

Method Name: **30-2L5**

## Model 1130/35 Controller Program Worksheet

Controller S/W Rev:

**2.06**

Template Rev:

Dec 28, 2001

## Description of this Method:

**FIVE MINUTE SAMPLE CYCLES, LONG 1130 DESORB**

This sample program features a 5 minute sampling cycle and a lengthy desorption cycle. This method provides additional information about how clean the system is and how well the denuder is desorbing. The latter cycles of each step should yield a relatively small peak area.

## Model 2537A Settings

Cycle Time: (sec)	<b>300</b>
Flow Rate: (L/m)	<b>1.25</b>

## Pump Module Settings

Sample Flow: (L/m):	<b>8.75</b>
Desorb Flow: (L/m)	<b>6.00</b>

## Model 1130 Denuder Module

## Temperature Settings (deg C)

SP1 Case Heater:	<b>38</b>
SP2 Case Fan:	<b>40</b>
SP1 Heated Line:	<b>50</b>
SP1 Denuder Keep Warm:	<b>50</b>
SP2 Denuder Heat:	<b>500</b>
SP1 Ext. Heat:	<b>60</b>
SP2 Ext Keep Warm:	<b>50</b>

## Calculated Values

<b>6.25</b>	Model 2537A Sample Volume (L)
<b>10.00</b>	Denuder Flow Rate (L/m)
<b>800</b>	Denuder Total Volume (L)
<b>0.00781</b>	Model 2537A Factor (for ng/m3)
<b>7.813</b>	Model 2537A Factor (for pg/m3)
<b>80</b>	Denuder Sample Time (min)
<b>40</b>	Desorb Analysis Time (min)
<b>120</b>	Total Cycle time (min)
<b>24.0</b>	Auto-Recal interval (hours)

## Notes re: Model 1135:

**1135 Not Used**

## Model 1135 Particulate Module

## Temperature Settings (deg C)

SP1 Pyrolyzer Keep Warm:	<b>n/a</b>
SP2 Pyrolyzer Heat:	<b>n/a</b>
SP1 Part-Trap Keep Warm:	<b>n/a</b>
SP2 Part-Trap Heat:	<b>n/a</b>
SP1 Case Heater:	<b>n/a</b>
SP2 Case Fan:	<b>n/a</b>

## Controller Settings

Step No.	Step Label	Step Duration	Duration Units	Event Flags 0 - 7	Sync N=0, Y=1	1130	1135	Cumulative Time (sec)	Notes
						H/C Mask	L/C Mask		
	Auto-Cal	<b>12</b>	RGM-Cycles	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>		
<b>0</b>	Sample Duration	<b>16</b>	2537A Cycles	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	4800	Adsorb time
<b>1</b>	Flush	<b>890</b>	sec	<b>1</b>	<b>1</b>	<b>9</b>	<b>0</b>	5700	Three cycle initial flush
<b>2</b>	Pyro-Ht	<b>0</b>	sec	<b>2</b>	<b>1</b>	<b>9</b>	<b>4</b>	5700	Pyrolyzer preheat
<b>3</b>	Part-Ht	<b>0</b>	sec	<b>2</b>	<b>1</b>	<b>9</b>	<b>12</b>	5700	Particulate trap heat
<b>4</b>	RGM-Ht	<b>600</b>	sec	<b>3</b>	<b>0</b>	<b>13</b>	<b>13</b>	6300	Start RM Heating
<b>5</b>	RGM-H2	<b>290</b>	sec	<b>3</b>	<b>1</b>	<b>13</b>	<b>1</b>	6600	Stop Pyro/Part Heating
<b>6</b>	Cool	<b>590</b>	sec	<b>1</b>	<b>0</b>	<b>3</b>	<b>2</b>	7190	Two cycle cool
<b>7</b>	Wait	<b>1</b>	sec	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	7200	Zero air during Sync Period

## Notes:

- 1) If the Model 2537A is not in **RUN** mode, or if it stops drawing air through its **Sample Inlet** (eg: it stops or the **Zero** solenoid is activated), the controller will immediately jump to the **WAIT (7)** state and wait there until the Model 2537A reenters normal **RUN** mode.
- 2) A step duration of **0** will cause the step to be skipped entirely.

## Event Flags:

- 1) If the controller changes state midway through a 2537A sample cycle, the resultant event flag will be the logical **OR** of the flag settings for the individual steps.
- 2) Event flag status is not sampled for the initial few seconds of each 2537A cycle. If step changes are to occur asynchronously with respect to the sample cycle, the change should occur 1 second **after** a cycle change to prevent spurious flag values from being registered. If **Sync=1**, the transition will always occur at the correct time.

## Sync:

If **Sync** is set to **Yes (1)**, the controller will pause at the current step until a Model 2537A cycle transition is detected, even after the duration time expires. The duration should expire at least a few seconds **before** the expected cartridge switchover.

## Model 1130: H/C Mask Functions:

- 1 Zero Air ON, Desorb Flow Rate Selected
- 2 Denuder Cooling

Add numeric values to determine total functions activated during the step

- 4 Denuder Heat
- 8 External Heat

## Model 1135: L/C Mask Functions:

- 1 Aux-1
- 2 Particulate Cooling

Add numeric values to determine total functions activated during the step

- 4 Pyrolyzer Heat
- 8 Particulate Heat