

# product specification

## Freeness Testers

Canadian Freeness Tester & (CSF) Schopper-Riegler Tester (SR)



Canadian Freeness



Schopper-Riegler

### Description

Both instruments are used to determine the rate of drainage of a diluted pulp suspension, the rate of drainage being related to the work done on the fibre during beating or refining.

Refining of pulps is one of the most important stages in the paper production process and it strongly influences sheet forming and its physical properties.

### Canadian Freeness Tester

This instrument consists of a drainage chamber, equipped with a calibrated screen-plate, and measuring funnel that has two orifices separated by a specified distance. The orifice at the base of the funnel governs the rate of discharge and the run-off water, which is captured and measured with the measuring cylinder to determine the freeness value.

The CSF also comprises an aluminium frame for wall mounting, a nickel-plated bronze drainage chamber, a funnel, spreader cone and sealing cone. It is supplied with two graduated measuring cups.

### Schopper-Riegler Tester

This instrument is essentially the same as the CSF except for the used pulp samples, which have a lower concentration. The scale is reversed in comparison with the amount of water collected.

The SR also consists of iron cast, large precision level, levelling feet, stainless steel structure and a nickel-plated bronze drainage chamber, a funnel, spreader cone and sealing cone, a plexiglass safety guard and a handle for the drainage chamber.

### Features

- Applicable to all kinds of pulps in aqueous suspension
- Reliable robustness and precision instruments
- Non-corrosive components

### Physical specifications

#### Canadian Freeness Tester

Dimensions 25 x 27.5 x 60 cm (W x D x H)

Net weight 33 kg

#### Schopper-Riegler Tester

Dimensions 25 x 40 x 120 cm (W x D x H)

Net weight 22 kg

## Freeness Testers



### Options

#### Canadian Freeness Tester

- Spare standard 1000 ml measuring cup, graduated in both Schopper-Riegler and ml scales
- Supporting structure for table mounting

#### Schopper-Riegler Tester

- Spare standard 1000 ml measuring cup, graduated in both Schopper-Riegler and ml scales
- Spare standard measuring phosphor bronze wire screen
- Wall mounting compressed air regulator and filter

### Performance data

#### Canadian Freeness Tester

Flow of calibrated bottom orifice  $530 \pm 5$  ml/min  
Calibrated bottom orifice  $74.7 \pm 0.7$  s for 1 l of H<sub>2</sub>O  
Drainage chamber volume 1000 ml  
Drainage area 100 cm<sup>2</sup>  
Manual operation

#### Schopper-Riegler Tester

Speed of the sealing cone  $100 \pm 10$  mm/s  
Calibrated bottom orifice  $149.0 \pm 1.0$  s for 1 l of H<sub>2</sub>O  
Drainage chamber volume 1000 ml  
Drainage area 100 cm<sup>2</sup>  
Pneumatic drive 2.0 kgf/cm<sup>2</sup>  
Measuring scales 0 to 100 SR units/1000 to 0 ml  
Resolution 1 SR unit/10 ml  
Air supply 2 kgf/cm<sup>2</sup>  
Air consumption 0.1 m<sup>3</sup>/h

### Standards

#### Canadian Freeness Tester

ISO 5267/1, ZM V/7/61, SCAN C19 M3

#### Schopper-Riegler Tester

ISO 5267/2, TAPPI T-227, CPPA CI, SCAN C21