Issues
Soft TransFer Line (TFL)

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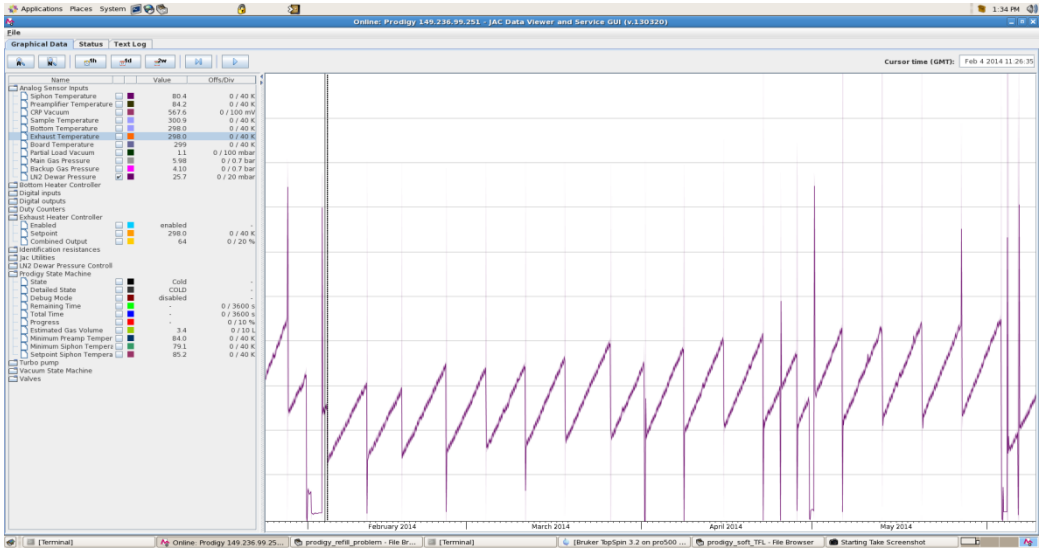
- Poor vacuum in TFL decreases hold time efficiency from about 10 days to less than one week.
- In LN2 consumption - from 8 kg/day to up 10 kg/day
- Easy monitoring by In-build gui service monitor

- LN2 Dewar Pressure
- Initial DP after refill:

26 mbar – good vacuum

50 mbar – poor vacuum



- Had to pump FTL twice (every four months)
- Bruker is working on new improved version of TFL

Prodigy Soft TransFer Line (TFL) DYI solution

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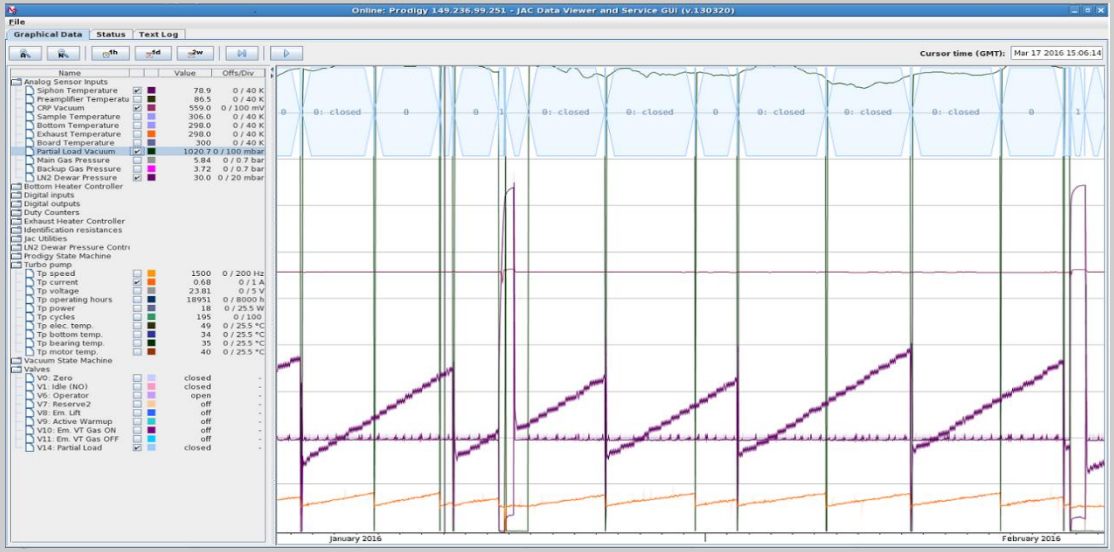
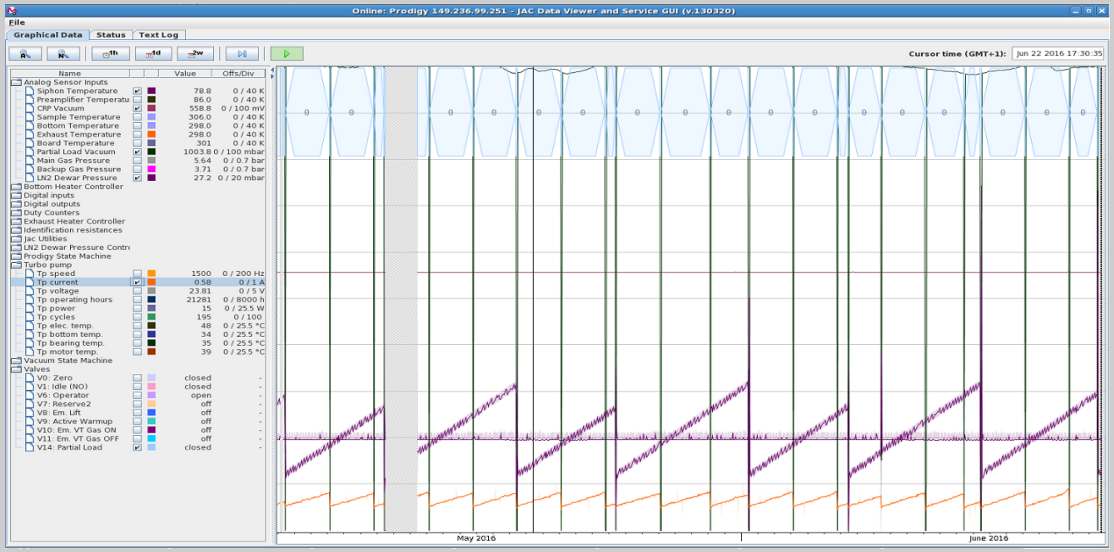
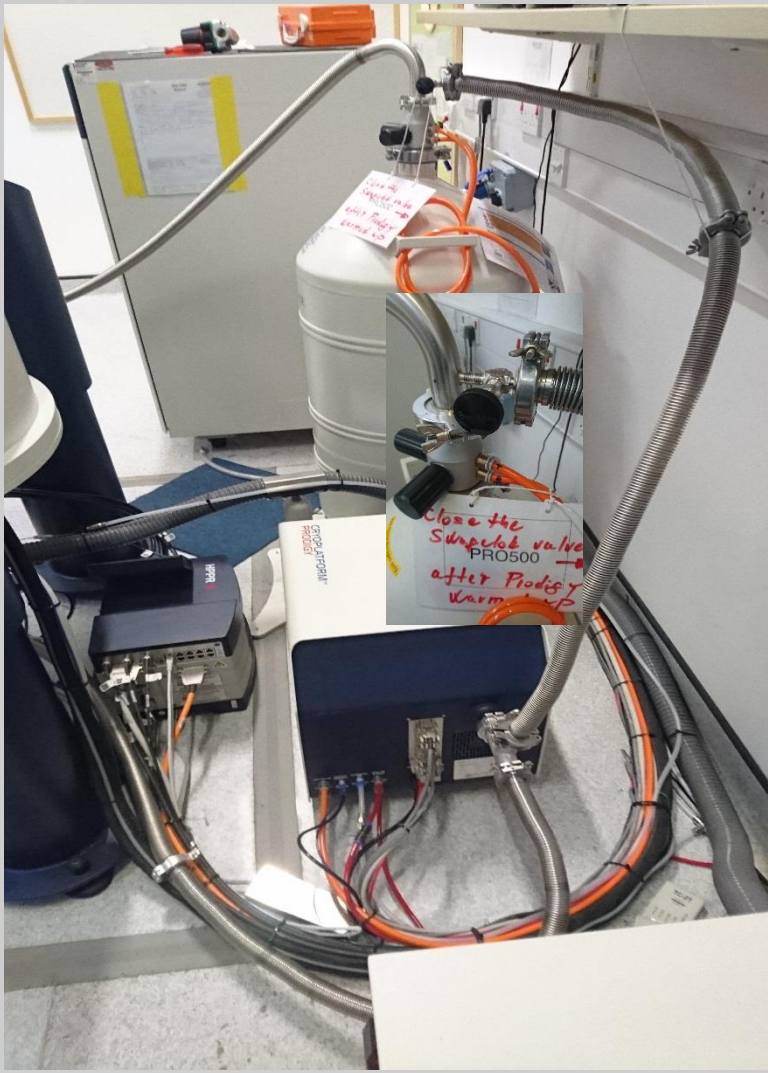


Before





After - continuous (Swagelok valve opened) pumping of TFL using CryoPlatform turbo pump

Issues – LN2 refill problem complete ice blockage ?

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- LN2 dewar does NOT accumulate any LN2 at all

Dewar pressure:

DP 260 mbar !

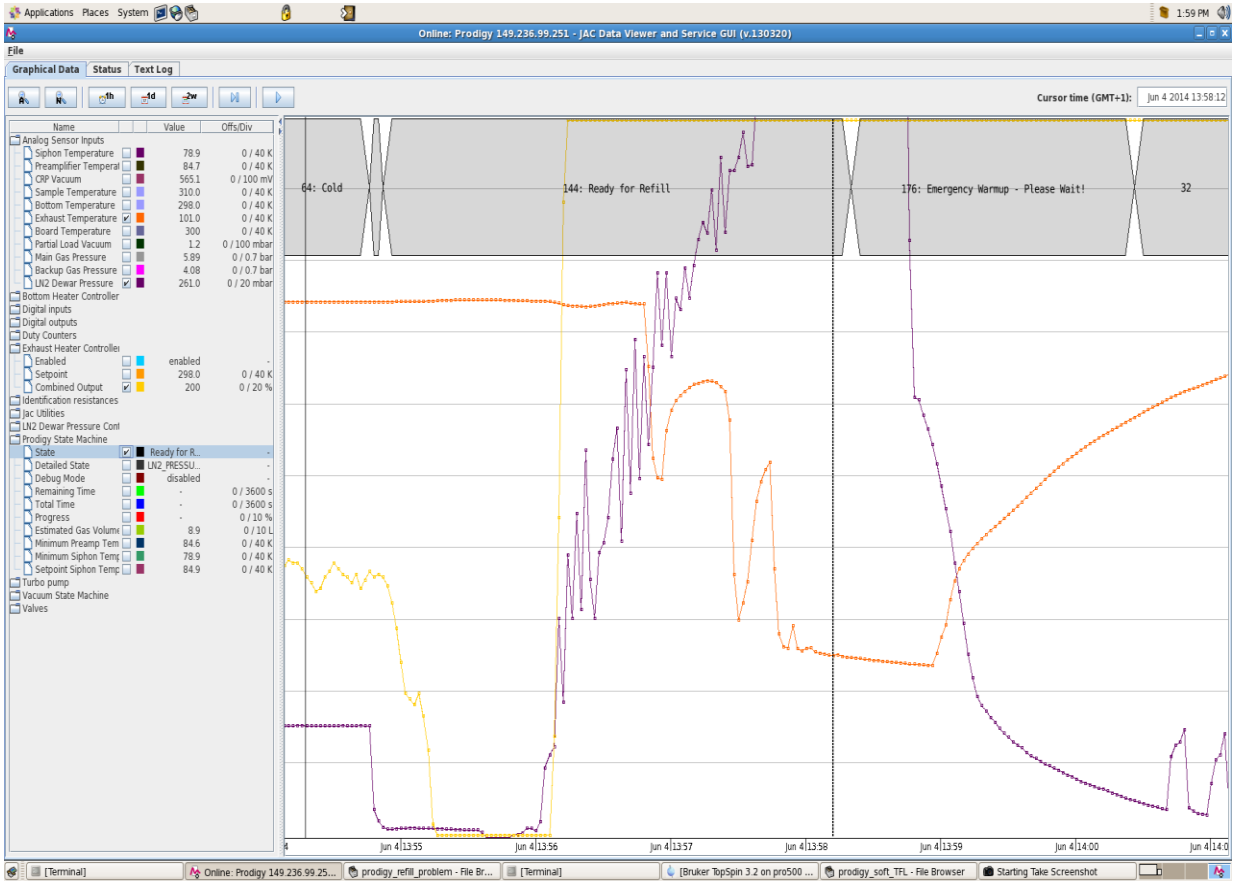
Heater – 200 % !

Exhaust temp:

Below 100 K !

Emergency

warmup !



Issues – LN2 refill problem and what's behind

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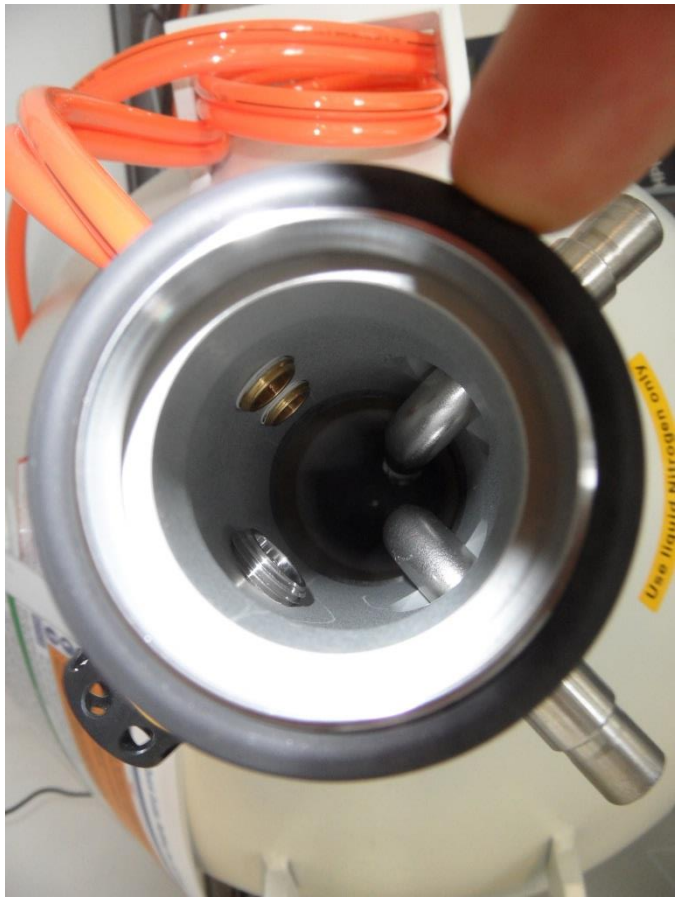
Bruker's Enigma:



Prodigy refill problem - ice blockage
Bruker solution – “outlet adaptor”

Very high & very low VT experiments versus ShimCoil Temperature

Very high & very low VT experiments versus ShimCoil Temperature

21/06/2016: flushing / purging gas connected from the BOTTOM !!!
@ 20 LPM (liters / minute bath 110 C; out 70 C; magnet in 50 C);
TE=213 ShimCoil temp = 270 ; signal OK; cooling 30; heater ~1 (it needs more cooling power because of heating)
TE=193 ShimCoil temp = 264 ; NO signal; cooling 37; heater ~1 (it needs more cooling power because of heating) -
wobb completely out, tuned but still no signal !
TE=194; 195; 204 ShimCoil temp = 264,262; 263 NO signal; cooling 37; heater ~1 (it needs more cooling power because of heating) -
wobb completely out, tuned but still no signal !
TE=205; ShimCoil temp = 263 signal OK; cooling 25; heater ~1 (it needs more cooling power because of heating) -
wobb completely out, tuned but still no signal !
TE=205; ShimCoil temp = 263 signal OK; cooling 25; heater ~1 (it needs more cooling power because of heating)
we lost signal at 200 K going down (cooling 35) and
signal reapered going up at about 205 K (shimCoil temp 266 K)
17:45 ShimCoil 266 - (Flushing) shim gas swithed to ROOM temperature (baypassing heat exchanger) @ 20 LPM liters / minute
18:00 ShimCoil 265 - I've lost the signal so I switched again to heat exchanger: @ 20 LPM (liters / minute bath 110 C; out 70 C; magnet in 50 C);
18:15 ShimCoil 265 - signal reapered; cooling adjusted to (30-)33
18:30 ShimCoil 266 - swithich back to ROOM temperature (baypassing heat exchanger) @ 20 LPM liters / minute
19:30 ShimCoil 266 - I've lost the signal (I was adjusting cooling power from 33 to 35 then to 37 ???)
19:40 ShimCoil 264 - signal reapeared (slowly and being noisy, chem. shift changed) when lN2 dewar was empty and temperature went upquite rapidly
19:50 ShimCoil 273 - TE=260 (just warming up without heater)
20:10 ShimCoil 287

19/05/2016:
13:00 - 258 K; TE=193 K; flush probe & coil @ 30 LPM (liters / minute bath 110 C; out 70 C; magnet in 40 C); coiltemp - start 10 sec.
13:15 - 260 K; TE=213 K;

!!! SPECTROMETR DISABLE all experiments at coiltemp BELOW 259 K / -20 deg C !!! (tecalib.bbfo/61 - 63)

13:30 - 260 K; TE 300 - switched OFF cooling; flush probe & coil @ 30 LPM (hot air)
13:55 - 293 K;
14:15 - 298 K;

TE=263 T coiltemp 290

600 AVI spare parts available

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Description	Unit	ECL #	
Router 3/5	AQS	01	x 2
SGU600	AQS	00	x 3
RX22	AQS	08	
HADG/2	AQS	01	
RCH1/2	AQS	01	
GCU	AQS	01	
FCU3	AQS	05	
FCU3	AQS	06	
TCU3	AQS	29	
CCU10	AQS	05	
RX600	BSMS	01	
L0TX600	BSMS	04	
LCB	BSMS	07	
SCB13R-18BIT	BSMS/2	01	
SCB13L-16BIT	BSMS/2	00	
SLCB	BSMS/2	01	
CPU/3	BSMS	00	
BLAXH300/50	500-600 MHz		
BLAX300	6-365 MHz		
BVT 3000			
GREAT 3/10			
LNA 1H 600	PREAMP		
X-BB 19F 2HS 600	PREAMP		
2H 600	PREAMP		

Operational aspects