

# FREEDOM arm

Portable go-to measurement  
where it benefits you most



**Advanced technology  
with multi-functional capability**

The FREEDOM arm range of 6 axis and 7 axis portable arms are designed for practicality and versatility - with touch probe and laser scanner technology for quality control, on-machine verification, reverse engineering or 3D modelling.

Model shown: FREEDOM Classic Scan  
7 axis portable measuring arm.

**Contact us now to book your demonstration**

[www.LKmetrology.com](http://www.LKmetrology.com)

## TECHNICAL DATA | Portable Arm

Size	FREEDOM CLASSIC 6 axis - touch probe only standard accuracy		FREEDOM SELECT 6 axis - touch probe only high accuracy		FREEDOM ULTIMATE 6 axis - touch probe only ultra accuracy		FREEDOM CLASSIC SCAN 7 axis - probe and laser standard accuracy			FREEDOM SELECT SCAN 7 axis - probe and laser high accuracy			FREEDOM ULTIMATE SCAN 7 axis - probe and laser ultra accuracy		
	Reach <sup>1</sup>	Probe <sup>2</sup>	Reach <sup>1</sup>	Probe <sup>2</sup>	Reach <sup>1</sup>	Probe <sup>2</sup>	Reach <sup>1</sup>	Probe <sup>2</sup>	Laser <sup>3</sup>	Reach <sup>1</sup>	Probe <sup>2</sup>	Laser <sup>3</sup>	Reach <sup>1</sup>	Probe <sup>2</sup>	Laser <sup>3</sup>
20	2230 (87.8)	0.040 (0.0016)	2230 (87.8)	0.023 (0.0009)	-	-	2480 (97.6)	0.043 (0.0017)	0.059 (0.0023)	2480 (97.6)	0.029 (0.0011)	0.041 (0.0016)	-	-	-
25	2730 (107.5)	0.046 (0.0018)	2730 (107.5)	0.028 (0.0011)	2730 (107.5)	0.026 (0.0010)	2980 (117.3)	0.048 (0.0019)	0.065 (0.0026)	2980 (117.3)	0.031 (0.0012)	0.047 (0.0019)	2980 (117.3)	0.029 (0.0011)	0.043 (0.0017)
30	3230 (127.2)	0.067 (0.0026)	3230 (127.2)	0.042 (0.0017)	3230 (127.2)	0.039 (0.0015)	3480 (137.0)	0.078 (0.0031)	0.082 (0.0032)	3480 (137.0)	0.057 (0.0022)	0.064 (0.0025)	3480 (137.0)	0.053 (0.0021)	0.056 (0.0022)
35	3730 (146.9)	0.085 (0.0033)	3730 (146.9)	0.055 (0.0022)	3730 (146.9)	0.052 (0.0020)	3980 (156.7)	0.092 (0.0036)	0.099 (0.0039)	3980 (156.7)	0.069 (0.0027)	0.078 (0.0031)	3980 (156.7)	0.064 (0.0025)	0.068 (0.0027)
40	4230 (166.5)	0.100 (0.0039)	4230 (166.5)	0.067 (0.0026)	4230 (166.5)	0.063 (0.0025)	4480 (176.4)	0.114 (0.0045)	0.118 (0.0046)	4480 (176.4)	0.084 (0.0033)	0.089 (0.0035)	4480 (176.4)	0.078 (0.0031)	0.080 (0.0031)
45	4730 (186.2)	0.120 (0.0047)	4730 (186.2)	0.080 (0.0031)	4730 (186.2)	0.074 (0.0029)	4980 (196.1)	0.158 (0.0062)	0.163 (0.0064)	4980 (196.1)	0.113 (0.0044)	0.141 (0.0056)	4980 (196.1)	0.104 (0.0041)	0.121 (0.0048)

<sup>1</sup>Maximum reach specified as a spherical diameter using a 50mm long probe.

<sup>2</sup>Arm and touch probe system accuracy specification: E UNI maximum permissible longitudinal error of measurement according to ISO 10360-12:2016.

<sup>3</sup>Arm and laser scanner system accuracy specification: L DIA maximum permissible optical deviation of position according to ISO 10360-8:2013.

Refer to FREEDOM arm datasheets for other Technical Data. FREEDOM ULTIMATE and FREEDOM ULTIMATE SCAN not available in 2.0m size.

mm (inch)

## TECHNICAL DATA | Laser Scanner



### MODELMAKER H120

Accuracy <sup>4</sup>	7 µm	0.00028 inch
Line width	120 mm	4.7 inch
Measuring range	100 mm	4.1 inch
Stand-off	80 mm	3.1 inch
Resolution (min.)	35 µm	0.0014 inch
Frame rate (max.)	450 Hz	
Point per line (max.)	2,000	
Laser adjustment	ESP4 each point in real-time	
Warm-up	0 seconds	
Weight	0.5kg	1.1lbs
Laser type	Class 2	

<sup>4</sup>Laser scanner accuracy according to manufacturer's test procedure.

## TECHNICAL DATA | Control Pack



	CP-C control pack (included as standard)	CP-W control pack (upgrade option)
Probe	√	√
Laser scanner	√	√
Ethernet connection	√	√
USB* connection	√	√
Wireless connection	-	√
Mains power	√	√
Battery power	-	√

\*USB connection via included USB to Ethernet cable adapter.

## TECHNICAL DATA | Supports

### Portable Metrology Tripod



- Ultra-stable tensioned tripod
- 780mm-1140mm (31"-45") height range
- Aircraft grade aluminium tubes
- Level gauge
- Bottom weight hook

### Rolling Metrology Stand



- Heavy duty stand
- 710mm-1440mm (28"-57") height range
- Air cushioned cylinder
- Foot pedal lock
- Laptop arm option

### Mobile Workstation



- Large: 700mm x 1200mm (27" x 47")
- Midi: 600mm x 800mm (23" x 31")
- Aluminium worktop with M8 holes
- Storage drawer and lockable cupboard
- Cart handles and laptop arm
- Nylon break casters

...we are metrology