Ceramic Oxygen Generators: An Emerging Technology With Applications For ISRU

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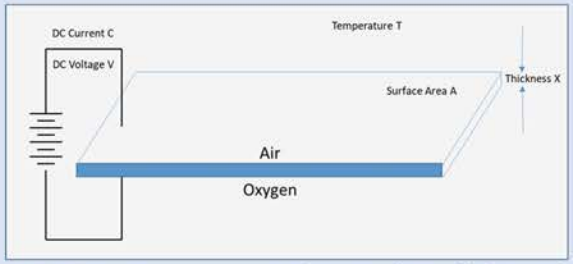
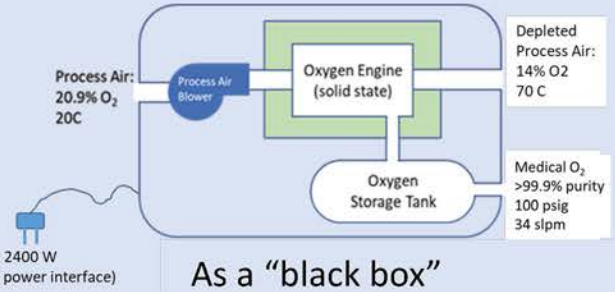
COG Technology



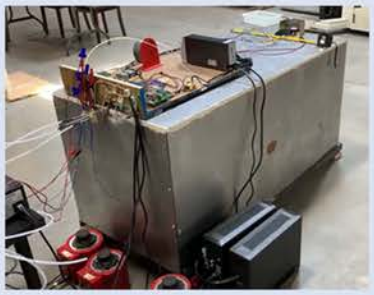
O- ion transport through solid rock
High temp process (700-800C)



As a "black box"

One fan, >99.95% O_2, 100 psig, 2400 Watts,34 slpm

Project Status



Chassis 1
Built & Tested 2021

Chassis 2
Assembly underway

Applications

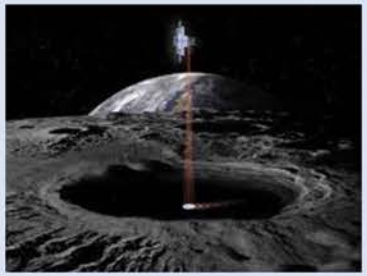
Space Suit Oxygen Tank Recharge

Sponsored by AES
Technical Requirements:
- 3 standard liters per minute
- purity > 99.95% O2
- pressure > 3000psig

Global Health

Sponsored by NESC
Technical Requirements:
- 34 standard liters per minute
- purity > 99.95% O2
- pressure > 100 psig
- power <2400 Watts

ISRU



Purpose of this elevator pitch

Can COG technology benefit ISRU?
COG can produce > 99.95% O2
COG can handle contaminants (S, Cr, etc.)
COG can deliver >200 psig in one config
COG can deliver >3000 psig in one config

If anyone is interested in using COG for ISRU
Contact me: john.c.graf@nasa.gov