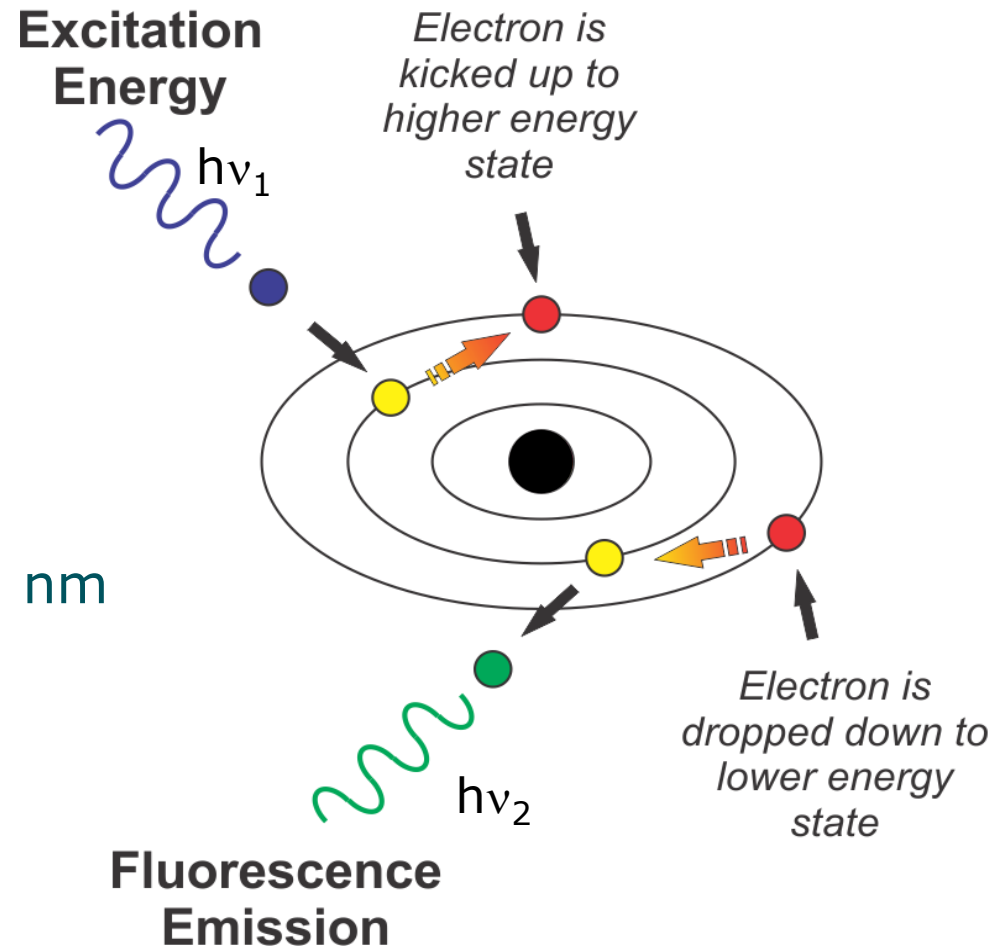


airpointer[®] SO₂ module

UV Fluorescence



Intensity of emitted light is proportional to SO₂ concentration

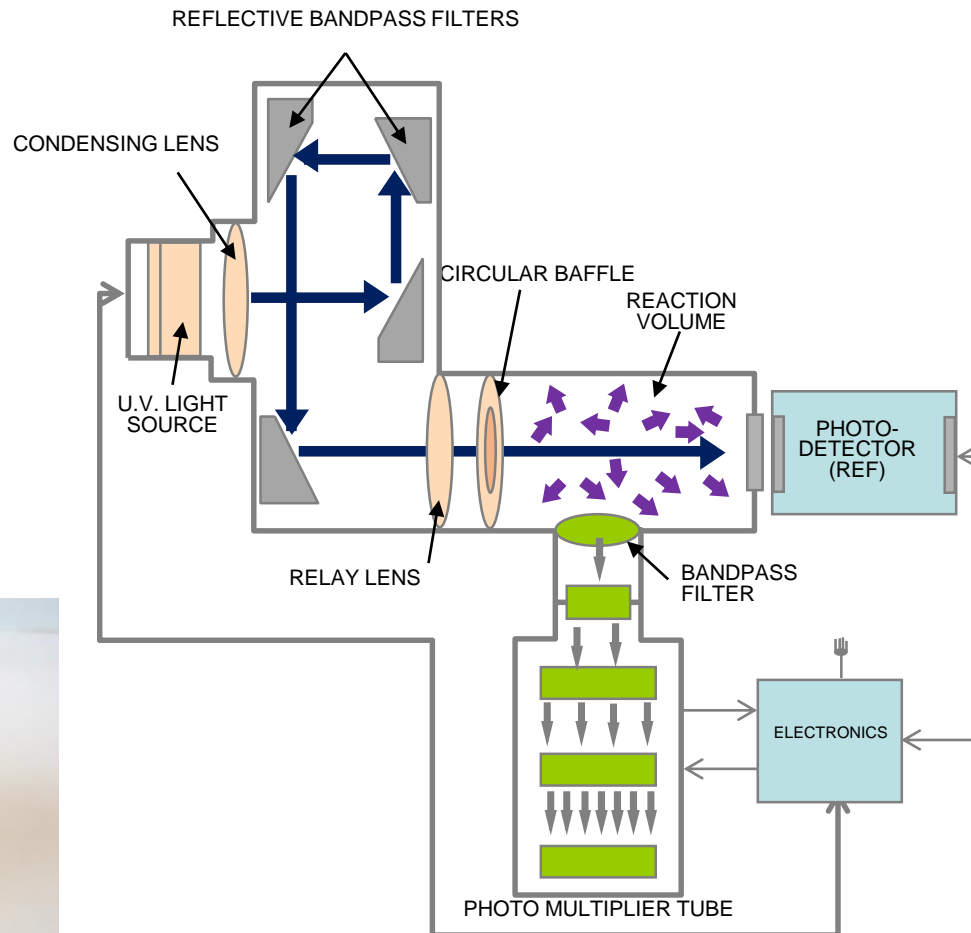
Optical system

- Pulsed source lamp
- Reflective filtering
- Constant U.V. excitation level

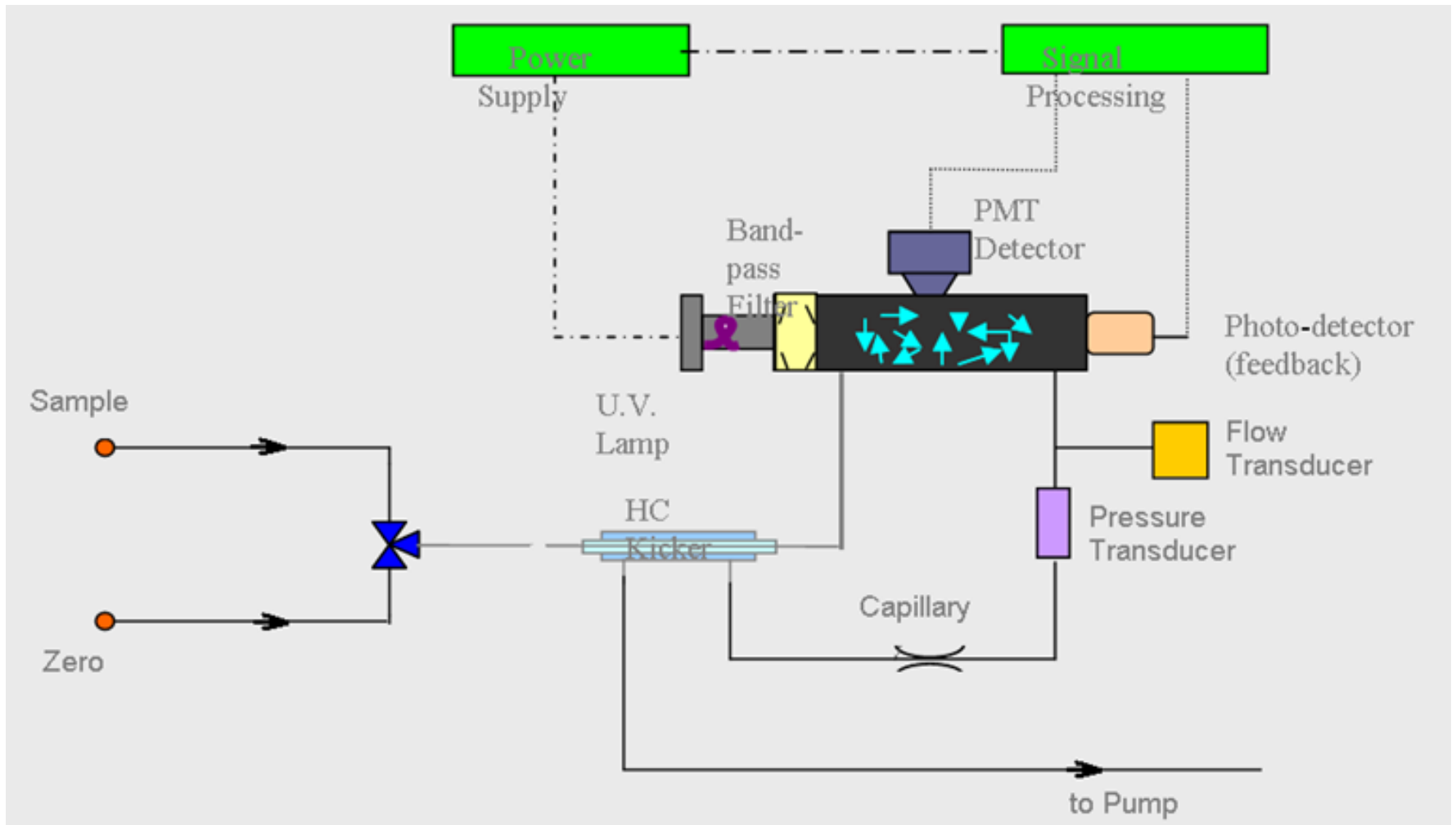
Lamp socket + lamp



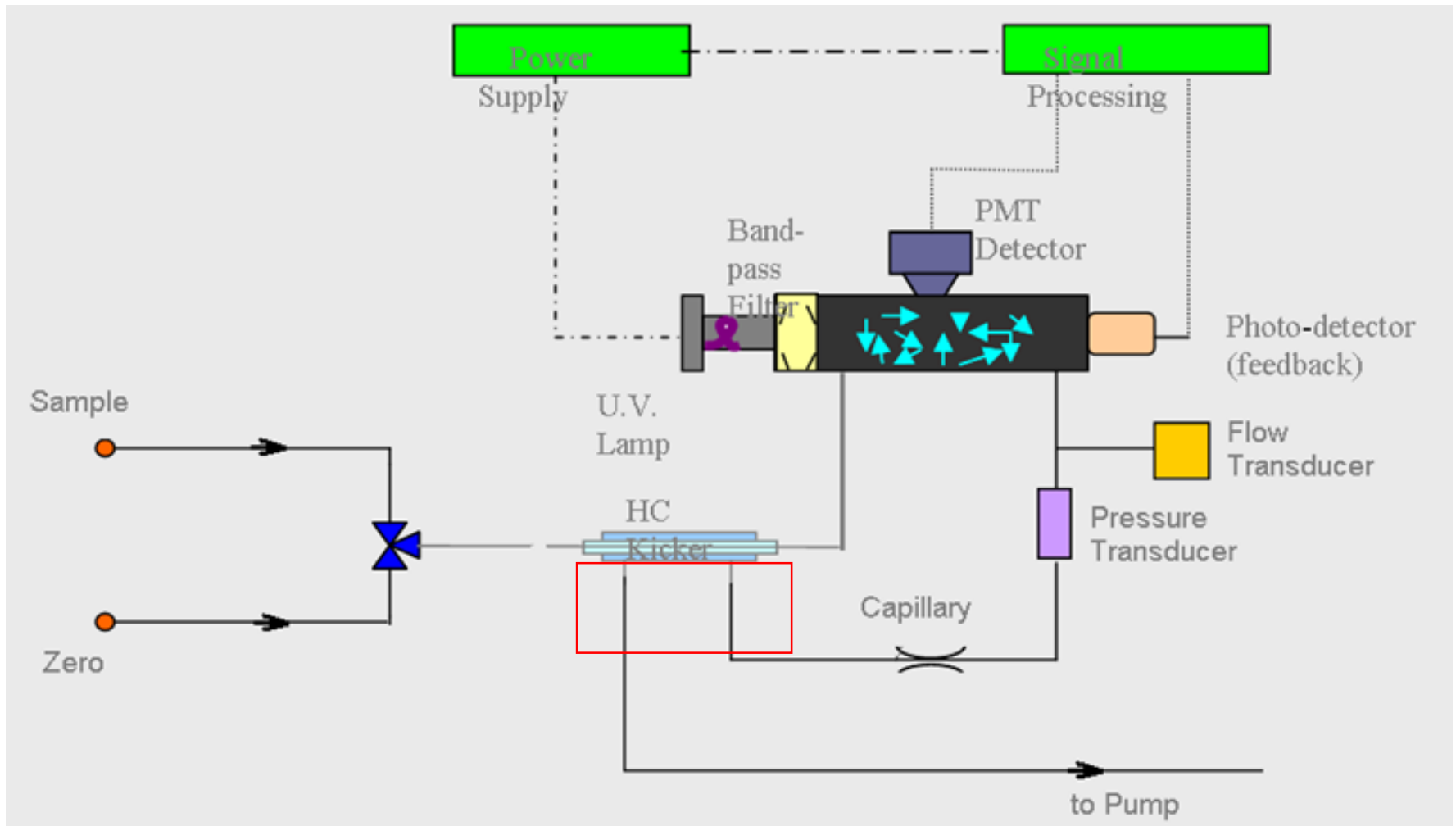
Mirror



Flow schematic

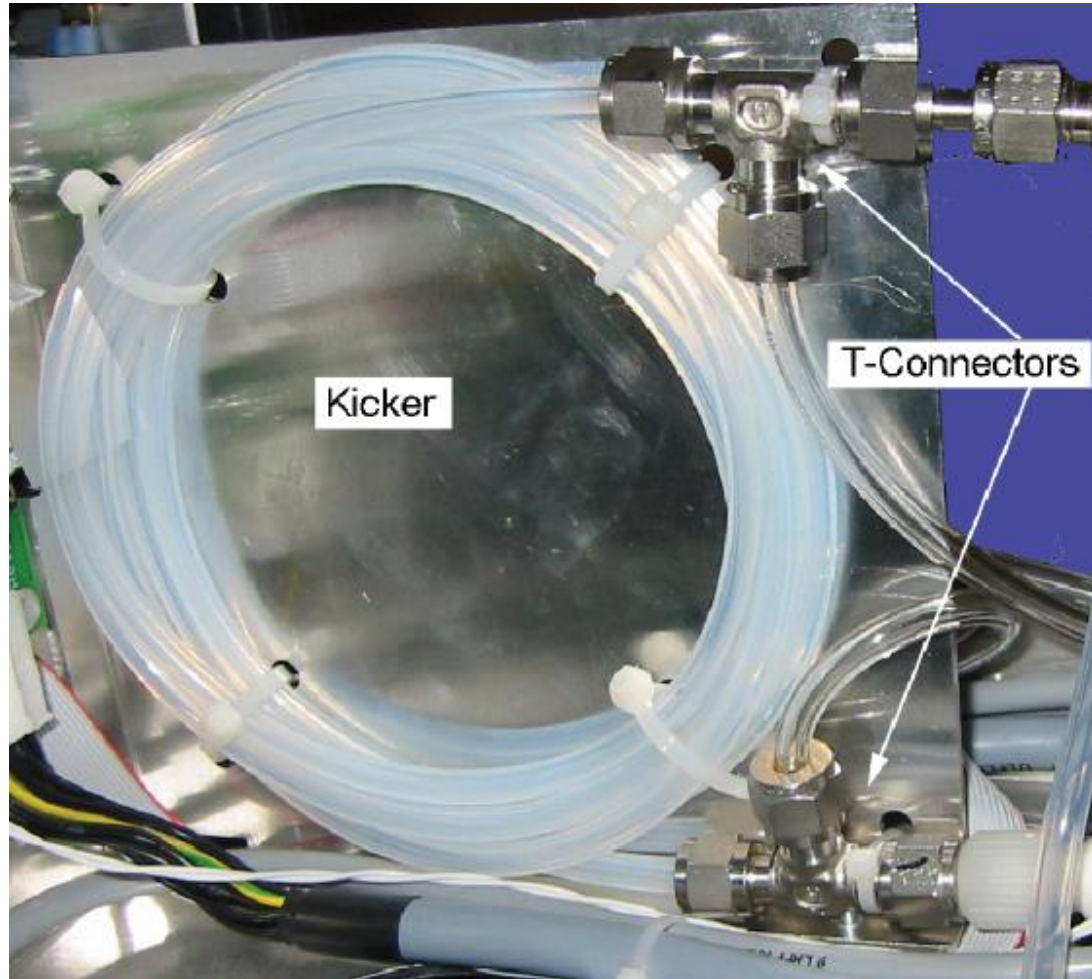


Flow schematic

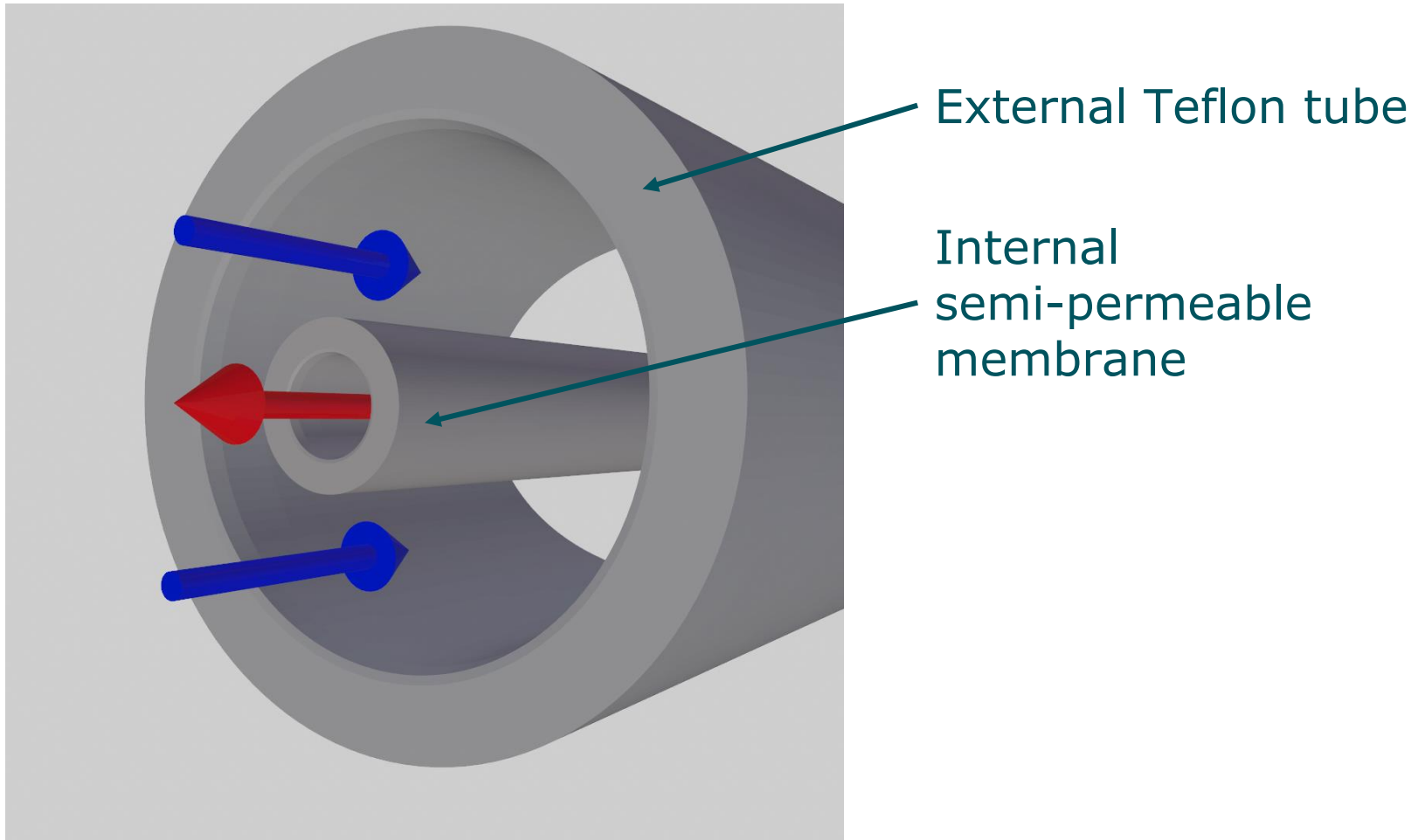


Hydrocarbon Kicker

- Hydrocarbons (alkanes, BTEX, etc.) absorb and emit at the same wavelength as SO_2 : they interfere.
- Semi-permeable membrane with a low affinity with SO_2 and high affinity with HC
- To avoid saturation: counter flow (cf. Permapure drier)

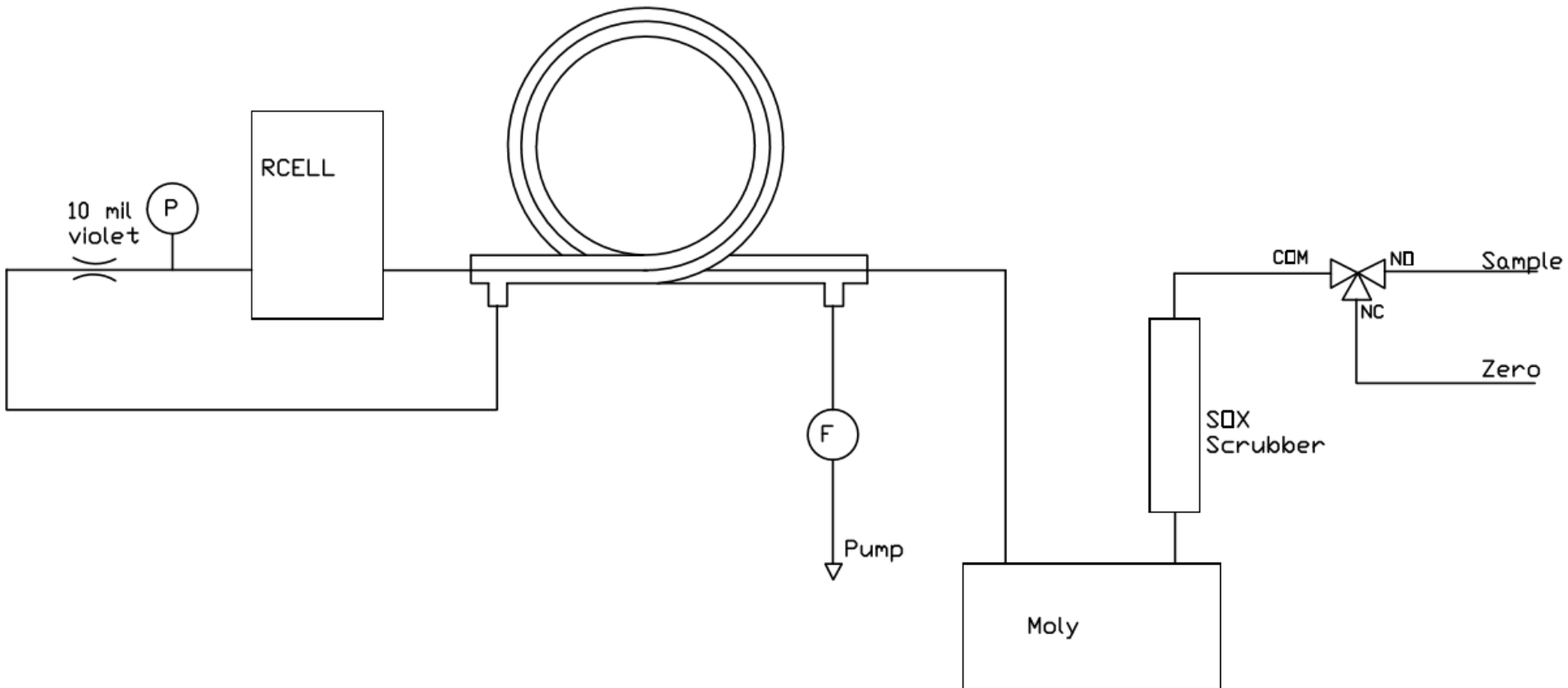


Hydrocarbon Kicker



Option H₂S

- SO_x scrubber, then molybdenum converter: H₂S → SO₂

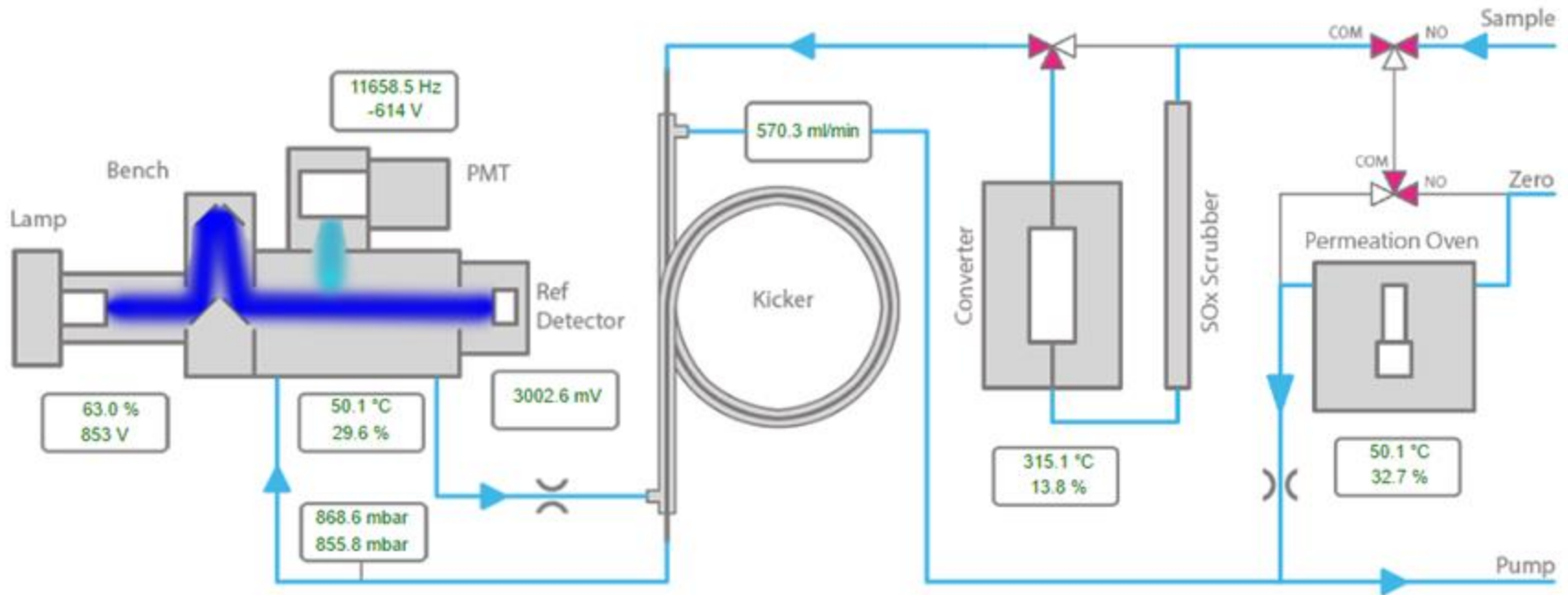


Parameters

SO2Sensor

G/P	Status	Parameter	Actual	Average	Unit	lower limit fail	lower limit warn	upper limit warn	upper limit fail	Board Adr
G6P1	OK	SO2	5.8	5.8	ppb	-	-	-	-	-
G6P2	OK	PressSO2	868.9	868.6	mbar	300.0	500.0	1200.0	1300.0	084
G6P3	OK	BenchTSO2	49.8	49.9	°C	45.0	47.0	53.0	55.0	100
G6P5	OK	HVPSSO2	-614	-614	V	-729	-679	-579	-529	084
G6P8	OK	PMTSigSO2	12757.3	11870.6	Hz	-	-	220000.0	230000.0	-
G6P9	OK	RefDetSO2	3001.5	2998.4	mV	500.0	2100.0	3300.0	4999.0	-
G6P12	OK	PowerToBenchSO2	35.7	34.4	%	-	-	-	-	100
G6P14	OK	IntensitySO2	63.0	63.1	%	-	-	-	-	-
G6P15	OK	SO2_all	5.8	5.8	ppb	-	-	-	-	-
G6P17	OK	SO2StdDev	0.34	0.37		-	-	-	-	-
G6P18	OK	H2S	7.1	7.1	ppb	-	-	-	-	-
G6P19	OK	PressH2S	856.2	857.1	mbar	300.0	500.0	1200.0	1300.0	084
G6P20	OK	MolyTH2S	314.5	314.8	°C	290.0	300.0	335.0	340.0	100
G6P21	OK	H2SStdDev	0.42	0.42		-	-	-	-	-
G6P22	OK	H2S_all	7.1	7.1	ppb	-	-	-	-	-
G6P23	OK	PowerToMolyH2S	16.0	13.3	%	-	-	-	-	100
G6P24	OK	FlasherHV	846	826	V	200	300	1030	1050	084
G6P25	OK	PermTSO2	49.4	49.4	°C	45.0	47.0	53.0	55.0	100
G6P26	OK	PowerToPerm	39.5	38.1	%	-	-	-	-	100
G6P27	OK	FlowSO2	553.5	563.0	ml/min	250.0	300.0	650.0	700.0	084
G6P32	OK	SO2_raw	6.1	6.1	ppb	-	-	-	-	-
G6P33	OK	H2S_raw	6.9	6.9	ppb	-	-	-	-	-
G6P34	OK	RefDetSO2Act	2990.7	2998.3	mV	-	-	-	-	084
G6P35	OK	PMTSO2Act	11920	11853	Hz	-	-	-	-	084

Parameters

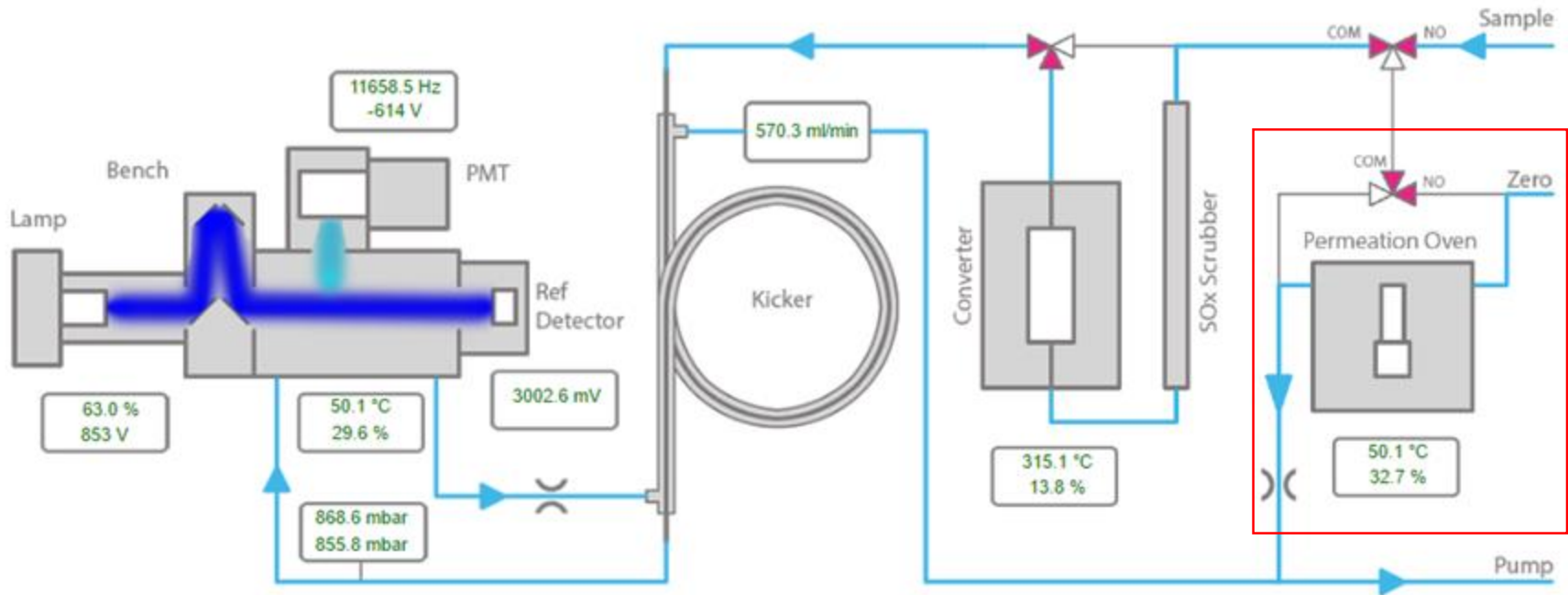


SO₂ 6.0 ppb
 H₂S 6.9 ppb



Note: '-9999' is displayed for a missing value.

Span check



SO2 6.0 ppb
 H2S 6.9 ppb



Note: '-9999' is displayed for a missing value.

Calibration

- Using external zero air and external SO₂ cylinder

For H₂S add-on:

- Using external zero air and external H₂S cylinder

Preventive maintenance

- Change flasher lamp (every 4-5 years)

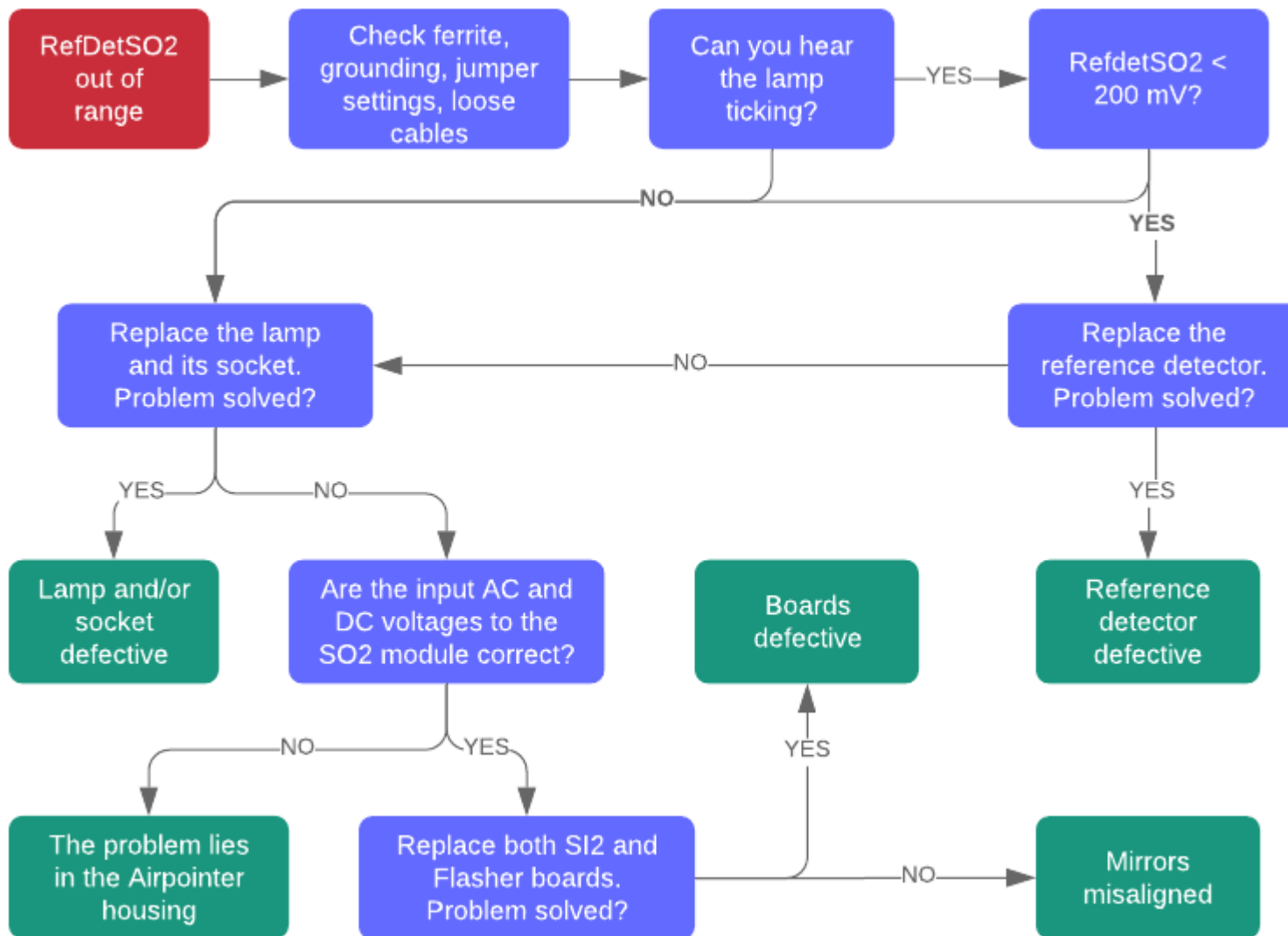
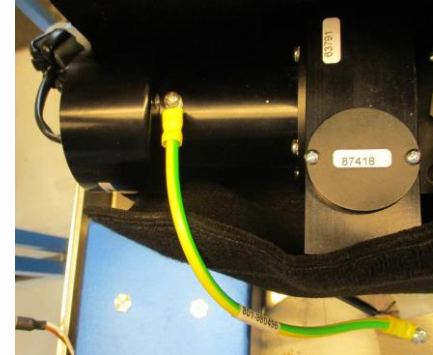
For H₂S add-on:

- Change SO_x scrubber (once a year)

Full schedule available here:

<https://www.airpointer.tech/maintenance-schedule/>

Troubleshooting SO₂



Thank you for your attention!