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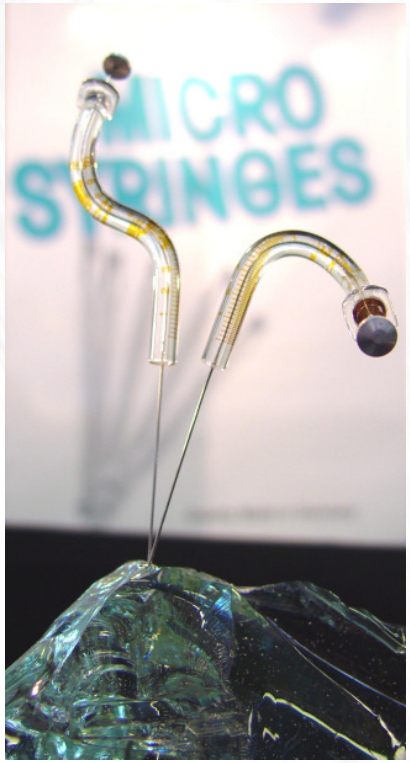
Sampling Injection in Analytik Instruments



- What you should know about Microsyringes

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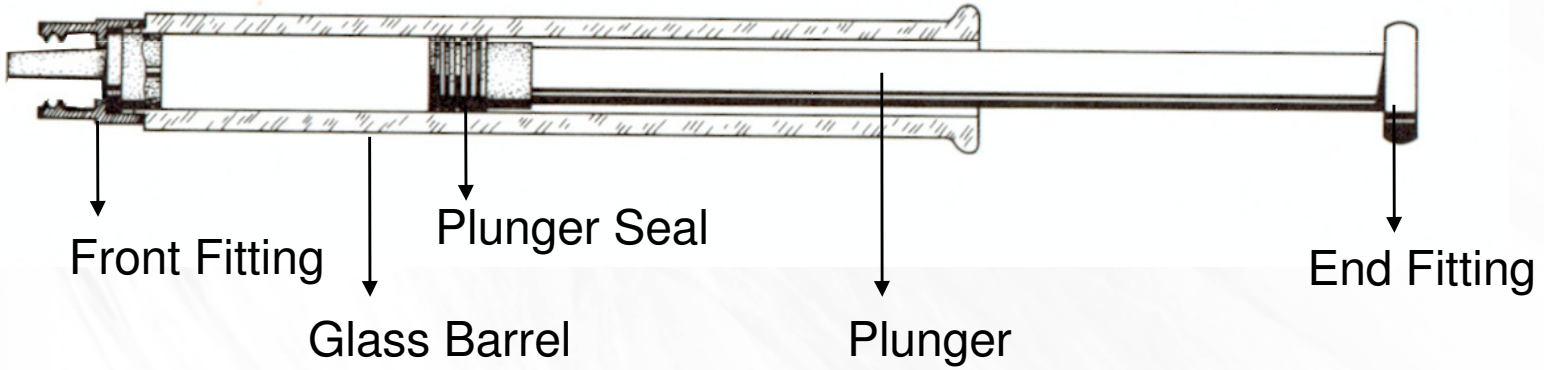
- Founded in 1992
- Privately held (H. and C. Ewald, W. Zinsser)
- Staff of 20
- Continously growing
- Making more than 2300 different types of Microsyringes
- Manufacturing parts and modules for Liquid Handling systems

In the Heart of Germany…

- Located in Thuringia
- 600 – 850 m above sealevel
- 1.600 inhabitants

The Crucial Parts of a syringe



- All parts need to be precise & of suitable materials
- Never change seals only

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1. Front Fittings

- Connect the Syringe to a Valve or liquid/gas System
- Screw connectors of different standards
- Luer connectors of different shapes and standards

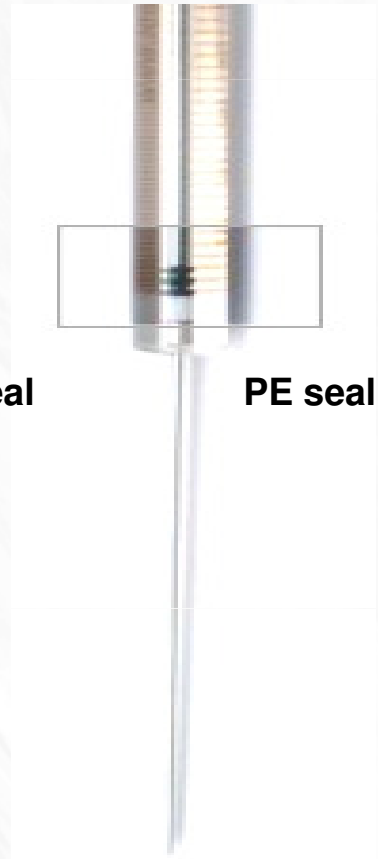
2. Glass Barrel

- Boron is less soluble, increasing the melting point and is high chemical resistent
- 3.3 expansion for best precision

- Glass tubing is precision formed using a shrink process under vacuum and high temperature

2. Seal

Stainless steel plunger without seal



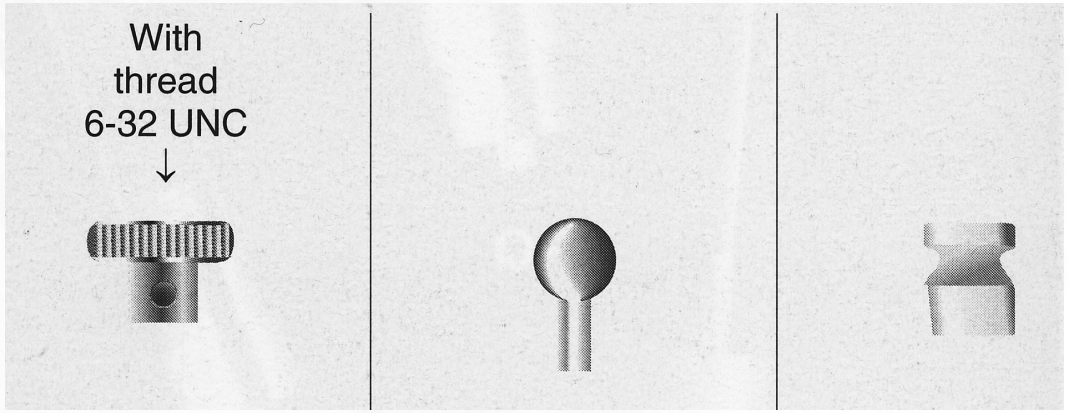
PTFE virginal seal

PE seal

PTFE Black seal

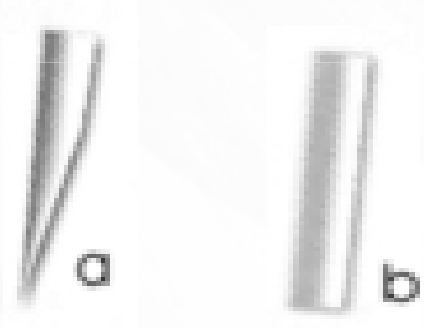
- For specific requirements
- Chemical resistance
- Lifetime
- Optimum plunger force

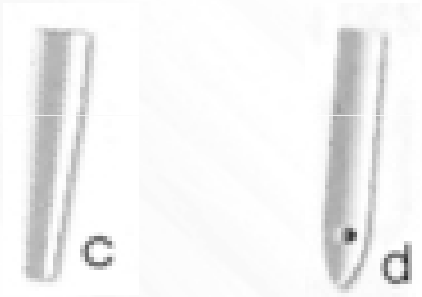
3. Plunger and Plunger Top



- Connecting Piston with actuator
- Designed for manual or automatic operation
- Specific Instrument / Pump connector
- Individual (OEM) designs

4. Needles and Tip Style





Syringe Cleaning for Chromatographie

- Pull the piston out of the glass body of the syringe
- Clean the glass body in an ultra sonic bath
- Rinse the glass body with detergents
- Dry the glass body by air flow or with a vacuum pump
- Clean the piston in a ultrasonic bath
- Wipe the piston with a fibre-free cloth

- Never reinsert the plunger dry – moisten first with water or silicone (no alcohol)

Syringe Cleaning for Liquid Handling

- Deionized water or acetone
- Avoid detergents, phospates and alkaline
- Syringe soaked overnight in a mild solvent or immersed in a sonic cleaner
- Rins well in distilled or deionized water
- Dry with compressed air or vacuum

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Raise the Syringe Lifetime

- Remove the plunger from the barrel
- Dip the plunger tip into Deionized or Distilled water,

and re-insert the plunger into the glass barrel

- Work the plunger up and down 5-6 times, re-wetting the tip, if necessary
- Silicone or other lubricants that are compatible with your sample

may also be used to wet the plunger tips

CAUTION: RUNNING A TEFLON-TIPPED PLUNGER DRY MAY CAUSE THE PTFE TO SHRED OR PULL LOOSE FROM THE PLUNGER ROD, RESULTING IN LEAKS.

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Thank you for your concentration

Stützerbach, ILS location