



## Cook Legacy AirBurst Systems

**Cook Legacy** AirBurst Screen Scour Cleaning Systems (AirBurst Systems) are custom designed systems that release a burst of air through a screen to remove accumulated debris. ABSS systems are an effective, safe, solution for debris loading and screen maintenance.

### Effective

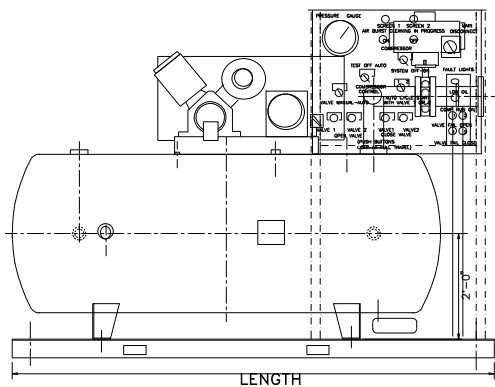
AirBurst Cleaning Systems are assembled using quality components selected to match the service needs of the application. All moving parts are located in a common, readily accessible location. They are supplied as complete systems -- ready to be positioned, plumbed, and powered. The systems are factory assembled and tested prior to shipment. When practical all components are mounted on a common skid.

### Safe

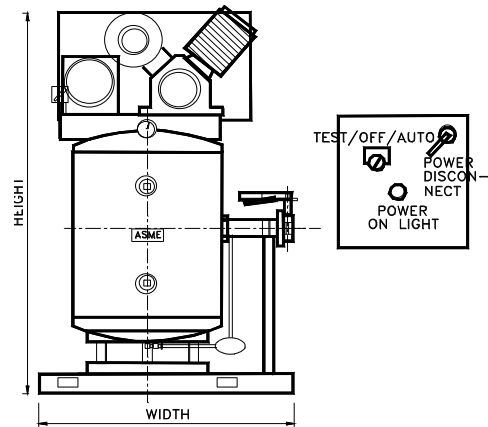
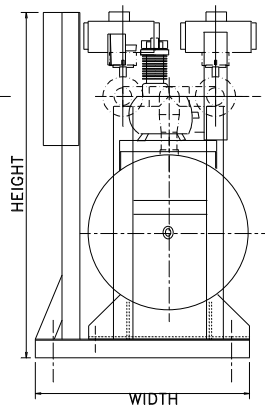
ABSS Systems are safe and simple. They do not rely on debris handling. They eliminate clogging and high flow velocities. There are no moving components in or under the water to maintain. The systems can be used for data collection and monitoring to ensure compliance under EPA 316(b).

### Solutions

ABSS Systems provide effective removal of debris from the surface of your intake Screens. No debris is collected on shore. There are no debris handling or disposal problems to deal with. The system can even be operated while pumping when a wet well design is used for the pumps.



**Horizontally mounted ABSS System**



**Vertically mounted ABSS System**

**Screen Cleaning**

Cook Legacy intake screens are designed to minimize the accumulation of debris on the screen surface.

**General Arrangements**

Cook Legacy AirBurst Cleaning Systems are designed to meet the specific needs of the project. As shown below, for sizes through 400 gallons, compressor(s) are mounted on the tank. For sizes of 660 gallons and larger the compressor(s) are mounted on a separate skid. If possible, the control panel and air release valves are mounted on the same skid as the compressors. Standard motors are 230/460V, 3 phase, 60 Hz. The table provides information on the basic dimensions of air burst screen cleaning systems. Compressor sizes below 5 HP are not included because they are less cost effective than the 5 HP units. Receiver sizes below 80 gallons are not included for the same reason. A sample specification is provided on the next page. For assistance in AirBurst system sizing, selection, and specification please contact your Cook Legacy representative or contact us directly at (614) 524 4588.

## Cook Legacy AirBurst Systems

### Air Burst Screen Cleaning System Specification

#### **General:**

The AirBurst Cleaning System shall be supplied by the intake screen manufacturer as a total system. The system shall be manufactured by Cook Legacy Water & Energy. The air burst screen cleaning system is to be installed in a weather protective shelter which will exclude rain and excessive dust and will also ensure the temperature range experienced by the system is 40°F and 110°F. Sufficient air flow into the enclosure must exist to allow the compressors to perform properly.

#### **Equipment:**

The Compressor: Compressor choices include auto stop start pressure switch, inlet air filter, and low oil level or low oil pressure shutdown switch:

- 60% Duty Cycle splash lubricated or
- 100% Duty Cycle pressure lubricated, with
- Open Drip Proof Motor or  Totally Enclosed Fan Cooled Motor
- Dual Compressors with alternator  Air Cooled Aftercooler

**The Receiver:** All Receivers are ASME Code Vessels. Working Pressure is 150 PSIG unless otherwise noted. All receivers shall be equipped with a pressure relief valve sized to handle the full discharge pressure of the compressor, a 4" dial pressure gage, and an automatic drain.

**The Valves:** For air burst lines of 4" or greater we recommend the use of air-open, spring-close butterfly valves. For smaller lines we recommend electric open: electric close ball valves.

**Pneumatic Actuators:** Actuators for valves 4" or greater are air:open spring:close valves. The air supply for the pneumatic actuators shall be from a separate control air line, shall be isolated from the main tank by a check valve, and shall be filtered to protect instrumentation.

**The Control Panel:** Controls are enclosed in a NEMA IV enclosure. All panels have a power on light, a test/off/auto switch for compressor control, and a lockable disconnect. Optional equipment includes:

- push button valve initiation (includes control air receiver and pneumatic actuators with manual over-ride)
- limit switch package and illuminated pushbuttons to indicate valve at full travel
- 4" diameter pressure gage in control panel
- Timer based valve actuation with adjustable timer, timer/manual valve operation selection switch, limit switch package and illuminated pushbuttons indicating valve at full travel, automatic interlock to prevent automatic valve operation with inadequate air pressure (includes automatic sequencer for multiple valve systems)
- Interface with facility SCADA system
- remote cycle start input  differential pressure signal cycle start input
- compressor run on indicator light  compressor fail to start indicator light
- valve fail to open/close indicator lights  ready for backwash indicator light
- automatic shut down and alarm with major fault
- automatic alarm with minor fault  Differential level signal cycle start input
- touch screen  Oil free compressor

#### **Submittals:**

The following submittals shall be provided:

Drawing showing interface dimensions, power requirements, and bolting requirements shall be provided for approval. System isometric including air and power flow. Equipment literature on all major components. Installation, Operation and Maintenance instructions for the system.

## Cook Legacy AirBurst Systems

Design Information					
Screen Information	Screen type S or T	Screen Diameter			inches
Depth of Water over the Screen at design high water			feet		
Distance from screens to ABSCS			Ft		
Air Burst Screen Cleaning Information - System Preferences					
Control Level - Circle One choice	Manual	Push Button	Timer	Full Auto	Full Auto with delta p cycle start input and remote contact
Accessories and options - Circle Selection					
valves	compressor - circle selection in box		Alarms – circle desired features		
	Duty Cycle 60% (splash lubricated)	ODP motor	air cooled aftercooler	Pressure Gage in Panel	Automatic shut down and alarm with major fault
		TEFC motor	Dual Compressors	minor fault auto alarm	valve fail to open / close
manual override	100% (pressure lubricated)			compressor run on light	Fail to Start indicator light
Control Features - circle desired features					
NEMA 4 enclosure	Outdoor Hood and switches		cycle ready light	remote cycle start	
Other Features: Describe					

Receiver Size	Orientation	Length	Width	Height	Horsepower	Recharge Time
80	vertical	48	48	74	5, 7 1/2	7 min
120	vertical	48	48	78	5, 7 1/2, 10	11 min
200	horizontal	96	48	72	5, 7 1/2, 10	12 min
240	horizontal	96	48	72	5, 7 1/2, 10	15 min
400	horizontal	120	48	84	7 1/2, <b>10</b> , 15	18 min
dimensions below are for receiver only -- recharge for Horsepower in <b>bold</b>						
660	vertical	48	48	128	10, <b>15</b> , 20	20 min
1,060	vertical	54	54	160	15, <b>20</b> , 30	22 min
1,550	vertical	60	60	180	15, <b>20</b> , <b>30</b>	25 min