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Standard Terminology Relating to Vacuum Cleaners[1]

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agitator, *n*—a device that is in contact with the surface to be cleaned and assists in dirt removal by mechanical action, rotary and otherwise.

air power (AP, W), *n*—(1) in a vacuum cleaner, the net time rate of work performed by an air stream while expending energy to produce an airflow by a vacuum cleaner under specified air resistance conditions. (2) a measure of the ability of the air stream to do work. Air power is expressed in terms of air watts.

canister vacuum cleaner, *n*—a portable floor-supported vacuum cleaner, having a nozzle separated from the cleaner housing by a hose and designed for normal-duty cleaning of household dirt. In use, only the nozzle is guided over the surface area to be cleaned. The cleaner may have detachable nozzles, attachments, and wands for both floor and above-the-floor cleaning. The nozzle may employ a driven agitator to assist in cleaning.

carpet lay, *n*—orientation of the pile of a carpet (or fabric) relative to the backing; the tendency of a carpet's pile to lean uniformly in a specific direction relative to the backing.

car vacuum cleaner, *n*—a relatively small, lightweight, portable cleaner that is designed for operation from a d-c power source, generally a 12-V automotive battery (see also **hand-held vacuum cleaner**).

central vacuum cleaning system, *n*—a cleaning system consisting of a stationary vacuum producer and dust collector that incorporates the use of a tubing system internal to a building structure and a flexible hose, or both, for conveying dust from the area being cleaned to the dust collector. The system is designed for all-purpose cleaning including various types of larger debris and may be designed for liquid pickup. The system is used by inserting one end of a hose into a wall vacuum inlet valve and attaching a cleaning nozzle to the other end. In use, the nozzle is guided over the surface area to be cleaned. The system may contain a driven agitator to assist in dirt removal and it normally has detachable nozzles, attachments, and wands for both floor and above-the-floor cleaning.

cleaning ability, dry, *n*—the potential of a vacuum cleaner to remove dirt from a surface (sometimes referred to in the industry as *cleanability, dry*).

cleaning effectiveness, dry, *n*—the ratio of the quantity of dirt removed to the quantity of dirt distributed on a test area.

cleaning tool, *n*—a customer-installed device for a vacuum cleaner that is applied to the surface to be cleaned and is attached to the hose or the nozzle, for specialty cleaning functions.

combination vacuum cleaner, *n*—a canister vacuum cleaner having a motorized nozzle separated from the cleaner housing but connected to it by means of a hose or hose and wand.

commercial vacuum cleaner, *n*—a vacuum cleaner suitable for the heavy-duty and sometimes continuous cleaning tasks encountered in establishments such as hotels, motels, office buildings, churches, clubs, etc.

corrected air flow, *n*—the volume of air movement per unit of time under standard atmospheric conditions. The flow is expressed in cubic feet per minute or litres per second.

dirt receptacle first vacuum cleaner system, *n*—a vacuum cleaner construction in which the dirt laden air is passed through a dirt receptacle (bag type filter, bagless filter, or other type of dirt separator). The separated air is then pulled through the fan (bypass) or fan and motor (flow through) and expelled from the cleaner. This type of construction is sometimes referred to as clean air or indirect system.

equivalent orifice, *n*—the diameter of the sharp-edged circular opening in the plate mounted in an ASTM Plenum Chamber (see Specification F431, for Air Performance Measurement Plenum Chamber for Vacuum Cleaners[2]), the opening having a resistance to air flow equivalent to the resistance

[1] This terminology is under the jurisdiction of ASTM Committee F11 on Vacuum Cleaners and is the direct responsibility of Subcommittee F11.91 on Terminology.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

caused by a specific usage of the vacuum cleaner. The equivalent orifice diameter is expressed in inches or millimetres.

extraction cleaner, *n*—a cleaning system that can have the floor nozzle directly connected to the extractor or separated from the extractor housing by a hose, and is designed primarily for wet cleaning of carpet. The cleaning involves applying a solution on the carpet and its subsequent removal. The solution dispensing system may be totally self-contained or require hook up to a water supply when in use. The extractor may have some form of agitation to assist in the soil removal. The extractor may have attachments and provisions for cleaning other surfaces.

fan first vacuum cleaner system, *n*—a vacuum cleaner construction in which the dirt laden air is passed through the fan system and then into the dirt receptacle (bag type filter, bagless filter or other type of dirt separator). The separated air is then expelled from the cleaner. This type of construction is sometimes referred to as dirty air or direct system.

hand-held vacuum cleaner, *n*—a small, portable, hand-held, hand-supported vacuum cleaner usually with a nozzle as an integral part of the cleaner. The cleaner is primarily designed for light-duty, all-purpose, small-area cleaning and may be designed for liquid pickup. In use, the usually integrally designed nozzle is guided over the surface area to be cleaned. The cleaner may contain a driven agitator to assist in dirt removal and may have attachments or provisions, or both, for both floor and above-the-floor cleaning.

household dirt, *n*—dirt commonly found in residential households, the specific compositions of which will vary from one environment to another and is removable with a household vacuum cleaner.

household vacuum cleaner, *n*—a vacuum cleaner suitable for the normal cleaning tasks encountered in residences, in contrast to a commercial vacuum cleaner.

maximum operating distance from outlet, *n*—the maximum operating distance of the vacuum cleaner from the supply outlet is the straight line measured distance from the front of the nozzle to the face of the cord input plug or to the face of the wall outlet (see Discussion) in the case of a central vacuum cleaning system, with the maximum straight line extension from the front of the cleaning system nozzle in the operating position parallel to and touching the floor.

DISCUSSION—The wall outlet may be either the air-supply connection or the electrical connection, whichever is the limiting factor.

motorized nozzle, *n*—an attachment for a vacuum cleaner containing an electric motor-driven agitator that assists in dirt removal from a floor surface.

DISCUSSION—The agitator usually has bristle brushes or beater bars, or both. The motorized nozzle is connected externally to the vacuum cleaner housing, usually by means of a hose or hose and wand.

nozzle, *n*—a part of a vacuum cleaner system that is applied to a surface to be cleaned and may incorporate an agitation device to assist dirt removal.

portable vacuum cleaner operational weight, *n*—the unit weight of the cleaner, including cord, as usually used to vacuum carpets plus the accessories such as hose, motorized nozzle, tools, and tool caddy if they are normally attached to or stored on the cleaner. Weight is with clean filters and the electric cord.

portable vacuum cleaner total weight, *n*—the weight of the cleaner, electric cord, all hoses, and attachments included with the model, but not including any packaging. Weight is with clean filters.

power unit, *n*—the part of a central vacuum system that contains the suction source and dirt receptacle.

standard atmospheric conditions, *n*—101 325 Pa (29.92 in. Hg), 20°C (68°F), and 30 % relative humidity.

standard air density, *n*—atmospheric air density of 1.201 kg/m^3 (0.075 lb/ft^3).

DISCUSSION—This value of air density corresponds to atmospheric air at a temperature of 20°C (68°F), 101.325 KPa (14.696 psi) and approximately 30 % relative humidity.

stick vacuum cleaner, *n*—a small, floor-supported, portable vacuum cleaner which has the floor nozzle directly connected to the cleaner. The cleaner is generally non-self standing with a small receptacle capacity and is designed for light-duty cleaning of household dirt. In use, the cleaner is guided over the floor by means of a handle attached to the cleaner housing. The cleaner may contain a driven agitator to assist in dirt removal on floor surfaces. The cleaner may have attachments or provisions, or both, for both floor and above-the-floor cleaning.

straight air, *adj*—the description of a vacuum cleaning system that does not have a mechanically driven agitator (sometimes referred to in the industry as *straight suction*).

stroke, *n*—a movement in a single direction, either forward or backwards.

suction, *n*—the absolute difference between ambient and subatmospheric pressure expressed in inches or millimetres of water.

suction power—See **air power**.

tank vacuum cleaner—See **canister vacuum cleaner**.

turbine power nozzle, *n*—an attachment for a vacuum cleaner containing a turbine driven agitator that assists in dirt removal from a floor surface.

DISCUSSION—The agitator usually has bristle brushes or bars, or both. The turbine nozzle is connected externally to the vacuum cleaner housing, usually by means of a hose or a hose and wand.

unit, *n*—a single object (for example, a vacuum cleaner) from the total population of like objects on which a measurement or observation may be made.

upright vacuum cleaner, *n*—a self-standing, floor-supported, portable vacuum cleaner which has the floor nozzle directly connected to the cleaner and is designed for normal-duty cleaning of household dirt. In use, the cleaner is guided over the floor by means of a handle attached to the cleaner

housing. The cleaner contains a driven agitator to assist in dirt removal on floor surfaces. The cleaner may have attachments or provisions, or both, for both floor and above-the-floor cleaning.

utility vacuum cleaner, *n*—a portable, floor-supported vacuum cleaner having a nozzle separated from the cleaner housing by a hose. The cleaner is designed to be used in places other than normal living areas such as utility rooms, basements, workshops, and garages. Besides household dirt, it is designed to pick up various types of larger debris and may be designed for liquid pickup. In use, only the nozzle is guided over the surface area to be cleaned. The cleaner may have detachable nozzles, attachments, and wands for both floor and above-the-floor cleaning.

vacuum cleaner, *n*—a system or device that removes foreign material from surfaces by means of the air flow caused by subatmospheric pressure, having an intake intended to be moved in proximity to the surface, a means of separating the material from the air, and a receptacle for collecting the separated material. The inlet may be fixed or attached to other equipment and provision is made for removing collected material.

water filtration vacuum cleaner, *n*—a system or device that removes foreign material from surfaces by means of the air flow caused by subatmospheric pressure, having an intake intended to be moved in proximity to the surface, and a water reservoir which separates and collects the material from the air. The inlet may be fixed or attached to other equipment. It also may be designed for liquid pick up.