



# Sequence Draft Control™

SOLUTIONS FOR MULTIPLE APPLIANCE VENTING

Schebler's Sequence Draft Control™ is a design service for an engineered venting system that maintains consistent stack pressure for hot water or steam appliances within the parameters of the manufacturers' requirements, ensuring optimal system performance and safe evacuation of combustion gas.

The system is designed to work with any combination of hot water or steam appliances providing design solutions for complex installations requiring common venting. It monitors and adjusts stack and boiler outlet pressure and can be customized to fit specific building and appliance requirements using off-the-shelf components.

Only Schebler Chimney Systems can provide a complete Sequence Draft Control™ design service, offering a performance guarantee unmatched in the industry. Schebler provides all system components from the appliance outlet through the roof including UL listed breeching and stacks, draft induction fans, control dampers, pressure sensors and system controls.

## FEATURES AND BENEFITS

### **Single source for entire vent system**

- eVent™ high efficiency vent
  - AL 29-4C® inner
  - UL 1738 listed
- PA, P1, P2, P2A, P4 vents
  - UL 103 listed
- *WingFan* draft inducer (if required)
- Modulating dampers
- Pressure sensors
- System controls

### **Ensures consistent exhaust gas flow**

#### **Maximizes appliance efficiency**

- Consistent outlet pressure

#### **Effective and economical controls**

- Off-the-shelf components
- LED display for each appliance
- Simple installation and set-up
- Custom controls

AL 29-4C is a registered trademark of Allegheny Ludlum Corporation

## STANDARD CONTROL PACKAGE

Schebler's standard control package is field-configured by a front panel with individual displays for 1 to 6 appliances. This control package may be used with or without a VFD for use with a Schebler *WingFan* draft inducer.



Each appliance outlet pressure is individually monitored and adjusted by a Schebler modulating damper assembly. A 100% duty cycle actuator ensures quick reaction to changes in outlet pressure based on input from a stack mounted pressure sensor. This damper circuit is energized by an appliance output signal to system pre-purge and is timed to stay open during post-purge.

Systems that require a Schebler *WingFan* draft inducer maintain correct stack pressure regardless of the number of appliances operating or operating ranges. Stack pressure is monitored and maintained by use of a breeching mounted pressure sensor and a VFD to control draft inducer speed when any of the appliances are operating.

## CUSTOM PLC CONTROLS

Schebler's Sequence Draft Control™ design service can incorporate custom PLC controls to fit your specific application. Call Schebler today to discuss your custom-designed system.

SCHEBLER CHIMNEY SYSTEMS  
563.359.0110  
WWW.SCHEBLERCHIMNEY.COM



## STANDARD CONTROL PACKAGE SPECIFICATIONS

**Panel Power Requirements:** 120 VAC @ 60 Hz  
**Ambient Temperature Range:** 32° to 140°F  
**Fuse:** One @ 2 amps  
**Panel:** NEMA 1  
**Shipping Weight:** Varies with options

### SWITCH SPECIFICATIONS

**Switch Type:** 2 SPDT relays  
**Electrical Rating:** 1 amp @ 30 VAC/VDC  
**Set Point Adjustment:** Adjustable via keypad on face

### ACTUATOR MOTORS

**Model:** Johnson Controls M9206  
**Motor:** M9206 Brushless DC  
**Wiring:** M9206 20 AWG, 48" (1.2m), plenum leads  
**Manual Override:** None  
**Aux Switch (model specific):** 2-SPDT, 24 VAC 50VA, 2A  
**Control Action:** (DA/RA)  
**Floating (AGA):** Select by wiring  
**Modulating (GGA):** Switch or hub re-position  
**Rotation:** 93 degrees  
**Resolution:** 120 steps  
**Life Expectancy:** 60,000 cycles, 1.5 million repositions  
**Noise:** <55db @ 3' (1m)  
**Ambient:** 0-95% RH; -25° to 140°F (-32° to 60°C)  
**Agency:** UL, CE, CSA, C-tick  
**Warranty:** 5 years

### VARIABLE FREQUENCY DRIVE - MITSUBISHI DRIVES

**Voltage (model specific):** 100 to 120 VAC, 1-phase, 50/60 Hz\*  
200 to 240 VAC, 1-phase, 50/60 Hz\*  
200 to 240 VAC, 3-phase, 50/60 Hz  
380 to 480 VAC, 3-phase, 50/60 Hz  
**Acceleration:** 0-3600 seconds, linear or S-pattern  
**Deceleration Time:** (reduces the impact of acceleration and deceleration start and stop)  
**Starting Torque:** 120% at 3 Hz  
**Frequency:** 0.5 Hz to 400 Hz  
**Operating Temperature:** 14° to 122°F (-10° to 50°C)  
**Humidity:** 90% RH or less (non-condensing)  
**Enclosure:** NEMA 1, plenum rated  
**Analog Inputs:** 2; configurable  
**Voltage:** 1; 0-5 or 0-10 VDC (200 k $\Omega$ )

**Current:** 1; 4-20 mA (250 $\Omega$ ) or 0-5 or 0-10 VDC (200 k $\Omega$ )  
**Digital Inputs:** 5 each, 24 VDC=on, 0 VDC=off  
(on-board power supply available)  
**Analog Outputs:** 1 each, 0-10 VDC  
**Digital Outputs:** 1 each open collector, 1A @ 24 VDC  
**Relay Outputs:** 1 each 0.3A, 30 VDC or 30-230 VAC  
**Communication Ports:** RS485, RJ45  
**Interface Options:** Modbus, LonWorks, JCI N2, BACnet MS/TP, BACnet IP, FTP, Profibus  
**Agency Approvals:** UL and cUL listed, file #E131592, CE  
**Warranty:** 1 year

\* All 1 phase inputs produce 3-phase motor power output. A 3-phase 200 to 240 VAC motor is required.

### DIGIHELIC PRESSURE CONTROL

**Model:** Dwyer Digihelic DH-3  
**Service:** Air and non-combustible, compatible gases  
**Housing Material:** Die cast aluminum case and bezel  
**Accuracy:** < 5" w.c. (except  $\pm 2.5$ " w.c.):  $\pm 1\%$ ;  
All other ranges:  $\pm 0.5\%$  at 77°F (25°C) including hysteresis and repeatability (after 1 hour warm-up)  
**Stability:** <  $\pm 1\%$  per year  
**Pressure Limits:** Ranges  $\leq 2.5$ " w.c.: 25 psi;  $\pm 2.5$ " 5" w.c.: 5 psi; 10" w.c.: 5 psi; 25" w.c.: 5 psi; 50" w.c.: 5 psi; 100" w.c.: 9 psi  
**Temperature Limits:** 32° to 140°F (0 to 60°C)  
**Compensated Temperature Limits:** 32 to 140°F (0 to 60°C)  
**Thermal Effects:** 0.020%/°F (0.036/°C) from 77°F (25°C)  
**Power Requirements:** 12-28 VDC, 12-28 VAC 50-400 Hz  
**Power Consumption:** 3 VA max  
**Output Signal:** 4-20 mA DC into 900 ohms max  
**Zero & Span Adjustments:** Accessible via menus  
**Response Time:** 250 ms (damping set to 1)  
**Display:** Backlit 4 digit LCD 0.4" height LED indicators for set point and alarm status  
**Electrical Connections:** 15 pin male high density D-Sub connection; 18" (46 cm) cable with 10 conductors included; 4' and 10' cables available  
**Process Connections:**  $\frac{1}{8}$ " female NPT; side or back connections  
**Mounting Orientation:** Mount unit in vertical plane  
**Size:** 5" (127 mm) O.D. x 3  $\frac{1}{8}$ " (79.38 mm)  
**Weight:** 1.75 lb. (794 g)  
**Agency Approvals:** CE