Slurry preparation

How much media is required? (V_{gs})

First, determine V_c (packed column)

$V_c = A_c \times L$ $\quad A_c = \pi r^2$

Units (mL) = (cm^2) x (cm) $\quad$ L = Desired bed height

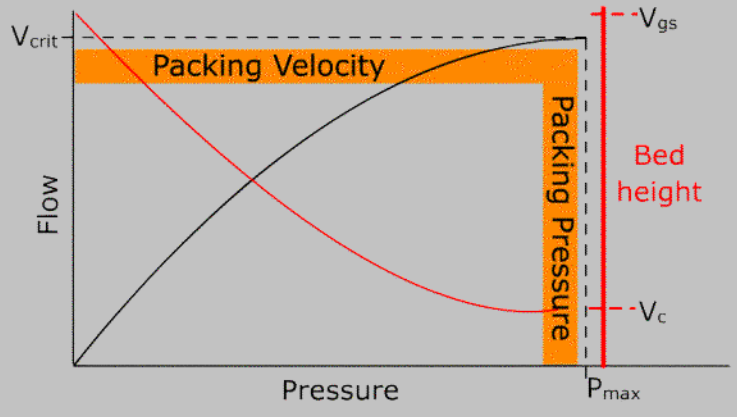
Then, determine V_{gs}

$V_{gs} = V_c \times CF$ $\quad$ CF = Compression Factor

(Vgs = Gravity settled volume)

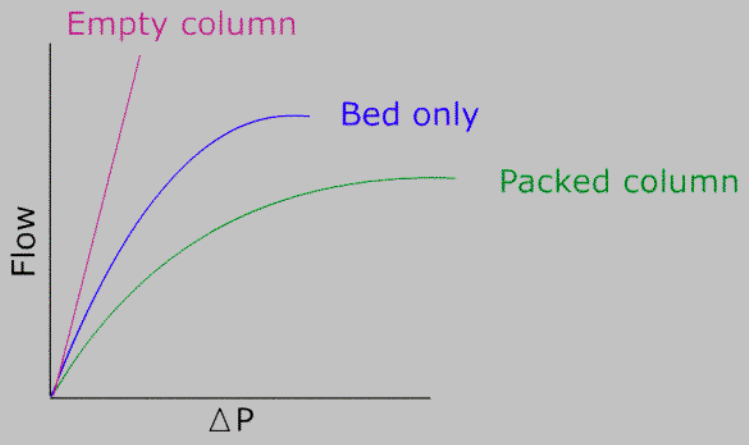
Determining the Compression Factor

Pressure flow curve



$CF = V_{gs} / V_c$

Generating pressure flow curves

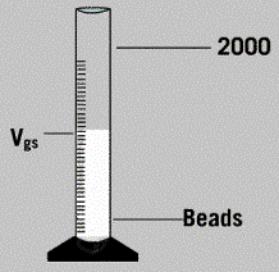


Packed column - Empty column = Bed only

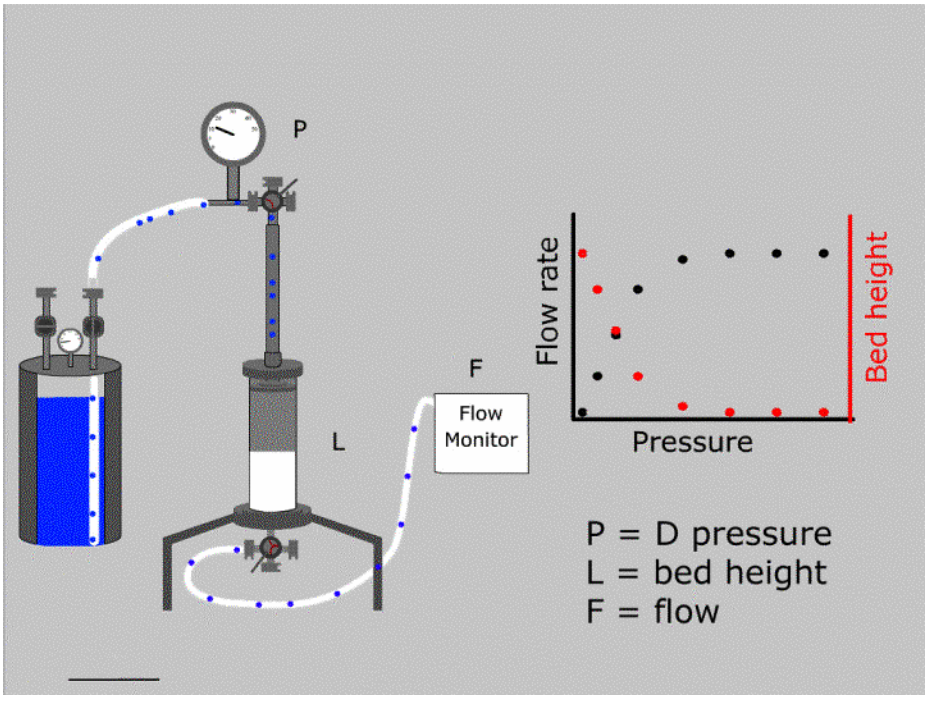
What volume of slurry do I need? (SV)

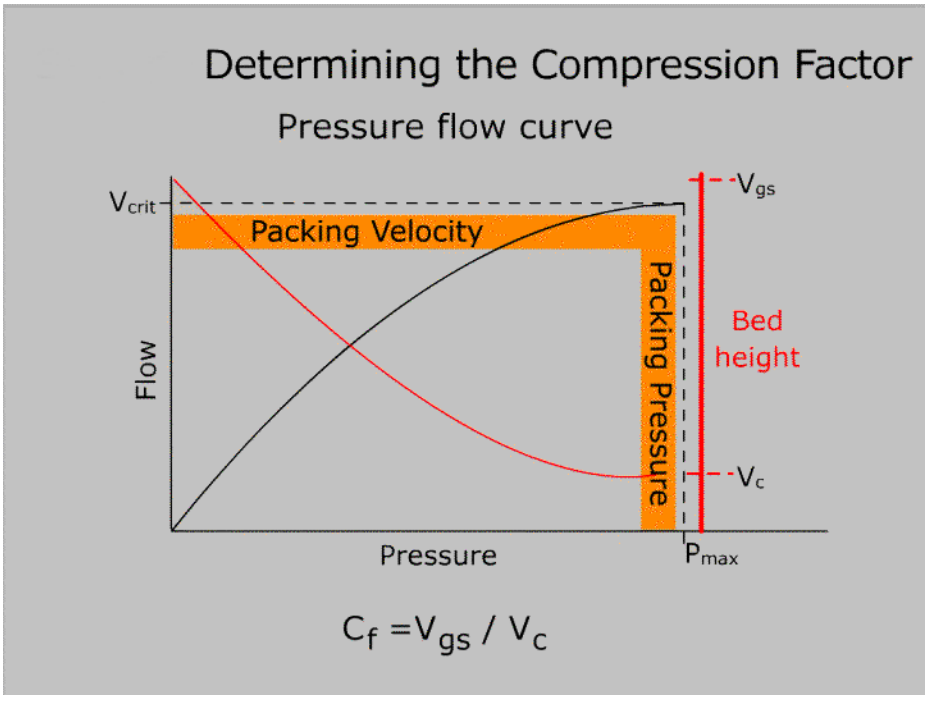
First, Determine Slurry %

2 Liter cylinder over night

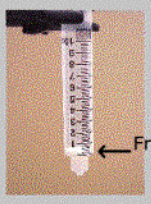


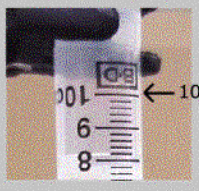
Slurry % = V_{gs} / 2000

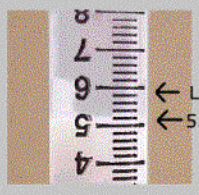

P
F
Flow
Monitor
L
Flow rate
Bed height
Pressure
P = D pressure
L = bed height
F = flow


Determining the Compression Factor
Pressure flow curve
V_{crit}
Packing Velocity
Packing Pressure
V_{gs}
Bed height
V_c
Flow
Pressure
P_{max}
$C_f = V_{gs} / V_c$

Determining slurry % with an empty PD-10 column







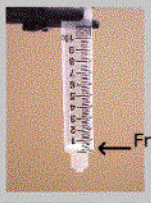
Add 10 mL of slurry

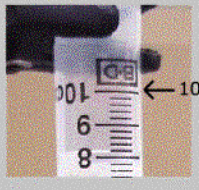
Allow column to drain

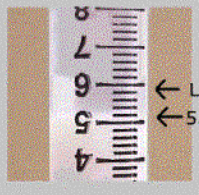
When column stops dripping

volume change & calculate slurry %.

Determining slurry % with an empty PD-10 column







Slurry Volume = $(V_c \times CF) / \text{Slurry \%}$
$= V_{gs} / \text{Slurry\%}$