

ALUMINUM SMELTING INDUSTRY SOLUTIONS

Feeder and Crust Breaker Cylinders

**2 Inch Bore Aluminum
Feeder Cylinder**

**4, 5, & 8 Inch Bore Crust
Breaker Cylinders**

Drop-In Replacement

**Rugged Design for
Longer Life**

**Reduced Downtime/
Increased Production**

**Field Repairable
for Lowest Cost of
Ownership**

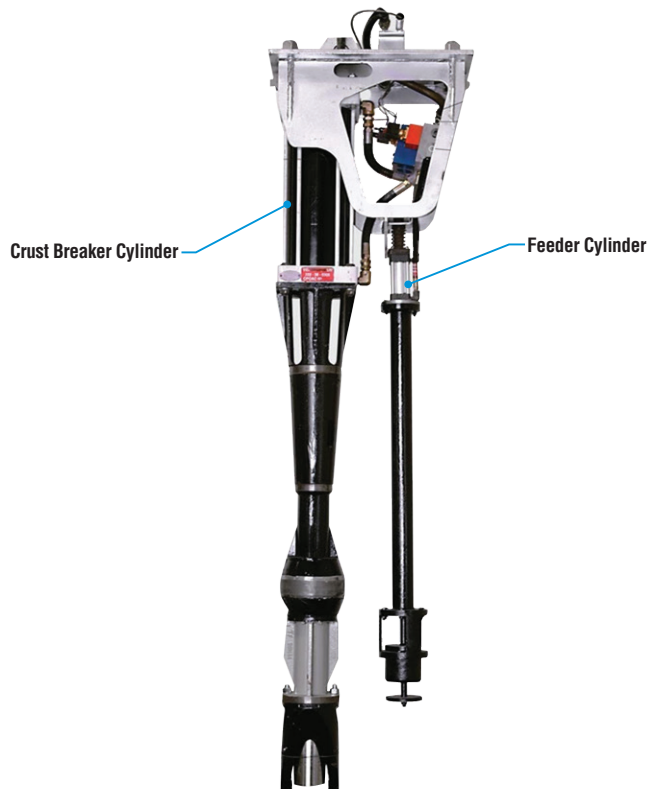
**Manufactured
in the USA**



2" Bore Aluminum Feeder Cylinder (ML310261)

Major Benefits

- Drop-in replacement cylinder for AP30 technology (Pechiney)
- Feeds alumina
- Operates independently from crust breaker cylinder
- Rebuildable
- Long lasting bushing technology (Over 5 years)
- Field proven with over 2000 units in the field



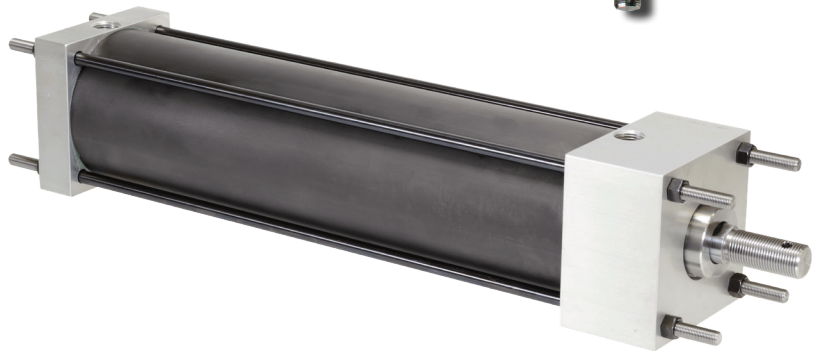
Scan for Case Study



4-5" Bore Crust Breaker Cylinder (ML311325 & ML318987)

Major Benefits

- Drop-in replacement cylinder for P80+ technology
- 5" Replaces 4" bore competitor technology
 - Greater thrust potential
 - Air savings potential
- Air savings with MAC air savings circuit
- Rod scraper to prevent alumina ingestion
- Proprietary seals and rod bushing
- High temperature (150°C / 300°F)
- Low friction
- Lube-free
- Harsh environment
- Over 5 years of life



Scan for Case Study



8" Bore Crust Breaker Cylinder (ML311167)

Major Benefits

- Drop-in replacement cylinder for AP30 technology (Pechiney)
- 87% air savings with MAC air savings circuit
- Rod scraper prevents alumina ingestion
- Proprietary seals and rod bushing
 - High temperature (150°C / 300°F)
 - Low friction
 - Lube-free
 - Harsh environment
- Over 5 years of life



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Rebuild. Repair. Recycle.

Rebuild or repair your PHD Actuators for significantly less cost than the original price. Ask your distributor about PHD's Rebuild Program.



Distributor Support

We are a proud member of the MAC Distributor Network (MDN). MDN is a customer focused network of global manufacturers and distributors providing worldwide sales and exceptional service. With partners located worldwide, we are equipped to provide you a wide variety of value-added support and ongoing assistance.