

TESTING INSTRUMENTS FOR QUALITY CONTROL 



FX 3180 CupMaster

Water Vapor Transmission Rate Tester

TEXTTEST
INSTRUMENTS



Automatic operation and VNC

FX 3180 CUPMASTER WITH MANY BENEFITS

The FX 3180 CupMaster determines the Water Vapor Transmission Rate of up to 15 samples simultaneously and fully automatically, using the gravimetric measuring principle. The instrument complies with ASTM E 96, ASTM D 1653, BS 3424-34, DIN 53122, EN 1931, GB 1037, GB/T 12704, ISO 2528, ISO 12572, JIS L 1099-A, JIS Z 0208, and many other Standard Test Methods.

Benefit thanks to automatic operation and VNC

Once the cups have been inserted and the measurement has been started, the CupMaster works fully automatically. During the measurement, remote control and remote monitoring by VNC (Virtual Network Computing) is possible.

Benefit thanks to precise and independent climate control

A temperature/humidity sensor and a sensor for measurement of the air velocity permit very precise control of the selected climate. Compressed air is required for operation of the instrument, but not for generating the climate. Therefore, the quality of the compressed air has no influence on the climate and the test results.

Benefit thanks to easy calibration

Easy access to the weighing module (Mettler-Toledo) and a sensor exchange program make calibration of the CupMaster simple and cost-effective.

Benefit thanks to many small details

Because compressed air is only required for raising and lowering the rotating cup tray, air consumption is negligible.

A PC is not required for operation of the instrument, but only for evaluation and documentation of the test results. For this, the CupMaster can be integrated into a network, even via Wi-Fi. Test reports can be downloaded from the internal web server of the instrument in PDF and XML formats.

The cups are fitted with a quick-release clamping ring, which ensures an efficient sample preparation, but also a good seal.

And finally, the heating of the exterior of the measuring chamber prevents condensation, even in case of a power failure.



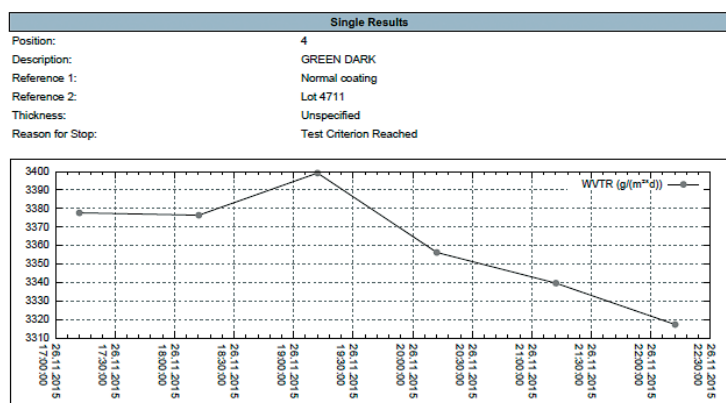
Precise and independent climate control



Easy calibration

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Water Vapor Transmission Rate Test Gravimetric Method



Cup Summary: 4

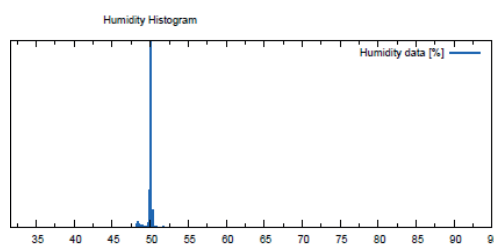
The following equilibrium values have been calculated by least squares regression of the weight, modified by the dummy specimen when used.

	WVTR [g/m²/d]	WVTR [gr/ft²/h]	Permeance [ng/Pa/s/m²]	Permeance [gr/inHg/h/ft²]
Average of Values in Equilibrium	3359.6	200.7	11755.3	205.5
Minimum of Values in Equilibrium	3317.4	198.2	11607.5	202.9
Maximum of Values in Equilibrium	3399.2	203.1	11893.9	207.9
CV %	0.878	0.878	0.878	0.878

Pos.	Time (YYYY-MM-DD, HH:MM:SS)	Tare (g)	Weight (g) compensated	Weight alteration (g)	WVTR [g/m²/d]	WVTR [gr/ft²/h]
0	2015-11-26, 18:12:05	0.0000	97.6981	0.0000	0.0	0.0
1	2015-11-26, 17:12:04	0.0000	97.2760	-0.4221	3377.7	201.8
2	2015-11-26, 18:12:13	0.0000	96.8529	-0.4231	3378.4	201.7
3	2015-11-26, 19:12:02	0.0000	96.4293	-0.4236	3399.2	203.1
4	2015-11-26, 20:12:06	0.0000	96.0093	-0.4200	3356.3	200.5
5	2015-11-26, 21:12:08	0.0000	95.5916	-0.4177	3339.7	199.5
6	2015-11-26, 22:12:10	0.0000	95.1767	-0.4146	3317.4	198.2

BENEFITS AT A GLANCE

- Automatic operation and VNC
- Precise and independent climate control
- Easy calibration
- Negligible air consumption
- PC not required for operation
- Cups with quick-release ring
- Quality instrument made in Switzerland



Technical specifications FX 3180 CupMaster

Test area:	Model FX 3180-CM12: 50 cm ² Model FX 3180-CM15: 28.3 or 30 cm ²
Number of samples:	Model FX 3180-CM12: 12 Model FX 3180-CM15: 15
Maximum sample thickness:	3 mm (thicker samples require special cups)
Measuring range of the weighing module:	0 to 220 g
Resolution of the weighing module:	0.0001 g
Temperature range:	10 °C below ambient to 40 °C
Humidity range:	At 23 °C: 40 to 90 % r.h. At 38 °C: 20 to 90 % r.h.
Air velocity:	0.02 to 4.0 m/s
Measuring accuracy:	Temperature: Better than ± 0.5 °C Humidity: Better than ± 1.5 % r.h.
Dimensions (w x d x h):	120 x 80 x 60 cm
Compressed air:	5 to 8 bar
Net weight:	109 kg
Power requirements:	230 VAC or 100/115 VAC, 50 - 60 Hz, 1 kW

Subject to change

Accessories

FX 3180-CUP50-I	Cup, 50 cm ² , standard version
FX 3180-CUP30-I	Cup, 30 cm ² , standard version
FX 3180-CUP28-I	Cup, 28.3 cm ² , standard version
FX 3180-ADA50-I	Adapter „Inverted Cup“, 50 cm ² , standard version
FX 3180-ADA30-I	Adapter „Inverted Cup“, 30 cm ² , standard version
FX 3180-ADA28-I	Adapter „Inverted Cup“, 28.3 cm ² , standard version
FX 3180-SEAL50-I	Seal kit, 50 cm ² , standard version, 12 pieces
FX 3180-SEAL30-I	Seal kit, 30 cm ² , standard version, 15 pieces
FX 3180-SEAL28-I	Seal kit, 28.3 cm ² , standard version, 15 pieces
FX 3180-REDU	Reducer ring 50 – 30/28.3 cm ²
FX 3180-KNIFE50	Punch knife for 50 cm ² samples, incl. cutting board
FX 3180-KNIFE28/30	Punch knife for 28.3/30 cm ² samples, incl. cutting board
FX 3180-AIR	Silent compressor
FX 3180-WEIGHT50	Calibration weight 50 g, incl. calibration certificate
FX 3180-WEIGHT100	Calibration weight 100 g, incl. calibration certificate
FX 3180-WEIGHT200	Calibration weight 200 g, incl. calibration certificate