Rheometer accessories

Overview of parallel plates and cone & plate geometries

Authors

Cornelia Küchenmeister-Lehrheuer, Jint Nijman and Fabian Meyer, Thermo Fisher Scientific, Karlsruhe, Germany

Keywords

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Various parallel plates and cone & plate geometries are available for the rheometer models Thermo Scientific™ HAAKE™ MARS™ (iQ/iQ Air, 40/60) and the Thermo Scientific™ HAAKE™ Viscotester™ iQ/iQ Air. Every geometry consists of the upper plate or cone rotor and a lower exchangeable plate. The lower plates can be easily mounted on every standard temperature control module for cone or plate geometries with a bayonet ring (Figure 1). All lower plates match the corresponding upper rotor in diameter and surface finish. The matching diameter of the upper rotor and lower plate simplifies sample loading and trimming, and can contribute to a higher reproducibility and overall data quality.

Parallel plates and cone & plate geometries are available from 8 to 60 mm diameters (Figure 2). All standard parallel plates and cone & plate geometries consist of an upper rotor (Figure 3) with

- ceramic shaft with low heat conductivity for fast temperature setting and a lower temperature gradient within the sample
- quick fit coupling for easy mounting
- automatic rotor recognition
- integrated fluid reservoir as part of a solvent trap, when used with a sample cover
- plate or cone made of titanium for low inertia and high chemical resistance*

and an exchangeable lower plate made of stainless steel*.

*other materials are available upon request.

The lower plates have a maximal thickness of 3 mm and therefore a low thermal mass, which allows for fast temperature setting. Except for the 60 mm version, all lower plates have an integrated outer fluid reservoir that serves as an additional solvent trap when used with a standard sample cover (Figure 4).

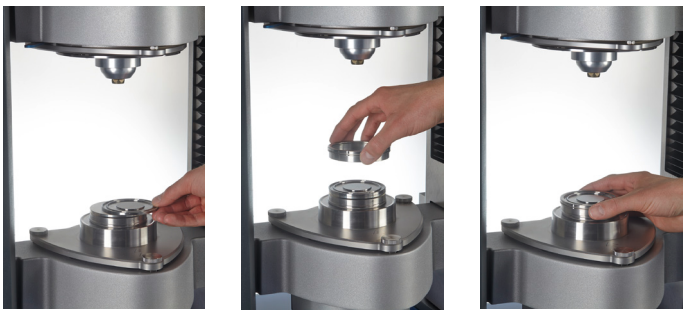

Figure 1: Mounting of a lower plate on top of a temperature module.

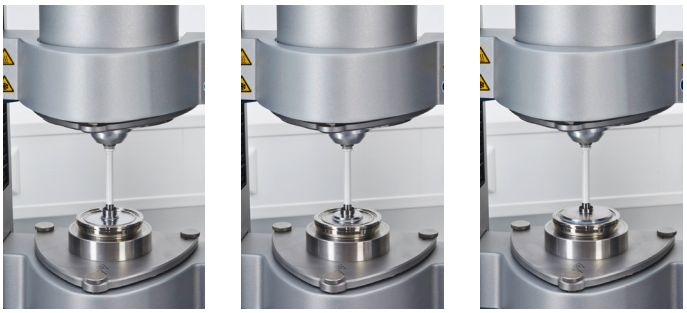

Figure 2: Selection of parallel plates geometries with different diameters (20 mm, 35 mm and 60 mm).

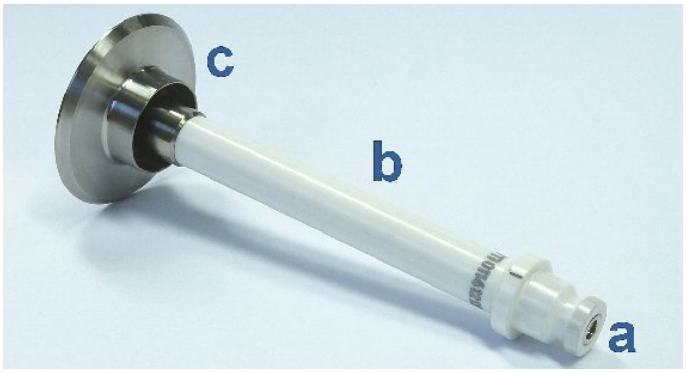

Figure 3: Upper plate rotor with a) quick fit coupling and tag for automatic recognition b) ceramic shaft and c) titanium plate with integrated fluid reservoir.

Besides a smooth surface finish, all parallel plates measuring geometries are also available with a sandblasted or serrated finish to reduce slippage effects during measurements.

For testing curing materials or abrasive samples, disposable parallel plates geometries with different diameters are available (Figure 5). All disposable geometries consist of

- an exchangeable lower plate made of aluminum
- an exchangeable upper plate made of aluminum
- an adapter with quick fit connection, automatic recognition and ceramic shaft

Figure 4: Parallel plate geometry in measurement position without and with sample cover.

Figure 5: Adapter for disposable plates with different plate inserts.

Reference

1. Küchenmeister-Lehrheuer C., et al, Overview sample cover with integrated solvent trap, Thermo Fisher Scientific Product Information P035.

Ordering information

Diameter**	8 mm	20 mm	25 mm	35 mm	60 mm
Lower plates TMP					
stainless steel, smooth finish	222-2473	222-1893	222-1928	222-1892	222-1891
stainless steel, serrated finish	603-0716	222-1896	222-2338	222-1895	222-1894
stainless steel, sandblasted	222-2496	222-2495	222-2494	222-2493	222-2491
aluminium,disposable, 40 pieces	222-1921	222-1924	222-1925	222-1926	222-1910
Upper plate Rotors					
titanium, smooth finish	222-2106	222-2090	222-2105	222-2089	222-2063
titanium, serrated finish	603-2106	222-2093	222-2107	222-2092	222-2091
titanium, sandblasted	603-2314	603-2119	603-2105	603-1150	603-2169
aluminium,disposable, 40 pieces***	222-2152	222-2154	222-2155	222-2156	222-2157
Cones					
titanium, 4° cone angle		222-2118		222-2114	222-2186
titanium, 3° cone angle				222-2184	222-2185
titanium, 2° cone angle		222-2117	603-2114	222-2113	222-2104
titanium, 1° cone angle****		222-2116	603-1202	222-2128	222-2110
titanium, 0.5° cone angle****		222-2115	603-2430	222-2111	603-2124

**other diameters upon request.

***adapter 222-2290 required.

****not available for HAAKE Viscotester iQ Rheometers

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