

TM2/3/4 SIS with Target and No External Connections

SIC#45

	Ohm Meter Check				
	Target (ABCD)	Einzel Lens (Y)	60kV Com (T)	Chassis	EE (I)
Magnet Coil (U, Q)					
Anode (H)					
60kV Common (T)	OK	OK			
	Infinite	Infinite			
Chassis	OK	OK	OK		
	Infinite	Infinite	Infinite		
EE (I)	OK	OK	OK	OK	
	Infinite	Infinite	Infinite	Infinite	
Einzel Lens (Y)	OK				
	Infinite				

	Megger Check (all @ 500V unless otherwise noted)				
	Target (ABCD)	Einzel Lens (Y)	60kV Com (T)	Chassis	EE (I)
Anode (H)					
60kV Common (T)					
Chassis	718k	OK			
	@250V under vacuum only	Infinite			
Chassis	125M	OK	189M		
	Infinite @ 1000V	Infinite @ 1000V	Infinite		
EE (I)	485M	OK	502M	499M	
	Infinite	Infinite	Infinite	Infinite	
Einzel Lens (Y)	OK				
	Infinite				

2Q-RU @ 250V 49.1M
 PQ-60kV @ 250V 47.2M
 RU-60kV short.

Conductance Check [mΩ]					
A-B	A-C	A-D	B-C	B-D	C-D
4.811	5.615	4.578	5.302	4.267	5.016
4-5.7	5-6.8	4-5.3	5-6.8	4-5.3	4-5.5

Backg. leak rate:		HS leak rate:	
[atm-cc/s]	< 5E-9	[atm-cc/s]	< Backg. leak rate

Target: SIC#45	Date: 2023-07-18
Location: HC CS <u>HCpost</u>	Signature: <u>[Signature]</u>

[Signature]

7 Module Disconnection Checklist *SIC#45*


SEQ	ITEM	NOTE	CHECK
Safety	Acknowledge and Activate Work Permit	Call ISAC operators (x7500) Call Main Control Room to notify of water shutoff or if supplied airhood is necessary (x.7333)	✓
Safety	Hold Pre-Job Briefing	<ul style="list-style-type: none"> • Discuss hazards, safety protocols and work steps listed in this document and checklists. • All workers on the work permit shall be present. If there are concerns about the job, discuss with supervisors and re-plan if necessary. • If you become contaminated during the job, contact the Main Control Room at x7500 for assistance. 	✓
Safety	<ul style="list-style-type: none"> • Electronic Dosimeter ✓ • Tank Suit ✓ • Respirator ✓ • Overshoes (double) ✓ • Gloves (double) ✓ • Safety Glasses / Full Face Respirator ✓ 	Remove and replace second pair of overshoes when exiting the pit to reduce risk of spreading contamination.	✓
Prep	Check tools: <ul style="list-style-type: none"> • Hex Keys (3/16" & 3/8") ✓ • Side Cutter ✓ • Wipes ✓ • 10" Cable Ties ✓ • RAM ✓ 		✓
Safety	P beam off for at least 30 min before entering target pit Check the general field of ITW/ ITE	<i>Working area</i> General field 980 μ Sv/h RAM or pole monitor ($\leq 500 \mu$ Sv/h)	✓
1	Switch off: <ul style="list-style-type: none"> • Heaters, Coil ✓ • Bias, Einzel Lens, Anode ✓ • EE ✓ • Turbo Pumps and high vacuum gages ✓ 	Check or confirm with ISAC operators	✓
2	Two HV Cover Keys	Retrieve from electrical room	✓
3	High Active Cooling Water	Close valves for water supply and return	✓

Target Module Connection and Disconnection Procedure		
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SEQ	ITEM	NOTE	CHECK
4	HV Cover and HV Fence on Module Top	Limit switches and signal cable plugs	✓
5	Compressed Air	Release QC ✓ Release air cylinder back pressure ✓	✓
6	Shutter	Pull up bellows. Strap tie air cylinder	✓
7	Gas Line	FEBIAD Target only Close two manual valves (station and module)	N/A
8	Two 6-pin connectors (T,H)		✓
9	Extraction Electrode (I)		✓
10	Einzel Lens (Y)		✓
11	a) Water Lines: 1. Target Oven ✓ 2. Tube Heater ✓ 3. MSP ✓ 4. EE ✓ 5. HS ✓ 6. Window ✓ 7. Coil 1 ✓ b) HS line Purging ✓ c) Bypass fitting installation ✓	b) Nitrogen purge at 90 PSI for 6 minutes to purge the Heat Shield (HS) line in station ✓ c) Install bypass fittings to all above waterlines. ✓	✓
12	Open valves for water supply and return.		✓
13	High Current Cables: a) (A)Target Oven + ✓ b) (B)Target Oven - ✓ c) (C)Tube heater - ✓ d) (D)Tube heater + ✓ e) (H)60kV Bias ✓ f) (PQ)Coil + N/A g) (RU)Coil - N/A	f) FEBIAD or p2n target only g) FEBIAD or p2n target only	✓
14	Vacuum System a) TP1 Controller cable ✓ b) TP2 Controller cable ✓ c) TP1 BV1 ✓ d) TP2 BV2 ✓ e) IG1 ✓ f) TP1 TP2 Fans ✓	a) Connector on TP1 ✓ b) Connector on TP2 ✓ c) KF 25 between BV1, foil cover BV1, 24 VDC plug ✓ d) KF 25 between BV2, foil cover BV2, 24 VDC plug ✓ e) Beside the shutter, use PNG1 cable ✓ f) Switch off all fans (2 of 110 V plugs for ITW, extension bar for ITE) ✓	✓

SEQ	ITEM	NOTE	CHECK
15	Steerers <u>ITE:</u> <ul style="list-style-type: none"> • Left ✓ • Top ✓ • Bottom (Right) ✓ ITW: <ul style="list-style-type: none"> • X • Y • Common 	a) ITE -TM2 <ul style="list-style-type: none"> • Left - Y • Top -X • Bottom (right) - Common b) ITW - TM4 <ul style="list-style-type: none"> • X - Top • Y - Left • Common - Bottom (right) 	✓
16	Final Check	Module is clear for move	✓
17	Return Work Permit and E-log Entry		✓

NOTES: High active water system produced higher back ground field around water pipe manifold upto 600 usv after 40 minutes cool down.
 Tried to avoid stand close to manifold to reduce dose.

DATE: ~~Aug~~ 2023-07-18
 TARGET: SIC #45
 TARGET MOUDLE: TM1 TM2 TM3 TM4
 STATION: ITW ITE
 SIGNATURE 1: 
 SIGNATURE 2:

