



CHALLENGE

- Provide the airline industry with a reliable Potable Water System Compressor.
- Offer compressor service life as great as 10 years or more.
- Reduce airline inventory costs by utilizing one Potable Water System Compressor to support both Airbus and Boeing airplanes.

Potable Water System Compressor



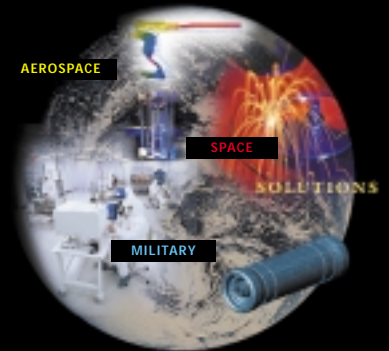
SOLUTION

Senior Aerospace Metal Bellows proprietary design of their Potable Water System Compressor has been an industry standard since 1975. This proven compressor is certified for use on both Airbus and Boeing airplanes. The design meets all requirements of Airbus A319 and A320, Boeing 737, 747, 757, 767, 777 and Boeing Business Jet, Bombardier Global Express.

The Potable Water System Compressor, with adaptor plate P/N 45323, is completely interchangeable with earlier design on all Boeing aircraft.

METAL BELLOWS POTABLE WATER SYSTEM COMPRESSOR

- High reliability and long service life
- Fleet commonality
- Compact design
- Completely interchangeable with earlier design production units
- Easy installation
- Higher pressure
- Over-pressure relief
- Less vibration

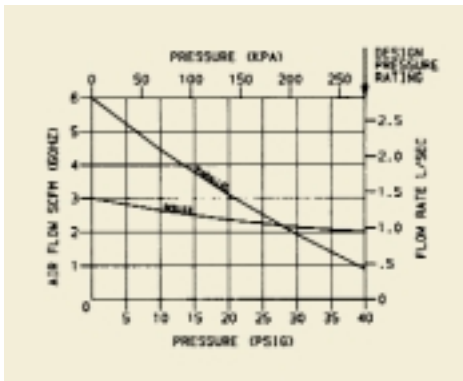
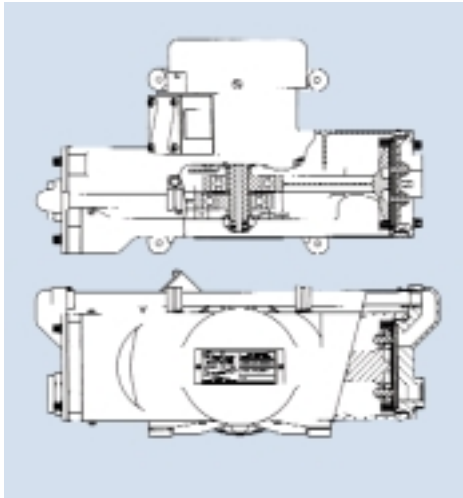


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Potable Water System Compressor Specifications



Materials of Construction:

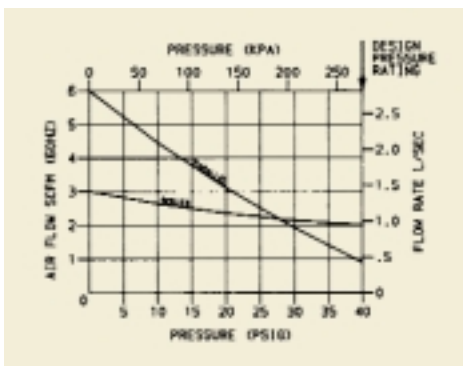
Bellows-AM-350 stainless steel
 End Terminals-300 stainless steel
 Valves-300 stainless steel/teflon
 Housing and Caps-Cast aluminum

Ports: MS 33649-6

Weight: 12 lbs. maximum

Motor: 3.5 amp max. running current,
 115/200 V. 3 phase, 400 hz

Overhaul, Maintenance, and Spares Worldwide.



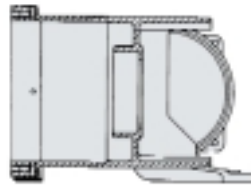
General Configuration:

Two bellows compressor heads are horizontally opposed with their cycles in phase (both bellows are on their compression strokes at the same time). The bellows are plumbed in series so that the discharge of the first-stage bellows is delivered to the inlet of the second-stage bellows.

The bellows are driven by a 115-volt, 400-hz electric motor with a synchronous speed of 4,000 rpm (3,800 rpm under load). Eccentric cams are mounted on the motor output shaft and the rotary motion of the motor is converted to reciprocating motion at the bellows via connecting rods (drivers) fitted with ball bearings at the drive cam ends.

One-Piece Housing Design:

The compressor has a single one-piece cast aluminum housing that eliminates bolted joints at both the compressor/motor interface and the motor/adaptor plate interface. The housing has four mounting feet that are positioned about the center of gravity and are attached directly to the supporting shock mounts.



Reduced Bearing Loading:

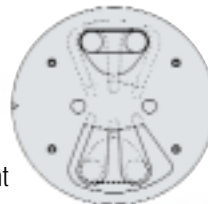
Integrating the motor into the compressor housing reduces bearing loads, thereby increasing compressor life.

Weight Reduction:

Casting and stampings are utilized to provide significant weight savings. Component parts have been reconfigured to eliminate unnecessary material and provide additional weight savings.

Reed Valve:

The reed valves are redesigned to allow manufacture of both inlet and exhaust reeds in a single piece to improve alignment and simplify assembly.



Inlet Filter:

The -7 and -8 compressors utilize a sintered stainless steel wire-mesh, layered disk (50 micron) filter in an aluminum housing that mounts directly to the inlet port.

The -9 compressor utilizes a fiberglass filter with an efficiency of 99% on 0.3 micron particles. This filter is encased in an aluminum housing and mounts directly to the inlet port and has a larger surface area for application in severe dusty environments. The increased surface extends the service life of the filter.

Over-Pressure Relief Valve:

A relief valve in the second-stage pumping head is set to open at 70 psig minimum with full pressure not to exceed 110 psig.

Vibration Reduction:

Small counter weights balance opposing forces, to reduce vibration and noise.

Senior Aerospace Metal Bellows P/N

28823-7-series plumbing
 28823-8-parallel
 28823-9 series plumbing, larger filters



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