

<b>Name of organization</b> DSME Siheung R&D Center	<b>Year of information updating</b> 2020
<b>Year established</b> 2018	<b>Year of Joining the ITTC</b> 2020
<b>Address</b> 96 Baegot 2-ro, Siheung-si, Gyeonggi-do, Korea	<b>Status in the ITTC</b>
<b>Contact detail</b> (phone, fax, e-mail) TEL : +82-2-2129-3721 FAX : +82-2-2129-3770 E-mail : <a href="mailto:jgkang3@dsme.co.kr">jgkang3@dsme.co.kr</a>	<b>Website</b> <a href="http://www.dsme.co.kr">www.dsme.co.kr</a>
<b>Type of facility</b> Towing tank	<b>Year constructed/upgraded</b> 2018
<b>Name of facility</b> DSME Towing tank	<b>Location</b> (if different from the above address)
<b>Main characteristics</b> Length: 300 m, Width: 16 m, Depth: 7 m	
<b>Drawing of facility</b> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p>① Research building</p> <p>② Propeller model manufacturing shop</p> <p>③ Ship model manufacturing shop</p> <p>④ Model storage</p> <p>⑤ Trimming tank</p> </div> <div style="width: 45%;"> <p>⑥ Front wave absorber</p> <p>⑦ Side wave absorber</p> <p>⑧ Liftable floor</p> <p>⑨ Wave generator</p> <p>⑩ Towing carriage</p> </div> </div>	
<b>Detailed characteristics</b> <ul style="list-style-type: none"> <li>• Towing Carriage <ul style="list-style-type: none"> <li>- Driven by AC servo motors (one for each wheel) (Low speed mode: 55 kW x 2 sets, High speed mode: 55 kW x 6 sets)</li> <li>- Max. carriage speed: 8 m/s (max. acceleration: 0.5 m/s<sup>2</sup>)</li> </ul> </li> <li>• Wave generator <ul style="list-style-type: none"> <li>- 0.5m x 32 segments flap type, server motor driven, wet-back design</li> <li>- Wave height of regular wave: <math>H \leq 0.6</math> m</li> <li>- Range of generated wave periods: <math>0.5 \text{ sec} \leq T \leq 10.0 \text{ sec}</math></li> </ul> </li> </ul>	

- Wave height for irregular wave:  $H \leq 0.4$  m
- Type of generated waves: 2D long crested wave, 3D short crested wave
- Other facility
  - Front and side beach for wave absorber (permeable panel type)
  - Lifiable floor for shallow water tests (water depth control range: 0.0 ~ 7.0 m)
  - Model ship lifter for test preparation in the trimming tank
- Instrumentation  
resistance dynamometers, propulsion dynamometers, Pitot tube rakes and five-hole Pitot tube, dynamic motion measurement devices, propeller open-water test system, PIV system
- Max. model size: Ship(wood) length 12 m, Propeller(aluminium) diameter 30cm

**Applications** (Test performed)

- Resistance test, Propeller open water test, Self-propulsion test, wake measurement, Local flow measurement by PIV, Streamline visualization
- Maneuvering (zig-zag test, Planar Motion Mechanism (PMM) test & Vertical Planar Motion Mechanism (VPMM) test, Free sailing test, Directional stability test
- Various tests in shallow water
- Seakeeping (Motions, Green water, Impact load, etc.) tests, Speed loss test in waves
- Various Pod / Azimuth thruster tests