



# MODEL : FR-7225 **RTM**

## RTM Friction Tester

### Rotation Traction Measuring System



#### Outline

The RTM Friction Tester conducts friction tests under dry, wet, or icy conditions and can be performed with just this single piece of equipment.  $\mu$ -S curve (coefficient of friction vs. slip ratio) can be created with a single test in less than one minute.

This tester measures frictional force between a tire-shaped rubber sample and rotating ring-shaped road surface in dry, wet or icy conditions. The test piece is loaded and rotated with a variable slip ratio of  $\pm 95\%$  to the road surface. The slip angle can be set in the range of  $\pm 30$ .

The thermo control chamber and watering system enables tests on miscellaneous road surfaces, including icy road conditions.

#### Features

- Friction test of road surface for dry/wet (asphalt and slip-resistant surface) and icy conditions.
- Dry and wet test conditions are created to emulate various types of road surfaces, including different types of asphalt.
- Temperature of icy road surface can be controlled.
- Traction test (sudden acceleration and sudden braking) can be performed.
- Friction force (rolling resistance) can be measured during free rolling with constant speed on the road.
- Slip angle between road surface and test piece is set within  $\pm 30$  degrees (Automatic).
- Test pieces with glued tire tread can be used for testing.
- Temperature control for thermostatic chamber and water spray can be set individually.
- Icy road surface can be made inside the thermostatic chamber.

#### Specifications

Test Piece Configuration	Circular cylinder type: 80 (dia.) x 16 (W) mm Sheet type: 10 (W) x 300 (L) x 2 (t) mm attached to 76-mm dia. circular cylinder
Road Surface Configuration	Slip-resistant material, ice, asphalt (optional), concrete (optional)
Road Speed	4 to 400 r/min (approx. 0.5 to 50 km/h)
Test Piece Speed	35 to 3500 r/min (approx. 0.5 to 50 km/h)
Torque Detection	Rated torque: 30Nm (Dry/Wet), 3Nm (Ice), error $\pm 1\%$ FS
Slip Ratio	0 to $\pm 95\%$ automatically controlled (negative slip ratio at 25 km/h or slower)
Load Detection	Rated load: 200N, error $\pm 1\%$ FS
Lateral Force Detection	Rated load: 100N (for Dry/Wet) or 50N (for Ice), error $\pm 1\%$ FS
Loading System	Feedback controlled air servo system with a range of 50 to 150N $\pm 1\%$ FS
Chamber Temperature	-10 to 60°C $\pm 2^\circ$ C
Spray Water Temperature	5 to 40°C (near the valve) for Wet road surface
PC System	Windows 7 Professional or later
Usage Environment	5 to 40°C, 35 to 80% RH
Utility	3-phase 200VAC 75A 50/60Hz, 0.5 to 0.8MPa dry and clean air
Dimensions and Weight	Approx. 1400 (W) x 1800 (D) x 1760 (H) mm, approx. 1400 kg