Name of organization Korea Research Institute of Ships and Ocean Engineering(KRISO)	**Year of information updating** 2016
Year established 1973	**Year of joining the ITTC** 1978
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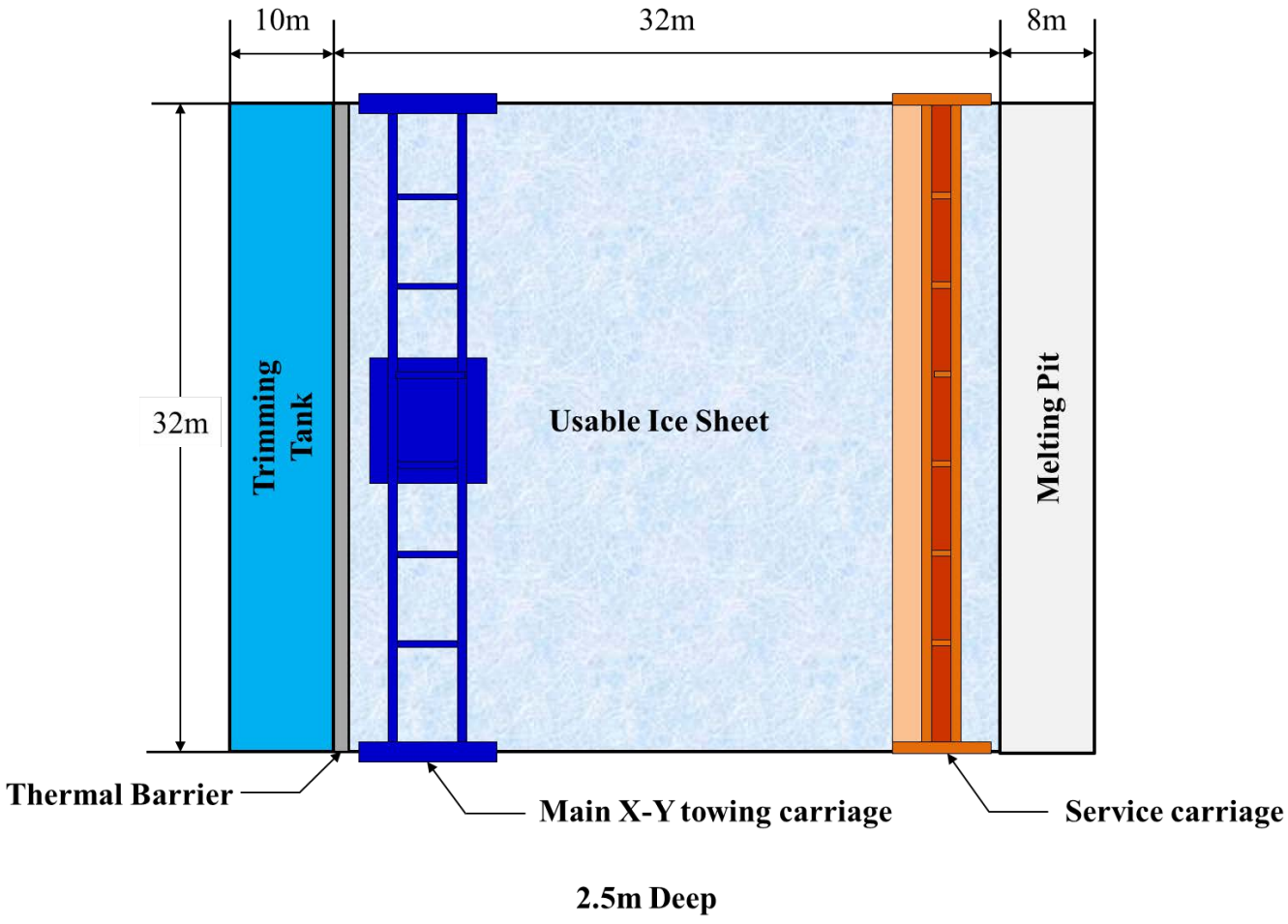
Type of facility Ice Model Basin	**Year constructed / upgraded** July 2009
Name of facility KRISO Ice Tank	**Location** (if different from the above address)

Main characteristics

- Main dimension: 42 m (length) × 32 m (width) × 2.5 m (water depth)
- Trimming tank size: 10 m (length) × 32 m (width)
- Usable ice sheet size: 32 m (length) × 32 m (width)
- Model ice type: ethylene glycol (EG)/aliphatic detergent (AD)/controlled density (CD)
- Crystal structure of model ice: columnar type
- Micro-bubble generation system to control the density of model ice

Drawings of facility

Top-view plan



Detailed characteristics

- Main X-Y towing carriage
  - X-carriage speed: max. 3.0 m/s and min. 0.005 m/s
  - Y-carriage speed: max. 1.5 m/s
  - Towing force capability: X-direction, 50 kN; Y-direction, 3 kN
- Service carriage
  - Service carriage speed: 1.5 m/s
  - Six movable ice pushers
- Refrigeration system
  - Two compressors (600kW) and sixteen unit coolers
  - Air temperature control range: from –18 ℃ to +15 ℃
  - Minimum temperature changing rate: 5 ℃/h
  - Ice growth rate: 2.3 mm/h at -18±0.5 ℃
  - Maximum ice thickness: 100 mm
- Instrumentations
  - Resistance dynamometers, Propulsion dynamometers, Push-pull gauges, One-component force gauge, Tactile sensor, Auto-tracking system, Data acquisition system. Motion sensors, etc.

Applications

- Tests performed
  - Resistance, propulsion, and maneuvering tests for icebreaking vessels in various ice conditions (level ice, pack ice, brash ice, etc.)
  - Prediction of ice load acting on fixed or floating structures
  - Winterization performance evaluation of ship equipment at low temperature

Published description (Publications on this facility)

Model test Report of KRISO, 2015