

Corrigé TD 3 Turbomachines 2

Résultats exo 1 :

1°) $C_{1u} = 426.5 \text{ m/s}$; $C_{a1} = 172.32 \text{ m/s}$; $U = 161 \text{ m/s}$

$W_1 = 316.2 \text{ m/s}$; $W_2 = 237.2 \text{ m/s}$; $C_{2u} = 37.9 \text{ m/s}$

$C_{a2} = 129.2 \text{ m/s}$

2°) $\eta_d = 70.67\%$

3°) $F_a = 43.12 \text{ N}$

Résultats exo 2 :

1°) $C_{1u} = 649 \text{ m/s}$; $C_{a1} = 262.22 \text{ m/s}$; $W_1 = 469.32 \text{ m/s}$

$U = 260 \text{ m/s}$; $W_2 = 422.39 \text{ m/s}$; $C_{2u} = 90.2 \text{ m/s}$; $C_{a2} = 236.2 \text{ m/s}$

$\dot{m} = 8.325 \text{ kg/s}$

2°) $F_a = 216.65 \text{ N}$

3°) $\eta_d = 78.44\%$

4°) $\eta_{max} = 85.96\%$

5°) $P_{max} = 1753.25 \text{ kW}$

6°) $F_T = 12912 \text{ N}$

