

# KLIPPEL MODULE OVERVIEW FOR MOVING PARTS MEASUREMENT



	SPM Lite	SPM Pro	MSPM Lite	MSPM Pro	QC LST Lite	QC LST Pro
R&D System	✓		✓		✓ <sup>5)</sup>	
QC System	-		-		QC Basic or Standard	
Base Module	TRF		TRF	LPM	-	
Analyzer Hardware	Distortion Analyzer 2 Klippel Analyzer 3 <sup>5)</sup>		Distortion Analyzer 2 Klippel Analyzer 3 <sup>5)</sup>		QC Production Analyzer Klippel Analyzer 3 <sup>5)</sup>	
Test Bench	SPM or LST	SPM	MSPM <sup>6)</sup>		LST or SPM <sup>7)</sup>	
Laser Sensor (Default) (Measurement Range)	IL-030 (+/- 12.5 mm)	LK-H082 (+/- 18 mm)	LK-H052 (+/- 10 mm)		IL-030 or IL-065 (+/- 10 mm or +/- 20 mm)	
Laser Sensors (Alternative) (Measurement Range)	LK-H022  LK-H052  LK-H082  LK-H152  LK-G32	LK-H052 (+/- 10 mm)  LK-H152 (+/- 40 mm)	LK-H022 (+/- 3 mm)  LK-H082 (+/- 18 mm)  LK-G32 (+/- 5 mm)		LK-H022  LK-H052  LK-H082  LK-H152  LK-G32	
Microphone	✓	-	✓		Opt.	✓
Linear Parameters $f_0, Q, k, c, m, r$	✓	- (only $k_{\text{eff}}$ )	✓ (only effective)		✓ ( $m$ import, no $r$ )	✓ ( $m$ & $k$ relative, no $r$ )
Nonlinear Parameters $K(x), C(x)$	-	✓	-	✓	-	
Mass Import	✓	-	✓		✓	
Added Mass	✓	-	✓	-	-	
DUT $\varnothing$ in mm	30 – 222 <sup>1)</sup> (490 <sup>2)</sup> )	30 – 222 <sup>1)</sup>	< 70		30 – 222 <sup>1)</sup> (490 <sup>2)</sup> )	
Frequency Range in Hz	1 – 100 <sup>4)</sup> (200 <sup>3)</sup> )	1 – 100	100 - 2500		1 – 100 <sup>4)</sup> (200 <sup>3)</sup> )	

1) Standard Ring Set

2) SPM Bench (with custom ring)

3) LST Bench

4) SPM Bench

5) Min. dB-Lab Release 210

6) MSPM Bench requires additional equipment for laser positioning (SCN Vibrometer, LST-Bench or Pro-Stand)

7) For DUTs with  $\varnothing \geq 222$  mm /  $\leq 490$  mm, customized clamping rings required