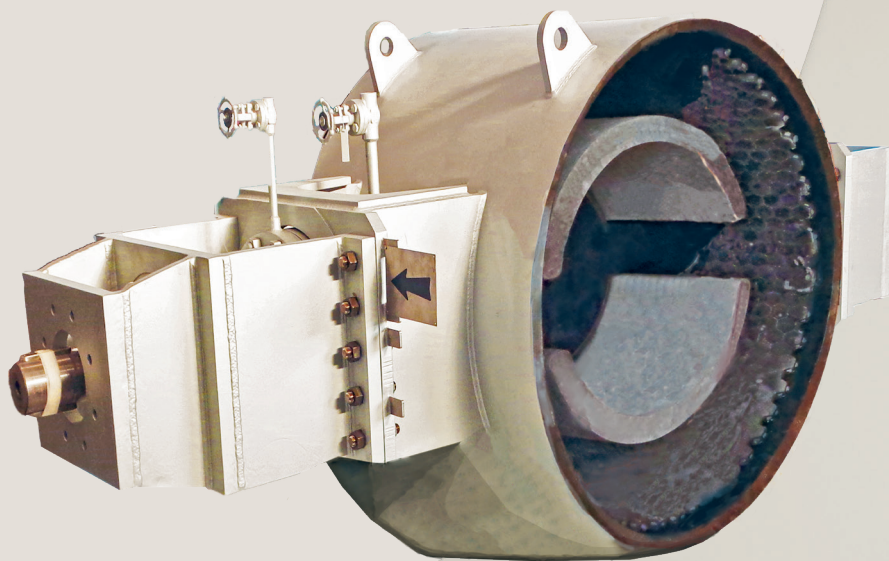


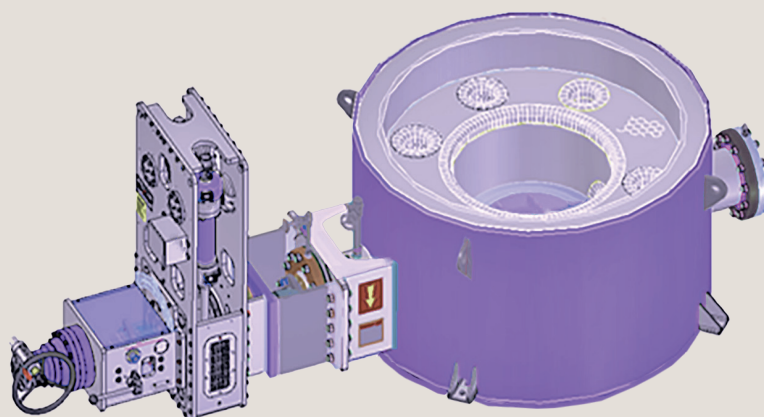


Process Automation

IMI Remosa
Variable Orifice Valves



Breakthrough
engineering for
a better world



Fluid Catalytic Cracking

Variable Orifice

IMI Variable Orifice Valves (VOV) are a perfect solution for managing the pressure profile of flue gas obtained from the catalyst regeneration process. They also provide precise management of pressure drops to optimise production processes.

Pressure Drop Management: These valves are used to drop the pressure of flue gas before it reaches the CO boiler or other enthalpy recovery device. The number of VOVs installed in series depends on the required pressure drop profile.

Installation Flexibility: VOVs can be installed either in a vertical or horizontal position, with horizontal or vertical shaft, depending on plant layout.

Multiple Orifices and Butterfly Disc: The valves feature multiple static orifices and a concentric butterfly disc. The orifices generate a minimum pressure drop, while the butterfly disc adjusts the variable pressure drop.

Abrasion Resistance: The main plate, which contains the orifices and butterfly disc, is protected by an abrasion-resistant lining.

High-Temperature Operation: The butterfly shaft is made from Inconel X-750 to withstand high operating temperatures.

These features make IMI VOVs highly effective for controlling pressure in demanding environments.

Product specifications

Production range: Any size can be handled; each unit is custom manufactured to fit the existing flue gas line size.

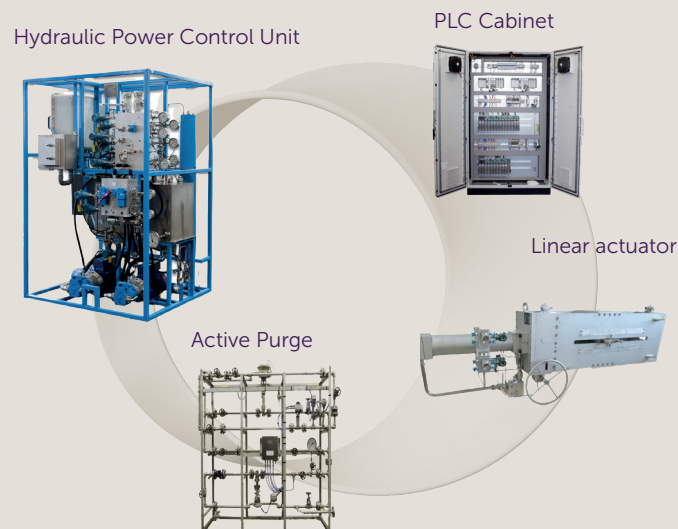
Temperature Limits: Up to 950°C (1740°F) for cold-wall design and up to 850°C (1560°F) for hot-wall design.

Materials: SA 240 304 H, Alloy X-750 with THT, Stainless steel, stellite hardfacing.

- Any detail is customisable.
- Lightweight rigid disc design.
- Large range of control.

Full package solution

IMI's engineering experts have developed integrated packages that combine valves, actuators, and hydraulic power control units. These packages are tailored to meet customer needs for high-temperature and erosive applications. The goal is to provide a comprehensive solution that ensures optimal performance and reliability in demanding process conditions.



Benefits

The VOV stack does not interfere with the process, typically handled by a double disc flue gas slide valve, so no modifications of the control loop are required.

The number of VOVs in the series depends on the total pressure drop required. The variable orifice valves are installed after the flue gas slide valve in a vertical position or in horizontal position, according to the piping layout. Each VOV drops the flue gas pressure through the static orifices and the butterfly disc.

The multiple orifices are through holes drilled in the VOV's orifice plate arranged perpendicularly to the gas stream. In the same orifice plate a concentric butterfly disc is arranged. The orifice's dimension number is calculated to provide a

minimum pressure drop, while the variable fraction of the control range is provided by the butterfly disc.

The VOV's shell can be cold wall as well as hot wall according to the pipe where it is installed. The main plate is protected by abrasion resistant lining.

Due to the high operating temperature, high performance nickel alloys are used for the butterfly valve.

By contrast to the orifice chamber which is a completely static device, the variable orifice valve is able to keep a constant pressure drop as the flow rate changes.

Application example



Process Automation

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