



# Technical Parameters

## Vibration、Temperature、Humidity Combined Environmental Test System - THV Series



STI provides the combined environmental test systems with integrated design and control, and we believe it will bring a better experience to the user.

The THV Test system developed by STI has the following advantages in structure:

- Systematic: Combine vibration system and climatic environment system
- Operability: greatly reduce the intensity of manpower operation, as far as possible to reduce human intervention.
- Aesthetics: The color matching of vibration system and climate environment system is harmonized.
- Safety: Due to the great reduction of manpower operation, safety has been well guaranteed.

## Features

- Comprehensive environment integrated CEC 3000 controller (test setting and display are in the same software and the same interface)
- Integration design of shaker with temperature chamber
- Setting and display temperature vibration working conditions in the one interface
- Precise timeline consistent
- Multiple interface connections between shaker and temperature chamber
- Variety of moving methods, according to the site decided to move the shaker or temperature chamber
- Standard 8-channel digital I / O ports

| THV Test System Technical Parameters (Chamber) |        |                               |        |        |      |           |        |          |      |      |      |    |    |
|------------------------------------------------|--------|-------------------------------|--------|--------|------|-----------|--------|----------|------|------|------|----|----|
| Temperature Fluctuations                       | °C     | ±0.5°C                        |        |        |      |           |        |          |      |      |      |    |    |
| Temperature Deviation                          | °C     | ±2°C                          |        |        |      |           |        |          |      |      |      |    |    |
| Temperature Uniformity                         | °C     | ≤2°C                          |        |        |      |           |        |          |      |      |      |    |    |
| Humidity Range                                 | %RH    | 20~98                         |        |        |      |           |        |          |      |      |      |    |    |
| Humidity Deviation                             | %RH    | ≤75%RH: ≤±5%; > 75%RH: ≤±2-3% |        |        |      |           |        |          |      |      |      |    |    |
| Dew Point Temperature                          | °C     | +4~89.5                       |        |        |      |           |        |          |      |      |      |    |    |
| Power Supply                                   |        | 3/N/PE AC , 380V±10% , 50Hz   |        |        |      |           |        |          |      |      |      |    |    |
| Chamber model/volume                           | L      | THV-600                       |        |        |      |           |        |          |      |      |      |    |    |
| Test Area Dimensions                           | mm     | 800W×800D×950H                |        |        |      |           |        |          |      |      |      |    |    |
| Load                                           |        | 25kg Aluminum ingots          |        |        |      |           |        |          |      |      |      |    |    |
| Temperature Range                              | °C     | -70~+180                      |        |        |      |           |        | -40~+180 |      |      |      |    |    |
| Temperature Change Assessment Range            | °C     | -40~+85°C                     |        |        |      | -55~+85°C |        |          |      | \    |      |    |    |
| Temperature Ramp Rate                          | °C/min | 2                             | 5      | 10     | 15   | 2         | 5      | 10       | 15   | 2    | 5    | 10 | 15 |
| Rated Power                                    | kW     | 9                             | 12     | 19     | 25   | 9         | 17     | 23       | 36   | 7    | 10.5 | \  | \  |
| Cooling Water Flow (+30°C)                     | t/h    | 2.6 \N                        | 3.4 \N | 6.2 \N | 10.6 | 2.1 \N    | 5.5 \N | 9.7      | 14   | 2.3  | 5.8  | \  | \  |
| Chamber model/volume                           | L      | THV-1200                      |        |        |      |           |        |          |      |      |      |    |    |
| Test Area Dimensions                           | mm     | 1100W×1100D×1000H             |        |        |      |           |        |          |      |      |      |    |    |
| Load                                           |        | 50kg Aluminum ingots          |        |        |      |           |        |          |      |      |      |    |    |
| Temperature Range                              | °C     | -70~+180                      |        |        |      |           |        | -40~+180 |      |      |      |    |    |
| Temperature Change Assessment Range            | °C     | -40~+85°C                     |        |        |      | -55~+85°C |        |          |      | \    |      |    |    |
| Temperature Ramp Rate                          | °C/min | 2                             | 5      | 10     | 15   | 2         | 5      | 10       | 15   | 2    | 5    | 10 | 15 |
| Rated Power                                    | kW     | 9                             | 19     | 25     | 39   | 10        | 21     | 36       | 43   | 7.9  | 13.9 | \  | \  |
| Cooling Water Flow (+30°C)                     | t/h    | 2.6 \N                        | 6.2 \N | 10.6   | 16.1 | 2.9 \N    | 6.8 \N | 14       | 16.1 | 2.8  | 7.4  | \  | \  |
| Chamber model/volume                           | L      | THV-2200                      |        |        |      |           |        |          |      |      |      |    |    |
| Test Area Dimensions                           | mm     | 1400W×1400D×1100H             |        |        |      |           |        |          |      |      |      |    |    |
| Load                                           |        | 100kg Aluminum ingots         |        |        |      |           |        |          |      |      |      |    |    |
| Temperature Range                              | °C     | -70~+180                      |        |        |      |           |        | -40~+180 |      |      |      |    |    |
| Temperature Change Assessment Range            | °C     | -40~+85°C                     |        |        |      | -55~+85°C |        |          |      | \    |      |    |    |
| Temperature Ramp Rate                          | °C/min | 2                             | 5      | 10     | 15   | 2         | 5      | 10       | 15   | 2    | 5    | 10 | 15 |
| Rated Power                                    | kW     | 12                            | 23     | 39     | 56   | 17        | 28     | 52       | 75   | 10.5 | 16.6 | \  | \  |
| Cooling Water Flow (+30°C)                     | t/h    | 3.4 \N                        | 7.7 \N | 16.1   | 20.9 | 5.5 \N    | 12     | 19.8     | 27.3 | 5.8  | 8.4  | \  | \  |

| Chamber model/volume                | L      | THV-3300                            |      |      |      |           |      |      |      |          |      |    |    |
|-------------------------------------|--------|-------------------------------------|------|------|------|-----------|------|------|------|----------|------|----|----|
| Test Area Dimensions                | mm     | 1500W×1500D×1500H                   |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 150kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85°C                           |      |      |      | -55~+85°C |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 15   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 19                                  | 30   | 46   | 67   | 21        | 36   | 63   | 87   | 13.9     | 20   | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 6.2\N                               | 12.4 | 18.5 | 26.5 | 6.8\N     | 14   | 23   | 30.7 | 6.4      | 10   | \  | \  |
| Chamber model/volume                | L      | THV-4800                            |      |      |      |           |      |      |      |          |      |    |    |
| Test Area Dimensions                | mm     | 1800W×1800D×1500H                   |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 150kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85°C                           |      |      |      | -55~+85°C |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 15   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 23                                  | 39   | 81   | 93   | 23        | 43   | 87   | 126  | 13.9     | 24.6 | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 7.7\N                               | 16.1 | 29.5 | 34   | 9.7       | 16.1 | 30.7 | 46   | 6.4      | 11.7 | \  | \  |
| Chamber model/volume                | L      | THV-5800                            |      |      |      |           |      |      |      |          |      |    |    |
| Test Area Dimensions                | mm     | 1800W×1800D×1800H                   |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 200kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85                             |      |      |      | -55~+85   |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 10   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 25                                  | 46   | 81   | 134  | 28        | 52   | 87   | 150  | 17.2     | 30   | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 10.6                                | 18.5 | 29.5 | 53   | 12        | 19.8 | 30.7 | 54.6 | 7.4      | 13.6 | \  | \  |
| Chamber model/volume                | L      | THV-8000                            |      |      |      |           |      |      |      |          |      |    |    |
| Test Area Dimensions                | mm     | 2000W×2000D×2000H                   |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 200kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85                             |      |      |      | -55~+85   |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 10   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 25                                  | 46   | 93   | 162  | 28        | 63   | 126  | 174  | 17.2     | \    | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 10.6                                | 18.5 | 34   | 59   | 12        | 23   | 46   | 61.4 | 7.4      | \    | \  | \  |
| Chamber model/volume                | m³     | THV-10                              |      |      |      |           |      |      |      |          |      |    |    |
| Test Area Dimensions                | mm     | 2300W×2300D×2000H                   |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 200kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85                             |      |      |      | -55~+85   |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 10   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 39                                  | 67   | 134  | 200  | 36        | 75   | 150  | \    | 20       | \    | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 16.1                                | 26.5 | 53   | 79.5 | 14        | 27.3 | 54.6 | \    | 7.9      | \    | \  | \  |
| Chamber model/volume                | m³     | THV-12                              |      |      |      |           |      |      |      |          |      |    |    |
| Test Area Dimensions                | mm     | 2200W×2200D×2600H/2500W×2500D×2000H |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 200kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85                             |      |      |      | -55~+85   |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 10   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 39                                  | 67   | 134  | 200  | 36        | 75   | 150  | \    | 20       | \    | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 16.1                                | 26.5 | 53   | 79.5 | 14        | 27.3 | 54.6 | \    | 7.9      | \    | \  | \  |
| Chamber model/volume                | m³     | THV-18                              |      |      |      |           |      |      |      |          |      |    |    |
| Test Area Dimensions                | mm     | 3000W×3000D×2000H                   |      |      |      |           |      |      |      |          |      |    |    |
| Load                                |        | 250kg Aluminum ingots               |      |      |      |           |      |      |      |          |      |    |    |
| Temperature Range                   | °C     | -70~+150                            |      |      |      |           |      |      |      | -40~+150 |      |    |    |
| Temperature Change Assessment Range | °C     | -40~+85                             |      |      |      | -55~+85   |      |      |      | \        |      |    |    |
| Temperature Ramp Rate               | °C/min | 2                                   | 5    | 10   | 15   | 2         | 5    | 10   | 10   | 2        | 5    | 10 | 15 |
| Rated Power                         | kW     | 46                                  | 81   | 162  | 186  | 52        | 104  | 174  | \    | 24.6     | \    | \  | \  |
| Cooling Water Flow (+30°C)          | t/h    | 18.5                                | 29.5 | 59   | 68   | 19.8      | 39.6 | 61.4 | \    | 9.7      | \    | \  | \  |

| Chamber model/volume                | m <sup>3</sup> | THV-24                |      |     |     |         |      |    |    |          |   |    |    |
|-------------------------------------|----------------|-----------------------|------|-----|-----|---------|------|----|----|----------|---|----|----|
| Test Area Dimensions                | mm             | 3000W×3000D×2600H     |      |     |     |         |      |    |    |          |   |    |    |
| Load                                |                | 250kg Aluminum ingots |      |     |     |         |      |    |    |          |   |    |    |
| Temperature Range                   | °C             | -70~+150              |      |     |     |         |      |    |    | -40~+150 |   |    |    |
| Temperature Change Assessment Range | °C             | -40~+85               |      |     |     | -55~+85 |      |    |    | \        |   |    |    |
| Temperature Ramp Rate               | °C/min         | 2                     | 5    | 10  | 15  | 2       | 5    | 10 | 10 | 2        | 5 | 10 | 15 |
| Rated Power                         | kW             | 46                    | 81   | 162 | 243 | 63      | 104  | \  | \  | 34       | \ | \  | \  |
| Cooling Water Flow (+30°C)          | t/h            | 18.5                  | 29.5 | 59  | 89  | 23      | 39.6 | \  | \  | 11.6     | \ | \  | \  |

Note:

1. The temperature change rate is assessed in the range of ambient temperature 23±3°C.
2. The product manufacturing standard meets IEC 60068-3-5 and JJF 1101-2003.
3. Cooling water flow with "/N" is optional air cooling (greatly affected by the environment, not recommended).
4. The rated power in the table is low temperature holding power, and the actual installed power is subject to the scheme.
5. Parameters are subject to change upon request.