

TBX

1401/4102
cooling only

Air/Water chillers for outdoor installation
With two-stage centrifugal compressor shell and tube heat exchangers and axial fans
Cooling capacity 259,3 ÷ 863,3 kW

HFC
Refrigerant
R134a



Aermec participates in the EUROVENT LCP programme. The products are listed on the site www.eurovent-certification.com



- **HIGH SEASONAL EFFICIENCY**
- **BUILT-IN DEVICE TO REDUCE STARTING CURRENT (ONLY 6 AMPS!)**
- **FAST AND EASY INSTALLATION**

Characteristics

- Available in 12 sizes
- Cooling only version
- New generation two-stage oil-free centrifugal compressor with magnetic levitation bearings
- Refrigerant R134a
- Exceptional high efficiency at part load (up to 30% higher ESEER compared to standard chillers)
- Electronic expansion valve for precise control
- Flooded shell and tube evaporator optimised for refrigerant R134a
- Axial fans for extremely quiet operation
- Compressor features:
 1. Operates without oil as bearings are magnetic levitation type. Vibration free and very quiet
 2. Provided with inverter technology that permits capacity modulation down to 25%
 3. Integrated controller that reduces starting current to 6 A only
- **Standard (°) and Low noise (L) Versions:**
 1. Operating limit up to 42 °C external air temperature
 2. Compressor acoustical enclosure for low noise operation
 3. Fan speed control
- **High efficiency (A) and High efficiency low noise (E) Versions:**
 1. Operating limit up to 42 °C external air temperature
 2. Compressor acoustical enclosure for low noise operation
 3. EC (Electronically Commutated) fan
 - Modulating capacity control microprocessor system
 - Evaporator trace heating.
 - LCD user interface: colour touch-screen with simple and intuitive graphical menu
 - Multilingual display panel
 - Compact sizes
 - Metal control panel with anti-corrosion polyester paint

Accessories

- **AER485P1:** RS-485 interface for supervision systems with MODBUS protocol.
- **AERNET:** In Master operating mode, allows the remote control of up to six Slave units equipped with RS485 serial connections. Remote control is available on via PC, tablet or smartphone thanks to a Cloud Server connection. The chronological recording of the activities of the connected units (log files) is also available for eventual post analysis.
- **MULTICHILLER_EVO:** Control system to switch the individual chillers on and off, and command them, in a system in which several units are installed in parallel, always ensuring a constant delivery to the exchanger.
- **AVX:** Spring anti-vibration mounts. For compatibility of the AVX mounts refer to the technical manual.
- **GP:** Protective grille. Condenser coil external protection against accidental or hail damage.
- **Factory fitted.**
 - **PTW:** Remote control of the chiller operating functions.

Compatibility of accessories

| TBX | VERS. | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 |
|------------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| AER485P1 | Alls | . | . | . | . | . | . | . | . | . | . | . | . |
| AERNET | Alls | . | . | . | . | . | . | . | . | . | . | . | . |
| MULTICHILLER_EVO | Alls | . | . | . | . | . | . | . | . | . | . | . | . |
| GP300M | L E | . | | | | | | | | | | | |
| GP400M | L E | | . | | | | | | | | | | |
| GP500M | L E | | | . | . | . | | | | | | | |
| GP 300M+300M | L E | | | | | | . | | | | | | |
| GP 300M+400M | L E | | | | | | | . | . | . | | | |
| GP 400M+400M | L E | | | | | | | | | | . | | |
| GP 400M+500M | L E | | | | | | | | | | | . | |
| GP 500M+500M | L E | | | | | | | | | | | | . |
| GP 300M | ° A | . | | | | | | | | | | | |
| GP 400M | ° A | | . | | | | | | | | | | |
| GP 500M | ° A | | | . | . | . | | | | | | | |
| GP 300M+300M | ° A | | | | | | . | | | | | | |
| GP 300M+400M | ° A | | | | | | | . | . | | | | |
| GP 400M+400M | ° A | | | | | | | | | . | | | |
| GP 400M+500M | ° A | | | | | | | | | | . | | |
| GP 500M+500M | ° A | | | | | | | | | | | . | . |
| AVX | ° | 570 | 571 | 571 | 572 | 573 | 574 | 575 | 575 | 576 | 576 | 577 | 577 |
| | L | 570 | 571 | 571 | 572 | 573 | 574 | 575 | 575 | 575 | 576 | 576 | 577 |
| | A | 570 | 571 | 571 | 572 | 573 | 574 | 575 | 575 | 576 | 576 | 578 | 578 |
| | E | 570 | 571 | 571 | 572 | 573 | 574 | 575 | 575 | 575 | 576 | 576 | 577 |

Note:

AER485P1 - GP Accessory only factory fitted.

Unit Configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most demanding of system requirements.

Code:

TBX

Size:

1401, 1801, 2001, 2302, 2502, 2652, 2802, 3202, 3502, 3702, 3802, 4102

Model:

° - Cooling only

Version:

° - Standard

L - Standard low noise

A - High efficiency

E - High efficiency low noise

Condenser coil:

° - Aluminium

R - Copper

S - Tinned copper

V - Anti-corrosion coated aluminium

Fan:

° - Standard

I - EC (Electronically Commutated)
standard on "A" and "E" Versions

Power supply:

° - 400V 3~ 50Hz with circuit breakers

Note:

- Electronic expansion valve standard

Technical Data

| TBX - ° | | | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 | |
|---|-------------------|---------|-------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|
| | | | V/ph/Hz | | | | | | | | | | | | |
| | | | 400V/3/50Hz | | | | | | | | | | | | |
| 12°C / 7°C | Cooling capacity | (1) kW | 287,7 | 368,6 | 407,6 | 469,7 | 509,7 | 545,7 | 587,7 | 669,7 | 736,7 | 781,6 | 816,6 | 845,6 | |
| | Total power input | (1) kW | 91,6 | 117,2 | 129,3 | 149,0 | 161,4 | 173,0 | 184,9 | 212,2 | 233,3 | 247,4 | 258,8 | 268,2 | |
| | EER | (1) | 3,14 | 3,15 | 3,15 | 3,15 | 3,16 | 3,15 | 3,18 | 3,16 | 3,16 | 3,16 | 3,16 | 3,16 | |
| | Water flow rate | (1) l/h | 49481 | 63398 | 70099 | 80751 | 87623 | 93808 | 101025 | 115113 | 126624 | 134356 | 140369 | 145352 | |
| | Pressure drop | (1) kPa | 30 | 17 | 15 | 15 | 15 | 15 | 14 | 15 | 16 | 17 | 15 | 16 | |
| Cooling capacity with low leaving water temp (UE n° 2016/2281) | | | | | | | | | | | | | | | |
| ηsc | | | % | 187,6 | 193,6 | 195,0 | 194,7 | 195,6 | 195,7 | 197,8 | 196,9 | 197,2 | 197,3 | 197,8 | 197,5 |
| SEER | | | | 4,77 | 4,92 | 4,95 | 4,94 | 4,97 | 4,97 | 5,02 | 5,00 | 5,01 | 5,01 | 5,02 | 5,01 |

| TBX - L | | | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 | |
|---|-------------------|---------|-------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|
| | | | V/ph/Hz | | | | | | | | | | | | |
| | | | 400V/3/50Hz | | | | | | | | | | | | |
| 12°C / 7°C | Cooling capacity | (1) kW | 259,3 | 343,1 | 392,6 | 435,9 | 464,3 | 518,8 | 543,7 | 595,6 | 636,0 | 688,5 | 743,0 | 785,4 | |
| | Total power input | (1) kW | 88,9 | 117,9 | 134,7 | 149,6 | 159,3 | 177,5 | 186,2 | 203,8 | 217,7 | 236,3 | 255,0 | 269,0 | |
| | EER | (1) | 2,92 | 2,91 | 2,92 | 2,91 | 2,91 | 2,92 | 2,92 | 2,92 | 2,92 | 2,91 | 2,91 | 2,92 | |
| | Water flow rate | (1) l/h | 44602 | 59000 | 67504 | 74961 | 79823 | 89187 | 93465 | 102382 | 109323 | 118343 | 127724 | 135009 | |
| | Pressure drop | (1) kPa | 30 | 15 | 19 | 13 | 15 | 16 | 15 | 15 | 17 | 16 | 16 | 17 | |
| Cooling capacity with low leaving water temp (UE n° 2016/2281) | | | | | | | | | | | | | | | |
| ηsc | | | % | 184,9 | 189,0 | 189,1 | 196,9 | 196,9 | 198,0 | 198,2 | 199,0 | 198,9 | 198,9 | 199,2 | 199,7 |
| SEER | | | | 4,70 | 4,80 | 4,80 | 5,00 | 5,00 | 5,03 | 5,03 | 5,05 | 5,05 | 5,05 | 5,06 | 5,07 |

| TBX - A | | | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 | |
|---|-------------------|---------|-------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|
| | | | V/ph/Hz | | | | | | | | | | | | |
| | | | 400V/3/50Hz | | | | | | | | | | | | |
| 12°C / 7°C | Cooling capacity | (1) kW | 287,6 | 371,6 | 416,6 | 461,5 | 503,5 | 539,5 | 595,5 | 669,4 | 741,4 | 795,4 | 833,4 | 863,3 | |
| | Total power input | (1) kW | 86,0 | 110,9 | 124,8 | 138,1 | 150,4 | 161,1 | 177,3 | 199,7 | 220,8 | 237,3 | 248,4 | 258,1 | |
| | EER | (1) | 3,34 | 3,35 | 3,34 | 3,34 | 3,35 | 3,35 | 3,36 | 3,35 | 3,36 | 3,35 | 3,36 | 3,34 | |
| | Water flow rate | (1) l/h | 49481 | 63913 | 71645 | 79376 | 86592 | 92778 | 102399 | 115113 | 127484 | 136761 | 143290 | 148445 | |
| | Pressure drop | (1) kPa | 50 | 41 | 43 | 44 | 44 | 44 | 41 | 43 | 45 | 46 | 45 | 48 | |
| Cooling capacity with low leaving water temp (UE n° 2016/2281) | | | | | | | | | | | | | | | |
| ηsc | | | % | 192,2 | 196,0 | 195,3 | 200,3 | 201,3 | 201,8 | 203,6 | 203,4 | 203,8 | 203,5 | 204,2 | 203,1 |
| SEER | | | | 4,88 | 4,98 | 4,96 | 5,08 | 5,11 | 5,12 | 5,17 | 5,16 | 5,17 | 5,16 | 5,18 | 5,15 |

| TBX - E | | | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 | |
|---|-------------------|---------|-------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|
| | | | V/ph/Hz | | | | | | | | | | | | |
| | | | 400V/3/50Hz | | | | | | | | | | | | |
| 12°C / 7°C | Cooling capacity | (1) kW | 265,9 | 355,6 | 407,5 | 442,3 | 474,8 | 534,0 | 557,5 | 615,6 | 652,2 | 709,3 | 770,5 | 815,3 | |
| | Total power input | (1) kW | 84,8 | 113,6 | 130,2 | 141,2 | 152,2 | 170,3 | 177,0 | 196,9 | 207,8 | 226,5 | 246,1 | 260,1 | |
| | EER | (1) | 3,13 | 3,13 | 3,13 | 3,13 | 3,12 | 3,14 | 3,15 | 3,13 | 3,14 | 3,13 | 3,13 | 3,14 | |
| | Water flow rate | (1) l/h | 45736 | 61164 | 70099 | 76060 | 81661 | 91833 | 95870 | 105852 | 112158 | 121968 | 132483 | 140198 | |
| | Pressure drop | (1) kPa | 44 | 38 | 49 | 40 | 46 | 48 | 46 | 44 | 49 | 47 | 48 | 48 | |
| Cooling capacity with low leaving water temp (UE n° 2016/2281) | | | | | | | | | | | | | | | |
| ηsc | | | % | 183,1 | 185,5 | 183,9 | 192,8 | 191,1 | 192,4 | 193,9 | 193,5 | 193,4 | 193,8 | 193,9 | 194,5 |
| SEER | | | | 4,65 | 4,71 | 4,67 | 4,90 | 4,85 | 4,89 | 4,92 | 4,91 | 4,91 | 4,92 | 4,92 | 4,94 |

Date (14511:2018)

(1) Water system side 12°C/7°C, External air 35°C

Technical Data

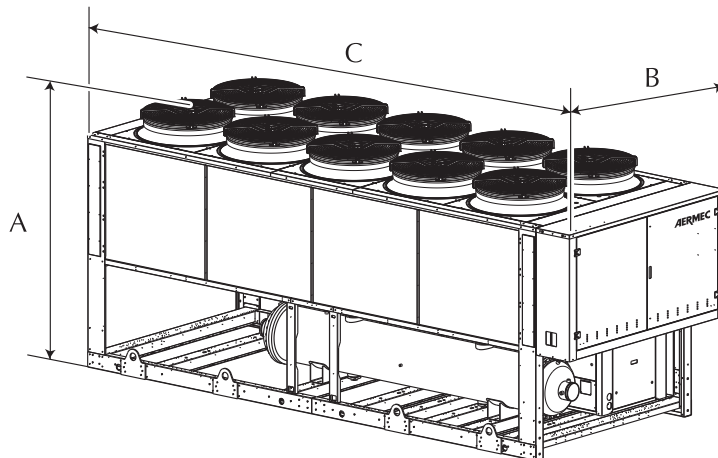
| | | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 | | |
|---|--------------------------------|---------|------------------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|
| Electrical data | | | | | | | | | | | | | | | |
| 400V | Total input currente (cooling) | A | 147 | 195 | 216 | 242 | 260 | 280 | 299 | 355 | 389 | 412 | 431 | 447 | |
| | Maximum current (FLA) | ° | A | 153 | 234 | 240 | 300 | 300 | 306 | 312 | 462 | 468 | 474 | 480 | 480 |
| | Starting current (LRA) | A | 24 | 30 | 36 | 126 | 126 | 132 | 138 | 188 | 194 | 200 | 206 | 206 | |
| 400V | Total input currente (cooling) | L | A | 144 | 198 | 225 | 244 | 258 | 308 | 345 | 366 | 396 | 426 | 449 | |
| | Maximum current (FLA) | A | 153 | 234 | 240 | 300 | 300 | 306 | 312 | 462 | 462 | 468 | 474 | 480 | |
| | Starting current (LRA) | A | 24 | 30 | 36 | 126 | 126 | 132 | 138 | 188 | 188 | 194 | 200 | 206 | |
| 400V | Total input currente (cooling) | A | 134 | 179 | 200 | 217 | 235 | 251 | 276 | 322 | 355 | 382 | 399 | 413 | |
| | Maximum current (FLA) | A | 159 | 242 | 250 | 310 | 310 | 318 | 326 | 476 | 484 | 492 | 500 | 500 | |
| | Starting current (LRA) | A | 30 | 38 | 46 | 136 | 136 | 144 | 152 | 202 | 210 | 218 | 226 | 226 | |
| 400V | Total input currente (cooling) | E | A | 132 | 176 | 209 | 221 | 238 | 265 | 320 | 337 | 366 | 396 | 417 | |
| | Maximum current (FLA) | A | 159 | 242 | 250 | 310 | 310 | 318 | 326 | 476 | 476 | 484 | 492 | 500 | |
| | Starting current (LRA) | A | 30 | 38 | 46 | 136 | 136 | 144 | 152 | 202 | 202 | 210 | 218 | 226 | |
| Centrifugal inverter oil-free Compressor | | | | | | | | | | | | | | | |
| Compressors / Circuit | | n°/n° | 1/1 | 1/1 | 1/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | |
| Refrigerant | | Type | R134a | | | | | | | | | | | | |
| Heat exchanger system side | | | | | | | | | | | | | | | |
| Exchanger | | Type/n° | Flooded shell & tube/1 | | | | | | | | | | | | |
| Electrical heater | | n°/W | 1/170 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | 1/250 | |
| Axial fans | | | | | | | | | | | | | | | |
| Fan | | Type/n° | Axial/6 | Axial/8 | Axial/10 | Axial/10 | Axial/10 | Axial/12 | Axial/14 | Axial/14 | Axial/16 | Axial/18 | Axial/20 | Axial/20 | |
| Air flow rate (cooling) | | m³/h | 94200 | 132800 | 166000 | 166000 | 157000 | 199200 | 232400 | 232400 | 265600 | 298800 | 332000 | 314000 | |
| Fan | | Type/n° | Axial/6 | Axial/8 | Axial/10 | Axial/10 | Axial/10 | Axial/12 | Axial/14 | Axial/14 | Axial/14 | Axial/16 | Axial/18 | Axial/20 | |
| Air flow rate (cooling) | | m³/h | 69720 | 92960 | 116200 | 116200 | 109900 | 139440 | 162680 | 162680 | 153860 | 185920 | 209160 | 232400 | |
| Fan | | Type/n° | Ax.EC/6 | Ax.EC/8 | Ax.EC/10 | Ax.EC/10 | Ax.EC/10 | Ax.EC/12 | Ax.EC/14 | Ax.EC/14 | Ax.EC/16 | Ax.EC/18 | Ax.EC/20 | Ax.EC/20 | |
| Air flow rate (cooling) | | m³/h | 94200 | 132800 | 166000 | 166000 | 157000 | 199200 | 232400 | 232400 | 265600 | 298800 | 332000 | 314000 | |
| Fan | | Type/n° | Ax.EC/6 | Ax.EC/8 | Ax.EC/10 | Ax.EC/10 | Ax.EC/10 | Ax.EC/12 | Ax.EC/14 | Ax.EC/14 | Ax.EC/14 | Ax.EC/16 | Ax.EC/18 | Ax.EC/20 | |
| Air flow rate (cooling) | | m³/h | 69720 | 92960 | 116200 | 116200 | 109900 | 139440 | 162680 | 162680 | 153860 | 185920 | 209160 | 232400 | |
| Sound data (cooling) | | | | | | | | | | | | | | | |
| Sound power level | | ° | dB(A) | 88 | 89 | 90 | 90 | 90 | 91 | 92 | 92 | 93 | 93 | 93 | |
| Sound pressure level | | L | dB(A) | 56 | 57 | 58 | 58 | 58 | 58 | 59 | 59 | 60 | 60 | 60 | |
| Sound power level | | A | dB(A) | 83 | 84 | 85 | 85 | 85 | 86 | 87 | 87 | 88 | 88 | 88 | |
| Sound pressure level | | E | dB(A) | 51 | 52 | 53 | 53 | 53 | 53 | 54 | 54 | 55 | 55 | 55 | |
| Sound power level | | A | dB(A) | 88 | 89 | 90 | 90 | 90 | 91 | 92 | 92 | 93 | 93 | 93 | |
| Sound pressure level | | E | dB(A) | 56 | 57 | 58 | 58 | 58 | 58 | 59 | 59 | 60 | 60 | 60 | |
| Sound power level | | E | dB(A) | 81 | 82 | 83 | 83 | 83 | 84 | 85 | 85 | 86 | 86 | 86 | |
| Sound pressure level | | E | dB(A) | 49 | 50 | 51 | 51 | 51 | 51 | 52 | 52 | 53 | 53 | 53 | |

Sound power Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Dimensions (mm)



| Model. TBX | | 1401 | 1801 | 2001 | 2302 | 2502 | 2652 | 2802 | 3202 | 3502 | 3702 | 3802 | 4102 |
|------------|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| A | All mm | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 |
| B | All mm | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 |
| C | ° A mm | 3780 | 4770 | 5750 | 5750 | 5750 | 7160 | 8150 | 8150 | 9140 | 10120 | 11100 | 11100 |
| | L E mm | 3780 | 4770 | 5750 | 5750 | 5750 | 7160 | 8150 | 8150 | 8150 | 9140 | 10120 | 11100 |