

Volume Annular side: $V1 = 7.85 \text{ l}$
 Volume bottom side: $V2 = 3.12 \text{ l}$
 Annular side: $Aa = 47.3 \text{ cm}^2$
 Bottom side: $Ab = 78.5 \text{ cm}^2$
 Requested time in = 6.77 s
 Requested time out = 11.23 s
 Size hydraulic cylinder: 100/63-1000

$Q = Ab \cdot v1$
 $Q_{in} = 78.5 \text{ cm}^2 \cdot 100 \text{ cm} / 11.23 \text{ s}$
 $Q_{in} = 42 \text{ l/min}$

