

# VN550

# Solenoid Valve Venturi Valve System

Part Number	Description
VN550S80	2/2 Solenoid valve with venturi

## Description

The innovative venturi valve system makes it possible for vending machine manufacturers to construct more compact vending machines than current designs by eliminating the need for a header tank, level controls and pumps.

Existing vending machines make use of a header tank to store fresh water drawn from the water supply; this tank is normally used as a receiver for over flow and expansion water from the boiler.

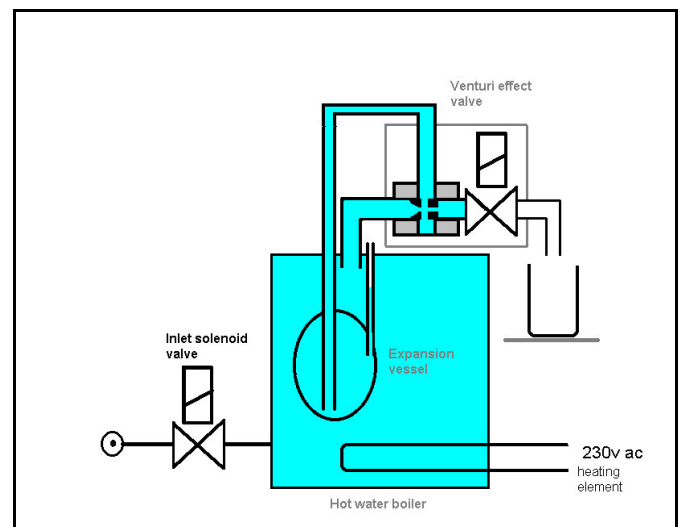
The new vending system does away with the header tank, by accepting freshly drawn water into the boiler. Expansion water (created as the cold water in the boiler expands on heating) is held in a small container housed either inside the boiler and surrounded by hot water or above the dispense valve and heated separately. In this way, the expansion water is held at a high temperature.

The valve used in the new system incorporates a small venturi so that as a drink is drawn from the machine the expansion water is drawn back into the flow of water being dispensed.

Patents pending:  
US Patent Application No. 09/436,523  
European publication EPI000575

## Operation

1. On initial heating, water in the boiler expands displacing a small amount of water into the expansion vessel via the venturi mounted in the dispense valve.
2. Water in the boiler and the expansion vessel reach a final temperature set by the thermostat.
3. When a drink is dispensed the two solenoid valves open, fresh cold water from the inlet valve displaces hot water through the dispense valve.
4. As hot water flows through the dispense valve the venturi draws water from the expansion vessel, when the water in the expansion vessel is exhausted the venturi draws air, this has no significant effect on the volume dispensed.
5. Pressurisation of the boiler is avoided because it is always open to atmosphere via the venturi and by selecting an appropriate flow control for the inlet valve. At the end of the dispense cycle both valves close.



# Beta Valve

# Characteristics

## Material

Valve body:	Polysulphone
Valve body colour:	Transparent grey.
Seal:	Silicone
Armature:	Stainless steel

## Operating characteristics

Operating pressure range:	0 – 60 mbar
Maximum media temperature:	98°C
Orifice size:	8 mm

## Electrical characteristics

### E3 Coil

Connector:	DIN46244
Protection:	IP65 (with waterproof connector)
Material:	Nylon
Insulation class:	Class F (155°C)

Nominal Voltage Tolerance:	AC -15%. +10%
	DC -10%. +10%

Power consumption:	AC 8VA Holding 12VA Inrush
	DC 19W

## Dimensions

Overall length (inlet to top nut)	105mm
Overall height (incl. connectors)	44mm
Maximum width	35mm
Weight	150g

Specification subject to change, E&OE.

# Beta Valve

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