

## Technical Data - MCR 102, MCR 302, MCR 502

### Standard methods

ASTM D4440, ASTM D4473, ASTM D5279, DIN 3219, DIN 53019-1, DIN 53019-2, EN 14770, EN 3219, ISO 3219, ISO 6721-1, Ph. Eur. 2.2.10 - Rotating viscometer method, Ph. Eur. 2.2.8 - Viscosity, Ph. Eur. 0132, USP 912 - Rotational Rheometer Methods

### Technical Specifications

	Unit	MCR 102	MCR 302	MCR 502 S
<b>Bearing</b>		Air	Air	Air
<b>EC motor</b>		Yes	Yes	Yes
<b>Maximum torque</b>	mNm	200	200	300
<b>Min. torque, rotation</b>	nNm	5	1	100
<b>Min. torque, oscillation</b>	nNm	7.5	0.5	100
<b>Angular deflection(set value)</b>	μrad	0.5 to ∞	0.05 to ∞	0.05 to ∞
<b>Min. angular velocity</b>	rad/s	10 <sup>-8</sup>	10 <sup>-9</sup>	10 <sup>-9</sup>
<b>Max. angular velocity</b>	rad/s	314	314	220
<b>Max. speed</b>	1/min	3000	3000	2100
<b>Min. angular frequency</b>	rad/s	10 <sup>-7</sup>	10 <sup>-7</sup>	10 <sup>-7</sup>
<b>Max. angular frequency</b>	rad/s	628c	628c	628c
<b>Normal force range</b>	N	0.01-50	0.005-50	0.01-70
<b>Normal force resolution</b>	mN	1	0.5	1
<b>Max. temperature range</b>	°C	-160 to +1000	-160 to +1000	-160 to +1000
<b>Toolmaster™</b>		Yes	Yes	Yes
<b>QuickConnect</b>	-	Yes	Yes	Yes
<b>Automatic gap control / setting (AGC/AGS)</b>	-	Yes	Yes	Yes
<b>TruGap™</b>	-	Yes	Yes	Yes
<b>MultiDrive-ready</b>	-	No	No	No

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Technical Specifications				
	Unit	MCR 102	MCR 302	MCR 502 S
<b>Direct strain controller</b>	-	Yes	Yes	Yes
<b>Direct stress controller</b>	-	Yes	Yes	Yes
<b>TruRate™</b>	-	Optional	Yes	Yes
<b>TruStrain™</b>	-	Optional	Yes	Yes
<b>Normal force profiles (set and read)</b>	-	Yes	Yes	Yes
<b>Velocity profiles, tack, squeeze</b>	-	Optional	Yes	Yes
<b>Raw data (LAOS, waveform)</b>	-	Optional	Optional	Yes
<b>With Exposed Support Plate<sup>b</sup></b>	-	No	Optional	No
<b>Without any Support Plate<sup>b</sup></b>	-	No	Optional	No