

Package II
Laboratory Equipment
Control Systems and Instrumentation Laboratory

| No. | Item and Specifications | Units | Main Preference | Alternatives |
|-----|--|---|--|---|
| 1/5 | Level/Flow Process Control Training Systems (PCTS) | 1 package | SYNTEK WLF 922 Malaysia | NO ALTERNATIVE |
| 2/5 | Fluid/Water Process Control Demonstration Units or Trainers Kit (combined or seperated) including: * Level Process Control * Flow Process Control * Temperature Process Control Moveable on wheeled table or trolley top units, around 100 kg/unit Including: <ul style="list-style-type: none"> Industrial Standard I/O Analog and Digital Interface units Sensors (level, flow, temperatures) for Visual Observation/Manual Measurements Sensors/Transmitters (level, flow, temperatures) for Data Aquisition and Computer Control Manual and Automatic (electromagnetic) Valves and other actuaters Pumps (+/- 1 liter/sec, 5 m head), Heaters, thermostats and Heat Exchangers (for Temperature Process Control), temperature ranges: 0 -100 Celcius Serial Comm Data I/O Ports for external computer connection and control (drivers and software included, if necessary) Storage tanks for +/- 15 litres of water capacity Internal Control Systems (PID, Digital Controllers, PLC) is optional, not required Control Softwares are optional, not required | 1 combined experimental units, or 2 or 3 seperated units (self-contained) | FEEDBACK 38-003 System United Kingdom | 1. GUNT RT 5XX/6XX series, GERMANY 2. EDIBON UCP series, SPAIN |

| No. | Item and Specifications | Units | Main Preference | Alternatives |
|-----|--|--|---|--|
| 3/5 | <p>Gas/Air Process Control Demonstration Units or Trainers Kit (combined or seperated) including:</p> <p>* Temperature Process Control</p> <p>* Pressure Process Control</p> <p>Moveable on wheeled table top or trolley top units, around 100 kg/unit</p> <p>Including:</p> <ul style="list-style-type: none"> • Industrial Standard I/O Analog and Digital Interface units • Sensors (pressure and temperatures) for Visual Observation/Manual Measurements • Sensors/Transducers/Transmitters (pressure and temperatures) for Data Aquisition and Computer Control • Manual and Automatic (electromagnetic) Valves and other actuaters • Compressors, Heaters/Coolers, thermostats and Heat Exchangers (for Temperature Process Control), temperature ranges: 0-100 Celcius • Serial Comm Data I/O Ports for external computer connection and control (drivers and software included, if necessary) • Storage tanks for +/- 15 litres of water capacity • Internal Control Systems (PID, Digital Controllers, PLC) is optional, not required • Control Softwares are optional, not required | 1 combined experimental units, or 2 seperated units (self-contained) | FEEDBACK 38-004 and 37-100 System United Kingdom | <p>1. GUNT RT 5XX/6XX series, GERMANY</p> <p>2. EDIBON UCP series, SPAIN</p> |

| No. | Item and Specifications | Units | Main Preference | Alternatives |
|-----|---|--|--|--|
| 4/5 | Programmable Logic Controllers (PLC) Trainer Kit and Application Units , including: PLC circuit boards, I/O interfaces for programming and applications, software and hardware simulation for REAL industrial applications such as conveyor belts, elevators, etc. | 1 package (hardware and software) including some application units | FEEDBACK 34-500 series and 34-120 and 34-150 Systems United Kingdom | 1. GUNT RT 800 series, GERMANY 2. EDIBON PLC-PI module and examples in Process Control Applications, SPAIN |
| 5/5 | Digital Storage Oscilloscope (minimum requirements): Bandwidth 10 GHz or larger, Rise Time less than 100 ps, Sampling Rate 20 Giga-Samples per seconds or larger, at least 64 Mega-samples of data record per channel, USB port for a PC connection, necessary driver and softwares included. | 3 (three) units | TEKTRONIX TDS 6000 series | Hewlett Packard (HP) or Agilent equivalent |