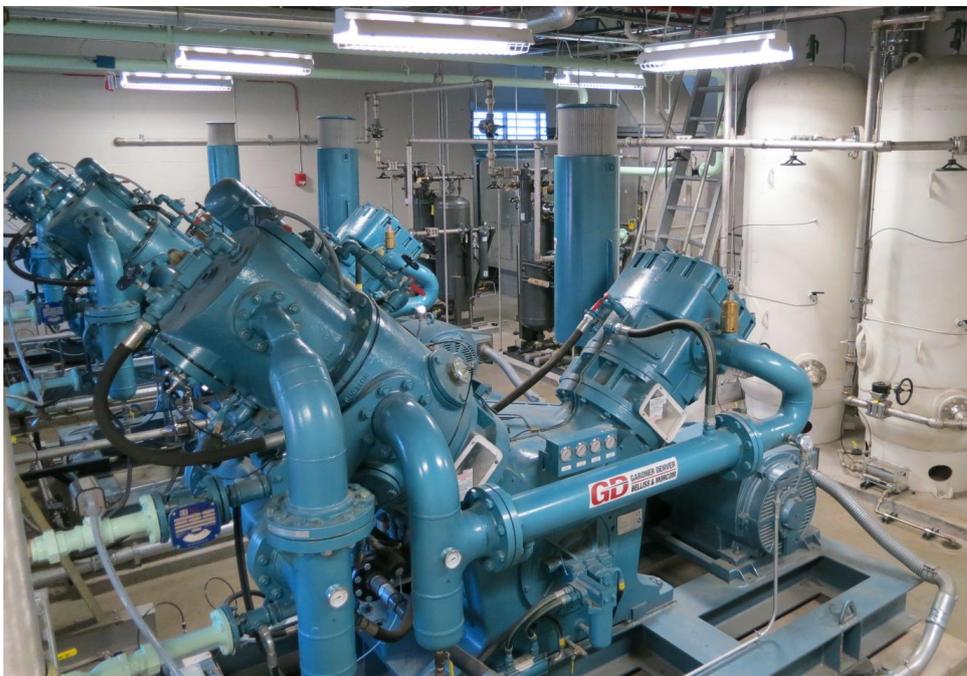


## Belliss & Morcom goes Polysonic in Florida.

A new state of the art facility in Florida State University (FSU) is the new home of three high pressure Belliss & Morcom VH15's where they provide the high pressure oil free air for an industry leading PolySonic Wind Tunnel (PSWT). FSU is a well known university in the US with the engineering department having a strong reputation for the study of aerodynamics and aero-propulsion. The PSWT is a joint venture between FSU and the National Science Foundation (NSF). Gardner Denver worked in conjunction with Air Power Services who successfully negotiated the contract.



### Application Details

This was a technical and complicated installation at FSU but managed successfully by Air Power Services and Gardner Denver.

The three VH15's provide the wind tunnel with 500 cfm (850 m<sup>3</sup>/hr) at 500 psi (35 bar). The air is stored in a number of receivers to provide the air demanded by the wind tunnel.

The air is drawn from the receiver and fed into the wind tunnel, providing compressed air at 500 psi (35 bar) to the polysonic wind tunnel, pilot wind tunnel, hot jet and STOVL.

FSU's Polysonic wind tunnel has a 12" x 12" test section and a Mach number range of 0.2 to 5.0. This includes the transonic regime.

Run times will vary between 60 and 100 seconds depending on flow conditions.

### Benefits-at-a-glance

- High energy efficiency levels
- Gardner Denver turnkey solutions expertise
- Low vibration and noise levels
- One annual service
- Reliable air quality and supply

### Application-at-a-glance

- 60 to 100 seconds flow conditions
- 500 cfm (850m<sup>3</sup>/hr) at 500 psi (35 bar)
- Double acting piston & cylinder operation
- Variable load capability
- Vee belt Driven 250HP (185kW) motor

**Customer**

Florida State University

**Location**

Tallahassee,  
Florida, USA

**Application**

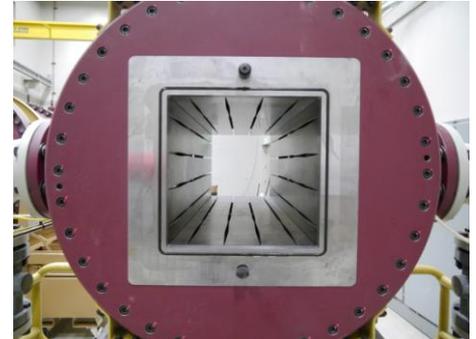
Polysonic Wind Tunnel

**Product**

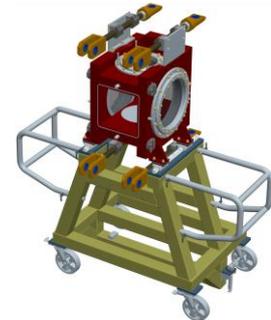
VH15

**Customer Benefit**

Confidence in consistent air quality and wind tunnel operation



Supersonic/Subsonic  
Test Section



**“ The state-of-the-art polysonic wind tunnel required a cost driven solution for supplying reliable, oil-free air to the facility. Gardner Denver and AirPower's expertise have provided us an excellent product meeting all our expectations. ”**

Dr. Rajan Kumar, Florida State University

### Application Details

The facility's air system is comprised of three high pressure Belliss & Morcom VH15 oil free reciprocating 250 hp compressors, two desiccant dryers, 3-600 gal wet tanks , and 6-5,000 gal storage tanks (30,000 gal capacity). It provides compressed air at 500 psi (35 bar) to the polysonic wind tunnel, pilot wind tunnel, hot jet and STOV. The VH15's are able to quickly recharge the system to allow high velocity testing for long periods.

FSU's Polysonic wind tunnel has a 12" x 12" test section and a Mach number range of 0.2 to 5.0. This includes the transonic regime. Run times will vary between 60 and 100 seconds depending on flow conditions. The facility is equipped with a model support system with pitch control from - 10° to 15° and roll control from -180° to 180°.The facility includes a settling chamber with an acoustic silencer, 5 flow conditioning screens, and a honeycomb to minimize test section noise and turbulence levels. Supersonic Mach number is controlled using fix nozzle blocks. Currently the facility has a subsonic nozzle and individual nozzles for blocking Mach 2.0, 3.0, 4.0, and 5.0.

It was the system expertise of Gardner Denver and Air Power Services in these types of installations which gave FSU the confidence to choose the Belliss and Morcom VH15's to support this state of the art facility.