



PEDDERS

COMFORT GAS





THE ROLE PLAYED BY SHOCK ABSORBERS

A shock absorber's main job is to maintain tyre contact with the road. It must also provide driver comfort and ride quality by controlling excessive spring motion (oscillation) that can be caused by unwanted wheel or body motion.

It's the oscillation of the spring and its control that ultimately effects a vehicle's ride and handling characteristics. The more control of unnecessary spring oscillation, the better a vehicle will perform. As driving usually involves hundreds of spring oscillations every kilometre, a key to a shock absorber's performance is its ability to precisely and quickly respond to both unwanted wheel movement caused by road irregularities and vehicle motion produced during steering, braking and acceleration.

In most shock absorbers, this ability to respond is controlled by the flow of oil within the shock. As a vehicle's wheel goes over a bump or into a hole, this movement forces oil inside the shock to pass through a series of valves. The greater the resistance to oil flow through the valves, the firmer the control provided by the shock absorber.

So a shock absorber's performance and ability to respond to road conditions are closely linked to the oil flow within the shock. And that's where Pedders latest design VRD shock absorber come to the fore, bringing with them a breakthrough in ride comfort and handling for the average motorist.



VRD Product Animation - To find out more information on the Pedders VRD shock absorber please visit your nearest Pedders outlet.



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HOW THE VRD SYSTEM WORKS

The secret to Pedders' evolution VRD is a unique, micro orifice (very small passage) located in the shock absorber piston, through which oil flow is controlled.

The passage is extremely narrow and manufactured in a special way so that oil flows freely at low shock speeds but is resisted at higher speeds when oil flow velocity increases (as encountered in rough driving conditions or through frequent changes of direction or acceleration).

Under normal driving conditions, the flow of oil through the micro orifice is continuous. But when the speed of the shock increases, oil is forced through the passage at a faster rate, i.e. a greater volume per second.

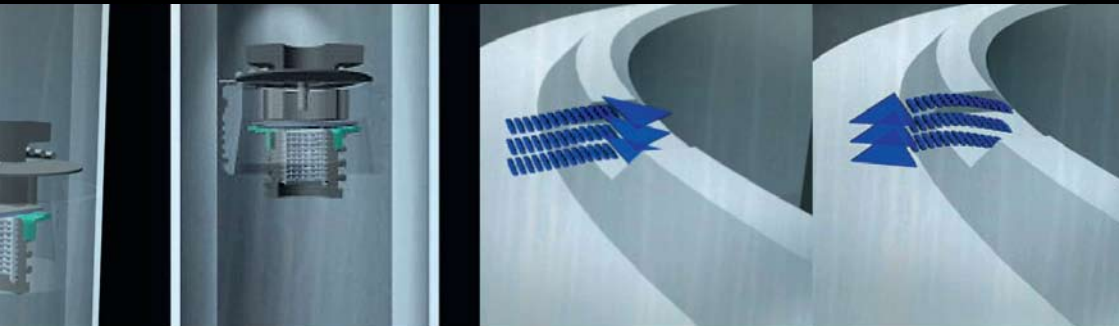
Under these conditions, the layer of oil closest to the orifice's surface is relatively "sticky" and moving slowly while the inner layers flow more quickly. This is due to the laminar, or layered nature of the oil flow.

Therefore, at low shock speeds, the layers flow in a normal manner. But as shock speed, and hence oil flow increases,

so does the resistance to the flow, to a point where no matter how much more pressure is applied, flow is constant.

This is how VRD shocks achieve a progressive, responsive damping rate and offer a variety of benefits compared to conventional shocks:

- The unique nature of the oil flow provides a progressive response to ever changing road conditions. Unlike existing "position sensitive" shock absorbers that switch between firmer and softer control, Pedders VRD shocks provide a progressive shock response rate throughout the full range of shock travel.
- The unique micro orifice has removed the need for an extra valve or diaphragm. This means there are fewer moving parts and hence longer service life.
- The Pedders VRD shock absorber also operates at any ride height whether the car is lowered/raised or loaded/unloaded.



Straight advice, specialists you understand and... No Bull





The new evolution version of VRD from Pedders is a significant breakthrough in the development of shock absorbers. The shocks in the Comfort Gas with VRD range represent the latest technology and bring the average motorist within reach of truly responsive shock absorbers.

The VRD evolution is testimony to Pedders' commitment to research and development that keeps it on track with the ever-changing needs of motorists.

It's a commitment that runs through every one of Pedders' business activities including retail and after sales service and is also why Pedders is leading the way in suspension and steering technology.

Pedders Suspension provides a comprehensive two-year, 40,000km nation wide warranty on Pedders brand-name products designed for road use, including shock absorbers, struts, springs and steering gears.#



#Some exceptions apply.

For further information, contact your nearest Pedders Suspension specialist.



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