

FIREX FireLab Preliminary Plan

rough tally of where stuff goes

		weight lbs	power AC-amps	l, w, h inches	
UM-OPFTIR	stack	100	1		in stack
UM PAXs	stack/IC	80	0.8	24, 19, 16	on counter
BROWN/UNH collect/nox	stack	105	4.5	24, 12, 47	stacked
BROWN/UNH MC/IC	stack	310	14	37, 29, 60	bigger than elevator, may not be easy to take apart
H3O-CIMS	stack	360	8	42, 26, 45	bigger than elevator, may not be easy to take apart
ACES	stack	210	4	26, 21, 40	
NOAA-AMS	stack	425	11	54, 28, 60	bigger than elevator, "easy" to take apart
Berkeley-filters	stack	50	10	12, 12, 30	
UCR-2D-GC		20		24, 24, 24	
NOAA/CU-I-CIMS	stack	360	25	42,24,52	115 lbs and 15 amps for pumps that could be placed remotely
Aerodyne I-/NO3 CIMS	stack	307	13.16	17,24,33	26 amp surge issue I am asking about. Dims shown for largest unit of three
PLATFORM TOTAL		2327	91.46		

NOTES FOR NON-PLATFORM ACCESS

NOTE, VIRTUALLY ANY INSTRUMENT CAN BE IN CL-LAB
VIEWING ROOM DOOR WIDTH IS 47"
WIND/CONTROL AREA BLOCKED BY PIPES 32" apart up to 42" high and then only 24!"
SEVERAL GROUPS WANT TO CO-DEPLOY

DAVIS CRD-PAS	PAM/IC	440	8	26, 48, 60	
DAVIS SMPS	PAM/IC		2		stacked
DAVIS APS	PAM/IC		2		stacked
ARNOLD	CR/WT/PAM or CL floor	312	9	42, 21, 39	
aCRDPAS	WT/VR	500	15	54, 50, 50	a
BBCES	WT/VR	275	10	60, 60, 14	a
BrC-PILS	WT/VR	88	6	24, 24, 48	a
KROLL PAM	WT/VR	80	5	48, 30, 64	
KROLL CAPS	WT/VR	25	0.5	24, 17, 9	
KROLL AMS	WT/VR	400	10	24, 48, 51	
LiNeph	WT/VR		10	20, 20, 36	
BC-Icomp (see appendix)	View Room or WT				see spreadsheet
PiLS-ESI	View Room or WT	500	30	72, 32, 58	10 amps of 208!
UNC filters		45	6	14, 9, 10	3 of them
UNC MIST		120	12	35, 18, 6	2 of them
UNC I-CIMS	Viewing Room?	525.8	38		
UNC-PiLS		70	11	30, 30, 30	
PNL-MOUDI	CL-floor	60	3	15, 15, 30	2 of them
PNL-PiLS	CL-floor	120	2.5	17, 17, 19	
Ny	CL-floor	400	25	58, 32, 68	10 amps of 208!
CSU-SMOG-ACS	CL-floor	1150	40	12' 12' 12'	
NOAA-GC-MS	WT/VR	600	15	46, 27, 67	
NOAA-IWAS	WT/VR		15	46, 27, 48	

shared inlet = a

TOTAL EVERYTHING **8037.8** **357.46** **20 amps of 208 (no problem)** **This doesn't include intercomparison, see next page**

FIREX Fire Lab Intercomparison

Instrument	Measured Parameter	Sample flow rate (LPM)	Dimensions	Power (W)	Manufacturer	Source	Notes
Quartz and QBT filters	elemental and organic carbon	10 (x 2)		500 (pump)		OSU	to be analyzed offline using Sunset OCEC analyzer at OSU
PAX 870	light absorption (eBC) + light scattering	1	7 x 19 x 24	45	DMT	OSU	
PAX 405	light absorption (eBC) + light scattering	1	7 x 19 x 24	45	DMT	UMT	
Aethalometer (AE-31)	light attenuation (eBC)	3	11 x 17 x 13	25	Magee	NPS	
micro-Aeth	light attenuation (eBC)	0.15	1.5 x 2.6 x 4.6	20	AethLabs	CSU	
Berkeley SS	light attenuation (eBC)	2	3 x 5 x 5	10	N/A	LBNL	
TAP	light attenuation (eBC)	2	6.3 x 4.3 x 4.5	36	BMI	lease from Brechtel	
SP2 #1	refractory black carbon	0.12	10.25 x 19 x 24	30	DMT	NOAA-CSD	
SP2 #2	refractory black carbon	0.12	10.25 x 19 x 24	30	DMT	NOAA-CSD	
CAPS 660	light extinction	0.85	9 x 19 x 24	50	ARI	HS	
SMPS	aerosol size distributions	0.3		335	TSI	OSU	
POPS	aerosol optical size distributions	0.2	10 x 12 x 5	7	HS	HS	
AAC	Aerodynamic Aerosol Classifier	1.5*	22 x 19 x 19	1000	Cambustion	Cambustion	will sample in series so don't add to total flow
Teledyne-API T200	Carbon monoxide	1		uncertain		OSU	
LiCor 840	Carbon dioxide and water vapor	1		14		OSU	
CAPS-SSA	light extinction + light scattering				Aerodyne	Aerodyne	We hope to incorporate some of these Aerodyne instruments in our work
SP-AMS	refractory black carbon and coatings				Aerodyne	Aerodyne	Presumably, these are accounted for in the Aerodyne response.
rSMPS	refractory aerosol size distributions	0.3			TSI	Aerodyne	
		32.74					