



Oil Filter Valves

Depending on the requirement of the filter for an engine, it may contain one or a combination of valves. Here we explain the different valves, their purpose and operation.

Relief Valve

Anti-Drain Back Valve



What is an anti-drain back valve?

A relief valve is located between the element and the inlet holes on the baseplate.

How it operates

- An ADV (made of Silicon or NBR) provides a seal between the element and the inlet holes on the baseplate.
- When the engine is stopped: ADV is closed. Oil cannot drain from filter.
- When the engine is running: Oil pressure opens the ADV and oil passes through the filter.

Purpose

- Keeps the filter full of oil when the engine is switched off.
- Ensures a quick flow of oil to engine on start up.
- Prevents oil draining out from the filter's inlet holes.
- Stops oil from draining out of the filter and oil galleries when the engine is shut down.

Notes

- Ryco ADV's feature a 'cupped central section which acts like a hinge and requires the outer circumference to stretch to reach the open position.
- An o-ring incorporated in this edge regulates the valves to return to closed position.
- Not all filters require an anti-drain back valve due to the design of the engine.

What is a relief valve?

A relief valve is located within a filter between the dirty and clean oil.

How it operates

It allows oil to bypass the filter if it is blocked or if the oil is particularly thick, which happens when an engine is cold.

Purpose

- If the filter clogs, it opens up to allow unfiltered oil to bypass the filter and ensure continued engine lubrication.
- Normally the valve remains in the closed position because the oil flows through the filter media and the oil is effectively filtered and cleaned.
- Some relief valves are built into the engine block, therefore some filters don't contain a relief valve. Alternately some filters may contain an up-front relief valve.

Note

- Competitors may use small relief valves which may not allow the correct flow of oil to the engine when the valve is activated.



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Anti-Syphon Valve

What is an anti-syphon valve?

An ASV is located in the outlet side of a filter.

How it operates

- Activates as a result of oil pressure change.
- Prevents oil from draining out from the filter outlet.
- Is required for applications where the oil filter is mounted in a horizontal or inverted position.

Purpose

- Prevents oil from returning to the engine when switched off.
- Is located within the filter on the outlet side (downstream).

Relief Valve

What is a by-pass valve?

This is not a filter valve and is located on the engine block. Also referred to as a pressure regulation valve.

How it operates

- The valve will open allowing oil to flow into the engine.

Purpose

- Should the filter become blocked, the valve allows oil to bypass the filter if the filter is blocked or the oil is exceptionally thick (high in viscosity) when cold.
- Sometimes referred to as a safety valve.

