



## MOFS (MEDICAL OXYGEN FILLING SYSTEM)



ACD's Medical Oxygen Filling System (MOFS) is a skid mounted system for converting low pressure liquid oxygen to high pressure gas. Specifically designed for medical oxygen cylinder filling, the MOFS is capable of pumping/vaporizing nitrogen for purging applications.

The MOFS allows liquid supply from either a liquid cylinder or bulk tank with virtually no product loss during operation and minimal loss when filling multiple racks. Cavitation due to low supply tank NPSH is eliminated with ACD's patented charging system. Valve controls and automatic shut-off capabilities improve ease of operation and an oxygen-compatible vacuum pump ensures medical oxygen purity.

ACD's MOFS unit has the ability to fill up to 70 medical E-cylinders in 25 minutes. Its unique design is tailored to fulfill the needs of developing markets where installation of costly bulk product tanks is not feasible. By eliminating costly cylinder transportation and the need for large cylinder inventories, ACD's MOFS unit significantly reduces distribution costs.

Fully compliant with **FDA** and **CGA** standards

## Certifications

FDA & CGA	Compliant to guidelines; <b>certified by an independent 3rd party</b>
ISO 9001:2008	Det Norske Veritas
Functional Testing	Cryogenic test in liquid nitrogen prior to shipping
Oxygen Clean	Per ACD standard ECP-018
Calibration	For all gauges

# MOFS Specifications

MANUFACTURING



2321 S. Pullman Street  
Santa Ana, CA 92705 USA  
Tel 800.525.4216 (USA only)  
Tel +1.949.261.7533  
Fax +1.949.261.6285  
acd@acdllc.com • acdllc.com



**Gutenbergstrasse 1**  
CH-142 Muenchenstein Switzerland  
Tel: +41.61.413.0230  
Fax: +41.61.413.0233  
sales@acdcrryo.com • acdcryo.com

## GLOBAL SERVICE

### NORTH AMERICA

**Atlanta**  
Atlanta, Georgia, USA  
+1 404.696.8113 • Fax +1 404.696.8116  
sales@cryoatlanta.com • cryoindservice.com

**California**  
Santa Ana, California, USA  
+1 949.724.8636 • Fax +1 714.641.1921  
sales@cryocal.com • cryoindservice.com

**Houston**  
Houston, Texas, USA  
+1 281.590.4800 • Fax +1 281.590.4801  
sales@cihouston.com • cryoindservice.com

**Pittsburgh**  
Imperial, Pennsylvania, USA  
+1 724.695.1910 • Fax +1 724.695.1926  
pittcryo@pittcryogenic.com • cryoindservice.com

**Red Deer**  
Red Deer, Alberta, Canada  
+1.403.352.4436 • Fax +1.403.352.4439  
sales@cryocanada.com • cryoindservice.com

**Toronto**  
Toronto, Ontario, Canada  
+1 416.502.1950 • Fax +1 416.502.1952  
info@cryocanada.com • cryoindservice.com

### INTERNATIONAL

**Australia**  
Dandenong, Victoria, Australia  
+61.3.9791.7888 • Fax +61.3.9769.2788  
sales.au@cryoquip.com • cryoquip.com

**Brazil**  
São Paulo – SP, Brasil  
+55 11 9619.6532 SP  
acd@cibrazil.com • cibrazil.com

**China**  
Hangzhou, China  
+86.571.8869.0788 • Fax +86.571.8869.0715  
hci@mail.hz.zj.cn • cryoindservice.com

**Europe**  
D-79415 Bad Bellingen Germany  
+49.7635.8105.0 • Fax: +49.7635.8965  
info@acdcrryo.com • acdcryo.com

**India**  
Vadodara, Gujarat, India  
+91.265.283 0113 • Fax +91.265.283 0112  
npatel@acdllc.com • acdcom.com

**Korea**  
Yongin-si, Gyeonggi-do, Korea  
+82.31.286.6114 • Fax +82.31.286.6118  
info@ci-korea.co.kr • cryoindservice.com

**Malaysia**  
Shah Alam, Selangor D.Ehsan, Malaysia  
+603.5740.8770 • Fax +603.5740.8775  
cryogen@po.jaring.my • cryoindservice.com

Bulletin No. ACD MOFS-R2.10

© 2010 ACD LLC, Printed in USA

MOFS FEATURES	DETAILS
<p><b>Two Flow Rates:</b> 4,100 scfh (standard) 8,300 scfh (optional)</p>	<ul style="list-style-type: none"> <li>• Simple cold end exchange required for higher flow rate; standard MOFS comes with 0.875" Ø cold end (4,100 scfh oxygen)</li> <li>• Typical cycle time (fill &amp; rack change) 40-45 minutes</li> <li>• Fills up to 70 medical E-cylinders in 25 minutes</li> <li>• Optional 1.2" Ø cold end fills up to 140 medical E-cylinders in 25 minutes with auxiliary vaporizer</li> </ul>
<p><b>Discharge Pressure</b></p>	<p>3,000 psig</p>
<p><b>System Envelope</b></p>	<ul style="list-style-type: none"> <li>• Fits through a standard doorway</li> <li>• Dimensions: 35"W x 80"H x 75"L (0.9mW x 2.0mH x 1.9mL)</li> <li>• Weight Approx: 1,700 lbs (773 kg)</li> <li>• Includes forklift slots</li> <li>• Lockable roller wheels (optional)</li> </ul>
<p><b>Reciprocating Pump</b></p>	<p>Model ACPD, 0.875" bore x 0.79" stroke (1.2" bore optional)</p>
<p><b>Power Requirement</b></p>	<p>30 amp, 220/230 volt, single phase</p>
<p><b>Variable Frequency</b></p>	<p>Requires 3 phase power at location and motor change (optional)</p>
<p><b>Motor / Drive</b></p>	<p>5 HP (4kW), 220V single phase motor direct coupled to gearbox</p>
<p><b>Control Panel</b></p>	<p>Start/stop buttons for vacuum pump and reciprocating pump</p>
<p><b>Vacuum Pump</b></p>	<p>Oxygen compatible, 1 HP, 220V single phase; 15 CFM flow, 10 micron end vacuum</p>
<p><b>Vaporizer, High Pressure</b></p>	<p>HAI 816 SS-SP, 4,000 psig S.S. lined ambient air heated, rated for the standard cold end flow rate and cycle time (two cycles per 90 minutes – may vary with ambient conditions)</p>
<p><b>Gas Control Panel</b></p>	<p>Includes: Calibrated 6" pressure and vacuum gauges, high pressure cut-off switch for safety shut-off</p>
<p><b>Liquid Supply – Customer Furnished</b></p>	<p>From VGL, 200 liters (100 PSI minimum working pressure) to micro-bulk tanks</p>