

VLC Series & MZ Series

Altitude Simulation Solutions for Aerospace & Defence Applications

VLC Series



Altitude test solution with essential performance

MZ Series



High-performance solution for demanding altitude tests



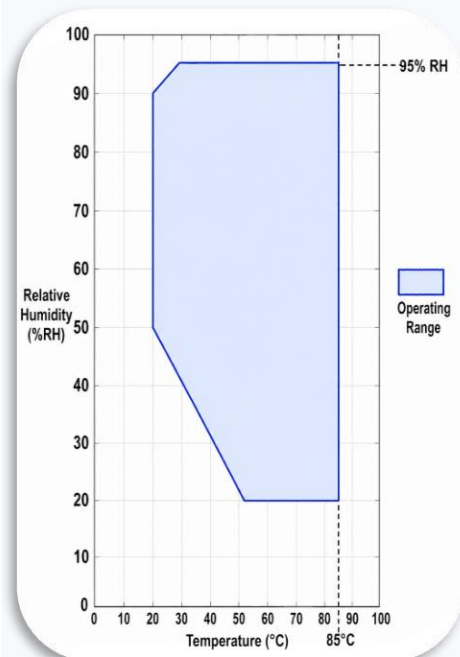
ESPEC offers two altitude environmental test chamber solutions for the European aerospace and defence market, selectable according to application and required specifications.

The VLC Series is an altitude test solution equipped with essential basic performance.

The MZ Series is a higher-end solution supporting more demanding altitude environments, wider temperature conditions, and humidity-equipped configurations.

Specs	VLC Series		MZH Series			
Model	445PD-S	1000PD-S	05H-H	11H-H	21H-H	32H-H
Temp. range	-70 to +120°C (93.3 to 10.7 kPa) OP +121 to +140°C (93.3 to 10.7 kPa) OP +141 to +180°C (Atmospheric pressure 101.3 kPa)		-70 to +180°C (Atmospheric pressure 101.3 kPa) -70 to +140°C (90 to 10.7 kPa) OP -55 to +90°C (10.7 to 3.0 kPa)			
Pressure range	93.3 to 0.5 kPa		101.3 to 1.1 kPa			
Pressure pull-down	Within 35 min (101.3 to 1 kPa)	Within 60 min (101.3 to 1 kPa)	Within 15 min (101.3 kPa to 1.1 kPa)			
Humidity	-		20 to 95%rh			
Heat-up (at atm.)	+25°C → +120°C		+25°C → +120°C			
	60 min	100 min	50 min			
Pull-down (at atm.)	+25°C → -70°C		+25°C → -70°C			
	100 min	160 min	50 min			
Inside dims. (mm)	W800 H800 D696	W1000 H1000 D1000	W800 H800 D800	W1000 H1000 D1000	W1500 H1000 D1000	W1500 H1500 D1500

MZH Series Humidity Control Range



VLC Series & MZ Series

Standards, Options and Control Range Diagrams

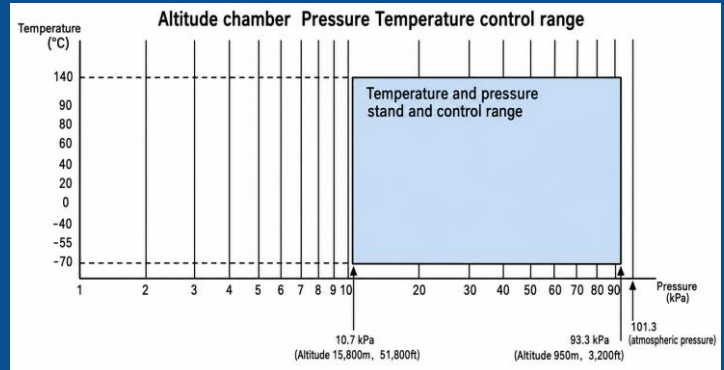
VLC Series Standards

- MIL-STD-810 Method 504.1 Cat. 4 Temperature/Altitude Test

Option Examples

- Temperature range extension: +180° C
- Hermetic terminals
- Reinforced glass viewing window

Temperature/Pressure Control Range (up to approx. 52,000 ft)



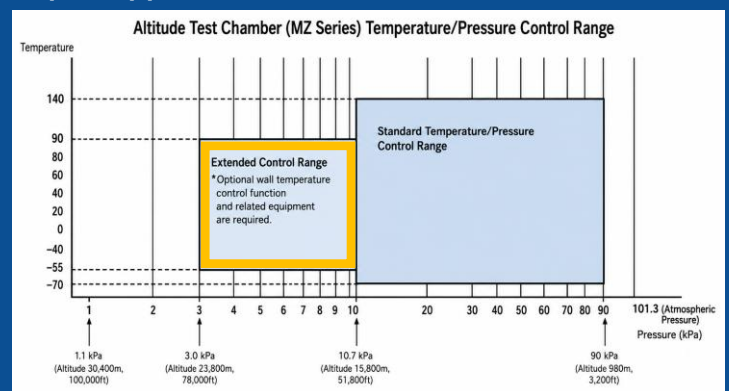
MZ Series Standards

- MIL-STD-810 Method 504.1 Cat. 4 Temperature/Altitude Test
- RTCA/DO-160G 4.6.1 Temperature/Pressure Test
- RTCA/DO-160G 4.6.2 Decompression Test
- RTCA/DO-160G 24.4.1 In-flight Icing (Option)

Option Examples

- Wall temperature control (expands temperature control during low-pressure operation)
- Hermetic terminals
- Reinforced glass viewing window

Temperature/Pressure Control Range (up to approx. 78,000 ft)



Extended range by wall temperature control

Custom Example — Large L-Series Chamber

Product Overview

Unlike the VLC/MZ Series, this custom large constant pressure/temperature chamber supports larger specimens. It provides pressure reduction from atmospheric pressure to 1 kPa and a temperature range from -60 to +100°C.

Key Features

- Temperature range: -60 to +100° C
- Pressure range: 101.3 kPa to 1 kPa
- Inside dimensions (mm): W1800 × H1800 × D2800

