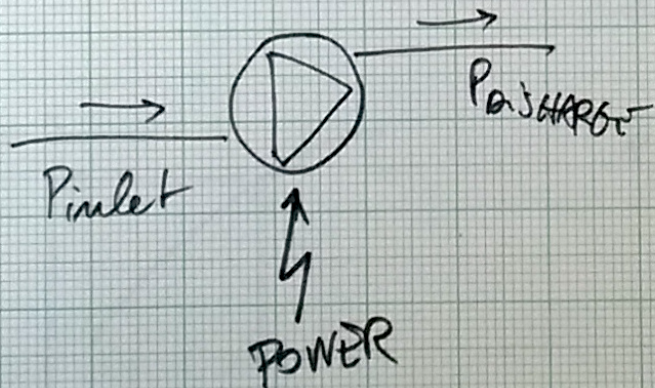


ASPIRATION ENERGY DYNAMICS

POWER KW = kJ/s \rightarrow HP

ENERGY kJ or kw-hr \rightarrow HP-hr

$$\text{Power} = \frac{dE}{dt} = \left[\frac{\text{kJ}}{\text{s}} \right] \Leftrightarrow E = \int_0^t P_{\text{out}} dt$$



P = PRESSURE

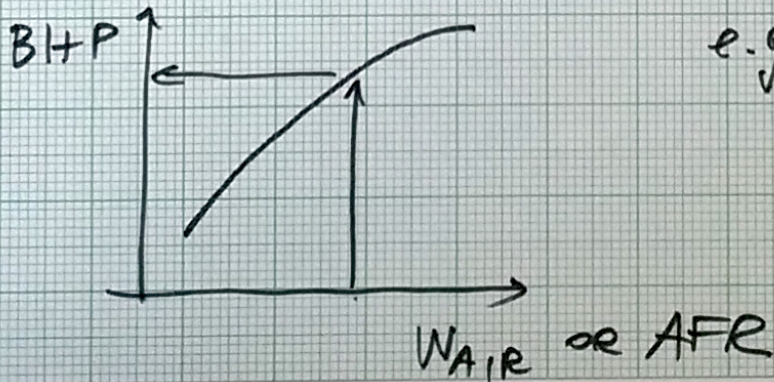
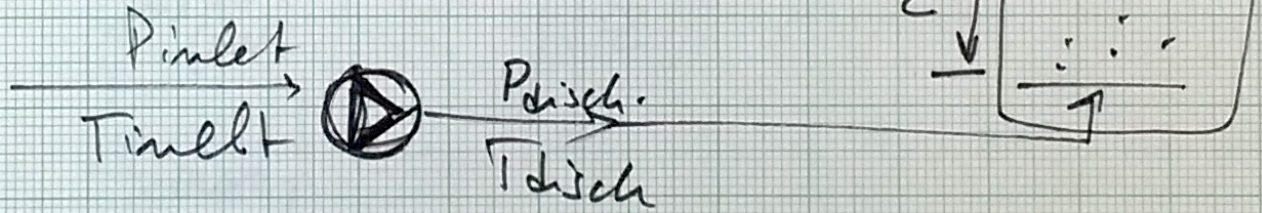
BHP = POWER

↑
 BREAK HORSE POWER

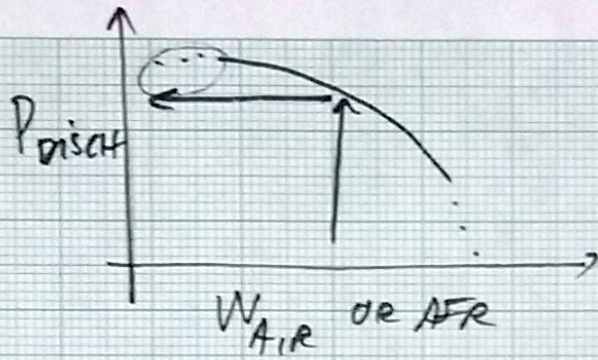
BHP = f (AFR) $\left[\frac{P_{out}}{P_{in}} \right]$ MGE 5th [5-77a]
 MGE 4th [5-56a]

$$BHP = \frac{W_{AIR} \cdot R \cdot T_{inlet}}{28.97 \cdot n \cdot e} \cdot \left[\left(\frac{P_{out}}{P_{inlet}} \right)^n - 1 \right]$$

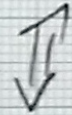
\downarrow 0.283 \uparrow efficiency



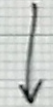
e.g.: BHP = 1,000 kW
 $\Delta t = 3h$
 $E = 1,000 \text{ kW} \cdot 3h = 3,000 \text{ kWh}$



FORM & BUBBLES
DETACH



$P_{DW} > \text{Requirements}$



$$= h_L + z + DWP$$

