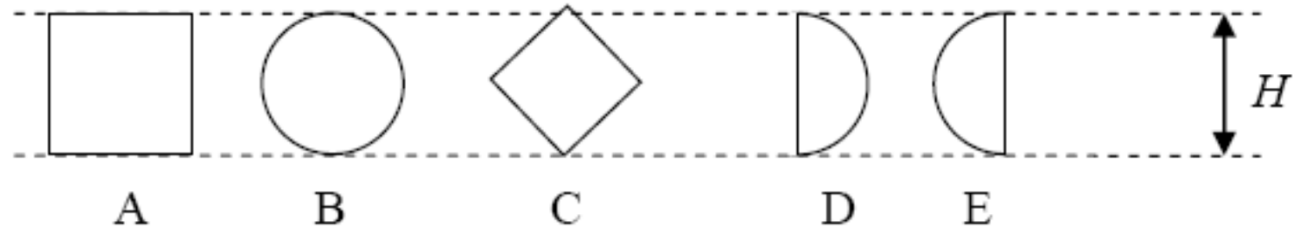
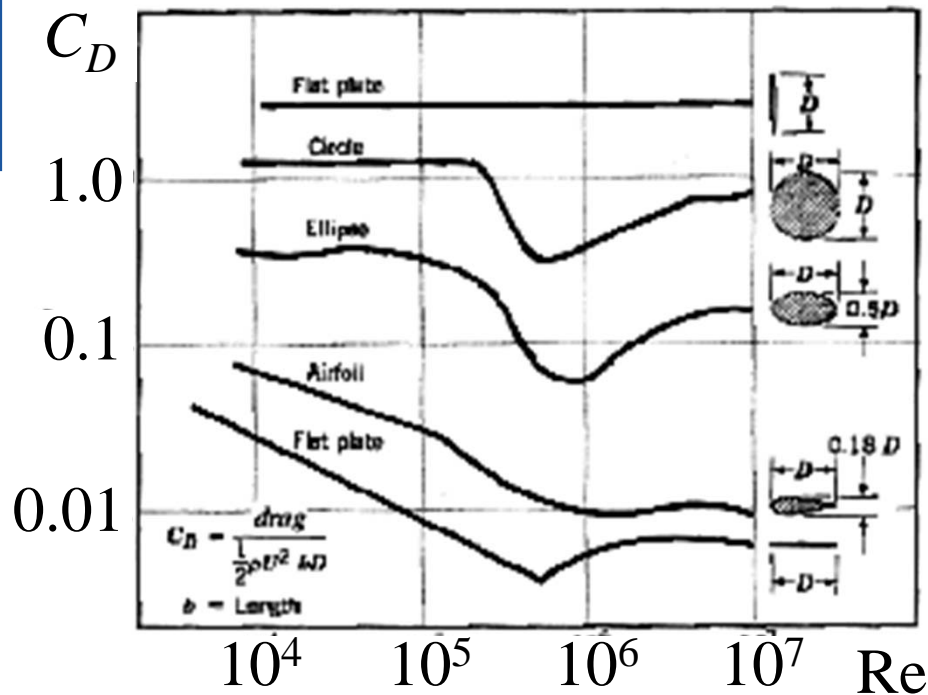


Individual task:

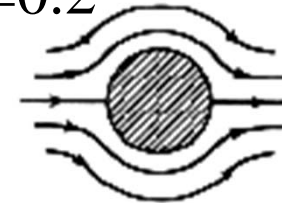
- Drag for a 2D object:



Reynolds no. dependency

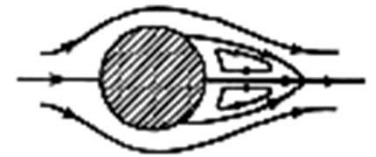


Re=0.2



No separation
(A)

Re=12



Steady separation bubble
(B)

Re=120



Oscillating Karman vortex street wake
(C)

Re=30.000

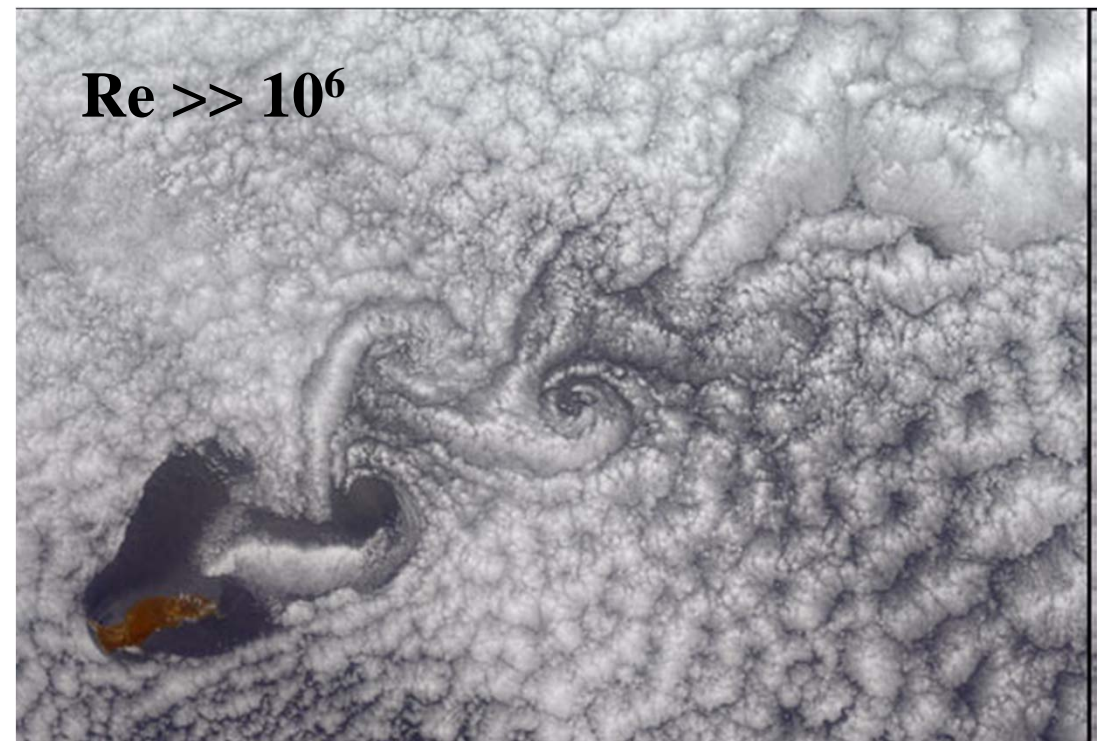
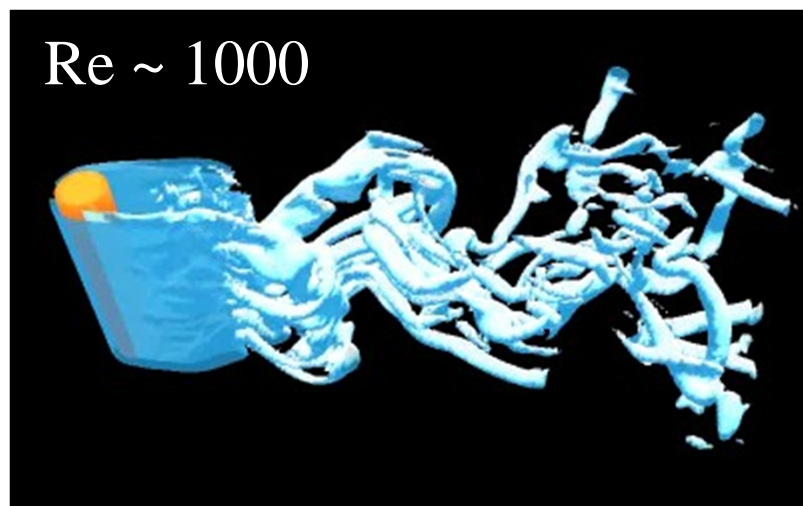
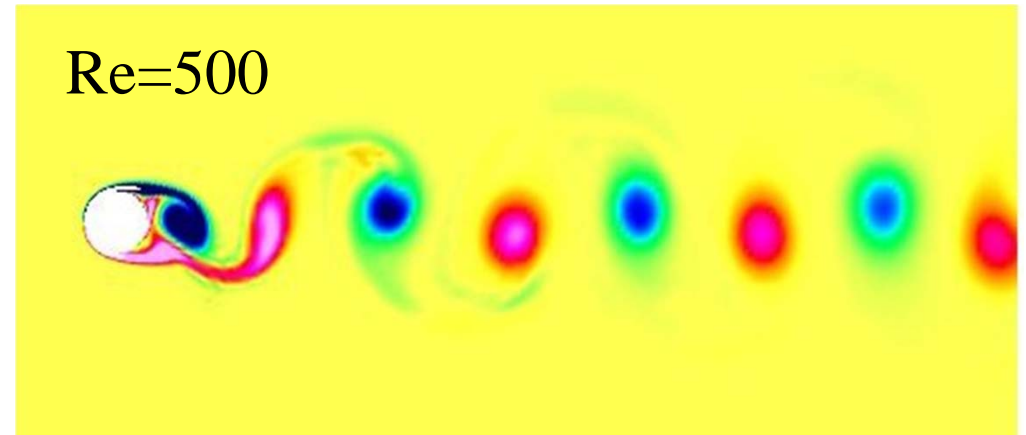
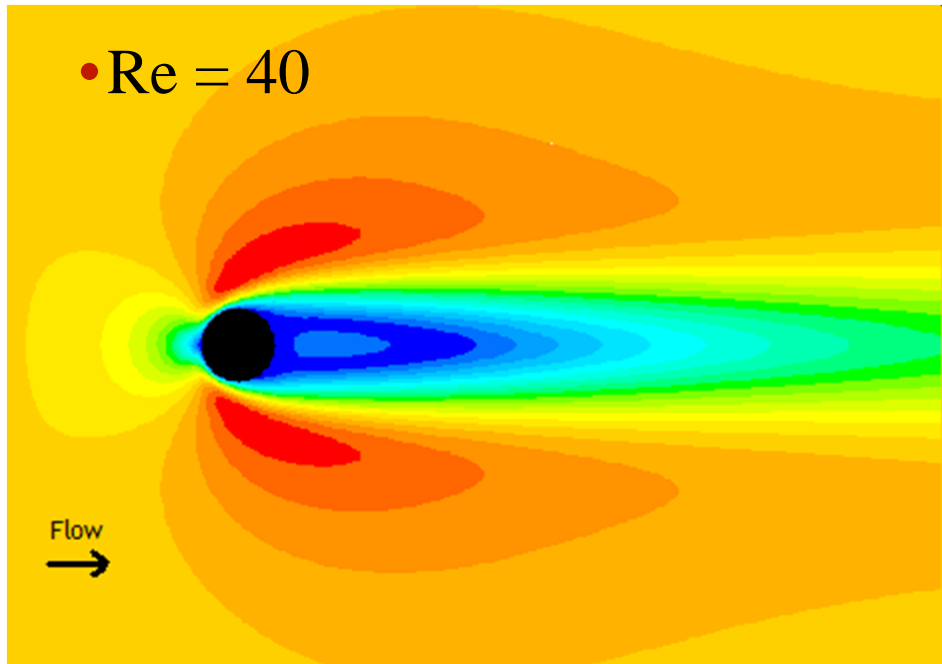


Laminar boundary layer
wide turbulent wake
(D)

Re=500.000



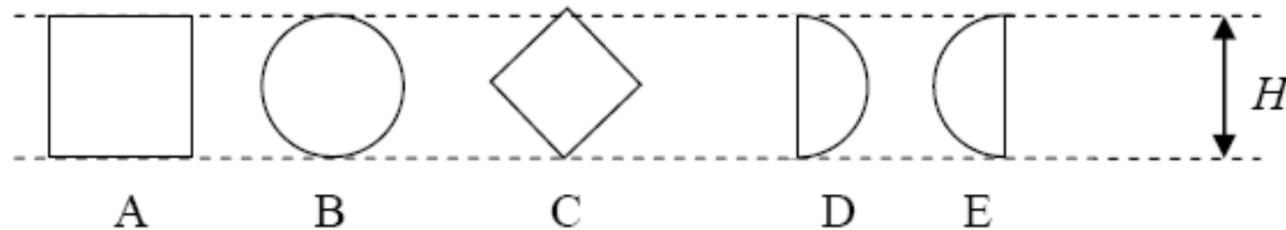
Turbulent boundary layer
narrow turbulent wake
(E)



What to do:

- Objective

To derive the drag coefficient for a 2D object



- Setting

- Choose object
- Choose $Re = 10^4$, 10^5 or 10^6
- Incompressible: $Ma < 0.1$

- Derive

- Drag coefficient
- Grid and flow pictures

- Different approximations – no "correct answer"



When:



- Preparation for lecture 2 (27/3):
Sketch, Physical model, Reynolds number
- During lecture 2 (27/3):
Determine the grid resolution requirements
- Before 26/4:
Compute the case using Fluent
Upload on bilda
- During lecture 6 (28/4):
I will compare the different results – feedback