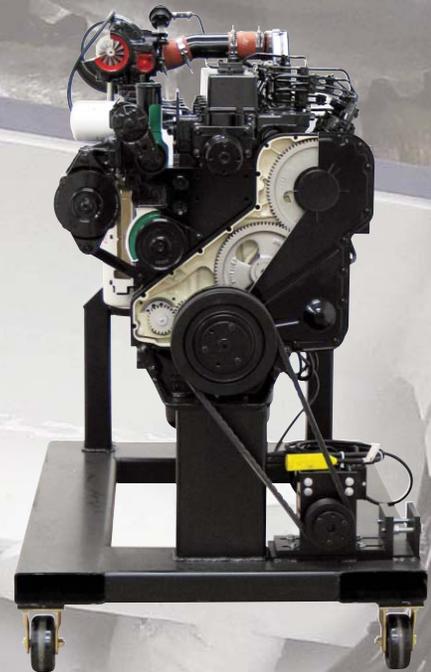


CUTAWAYS



Hampden[®]
ENGINEERING CORPORATION



1500 SERIES CUTAWAYS



Hampden **Model 1500 Series** Cutaway Valves allow for convenient classroom training for the operation, construction, and maintenance of common industrial valves. Through carefully planned sectioning and color-coding, the complete internal configuration of each valve is exposed and showcased. Seal features and hardware locations have been retained, allowing use for “hands-on” training in maintenance.

Hampden **Series 1500** Cutaway Valves consist of the following:

- Sectioning of actual 4” cast iron valve.
- Cleaning, priming, and painting using a high-durability, urethane coating.
- Color-coding of valve body, internal surfaces, seat, and closure devices, using contrasting colors.
- Replacement, plated hardware.
- All gaskets, seals, and seats shown.
- Approximate weight of 40-80 pounds per valve.
- Mounting base with feet.



H-1500-AVC-B
Gate Valve Cutaway
with Base



H-1500-CVC-B
Check Valve Cutaway
with Base



H-1500-BVC-B
Ball Valve Cutaway with Base



H-1500-GVC-B
Globe Valve Cutaway
with Base

Standard Products...Designed to Meet Your Growing Needs!

Hampden Engineering Corporation
1500 SERIES CUTAWAYS

Models

H-1500-ACVC-B Adjustable Check Valve Cutaway with Base

H-1500-AVC-B Gate Valve Cutaway with Base

H-1500-BCVC-B Ball Check Valve Cutaway with Base

H-1500-BTVC-B Barrel Type Valve Cutaway with Base

H-1500-BVC-B Ball Valve Cutaway with Base

H-1500-CAVC-B Control Air Valve Cutaway with Base

H-1500-CVC-B Check Valve Cutaway with Base

H-1500-DFVC-B Double Flanged Valve Cutaway with Base

H-1500-ESDVC-B "ESD" Valve Cutaway with Base

H-1500-GVC-B Globe Valve Cutaway with Base

H-1500-LCVC-B Lift Check Valve Cutaway with Base

H-1500-NRSVC-B Non-Rising Stem Valve Cutaway with Base

H-1500-NVC-B Needle Valve Cutaway with Base

H-1500-PVC-B Plug Valve Cutaway with Base

H-1500-RSVC-B Rising Stem Valve Cutaway with Base

H-1500-RVC-B Safety Relief Valve Cutaway with Base

H-1500-SCVC-B Swing Check Valve Cutaway with Base

H-1500-UVC-B Butterfly/Diaphragm Valve Cutaway with Base

H-1500-WVC-B Wafer Type Valve Cutaway with Base



H-1500-RVC-B
Safety Relief Valve
Cutaway with Base



H-1500-UVC-B
Butterfly/Diaphragm
Valve Cutaway
with Base



H-1500-PVC-B
Plug Valve Cutaway with Base

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1600 SERIES CUTAWAYS



Each of the following Hampden **Model 1600 Series** Cutaway Aids consists of the following :

H-1600-LCC Level Controller Cutaway

- Level troll with displacer and linkage to pneumatic controller
- Sectioned and cutaway color coded parts
- Mounted on a steel base

H-1600-MPM Multi-Pass Floating Head Heat Exchanger Model

- Scale model of an industrial heat exchanger
- Made from 100% clear acrylic for complete visibility
- Mounted on a steel base

H-1600-OPC Orifice Plate Cutaway

- 1.5" orifice plate with flange set
- Sectioned and cutaway color coded parts
- Mounted on a steel base

H-1600-PGC Pressure Gauge Cutaway

- Bourdon tube type pressure gauge
- Sectioned and cutaway color coded parts
- Mounted on a steel base

H-1600-SGC Site Glass Cutaway

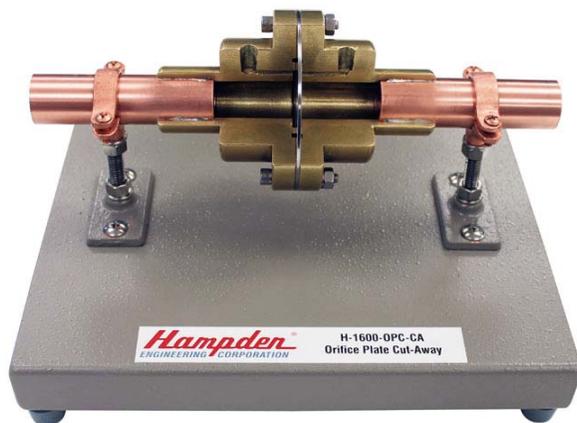
- Site glass with two isolation valves
- Sectioned and cutaway color coded parts
- Mounted on a steel base

H-1600-STC Shell and Tube Heat Exchanger Cutaway

- Shell and tube type heat exchanger
- Sectioned and cutaway color coded parts
- Mounted on a steel base

H-1600-TBC Water Tube Boiler Model

- Small scale, stainless steel, tube in tube boiler
- Sectioned and cutaway color coded parts
- Mounted on a steel base



H-1600-OPC
Orifice Plate Cutaway



H-1600-PGC
Pressure Gauge Cutaway

Hampden Engineering Corporation
1600 SERIES CUTAWAYS



H-1600-MPM
Multi-Pass Floating Head Model



H-1600-TBC
Water Tube Boiler Cutaway



H-1600-STC
Shell and Tube Heat Exchanger Cutaway

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1700 SERIES CUTAWAYS



Hampden **Model 1700 Series** Cutaway Compressors which allow for convenient classroom training in the operation, construction and maintenance of these common pieces, of refrigeration and air conditioning equipment.

Hampden **1700 Series** Cutaway Compressors consist of the following:

- Sectioning of an actual compressor
- Cleaning, priming and painting using a high durability urethane coating.
- Color-coding of cutaway surfaces and internal components
- Replacement plated hardware
- All components are visible
- Steel base plate

Models

- H-1700-10** Hermetic Compressor - Single Cylinder
- H-1700-20** Semi-Hermetic Compressor - Twin Cylinder
- H-1700-30** Open Type Compressor - Single Cylinder
- H-1700-40** Open Type Compressor - Twin Cylinder
- H-1700-50** Rotary Compressor
- H-1700-60** Scroll Compressor



H-1700-20
Semi-Hermetic Compressor



H-1700-60
Scroll Compressor

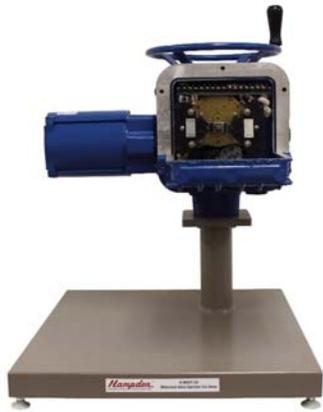


H-RTCW-1
Recovery Cutaway Tank

Hampden Engineering Corporation
MVOT CUTAWAYS

The Hampden **Model H-MVOT-CA** Motorized Valve Operator Cutaway consists of the following features:

- Aluminum and ductile iron housings
- Weatherproof, submersible, and explosion proof construction for the most demanding environments
- Metallic lubricated steel-on-bronze gearing has shaft-supported anti-friction bearings
- Manual declutching disconnects motor from handwheel to protect personnel
- Torque overload protection in both directions
- Motors are optimized for valve actuation



H-MVOT-CA

Motorized Valve Operator Cutaway



H-MVOT-X

Motorized Valve Operator Trainer Cutaway



H-MVOT-2X

Motorized Valve Operator Trainer Cutaway



H-MVOT-2X (Set 1)

Motorized Valve Operator Trainer Cutaway



H-MVOT-2X (Set 2)

Motorized Valve Operator Trainer Cutaway



H-MVOT-2X (Set 3)

Motorized Valve Operator Trainer Cutaway

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Hampden Engineering Corporation

PUMP CUTAWAYS



Hampden Cutaway Pumps are sectioned industrial centrifugal pumps, which allow for convenient classroom training in the operation, construction and maintenance of these common pieces of process equipment. Carefully planned cut way areas and color-coding combine to showcase the internal configuration of each pump.

Hampden Cutaway Pumps consist of the following:

- Sectioning of an actual pump.
- Cleaning, priming and painting using a high-durability urethane coating.
- Color-coding of cutaway surfaces, seal elements, impeller and exterior surfaces using contrasting colors.
- Replacement plated hardware.
- All gaskets, seals and bearings visible.
- Steel channel baseplate.



H-FP-CA
Rotary Pump Cutaway



H-RC-CA
Reciprocating Compressor Cutaway



H-3196-ST
Ansi Pump Cutaway



H-6645
Series/Parallel Pump Trainer

The Hampden **Model H-6645** Series/Parallel Pump Trainer is a tabletop unit for the operation and investigation of series and parallel pump operation. The trainer consists of two centrifugal pumps that are fed by a common water reservoir and a PVC plumbing arrangement, along with five valves that allow various configurations to be implemented.



H-6648
Hampden H-6648 Data Logging I/O Module

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WIND TURBINE CUTAWAYS

Hampden MODEL H-WTS37-CA Wind Turbine Cutaway



The Hampden **Model H-WTS37-CA** Wind Turbine Cutaway demonstrates the internal operation of a wind generator. The Wind Turbine is mounted on a mobile base with two locking casters. For safety reasons the turbine blades have been cut down. The turbine is fully motorized, and is designed to rotate at approximately 3 rpm. The motor is connected to the blade via a slip clutch system that provides an added level of safety. The cutaway areas on the turbine allow full visual access to the internal workings of a wind turbine, such as the alternator, gears, inverter and isolator system. The Hampden **Model H-WTS37-CA** comes with complete detailed decal components. Includes control panel with RPM meter.



Cutaway view
of
wind turbine
generator

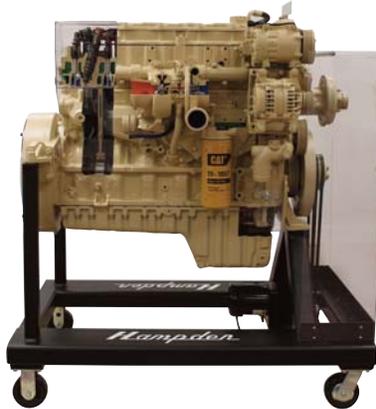


H-WPG-1B-CA Wind Powered Generator Cutaway

provides the student with the ability to understand the internal workings of an actual 400 watt wind generator.



H-CAT-3116-CA
Caterpillar Engine Cutaway
on Mobile Stand



H-CA-C7-CA
Caterpillar C7 Engine Cutaway
on Mobile Stand



H-HMMWV-4L80E-CA
Humvee Transmission Cutaway
on Mobile Stand



H-HMMWV-6.2-CA
Humvee Engine Cutaway
on Mobile Stand



H-HMMWV-6.5-CA
Humvee Engine Cutaway
on Mobile Stand



H-DH-160V4-CA
Engine Cutaway
on Mobile Stand

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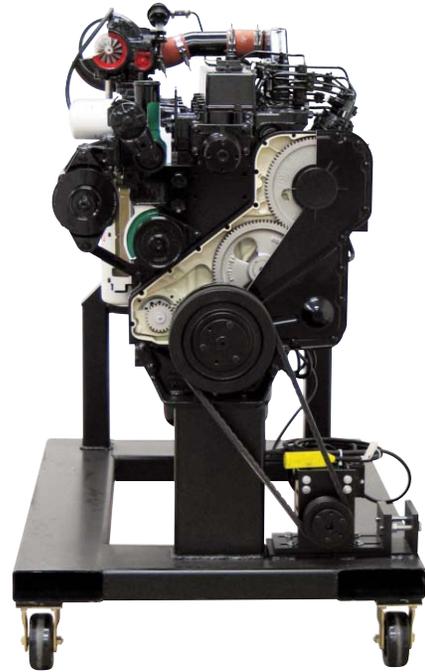
Hampden Engineering Corporation
ENGINE CUTAWAYS

Hampden Diesel Engine Cutaways demonstrate the internal operation of various diesel engines.

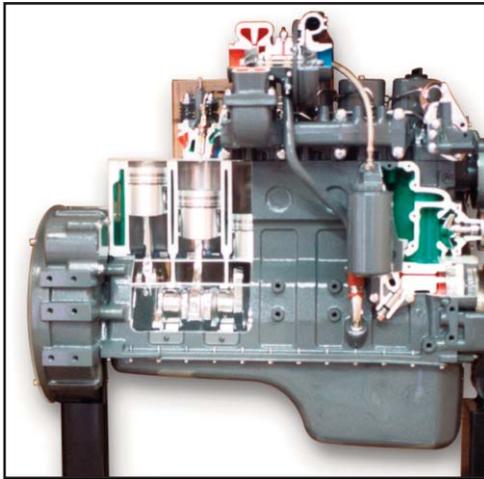
The interior areas of the engine are color coded to show the various systems. Colors used include:

- Red – Lubrication
- Green – Coolant
- Yellow – Fuel
- Light Blue – Combustion, Air
- Dark Blue – Power Train
- Orange – Exhaust

The engines are mounted on stands with casters and are motorized so that the internal parts rotate at approximately 3 RPM. The motor is enclosed with a decorative base cover and the drive mechanism is in an area not visible.



H-CD-46C-CA (4 cycle, 6 cylinder "C")
Cummins Engine Cutaway
on Mobile Stand



← **H-CD-46B-CA (4 cycle, 6 cylinder "B")**
Cummins Engine Cutaway
on Mobile Stand

ENGINE CUTAWAY COMPONENTS



Cylinder Head Cutaway



H-C7-CA
Fuel Injector Cutaway



H-CUMMINS
Cummins Fuel Injector Cutaway

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MOTOR CUTAWAYS

Hampden Motor Cutaways allow for convenient classroom training for the operation, construction, and maintenance of common components. Through carefully planned sectioning and color-coding, the complete internal configuration of each component is exposed and showcased. Seal features and hardware locations have been retained, allowing use for “hands-on” training in maintenance.

Hampden Motor Cutaways are available in two formats. The first format is fully open and will not run. The second format is partially open and will run.

Cutaways consist of the following:

- Sectioning of actual hardware.
- Cleaning, priming, and painting using a high-durability, urethane coating.
- Color-coding of internal surfaces.
- Approximate weight of 40-80 pounds.

Models

DM-100-CA DC Machine

CSM-100-CA Capacitor Start Motor

IM-100-CA Induction Motor

SHPM-100-CA Shaded Pole Motor

WRM-100-3A-CA Wound Rotor Motor

SM-100-3-CA Synchronous Machine

ACUM-100-CA Universal Motor

MFM-100-CA Multi-Function Machine

DSIM-100-CA Dual Speed Induction Motor

SPM-100-CA Split Phase Motor

CASP-1 Single Phase Motor

* Specify *R* = Running, *NR* = Not Running



H-DM-100-CA-R
DC Machine Cutaway



H-IM-100-CA-NR
Induction Motor Cutaway



Hampden is committed to providing industry-leading technology.

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99 Shaker Road P.O. Box 563, East Longmeadow, MA 01028-0563 • TEL. (413) 525-3981 • (888) HEC-CORP • FAX (413) 525-4741