

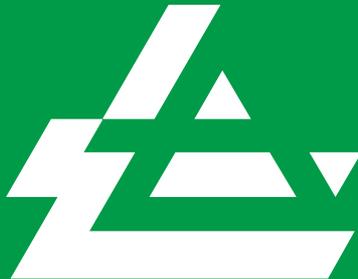
Cryotherapy: cool treatment for sports

Leaders in Performance
Chelsea FC, 9-10 October 2013

AIR
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Who we are

**AIR
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Air Products Public

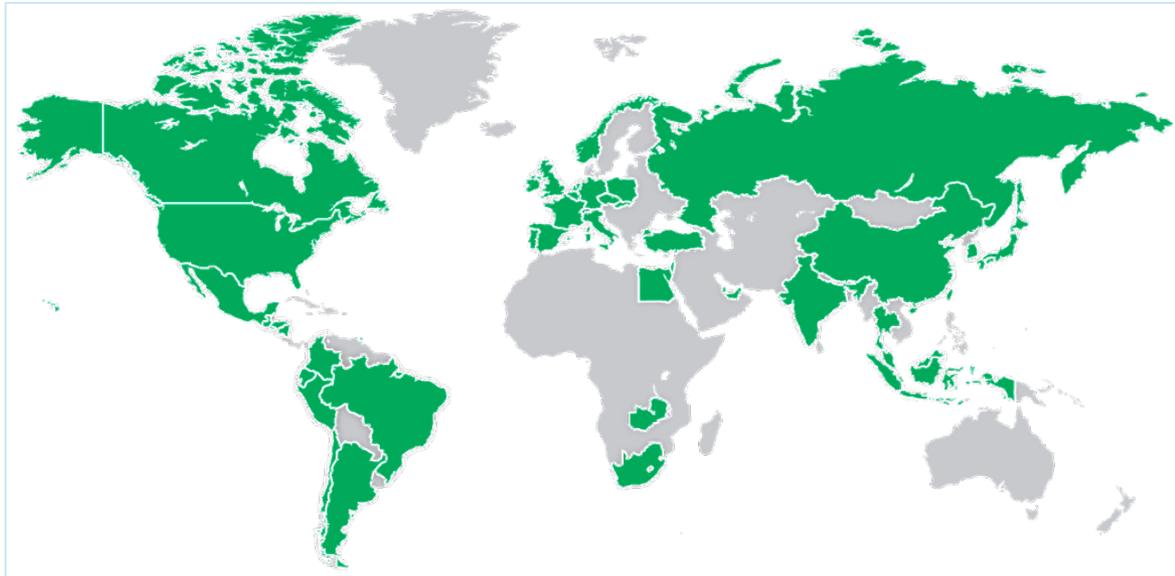
**AIR
PRODUCTS** 

KrioSystem 

AIR PRODUCTS



- Global provider of atmospheric, process and specialty gases; performance materials; equipment; and technology.
- ~\$10 billion in sales.
- Operations in over 50 countries
- More than 20,000 employees around the world.
- In Europe operates in 17 countries, reached \$2.7 billion sales in FY'12.



KrioSystem

- Founded in 1991
- Grown up from the tradition and achievements of the Institute of Low Temperature of the Polish Academy of Science since 1974
- 30 highly qualified engineers and employees
- Close cooperation with technical universities and laboratories
- More than 20 years of success in cryogenic solutions and VIP installations applied to the area of science, industry and medicine



Whole body cryotherapy in a glance



Whole body cryotherapy historic background

- Originated in Japan in 1880.
- In 1978 prof. T. Yamauchi with his science team developed the world's first cryochamber and applied cryotherapy in the treatment.
- In 1982, the second in the world, and also the first cryochamber in Europe was constructed by a team led by prof. R. Fricke in Germany.
- In 1989, team led by MSc. Z. Raczkowski constructed the first cryochamber in Poland.



Whole body cryotherapy

- Application of a temperature lower than -120°C to the surface of a body for a period of 1.5-3 minutes.
- Widely used in:
 - Rheumatology
 - Physiotherapy
 - Sports medicine
 - Neurology
 - Biological renewal
- Therapy in rheumatoid diseases, neurological rehabilitation, degenerative disease of motor organs, sleeping disorders, depression, trauma.



Whole body cryotherapy in sport medicine

- Eliminates the negative effects of physical exercise
- Helps prepare to more intense training
- Can be used as part of a training programme to enhance sporting performance.



Whole body cryotherapy in sport medicine

Applications:

- treatment of acute sporting trauma
- treatment of chronic overload trauma
- complementary treatment after reconstitution operations, and tendon, ligament, muscles and bone operations
- biological regeneration and chronic traumas disease prevention, during intensive training and the preparation for championships.



Whole body cryotherapy in sport medicine

Main therapeutic effects:

- Increased the pain threshold
- Increased muscle strength
- Decreased inflammatory activity
- Shortened recovery period after sport traumas



Proofs?

- Sport Wales sent reporter Gareth Rhys Owen to experience the extreme cold of the cryotherapy chambers that awaited the Wales rugby squad in Poland.
- The players, who used a similar Polish facility in Spala before the 2011 World Cup, spent a week at the Olympic training centre in Cetniewo in preparation for the Six Nations.

<http://www.bbc.co.uk/sport/0/rugby-union/16683100>

Our Offer



Kriosystem's standard cryochamber

Advantages:

- Stationary
- External liquid nitrogen tank
- Different equipment options
- User-friendly operation



Size of the cryochamber (LxWxH)	3500x2000x2500mm
Power supply	5 kW, 230V
Number of patients in the cryochamber	2-6
Range of the operating temperature in the treatment chamber	from -110 to -160°C
Treatment time	30 sec to 4 min.

Kriosystem's customised cryochamber

Advantages:

- Fit to a customer's requirements
- Can be mobile or stationary
- Different equipment options
- Different details options including colour of exterior/interior, wood-panelling layout etc.



Kriosystem's mobile cryochamber

Advantages:

- Mobility
- Integrated liquid nitrogen supply
- Independent power supply
- Ready for use at a training site, in a sport center, or even at a stadium.



Size of the cryochamber (LxWxH)	6055x2435x2975mm
Number of patients in the cryochamber	1 or 2
Range of the operating temperature in the treatment chamber	from -110 to -160°C
Treatment time	30 sec to 3 min.

Kriosystem's support services

- Comprehensive customer support including:
 - Site visit
 - 3D Project visualisation
 - Cryochamber design and installation
 - Personnel training in range of operations and maintenance
- Guarantee and post-guarantee service



Air Products' storage and supply options

Microbulk tanks operated by CryoEase[®] trucks

- Suitable for low volume users



Liquid bulk storage tanks operated by a tank trailer

- For larger volume requirements

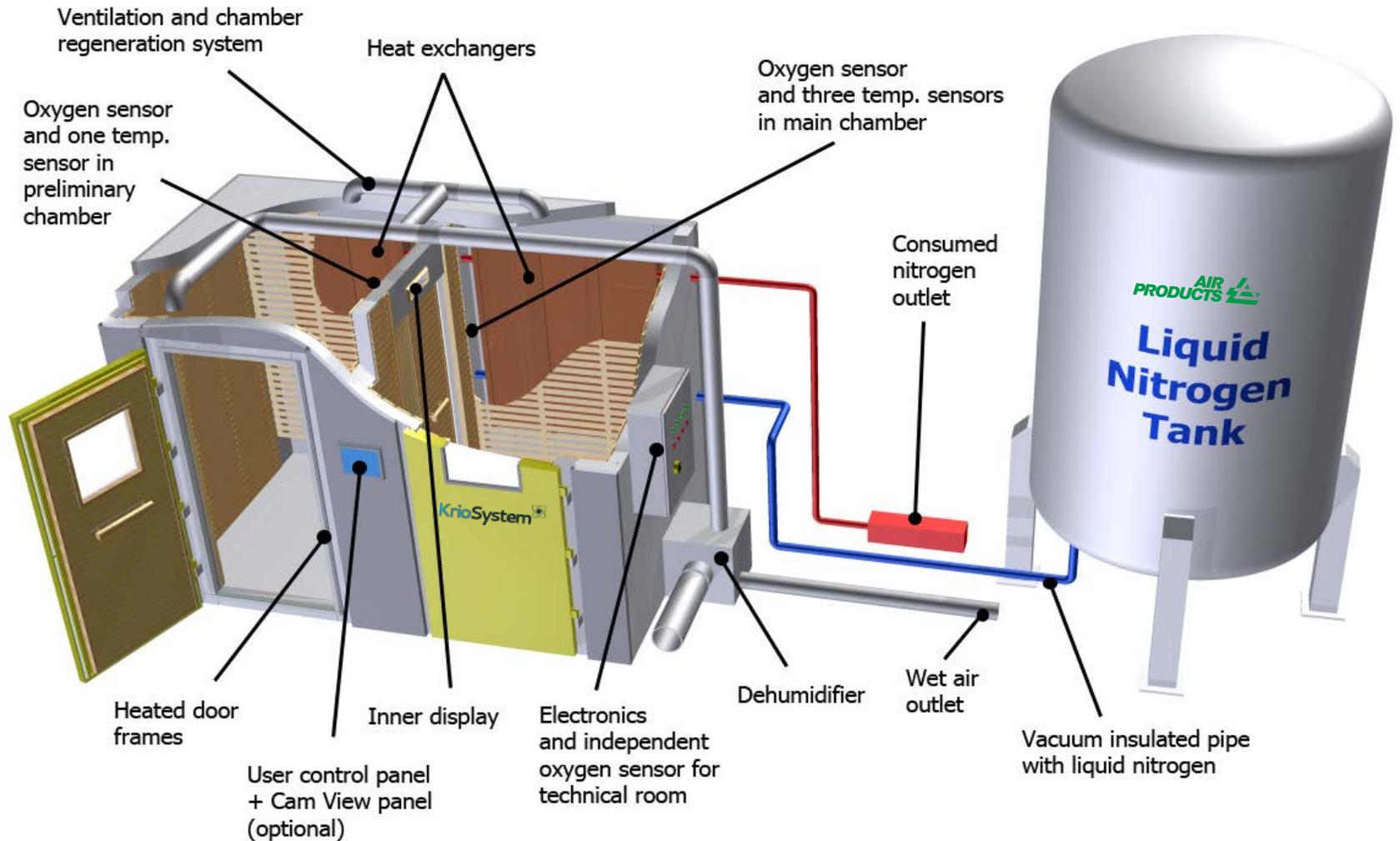


Air Products' support service

- Comprehensive customer support including:
 - Site visit
 - Selection of a tank capacity depending on gas usage
 - Design and installation
 - Safety training
- Telemetry system monitoring a tank gas level 24/7
- Reliable gas deliveries



How a cryochamber works



Robust solution for cryotherapy

Medical Background

State of the art equipment

Safety procedures

Technology support and consultancy

Reliable Deliveries and service

Thank you...
tell me more

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