**Customer Challenge**
The customer required extremely fast lead time as well as complicated casting geometry for replacement cylinders on an old obsolete compressor. MW Smith DXP Engineers, contacted PumpWorks Castings, LLC about the need for 2 Compressor Cylinders on an expedited basis. The challenge; reduce lead time from an estimated 17+ weeks down to 8 weeks without tooling.

**The Solution / ExOne Competitive Advantage**
Using ExOne technology, Pumpworks Castings, LLC was able to meet the schedule by providing the old obsolete compressor heads to MW Smith DXP in 8 weeks. The complex molds were printed in about 7 days and it was estimated that using a traditional wood pattern to make this complex mold, it would have taken about 8-9 weeks. By using ExOne technology, the mold was made ready for the casting pour in about 1 week versus 8-9 weeks. By printing the complex mold in 1 week, the aggressive delivery of 8 weeks was met and the compressor repairs were started.

**About ExOne**
ExOne uses 3D printing to create complex molds and cores directly from CAD data for a variety of industries with accuracies of ± 0.011 in. (± 0.3 mm). The ExOne® process achieves geometric complexity and scale unmatched using conventional casting techniques without the need for a physical pattern. ExOne produces accurate, uniform cores and molds rapidly.

**Specifications**
- **Customer:** MW Smith/DXP Longview
- **Part:** Compressor Cylinder
- **Part size:** 46 x 38 x 46 assembled mold
- **Material:** Class 40 Cast Iron
- **Industry:** Gas

**Traditional Methods and Pricing**
- **Method:** Pattern-based casting/machining
- **Total time:** 16 - 17 weeks
- **Tooling costs:** $70,000

**ExOne® Sand Printing Method**
- **3D Sand Mold Printing and Casting**
- **Print Media:** Silica Sand/Furan Binder
- **Production Time:** 8 weeks
- **Tooling Cost:** $0

To learn more, contact: [www.exone.com](http://www.exone.com)

*ExOne operates facilities across the Americas, Europe and Asia.*

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