

Name of organization FORCE Technology (Former Danish Maritime Institute)	Year of information updating 2016
Year established 1959	Year of joining the ITTC
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Type of facility Climatic wind tunnel	Year constructed/upgraded 2010
Name of facility WT5	Location (if different from the above address)

Main characteristics (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top)
Closed Circuit Climatic Wind tunnel (CWT). Dimension of test section: H = 2.0m, W = 2.0m, L = 5.0m.

Drawings of facility

Cross-section-views

The drawings illustrate the internal components and dimensions of the WT5 climatic wind tunnel. The longitudinal view shows the flow path starting from a fan with 219kW shaft power, passing through a rotatable spray bar for in-cloud icing, a turbulence grid, low-frequency flaps, and a sprinkler system for rain simulation. The flow then enters a test section with a cross-section of 2m x 2m, where the flow is turbulent at 25m/s and -5°C. A safety grid is positioned at the end of the test section. The vertical view shows the test section's height of 2.00m and width of 2.40m, with a person standing on a 1.40m high platform in front of a display labeled 'FLDV + D/T'. The building walls are 1.10m thick and the building roof is 1.80m high.

Detailed characteristics (carriages, wave/current/wind generators, instrumentations, etc.)

Closed Circuit Climatic Wind Tunnel

Max tunnel speed: 32m/s

Cooling system: -5°C at 25m/s and down to -10°C at lower wind speeds

Rain system: approximately 0.4-1.0g/m³ Liquid Water Content and approximately 10-50 µm Median Volume Diameter

Simulation of rime ice and glaze ice

Static and dynamic rigs of inclined cable tests

Applications (Tests performed)

Wind loads

Flow visualization

Dynamic and static tests of bridge cables and aerofoils

Ice accretion tests

Rain/wind induced vibration tests

Urban development – wind climate

Section model tests

Published description (Publications on this facility)

Christos T. GEORGAKIS, H. Holger H. KOSS, Francesco RICCIARDELLI: "DESIGN SPECIFICATIONS FOR A NOVEL CLIMATIC WIND TUNNEL FOR THE TESTING OF STRUCTURAL CABLES", 8th International Symposium on Cable Dynamics, Paris, France September 20-23, 2009