

Gradient Station™

- SPACE-SAVING & COST-EFFECTIVE
- ONLY ONE DEVICE FOR GRADIENT PRODUCTION AND FRACTIONATION
- ALL FUNCTIONS OF THE INDIVIDUAL DEVICES AVAILABLE WITHOUT RESTRICTION
- EASY, INTUITIVE OPERATION
- TUBE HOLDER FOR ALL COMMON TUBE SIZES



*Gradient Station™
Base Unit
(article no.: B153-002)*

Gradient Station™

This hybrid instrument performs both gradient forming and fractionation.

The Gradient Station™ is two distinct instruments combined into one compact, fully functional hybrid. One forms density gradients and the other fractionates them after centrifugation. The performance of these two elements is identical to the original instruments, the Gradient Master™ and the Piston Gradient Fractionator™, which are described detailed below.

The Gradient Station™ Base unit is provided without tube holders. The tube holders for gradient forming and fractionation have to be purchased separately. For each tube size a separate tube holder is required (see page 4 and 6).

Product data - Gradient Station™

Piston Gradient Fractionator™ and Gradient Master™ in one device. All features of the individual devices are available without restriction.

Gradient Master™ (GM)

Gradient production with the Gradient Master is unique, simple, fast, highly precise and highly reproducible. There is no competing device with this capability.

- Forms 6 identical linear density gradients within approx. 2 min using the "Tilted Tube Rotation" technique™ (patented process)
- Involves layering the two end point solutions (i.e. 5% and 30% sucrose) directly in the centrifuge tube.
- Tubes are capped to lock in the solutions, placed in a holder and rotated at a high tilt angle for a fixed time and speed.
- Interchangeable tube holders

Piston Gradient Fractionator™ (PGF)

The Piston Gradient Fractionator™ from BioComp is the world's highest resolution fractionator. It is the first and only gradient fractionator that collects the sample from top to bottom of an ultracentrifugation tube with a special piston. It can produce down to 10µm small fractions of a gradient-sample.

- High resolution fractionation thanks to the patented Trumpet™ tip design, a tapered funnel, which transfers the bands without puncturing the tube
- Prevents mixing of bands by reducing laminar capillary flow to a minimum
- 3-way valve at the tip of the piston prevents cross-contamination of the sample
- Interchangeable tube holders with Trumpet™ tip for all common tube sizes

Fractionation runs can be operated manually or automatically to produce perfect gradient profiles:

- Automatic cleaning between fractions with air and liquid, eliminating cross-contamination
- Illumination system for visualization of bands within the gradient
- Integration of a highly sensitive UV/ Fluorescence (FL) TRIAX™ measuring cell (optional)
- Integration of a fraction collector (optional)
- Software updates via SD card



*Gradient Master™ Base Unit
(article no.: B108-2)*



*Fractionator™ Base Unit
(article no.: BB152-002)*

Overview of equipment options for the Gradient Station™

1. Triax™ Flow Cell for UV/ FL detection of your sample fractions
2. Fraction Collector for 0,5 - 2ml tubes and/or 96 well plate
3. Laptop for Triax Flow Cell Software (recording UV/ FL profiles)



Product Details - Gradient Station™

Characteristics

- Gradient Master™ and Piston Gradient Fractionator™ in one instrument
- Interchangeable tube holders (for gradient forming and fractionation)
- Software updates via SD card
- Direct integration of UV/VIS measuring cell (optional)
- Signal output for fraction collector

Needed Accessories for gradient forming

- MagnaBase™ Tube Holder
- Marker Block
- Caps for centrifuge tubes (short/long Caps)

Technical Data

- Voltage: 220-240V (CE certified)

Dimensions

- 670 x 420 x 560/740mm (W/D/H)
- Weight: 23,6 kg

Needed Accessories for fractionation

- PGF Tube Holder
- Piston tip
- Cursor

Included

- Combined Gradient Master™ and Piston Gradient Fractionator™ Base Unit
- Gradient List (Run Parameters)
- Levelling Feet (x4)
- Valve repair kit
- Valve Cleaning Needle
- Syringe Reservoir (60cc), Air Syringe (60cc)
- Layering Cannula (x2) & Bubble Level
- Sample layering Kit
- Teflon Tubing (1/16" x 1m)
- Tubing Tip
- Water Adjust Cannula
- Rinse Adapter
- Box of 50 Seton Tubes
- SD Card & Reader, Power Cord, Fraction Collector Cable (2 Wire)
- Philips Screwdriver, Allen Wrenches (1/16", 5/64", 3/32", 9/64", 5/32", 3/16")
- Front Panel Screws (6x)
- Wing Screws (6x) & Allen Wrench (1/8")
- Spare Spotlight
- Marker (Staedtler Fine Tip), Ruler, Lab Tape
- Rinse Check valve
- Manual (English)

Accessories

1. Gradient Master™ MagnaBase™ Tube Holder, Marker Block, Caps

The **MagnaBase™ Tube Holder** can be magnetically attached to the Gradient Master™ Base Unit. Each tube size requires a separate tube holder. The **Marker Block** is used to mark the half full point on the tube for layering of the two-end point solutions.

The caps (short or long) protect the gradient during the tilted rotation. **Short caps** are used for rate zonal runs where a small sample volume is required and **long caps** for isopycnic runs where the sample volume is less important.



Marker Block, MagnaBase™ Tube Holder, Caps



Short (-R) & Long (-I) Caps

Cat. #	Description	Tube Size	Beckmann	Sorvall	Hitachi
B105-911A-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	11x60mm	SW60Ti	TST-60.4 TLS-55	RPS56T
B105-911B-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	11x34mm	TLS-55	N/A	RP55S
B105-913-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	13x51mm	SW50.1 SW65Ti SW55Ti	AH-650	RPS65T RPS55T-2 RPS50
B105-914A-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	14x89mm	SW41	TH-641	N/A
B105-914B-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	14x95mm	SW40	N/A	RPS40T
B105-916-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	16x102mm	SW27.1 SW28.1	AH-629/17	SRP28SA RPS27-3
B105-925-I/R	MagnaBase™ Tube Holder, Marker Block and Caps	25x89mm	SW27 SW28 SW32	AH-629/38	SRP28SA RPS27 RPS27-2

Each MagnaBase™ Set includes:

- MagnaBase™ Tube Holder
- Marker Block
- 6 Caps (short and/or long).

Please note - You can order different types of caps with each holder:

- I = 10mm sample volume spacer, for isopycnic runs
- R = 4mm sample volume spacer, for rate-zonal runs
- IR = for both sizes

2. Piston Gradient Fractionator™ Tube Holder, Piston Tip, Cursor



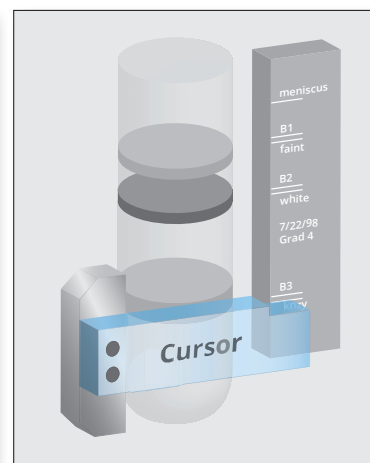
PGF Tube Holder for the SW60
or similar rotors



PGF Tube Holder for the SW41
or similar rotors



Piston Tip



Cursor

For fractionation a tube holder must be purchased separately. Each tube size requires a separate tube holder. A cursor is used to mark the dead volume while recovering visible bands through manual fractionation. The patented Trumpet Tip™, transfers bands from a horizontal layer to a fine liquid column.

Cat. #	Description	Tube Size	Beckmann	Thermo
B151-125	PGF Tube Holder, Piston Tips, Cursor, Tubes	25x89mm	SW27 SW28 SW32	AH-629/38
B151-116	PGF Tube Holder, Piston Tips, Cursor, Tubes	16x102mm	SW27.1 SW28.1	AH-629/17
B151-114B	PGF Tube Holder, Piston Tips, Cursor, Tubes	14x89mm	SW40	N/A
B151-114A	PGF Tube Holder, Piston Tips, Cursor, Tubes	14x95mm	SW41	TH-641
B151-113	PGF Tube Holder, Piston Tips, Cursor, Tubes	13x51mm	SW50 SW55 SW65	AH-650
B151-111A	PGF Tube Holder, 11mm Piston, Piston Tips, Cursor, Tubes	11x60mm	SW60	TH-660
B151-111B	PGF Tube Holder, 11mm Piston, Piston Tips, Cursor, Tubes	11x34mm	TLS55	N / A

Each tube holder set consist of:

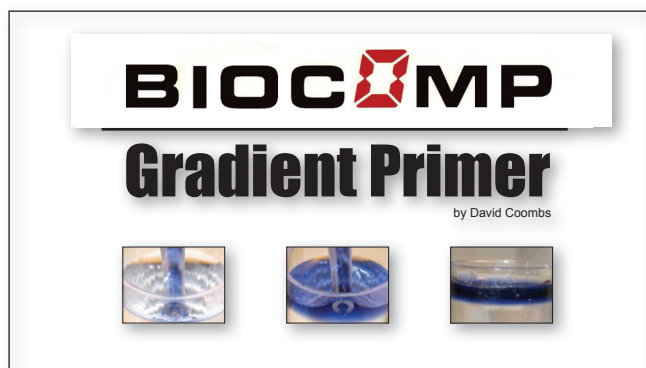
- 2 Piston Tips • PGF Tube Holder
- Cursor • Box of Seton centrifuge tubes

3. Tubes

BioComp highly recommends the Open Top Polyclear or Polyallomer tubes of Seton Scientific. Tubes from other manufacturers do not have the same dimensional tolerance and are not optimally compatible with the seals of the Fractionator Piston Tips.

Cat. #	Tube Size	Material	Beckmann	Thermo	Hitachi
S7052	25x89mm	Polyclear	SW27 SW28 SW32	AH-629/38	SRP28SA RPS27 RPS27-2
S7042	16x102mm	Polyclear	SW27.1 SW28.1	AH-629/17	SRP28SA RPS27-3
S7031	14x95mm	Polyclear	SW40	N/A	RPS40T
S7030	14x89mm	Polyclear	SW41	TH-641	N/A
S7022	13x51mm	Polyclear	SW50.1 SW65Ti SW55Ti	AH-650	RPS65T RPS55T-2 RPS50
S7011	11x34mm	Polyclear	TLS-55	N/A	RP55S
S7010	11x60mm	Polyclear	SW60Ti	TST-60.4 TLS-55	RPS56T
S5052	25x89mm	Polyallomer	SW27 SW28 SW32	AH-629/38	SRP28SA RPS27 RPS27-2
S5042	16x102mm	Polyallomer	SW27.1 SW28.1	AH-629/17	SRP28SA RPS27-3
S5031	14x95mm	Polyallomer	SW40	N/A	RPS40T
S5030	14x89mm	Polyallomer	SW41	TH-641	N/A
S5022	13x51mm	Polyallomer	SW50.1 SW65Ti SW55Ti	AH-650	RPS65T RPS55T-2 RPS50
S5011	11x34mm	Polyallomer	TLS-55	N/A	RP55S
S5010	11x60mm	Polyallomer	SW60Ti	TST-60.4 TLS-55	RPS56T

Gradient Primer (white paper) by David Coombs



The Gradient Primer is a White-Paper by David Coombs, president of BioComp Instruments. It covers the topics gradient forming and fractionation and the science behind it.

Free download:

https://www.scienceservices.de/media/Downloads/ScienceServices_GradientPrimerBroschuere_20150602_EN.pdf



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