

Turning the Bruker SMART APEX System On

- (1) Turn the Haskris (X-ray tube cooler) on; check that the water level full light is brightly lit.
- (2) Turn the Neslab (CCD detector chiller) on.
- (3) Press the power button to give the system power (right hand side green button with a vertical line on it).
- (4) Wait for the internal computer to boot (you should hear some beeps and see the lights on the side illuminate until the process is done, when the busy light should go out).
- (5) Turn the CCD detector on (takes ~30 minutes to cool down and stabilize); upper left side toggle switch inside door on system.
- (6) Turn the generator key to the first position (one vertical line); 0 kV and 0 mA should appear on the generator LCD panel.
- (7) Press the button between the OFF and ON buttons on the generator; the light on it should illuminate and 20 kV and 5 mA should appear on the generator LCD panel.
- (8) Press the ON button. The X-rays should come on (the panel indicating X-rays will be lit and yellow plus the hazard lights will come on) and the generator LCD panel will indicate 20 kV and 5 mA.
- (9) Start the SMART program on the control computer.
- (10) You can now ramp up the X-rays in SMART (select generator from the Goniom menu) or on the generator (using the MODE and up or down arrows to change the parameter selected and using the EDIT and up or down arrows to modify that parameter). To maximize the tube life, use the following scheme to power up the X-ray tube: 20 kV 0.5 min; 25 kV 0.5 min; 30 kV 1 min; 35 kV 2 min; 40 kV 5 min; 45 kV 10 min (if the X-rays were on when you came to the system, but turned down to the standby setting of 20 kV and 5 mA, you can halve these times). Do not ever enter a higher mA setting than kV setting. The maximum operating power to use is 50 kV and 40 mA.