Cobra Customer Pre-Installation Form

This form is designed to help understand the pre-installation requirements for the Cobra, and to ensure everything is in place for a successful installation. Please fill out and sign the form and then fax it back to us at **+44 1993 883988.**

If the pre-installation specifications shown on this form are not fulfilled, Oxford Cryosystems cannot guarantee that completion of installation will be possible during our engineer's visit. If our engineer's visit needs to be prolonged or a return visit is required to complete installation as a result of these omissions, Oxford Cryosystems reserves the right to charge the customer for extra labour, travel and subsistence.

If you have any questions or are unsure of any of the requirements, please contact Oxford Cryosystems in the UK on +44 1993 883488 or info@oxfordcryosystems.co.uk. Oxford Cryosystems can also be contacted in the US on (978) 772-7930 or liz@oxfordcryosystems.com.

Please place a √or a X in the boxes below to indicate that the issue is either applicable to your installation or the appropriate specification has been met.

Basic environmental requirements for Cobra and nitrogen gas generator

Operating room temperature +10°C to +35°C	
Maximum relative humidity 80% for temperatures up to +31°C decreasing linearly to 50% relative humidity at +40°C	

Nitrogen gas source

1. We will be buying a nitrogen generator with the Cobra	
2. We will be using our own in-house supply of dry nitrogen gas	

X-ray system

Please describe the components of the X-ray system on which the Cobra will be mounted. Please attach images of the enclosure if possible.

3 Blenheim Office Park
Lower Road
Long Hanborough
Oxford · OX29 8LN · UK
Tel: +44 (0)1993 883488
Fax: +44 (0)1993 883988
Info@OxfordCryosystems.co.uk

Nitrogen gas specifications (only relevant if option 2 ticked above)

• Purity of >97.5%	
• Gas pressure can be regulated to 1 bar (Max pressure 10 bar)	
• Gas flow of 25-30 L/minute (per Cobra)	
• Atmospheric dew point of gas -70°C or better	
• Outlet fitting size of ¼" BSPP female (or male with a 120 mm radial clearance to allow a regulator to be screwed into the ¼" fitting). Please state which is available.	

Cryodrive cooling water requirements

• Chiller cooling requirements: 3.0 kW	
• Regulated flow rate of a minimum of 3 L/min (typical flow rate 5 L/min)[1]	
• Regulated supply pressure 2-7 bar (29-101 PSI) at point of delivery	
• Supply temperature 8 to 26°C[2]	
• Water quality pH range 6.0 to 8.0	
• Maximum calcium carbonate concentration -75 parts in 10^6	
• Suitable supply and return point and connectors for cooling water. Cryodrive supplied with ½" bore reinforced plastic hose and connectors	

[1] See Appendix 1

[2] See Appendix 1

3 Blenheim Office Park
Lower Road
Long Hanborough
Oxford · OX29 8LN · UK
Tel: +44 (0)1993 883488
Fax: +44 (0)1993 883988
Info@OxfordCryosystems.co.uk

Cryodrive electrical requirements

Please indicate the supply available in your lab. **Note: All Cryodrives are shipped to run on 240 V 50 Hz and must be set up during installation for the local supply.**

Single phase 50 Hz supply (Cryodrive is internal fused with 5 A slow blow fuse. Maximum supply fuse rating 30 A running current 13 A)	
• 230 V 13 A full load	
• 220 V 14 A full load	
• 200 V 15.5 A full load	
Single phase 60 Hz supply (Cryodrive is internal fused with 5 A slow blow fuse. Maximum supply fuse rating 30 A)	
• 220 V 15.5 A	
• 208 V 16.4 A	
• 200 V 17 A	

Nitrogen generator electrical requirements

Please indicate the supply available in your lab.

• 100 Vac 50 Hz	
• 100 Vac 60 Hz	
• 120 Vac 60 Hz	
• 230 Vac 50 Hz	
Power consumption 1.4 kW	

3 Blenheim Office Park
Lower Road
Long Hanborough
Oxford · OX29 8LN · UK
Tel: +44 (0)1993 883488
Fax: +44 (0)1993 883988
Info@OxfordCryosystems.co.uk

Space requirements

• Cryodrive 3.0: (WxHxD) 447 mm x 450 mm x 560 mm (80 kg)	
• Nitrogen gas generator, if applicable: (WxHxD) 900 mm x 700 mm x 310 mm (92.5 kg)	

Maximum distance requirements

• Cooling water supply to Cryodrive compressor water inlet: 15 m	
• Cryodrive compressor water outlet to waste/drain: 15 m	
• Cryodrive compressor to Cobra refrigerator uses 3 m high pressure helium lines – maximum run: 3 m	
• Nitrogen gas source to Cobra controller: 10 m	
• Nitrogen gas source to Cobra nozzle for outer shroud gas: 10 m	
• Cryodrive compressor to controller serial cable: 5 m	
• Controller to PC serial cable: 5 m	

Name: Organisation:

Signature: Date:

End-user full contact details:

This should be the main contact for queries about installation and maintenance of the system.

Name:

Address:

Phone number:

Email address:

3 Blenheim Office Park
Lower Road
Long Hanborough
Oxford · OX29 8LN · UK
Tel: +44 (0)1993 883488
Fax: +44 (0)1993 883988
Info@OxfordCryosystems.co.uk

Appendix 1

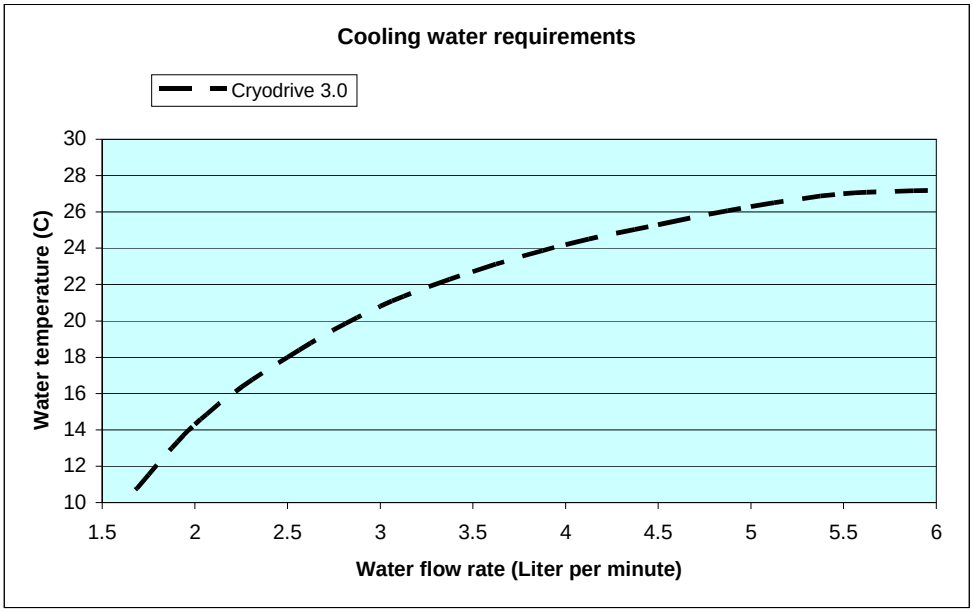

Figure 1 - Cooling water requirements

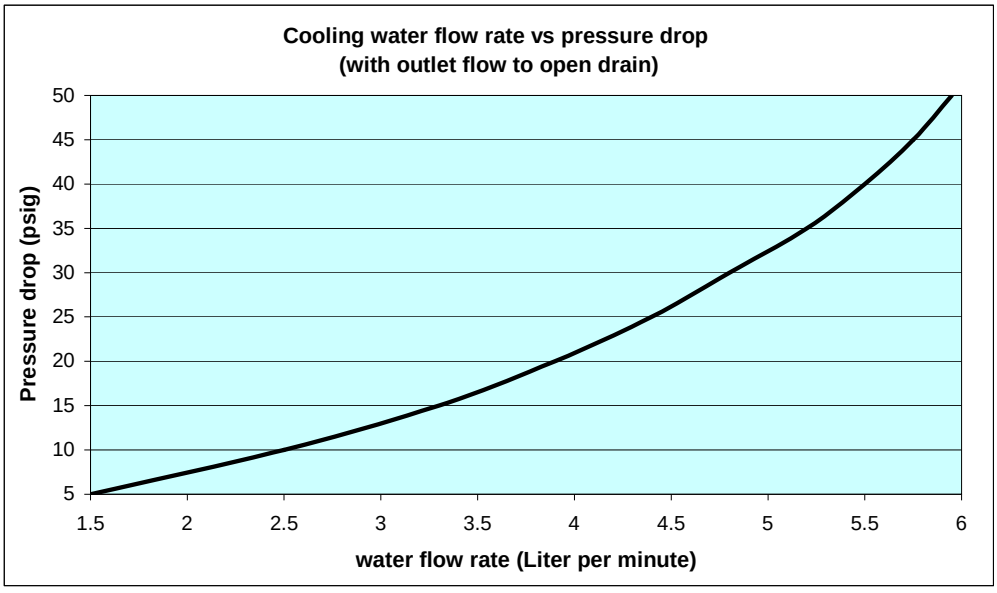

Figure 2 - Cooling water flow rate vs. pressure drop (with outlet flow to open drain)

3 Blenheim Office Park
Lower Road
Long Hanborough
Oxford · OX29 8LN · UK
Tel: +44 (0)1993 883488
Fax: +44 (0)1993 883988
Info@OxfordCryosystems.co.uk