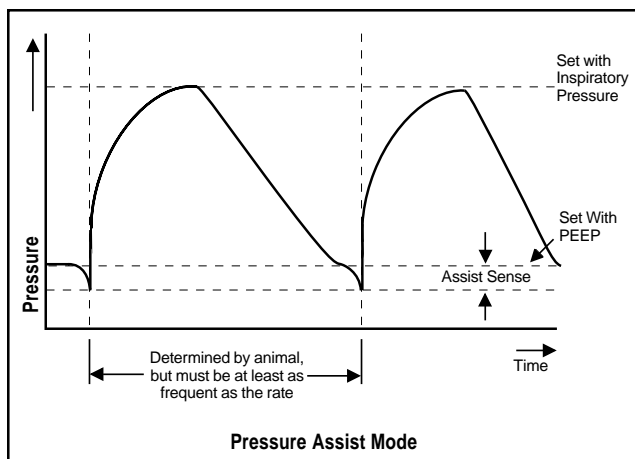


Inspira – Advanced Safety Ventilator (ASV)



Assist Mode

Both the volume and pressure controlled ventilators support an Assist Mode. This feature helps to wean the animal off the ventilator. When the animal attempts to initiate a breath on its own, a pressure sensor detects the drop in lung pressure. This drop initiates a ventilation cycle.

The sensitivity of the Assist Mode is adjustable from -1 to -10 cm H₂O. The ventilator lets the animal initiate breaths independently as long as its breathing rate is greater than the respiration rate set by the user or calculated by the microprocessor.

Sigh Breath

With continuous, long term ventilation and the force of gravity, the animal's lungs begin to collapse. Introducing a larger than normal tidal volume over inflates the animal's lungs replicating the natural sigh. It allows the lungs to expand and opens the collapsed alveoli. The frequency of the sigh breath is user selectable and available in both the ASV_v and the ASV_p models.

For both ventilators, the sigh breath information is entered via the keypad. For Inspira ASV_v, the user enters a sigh breath *volume*. With the Inspira ASV_p, the user enters a sigh breath *pressure*. For both ventilators the sigh breath frequency may be programmed which automatically initiates sigh breaths. These breaths may also be triggered manually by pressing the SIGH button on the keypad during respiration.

Volume-Controlled vs. Pressure Controlled

The Inspira ASV_v delivers the desired tidal volume to the animal by precisely controlling the stroke of the piston. Stroke speed is controlled during inspiration and expiration allowing variable inspiration-to-expiration ratios.

The Inspira ASV_p delivers gas during inhalation by moving the piston while continuously monitoring the airway pressure. The microprocessor reads the increasing pressure and compares it to the maximum inspiration pressure set by the user. When the maximum pressure is reached, the ventilator stops. The exhale valve opens at the appropriate time determined by % inspiration time and closes when the PEEP (positive end expiratory pressure) setting is reached.

PEEP - Positive End Expiratory Pressure (Inspira ASV_p Only)

The Inspira ASV_p also has a PEEP feature. This feature allows a positive pressure to be maintained between inspirations instead of falling to zero or near zero at the end of the expiratory phase. When the PEEP pressure is reached, the expiration valve closes until the next inspiration cycle begins. This allows the lungs to maintain a positive pressure through most or all of the breathing cycle which is a more natural state for the lungs.

Piston/Cylinder Assembly

The Inspira Ventilators use a glass and graphite piston/cylinder assembly and a microprocessor controlled actuation mechanism to precisely control respiration profiles. Two easily interchangeable piston/cylinder assemblies are available to provide 0.1 ml to 10 ml and 10 ml to 100 ml tidal volumes. Changing the piston/cylinder assembly is simple. Open the top chassis cover, unscrew the assembly, and install the new piston/cylinder assembly. The ventilator automatically detects which size cylinder is installed. Variable flow valves control the inhalation and exhalation gas flow. A window shows the piston/cylinder assembly at work inside!

Anesthetic Ventilator

Both Inspira ventilators can be used with anesthesia machines to deliver non-flammable anesthetic gases such as Nitrous Oxide, Enflurane, Sevoflurane, Halothane or Isoflurane, for our complete line of anesthesia machines and accessories. A future option for the Inspira ASV_v and ASV_p ventilators will be anesthetic agent monitoring for Nitrous Oxide, Enflurane, Sevoflurane, Halothane or Isoflurane.

Specifications

Animal Size	15 g to 10 kg
Volume	0.1 to 100 ml
Port Size	Adjustable 1/16 in, 1/8 in, 3/16 in
Control Modes	Volume or assist (pressure optional)
Breathing Rate	5 to 150 bpm
% Inspiratory Time	20 to 80% of cycle time
Sigh Pressure	0 to 50 cm H ₂ O
Inspiratory Flow	0 to 12 SLPM
Pressure Signal	0 to 10 V analog (representing 0 to 50 cm H ₂ O)
Gas Supply	Room air or non-flammable mixed gas
External Trigger Input	+5 to +12 V peak pulse
Resolution	1 breath/min
I/E Ratio	4:1 to 1:4
Pressure Range	0 to 50 cm H ₂ O
Sigh Frequency	Auto or manual
Respiratory Assist	Available
Signal Inputs	External trigger
Signal Outputs	Sync out, 2 analog outputs (user selectable)
Display	2 line x 20 character VFD display
Power	AC 85 to 132 V, 170 to 264 V, 50/60 Hz
Dimensions, H x W x D	17.8 x 25.4 x 40.6 cm (8 x 10 x 17.25 in)
Weight	9.1 kg (20 lb)

Catalog No. Product

CGS 8000.68	Inspira - Advanced Safety Ventilator, Volume Controlled
CGS-8001.68	Inspira - Advanced Safety Ventilator, Pressure Controlled