

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

Piping and Instrument Diagram Standard Symbols Detailed Documentation 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		Computer Indicator		Level Controller		Magnetic		Or Gate
	Behind Control		Programmable Indicator		Pressure Transmitter		Pilot Tube Type Flow		Not Gate
	On Central Control		Displayed Programmable Device		Pressure Recorder		Pilot Tube		Correcting Element
	On Local Control Plane		Computer		Pressure Controller		Wedge Meter		Diamond
	Behind a Local Control		Unit Control Panel		Pressure Indicating		Target Meter		Pressure Gauges
	Indicator 2		Temp Indicator		Pressure Recording		Weir Meter		Thermometers
	Indicator 3		Temp Transmitter		Level Alarm		Ultrasonic Meter		Averaging Pilot Tube
	Indicator 4		Temp Recorder		Flow Element		V-cone Meter		Level Meter
	Indicator 5		Temp Controller		Temperature Element		Quick Change		Coriolis Flow Sensor
	Odometer		Flow Indicator		Level Gauge		Turbine Meter		Flow Nozzle Meter
	Pressure Gauge		Flow Transmitter		Analyzer Transmitter		Rotometer		Flume Meter
	Flowmeter		Flow Recorder		Transducer		Double		Manhole
	Thermometer		Flow Controller		Specialty Item		Steam Traced		Socket Connection
	Shared Indicator		Level Indicator		Sampler		Venturi		Support Bracket
	Displayed Configurable		Pressure Indicator		Straightening Vanes Diaphragm Meter		Flowmeter		Support Leg
	Shared Indicator		Level Transmitter		Rotary Meter		Vortex Sensor		Support Ring
	Shared Indicator		Level Recorder				And Gate		Support Skirt

Valves

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

Pumps

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

Vessels

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

Filters

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

Compressors

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

Heat Exchanges

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

Dryers

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

General

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

Mixers

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

Crushers

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

Centrifuges

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

Motors