

# UniPACK-P EXP

## TXAEP 251÷4160

Cooling capacity 47÷158,8 kW

Heating capacity 49,1÷161,1 kW



### Features

**Efficient and eco-friendly range in R290**

**Temperature of the produced water up to 72°C**

**TER up to 7,74**

**Extended operating limits**

**Integrated MASTER/SLAVE control**

**Tax incentives\***



**EXPsystems – Air cooled multi-purpose ecological system with axial fans.  
Range with scroll hermetic compressors and R290 refrigerant gas.**

### Construction features

- Compressor: hermetic rotary, scroll type, complete with thermal protection and casing heater.
- 2-4 capacity steps with high efficiency at part loads.
- Main and secondary heat exchangers: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.
- Air side heat exchanger: finned coil with copper pipes and aluminium fins.
- Fan: external rotor axial type electric fans equipped with internal thermal protection and accident protection grilles. The electric fans, based on the sizes, are EC fans or fitted with a proportional electronic device for continuous adjustment of the rotation speed.
- Control: microprocessor electronic control with Adaptive Function Plus logic.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- Refrigerant leak detector.

- Coil protection nets.
- The unit is also complete with:
  - compressor and fan circuit breaker switches;
  - electronic expansion valve;
  - display of cooling circuit high/low pressure;
  - master/slave control up to 4 units in parallel;
  - clock board;
  - control of Variable Primary Flow (VPF\_R).

### Versions

- T - High efficiency version.
- Q - Super silenced version complete with compressor technical compartment soundproofing and reduced speed fans.

### Models

- TXAETP: EXPsystems unit.
- TXAEQP: super silenced EXPsystems unit.
- Anti-vibration mounts.

### Factory fitted accessories

- PUMP with single or double electric pump, one of which automatic in standby. The electric pumps are available in the low or high head versions.
- Inverter pump control for unit start-up.
- Recovery side VPF\_R control.
- Desuperheater.
- Condensing control with fans with EC motor (standard in sizes 251-280).
- Condensing control with over-pressure fans (T version only)
- Power factor correction capacitors ( $\cos\phi > 0.94$ ).
- Forced limit of power consumption.
- Forced noise limit.
- Energy parameter measuring device.
- Soft starter.
- Compressor technical compartment soundproofing.
- Compressor soundproof enclosures.
- Double safety valves.
- Buffer panels.
- Copper/copper, pre-painted copper/aluminium or with hydrophilic treatment coils.
- Control of min/max power supply voltage and backup battery.
- Digital input for double set-point.
- 4-20 mA analogue signal for shifting set-point.
- Contacts for Smart Grid integration and photovoltaic system.
- Electrical panel resistance, base, electric pumps and heat exchangers for heat recovery, if any.
- Interfaces for serial communication with other devices.
- Colour touch user keypad (fitted on the machine or remotely) with 7" display.

### Separately supplied accessories

- Remote keypad with display.
- Thermostat with display.
- Rhoss supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of multiple chillers.

## Technical data

| TXAETP MODEL                                                                            |         | 251        | 260        | 270        | 280        | 4100     | 4110     | 4120     | 4130     |
|-----------------------------------------------------------------------------------------|---------|------------|------------|------------|------------|----------|----------|----------|----------|
| COOLING OPERATIONS (AUTOMATIC 1 MODE)                                                   |         |            |            |            |            |          |          |          |          |
| ① Nominal cooling capacity                                                              | kW      | 48,5       | 58,4       | 68,4       | 79,4       | 95,9     | 104,9    | 117,9    | 126,9    |
| ① Absorbed power                                                                        | kW      | 16,3       | 19,8       | 22,9       | 26,7       | 32,7     | 36,3     | 40,9     | 43       |
| ① E.E.R.                                                                                |         | 2,98       | 2,95       | 2,99       | 2,97       | 2,93     | 2,89     | 2,88     | 2,95     |
| COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)                                  |         |            |            |            |            |          |          |          |          |
| ⑤ Nominal cooling capacity                                                              | kW      | 48,9       | 59,2       | 69,7       | 81         | 97,9     | 107      | 120,9    | 128,7    |
| ⑤ Recovery heating capacity                                                             | kW      | 63,2       | 76,3       | 90,3       | 104,4      | 126,5    | 138,5    | 155,7    | 166,6    |
| ⑤ T.E.R.                                                                                |         | 7,57       | 7,67       | 7,5        | 7,67       | 7,57     | 7,52     | 7,7      | 7,53     |
| HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)                                        |         |            |            |            |            |          |          |          |          |
| ② Nominal heating capacity                                                              | kW      | 50,1       | 59,1       | 71,1       | 80,1       | 102,1    | 110,1    | 120,1    | 134,1    |
| ② Absorbed power                                                                        | kW      | 15,6       | 18,3       | 21,8       | 24,5       | 31,8     | 34,4     | 37,4     | 41,8     |
| ② C.O.P.                                                                                |         | 3,21       | 3,23       | 3,26       | 3,27       | 3,21     | 3,2      | 3,21     | 3,21     |
| TXAEQP MODEL                                                                            |         | 251        | 260        | 270        | 280        | 4100     | 4110     | 4120     | 4130     |
| COOLING OPERATIONS (AUTOMATIC 1 MODE)                                                   |         |            |            |            |            |          |          |          |          |
| ① Nominal cooling capacity                                                              | kW      | 47         | 56,4       | 66,4       | 76,9       | 92,9     | 101,9    | 112,9    | 123,9    |
| ① Absorbed power                                                                        | kW      | 16,4       | 19,9       | 23         | 26,9       | 33,5     | 37,2     | 42,1     | 43,6     |
| ① E.E.R.                                                                                |         | 2,87       | 2,83       | 2,89       | 2,86       | 2,77     | 2,74     | 2,68     | 2,84     |
| COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)                                  |         |            |            |            |            |          |          |          |          |
| ⑤ Nominal cooling capacity                                                              | kW      | 49,1       | 59,4       | 69,9       | 81,3       | 98,2     | 107,3    | 121,4    | 129      |
| ⑤ Recovery heating capacity                                                             | kW      | 63,4       | 76,4       | 90,5       | 104,7      | 126,8    | 138,8    | 156,1    | 166,9    |
| ⑤ T.E.R.                                                                                |         | 7,61       | 7,7        | 7,52       | 7,7        | 7,6      | 7,55     | 7,74     | 7,55     |
| HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)                                        |         |            |            |            |            |          |          |          |          |
| ② Nominal heating capacity                                                              | kW      | 49         | 58,1       | 70,1       | 79,1       | 100,1    | 108,1    | 118,1    | 132,1    |
| ② Absorbed power                                                                        | kW      | 15,1       | 17,7       | 21         | 23,8       | 31,2     | 33,8     | 36,8     | 41       |
| ② C.O.P.                                                                                |         | 3,25       | 3,28       | 3,34       | 3,33       | 3,21     | 3,2      | 3,21     | 3,22     |
| TXAETP-TXAEQP MODEL                                                                     |         | 251        | 260        | 270        | 280        | 4100     | 4110     | 4120     | 4130     |
| ④ TXAETP sound pressure                                                                 | dB(A)   | 49         | 49         | 51         | 52         | 53       | 53       | 54       | 55       |
| ④ TXAEQP sound pressure                                                                 | dB(A)   | 44         | 45         | 46         | 47         | 48       | 48       | 49       | 50       |
| ⑤ TXAETP sound power                                                                    | dB(A)   | 81         | 81         | 83         | 84         | 85       | 85       | 86       | 87       |
| ⑤ TXAEQP sound power                                                                    | dB(A)   | 76         | 76         | 78         | 79         | 80       | 80       | 81       | 82       |
| Scroll compressors/steps                                                                | no.     | 2/2        | 2/2        | 2/2        | 2/2        | 4/4      | 4/4      | 4/4      | 4/4      |
| Circuits                                                                                | no.     | 2          | 2          | 2          | 2          | 2        | 2        | 2        | 2        |
| Electrical supply                                                                       | V-ph-Hz | 400-3+N-50 | 400-3+N-50 | 400-3+N-50 | 400-3+N-50 | 400-3-50 | 400-3-50 | 400-3-50 | 400-3-50 |
| DIMENSIONS AND WEIGHTS                                                                  |         | 251        | 260        | 270        | 280        | 4100     | 4110     | 4120     | 4130     |
| L – Width                                                                               | mm      | 2550       | 2550       | 3250       | 3250       | 3250     | 3250     | 3250     | 3930     |
| H – Height                                                                              | mm      | 2210       | 2210       | 2210       | 2210       | 2260     | 2260     | 2260     | 2260     |
| P – Depth                                                                               | mm      | 1570       | 1570       | 1570       | 1570       | 1970     | 1970     | 1970     | 1970     |
| ⑥ TXAETP weight                                                                         | kg      | 1335       | 1345       | 1600       | 1625       | 2000     | 2005     | 2040     | 2305     |
| ⑥ TXAEQP weight                                                                         | kg      | 1390       | 1400       | 1685       | 1710       | 2075     | 2080     | 2115     | 2385     |
| SEASONAL ENERGY PERFORMANCE                                                             |         |            |            |            |            |          |          |          |          |
| TXAETP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Low temperature application 35°C    |         |            |            |            |            |          |          |          |          |
| ① Pdesignh (EN 14825)                                                                   | kW      | 41         | 48         | 58         | 65         | 83       | 90       | 98       | 109      |
| ① SCOP (EN 14825)                                                                       |         | 3,74       | 3,7        | 3,73       | 3,73       | 3,8      | 3,77     | 3,75     | 3,78     |
| ② ηs                                                                                    | %       | 147        | 145        | 146        | 146        | 149      | 148      | 147      | 148      |
| ② Energy class                                                                          |         | A+         | A+         | A+         | A+         | -        | -        | -        | -        |
| TXAEQP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Low temperature application 35°C    |         |            |            |            |            |          |          |          |          |
| ① Pdesignh (EN 14825)                                                                   | kW      | 40         | 47         | 57         | 64         | 82       | 88       | 96       | 108      |
| ① SCOP (EN 14825)                                                                       |         | 3,73       | 3,71       | 3,77       | 3,76       | 3,73     | 3,74     | 3,71     | 3,71     |
| ② ηs                                                                                    | %       | 146        | 145        | 148        | 147        | 146      | 147      | 146      | 145      |
| ② Energy class                                                                          |         | A+         | A+         | A+         | A+         | -        | -        | -        | -        |
| TXAETP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C |         |            |            |            |            |          |          |          |          |
| ① Pdesignh (EN 14825)                                                                   | kW      | 40         | 47         | 56         | 63         | 82       | 88       | 96       | 106      |
| ① SCOP (EN 14825)                                                                       |         | 3,15       | 3,11       | 3,12       | 3,14       | 3,22     | 3,19     | 3,16     | 3,23     |

|                                                                                                |         |      |      |      |      |             |             |             |      |
|------------------------------------------------------------------------------------------------|---------|------|------|------|------|-------------|-------------|-------------|------|
| ② ηs                                                                                           | %       | 123  | 121  | 122  | 123  | 126         | 125         | 123         | 126  |
| ② Energy class                                                                                 |         | A+   | A+   | A+   | A+   | -           | -           | -           | -    |
| <b>TXAEQP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C</b> |         |      |      |      |      |             |             |             |      |
| ① Pdesignh (EN 14825)                                                                          | kW      | 39   | 46   | 55   | 62   | 81          | 87          | 95          | 105  |
| ① SCOP (EN 14825)                                                                              |         | 3,15 | 3,11 | 3,15 | 3,17 | 3,17        | 3,15        | 3,12        | 3,16 |
| ② ηs                                                                                           | %       | 123  | 122  | 123  | 124  | 124         | 123         | 122         | 124  |
| ② Energy class                                                                                 |         | A+   | A+   | A+   | A+   | -           | -           | -           | -    |
|                                                                                                |         |      |      |      |      |             |             |             |      |
| <b>TXAETP MODEL</b>                                                                            |         |      |      |      |      | <b>4140</b> | <b>4150</b> | <b>4160</b> |      |
| <b>COOLING OPERATIONS (AUTOMATIC 1 MODE)</b>                                                   |         |      |      |      |      |             |             |             |      |
| ① Nominal cooling capacity                                                                     | kW      |      |      |      |      | 135,9       | 147,9       | 158,8       |      |
| ① Absorbed power                                                                               | kW      |      |      |      |      | 46,4        | 51          | 54,4        |      |
| ① E.E.R.                                                                                       |         |      |      |      |      | 2,93        | 2,9         | 2,92        |      |
| <b>COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)</b>                                  |         |      |      |      |      |             |             |             |      |
| ② Nominal cooling capacity                                                                     | kW      |      |      |      |      | 137,8       | 150,6       | 162,1       |      |
| ② Recovery heating capacity                                                                    | kW      |      |      |      |      | 178,6       | 194,8       | 208,9       |      |
| ② T.E.R.                                                                                       |         |      |      |      |      | 7,49        | 7,56        | 7,67        |      |
| <b>HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)</b>                                        |         |      |      |      |      |             |             |             |      |
| ② Nominal heating capacity                                                                     | kW      |      |      |      |      | 143,2       | 153,1       | 161,1       |      |
| ② Absorbed power                                                                               | kW      |      |      |      |      | 44,6        | 47,7        | 50,2        |      |
| ② C.O.P.                                                                                       |         |      |      |      |      | 3,21        | 3,21        | 3,21        |      |
| <b>TXAEQP MODEL</b>                                                                            |         |      |      |      |      | <b>4140</b> | <b>4150</b> | <b>4160</b> |      |
| <b>COOLING OPERATIONS (AUTOMATIC 1 MODE)</b>                                                   |         |      |      |      |      |             |             |             |      |
| ① Nominal cooling capacity                                                                     | kW      |      |      |      |      | 131,9       | 143,9       | 152,9       |      |
| ① Absorbed power                                                                               | kW      |      |      |      |      | 47,1        | 51,9        | 55,8        |      |
| ① E.E.R.                                                                                       |         |      |      |      |      | 2,8         | 2,77        | 2,74        |      |
| <b>COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)</b>                                  |         |      |      |      |      |             |             |             |      |
| ② Nominal cooling capacity                                                                     | kW      |      |      |      |      | 138,2       | 151,1       | 162,7       |      |
| ② Recovery heating capacity                                                                    | kW      |      |      |      |      | 178,9       | 195,2       | 209,5       |      |
| ② T.E.R.                                                                                       |         |      |      |      |      | 7,52        | 7,6         | 7,7         |      |
| <b>HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)</b>                                        |         |      |      |      |      |             |             |             |      |
| ② Nominal heating capacity                                                                     | kW      |      |      |      |      | 140,1       | 149,1       | 158,1       |      |
| ② Absorbed power                                                                               | kW      |      |      |      |      | 43,5        | 46,6        | 49,3        |      |
| ② C.O.P.                                                                                       |         |      |      |      |      | 3,22        | 3,2         | 3,21        |      |
| <b>TXAETP-TXAEQP MODEL</b>                                                                     |         |      |      |      |      | <b>4140</b> | <b>4150</b> | <b>4160</b> |      |
| ① TXAETP sound pressure                                                                        | dB(A)   |      |      |      |      | 55          | 55          | 56          |      |
| ① TXAEQP sound pressure                                                                        | dB(A)   |      |      |      |      | 50          | 50          | 51          |      |
| ② TXAETP sound power                                                                           | dB(A)   |      |      |      |      | 87          | 87          | 88          |      |
| ② TXAEQP sound power                                                                           | dB(A)   |      |      |      |      | 82          | 82          | 83          |      |
| Scroll compressors/steps                                                                       | no.     |      |      |      |      | 4/4         | 4/4         | 4/4         |      |
| Circuits                                                                                       | no.     |      |      |      |      | 2           | 2           | 2           |      |
| Electrical supply                                                                              | V-ph-Hz |      |      |      |      | 400-3-50    | 400-3-50    | 400-3-50    |      |
| <b>DIMENSIONS AND WEIGHTS</b>                                                                  |         |      |      |      |      | <b>4140</b> | <b>4150</b> | <b>4160</b> |      |
| L – Width                                                                                      | mm      |      |      |      |      | 3930        | 3930        | 3930        |      |
| H – Height                                                                                     | mm      |      |      |      |      | 2260        | 2260        | 2260        |      |
| P – Depth                                                                                      | mm      |      |      |      |      | 1970        | 1970        | 1970        |      |
| ② TXAETP weight                                                                                | kg      |      |      |      |      | 2310        | 2360        | 2365        |      |
| ② TXAEQP weight                                                                                | kg      |      |      |      |      | 2390        | 2440        | 2445        |      |
|                                                                                                |         |      |      |      |      |             |             |             |      |
| <b>SEASONAL ENERGY PERFORMANCE</b>                                                             |         |      |      |      |      | <b>4140</b> | <b>4150</b> | <b>4160</b> |      |
| <b>TXAETP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Low temperature application 35°C</b>    |         |      |      |      |      |             |             |             |      |
| ① Pdesignh (EN 14825)                                                                          | kW      |      |      |      |      | 116         | 124         | 131         |      |
| ① SCOP (EN 14825)                                                                              |         |      |      |      |      | 3,75        | 3,74        | 3,72        |      |
| ② ηs                                                                                           | %       |      |      |      |      | 147         | 147         | 146         |      |
| ② Energy class                                                                                 |         |      |      |      |      | -           | -           | -           |      |
| <b>TXAEQP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Low temperature application 35°C</b>    |         |      |      |      |      |             |             |             |      |
| ① Pdesignh (EN 14825)                                                                          | kW      |      |      |      |      | 114         | 121         | 128         |      |
| ① SCOP (EN 14825)                                                                              |         |      |      |      |      | 3,7         | 3,69        | 3,68        |      |
| ② ηs                                                                                           | %       |      |      |      |      | 145         | 144         | 144         |      |
| ② Energy class                                                                                 |         |      |      |      |      | -           | -           | -           |      |
| <b>TXAETP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C</b> |         |      |      |      |      |             |             |             |      |
| ① Pdesignh (EN 14825)                                                                          | kW      |      |      |      |      | 113         | 120         | 127         |      |

|                                                                                                |    |      |      |      |
|------------------------------------------------------------------------------------------------|----|------|------|------|
| ① SCOP (EN 14825)                                                                              |    | 3,2  | 3,18 | 3,18 |
| ② $\eta_s$                                                                                     | %  | 125  | 124  | 124  |
| ② Energy class                                                                                 |    | -    | -    | -    |
| <b>TXAEQP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C</b> |    |      |      |      |
| ① Pdesignh (EN 14825)                                                                          | kW | 111  | 118  | 125  |
| ① SCOP (EN 14825)                                                                              |    | 3,14 | 3,13 | 3,14 |
| ② $\eta_s$                                                                                     | %  | 123  | 122  | 122  |
| ② Energy class                                                                                 |    | -    | -    | -    |

Data at the following conditions:

- ① Air: 35°C – Water: 12/7°C.
  - ② Air: 7°C D.B. – 6°C W.B. – Water: 40/45°C.
  - ③ Evaporator output water: 7°C, nominal flow rate. Recovery output water: 45°C, nominal flow rate.
  - ④ In open field (Q = 2) at 10 m from the unit.
  - ⑤ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
  - ⑥ Weight referred to the unit without load and not accessorised.
- Performance according to EN 14511.  
T.E.R.: Total efficiency ratio
- ① In Average climatic conditions
  - ② Seasonal energy efficiency: heating in Average climate (EU Regulations No.811/2013 and No.813/2013 – class between D and A+++)



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