Name of organization The University of Tokyo	**Year of information updating** 2016
Year established 1980	**Year of joining the ITTC**
Address 7-3-1 Hongo, Bunkyo-ku, Tokyo, Japan	**Status in the ITTC** AC Member
Contact details (phone, fax, e-mail) Hajime Yamaguchi Phone: +81-4-7136-4114 Email: h-yama@k.u-tokyo.ac.jp	**Website** http://www.1.k.u-tokyo.ac.jp/yama/fluidlab/CavTun_www/index_e.html

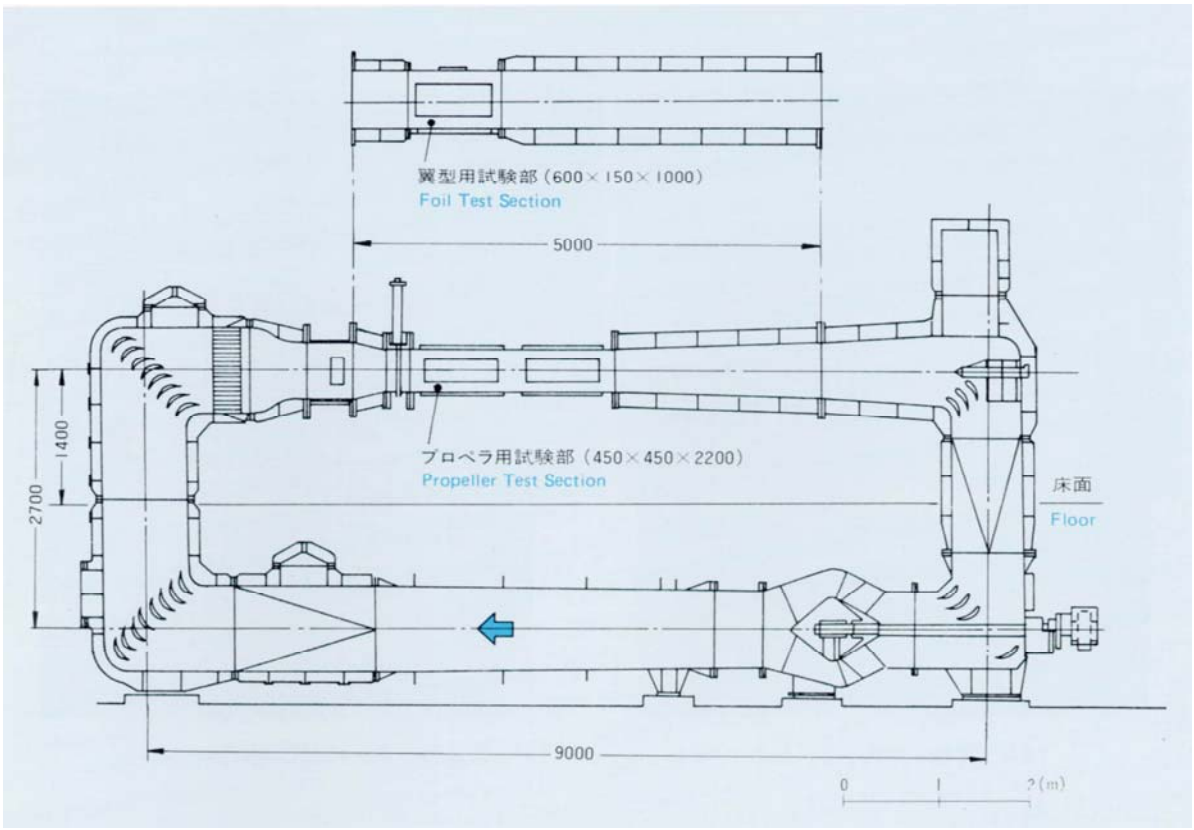
Type of facility Cavitation Tunnel	**Year constructed / upgraded** 1980
Name of facility Marine Propeller Cavitation Tunnel	**Location** (if different from the above address)

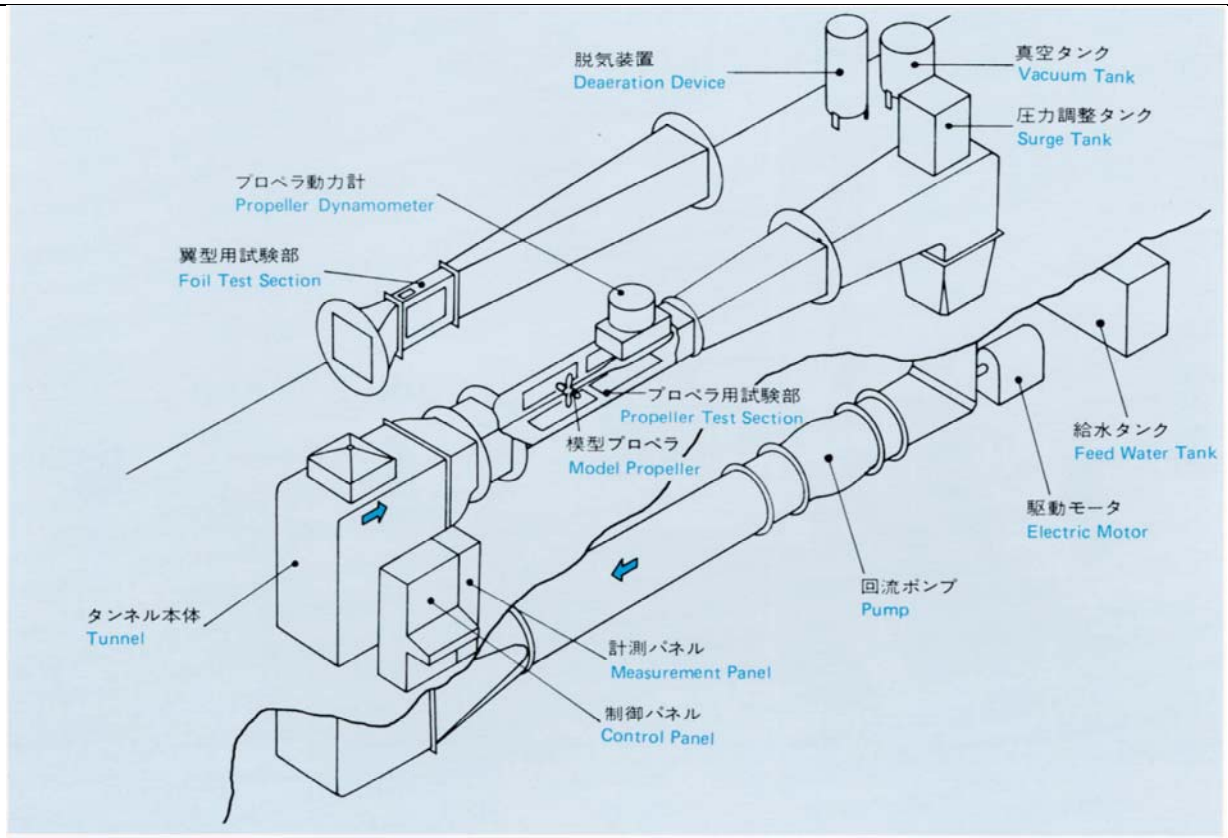
Main characteristics (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top)

Main Loop

Length between Centers: 9000 mm
Height between Centers: 2700 mm
Cross Section Size of Main Pipe: 900 mm x 900 mm
Material: Stainless Steel

Drawings of facility





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

Propeller Test Section

Total Length: 5000 mm
Working Section Size: 450 mm x 450 mm
Working Section Length: 2200 mm
Velocity Range: 1 - 11.2 m/s
Pressure Range: 10 - 300 kPa (abs.)
Material: Stainless Steel
Cavitation Number Range: 0.4 - 6.0
Model Propeller: 150 - 250 mm dia.
Following apparatuses can be installed: Propeller Dynamometer, Propeller Driving Device, Dummy Model, Wake Mesh and Nuclei Generator (Electrolysis).

Foil Test Section

Total Length: 5000 mm
Working Section Size: 600 mm x 150 mm
Working Section Length: 1000 mm
Velocity Range: 2 - 19.5 m/s
Pressure Range: 10 - 300 kPa (abs.)
Material: Stainless Steel
Cavitation Number Range: 0.1 - 6.0
Chord Length of Test Foil: 100 - 150 mm
Exchangeable to Propeller Test Section.

Pump

Type: Horizontal Mixed Flow Type
with Propeller Test Section: 1.36 m x 2.025 m^3/s
with Foil Test Section: 3.11 m x 1.53 m^3/s
Electric Motor: 3 pole, 415 V, 75 kW, 1313 rpm
Control System: Thyristor Leonard System

Propeller Dynamometer

Revolution: +- 50 rps
Torque: +- 40 N-m (max), measured by strain gauges between propeller and motor

Thrust: +- 1200 N (max), measured by strain gauges between propeller and motor
Electric Motor: 17 kW
Control System: Thyristor Leonard System

Instrumentation
propeller dynamometer, propeller driving device, foil dynamometer, pitot rake, 5-hole pitot tube, laser doppler velocimeter, pressure sensors, noise measurement equipment, high speed video camera, multichannel transient recorder, data processor.

Applications (Tests performed)
propeller tests in uniform & nonuniform flows (wire mesh and/or dummy model).
cavitation and no-cavitation tests of foils.
cavitation and no-cavitation tests of axisymmetric bodies.

Published description (Publications on this facility)
Hiroharu Kato, Yayuki Watanabe, Takashi Komura, Masatsugu Maeda, Masaru Miyanaga, New Marine Propeller Cavitation Tunnel at the University of Tokyo, its Design Concept and Special Feature -- On the criterion of air content in water --, J. Soc. Nav. Archi. Japan Vol.150 (1981) 148-157. (in Japanese)