

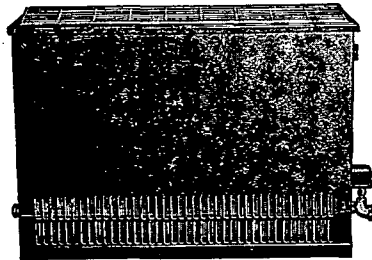
The Herman Nelson Corporation Moline, Illinois

Manufacturers of the

Her-Nel-Co System of Ventilation; the Herman Nelson Invisible Radiator;
the Herman Nelson hiJet Heater; the Herman Nelson Univent System of
Ventilation; Herman Nelson Wedge Core Radiator Sections

The Her-Nel-Co System of Ventilation

The Her-Nel-Co System of Ventilation reduces to practice the newer science of ventilation as applied to school class rooms and similar spaces. The essential difference between the older and newer idea in ventilation is this: Under the older science a fixed amount of outdoor air was supplied at all times, whereas, with the Her-Nel-Co System of Ventilation outdoor air is admitted only when and as required to maintain proper temperatures.



Her-Nel-Co Ventilator

The system will not only provide a more positive ventilating result, but will effect large economies in fuel consumption, building construction and operating costs.

The principal equipment used in the Her-Nel-Co System of Ventilation is the Her-Nel-Co Ventilator, illustrated. One or more of these machines, together with a sufficient amount of auxiliary direct radiation is placed in each room to be heated and ventilated.

No vent flues or exhaust air outlets are ordinarily employed.

The Her-Nel-Co Ventilator is beautifully finished in genuine Morocco enamel with bronzed fittings. It is arranged to be fastened against the wall with a gasket which prevents any air leakage around the cabinet. The entire front is removable, giving free access to all parts. The cabinet

contains a radiator for heating the recirculated air (only), a fan and motor unit for forcing circulation, a filter for removing dust and dirt, a steam jet humidifier and the dampers and mechanism which regulates the admission and intermixture of indoor and outdoor air.

The radiator is the well known Herman Nelson Wedge Core Section, which has been used exclusively in Herman Nelson ventilating equipment since 1925. It is constructed entirely of aluminum, and is light, compact, sturdy and non-leakable. The front open view of the Her-Nel-Co Ventilator shows the position of the radiator, fan and motor unit, filter, damper control, etc.

The Her-Nel-Co System may be manually or automatically controlled.

In principle, the Her-Nel-Co System provides for the reheating and recirculating of indoor air after a delayed firing period, such as in the beginning of a school class day. After the recommended room temperature has been reached, over-heating is prevented by restricting the heat supply of the direct radiator.

The next step in the cycle, is the complete closing off of both the direct radiation and the radiator in the Her-Nel-Co Ventilator.

There will naturally be a further rise in room temperature due to the heat given off by the occupants of the class room, together with the sun's rays, and this brings us into the next step of the cycle.

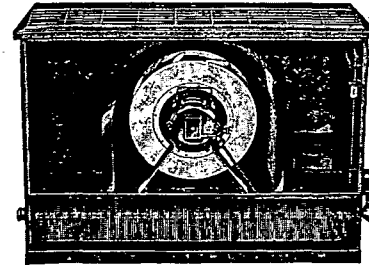
All radiation is closed off and the indoor air is recirculated and intermixed with the right proportion of outdoor air in order to maintain a constant room temperature.

The next step is the admission of outdoor air entirely, without recirculation, and with all radiation closed off.

This system fulfills the requirements that science has prescribed viz., Air Motion; Humidity Regulation and Maintenance of a proper Temperature.

The fan motor unit is quiet, efficient, sturdy, powerful, sanitary, simple and reliable. It is located in the forward upper compartment of the Her-Nel-Co Ventilator along with the filter, and draws air from either indoors or outdoors or both,

according to the position of the dampers, and delivers it through the filter and discharge nozzle into the room. It is portable and easily inspected, cleaned, oiled or taken out when the cabinet front is removed. The cone type fan is constructed entirely of aluminum.



Her-Nel-Co Ventilator Front Open View

The air filter is of a special horseshoe design, arranged to give extra large filtration area. No air can be delivered into the room without passing through the filter. Filter can be easily inspected or removed for cleaning when the front of the cabinet is removed. Filter is located on the discharge side of the fan where it is not subject to low temperatures or weather effects and therefore the oil remains viscous and highly effective. At the same time, since it is not exposed to radiant heat effects, the oil is not evaporated and wasted.

The dampers used in the Her-Nel-Co Ventilator are of the balanced type, carefully designed and mounted on weather-proof bearings. A single blade damper, located near the bottom of the rear compartment of the Ventilator on the discharge side of the radiator, is used for controlling the admission of recirculated indoor air. The damper which controls the admission of outdoor air is of the multiblade louver type and is located directly in the outdoor inlet opening. These dampers are mechanically interconnected so that the outdoor air supply is reduced as the indoor air supply is increased and vice versa.

When required, a steam jet humidifier is furnished and located in the lower radiator compartment and connected to the radiator in such a manner that it operates whenever the radiator operates, thereby providing humidity whenever the air is heated and expanded but not at other times.

The Her-Nel-Co Ventilator is made in but one size designated as the 4500 series. It can be had in two models, however.

The Model "J" is arranged to take outdoor air through an opening in the wall

behind the machine and is the type generally preferred. When the intake opening is through an outer wall, as is usually the case, it should be protected with an air intake.

The Model "K" is designed with the idea of taking outdoor air through the lower portion of a window opening and is provided with a long narrow intake located at the top of the cabinet and arranged to be built into the window construction. The intake sleeve is so constructed that it may be cut to fit on the job and a heavy wire screen in a steel frame is provided for use in the intake opening.

The Her-Nel-Co Ventilator may be arranged for either hand or automatic temperature control and is adaptable to either vapor, vacuum, gravity steam, or hot water systems. Filters and humidifiers are always recommended but may be omitted at the option of the purchaser.

All motors are of the adjustable speed type to obtain varying air deliveries and may be furnished for all of the more usual current characteristics.

As shown in the capacity table, both models are rated at three air deliveries and can be equipped with two different radiators, giving two heating capacities for each air delivery. All air deliveries are determined by the A.S.H.V.E. standard anemometer method with the anemometer held 2 in. above the face of the grille. The air delivery in c.f.m. is determined by multiplying this velocity in feet per minute by the gross area of the discharge grille in sq. ft. (1.58 sq. ft.).

All heating capacities are given in equivalent sq. ft. of standard direct radiation (240 Btu) based on 218 F steam temperature and 70 F room temperature. For all practical purposes the heating capacity of the Her-Nel-Co Ventilator, when the motor is not running and the outdoor dampers are closed, is equal to about 20 sq. ft. of direct radiation.

HER-NEL-CO VENTILATOR

Capacity Table—Models "J" and "K"

Serial No.	4514	4515	4524	4525	4534	4535
Cu. Ft. of Air per Minute	700	700	800	800	900	900
Heating Capacity Sq. Ft.	70	105	75	115	80	120

The Architects' and Engineers' catalog of any Herman Nelson product containing complete Engineering information will be gladly sent Architects and Engineers upon request.