90	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		65/25	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	10,859	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	72,28	(L)
Total height	in	33,76	(H)
Manifold diameter	in	0,79	(Ø D)
Heat exchanger length	in	70,71	(L1)
Heat exchanger height	in	33,76	(H1)
Heat exchanger front surface	in <sup>2</sup>	23874	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>	16-FPI23-2G		
Coil Depth	in	0,63	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	94,46	
Coil Internal Volume	in <sup>3</sup>	72,42	
Manifold Internal Volume	in <sup>3</sup>	22,04	
Number of tubes		90	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		65/25	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	23,93	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5492	12,0	16,16	0,41	32,80	1,20	49,75	2,21	14,38	0,61	29,86	1,64	45,02	2,88	15,83	0,55	32,11	1,62	48,66	2,91
1,5	8237	21,0	22,32	0,65	45,20	1,98	68,66	3,62	19,07	0,78	39,90	2,34	59,95	4,17	21,52	0,83	43,48	2,51	66,14	4,47
2	10983	31,1	27,61	0,89	55,76	2,72	84,81	4,93	22,65	1,05	48,02	2,82	71,87	5,09	26,28	1,09	52,84	3,27	80,62	5,75
2,5	13729	42,5	32,27	1,10	64,89	3,39	98,90	6,11	25,95	1,25	52,99	3,39	81,66	5,77	29,76	1,38	60,68	3,90	93,02	6,76
3	16474	55,0	35,91	1,39	72,94	3,97	111,31	7,15	28,50	1,35	58,12	3,67	89,90	6,24	33,01	1,57	67,43	4,41	103,53	7,62
3,5	19220	68,7	39,41	1,59	80,09	4,53	122,42	8,09	30,68	1,41	62,41	3,87	97,15	6,62	35,81	1,73	73,31	4,82	112,82	8,29
4	21966	83,6	42,59	1,77	86,51	5,02	132,39	8,88	32,57	1,45	66,15	4,01	103,19	6,90	38,26	1,85	78,49	5,17	120,97	8,86
4,5	24712	99,6	45,44	1,93	92,36	5,45	141,56	9,59	34,23	1,48	69,41	4,14	108,47	7,11	40,40	1,95	83,06	5,43	128,13	9,34

Air Speed (m/s)	Air Flow (m <sup>3</sup> /h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	5492	12,0	9,91	0,20	27,78	1,03	44,28	2,14	15,48	0,35	31,65	1,02	47,45	1,86	16,17	0,57	32,44	1,65	49,05	2,97
1,5	8237	21,0	13,03	0,25	37,90	1,58	60,21	3,36	21,04	0,58	43,28	1,58	64,64	2,91	22,02	0,87	43,97	2,58	66,70	4,56
2	10983	31,1	15,41	0,28	45,66	2,21	73,45	4,40	25,97	0,80	52,21	2,21	79,02	3,81	26,90	1,14	53,46	3,36	81,32	5,87
2,5	13729	42,5	17,28	0,30	52,38	2,65	84,58	5,26	30,01	0,96	60,12	2,66	91,11	4,57	30,47	1,45	61,46	4,00	93,79	6,92
3	16474	55,0	19,66	0,31	58,13	3,02	94,19	5,97	33,55	1,09	66,92	3,03	101,66	5,22	33,81	1,65	68,32	4,52	104,45	7,77
3,5	19220	68,7	20,05	0,35	63,15	3,32	102,63	6,57	36,64	1,21	72,87	3,36	110,92	5,72	36,71	1,82	74,30	4,96	113,94	8,47
4	21966	83,6	20,53	0,35	67,57	3,57	110,11	7,04	39,44	1,31	78,22	3,61	119,17	6,17	39,25	1,96	79,54	5,31	122,11	9,06
4,5	24712	99,6	20,92	0,35	71,46	3,77	116,79	7,43	41,91	1,39	82,86	3,84	126,58	6,53	41,45	2,06	84,21	5,60	129,29	9,58

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3232,5	0,0	55,19	5,91	112,02	17,35	169,91	31,98	49,11	8,85	101,98	23,77	153,75	41,72	54,06	7,92	109,66	23,45	166,18	42,18
295	4848,1	0,1	76,23	9,47	154,37	28,72	234,49	52,50	65,13	11,26	136,27	33,88	204,74	60,50	73,49	12,11	148,49	36,47	225,88	64,81
394	6464,4	0,1	94,29	12,84	190,43	39,49	289,64	71,55	77,35	15,27	164,00	40,83	245,45	73,78	89,75	15,79	180,46	47,49	275,33	83,37
492	8080,6	0,2	110,21	15,99	221,61	49,16	337,76	88,67	88,62	18,17	180,97	49,10	278,88	83,70	101,64	20,00	207,23	56,58	317,68	98,03
591	9696,2	0,2	122,64	20,21	249,10	57,54	380,14	103,67	97,33	19,52	198,49	53,27	307,02	90,47	112,74	22,77	230,29	63,90	353,57	110,46
689	11312,5	0,3	134,59	23,08	273,52	65,75	418,09	117,35	104,78	20,51	213,14	56,17	331,78	95,98	122,30	25,03	250,37	69,94	385,30	120,19
787	12928,7	0,3	145,45	25,72	295,45	72,79	452,14	128,85	111,23	21,06	225,91	58,20	352,41	100,11	130,66	26,81	268,06	74,93	413,13	128,47
886	14544,9	0,4	155,19	28,04	315,43	79,09	483,45	139,14	116,90	21,43	237,05	60,09	370,44	103,15	137,97	28,28	283,66	78,77	437,59	135,49

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3232,5	0,0	33,84	2,97	94,87	14,94	151,22	31,09	52,87	5,06	108,09	14,83	162,05	26,99	55,22	8,21	110,79	23,99	167,51	43,05
295	4848,1	0,1	44,50	3,62	129,44	22,96	205,63	48,68	71,86	8,47	147,81	22,88	220,76	42,26	75,20	12,62	150,17	37,40	227,79	66,12
394	6464,4	0,1	52,63	4,03	155,94	32,03	250,84	63,79	88,69	11,59	178,31	31,99	269,87	55,28	91,87	16,49	182,58	48,68	277,72	85,11
492	8080,6	0,2	59,01	4,31	178,89	38,50	288,86	76,33	102,49	13,90	205,32	38,60	311,16	66,23	104,06	21,02	209,90	57,98	320,31	100,35
591	9696,2	0,2	67,14	4,53	198,52	43,82	321,68	86,52	114,58	15,86	228,54	43,97	347,19	75,69	115,47	23,94	233,33	65,62	356,72	112,68
689	11312,5	0,3	68,47	5,03	215,67	48,16	350,50	95,30	125,13	17,50	248,86	48,66	378,81	82,93	125,37	26,45	253,75	71,94	389,13	122,85
787	12928,7	0,3	70,11	5,05	230,76	51,80	376,05	102,12	134,69	18,93	267,14	52,31	406,99	89,42	134,05	28,43	271,64	76,99	417,03	131,44
886	14544,9	0,4	71,45	5,06	244,05	54,68	398,86	107,81	143,13	20,12	282,98	55,69	432,29	94,75	141,56	29,94	287,59	81,21	441,55	138,87

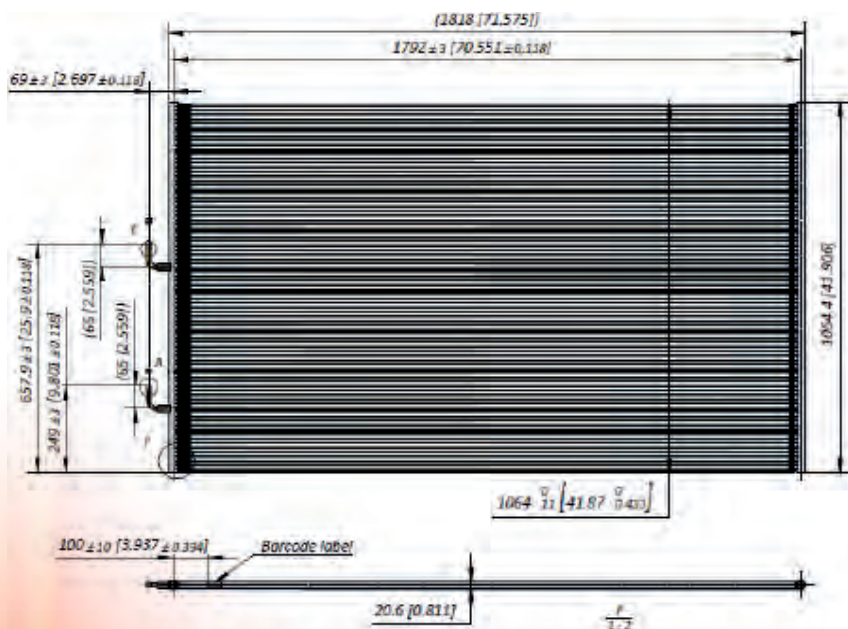
# SANHUA *Micro-Channel Heat Exchangers - Standard Range*

## SD41 Condenser

Dimensional Characteristics	Metric units		
Total length	mm	1818	(L)
Total height	mm	1064,4	(H)
Manifold diameter	mm	26	(Ø D)
Heat exchanger length	mm	1766	(L1)
Heat exchanger height	mm	1064	(H1)
Heat exchanger front surface	m <sup>2</sup>	1,88	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	mm	12,7	(Ø IN)
Outlet connection (ID)	mm	9,52	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	mm	20,6	(cD)
Fins Distance	mm	1,1	
Fin height	mm	8,1	
Tubes height	mm	1,3	
Total internal volume	liters	2,721	
Coil Internal Volume	liters	1,9527	
Manifold Internal Volume	liters	0,7684	
Number of tubes		112	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		82/30	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure*:	MPa	4,5	(PS)
Burst pressure:	MPa	13,5	
Temperature Range:	°C	-40 / 121	(TS)
Coil weight	kg	17,113	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED*	-	Cat.I	
UL	-	UL 207	

Dimensional Characteristics	Imperial units		
Total length	in	71,57	(L)
Total height	in	41,91	(H)
Manifold diameter	in	1,02	(Ø D)
Heat exchanger length	in	69,53	(L1)
Heat exchanger height	in	41,89	(H1)
Heat exchanger front surface	in <sup>2</sup>	2912,5	(S)
<b>Solder Connections</b>			
Inlet connection (ID)	in	4/8	(Ø IN)
Outlet connection (ID)	in	3/8	(Ø OUT)
<b>Internal Nomenclature:</b>		20.6-FPI23-2G	
Coil Depth	in	0,81	(cD)
Fins Per Inch	FPI	23	
Fin height	in	0,32	
Tubes height	in	0,05	
Total internal volume	in <sup>3</sup>	166,05	
Coil Internal Volume	in <sup>3</sup>	119,16	
Manifold Internal Volume	in <sup>3</sup>	46,89	
Number of tubes		112	(-)
Number of passes		2	(-)
Pass Distribution (step 1/2)		82/30	
<b>Physical Characteristics</b>		<b>Metric units</b>	
Max. Operating Pressure:	psi	652,7	(PS)
Burst pressure:	psi	1958,0	
Temperature Range:	°F	-40 / 249,8	(TS)
Coil weight	lb	37,72	
<b>Material</b>			
Tube:	-	LLA	
Fins:	-	AA3003	
Manifold:	-	AA3003/AA3005	
Inlet/Outlet tubes:	-	Copper	
Side plate:	-	AA3003	
<b>Approval:</b>			
PED	-	Cat.I	
UL	-	UL 207	

\* Note: MOP value and PED category shown in the table are referred to fluid Group II according to PED Directive 2014/68/EU





## PERFORMANCE DATA (Metric Units)

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R410A						R134a						R404A					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	6706	13.4	20,25	0,26	42,10	0,71	63,70	1,40	18,85	0,45	39,24	1,14	59,65	1,85	20,26	0,36	41,60	1,06	63,02	1,93
1.5	10059	23.7	28,93	0,44	59,20	1,31	90,00	2,42	25,63	0,60	54,00	1,74	81,43	3,07	28,23	0,58	57,90	1,75	87,96	3,16
2	13413	35.6	36,39	0,61	74,40	1,87	113,18	3,43	31,26	0,71	66,38	2,23	99,88	3,98	35,12	0,79	71,80	2,39	109,40	4,27
2.5	16766	48.8	43,07	0,78	87,91	2,41	133,93	4,41	36,47	1,03	77,04	2,63	115,60	4,70	41,13	0,98	83,91	2,96	128,16	5,25
3	20119	63.6	49,13	0,94	100,07	2,92	152,60	5,31	40,62	1,15	83,91	3,10	129,14	5,29	46,49	1,14	94,63	3,45	144,74	6,05
3.5	23473	80.0	54,62	1,13	111,10	3,39	169,54	6,13	44,22	1,24	91,35	3,37	141,00	5,73	50,29	1,37	104,17	3,89	159,60	6,77
4	26826	97.8	58,98	1,32	121,12	3,84	185,25	6,89	47,36	1,31	97,80	3,58	151,50	6,09	54,24	1,51	112,47	4,27	172,78	7,38
4.5	30179	117.0	63,45	1,47	130,36	4,24	199,48	7,57	50,12	1,37	103,55	3,74	160,87	6,39	57,76	1,63	120,12	4,58	184,70	7,92

Air Speed (m/s)	Air Flow (m³/h)	Air Pressure Drops (Pa)	Capacity (kW) / Internal Pressure Drop (bar)																	
			R407C						R290						R507					
			ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K		ΔT=10K		ΔT=20K		ΔT=30K	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
1	6706	13.4	13,13	0,16	36,04	0,69	57,50	1,40	20,12	0,25	40,99	0,68	61,74	1,14	20,99	0,37	42,21	1,08	63,76	1,96
1.5	10059	23.7	17,80	0,20	50,34	1,10	80,24	2,32	27,99	0,34	57,41	1,10	86,02	2,01	29,26	0,61	58,76	1,79	88,89	3,23
2	13413	35.6	21,60	0,23	62,77	1,50	99,84	3,19	35,16	0,57	71,69	1,49	107,19	2,77	36,42	0,82	72,90	2,45	110,56	4,36
2.5	16766	48.8	24,70	0,25	72,63	1,99	117,03	3,97	41,27	0,71	83,20	1,98	125,75	3,45	42,71	1,02	85,26	3,03	129,50	5,35
3	20119	63.6	27,33	0,27	81,95	2,34	132,09	4,64	46,71	0,84	93,90	2,33	142,19	4,03	47,55	1,27	96,05	3,54	146,34	6,18
3.5	23473	80.0	29,91	0,30	90,07	2,65	145,73	5,25	51,60	0,95	103,44	2,64	156,84	4,56	52,27	1,44	105,64	4,01	161,36	6,92
4	26826	97.8	32,52	0,34	97,33	2,90	157,72	5,77	56,03	1,05	112,02	2,93	170,28	5,03	56,48	1,59	114,35	4,36	174,77	7,52
4.5	30179	117.0	33,40	0,34	103,91	3,14	168,73	6,19	60,08	1,13	119,81	3,16	182,36	5,42	60,28	1,72	122,14	4,71	187,16	8,06

## PERFORMANCE DATA (Imperial Units)

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R410A						R134a						R404A					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3947.0	0.1	69.16	3.76	143.77	10.34	217.55	20.29	64.37	6.59	134.01	16.57	203.72	26.87	69.19	5.23	142.07	15.33	215.22	27.97
295	5920.5	0.1	98.80	6.35	202.18	19.00	307.37	35.08	87.53	8.65	184.42	25.19	278.10	44.54	96.41	8.46	197.74	25.41	300.40	45.82
394	7894.6	0.1	124.28	8.86	254.09	27.06	386.53	49.73	106.77	10.27	226.70	32.34	341.11	57.79	119.94	11.44	245.21	34.67	373.62	61.97
492	9868.1	0.2	147.09	11.30	300.23	34.92	457.39	63.99	124.55	14.91	263.09	38.15	394.79	68.21	140.47	14.18	286.57	43.00	437.69	76.07
591	11841.6	0.3	167.79	13.64	341.74	42.40	521.16	77.04	138.72	16.62	286.57	44.91	441.04	76.74	158.77	16.52	323.18	49.98	494.31	87.73
689	13815.7	0.3	186.54	16.40	379.43	49.21	579.01	88.93	151.02	18.04	311.98	48.92	481.54	83.14	171.73	19.89	355.76	56.39	545.06	98.13
787	15789.2	0.4	201.43	19.20	413.65	55.65	632.66	99.90	161.74	19.02	334.00	51.92	517.40	88.31	185.24	21.91	384.11	61.91	590.07	107.10
886	17762.7	0.5	216.69	21.36	445.20	61.46	681.26	109.84	171.17	19.83	353.64	54.30	549.40	92.67	197.26	23.66	410.23	66.39	630.78	114.84

Air Speed (ft/min)	Air Flow (cfm)	Air Pressure Drops (in H <sub>2</sub> O)	Capacity (Btu/h x 1000) / Internal Pressure Drop (PSI)																	
			R407C						R290						R507					
			ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F		ΔT=18°F		ΔT=36°F		ΔT=54°F	
			Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP	Cap.	ΔP
197	3947.0	0.1	44.84	2.25	123.08	9.95	196.37	20.27	68.71	3.65	139.99	9.84	210.85	16.49	71.68	5.43	144.15	15.70	217.75	28.49
295	5920.5	0.1	60.79	2.84	171.92	15.98	274.03	33.66	95.59	4.98	196.07	15.89	293.77	29.18	99.93	8.78	200.68	25.99	303.58	46.77
394	7894.6	0.1	73.77	3.29	214.37	21.69	340.97	46.20	120.08	8.33	244.83	21.65	366.07	40.19	124.38	11.92	248.97	35.56	377.58	63.21
492	9868.1	0.2	84.35	3.61	248.04	28.80	399.68	57.52	140.94	10.32	284.14	28.65	429.46	50.01	145.86	14.80	291.18	44.00	442.27	77.58
591	11841.6	0.3	93.34	3.85	279.87	33.88	451.11	67.34	159.52	12.12	320.69	33.83	485.60	58.47	162.39	18.39	328.03	51.32	499.78	89.65
689	13815.7	0.3	102.15	4.41	307.61	38.39	497.69	76.17	176.22	13.74	353.27	38.22	535.64	66.13	178.51	20.91	360.78	58.12	551.07	100.35
787	15789.2	0.4	111.06	4.92	332.40	42.12	538.64	83.66	191.35	15.16	382.57	42.48	581.54	72.92	192.89	23.04	390.53	63.30	596.87	109.06
886	17762.7	0.5	114.07	5.00	354.87	45.50	576.24	89.83	205.18	16.44	409.17	45.88	622.79	78.57	205.87	24.95	417.13	68.34	639.18	116.87

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