# <u>armfield</u>



## **New Machine Elements Range Brochure – ME Series**

The Armfield Machine Elements product range has been designed to teach hands-on industrial skills, demonstrate the principals and content of machine components and to prepare students for work in real industrial environments.

The range allows students to fully understand the function and main components of universally used machine elements, including the ability to strip and repair real industrial pumps, valves and equipment.

Several static models are also available within this range to show the principle elements of heat exchangers and separation processes.

TEACHING AIDS FOR HANDS OF TRAINING





USA office - email: info@armfield.inc

tel: 609 208-2800 ( USA only )





### Index – ME Series

Issue: Provisional

	(Click) to page
Additional cutaway pumps available in the range	5, 8
Additional cutaway steam turbines available in the range	8
Additional dissectible pumps and valves available in the range	9
INDEX	2
ME1 Close-Coupled Centrifugal Pump	4
ME2 Long Coupled Centrifugal Pump	4
ME4 Internal Gear Pump	4
ME6 Vane Pump	4
ME7 Triple Screw Pump	5
ME21 Ball Valve	5
ME24 Globe Valve	6
ME27 Butterfly Valve	6
ME30 Ball Check Valve	6
ME31 Swing Check Valve	6
ME32 Disk Check Valve	7
ME33 Lift Check Valve	7
ME40 Spring Safety Relief Valve	7
ME51 Steam Turbine without Governor	8
ME61 Single-Stage Centrifugal Pump	9
ME301 Fixed Tube Sheet Single Pass Heat Exchanger	3
ME302 U Tube Heat Exchanger	3
ME303 Vertical Thermosyphon Reboiler	3
ME304 Plate Heat Exchanger	3
New Machine Elements Cover	1

A range of industrial standard process demonstrators manufactured from precision laser cut clear acrylic, with coloured internal baffles and flanges. The assembly is constructed to replicate a standard industrial design.

#### **Technical specifications**

**Product Title:** Fixed Tube Sheet Single Pass Heat

Exchanger

Code: ME301

**Description:** A Fixed Tube Sheet, Single Pass Acrylic

> Heat Exchanger Demonstration Unit for studying the internal construction and assembly of an industrial standard AEL

heat exchanger.

#### ME301 Fixed Tube Sheet Single Pass Heat Exchanger



#### **Technical specifications**

**Product Title:** U Tube Heat Exchanger

Code: MF302

**Description:** A U-Tube Heat Exchanger with single pass

shell for studying the internal construction and assembly of an industrial standard AEU

heat exchanger.

#### ME302 U Tube Heat Exchanger



#### **Technical specifications**

**Product Title:** Vertical Thermosyphon Reboiler

Code: ME303

**Description:** A Vertical Acrylic Thermosyphon Reboiler

Demonstration Unit for studying the internal construction and assembly of a typical industrial Thermosyphon Reboiler.

**ME303 Vertical Thermosyphon Reboiler** 



#### **Technical specifications**

**Product Title:** Plate Heat Exchanger

ME304 Code:

**Description:** A Plate Heat Exchanger demonstration

unit for studying the internal construction and assembly of an industrial standard

13-plate heat exchanger.

#### ME304 Plate Heat Exchanger



USA office - email: info@armfield.inc

tel: 609 208-2800 (USA only)

Contact us: UK office - email: sales@armfield.co.uk tel: +44 1425 478781 (for ROW) © 2018 Armfield Ltd. All Rights Reserved. We reserve the right to amend these specifications without prior notice. E&OE

armfield.co.uk

## armfield

## **Cutaway Pumps and Valves - ME Series**

Our cutaway pumps and valves are manufactured using brand new industrial pumps, sectioned and mounted for easy visualisation of the internal pumps components such as impellers, shafts, bearings and flow As well as our standard product range, we can cut away any industrial pump, valve or other industrial equipment up to several meters in size. We can either source new industrial components or refurbish used and end of life industrial components from your plant, to produce custom cutaway training units.

#### **Technical specifications**

**Product Title:** 2"/DN50 Close-Coupled Centrifugal Pump

Code: ME1

**Description:** A 2" or DN50 inlet cutaway Close Coupled

Centrifugal Pump for studying the internal construction and operation of a close coupled industrial Centrifugal Pump.

#### ME1 Close-Coupled Centrifugal Pump



#### **Technical specifications**

**Product Title:** 2.5" Long-Coupled Centrifugal Pump

Code: MF2

**Description:** A 2.5" or DN65 inlet cutaway Long Coupled

Centrifugal Pump for studying the internal construction and operation of a Long coupled industrial Centrifugal Pump.

**ME2 Long Coupled Centrifugal Pump** 



#### **Technical specifications**

**Product Title:** 2"/DN50 Internal Gear Pump

Code: ME4

**Description:** A 2" or DN50 inlet and outlet cutaway Internal

Gear Pump without bypass, for studying the internal construction and operation of an

industrial Internal Gear Pump.

**ME4 Internal Gear Pump** 



#### **Technical specifications**

**Product Title:** 2"/DN65 Vane Pump

Code: ME6

**Description:** A 2.5" or DN65 inlet and outlet cutaway Vane

Pump for studying the internal construction and operation of an industrial Vane Pump.



USA office - email: info@armfield.inc

tel: 609 208-2800 ( USA only )



Cutaway pumps and valves continued:

#### **Technical specifications**

**Product Title:** 2"/DN50 Triple Screw Pump

Code: ME7

Description: A 2" or DN50 inlet and outlet cutaway Triple-

> Screw Pump for studying the internal construction and operation of an industrial

Multi-Screw Pump.

#### **ME7 Triple Screw Pump**



#### Additional cutaway pumps available in the range

ME3: 2"/DN50 Multi-Stage Centrifugal Pump

ME5: 2"/DN50 External Gear Pump ME8: 2"/DN50 Triple Lobe Pump

ME9: 2"/DN40 Triple Diaphragm Pump ME10: 3/8"/DN10 Triple Diaphragm Pump

#### **Technical specifications**

**Product Title:** 2"/DN50 Ball Valve

Code: ME21

**Description:** A 2" or DN50 inlet and outlet cutaway Ball

> Valve for studying the internal construction and operation of an industrial Ball Valve.

#### **ME21 Ball Valve**



#### **Technical specifications**

**Product Title:** 2"/DN50 Gate Valve

Code: ME23

**Description:** A 2" or DN50 inlet and outlet cutaway Gate

Valve for studying the internal construction and operation of an industrial Gate Valve.

#### **ME23 Gate Valve**



USA office - email: info@armfield.inc

tel: 609 208-2800 ( USA only )

Cutaway pumps and valves continued:

#### **Technical specifications**

**Product Title:** 2"/DN50 Globe Valve

Code: ME24

**Description:** A 2" or DN50 inlet and outlet cutaway Globe

Valve for studying the internal construction and operation of an industrial Globe Valve.

## **ME24 Globe Valve**



#### **Technical specifications**

**Product Title:** 2"/DN50 Butterfly Valve

Code: ME27

Description: A cutaway 2"/DN50 inlet and outlet butterfly

valve for studying the internal construction and operation of an industrial Butterfly Valve.

#### **ME27 Butterfly Valve**



#### **Technical specifications**

**Product Title:** 2"/DN50 Ball Check Valve

Code: ME30

**Description:** A 2" or DN50 inlet and outlet cutaway

unsprung Ball Check Valve for studying the internal construction and operation of an

industrial Ball Check Valve.

ME30 Ball Check Valve



#### **Technical specifications**

**Product Title:** 2"/DN50 Swing Check Valve

Code: ME31

**Description:** A cutaway 2"/DN50 inlet and outlet swing

check valve for studying the internal construction and operation of an industrial

Swing Check Valve.

#### **ME31 Swing Check Valve**



USA office - email: info@armfield.inc tel: 609 208-2800 ( USA only )

Cutaway pumps and valves continued:

#### **Technical specifications**

**Product Title:** 2"/DN50 Disk Check Valve

Code: ME32

**Description:** A 2" or DN50 inlet and outlet cutaway Disc

> Check Valve for studying the internal construction and operation of an industrial

Disc Check Valve.

#### ME32 Disk Check Valve



#### **Technical specifications**

2"/DN50 Lift Check Valve **Product Title:** 

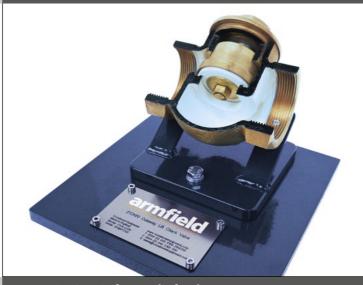
Code: ME33

**Description:** A 2" or DN50 inlet and outlet cutaway Lift

Check Valve for studying the internal construction and operation of an industrial

Lift Check Valve.

#### ME33 Lift Check Valve



#### **Technical specifications**

**Product Title:** 2"/DN50 Spring Safety Relief Valve

Code: ME40

**Description:** A cutaway 2"/DN50 inlet and outlet spring

safety relief valve for studying the internal construction and operation of an industrial

Spring Safety Relief Valve.

#### **ME40 Spring Safety Relief Valve**



USA office - email: info@armfield.inc

tel: 609 208-2800 ( USA only )

Steam turbine & additional pumps cutaway lists:

#### Additional cutaway pumps available in the range

ME22: 2"/DN50 3 - Way Ball Valve

ME25: 2"/DN50 Right-Angled Globe Valve 2"/DN50 Weir Diaphragm Valve ME26:

1"/DN25 Needle Valve ME28:

ME29: 2"/DN50 2-Port Plug (cock) Valve

ME34: 2"/DN50 Electrically Actuated Ball Valve ME35: 2"/DN50 Pneumatically Actuated Ball Valve

ME36: 2"/DN50 Control Valve

ME37: 2"/DN50 3-Way Control Valve

ME38: 2"/DN50 Solenoid Valve

ME39: 2"/DN50 Pressure Reducing Valve

#### **Technical specifications**

**Product Title:** Steam Turbine without Governor

Code: ME51

**Description:** A Cutaway Steam Turbine for studying the

internal construction and operation of a single stage ball bearing type steam turbine

without a governor.

#### **ME51 Steam Turbine without Governor**



#### Additional cutaway steam turbines available in the range

**ME52:** Cutaway Steam Turbine with Governor



USA office - email: info@armfield.inc

tel: 609 208-2800 (USA only)

## **Dissectible Pumps and Valves**

Our dissectible maintenance training kits use new industrial pumps and valves that are commonly used in industrial plants.

Trainees learn about pump/ valve operation, disassembly, refurbishment and re-assembly of a wide range of industrial devices.

The kits are supplied in a toughened case with a full toolkit appropriate for maintenance operations.

Every dissectible maintenance training kit is supplied with an equipment manual and laminated job worksheets with clear instructions on the disassembly, checking and re-assembly of the equipment.

#### **Technical specifications**

**Product Title:** 2"/DN50 Single-Stage Centrifugal Pump

Code: ME61

**Description:** A Brand New Single Stage Centrifugal

Pump with DN50 inlet and DN32 outlet for maintenance and repair training.

The set includes a complete toolkit for pump maintenance operations and laminated job worksheets for disassembly, checking, repair and reassembly of a single stage centrifugal pump.

All components are supplied in a foam lined rugged industrial case for easy

storage and handling.

#### ME61 Single-Stage Centrifugal Pump



#### Additional dissectible pumps and valves available in the range

ME62: 2"/DN50 Long Coupled Single- Stage Centrifugal Pump

**ME63:** 2"/DN50 4 Stage Centrifugal Pump

ME64: 2"/DN50 External Gear Pump
ME65: 2"/DN50 Gear Pump

**ME66:** 1.5"/DN40 Vane Pump

**ME67:** 2"/DN50 Multi-Screw Pump

ME68: 2"/DN50 Lobe PumpME69: 2"/DN50 Diaphragm Pump

**ME70:** 2.5"/DN65 Tri-Rotor Rotary Piston Pump

ME81: 2"/DN50 Ball Valve

**ME82:** 2"/DN50 3-Way Ball Valve

ME83: 2"/DN50 Gate Valve

ME84: 2"/DN50 Globe Valve

ME85: 2"/DN50 Right-Angled Globe Valve

**ME86:** 2"/DN50 Diaphragm Valve **ME87:** 2"/DN50 Butterfly Valve

ME88: 1"/DN25 Needle Valve

ME89: 2"/DN50 2-Port Plug (Cock) Valve

ME90: 2"/DN50 Ball Check Valve

ME91: 2"/DN50 Swing Check Valve

ME92: 2"/DN50 Disc Check Valve

ME93: 2"/DN50 Lift Check Valve

ME94: 2"/DN50 Electrically Actuated Ball Valve

ME95: 2"/DN50 Pneumatically Actuated Ball Valve

**ME96:** 2"/DN50 Control Valve without Positioner

ME97: 2"/DN50 Control Valve With Smart Positioner

**ME98:** 2"/DN50 Dissectible 3-Way Control Valve

ME99: 2"/DN50 Solenoid Valve

**ME100:** 2"/DN50 Pressure Reducing Valve

ME101: 2"/DN50 Spring Safety Relief Valve

#### Warranty

Two year extended warranty on this product

## **Knowledge base**

- > 26 years' expertise in industrial R&D technology
- > 50 years' providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.



#### **Aftercare**

Installation Commissioning Training Service and maintenance Support: armfieldassist.com

### **Our Commitment to you**

Armfield recognises that it is not enough to just supply quality engineering equipment, but that it must also ensure a complete range of services both pre and post-sale:

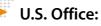
- Supplied equipment meets global curriculum requirements
- Expert consultation in laboratory design and layout
- Professional installation and commissioning service
- Comprehensive training for all products in house or on site
- Detailed learning outcomes and experiments supplied with all equipment
- In house trials (industrial and research)
- Two year warranty on all products
- Dedicated aftersales service



# armfield worldwide

REPRESENTATIVES IN MORE THAN 80 COUNTRY'S

To locate a contact in your area visit: www.discoverarmfield.com/contact



Armfield Inc.

9 Trenton Lakewood Road Clarksburg NJ 08510 USA

Tel/Fax: +1 (609) 208-2800 E-mail: info@armfieldinc.com Support: armfieldassist.com

#### **Head Office:**

**Armfield Limited** 

Bridge House, West Street Ringwood, Hampshire BH24 1DY England

Telephone: +44 (0)1425 478781 E-mail: sales@armfield.co.uk Support: armfieldassist.com



Innovative engineering teaching and research equipment

2018 Armfield Ltd. All Rights Reserved. We reserve the right to amend these specifications without prior notice. E&OE

