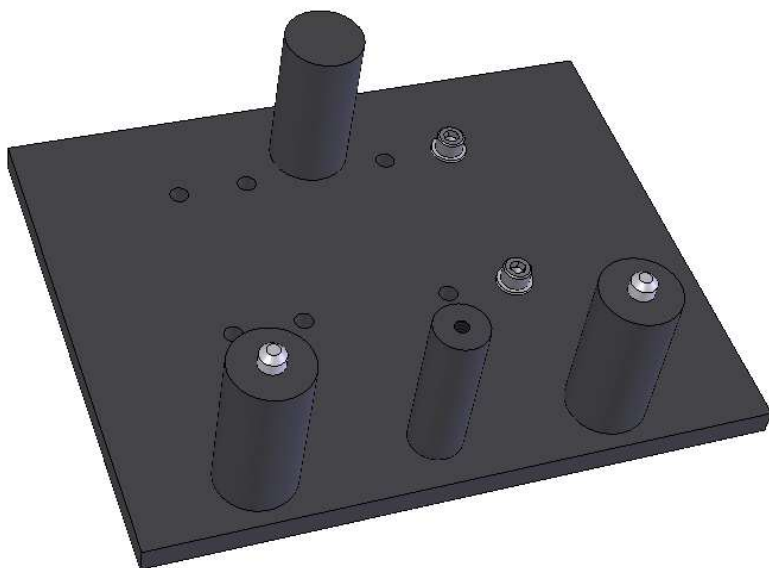


Benchmark™ Baseplate Installation Guide

User Manual



2I-549-000-12

Benchmark™ Baseplate Installation Guide

User Manual

Benchmark™ Baseplate Installation Guide

BENCHMARK™ BASEPLATE INSTALLATION GUIDE

PART NUMBERS 549-000 Series

USER MANUAL

1. INTRODUCTION	3
2. UNPACKING AND CHECKLIST	5
3. INSTALLATION OF BENCHMARK™ BASEPLATE INTO SPECTROMETER ..	6

© May 2019 Specac Ltd. All rights reserved.

Benchmark™ is a trademark of Specac Ltd.
Other product names that may be mentioned herein may be
trademarks of their respective owners.

1. Introduction

Benchmark™ Baseplates

Most Specac accessories are installed into a spectrometer sample compartment via an adapter baseplate. The most commonly used type is known as a Benchmark™ baseplate. The accessory locates onto the top of the Benchmark™ baseplate and is held secure by a single thumbscrew fixing, usually into a location pillar at the front of the baseplate. There are three further support and location pillars arranged in a triangular configuration on the plate to match the height of the thumbscrew location pillar, such that the accessory is placed level to be presented at the correct beam height and spatial position in the spectrometer sample compartment. It is this arrangement of pillars (or location holes and pins for low beam height spectrometer systems) on a support plate that denotes a Benchmark™ baseplate configuration.

The metal plate that carries the pillars or location holes and pins is a specific shape and unique to a specific spectrometer sample compartment. It is this metal plate that is directly attached to the floor of a spectrometer. The Benchmark™ baseplate may be suitable for a variety of spectrometer models from the same manufacturer, and when placed into the spectrometer, will allow any Benchmark™ baseplate compatible accessory to be correctly mounted for operation.

The accessories can be changed over for operation simply by undoing the thumbscrew connection on the accessory itself. The Benchmark™ baseplate part does not need to be removed from the spectrometer sample compartment. An advantage is that once an accessory has been finely aligned for operation in a specific spectrometer on the Benchmark™ baseplate, as long as the optical settings on the accessory are not altered, it can be removed from the spectrometer as many times as required and is ready for use the next time it is installed.

Specac accessories that are Benchmark™ baseplate compatible are:

All Golden Gate™ ATR systems GS10500 Series (NOT “Smart” Golden Gates).

Silver Gate™ Evolution ATR P/N GS10680 Series.

Quest ATR Accessory P/N GS10800 Series.

Gateway™ ATR P/N GS11165.

Pearl Liquid Transmission Accessory P/N GS31000 Series.

Cyclone™ Gas Cells P/N's GS24102, GS24105, GS24110, GS24120.

Tornado™ Gas Cells P/N's GS24205, GS24210, GS24220.

Minidiff Plus™ P/N GS04510.

Microfocus Beam Condenser P/N's GS02560, GS02561.

Variable Temperature Cell Holders P/N's GS21525, GS21530.

Fixed 30° Angle Specular Reflectance Accessory P/N GS19820.

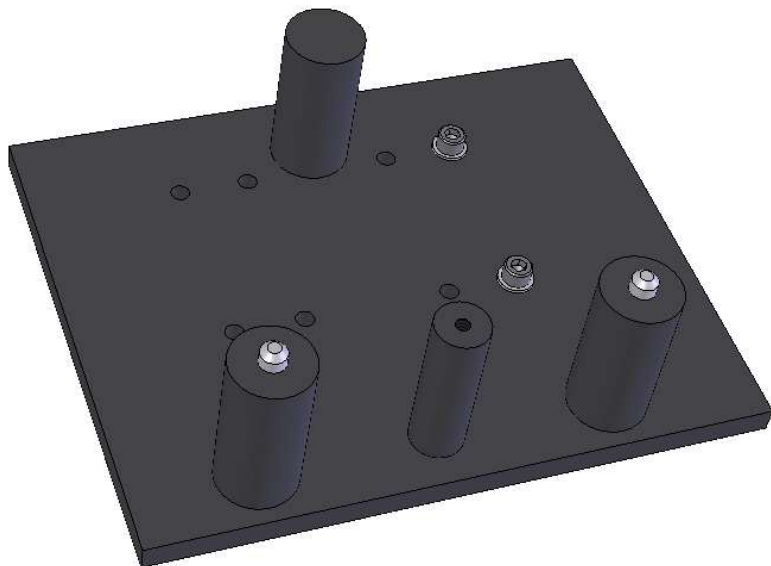


Fig 1. Typical Benchmark™ Baseplate

2. Unpacking and Checklist

If your Specac Accessory requires installation into a Spectrometer system via use of a Benchmark™ baseplate, the Benchmark™ baseplate will be provided along with the appropriate accessory if ordered.

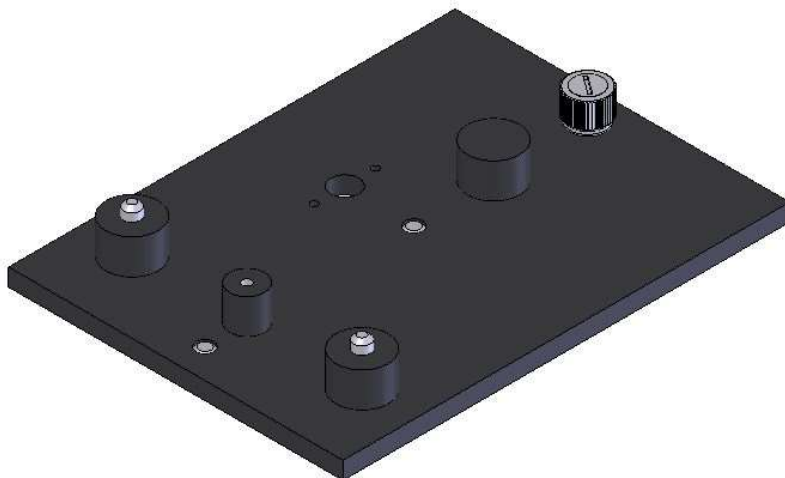
Alternatively, you may receive a Benchmark™ baseplate on its own to adapt a previously existing Benchmark™ baseplate compatible accessory to be installed into a specific Spectrometer system.

On receipt of the items remove carefully from their packaging and proceed to Section 3 of this instruction manual for the specific instructions of installation of your Benchmark™ baseplate into the appropriate spectrometer system.

3. Installation of the Benchmark™ Baseplate into the Spectrometer

The following is a description of how to fit a Benchmark™ baseplate into your spectrometer system. In most circumstances, it is best to fit the Benchmark™ baseplate into the spectrometer sample compartment first and then fix the accessory to the installed baseplate.

P/N 549-094 (GS49094) - Agilent/Varian/Biorad FTS7, 40, 60, 65, 100, 135, 155, 165, 175, 185, 660, 670, 680, 6000, Excalibur, Scimitar - Beam direction: Right to Left



Remove any 3" x 2" mount plate used in the spectrometer.

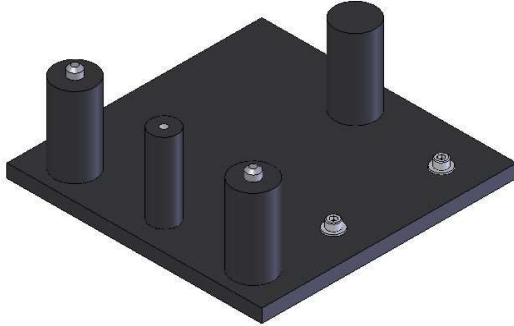
Place the Benchmark™ baseplate into the sample compartment with the two dowel pins on the underside of the baseplate locating into the spectrometer dowel holes in the floor of the instrument.

Secure the baseplate by screwing the thumb screw at the back of the baseplate into the instrument floor. (A long flat head screwdriver may be of help).

Locate the accessory onto the installed baseplate and secure using the captive thumb screw.

P/N 549-101 (GS49101) - Bomem M100 Series (110, 120)

Beam direction: Left to Right



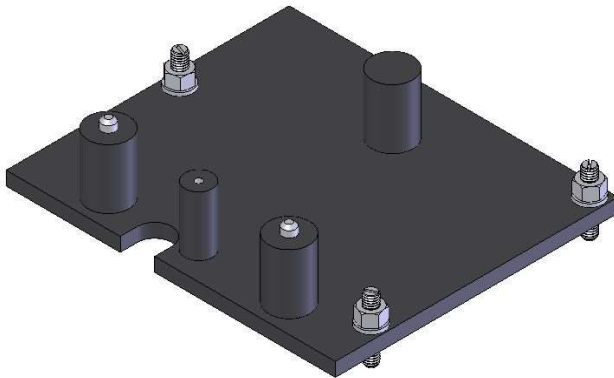
Remove the spectrometer cover and 3" x 2" sample mount to gain access to the sample compartment.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Fix the Benchmark™ baseplate to the spectrometer platform with the two 10-32UNC screws supplied.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-102 (GS49102) - Bomem MB100 Series Kinematic Mount (155, 157) and MB3000 - Beam direction: Left to Right



User Manual

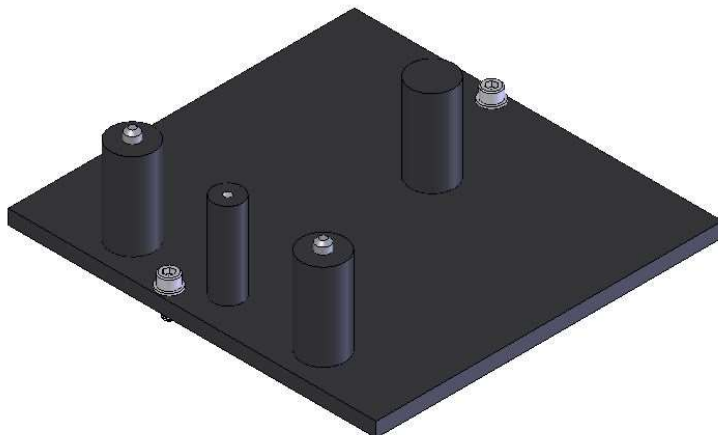
Remove the spectrometer cover and 3" x 2" sample mount to gain access to the sample compartment.

Locate the Benchmark™ Baseplate onto the kinematic mount of the spectrometer with the three support pillars in a straight line to the front of the compartment. This involves placing the screws on the underside of the baseplate on three location features (a conical countersink, a 'V' slot and a plain flat) on the floor of the spectrometer.

The Benchmark™ baseplate screws can be adjusted for height and leveling.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-110 (GS49110) - Bomem (Arid Zone) MB100, 2000 Series Non-Kinematic Mount (MB3000) - Beam direction: Left to Right



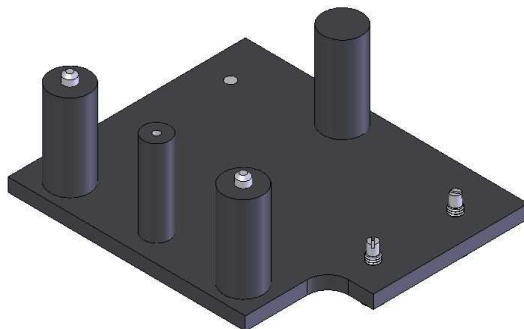
Remove the spectrometer cover and 3" x 2" sample mount to gain access to the sample compartment.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Fix the Benchmark™ baseplate to the spectrometer platform with the two 10-32UNC screws supplied.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-096 (GS49096) - Bruker IFS 25, 55, 66, 66V, 88, Vector22, Equinox
Beam direction: Right to Left



Remove any 3" x 2" mount plate used in the spectrometer from the Bruker baseplate.

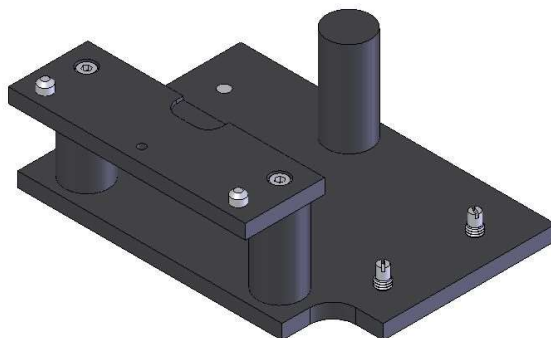
Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

The two fixing screws and dowel pins of the Benchmark™ plate are passed through the larger hole ends of the slots on the Bruker baseplate and the Benchmark™ plate is slid from right to left to centralize it on the Bruker plate.

The two screws are then turned anti-clockwise to tighten the plates together.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-120 (GS49120) - Bruker IFS 25, 45, 55, 48, 66, 66V, 85, 88, Vector22
Equinox - Beam direction: Right to Left



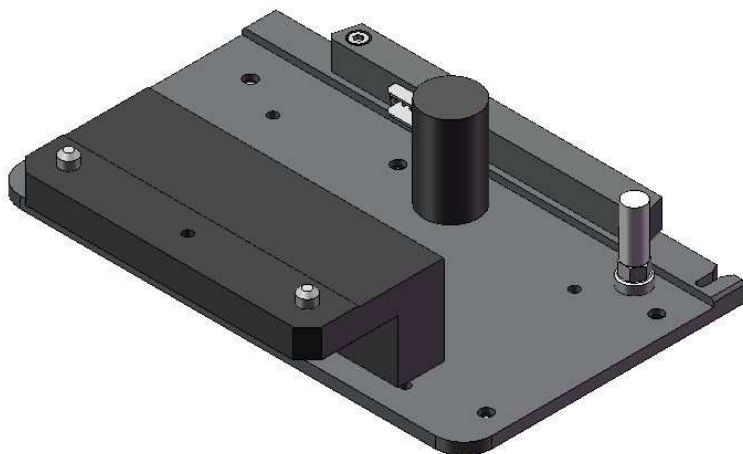
User Manual

Remove any 3" x 2" mount plate used in the spectrometer from the Bruker baseplate. Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

The two fixing screws and dowel pins of the Benchmark™ plate are passed through the larger hole ends of the slots on the Bruker baseplate and the Benchmark™ plate is slid from right to left to centralize it on the Bruker plate.

The two screws are then turned anti-clockwise to tighten the plates together. Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-433 (GS49433) - Bruker Tensor 25, 37, II, Quicklock 33, Vertex 70, 80, Invenio
Beam direction: Right to Left

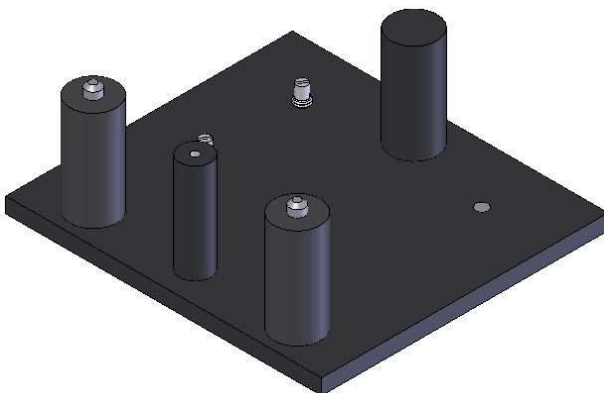


Remove any 3" x 2" mount plate used in the spectrometer from the spectrometer sample compartment.

Place the Benchmark Quicklock™ baseplate into the sample compartment with the two location pins and tapped hole on the front edge of the support plate to the front of the compartment. The baseplate locates securely by connection to the rear with the electric plug sockets and a push clip at the front.

Install the accessory onto the Benchmark™ rear pillar and front plate fixing and secure using the captive thumb screw into the small central hole on the plate at the front.

P/N 549-107 (GS49107) - Bruker IFS113V, 120HR, 125HR
Beam direction: Right to Left



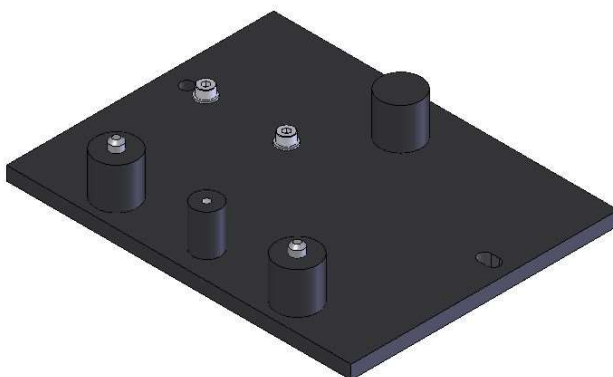
Remove any 3" x 2" mount plate used in the spectrometer from the Bruker baseplate.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

The two fixing screws and dowel pins of the plate are passed through the slots of the Bruker plate and the two screws are turned anti-clockwise to tighten the plates together.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-117 (GS49117) - Jasco (All Jasco models) - Beam direction: Left to Right



User Manual

Remove the spectrometer cover and 3" x 2" sample mount to gain access to the sample compartment.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Secure the baseplate in position using the two, cap head M4 screws supplied.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-104 (GS49104) - Mattson Galaxy Series 2000, 3000, 4000, 5000, 6000, 7000, 8000 Genesis Series, RS, Infinity

Beam direction: Right to Left (8000 is Left to Right)



There are two sets of pillars supplied with the Benchmark™ baseplate for Mattson spectrometers. (Long pillars (1.5") for Galaxy Series and short pillars (0.5") for Genesis Series).

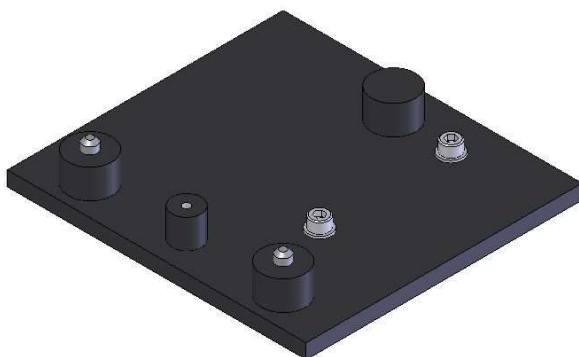
Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment and such that the dowel pins on the underside of the baseplate locate into the floor of the spectrometer.

Secure the baseplate in position using the two-cap head 8-32UNC screws supplied.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-106 (GS49106) - Midac (All Midac models) - Beam direction: Left to Right



Remove the spectrometer cover and 3" x 2" sample mount to gain access to the sample compartment.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Secure the baseplate in position using the two-cap head 10-32UNC screws supplied.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-093 (GS49093) - Nicolet 500, 700, 710, 740, 800, 5PC, 5SXC, Magna, Protege, Avatar, Nexus, 6700, 8700, iS10, iS20, iS50 - Beam direction: Right to Left



User Manual

Before any installation of the Benchmark baseplate P/N 549-093 can be made into the spectrometer, the spectrometers own sample compartment baseplate floor (Thermo P/N 714-006000) must be installed. This part is identified below.



Specifically, for the Thermo iS10 and iS20 spectrometers, an additional extension baseplate (Thermo P/N 714-006200) is required to mount the sample compartment baseplate floor (Thermo P/N 714-006000). The extension baseplate is identified as follows.



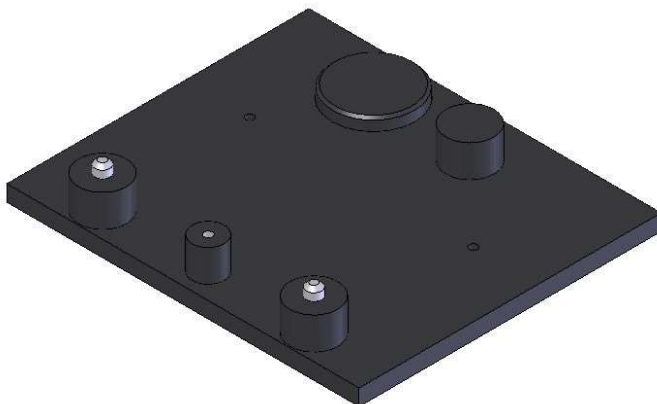
Thermo parts 714-006000 and 714-006200 are available from Thermo to order, if necessary. To fit the Benchmark baseplate P/N 549-093, remove any 3" x 2" slide mount plate assembly used in the spectrometer as fitted onto 714-006000.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Secure the baseplate in position onto 714-006000 using the two-cap head 8-32UNC screws supplied.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-435 (GS49435) - Nicolet iS5 - Beam direction: Right to Left

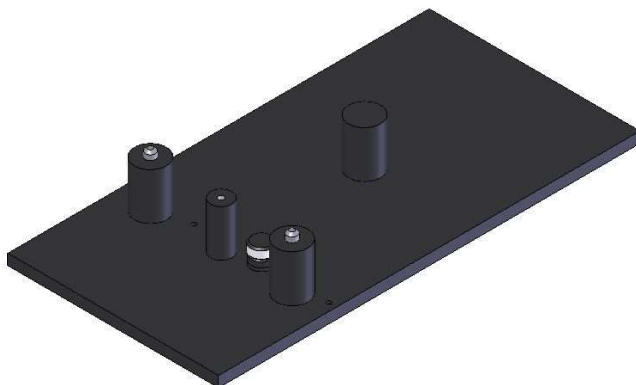


Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Align the two small fixing holes on the baseplate with the two location pins on the spectrometer compartment floor. The baseplate is secured into position from "pull down" attraction of the two magnetic discs on the spectrometer compartment floor to the two metallic discs on the underside of the baseplate.

**P/N 549-099 (GS49099) - Perkin Elmer PE1700, PE1800
Beam direction: Left to Right**



User Manual

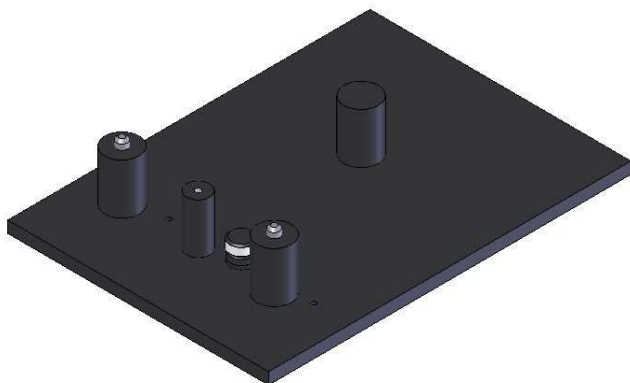
Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

The baseplate is held in position by two location pins into the front support rail of the spectrometer and by tightening of the pull down thumb nut (supplied) to the instruments own fixing screw that passes through the slot at the front of the baseplate.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-098 (GS49098) - Perkin Elmer PE2000, Spectrum2000, GX
Beam direction: Left to Right or Right to Left



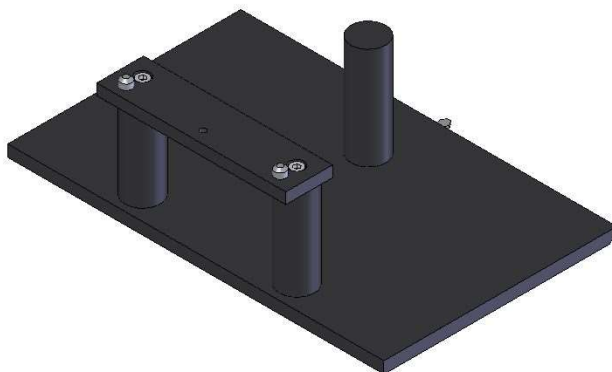
Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

The baseplate is held in position by two location pins into the front support rail of the spectrometer and by tightening of the pull-down thumb nut (supplied) to the instruments own fixing screw that passes through the slot at the front of the baseplate.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-097 (GS49097) - Perkin Elmer PE1600 Series, Paragon, Spectrum 1000, BX, RX - Beam direction: Left to Right



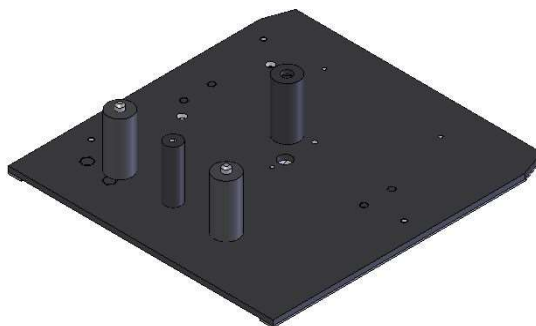
Remove any 3" x 2" mount plate used in the spectrometer.

Remove the sliding baseplate floor from the sample compartment by pulling it firmly forward. The catch mechanism at the rear will release automatically.

Install the accessory onto the Benchmark™ baseplate support bar and pillar and secure using the captive thumb screw into the tapped hole in the support bar.

Slide the complete accessory and Benchmark™ baseplate assembly into the sample compartment. The catch mechanism and Velcro type strips secure the assembly in position.

P/N 549-352 (GS49352) - Perkin Elmer Spectrum One, Spectrum 65, 100, 400, 4000, 8000 (Frontier) - Beam direction: Left to Right



User Manual

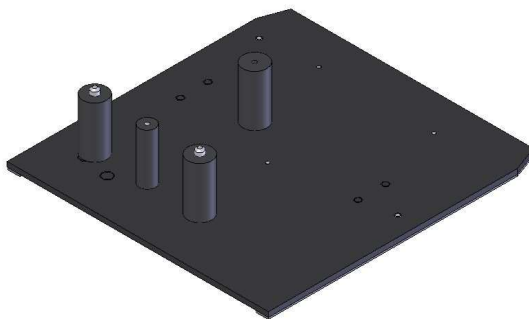
Remove any 3" x 2" mount plate used in the spectrometer.

Slide the Benchmark™ baseplate into position along the side edges of the sample compartment with the three support pillars in a straight line to the front of the compartment.

The baseplate locates into the spectrometer by engagement of the 15pin connector at the back of the plate into the spectrometer and by guidance clips on the underside of the plate. The lilac colored pivoting handle on the underside of the plate is pulled towards you when you need to remove the plate from the spectrometer.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-452 (GS49452) – Quest ATR ONLY Baseplate for Perkin Elmer Spectrum One, Spectrum 65, 100, 400, 4000, 8000 (Frontier) - Beam direction: Left to Right



P/N 549-452 is very similar in look to the Benchmark™ baseplate P/N 549-352, but the support pillars have been moved further to the left of centre of the baseplate platform for correct use with the Quest ATR Accessory (Specac P/N GS10800 Series), when fitted into any model of Perkin Elmer spectrometer as mentioned.

For installation of baseplate P/N 549-452, follow the same procedure as described for the Benchmark™ baseplate P/N 549-352.

P/N 549-436 (GS49436) - Perkin Elmer Spectrum Two

Beam direction: Left to Right



Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment and the electrical connection plate on the underside of the baseplate towards the rear.

The baseplate requires a "push down and slide fit" action to be held correctly in position. Clips on the underside of the baseplate locate with ball catches on the floor of the spectrometer. Angle the back of the baseplate downwards such that the electrical connection plate is close to its engagement mechanism and then push down towards the middle and front of the baseplate onto the ball catches for a snap fit.

Removal of the baseplate is a reverse action. Lift at the front and pull up and out towards the front.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

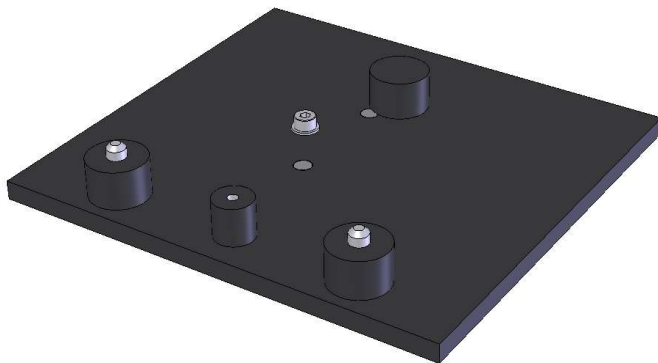
P/N 549-453 (GS49453) – Quest ATR ONLY Baseplate for Perkin Elmer Spectrum Two - Beam direction: Left to Right



P/N 549-453 is very similar in look to the Benchmark™ baseplate P/N 549-436, but the support pillars have been moved further to the left of centre of the baseplate platform for correct use with the Quest ATR Accessory (Specac P/N GS10800 Series) when fitted into the Perkin Elmer Spectrum 2 spectrometer.

For installation of baseplate P/N 549-453, follow the same procedure as described for the Benchmark™ baseplate P/N 549-436.

**P/N 549-465 (GS49465) – PG Instruments FTIR 7800
Beam direction: Right to Left**

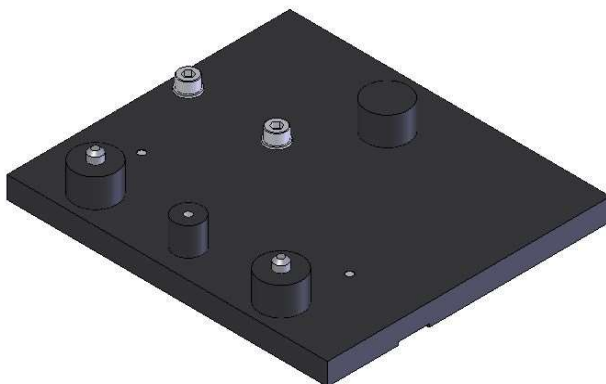


Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment. The baseplate is held in position by two location pins on the underside of the baseplate (one round dowel and one tab dowel pin), that fit into the two holes on the floor of the sample compartment. Screw the supplied M4 x 12mm cap-head screw and washer into the threaded screw hole in the floor of the sample compartment, to fix the baseplate.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-103 (GS49103) - Shimadzu 8000, 8100, 8200, 8300, 8400, 8500, Prestige 21, IR Affinity, IR Tracer 100, IR Spirit - Beam direction: Right to Left



Remove any 3" x 2" mount plate used in the spectrometer.

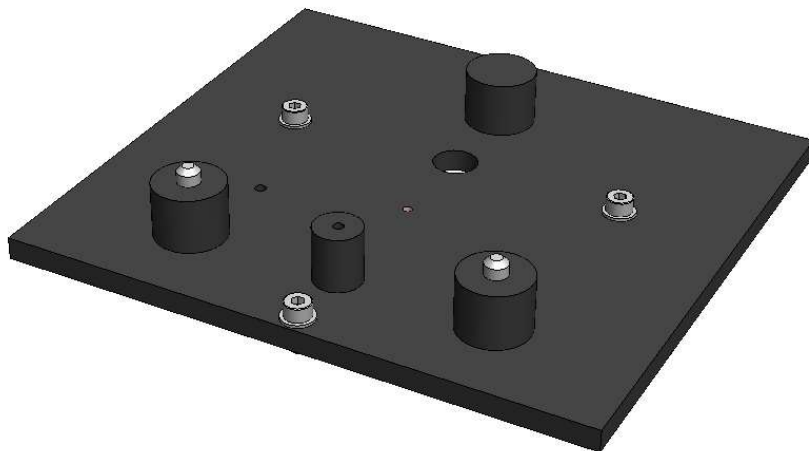
Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment. Make sure that the bar on the underside of the baseplate locates in the slot in the spectrometer sample compartment floor.

Move the baseplate from side to side until the location pins in the spectrometer enter the holes in the bar. Secure the baseplate by screwing the two-cap head M5 screws through the baseplate into the spectrometer sample compartment floor.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

P/N 549-472 (GS49472) – Tianjin Nengpu ICAN9

Beam direction: Right to Left



Remove any 3" x 2" mount plate used in the spectrometer.

Place the Benchmark™ baseplate into the sample compartment with the three support pillars in a straight line to the front of the compartment.

Move the baseplate around the sample compartment floor surface until the threaded location holes in the spectrometer floor align with the three screw fixing holes in the baseplate.

Secure the baseplate by screwing the three cap-head M4 x 10mm screws through the baseplate into the spectrometer sample compartment floor.

Install the accessory onto the four Benchmark™ baseplate pillars and secure using the captive thumb screw into the small central pillar at the front.

Any Other Spectrometers

For advice concerning spectrometers not included in this manual please consult your nearest Specac representative.

Worldwide Distribution

France

Eurolabo - Paris.
Tel.01 42 08 01 28
Fax 01 42 08 13 65
email: contact@eurolabo.fr

Germany

L.O.T. - Oriel GmbH & Co,
KG - Darmstadt
Tel: 06151 88060
Fax: 06151 880689
email:info@LOT-Oriel.de
Website: www.LOT-Oriel.com/de

Japan

Systems Engineering Inc. -Tokyo
Tel: 03 3946 4993
Fax: 03 3946 4983
email:systems-eng@systems-eng.co.jp
Website: www.systems-eng.co.jp

Spain

Teknokroma S.Coop C. Ltda
Barcelona
Tel:93 674 8800
Fax: 93 675 2405
email:comercial@teknokroma.es

Switzerland

Portmann InstrumentsAG
Biel-Benken
Tel: 061 726 6555
Fax: 061 726 6550
email:info@portmann-instruments.ch
Website: www.portmann-instruments.ch

USA

SPECAC INC.
414 Commerce Drive
Suite 175,
Fort Washington,
PA 19034, USA
Tel: 215 793 4044
Fax: 215 793 4011

United Kingdom

Specac Ltd. - London
Unit 12, Science & Innovation Centre
Halo Business Park
Orpington
Kent BR5 3FQ
Tel:+44 (0) 1689 873134
Registered No. 1008689 England

Brilliant Spectroscopy™

www.specac.com

SPECAC INC.

414 Commerce Drive
Suite 175,
Fort Washington,
PA 19034, USA
Tel: 215 793 4044
Fax: 215 793 4011

SPECAC LIMITED

Unit 12, Science & Innovation Centre
Halo Business Park
Orpington
Kent BR5 3FQ
Tel: +44 (0) 1689 873134
Registered No. 1008689 England