

VIRTUM-ventilation chimneys:

The right building ventilation gives the feeling of comfort, but most importantly influences correct functioning of a human body. In dwelling rooms supplying appropriate amount of fresh air - devoid of pollution such as dust and water vapour - is indispensable. If the ventilation functions improperly, it deteriorates the microclimate considerably - people become drowsy, weak, have problems with concentration. In inappropriately ventilated rooms mould develops on the ceilings and walls!

SUPPORT NATURAL VENTILATION

- provide excellent room ventilation
- perfectly vent sanitary installations in the buildings
- UV, weather, temperature and ageing resistant



VIRTUM

Ventilation chimney

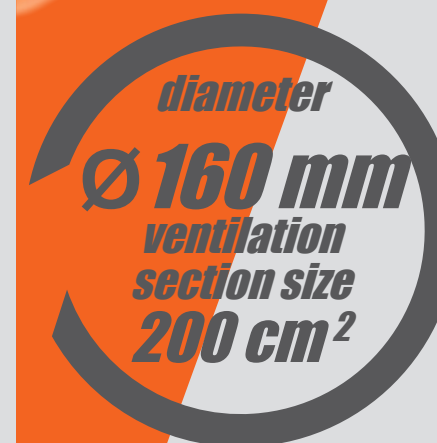
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VIRTUM

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If the ventilation doesn't work properly

PEOPLE FEEL DROWSY!

HAVE PROBLEMS WITH CONCENTRATION!

MOULD DEVELOPS ON THE WALLS AND CEILINGS!

THE CONDITION OF THE BUILDING VISIBLY DETERIORATES!!

* **VIRTUM® ventilation chimneys:**

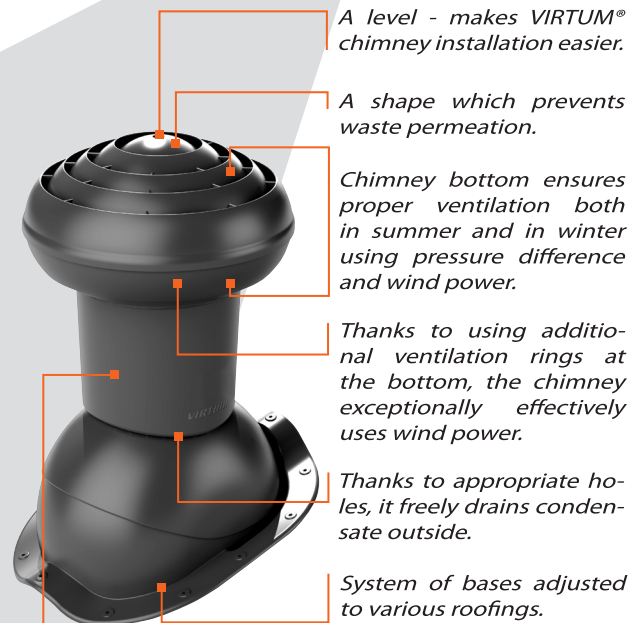
VIRTUM® chimney is Ø160 diameter and it can be used to dwelling rooms ventilation (according to the ordinance of the Minister of Infrastructure from 12.04.2002 concerning technical conditions which should be met by the buildings and their location - Journal of Laws no. 75, position 690).

* **Various colour versions:**

VIRTUM® ventilation chimneys are available in 9 common colours, matching the most frequently used roof colours (brick red 8004, red 3009, red 3011, brown 8017, dark brown 8019, grey 7046, graphite 7016, green 6020, black 9005). On clients request there is a possibility to order chimney in custom colours (minimum order quantity and longer lead time apply).

Virtum - ventilation chimneys

with Ø125 or Ø160 mm diameter. VIRTUM® Ø160 has the ventilation section size of 200 cm², thanks to which it can be used to ventilate dwelling rooms. VIRTUM® Ø160 mm chimney provides much better air flow than the chimney with a smaller diameter. Additionally, in order to provide even greater room ventilation, the chimney effectively uses wind power to improve stack effect. Excellent ventilating capability of VIRTUM® ventilation chimneys is a result of their innovative construction - in the designing process advanced technology of air flow digital modelling has been used, which is also used for Formula 1 bolides designing.



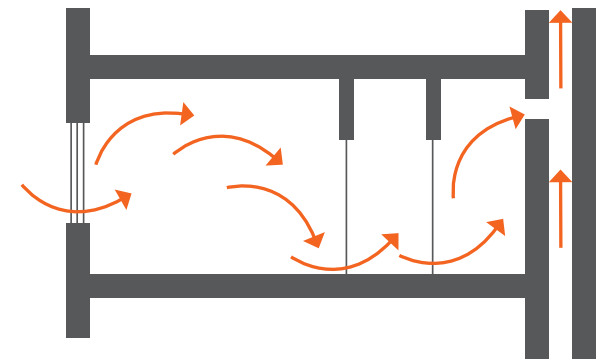
VIRTUM® chimney is the only one in the Polish market having

Ø 160 mm

diameter and it can be used to dwelling rooms ventilation.

How does natural ventilation work?

Air exchange in the rooms happens as a result of pressure differences. Warm, "used" air flowing out of the building creates underpressure which enables fresh air suction from the outside. This process can last until temperature outside is lower than the temperature inside the rooms. The greater the temperature difference, the greater the air flow. Special construction of VIRTUM® ventilation chimney supports stack effect by means of wind power. It is important especially in the periods when the temperature outside the building is similar or higher than the temperature inside.



Ventilation chimneys offered by mdm® are intended to be mounted on various kinds of roofing. Thanks to the special design of ventilation tiles, they can be successfully installed on both metal sheet tiles and other flat roofing (metal sheet, tar-board, shingle, etc.) as well as on roofs covered with popular clay and concrete tile models.

VIRTUM® ventilation chimney guarantees the best wind support, which has been acknowledged by Cw factor research:

Air speed in the channel [m/s]	Cw factor
0,0	- 0,41
0,5	- 0,35
1,0	- 0,29
1,5	- 0,24
2,0	- 0,18
4,0	+0,16