

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	10-20-2020														
2			Run description:	FRC/RMFO 20 - A ₂ + e-regs + paddle														
3			Base pressures: SEC IG (T)	6.3e-7														
4			CC IG (T)	3.1e-6														
5			FEC IG (T)	6.3e-7														
6			SEC Slow Baratron (T)	1.0000														
7			CC Slow Baratron (T)	1.0005														
8			RMF frequency & phase															
9			Magnet configuration & PS	4x8 + 8x4 coils; BB PS & 2 Magna powers inside 8; eight BN-covered FCs Recentered 4-turn MC coil														
10			RMF system	SRS -> duty factor limiters -> AR100LM9 -> 8KD -> 200 kW home made antennas: 2-turn; cable: RG-226, 60" long														
11			Time	9:30	9:40													
12	Magnapower	L-2 Coils I (A)	200	200														
13	Big Blue	L-2 Coils I (A)	200	200														
14		Nozzle coils I (A)	102	102														
15		SEC IG (T)																
16		SEC Slow Baratron (T)	1.000	1.000														
17		CC IG (T)																
18		CC slow Baratron (T)	492	505														
19		FEC IG (T)	4.1	5.0														
20		FEC FB (T)	e-6	e-6														
21		Ta paddle voltage																
22		Main valve																
23		Navigator valve																
24		End turbo valve																
25		Gases/feed location/sccm																
26		PV-10 (V)																
27		Pulse A to/Δt																
28		Pulse B to/Δt																
29		CC Pressure (mT)																
30		(Fast Baratron)																
31		170 GHz dia (mV)/IM freq																
32	Glassman	High Voltage (kV)	11.3															
33		RMFo system main SRS																
34		Pulse width (ms)																
35		Time between pulses (s)																
36		Frequency: Center(MHz)/Span(KHz)																
37		Phase °																
38		Pa																
39		Pf (kW)																
40		ΦM or % reflected																
41		FEC probe																
42		CC Probe																
43		Helicon Pf/Pr																
44		Helicon (SRS/mod)																
45		Comments/changes:	for Δφ = π/2, n _e = 2.1e12 cm ⁻³ for 16-cm dia plasma															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1			Date:	2022-10-20														
2			Run description:	FRC/RMFO														
3			Base pressures: SEC IG (T)															
4			CC IG (T)															
5			FEC IG (T)															
6			SEC Slow Baratron (T)															
7			CC Slow Baratron (T)															
8			RMF frequency & phase															
9			Magnet configuration & PS	4x8 + 8x4 coils; BB PS & 2 Magna powers inside 8; eight BN-covered FCs	Recentered 4-turn MC coil													
10			RMF system	SRS -> duty factor limiters -> AR100LM9 -> 8KD -> 200 kW home made	antennas: 2-turn; cable: RG-226, 60" long													
11			Time	10:57	11:05	11:11	11:22	11:30			11:51		12:34	1:05	1:16	1:37	1:49	2:08
12	Magnapower	L-2 Coils I (A)	200		200	300					300		200	200	250	250	250	250
13	Big Blue	L-2 Coils I (A)	200		200	300					300		200	200	250	250	250	300
14		Nozzle coils I (A)	100		100	100					100		100	100	100	100	100	100
15		SEC IG (T)																
16		SEC Slow Baratron (T)	100.20		100.21	100.21					100.20							
17		CC IG (T)																
18		CC slow Baratron (T)	1.548		1.610	1.617					1.610							
19		FEC IG (T)	2.5-3.0		2.5-3.1	2.5-3.1					2.5-3.1							
20		FEC FB (T)	e-b		e-b	e-b					e-b							
21		Ta paddle voltage																
22		Main valve																
23		Navigator valve																
24		End turbo valve																
25		Gases/feed location/scm	H ₂ /SEC		H ₂ /SEC													
26		PV-10 (V)																
27		Pulse A to/Δt																
28		B to/Δt																
29	CC Pressure (mT)	Pb																
30	(Fast Baratron)	Pa																
31	170 GHz	dia (mV)/IM freq																
32	Glassman	High Voltage (kV)	13		15													
33	RMFO system	main SRS	1.00		1.10													
34		Pulse width (ms)	4.5		4.5													
35		Time between pulses (s)	1.009		1.009													
36		Frequency: Center(MHz)/Span(KHz)	4.311		4.311													
37		Phase °	104															
38		Pa	25		37	35												
39		Pf (kW)	52		70	70.2												
40		ΦM or % reflected	10%		1%	1%												
41		FEC probe																
42		CC Probe																
43		Helicon Pf/Pr	23/5		22/5													
44		Helicon (SRS/mod)	204		204													
45		Comments/changes:	for Δφ = π/2, n _e = 2.1e12 cm ⁻³ for 16-cm dia plasma															sheet 2 of 2

A = 99.7%

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1			Date:	10-20-2020															
2			Run description:	FRC/RMFO															
3			Base pressures: SEC IG (T)																
4			CC IG (T)																
5			FEC IG (T)																
6			SEC Slow Baratron (T)																
7			CC Slow Baratron (T)																
8			RMF frequency & phase																
9			Magnet configuration & PS	4x8 + 8x4 coils; BB PS & 2 Magna powers inside 8; eight BN-covered FCs												Recentered 4-turn MC coil			
10			RMF system	SRS -> duty factor limiters -> AR100LM9 -> 8KD -> 200 kW home made antennas: 2-turn; cable: RG-226, 60" long															
11			Time	2:24	2:44	2:50	3:17	3:27	3:26	3:37	3:48								
12	Magnapower	L-2 Coils I (A)		250	250	250		250	250	300	200								
13	Big Blue	L-2 Coils I (A)		301	301	301		301	301	300	200								
14		Nozzle coils I (A)		102	101	101		101	101	101	101								
15		SEC IG (T)		-															
16		SEC Slow Baratron (T)		0.020	0.02	0.02		0.0021	0.0021										
17		CC IG (T)																	
18		CC slow Baratron (T)		0.670	0.805	0.820		0.820	0.824	0.845	0.549								
19		FEC IG (T)		2.7-3.4		3.2-4.1		3.1-4.1	3.0-4.1	3.2-4.1	2.4-2.9								
20		FEC FB (T)		2-6		2-6		2-6	2-6	2-6	2-6								
21		Ta paddle voltage																	
22		Main valve		B	C														
23		Navigator valve		PC	PC														
24		End turbo valve		φ	φ														
25		Gases/feed location/scm		H ₂ /SEC															
26		PV-10 (V)																	
27		Pulse		A to/Δt															
28				B to/Δt															
29		CC Pressure (mT)		Pb															
30		(Fast Baratron)		Pa															
31		170 GHz		dia (mV)/IM freq															
32		Glassman		High Voltage (kV)	15														
33		RMFO system		main SRS	1.14	1.14	1.14	1.14	1.04	1.17	1.17	1.04							
34				Pulse width (ms)	4.5	4.5	6	6	6	6	6	4.5							
35				Time between pulses (s)	1.25007	1.00007	1.25007	1.25007	1.25007	1.25007	1.25	1.00007							
36				Frequency: Center(MHz)/Span(KHz)	4.311	4.311	4.311	4.308	4.312	4.312	4.312	4.311							
37				Phase °	101	101	101	101	101	101	101	101							
38				Pa	30	30	38	43	41	45	38-43	34							
39				Pf (kW)	75	75	75	75	75	80	80	61							
40				φM or % reflected						~10%	20%	10%							
41				FEC probe															
42				CC Probe															
43				Helicon Pf/Pr	22/3						22/3								
44				Helicon (SRS/mod)	0.4						0.4								
45			Comments/changes:	for Δφ = π/2, ne = 2.1e12 cm-3 for 16-cm dia plasma															
				sheet 2 of 2															