



High pressure mixer for all gradient systems

Description

As well during high pressure as during low pressure gradient forming, solvents are generated that are firstly only mixed together but not completely stirred. During the low pressure gradient forming the pumps suck the different components in segments and forward them to the injection valve. If there is no mixing chamber between pump outlet and injector inlet, the UV detectors will have a noisy basis line and the retention times will be irregular. The lower the detection wave, the higher the noises. The resolution between two closely adjacent peaks can vary considerably as well. The mixing chamber by SunChrom with variable volumes is optimally adapted to every HPLC system, flow rate and solvent mixtures and provides an optimum mixing and homogenisation.

Construction and function

The mixing chamber by SunChrom has been developed after extensive tests and long operation at wave lengths up to 190 nm. It is assembled on a stainless steel casing that is protected against splash water. The 3 solvent inlets are incorporated directly in the casing to reach, already at the entrance in the mixing chamber, a premix through the optimised geometry. This enables essentially improved mixing results.

Many years of experience with diverse HPLC systems have shown that despite thorough handling of the solvents and of the single components, a certain abrasion of the pistons in the pumps and of the stirrer in the mixing chamber is inevitable. That is the reason why the different chambers are equipped with filter sieves with a mesh size of approx. 3 µm. They hold back the solid parts (abrasion, dust, etc.) from the column and the injection system because otherwise the column could clog and the selectivity could be modified.

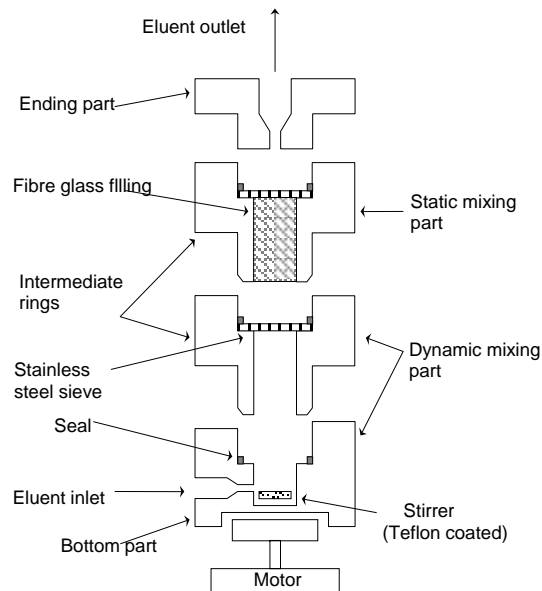


Fig. 1 – Exploded view of the mixing chamber

The mixing part consists of 4 segments. The bottom part includes the 3 connections for up to 3 pumps. The Teflon coated stirrer is located here. The rotation provides, with 500 min⁻¹, a quickest mixing. Higher rotations are not possible because of the high viscosity of a lot of solvent mixtures such as methanol/water. Since the stirrer in the mixing chamber is actuated by a solenoid coupling, it would not rotate steadily any more. The intermediate ring acts as compensation or buffer vessel of the dynamic mixing part.

Technical specifications

Material of the mixing chamber parts	V4A (DIN 1.4401)
Volumes	Variable between 260 and 1800 µL
Sieves	Stainless steel; average mesh size: 3 µm
Stirrer	Permanent magnet with Teflon coating
Seals	Teflon
Filling of the static part	Glas wool
Casing	Stainless steel; Plastics; coated RAL 7035
Dimensions of casing	85 x 55 (120) x 120 mm (B x H (incl. mixer) x T)
Weight	approx. 1,3 kg
Power supply	230VAC / 0,05 A

Ordering informationen

Art.No.	Description
458-250.450	dyn./stat. mixing chamber
458-250.451	Spare parts set (4 sieves + 6 seals)
458-250.452	Motor
458-250.453	Bottom part
458-250.454	Upper part
458-250.455	Intermediate ring
458-250.457	Nuts - extra long (3)
458-250.458	Nuts – long (3)
458-250.459	Nuts – short (3)

We reserve the right to change specifications, design or prices with previous notification.