

## Cooling

# Cooling System Pressure Testing

The **Sykes-Pickavant Cooling System Pressure Testing** range consists of three different systems, each of which has its own unique features and a wide range of bayonet connectors, cap adaptors and system connectors, some of which can be used with more than one system, bringing a great amount of flexibility to the range.

The Sykes-Pickavant Cooling System Range includes:

- 315 Series** – quick-connect system, hand pump and gauge, with specially designed pressure release valve, for system testing.
- 316 Series** – quick-connect system, hand pump and gauge, with specially designed pressure release valve, for system testing.
- 317 Series** – quick-connect system, hand pump and gauge, with specially designed pressure release valve, for system testing.
- 318 Series** – threaded-connect system with unique SP pump unit, for system and cap testing.
- 319 Series** – universal expansion plug system, for use with hand pump, or with airline adaptor (for HGV), compatible with 318 Series threaded caps and adaptors.

## Cooling

# Cooling System Pressure Testing - 315 Series Quick-Connect System

**331595**

### 315 Series Cooling System Tester Master Kit - 14 piece

- Master kit contains the 14 most popular system adaptors that provide extensive coverage for both popular and less popular models for cars & LCV's.
- Hand pump with pressure gauge.
- Quick-connect hose for system adaptors.
- Compatible with SP317, 318, 319 series kits, 315 series System Adaptors.
- Wide application coverage.
- Application information included below.



#### Contents

Part No.	Description	Application
331501	Hand Pump c/w Gauge	-
331503	Hose Assembly	-
331515	System Adaptor - Large Bayonet	BMW, Chrysler, DAF Truck type 45, Ferrari standard, Lamborghini, Lancia, Nissan Micra 93 on, Peugeot 306, 806, 405, 406D 97 on, Mini, Seat standard, Triumph
331567	System Adaptor - Small Bayonet	Daihatsu standard, Honda standard, Isuzu standard, Mazda Premacy, Rover, Suzuki, Subaru, Toyota, VW Taro
331571	System Adaptor - Small Bayonet	Honda Accord, Civic, Legend
331517	System Adaptor	Mercedes ML Class (W163, 164), GM Achieva, Skylark, Grand Am
331516	System Adaptor	Volvo, Saab, Citroen, Renault, Fiat, Alfa, Jeep
331522	System Adaptor	VW Vento, T4, Passat to 1996, Golf, Beetle, Sharan
331535	System Adaptor	Audi A4, A5, A6, BMW 345, VW Passat 97-2002, Porsche Cayenne
331548	System Adaptor	BMW E34, E36, E46, E32, E38, E39, E90
331512	System Adaptor	Audi, VW
331555	System Adaptor	Ford Mondeo, Land Rover, Opel, Jaguar, Ssangyong
331541	System Adaptor	Mercedes C-class, E-class, S-class, W124, W140, W210, W211, W215, W216, W221, R230
331563	System Adaptor	Mercedes Sprinter, Viano
331565	System Adaptor	BMW
331556	System Adaptor	Ford Galaxy 2001 on, Seat Alhambra, VW Sharan

#### 315 Series Cooling System Adaptors - Optional

Part No.	Description	Application
331523	System Adaptor	Peugeot 205D, 309D
331531	System Adaptor	Citroen, Xantia 2.1TD
331533	System Adaptor	Toyota Celica, Camry 96 on
331561	System Adaptor	Alfa 159, Vauxhall (GM) Astra H, Corsa 07 on, Vectra C, Saab 9-3/9-5
331562	System Adaptor	Mini Cooper S 2002 on
331564	System Adaptor	Landrover Discovery 3, Range Rover Sport, Vogue TDV6
331566	System Adaptor	Mazda 3, Volvo V50, S40 on
331568	System Adaptor	Vauxhall (GM) Arena
331569	System Adaptor	Ford C-Max S-Max + Galaxy 2006 on

## Cooling

# Cooling System Pressure Testing - 316 Series Quick-Connect System

331625

## 316 Series Japanese Cooling System Tester

- Designed for pressure testing Japanese bayonet style standard small and extra small cooling systems radiators.
- Contains 031701 hand pump and adaptors to suit 27mm, 35mm and 50mm.



331600

## Cooling System Speed Filler

The air operated Cooling System Speed Filler offers some advantages over the more traditional methods of filling:

- The system integrity can be assessed prior to filling the cooling system with coolant.
- Significantly reduced coolant wastage and mess.
- High efficiency, labour saving and cost effective.
- Uses standard workshop compressed air to generate vacuum (70 - 170 psi)
- This kit enables a cooling system to be refilled quickly while eliminating the chances of an air lock. Modern vehicle design has meant that the cooling radiator is often positioned either in line with or below the top of the engine. This means that using gravity to fill the cooling system is not always possible.
- The 331600 overcomes this issue by first forming a vacuum in the cooling system then using this vacuum to "suck" the new coolant into the cooling system.
- By "sucking" the new coolant in by means of a vacuum, no airlocks can form and the speed of refilling the cooling system is increased.



## Cooling

# Cooling System Pressure Testing - 317 Series Quick-Connect System

031701

## Pump, Gauge and Hose Assembly c/w quick-connect coupling

- Self-testing metal hand pump with precision gauge.
- Pressure release valve on pump, allows system test pressure to be discharged independently of the cap connection.



331700

## Basic System Testing Kit - 3 piece

- 031701 pump, gauge and hose assembly.
- Standard bayonet connector.
- M52 threaded system connector.
- Kit contents, additional connectors and adaptors are detailed on opposite page.



331797

## Standard European System Testing Kit - 9 piece

- 031701 pump, gauge and hose assembly.
- Standard and large bayonet connectors.
- Small bayonet connectors for French and Japanese applications.
- Threaded system connectors M45, M48, M52, M58.
- Kit contents, additional connectors and adaptors are detailed on opposite page.



331795

## Master System Testing Kit - 16 piece







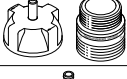









- 031701 pump, gauge and hose assembly.
- Standard and large bayonet connectors.
- Small bayonet connectors for French and Japanese applications.
- Threaded system connectors M45, M48, M52, M58.
- Specialist bayonet connectors for latest French and Japanese vehicles.
- Specialist system adaptors for Ford, VAG.
- Specialist system connectors for BMW, Ford, GM.
- Kit contents, additional connectors and adaptors are detailed on opposite page.



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## Cooling System Pressure Testing - 317 Series

### 317 Series Cooling System Connectors and Adaptors

Vehicle Application	Picture	Description	Part No.	Kit Contents		
				331700	331797	331795
Citroën, Ford, Honda, Japanese cars, Austin Rover, Mercedes, Proton, Rover, Vauxhall / Opel		System Connector: Standard Bayonet	031702	■	■	■
Medium and Heavy Commercial Vehicles		System Connector: Large Bayonet	031703		■	■
Daihatsu, Honda, Hyundai, Isuzu, Mazda, Mitsubishi, Nissan, Subaru, Suzuki, Toyota		System Connector: Small Japanese Bayonet	031716		■	■
Later Japanese cars		System Connector: Ext. Small Japanese Bayonet	031717			■
BMW, Ford, GM, Land Rover, Range Rover, Vauxhall / Opel		System Connector: Threaded Cap M52	031724	■	■	■
Citroën, Fiat, Austin Rover, Peugeot, Renault, Rover, Saab, Volvo		System Connector: Threaded Cap M45	031725		■	■
Volkswagen, Audi (use with 031820 threaded adaptor to add M58 VW / Audi caps)		System Connector: Threaded Cap M48 031820	031726 031820		■ ■	■ ■
Peugeot, Citroën, Nissan		System Connector: Standard Bayonet	031787			■
Vauxhall Vectra		System Connector: Threaded Cap M52	331704			■
Ford Scorpio		System Connector: Threaded Cap M52	331705			■
BMW, Range Rover		System Connector	331714			■
Volkswagen, Audi		Threaded Cap Adaptor	331806			■
Galaxy, Sharan (use with 031726)		Threaded Cap Adaptor	331815			■
Renault, Simca, Peugeot/Talbot		System Connector: Small French Bayonet	031723		■	■
Ford Focus, C-Max etc '03 onwards		System Connector	331717			
Ford Transit '02 onwards, LDV		System Connector	331721			



## Cooling

# Cooling System Pressure Testing - 318 Series Threaded-Connect System Hand Pump Unit

031801

## Hand Pump Unit c/w Bayonet Connector Fitting

- Durable hand pump with precision gauge.
- Gauge scale indicates cap pressure tolerance zones.
- Connects to bayonet systems.
- Tests bayonet type radiator caps.



331800

## Basic Cap and Cooling System Test Kit - 2 piece

- 031801 hand pump unit.
- Double-ended hose assembly with standard bayonet fittings.
- Kit contents, additional connectors and adaptors are detailed on page 88.



331890

## Standard European Cap and Cooling System Test Kit - 7 piece

- 031801 hand pump unit.
- Single and double-ended hose assemblies with standard bayonet fittings.
- Threaded system connectors M45, M52.
- Threaded cap adaptors M45, M52.
- Kit contents, additional connectors and adaptors are detailed on page 88.



331895

## Master Cap and Cooling System Test Kit - 13 piece

- 031801 hand pump unit.
- Single and double-ended hose assemblies with standard bayonet fittings.
- Small bayonet connectors for French and Japanese applications.
- Threaded system connectors M45, M48, M52, M58.
- Threaded cap adaptors M45, M48, M52.
- Bayonet cap adaptor for Japanese applications.
- Kit contents, additional connectors and adaptors are detailed on page 88.



## Cooling

# Cooling System Pressure Testing - 318 Series

**331896**

## Master Cap and Cooling System Test Kit - 17 piece

- This Master Kit contains all of the most popular, recently introduced system and cap adaptors, and has the widest range coverage of all of the 318 Series kits.
- 318 Series - Vehicle Specific Applications  
Full range available of individual system connectors and adaptors. Kit contents, additional connectors and adaptors are detailed on page 88.

### Contents

Part No.	Description
031801	Standard Pump and Gauge Assembly
031802	Standard bayonet connector and double-ended hose assembly for European and Japanese vehicles with bayonet fittings
031822	Pump connector hose
	Threaded system connectors x 4 (M45, M48, M52, M58)
	Threaded cap adaptors x 8 (M45, M48, M52 plus BMW, Ford (2), GM, VAG special connectors)
	Large bayonet system connector for later French and Japanese applications x 1
	Small bayonet cap test adaptor for Japanese applications x 1



### 318 Series - Spare Parts

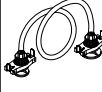
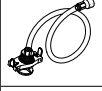
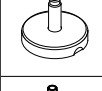
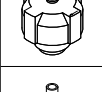
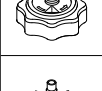
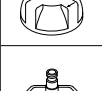
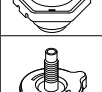
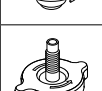
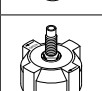
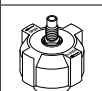
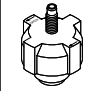
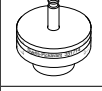

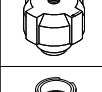
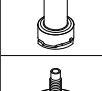


Part No.	Description
031804	318 Pump Cap Spacer
031805	318 Series Radiator Adaptor Small
031806	318 Series Radiator Adaptor Large
031807	318 Pump Seal and Washer Set
031809	318 Pump Gauge Assembly
031811	318 Washer Set for Standard Adaptor



















# Cooling

## Cooling System Pressure Testing - 318 Series

### 318 Series Connectors and Adaptors

Vehicle Application	Picture	Description	Part No.	Kit Contents			
				331800	331890	331895	331896
Citroën, Ford, Honda, Japanese cars, Austin Rover, Mercedes, Proton, Rover, Vauxhall / Opel		Bayonet Connector Double Ended	031802	■	■	■	■
Pump connector hose for System Connectors		Bayonet Connector Single Sided	031822		■	■	■
Renault, Peugeot/Talbot		System Connector Small French Bayonet	031823			■	
BMW, Ford, GM, Vauxhall / Opel, Land Rover, Range Rover		System Connector Threaded Cap M52	031824	■	■	■	
Austin Rover, Citroën, Fiat, Peugeot, Renault, Rover, Saab, Volvo		System Connector Threaded Cap M45	031825	■	■	■	
Volkswagen, Audi		System Connector Threaded Cap M48	031826			■	■
Citroën, Nissan, Peugeot, Holden, Ford		System Connector Standard Bayonet	031887				■
Daihatsu, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Some Honda motorcycles		System Connector Small Japanese Bayonet	031916			■	■
Later Japanese Cars		System Connector Extra Small Japanese Bayonet	031917				
Vauxhall Vectra		System Connector Threaded Cap M52	331804				■
Ford Scorpio		System Connector or Threaded Cap M52	331805				■
Galaxy, Sharan		System Connector	331809				
Range Rover / BMW		System Connector	331814				■
Ford Focus, C-Max '03 -		System Connector	331817				■
Ford Transit '02 onwards, LDV		System Connector	331821				■
Daihatsu, Honda, Hyundai, Isuzu, Mazda, Mitsubishi, Nissan, Subaru, Suzuki, Toyota		Cap Adaptor - Small Japanese Bayonet	031852			■	
Japanese Vehicles		Cap Adaptor - Japanese Bayonet	031867				

Vehicle Application	Picture	Description	Part No.	Kit Contents			
				331800	331890	331895	331896
Volkswagen (Use with 031826 to connect to M58 threads)		Cap Adaptor Threaded Adaptor M48/M58	031820			■	■
BMW, Ford, GM, Land Rover, Range Rover, Vauxhall/Opel		Cap Adaptor Threaded Adaptor M52	031866			■	■
Citroën, Fiat, Austin Rover, Peugeot, Renault, Rover, Saab, Volvo		Cap Adaptor Threaded Adaptor M45	031877			■	■
Audi, Volkswagen		Cap Adaptor Threaded Adaptor M48	031896				■
Audi, Volkswagen		Cap Adaptor Threaded Adaptor	331806				■
BMW / Range Rover		Cap Adaptor Threaded Adaptor	331808				
Volkswagen Polo (all models), Golf TD '97		Cap Adaptor Threaded Adaptor	331810				
Ford Transit 95 onward, Scorpio		Cap Adaptor Threaded Adaptor	331812				
Audi, Volkswagen,		Cap Adaptor Threaded Adaptor	331813				
Galaxy, Sharan		Cap Adaptor Threaded Adaptor	331815				■
Ford Focus, C-Max '03 -		Cap Adaptor	331818				
Ford Transit '02 onward, LDV		Cap Adaptor	331819				
Volkswagen Golf, Passat '97 onwards, Audi A3, A4, A6 '97 onwards (use with 031826)		Cap Adaptor Threaded Adaptor	331813				
Galaxy, Sharan (use with 031826)		System Connector Threaded Adaptor	331809				
Japanese Vehicles		Japanese Adaptor Extra Small Bayonet	031855				■
Japanese Vehicles		Japanese Adaptor Small Bayonet	031854				■

## Cooling

# Cooling System Pressure Testing - 319 Series Universal Expansion Plug System

**031901**

## Pump, Gauge and Hose Assembly

- Self testing hand pump with precision gauge and pressure release valve.
- Threaded connection for Universal Expansion Plugs, or 318 series threaded connectors.



**331900**

## Expansion Plug System Test Kit – Car Kit

- **031901** pump, gauge and hose assembly.
- Expansion Plugs No's 1, 2 & 3.
- Safety retaining clamp.
- Thermometer.
- Special bayonet connector for Japanese applications.
- Optional extra:  
**031915** Stepped Expansion Plug for Mercedes
- Kit contents and additional threaded connectors are detailed on page 90.



**331905**

## Expansion Plug System Test Kit – HGV Kit









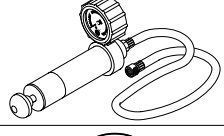



- **031930** Airline Adaptor and Gauge Assembly.
- Expansion Plugs No's 3 & 4.
- Safety retaining clamp.
- Thermometer.
- Optional extra:  
**031915** Stepped Expansion Plug for Mercedes
- Kit contents and additional threaded connectors are detailed on page 90.





# Cooling System Pressure Testing - 319 Series

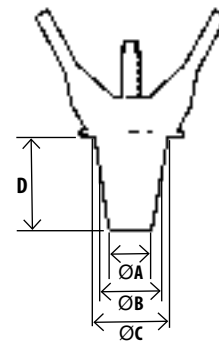
## 319 Series Cooling System Threaded Connectors

Application	Picture	Description	Part No.	Kit Contents	
				331900	331905
No.1 Universal Expanding Connector		Expansion Plug (21 - 38mm)	031911	■	
No.2 Universal Expanding Connector		Expansion Plug (27 - 42mm)	031912	■	
No.3 Universal Expanding Connector		Expansion Plug (33 - 50mm)	031913 031933 (less handle)	■	■
No.4 Universal Expanding Connector		Expansion Plug (40 - 65mm)	031914		■
No.5 Stepped Expanding Connector for Mercedes		Expansion Plug (27 - 44mm)	031915		
Daihatsu, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Some Honda motorcycles.		System connector Small Japanese Bayonet	031916	■	
		Cooling System Thermometer	031925	■	■
		Airline Adaptor & Gauge Connector	031930		■
		Pump Gauge & Hose Assembly	031901	■	
		Nut	031928	■	■
		Blanking Caps	031921	■	■
		Retaining Clamp	031929	■	■

## 319 Series Expansion Plug Technical Specifications

Spare Part No.	D	ØA	ØA Expanded	ØB	ØB Expanded	ØC	ØC Expanded
031913	70	33	36	41	44	50	50
031914	70	40	44	53	56	65	65
031911	70	21	24	30	32	38	38
031912	70	27	29	35	37	42	42
031915	70	27	29	40	42	44	44

All dimensions in millimetres.



# Cooling System Testing

## 331940 Combustion Leakage Tester

Compatible with all Sykes-Pickavant Cooling System Testers 317, 318 and 319 Series.

- Diagnose cylinder head leaks by detecting the presence of CO<sub>2</sub> in the cooling system.
- Fluid colour change indicates the presence of CO<sub>2</sub>.
- Variable pressure valve allows for use with motorcycles, cars, vans and HGV.
- Supplied with both Standard and Sensitive Reaction Fluid, for accurate diagnosis of cooling system faults.



Replacement Reaction Fluid:  
Standard **331942**  
Sensitive **331944**

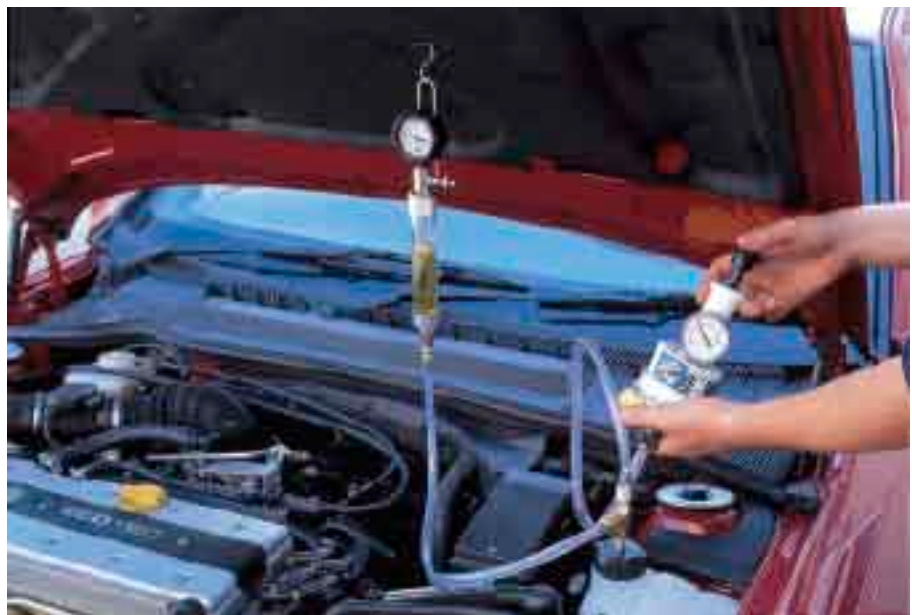
A strong colour change from blue to yellow, using either the standard or sensitive reaction fluid, indicates the presence of carbon dioxide in a vehicle's cooling system.



Note: 319 Series is compatible with all 318 Series system connectors and adaptors.

### Spare Parts

Part No.	Description
014810	Wire Hook
031768	Converter
031868	Converter
031943	Coupler
331941	Tester Body
331942	Reaction Fluid - Standard
331944	Reaction Fluid - Sensitive
331945	Connector Hose
331953	O Ring Seal x 2
331954	Sight Tube



## Cooling Cooling System Tools

032010

### Refractometer

This multi-purpose tool, tests coolant, battery acid and screenwash, using an optical prism test technique.

- Coolant – tests both propylene and ethylene based anti-freeze coolant solutions, and determines the freezing point.
- Battery Acid – indicates the specific gravity of the battery electrolyte.
- Screen Wash – shows the freezing point of screenwash fluids  
Freezing point shown in °C.
- **Spare Part** 032017 Spare Lens Cover for Refractometer



032000

### Professional Anti-Freeze Tester

- A quality instrument used to ascertain the volume percentage of ethylene glycol based coolants in an engine cooling system.
- It works by showing the lowest temperature in °C to which the cooling system is protected.



# Oxygen (Lambda) Sensor Tools

## Oxygen (Lambda) Sensor Thread Restorers

- 25mm length.
- Used to clean and repair damaged or dirty threads at the exhaust oxygen (lambda) sensor fitting.



**014105**  
M18 x 1.5



**014106**  
M12 x 1.25

### 016590

## Oxygen (Lambda) Sensor Socket Wrench

- Swivel handled 22mm socket wrench for lambda sensor removal.
- Double sided (hex / bi-hex) 22mm socket.
- Ideal for restricted access applications.
- Handle length 250mm.



### 016500

## Oxygen (Lambda) Sensor Socket 22mm

- Specially designed socket which is slotted to allow entry over wiring.
- Essential for removal and installation of both heated and unheated oxygen (lambda) sensors.



### 016900

## Oxygen (Lambda) Sensor Socket Set

- For the fast and efficient removal of a variety of oxygen (lambda) sensors.
- Sockets have recesses / windows to allow for sensor cables.
- 7 x 1/2" and 3/8" SD, chrome vanadium / molybdenum oxygen sensor sockets (chemical black finish).



Ref	Part No.	Size (mm)	Depth (mm)	Slot Width (mm)	Offset (mm)
1	016901	29	90	8	-
2	016902	22	90	21	-
3	016903	27	85	27 (window)	-
4	016904	22	80	8	-
5	016905	1 1/6"	75	-	-
6	016906	22	50	10	30
7	016907	22	30	8	55



## Oxygen (Lambda) Sensor Tools

300450

### Oxygen Sensor Tester & Simulator

The Oxygen Sensor Tester and Simulator has a simple interface which enables a technician to quickly perform measurements and tests on oxygen sensors, and to determine whether or not the sensor or wiring is defective. It is designed to be used as both a complement for a scan tool, or as a stand alone tool in the diagnostic process.

- **Applications** suitable for testing
  - Zirconium, Titanium 1 Volt, Titanium 5 Volt and dual-cell wideband oxygen sensors.
  - Sensor may be heated or unheated (1, 2, 3, 4 wires or 5 for wideband).
- **Test Functions**
  - Lazy or Slow sensors are diagnosed with the simple push of a button which performs a response time test in a matter of seconds.
  - Wiring can be checked out by using the simulation functions and monitoring the engine response.
  - Signal output levels are displayed in real time on a fast response bar graph.
  - Closed loop performance can be monitored by the cross counts of the signal shown in a large alpha-numeric display.
  - Allows testing of the sensors on or off the vehicle.
- **Technical Features**
  - 42V Ready.
  - Bright and powerful LED Bar graph as well as alpha numeric display.
  - Does not require time consuming set up.
  - Monitors and tests oxygen sensors on or off the vehicle.
  - Provides instant Pass/Fail results for the oxygen sensor.
  - Diagnoses "Lazy" sensors (slow response) which may not always set a DTC code.
  - Internally protected against power surges.
  - High temp 16 AWG silicone test wires for durability.
  - Protective rubber holster.



300730

### Oxygen (Lambda) Sensor Tester

Checks for correct oxygen (lambda) switch operation on fuel injection or engine management systems. Can be used to perform a loaded test whilst driving the vehicle.

Use in conjunction with a gas analyser to help establish correct ECU operation, assess whether air/fuel ratios are correct and identify problem areas needing more detailed investigation.

- Simple, 2 wire connection with easy to understand LED indicators.
- Light weight unit with 2m leads for easy access to difficult to reach sensors.
- Crocodile type earth clip and insulation piercing signal probe for fast, easy connection.



## Fuel and Exhaust

# Fuel Injection Pressure Testers

### 314800

## Multi Point Fuel Injection Pressure Testing Kit

This is a universal kit which covers a wide range of modern mechanical and electronic multi point fuel injection systems to assist in the diagnosis of problems such as faulty regulators and pumps, blocked filters and leaking injectors.

- Fits the self test point on modern Ford and GM systems.
- Gauge: Scale 0-10 bar. Diameter 100mm.
- Large, shock protected and fuel resistant dual scale gauge measures 0 -10 bar (0-145 psi) for accurate fuel pressure checks.
- Conforms to BS1780, DIN 16005 and DIN 16063.
- Small profile, quick coupling adapters with built in shut off valve for fast, secure connection.
- Relief valve for safe depressurisation.
- Can be upgraded for testing single point injection.
- **Upgrade Kit available:**

**314810** Landrover Adaptor Kit



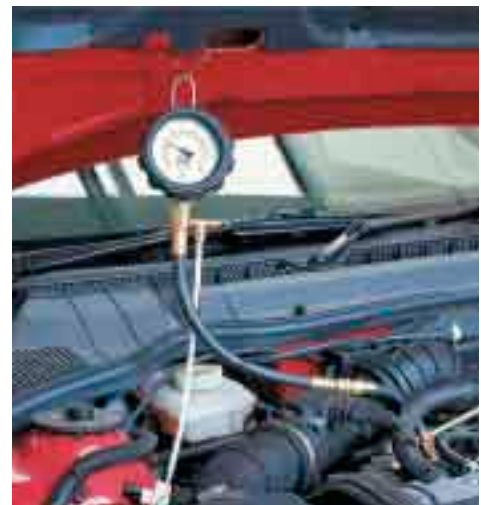
314800

### Contents

Part No.	Description	Qty
314871	Gauge Assembly (0-10 bar 0-145 psi)	1
314873	Tap Assembly	1
314855	Long Hose	2
314827	1/4" Hose Coupling	1
314828	5/16" Hose Coupling	1
314829	3/8" Hose Coupling	1
314802	M8 x 1 Connector Set	1
314803	M10 x 1 Connector Set	1
314804	M12 x 1 Connector Set	1
314805	M14 x 1.5 Connector Set	1
314830	Conical Adaptor 1/4" BSP	1
314876	Conical Adaptor M16 x 1.5	1
314870	GM Adapter	1
314880	Ford EECIV Adaptor	1
314817	PGMFI Adaptor	1
314864	M6 Connector	1
314885	System Connector	1
314890	System Connector	1
314808	Sight Tube	1

### Applications

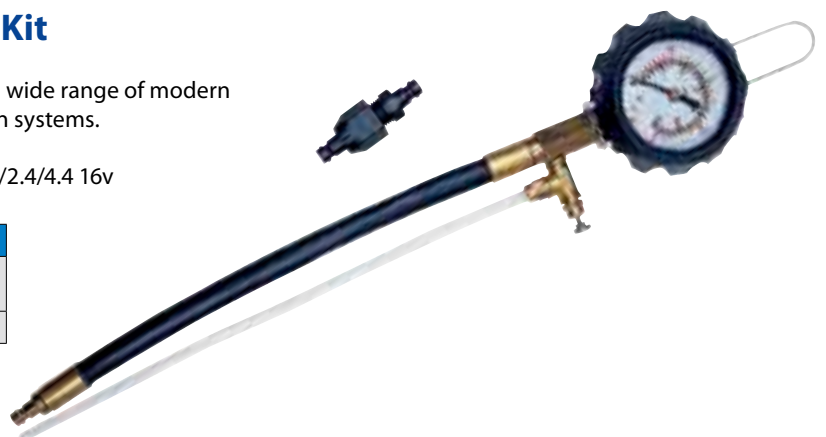
	Type	Model
System	Bosch	K, KE, KE3, LE2, LE3, LH Jetronic, M1.3, M1.7, M2.5, MP3.1, ML4, ML4.1, Motronic
	Weber Marelli	IAW
Vehicle	Daihatsu	EI
	Fiat	PI, Weber, IAW
	Ford	EECIV/EFI (including Zetec), Weber CFI
	GM	Multec-M
	Honda	PGMFI
	Lucas	I, Hotwire, Digital
	Mazda	EGI
	Mitsubishi	ECl, MPI
	Nissan	EFI, ECCS
	Renault	R Electronic
	Rover	SPI, PGMFI
	Subaru	MPFI
	Suzuki	EP
	Toyota	EFI, TCS
	VW	Digijet, Digifant, VAG, MPI



## Single Point Injection Upgrade Kit

- Use with 314800 to extend coverage to include a wide range of modern electronic single point low pressure fuel injection systems.
- Gauge: Scale 0-2 bar 0-30 psi. Diameter 80mm.
- **Applications:** Rover MEMS SPI system Metro 1.4/2.4/4.4 16v

Part No.	Description	Length	Scale	Thread
314872	Gauge Assembly	450mm	0-2 bar 0-30 PSI	-
314852	Long Conical Adaptor	-		M14 x 1.5



# Fuel Injection Pressure Testers

314820

## Fuel Injection Pressure Testing Kit for Single-Point System

A universal kit which covers a wide range of both mechanical and electronic single-point fuel injection systems.

- Shock protected dual scale gauge, fuel resistant.
- Relief valve for safe depressurisation.
- Quick coupling adaptors and hose connections.
- 450mm rubber fuel hose, with additional hose extensions.
- **Gauge scale** 0 – 2 bar, 0 – 30 psi.
- **Gauge diameter** 80mm.

### Contents

Description	Qty
Single-Point Fuel Pressure Gauge Assembly 314872	1
Rubber Fuel Hose Extensions	4
Fuel Tap and Connector Assembly	1
Threaded Connector Sets M12, M14	2
Standard System Connectors	1
Specialist System Connectors – Ford, GM	2



314875

## Fuel Injection Pressure Test Kit for Multi-Point System

Universal Injection Pressure Test Kit for modern electronic, multi-point injection systems.

- Shock protected, fuel resistant dual scale gauge.
- Relief valve for safe depressurisation.
- Quick coupling adaptors and connectors.
- Wide applications range:
  - S type, 8mm plastic push-in fittings, as used on Alfa, Audi, Citroen, Fiat, Ford, GM, Peugeot, VW etc.
  - Schrader type valve test port adaptors (7/16 & 8mm) as used on Alfa.
- **Gauge scale** 0 – 10 bar, 0 – 145 psi.
- **Gauge diameter** 80mm.
- **Upgrade Kit available:**  
**314810** Landrover Adaptor Kit



314875

### Contents

Description	Qty
Multi-Point Fuel Pressure Gauge Assembly 314871	1
System Connector - Fiat, Alfa Lancia - (2 hoses)	1
Flexible EEC 4 Adaptor	1
Flexible M14 Adaptor	1
Renault Fuel Pressure Adaptor - (2 hoses)	1
Fuel Tap & Connector Assembly	1

# Fuel and Exhaust

## Fuel Injection Pressure Testers

314860

### Combined Single & Multi Point Systems Fuel Injection Pressure Testing Kit

Full fuel injection kit for single & multi point injection systems

- All standard and specialised adaptors included.
- Gauge 1: Scale 0-10 bar 0-145 psi Diameter 100mm
- Gauge 2: Scale 0-2 bar 0-30 psi Diameter 80mm
- **Upgrade Kit available:**  
**314810** Landrover Adaptor Kit



#### Contents

Part No.	Description	Qty
314871	Gauge Assembly (0-10 bar 0-145 psi)	1
314872	Gauge Assembly (0-2 bar 0-30 psi)	1
314873	Tap Assembly	1
314855	Long Hose	2
314827	1/4" Hose Coupling	1
314828	5/16" Hose Coupling	1
314829	3/8" Hose Coupling	1
314802	M8 x 1 Connector Set	1
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314830	Conical Adaptor 1/4" BSP	1
314876	Conical Adaptor M16 x 1.5	1
314870	GM Adaptor	1
314880	Ford EECIV Adaptor	1
314817	PGMFI Adaptor	1
314864	M6 Connector	1
314885	System Connector	1
314890	System Connector (Renault)	1
314808	Sight Tube	1

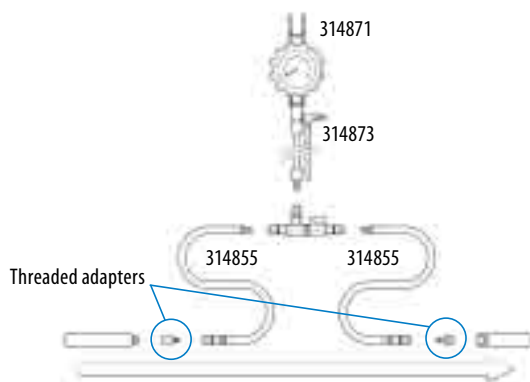
#### Applications

System	Bosch	Mono Motronic	MA3.0 A2.2 SPI
		Magnetti Marelli	G6 Mono G5 Mono
Vehicle	Audi	Bosch	Mono Motronic
	Citroen	Bosch	MA3.0 A2.2
		Magnetti Marelli	G6 Mono G5 Mono
	Ford	Weber CFI	
	Peugeot	Bosch	MA3.0 A2.2
		Magnetti Marelli	Mono G6 Mono
	Renault	Bosch	SPI
	Rover	Mems SPI	
	GM	Multec SPI	
	VW	Bosch	Mono Motronic

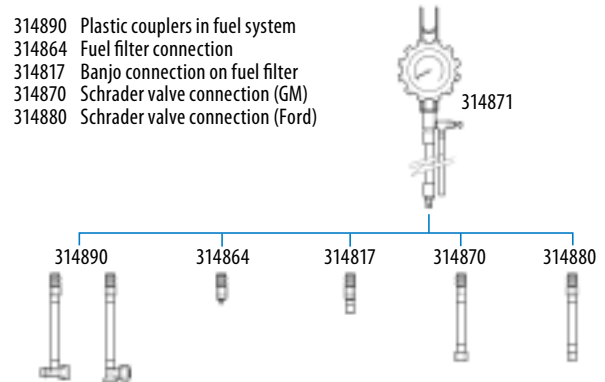
#### Applications

System	Bosch	K, KE, KE3, LE2, LE3, LH Jetronic, M1.3, M1.7, M2.5, MP3.1, ML4, ML4.1,
	Motronic Weber Marelli	IAW
Vehicle	Daihatsu	FEI
	Fiat	SPI, Weber, IAW
	Ford	EECIV/EFI (including Zetec), Weber CFI
	GM	Multec-M
	Honda	PGMFI
	Lucas	I, Hotwire, Digital
	Mazda	EGI
	Mitsubishi	ECI, MPI
	Nissan	EFI, ECCS
	Renault	R Electronic
	Rover	SPI, PGMFI
	Subaru	MPFI
	Suzuki	EP
	Toyota	EFI, TCS
	VW	Digijet, Digifant, VAG, MPI

#### Typical connection to fuel system using adaptors and tap assembly



#### Typical connection to fuel system using specialised adaptors





## Fuel and Exhaust

# Catalyst Back Pressure Tester

**314400**

## Catalyst Back Pressure Tester

Many factors can cause a catalytic converter to fail, causing general poor running and high fuel consumption. A visual inspection of the exhaust system is time consuming and often of limited use.

The Catalyst Back Pressure Tester works by simply fitting into the oxygen (lambda) sensor port to measure the back pressure in the exhaust - a blockage usually indicates a blocked or broken catalytic converter.

- Calibrated, dual scale gauge is colour coded to indicate a progressive pass/fail for idle and loaded tests.
- 2m heat resistant gauge hose for dynamic testing.
- Fits most European, Japanese and Asian vehicles with M12 x 1.25 and M18 x 1.5 oxygen (lambda) sensor ports.
- Gauge scale -1 to + 2 bar

### Contents

Part No.	Description	Thread Size
314401	Pressure Gauge and Hose Assembly	-
314402	Oxygen (Lambda) Connector	M18 x 1.5
314403	Oxygen (Lambda) Connector	M12 x 1.25
014105	Thread Restorer	M18 x 1.5
014106	Thread Restorer	M12 x 1.25



- **Special Adaptor available: 314404** Toyota Vehicles
- **Spare Parts: 314415** Seals and Washers Service Kit

## Fuel and Exhaust

# Vacuum System Testers

**013910**

## Vacuum Pressure Pump Kit

A hand held pump used to generate pressure or vacuum.

- Pressure 0 - 4bar, 0 - 60psi, vacuum 30" HG, 0 to -1 bar.
- Kit includes a pump that can produce either a vacuum or pressure.
- Simple rotary tap design allows pressure or vacuum to be selected at will.
- Large integral gauge gives clear and accurate readings.
- Kit includes all fitting and accessories for the siphoning of fluids and brake bleeding as well as connectors for vacuum and pressure system testing.
- Supplied in blow moulded case with instruction booklet.
- **013915** Replacement Bottle & Fittings



## Fuel and Exhaust

# Vacuum System Testers

013970

### Vacuum Testing – Vacuum Gauge Test Kit

- Tests vacuum related systems including ignition, carburettors, automatic transmissions, computer systems, fuel systems etc.
- **Specification**
  - Heavy duty 80mm dual scale compound gauge.
  - Gauge scales 0-30in Hg mercury / bar, or mmHg / psi.
- Supplied with a selection of suitable connectors and one metre of 3/16 (od) x 1/16 (id) polyurethane hose.
- Complete with comprehensive instruction manual.
- Also suitable for bleeding brakes and checking brake servos.
- Identifies leaks in fuel lines, air-conditioning systems, heater cores, motorcycle and marine engine crank cases.



#### Contents

Part No.	Description
013975	Vacuum Gauge Assembly
013972	Polyurethane Hose 1/16 id (3/16 od) 1m
013976	Set of vacuum connectors (4)

013900

### Vacuum Systems Tester

For identifying faults on vacuum operated and controlled fuel and ignition systems, emission control systems and automatic transmissions. Assists in the diagnosis of mechanical engine faults; checks fuel and vacuum pumps, vacuum advance/retard timing mechanisms, exhaust gas re-circulation systems, canister purge valves, fuel pressure regulators and MAP sensors. Also suitable for bleeding brakes and checking brake servos.

Identifies leaks in fuel lines, air conditioning systems, heater cores, 2 stroke motorcycle and marine engine crankcases.

- Fully serviceable, precision die cast metal hand pump, develops and holds vacuum.
- Dual scale gauge reading 0-76cm (0-30 ins) hg mercury.
- Comprehensive range of tapered nozzles and manifold plugs for most vacuum test applications.
- 32mm rubber cap adapter for obtaining vacuum where standard tapered nozzles are not suitable.
- Supplied with 3 snap-over bleed nipple adapters plus 120ml reservoir jar for brake bleeding applications.
- Complete with comprehensive instruction manual and storage case.



#### Also available:

- 013908** Dual Pressure Vacuum Gauge
- 013915** Replacement Bottles & Fittings

#### Specifications

Max. Vacuum	Stroke Volume	Max. Pressure	Gauge Scale	Gauge Accuracy	Gauge Dia.	Overall Length	Reservoir Volume	Hose Length	Hose Dia.	In Line Reducer Dia.
23-25 hg 0-1 bar	1 cu.in.	60 psi 0-4 bar	0-76cm (0-30ins) hg	+/- 2% @ 20ins hg	53	235	120ml	610mm x 2	6.35	6.35 to 4.75

To upgrade for testing turbo charger waste gates: 013907 Compound Gauge Assembly

## Fuel and Exhaust

# Diesel Injector Tester

### 314500

## DITA Diesel Injector Tester and Aspirator

A mechanical pressure tester and aspirator for checking the correct operation of diesel injectors. Tests nozzle opening pressure, injector spray pattern, correct needle seating. Helps in the diagnosis of injector chatter and back leakage. For all mechanical diesel injectors with 12mm or 14mm screw fittings. Bench mounted for safe and easy operation.



- The large, easy to read dual scale gauge is mechanically damped to prevent over-pressurisation.
- Built in aspirator removes potentially dangerous mist away from the operator, allowing visual inspection of the injector spray pattern against the mirrored disc.
- Aspirator features safety viewing screen and PC compatible compressed air line connection.
- Universal clamp securely holds injectors whilst carrying out test procedures.
- Level indicator in aspirator base indicates when the reservoir needs draining. Test fluid can be re-used.
- Complete with 12mm and 14mm quick-fit injector adaptors.
- **Spare: 314505** Injector Pipe Assembly, **314519** Injector Clamp

### Specifications

Height	Width	Depth	Gauge Diameter	Gauge Scale	Handle Length	Clamp Spread
500	520	410	107	0-400 bar	420	70

## Fuel and Exhaust

# General Fuel and Exhaust Tools

### 021800

## Exhaust Pipe Cutter 28-68mm

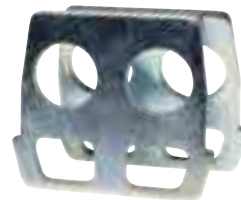
- Suitable for use on aluminium, brass, copper or steel (thin wall tubing), the cutter has an adjustable T bar handle and is quick and easy to use.
- **Spare: 021801** Spare Chain



### 660400

## Exhaust Clamp Removal Plates - VW

- For the quick and safe removal and installation of exhaust retaining clamps.



### 027600

## Air Blow Gun

- Used for cleaning carburettor jets, fuel lines, brake pipes etc, the gun has an infinitely variable air flow with fingertip control and is also suitable for dispensing of some low viscosity fluids.
- High velocity 100mm nozzle, cranked for easy access.
- High impact resistant body.
- Body threaded 1/4" BSP to accept a quick coupler if required.

