

droplet sizes to be produced. The flow control means may be operable by a user to create an aerosol having droplet size characteristics which suit the user's preference. Third, the flow control means allows a particular desired mean aerosol droplet size to be produced for a selection of aerosol-forming substrates. Thus, the flow control means allows the aerosol generating device and cartridge to be compatible with a variety of different aerosol-forming substrates.

Moreover, the air flow speed may also affect how much condensation forms within the aerosol generating device and cartridge, particularly within the aerosol forming chamber. Condensation may adversely affect liquid leakage from the aerosol generating device and cartridge. Thus, a further advantage of the flow control means is that it can be used to reduce liquid leakage. The distribution and mean of the droplet size in the aerosol may also affect the appearance of any smoke. So, fourth, the flow control means may be used to adjust the appearance of any smoke from the aerosol generating device and cartridge, for example according to user preference or according to the particular environment in which the aerosol generating system is being used.

Preferably, the flow control means is user operable. Thus, the user may select the size of the at least one air inlet. This results in affecting the mean droplet size and droplet size distribution. The desired aerosol may be selected by the user for a particular aerosol-forming substrate or for a selection of aerosol-forming substrates usable with the aerosol generating device and cartridge. Alternatively, the flow control means may be operable by a manufacturer to select one desired size for the at least one air inlet.

~~In a preferred embodiment~~the above aspect, the flow control means comprises: a first member and a second member, the first and second members cooperating to define the at least one air inlet, wherein the first and second members are arranged to move relative to one another so as to vary the size of the at least one air inlet.

Preferably, the two members are sheet-like. The sheet-like members may be planar or curved. Preferably, the two planar members move relative to one another by sliding over one another. Alternatively, the two planar members may move relative to one another along a thread, for example a screw thread.

Preferably, the aerosol generating device comprises one of the first member and the second member, and the cartridge comprises the other of the first member and the second member. The aerosol generating device and cartridge may each comprise a housing. Preferably, the first member and the second member form part of the housing of each of the device and cartridge. The cartridge may comprise a mouthpiece. The housing may comprise any suitable material or combination of materials. Examples of suitable materials include metals, alloys, plastics or composite materials containing one or more of those materials, or thermoplastics that are suitable for food or pharmaceutical applications, for example

least one outer aperture, the inner and outer apertures together forming the at least one air inlet; an electric power supply and electric circuitry arranged in the aerosol generating device; and a storage portion for holding the liquid aerosol-forming substrate; wherein the vaporizer comprises a capillary wick for conveying the liquid aerosol-forming substrate from the liquid storage portion, the capillary wick having a first end extending into the liquid storage portion and a second end opposite the first end, and an electric heater, connected to the electric power supply, for heating the liquid aerosol-forming substrate in the second end of the capillary wick; wherein the liquid storage portion, capillary wick and electric heater are arranged in the cartridge of the aerosol generating system; and wherein the flow control means comprises the inner sleeve and the outer sleeve of the housing, the inner and outer sleeves being arranged to move relative to one another so as to vary the extent of overlap of the inner aperture and the outer aperture so as to vary the size of the at least one air inlet.

Preferably, the aerosol generating device and cartridge are portable, both individually and in cooperation. Preferably, the device is reusable by a user. Preferably, the cartridge is disposable by a user, for example when there is no more liquid contained in the liquid storage portion. The aerosol generating device and cartridge may cooperate to form an aerosol generating system which is a smoking system and which may have a size comparable to a conventional cigar or cigarette. The smoking system may have a total length between approximately 30 mm and approximately 150 mm. The smoking system may have an external diameter between approximately 5 mm and approximately 30 mm.

Preferably, the aerosol generating system is an electrically operated smoking system.

According to the invention, there is also provided an aerosol generating system for heating an aerosol-forming substrate, the system comprising: a vaporizer for heating the aerosol-forming substrate to form an aerosol; at least one air inlet; at least one air outlet, the air inlet and the air outlet being arranged to define an air flow route between the air inlet and the air outlet; and flow control means for adjusting the size of the at least one air inlet, so as to control the air flow speed in the air flow route.

~~According to another aspect of the invention, there is also provided a cartridge comprising:~~ There is also provided a cartridge comprising: a storage portion a storage portion for storing an aerosol-forming substrate; a vaporizer for heating the aerosol-forming substrate; at least one air inlet; at least one air outlet, the air inlet and the air outlet being arranged to define an air flow route between the air inlet and the air outlet; and wherein the cartridge comprises flow control means for adjusting the size of the at least one air inlet, so as to control the air flow speed in the air flow route.

~~According to another aspect of the invention,~~ Further, there is provided an aerosol generating device for heating an aerosol-forming substrate comprising a storage portion for storing an aerosol-forming substrate; a vaporizer for heating the aerosol-forming substrate; at least one air inlet; at least one air outlet, the air inlet and the air outlet being arranged to define an air flow

Preferably, the vaporizer comprises a capillary wick for conveying the liquid aerosol-forming substrate by capillary action. The properties of such a capillary wick have already been discussed. Alternatively, instead of a capillary wick, the vaporizer may comprise any suitable capillary or porous interface for conveying the desired amount of liquid to be vaporized.

Preferably, the aerosol generating device is electrically operated and the vaporizer comprises an electric heater for heating the liquid aerosol-forming substrate, the electric heater being connectable to an electric power supply in the aerosol generating device. The properties of such an electric heater have already been discussed.

In a preferred embodiment, the vaporizer of the cartridge comprises an electric heater and a capillary wick. In that embodiment, preferably the capillary wick is arranged to be in contact with liquid in the storage portion. In use, liquid is transferred from the storage portion towards the electric heater by capillary action in the capillary wick. In one embodiment, the capillary wick has a first end and a second end, the first end extending into the storage portion for contact with liquid therein and the electric heater being arranged to heat liquid in the second end. When the heater is activated, the liquid at the second end of the capillary wick is vaporized by the heater to form the supersaturated vapour.

According to another aspect of the invention, there is provided a method for varying air flow speed in an aerosol generating system comprising an aerosol generating device in cooperation with a cartridge, the aerosol generating system comprising a vaporizer for heating an aerosol-forming substrate to form an aerosol, at least one air inlet, and at least one air outlet, the air inlet and the air outlet being arranged to define an air flow route between the air inlet and the air outlet, the method comprising: adjusting the size of the at least one air inlet, so as to vary the air flow speed in the air flow route.

Adjusting the size of the at least one air inlet varies the pressure drop at the air inlet. This affects the speed of the air flow through the aerosol generating system and the resistance to draw. The air flow speed affects the mean droplet size and the droplet size distribution in the aerosol, which may in turn affect the experience for the user.

~~In one embodiment~~the above other aspect, the aerosol generating system comprises a first member and a second member, the first and second members cooperating to define the at least one air inlet, and wherein the step of adjusting the size of the at least one air inlet comprises moving the first and second members relative to one another so as to vary the size of the at least one air inlet. One of the first and second members may be provided in the aerosol generating device, and the other of the first and second members may be provided in the cartridge.

Features described in relation to one aspect of the invention may be applicable to another aspect of the invention. In particular, features described in relation to the aerosol generating device may also be applicable to the cartridge.