

MERENJA U HIDROTEHNICI

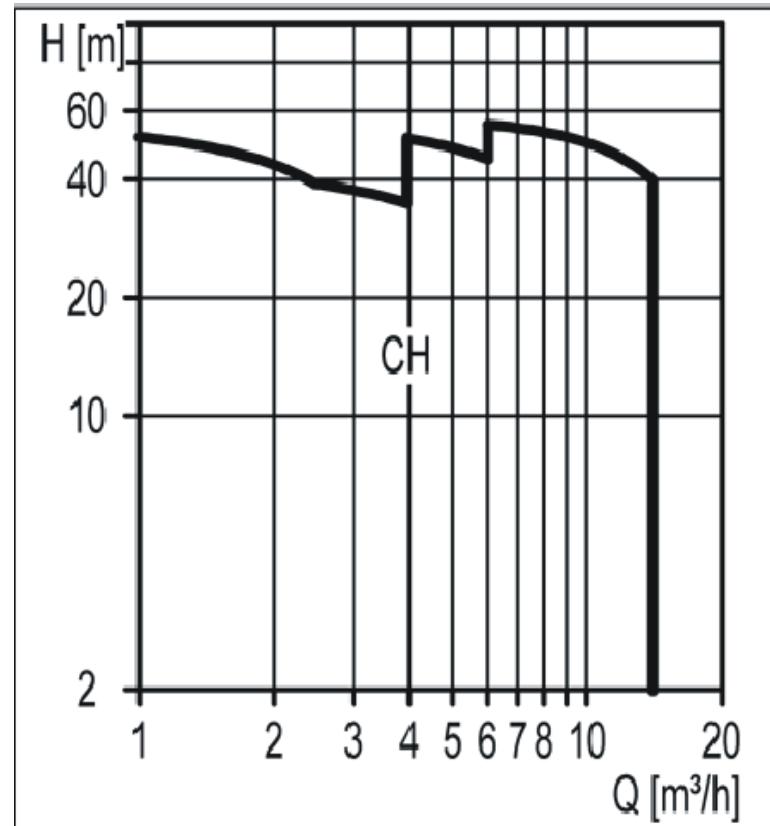
Vežba br. 4

Određivanje Q-H krive pumpe

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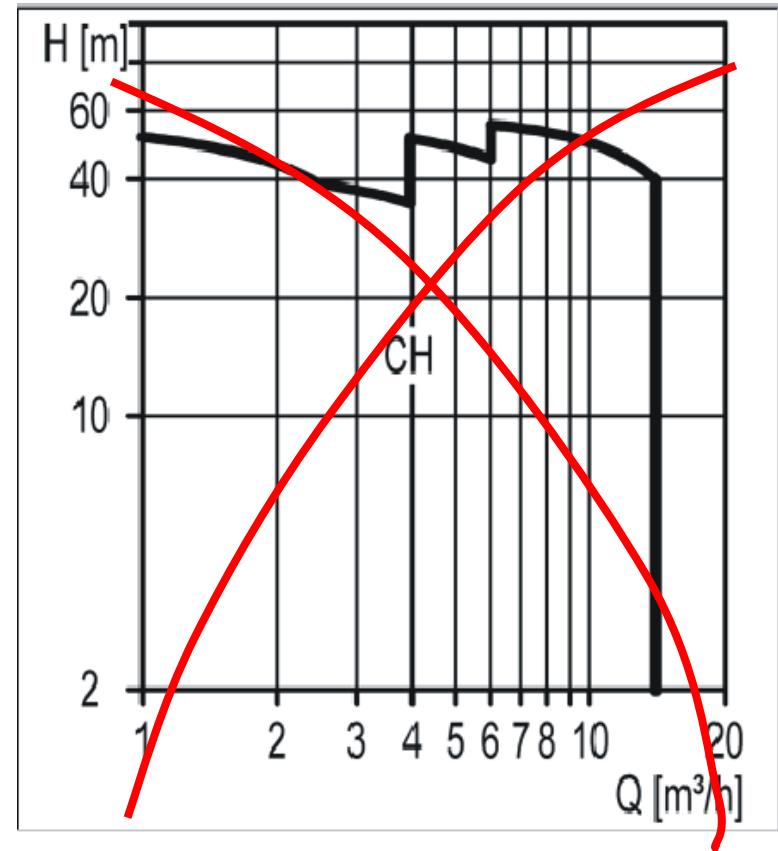
Uvod

Kupili smo pumpu!



Uvod

Pumpa je radila 10-ak godina!!



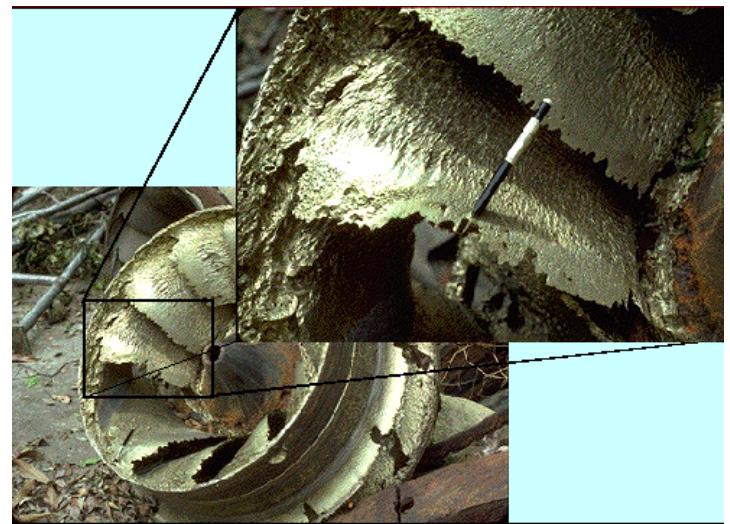
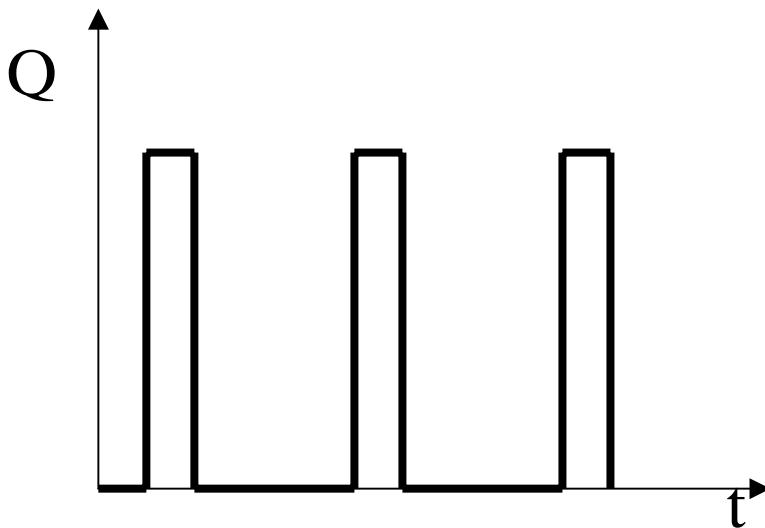
Zašto Q-H kriva nije više ista?

Propadaju mašinski delovi pumpe: radno kolo, ležajevi, vratilo ...

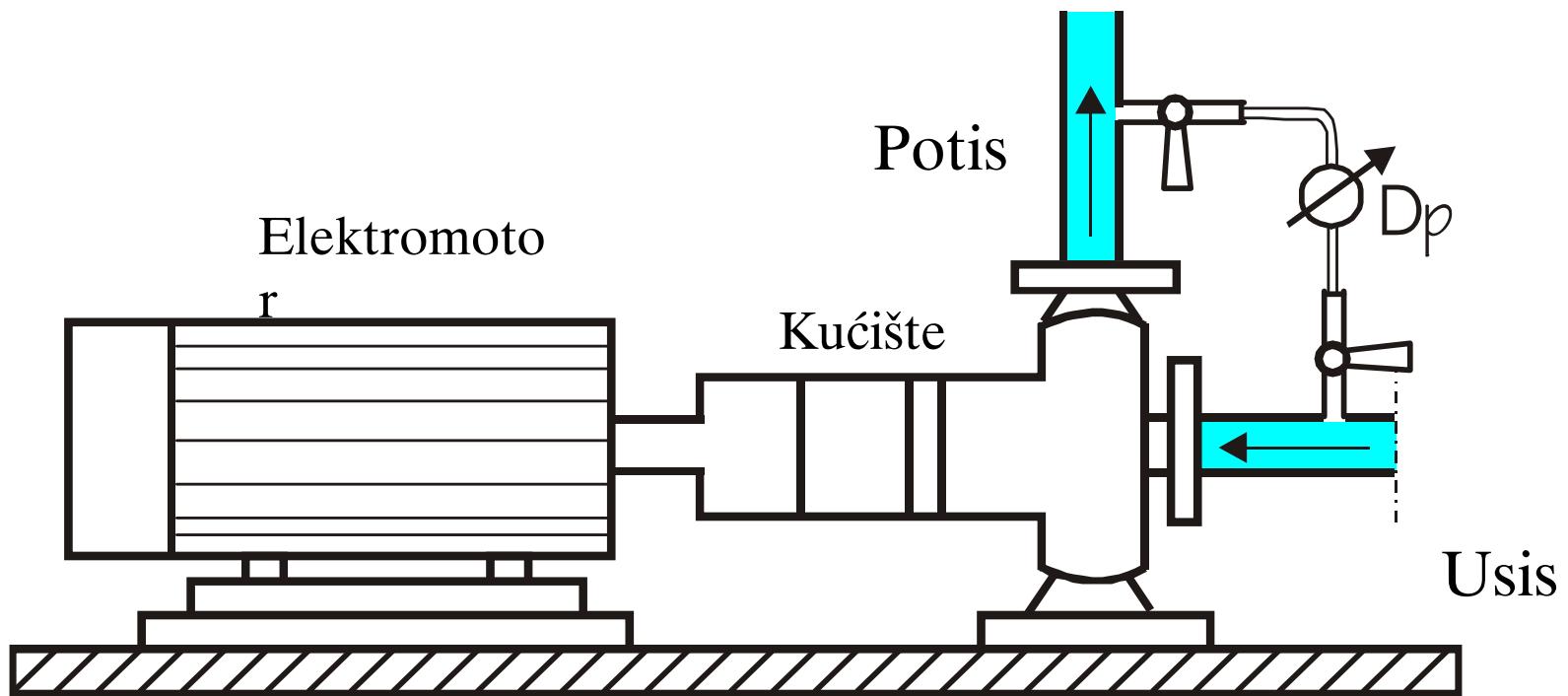
Usled: starosti pumpe,

rada pumpe u **kavitacionom režimu**,

Neadekvatno upravljanje pumpom!

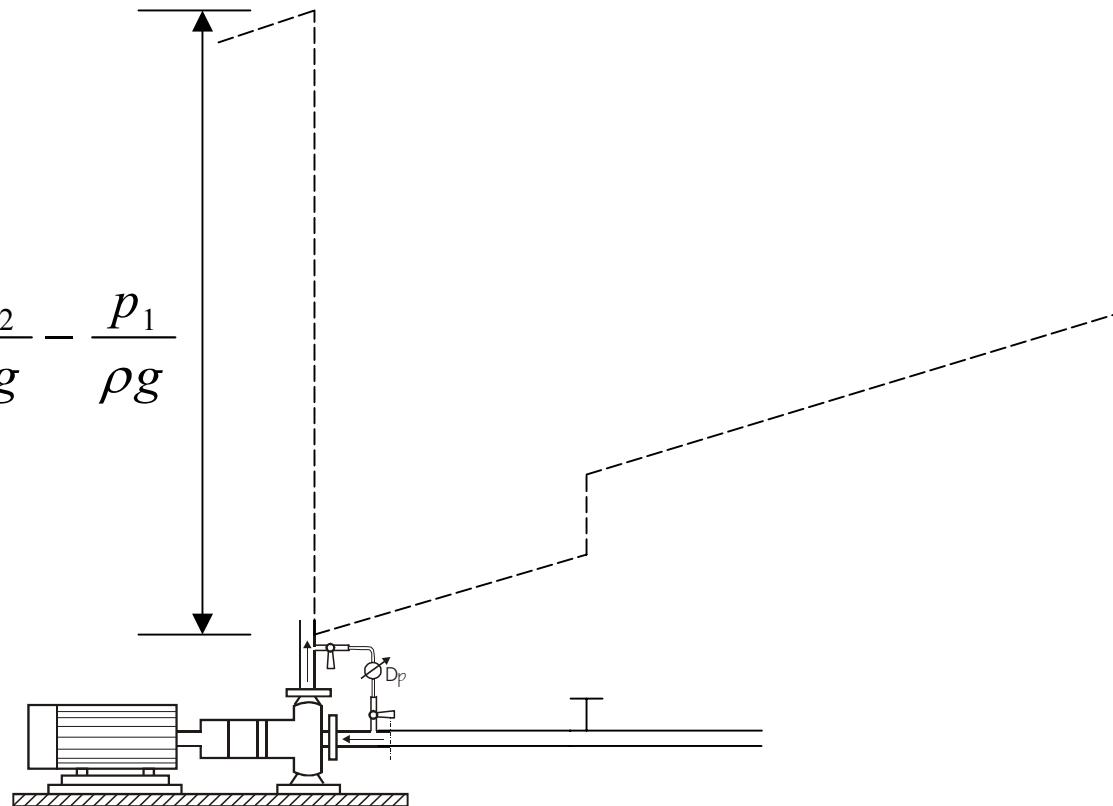


Kako radi naša pumpa?

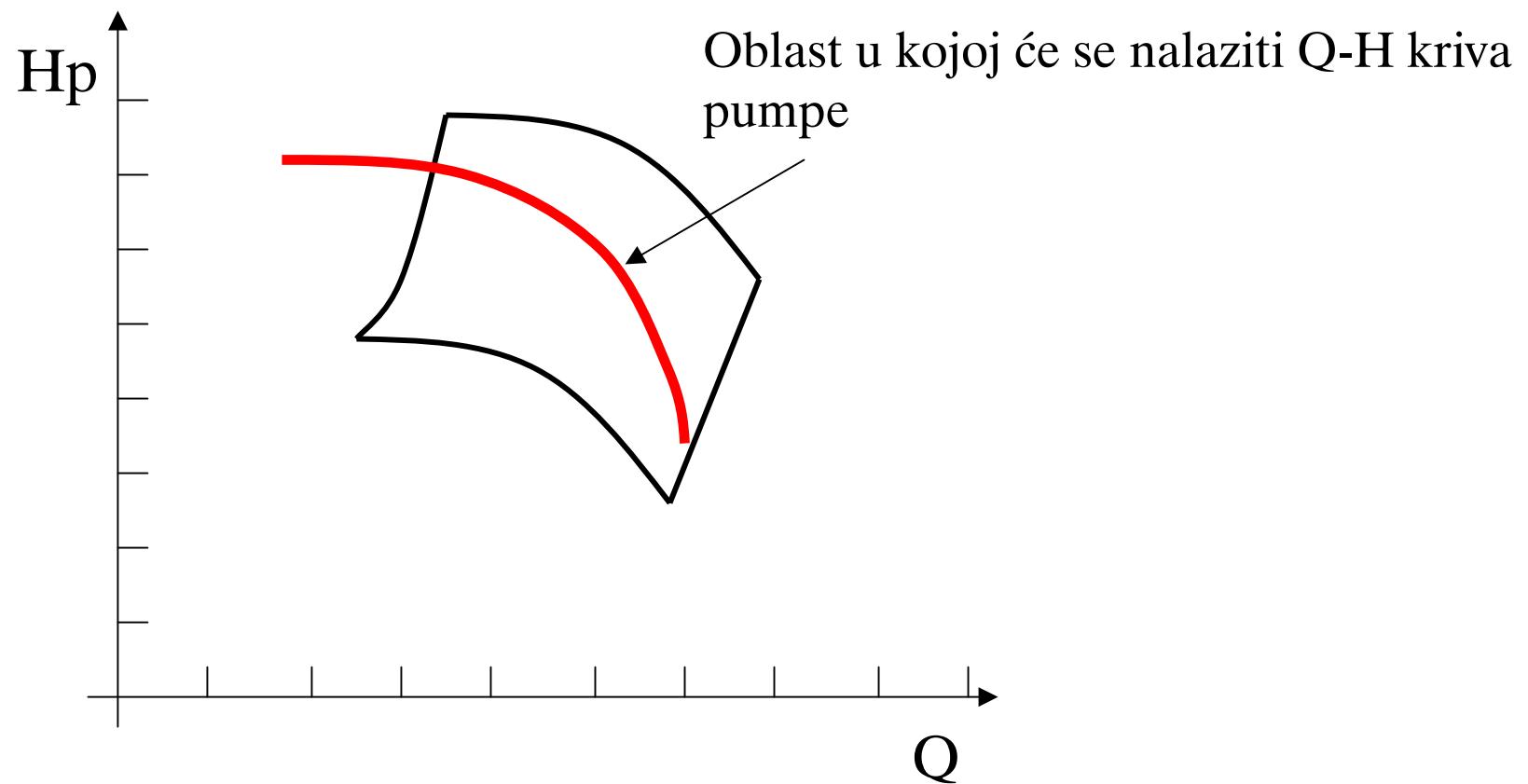


Visina dizanja pumpe

$$H_p = \frac{p_2}{\rho g} - \frac{p_1}{\rho g}$$



Q-H kriva



Priprema i merenje na licu mesta

Kalibrisanje sonde
za merenje Δp

- Sonda
- Bajpas
- Voltmetar
- Etalon

Merenje na licu
mesta

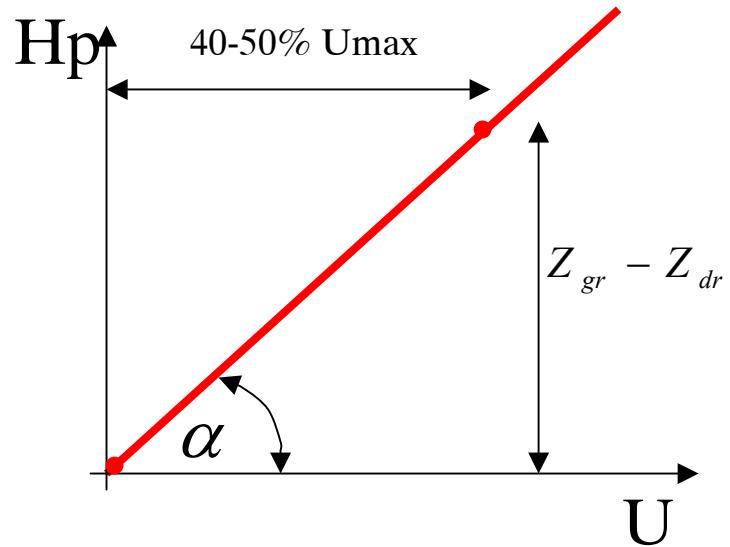
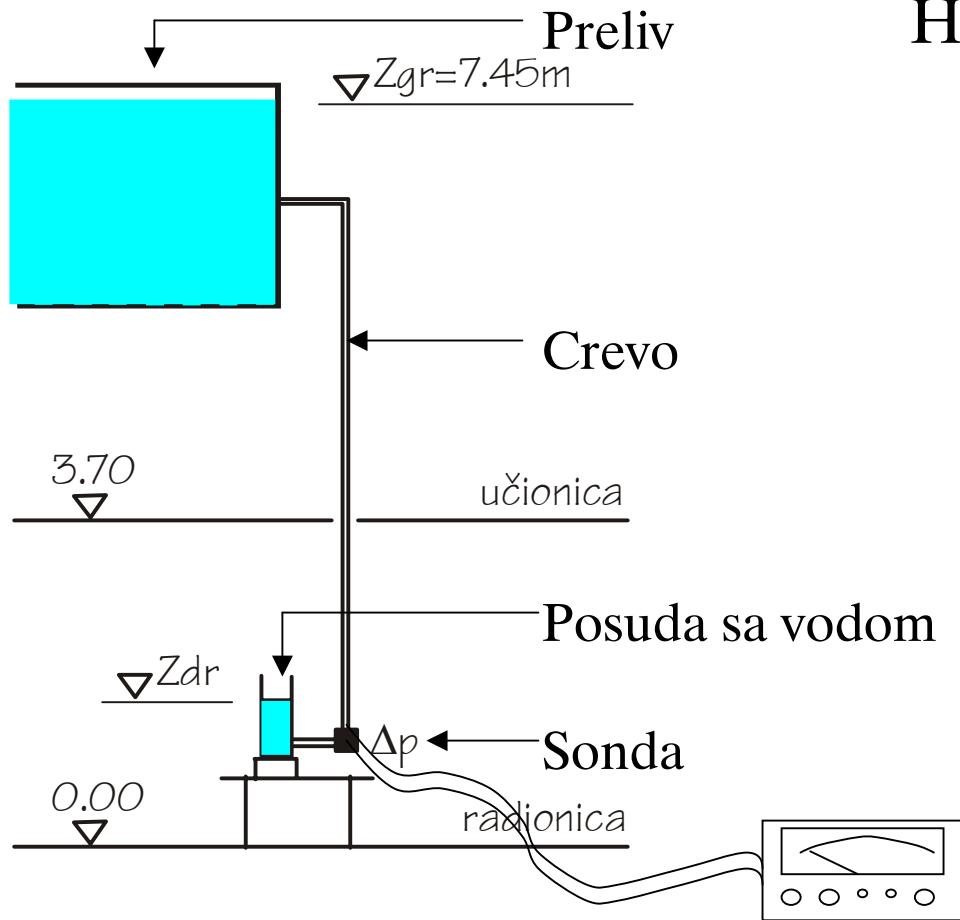
Visine dizanja

- Sonda
- Priklučci na pumpi
- Voltmetar

Protoka

- Thompson
- Kofa
- Štoperica
- Vaga

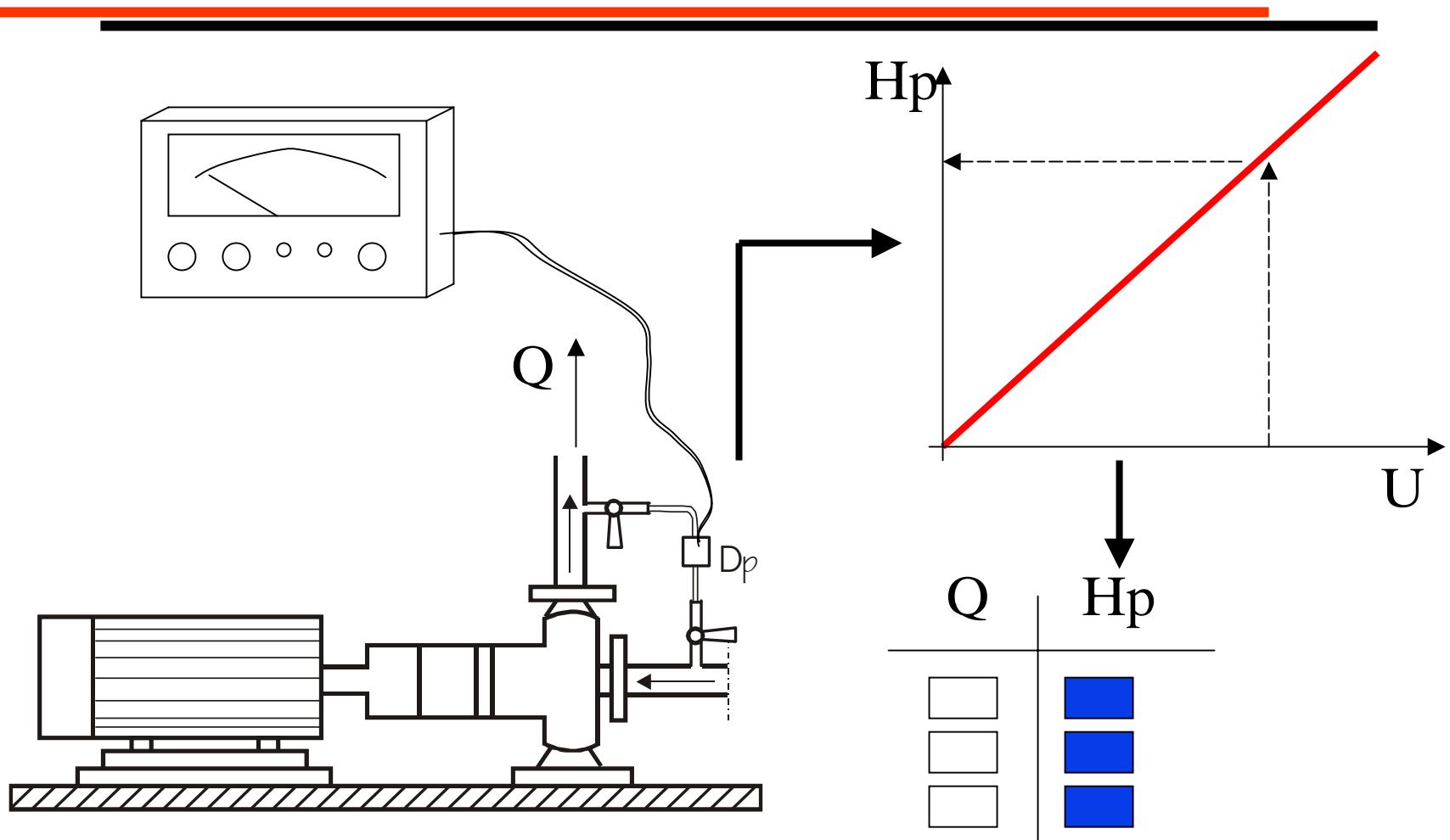
Kalibracija sonde za merenje Δp



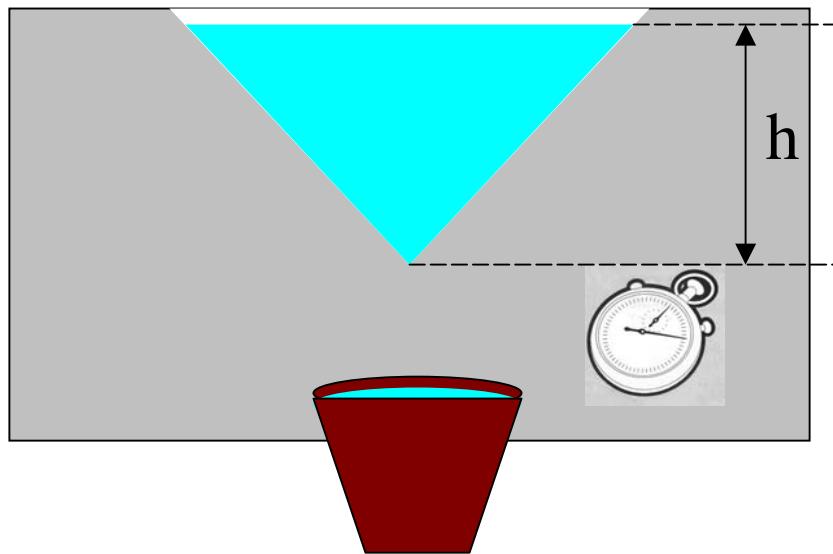
$$H_p = A \times U + B$$

$$H_p = \frac{\Delta p}{\rho g} \quad A = \tan \alpha \quad B = 0$$

Merenje H_p na licu mesta



Merenje protoka kroz pumpu Q



$$Q_{MER} = C_Q \sqrt{2gh^5}$$

$$C_Q = \frac{5}{16}$$

