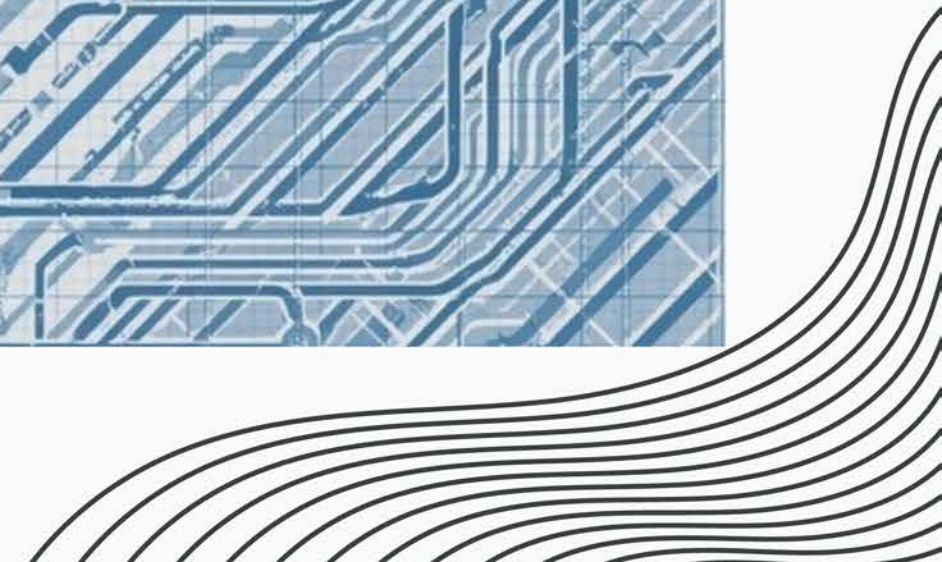
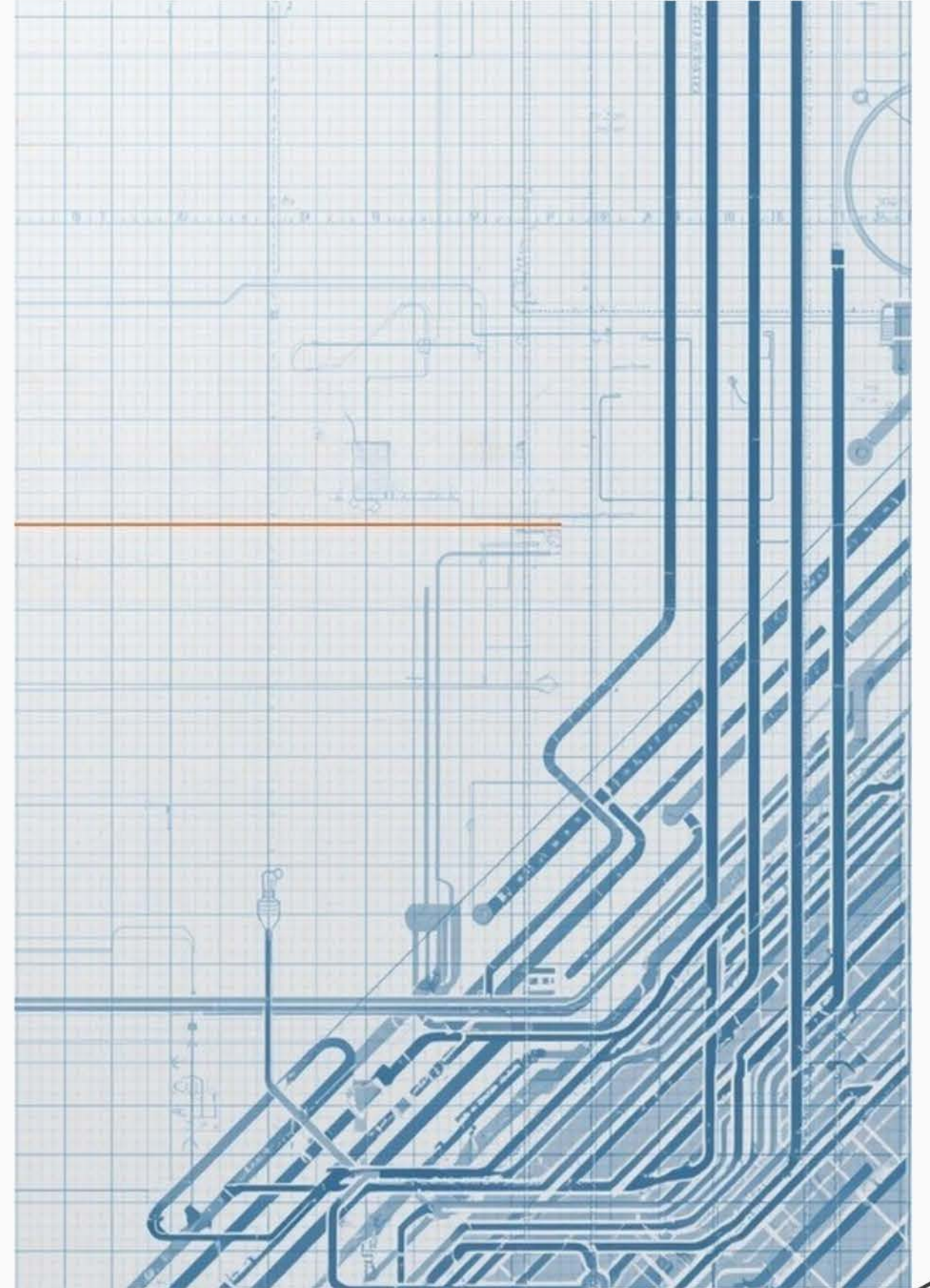


P&IDS & ISOMETRICS. FROM DESIGN INTENT TO BUILD REALITY

A Practical Guide for Engineers and Designers



This mini course is a practical, industry-focused guide to understanding and applying P&IDs and Isometric drawings in real projects. It is designed to bridge the gap between theory, office design work, and what actually happens during construction, commissioning, and operation.

The intent of this course is to help participants read drawings with design intent, translate that intent correctly into buildable isometrics, and understand the downstream consequences of design decisions. It focuses on why things are drawn the way they are, not just how to recognise symbols.

By the end of this course, participants should be able to identify design risks early, produce clearer and more buildable drawings, and think beyond the drawing to the people who must install, operate, and maintain the system.

This course is meant for professionals who want to improve design judgement, reduce rework, and better understand their role in the project lifecycle.


This course is not software training, a drafting tutorial, or a shortcut to senior-level experience.

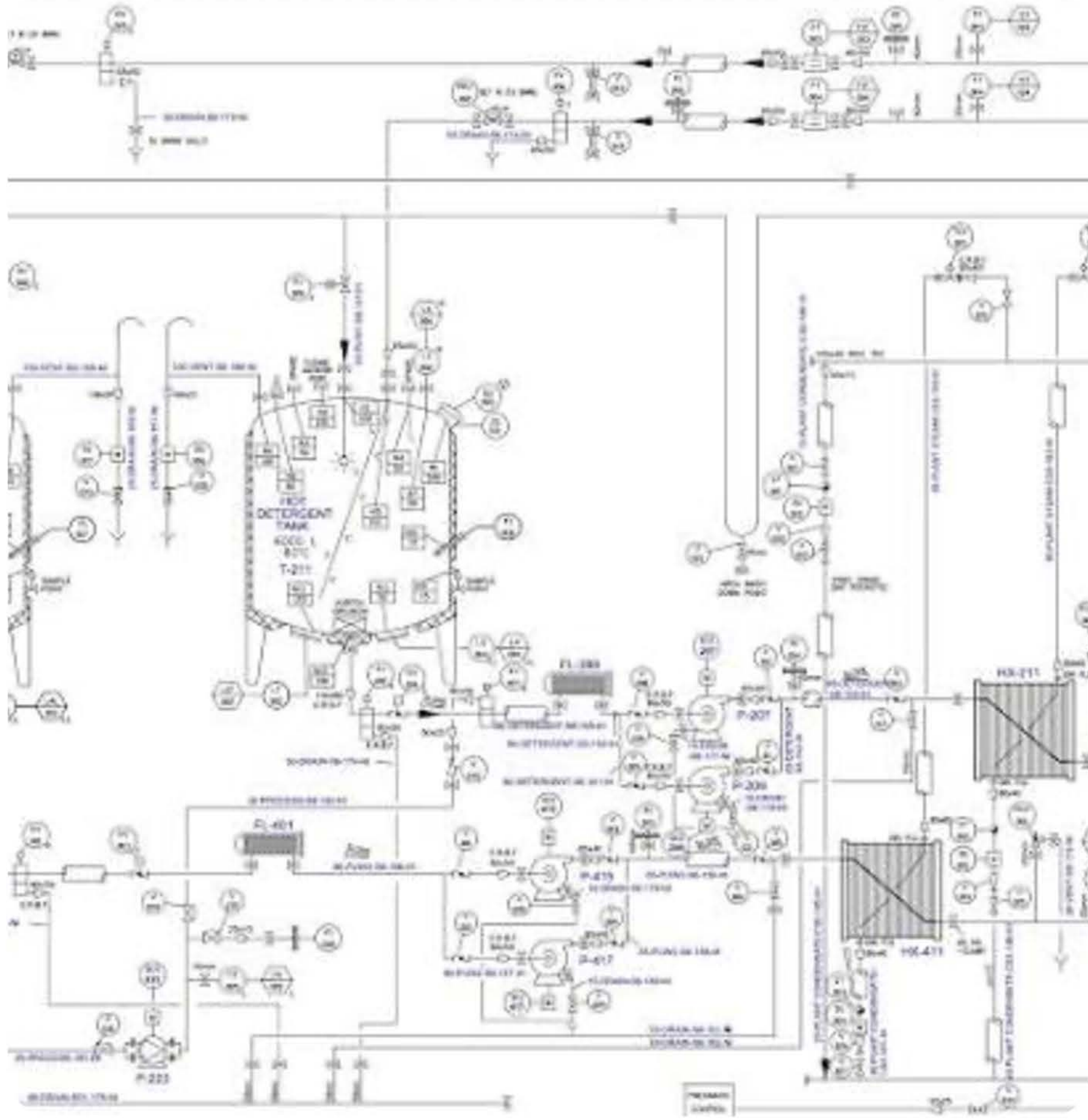
It does not replace engineering qualifications or company-specific standards — it strengthens how you think, review, and apply them.



Table of Contents

Overview of Course Modules

- Module 1: What a P&ID Really Is
 - Module 2: Symbols, Tagging & Intent
 - Module 3: P&ID → Isometric Translation
 - Module 4: Isometric Reviews & Checking
 - Module 5: Constructability & Site Reality
 - Module 6: Commissioning, As-Builts & Feedback
- 



Technical Training Course
**MODULE 1 - What
a P&ID Really Is**





What a P&ID Represents

Understanding the Functional Definition of a System



Nature of P&IDs

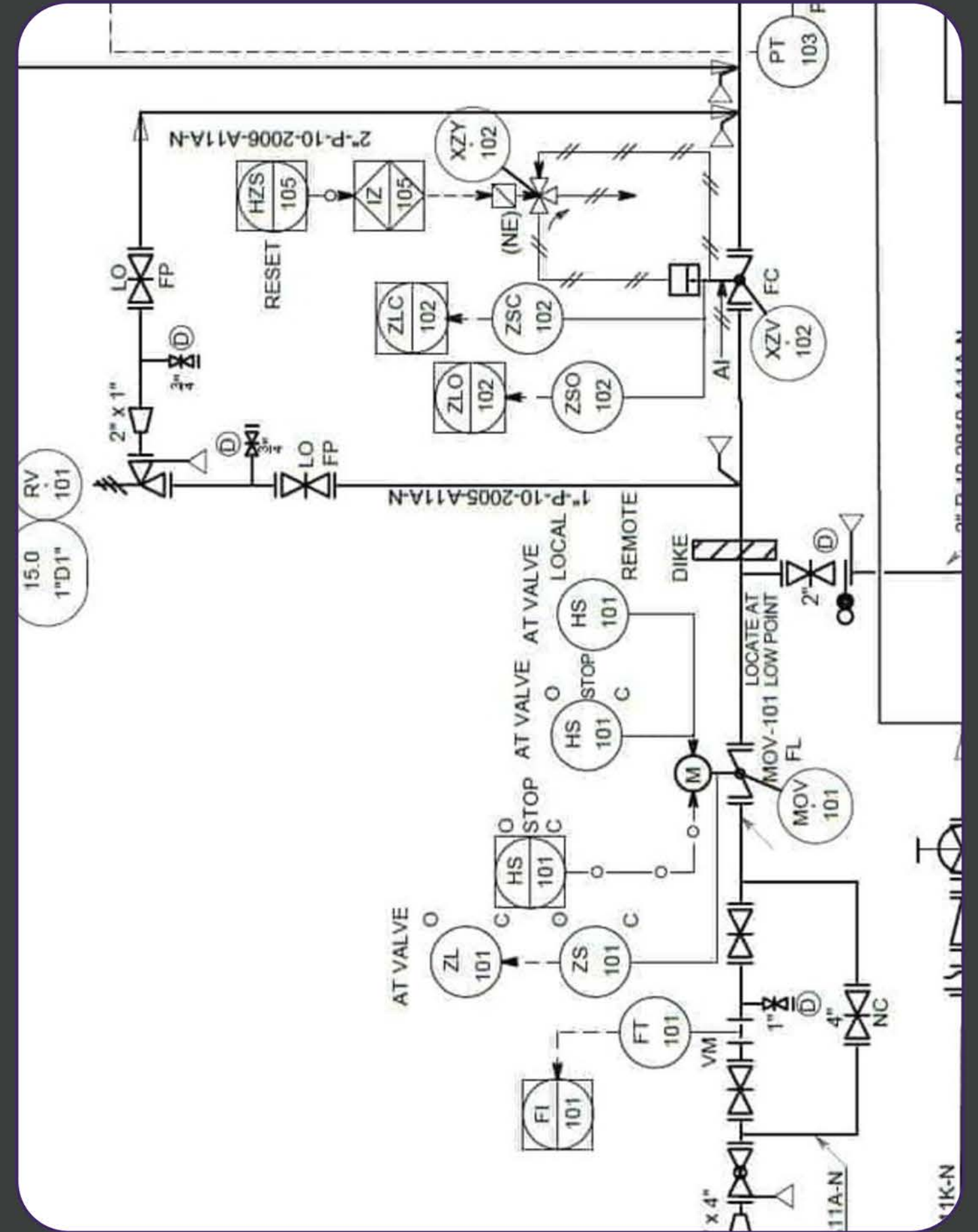
Understanding Their Purpose and Limitations

A P&ID is not a representation of physical reality. It addresses what needs to exist for safe and correct system operation, not installation specifics.



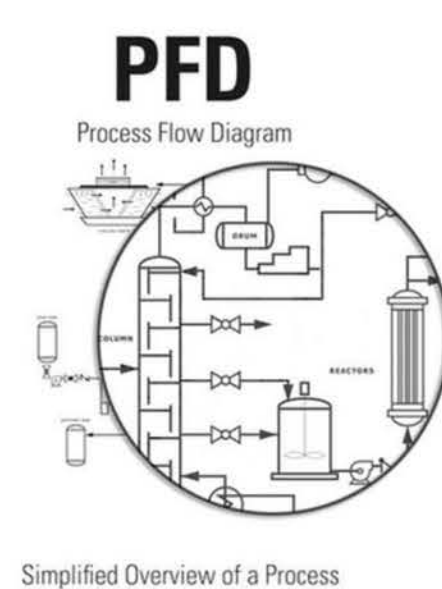
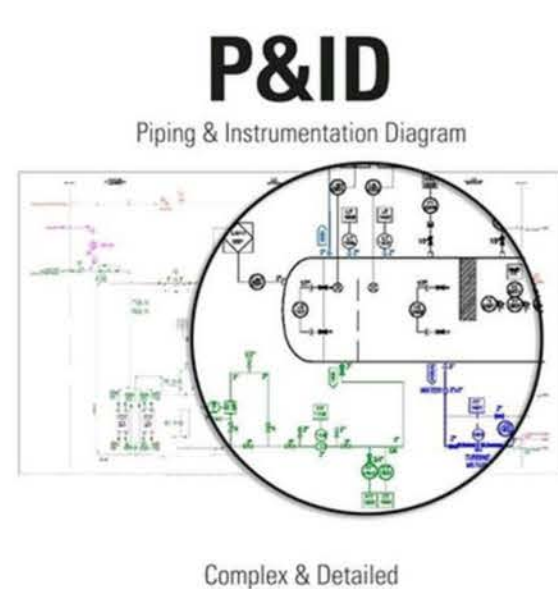
Why P&IDs Are Considered “Live” Documents

P&IDs are essential for ongoing project adjustments, ensuring that they reflect the current state of the system accurately.



Document Types Overview

- PFD: Overall process flow and mass balance
- P&ID: Functional logic and system intent
- GA / Layout: Spatial arrangement
- Isometric: Fabrication and installation
- Datasheets: Equipment-specific detail

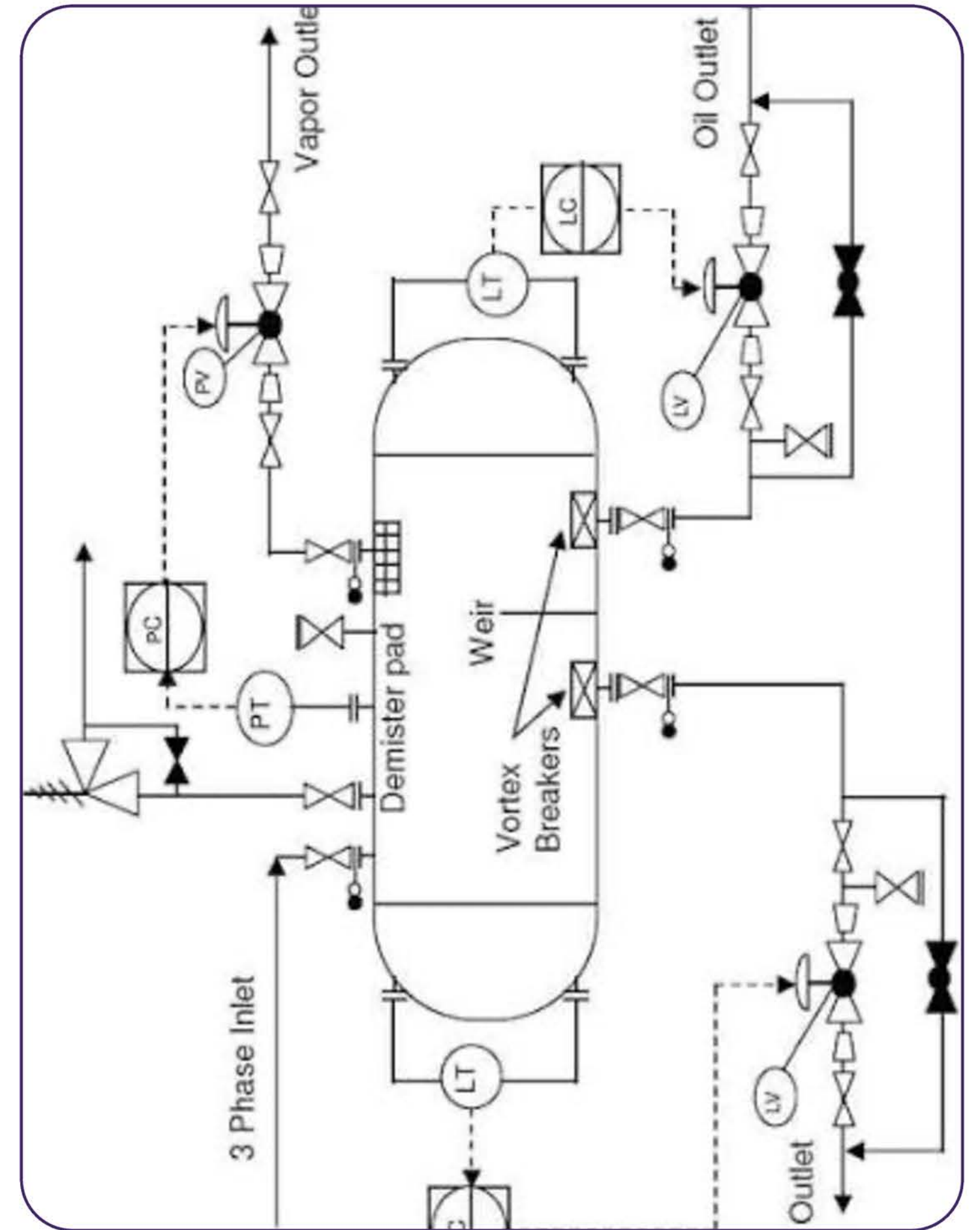


Primary Purposes Explained

When considering various engineering documents, it's essential to understand their distinct functions. Each drawing type serves a unique purpose, aiding in the design, implementation, and operation of complex systems, ensuring clarity and efficiency throughout the project lifecycle.

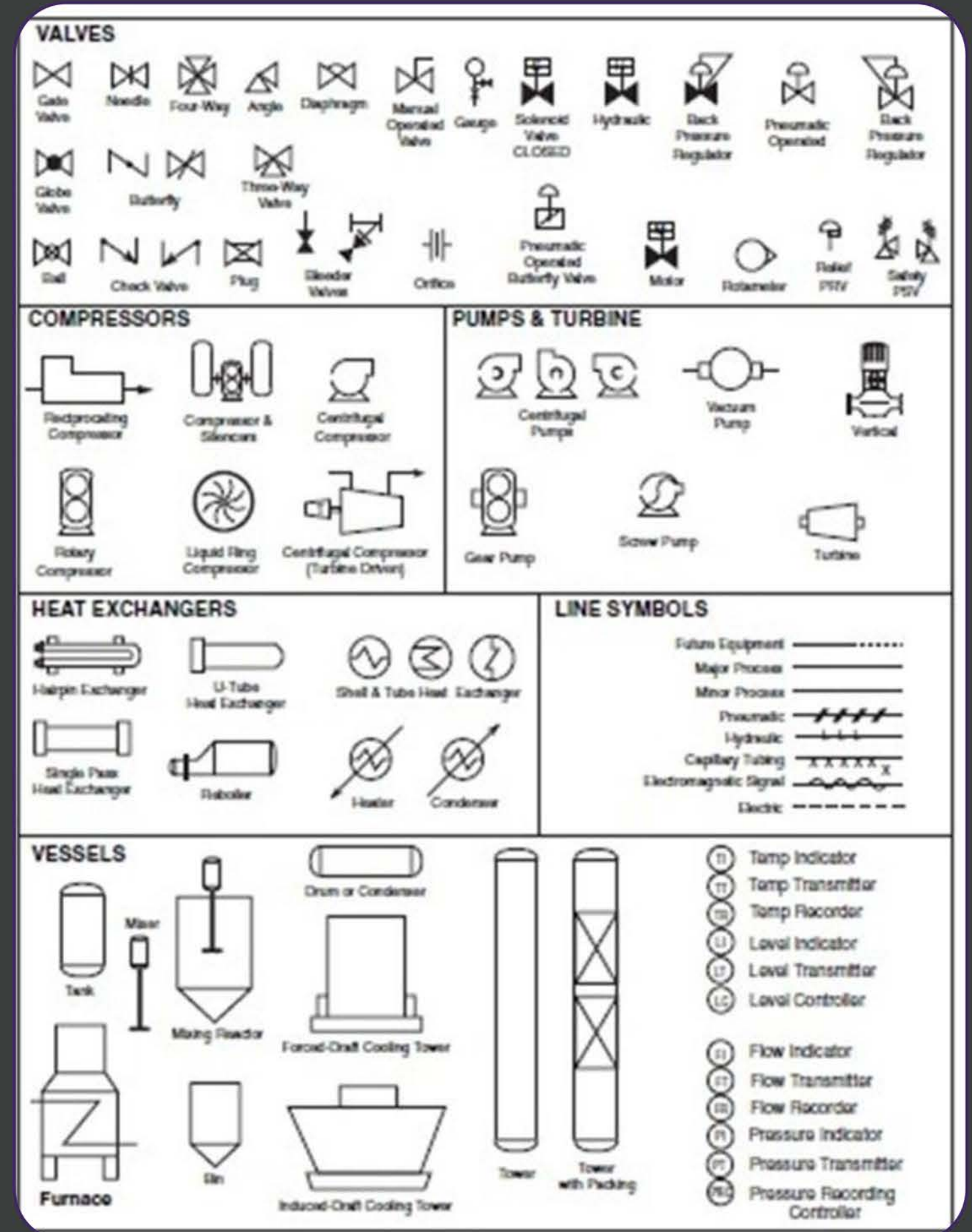
Information Hierarchy

Understanding the hierarchy within a P&ID is crucial for effective communication and efficient project execution in engineering design.



Discipline Perspectives

Different disciplines interpret P&IDs uniquely, impacting project outcomes and communication across teams. Understanding these views is crucial.





What Should Never Appear

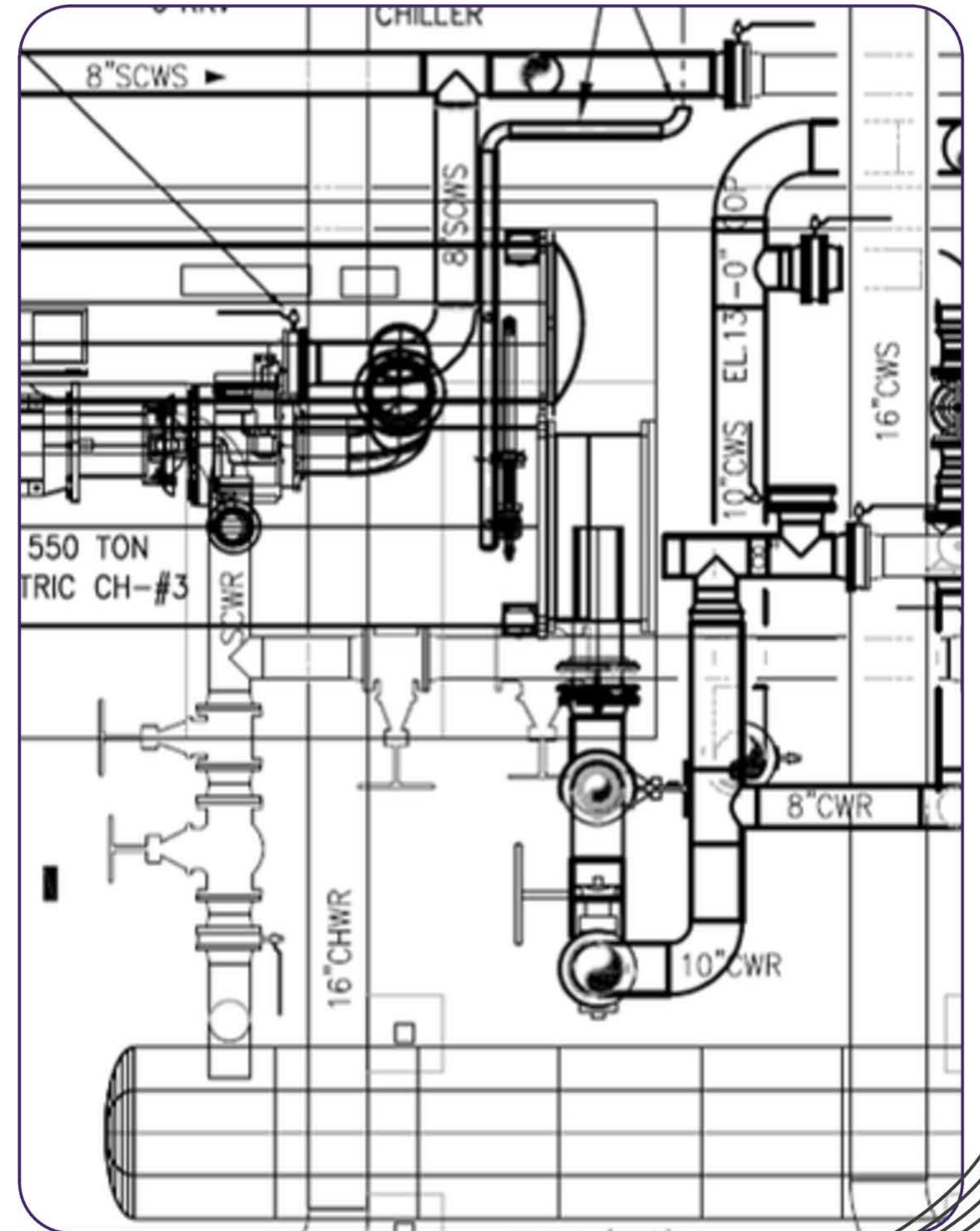
Prohibited Content on a P&ID



Prohibited Content

Avoiding Confusion on P&IDs

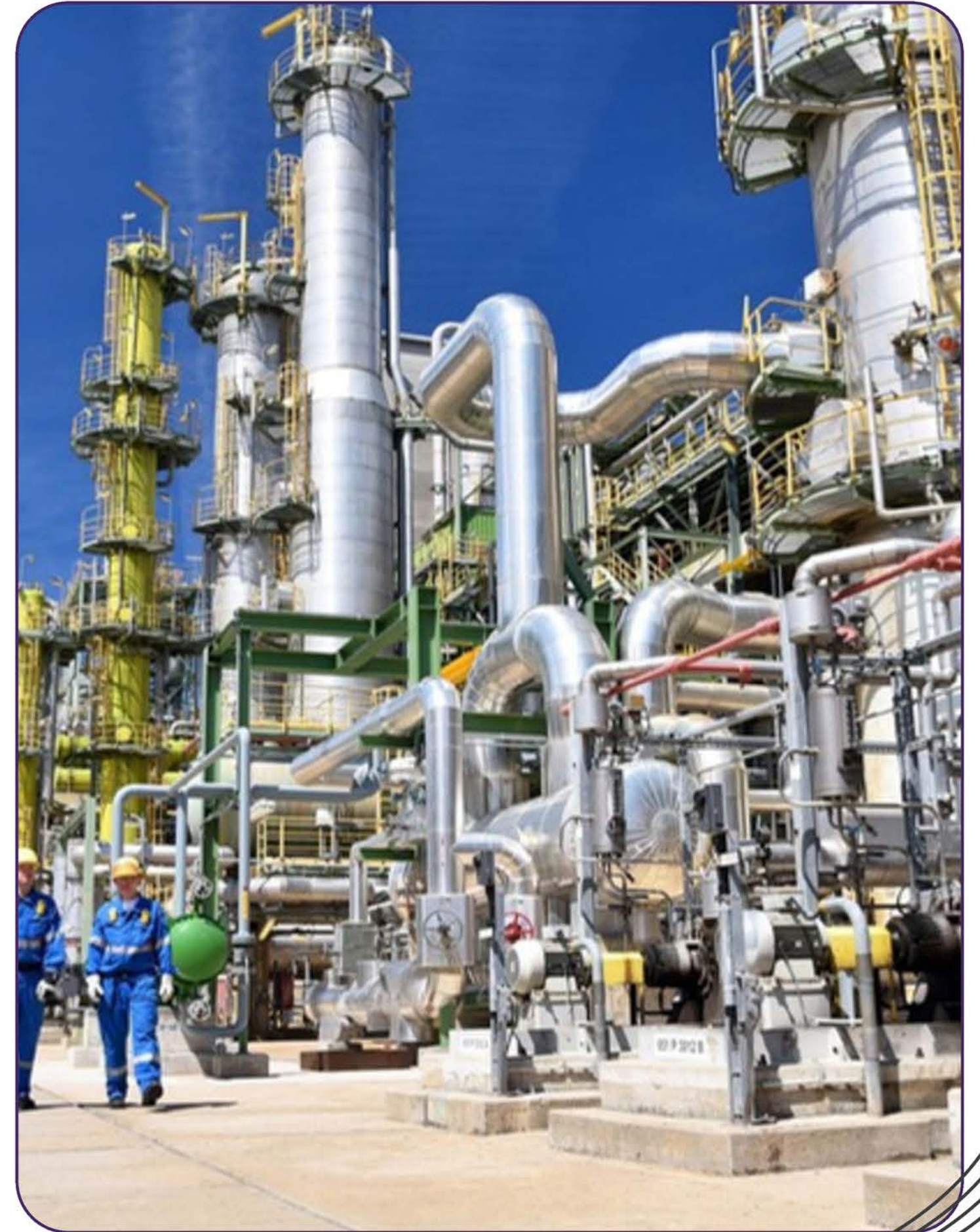
P&IDs should not include details like pipe routing or dimensions, as these can obscure essential safety logic and lead to misunderstandings during the project's lifecycle.



Real Project Consequences

Impact of Inadequate P&ID Quality

Poor P&IDs lead to serious issues, including conflicting isometrics, HAZOP rework, and costly design modifications, ultimately creating unsafe operating conditions and jeopardizing project success.



Real Project Consequences

Effective communication within design teams is crucial; misunderstandings lead to costly errors and impact overall project success.



Thank You

