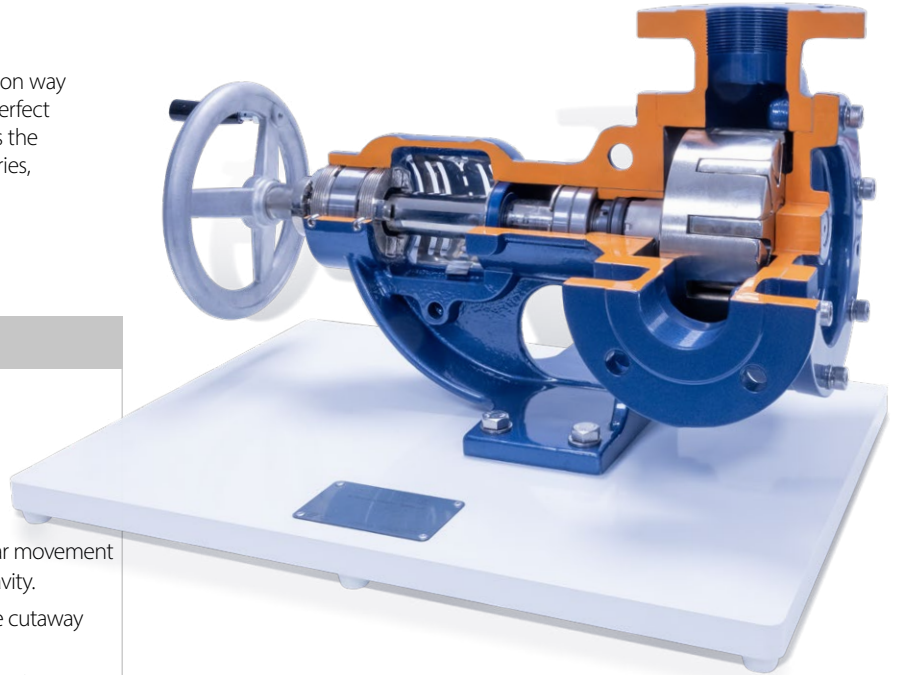


ME
SERIES

Cutaway Gear Pump – ME4

The Armfield ME4 Cutaway Gear Pump provides a unique, hands-on way to understand the internal workings of an industrial gear pump. Perfect for educational and research environments, this model showcases the construction and operation of gear pumps used in various industries, including food processing, chemicals, and manufacturing.

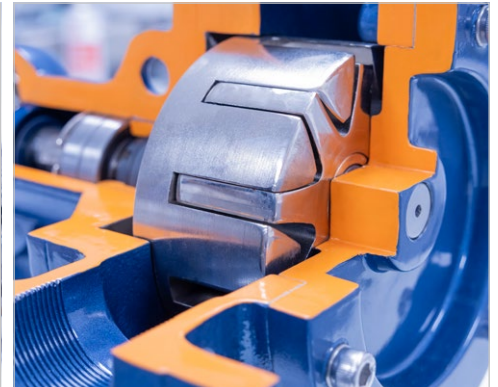
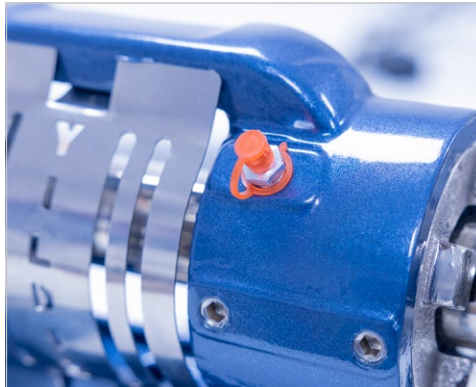
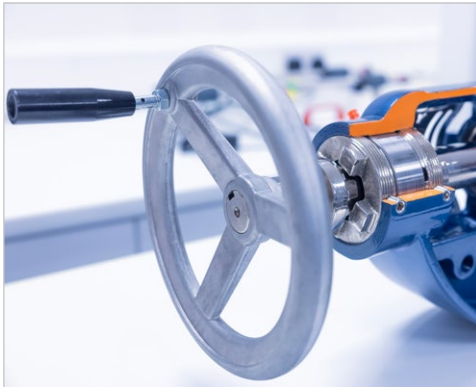
Its high-quality cutaway design offers clear visibility of the internal components, making it an ideal teaching tool for fluid mechanics and engineering courses.



Instructional capabilities

The ME4 Cutaway Gear Pump supports the following instructional objectives:

- ▶ Visualisation of Key Components: Highlights essential parts such as rotor and idler gears, casing, sealing mechanisms, and inlet/outlet ports.
- ▶ Understanding Operating Principles: Demonstrates how gear movement generates fluid flow by creating and maintaining a sealed cavity.
- ▶ Hands-on Learning: Encourages student interaction with the cutaway model for enhanced engagement.
- ▶ Illustrating Design Principles: Highlights features like eccentric design, sealing technology, and pressure balancing.



Operating Principle of a Gear Pump

The ME4 represents an internal eccentric gear pump. Its operation relies on the interaction of two rotating gears:

- ▶ **Rotor Gear:** The primary driving gear connected to the motor shaft.
- ▶ **Idler Gear:** Positioned eccentrically relative to the rotor, with fewer teeth to create the required displacement.

As the rotor turns, the gears engage and disengage, forming sealed pockets that move fluid from the suction side to the discharge side. A crescent-shaped seal in the casing prevents fluid backflow, ensuring efficient, continuous operation.

Applications

The ME4 is ideal for training and research in:

- ▶ **Educational Settings:** Universities and technical schools focusing on fluid mechanics and mechanical engineering.
- ▶ **Idler Gear:** Positioned eccentrically relative to the rotor, with fewer teeth to create the required displacement.
- ▶ **Industrial Training:** Operator and technician training programs.
- ▶ **Demonstration Environments:** Exhibitions or training labs where pump mechanics need to be visualised clearly.

Technical specification and features

Valve Size	DN50 2"
Body material	Cast Iron
Gear Pump material	Stainless steel
Temperature Range	0°C to 200°C
Design features	Pressure-relief valve
	Bypass capabilities for added safety

Overall dimensions

Length	0.300m
Width	0.200m
Height	0.410m (Handle in on position)

Packed and crated shipping specifications

Volume	TBC m ³
Gross Weight	TBC kg

Ordering codes

- ▶ ME4

Armfield standard warranty applies with this product