WelFlash Column Use Manual

WelFlash column provides a variety of bonding phases and packing medias, including porous spherical silica, amorphous silica, alumina and polystyrene-divinylbenzene (PSDVB) etc, with strict QC management throughout the manufacturing, to ensure high reproducibility, column efficiency and pressure tolerance. WelFlash uses packing materials with narrow particle size distribution, ensuring low column pressure in operation. The polypropylene tube provides great compatibility with various solvents. Also it has high pressure tolerance, column efficiency and corrosion resistance. Each column is strictly tested before delivery to ensure high recovery and reproducibility.

Installation:

1. Take the plugs at both ends. Keep the plugs in box for later use.
2. Use iron stand or other fixing devices to keep the column in proper position. Connect the pipeline. (Welflash column uses Luer-lok in-let and Luer out-let, bringing great compatibility with most fast chromatography systems from different manufacturers, such as ISCO or Biotage etc. Connecting to common preparative LC system is also allowed using Luer taper)

Equilibration:

Pre-equilibration (or wetting) using corresponding solvents is required due to its unique dry-packing technique. Methods for normal phase and reversed phase columns:

1.Reversed phase,: C18, C8, phenyl.

First rinse column with pure methanol or pure acetonitrile. Flow rate can be adjusted accordingly(under the recommended Max. column flow rate). Or cascade two columns and rinse in low flow rate until no bubbles coming out(no detection required). Then equilibrate the column with 5-10 column volumes of analysis mobile phase to complete the equilibration.

2.Normal phase: silica, CN, NH_2, Diol, Alumina.

First rinse with strong-elution phases(normally B phases like methanol or ethyl acetate etc.), till no bubbles coming out. The solvents can be recycled. Then equilibrate with mobile phase. Solutions used for rinsing shall be compatible with mobile phase to avoid any layer-built. If lower boiling point solvents, like n-hexane, methylene chloride or ethyl acetate etc, are used for rinsing, the test shall start as soon as possible to avoid dryout due to solvent evaporation.

3.NH_2 column can be used in both normal phase and reversed phase. Suggested water ratio is under 40%. It is commonly used as a normal phase column.

Precautions:

1. Welflash column applies to both dry sample loading and liquid sample loading. Please select accordingly.
2. To avoid burst of column tube, increase the pressure slowly by gradually increasing the flow rate.
3. The water in reversed phase, n-hexane or petroleum ether in normal phase shall not be used as it affetc the removal of bubbles in column.
4. 100% water CANNOT be used for reverse phase column. At least 5% of organic solvent is suggested.
5. Use the column under suggested maximum pressure.

Specification	4g	12g	25g	40g	80g	120g	220g	330g
Injection Volume 1 (g)	0.01-0.02	0.03-0.06	0.05-0.1	0.1-0.2	0.2-0.4	0.3-0.6	0.5-1.0	0.75-1.5
Injection Volume 2 (g)	0.02-0.08	0.06-0.24	0.1-0.4	0.2-0.8	0.4-1.6	0.6-2.4	1.0-4.0	1.5-6.0
Injection Volume 3 (g)	0.08-0.4	0.24-1.2	0.4-2.0	0.8-4.0	1.6-8.0	2.4-12.0	4.0-22.0	6.0-33.0
Column Volume	8mL	24mL	40mL	80mL	160mL	240mL	400mL	600mL
vmin	5mL/min	8mL/min	10mL/min	20mL/min	25mL/min	35mL/min	45mL/min	50mL/min
vmin	18mL/min	20mL/min	25mL/min	40mL/min	50mL/min	80mL/min	90mL/min	100mL/min
Pressure	The maximum pressure is 200psi							

Sample Loading Calculation: ΔCV=1/Rf1-1/Rf2; Base material: silica, 40-60μm

Sample Loading 1: Sample Loading ΔCV=1; Sample Loading 2: Sample Loading ΔCV=2; Sample Loading 3: Sample Loading ΔCV=6

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