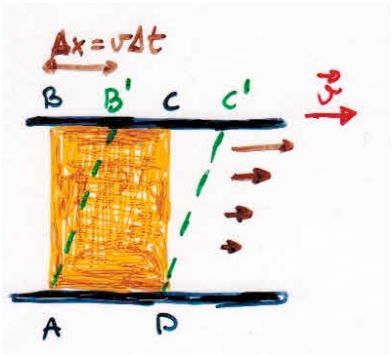
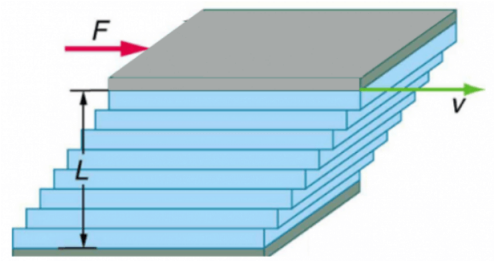
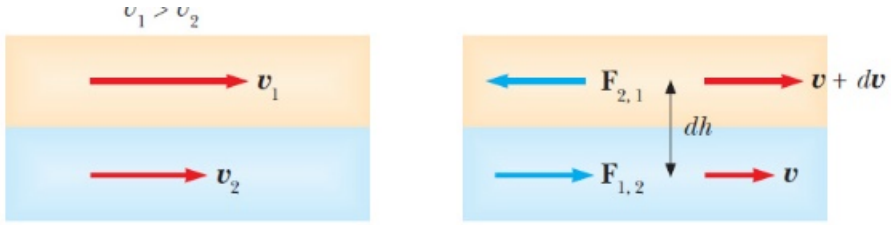
MOTO LAMINARE





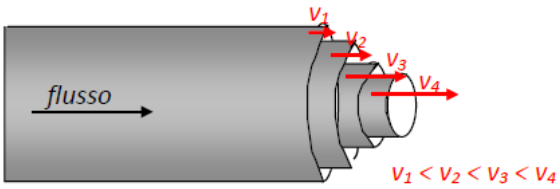
Forze di attrito interno, tangenziali, lungo l'area di contatto di due strati

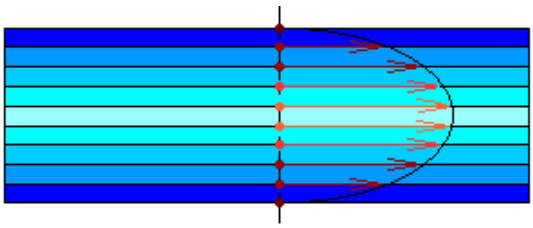


$$\vec{F}_{1,2} = -\vec{F}_{2,1}$$

$\vec{F}_{2,1}$ *rallenta il moto dello strato* 1; $\vec{F}_{1,2}$ *accelera il moto dello strato* 2

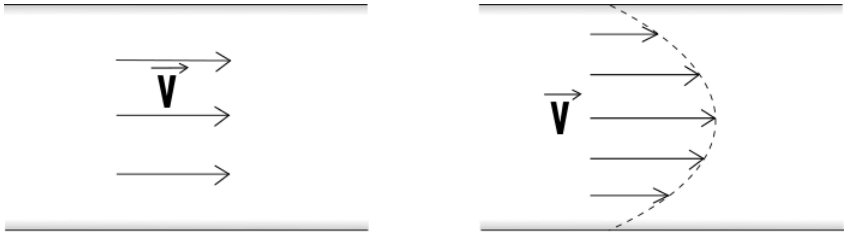
Se il fluido scorre in un condotto di sezione circolare



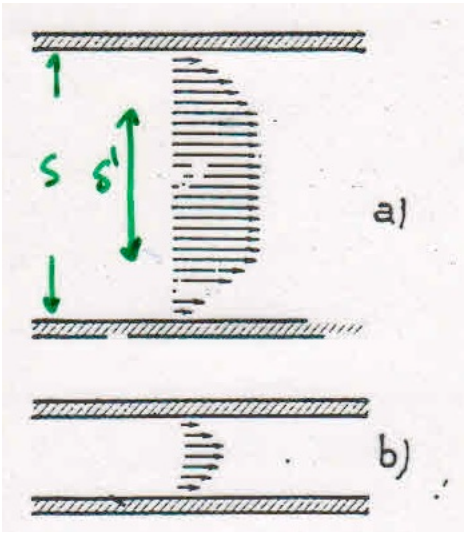


Moto laminare

(basse velocità)

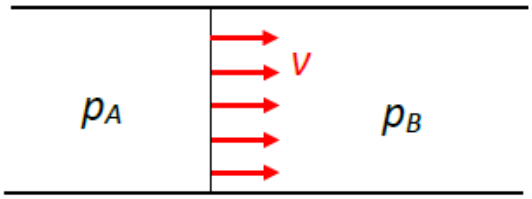


Fluido ideale **Fluido reale**

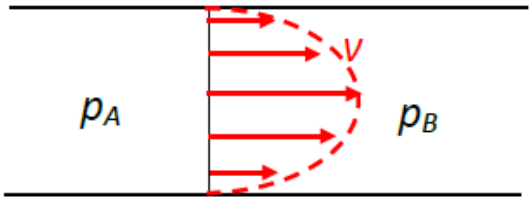


(a) tubo di sezione grande
scarsa influenza delle pareti
v = cost in S'<≈S
vale il Teorema di Bernoulli

(b) tubo di sezione piccola
v ≠ cost
non vale il teor. di Bernoulli



fluido ideale
v costante nella sezione *A*
$p_A = p_B$

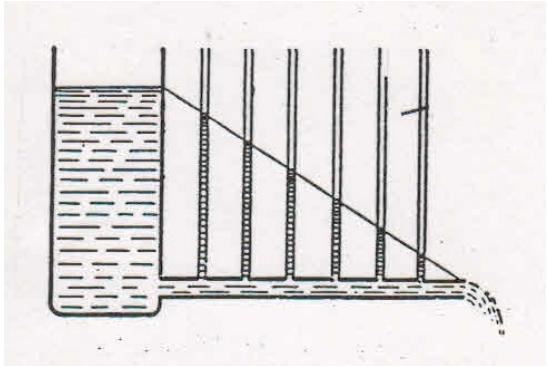


fluido reale
v variabile nella sezione *A*
$p_A > p_B$

Serve una differenza di pressione per il moto del fluido

La pressione diminuisce lungo il condotto

Perdita di carico



Fluido ideale

Q = cost

Fluido reale
in regime laminare

$Q \propto \Delta p$