

LF-B

Large Format
Base Platform

For VK-X
Microscopes



Same VK-X
Measurements,
Over Larger Areas.

Contents

Introduction	1
Specifications	2
Dimensions	3
LF-B-300-MT	3
LF-B-300-GR	4
LF-B-600	5
Maximum Part Sizes	6
Ordering Options	7
Ordering Info	7
Example Part String	8
Examples of Ordering Options	9
Customization Options	10
What to Order from Keyence	11
Accessory Fixture Plates	12

LF-B

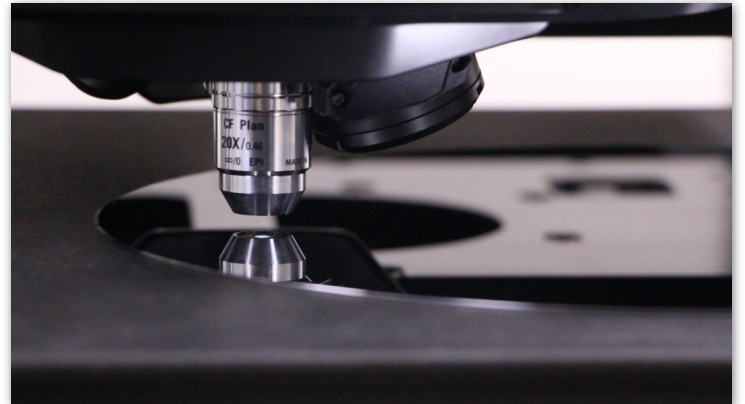
Large Format Base Platform



600 x 600 mm Inspection Area System

How Does it Work?

Larger stages increase the measuring area and sample payload capacity. The motion is controlled directly by the internal Keyence stage controller and the user works 100% from the Keyence software interface (VK Viewer).



Wafer scanning with the VK-X microscope

Many Standard Options to Choose From

A variety of accessories are available to meet the needs of customers in environments spanning from R&D to production. Configure a system that works best for your application.

Specs

LF-B Specifications

Travel	300 x 300 mm	600 x 600 mm
XY Performance		
Accuracy	$\pm 10 \mu\text{m}$	$\pm 16 \mu\text{m}$
Repeatability	$\pm 1 \mu\text{m}$	
Max Jog Speed	25 mm/sec	
Z-Axis (Optional) Performance		
Travel	200 mm	
Accuracy	$\pm 8 \mu\text{m}$	
Repeatability	$\pm 1 \mu\text{m}$	
Minimum Incremental Motion	1.0 μm	
Max Jog Speed	25 mm/sec	
Mechanical Specifications		
Payload Capacity	35 kg	45 kg
MTBF (Mean Time Before Failure)	20,000 Hours	

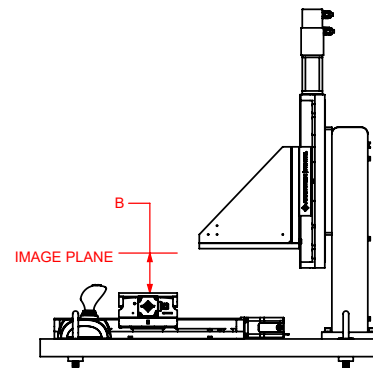
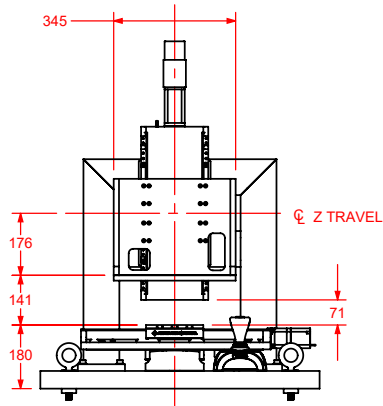
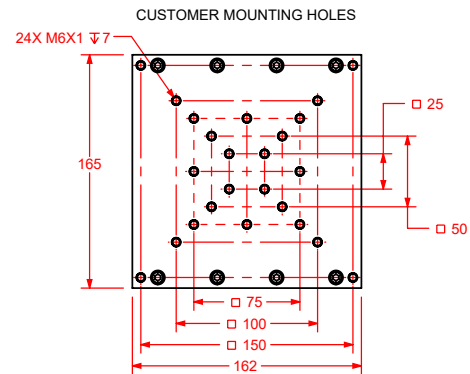
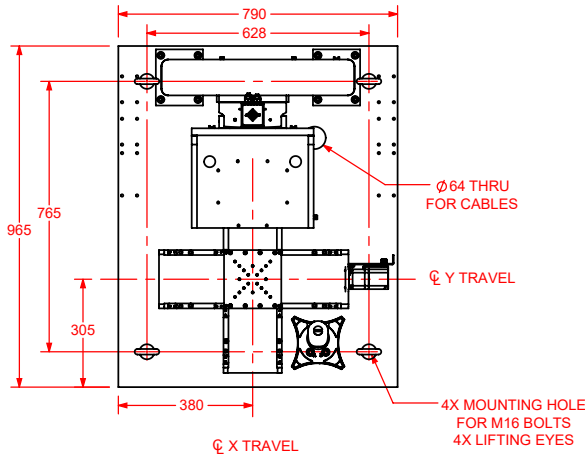
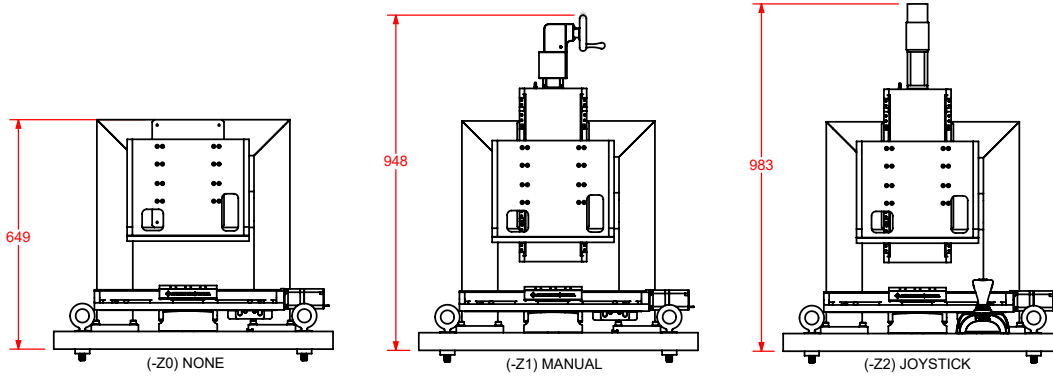
Dimensions

TRAVEL: (-300) 300 X 300mm
 BASE/BRIDGE: (-MT) ALUMINUM/STEEL

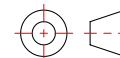
AXIS	NOMINAL TRAVEL
X	300
Y	300
Z	200

Z-AXIS	IMAGE PLANE ADJUSTABILITY
(-Z0) NONE	0
(-Z1) MANUAL	±100
(-Z2) JOYSTICK	±100

MEASUREMENT SYSTEM	B
VK	94
VR	113



DIMENSIONS: MILLIMETERS



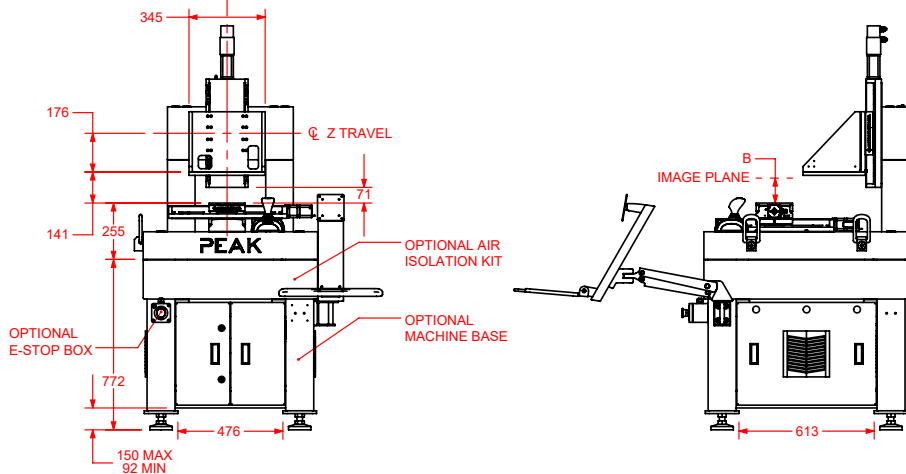
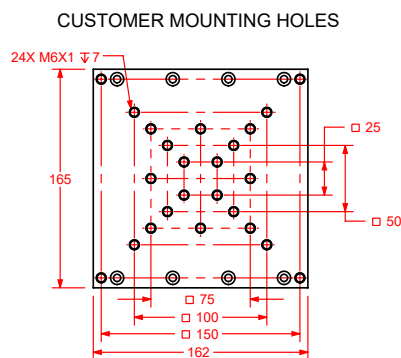
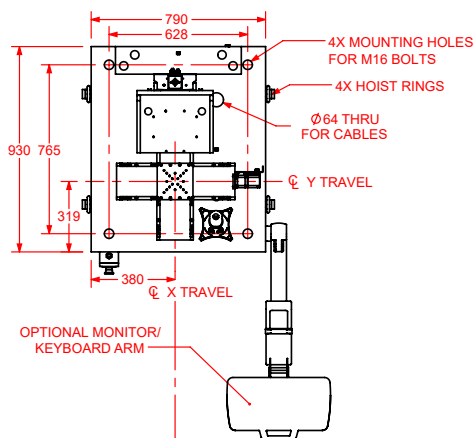
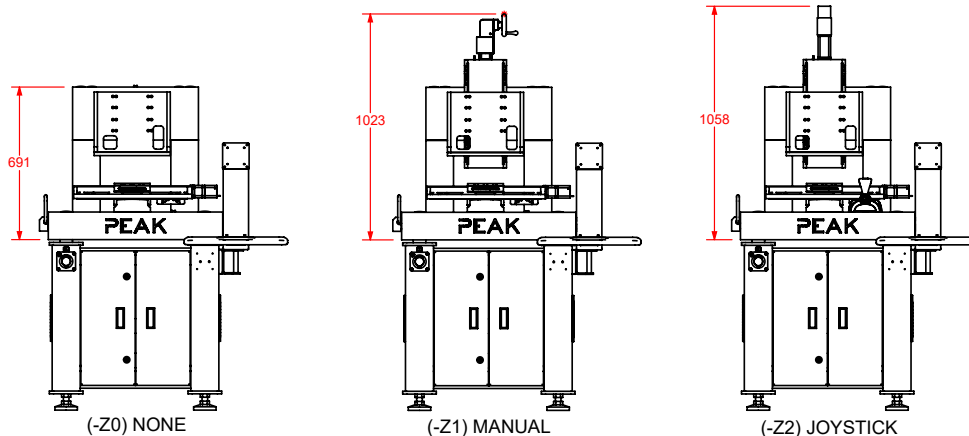
Dimensions

TRAVEL: (-300) 300 X 300mm
 BASE/BRIDGE: (-GR) GRANITE

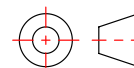
AXIS	NOMINAL TRAVEL
X	300
Y	300
Z	200

Z-AXIS	IMAGE PLANE ADJUSTABILITY
(-Z0) NONE	0
(-Z1) MANUAL	±100
(-Z2) JOYSTICK	±100

MEASUREMENT SYSTEM	B
VK	94
VR	113



DIMENSIONS: MILLIMETERS



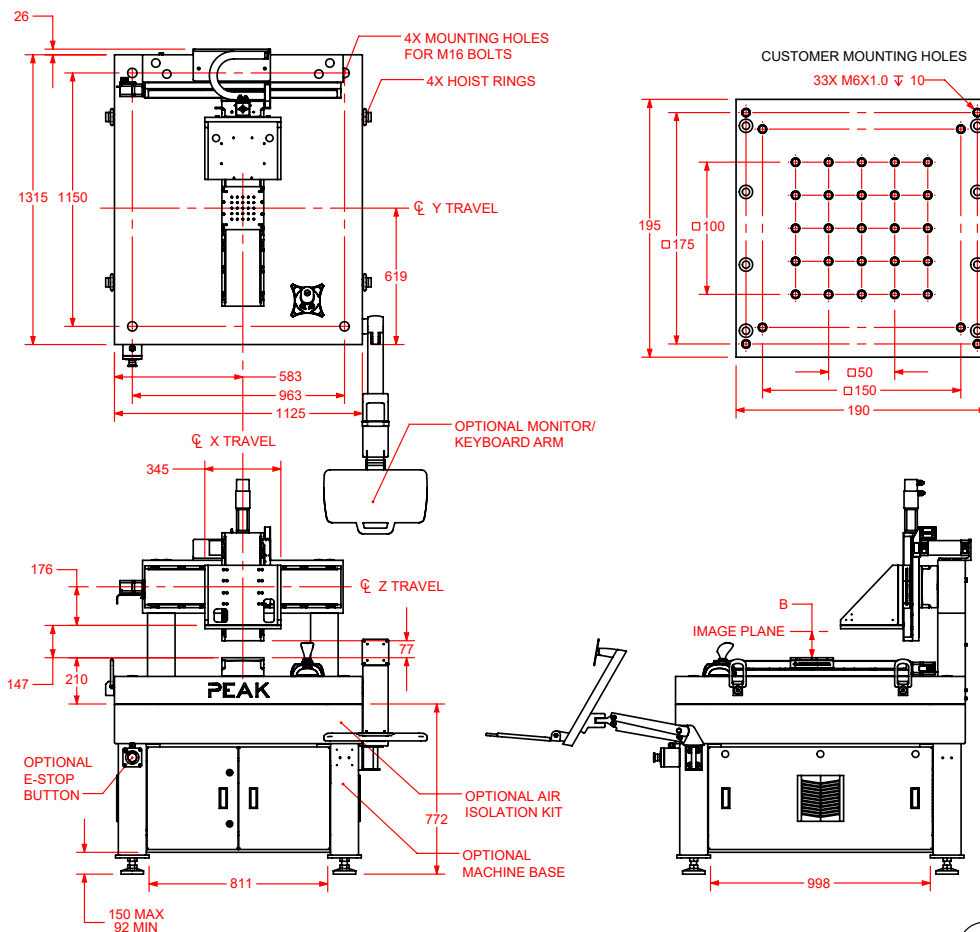
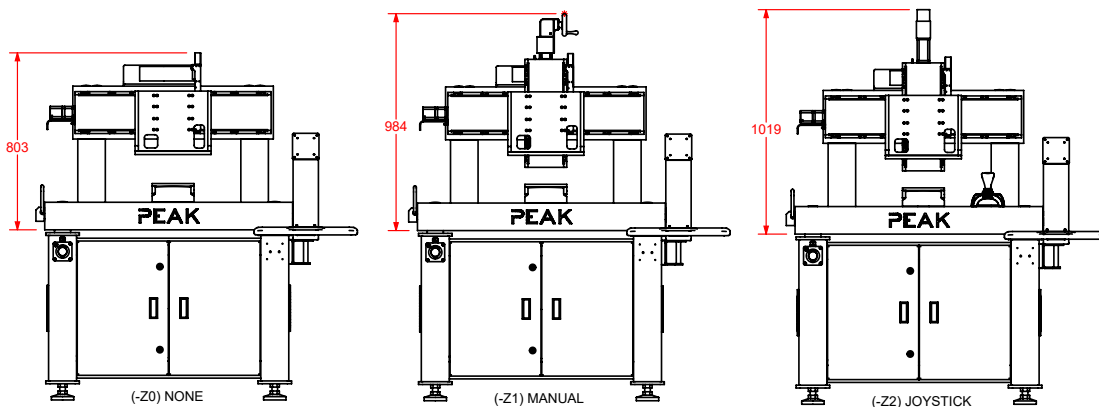
Dimensions

TRAVEL: (-600) 600 X 600mm
 BASE/BRIDGE: (-GR) GRANITE

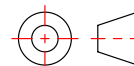
AXIS	NOMINAL TRAVEL
X	600
Y	600
Z	200

Z-AXIS	IMAGE PLANE ADJUSTABILITY
(-Z0) NONE	0
(-Z1) MANUAL	±100
(-Z2) JOYSTICK	±100

MEASUREMENT SYSTEM	B
VK	100
VR	119



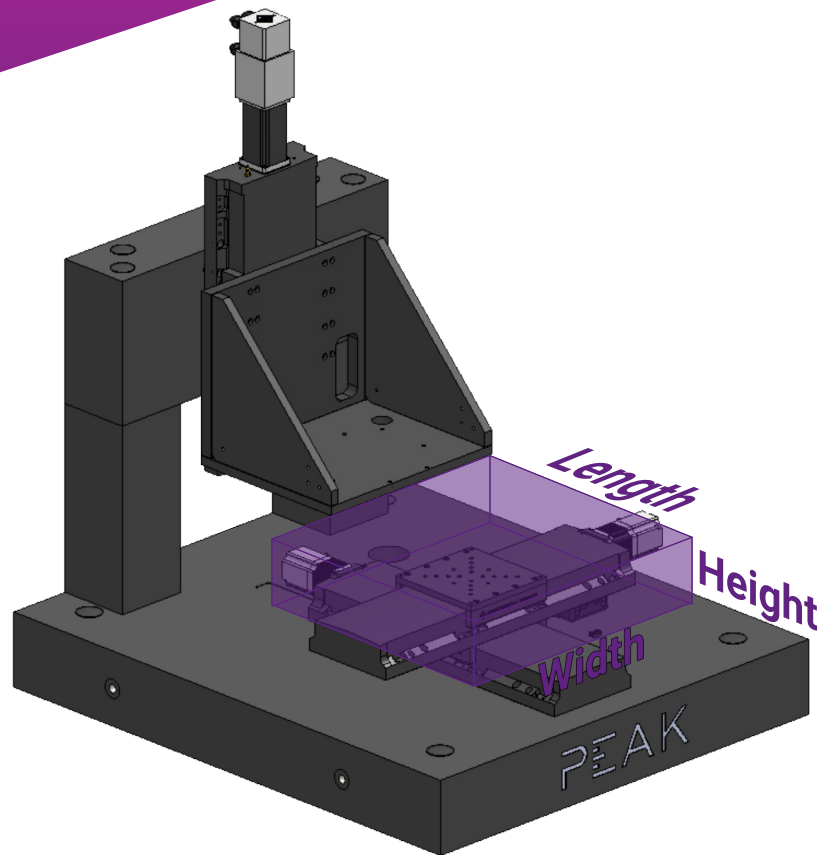
DIMENSIONS: MILLIMETERS



Part Sizes

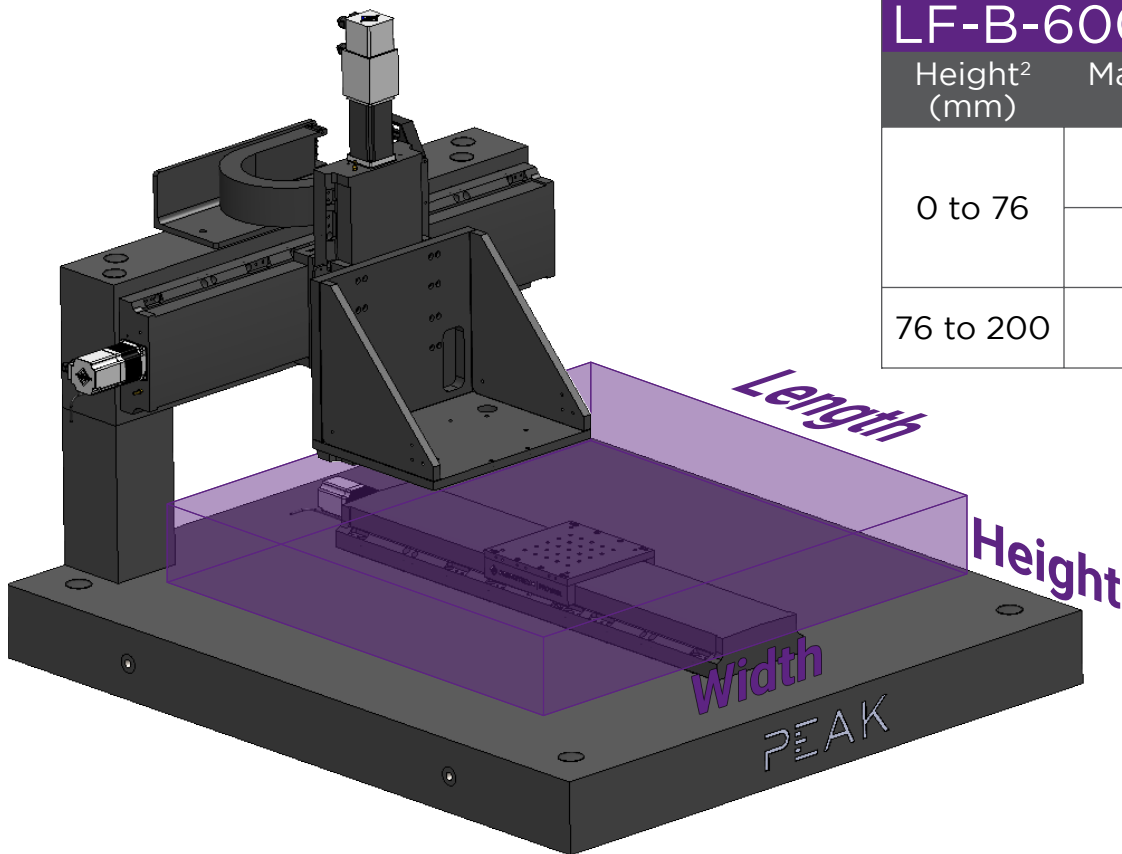
LF-B-300

Height ² (mm)	Max Width (mm)	Max Length (mm)
0 to 70	434	312 ¹ (640)
70 to 194	434	312 ¹ (500)



LF-B-600

Height ² (mm)	Max Width (mm)	Max Length (mm)
0 to 76	637	613 ¹ (765)
	1085	515
76 to 200	1085	312 ¹ (500)



* All dimensions assume part is centered on travel.
Consult Peak about non-symmetric parts.

¹ Parts exceeding this size will extend beyond front edge
of base when Y-axis reaches extent of travel. See
parentheses for max size with overhang.

² Allowable part size is dependent on part thickness.
Please consult table for details.

PEAKTM
METROLOGY

An AEROTECH Company

Ordering

Step 1 - Select your travel

-300 (300 x 300 mm)	Stacked XY axes, with 300 mm of square travel
-600 (600 x 600 mm)	Lower axis mounted to base, upper axis mounted to the bridge

Step 2 - Select your base material

-MT (Aluminum/Steel) ¹	Lightweight, aluminum base with welded steel bridge
-GR (Granite)	Granite used for vibration isolation concerns

Step 3 - Choose your options

Z-Axis (Required)

-Z1 (Manual)	200 mm of vertical adjustment with manual handwheel
-Z2 (Joystick)	200 mm of motorized adjustment via joystick (includes fail-safe brake)

Machine Base (Optional)

-MB (Machine Base)	Steel weldment with leveling feet, doors, and mounting features for electronics
--------------------	---

Isolation (Required)

-ISO1 (Elastomer)	Vibration reduction via elastomer pads designed to provide high damping
-ISO2 (Passive Air) ²	Increased isolation of environmental vibrations with self-leveling air isolators

Monitor Arm and Keyboard Tray (Optional)

-OS (Operator Station) ^{2,3}	Adjustable, ergonomic arm for sitting/standing workstation
---------------------------------------	--

Emergency Stop (Optional)

-ESTOP (Emergency Stop)	Mushroom button to cut power to stage motors
-------------------------	--

Microscope Head (Required)

-VR (VR Head) ⁴	Provisions for Keyence VR-5100 or VR-5200 Microscope Heads
-VK (VK Head) ⁴	Provisions for Keyence VK-X1050, VK-X1100, VK-X3050, or VK-X3100 Microscope Heads

Line Cord (Required)

-LC0 (None)	No line cord
-LC1 (US115VAC)	US (115VAC) compatible line cord
-LC2 (US230VAC)	US (230VAC) compatible line cord
-LC3 (German)	Germany compatible line cord
-LC4 (UK)	UK compatible line cord

Vacuum Line (Optional)

-VAC (Vacuum Line) ⁵	Vacuum Line Cable Routing
---------------------------------	---------------------------

¹ Only Available with "300 x 300 mm" Travel option

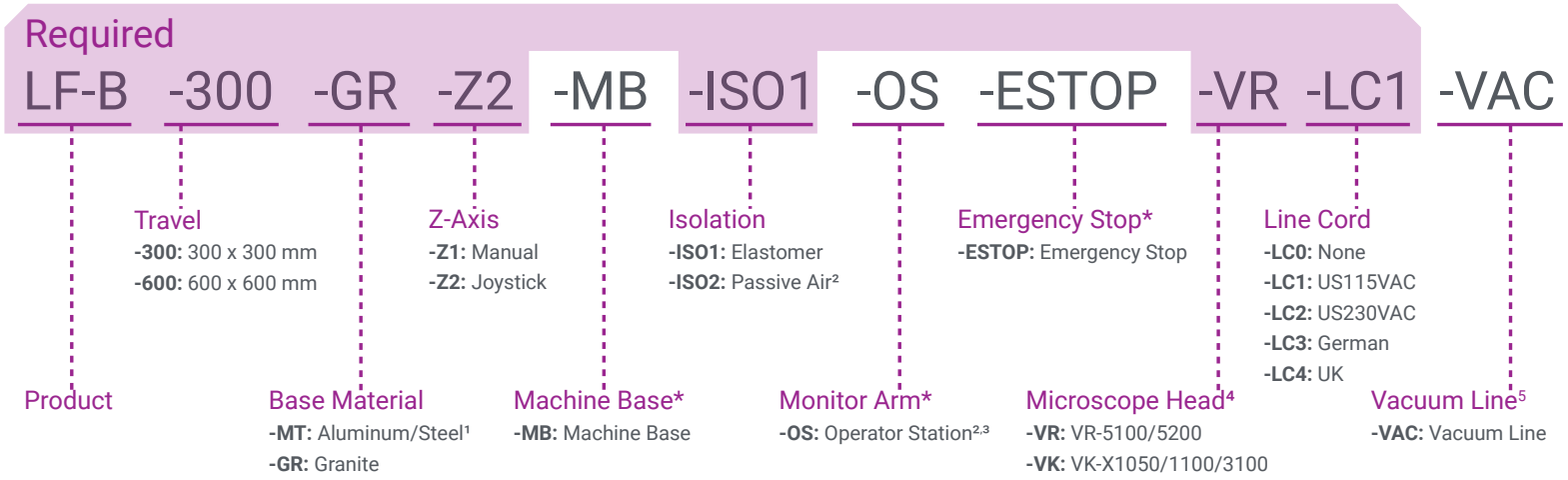
² Requires "Machine Base" option

³ Does not include monitor and keyboard (available from Keyence)

⁴ Microscopes provided by Keyence

⁵ For use with accessory vacuum chucks

Ordering



* Optional - omit if not desired

¹ Only Available with "300 x 300 mm" Travel option

² Requires "Machine Base" option

³ Does not include monitor and keyboard (available from Keyence)

⁴ Provided by Keyence

⁵ For use with accessory vacuum chucks

Ordering

Travel

- Choose from two standard sizes:
- 300 x 300 mm (shown left)
(sample moves in XY)
 - 600 x 600 mm (shown right)
(sample moves in Y, microscope moves in X)



Control for your environment

We'll work with you to characterize your floor vibrations and identify any necessary isolation measures to preserve measurement performance. Our standard air and active isolation systems are available to make sure your measurements are rock solid. See our [white paper](#) for full details.

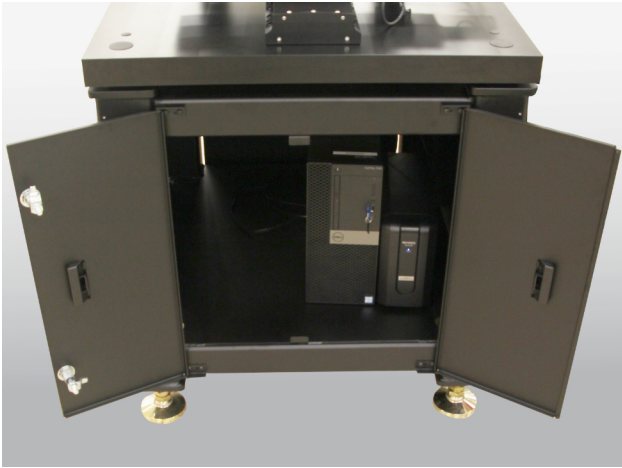
Go higher

Additional Z travel available for applications with variable height parts or features. Choose from a manually-operated handwheel (shown right) or motorized (shown left) stage.

Easily control motorized Z travel with our pre-programmed joystick (shown below) - complete with buttons to toggle jog speeds and disable motion to prevent accidental moves.



Customize

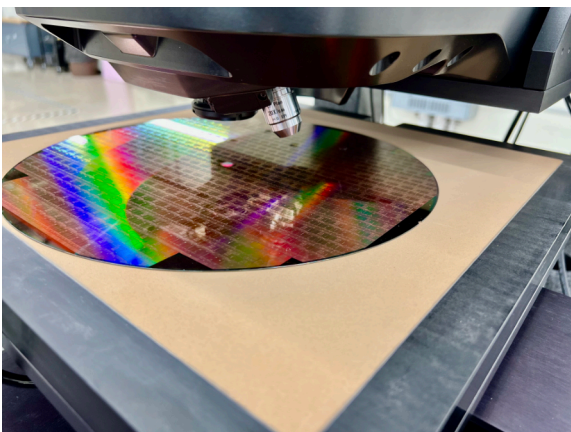


Have it your way

Don't see exactly what you need? Don't compromise, customize. At Peak, nearly half of our machines are customized per our customers' requirements - so don't hesitate to [contact us](#) to find out how we can deliver exactly what you need.

Need even more travel? We've got you covered! With options up to 1 meter, we can find a solution for even your largest parts.

Are your parts difficult to hold? We'll work with you to design custom part fixturing to make sure your inspections are reliable and repeatable.



Finishing touches

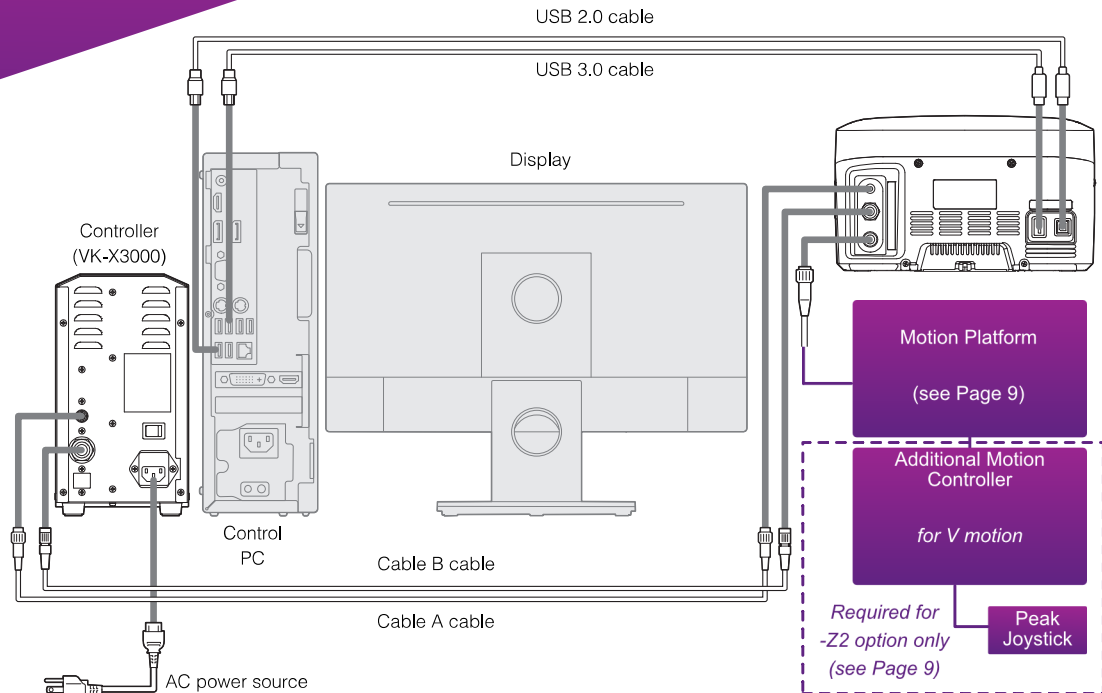
Choose from available ordering options to get exactly what you need.

The optional machine base provides storage for all PCs and control electronics - all within the envelope of the machine.



With an extended travel Z stage this system can measure parts as tall as 500 mm.

Keyence Kit



Complete the system

Peak provides all the motion equipment you need to be up and running in no time. The Keyence equipment listed below is required to complete the system. Have questions? Don't hesitate to [contact us](#) for answers on what is required.

Microscope Head

VK-X1050, VK-X1100, VK-X3050, or VK-X3100¹

Controller

VK-X1000 or VK-X3000

Software

VK-A3 Viewer and Analyzer (comes standard)

VK-H3J Image Stitching Module (as needed)

VK-H3CA CAD Comparison Module (as needed)

Cables

Cable A and Cable B in 2 m lengths

OP-88249 5 meter Extended Length Cable Set²

USB2.0 Type B Male to USB Type A Male in 2 m length³

USB3.0 Type Micro B Male to USB Type A Male in 2 m length³

Control PC

Provided by Keyence (optional)

¹ WLI Measurements on VK-X3000 systems are not supported by standard systems

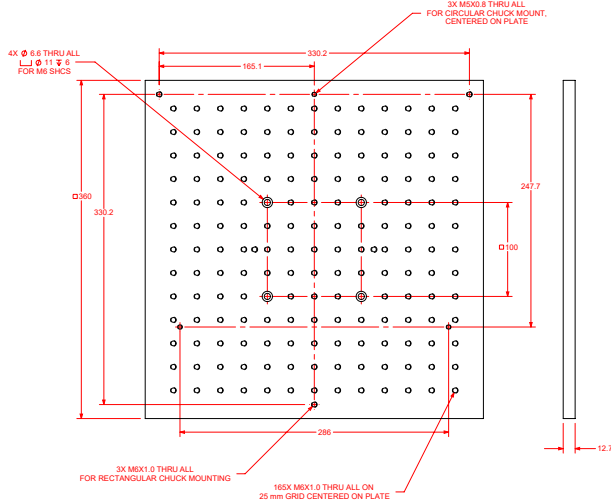
² Required for -600 systems, optional for -300 systems

³ USB3.0 extension cables provided by Peak

Fixtures

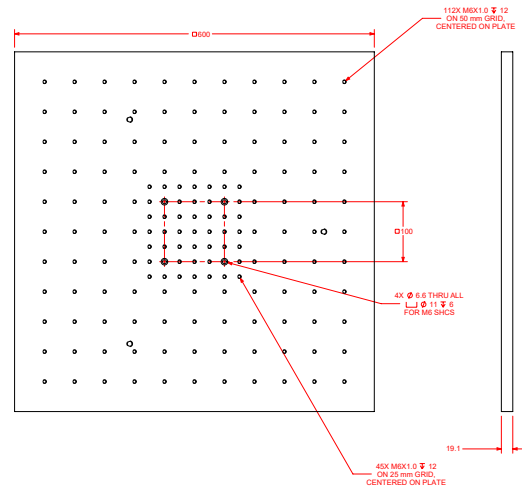
PM-FP-P360

360 mm Square Tooling Plate



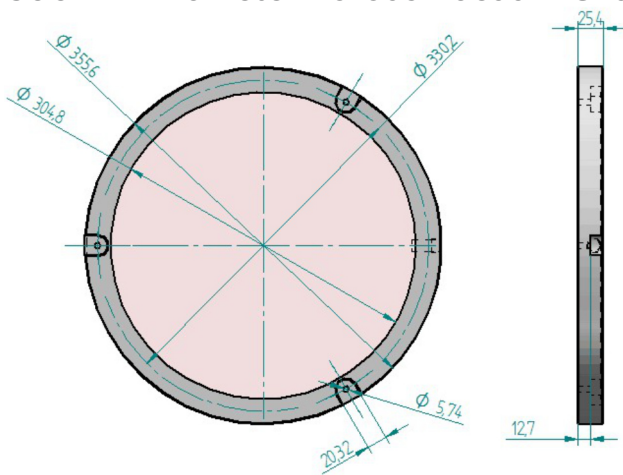
PM-FP-P600

600 mm Square Tooling Plate



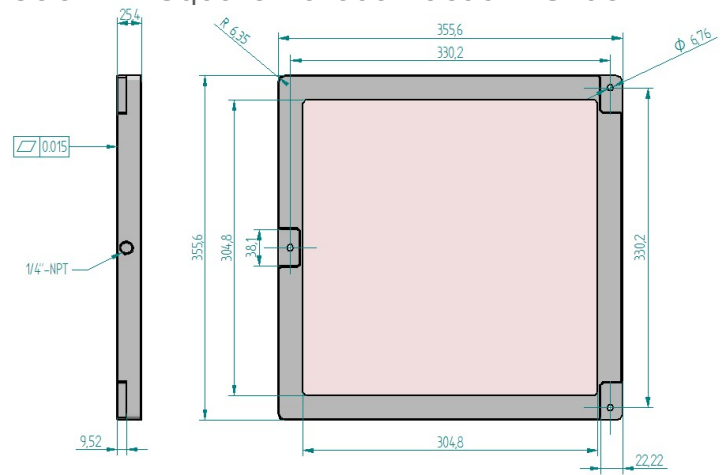
PM-FP-VPR

300 mm Diameter Porous Vacuum Chuck



PM-FP-VPS

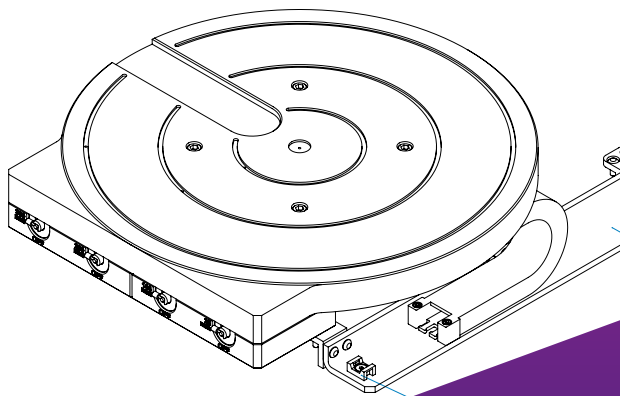
300 mm Square Porous Vacuum Chuck



PM-FP-VZR

300 mm Diameter Zone-Selectable Vacuum Chuck

Zones: 25 mm, 100 mm, 200 mm, and 300 mm Diameters



PEAKTM
METROLOGY

An AEROTECH Company