Standard P&ID Symbols Legend | Industry Standardized P&ID Symbols

Piping and Instrument Diagram Standard Symbols Legend Industrial Standard provides a standard set of shapes & symbols for documenting P&ID and PFD, including standard shapes of instrument, valves, pump, heating exchanges, mixers, crushers, vessels, compressors, filters, motors and connecting shapes.

Instrument

Indicator
Behind Control
On Central Control
On Local Control Panel
Behind a Local Control
Indicator 2
Indicator 3
Indicator 4
Indicator 5
Odometer
Pressure Gauge
Flowmeter
Thermometer
Shared Indicator
Displayed Configurable
Shared Indicator
Computer Indicator
Programmable Indicator
Displayed Programmable Device
Computer
Lost Control Panel
Temp Indicator
Temp Transmitter
Temp Recorder
Temp Controller
Flow Indicator
Flow Transmitter
Flow Recorder
Flow Controller
Level Indicator
Pressure Indicator
Level Transmitter
Level Recorder
Level Controller
Pressure Transmitter
Pressure Recorder
Pressure Controller
Pressure Controlling
Pressure Recording
Level Alarm
Flow Element
Temperature Element
Level Gauge
Analyzer Transmitter
Transducer
Specialty Item
Sampler
Weighing Variety
Diaphragm Meter
Rotary Meter
Magnetic
Pitot Tube Flow
Pitot Tube
Wedge Meter
Target Meter
Weir Meter
Ultrasonic Meter
V-cone Meter
Venturi Meter
Quick Change
Turbine Meter
Rotameter
Double
Steam Traced
Venturi
Flowmeter
Vortex Sensor
Anti Gate
Or Gate
Not Gate
Correcting Element
Diamond
Pressure Gauges
Thermometers
Averaging Pitot Tube
Level Meter
Corrosi Flow Sensor
Flow Nozzle Meter
Flume Meter
Manhole
Socket Connection
Support Bracket
Support Leg
Support Ring
Support Skirt

Valves

Hand Operated Gate Valve
Gate Valve
Closed Gate Valve
Hand Operated Globe Valve
Globe Valve
Rotary Valve
Needle Valve
Control Valve
Piston Operated Valve
Back Pressure Regulator
Plug or Cock Valve
Check Valve
Check Valve 2
Butterfly Valve
Flanged Valve
Flanged Valve 2
Angle Valve Hand Operated
Angle Globe Valve
Relief Valve
Angle Valve
Angle Blowdown Valve
Ball
Normally Closed Ball
Diaphragm
Plug Valve
Solenoid Valve
Hydraulic Valve
Motor Operated Valve
Pilot Gate Valve
Weight Gate Valve
Powered Valve
Foot Operated Valve
Needle Valve
3-Way Valve
3-Way Valve 2
3-Way Plug Valve
4-way Plug Valve
4-way Valve
Electro-Hydraulic Valve
Balanced Diaphragm Gate Valve
Spring Gate Valve
Ram Valve
Slide Valve
Metering Coke
Knife Valve
Excess Flow Valve
Foot Inductor
Self Draining Valve
Diaphragm Valve
Pinch Valve
Pinch Flow Valve
Anti-Recirculation
Gauge
Bleeder Valve
Integrated Block Valve
Manual Integrated Valve
Orifice
Rotameter
Quarter Turn Valve Double Acting
Quarter Turn Valve Spring Acting
Water Flow Meter
Self-Operating Release Valve

Pumps

Compressor
Reciprocating Compressor
Reciprocating Compressor 2
Compressor sieveers
Centrifugal
Rotary Compressor
Rotary Compressor 2
Liquid ring Compressor
Centrifugal Compressor
Centrifugal Compressor 2
Centrifugal Compressor 3
Centrifugal Blower
Axial Compressor
Centrifugal pump
Reciprocating Compressor 2
Centrifugal sieveers
Centrifugal pump 4
Vertical pump
Liquid ring Vacuum pump
Positive displacement pump
Horizontal pump
Vertical pump
Sump pump
Positive displacement pump 2
Rotary pump
Rotary gear pump
Peristaltic pump
Gear pump
Proportioning pump
Vacuum pump
Screw pump
Screw pump 2
Cavity pump
Submersible pump
Reciprocating pump
Reciprocating pump
Turbine pump
Pump 2
Fan
Selectable fan
Fan blades
Fan blades 2
Triple fan blades
Axial flow fan
Turbine driver
Doubleflow turbine
Motor driven turbine
Ejector
Spray
Diesel motor
ISO Liquid pump
ISO centrifugal pump
ISO diaphragm pump Spring Acting
ISO gear pump
ISO Progressive pump
ISO positive displacement pump
ISO reciprocating piston pump
ISO screw pump
Selectable Compressor
Pump
Positive displacement pump
Motor

Vessels

Vertical Vessel
Mixing Vessel
Column
Tray Column
Fluidized Bed Column
Staggered Baffle Trays Column
Packing Column
Packing column
Drum
Knock-out drum
Bag
Bag (ISO)
Barrel
Barrel (ISO)
Gas bottle
Boiler
Dome Boiler
Hot Liquid Boiler
Tank
Tank 2
Tank 3
Tank 4
Open tank
Covered Tank
Floating Roof Tank
Open Bulk Storage
Dome Roof Tank
Cone Roof Tank
Internal Floating Roof Tank
Double Wall Tank
Onion Tank
Thermal Insulation Vessel
Heating-cooling Jacket Vessel
Brackets Vessel
Dished Ends Vessel
PX Vessel
Electrical Heating Vessel
Wastewater Treatment
Bin

Filters

Mode Filter
Mode Filter indication
Filter
Highpass Filter
Lowpass Filter
Bandpass Filter
Filter
Filter 2
Gas Filter
Cartridge gas Filter
Roll air Filter
Fixed bed air Filter
HEPA gas Filter
Liquid Filter
Fixed bed liquid Filter
Rotary liquid Filter
Biological Filter
Ionexchanger Filter
Press Filter
Air Filter
Air Filter 2
Air Filter 3
The Filter
High-efficiency Filter
Primary Filter Mid-effect Filter
Oxygen-enriched Filter
Filter
Filter 2
Rotary Filter
Suction Filter

Compressors

Compressor
Compressor 2
Compressor Vacuum pump
Centrifugal Compressor
Diaphragm Compressor
Ejector Compressor
Piston Compressor
Ring Compressor
Roller vane Compressor
Reciprocating Compressor 3
Compressor sieveers
Rotary Compressor
Rotary Compressor 2
Rotary Compressor 3
Rotary Compressor and sieveers
Liquid ring Compressor
Centrifugal Compressor
Centrifugal Compressor 2
Selectable Compressor
Axial Compressor
AC air Compressor
Screw Compressor
Turbo Compressor

Heat Exchanges

TEMA TYPE GEM
TEMA TYPE BEU
TEMA TYPE AEM
TEMA TYPE AEL
TEMA TYPE NEN
TEMA TYPE BKU
Plate Exchanger
Plate and Frame Heat Exchanger
Dryer
Cooling Tower
Cooling Tower 2
Cooling Tower 3
Spray Cooler
Forced-draft Cooling Tower
Induced-draft Cooling Tower
Heat Exchanger
Heat Exchanger 2
Heater
Heat Exchanger 3
Exchanger
Condenser
Shell and Tube Heat
Shell and Tube Heat 2
Coil
Air-blown Cooler
Induced Flow Air Cooler
Fin-fan Cooler
Electric Heater
Straight Tubes Heat Exchanger
Coil Tubes Heat Exchanger
Finned Tubes Heat Exchanger
Floating Head Heat Exchanger
Plate Heat Exchanger
Kettle Heat Exchanger
Reboiler Heat Exchanger
Shell and Tube Heat 3
Reboiler
Single Pass Heat Exchanger
Single Pass Heat Exchanger
Double Pass Heat Exchanger
Hairpin Exchanger
Spiral Heat Exchanger
Spiral Heat Exchanger 2
Air Cooled Exchanger
Briquetting Machine
U-Tube Heat Exchanger
U-tube Heat Exchanger
Roller
Oil Burner
Fired Heater
Vertical Turbine
Condenser
Extractor Heat
Hose reel
Light Water Station
Combustion Chamber
Silencer
Thin-Film Evaporator
Vent

Dryers

Dryer
Fluidized Bed Dryer
Roller Conveyor Belt Dryer
Motor Generator
Generator
Drying Oven
Heat Consumer
Spray Dryer
Moving Shelf Dryer

General

Crossflow Inducted Draft
Counterflow Forced Draft
Chimney Tower Hyperbolic
Furnace
Plate Tower
Packed Tower
Hydrocracking
Hydrodesulfurization
Fluid Catalytic Cracking
Fluid Coking
Tubular
Fluidized Reactor
Alkylation
Furnace
Hydrocracking
Screen
Boom Loader
Automatic Sticker
Electric Motor
Transport

Mixers

In-line Mixer
Mixer
Various Mixers
Various Mixers 2
Agitator, Stirrer
Agitator, Propeller
Agitator, Anchor
Agitator, Impeller
Agitator, Turbine
Agitator, Helical
Agitator, Cross-beam
Agitator, Disc
Agitator, Cross-beam

Crushers

Crusher
Coarse Crusher
Medium Crushers
Fine Crushers
Various Crushers
Hammer Crusher
Impact Crusher
Jaw Crusher
Roller Crusher
Cone Crusher
Vibration Crusher
Hammer Crusher

Centrifuges

Centrifugal Pump
Centrifugal Compressor
Centrifugal Compressor 2
Centrifugal Compressor 3
Centrifuge Screw
Centrifuge, Solid Shell
Centrifuge, High Speed
Centrifuge, Perforated Shell
Centrifuge, Pusher
Centrifuge Screw, Perforated Shell
Centrifuge, Separator disc
Centrifuge, Skimmer
Centrifuge Blower
Centrifugal Pump
Centrifugal Pump 2
Centrifuge
Centrifugal Pump 3
Centrifugal Pump 4
Centrifugal Fan
Centrifugal Pump 5

Motors

Motor
Step Motor
DC Motor
AC Motor
Motor Generator
Gear
Generator
AC Generator
DC Generator
Motor-operated Valve
Motor-driven Turbine
Motor
Diesel Motor
Electric Motor
Turbine

Peripheral

Impact Separator
Gravity Separator
Cyclone Separator
Electromagnetic Separator
Electrostatic Precipitator Separator
Solidifier
Permanent Magnet
Spray Nozzle
Rotary Table Feeder
Proportional Feeder
Rotary Valve Feeder
Metering Proportional Feeder
Injector
Reducer
Rupture Disc
Viewing Glass
Viewing Glass with Lighting
Back Draft Damper
Box Truck
Manual Forklift
Truck Forklift
Industrial Truck
Rolling Bin Truck
Ship
Elevator
Z-Arm Elevator
Lift
Hoists
Aerator with Sparger
Bag Filling Machine
Belt Skimmer
Screening
Bucket Elevator
Elevator 1
Gas Flare
Elevator 2
Skip Hoist
Conveyor
Conveyor Chart, Closed
Conveyor Screw, Closed
Roller Conveyor
Conveyor
Overhead Conveyor
Screw Conveyor
Scraper Conveyor
Piston Extruder Shaping Machines
Screw Extruder Shaping Machines
Horizontal Shaping Machines
Vertical Shaping Machines
Piston Press
Pelletizing Disc
Roller Press
Crane
Cyclone
Curved Gas Vent
Firing System
Flame Arrestor
Pelletizer
Chimney
Conveyor, Vibrating, Closed

Piping and Connecting Shapes

Major Pipeline
Connect Pipeline
Major Straight Line Pipe
Straight Line Pipe
Battery Limit Line
Electronic Serial
Heat Trace
Side by Side
Top-Bottom
One-to-Many
Traced Line
Multi-Lines
Mid Arrow
Multi-Lines Elbow
Y-strainer
Diverter Valve
Y-type Strainer
Rotary Valve
Expansion Joint 2
Bending Disc
Top to Top
Sonic Signal
Nuclear
Pneumatic Control
Pneumatic Binary Signal Line
Electric Signal Line
Electric Binary Signal Line
Electric Binary Signal Line
Sleeve Joint
General Joint
Butt Weld
Welded Connection
Mechanical Link
Sidewind Solvent
Blind Disc
Spectacle Blind
Interchangeable Blind
Open Disc
Orifice Plate
Flange
End Caps
End Cap 2
Breather
Drip Pan Elbow
Flange
Union
Socket Weld
Screwed Connection
Orifice Plate
Flanged Dummy Cover
Electrical Bounded
Slope Requirements Line
Reducer
Pulsation Dampener
Duplex Strainer
Vent Silencer
Basket Strainer
Cone Strainer
Pilot Operated Relief Valve and Remote Sensor
Double Containment
Electrically Insulated
In-line Mixer
Separator
Bursting Disc
Flame Arrester
Drain Silencer
Exhaust Silencer
Strainer
Exhaust Head
Triangle Separator
Triangle Separator 2
Funnel
Open Vent
Syphon Drain
Hydrant
Swivel Joint
Detonation Arrester
Flame Arrester
In-line Silencer
Steam Trap
Desuperheater
Ejector or Eductor
Exhaust Head
Expansion Joint
Hose
Flexible Hose
Flow Indicator
Bell Mouth
Removable Spool
Basket Strainer
Breather
Damper
Breakthrough
Orifice
Clamped Flange Coupling
Compensate
Coupling
Electrically Insulated
Flame Arrestor
Explosion Proof Flame Arrestor
Detonation Proof Flame Arrestor
Fire-Resistant Flame Arrestor
Fire Resistant, Explosion Proof Flame Arrestor
Valve Manifold