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**Course Name**

# Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

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**Sector Name**

Mechanical Engineering

**Document Type**

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Course Introduction

In today's industrial landscape, the efficient operation of hydraulic systems is paramount across a multitude of sectors, ranging from manufacturing and construction.

Understanding the intricate workings of Hydraulic Power Units and Knife Gate Valves is essential for ensuring smooth operations, optimal performance, and, most importantly, safety within these systems.

This training program is meticulously crafted to provide participants with a comprehensive understanding of HPUs and KGVs, from their fundamental principles to their practical applications.

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Target Audience

- ✓ Mechanical Engineers and Technicians involved in the design, operation, and maintenance of hydraulic systems
- ✓ Maintenance and Reliability Engineers responsible for system integrity and troubleshooting
- ✓ Plant Operators and Supervisors working in manufacturing, mining, water treatment, or construction industries
- ✓ Industrial Equipment Installers and field service personnel who handle the setup and commissioning of HPUs and valves
- ✓ Technical Trainers and Safety Officers seeking a deeper understanding of hydraulic equipment safety protocols

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Learning Objectives

- ✓ Gain a solid understanding of Hydraulic Power Units (HPU) and Knife Gate Valves (KGV), including their components, functions, and operating principles.
- ✓ Learn about the diverse applications of HPUs and KGVs across various industries, including their roles in hydraulic systems and their specific advantages in different contexts.
- ✓ Understand the importance of safety protocols and best practices when working with hydraulic systems and knife gate valves, ensuring the well-being of both personnel and equipment.
- ✓ Develop the skills necessary to operate, control, and maintain hydraulic systems featuring HPUs and KGVs effectively, including hands-on experience with system components.
- ✓ Acquire the ability to diagnose and troubleshoot common issues encountered in hydraulic systems and KGVs, enabling timely interventions and minimizing downtime.
- ✓ Learn how to integrate Knife Gate Valves seamlessly into hydraulic systems, optimizing performance and ensuring compatibility with Hydraulic Power Units.
- ✓ Identify relevant industry standards, regulations, and compliance requirements pertaining to hydraulic systems and knife gate valves, ensuring adherence to legal and safety guidelines.

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Course Outline

#### ✓ DAY 01

##### **Introduction to Hydraulic Power Units (HPU)**

- ✓ Overview of hydraulic systems
- ✓ Components of an HPU
- ✓ Types of HPUs and their applications
- ✓ Safety precautions when working with hydraulic systems

##### **Hydraulic Fluids and Filtration**

- ✓ Properties of hydraulic fluids
- ✓ Importance of proper fluid selection
- ✓ Filtration systems and their role in maintaining hydraulic system health
- ✓ Fluid testing and filtration demonstration

##### **Hydraulic Pumps and Motors:**

- ✓ Types of hydraulic pumps and motors
- ✓ Operating principles and characteristics
- ✓ Pump and motor selection criteria
- ✓ Troubleshooting common pump and motor issues

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Course Outline

#### ✓ Day 02

##### **Hydraulic Valves**

- ✓ Introduction to hydraulic valves
- ✓ Types of hydraulic valves and their functions
- ✓ Valve symbols and diagrams
- ✓ Valve maintenance and troubleshooting

##### **Introduction to Knife Gate Valves (KGV)**

- ✓ Overview of Knife Gate Valves
- ✓ Applications and industries where KGVs are used
- ✓ Construction and working principle of KGVs
- ✓ Advantages and limitations of KGVs

##### **Knife Gate Valve Types and Selection**

- ✓ Different types of KGVs
- ✓ Factors to consider when selecting a KGV
- ✓ Installation requirements and considerations
- ✓ **Practical exercise:** KGV selection based on application scenarios

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Course Outline

#### ✓ Day 03

##### **Knife Gate Valve Operation and Maintenance**

- ✓ Operating procedures for KGVs
- ✓ Preventive maintenance practices
- ✓ Troubleshooting common KGV issues
- ✓ Hands-on session: Disassembly and reassembly of a KGV

##### **Hydraulic System Integration with Knife Gate Valves**

- ✓ Integration of KGVs into hydraulic systems
- ✓ Control options for KGVs
- ✓ Interfacing KGVs with hydraulic power units
- ✓ Case studies of successful system integrations

##### **Safety Practices and Regulations**

- ✓ Safety considerations specific to hydraulic systems and KGVs
- ✓ Regulatory requirements and standards
- ✓ Risk assessment and mitigation strategies
- ✓ Emergency procedures and shutdown protocols

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## Hydraulic Power Unit (HPU) and Knife Gate Valve (KGV)

### Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
Aug. 10, 2026	Aug. 12, 2026	3 days	3250.00 \$	UAE , Abu Dhabi
June 8, 2026	June 10, 2026	3 days	3250.00 \$	UAE , Dubai
April 5, 2027	April 7, 2027	3 days	3950.00 \$	Spain , Madrid
Nov. 2, 2026	Nov. 4, 2026	3 days	3250.00 \$	UAE , Dubai

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