

Air Sampling Accessories

Air Sampling Labs cover a diverse range of sampling requirements and accessories—more a matter of detailed methodology

SRI GCs are more generally aimed at analytical laboratories rather than dedicated GC process control applications

offer many as low cost easily installed integrated components based on the range of Multi-Gas Analysers

- **Some built-in to the GC**— generally **requires SRI factory installation**
 - 1 **VacuumPump Interface** (8690-0073);(SRI GC Cat200 p89) including external vacuum pump and gas sampling bag use (for accurate GC calibration)
 - 2 Non-standard Solenoid valves requires extra built-in circuit boardsThe SRI GC is relatively “user-friendly” in terms of internal accessibility

BUT Recommended ONLY for proficient and suitably trained operators)

- **Add-on — DIY**

2 Gas Purifiers, High Purity Gases and gas regulators; particular for trace gas analysis < low ppM levels.

OXYTraps are recommended for any GC for all GC type columns to minimise background signals often attributed to bleed even where GC columns are to be operated at low(er) temperatures (even <100degC)

3 **H2 generator** (2014-HO20-2 new addition [PDF](#)) for FID H2 fuel gas and/or where H2 can be used as carrier gas for safety/ or mobile applications (100ml/min is adequate for a single GC)

- NOT necessarily recommended for spasmodic GC operation but long terms stability (>days) for system stability
Lab applications > where possible Helium or H2 gas bottle supply **might be** preferred
- A Gas Purifier (OXYTrap many options see [PDF](#)) is also recommended installed as close to the GC as possible with a minimum of fittings
- SRIs **FID GCs** have a built-in **mini Air Compressor** (8690-2270 ([SRI Cat200 p89](#))) enabling a gas bottle-less GC system for that extra portability as carrier gas; Change over of a few fittings may be required.

- **Sample stream in-line accessories**

4 **Sample Stream “Nafion” Drier** (8670-5870, [SRI Cat200 p88](#)) for “wet” humid samples (% water) tends to deactivate MolSieve and adsorbent type columns over-time requiring periodic high temperature re-activation. Similarly with many high concentration samples of CO2 (%) will also deactivate MolSieve columns .

5 **10 vial Gas Autosampler** (8690-0047 [PDF](#)) for external field collection of gas samples in glass vials

6 **[Bandalero Belt 7ml Gas Tube Sampler [PDF](#)**— typically custom sample tubes field loaded onto an “ammunition-type-belt”) for automated injection into a suitably modified SRI GC back in the lab

- requires some expertise level for operation, setup and use]

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Other Consumables

- Column long term with care >> 12months)
- Gas Syringes - for simple gas apps plastic Norm-Ject type ([PDF](#)) are adequate 1ml manual injection larger for "spot" sample dilution
- Carrier Gas Lines 1/8"OD High Purity pre-cleaned Copper is adequate except for ECD Detectors

- ◇ **Sample transfer Lines**—simple applications 1/8"OD Teflon or SS is adequate
- ◇ For <ppm > ppB and for reactive sompounds eg (S-Cpds) Silocosteel/Sulfinert is mandatory—also for fasr responser for moisture at <ppMlevels compared to SS

Calibration Gas Standards

A multitude of possibilities (All generally customised but some standardised) and in different size cylinders — *depending on your anticipated use-age rate ?*

Specify ; matrix; components to be analysed, concentration (ppM v/v) of each component to me quantitated

for SRI **MG#5#**

see Restek >

Natural Gas Standard 34438 x10 components,13litre cylinder (AUD1100)

Refinery Gas #1 34441(x28components)AUD1600) Restek [PDF](#) (p431)

but we also get from Linde Gas, Air Liquide . . . depending . . .

GC Features

- **SRI GCs** have a built-in Operating System **Peak Simple Data System (1-channel per Detector, 1or6 CH-system built-in)** via a s'ware "timed events" Table is used
- Manual GC Injection Port / gas sampling timing, column switching on/off switching of external or built-in solenoid switches or valves
- also for control of conventional GC Autosamplers (*Liquid & Headspace*)
- ◇ Each MGA GC configuration is a completely function internally automated as re- quired with all valves, solenoids, multiple columns if/as required and installed for the designed application

- **New features MGA#5**
Methaniser - High Capacity Methaniser FID jet now standard to automate many aspects of the overall GC system
- ◇ Gas sample injection by syringe via the septum injection port or by sample loop Gas Sampling Valve (GSV) automated injection normally 1ml max
Dual GSVs now standard
Detectors : **TCD, FID-Methaniser**
TCD 200ppM-% Concentrations—all permanent gases (plus C1-C6 HCs); except H2 in simple MG#5 system (requires Argon carrier gas); % to low ppM
FID low ppM to mid % **for HCs ONLY !**
FID/Methaniser low ppm CO and CO2
- ◇ Standard SRI GC MGA GCs use SS packed columns 1/8"OD
- ◇ 3 Columns Mol Sieve, HaySepD and a 3rd Haysep G for back-flushing requirement
- ◇ Optional 4th Column capability - MXT-1 capillary column for higher MW components and/or S-Compounds (requiring an extra optional **Dual FID/FPD** Detector
- ◇ Marked improvement can be achieved with high resolution capillary GC columns re Limits od detection and component resolution
— **BUT WITH THE ADDED NEED FOR DETAIL ATTENTION**
Limit of Detection — largely determined by baseline noise drift etc, a function of carrier gas purity
- **Automated Gas Calibration System (ACS 8640-0050 [SRI 200Cat p73](#))**
- **strictly for experts process control Apps requiring high accuracy & regular calibration at low ppM evels (~AUD6000)**

This is but a brief summary of gas analysis as implemented by SRI-GC

- NOT exhaustive
- VERY Generalised !
- NOT ALL Options are necessarily still available — ASK!
- Please select options judiciously before placing you Order
—be prepared to discuss full details of your APP
Our DISCLAIMER APPLIES !
- ANY Prices quoted here are in AUD Ex-GST and INDICATIVE ONLY
- Some options are difficult to install in Australia / retrofit after “initial” delivery has been made
- internal GC components may be required
- **Generally the GC needs to be Return to the SRI Factory in CA-USA— IN THE ORIGINAL PACKING CASE > ALL freight costs are customer responsibility**

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