



Product Catalogue

**GENIUS Self-Contained
Central Self-Contained
Air Conditioner 5 - 15 Ton
Remote Condenser CRCE/CRCB
50/60 Hz**





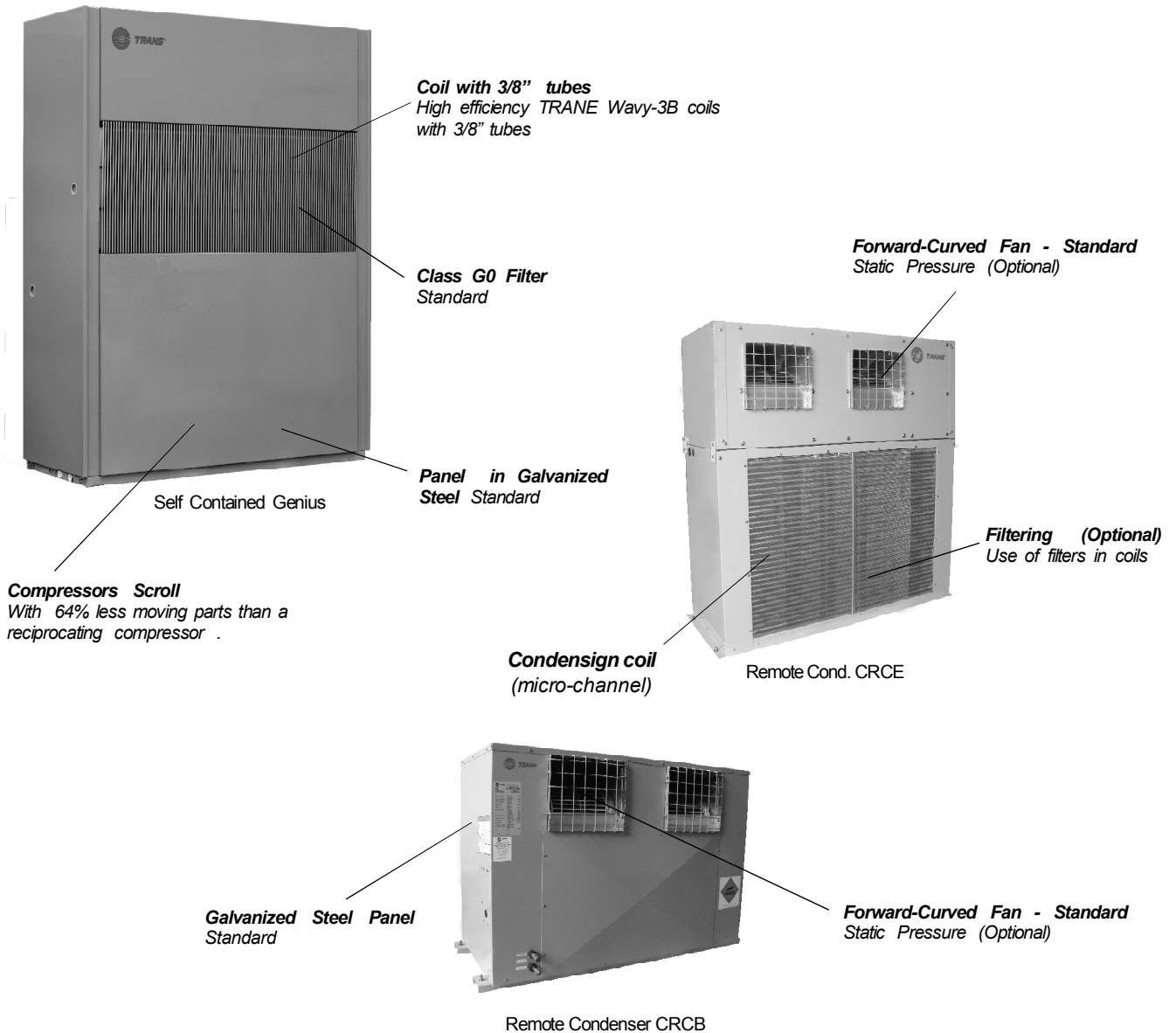
Introduction

IMPORTANT:

Dimensional measuring units on this catalog are on millimetres (mm). (Except for those locally referenced).

**Self Contained
Genius**

Developed for commercial and industrial markets. All Self-Contained GENIUS models were designed to provide simple installation and maintenance.

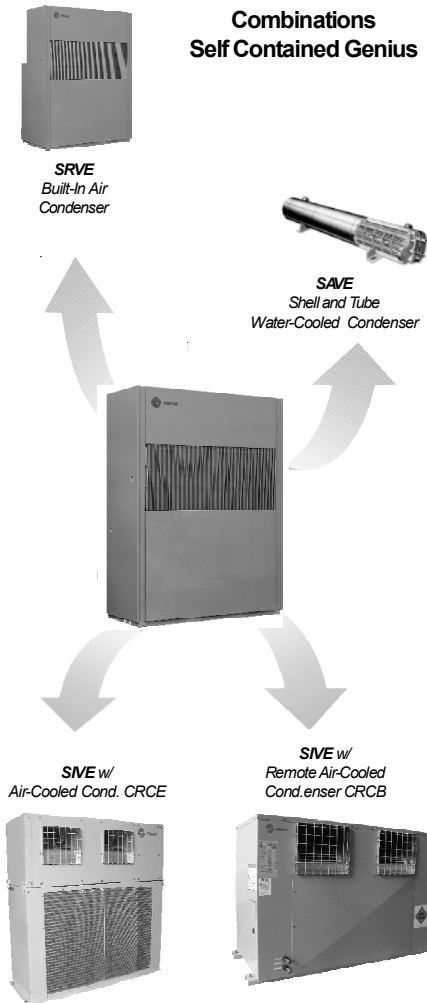


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Features and Benefits

Combinations Self Contained Genius



TRANE, a worldwide leader company in air conditioning equipment and system technology, had developed the most advanced Self in the market:

Genius.

The *Genius* line was designed to meet the strict demands of the international market concerning durability, finish, safety, noise level and power consumption.

The main features are:

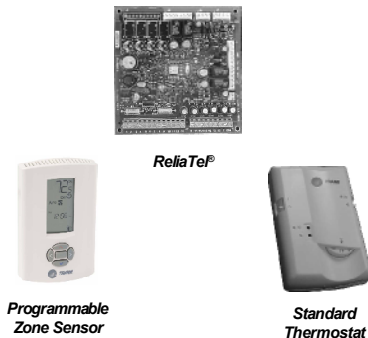
- Capacities from 5 to 15 TR;
- 4 lines:
- SAVE, with water-cooled condenser;
- SRVE, with incorporated air-cooled condensation;
- SIVE, with remote air-cooled condenser;
- SSVE, Evaporator Unit (Split);
- 3 Control options: Standard Thermostat, Programmable Thermostat, Microprocessed Control (ReliaTel®);
- Operates in the most extreme conditions required by *ARI (American Refrigeration Institute)* tests;
- Exclusive condensed water pan design. This pan was designed in such a way to prevent water accumulation, avoiding the formation of fungus and bacteria. The *Genius* pan meets the ASHRAE standards for IAQ - Indoor Air Quality;

- 3 Transmission options; one of them allows up to 40 mmca of external static pressure available;
- 3 Filtering types (Standard, Simple or Double);
- 3 Heating options;
- Compressors Scroll;
- Independent refrigerating circuits;
- Capacity stages 100% and 50% (for machines equipped with one or two compressors, respectively);
- Forward-curved centrifugal fans;
- Washable air filters, with electrostatic fabric, class ABNT G0, fixed in a steel wire frame
- Advanced protection and safety devices;
- The low noise level allows for a silent equipment operation in ambient applications.

Precautions against product corrosion

It is recommended that air conditioning equipment shall not be installed in environments with a corrosive atmosphere such as acid or alkali gases and environments with a sea breeze. In need of installing air conditioning equipment in these areas, Trane of Brazil recommends the application of extra protection against corrosion, such as Phenolic protection or the application of ADSIL®. For more information, contact your local distributor.

Trane Automation System



Tab 01 - Line Description - Self Contained Genius.

Capacity (TON)	Self Contained Shell and Tube Water - Cooled Condenser	Self Contained Built-In Air-Cooled Condenser	Self Contained Remote Air-Cooled Condenser
5,0	SAVE050	SRVE050	SIVE050 + CRCB050 or CRCE050
7,5	SAVE075	SRVE075	SIVE075 + CRCB075 or CRCE075
10,0	SAVE100	SRVE100	SIVE100 + CRCB100 or CRCE100
12,5	SAVE125	SRVE125	SIVE125 + CRCB125 or CRCE125
15,0	SAVE150	SRVE150	SIVE150 + CRCB150 or CRCE150



Model Description

Tab. 02 - Model description for units SAVE/SRVE/SIVE/ and SSVE 050 to 150.

BASIC PRODUCT DEFINITION															GENERALS ACCESS.					REFRIG. ACCESS.					ELECTRICS ACCESS.					FAN ACCESS.					SPE																									
S	A	V	E	0	5	0	0	0	3	A	A	S	1	L	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42																			

Digit 1 - Product Line
S = Self Contained

Digit 2 - Condenser Type
A = Water-Cooled Condenser
I = Remote Air-Cooled Condenser
R = Incorporated Air-Cooled Condenser
S = Evaporator Unit (Split)

Digit 3 - Cabinet Configuration
V = Vertical Cabinet

Digit 4 - Project Sequence
E = E Project Sequence

Digits 5, 6 e 7 - Nominal Capacity
050 = 5 Ton
075 = 7.5 Ton
100 = 10 Ton
125 = 12.5 Ton
150 = 15 Ton

Digit 8 - Condenser Type
0 = Not Aplicable (SIVE, SRVE e SSVE)
A = Water Condenser Tube & Tube (Only SAVE)
B = Water Condenser Shell & Tube (Only SAVE)
C = Water Condenser Tube & Tube/ Hydr. Scheme (Only SAVE)
D = Water Condenser Shell & Tube/Hydr. Scheme (Only SAVE)

Digit 9 - Static Pressure, Available on Condenser
0 - Not Aplicable (SAVE, SIVE, SSVE)
A - PED = 0mmca (Only SRVE)
B - PED = 2.5mmca (Only SRVE)
C - PED = 5mmca (Only SRVE)

Digit 10 - Electrical Supply
3 = 220/60/3
4 = 440/60/3
K = 380/60/3
H = 380/50/3

Digit 11 - Command Supply
A = 220V (Except 380V/50Hz/3f)
B = 24V

Digit 12 - Electric Board (Type)
A = Standard (Electric-mechanical)
B = Microprocessed (RTRM)
C = Microprocessed (RTRM + RTCI)
D = Microprocessed (RTRM + RLCl)

Digit 13 - Transmission Option
P = Plenum Box Option
S = Standard Option (Low PEE)
1 = Option 1 (Medium PEE)
2 = Option 2 (High PEE)

Digit 14 - Filter Type
3 = G4 glass wool filter (No flat filter)
4 = G0 electrostatic + G4 glass wool filter (No flat filter)
5 = G1 metallic + G4 glass wool filter (No flat filter)

6 = F5 Pleated 1" (No flat filter)
7 = G1 + F5 Pleated 1" (No flat filter)
B = G4 glass wool (w/ flat filter)
C = G1 metallic + G4 glass wool (w/ flat filter)
E = F5 Pleated 2" (w/ flat filter)
F = G1 + F5 Pleated 2" (w/ flat filter)
G = G4 glass wool 2" + F5 Pleated 2" (w/ flat filter)

Digit 15 - Market Region
L = Local Market (Brazil)
E = Export (LAR)
R = Export (Others)

Digits 16, 17 - Service Digit
A0 = Service Digit A0 (SAVE/SIVE/SSVE)
A1 = Service Digit A1 (SOMENTE SRVE)
A2 = Service Digit A2 (SOMENTE SRVE, MCHX)
A3 = Service Digit A3 (New supplier of motor)
A4 = Service Digit A4 (New supplier of Compressor)

Digit 18 - Reserved
0 = Rear Vertical/STD
1 = Rear Horizontal (only for capac. 100/125/150) and (Without Plenum Box)

Digit 19 - Wood Package
0 = No
1 = Yes

Digit 20 - Coils with surface treatment
0 = without treatment (Coils Standard)
1 = Yellow Fin (not applied to MCHX)
2 = Treatment Phenolic
3 = Treatment Adsil
4 = Treatment Adsil Cond. + Yellow Fin Evap.
5 = Treatment Adsil Cond. + Adsil Evap.

Digit 21 - 4 Rows (Coil)
0 = No
1 = Yes (Except for 15Ton Unit)

Digit 22 - Tray Type - Inox
0 = No
1 = Yes

Digit 23 - Return Grille (Aluminium)
0 = No (required if Digit 13 = P)
1 = Yes (Present if Digit 13 = P)

Digit 24 - Reserved
0 = Reserved (Not Aplicable)

Digit 25 - High/Low pressure switch
0 = High and low without Automatic throttling
1 = Manual and Automatic High Low without adjusting
2 = Automatic with manual high and low controllability
3 = High and low with manual adjustment

Digit 26 - Service Valve
0 = No
1 = Yes

Digit 27 - Sightglass
0 = No
1 = Yes

Digit 28 - High/Low Pressure Manometer
0 = No
1 = Yes

Digit 29 - Refrigerant R407C
0 = No
1 = Yes

Digit 30 - Condenser Control KVR + NRD
0 = No
1 = Yes (Except SAVE, SIVE, SSVE)

Digit 31 - Reserved
0 = Reserved (Not Aplicable)

Digit 32 - Electric Heating
0 = No
1 = Electric Heating AQ1 (Check Power on Catalogue)
2 = Electric Heating AQ2 (Check Power on Catalogue)
3 = Electric Heating AQ3 (Check Power on Catalogue)

Digit 33 - Control (Thermostat)
0 = No control (no thermostat)
A = Standard Thermostat (Electric-mechanical)
B = Programmable Thermostat

Digit 34 - Power Factor Correction Capacitor
0 = No
1 = Yes

Digit 35 - Three Phase Monitor (STT)
0 = No
1 = Yes

Digit 36 - High Efficiency Motor
0 = No
1 = Yes

Digit 37 - Reserved
0 = Reserved (Not Aplicable)

Digit 38 - Fan w/ NTN Bearing + "Elastic Glove"
0 = No
1 = Yes

Digit 39 - Paint Fan
0 = No
1 = Yes

Digits 40, 41 - Reserved
00 = Reserved (Not Aplicable)

Digit 42 - Special Product Control Digit (SPE)
S = Standard Product (wo/ SPE)
Z = Special Product (w/ SPE)



Model Description

Tab. 03 - Model description for units CRCB/E 050 to 150.

BASIC PRODUCT DEFINITION															GENERALS ACCESS.				REFRIG. ACCESS.			ELECTRICS ACCESS.			FAN ACCESS.			SPE				
C	R	C	B	0	5	0	3	1	A	0	L	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			

Digits 1, 2 and 3 - Product Line
CRC = Remote Condenser

Digit 4 - Project Sequence
B = Remote Condenser One Cabinet
E = Remote Condenser Modular Cabinet

Digits 5, 6 e 7 - Nominal Capacity
050 = 5 Ton
075 = 7.5 Ton
100 = 10 Ton
125 = 12.5 Ton
150 = 15 Ton

Digit 8 - Power Supply
3 = 220/60/3
4 = 440/60/3
K = 380/60/3
H = 380/50/3

Digit 9 - Circuit Quantity
1 = 1 Circuit
2 = 2 Circuits (Only 10, 12.5 and 15Ton)

Digit 10 - Available Static Pressure
A - PED = 0mmca
B - PED = 2.5mmca
C - PED = 5mmca

Digit 11 - Air Filter Type (OnlyCRCE)
0 = Not Aplicable (CRCB)
A = No Filter (Only CRCE)
B = G1 metallic Filter (Only CRCE)
C = G3 Glass Wool Filter (Only CRCE)

Digit 12 - Unit Destiny
L = Local Market (Brazil)
E = Export (LAR)
R = Export (Others)

Digits 13, 14 - Service Digit
A0 = Service Digit A0
A1 = Service Digit A1
A2 = Service Digit A2 (MCHX)
A3 = Service Digit A3 (New supplier of motor)

Digit 15 - Reserved
0 = Reserved (Not applicable)

Digit 16 - Wood Package
0 = No
1 = Yes

Digit 17 - Coils with surface treatment
0 = without treatment (Coils Standard)
1 = Yellow Fin (not applied to MCHX)
2 = Treatment Phenolic
3 = Treatment Adsil

Digits 18, 19 - Reserved
00 = Reserved (Not applicable)

Digit 20 - Condenser Control KVR + NRD
0 = No
1 = Yes

Digits 21, 22 - Reserved
00 = Reserved (Not applicable)

Digit 23 - Power Factor Correction - Capacitor
0 = No
1 = Yes

Digit 24 - High Efficiency Motor
0 = No
1 = Yes

Digits 25, 26 - Reserved
00 = Reserved (Not applicable)

Digit 27 - Fan w/ Bearing NTN + Elastic Glove
0 = No
1 = Yes

Digit 28 - Fan w/ Painted Rotor
0 = No
1 = Yes

Digit 29 - Reserved
0 = Reserved (Not applicable)

Digit 30 - Special Product Digit Control
S = Standard Product (wo/ SPE)
Z = Special Product (w/ SPE)

NOTE 1 - This option can be used ONLY if the machine is installed on indoor places



General Data

Tab. 04 - General Data - condensing unit CRCB 050 - 150 for use with SIVE

Remote air condenser CRCB - use with SIVE						
Model		CRCB050	CRCB075	CRCB100	CRCB125	CRCB150
Nominal Cap. (1)	TON	5	7.5	10	12.5	15
Coil						
Type		Micro-channel				
Rows		1	1	1	1	1
FPF		276	276	276	276	276
Finned face area	m ²	0.55	0.83	0.99	1.38	1.72
Fan and Motor						
Type		Centrifugal				
Quantity		1	1	2	2	2
Diameter x Length x rotor (es)	mm	321 x 321	321 x 321	270 x 270	321 x 321	321 x 321
Motor	hp	1.0	3.0	4.0	4.0	5.0
Air flow	m ³ /h	5450	8315	9935	13930	17320
Dimensions						
Length	mm	987	1241	1341	1646	1646
Depth	mm	631	631	631	714	714
Height	mm	890	890	941	1018	1247
Liquid Weight	kg	93	124	139	180	212

Note:

- (1) Capacity are based on ARI 210 for equipments up to 5,0 Ton and ARI 340 for equipments exceeding 5,0 Ton.
- (2) Refrigerant R-407C is not available to the line Self-Contained Genius - SAVE (Water-Cooled Condenser - Shell&Tube).
- (3) Equipment weight refers to the Standard machine.



General Data

Tab. 05 - General Data - Condensing unit CRCE 050 - 150 for use with SIVE

Remote air condenser CRCE - use with SIVE						
Model		CRCE050	CRCE075	CRCE100	CRCE125	CRCE150
Nominal Cap. (1)	TON	5	7.5	10	12.5	15
Coil						
Type		Micro-channel				
Rows		1	1	1	1	1
FPF		276	276	276	276	276
Finned face area	m ²	0.55	0.83	0.99	1.38	1.72
Fan and Motor						
Type		Centrifugal				
Quantity		1	1	2	2	2
Diameter x Length x rotor (es)	mm	321 x 321	321 x 321	270 x 270	321 x 321	321 x 321
Motor	hp	1.5	3.0	4.0	4.0	5.0
N° Phase		3	3	3	3	3
Power Nominal	kW	1.17	2.18	2.83	2.83	3.46
CNO (3)	A	3.85	7.94	9.28	9.28	11.20
CMO (4)	A	4.81	9.93	11.60	11.60	14.00
CRT (5)	A	22.42	77.45	87.00	87.00	106.40
Rotation / N° Poles	RPM	1700 / 4	1710 / 4	1720 / 4	1720 / 4	1730 / 4
Air Flow	m ³ /h	5500	8250	9950	13770	15750
Dimensions						
Length	mm	993	1217	1491	1712	1712
Depth	mm	560	560	560	560	560
Height	mm	1393	1494	1545	1620	1843
Liquid Weight	kg	148	170	236	278	320

Tab. 06 - General Data - Condensing unit SRVE 050 - 150, already included in the dimensional table 04

Air condenser Embedded-use with SRVE						
Model		SRVE050	SRVE075	SRVE100	SRVE125	SRVE150
Nominal Cap.(1)	TON	5	7.5	10	12.5	15
Coil						
Type		Micro-channel				
Rows		1	1	1	1	1
FPF		276	276	276	276	276
Finned face area	m ²	0.55	0.83	0.99	1.38	1.72
Fan and Motor						
Type		Centrifugal				
Quantity		1	1	2	2	2
Diameter x Length x rotor (es)	mm	321 x 321	321 x 321	270 x 270	321 x 321	321 x 321
Motor	hp	1.0	3.0	4.0	4.0	5.0
Air flow	m ³ /h	5450	8315	9935	13930	17320

Note:

- (1) Capacity are based on ARI 210 for equipments up to 5,0 Ton and ARI 340 for equipments exceeding 5,0 Ton.
- (2) Equipment weight refers to the Standard machine.
- (3) RLA - Rated Load Amps - 220V/60Hz;
- (4) FLA - Full Load Amps - 220V/60Hz;
- (5) LRA - Locked Rated Amps - 220V/60Hz.

Filtering

The standard filtering is the electrostatic fabric filter, with the ABNT G0 filtering level. Optionally, machines can be manufactured with other filtering levels, double filtering and double filtering using flat filter.

The models without flat filter have two frames; a 8-mm-thick frame and a 1"-thick frame. Models with flat filter have two 2"-thick frames each.

There are three transmission options for the evaporator fan motor: option Std, option 1, option 2, in addition to the option for use with plenum.

The motors for each transmission option are listed in the general data tables (page 6) or in the performance tables of the transmission options associated to the standard filtering (ABNT G0), pages 9 and 10.

In this item, consider that in each air flow, the established rotation (RPM) allows the maximum external static pressure shown. For these charts, the air filtering option G0 was the one considered.

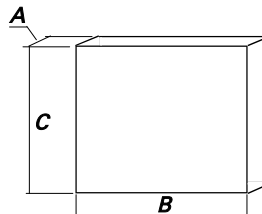
For other filtering options, there will be a drop of the available external static pressure, corresponding to the difference of pressure between the desired option and the G0-filter pressure loss. The table below shows the pressure loss values for the many filtering options, for models with and without flat filter:

Tab. 07- Pressure loss (mmca) with filtering

Nominal Cap. (Ton)	Air Flow (m³/h)	WITHOUT FLAT FILTER							WITH FLAT FILTER						
		Filtering							Filtering						
		G0	G1	G4	G0 + G4	G1 + G4	F5	G1 + F5	G1	G4	G1 + G4	F5	G1 + F5	G4 + F5	
		Model Number Digit							Model Number Digit						
		1	2	3	4	5	6	7	A	B	C	E	F	G	
5	3060	1,9	3,3	5,4	7,3	8,7	7,8	11,1	3,3	5,4	8,7	7,8	11,1	13,2	
	3315	2,2	3,7	6,2	8,4	9,9	9,0	12,7	3,7	6,2	9,9	9,0	12,7	15,2	
	3570	2,6	4,1	7,0	9,6	11,1	10,3	14,4	4,1	7,0	11,1	10,3	14,4	17,3	
	3825	3,2	4,6	7,7	10,9	12,3	11,7	16,3	4,6	7,7	12,3	11,7	16,3	19,4	
7,5	4590	2,6	4,1	7,0	9,6	11,1	10,4	14,5	4,1	7,0	11,1	10,4	14,5	17,4	
	4970	3,2	4,6	7,7	10,9	12,3	12,1	16,7	4,6	7,7	12,3	12,1	16,7	19,8	
	5355	3,8	5,1	8,4	12,2	13,5	14,1	19,2	5,1	8,4	13,5	14,1	19,2	22,5	
10	5740	4,1	5,7	9,1	13,2	14,8	16,3	22,0	5,7	9,1	14,8	16,3	22,0	25,4	
	6120	2,2	4,2	6,2	8,4	10,4	11,0	15,2	4,2	6,2	10,4	11,0	15,2	17,2	
	6630	2,6	4,7	7,0	9,6	11,7	12,9	17,6	4,7	7,0	11,7	12,9	17,6	19,9	
	7140	3,2	5,2	7,7	10,9	12,9	15,1	20,3	5,2	7,7	12,9	15,1	20,3	22,8	
	7650	3,8	5,8	8,4	12,2	14,2	17,4	23,2	5,8	8,4	14,2	17,4	23,2	25,8	
	7650	2,2	4,7	6,2	8,4	10,9	12,9	17,6	4,7	6,2	10,9	12,9	17,6	19,1	
12,5	8290	2,6	5,3	7,0	9,6	12,3	15,2	20,5	5,3	7,0	12,3	15,2	20,5	22,2	
	8925	3,2	5,9	7,7	10,9	13,6	17,8	23,7	5,9	7,7	13,6	17,8	23,7	25,5	
	9560	3,8	6,4	8,4	12,2	14,8	20,6	27,0	6,4	8,4	14,8	20,6	27,0	29,0	
15	9180	2,9	6,1	7,4	10,3	13,5	18,9	25,0	6,1	7,4	13,5	18,9	25,0	28,3	
	9945	3,5	6,9	8,1	11,6	15,0	22,4	29,3	6,9	8,1	15,0	22,4	29,3	30,5	
	10700	4,0	7,7	9,5	13,5	17,2	26,3	34,0	7,7	9,5	17,2	26,3	34,0	35,8	
	11475	4,3	8,6	11,0	15,3	19,6	30,7	39,3	8,6	11,0	19,6	30,7	39,3	41,7	

Note:

- Pressure loss unit : mmca
- Description of filters WITHOUT FLAT FILTER.
 - Filter G0 = Washable electrostatic fabric filter adapted to a 8-mm - thick frame.
 - Filter G1 = Washable metallic filter with 5 15mm thick metal screen layers .
 - Filter G4 = Throwaway 1"- thick glass wool filter .
 - Filter F5 = Pleated filter, filter medium in pleated synthetic blanket, with 1"-thick frame.
- Description of filters WITH FLAT FILTER.
 - Filter G1 = Washable metallic filter with 5 2"-thick metal screen layers.
 - Filter G4 = Throwaway 2"-thick glass wool filter.
 - Filter F5 = Pleated filter, filter medium in pleated synthetic blanket, with 2"-thick frame.



Tab. 08a - Filter dimensions (without flat filter)

GENIUS without flat filter			
Model	Filter	A x B x C (mm)	Qty.
050	G0	8 x 798 x 530	1
	G1	15 x 798 x 530	1
	G4	25 x 399 x 527	2
075	F5	25 x 399 x 527	2
	G0	8 x 1028 x 530	1
	G1	15 x 1028 x 530	1
	G4	25 x 399 x 527	1
		25 x 629 x 527	1
100	F5	25 x 399 x 527	1
	G0	8 x 669 x 530	2
		15 x 669 x 530	2
125 / 150	G4	25 x 669 x 527	2
	F5	25 x 669 x 527	2
		8 x 769 x 530	2
		15 x 769 x 530	2
	G4	25 x 496 x 527	2
25 x 546 x 527		1	
25 x 496 x 527		2	
25 x 546 x 527		1	

Tab. 08b - Filter dimensions (with flat filter)

GENIUS with flat filter			
Model	Filter	A x B x C (mm)	Qty.
050	G1	50 x 462 x 508	2
	G4	50 x 462 x 508	2
	F5	50 x 462 x 508	2
075	G1	50 x 385 x 508	2
		50 x 406 x 508	1
	G4	50 x 385 x 508	2
		50 x 406 x 508	1
		50 x 385 x 508	2
100	G1	50 x 406 x 508	1
		50 x 508 x 508	2
	G4	50 x 508 x 508	2
		50 x 462 x 508	1
		50 x 462 x 508	1
125 / 150	G1	50 x 406 x 508	1
		50 x 462 x 508	3
	G4	50 x 406 x 508	1
		50 x 462 x 508	3
		50 x 406 x 508	1
F5	50 x 406 x 508	1	
	50 x 462 x 508	3	



Filtering

Tab. 09 - Comparative Table Thick Filter

Thick Filter		
Nominal Efficiency (Thick Particles)	EN779	Ashrae 52.2
39%	G-1	MERV 1
50%		
59%		
60%		
64%		
65%	G-2	MERV 2
69%		MERV 3
70%		
74%		
75%		MERV 4
79%	G-3	MERV 5
80%		
84%		MERV 6
85%		
89%	G-4	MERV 6
>90%		

Thin Filter		
Nominal Efficiency (Thin Particles)	EN779	Ashrae 52.2
20%	F-5	MERV 7
24%		
25%		MERV 8
29%		
30%		MERV 9
39%		
40%		
45%		
50%		MERV 10
55%		
59%	F-6	MERV 11
60%		
65%		



Transmission Options Performance

Tab. 10 - Transmission option performance SAVE/SIVE/SRVE /SSVE 050.

Flow (m ³ /h)	External Static Pressure with G0 filter (mmca)												
	2	4	6	8	10	12	16	20	24	28	32	36	40
	STANDARD				1 OPTION					2 OPTION			
3.060	815	852	888	923	957	990	1.055	1.117	1.176	1.234	1.289	1.343	1.395
3.188	843	879	914	948	981	1.013	1.076	1.136	1.195	1.251	1.305	1.358	1.409
3.315	869	904	938	971	1.003	1.035	1.096	1.155	1.212	1.267	1.320	1.372	1.422
3.443	897	931	964	996	1.027	1.058	1.117	1.175	1.230	1.284	1.337	1.387	1.437
3.570	925	957	989	1.020	1.051	1.081	1.139	1.195	1.249	1.302	1.353	1.403	1.452
3.698	952	984	1.015	1.045	1.075	1.104	1.160	1.215	1.269	1.320	1.371	1.420	1.467
3.825	981	1.012	1.042	1.071	1.100	1.128	1.183	1.237	1.289	1.340	1.389	1.437	1.482

	Motor Cap. (CV)	PM (mm)	PV (mm)	Belt
Standard	1.0	76 a 101	184 (8")	1 x A36
1 Option	1.0	76 a 101	133 (6")	1 x A32
2 Option	1.5	86.5 a 112	120 (5.5")	1 x A32
Plenum Box	0.5	68	184 (8")	1 x A35

PM = Adjustment range for nominal diameter of evaporator motor sheave (mm)
 PV = Nominal diameter of fan sheave (mm)
 Belt = Belt quantity, type and size.

Tab. 11 - Transmission option performance SAVE/SIVE/SRVE /SSVE 075.

Flow (m ³ /h)	External Static Pressure with G0 filter (mmca)												
	2	4	6	8	10	12	16	20	24	28	32	36	40
	STANDARD				1 OPTION					2 OPTION			
4.590	688	720	751	781	811	840	896	950	1.002	1.052	1.100	1.147	1.193
4.780	712	743	773	802	831	859	913	966	1.017	1.066	1.113	1.159	1.204
4.970	735	765	794	822	850	877	931	982	1.031	1.079	1.126	1.171	1.215
5.163	760	788	816	844	871	897	949	999	1.047	1.094	1.140	1.184	1.227
5.355	784	811	838	865	891	917	968	1.016	1.064	1.110	1.154	1.198	1.240
5.548	808	834	861	886	912	937	986	1.034	1.080	1.125	1.169	1.211	1.253
5.740	834	859	885	910	935	959	1.007	1.053	1.098	1.142	1.185	1.227	1.268

	Motor Cap. (CV)	PM (mm)	PV (mm)	Belt
Standard	1.5	86.5 a 112	216 (9")	1 x A35
1 Option	2.0	108 a 132	209 (9")	1 x A36
2 Option	3.0	111 a 142	169 (7")	1 x B32
Plenum Box	0.5	68	209 (9")	1 x A35

PM = Adjustment range for nominal diameter of evaporator motor sheave (mm)
 PV = Nominal diameter of fan sheave (mm)
 Belt = Belt quantity, type and size.

Tab. 12 - Transmission option performance SAVE/SIVE/SRVE /SSVE 100.

Flow (m ³ /h)	External Static Pressure with G0 filter (mmca)												
	2	4	6	8	10	12	16	20	24	28	32	36	40
	STANDARD				1 OPTION					2 OPTION			
6.120	839	875	911	945	979	1.012	1.075	1.136	1.195	1.252	1.307	1.360	1.412
6.375	866	902	936	969	1.002	1.034	1.096	1.156	1.213	1.269	1.322	1.375	1.425
6.630	895	929	963	995	1.027	1.058	1.118	1.176	1.232	1.287	1.340	1.391	1.441
6.885	924	957	989	1.021	1.051	1.082	1.140	1.197	1.252	1.305	1.357	1.407	1.456
7.140	954	986	1.017	1.048	1.078	1.107	1.164	1.220	1.273	1.325	1.376	1.425	1.473
7.395	984	1.015	1.045	1.075	1.104	1.132	1.188	1.242	1.295	1.346	1.395	1.444	-----
7.650	1.013	1.043	1.072	1.101	1.130	1.157	1.212	1.265	1.316	1.366	1.414	-----	-----

	Motor Cap. (CV)	PM (mm)	PV (mm)	Belt
Standard	1.5	76 a 101	184 (8")	1 x A35
1 Option	2.0	108 a 132	184 (8")	1 x A35
2 Option	3.0	125 a 159	169 (7")	1 x B36
Plenum Box	0.5	73	184 (8")	1 x A35

PM = Adjustment range for nominal diameter of evaporator motor sheave (mm)
 PV = Nominal diameter of fan sheave (mm)
 Belt = Belt quantity, type and size.



Transmission Option Performance

Tab. 13 - Transmission option performance SAVE/SIVE/SRVE /SSVE 125.

Flow (m3/h)	External Static Pressure with G0 filter (mmca)												
	2	4	6	8	10	12	16	20	24	28	32	36	40
	STANDARD							1 OPTION			2 OPTION		
7.650	630	666	701	735	768	800	861	919	975	1.029	1.081	1.131	1.179
7.970	649	684	718	751	783	814	874	931	985	1.038	1.089	1.139	1.187
8.290	670	703	736	768	799	830	888	944	997	1.049	1.099	1.148	1.195
8.608	690	723	754	785	816	845	902	957	1.010	1.060	1.109	1.156	1.203
8.925	711	743	774	804	833	862	918	971	1.023	1.073	1.121	1.167	1.213
9.243	731	762	792	821	850	878	932	985	1.035	1.084	1.131	1.177	-----
9.560	753	783	812	841	868	896	949	1.000	1.050	1.098	1.144	1.189	-----

	Motor Cap. (CV)	PM (mm)	PV (mm)	Belt
Standard	2.0	82.5 a 108	216 (9")	1 x A35
1 Option	3.0	111 a 142	219 (9")	1 x B36
2 Option	4.0	111 a 142	194 (8")	1 x B35
Plenum Box	0.5	73	235 (10")	1 x A35

PM = Adjustment range for nominal diameter of evaporator motor sheave (mm)
 PV = Nominal diameter of fan sheave (mm)
 Belt = Belt quantity, type and size.

Tab. 14 - Transmission option performance SAVE/SIVE/SRVE /SSVE 150.

Flow (m3/h)	External Static Pressure with G0 filter (mmca)												
	2	4	6	8	10	12	16	20	24	28	32	36	40
	STANDARD							1 OPTION			2 OPTION		
9.180	664	696	728	759	789	818	875	930	983	1.033	1.082	1.130	1.176
9.563	686	717	747	777	806	835	890	944	995	1.045	1.093	1.140	1.185
9.945	707	737	766	795	824	852	906	958	1.008	1.057	1.104	1.150	1.194
10.323	728	757	785	813	841	868	921	972	1.021	1.069	1.115	1.160	1.204
10.700	749	777	804	832	858	885	936	986	1.034	1.081	1.126	1.171	1.214
11.088	771	798	825	851	877	903	953	1.002	1.049	1.095	1.139	1.183	1.225
11.475	793	819	845	871	896	921	970	1.017	1.064	1.108	1.152	1.195	1.236

	Motor Cap. (CV)	PM (mm)	PV (mm)	Belt
Standard	3.0	94 a 119.5	245 (10")	1 x B36
1 Option	4.0	125 a 159	245 (10")	1 x B38
2 Option	5.0	125 a 159	219 (9")	1 x B36
Plenum Box	1.0	73	209 (9")	1 x A36

PM = Adjustment range for nominal diameter of evaporator motor sheave (mm)
 PV = Nominal diameter of fan sheave (mm)
 Belt = Belt quantity, type and size.

Pressure Loss Water-Cooled Condenser

Water-Cooled Condenser (SAVE)

The water-cooled condensing unit model SAVE uses a Tube & Tube⁽¹⁾ condenser.

The hydraulic connection is supplied from factory on the right side but it can be changed in field, if necessary.

The water pressure drop curve is showed in the chart below:

Fig. 01 - Tube & tube water-cooled condenser pressure loss (SAVE 20 to 40 Ton)

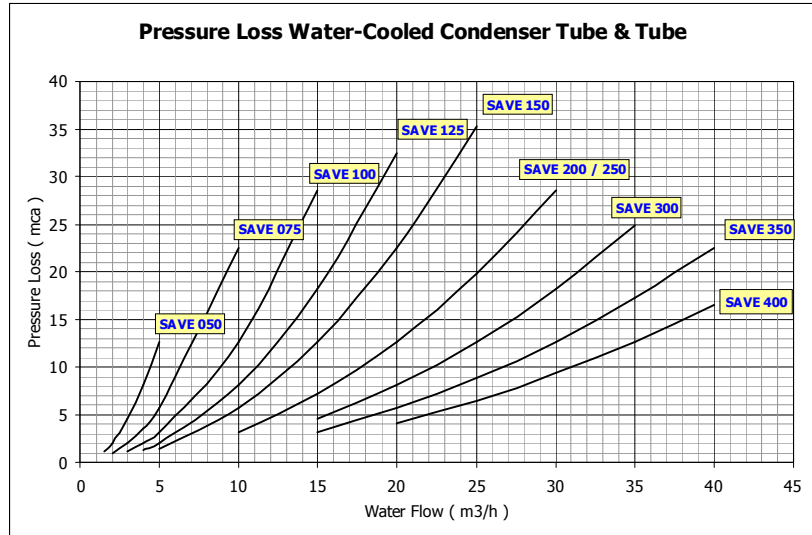
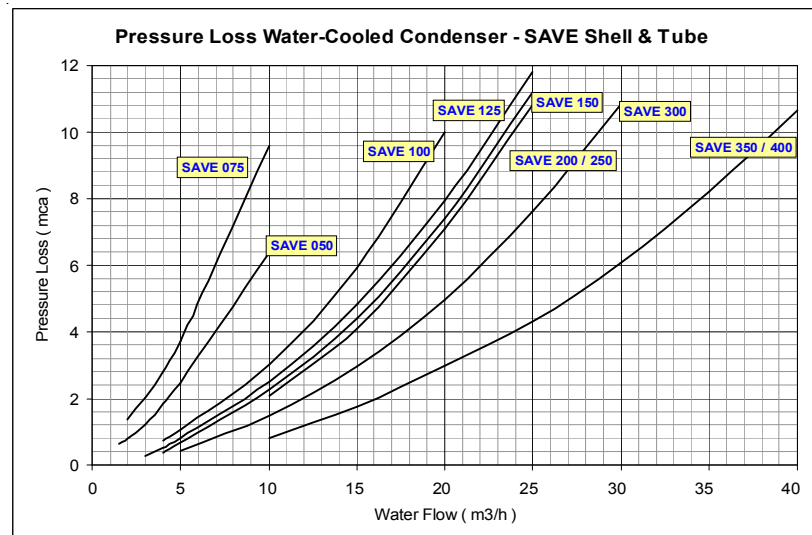


Fig. 02 - Shell & tube water-cooled condenser pressure loss (SAVE 20 to 40 Ton)





Cooling Capacity

SAVE

Tab. 19 - Refrigeration Capacity SAVE 150 (in thousands of kcal/h)

Air Flow (m ³ /h)		Condenser Entering Air Temperature (°C)																																			
		24.0												29.5												35.0											
		16.0						19.5						23.0						16.0						19.5						23.0					
TEAE (DB)	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h	Total Cap.	Sens. Cap.	VAC m ³ /h										
																												Evaporator Entering Air Temperature - WB (°C)									
9180	24,0	41,7	35,0	8,6	46,7	26,7	9,4	52,1	18,3	10,4	40,4	34,4	8,5	45,2	26,1	9,4	50,5	17,7	10,3	39,1	33,7	8,5	43,7	25,5	9,3	48,7	17,1	10,2									
	27,0	42,3	41,1	8,7	46,7	33,4	9,4	52,1	25,1	10,4	41,1	40,3	8,6	45,2	32,8	9,4	50,4	24,5	10,3	39,8	39,4	8,6	43,7	32,2	9,3	48,7	23,8	10,2									
	29,5	44,1	43,7	9,0	46,6	39,0	9,4	52,0	30,6	10,4	43,0	42,6	9,0	45,2	38,4	9,4	50,4	30,0	10,3	41,8	41,4	9,0	43,7	37,7	9,3	48,7	29,4	10,2									
	32,0	46,2	45,8	9,3	47,0	44,2	9,5	52,0	36,2	10,4	45,1	44,6	9,3	45,6	43,5	9,4	50,3	35,6	10,3	43,8	43,4	9,3	44,2	42,7	9,4	48,6	35,0	10,2									
9945	24,0	42,2	36,2	8,7	47,3	27,4	9,5	52,7	18,5	10,5	40,9	35,6	8,6	45,7	26,8	9,4	51,0	17,9	10,4	39,5	34,9	8,6	44,2	26,2	9,4	49,2	17,3	10,3									
	27,0	43,0	42,4	8,8	47,2	34,6	9,5	52,6	25,7	10,5	41,8	41,4	8,8	45,7	34,0	9,4	50,9	25,1	10,4	40,6	40,3	8,8	44,1	33,3	9,4	49,2	24,5	10,3									
	29,5	45,1	44,7	9,2	47,2	40,5	9,5	52,6	31,6	10,5	43,9	43,5	9,1	45,7	39,9	9,4	50,9	31,0	10,4	42,7	42,3	9,1	44,2	39,2	9,4	49,1	30,4	10,3									
	32,0	47,3	46,8	9,5	47,7	45,9	9,6	52,5	37,5	10,5	46,1	45,7	9,5	46,3	45,1	9,6	50,9	36,9	10,4	44,8	44,4	9,5	44,9	44,1	9,5	49,1	36,3	10,3									
10710	24,0	42,7	37,4	8,7	47,7	28,1	9,6	53,2	18,7	10,6	41,4	36,7	8,7	46,2	27,5	9,5	51,4	18,1	10,5	39,9	36,1	8,6	44,6	26,9	9,4	49,6	17,5	10,4									
	27,0	43,8	43,4	8,9	47,7	35,7	9,6	53,1	26,3	10,6	42,6	42,2	8,9	46,1	35,1	9,5	51,4	25,7	10,4	41,4	41,0	8,9	44,5	34,4	9,4	49,6	25,1	10,4									
	29,5	46,0	45,6	9,3	47,7	41,9	9,6	53,1	32,5	10,6	44,8	44,4	9,3	46,2	41,3	9,5	51,4	31,9	10,4	43,6	43,1	9,3	44,7	40,6	9,5	49,6	31,3	10,3									
	32,0	48,2	47,8	9,7	48,4	47,3	9,7	53,1	38,8	10,6	47,0	46,5	9,7	47,1	46,4	9,7	51,3	38,2	10,4	45,7	45,3	9,6	45,7	45,2	9,6	49,5	37,6	10,3									
11475	24,0	43,1	38,5	8,8	48,1	28,8	9,7	53,6	18,9	10,6	41,4	37,8	8,8	46,6	28,1	9,6	51,9	18,3	10,5	40,3	37,1	8,7	44,9	27,5	9,5	50,0	17,7	10,4									
	27,0	44,6	44,1	9,1	48,1	36,8	9,7	53,6	26,9	10,6	43,4	43,0	9,0	46,5	36,1	9,6	51,8	26,3	10,5	42,1	41,7	9,0	44,9	35,5	9,5	50,0	25,6	10,4									
	29,5	46,8	46,4	9,5	48,2	43,3	9,7	53,5	33,5	10,6	45,6	45,2	9,4	46,7	42,6	9,6	51,8	32,9	10,5	44,3	43,9	9,4	45,1	41,9	9,6	50,0	32,2	10,4									
	32,0	49,1	48,6	9,9	49,2	48,5	9,9	53,5	40,0	10,6	47,8	47,4	9,8	47,8	47,4	9,8	51,7	39,4	10,5	46,5	46,0	9,8	46,5	46,0	9,8	49,9	38,8	10,4									

- Note:
- (1) TEAE = Evaporator entering air temperature
 - (2) BS = Dry Bulb
 - (3) BU = Wet Bulb
 - (4) VAC = Condenser Air Flow (m³/h)
 - (5) The values indicated refer to a "Delta T" of water in condenser of 5.5° C. For a different "Delta T", correct the values according to the correction factor table on the right.
 - (6) Capacities are gross capacities and do not include the effect of heat from the evaporator motor. For net capacities, subtract this effect.
 - (7) Heat generated by evaporator motor can be approx. obtained according to the formula BHP x 0,88 = Mkw/h
 - (8) Total gross and sensible capacities in Mkw/h.
 - (9) For operation for R407C, the performance values must be corrected by the following values:
Cap. Total => 0.96
cap. Sens => 0.98
kW => 1.01

Delta T Water (°C)	Correction factors		
	VAC (m ³ /h)	Total cap. (kcal/h)	Sens.cap. (kcal/h)
2.5	1.01	1.01	1.01
4.0	1.01	1.01	1.01
5.5	1.00	1.00	1.00
7.0	0.99	0.99	1.00
8.5	0.99	0.99	1.00
10.0	0.98	0.98	0.99



Cooling Capacity

SSVE/SIVE /SRVE

Tab. 24 - Refrigeration Capacity SIVE with CRCB and SRVE 150 (in thousands of kcal/h)

Air Flow (m ³ /h)	TEAE (DB)	Condenser Entering Air Temperature (°C)																							
		29.5			35.0			40.5			46.0														
		Evaporator Entering Air Temperature - WB (°C)																							
		16.0			19.5			23.0			16.0			19.5			23.0								
		Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.	Total Sens. Cap.						
9180	24.0	38,95	33,57	43,44	25,40	48,26	17,18	37,57	32,90	41,88	24,76	46,52	16,54	36,11	32,21	40,23	24,12	44,70	15,90	34,62	31,46	38,54	23,42	42,82	15,26
	27.0	39,57	39,35	43,41	32,00	48,24	23,76	38,34	38,35	41,82	31,36	46,47	23,12	37,11	37,16	40,21	30,69	44,65	22,47	35,80	35,85	38,52	30,02	42,77	21,83
	29.5	41,41	41,48	43,41	37,47	48,18	29,20	40,21	40,27	41,88	36,81	46,41	28,59	38,95	39,01	40,26	36,09	44,62	27,92	37,62	37,68	38,62	35,34	42,75	27,28
	32.0	43,36	43,43	43,82	42,43	48,16	34,65	42,13	42,20	42,39	41,58	46,41	34,01	40,82	40,89	40,90	40,63	44,59	33,36	39,44	39,50	39,41	39,48	42,72	32,70
9945	24.0	39,41	34,75	43,90	26,09	48,75	17,34	38,00	34,08	42,29	25,45	46,95	16,72	36,52	33,36	40,62	24,78	45,11	16,08	35,00	32,59	39,01	24,12	43,18	15,41
	27.0	40,31	40,37	43,85	33,13	48,70	24,35	39,11	39,17	42,26	32,46	46,93	23,71	37,85	37,91	40,59	31,80	45,06	23,06	36,52	36,57	38,88	31,13	43,16	22,42
	29.5	42,31	42,38	43,90	38,89	48,67	30,15	41,06	41,12	42,34	38,19	46,88	29,51	39,75	39,81	40,72	37,45	45,03	28,87	38,36	38,42	39,08	36,68	43,11	28,20
	32.0	44,31	44,38	44,52	43,89	48,65	35,93	43,03	43,10	43,08	42,92	46,85	35,29	41,67	41,74	41,65	41,71	45,00	34,65	40,23	40,30	40,21	40,27	43,08	33,98
10710	24.0	39,82	35,88	44,31	26,76	49,16	17,52	38,39	35,19	42,67	26,12	47,34	16,87	36,90	34,44	40,98	25,45	45,47	16,23	35,39	33,62	39,21	24,76	43,52	15,59
	27.0	41,08	41,15	44,26	34,18	49,13	24,91	39,82	39,89	42,62	33,54	47,31	24,30	38,52	38,58	40,93	32,88	45,41	23,65	37,16	37,22	39,18	32,18	43,47	22,99
	29.5	43,11	43,17	44,36	40,25	49,08	31,08	41,82	41,89	42,80	39,53	47,26	30,44	40,47	40,53	41,16	38,73	45,39	29,79	39,06	39,12	39,49	37,88	43,44	29,13
	32.0	45,18	45,25	45,21	45,10	49,06	37,19	43,82	43,89	43,82	43,89	47,23	36,55	42,44	42,51	42,41	42,48	45,36	35,91	40,98	41,04	40,95	41,02	43,41	35,24
11475	24.0	40,21	36,96	44,65	27,40	49,54	17,67	38,77	36,24	43,00	26,76	47,67	17,03	37,26	35,44	41,29	26,09	45,77	16,39	35,72	34,57	39,49	25,40	43,80	15,74
	27.0	41,75	41,81	44,62	35,24	49,49	25,48	40,47	40,53	42,95	34,60	47,65	24,84	39,13	39,19	41,24	33,90	45,72	24,19	37,72	37,78	39,47	33,21	43,75	23,53
	29.5	43,85	43,92	44,80	41,50	49,47	31,95	42,52	42,58	43,21	40,76	47,59	31,33	41,13	41,20	41,57	39,91	45,70	30,67	39,67	39,73	39,90	38,99	43,72	30,00
	32.0	45,95	46,03	45,93	46,00	49,41	38,42	44,57	44,64	44,54	44,61	47,57	37,78	43,13	43,20	43,11	43,17	45,67	37,11	41,62	41,69	41,62	41,69	43,72	36,42

Note:

- (1) TEAE = Evaporator entering air temperature
- (2) BS = Dry Bulb
- (3) BU = Wet Bulb
- (4) VAC = Condenser Air Flow (m³/h)
- (5) The values indicated refer to a "Delta T" of water in condenser of 5.5° C. For a different "Delta T", correct the values according to the correction factor table on the right.
- (6) Capacities are gross capacities and do not include the effect of heat from the evaporator motor. For net capacities, subtract this effect.
- (7) Heat generated by evaporator motor can be approx. obtained according to the formula BHP x 0,88 = MKcal/h
- (8) Total gross and sensible capacities in Mkcal/h.
- (9) For operation for R407C, the performance values must be corrected by the following values:
 Cap. Total => 0.96
 cap. Sens => 0.98
 kW => 1.01



Electrical Data

50 Hz

Tab. 25 - Electrical data SAVE, models from 050 to 150 (5 to 15 Ton) - 380V / 50 Hz

Model	Voltage		Compressor					Evaporator Motor					TOTAL CONS.		TOTAL CURRENT			
	Volts	Ton	kW (nom.)	kW (máx.)	CNO	CMO	CRT	CV	kW (nom.)	kW (máx.)	CNO	CMO	CRT	kW (nom.)	kW (máx.)	RLA	FLA	START
050	380V	5,00	3,44	4,48	7,32	7,97	64,00	0,50	0,42	0,53	1,01	1,18	4,97	3,86	5,01	8,33	9,15	65,18
								1,00	0,83	1,04	1,92	1,94	9,72	4,27	5,52	9,24	9,91	65,94
								1,50	1,14	1,43	2,31	2,74	15,35	4,58	5,91	9,63	10,71	66,74
075	380V	7,50	4,67	5,96	8,00	9,74	100,00	0,50	0,42	0,53	1,01	1,18	4,97	5,09	6,49	9,01	10,92	101,18
								1,50	1,14	1,43	2,31	2,74	15,35	5,81	7,39	10,31	12,48	102,74
								2,00	1,52	1,90	2,95	3,51	19,29	6,19	7,86	10,95	13,25	103,51
								3,00	2,16	2,70	4,14	5,00	27,92	6,83	8,66	12,14	14,74	105,00
100	380V	5,00	3,44	4,48	7,32	7,97	64,00	0,50	0,42	0,53	1,01	1,18	4,97	7,30	9,49	15,65	17,12	73,15
								1,50	1,14	1,43	2,31	2,74	15,35	8,02	10,39	16,95	18,68	74,71
								2,00	1,52	1,90	2,95	3,51	19,29	8,40	10,86	17,59	19,45	75,48
125	380V	5,00	3,44	4,48	7,32	7,97	64,00	0,50	0,42	0,53	1,01	1,18	4,97	8,53	10,97	16,33	18,89	74,92
								2,00	1,52	1,90	2,95	3,51	19,29	9,63	12,34	18,27	21,22	77,25
								3,00	2,16	2,70	4,14	5,00	27,92	10,27	13,14	19,46	22,71	78,74
150	380V	7,50	4,67	5,96	8,00	9,74	100,00	1,00	0,83	1,04	1,92	1,94	9,72	10,17	12,96	17,92	21,42	111,68
								3,00	2,16	2,70	4,14	5,00	27,92	11,50	14,62	20,14	24,48	114,74
								4,00	2,91	3,64	5,34	6,81	40,85	12,25	15,56	21,34	26,29	116,55
		7,50	4,67	5,96	8,00	9,74	100,00	5,50	3,90	4,87	7,58	8,89	59,53	13,24	16,79	23,58	28,37	118,63

Tab. 26 - Electrical data SIVE/SRVE and SSVE***, models from 050 to 150 (5 to 15 Ton) - 380V / 50 Hz

Model	Voltage		Compressor					Condenser Motor					Evaporator Motor					CONS. TOTAL		TOTAL CURRENT				
	Volts	Ton	kW (Nom.)	kW (Max.)	CNO	CMO	CRT	CV	kW (Nom.)	kW (Max.)	CNO	CMO	CRT	CV	kW (Nom.)	kW (Max.)	CNO	CMO	CRT	kW (Nom.)	kW (Max.)	CNO	CMO	START
050	380V	5,00	3,91	5,51	8,00	9,40	64,00	1,00	0,83	1,04	1,92	1,94	9,72	0,50	0,42	0,53	1,01	1,18	4,97	5,16	7,08	10,93	12,52	74,90
														1,00	0,83	1,04	1,92	1,94	9,72	5,57	7,59	11,84	13,28	75,66
														1,50	1,14	1,43	2,31	2,74	15,35	5,88	7,98	12,23	14,08	76,46
075	380V	7,50	5,25	7,55	8,78	11,79	100,00	3,00	2,16	2,70	4,14	5,00	27,92	0,50	0,42	0,53	1,01	1,18	4,97	7,83	10,78	13,93	17,97	129,10
														1,50	1,14	1,43	2,31	2,74	15,35	8,55	11,68	15,23	19,53	130,66
														2,00	1,52	1,90	2,95	3,51	19,29	8,93	12,15	15,87	20,30	131,43
														3,00	2,16	2,70	4,14	5,00	27,92	9,57	12,95	17,06	21,79	132,92
100	380V	5,00	3,91	5,51	8,00	9,40	64,00	4,00	2,93	3,66	5,35	6,68	48,09	0,50	0,42	0,53	1,01	1,18	4,97	11,17	15,21	22,36	26,66	113,27
														1,50	1,14	1,43	2,31	2,74	15,35	11,89	16,11	23,66	28,22	114,83
														2,00	1,52	1,90	2,95	3,51	19,29	12,27	16,58	24,30	28,99	115,60
125	380V	7,50	5,25	7,55	8,78	11,79	100,00	4,00	2,93	3,66	5,35	6,68	48,09	0,50	0,42	0,53	1,01	1,18	4,97	12,51	17,25	23,13	29,05	149,27
														2,00	1,52	1,90	2,95	3,51	19,29	13,61	18,62	25,07	31,38	151,60
														3,00	2,16	2,70	4,14	5,00	27,92	14,25	19,42	26,26	32,87	153,09
150	380V	7,50	5,25	7,55	8,78	11,79	100,00	5,50	3,80	4,75	7,58	9,47	74,85	1,00	0,83	1,04	1,92	1,94	9,72	15,13	20,89	27,05	34,99	176,79
														3,00	2,16	2,70	4,14	5,00	27,92	16,46	22,55	29,27	38,05	179,85
														4,00	2,91	3,64	5,34	6,81	40,85	17,21	23,49	30,47	39,86	181,66
		7,50	5,25	7,55	8,78	11,79	100,00							5,50	3,90	4,87	7,58	8,89	59,53	18,20	24,72	32,71	41,94	183,74

*** For models SSVE, only consider the values above, related to the Evaporator Motor; for values related to the condensing unit check General Data Table.

- Note:
- (1) RLA = Rated Load Amps (A)
 - (2) FLA = Full Load Amps (A)
 - (3) LRA = Locked Rotor Amps (A)
 - (4) HP = Nominal Motor Power (HP)
 - (5) RLA, FLA and LRA values in 220V, current in 380V should be divided by 0,578.
 - (6) RLA, FLA and LRA values in 440V, current in 380V should be divided by 1,16.
 - (7) Data according to conditions in standard ARI 210.
 - (8) Voltage variation: +/- 10%
 - (9) To determinate the size of electrical wiring, the Rated Load Amps in the table above should be used.

Electrical Data

60 Hz

Tab. 27 - Electrical data SAVE, models from 050 to 150 (5 to 15 Ton) - 220V / 60 Hz

Model	Voltage		Compressor					Evaporator Motor					Total Cons.		Total Current			
	Volts	Ton	kw (nom.)	kw (máx.)	RLA	FLA	LRA	HP	kw (nom.)	kw (máx.)	RLA	FLA	LRA	kw (nom.)	kw (máx.)	RLA	FLA	LRA
050	220V	5	4,17	5,27	14,1	16,6	128,0	0,5	0,45	0,56	1,7	2,1	11,5	4,62	5,83	15,8	18,7	139,5
								1	0,85	1,06	3,1	3,8	21,1	5,02	6,33	17,2	20,5	149,1
								1,5	1,09	1,36	4,1	5,2	30,9	5,26	6,63	18,3	21,8	158,9
075	220V	7,5	5,54	6,98	17,3	20,7	171,0	0,5	0,45	0,56	1,7	2,1	11,5	5,99	7,54	19,0	22,7	182,5
								1,5	1,09	1,36	4,1	5,2	30,9	6,63	8,34	21,4	25,8	201,9
								2	1,69	2,11	5,5	6,9	48,4	7,23	9,09	22,8	27,6	219,4
								3	2,26	2,82	7,3	9,2	60,5	7,80	9,80	24,6	29,8	231,5
100	220V	5	4,17	5,27	14,1	16,6	128,0	0,5	0,45	0,56	1,7	2,1	11,5	8,79	11,10	29,9	35,4	146,7
								1,5	1,09	1,36	4,1	5,2	30,9	9,43	11,90	32,4	38,5	158,9
		5	4,17	5,27	14,1	16,6	128,0	2	1,69	2,11	5,5	6,9	48,4	10,03	12,65	33,8	40,2	176,4
								3	2,26	2,82	7,3	9,2	60,5	10,60	13,36	35,6	42,4	188,5
125	220V	7,5	5,54	6,98	17,3	20,7	171,0	0,5	0,45	0,56	1,7	2,1	11,5	10,16	12,81	33,1	39,4	182,5
								2	1,69	2,11	5,5	6,9	48,4	11,40	14,36	37,0	44,2	219,4
		5	4,17	5,27	14,1	16,6	128,0	3	2,26	2,82	7,3	9,2	60,5	11,97	15,07	38,7	46,4	231,5
								4	2,94	3,67	9,5	11,9	86,9	12,65	15,92	40,9	49,2	257,9
150	220V	7,5	5,54	6,98	17,3	20,7	171,0	1	0,85	1,06	3,1	3,8	21,1	11,93	15,02	37,7	45,1	195,5
								3	2,26	2,82	7,3	9,2	60,5	13,34	16,78	41,9	50,5	231,5
		7,5	5,54	6,98	17,3	20,7	171,0	4	2,94	3,67	9,5	11,9	86,9	14,02	17,63	44,1	53,2	257,9
								5	3,58	4,48	11,6	14,5	110,6	14,66	18,44	46,2	55,8	281,6

Tab. 28 - Electrical data SIVE/SRVE and SSVE***, models from 050 to 150 (5 to 15 Ton) - 220V / 60 Hz

Model	Voltage		Compressor					Condenser Motor					Evaporator Motor					Total Cons.		Total Current				
	Volts	Ton	kw (nom.)	kw (máx.)	RLA	FLA	LRA	HP	kw (nom.)	kw (máx.)	RLA	FLA	LRA	HP	kw (nom.)	kw (máx.)	RLA	FLA	LRA	kw (nom.)	kw (máx.)	RLA	FLA	Part.
050	220V	5	4,77	6,72	15,4	19,9	128,0	1	0,85	1,06	3,1	3,8	21,1	0,5	0,45	0,56	1,7	2,1	11,5	6,07	8,34	20,1	25,8	160,6
														1	0,85	1,06	3,1	3,8	21,1	6,47	8,84	21,5	27,6	170,1
														1,5	1,09	1,36	4,1	5,2	30,9	6,71	9,14	22,6	28,9	180,0
075	220V	7,5	6,27	8,97	19,0	25,5	171,0	3	2,26	2,82	7,3	9,2	60,5	0,5	0,45	0,56	1,7	2,1	11,5	8,98	12,35	28,0	36,8	243,0
														1,5	1,09	1,36	4,1	5,2	30,9	9,62	13,15	30,4	39,9	262,4
														2	1,69	2,11	5,5	6,9	48,4	10,22	13,90	31,8	41,6	279,9
														3	2,26	2,82	7,3	9,2	60,5	10,79	14,61	33,6	43,8	292,0
100	220V	5	4,77	6,72	15,4	19,9	128,0	4	2,94	3,67	9,5	11,9	86,9	0,5	0,45	0,56	1,7	2,1	11,5	12,93	17,67	41,9	53,9	226,4
														1,5	1,09	1,36	4,1	5,2	30,9	13,57	18,47	44,4	57,0	245,8
		5	4,77	6,72	15,4	19,9	128,0	2	1,69	2,11	5,5	6,9	48,4	14,17	19,22	45,8	58,7	263,2						
								3	2,26	2,82	7,3	9,2	60,5	14,74	19,93	47,6	60,9	275,4						
125	220V	7,5	6,27	8,97	19,0	25,5	171,0	4	2,94	3,67	9,5	11,9	86,9	0,5	0,45	0,56	1,7	2,1	11,5	14,43	19,92	45,5	59,5	269,4
														2	1,69	2,11	5,5	6,9	48,4	15,67	21,47	49,4	64,3	306,2
		5	4,77	6,72	15,4	19,9	128,0	3	2,26	2,82	7,3	9,2	60,5	16,24	22,18	51,2	66,5	318,4						
								4	2,94	3,67	9,5	11,9	86,9	16,92	23,03	53,4	69,3	344,7						
150	220V	7,5	6,27	8,97	19,0	25,5	171,0	5	3,58	4,48	11,6	14,5	110,6	1	0,85	1,06	3,1	3,8	21,1	16,97	23,48	52,6	69,4	302,6
														3	2,26	2,82	7,3	9,2	60,5	18,38	25,24	56,9	74,7	342,1
		7,5	6,27	8,97	19,0	25,5	171,0	4	2,94	3,67	9,5	11,9	86,9	19,06	26,09	59,1	77,5	368,4						
								5	3,58	4,48	11,6	14,5	110,6	19,70	26,90	61,2	80,1	392,1						

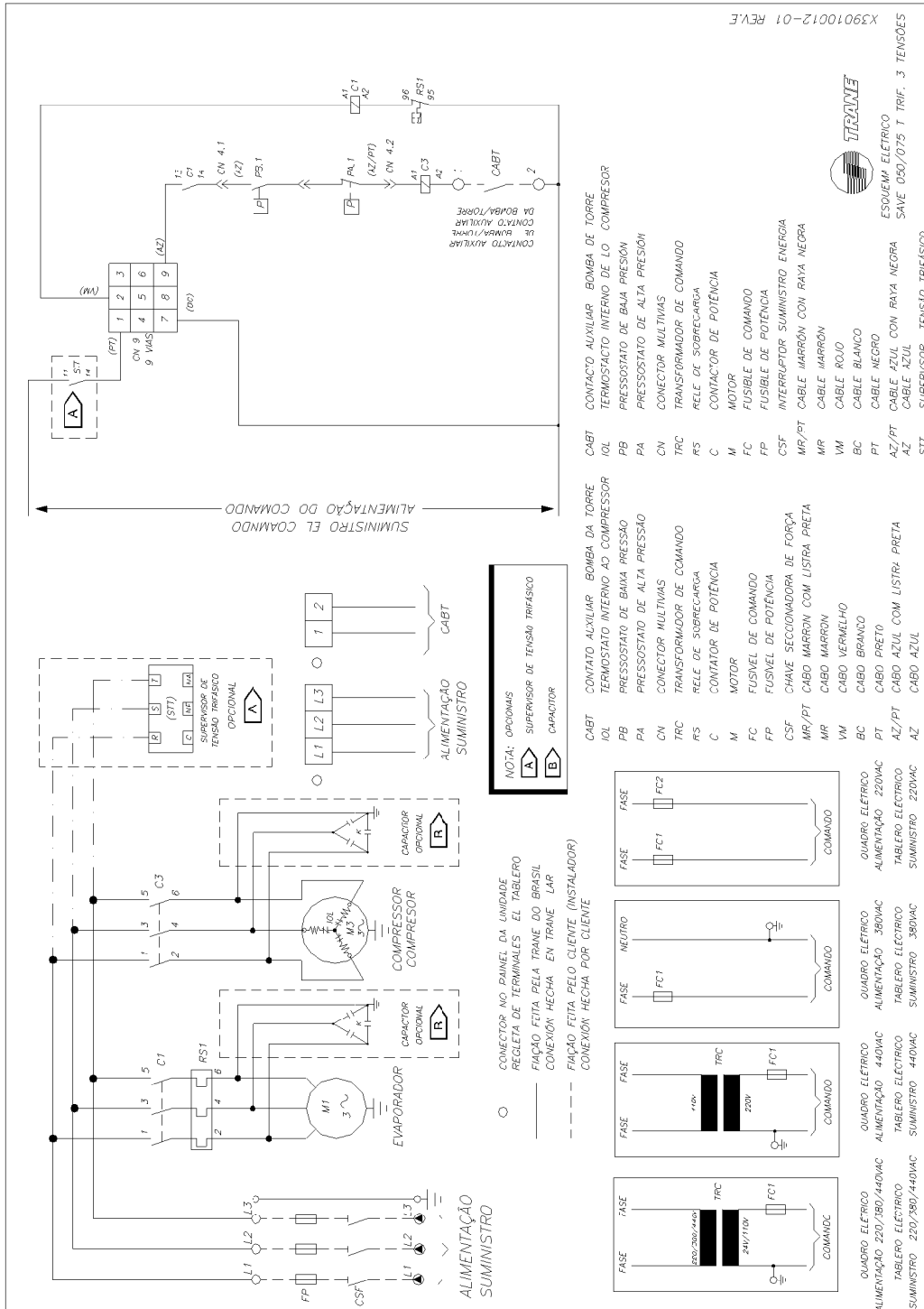
*** For models SSVE, only consider the values above, related to the Evaporator Motor; for values related to the condensing unit check General Data Table.

- Note:
- (1) RLA = Rated Load Amps (A)
 - (2) FLA = Full Load Amps (A)
 - (3) LRA = Locked Rotor Amps (A).
 - (4) HP = Nominal Motor Power (HP)
 - (5) RLA, FLA and LRA values in 380V, current in 220V should be divided by 1,73.
 - (6) RLA, FLA and LRA values in 440V, current in 220V should be divided by 2.
 - (7) Data according to conditions in standard ARI 210.
 - (8) Voltage variation: +/- 10%
 - (9) To determinate the size of electrical wiring, the Rated Load Amps in the table above should be used.

Wiring Diagram

SAVE

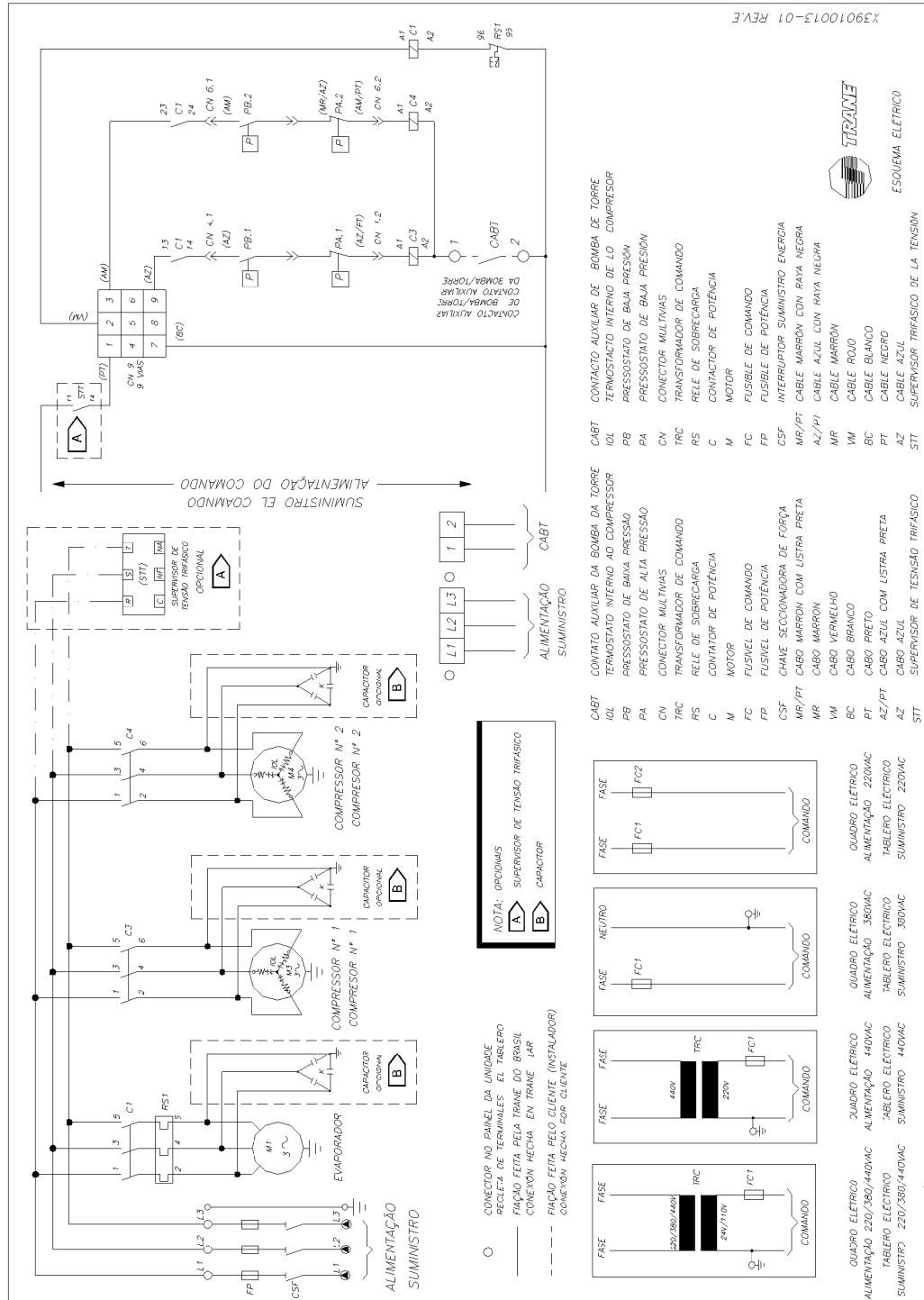
Fig. 03 - Power and command wiring diagram SAVE 050/075



Wiring Diagram

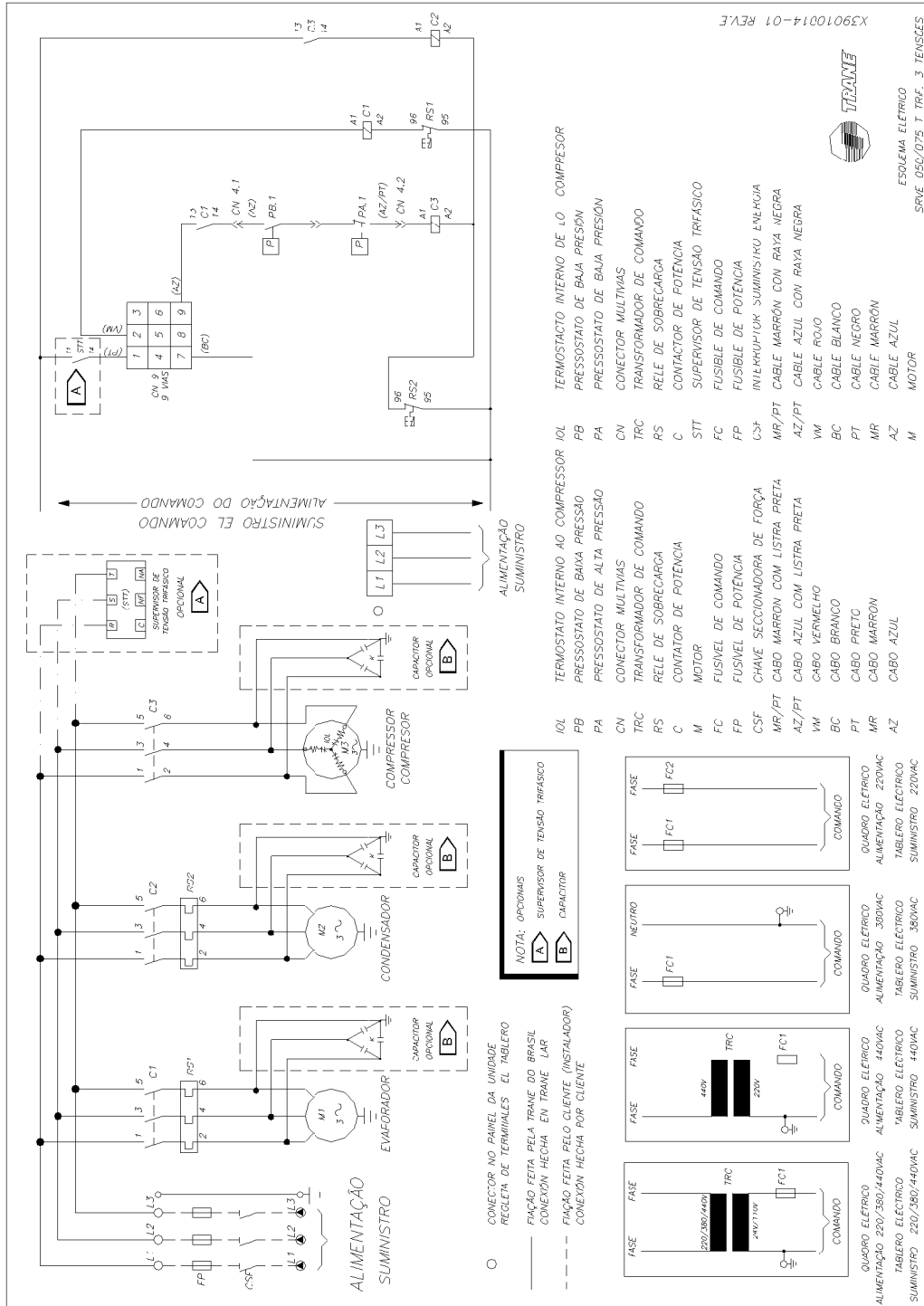
SAVE

Fig. 04 - Power and command wiring diagram SAVE 100/125/150



Wiring Diagram

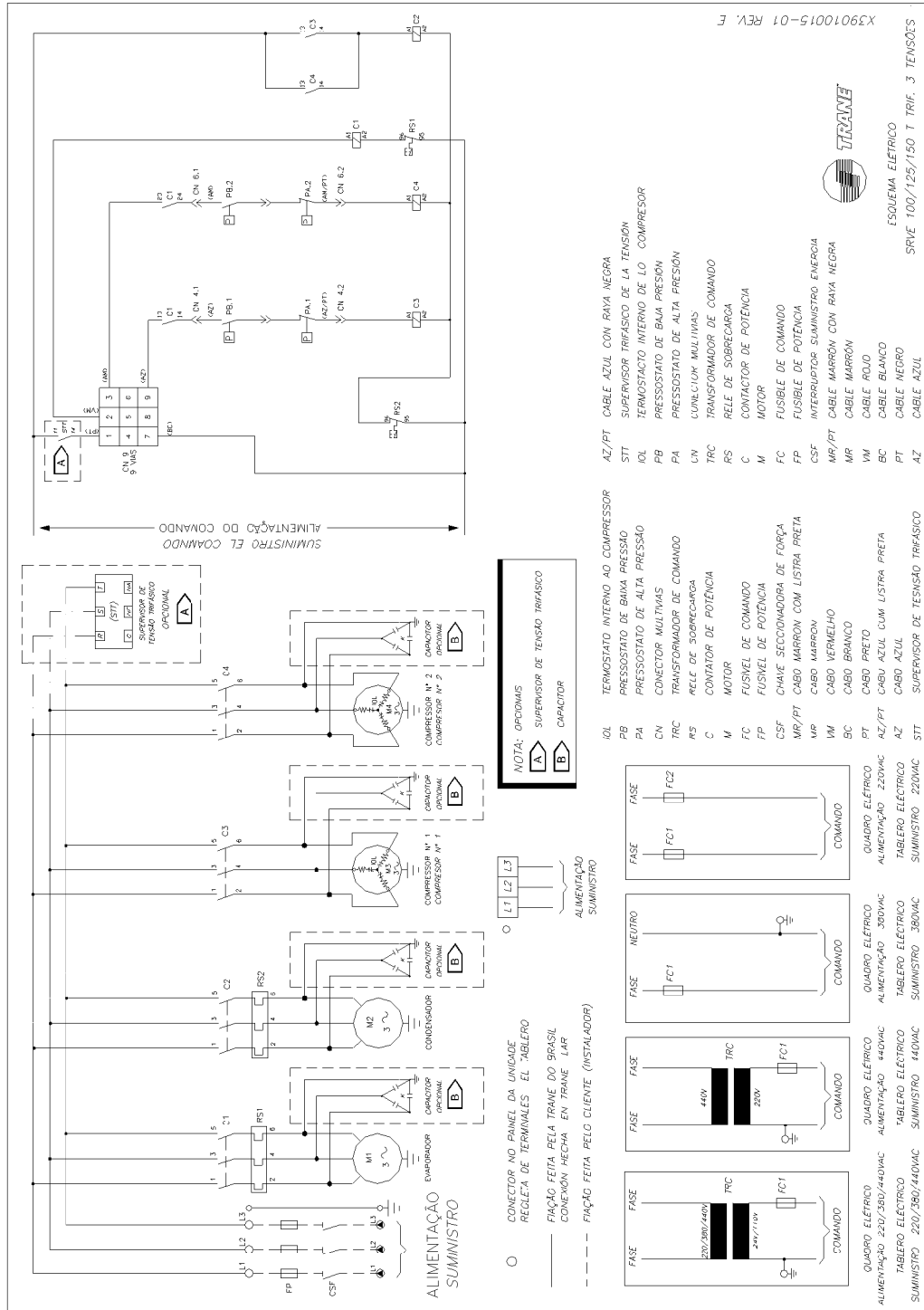
Fig. 05 - Power and command wiring diagram SRVE 050/075



Wiring Diagram

SRVE

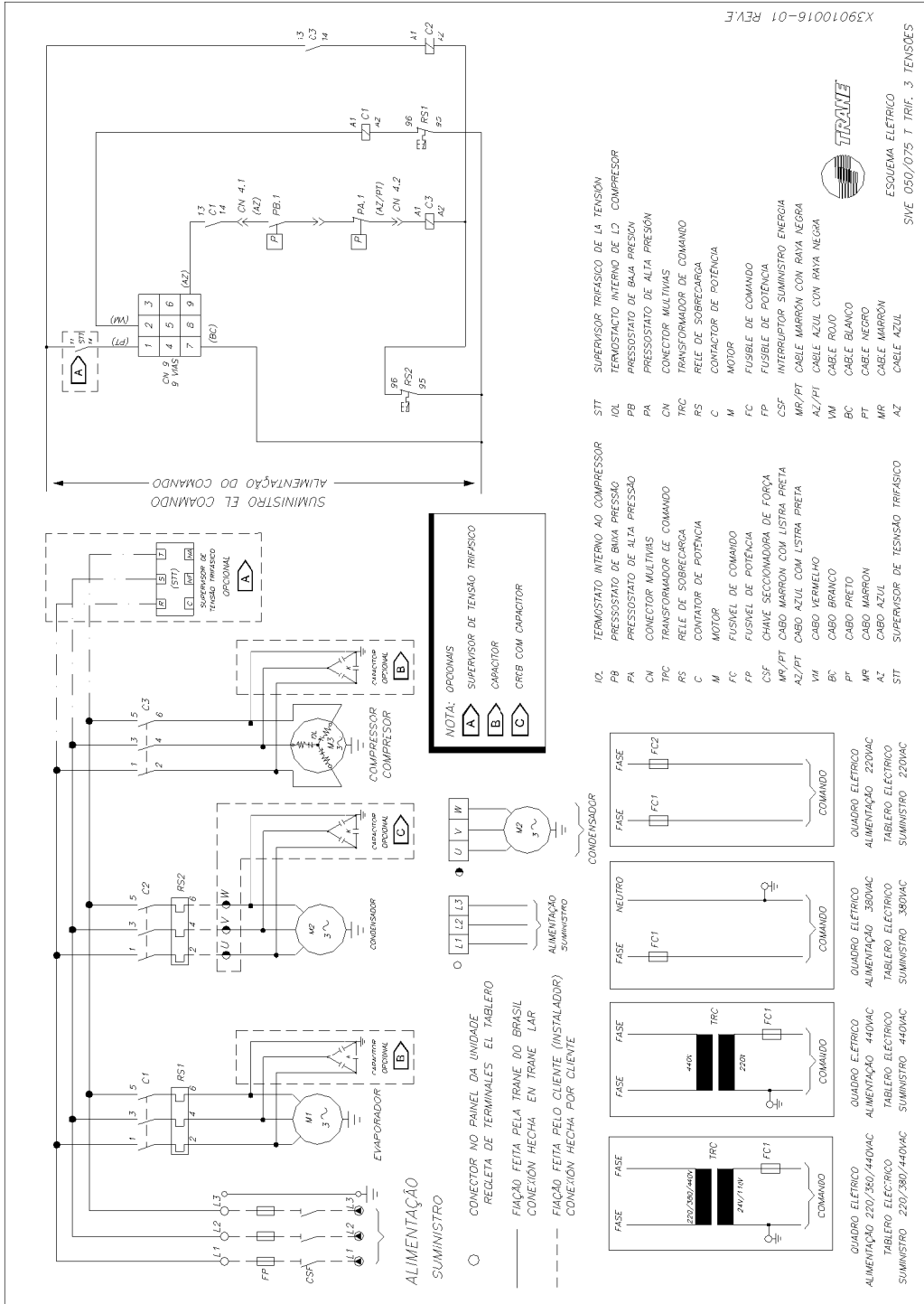
Fig. 06 - Power and command wiring diagram SRVE 100/125/150



Wiring Diagram

SME

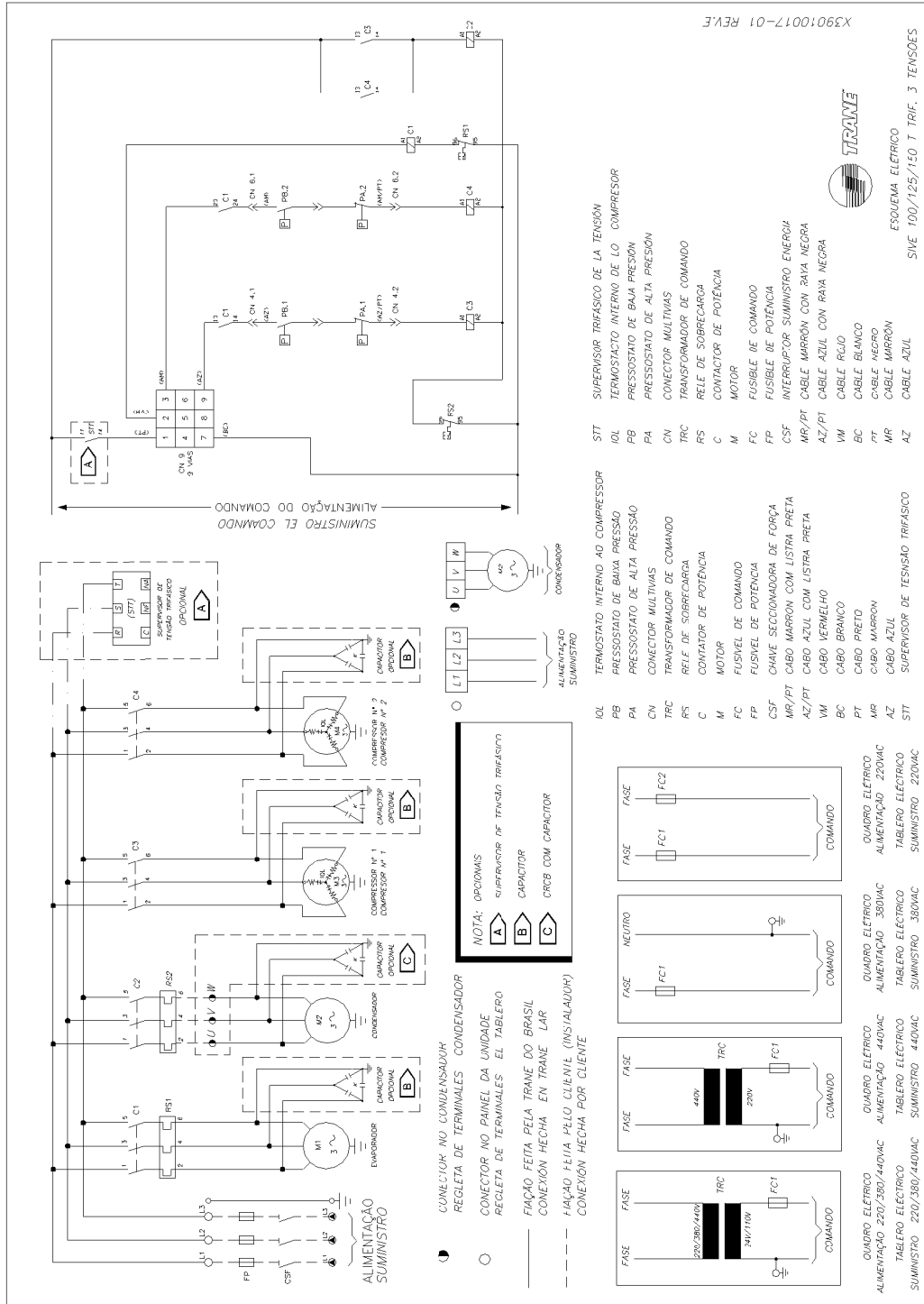
Fig. 07 - Power and command wiring diagram SIVE 050/075



Wiring Diagram

SVE

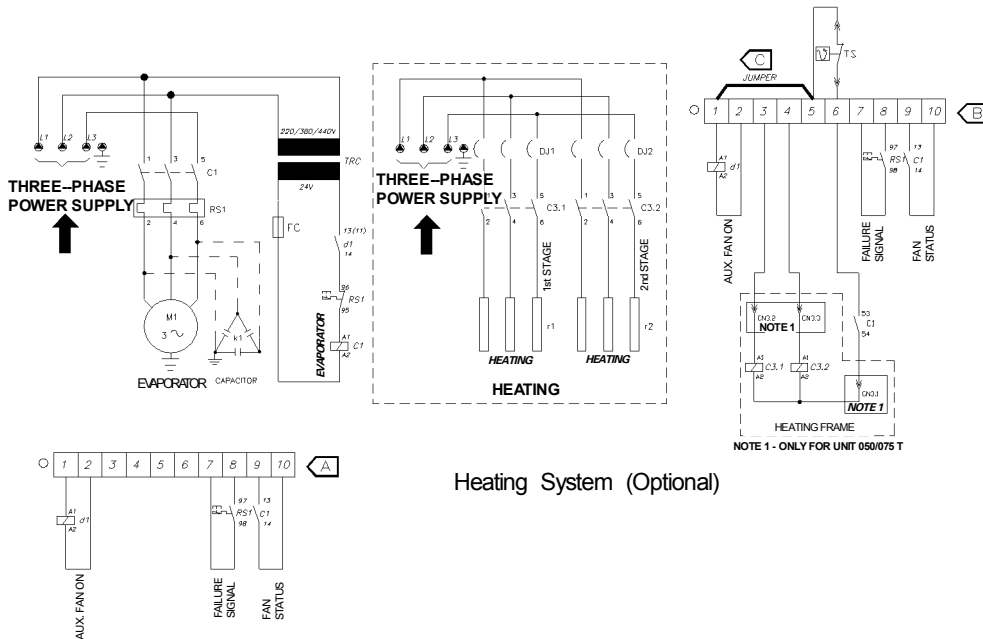
Fig. 08 - Power and command wiring diagram SVE 100/125/150



Wiring Diagram

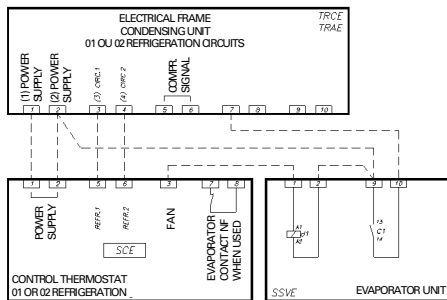
SSVE

Fig. 09 - Power and command wiring diagram SSVE 050 to 150

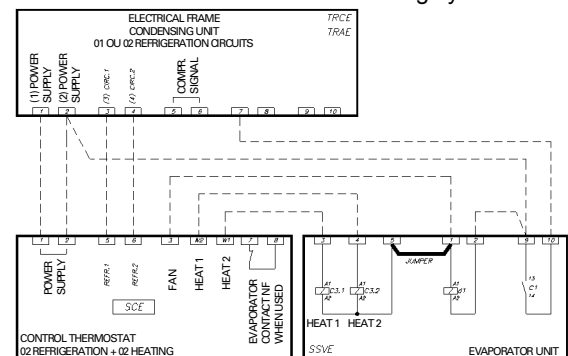


Heating System (Optional)

Interconnection E.U. with C.U. for cooling-only system.



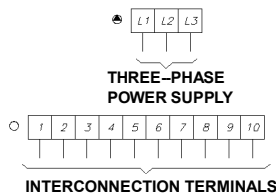
Interconnection E.U. with C.U. for heating system.



Legend

- MR/AZ Brown cable with blue strip
- MR/CZ Brown cable with gray strip
- MR/PT Brown cable with black strip
- MR Brown cable
- AM/PT Yellow cable with black strip
- AM Yellow cable
- CZ Gray cable
- VM Red cable
- BC White cable
- P T Black cable
- AZ/PT Blue cable with black strip
- AZ Blue cable
- K Correction capacitor
- IOL Internal compressor thermostat
- PB Low pressure switch
- PA High pressure switch
- CN Multi-path connector
- TRC Command transformer
- RS Overload relay
- C Power contactor
- M Motor
- FC Command fuse
- RT1 Time relay 1 Circuit
- RT2 Time relay 2 Circuits

- Unit Panel Power Supply Connector
- Unit Panel Command Connector
- Wiring by Trane
- Wiring by Client (Contractor)
- Wiring when capacitor is used



- Use in machines with 1 circuit.
- Use in machines with 2 circuits.
- Interconnect these points with the mini-split evaporator electrical panel.

Controls

Self Contained GENIUS features 3 control options:

Standard Thermostat

All units are supplied with a control thermostat. This thermostat can be installed remotely or at the equipment, according to customer needs.



Programmable Thermostat (TP)

TP is indicated for small facilities, with few devices. TP programming is very simple! TP has a liquid crystal display that allows the visualization of time, day of the week, program selected and room temperature. Up to 4 different setpoints can be programmed for each day of the week. Through the "timed-override" key, the user can extend the equipment operation beyond the programmed schedules. The main advantage of TP is the power economy, as the devices turn on and off at the programmed times.



ReliaTel®

ReliaTel is the name given to second-generation microprocessed controls developed by Trane/American Standard. The control ReliaTel® is used in cooling units of the type self contained Genius with capacity from 5 to 15 TR. The microprocessed controller was approved by our customers in thousands of applications worldwide. An unit using

microprocessors offers superior comfort, incomparable trust and a much greater flexibility than conventional systems. ReliaTel® has greater flexibility, is more compact, has additional improvements for system reliability, among other advantages. A lot of what ReliaTel® does will be familiar to service technicians accustomed to the previous controllers. Tests and troubleshooting are similar and, in many cases, equal to the previous controllers. However, there are some significant differences, and it is important that the service professional uses the correct material for the unit in which the service is being executed.

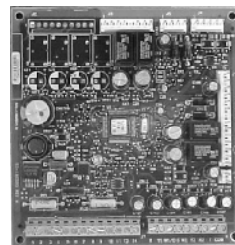
ReliaTel® Refrigeration Module (RTRM)

Each Module ReliaTel® is a communication control. All ReliaTel units use a RTRM. It can be controlled directly by any of the following items:

- Zone Sensor Module
- Programmable Zone Sensor
- Conventional thermostat

Note:

Unlike the previous controller, a conventional thermostat does not require any type of interface. It can be connected directly to RTRM.



RTRM provides the primary unit control; these are its main features and benefits:

High Reliability: Reduction of electromechanical components in the Electric Frame.

Direct Digital Control: The Proportional-Integral control allows a much more accurate temperature control of the conditioned room (greater comfort and reduction of power consumption).

Test Mode: The controller allows to the operator to perform easy and fast tests in order to verify component operation (fans and compressors).

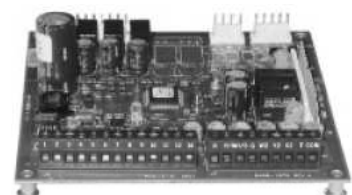
Easy Diagnoses Detection: The operator will be able to easily detect operational problems in the unit.

Elimination of Compressor Cycling: The controller allows a minimum period of 3 minutes with compressor turned-on and 3 minutes with compressor turned off, thus assuring the appropriate return of the oil to the compressor and preventing the compressor from burning out due to excessive cycling.

Compressor Operation Sequencing: The controller will sequence compressors according to the number of starts and operation hours of the compressors, in order to equalize their use.

Communication Interface Module COMM3/4 (RTCI)

Module RTCI allows the ICS (Integrated Comfort System) communication between a ReliaTel® unit and Trane ICS systems TRACER SUMMIT and TRACKER.





Controls

Tracker

It is a microprocessed controller that automatically controls several devices divided in comfort zones and manages the illumination of your building, also allowing the sending of air conditioning system alarms to a central office at any hour of the day or night. The communication with the devices is made through a comm5 network (open protocol LON TALK). Several functions are possible:

Time Programming: In Tracker you can define the programming for the whole year, with up to 10 schedules. One or more devices may be included in a schedule, and temporary overrides are possible.

Interface with Operator: Using a touch-screen, with a visual interface that is very easy to operate. The operator will pass through the screens in an intuitive way, oriented by menus.

Software (optional): Allows local or remote access (dial-up or LAN) to Tracker. The operator can access all functions available in the display and also exclusive functions for digital output programming (MP503), alarm customization and printing. It is not necessary for basic system configuration.



Tracker software (optional)

Optimized Start: TRACKER analyzes the most economical way to turn on the devices, so that in the programmed time you have the temperature desired.

Demand Limit: Automatically controls the limits programmed for power consumption in the installation. An important economy along the years turns the cost of TRACKER irrelevant.

Control of Third-Party Devices: With controller ZN517 you can incorporate third-party devices to the TRACKER network, allowing their inclusion in time scheduling, alarm monitoring, etc.

Input/Output Control: With the I/O module MP503, you can configure by software additional functions of illumination control, visual and audible alarms, condensing pumps, towers, etc.

Auto-configuration Function: TRACKER, as soon as it is powered, recognizes all devices connected to the network and configure them in a standard schedule, which can be customized later.

Simple installation: Genius and TRACKER are supplied from factory programmed and tested and the interconnection between them is made through a simple twisted-pair cable. For more details, refer to TRACKER-specific literature.

Alarm Log: Any occurrence is identified in the TRACKER panel and stored, and can be transmitted remotely via telephone or LAN.

Varitrac

This is a Trane system for variable air flow, usually used in small facilities. The circulating air flow in the equipment is constant and supplied air flow in each room is variable, through the use variable air flow boxes. In order that the circulating air flow in the equipment is constant, there is(are) bypass duct(s) that returns to the equipment the air flow that was not supplied to the conditioned rooms. Varitrac Boxes have a microprocessed controller. This controller regulates the exact amount of air to be supplied to the room in order to maintain constant supply temperatures. Varitrac boxes are also required in the bypass duct(s) of the system. For the Varitrac system control, a controller called Central Control Panel (CCP) should be used. Speed and temperature sensors should be installed in the bypass duct. The controller programming is made by Trane.

For more information about Trane automation system, contact the BASD team at Trane do Brazil:
E-mail: mkt.brasil@irco.com

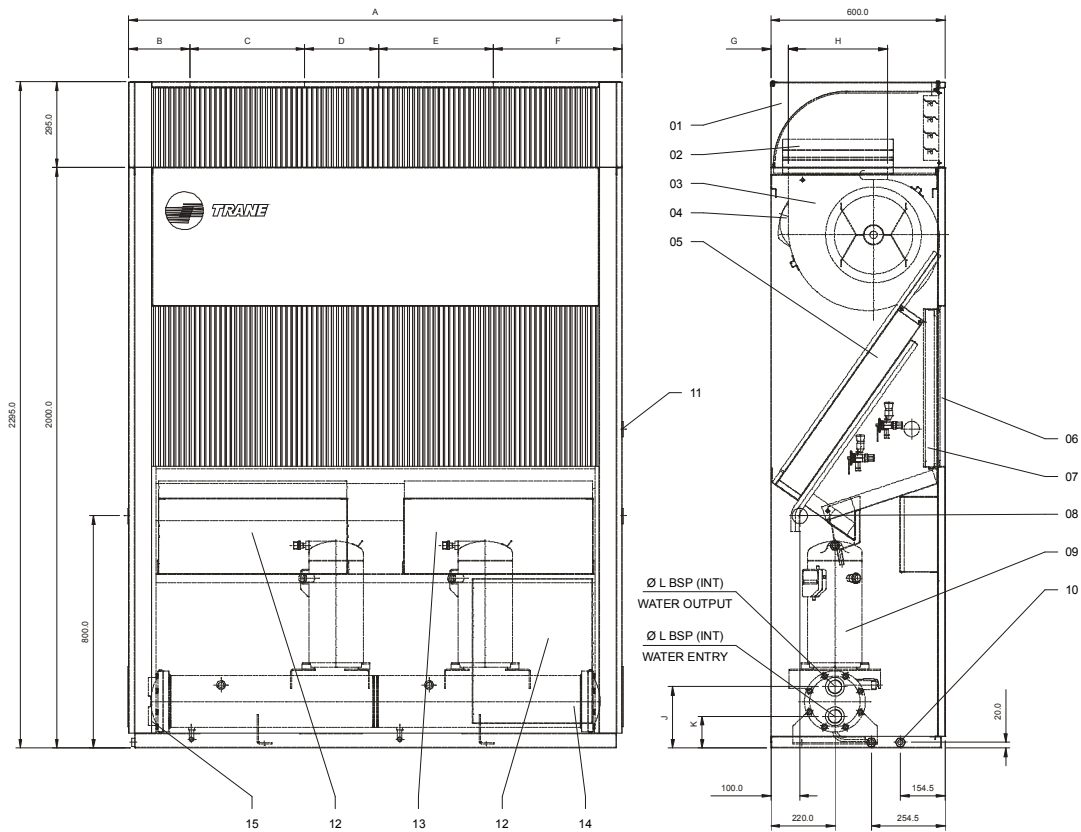


TRACKER

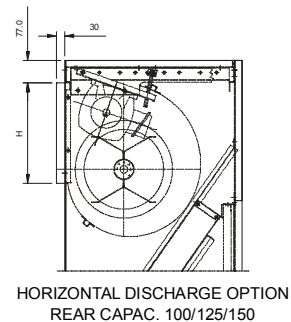
Dimensions

SAVE
Shell & Tube

Fig. 10 - Dimensions SAVE 050 to 150 (Condensor Shell & tube)



- 1 Plenum box with inflate grid (optional), except discharge hor. rear
- 2 Heating resistance box (Optional), except discharge hor. rear
- 3 Double-suction centrifugal fan
- 4 Three-phase electrical motor
- 5 Evaporator coil
- 6 Return grid (Optional)
- 7 Filters
- 8 Cable passage $\varnothing 46.5$ for power inlet (right/left)
- 9 Compressor Scroll
- 10 Drain $\varnothing 1/2$ " BSP (left)
- 11 Cable passage $\varnothing 46.5$ for remote thermostat
- 12 Electrical panel for electronic control (optional)
- 13 Normal electrical panel
- 14 Shell and tube condenser
- 15 water inlet and outlet left or right



Tab. 29 - Dimensions SAVE 050 to 150.

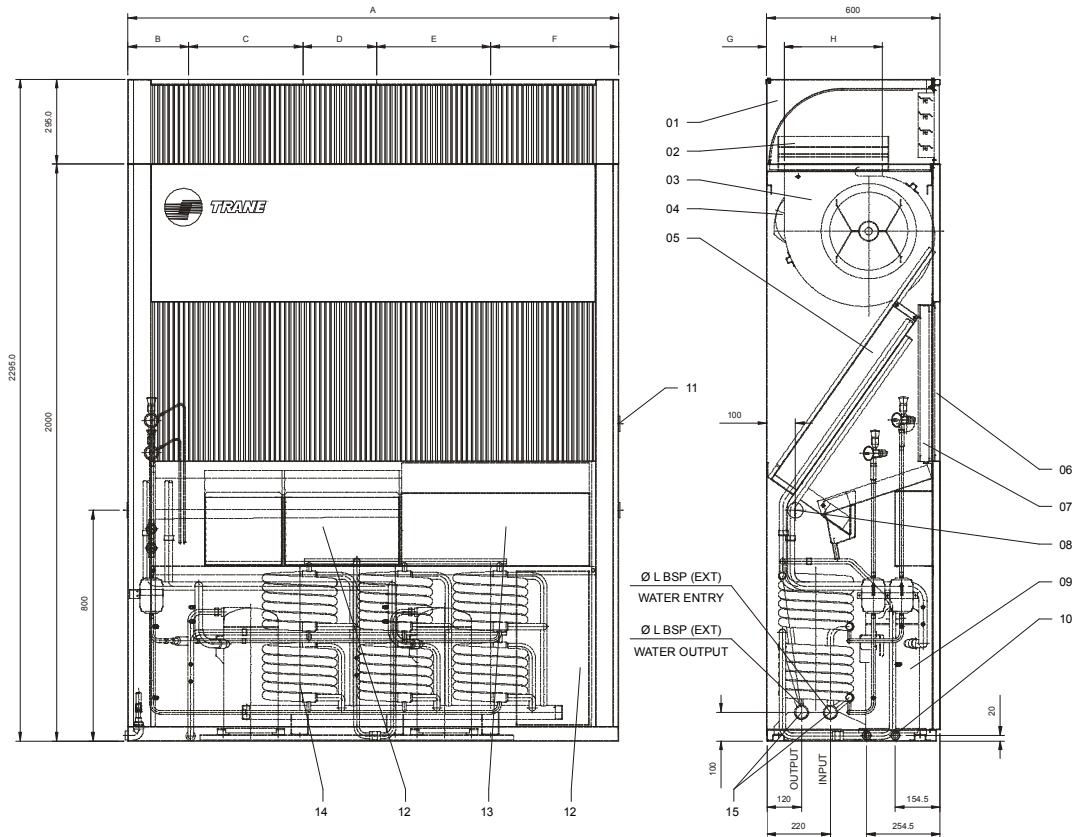
MODEL	A	B	C	D	E	F	G	H	J	K	ØL
050 1T	960	230	333	-	-	397	127	289	263	113	1"
075 1T	1190	367	396	-	-	427	57	341	263	113	1"
100 2T	1500	175	333	230	333	429	127	289	213	111	1.1/2"
125 2T	1700	210	396	255	396	443	57	341	213	111	1.1/2"
150 2T	1700	210	396	255	396	443	57	341	213	111	1.1/2"

Note:
Unit: mm

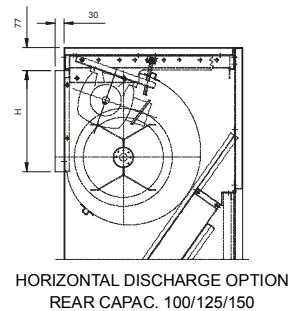
Dimensions

SAVE
Tube & Tube

Fig. 11 - Dimensions SAVE 050 to 150 (Condenser tube & tube)



- 1 Plenum box with inflate grid (optional), except discharge hor. rear
- 2 Heating resistance box (Optional), except discharge hor. rear
- 3 Double-suction centrifugal fan
- 4 Three-phase electrical motor
- 5 Evaporator coil
- 6 Return grid (Optional)
- 7 Filters
- 8 Cable passage $\varnothing 46.5$ for power inlet (right/left)
- 9 Compressor Scroll
- 10 Drain $\varnothing 1/2$ " BSP (left)
- 11 Cable passage $\varnothing 46.5$ for remote thermostat
- 12 Electrical panel for electronic control (Optional)
- 13 Normal electrical panel
- 14 Condenser tube in tube
- 15 Left or right water inlet and outlet



Tab. 30 - Dimensions SAVE 050 to 150

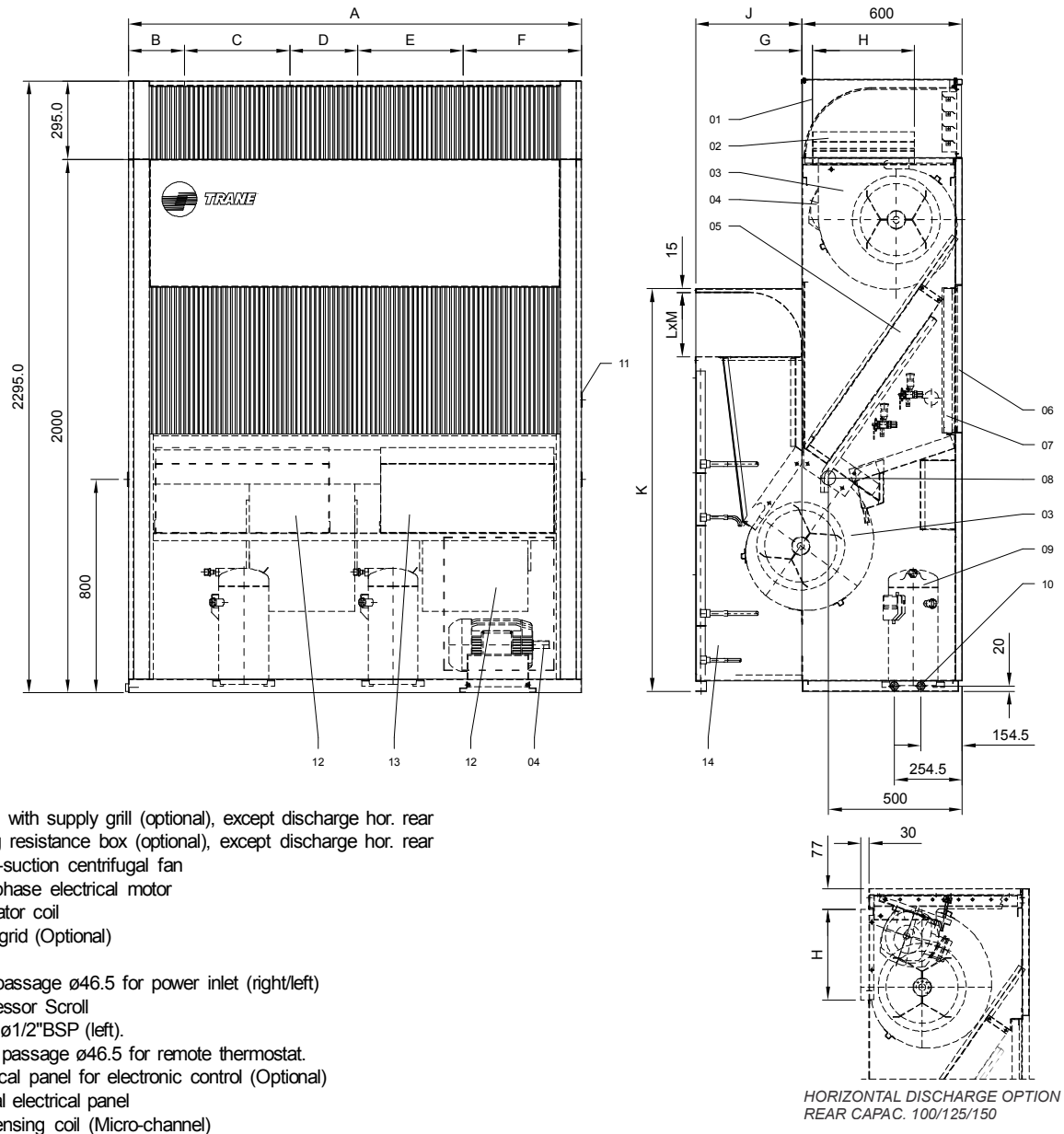
MODEL	A	B	C	D	E	F	G	H	$\varnothing L$
050 1T	960	230	333	-	-	397	127	289	1"
075 1T	1190	367	396	-	-	427	57	341	1"
100 2T	1500	175	333	230	333	429	127	289	1.1/2"
125 2T	1700	210	396	255	396	443	57	341	1.1/2"
150 2T	1700	210	396	255	396	443	57	341	1.1/2"

Note:
Unit: mm

Dimensions

SRVE

Fig. 12 - Dimensions SRVE 050 to 150.



- 1 Plenum with supply grill (optional), except discharge hor. rear
- 2 Heating resistance box (optional), except discharge hor. rear
- 3 Double-suction centrifugal fan
- 4 Three-phase electrical motor
- 5 Evaporator coil
- 6 Return grid (Optional)
- 7 Filters
- 8 Cable passage $\varnothing 46.5$ for power inlet (right/left)
- 9 Compressor Scroll
- 10 Drain $\varnothing 1/2$ "BSP (left).
- 11 Cable passage $\varnothing 46.5$ for remote thermostat.
- 12 Electrical panel for electronic control (Optional)
- 13 Normal electrical panel
- 14 Condensing coil (Micro-channel)

HORIZONTAL DISCHARGE OPTION
REAR CAPAC. 100/125/150

Tab. 31 - Dimensions SRVE 050 to 150.

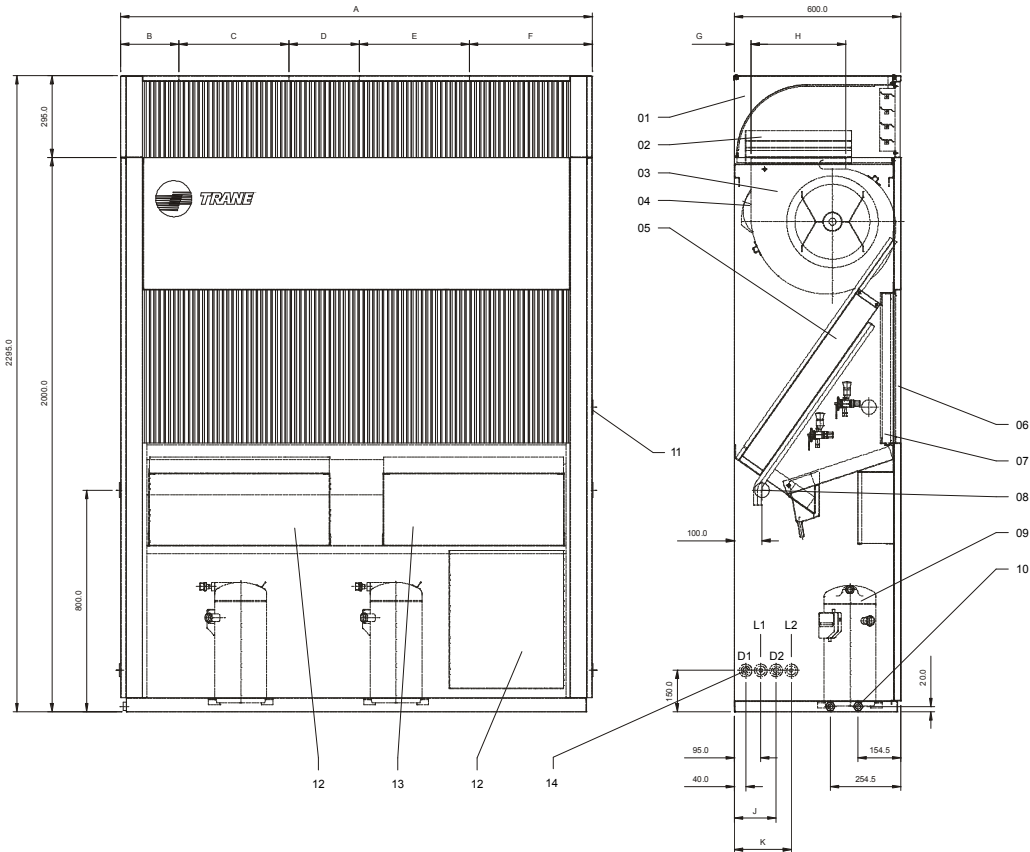
MODEL	A	B	C	D	E	F	G	H	J	K	L	M
050 1T	960	230	333	-	-	397	127	289	120	1180	258	920
075 1T	1190	367	396	-	-	427	57	341	120	1180	258	1150
100 2T	1500	175	333	230	333	429	127	289	230	1210	247	1460
125 2T	1700	210	396	255	396	443	57	341	400	1280	240	1660
150 2T	1700	210	396	255	396	443	57	341	400	1510	240	1660

Note:
Unit:mm

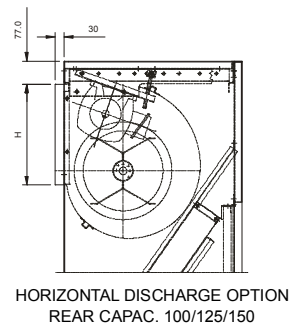
Dimensions

SVE/SSVE

Fig. 13 - Dimensions SVE/SSVE 050 to 150.



- 1 Plenum box with inflate grid (optional), except discharge hor. rear
- 2 Heating resistance box (Optional), except discharge hor. rear
- 3 Double-suction centrifugal fan
- 4 Three-phase electrical motor
- 5 Evaporator coil
- 6 Return grid (Optional)
- 7 Filters
- 8 Cable passagem $\varnothing 46.5$ for power inlet (right/left)
- 9 Compressor Scroll
- 10 Drain $\varnothing 1/2"$ BSP (left)
- 11 Cable passage $\varnothing 46.5$ for remote thermostat
- 12 Electrical panel for electronic control (Optional)
- 13 Normal electrical panel
- 14 Drilling for the crossing of lines diameter 46,5mm (left/right)



Tab. 32 - Dimensions SIVE / SSVE 050 to 150.

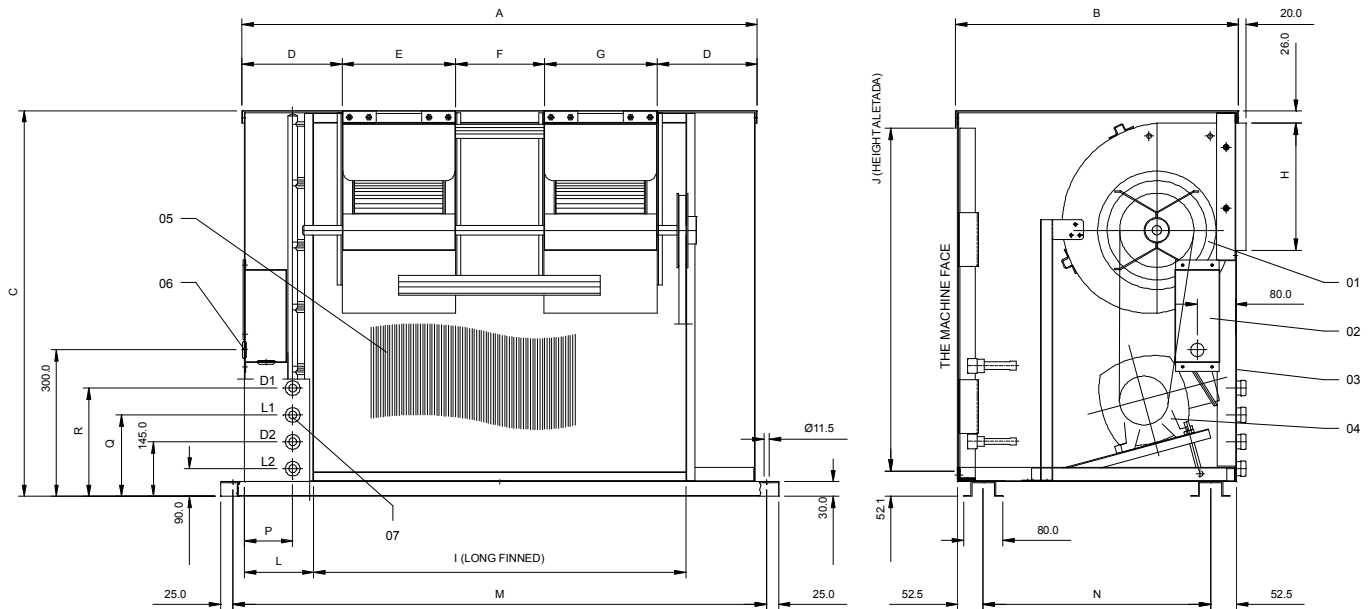
MODEL	A	B	C	D	E	F	G	H	J	K	D1	D2	L1	L2
050 1T	960	230	333	-	-	397	127	289	-	-	5/8"	-	1/2"	-
075 1T	1190	367	396	-	-	427	57	341	-	-	3/4"	-	1/2"	-
100 2T	1500	175	333	230	333	429	127	289	150	205	5/8"	5/8"	1/2"	1/2"
125 2T	1700	210	396	255	396	443	57	341	150	205	3/4"	5/8"	1/2"	1/2"
150 2T	1700	210	396	255	396	443	57	341	150	205	3/4"	3/4"	1/2"	1/2"

Note:
Unit: mm

Dimensions

CRCB

Fig. 14 - Dimensions CRCB 050 to 150.



- 1 Double-suction centrifugal fan (evaporator)
- 2 Terminal box
- 3 Maintenance cover
- 4 Three-phase electrical motor
- 5 Condensing coil (Micro-channel)
- 6 Cable passage Ø27 for power inlet
- 7 Refrigeration connections (single position)

Tab. 33 - Dimensions CRCB 050 to 150.

MODELO	A	B	C	D	E	F	G	H	I	J	L	M	N	P	Q	R	ØL1	ØD1	ØL2	ØD2
050	987	631	890	295.5	396	-	-	341	762	711	110	1029	521	132	-	-	1/2"	5/8"	-	-
075	1241	631	890	422.5	396	-	-	341	1016	816.5	110	1283	521	132	-	-	1/2"	3/4"	-	-
100 C/2	1341	631	941	222.5	333	230	333	289	1143	863.5	97	1383	521	159	200	255	1/2"	5/8"	1/2"	5/8"
125 C/2	1646	714	1018	299.5	396	255	396	341	1473	940	84	1688	604	236	200	255	1/2"	3/4"	1/2"	5/8"
150 C/2	1646	714	1247	299.5	396	255	396	341	1473	1168.5	84	1688	604	236	200	255	1/2"	3/4"	1/2"	3/4"

Note:
Unit: mm

Dimensions

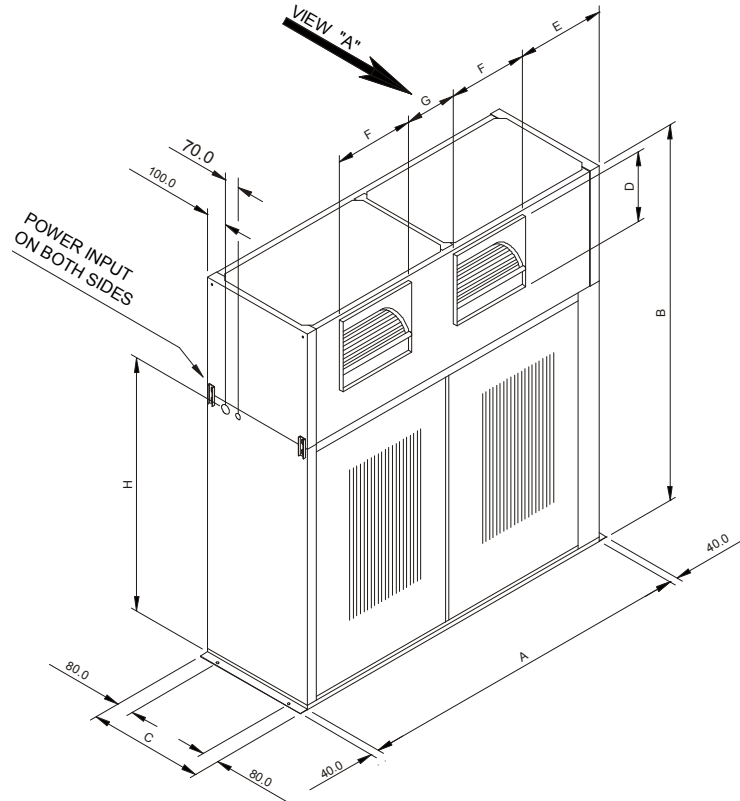
CRCE

Tab. 34 - Dimensions CRCE

Dimension	Model				
	050	075	100	125	150
A	922	1146	1420	1640	1640
B	1373	1474	1525	1600	1829
C	560	560	560	560	560
D	341	341	290	341	341
E	374	480	402	432	432
F	386	386	326	386	386
G	----	----	230	255	255
H	778	879	930	1005	1234
K	813	914	965	1040	1269
L	560	560	560	560	560

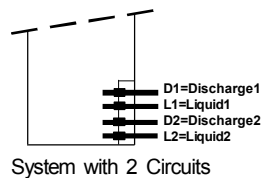
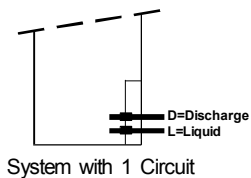
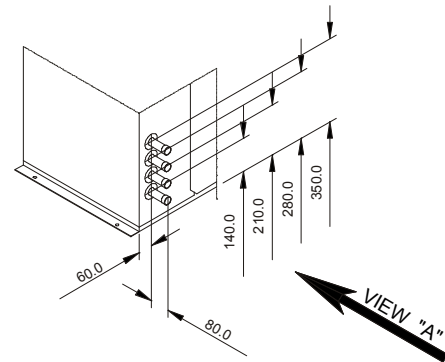
Note:
Unit:mm

Fig. 15 - Dimensions CRCE



Tab. 35 - Connection dimensions - CRCE

Connection (inches)	Models CRCE							
	050	075	100C/1	100C/2	125C/1	125C/2	150C/1	150C/2
D1	—	—	—	5/8"	—	3/4"	—	3/4"
L1	—	—	—	1/2"	—	1/2"	—	1/2"
D2/D	5/8"	3/4"	7/8"	5/8"	1 1/8"	5/8"	1 1/8"	3/4"
L2/L	1/2"	1/2"	5/8"	1/2"	5/8"	1/2"	7/8"	1/2"



Mechanical Specification

Cabinet

The cabinet is composed by an inferior tray, structural sides, covers and frontal grill and back closing covers, manufactured in galvanized steel. The cabinet of remote condensers CRCB and CRCE are manufactured in galvanized steel, equipped with double-suction centrifugal fans.

The return grill is a anodized aluminum profile with vertical fins. The return grill is supplied as an option.

For frontal access to the evaporator units, just loose four screws to remove the covers and grill.

The plenum design (optional) matches the style of the cabinet and its size guarantees a silent operation. The plenum grill has a small angulation that allows the side deflection of the air flow. A group of moving horizontal blades located behind the finish grill allows the air to be vertically directed. There is a specific transmission group when using the Self with plenum (see general data tables).

Painting

The cabinet is supplied from factory painted in Trane gray. The parts are submitted to a modern phosphatization process and later to powder-painting with a POLYESTER-based resin, which provides Trane equipment with high resistance. After this process, the parts are cured in an oven at 200°C, providing a final and resistant 85-micron coating.

Coils

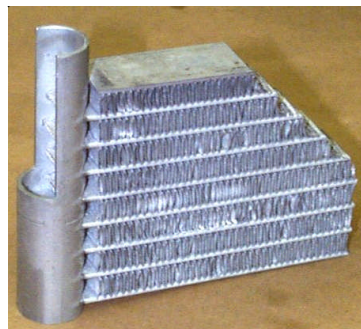
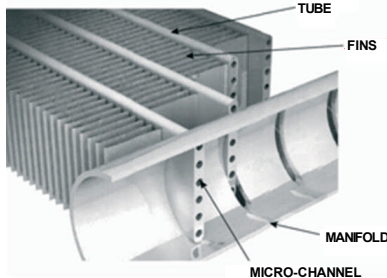
All evaporator and condensing coils use 3/8"-OD tubes and high-efficiency aluminum fins, model Trane Wavy 3B, mounted in evaporator coils with 120 foot fins.

The copper tubes are mechanically expanded to achieve a perfect contact between fin and tube.

The condensing coils using the new technology called "Micro-channel" (MCHX), consisting of three main components: tube Micro-Channel plates having a plan, fins located between alternating layers of two types of tubes and manifolds "soft drinks". All components made of aluminium.

Evaporator coils are tested at a 300 PSIG pressure and condensing coils at 400 PSIG.

The condensed water pan has an exclusive design that meets ASHRAE standards for internal air quality.



Water-cooled condenser (SAVE)

The water-cooled condenser are "Tube & Tube" type, with external tube (steel) and internal tube (copper) with fin. The external condenser tubing, the distribution tubing water-cooled and the metallic structure are superficially treated (Primer) and painted with black epoxy with minimal thickness of 30 micra. Each circuit of refrigerant is provided with a separated condenser. The standar opcion accepts alternative refrigerant R-407c. The "Shell & Tube" water-cooled condensers are another option. They are manufactured with copper tubes with integral fins, expanded on steel mirrors, with rifled holes, assuring perfect sealing, mounted in a steel case with cast iron covers, removable for easy cleaning, protected by finish coating. Designed, tested and checked according to ASME standards, for operating pressures of 300 PSIG on the refrigerating side and 150 PSIG on water side.

Compressor Scroll

These are very efficient compressors, that have no valves and are extremely resistant to slugging. They have 64% less moving parts than a reciprocal compressor with equal capacity. Their operation is extremely smooth and silent.

Fans

Forward-curved type centrifugal fans, made in galvanized steel with statically- and dynamically-balanced rotors. The evaporator group is sized to supply up to 40 mmca of external static pressure.

Air filters

The standard unit is supplied with washable filters, of electrostatic fabric, class G0, fixed in a steel wire frame.

Protection and Safety Devices

The equipment is protected by high and low pressure switches with automatic reset and fixed adjustment, internal compressor thermostat with automatic reset, current overload relay for the compressor and thermal overload relay for fan motors. Water-cooled condensers are protected by plug fuse.

Standard Thermostat

All units are supplied with a control thermostat. This thermostat can be installed remotely or at the equipment, according to customer needs.



Tests

The *Genius* line is supplied from factory tested. The standard tests include visual inspection and basic production test.

Mechanical Specification

Remote Condenser CRCB / CRCE

CRCB / CRCE units are composed by heat exchanger, centrifugal fans. The unit CRCB is mounted in a single structural module. Unit CRCE is basically composed by two modules: the heat exchanger module and the fan module, thus allowing the unit CRCE the horizontal or vertical discharge option.

Cabinet

Units CRCB and CRCE are manufactured in galvanized steel panels, painted in Trane gray.

Painting

The cabinet of units CRCB and CRCE is supplied from factory painted in Trane gray. The parts are submitted to a modern phosphatization process and later to powder-painting with a POLYESTER-based resin, which provides Trane equipment with high resistance. After this process, the parts are cured in an oven at 200°C, providing a final and resistant 85-micron coating.

Nominal Capacities

Units CRCB and CRCE have the following nominal capacities:

- CRCB/CRCE 050 - 5.0 Ton
- CRCB/CRCE 075 - 7.5 Ton
- CRCB/CRCE 100 - 10.0 Ton
- CRCB/CRCE 125 - 12.5 Ton
- CRCB/CRCE 150 - 15.0 Ton

Power Voltage

Units CRCB and CRCE can be supplied with power voltage of 220 or 380 or 440 V, frequency 60 Hz or 380V/50Hz.

Piping

All units have 1/4" S Schrader -type inspection valves in liquid, suction and discharge lines, and, as an option, service valves can be ordered.



CRCB



CRCE

Mechanical Specification

Options

Return Grill

Grill in anodized aluminum profile with vertical fins. Vertical grills allow an excellent air distribution in the coil. Recommended for room machines.

Plenum

The plenum design matches the style of the cabinet and its size guarantees a silent operation. The plenum grill has a small angulation that allows the side deflection of the air flow. A group of moving horizontal blades located behind the finish grill allows the air to be vertically directed. There is a specific transmission group when using the Self with plenum (see general data tables)

Heating Resistances

The resistances have a galvanized steel structure and diam. 85 mm stainless steel tubular resistance. The following tables show the available electrical heating options for each model.

Model (TON)	AQ1* (kW)	AQ2* (kW)	AQ3* (kW)
5	2,0	4,0	6,0
7,5	3,0	6,0	9,0
10	4,0	8,0	2 x 6,0
12,5	5,0	2 x 5,0	2 x 8,0
15	6,0	2 x 6,0	2 x 9,0

*NOTE: All options are 2 stages.

Electrical Frame

Trane offers as an option electrical frames for heating resistances.

Important:

When electrical heating options are ordered, the frames are supplied separately and are coupled to the devices.

Service Valve (SAVE/SRVE and SIVE)

Units have as an option a service valve for liquid, suction and discharge lines.

Condensing Pressure Controller

Set with pressure-controlled valves for condensing pressure control in machines with air condensation. The liquid tank completes this option.

Refrigerant R-407 C

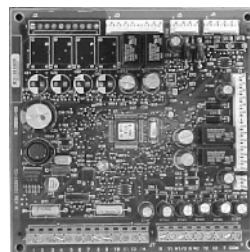
The units offer as standart refrigerant R- 407C.

Power Supply Voltage

Self Contained Genius units offer the following power supply voltages: 220V or 380V or 440 V, three-phase, 60Hz, and 380V/ 50Hz. Trane also provides, as an option, the command voltage in 24 V.

Controls

Programmable Thermostat
Microprocessed control ReliaTel®
Tracker Controller



ReliaTel® Board



Programmable Zone Sensor

Packing

Special wood box packing.

Filtering

Simple: Washable metal filter - G1

Double: many double combinations can be made.

Tests

Trane do Brasil offers the following in-factory tests: basic production test with inspector, operation test , with or without the presence of an inspector.

Liquid Sight Glass

Auxiliary component for maintenance, Indicates the presence of moisture in the equipment refrigeration piping.

Capacitor

For power factor correction.

Static Pressure and Filtering

Units CRCB/CRCE have as option 2,5 mmca or 5,0 mmca static pressure. Units also feature as an option filtering system for condenser coils. The filtering options are:

- Class G1 filter - 3 screens
- Class G2 filter - glass wool.

Mechanical Specification

Options

Stainless Steel Drain Pan

Highly durable stainless steel drain pan which improves air quality due to the complete absence of oxidation. Material used: steel AISI 430.

High Pressure Switch (PRMA)

The PRMA is a small switch used in refrigeration and air conditioning applications, equipped with a 6 amps, manual reset connector, highly reliable in many types of applications. Thanks to its reduced dimensions and weight, the switch can be set up directly into the refrigeration circuits where it is required to control the pressure. The switch is available with pressure settings and connections defined by the customer. These features provide an economy of space usage and installation costs.



High/Low Pressure Gauge

High and Low Pressure gauges are offered as optional external instruments on the Self Contained Genius unit for the purpose of monitoring operating pressures. It contains a horizontal link 63mm dia. threaded 1/4 NPT connection, charged with glycerin, brass container and body, with white dial and glass display.



Three-Phase Voltage Supervisor (STT)

The three-phase voltage supervisor (STT) was designed seeking quality, low cost and space saving on electrical panels. It monitors minimum and maximum voltage on monophasic, biphasic and triphasic networks, with restart inhibits, time delay (in shutdown), hysteresis (fixed) and angular asymmetry between phases.

Electrical connections employ a screw where the electrical contact is housed within an enclosed system that will guarantee high electrical insulation, and insure the integrity of the screw-type connection.

The box is made with of ABSV0 "auto-extinguishable" material and contains front view leds indicating this characteristic.

Applications

- Monitoring of minimum and maximum voltage
- Asymmetric angle
- Phase loss (without delayed action of shutdown "snapshot")
- Phase sequence
- Self-Protection relay



High Efficiency Motor

A high efficiency motor of up to 91.7% efficiency at full load, reduces power consumption of the installation, adding additional benefits by providing lower operating costs and aiding in the preservation of the environment.

Bearing Fan NTN + Elastic Glove

- Elastic Glove

Aids in the maintenance of units installed in confined spaces using duplex or triplex fans, on the total length of a long, single shaft. With the elastic coupling, the shaft is divided into two or three parts, which facilitates its removal and therefore excluding the need of removing the drive from its installation position or the need to completely disassemble the entire fan. Furthermore, it offers a better distribution of loads on bearings, and it allows the use of a set of two bearings for each section for casing / rotor, as opposed to only three bearings on the single shaft. So if a misalignment occurs, shock loads and vibrations are better absorbed.

- Bearings: cast iron (NTN Bearing)

Are required whenever you apply flexible coupling in order to allow perfect alignment of the double or triple divided axis.

Fan with Painted Rotor

Electrostatic powder paint coating of the rotor has excellent mechanical properties and good resistance to aggressive environment (industrial and salty environments, etc.), reducing the probabilities of corrosion, providing longer life to the fan. It also features low surface roughness, which facilitates the cleaning of fans to meet the Clean Air Act requirements.



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