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## MODEL 3000HM HFID ANALYSER SPECIFICATION

<p><b>Detector</b> Flame Ionisation Detector (FID) with cylindrical collector, flame-out sensor and igniter</p> <p><b>Ranges</b> 0-4, 10, 40, 100, 400, 1000, 4000, 10000ppm Propane equivalence, plus auto-range</p> <p><b>Response</b> 95% of reading within 1.5 secs.</p> <p><b>Bypass Flow Sensitivity</b> Less than 2% from 1 to 3ltrs/min</p> <p><b>Accuracy and Repeatability</b> Better than <math>\pm 1\%</math> range or <math>\pm 0.2</math>ppm whichever greater Zero drift: Less than 0.1ppm in 8 hours</p> <p><b>Linearity</b> <math>\pm 2\%</math> of point or <math>\pm 0.5\%</math> FSD on all ranges down to 10% of range Carbon Number correlation Less than 5% difference in carbon count between toluene, hexane, propylene, and propane when using H<sub>2</sub>He fuel</p> <p><b>Temperature Effects</b> Zero: Less than <math>\pm 0.15</math>ppm/<math>^{\circ}</math>C or <math>\pm 0.02\%</math> of range per <math>^{\circ}</math>C Span: Less than <math>\pm 0.1\%</math> of range per <math>^{\circ}</math>C</p> <p><b>Noise</b> Less than <math>\pm 0.1</math>ppm or <math>\pm 0.1\%</math> of range. Range time constants can be configured to suit application sample noise. Longer time constants will reduce noise at the expense of response time.</p>	<p><b>Oxygen Synergism</b> 100ppm C<sub>3</sub>H<sub>8</sub> in air, changed to 100ppm C<sub>3</sub>H<sub>8</sub> in N<sub>2</sub> has less than 2% effect when using H<sub>2</sub>He fuel</p> <p><b>Inlet Pressures</b> Sample: -5 psi to 15 psi max. Calibration: 7 psi typical (2l/min) to 30 psi max.</p> <p><b>Sample Filter</b> 0.4 micron PTFE filter removable from the rear panel</p> <p><b>Display</b> 240 x 64 pixel LCD display with backlight shows concentration, units and gas in large clear characters; vertical bar graph of chart output with alarm markers; sample flow indication; range, control and message areas. Bottom of display defines top row key functions. Additional pages provide full analyser status and parameter set facilities</p> <p><b>Remote Control</b> All functions by 'AK' Protocol using RS232 port. Range, gas path, detector mode, calibration and standby by contact closure or TTL/CMOS logic levels</p> <p><b>Power</b> Dual voltage 115 VAC or 230 VAC <math>\pm 15\%</math> switchable on the rear panel. 600 VA maximum during warm-up</p>	<p><b>Options</b> H<sub>2</sub> Fuel for ambient monitoring applications</p> <p><b>Dimensions</b> 19" rack mounting 3U high. (133.5mm) Depth behind mounting face 525mm Protrusion in front of mounting face 45mm Weight approx. 30Kg</p> <p><b>Plumbing</b> Sample, span, and zero inlets <math>\frac{1}{4}</math>" tube fittings. Hot Air Dump exhaust <math>\frac{3}{8}</math>" tube fittings. Air inlet <math>\frac{1}{4}</math>" fitting. Zero Air outlet <math>\frac{1}{4}</math>" fitting</p> <p><b>Services</b> H<sub>2</sub> Fuel at 60ml/min, or H<sub>2</sub>He fuel at 180 ml/min. Propane (C<sub>3</sub>H<sub>8</sub>) or Methane (CH<sub>4</sub>) in air for span calibration. Zero grade air (or the internal zero air) for zero calibration</p> <p><b>Outputs</b> 0-10VDC and isolated 4-20mA analogue outputs of displayed range. Range analogue output of 1 to 8VDC. Logic outputs of range, gas path, detector mode, calibration status, and readiness. Two logic alarm outputs. Volt-free relay contacts for analyser fault indication. 5-40<math>^{\circ}</math>C ambient temperature</p>
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