



*Solution Plus*  
Split System Solution



# 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 m<sup>3</sup>/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 m<sup>3</sup>/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.

- **Refrigerant R-407C**, Solution Plus provides 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                  |  |
|                  |                      | Forward 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 allow 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 an 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), equipped with Scroll compressor, 3 possible discharges options. The structure is in galvanized steel sheet, with 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   |
| <b>Rated Capacity</b> | <b>TON</b>        | 5         |      | 7,5       |      | 10        |      | 12,5      |      | 15        |       | 20        |      | 25        |       | 30        |      | 35        |       | 40        |      | 50        |      |
| <b>Coil Module</b>    |                   |           |      |           |      |           |      |           |      |           |       |           |      |           |       |           |      |           |       |           |      |           |      |
| 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      | 1370 | 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         | m <sup>2</sup>    | 0,38      |      | 0,54      |      | 0,72      |      | 0,94      |      | 1,12      |       | 1,54      |      | 1,91      |       | 2,34      |      | 2,81      |       | 3,28      |      | 3,75      |      |
| <b>Fan Module</b>     |                   |           |      |           |      |           |      |           |      |           |       |           |      |           |       |           |      |           |       |           |      |           |      |
| 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.      | m <sup>3</sup> /h | 2000      |      | 3000      |      | 4400      |      | 5500      |      | 6000      |       | 9000      |      | 12000     |       | 15000     |      | 17500     |       | 20000     |      | 25000     |      |
| Air F low - Max.      | m <sup>3</sup> /h | 4000      |      | 6000      |      | 8000      |      | 10000     |      | 12000     |       | 17000     |      | 21000     |       | 25000     |      | 31000     |       | 35000     |      | 40000     |      |
| <b>Filters</b>        |                   |           |      |           |      |           |      |           |      |           |       |           |      |           |       |           |      |           |       |           |      |           |      |
| 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**

|                           | Unit.       | TRAE        |             |             |             |             |             |             |             |             |             |             |             | TRCE        |             |             |             |             |             |             |  |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
|                           |             | 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 |  |
| <b>Rated Cap.</b>         | <b>TON</b>  | 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        |  |
| <b>Length</b>             | <b>mm</b>   | 920         | 930         | 1140        | 1140        | 1350        | 1590        | 1590        | 1067        | 1067        | 1067        | 1067        | 1850        | 993         | 1217        | 1491        | 1491        | 1712        | 1712        | 1712        |  |
| <b>Depth</b>              | <b>mm</b>   | 420         | 620         | 800         | 800         | 800         | 800         | 800         | 1096        | 1096        | 1096        | 1096        | 1060        | 560         | 560         | 560         | 560         | 560         | 560         | 560         |  |
| <b>Height</b>             | <b>mm</b>   | 793         | 895         | 996         | 996         | 1250        | 1250        | 1250        | 1452        | 1452        | 1452        | 1452        | 1600        | 1393        | 1494        | 1545        | 1545        | 1620        | 1849        | 1849        |  |
| <b>Compressor Type</b>    |             | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      | Scroll      |  |
| <b>Compressor</b>         | <b>QTD</b>  | 1           | 1           | 1           | 2           | 2           | 1           | 2           | 1           | 2           | 1           | 2           | 2           | 1           | 1           | 1           | 2           | 2           | 1           | 2           |  |
| <b>Rows</b>               |             | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 2           | 3           | 4           | 4           | 4           | 4           | 2           | 1           | 2           |  |
| <b>FPF (Fin/feet)</b>     | <b>ft</b>   | 168         | 168         | 168         | 168         | 168         | 168         | 168         | 204         | 204         | 204         | 204         | 168         | 144         | 144         | 144         | 144         | 144         | 144         | 144         |  |
| <b>Number of Circuits</b> |             | 1           | 1           | 1           | 2           | 2           | 1           | 2           | 1           | 2           | 1           | 2           | 2           | 1           | 1           | 1           | 2           | 2           | 1           | 2           |  |
| <b>Face Area</b>          | <b>m2</b>   | 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        |  |
| <b>Qty of Fans</b>        |             | 1           | 1           | 1           | 1           | 1           | 2           | 2           | 1           | 1           | 1           | 1           | 2           | 1           | 1           | 2           | 2           | 2           | 2           | 2           |  |
| <b>Fan Diam.</b>          | <b>pol.</b> | 22"         | 26"         | 30"         | 30"         | 30"         | 26"         | 26"         | 35"         | 35"         | 35"         | 35"         | 30"         | ---         | ---         | ---         | ---         | ---         | ---         | ---         |  |
| <b>Motor</b>              | <b>CV</b>   | 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           |  |
| <b>Air Flow</b>           | <b>m3/h</b> | 5950        | 9180        | 11900       | 11900       | 15300       | 18360       | 18360       | 23800       | 23800       | 30600       | 30600       | 32300       | 5500        | 8250        | 9950        | 9950        | 13770       | 15750       | 15750       |  |
| <b>Weight</b>             | <b>Kg</b>   | 108         | 127         | 198         | 196         | 227         | 335         | 275         | 355         | 359         | 360         | 368         | 610         | 184         | 210         | 305         | 310         | 352         | 400         | 400         |  |



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