

FRIGA-BOHN®

DUO CU

Encased outdoor
condensing unit

A2L

HFC



|||| MT **7 - 48 kW**
|||| LT **6 - 15 kW**



- # **Compact design** for perfect integration in small spaces.
- # Suitable for residential areas thanks to its **low noise level**.
- # **A2L Ready**: Factory pre-equipped unit with complete A2L validated refrigeration and electrical supply.
- # **Easy maintenance**: accessibility to all components.

CASING

- # Galvanized sheet steel covered with white polyester paint.
- # Easy removal of front and side panels.
- # Display screen on front panel (A2L models).

LIQUID RECEIVER

- # Vertical receiver with a capacity of 18 or 45 l. with safety valve.
- # Two inlet/outlet shut-off valves.
- # Liquid outlet equipped with a filter dryer, an indicator and a liquid outlet valve.

OIL LINE

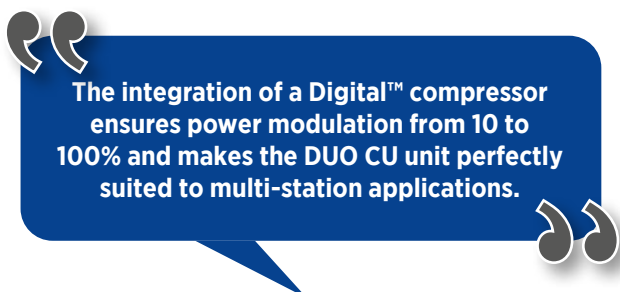
- # HP oil separator with integrated oil reserve with high and low indicator.
- # HP oil return line with filter.
- # Electronic oil controller per compressor.

MANIFOLDS

- # Copper suction and delivery.
- # Filter on the suction.

COMPRESSORS

- # Multi-refrigerant A2L compressors : R1234yf, R454C, R455A.
- # Multi-refrigerant compressors: R404A, R134a, R407F, R407A, R448A, R449A, R450A and R513A.
- # Two Scroll compressors including one Digital™.
- # Suction and discharge shut-off valves, crankcase heater and rigid suspension elements.
- # Compressors equipped with noise insulation casings.



CONDENSER

- # Microchannel technology coil (13-18-25-29-45-57).
- # Microchannel technology coil with treatment:
 - Epoxy (A1 models).
 - Thermoguard (A2L models)
- # Aluminum finned coil and copper tubes (76-114).
- # Axial or centrifugal condenser fan(s) with speed variation or EC motors depending on model.
- # Heat recovery (only on DUO CU MT):
 - Tapping points with valves on standby upstream of the condenser.
 - Integrated control.

OPTIONS

- Epoxy fins or Thermoguard coil treatment available.
- Heat recovery module for hot water production at 55 °C or heating.

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75% reduction of the refrigerant charge thanks to the microchannel technology.



REGULATION AND SAFETY

- # Complete integrated electrical cabinet IP54.
- # Electronic regulation by PLC with pressostatic back-up mode.
- # "Floating" HP control with external probe.
- # Icc 15 kA.
- # General disconnect switch.
- # Switchover to back-up mode:
 - Automatic by LPE/HPE support pressure switches.
 - Manual by switch on cabinet door.
- # 2 condenser fan protection outlets.
- # 4 cooling station outputs 2x10A. (standard models).
- # Controller with smartphone connection (A2L models).

CONTROL DEVICES

- # 1 LP general safety pressure switch.
- # 1 LPE support pressure switch (switchover to back-up mode).
- # 1 LP regulator pressure switch per compressor.
- # 1 HP cartridge pressure switch with automatic reset per compressor.
- # 1 HPE support pressure switch (switchover to back-up mode).
- # 1 HP and LP sensor.

In order to best meet your needs, the **DUO CU** is available in 6 models:



DUO CU^(A) MT^(B) 29^(C) D^(D)

(A) Condensing unit

(B) **MT** = positive range - **LT** = negative range

(C) Model (compressor)

(D) **A** = fans without available pressure - **C** = fans with available pressure -**D** = A2L model fans without available pressure - **E** = A2L model fans with available pressure

For a precise selection, please
consult our software.

CONDITIONS	REFRIGERANTS	DUO CU MT ... A A2L
Power (1)	R1234yf	kW
	R454C	kW
	R455A	kW
	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW
Power consumption (1)	R1234yf	kW
	R454C	kW
	R455A	kW
	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW

Compressor		Nb
Input Current (1)		A max.
Fan	Type	
	Nb x Ø	mm
Noise level	Lp 10m (2)	dB(A)
Max. airflow		m³/h
Liquid capacity		l.
Connections	Suction	Ø
	Liquid	Ø
Casing	Size	
Dimensions	L	mm
	D	mm
	H	mm
Net weight		kg
Unit switch-off temperature: -10 °C (R454C)		
Coil (4)		

Fans without available pressure

Positive range

29	45	57
8,1	12,1	15,2
13,6	20	24,7
14,5	21,4	26,4
14,8	22,2	27,2
14,8	22,2	27,2
7,2	10,9	13,6
8,8	13,3	16,7
8,4	12,6	15,7
14,8	21,8	26,6
3,5	5,0	6,3
5,3	8,1	10,1
6,1	9,1	11,4
5,8	9,0	11,3
5,8	9,0	11,3
2,9	4,2	5,3
3,7	5,3	6,8
3,3	4,9	6,2
6,1	9,1	11,5

29	45	57
2	2	2
15,3	20,3	23,6
EC	EC	EC
2 x 450	2 x 450	2 x 450
38	45	46
11000	12700	13400
18	18	18
1"3/8	1"3/8	1"5/8
5/8"	5/8"	7/8"
T1D	T1D	T2D
1320	1320	1320
1128	1128	1128
1615	1615	1615
325	335	340
+47°C	+46°C	+45°C
()	()	()

(1) Evaporating temperature: -10 °C / Ambient temperature: +32 °C - Total superheat 10K and subcool 3K.

(2) Sound pressure in dB(A) measured at 10 m, parallelepiped measuring surface, in a free field over a reflecting plane, given as an indication only.

(3) Additional available pressure in pascals.

(4)  Aluminum finned coil and copper tubes (optional epoxy fins or Ozkem coil treatment available) Coil with microchannel technology () Coil with Epoxy(model A1) / Thermoguard (models A2L) treated microchannel technology.

(5) This model can be used in Europe, for all industrial applications whatever the nominal power developed, but in commercial applications only if the nominal power is less than 40 kW.

(6) Product only available in split system.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

DUO CU_(A) MT_(B) 29_(C) A_(D)

(A) Condensing unit

(B) **MT** = positive range - **LT** = negative range

(C) Model (compressor)

(D) **A** = fans without available pressure - **C** = fans with available pressure -

D = A2L model fans without available pressure - **E** = A2L model fans with available pressure

For a precise selection, please consult our software.

CONDITIONS	REFRIGERANTS	DUO CU MT ... A
Power (1)	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW
Power consumption (1)	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW

Compressor	Nb	
Input Current (1)	A max.	
Fan	Type	
	Nb x Ø	mm
Noise level	Lp 10m (2)	dB(A)
Max. airflow		m³/h
Liquid capacity		l.
Connections	Suction	Ø
	Liquid	Ø
Casing	Size	
	L	mm
Dimensions	D	mm
	H	mm
Net weight		kg
Unit switch-off temperature: -10 °C (R449A)		
Coil (4)		

Fans without available pressure

Positive range

29	45	57	76	114 ⁽⁵⁾
14,9	21,4	26,8	38,3	50,7
13,6	21,4	24,8	38,3	50,6
7,7	11,4 ⁽⁶⁾	13,8	19,5 ⁽⁶⁾	-
9,0	13,6	16,8	23,2	31,7
8,4	13	16,1	22,1	31,6
14,6	20,6	25,3	36,9	48,1
6,3	9,4	12,2	16,8	28
6,3	9,4	12,2	16,8	28
3,2	4,9	6,2	9,4	-
3,7	5,8	7,5	10,7	16,3
3,5	5,5	7,7	9,9	14,9
6,4	9,8	12,7	17,4	28,0

29	45	57	76	114
2	2	2	2	2
17,2	24,1	26,6	37	58
EC	EC	EC	EC	EC
2x 450	2x 450	2x 450	2x 710	2x 710
41	42	45	44	46
12800	12800	12800	30000	30000
18	18	18	45	45
1"3/8	1"3/8	1"5/8	2"1/8	2"1/8
5/8"	5/8"	7/8"	7/8"	1"1/8
T1A	T1A	T1A	T2A	T2A
1195	1195	1195	1960	1960
660	660	660	1195	1195
1504	1504	1504	1635	1635
290	300	310	530	540
+43°C	+40°C	+36°C	+41°C	+37°C
()	()	()	()	()

(1) Evaporating temperature: **-10 °C** / Ambient temperature: **+32 °C** - Total superheat 10K and subcool 3K.

(2) Sound pressure in dB(A) measured at 10 m, parallelepiped measuring surface, in a free field over a reflecting plane, given as an indication only.

(3) Additional available pressure in pascals.

(4)  Aluminum finned coil and copper tubes (optional epoxy fins or Ozkem coil treatment available)

 Coil with microchannel technology () Coil with Epoxy(model A1) / Thermoguard (models A2L) treated microchannel technology.

(5) This model can be used in Europe, for all industrial applications whatever the nominal power developed, but in commercial applications only if the nominal power is less than 40 kW.

(6) Product only available in split system.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

DUO CU^(A) MT^(B) 29^(C) E^(D)

(A) Condensing unit

(B) MT = positive range - LT = negative range

(C) Model (compressor)

(D) A = fans without available pressure - C = fans with available pressure -

D = A2L model fans without available pressure - E = A2L model fans with available pressure

For a precise selection, please
consult our software.

CONDITIONS	REFRIGERANTS	DUO CU MT ... C A2L
Power (1) 150 Pa (3)	R1234yf	kW
	R454C	kW
	R455A	kW
	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW
Power consumption (1)	R1234yf	kW
	R454C	kW
	R455A	kW
	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW

Compressor	Nb	
Input Current (1)	A max.	
Fan	Type	
	Nb x Ø	mm
Noise level	Lp 10m (2)	dB(A)
Max. airflow		m ³ /h
Liquid capacity		l.
Connections	Suction	Ø
	Liquid	Ø
Casing	Size	
Dimensions	L	mm
	D	mm
	H	mm
Net weight		kg
Unit switch-off temperature: -10 °C (R454C)		
Coil (4)		

Fans with available pressure

Positive range

29	45	57
8,1	12,1	15,2
13,6	20,2	24,9
14,7	21,7	26,6
14,8	22,5	27,5
14,8	22,5	28,6
7,3	10,9	13,6
8,8	13,3	16,7
8,4	12,6	15,7
13,9	21,1	26,3
3,5	5,0	6,4
5,5	9,2	11,3
7,4	10,1	12,5
5,9	9,8	12,4
5,9	9,8	12,4
2,8	4,2	5,4
3,7	5,3	6,9
3,3	4,9	6,3
6,1	9,0	11,9

29	45	57
2	2	2
14,3	19,3	22,6
EC	EC	EC
1 x 800	1 x 800	1 x 800
40	45	46
16 000	16 000	16 000
18	18	18
1"3/8	1"3/8	1"5/8
5/8"	5/8"	7/8"
T1E	T1E	T1E
1 320	1 320	1 320
1 128	1 128	1 128
1 825	1 825	1 825
335	345	350
+47°C	+46°C	+45°C
()	()	()

(1) Evaporating temperature: -10 °C / Ambient temperature: +32 °C - Total superheat 10K and subcool 3K.

(2) Sound pressure in dB(A) measured at 10 m, parallelepiped measuring surface, in a free field over a reflecting plane, given as an indication only.

(3) Additional available pressure in pascals.

(4)  Aluminum finned coil and copper tubes (optional epoxy fins or Ozkem coil treatment available) Coil with microchannel technology () Coil with Epoxy(model A1) / Thermoguard (models A2L) treated microchannel technology.

(5) This model can be used in Europe, for all industrial applications whatever the nominal power developed, but in commercial applications only if the nominal power is less than 40 kW.

(6) Product only available in split system.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

DUO CU^(A) MT^(B) 29^(C) C^(D)

(A) Condensing unit

(B) **MT** = positive range - **LT** = negative range

(C) Model (compressor)

(D) **A** = fans without available pressure - **C** = fans with available pressure -

D = A2L model fans without available pressure - **E** = A2L model fans with available pressure

For a precise selection, please
consult our software.

CONDITIONS	REFRIGERANTS	DUO CU MT ... C
Power (1) 150 Pa (3)	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
	R134a	kW
	R404A	kW
Power consumption (1)	R407F	kW
	R407A	kW
	R448A	kW
	R449A	kW
	R450A	kW
	R513A	kW
Compressor	Nb	
	Input current (1)	
Fan	Type	
	Nb x Ø	mm
Noise level	Lp 10m (2)	dB(A)
Max. airflow		m³/h
Liquid capacity		l.
Connections	Suction	Ø
	Liquid	Ø
Casing	Size	
	L	mm
Dimensions	D	mm
	H	mm
Net weight		kg
Unit switch-off temperature: -10 °C (R449A)		
Coil (4)		

Fans with available pressure

Positive range

29	45	57	76	114 ⁽⁵⁾
14,8	21,2	26,4	38,2	50,3
14,8	21,2	26,4	38,2	50,3
7,5	11,4	13,8	19,5	26,3
9,0	13,6	16,8	23,2	31,7
8,4	12,9	16,1	22,1	31,6
14,6	20,6	25,3	36,9	48,4
8	11,4	-	21,4	-
7,5	10,7	-	20,4	29,7
7,5	10,6	13,5	20,2	31,6
7,7	10,7	12,9	20	31,0
4,4	6,3	7,7	12,5	17,0
4,8	7,1	8,7	14,0	19,7
4,6	6,7	9,1	13,2	18,2
7,8	11,0	13,9	20,6	31,2

29	45	57	76	114
2	2	2	2	2
20,1	27	29,5	43,9	64,9
AC	AC	AC	AC	AC
2x 346x314	2x 346x314	2x 346x314	2x 630	2x 630
54	54	54	57	57
10500	10500	10500	28400	28400
18	18	18	45	45
1"3/8	1"3/8	1"5/8	2"1/8	2"1/8
5/8"	5/8"	7/8"	7/8"	1"1/8
T1C	T1C	T1C	T2C	T2C
1195	1195	1195	1960	1960
660	660	660	1195	1195
1407	1407	1407	1622	1622
330	340	350	540	550
+43°C	+40°C	+37°C	+42°C	+37°C
()	()	()	()	()

(1) Evaporating temperature: **-10 °C** / Ambient temperature: **+32 °C** - Total superheat 10K and subcool 3K.

(2) Sound pressure in dB(A) measured at 10 m, parallelepiped measuring surface, in a free field over a reflecting plane, given as an indication only.

(3) Additional available pressure in pascals.

(4)  Aluminum finned coil and copper tubes (optional epoxy fins or Ozkem coil treatment available)

 Coil with microchannel technology () Coil with Epoxy(model A1) / Thermoguard (models A2L) treated microchannel technology.

(5) This model can be used in Europe, for all industrial applications whatever the nominal power developed, but in commercial applications only if the nominal power is less than 40 kW.

(6) Product only available in split system.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

DUO CU^(A) LT^(B) 13^(C) 1F^(D) A^(E)

(A) Condensing unit

(B) **MT** = positive range - **LT** = negative range

(C) Model (compressor)

(D) **1F** = 1 fan - **2F** = 2 fans

(E) **A** = fans without available pressure - **C** = fans with available pressure -

D = A2L model fans without available pressure - **E** = A2L model fans with available pressure

The DUO CU is available with HFCs.
For a precise selection, please
consult our software.

			Fans without available pressure			Negative range		
CONDITIONS	REFRIGERANTS	DUO CU LT ... A	13 2F	18 2F	25 2F	13 2F	18 2F	25 2F
Power (1)	R448A	kW	7,1	10,7	13,4	7,1	10,7	13,4
	R449A	kW	7,1	10,7	13,4	7,1	10,7	13,4
	R404A	kW	-	-	-	-	-	-
Power consumption (1)	R448A	kW	6	8,1	9	6	8,1	9
	R449A	kW	6	8,1	9,1	6	8,1	9,1
	R404A	kW	-	-	-	-	-	-
			13 2F	18 2F	25 2F	13 2F	18 2F	25 2F
Compressor		Nb	2	2	2	2	2	2
Input current (1)		A max.	19,6	26,6	27,4	19,6	26,6	27,4
Fan	Type		EC	EC	EC	EC	EC	EC
	Nb x Ø	mm	2 x 450	2 x 500	2 x 500	2 x 450	2 x 500	2 x 500
Noise level	Lp 10m (2)	dB(A)	44	57	54	44	57	54
Max. airflow		m³/h	12800	19000	19000	12800	19000	19000
Liquid capacity		l.	18	18	18	18	18	18
Connections	Suction	Ø	1"1/8	1"3/8	1"3/8	1"1/8	1"3/8	1"3/8
	Liquid	Ø	1/2"	5/8"	5/8"	1/2"	5/8"	5/8"
Casing	Size		T1A	T4A	T4A	T1A	T4A	T4A
Dimensions	L	mm	1195	1325	1325	1195	1325	1325
	D	mm	660	1125	1125	660	1125	1125
	H	mm	1504	1783	1783	1504	1783	1783
Net weight		kg	320	325	325	320	325	325
Unit switch-off temperature: -35 °C (R449A)			+37°C	+40°C	+38°C	+37°C	+40°C	+38°C
Coil (4)			()			()		

(1) Evaporating temperature: **-10 °C** / Ambient temperature: **+32 °C** - Total superheat 10K and subcool 3K.

(2) Sound pressure in dB(A) measured at 10 m, parallelepiped measuring surface, in a free field over a reflecting plane, given as an indication only.

(3) Additional available pressure in pascals.

(4)  Aluminum finned coil and copper tubes (optional epoxy fins or Ozkem coil treatment available)

 Coil with microchannel technology () Coil with Epoxy(model A1) / Thermoguard (models A2L) treated microchannel technology.

(5) This model can be used in Europe, for all industrial applications whatever the nominal power developed, but in commercial applications only if the nominal power is less than 40 kW.

(6) Product only available in split system.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

DUO CU_(A) LT_(B) 13_(C) 1F_(D) C_(E)

(A) Condensing unit

(B) **MT** = positive range - **LT** = negative range

(C) Model (compressor)

(D) **1F** = 1 fan - **2F** = 2 fans

(E) **A** = fans without available pressure - **C** = fans with available pressure -

D = A2L model fans without available pressure - **E** = A2L model fans with available pressure

The DUO CU is available with HFCs.
For a precise selection, please
consult our software.

CONDITIONS	REFRIGERANTS	DUO CU LT ... C
Power (1)	R448A	kW
150 Pa (3)	R449A	kW
Power	R448A	kW
consumption (1)	R449A	kW

Compressor		Nb
Input current (1)		A max.
Fan	Type	
	Nb x Ø	mm
Noise level	Lp 10m (2)	dB(A)
Max. airflow	m³/h	
Liquid capacity	l.	
Connections	Suction	Ø
	Liquid	Ø
Casing	Size	
Dimensions	L	mm
	D	mm
	H	mm
Net weight	kg	
Unit switch-off temperature: -35 °C (R449A)		
Coil (4)		

Fans with available pressure

13 1F	18 1F	25 1F
6,5	9,9	12,3
6,5	9,8	12,3
7,3	8,8	9,6
7,3	8,8	9,7

Negative range

13 1F	18 1F	25 1F
2	2	2
20.2	26,9	27,7
EC	EC	EC
1 x 800	1 x 800	1 x 800
49	47	47
17000	19000	19000
18	18	18
1"1/8	1"3/8	1"3/8
1/2"	5/8"	5/8"
T3C	T3C	T3C
1325	1325	1325
1125	1125	1125
1783	1783	1783
320	325	325
+40°C	+40°C	+38°C
		

(1) Evaporating temperature: **-10 °C** / Ambient temperature: **+32 °C** - Total superheat 10K and subcool 3K.

(2) Sound pressure in dB(A) measured at 10 m, parallelepiped measuring surface, in a free field over a reflecting plane, given as an indication only.

(3) Additional available pressure in pascals.

(4)  Aluminum finned coil and copper tubes (optional epoxy fins or Ozkem coil treatment available)

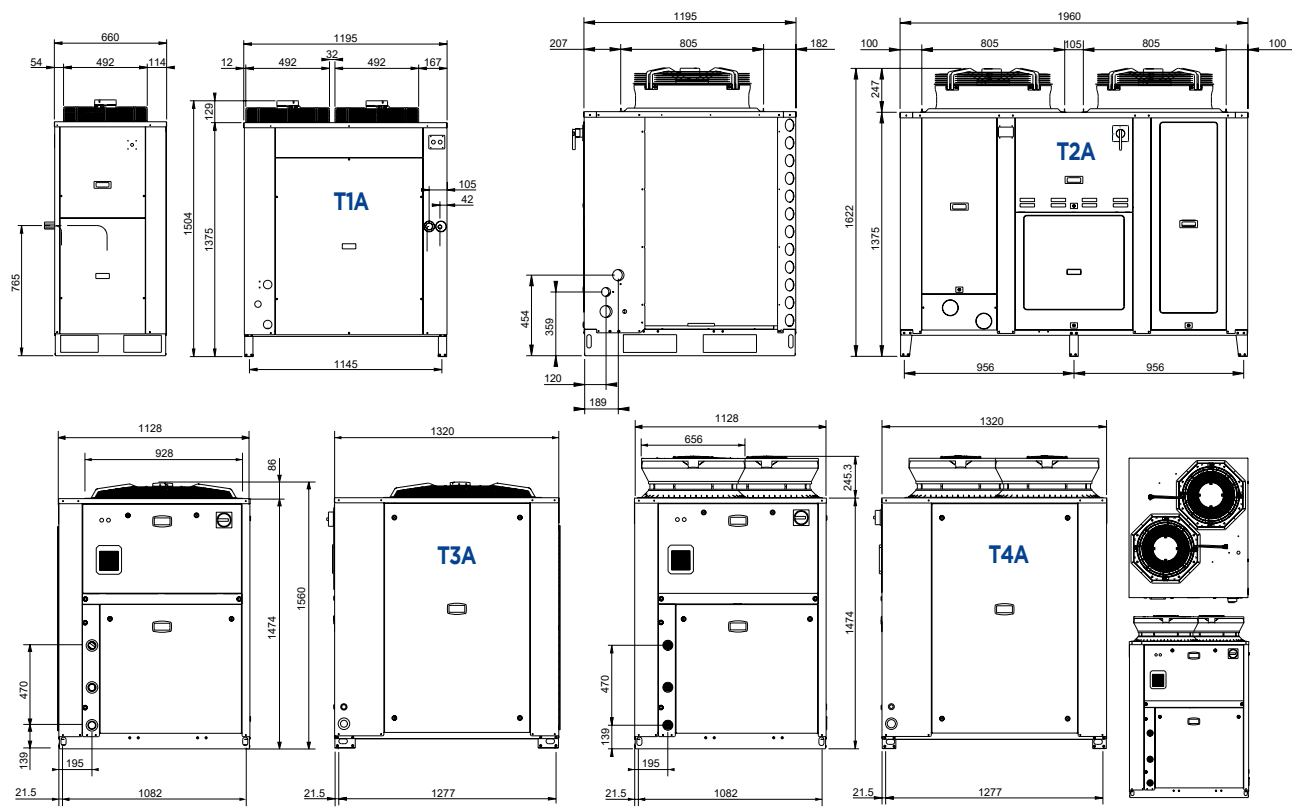
 Coil with microchannel technology () Coil with Epoxy(model A1) / Thermoguard (models A2L) treated microchannel technology.

(5) This model can be used in Europe, for all industrial applications whatever the nominal power developed, but in commercial applications only if the nominal power is less than 40 kW.

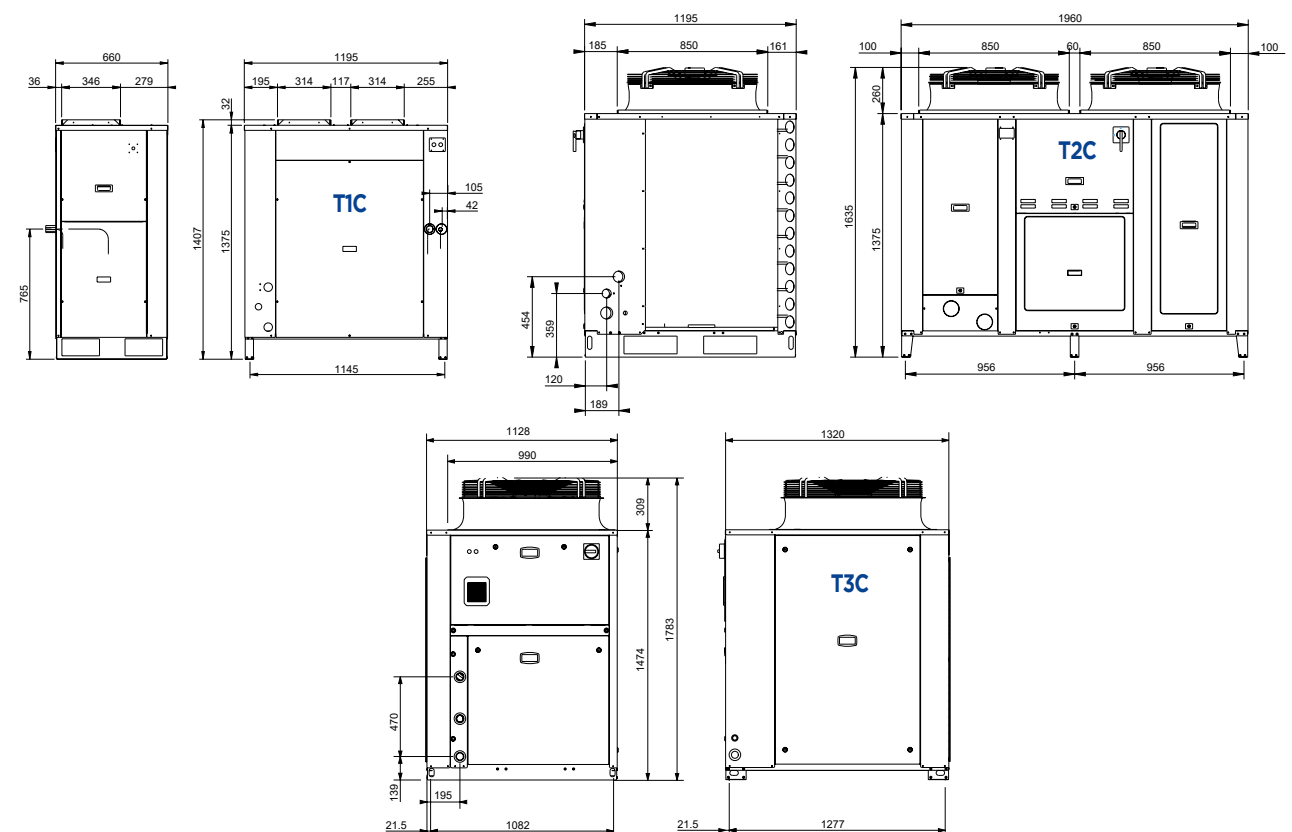
(6) Product only available in split system.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

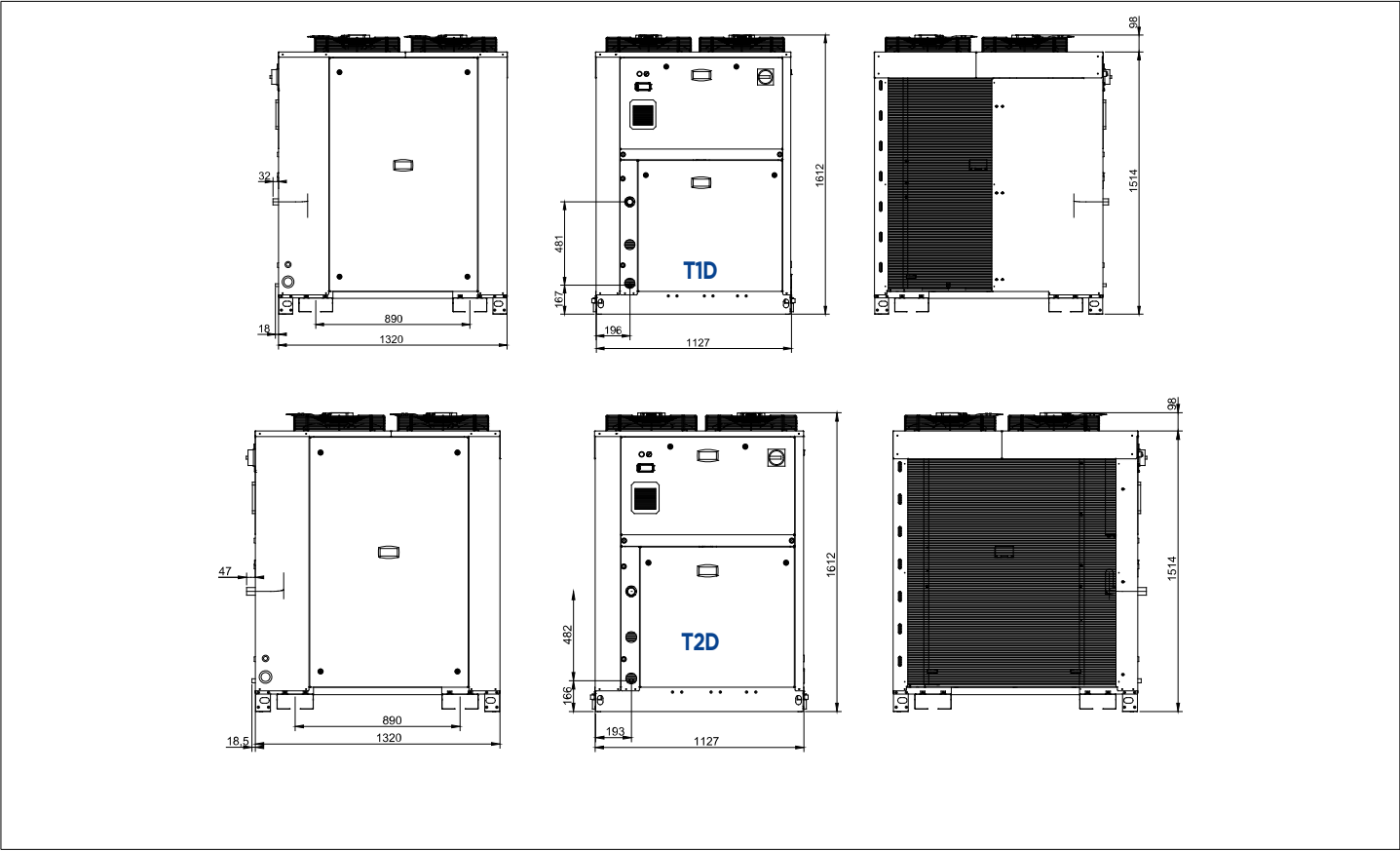
DUO CU .. A | Fans without available pressure



DUO CU .. C | Fans with available pressure



DUO CU .. A A2L | Fans without available pressure



DUO CU .. C A2L | Fans with available pressure

