

Starting the High Pressure Freezer

step	Operator	System
1	Turn the main switch from 0 to 1	Power is supplied to the machine, the heaters start to warm up
2	Open dry nitrogen regulator at tank	Supply 6 bar dry nitrogen to the system
3	Open LN2 valve at tank	Supply LN2, max pressure 22 PSI
4	Press the SYSTEM DRY UP button	Warm air is blown thru the high pressure system to eliminate possible condensation. The button lights up.
5	After 30 minutes press the SYSTEM DRY UP button again	Drying out of the high pressure system stops. The button no longer lights up.
6	Press the ON / OFF button	The hydraulic motor starts up and the hydraulic cylinder moves into the start position. PISTON DOWN light turns off. The button lights up.
7	Press the NITROGEN button	The system fills with LN2. The button lights up.
8	The DRIVE IN button lights up	The liquid nitrogen cutout point has been attained for the first time.
9	Allow the system to cool down for 20 minutes	The system needs 20 minutes to cool down properly and until it is ready to generate high pressure

10	Press DRIVE IN button	The hydraulic cylinder moves down and up once. The button will extinguish once the DRIVE IN operation is completed
11	Press AUTO button	The hydraulic system operates at the selected pressure and stays within the programmed range. The button lights up.
12	The SYSTEM READY button lights up	The system is ready to generate high pressure.
13	Place the test specimen holder into the pressure chamber and lock it	JET READY will light up. The system is ready to take a shot.
14	Press the JET AUTO button	The automatic freezing cycle is triggered. The JET AUTO button lights up. JET OVER lights up.
15	Cycle system 2 more times	These 3 JET cycles enable the system to cool down further. The system is now ready for high pressure freezing
16	Remove the test specimen holder and insert specimen holder with sample, lock it	JET READY will light up. The system is now ready for high pressure freezing of your sample.
17	Press the JET AUTO button	The system carries out the high pressure freezing cycle. The JET OVER light comes on. The high pressure freezing operation is completed
18	Remove specimen holder from the pressure chamber and put the sample in the specimen container	

Switching off the system:

1	Turn off LN2 while the system is filled with liquid nitrogen	This way no liquid nitrogen is trapped in the supply line.
2	Press the NITROGEN button	The liquid nitrogen supply to the system is cut off. The button no longer lights up.
3	Wait until the red PISTON DOWN light extinguishes	The hydraulic cylinder moves into the up position.
4	Press the ON / OFF button	The hydraulic motor stops. The button no longer lights up.
5	Press the SYSTEM DRY UP button	The SYSTEM DRY UP button begins to blink. After 10 hours warm air will automatically be blown through the high pressure system for 2 hours. When the procedure is completed, the SYSTEM DRY UP button will no longer blink.
6	Turn off the dry nitrogen	There is no loss of air pressure in the system when it is not in operation
7	After 12 hours switch off the system by turning the main switch from 1 to 0	The system is switched off. The heaters are also switched off and no longer operate.