Our bodies cannot live without the oxygen we breathe in from the air every day. But what about those who do not get enough because of a medical condition? This is where oxygen concentrators make THE difference in enhancing a person’s quality of life and giving them freedom and flexibility. With such a critical function, this type of equipment must be reliable but also convenient. Oxygen concentrators come in two versions – stationary, which are for long-term home use, and portable, which are mobile. What makes oxygen concentrators different from other oxygen delivering systems, and also unique, is the compressing element.

Seals play a critical part in the compressors as they ensure the functionality of the oxygen system in two key ways. They not only act as a bearing to enhance the movement of the piston up and down the cylinder wall, but also as a seal to prevent air from seeping from the chamber while it is being compressed. Rulon® cup seals are often used in the application because of their ability to handle very high pressures and provide longer wear.

Solution Teams: Shanghai, China Team & Saltillo, Mexico Team
## Life Sciences: Case of the “Balanced” Oxygen Concentrator

**Air Compressor**

### PRODUCT SOLUTION

**Rulon® J and 1189**

### AREA

Oil-less Air Compressor in **Stationary** Oxygen Concentrator

### MATERIAL

Fluoropolymer

### CRITICAL PART

Piston Cup Seal

### TECHNICAL DETAILS

- Media: Air
- Temperature: -40º F to 212º F (-40º C to 100º C)
- Pressure: 2 bar (29 psi)
- Speed: 0.5 m/sec

### BENEFITS AND ADDED VALUE

- Increased durability and reliability: Wear life of 20,000 hours and low friction
- Versatile customized designs allowing manufacturers to create smaller and lighter concentrators
- Variety of material choices to match different hardware
- Decreased total costs resulting from post cost-savings in training, technical support, installation, and maintenance
**PRODUCT SOLUTION**
Rulon® 1694

**AREA**
Oil-free Air Compressor in **Portable** Oxygen Concentrator

**MATERIAL**
Fluoropolymer

**CRITICAL PART**
Piston Cup Seal

**TECHNICAL DETAILS**
- Media: Air
- Temperature: -40°F to 120°F (-40°C to 49°C)
- Speed: Reciprocating moderate to high
- Counterface: Hard Anodized Aluminum

**BENEFITS AND ADDED VALUE**
- 25% improvement in wear life over existing piston cup seal per a key customer’s requirement
- Abrasive resistance
- Substantial reduction in risk of failure