

Advantages of Damper Type Thermal Shock Chamber

What are the two types of thermal shock test chamber?

- Damper type models have only one chamber, where hot and cold air exposure comes from opening and closing of dampers.
- Elevator type models have separate chambers (zones) for the hot and cold conditions, with a mechanical lift to move the sample between the zones.

Who is looking for damper type thermal shock test chamber?

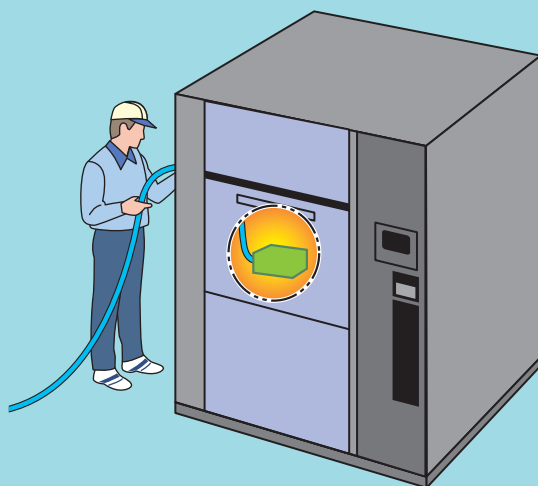
The elevator type models can be large, difficult to test, as two or three separate chambers are used. The damper type models TSA series has just one chamber with much simple mechanism, substantially reducing its size. However smaller footprint is just an example of many advantages.

Comparison of thermal shock chamber types



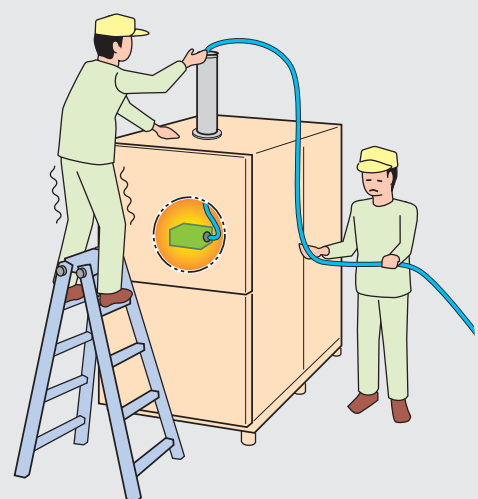
TSA-102ES

TSA (Damper Type)



- **Easy wiring:**
Various size and shape of cable ports are available.
- **Easy access:**
Both the chamber and cable port from the floor
- **No ladder:**
Easy to insert cable from left side wall

Others (Elevator Type)



- Difficult and limited wiring to specimen via cable duct with small diameter on the top of chamber
- Dangerous to insert cable from top with ladder
- Requires working safety mechanisms in case of lift failure

WORKABILITY

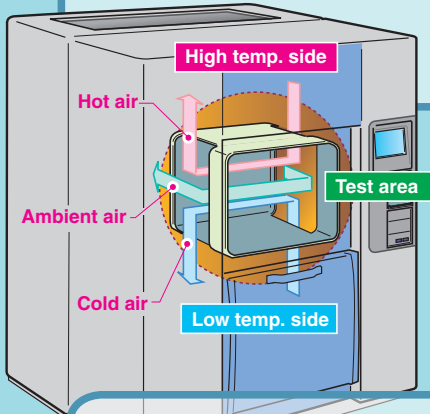
TSA (Damper Type)

Others (Elevator Type)

TEST QUALITY

- **No vibration effect :**
One less potential factor to influence test results

- **No stress on cables or connections:**
No risk of losing connection between specimen and cable



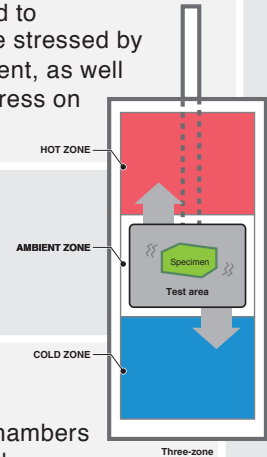
- **Multiple testing by single unit :**
Can be tested both of "Two-zone" and "Three zone" test, saving cost and space for an additional chamber



- **Unnecessary to worry about installation :**
No moving parts outside of chamber and short height
- Wider working space in front of chamber, easy access and setting from wide sliding down door

THREE-ZONE TEST

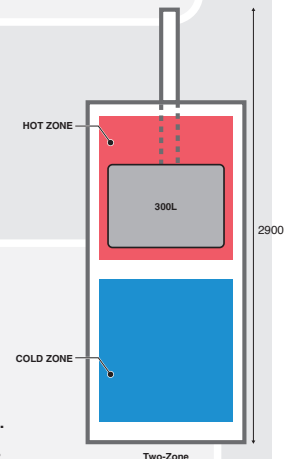
- Test sample gets potential added effect of vibration caused by elevator movement
- Cables connected to specimen may be stressed by repeated movement, as well as mechanical stress on connectors



- Different construction of three separate chambers (zone) is required.
- It is impossible to do "Two-zone" test

SPACE EFFICIENCY

- Cable duct moves up and down together with test lift and reach ceiling at the lift in the top test zone.
- Required space for opening hinged door
- Required specimen to place to the lift at high position



Other features

- Wide range of models : From 40L to 300L and bigger, depends on test condition
- Heavier specimen : Easy to modify floor reinforcement
- Better uniformity : Horizontal airflow design assures uniform results
- Repair costs: Simple mechanism compare to elevator type