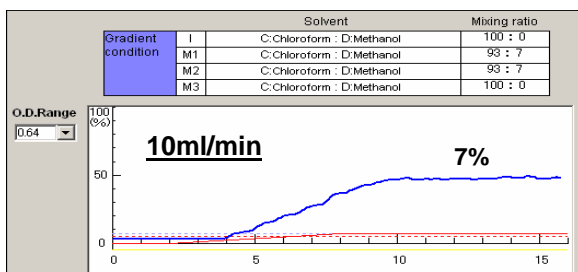


## Slow Gradient Method with Chloroform & Methanol

Slow gradient would be required when using high polar solvent, like methanol. On the Yamazen's W-Prep 2XY and AI Series automated flash systems, slow gradient (1-7%) is possible regardless of the flow rate.

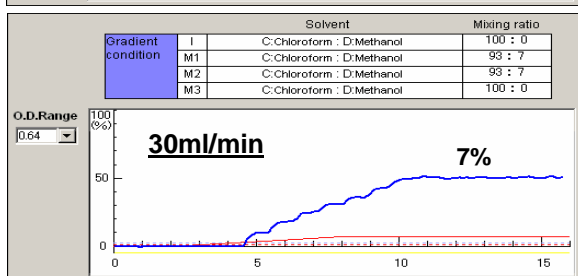
■ Close control of solvent mixture with the high linearity in Slow Gradient is possible only with the Yamazen's automated low-pressure gradient method. (See Fig. 1 & 2.)

Fig. 1

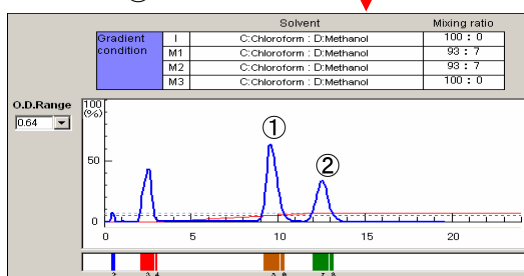


0-7% Linear Gradient  
\*Toluene is used to monitor the Gradient.

Fig. 2

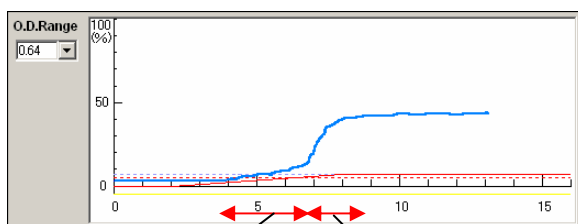


A Chromatogram under 1-7% Slow Gradient  
Sample: ①nifedipine  
②caffeine

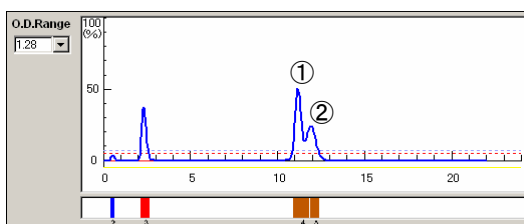


As the Fig.3 shows, an ordinary slow gradient with poor linearity will result in poor separation or a longer run.

Fig. 3



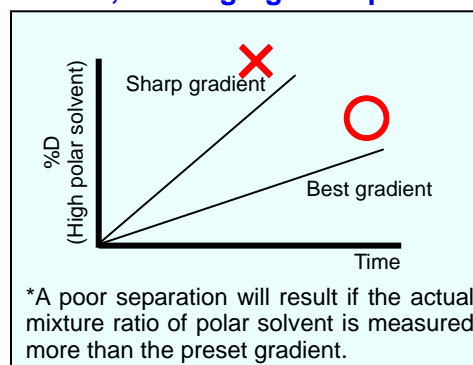
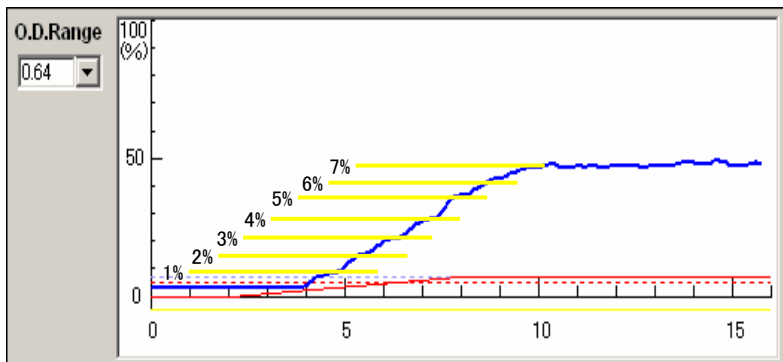
A sample would not move.      A sample moves too fast.



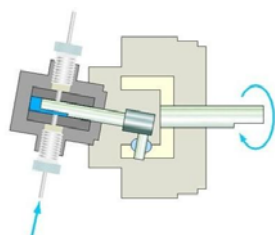
Poor separation

■ As Fig. 4 shows, a high linearity is achieved in Yamazen's 0-7% Slow Gradient, assuring a good separation.

Fig. 4



Mechanism of Yamazen's Valve-less Piston Pump



Slow Gradient technology has become available to chemists and researchers in the pharmaceutical field due to Yamazen's proprietary design coupled with the high precision valve-less ceramic piston pump and the know-how of the flash chromatography obtained through many years of experience,