

MPI TS600-PCB | Manual PCB Probe System

For Accurate and Reliable RF and mmW Measurements on PCB Boards

FEATURES / BENEFITS

Dedicated Use

- Designed for PCB probing in various DC/CV and RF measurement configurations
- Signal integrity
- PCB holders from 2" x 2" up to 600 x 550 mm size
- Enables double-sided RF test on vertically mounted PCB
- Integrated AUX chucks for RF calibration

Ergonomic Design

- Unique heavy-duty stage for PCB and accessory mounting
- Three independent portals for up to 6 RF MicroPositioners or up to 12 DC positioners
- Highly repeatable platen lift design with three discrete positions for contact, separation, and loading

Upgradability

- Available with wide range of accessories such as DC/RF/mmW MicroPositioners, Optics to support various application requirements



CHUCK STAGE MOVEMENT

XY travel range	100 x 100 mm (4.0 x 4.0 in)
Z travel range	50 mm
Resolution	1.0 mm/rev.
Chuck stage	Easy removable

MICROSCOPE STAGE MOVEMENT

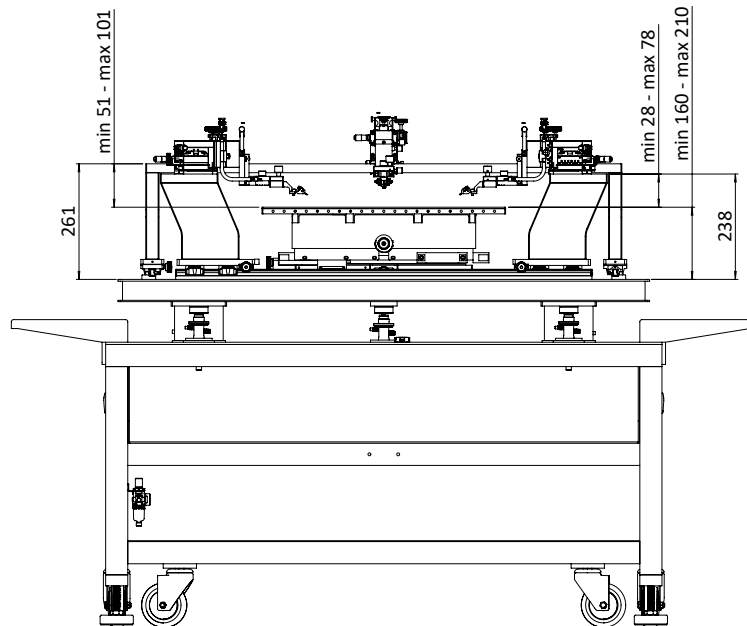
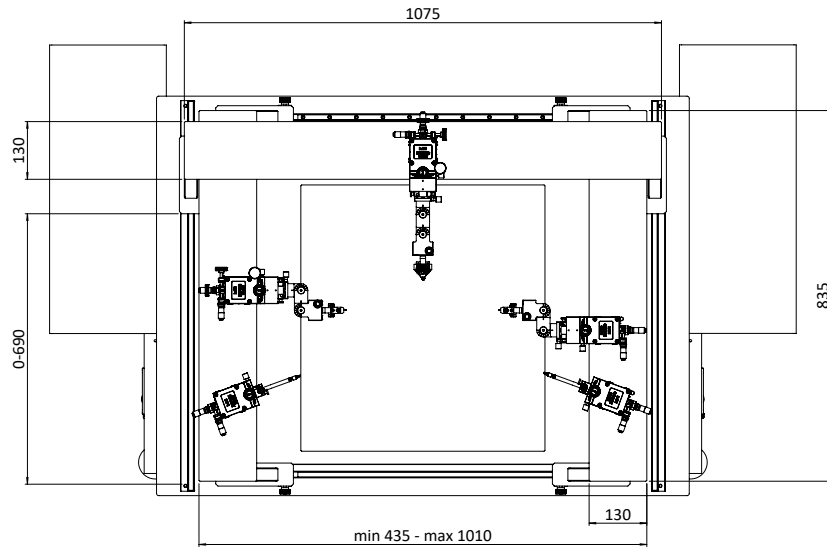
Total XY travel range	600 x 550 mm manual fast movement (gantry)
Fine travel	XYZ manual
XY - Travel range	50 x 50 mm
Resolution	< 5 µm (0.2 mils)
Z - Travel range	25 mm
Coarse Z adjustment	150 mm (7 steps at 25 mm distance)
Repeatability	< 2 µm (0.08 mils)

PROBE GANTRIES

Specifications

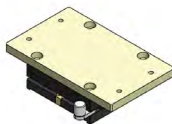
Independent gantries	3: East, West (moving in X), North (moving in Y)
Material	Nickel plated steel
Dimension	See drawing
Stage to platen height	Left/right gantry: min. 28 mm; max. 78 mm Rear gantry: min. 51 mm; max. 101 mm
Base to platen height	Left/right gantry: 238 mm Rear gantry: 261 mm
Max. No of MicroPositioners	12 DC or 6 RF*
RF MicroPositioner mounting	Magnetic with rectangular adjustment
DC MicroPositioner mounting	Magnetic
Probing area	550 x 500 mm

*Depending on the setup.

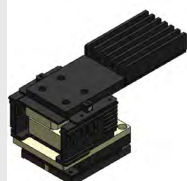


Options**PLTNSET-TS600PCB****PROBE PLATEN SLIDER SET**

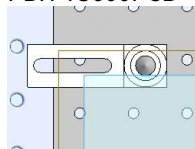
- Probe platen sliders set as interchangeable option
- One for East, West and North platen
- Each slider includes two 200x130 mm platforms for placing MicroPositioners

PF-KS5290-TS600PCB**PLATFORM KS 5290 / MAGNET**

- Mounting type: Magnet
- For equipment: Keysight 529x extender

PF-ANR-TS600PCB**PLATFORM ANRITSU / MAGNET**

- Mounting type: Magnet
- For equipment: Anritsu extender 110GHz and 145GHz

PBH-TS600PCB**PCB HOLDER / TS600-PCB**

- The package includes:
- 4x PCB holder with adjustable base and
 - 4x PCB supports

MIR-TS600PCB**MIRROR / TS600-PCB**

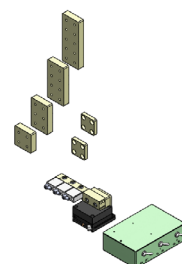
- For use with vertical devices
- Mirror height adjustable over 50 mm

PBH-5050V-TS600PCB**PCB HOLDER / 50X50 / VERTICAL / TS600-PCB**

- Adjustable support of PCB sizes from 10 x 10 mm to 50 x 50 mm

BDSET-TS600PCB**BOTTOM DRAWER / TS600-PCB**

- The package includes:
- Bottom, double layer drawer
 - Inside dimensions BxDxH: 360x380x95 mm
 - Compatible with standard TS600-PCB VIT or TMC-TS600PCB-OPT

TCS-HOLD-TS600PCB**CALIBRATION SUBSTRATES UNIVERSAL HOLDER / TS600-PCB**

- The package includes:
- Three ceramic auxiliary chucks for placement of calibration substrates
 - Ideal for accurate RF calibration, especially above 20 GHz
 - Independent manual vacuum control
 - The holder is mounted on the TS600-PCB chuck for horizontal use or
 - With magnet base, alternative by 25x50 M6 screw holes or 50x50 M4 screw holes for vertical use

PA-R-PCB



PROBE ARM RF UNIVERSAL / PCB

The system package includes:

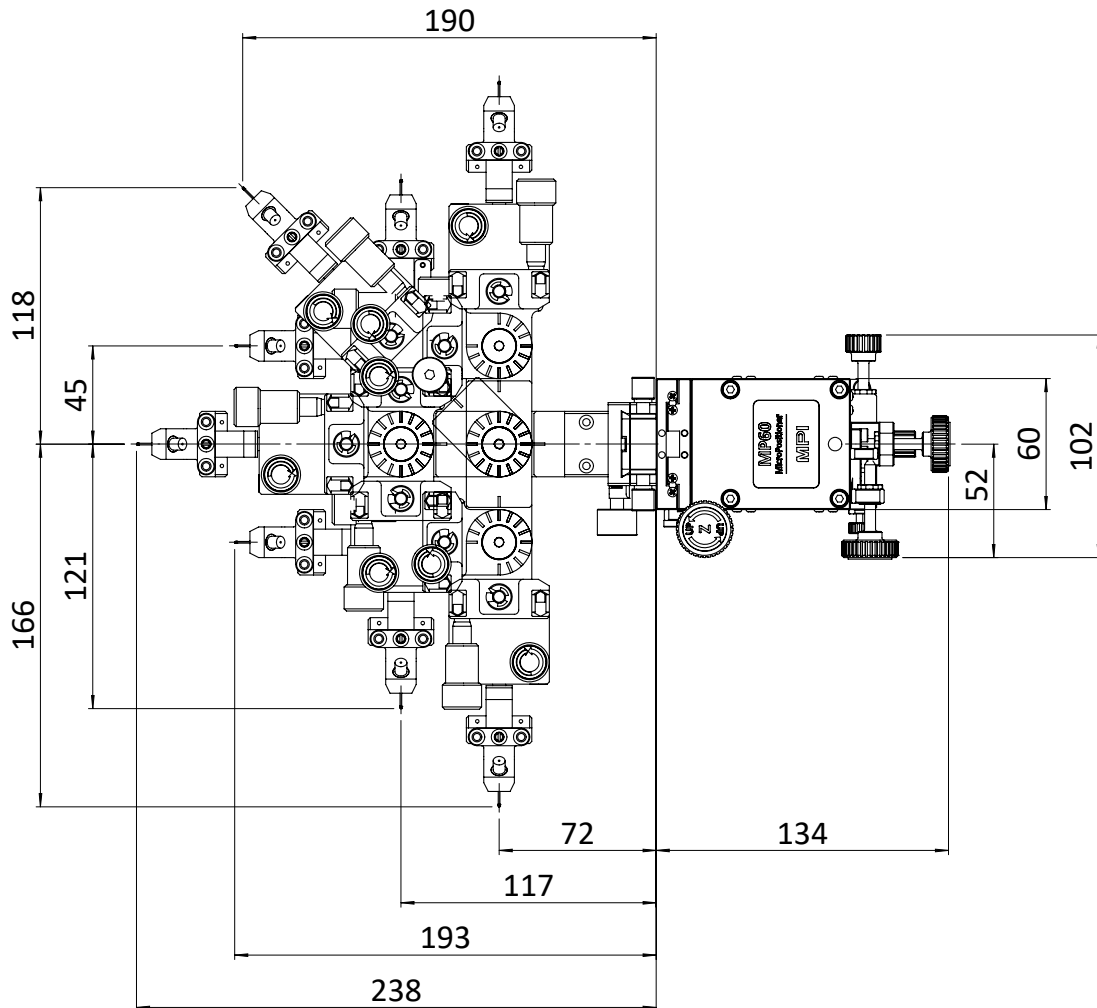
- Universal RF and Microwave probe mount
- Unique tool-less horizontal arm adjustment with 2 pivots of +/-90 deg rotation, incl. preset steps of 22.5°
- Configurable for East-West or North-South set-up
- Accurate RF probe planarity by using fine micrometer screw
- Planarity adjustment is located in front for convenient operation, especially when RF cables are installed
- Unique fast and tool-less vertical height adjustments of max. 150 mm: from -50 mm to + 100 mm from positioner base
- The arm can be mounted in 90deg for vertical PCB probing
- RF cable guides, compatible with MPI MicroPositioners

MicroPositioners

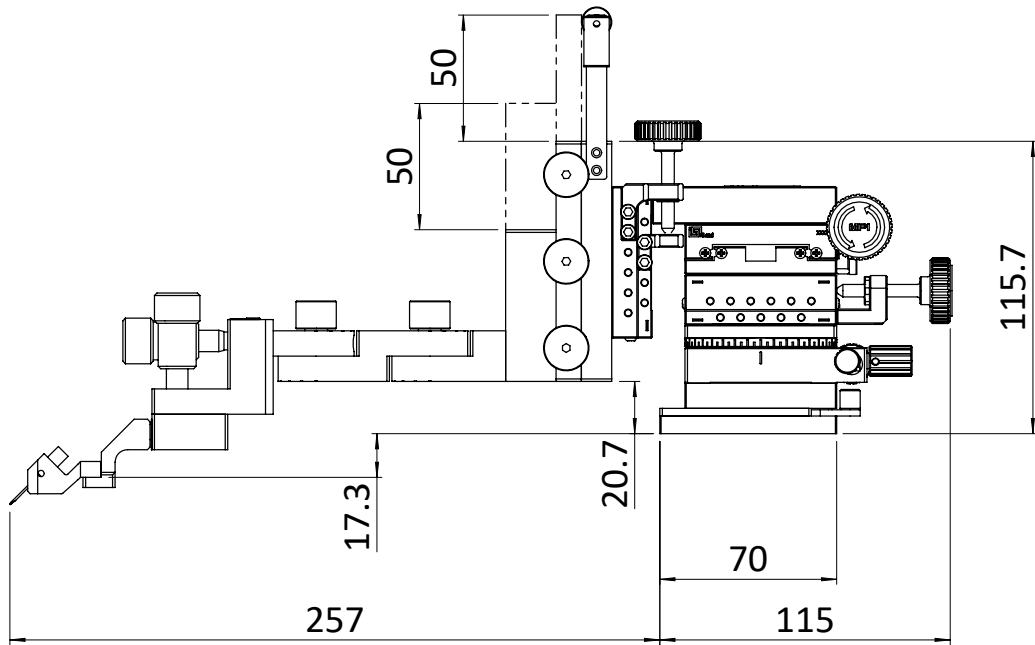
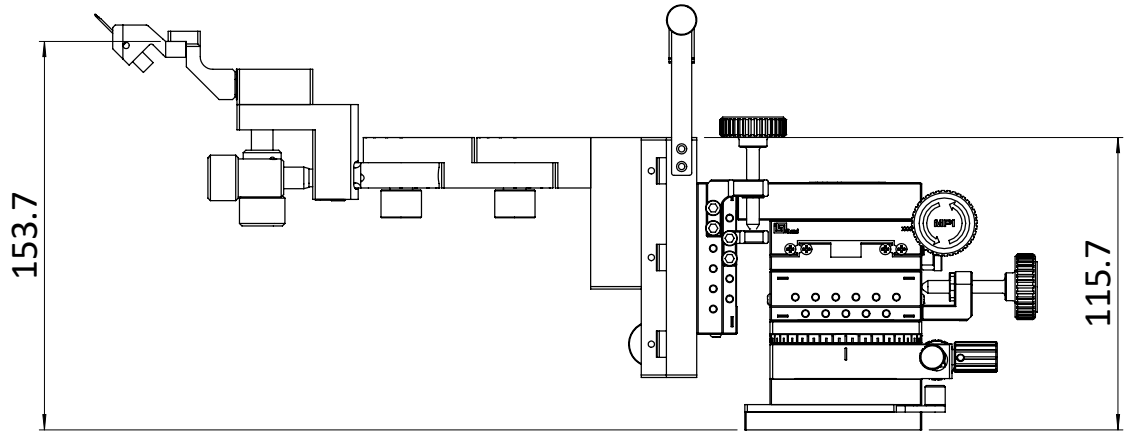
MP60HR-L-TS600PCB & MP60HR-R-TS600PCB

Travel range	(X/Y/Z) 20 / 20 / 13 mm
Resolution	(X/Y/Z) 500 / 500 / 300 µm
Mounting type	Magnet
Yaw rotation	+/- 22.5°
Probe arm	Designed for use with PN PA-R-PCB

For DC contacts, use MicroPositioners MP40/MP50 with flexible probe arms PA-CF/-TF.



The flexibility of probe arm PA-R-PCB (top view)



The flexibility of probe arm PA-R-PCB (side view)

NON-THERMAL CHUCKS

CHUCK STAGE MOVEMENT

Connectivity	Groundable
Dimension	600 x 550 mm chuck with tapped holes M6 on 25 mm spacing
Material	Stainless steel
Supported DUT sizes	Single PCBs 50 x 50 mm thru 600 x 550 mm
Rigidity	< 0.3 mm

Vertical PCB Holder

Mounting	Magnetic
PCB mounting	Mechanical clamp on two opposite sides
Material	Black anodized aluminum
Supported DUT sizes	Single PCBs down to 10 x 10 mm size thru 50 x 50 mm

Auxiliary Chuck

Quantity	3 AUX sites
Position	Integrated to front side of chuck stage
Substrate Size (W x L)	Max. 25 x 25 mm (1 x 1 in)
Material	Ceramic, RF absorbing material for accurate calibration
Surface planarity	$\leq \pm 5 \mu\text{m}$
Vacuum control	Controlled independently, separate from chucks

System Options

Instrument shelf	Dimension XY Height (adjustable) Max load
Monitor stand	For up to 2 monitors, standard and large for live video and QAlibria®, keyboard tray or laptop tray

FACILITY REQUIREMENTS

General Probe System

Power	100-240 V AC nominal; 50/60 Hz for optical accessories* only
Compressed air	MPI Table: Standard: $\leq 4 \text{ bar} / 58 \text{ psi}$; Advanced: $\leq 6 \text{ bar} / 87 \text{ psi}$ TMC Table: $\leq 6 \text{ bar} / 87 \text{ psi}$

*e.g. microscope illumination, CCD cameras, monitors.

REGULATORY COMPLIANCE

- Certification: CE
- Power Supplies: CE, NRTL certified

WARRANTY

- Warranty*: 12 months
- Extended service contract: contact MPI Corporation for more information

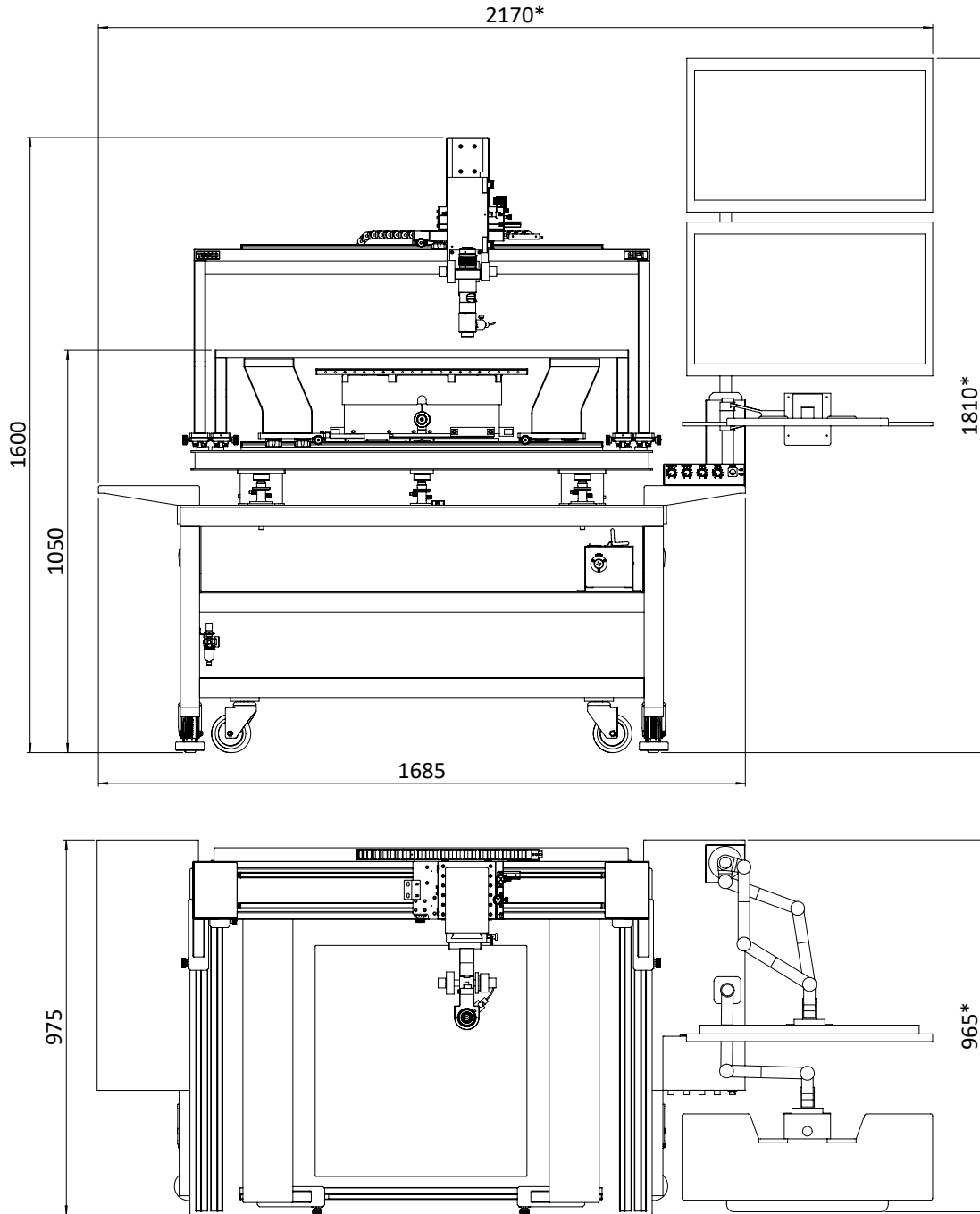
*See MPI Corporation's Terms and Conditions of Sale for more details.

PHYSICAL DIMENSIONS

TS600-PCB + MPI Table

Dimensions (W x D x H)	1685 x 975 x 1600 mm (66.3 x 38.4 x 63.0 in)
Weight	~580 kg (1278.7 lb.)

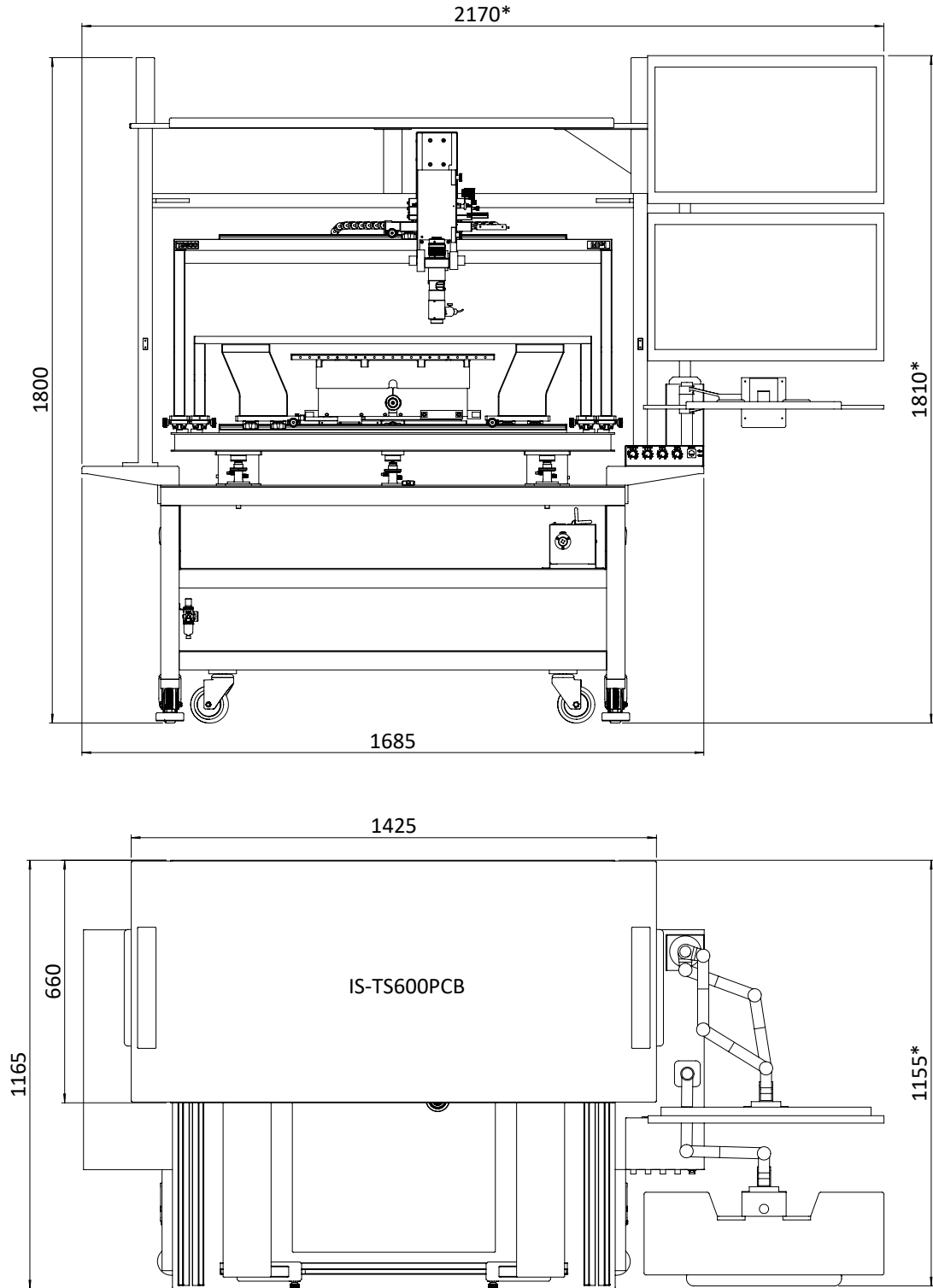
*Station accessories, such as different microscopes, cameras, or laser cutters, may change the total height.



TS600-PCB + MPI Table + Instrument Shelf

Dimensions (W x D x H)	1685 x 1165 x 1800 mm (66.3 x 45.9 x 70.9 in)
Weight	~635 kg (1400.0 lb.)

**Station accessories, such as different microscopes, cameras, or laser cutters, may change the total height.*



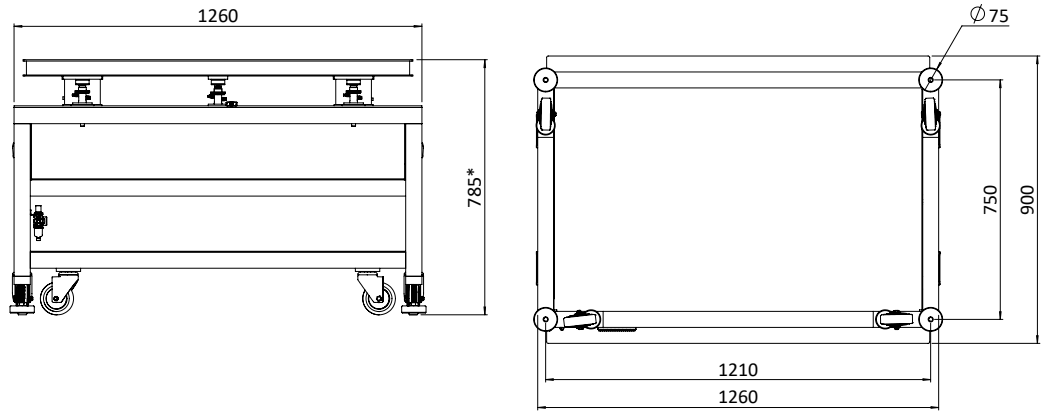
VIBRATION ISOLATION

The probe station has been designed for bench top use and includes a vibration isolation table.

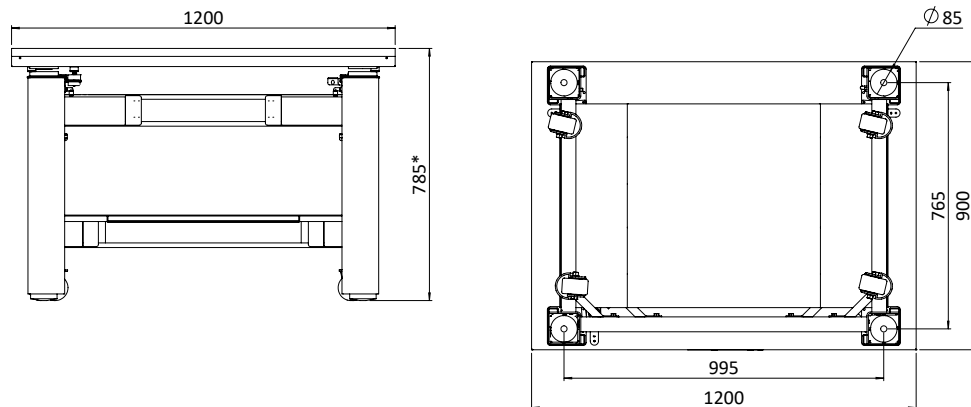
Vibration Isolation Table

	Standard	TMC (optional)
Dimensions (W x D x H)	1260 x 900 x 785 mm (46.9 x 35.4 x 30.9 in)	1200 x 900 x 785 mm (47.2 x 35.4 x 30.9 in)
Feature	Automatic load leveling	
Vibration dampening	approx. 2.5 Hz	approx. 1.2 Hz
Keyboard / Mouse Tray Included	Yes	Yes
Front Protection Bar	Yes	Yes
Castors Included	Yes	Yes
Shelves Included	Upper and Lower	
Accessories Accepted	Monitor Stand(s) and Instrument Shelf	
Weight	Approx. 210 kg (463 lb.)	Approx. 210 kg (463 lb.)

Standard



TMC (Optional)



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