TRANE

Solution Plus

Split System Solution

Ingersoll Rand

Split System Solution

Developed to meet commercial and industrial markets. All Solution Plus models were designed to offer convenient installation and maintenance, aligned to Trane's products high reliability.
Main characteristics of Solution Plus line are:

- Fast Cycle, is an option with configuration standard offering quick production time.

- **Modular Units**, factory-predefined by Client, for vertical or horizontal assembly, with many discharge options. The units are placed on galvanized steel "U" rails, which provide easy hoisting and work as a support.

- **O Solution Plus with Condensing Unit TRCE has 8 Models**, with capacities ranging from 5 to 30 Ton, and air flows from 2.000 to 25.000 m³/h.

- **Solution Plus with Condensing Unit TRAE has 11 Models**, with capacities ranging from 5 to 50 Ton, and air flows from 2.000 to 40.000 m³/h.

- **Double Wall**, the steel panels in coil and fan models are internally isolated with 25-mm expanded polyurethane.

- **Down Flow** Discharge Option, the coil and fan module set has several discharge options, including the down flow discharge, offering more versatility to your job.

- **High-efficiency TRANE Wavy-3B Coils**, the coil is built with seamless copper tubes. The copper tubes are mechanically expanded on the aluminum fins for perfect contact between fins and tubes.

- **Aluminum Structure**, the coil and fan modules have polished, laminated aluminum structure , with internal thermoinsulating coating so as to eliminate thermal bridge.

- **Several Filtering Options**, simple or double filtration, with permanent or throwaway filters.

- **Evaporator Unit with 2- or 4-pole motors**, 60 Hz (IP21 and IP55), with regulating sheave.

- **Fans**, with forward-curved blades or backward-curved blades, sized to support a total static pressure of up to 160 mmca.

- **Open Air Modules**, cabinets prepared for outdoor operation.

- **Alternative Refrigerant R-407C**, Solution Plus provides an option for refrigerant R-407C.

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.

Table 01 - Combinations of Solution Plus package

Models	Joint				
	Rated Capacity (TON)	Module		Condensing Units	
		Foward Curved	Backward Curved	TRCE	TRAE
DXPA05 - 1 circ.	5	DXPA050	DLPA050	TRCE050 - 1 circ.	TRAE050 - 1 circ.
DXPA07 - 1 circ.	7,5	DXPA075	DLPA075	TRCE075 - 1 circ.	TRAE075 - 1 circ.
DXPA10 - 2 circ.	10	DXPA100	DLPA100	TRCE100 - 2 circ.	TRAE100 - 2 circ.
DXPA12 - 2 circ.	12,5	DXPA125	DLPA125	TRCE125 - 2 circ.	TRAE125 - 2 circ.
DXPA15 - 2 circ.	15	DXPA150	DLPA150	TRCE150 - 2 circ.	TRAE150 - 2 circ.
DXPA20 - 2 circ.	20	DXPA200	DLPA200	2x TRCE100 - 1 circ.	TRAE200 2 circ. or 2 x TRAE100 1 circ.
DXPA25 - 2 circ.	25	DXPA250	DLPA250	TRCE150 1 circ. + TRCE100 1 circ.	TRAE250 2 circ.
DXPA30 - 2 circ.	30	DXPA300	DLPA300	2 x TRCE150 1 circ.	TRAE300 2 circ. or 2 x TRAE150 1 circ.
DXPA35 - 2 circ.	35	DXPA350	DLPA350	No Option	TRAE150 1 circ. + TRAE200 1 circ.
DXPA40 - 2 circ.	40	DXPA400	DLPA400	No Option	2 x TRAE200 1 circ.
DXPA50 - 2 circ.	50	DXPA500	DLPA500	No Option	2 x TRAE250 1 circ.

Solution Plus is a split system, designed and planned to meet most demanding market conditions. Aligning versatile installation, easy maintenance and low costs, Solution Plus is comprised of:

Coil Module
This module consists of filter, cooling coil, expansion valve and draining tray. Alternatively, it can be supplied with heating resistances. This module has three frames for installation of up to three 1" filters in each frame.

Fan Module
It consists of forward curved blades or backward curved blades fan (Backward-Curved), driving motor, regulating motor sheave, fan sheave and belts. The fan module has several air discharge options. It has a canvas collar to provide easier installation for air intake and return air ducts. Collar width ranges from 120 to 370 mm, depending on the model.

Mixing Box Module (Optional)
The mixing box is always mounted before the coil module. The mixing box is a box where air intake and return air ducts can be installed. The mixing box module has galvanized steel dampers , with opposite blades and manual or automatic driving axis for air regulation using dampers. When Solution Plus is assembled with a mixing box, filters are incorporated to the box. Both sides of the box have caps to provide easy access to the filters.

Final Module Filter
This module is an option for installations that require a better air treatment. Positioned after the fan module and the module serpentine this option makes it possible to use fine filter (type pouch) and Absolute (H. E. P. A). Filters of this type should be allocated in this module because the depth of the filters do not allows to be used in another module.

Return filter module
To the treatment of the return air there is this option of cabinet. Ditto the module final filter, the return module is used to receive filters with bigger depth (Bag F8).

Empty module
Cabinet with the same characteristics of other modules (see descriptive of cabinet). It is a empty module that is used for installation of accessories in the field (attenuator noise, humidifier, electric heater, etc).

Condensing Unit TRAE
Condensing units TRAE are equipped with Scroll-type compressors, and offer horizontal discharge for 5 to 15 Ton models, and vertical discharge for over 20 Ton models . The structure is in galvanized steel and it is painted. Coils are built with Wavy-3B model aluminum fins, with 3/8" internally-rifled copper tube, mechanically expanded in the fins.

Nominal Capacities
Nominal capacities for TRAE units are:
TRAE 050 - 5,0 Ton
TRAE 075 - 7,5 Ton
TRAE 100 - 10,0 Ton
TRAE 125 - 12,5 Ton
TRAE 150 - 15,0 Ton
TRAE 200 - 20,0 Ton
TRAE 250 - 25,0 Ton
TRAE 300 - 30,0 Ton

Condensing Unit TRCE
The Condensing units TRCE consists basically in 2 modules (heat exchanger and fan), equiped with Scroll compressor, 3 possible discharges options. The structure is in galvanized steel sheet, witch recives painting. 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.

Nominal Capacities
Nominal capacities for TRCE are:
TRCE 050 - 5,0 Ton
TRCE 075 - 7,5 Ton
TRCE 100 - 10,0 Ton
TRCE 125 - 12,5 Ton
TRCE 150 - 15,0 Ton

Table 02 - Technical Features of Solution Plus Modules (Forward-Curved and Backward-Curved)

MODEL		0 50		0 75		10 0		12 5		150		2 0 0		2 50		3 0 0		3 50		4 0 0		50 0	
	Unit	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**	**DX**	**DL**
Rated Capacity	**TON**	5		7,5		10		12,5		15		20		25		30		35		40		50	
Coil Module																							
Length	mm	960	1120	1120	1300	1430	1430	1500	1500	1500	1700	2000	2000	2400	2400	2770	2770	2770	2770	2770	2770	2770	2770
Depth	mm	580	740	740	850	740	850	740	740	740	740	740	800	930	930	930	930	930	930	930	1050	930	1050
Height	mm	730	730	870	870	870	870	1170	1170	1170	1170	1170	1170	1170	1170	1170	1170	1370	1370	1570	1570	1750	1750
Copper Tube Diameter	pol.	3/8"		3/8"		3/8"		3/8"		3/8"		1/2"		1/2"		1/2"		1/2"		1/2"		1/2"	
Rows		4		4		4		4		4		4		4		4		4		4		4	
FPF (Fins per feet)		132		132		132		132		132		144		144		144		144		144		144	
Number of Circuits		1		1		2		2		2		2		2		2		2		2		2	
Fin Face Area	m²	0,38		0,54		0,72		0,94		1,12		1,54		1,91		2,34		2,81		3,28		3,75	
Fan Module																							
Length	mm	960	1120	1120	1300	1430	1430	1500	1500	1500	1700	2000	2000	2400	2400	2770	2770	2770	2770	2770	2770	2770	2770
Depth	mm	580	740	740	850	740	850	740	740	740	740	740	800	930	930	930	930	930	930	930	1050	930	1050
Height	mm	730	870	870	970	870	870	1170	1170	1170	1170	1170	1320	1170	1420	1170	1570	1370	1570	1370	1670	1370	1670
Qty of Fans		1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	2	3	2	3	2	3	2
Motor minimum	CV	1	2	1,5	2	2	3	2	3	2	5	2	5	3	7,5	3	7,5	5	15	5	15	7,5	15
Motor maximum	CV	2	5	3	5	5	7,5	5	10	7,5	10	10	15	10	25	10	25	15	25	15	40	20	40
Air F low - Min.	m³/h	2000		3000		4400		5500		6000		9000		12000		15000		17500		20000		25000	
Air F low - Max.	m³/h	4000		6000		8000		10000		12000		17000		21000		25000		31000		35000		40000	
Filters																							
Dimension	mm	424 X 525		504 X 665		439 X 665		462 X 477		462 X 477		472 X 477		572 X 477		531 X 477		531 X 577		531 X 677		625 X 782	
Quantity		02		02		03		06		06		08		08		10		10		10		08	

Table 03 - Technical Features of TRCE and TRAE Condensing Units

		TRAE												TRCE						
	Unit.	TRAE 050 1C	TRAE 075 1C	TRAE 100 1C	TRAE 100 2C	TRAE 125 2C	TRAE 150 1C	TRAE 150 2C	TRAE 200 1C	TRAE 200 2C	TRAE 250 1C	TRAE 250 2C	TRAE 300 2C	TRCE 050 1C	TRCE 075 1C	TRCE 100 1C	TRCE 100 2C	TRCE 125 2C	TRCE 150 1C	TRCE 150 2C
Rated Cap.	**TON**	5	7,5	10	10	12,5	15	15	20	20	25	25	30	5,0	7,5	10,0	10,0	12,5	15,0	15,0
Length	**mm**	920	930	1140	1140	1350	1590	1590	1067	1067	1067	1067	1850	993	1217	1491	1491	1712	1712	1712
Depth	**mm**	420	620	800	800	800	800	800	1096	1096	1096	1096	1060	560	560	560	560	560	560	560
Height	**mm**	793	895	996	996	1250	1250	1250	1452	1452	1452	1452	1600	1393	1494	1545	1545	1620	1849	1849
Compressor Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressor	**QTD**	1	1	1	2	2	1	2	1	2	1	2	2	1	1	1	2	2	1	2
Rows		2	2	2	2	2	2	2	2	2	2	2	3	4	4	4	4	2	1	2
FPF (Fin/feet)	**ft**	168	168	168	168	168	168	168	204	204	204	204	168	144	144	144	144	144	144	144
Number of Circuits		1	1	1	2	2	1	2	1	2	1	2	2	1	1	1	2	2	1	2
Face Area	**m2**	0,8	1,01	1,67	1,67	2,24	2,24	2,24	2,97	2,97	3,33	3,33	4,5	0,55	0,83	0,99	0,99	1,39	1,72	1,72
Qty of Fans		1	1	1	1	1	2	2	1	1	1	1	2	1	1	2	2	2	2	2
Fan Diam.	**pol.**	22″	26″	30″	30″	30″	26″	26″	35″	35″	35″	35″	30″	- --	- --	- --	- --	- --	- --	- --
Motor	**CV**	0,25	0,75	0,75	1	1	0,75	0,75	1	1	1	1	1	1,5	3	4	4	4	5	5
Air Flow	**m3/h**	5950	9180	11900	11900	15300	18360	18360	23800	23800	30600	30600	32300	5500	8250	9950	9950	13770	15750	15750
Weight	**Kg**	108	127	198	196	227	335	275	355	359	360	368	610	184	210	305	310	352	400	400

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For more information visit: www.ingersollrand.com and www.trane.com.br

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