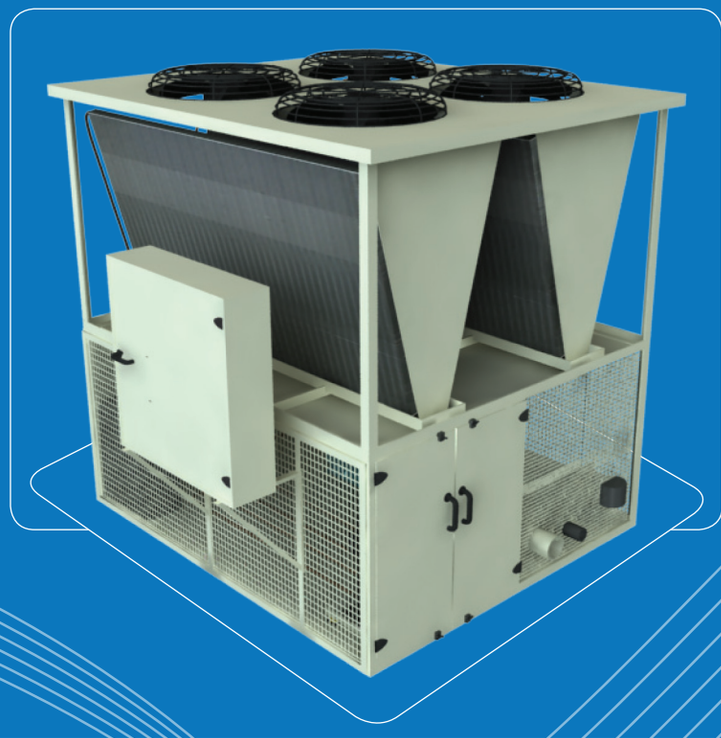
COMMERCIAL REFRIGERATION
AIR CONDITIONING AND HEATING SYSTEMS

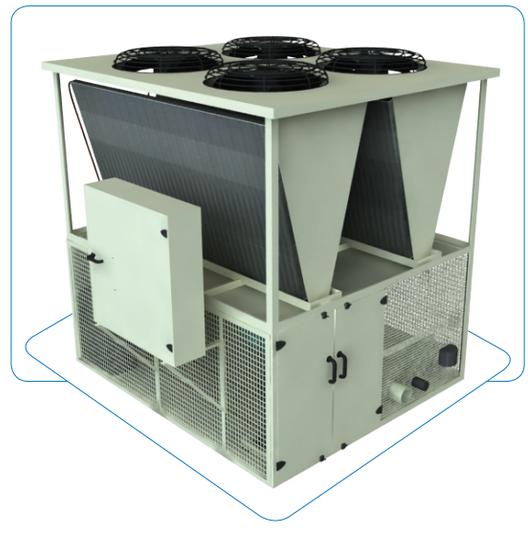


ISO 9001 2000

M.K.M.ac Air-Cooled Water Chillers *R-410A series NC*

Contents

MODELS



M.K.M.ac Air-Cooled Water Chillers

The new series of Mkm CHDX NC R-410A are designed to meet the new challenges of a changing market in the usage of new refrigerants.

CHDX NC Series air-cooled chillers are highly efficient utilizing Scroll compressors, high heat transfer plate or shell & tube heat exchanger evaporators, and high air flow condenser fans. The use of single or double twin compressors can allow your process to get the right capacity it requires in all time white the highest C.O.P. additionally; our chillers can be used to operate under conditions of extreme high ambient temperature. The electronic expansion valve can realize precise refrigerant and temperature control to ensure the equipment operating in precise and reliable way. Our Chiller systems utilize friendly and intelligent control system, ensuring trouble-free operation of the equipment.

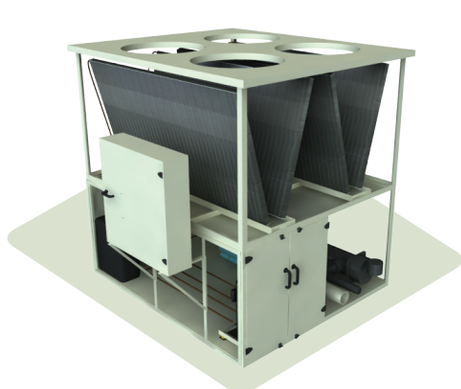
▸ FEATURES

Structure type
CHDX Series consists of separate master and slave modules with a nominal cooling capacity of 8, 10, 15 and 20 T.R. modules. The master module can work independently or together with up to 4 slave modules that deliver a total cooling capacity from 8 to 80 T.R. This allows virtually unlimited applications for this series.

Compressors
Scroll high E.E.R
Low noise operation
Complete motor protection
Internal and external vibration absorbers
Full electronic control
Oil level indicator

Axial Fans
External rotor low noise type axial fans equipped with three phase direct drive VSD and provided with a protective outlet grille.

Evaporator
Evaporator built with high efficiency plate or shell & tube type heat exchanger with copper tube. Heat exchangers from stainless steel are also available upon demand.



Condenser
Constructed of seamless 3/8" (5/8" option) copper tubes, corrugated edge aluminum fins, and galvanized steel or stainless steel frames by demand. Tubes are mechanically expanded into die-formed fin collars, providing a uniform mechanical bond that assures maximum heat transfer efficiency.

Refrigerant System
High-quality, carefully selected components ensure reliable and efficient system operation.

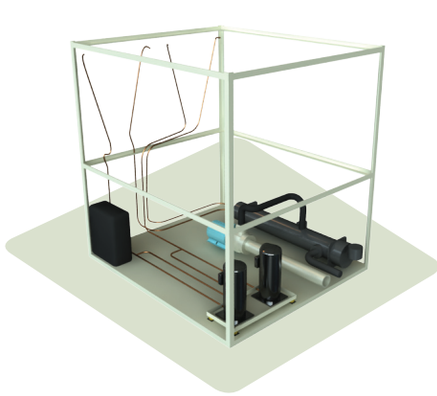
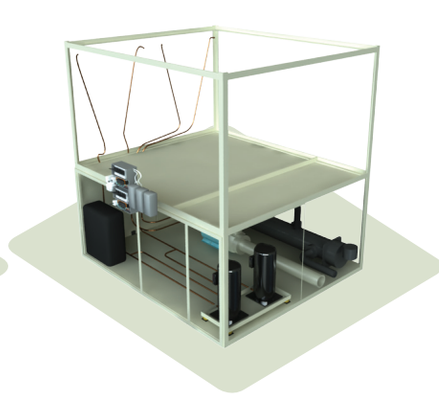
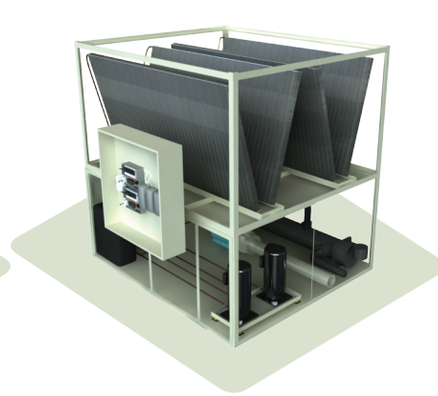
The system includes:
Electronic expansion valve
Refrigerant charge indicator
All the necessary pressure protections
All the necessary electrical protections
All the necessary flow protections

Electrical Panel
Electric panel consist of:
Compressor contactor,
Compressor protection breaker,
Fan motor contactor or vsd,
Fan protection breaker,
Phase sequence relay
Reliable microprocessor temperature control unit with full function display which
Dramatically reducing maintenance cost thanks to its microprocessor intelligent system

Hydraulic Kit and Circuit pump [as an option]

Hydraulic kit including single or double pumps,
Expansion tank and storage tank by demand
Hydraulic circuit built with plastic or steel pipe, complete with water connection flange type connectors in two directions for easy connections from both sides of the units.

For special applications, please contact our Engineering Department, or Sales Manager.

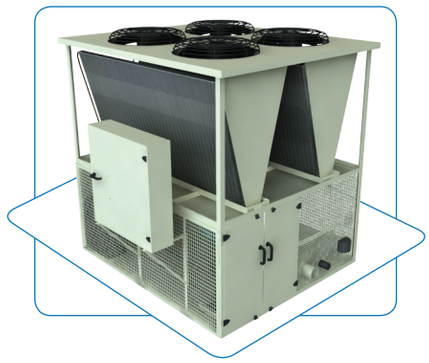
General Data

Series		CHDX NC									
Module		M8		M10		M15			M20		
Model		M8x1	M8x2	M10x1	M10x2	M15x1	M15x2	M15x4	M20x1	M20x2	M20x4
Cooling	kW	27	54	36	71	54	107	215	71	143	286
	kBTU/Hr	91.6	183.2	122	244	183.2	366.4	732.8	244	488	976
Condenser											
Coil											
Copper Tubes		3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Rows Deep		3	3	3	3	3	3	3	3	3	3
Fins	FPI	12	12	12	12	12	12	12	12	12	12
Total Face-Area of Each Module(2)	SQ.M.	1.6	1.6	2	2	2.8	2.8	2.8	3.8	3.8	3.8
	SQ.FT.	16.4	16.4	21	21	29.8	29.8	29.8	40.2	40.2	40.2
Fans											
Normal Air Flow (Total)	m^3/hr	12920	25840	19040	38080	27710	55420	110840	31300	62560	125120
	CFM	7600	15200	11200	22400	16300	32600	65200	118400	36800	73600
Diameter	mm	560	560	630	630	710	710	710	630	630	630
Motor	kW	0.45	0.45	0.75	0.75	1	1	1	0.75	0.75	0.75
Quantity		2	4	2	4	2	4	8	3	6	12
Compresor											
Refrigerant		R-401A	R-401A	R-401A	R-401A	R-401A	R-401A	R-401A	R-401A	R-401A	R-410A
Quantity		1	2	1	2	2	4	8	2	4	8
Power consuption	kW	9.7	9.7	12.7	12.7	9.7	9.7	9.7	12.7	12.7	12.7
No. Cooling Circuits		1	2	1	2	1	2	4	1	2	4
Evaporator											
Type		Plate Heat Exchanger/Shell & Tube									
Chilled Water Temp.	°C	7	7	7	7	7	7	7	7	7	7
	°F	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6
Nominal Water Flow for Each	m^3/hr	4.6	9.2	6.1	12.3	9.2	18.4	18.4	12.3	24.6	24.6
	GPM	20.3	40.6	27	54.1	40.6	81.2	81.2	54.1	108.2	108.2
Pressure Drop (nearly)	mH_2O	5	5	5	5	5	5	5	5	5	5
No. of Circuits		1	2	1	2	1	2	2	1	2	2
Fouling Factor	$m^2*°K/W$	0.000086	0.000086	0.000086	0.000086	0.000086	0.000086	0.000086	0.000086	0.000086	0.000086
	$ft^2*Hr*°F/BTU$	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Quantity		1	1	1	1	1	1	2	1	1	2
Pump											
Normal Water Flow	m^3/hr	4.6	9.2	6.1	12.3	9.2	18.4	36.8	12.3	24.6	49.2
	GPM	20	41	27	54	41	81	162	54	108	216
Head	m H_2O	20	20	20	20	20	20	20	20	20	20
Motor	kW	By Manufacturer									
Quantity		1	1	1	1	1	1	1	1	1	1
Dimensions											
Length	cm	100	200	100	200	115	230	460	100	200	400
Width	cm	180	180	190	190	200	200	200	260	260	260
Height	cm	160	160	165	165	185	185	185	185	185	185
Weight	kg	610	1160	650	1240	820	1580	3150	950	1840	3680

Electrical Data for Basic model (without Pump)

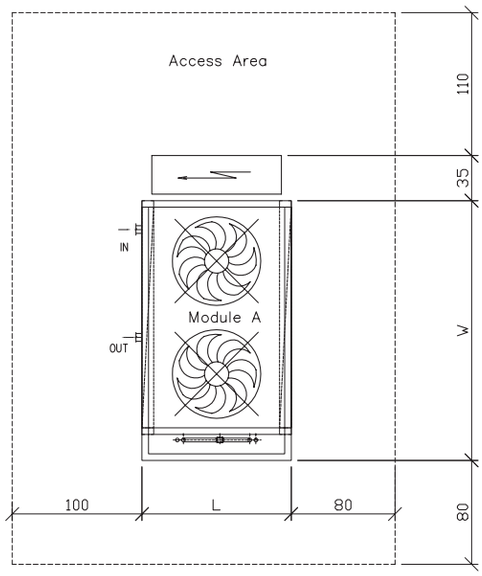
Model		M8x1	M8x2	M10x1	M10x2	M15x1	M15x2	M15x4	M20x1	M20x2	M20x4
Power Input	kW	10.6	21.2	14.2	28.4	21.4	42.8	85.6	27.65	55.3	110.6

Notes:
1. Capacities are according to:
   Outdoor Air temp. DB=35°C WB=25°C
   Water Temperature Rise is 5°C
2. Two Condenser Coils in Each Module
3. Copper Tubes 5/8" to Condenser Coil is Optional
4. 4 Rows Deep of Condenser Coil is Optional
5. Weight for Basic model (with Plate Heat Exchanger & without Pump)
6. Preliminary Data, Subject to Change without Notice

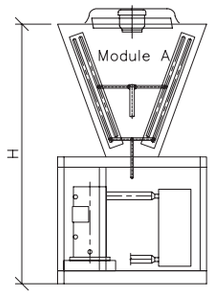


Module General View

Modules: M8x1, M10x1, M15x1

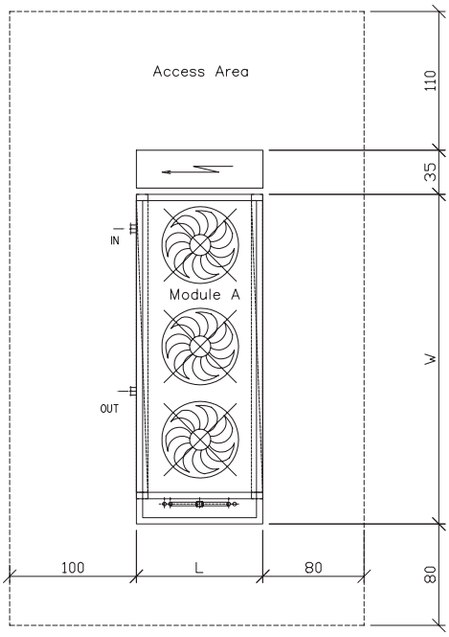


Plan



Side View

Module: M20x1



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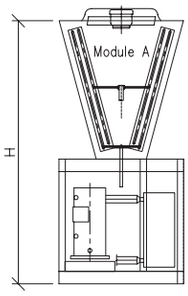


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M8x1

Nominal cooling capacity [1]: **8 TR**

Performance		
Refrigerant		R-410A
Cooling capacity[1]	kW	27
	kBTU/Hr	91.6
Power consuption	kW	9.7
Operating current	A	17.2
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		1
Evaporator[1]			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			1
Quantity			1
Condenser Coil			
Quantity			2
Each Face Area		m^2	0.8
		ft^2	8.2
Axial fan			
Diameter		mm	560
Quantity			2
Air flow		m^3/hr	6460
		cfm	3800
Motor		kW	0.45
		RPM	900

Dimensions		
Length	cm	100
Width	cm	180
Height	cm	160
Weight [2]	kg	610
Water Conection [1]	inch	1 1/2

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

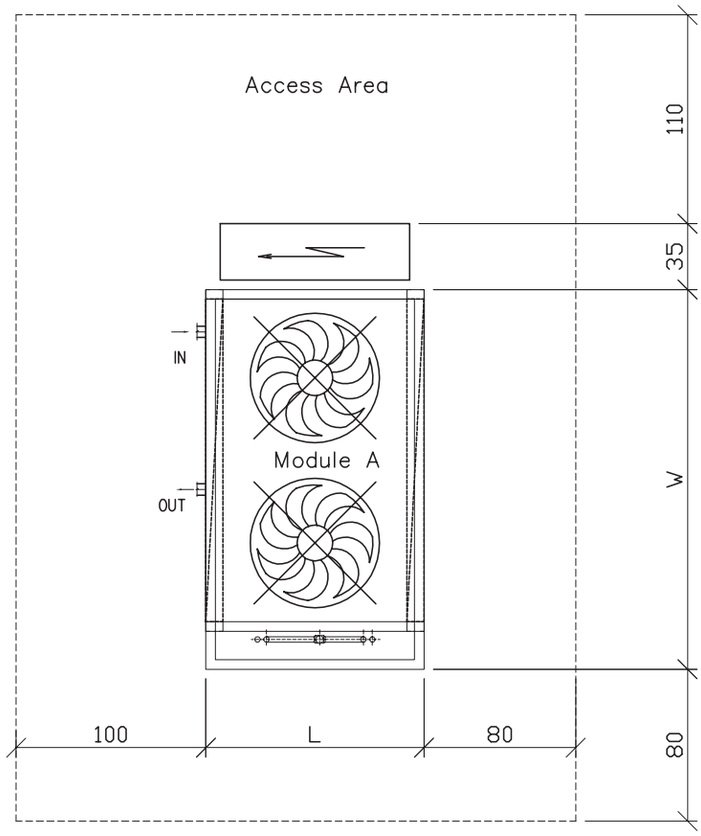
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	89.4	92.9	96.4	100	103.5	107.5
	G	19.8	20.6	21.4	22.2	22.9	23.8
	KW	9.1	9.1	9.1	9.1	9.1	9.1
35 (95)	CC	84.9	88.2	**91.6**	95.1	98.7	102.5
	G	18.8	19.6	**20.3**	21.1	21.9	22.7
	KW	9.7	9.7	**9.7**	9.7	9.7	9.7
40 (104)	CC	78.1	81.3	84.6	87.9	91.3	94.8
	G	17.3	18	18.8	19.5	20.2	21
	KW	10.7	10.7	10.7	10.7	10.7	10.7

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M8x1



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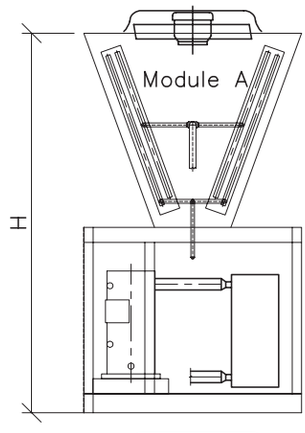


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M8x2

Nominal cooling capacity (1): **15 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	54
	kBTU/Hr	183.2
Power consuption	kW	19.4
Operating current	A	34.4
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		2
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			2
Quantity			1
Condenser Coil			
Quantity			4
Each Face Area		m^2	0.8
		ft^2	8.2
Axial fan			
Diameter		mm	560
Quantity			4
Air flow		m^3/hr	6460
		cfm	3800
Motor		kW	0.45
		RPM	900

Dimensions		
Length	cm	200
Width	cm	180
Height	cm	160
Weight (2)	kg	1160
Water Conection (1)	inch	2

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

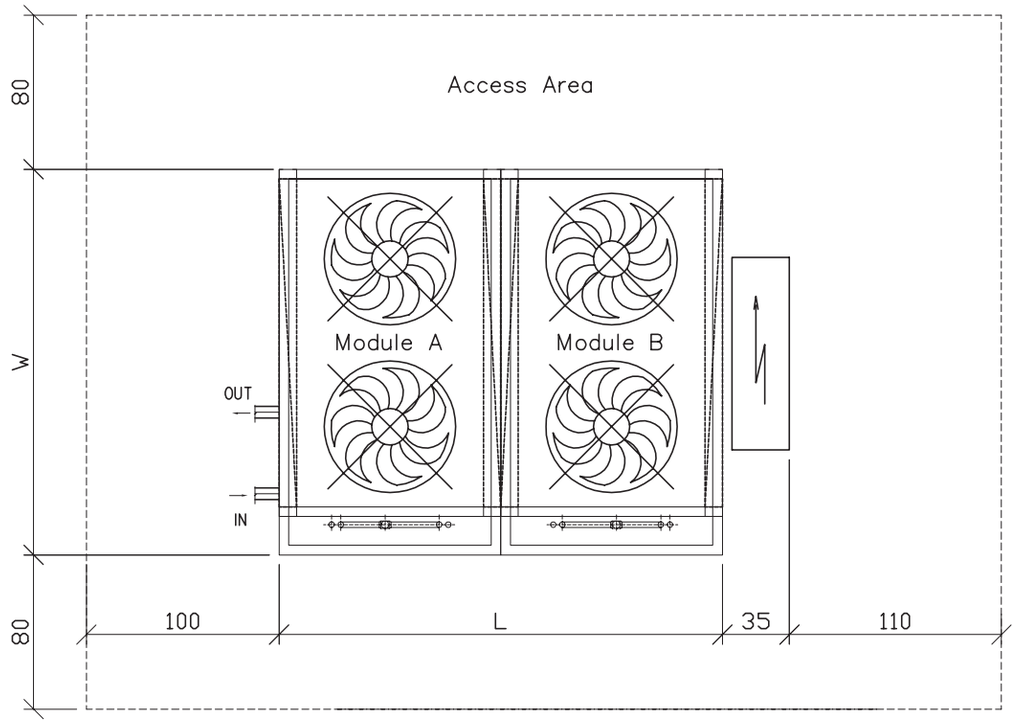
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	178.8	185.8	192.8	200	207	215
	G	39.6	41.2	42.7	44.3	45.9	47.7
	KW	18.2	18.2	18.2	18.2	18.2	18.2
35 (95)	CC	169.8	176.4	**183.2**	190.2	197.4	205
	G	37.6	39.1	**40.6**	42.2	43.8	45.4
	KW	19.4	19.4	**19.4**	19.4	19.4	19.4
40 (104)	CC	156.2	162.6	169.2	175.8	182.6	189.6
	G	34.6	36	37.5	39	40.5	42
	KW	21.4	21.4	21.4	21.4	21.4	21.4

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M8x2



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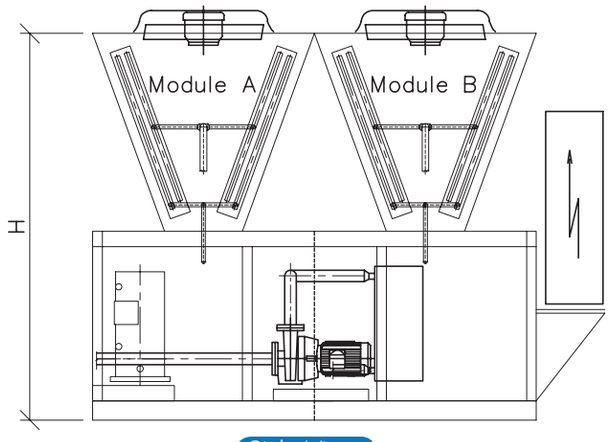


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M10x1

Nominal cooling capacity[1]: **10 TR**

Performance		
Refrigerant		R-410A
Cooling capacity [1]	kW	36
	kBTU/Hr	122
Power consuption	kW	12.7
Operating current	A	24.2
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		1
Evaporator[1]			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			1
Quantity			1
Condenser Coil			
Quantity			2
Each Face Area		m^2	1
		ft^2	10.5
Axial fan			
Diameter		mm	630
Quantity			2
Air flow		m^3/hr	9520
		cfm	5600
Motor		kW	0.75
		RPM	900

Dimensions		
Length	cm	100
Width	cm	190
Height	cm	165
Weight [2]	kg	650
Water Conection [1]	inch	2

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

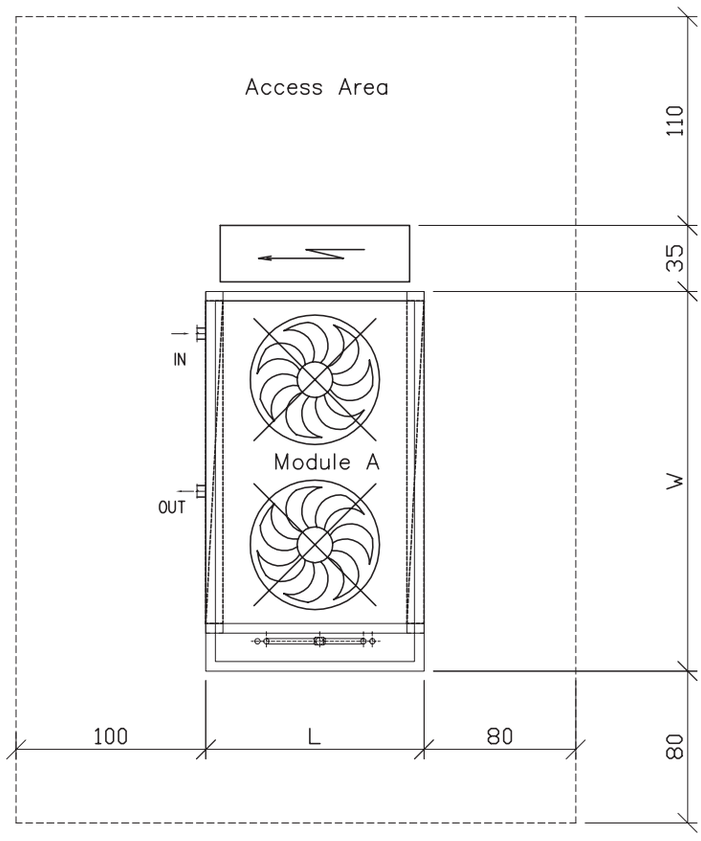
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	119	123.5	128	132.5	137.5	142
	G	26.4	27.4	28.4	29.4	30.5	31.5
	KW	11.9	12	12	12	12.1	12.1
35 (95)	CC	113.5	118	**122**	126.5	131.5	136
	G	25.2	26.2	**27**	28	29.2	30.2
	KW	12.6	12.7	**12.7**	12.7	12.8	12.8
40 (104)	CC	105.5	109.5	114	118	122.5	125.5
	G	23.4	24.3	25.3	26.2	27.2	27.8
	KW	13.7	13.7	13.7	13.8	13.8	14

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M10x1



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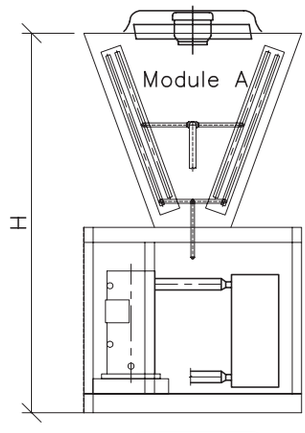


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M10x2

Nominal cooling capacity [1]: **20 TR**

Performance		
Refrigerant		R-410A
Cooling capacity [1]	kW	71
	kBTU/Hr	244
Power consuption	kW	25.4
Operating current	A	48.4
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		2
Evaporator[1]			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			2
Quantity			1
Condenser Coil			
Quantity			4
Each Face Area		m^2	1
		ft^2	10.5
Axial fan			
Diameter		mm	630
Quantity			4
Air flow		m^3/hr	9520
		cfm	5600
Motor		kW	0.75
		RPM	900

Dimensions		
Length	cm	200
Width	cm	190
Height	cm	165
Weight [2]	kg	1240
Water Conection [1]	inch	2 1/2

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

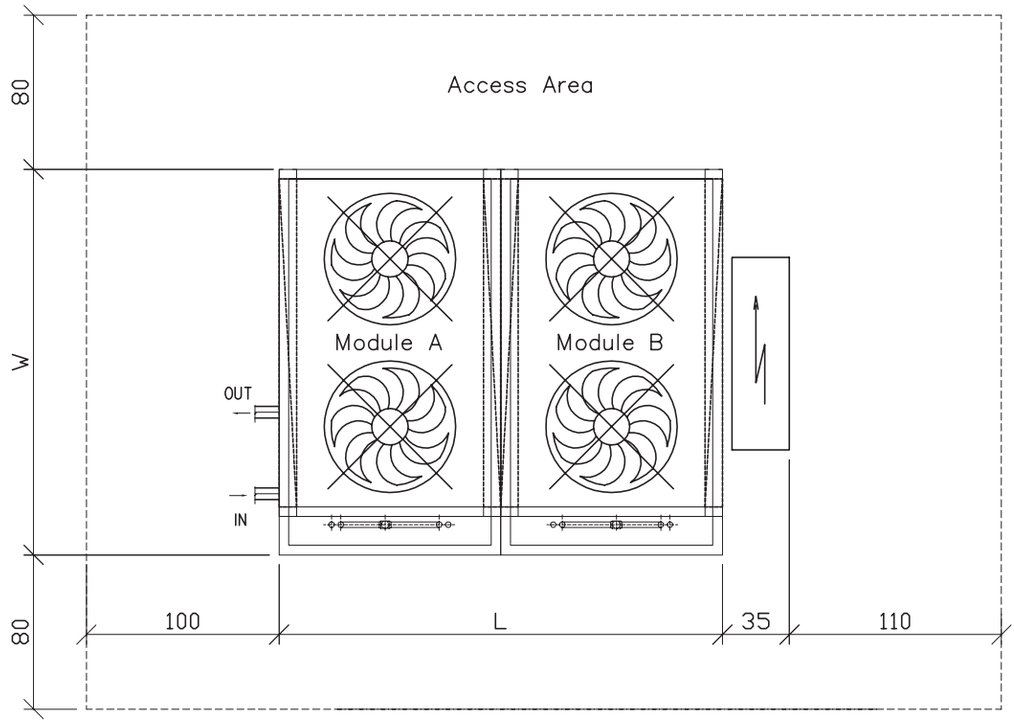
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	238	247	256	265	275	284
	G	52.8	54.8	56.8	58.7	61	63
	KW	23.8	24	24	24	24.2	24.2
35 (95)	CC	227	236	**244**	253	263	272
	G	50.3	52.3	**54.1**	56.1	58.3	60.3
	KW	25.2	25.4	**25.4**	25.4	25.6	25.6
40 (104)	CC	211	219	228	236	245	251
	G	46.8	48.6	50.5	52.3	54.3	55.6
	KW	27.4	27.4	27.4	27.6	27.6	28

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M10x2



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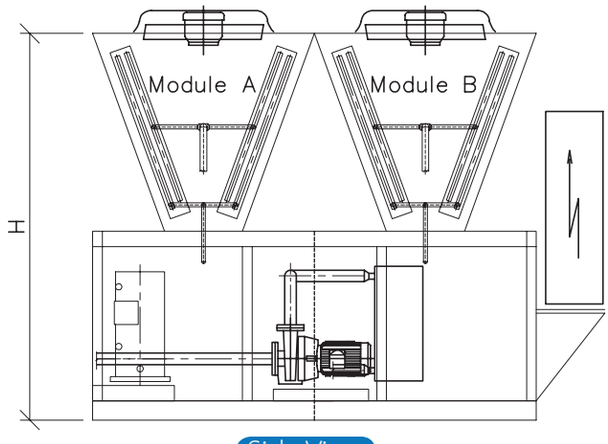


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M15x1

Nominal cooling capacity(1): **15 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	54
	kBTU/Hr	183.2
Power consuption	kW	19.4
Operating current	A	34.4
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		2
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			1
Quantity			1
Condenser Coil			
Quantity			2
Each Face Area		m^2	1.4
		ft^2	14.9
Axial fan			
Diameter		mm	710
Quantity			2
Air flow		m^3/hr	13855
		cfm	8150
Motor		kW	1
		RPM	950

Dimensions		
Length	cm	115
Width	cm	200
Height	cm	185
Weight (2)	kg	820
Water Conection (1)	inch	2

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

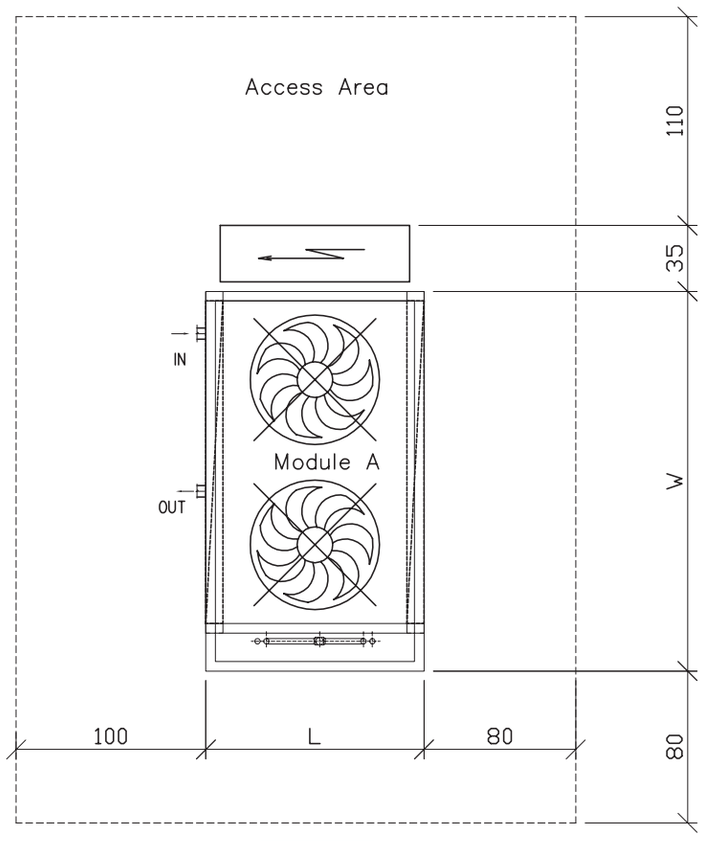
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	178.8	185.8	192.8	200	207	215
	G	39.6	41.2	42.7	44.3	45.9	47.7
	KW	18.2	18.2	18.2	18.2	18.2	18.2
35 (95)	CC	169.8	176.4	**183.2**	190.2	197.4	205
	G	37.6	39.1	**40.6**	42.2	43.8	45.4
	KW	19.4	19.4	**19.4**	19.4	19.4	19.4
40 (104)	CC	156.2	162.6	169.2	175.8	182.6	189.6
	G	34.6	36	37.5	39	40.5	42
	KW	21.4	21.4	21.4	21.4	21.4	21.4

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M15x1



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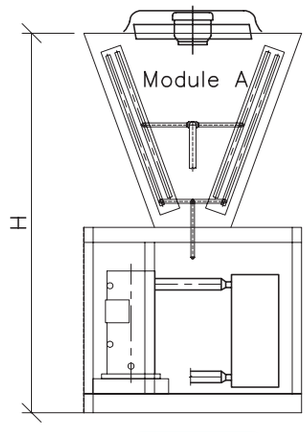


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M15x2

Nominal cooling capacity (1): **31 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	107
	kBTU/Hr	366.4
Power consuption	kW	38.8
Operating current	A	68.8
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		4
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			2
Quantity			1
Condenser Coil			
Quantity			4
Each Face Area		m^2	1.4
		ft^2	14.9
Axial fan			
Diameter		mm	710
Quantity			4
Air flow		m^3/hr	13855
		cfm	8150
Motor		kW	1
		RPM	950

Dimensions		
Length	cm	230
Width	cm	200
Height	cm	185
Weight (2)	kg	1580
Water Conection (1)	inch	3

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

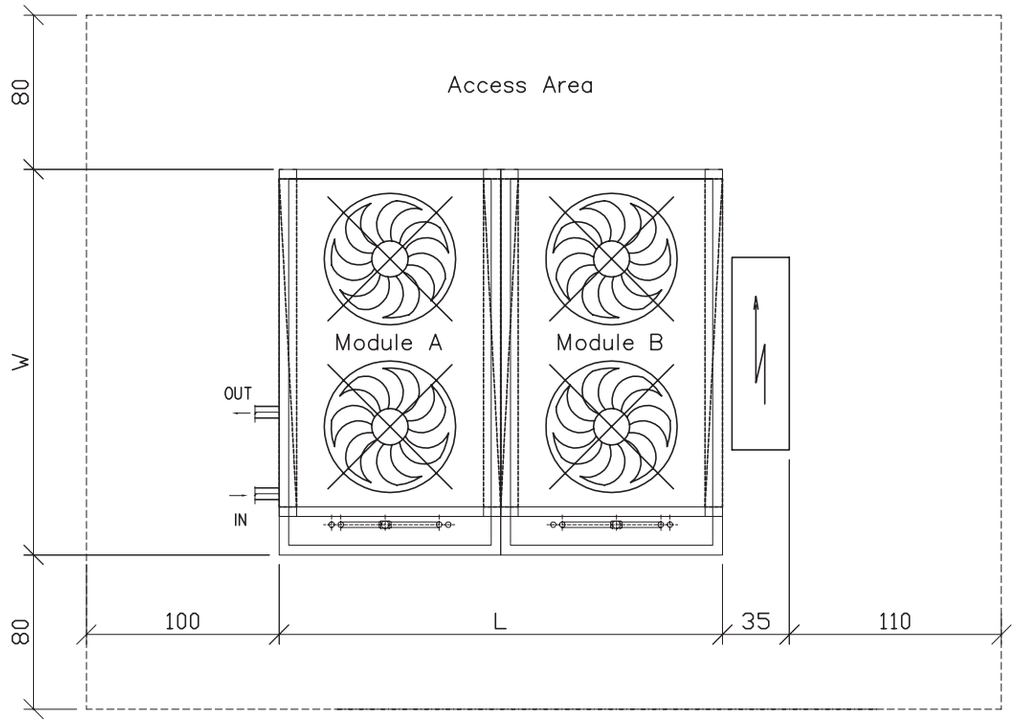
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	357.6	371.6	385.6	400	414	430
	G	79.3	82.4	85.5	88.7	91.8	95.3
	KW	36.4	36.4	36.4	36.4	36.4	36.4
35 (95)	CC	339.6	352.8	**366.4**	380.4	394.8	410
	G	75.3	78.2	**81.2**	84.3	87.5	90.9
	KW	38.8	38.8	**38.8**	38.8	38.8	38.8
40 (104)	CC	312.4	325.2	338.4	351.6	365.2	379.2
	G	69.3	72.1	75	77.9	81	84.1
	KW	42.8	42.8	42.8	42.8	42.8	42.8

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M15x2



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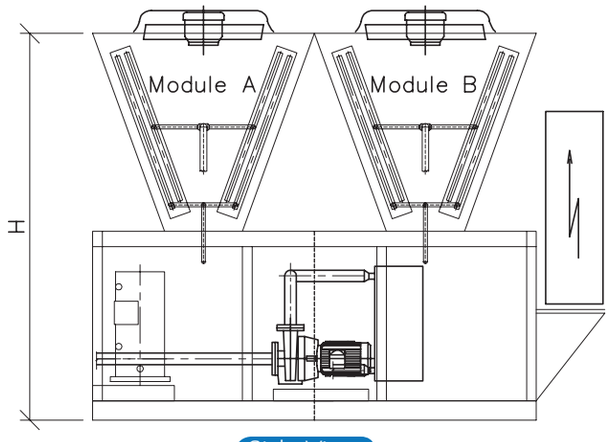


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M15x4

Nominal cooling capacity (1): **61 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	215
	kBTU/Hr	732.8
Power consuption	kW	77.6
Operating current	A	137.6
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		8
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			2
Quantity			2
Condenser Coil			
Quantity			8
Each Face Area		m^2	1.4
		ft^2	14.9
Axial fan			
Diameter		mm	710
Quantity			8
Air flow		m^3/hr	13855
		cfm	8150
Motor		kW	1
		RPM	950

Dimensions		
Length	cm	460
Width	cm	200
Height	cm	185
Weight (2)	kg	3150
Water Conection (1)	inch	3

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

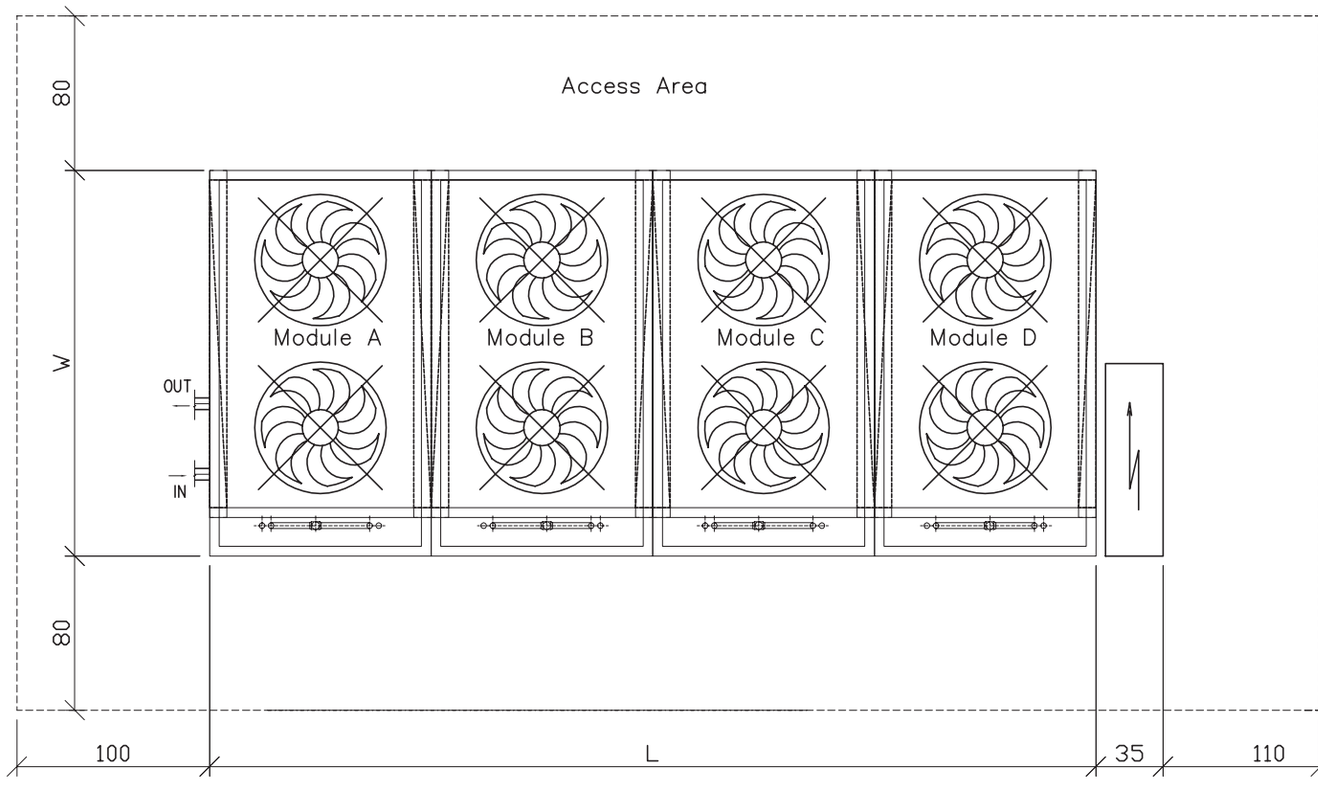
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	715.2	743.2	771.2	800	828	860
	G	158.6	164.8	171	177.4	183.6	190.7
	KW	72.8	72.8	72.8	72.8	72.8	72.8
35 (95)	CC	679.2	705.6	**732.8**	760.8	789.6	820
	G	150.6	156.4	**162.5**	168.7	175	181.8
	KW	77.6	77.6	**77.6**	77.6	77.6	77.6
40 (104)	CC	624.8	650.4	676.8	703.2	730.4	758.4
	G	138.5	144.2	150	155.9	161.9	168.1
	KW	85.6	85.6	85.6	85.6	85.6	85.6

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M15x4



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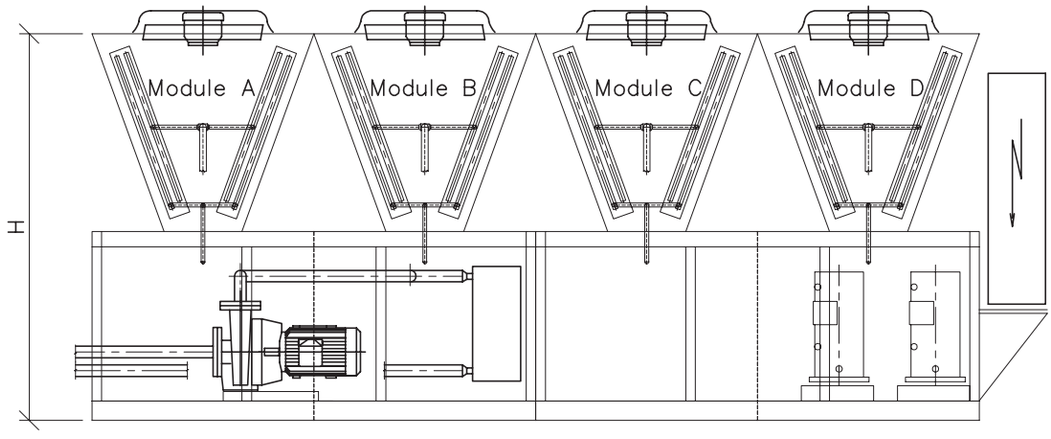


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M20x1

Nominal cooling capacity(1): **20 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	71
	kBTU/Hr	244
Power consuption	kW	25.4
Operating current	A	48.4
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		2
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			1
Quantity			1
Condenser Coil			
Quantity			2
Each Face Area		m^2	1.9
		ft^2	20.1
Axial fan			
Diameter		mm	630
Quantity			3
Air flow		m^3/hr	10426
		cfm	6133
Motor		kW	0.75
		RPM	900

Dimensions		
Length	cm	100
Width	cm	260
Height	cm	185
Weight (2)	kg	950
Water Conection (1)	inch	2 1/2

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

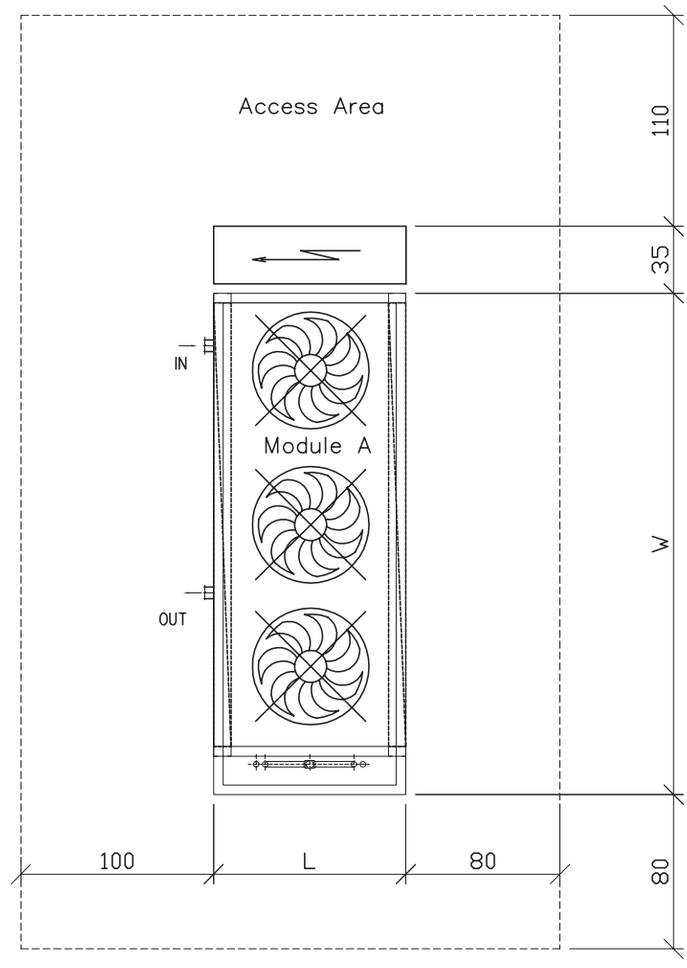
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	238	247	256	265	275	284
	G	52.8	54.8	56.8	58.7	61	63
	KW	23.8	24	24	24	24.2	24.2
35 (95)	CC	227	236	**244**	253	263	272
	G	50.3	52.3	**54.1**	56.1	58.3	60.3
	KW	25.2	25.4	**25.4**	25.4	25.6	25.6
40 (104)	CC	211	219	228	236	245	251
	G	46.8	48.6	50.5	52.3	54.3	55.6
	KW	27.4	27.4	27.4	27.6	27.6	28

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M20x1



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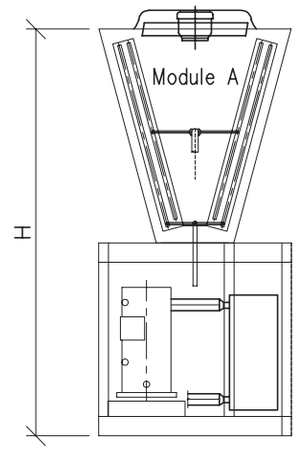


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M20x2

Nominal cooling capacity(1): **41 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	143
	kBTU/Hr	488
Power consuption	kW	50.8
Operating current	A	96.8
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		4
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			2
Quantity			1
Condenser Coil			
Quantity			4
Each Face Area		m^2	1.9
		ft^2	20.1
Axial fan			
Diameter		mm	630
Quantity			6
Air flow		m^3/hr	10426
		cfm	6133
Motor		kW	0.75
		RPM	900

Dimensions		
Length	cm	200
Width	cm	260
Height	cm	185
Weight (2)	kg	1840
Water Conection (1)	inch	3

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

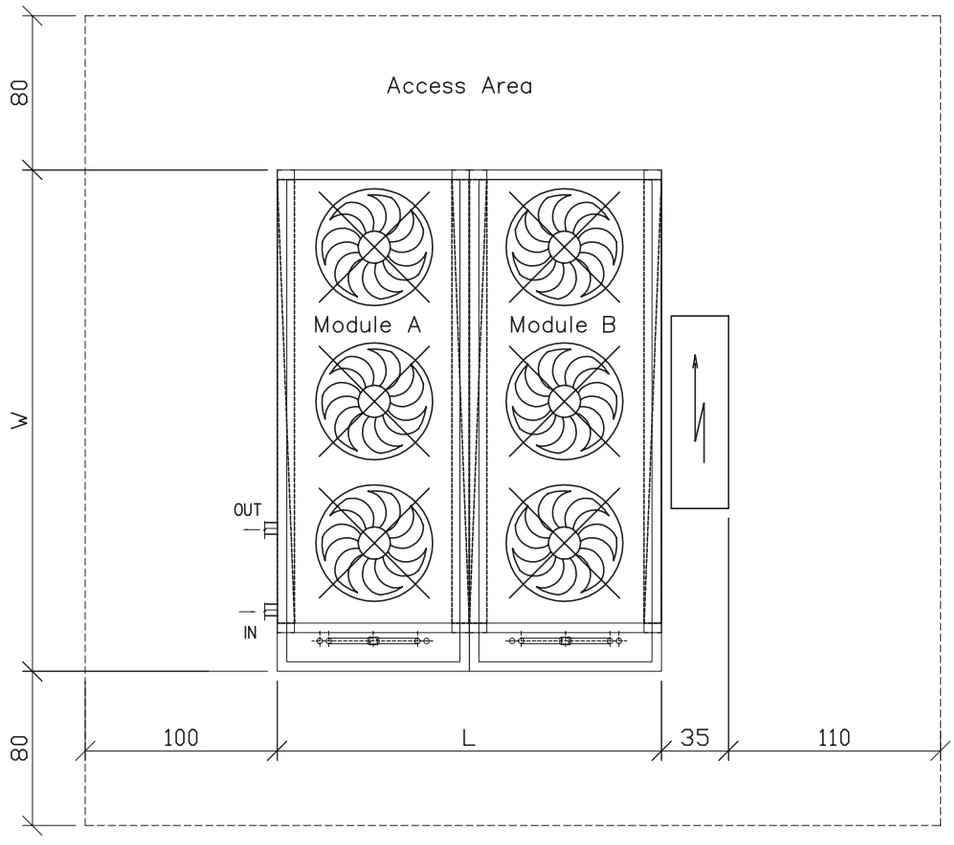
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	476	494	512	530	550	568
	G	105.5	109.5	113.5	117.5	121.9	125.9
	KW	47.6	48	48	48	48.4	48.4
35 (95)	CC	454	472	**488**	506	526	544
	G	100.6	104.6	**108.2**	112.2	116.6	120.6
	KW	50.4	50.8	**50.8**	50.8	51.2	51.2
40 (104)	CC	422	438	456	472	490	502
	G	93.6	97.1	101.1	104.6	108.6	111.3
	KW	54.8	54.8	54.8	55.2	55.2	56

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M20x2



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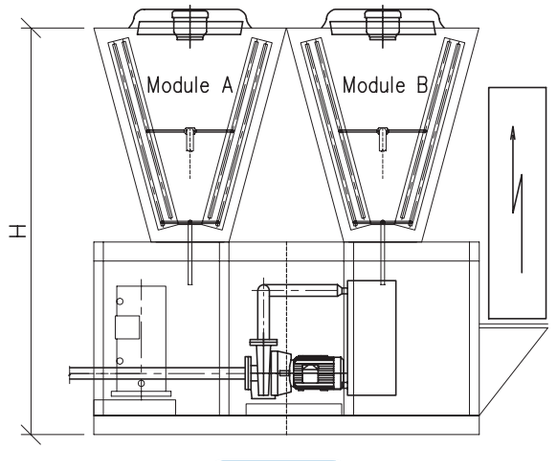


Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

Model M20x4

Nominal cooling capacity(1): **81 TR**

Performance		
Refrigerant		R-410A
Cooling capacity (1)	kW	286
	kBTU/Hr	976
Power consuption	kW	101.6
Operating current	A	193.6
C.O.P		2.8

◀ Notes:
1. Nominal cooling capacity based on outdoor air temp. DB=35°C WB=24°C
2. Water Temperature Rise is 5°C
3. Power supply 400v, 3ph, 50hz

Technical Data			
Compressor	type		Scroll
	Quantity		8
Evaporator(1)			
Type	Plate Heat Exchanger or Shell & Tube		
No. of Circuits			2
Quantity			2
Condenser Coil			
Quantity			8
Each Face Area		m^2	1.9
		ft^2	20.1
Axial fan			
Diameter		mm	630
Quantity			12
Air flow		m^3/hr	10426
		cfm	6133
Motor		kW	0.75
		RPM	900

Dimensions		
Length	cm	400
Width	cm	260
Height	cm	185
Weight (2)	kg	3680
Water Conection (1)	inch	3

▲ Notes:
1. Connect Pipe can be Ordered from the Right or Left Side
2. Weight for Basic model (with Plate Heat Exchanger & without Pump)

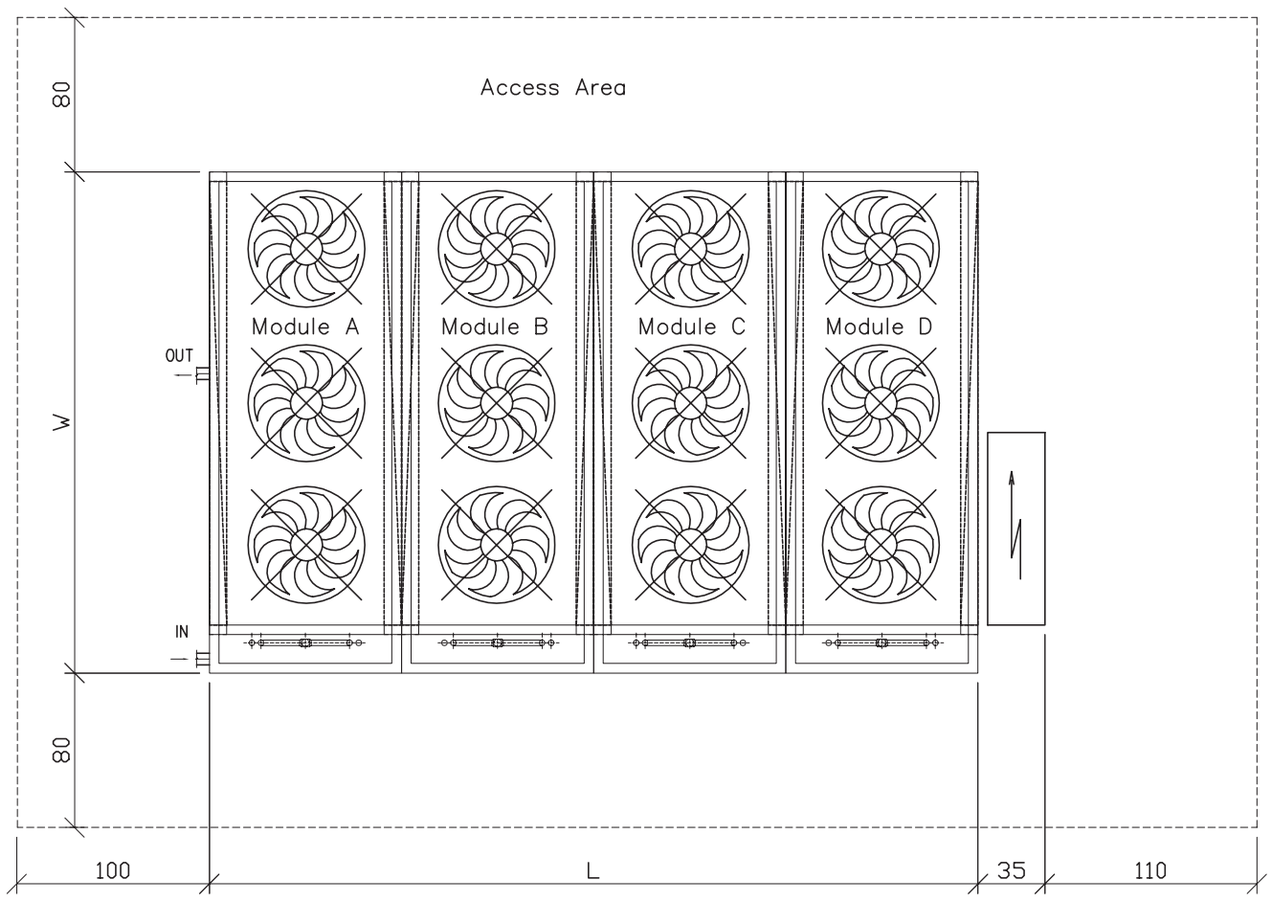
▲ Note 1. Fouling Factor 0.0005 ft^2*Hr*°F/BTU (0.000086 m^2*°K/W)

Cooling Capacity - (Capacities are According to A.R.I. Standard)							
Refrigerant		R-410A					
Leaving Chilled Water Temperature	CWS , °C	5	6	7	8	9	10
	CWS , °F	41	42.8	44.6	46.4	48.2	50
Outside Air Temp °C (°F)							
30 (86)	CC	952	988	1024	1060	1100	1136
	G	211.1	219	227	235	243.9	251.8
	KW	95.2	96	96	96	96.8	96.8
35 (95)	CC	908	944	**976**	1012	1052	1088
	G	201.3	209.3	**216.4**	224.4	233.2	241.2
	KW	100.8	101.6	**101.6**	101.6	102.4	102.4
40 (104)	CC	844	876	912	944	980	1004
	G	187.1	194.2	202.2	209.3	217.3	222.6
	KW	109.6	109.6	109.6	110.4	110.4	112

CC-Cooling Capacity, kBTU/Hr
G-Nominal Water Flow, gpm
KW-Compressor Power Input, kW

▲ Note: 1. Nominal Water Flow Based on Water Temperature Rise is 5°C

▸ Model : M20x4



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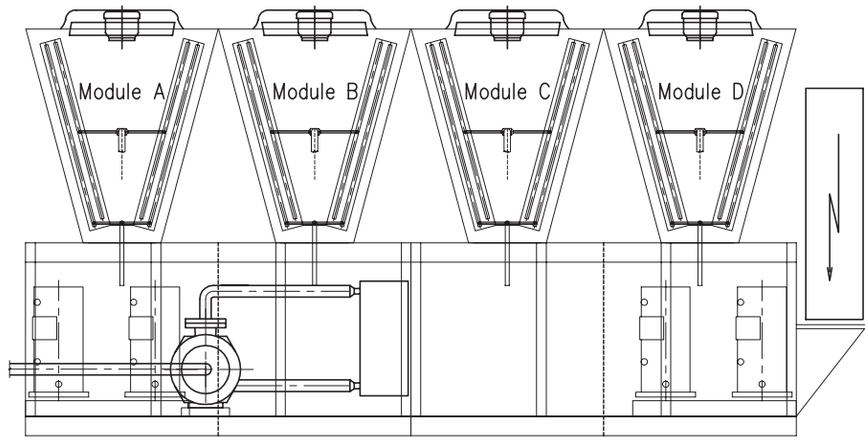

Side View

Note: Evaporator for Basic Model with Plate Heat Exchanger

אביעוז קריספין | AK

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