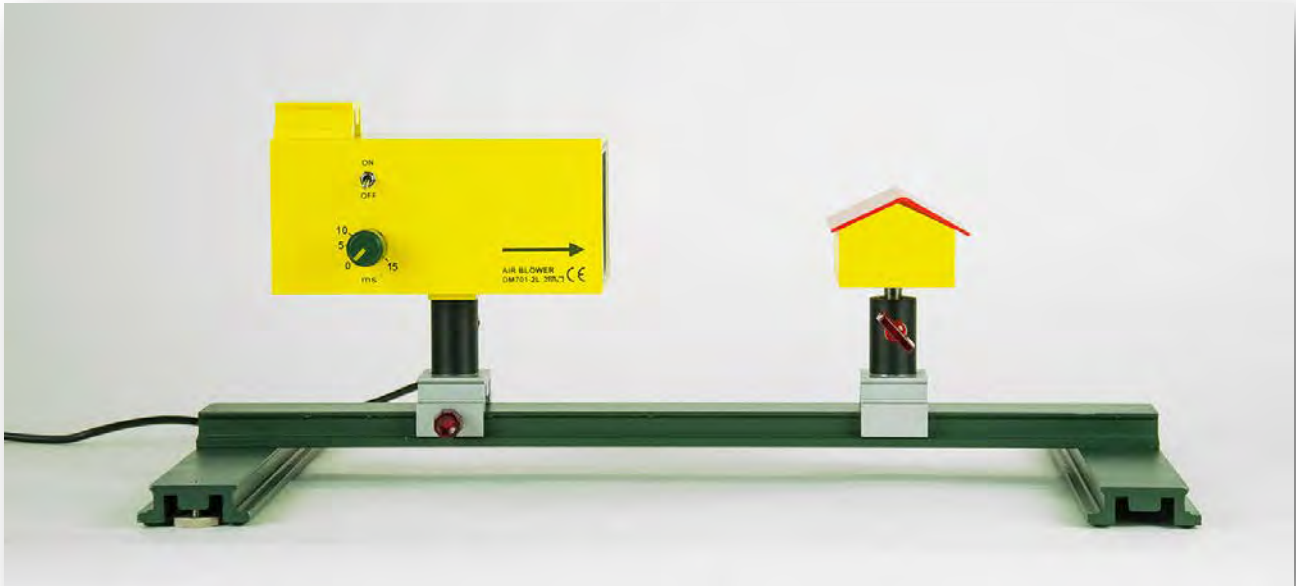


BLOWING THE ROOF OFF A HOUSE

MED 19.25



Material:

Item Code	Qty	Description
DS101-1G	1	Support base, large, L=500 mm
DS093-04	2	Sliding saddle "Sepp", H=40 mm
DM701-2L	1	Blower 12 V
P3130-2Q	1	Fixed voltage transformer 12V DC/10 A
DM714-1D	1	House, model
DM714-2D	1	Roof accessory for model house

BLOWING THE ROOF OFF A HOUSE

MED 19.25

Purpose

If the air stream is constricted by an obstacle, for example a house roof, the streamlines get compacted and result in an increased of the flow speed.

This can result in the roof of the house getting damaged or blown off

Preparation

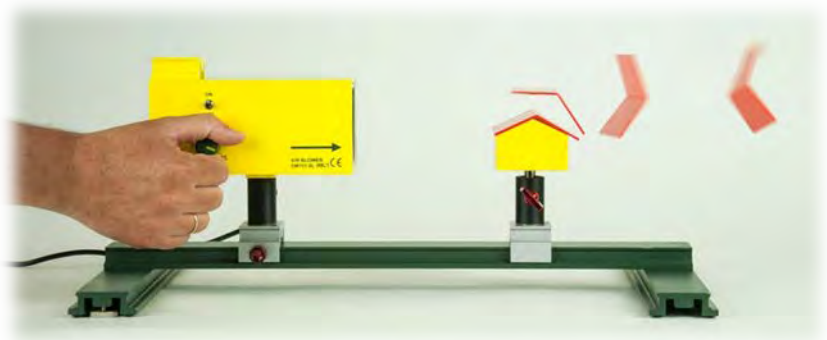
- the two sliding saddles is fixed on the support base
- the streamline adapter is put onto the blower
- the blower is inserted into the left sliding saddle
- the house is inserted into the right sliding saddle;
the roof is placed on top of it with a low amount of inclination
- the house should be positioned approx. 12 – 15 cm away from the front of the blower
- the rotary knob for the flow speed of the blower is turned to the very left
- the blower is powered by a fixed voltage transformer (12 V DC, min. 6 A)

Experiment 1

We turn on the blower and slowly increase the flow speed to the maximum. While doing this we observe the house.

Result

At a flow speed of 10 – 12 m/s the roof is lifted due to the air stream that is passing above (negative pressure). It is not blown away!



Experiment 2

We remove the slightly sloped roof and replace it with the roof construction. Now we add the steep roof.

Result

The roof is not lifted.

Note

It is important that the students understand that the roof does not get blown away but rather lifted due to the negative pressure.

The illustration can be very helpful to explain this.

