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Intelligent Light Gate



Compact Ripple Tank

PowerPro™ Regulated PSU



All equipment is linked to the latest curriculum including GCSE, A Level, IGCSE & IB

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Inspire – Our New & Exclusive Range of Physics Equipment

Inspire is a new range of apparatus designed by physics teachers specifically to meet the requirements of the latest Physics curriculum. Inspire includes a suite of innovative bluetooth timing devices, a range of robust power supplies, cost effective meters and other equipment.

Pricing valid until the 30th April 2020

Contact your local TSM for further information or to arange a demonstration!

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TimingPro Timing Ball
See p.8

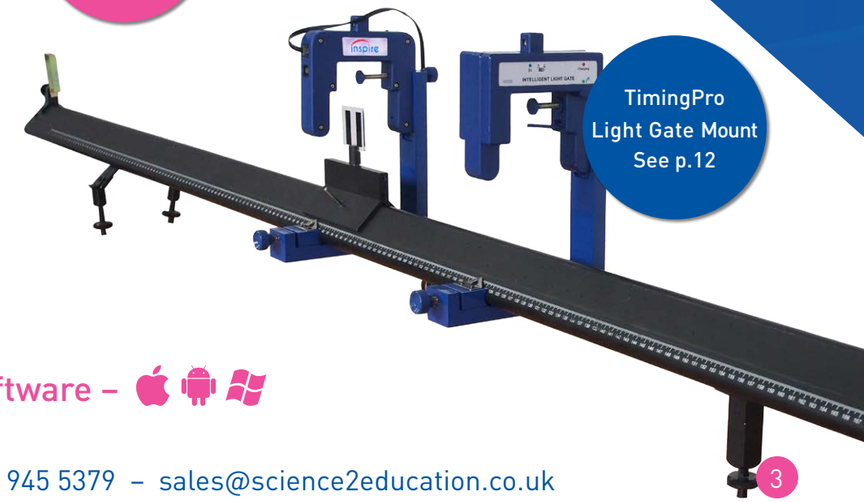


Bluetooth Dynamics Car
See p.10



TimingPro g by Freefall Apparatus
See p.13

TimingPro g by Freefall Stand
See p.13



TimingPro Light Gate Mount
See p.12

Free downloadable software –



Inspire Demonstration Transfomer Set

Inspire have taken the classic demonstration transformer apparatus and added some additional safety features. With the unique safety design of the Inspire moulded wings on all of the mains substitute and mains coils, lethal voltages are avoided because the standard coils cannot be fitted alongside. As long as a maximum of 4V AC is supplied to the primary coil in whatever combination of primary/secondary coils the user chooses, the maximum secondary voltage will be below 25V AC and therefore safe.

Demo Transformer & Coils Set (PY5182):
300, 600, 600-0-600, 900, 1800 coils and stand

Mains Coil Substitute 100 turns (PY5188):
100 turn mains coil substitute for use with the dedicated power supply PY5192 as a low voltage alternative to the traditional 800 turns mains coil

Mains Coil Substitute 300 turns (PY5190):
300 turn mains coil substitute for use with the dedicated power supply PY5192 as a low voltage alternative to the traditional 800 turns mains coil

800 Turns Mains Coil (PY5196):
800 turn mains coil

Motor Accessory Kit (PY5186):
To demonstrate motor effect

Induction Accessory Kit (PY5184):
To demonstrate induction

Code	Description	Pack	Price
PY5182	Demo Transformer & Coils Set	Each	**£114.50**
PY5184	Induction Accessory Set	Each	**£35.00**
PY5186	Motor Accessory Set	Each	**£18.50**
PY5196	800 Turns Mains Coil	Each	**£35.00**
PY5188	Mains Coil Substitute 100 turns	Each	**£27.50**
PY5190	Mains Coil Substitute 300 turns	Each	**£27.50**

Moulded wings only allow use with safe accessories

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inspire® Electricity & Magnetism

Inspire PowerPro™ Demonstration Transformer Power Supply

A unique power supply designed for use specifically with the Inspire Demonstration Transformer Set and provides a range of fixed low voltage, high current outputs. A 25V, 10A output is designed for use with our 100 and 300 turn mains coil substitutes (PY5188 & PY5190) and eliminates the need for the traditional 230V 800 turn mains coil.

- Output voltage: fixed output of 4 & 8V DC @ 5A, 2 & 4V AC @ 5A
- Mains coil replacement output: 4V @ 10A
- Unique connector prevents incorrect wiring of mains coil substitute

Code	Pack	Price
PY5192	Each	**£99.50**



CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXP-1	AC induction -induced voltage on coil core
EXP-2	Relationship between input and output voltage waveforms
EXP-3	Dependence of output voltage on the turns ration of the coils
EXP-4	Variation of the primary and secondary current
EXP-5	Transformer efficiency depending on load
EXP-6	Moving iron motor model
EXP-7	Determination of coil induction
EXP-8	Half wave retification
EXP-9	Full wave retification with centre tapped transformer
EXP-10	Full wave retification with diode bridged transformer
EXP-11	Low voltage/high current to melt a nail
DEMO-1	Demonstration of induction furnace
DEMO-2	Demonstration of Thompson's jumping ring
DEMO-3	Demonstration of Eddy current braking
DEMO-4	Demonstration of shaded pole Induction motor

Scan to see the product in action!

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Inspire Ring Launcher

A fun demonstration of electromagnetic induction. The Ring Launcher comprises of a long solenoid with an iron core (removable for easy transportation) and is accompanied by a number of accessories: an aluminium ring, split aluminium ring and a 3 turn copper wire with bulb. When an AC current is applied to the solenoid it creates EMF in the aluminium ring placed over the solenoid and the resulting magnetic field propels the ring upwards off the solenoid. The height it is propelled can be adjusted by the sleeve on the solenoid, at full power the ring can travel over 2m.

For maximum safety the Ring Launcher incorporates a 2 part launching procedure (including a remote control to fire the rings) to ensure users do not accidentally launch the ring with students in close proximity. The mains transformer is protected by a resettable thermal fuse. Supplied with full instructions and fully CE compliant to BS EN 61010-2010.

- Used to demonstrate Fleming's left hand rule
- Eye catching demonstration of EMF induction in AC fields
- Launch rings to over 2 metres high
- Remote two part launching for improved safety
- Supplied with full accessories and instructions
- Audible warning message before launch

Code	Pack	Price
PY5140	Each	£169.00

Inspire Magnetic Field Density Meter

A highly accurate unit which measures magnetic field strengths directly. Using the pre-calibrated probe users can investigate different magnetic fields and specifically cover the practical required by the current A-Level syllabus.

- Direct measurement of field strength up to 2000mT
- Supplied with high accuracy probe
- Ranges: 0 – 20, 0 – 200 and 0 – 2000mT options
- Tare/zero adjustment for background magnetic field

Code	Pack	Price
PY5021	Each	£230.00

Magnetic Field Investigation Coil

Designed for use with either Search Coils or the Inspire Magnetic Field Density Meter probe this apparatus consists of a multi turn coil mounted on a rotatable base. The probe can be mounted in the centre of the coil and with a constant field applied the user can directly read off the effects of angle on the measured field.

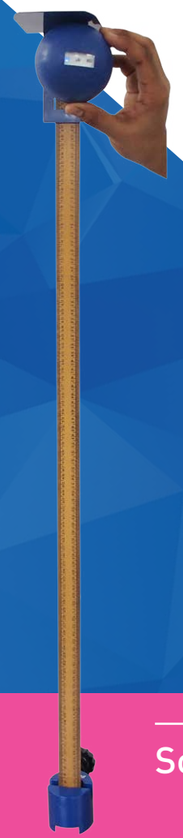
- Multi turn coil for use in core A-Level practical
- Rotatable base with inbuilt angle measurer

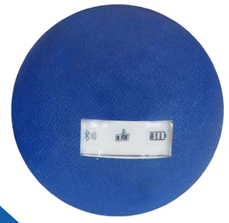
Code	Pack	Price
PY5022	Each	£42.00

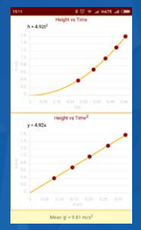


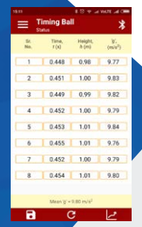
CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXPT-1	Variation of magnetic fields at the centre of a circular plane coil with current
EXPT-2	Dependence of magnetic flux on the dot product between magnetic field vector and area vector
EXPT-3	Variation of magnetic field along the axis of a circular coil with the distance from the centre of the coil









Inspire TimingPro™ Bluetooth Timing Ball

The TimingPro™ Bluetooth Timing Ball uses a simple accelerometer to accurately sense start and end of flight. Timing Ball is a simple alternative to the g by freefall apparatus as it accurately records the time taken to fall through a set distance. Timing Ball can also be used to investigate trajectories and to demonstrate that perpendicular vectors are independent.

Free simple software is available for PC, tablets and mobile phones and is used to display results in both graph and table form. Accurate results for g by freefall can be gained within minutes of setup.

A handy ruler pointer adapter slides over any standard 1m ruler and lets users perform g by freefall by accurately showing the point of release (ruler and pointer PY5052 available separately).

- 1ms resolution
- Inbuilt 3-axis accelerometer records time of flight
- Reliable Bluetooth connection to PC
- Robust, simple to use and economical to purchase
- Investigate g by freefall and SUVAT equations
- Easy data collection by PC, iOS and Android tablets/phones

Code	Description	Pack	Price
PY5050	TimingPro™ Bluetooth Timing Ball	Each	**£64.00**
PY5052	TimingPro™ Timing Ball Pointer Accessory	Each	**£7.50**

Scan to see the product in action!

CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXPT-1	Determination of freefall time when dropped from a known height and measuring'g' acceleration due to gravity
EXPT-2	Study the variation of height h as a function of t and t2 fall time
EXPT-3	Measurement of total time of flight during projectile motion

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inspire® Forces & Motion

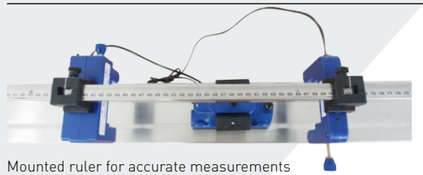
Inspire Laws of Motion Ramp & Accessories

A self-contained kit centred around a 1.2m stainless steel track and 2 robust metal dynamics trolleys. The kit includes a full range of accessories for investigating the different laws of motion.

Contents:
- 1.2m stainless steel dynamics track
- 2 robust low friction metal dynamics trollies with removable weights
- A range of light gate masks
- Slotted mass set and pulley for constant acceleration experiment
- Clamps to accommodate Inspire PY5100 Light Gates
- Inspire Light Gates slot easily onto the overhead carriers
- Ruler mounted on the overhead rail to set the gate disstance

NB. Inspire light gates (PY5100 and PY5112) must be purchased separately – see page 12.

Code	Pack	Price
PY5130	Each	**£175.00**



Mounted ruler for accurate measurements





CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXPT-1	To find the velocity of an object
EXPT-2	To determine the average speed of an object
EXPT-3	To determine the acceleration of a moving object
EXPT-4	To plot a graph between velocity and time using the picket fence
DEMO-1	To demonstrate elastic collision
DEMO-2	To demonstrate the law of conservation of energy
DEMO-3	To demonstrate the transfer of energy

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PY5306

Inspire TimingPro™ Bluetooth Dynamics Car

This new and innovative system has been designed by physics teachers specifically for the requirements of the GCSE and A Level physics curriculum and enables users to record highly accurate data in real time whilst the Bluetooth connectivity reduces setup time and does away with the need for traditional wired connections.. Resolution on the data is an impressive 50 samples per second. For schools looking for a modern alternative to the Linear Airtrack, ramp, trollies and light gates, a second 'secondary' timing car can be supplied which connects to the 'primary' car via an IR line of sight beam for collisions and momentum experiments. The primary car connects to TimingPro™ software on PCs or tablets and enables users to display displacement, velocity, acceleration, force, energy and momentum. TimingPro™ software has user selectable 'Basic' and 'Advanced' modes along with templates for popular experiments.

The experiments for the TimingCar are performed on our high quality 1.5m stainless steel track – this can also be elevated for use as an incline plane. There is also the option of a separate curved track to allow users to investigate circular dynamics. Using the circular track users can also graph damped simple harmonic motion and use the results to calculate a value for 'g' as an alternative to traditional g by freefall setups.

The accessory kit includes a range of magnetically attachable bumpers, pulleys, masses and a crumple zone attachment to investigate: elastic, inelastic and coalescing collisions, Newton's II law of motion using a pulley and conservation of momentum/energy.

N.B. Secondary Car, Straight Track, Curved Track and Accessories all need to be purchased separately as required.



PY5315

inspire® Forces & Motion

- No need for light gates
- The ultimate wireless dynamics system
- Bluetooth cars record displacement velocity
- Curved track option for studying circular dynamics
- 1.5m stainless steel dynamics track
- Complete range of accessories for the study of collisions and Newton's 2nd law
- Less setup hassle and more functionality than Linear Air Tracks
- Free TimingPro software for Windows allows the display of displacement, velocity, acceleration, force, energy and momentum
- Accessory set supplied in a Gratnells tray compatible insert for easy storage (deep Gratnells tray is not included).

Code	Description	Pack	Price
PY5300	Bluetooth Primary Dynamics Car & Software	Each	**£159.00**
PY5306	Secondary Dynamics Car	Each	**£92.80**
PY5312	1.5m Straight Dynamics Track	Each	**£78.50**
PY5315	TimingPro™ Curved Track	Each	**£53.50**
PY5318	Bluetooth Car Accessory Set	Each	**£60.00**

PY5318



CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXPT-1	Study of linear motion under low friction, plotting of distance, velocity, momentum, kinetic, potential and total energy and acceleration
EXPT-2	Newton's second law of motion
EXPT-3	Linear motion on an inclined plane
EXPT-4	Damped harmonic motion in potential well
EXPT-5	Dependence of kinetic energy on mass and velocity
EXPT-6	Study of elastic collisions, conservation of momentum and energy
EXPT-7	Study of inelastic collision and conservation of momentum
EXPT-8	Study of explosions and conservation of momentum
EXPT-9	Study of damped harmonic oscillation in the horizontal plane and determination of the spring constant
EXPT-10	Crash tests and the energy changes in crumple zones
DEMO-1	Demonstration of effect of drag on the vehicle
DEMO-2	Demonstration of a balloon propelling the car

Scan to see the product in action!



Inspire TimingPro™ Intelligent Light Gate

A standalone light gate system that requires no separate timer or complex wiring setup. The primary light gate connects via Bluetooth to any tablet or PC running TimingPro™ software and the inbuilt rechargeable battery can provide power for an unlimited number of secondary light gates (which connect by a single lead) or for the separately available g by freefall release mechanism. Ideal for use with linear air tracks and dynamics ramp trollies. Light gate mounting rods required. Determination of g by freefall can be performed in a number of ways using 1 light gate or 2 light gates in conjunction with the TimingPro™ g by freefall stand and solenoid or directly using the picket fence accessory.

The primary light gate connects to TimingPro™ software on PCs or tablets and enables users to display results quickly and easily in real time. The software (supplied for PC and available for free from the Play Store) has user selectable 'Basic' and 'Advanced' modes along with templates for popular experiments so that only the functionality that is required for the experiment is shown.

- Wireless Light Gates for PC and tablet
- Inbuilt battery and ability to plug in unlimited number of secondary gates
- Ideal for use with air tracks and dynamics cars
- Highly accurate and reliable
- Separate g by freefall accessory available
- Pendulum experiment software template
- Easy data collection by PC and Android tablets

Code	Description	Pack	Price
PY5100	TimingPro™ Intelligent Light Gate & Software	Each	**£125.00**
PY5112	TimingPro™ Secondary Light Gate	Each	**£29.00**

Accessories

Code	Description	Pack	Price
PY5109	TimingPro™ Picket Fence	Each	**£9.50**
PY5115	TimingPro™ Light Gate Mounting Rod	Each	**£3.50**



PY5115
Linear air track mounts designed for use with our SEP4371 Air Track

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Inspire TimingPro™ G by Freefall

This TimingPro™ range apparatus from Inspire is designed to specifically work with TimingPro™ Intelligent Light Gates to fulfil the requirements of the current A-Level required practical for calculating 'g'. The Solenoid (PY5118) has to be used with the TimingPro™ Light Gate which supplies power to hold either the ball bearing or pellet in place until the user starts the experiment via the TimingPro g by freefall software. Available free of charge for PC's, smart phones, iPads and Android tablets from iTunes and Google Play.

A separate 1.2 metre extruded stainless steel stand is available (PY5116) and strongly recommended for use with the Solenoid and Light Gates as it perfectly aligns the TimingPro™ Light Gates and the Solenoid to ensure the ball bearing drops perfectly through the light gate(s).

- Simple and very reliable apparatus
- Accurate and repeatable results
- Calculate 'g' with either 1 or 2 light gates (purchase separately)
- Supplied with one ball bearing and one pellet

Code	Description	Pack	Price
PY5118	TimingPro™ g by Freefall Solenoid	Each	**£32.50**
PY5116	TimingPro™ g by Freefall Stand	Each	**£29.50**





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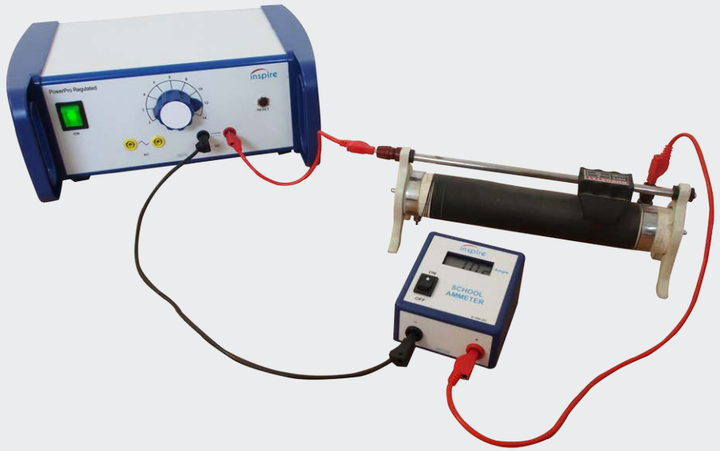


Inspire Digital Meters

The range includes a 0 -19.99V voltmeter, a 0 – 9.99A ammeter and a dual purpose ammeter and voltmeter combined which incorporates a toggle switch for users to select between modes. Resolution 0.01v accuracy +/- 2V.

Meters are housed in a robust ABS casing with a sloping front to allow easy viewing of the display. The sockets are located on the front panel so the meter can be set back from the experiment reducing the tangling of wires. 9V battery supplied.

Code	Description	Pack	Price
PY5102	DC Voltmeter 0 - 19.99V	Each	**£16.25**
PY5104	DC Ammeter 0 - 9.99A	Each	**£16.25**
PY5000	Dual DC Voltmeter & Ammeter	Each	**£25.00**



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Inspire Laser Ray Kit with Accessories

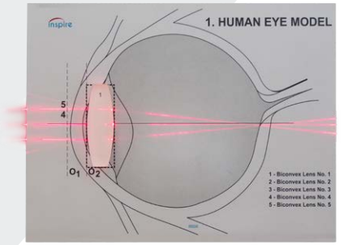
A standalone laser kit that is supplied with 8 printed magnetic template sheets. Thin magnets in the laser housing and on all of the lens accessories allow easy positioning on the template sheets on a magnetic board for easy, visible demonstrations. Template sheets include demonstration of long and short sightedness and refracting telescopes. Magnetic whiteboard available separately if required.

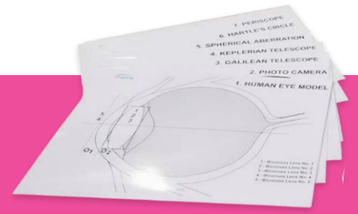
- Magnetic mounting on the laser, lenses and templates allow demonstration on a white board or metal screen
- 5 beam class II red laser (peak 635nm)
- Includes 8 magnetic experiment templates
- Full range lens accessories
- Supplied in a high quality carry case
- CE marked

Code	Description	Pack	Price
PY5200	Laser Ray Kit & Accessories	Each	**£159.00**
PY5203	Magnetic White Board, 60 x 46cm	Each	**£16.00**









CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXPT-1	Working of the human eye (normal, far sighted and short sighted vision)
EXPT-2	Principle of the camera
EXPT-3	Principle of the Galileo telescope and periscope
EXPT-4	Principle of the Kepler telescope
EXPT-5	Principle of spherical aberration

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inspire® Power Supplies

PowerPro™ Prime



Introducing PowerPro™ Power Supplies

A new range from Inspire of well specified, robust and reliable power supplies designed specifically for the needs of the latest curriculum.

Common features across the range:

- Robust metal housing
- ABS endcaps with integrated carry handles
- Stackable with detachable mains leads
- Shrouded sockets for extra protection but standard 4mm leads can still be used
- PowerPro™ voltage limiter (selected models)
- 18 month manufacturers warranty
- 12-hour soak test on full load by manufacturer
- Double or triple protection from overload
- Fully compliant and independently tested to EN61010-2010
- Approved for CE & CSA
- Tech specifications available on request

Scan to view the range in action!



PowerPro™ Regulated



PowerPro™ Variable



PowerPro™ Electromagnetic



PowerPro™ EHT



PowerPro™ Signal Generator



Code	Name	Voltage	Stepped/ Variable	Current	Voltage	Features
PY5010	Prime	2-14V DC/AC	Stepped	6A	Yes	Unregulated DC
PY5013	Regulated	2-14V DC/AC	Stepped	6A	Yes	Regulated DC
PY5016	Variable	1-15V DC/AC	Variable	6A	Yes	Unregulated DC
PY5027	Electromagnetic	1-0-1V AC, 2V DC	Fixed outputs	10A	No	Short circuit tolerant
PY5024	EHT	0-6kV DC	Variable	2mA	No	Secondary Output 6.3V @2A AC

KEY FEATURES:

- Stackable
- Carry handles
- Innovative voltage lock
- Detachable mains lead







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Inspire PowerPro™ Prime Power Supply

The PowerPro™ Prime Power Supply is the entry level model in this range of robust power supplies. Offering 2-14V output of both AC and full wave rectified DC the PowerPro™ Prime is ideal for general laboratory use where a smoothed or regulated output is not required. The voltage limiter can be set simply by the technician or teacher, whilst also having dual overload protection in the form of a resettable thermal cut out and internal fuse this unit has the protection needed for use in an education environment.

- Output voltage: 2-14V AC/DC in 2V steps
- Current output: 6A maximum (combined AC/DC)
- Robust ProLock™ voltage limiter
- Resettable short circuit protection
- Stackable with integrated handles and a detachable IEC mains cable
- Manufacturer's warranty: 18 months
- Fully CE and CSA certified to BSEN61010
- Dimensions: 25 x 26 x 13cm, 5.5kg

Code	Pack	Price
PY5010	Each	£84.95



Inspire PowerPro™ Regulated Power Supply

The PowerPro™ Regulated Power Supply is an advanced stepped unit offering 2-14V AC and fully regulated DC output and is ideal for use with equipment that requires a more refined output. A robust ProLock™ voltage limiter allows the setting of a technician/teacher defined upper voltage limit whilst the unit has dual overload protection in the form of resettable thermal cut out and an internal thermal fuse.

- Output voltage: 2-14V AC and regulated DC in 2V steps
- Current output: 6A maximum (combined AC/DC)
- Stackable with integrated handles and a detachable IEC mains cable
- Regulated DC output with <500mV drop on full load
- Manufacturer's warranty: 18 months
- Fully CE and CSA certified to BSEN61010
- Dimensions: 33 x 26 x 13cm , 6.4kg

Code	Pack	Price
PY5013	Each	£135.00







Inspire PowerPro™ Variable 0-15V Power Supply

The PowerPro™ Variable Power Supply is ideal for general laboratory use where a variable output is required. Offering 1-15V output of both AC and full wave rectified DC the PowerPro™ Variable includes the Inspire ProLock™ voltage limiter which enables the setting of a technician/teacher defined upper voltage limit. The unit also features dual overload protection in the form of resettable thermal cut out and an internal thermal fuse.

- Output voltage: 1-15V variable AC/DC
- Current output: 6A maximum (combined AC/DC)
- Robust ProLock™ voltage limiter allows the setting of the upper voltage ceiling
- Full wave rectified DC output (unsmoothed & unregulated)
- Stackable with integrated ABS handles and a detachable IEC mains cable
- Manufacturer's warranty: 18 months
- Fully CE and CSA certified to BSEN61010
- Dimensions: 37 x 26 x 13cm , 7.2kg

Code	Pack	Price
PY5016	Each	**£125.00**

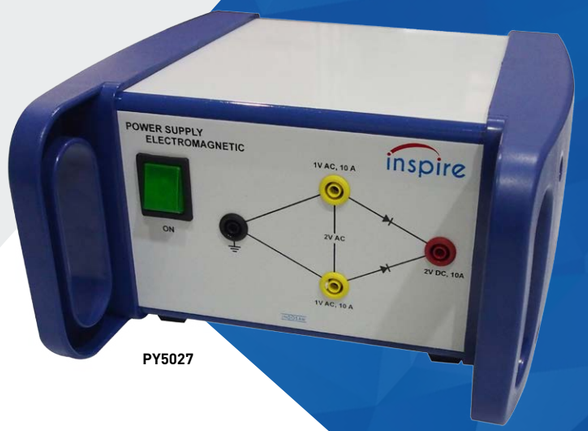


Inspire PowerPro™ Electromagnetic Power Supply

The PowerPro™ Electro Magnetic Power Supply is designed for experiments that require low voltage and high current including electromagnet experiments and investigating magnetic fields associated with electric current. A separate accessory is available allowing the easy demonstration of the force on a conductor experiment.

- Output voltage: 1-0-1 AC, 2V DC
- Current output: 10A maximum (combined AC/DC)
- Designed to tolerate high current and short circuiting
- Additional internal resettable fuse protection for transformer
- Manufacturer's warranty: 18 months
- Fully CE and CSA certified to BSEN61010
- Dimensions: 25 x 26 x 13cm, 4.2g

Code	Pack	Price
PY5027	Each	**£84.50**



PY5027

Force on a Conductor Accessory

Uniquely adapted to plug directly into the power pack, this simple arrangement of 2 rails and a brass axle and wheels within a magnetic field. Demonstrates the basic principles of the motor effect, when the current is switched on.

Code	Pack	Price
PY5028	Each	**£14.00**





Inspire PowerPro™ EHT Power Supply

The PowerPro™ EHT Power Supply is ideal for powering most Teltron tubes, electrostatics investigations and for power to spectrum tubes. The primary output offers 0-6kV variable DC at a restricted current limit of 2mA. There is also a 50uA secondary EHT output along with a fixed 6.3V AC output for use with specific Teltron tubes.

- Digital LED display of primary output voltage
- Resettable short circuit protection
- Separate earth option if floating voltage is not required
- Stackable with integrated ABS handles and a detachable IEC mains cable
- Manufacturer's warranty: 18 months
- Fully CE and CSA certified to BSEN61010
- Dimensions: 37 x 26 x 13cm, 6kg

Code	Pack	Price
PY5024	Each	**£225.00**



Inspire PowerPro™ Advanced Signal Generator

The PowerPro™ Signal Generator is an advanced signal generator and amplifier designed specifically for use in school. This versatile unit includes both high and low impedance outputs making the unit ideal for driving vibration generators and loudspeakers whilst an internal speaker (which can be turned off) can be used to demonstrate the human hearing range.

The unit also includes an auxiliary input for amplifying external signals – this is ideal for amplifying MP3 or iPod music signals for use with the SLS Lab Basics Rubens Tube. A separate headphone socket lead and 4mm adapter is also available separately to transfer the MP3 signals into the signal generator.

Other items are available for use with the PowerPro™ signal generator including the vibration generator and the vibration generator accesories set, for use in the Waves required practical in both GCSE and A-Level.

- Frequency range: 1 to 110 kHz in 5 decade range
- Waveforms: sine, square or triangular. Square wave rise time 1µs approx. Sinewave distortion 1% on all ranges
- Output voltage: 10V peak to peak
- Digital LED display
- Low impedance output x watts: perfect for driving vibration generators or loudspeakers
- High impedance output: can be attenuated by a factor of 10 or 100
- Built-in loud speaker (can be switched off)
- Internal short circuit protection
- Amplitude and frequency modulation options
- Input signal 2V (peak to peak)
- Frequency response 1Hz to 100kHz, -3dB
- Manufacturer's warranty: 18 months

Code	Description	Pack	Price
PY5018	PowerPro™ Advanced Signal Generator	Each	**£226.50**
PY5019	Audio Input Adapter & Lead	Each	**£9.50**

Accessories

Code	Description	Pack	Price
SEP4379	Vibration Generator	Each	**£35.00**





SEP4379



PY5160



PY5150

Inspire Compact Ripple Tank

A compact, easy to setup ripple tank. The Inspire Ripple Tank includes all of the accessories required to cover the entire of range of experiments including: reflection, refraction, diffraction and interference with the accessories being stored in a handy tray on the front of the unit.

Two models are available; simple and advanced. With both models users can vary the frequency of both the dippers and the LED strobe lighting. The advanced version also allows a great sweep of frequency, control of amplitude and the inclusion of a 'Camera Mode' which allows the pictures to be viewed through a camera. The dipper and strobe frequencies can be synchronised for stationary waves or slightly offset to give moving waves.

Common to both PY5150 & PY5160:
- Frequency range 50–175 Hz
- LED strobe control
- Standalone benchtop ripple tank
- Full range of accessories and dedicated accessory storage
- Digital display of frequency
- 12V plug top power supply and full instructions

Additional features of PY5150 (Advanced):
- Wave amplitude control
- Camera projection mode
- Expanded frequency range: 1-250Hz

Code	Description	Pack	Price
PY5160	Simple Ripple Tank	Each	**£99.50**
PY5150	Advanced Ripple Tank	Each	**£135.00**

Inbuilt screen



Full accessories built in



Clear display of waves



Inspire Ripple Tank Camera with Stand

A simple USB camera mounted on a flexible gooseneck style stand for use with the Inspire Advanced Ripple Tank. The camera allows the easy projection of the ripple tank to a whiteboard or projector.

N.B. Must be used with the 'Camera Mode' on the Inspire Advanced Ripple Tank (PY5150) – ripple tanks without this mode will give a distorted picture through a projector.

Code	Pack	Price
PY5153	Each	**£65.00**



CURRICULUM RELATED EXPERIMENTS

Experiment No.	Title
EXPT-1	To study the relationship between frequency and wave length to calculate wave velocity
EXPT-2	Image formation by plane mirror
EXPT-3	Reflection of plane wavefront at a straight barrier
EXPT-4	Reflection of plane wavefront at a convex barrier
EXPT-5	Reflection of plane wavefront at a concave barrier
EXPT-6	Reflection of circular wavefront at a concave barrier
EXPT-7	Refraction using a rectangular refractor
EXPT-8	Refraction using a convex refractor
EXPT-9	Refraction using a concave refractor
EXPT-10	Diffraction of a plane wave at a single edge
EXPT-11	Diffraction of a plane wave when the slit width is greater than the wavelength of the wave
EXPT-12	Diffraction of a plane wave when the slit width is less than the wavelength of the wave
EXPT-13	Interference using double point dipper
EXPT-14	Interference pattern for Young's slits
EXPT-15	Lloyd's mirror Interefence pattern between waves from parent source produced by reflection

Scan to see the product in action!

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inspire® & Curriculum Links

	Dynamics Car	Laser Ray Kit	Light Gates	Magnetic Field	Power Supplies/Meters	Ring Launcher	Ripple Tank	Signal Generator	Timing Ball	Transformer Set
	PY5300 PY5306 PY5312 PY5315 PY5318	PY5200 PY5203	PY5100 PY5112 PY5118 PY5130 PY5116 PY5109 PY5115	PY5021 PY5022	PY5102 PY5104 PY5000 PY5010 PY5013 PY5106 PY5027 PY5024	PY5140	PY5160 PY5150	PY5018 SEP4379	PY5050 PY5052	PY5182 PY5184 PY5186
GCSE Combined Science Curriculum Links										
AQA	• Force and motion 6.5.4.1.2-6.5.4.1.3 • 6.5.4.1.5, 6.5.4.2.1, 6.5.5.2 • Required practical 19 F=Ma	• Properties of EM waves 6.6.2.2 • Correction of vision 4.5.2.3	• Newton's laws 6.5.4.2.1-6.5.4.2.2 • Acceleration 6.5.4.1.5 • Required practical 19 F=Ma		• Electricity unit 6.2 • Required practicals14-16		• Topic 4 Waves 6.6.1.1 • Required practical 20	• Required practical 20		
EDEXCEL	• Topic 2 motion 2.6, 2.8, 2.11, 2.15, 2.19 • Core practical 1 2.19 • Momentum 2.24-2.26 • Conservation of energy 3.1-3.2 , 3.5a-d		• Topic 2 motion 2.6, 2.8, 2.11, 2.15 • Core practical 1 2.19		• Whole unit Electricity and circuits • Core practical 5	• Unit 12 magnetism-motor effect • 12.11-12.12	• Topic 4 Waves 4.2-4.3, 4.5, 4.7 • 4.10-4.11, 4.17 • Core practical 2	• Topic 4 Waves 4.2,4.4,4.11-17 • Core practical 2		• Topic 13 Electromagnetic induction • 13.5-13.6, 13.9-13.10
OCR	• Unit 2 Motion P2.1b+h P2d+k • PAG 2 • PAG3 • Energy of a moving body P5.1e, • Crumple zones P6.1f		• Unit 2 Motion P2.1b-h, • PAG 3 • Newtons laws P2.2c,d,i +k • Energy in a moving body P5.1e		• Electricity 3.2 • PAGs 5-6		• Waves unit P4.1c, P4.1f • PAG 4			
GCSE Physics Curriculum Links (in addition to the GCSE combined content)										
AQA	• Force and motion 4.5.6.1.2-4.5.6.1.5 • 4.5.6.2.1-4.5.6.2.2 Acceleration • Required practical 7 F=Ma • 4.5.7.2-4.5.7.3 motion and crumple zones		• Force and motion 4.5.6.1.5 • 4.5.6.2.1-4.5.6.2.2 Acceleration • Required practical 7 F=Ma • Momentum 4.5.7.1-4.5.7.2		• Electricity unit 4.2 • Electromagnetism 4.7.2.1-4.7.2.3 • Required practical 3	• Induced potential 4.7.3-4.7.3.1	• Topic 4 Waves4.6.1.1-4.6.1.3 • Required practical 8	• Waves 4.6.1-4.6.1.2 • Required practical 8		• Unit 4 Electricity 4.7.3-4.7.34
EDEXCEL	• Topic 2 motion 2.6,2.8-2.9,2.11,2.13, • 2.14-2.15 Newtons law of motion • Core practical 1 2.19 • 2.24-2.26 Momentum • 2.31 Collisions	• Topic 4 Waves 4.9P-4.10 • Topic 5 Light 5.1P,5.6P	• Topic 2 motion 2.6,2.8-2.9,2.11,2.13, • 2.14-2.15 Newtons law of motion • Core practical 1 2.19 • Topic 15 Pressure 15.15P-15.17P		• Topic 10 Electricity/circuits • Whole unit • Core practical 5	• Topic 12 Magnetism 12.10-12.14	• Topic 4 Waves 4.2,4.8P,4.10-11 • Core practical 2	• Topic 4 Waves 4.2,4.4,4.11-17 • Core practical 2		• Unit 2 mechanics 30 • Higher, faster, stronger 30
OCR	• Unit 2 Motion P2.1-P2.2 • PAG 2 • PAG3 • P7.1 • PAG 5 • P8.1g Crumple zones	• Unit 5 Light P5.3 Correction of vision	• Kinematics 3.1.1a • Linear motion collisions 3.1.2 • PAG 1 'g' by freefall • Motion 3.2.2a-d • HSW4 factors affecting terminal velocity		• Electricity unit P3.2 • Simple circuits • PAG 6	• Induced fields P4.2b+c, • Flemings left hand rule P4.2e-h	• Waves unit • P5.1 Wave features • PAG 4 • PAG8 • P4.1c-f Refraction in water waves			• Transformers 6.3.3 fi) +ii)
A-Level Curriculum Links										
AQA	• Motion in a staright line 3.4.1.3 • Newton's laws of motion 3.4.1.5 • Momentum 3.4.1.6		• Motion in a staright line 3.4.1.3 • Required practical 3 'g' by freefall • Projectile motion 3.4.1.4 • Newton's laws of motion 3.4.1.5 • Momentum 3.4.1.6	• Magnetic fields and flux density • 3.7.5.-3.7.5.1, 3.7.5.3 • Flux linkage required practical 11	• Electricty/electronics • Capacitance/resistance	• Flux density 3.7.51-3.7.5.2 • Moving charge/EM induction 3.7.5.4	• 3.3 waves 3.3.1.2,3.3.2.1-3.3.2.2 • Required practical 1	• Superposition of waves 3.3.1.3 • Required practical 1	• Motion in a straight line 3.4.1.3 • Required practical 3 'g' by freefall • Projectile motion 3.4.1.4	• Transformers • Operation, equation • Efficency 3.7.5.6
EDEXCEL	• Topic 2 mechanics 9,11,17,21-22 26-27 • Topic 6 further mechanics 97-99, 101 • Core practical 9 • Topic 13 oscillations • Higher,faster, stronger 11,17, • 21-22,26-27,97-98,101 • Core practical 9 build or bust 183	• Topic 5 waves and light 71-77 • Spare part surgery 71-77, 88	• Topic 2 mechanics 9,11,21 • Core practical 1 • Topic 4 materials 51a-b,52 • Core practical 4 • Topic 6 further mechanics 100 • Topic 13 oscillations 181,184 • Higher faster, stronger 19, 21-2, • Good enough to eat 52 core practical 4 • Probing the heart of the matter 11 • Core practical 10	• Magnetic flux linkage and density 121	• Topic 3 electric circuits • Technology in space	• Topic 7 electricity and magnetic fields 121-127 • Transport on a track 121,123-4 126-7	• Topic 5 waves 62-63, 65 • Core practical 7	• Topic 5 waves 63,67,67,68,69 • Core practical 7	• Topic 2 mechanics 15 • Higher, faster, stronger 15	• Unit 2 mechanics 30 • Higher, faster, stronger 30
OCR	• Kinematics 3.1.1a • Linear motion collisions 3.1.2 • collisions 5.3.1 SHM 5.3.1-5.3.2a • PAG 1	• Waves 4.4.2d 1-111) 4.4.2e	• Kinematics 3.1.1a • Linear motion collisions 3.1.2 • PAG 1 'g' by freefall • Motion 3.2.2a-d • HSW4 factors affecting terminal velocity	• Magnetic field 6.31, 6.3.6	• Electricity unit 4.1-4.2	• Flemings left hand rule 6.3.1d • Force on a coductor6.3.1e • Faradays law/ Lenz's law 6.3.1c,d	• Waves 4.41, 4.4.3a c-e	• Waves 4.4.1, 4.4.4d-e, 4.4.4.g • PAG 5 waves	• 3.13a-b Projectile motion	• Transformers 6.3.3 fi) +ii)

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