

Animated Hydraulic PowerPoints

BRING HYDRAULIC CONCEPTS TO LIFE FOR YOUR STUDENTS with IntelliSchematic™ Hydraulic PowerPoint™ presentations!

Schoolcraft Publishing now offers dynamic and animated PowerPoint presentations on Hydraulic concepts from IntelliSchematic. These PowerPoints are designed to enhance your presentation of hydraulic valves, pumps, check valves, and hundreds of other topics. Seeing the parts of a hydraulic system function separately and together will help your students visualize and better understand hydraulic principles.

This package consists of: 14 PowerPoint presentations. These presentations contain over 500 slides!

The animated PowerPoints are versatile and adaptable—they work well with any textbook, in a classroom or training environment, or as an excellent stand-alone visual resource.

Introduction to Hydraulics

Energy
Force and Motion
Work
Torque
Power
Horsepower
Conservation of Energy

Flow Rate
Fluid Velocity
Formulas

Pascal's Law
Series Resistance
Parallel Resistance
Load Pressure
Pressure Drop
System Pressure
Flow and Pressure

Basic Components

Fluids
Reservoirs
Pumps

Actuators
Flow Control
Directional Control
Pressure Control
Fluid Filtration

Hydraulic Systems

Industrial System
Mobile System
Schematics

Hydraulic Pumps

External Gear
Crescent
Geroller
Axial Piston
Radial Piston
Vane
Double Pumps
Axial Piston
Vane
Radial Piston
Pressure Compensated
Load Sense

Hydraulic Actuators

Tie Rod Cylinders
Mill Cylinders
Welded Cylinders
Telescoping Cylinders
Rotary Actuators
External Gear
Geroller
Geroter
Axial Piston
Bent Axis Piston
Radial Piston
Cylinder Symbols
Motor Symbols

Hydraulic Valves

Pressure Control
Direct Acting Pressure Valves
Pilot Operated Pressure Valves
Relief Valve
Remote Pressure Control
Venting Relief Valve
Reducing Valve

Sequence Valve
Counterbalance Valve
Brake Valve
Unloading Valve

Directional Control

Spool Positions
Spool Center Conditions
Open Center Circuit
Closed Center Circuit
Direct Acting Valves
Manual Actuator
Mechanical Actuator
Pneumatic Actuator
Hydraulic Actuator
Detent Control
Pilot Operated Directional Valves
Mounting Standards
Mobile Monoblock Valves
Multiple Spool Monoblock
Mobile Sectional Valves
Multiple Spool Sectional Valves
Power Beyond Application

Key Benefits for Teachers/Trainers:

- Flexible classroom options. Walk students through the explanation of concepts using the hundreds of provided slides, and then bring the concepts to life with the detailed and high quality animation that follows.
- Comprehensive coverage of hydraulic concepts.
- You can easily customize a presentation to your lectures and discussions by dropping them into your own PowerPoints for even more flexibility.
- Add your own text and information to our slides and animations to enhance and drive home your curriculum.
- With the Slide View option, students cannot just visualize the concepts but hear the explanations as well—great for quick review to help them prepare for exams and further enhance their understanding, freeing up your time.

Please Note: Animations are PC compatible only



Key Benefits for Students

- Helps you create “aha” moments as students can “see” hydraulic principles in action!
- Builds strong retention when student “see” how things work as opposed to just an explanation.

Flow Control

Gear Type Flow Divider
 Spool Type Flow Divider
 Priority Flow Divider
 Meter-In Flow Control
 Meter-Out Flow Control
 PC Flow Control

Check Valves

In-Line Check Valve
 Pilot Operated Check Valve
 Pre-Fill Valves
 Shuttle Valves

Valve Symbols

Pressure Control Symbols
 Flow Control Symbols
 Directional Control Symbols
 Check Valve Symbols

Hydraulic Modular Valves

Stack Valves
 Manifold Application
 Schematic Arrangement
 Cartridge Valves
 Pressure Control
 Flow Control
 Directional Control
 Logic Valves
 Pressure Control
 Directional Control
 Flow Control

Accumulators

Piston Type
 Bladder Type
 Supplemental Flow
 Maintain Pressure
 Shock Suppression
 Safety Isolation

Fluid Conditioning

Filtration
 Micron
 Beta Ratio
 ISO Code
 Filter Operation

Filter Breather
 Pressure Filter
 Return Filter
 Kidney Loop Filtration

Industrial
 Industrial Applications
 Mobile

Tank Heaters
 Tube and Shell Heat Exchanger
 Air Cooled Heat Exchanger
 Mobile Heat Exchanger

Filter Symbols
 Reservoir Symbols
 Heat Exchangers

Fluid Conductors and Connectors

Hose
 Tubing
 Pipe
 Quick Disconnects
 Minimus Connector

Connectors
 Hose Connectors
 Tube Connectors
 Adapters

Ball Valves
 2-Way
 3-Way

Flow Consideration
 Conductor Sizing
 Flow Velocity

Sensors and Switches

Flow and Pressure
 Pressure Gauge
 Flow Meter

Electromechanical Switches
 Pressure Switch
 Limit Switch
 Temperature Switch
 Level Switch

Proximity Switches

Inductive
 Capacitive
 Optical

Transducers

Pressure
 Temperature

Hydrostatic Transmissions

Open Circuits
 Closed Circuits
 Hydrostatic Drive Schematic

Forward
 Neutral
 Reverse

Proportional Control Valves

Intro to Proportional Controls
 Theory of Operation
 Force Solenoid
 Control Amplifier
 Pulse Width Modulation
 Feedback Control

Applications

Directional Control
 Pressure Control
 Flow Control

Mobile

Electronics
 Proportional Valves

Circuit Types

Open Loop Circuit
 Closed Loop Circuit

Hydraulic Troubleshooting

Hydraulic Safety
 Application of Principles
 Hydraulic Symbols
 Reading Schematics
 Mobile Circuits
 Industrial Circuits

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