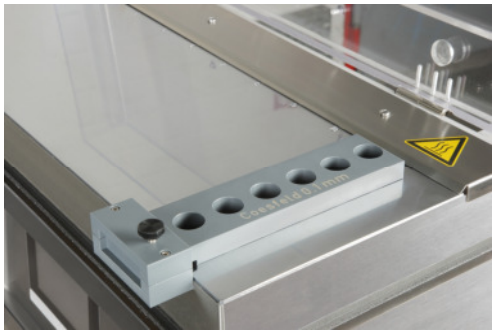
50-113-001 / 50-130-002 MFFT 10 and MFFT 20

Standards
ISO 2115 – ASTM D 2354



Application
Temperature gradient plate for measuring the Minimum Film Forming Temperature, MFFT of polymer dispersion.

Features
For determination of the MFFT a sample is applied on the tempered measuring plate by the help of a film caster. A visual inspection of the dry film is then made to determine the position along the length of the film where it changes from the coalesced to the non-coalesced state. A non-coalesced film shows whitening and /or cracking. The lowest temperature at which the film is coalesced is reported as the MFFT.

The temperature gradient plate consists of a high precision chromium measuring plate, with equally spaced temperature sensors beneath the surface. For measuring the temperature, the MFFT 20 is equipped with 20 Pt-100 temperature sensors. (MFFT 10: 10 Pt-100 sensors). The controller with touch screen guarantees optimal temperature control. The temperature set points for the MFFT 20 can vary with a maximum possible gradient on the surface of 100° (MFFT 10: with a maximum gradient of 20°). Purge gas is dried by an integrated membrane dryer and flows over the heating plate. A constant flow according to the standards can be set with a built-in flow meter. The flat hinged acrylic glass cover provides thermal and atmospheric insulation while allowing constant visual inspection of the experiment.

Technical Data

	MFFT 10 (50-113-001)	MFFT 20 (50-130-002)	MFFT 20 (50-131-001)
Variable adjustment of set point	-5°C … +80°C	-30°C … +250°C	-30°C … +250°C
Max. gradient (depends on the used cryomate)	20°C*	100°C*	100°C*
Temperature detection	10 Pt-100 sensors in measuring plate	20 Pt-100 sensors in measuring plate	20 Pt-100 sensors in measuring plate
Resolution temperature display	0.1 K	0.1 K	0.1 K
Measuring length	500 mm	500 mm	500 mm
Measuring width	180 mm	180 mm	180 mm
Lanes	None	None	6 lanes; 300 µm depth, 20 mm width

**ATTENTION: The maximum gradient also depends on the set temperature range and can be lower than indicated.*

Dimensions and Connection

	MFFT 10 (50-113-001)	MFFT 20 (50-130-002)	MFFT 20 (50-131-001)
Dimensions (WxDxH)	800 x 350 x 320 mm	800 x 350 x 320 mm	800 x 350 x 320 mm
Weight	approx. 50 kg	approx. 52 kg	approx. 52 kg
Mains	230 V, 50/60 Hz (optional: 115 V Transformer 300x230x192 mm, 23 kg)	230 V (optional: 115 V Transformer 300x230x192 mm, 23 kg)	230 V (optional: 115 V Transformer 300x230x192 mm, 23 kg)
Power	1500 W	1500 W	1500 W
Interfaces	n.a.	n.a.	n.a.
Air	Compressed air	Compressed air	Compressed air
Air flow rate	4L per minute	4L per minute	4L per minute
Cooling	Cooling connection	Cooling connection	Cooling connection
Other	n.a.	n.a.	n.a.

Accessories

incl.	Item no.	Description
-	50-037-001	Changeable hood for MFFT up to 250°C made of stainless steel 4301
-	50-034	Changeable hood for MFFT up to 80°C made of acrylic glass (720 x 280 x 250 x 5 mm)
1	9-107-085	Standard hood for MFFT up to 80°C made of acrylic glass (750 x 280 x 76 mm)
-	50-100-001	Dropping bordering made of stainless steel
-	50-047-002	Film caster 100 µm, made of plastics, for 6 parallel grooves (20 mm each)
-	50-047-008	Film caster 100 µm, made of stainless steel, for 6 parallel grooves (20mm each), with guide rolls
-	60-005-006	Cryomate, temperature range: -25...80°C, for MFFT 10
-	60-005-020	Cryomate, temperature range: -45...200°C, for MFFT 20