

Syringe Brilliance

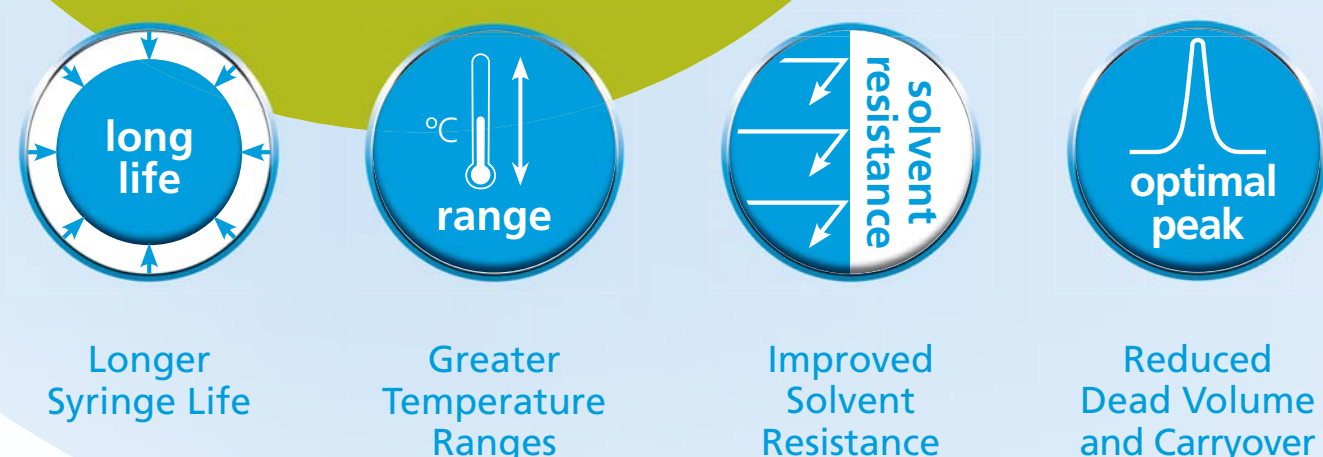
Are There Diamonds in Your Laboratory?

Diamond Syringes

- Increased operational smoothness
- Reduced carryover, adhesive contamination, and sample interaction
- Each plunger is individually fitted to each syringe for perfect sealing

The SGE Analytical Science Diamond Syringe Range offers a never before seen level of Durability, Clarity and Accuracy in the laboratory.

No other syringe range provides such brilliance.



Features and Benefits

- Plunger protection on 5 µL and 10 µL syringes helps prevent plunger bending during injection.
- Metal back flange with flat sides prevents syringe rolling off benches.
- Manual syringes have bright white backing strips with black scale markings for accurate reading of the syringe scale.
- Instrument syringes are color coded by capacity for easy identification when installed.
- Metal cap on fixed needle syringes protects the syringe barrel from chipping and breakage.
- Syringes are designed to meet critical specifications required by instrument manufacturers.

Color Code for SGE Diamond Instrument Syringes

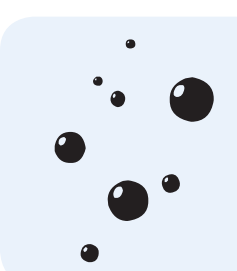
Color	Syringe Volumes			
Yellow	1000 nL (1 µL)		1 mL	1000 mL (1 L)
Lime	5000 nL (5 µL)	5 µL	5 mL	
Dark Orange		10 µL	10 mL	
Green		25 µL	25 mL	
Purple		50 µL	50 mL	
Aqua		100 µL	100 mL	
Grey		250 µL	2.5 mL	2000 mL (2 L)
Light Orange	500 nL (0.5 µL)	500 µL		500 mL (0.5 L)

Top Laboratory Syringes

Part Number	Description
001000	5 µL Fixed Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle
002000	10 µL Fixed Needle Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle
003000	25 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Bevel Tipped Needle
004000	50 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Bevel Tipped Needle
005000	100 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Bevel Tipped Needle
006000	250 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Bevel Tipped Needle
007000	500 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Bevel Tipped Needle
002313	10 µL Removable Needle Syringe with GT Plunger & 5.1 cm 0.72 mm OD LC Needle
003312	25 µL Removable Needle Syringe with GT Plunger & 5.1 cm 0.72 mm OD LC Needle
004312	50 µL Removable Needle Syringe with GT Plunger & 5.1 cm 0.72 mm OD LC Needle
005312	100 µL Removable Needle Syringe with GT Plunger & 5.1 cm 0.72 mm OD LC Needle
006312	250 µL Removable Needle Syringe with GT Plunger & 5.1 cm 0.72 mm OD LC Needle
007312	500 µL Removable Needle Syringe with GT Plunger & 5.1 cm 0.72 mm OD LC Needle

Expert Tips

Air Bubbles



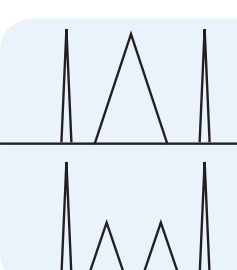
Q. We are getting air bubbles when taking up sample – what is the cause and how can we fix this?

A. To prevent air bubbles forming, repeatedly draw and expel sample while keeping needle tip immersed in the sample.

Slow down! If the plunger is being pulled back too quickly air can be pulled up from the sample.

To remove air bubbles turn the syringe tip towards the ceiling, tap the side of the barrel and expel some sample.

Inconsistent Results



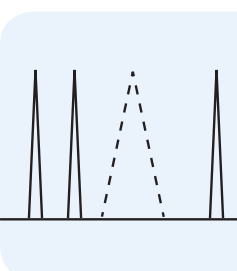
Q. Our results are inconsistent and unreliable – why is this happening what can we do to fix this?

A. One of the major causes of inconsistent results is sampling and injection technique. Check that each sample is being injected the same way.

The SGE repeating adaptor, RAX, ensures reproducibility of sample volumes with repeatedly accurate and precise injections.

Another cause of unreliable results is carryover between samples. Flush the syringe with solvent after each sample injected.

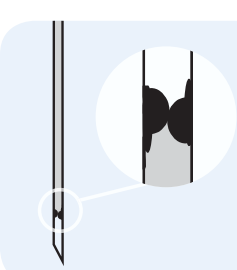
Ghost Peaks



Q. Ghost peaks are appearing on our chromatograms and interfering with our results – what is causing this?

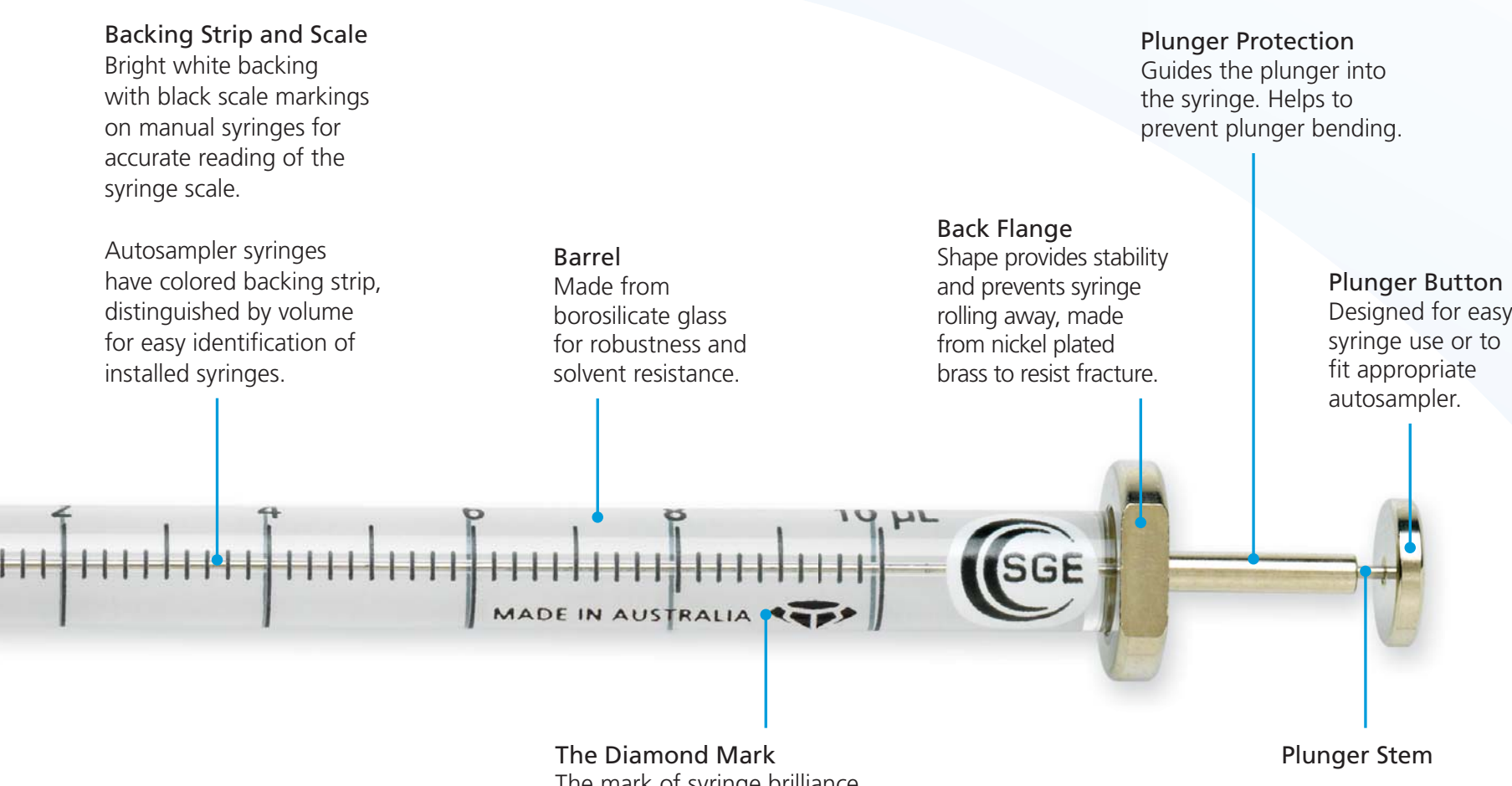
A. Ghost peaks can be caused by a number of areas of the instrument set up. To rule out the syringe as a cause of ghost peaks consider if the injection volume is too large or if the syringe or needle tip is contaminated.

Blocked Needles



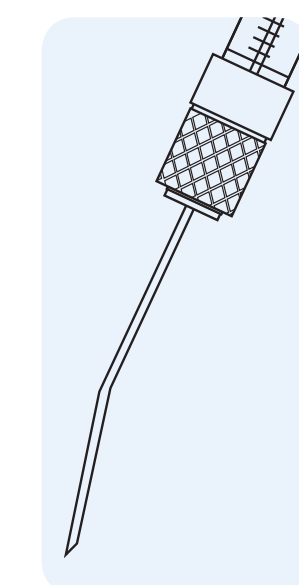
Q. Why is the syringe needle getting blocked?

A. Needles become blocked due to a build up from dirty sample, improper cleaning or by septum during injection. SGE bevel and cone tipped needles are designed for optimum septum penetration and prevention of septum coring.



Look for the diamond mark - the mark of syringe brilliance

Bent Needles



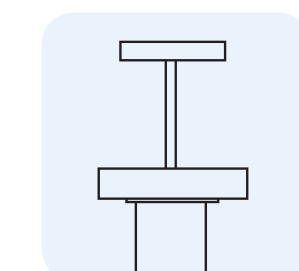
Q. Why does the needle keep bending?

A. To reduce the possibility of bending choose the largest available needle outer diameter suitable for the application. For autosamplers, syringes with 23 gauge or 0.63 mm OD cone tipped needles are recommended.

If needles are bending when the syringe is being used on an autosampler check that the syringe is installed correctly.

Use a removable needle syringe as the needle can be replaced if bent or blocked.

Seized Plungers

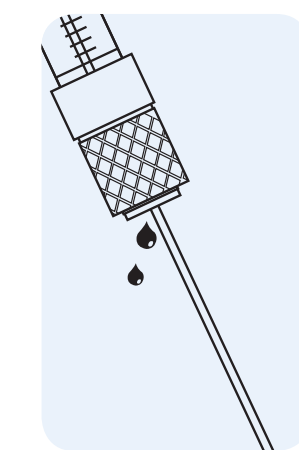


Q. Why is the plunger getting stuck in the syringe barrel?

A. A build up from dirty samples can cause plungers to seize – ensure correct syringe cleaning procedures are being followed. The plungers may also be “getting stuck” if they are bent. Plungers bend because of poor dispensing technique.

If plungers are seizing when using an autosampler check that the syringe is installed correctly.

Leakages



Q. Why is the syringe leaking?

A. The needle may not be fitted correctly. Remove and refit the needle. Check needle seal is in place and undamaged.

No seal at plunger tip – plunger tip damaged or worn due to use or using syringe dry. If using a PTFE tipped plunger replace the plunger assembly.



For more information visit
www.sge.com/syringes
or contact techsupport@sge.com

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