

Pneumatics & Hydraulics

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Pneumatics & Electro-pneumatics

Pneumatics & Electro-pneumatics kits with PLC control

Hydraulic Training Systems & Training Systems

For many years fluid and air power has provided the industrial 'muscle' to move mechanical systems. These systems involve the generation, transmission and control of pressurised fluid or gas. This form of power and its associated components offer a relatively simple and low cost means to implement high power design solutions and automatic manufacturing control systems.

Features

- Industrial components used throughout the product range
- Training courses relevant to industry
- Trolley, portable & briefcase training systems
- Robust construction
- System expansion possible (except tutor kits)
- Supported by comprehensive training material

There are numerous applications of fluid and air power, some can be found in our daily lives in obvious applications such as motor vehicle braking and suspension systems, lifts and jacks through to aircraft flap controls, industrial road breakers, and material crushers.

Feedback has a wide range of Pneumatic and Hydraulic system trainers that cover the many techniques used in industrial systems, manufacturing, and in component handling.

This extensive product range has been conceived for the training of technicians, engineers and maintenance staff that require knowledge of the many technical disciplines applied in today's manufacturing industries. Armed with this knowledge technical staff are able to cope with the wide variety of problems that can arise with regularity in the industrial work place.



Level 1 component set shown which is supplied with the 36-001. An supplementary set is available that adds electro-pneumatic exercises to the pneumatic trainer



Mobile trolley 36-301
with compressor installed

This range of trainers is ideally suited to laboratories dedicated to the subject of study. Based on a mobile trolley they occupy and require a larger area for operation than portable bench top alternatives. They are supplied complete with all hardware (except air compressor) and courseware, requiring only the connection of a mains power supply and compressed air.

Pneumatics Trainer 36-001 is an ideal laboratory resource providing the introductory training to the subject of pneumatic components and circuits. The trainer consists of a double sided mobile laboratory trolley, compressor, a set of pneumatic components Level 1 and a collection of exercises

Electro-Pneumatics Trainer

36-002 - Introduces the control of pneumatic devices using electrical signalling the trainer extends the activity of the 36-001 to the application of such devices. The trainer consists of a double sided mobile trolley with compressor, one set of electro-pneumatics components Level 1 and a collection of exercises including solutions.

Pneumatics & Electro-Pneumatic Trainer

36-003 is a combination of the above two trainers, the 36-003 offers a complete trainer dealing with the activities of both subjects areas. In addition to the mobile trolley complete with compressor, both pneumatic and electro-pneumatic Level 1 component sets are provided along with the collection of exercise and solutions.

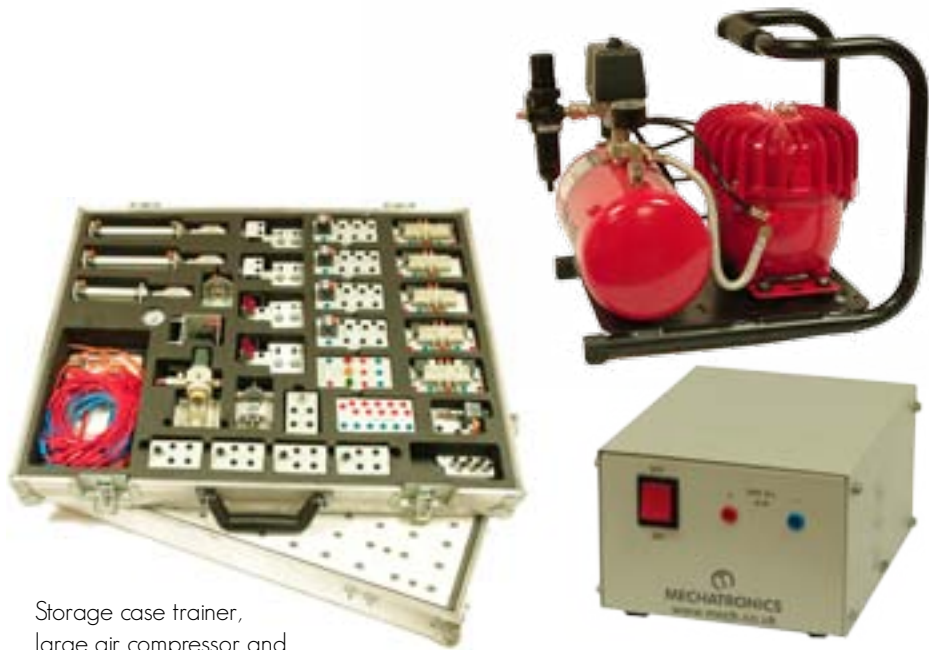
Features

- Double sided mobile trolley
- Two full sized circuit construction panels
- Pneumatic component sets
- Exercises and solutions material
- Modular & Expandable system
- Robust construction
- Suitable for dedicated laboratories requiring large circuit construction area



A set of pneumatic components that have cut away sections to reveal the mechanical structure of the component to aid the understanding of how they work.

The components are conveniently displayed in a foam insert that not only retains the parts but provides a means of inventory control.



Storage case trainer,
large air compressor and
36-210 d.c. power supply

Features

- Industrial components used throughout the product range
- Industrially relevant training exercises
- Portable storage case format
- Robust Construction
- System expansion possible
- Comprehensive training materials

These trainers offer portability and a compact format making them ideal for multi-user classroom activities as well as being transportable to other locations as and when necessary. When not in use the transit/storage case is easily stowed away requiring only the minimum amount of space, whilst in use the transit case lid becomes the circuit construction platform and the case base holds the pneumatic parts ready for assembly onto the construction panel. Air compressors are not included in these packages.

Pneumatics Trainer 36-004 is a complete trainer supplied with all the necessary components to carry out the wide range of application activities provided with the trainer.

Included with the trainer is a compact construction panel, heavy duty aluminium frame storage case housing level 1 set of pneumatic components and a collection of exercises including solutions

Electro-Pneumatic Trainer

36-005 is packaged in the same way as the above trainer but with Level 1 electro-pneumatic components this trainer is a natural addition to the laboratory to introduce electrical control of pneumatic components. The trainer is complete with all components to carry out the wide range of exercises supplied with the package.

Pneumatic & Electro-Pneumatic Trainer 36-006

provides training on both component types, offering a cost effective course delivery solution. The portable storage case with built in construction panel offers the flexibility to provide additional training needs as demand dictates. Supplied with a heavy duty aluminium frame storage case, Level 1 set of Pneumatic and Electro-Pneumatic Components and a collection of exercises including solutions.



36-100 Pneumatics Tutor Kit



36-200 Electro-Pneumatics Tutor Kit

Pneumatics Tutor Kit 36-100 - Subject Areas

- Circuits based around single-acting cylinder control
- Extend and retract speed control
- Circuits based around double-acting cylinder control
- Direct with extend & retract speed controls
- Indirect & direct control
- Indirect with extend & retract speed controls
- Semi-automatic circuit (reverse operation)
- Semi-automatic & automatic circuit and speed control
- Slow speed extend and rapid retract
- Time delay
- OR & AND functions and time delay
- MEMORY function
- Auto cycle, speed control and memory
- OR, AND and NOT operations
- MEMORY function and speed control
- time delay using 'YES' function
- OR and time delay using YES function
- OR and AND functions, semi-automatic circuit
- Memory control and pilot control
- Sequential & Cascade control
- Automatic control - time delay and repeat pattern Automatic control - slow and fast

The trainer requires Air Compressor 36-112.

Electro-Pneumatics Tutor Kit 36-200 - Subject Areas

- Lamp (indicator) control - direct/indirect
- Roller-operated and push-button switches
- Solenoid (coil) control - direct/indirect
- Single and double-acting cylinder control
- Direct/indirect Solenoid/spring poppet valve
- Solenoid/spring spool valve - direct/indirect
- Solenoid/solenoid spool valve - direct/indirect
- AND & OR logic functions
- Semi-automatic, automatic and latching circuits
- Repeat and non-repeat patterns
- Relay control

Both trainers require Air Compressor 36-112 and 24V Power Supply 36-210.

Features

- Portable, rugged construction
- Genuine industrial components
- Fixed component format
- Push-fit connections
- Comprehensive curriculum
- Low cost solution
- Minimal set-up time
- No tools needed
- Versatile



36-202 PLC Electro-Pneumatics Trainer



36-203 & 36-112 Small Air compressor

PLC Electro-Pneumatics Trainer 36-202

is designed to enhance the study of electro-pneumatic component applications, this broad range of trainers provides the platform to practice programming industrial PLCs. Each unit is fitted with a different manufacturers PLC providing a choice that is relevant to the user. 36-202 is fitted with the Mitsubishi Alpha PLC.

PLC Electro-Pneumatics Trainer 36-203

comprises a single and double acting cylinders with striker cam, adjustable flow control valve, directional control valves solenoid activated, limit switches and 6 way electrical manifold. Also provided are electrical switches and lamps. The 36-203 is fitted with a Mitsubishi FX1S PLC.

Subject Areas

- Lamp (indicator) control - direct/ indirect
- Roller-operated and push-button switches
- Solenoid (coil) control - direct/indirect
- Single and double-acting cylinder control - direct/indirect
- Solenoid/spring poppet valve - direct/ indirect
- Solenoid/spring spool valve - direct/ indirect
- Solenoid/solenoid spool valve - direct/ indirect
- AND & OR logic functions
- Semi-automatic, automatic and latching circuits
- Repeat and non-repeat patterns
- PLC control and theory including set, reset, counter, timer, flag and logic functions
- Logic plans (Mitsubishi Alpha)
- Ladder diagrams and statement lists (Mitsubishi FX1S)



36-010 Hydraulics Trainer



Typical Hydraulic Power Pack

Electro-Hydraulics Trainer

36-012 Introduces electrical control of hydraulic components and circuits the trainer supports a wide range of study through a range of exercises and practical applications.

The trainer includes a double sided trolley, hydraulics components Level 1, electro-hydraulics Level 1 and a collection of exercises/solutions and question and answer papers.

Proportional Hydraulics Trainer

36-013 is a complete hydraulics training system-this trainer comprises the functionality of the two previous training systems covering Hydraulics, Electro-hydraulics and Proportional hydraulics.

The curriculum exercises covered are for Level 1 components in each case and collectively make up a very comprehensive training program.

The trainer comprises a double sided laboratory trolley, Hydraulics, Electro-Hydraulics, and Proportional Hydraulics Level 1 components complete with exercises/solutions with question and answer papers.

Hydraulics Trainer 36-010 -

Level 1 - The trainer is suited to the introduction of hydraulic components and circuits covering the range of exercises available with the Level 1 components set.

As well as the double sided mobile laboratory trolley, this trainer is supplied with two hydraulic power packs, one for each side, Level 1 components and course curriculum consisting of a set of exercises/solutions with question and answer papers.

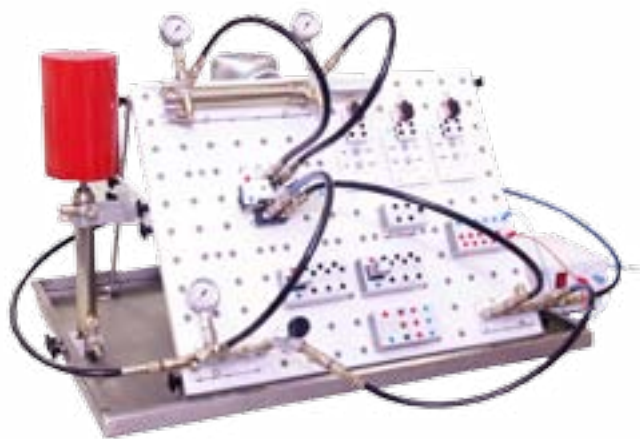
Hydraulics Trainer 36-011-

Levels 1 & 2 - The trainer provides more advanced exercises than those provided by the 36-010 trainer through the use of the Level 2 component set. It is assumed that the introductory level curriculum using the Level one components have been studied; the Level 2 component set builds on this prior knowledge.

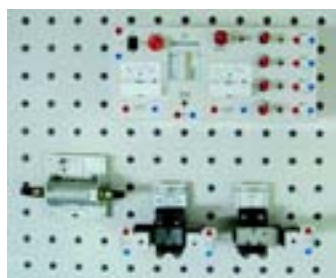
Within the hydraulics laboratory it is desirable to have the two levels of study available increasing the student learning process through-put with readily available training systems that reduce set-up time.

HYDRAULICS

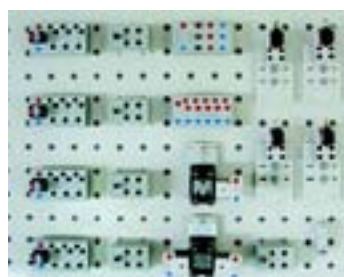
Portable Training System



Inclinable circuit construction panel



Proportional set of components



Electro-hydraulics components



Level 1 Hydraulic components in the Heavy Duty Aluminium case

Trainers 36-014 to 36-017 are ideally suited to multi-user activities where their compact design and portability makes them an ideal choice for local and remote training requirements.

Although compact for bench top use they are ideally suitable for training two students or more at a time that can be easily accommodated around the circuit construction panel.

Hydraulics Trainer 36-014–Level 1 is suited to the introduction of hydraulic components and circuits covering the range of exercises available with the level one components set.

The complete trainer includes the Portable Hydraulic training System (36-650) consisting of the construction panel with stainless steel drip tray shown above, Hydraulic power pack, Pressure Manifold, Tank Manifold and carry bag for the circuit construction panel. Supplied also, is Hydraulic Level 1 components and a collection of Exercises/Solutions with Questions/Answer Papers (36-812).



Components shown in the heavy duty aluminium frame transit/ storage case.



Set of proportional hydraulics components shown in their heavy duty aluminium frame transit/storage case.

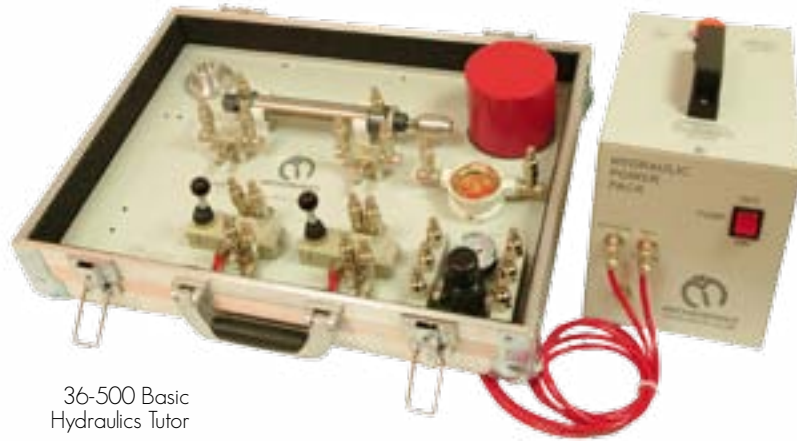
Hydraulics Trainer 36-015 – Levels 1 & 2 - has the same physical format as the 36-014 provides an additional set of exercises through the use of the Level 2 component set. With both Level 1 and 2 components a much wider course of study can be provided from the eleven exercises available with Level 1 to nineteen exercises with the addition of Level 2 components.

Electro-Hydraulics Trainer 36-016 - contains the level 1 components of the 36-014 with the addition of Electro-hydraulic components.

Proportional Hydraulics Trainer 36-017 is a complete hydraulics training system, this trainer comprises the functionality of the two previous training systems covering Hydraulics, Electro-Hydraulics and Proportional Hydraulics.

HYDRAULICS

Portable Tutor Kits



36-500 Basic Hydraulics Tutor



36-502 Advanced Hydraulics Tutor



PLC Components

The convenience of portability with hydraulic systems make these two compact trainers particularly attractive in circumstances of limited class room space where the units can be easily stowed away and where there is a need for training in different class rooms or at other locations. They also offer a low cost solution to meet most budgetary requirements.

Basic Level Trainer 36-500 is a complete basic level trainer supplied with a hydraulics power pack and uses water at a maximum pressure of 3 bar, making it safe for schools to cover the fundamental principles of hydraulics.

Hydraulics Trainer 36-500 (Basic) Subject Areas

- Directional control
- Pressure control
- Double acting cylinder
- Double acting cylinder
- Metering 'IN'
- Weight loading of cylinder
- Motor control in one or both directions
- Single acting cylinder control
- Metering 'OUT'

Advanced Hydraulics Trainer 36-502

provides an Advanced level, containing the same components as the Basic level trainer, plus additional components that add an extra degree of complexity to the hydraulic circuits. The physical format is the same as that for the 36-500 being portable and operating with water as the hydraulic fluid. It also includes the hydraulic power pack.

Components - PLC 36-605

provides a wide range of programming exercises specifically for Electro-Pneumatic Components 36-603 and Electro-Hydraulic components 36-654.



For more information about
any of the products that you see
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Feedback Instruments Catalogue - Version 2013
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