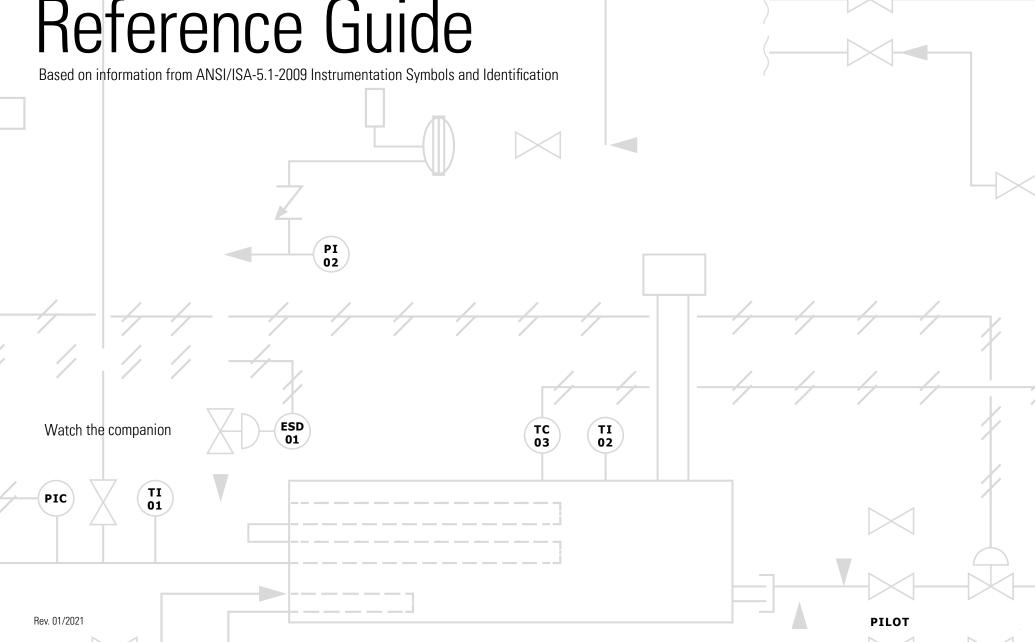
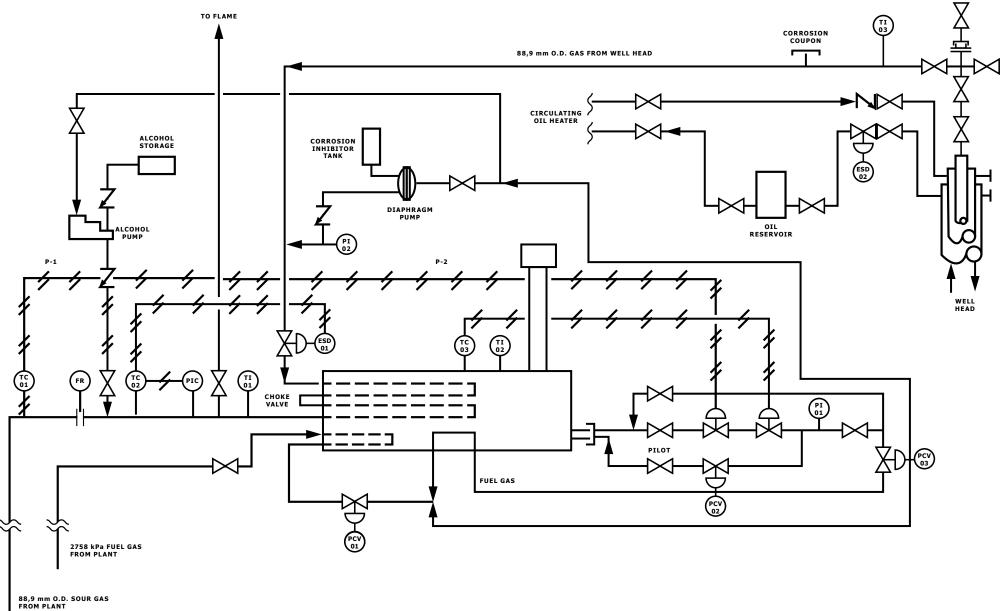
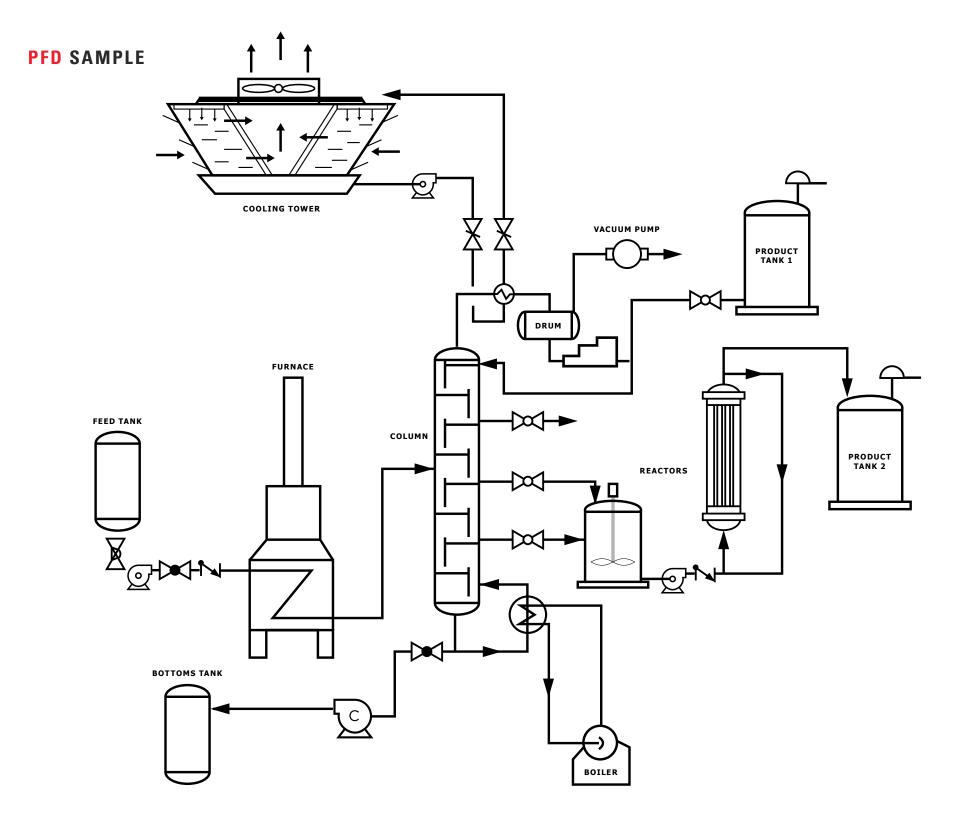
P&ID Reference Guide



P&ID SAMPLE



1



Symbol **Measured or Initiating Variable** Modifier **Output Function** Modifier **Readout or Passive Function** А Analysis Alarm **Burner**, Combustion User's Choice User's Choice В User's Choice С User's Choice Control D User's Choice Differential Е Sensor (Primary Element) Voltage F Ratio (Fraction) Flow Rate G **Glass**, Viewing Device User's Choice Н High Hand **Current (Electrical)** Indicate Scan J Power Time, Time Schedule **Control Station** Κ Time Rate of Change Light L Level Low Μ Middle, Intermediate User's Choice Momentary User's Choice Ν User's Choice **User's Choice** User's Choice 0 User's Choice **Orifice**, Restriction Ρ Pressure, Vacuum Point (Test) Connection Q Quantity Integrate, Totalize R Radiation Record S Speed, Frequency Safety Switch Т Temperature Transmit U Multivariable Multifunction Multifunction Multifunction ۷ Vibration, Mechanical Analysis Valve, Damper, Louver Well W Weight, Force Х X Axis Unclassified Unclassified Unclassified Unclassified Υ **Event, State or Presence** Y Axis Relay, Compute, Convert Ζ Position, Dimension Driver, Actuator, Unclassified Final Control Element Z Axis

TAG NUMBERS – LETTER SYMBOLS FOR DATA PROCESSING FUNCTIONS

A "User's choice" letter is used for unlisted meanings used repetitively in a project and will be explained on the diagram or supporting document.

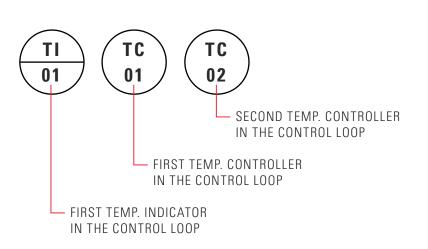
TAG NUMBERS – **OIL & GAS INSTRUMENT ABBREVIATIONS** (Adapted From ISA Standard S5.1)

ALA Analysis Controllor FQ Flow Indicator Total Call Control FT Restance Tomparture Detector ALA Analysis Anam High) FQ Few Indicator with Call Control FU IFC Restance Tomparture Detector ALA Analysis Anam Ling() FR Few Recorder Control IGU IGU Softward ALA Analysis Sintrofow High FR Few Recorder Control IGU Softward Softward ALS Analysis Sintrofow High FR Few Softward IGU Normally Codesd Softward ASIM Analysis Sintrofow High FS Few Switch High FS Few Switch High Sintrofow High ASIM Analysis Sintrofow High FS Few Switch High FS Few Switch High ASIM Analysis Sintrofow High FS Few Switch High FS Few Switch High ASIM Analysis Sintrofow High FS Few Switch High FS Few Switch High ASIM Few Switch High FS Few Switch High FS Few Switch High ASIM Few Switch High FS Few Switch High FS Few Switch High ASIM Few Switch High FS Few Switch High FS Few Switch High	А	Analog Signal	FO	Fial Open	LSLL	Level Switch Low for Level Below LSL	RC	Ratio Controller
AAHAnalysis Alem High? LowFCIFow Recorder ControllerLYLYLY Concords (Low Loop)RIUPerme Imminu IntrAALAnalysis Alem High? LowFRIFew Recorder ControllerMCDMotor Control CentrolSAHSeed Alam High? LowAALAnalysis Alem Linw)FRIFew Recorder ControllerMCDMotor Control CentrolSAHSeed Alam High? LowAALAnalysis Shetdow Linw)FSIFew Standaw High?NoNormally ColeadSALSeed Alam High? LowASHAnalysis Shetdow Linw)FSIFew Standaw High?NoNormally ColeadSSStandaw Few ReadASHAnalysis Swetch High?FSIFew Standaw High?NoNormally ColeadSSStandaw Few ReadASHAnalysis Swetch High?FSIFew Standaw High?Permeants: SignalSSStandaw Few ReadASHAnalysis Swetch High?FSIFew Standaw High?Permeants: SignalSSStandaw Few ReadASHAnalysis Swetch High?FSIFew Standaw High?SSStandaw Few ReadSSStandaw Few ReadAAAnalysis Swetch High?Constant High?Constant High?SSStandaw Few ReadSSStandaw Few ReadBCBarner ControllerFSIFew Standaw High?FEW Standaw Few ReadSSStandaw Few ReadBCBarner ControllerFSIFew Standaw Few ReadSSStandaw Few ReadSSStandaw Few ReadBABarner ControllerFSIFew Standaw Fe			FQ		LT			Resistance Temperature Detector
AAAA Analysis Alam Liky/Low) FR Fow Recorder L0 Lock Gen S Solumid AAA Ansign Schultzon High Low) FR Fow Recorder Transmitter M1U Moster Terminal Line SAH Speed Alam High Low) ASB Ansign Schultzon High ISS Fow Social Monon High ISS Fow Social Monon High ISS Speed Alam Line Journal Monon High ISS Fow Social Monon High ISS Speed Alam Line Journal High ISS </td <td></td> <td>,</td> <td>FQI</td> <td>Flow Indicator with Total Counter</td> <td>LY</td> <td>I/P Converter [Level Loop]</td> <td>RTU</td> <td></td>		,	FQI	Flow Indicator with Total Counter	LY	I/P Converter [Level Loop]	RTU	
AAA Analysis Alam Liowi FRC Flow Flow for insamiter MCU Mater Catter Centrel SAH Speed Alam High ASDA Analysis Studtown (High) FB How Switch No Normally Gene SAL Speed Alam High ASDA Analysis Studtown (High) FB How Switch No Normally Gene SAL Speed Alam High ASH Analysis Studtown (High) FBL Flow Studtown ILowi PA Peasure Alam High SD Speed Indicatu ASH Analysis Studtown (Lowi FBL Flow Switch (Lowi PA Peasure Alam High SD Speed Indicatu ALA Analysis Switch (Lowi FSL Flow Switch (Lowi PA Peasure Alam High SS Speed Switch (High) BC Burner Alam (High) FD Compatition (File Noto) PA Peasure Cattroller SSH Speed Switch (High) BAH Burner Alam (High) GS Instrument Eas Supply PC Peasure Cattroller SSH Speed Switch (High) BAH Burner Alam (High) GS Instrument Eas Supply PC Peasure Cattroller SSH Speed Switch (High) BAH Burner Alam (High) GS Instrument Eas Supply PC Peasure Cattroller			FR				S	Solenoid
A S SupplyFHTFlow Recriter InstantureMTUMatter Terminal NetworkSAH4Supel Alaun [HighLow]ASD4Asajas Stundom [Im]FBO8Flow Swinch [High]NONormally OpenSCSupel Alaun [HighLow]ASN4Asajas Stunch [Img]FBO8Flow Swinch [High]NONormally OpenSCSupel Alaun [HighLow]ASN4Asajas Swinch [High]FBNFlow Swinch [High]SISpacel Alaun [HighLow]SISpacel Alaun [HighLow]ASN4Asajas Swinch [High]FBNFlow Swinch [High]RIParasare Alaun [HighLow]SISpacel Alaun [HighLow]ASN4Asajas Swinch [High]FDFlow Swinch [High]PAHParasare Alaun [HighLow]SISpacel Alaun [HighLow]ATAsajas Stunch InghlFDFlow Swinch [High]PAHParasare Alaun [HighLow]SISpacel Alaun [HighLow]ATAsajas TomanitarFTFlow TomanitarPAHParasare Alaun [HighLow]SISpacel Alaun [HighLow]ATAsajas TomanitarFTFlow Company, Right Anglikar (MighLow]PAHParasare Alaun [HighLow]SISpacel Alaun [HighLow]ATBurner Alaun [HighLow]FTFlow SouthPAHParasare Differential Alaun [HighLow]SISpacel Alaun [HighLow]ATBurner Alaun [HighLow]HHydraulice (MighLow]PAHParasare Differential Alaun [HighLow]SISpacel Alaun [HighLow]ATHydraulice (MighLow]HHydraulice (MighLow]PAHParasare Differential Ala							SAH	Speed Alarm [High]
ASUB Analysis Studiewn (High) FS Flow Switch NC Normaly Open SAL Sale Analysis Studiewn (High) FSD Flow Studiewn (High) ND Normaly Open SS Sample Connection ASH Analysis Studiewn (High) FSD Flow Studiewn (High) PAH Pressure Aam (High) SD Space flow (Connection ASH Analysis Studiewn (High) FSD Flow Studiewn (High) PAH Pressure Aam (High) SD Space flow (Connection Analysis Studiewn (High) FSD Flow Studiewn (High) PAH Pressure Aam (High) SD Space flow (Connection Analysis Studiewn (High) FSD Flow Studiewn (High) PAH Pressure Aam (High) SS State Supply BC Barner Aam (High) Compare: High Low) PAH Pressure Controller SSH Space Switch (High) BAH Barner Aam (High) Compare: High Low) PD Patistato Dampare FAH High Low) BAH Barner Aam (High) H Hydraulic Boror Derated Valve PD Patistato Dampare FAH High Low) BAH Barner Aam (High) H High Low) PD Patistato Dampare FAH High Low) BAH Barner Switch (High Low)								
ASDAAnalysis Shutdown LowiFSDHFROM Shutdown HighNDNormally OpenSCSample ConnectionASHAAnalysis Shutch High/LowiFSHFlow Shutdown (Lowi)PPressure Alarm High/LowiSHSpace/ MarcaASHAAnalysis Shutch High/LowiFSHFlow Shutch HighPAHPressure Alarm High/LowiSHSpace/ MarcaASHAAnalysis TransmittarFTFlow Shutch HighPAHPressure Alarm High/LowiSSSpace/ MarcaATAnalysis TransmittarFTFlow TransmittarPAHPressure Alarm High/LowiSSSpace/ Space/ MarcaALHBurner Alarm High/LowiCompartsr High/LowiPAHPressure Control lawSSHSpace/ Space/ MarcaBAHBurner Alarm High/LowiHHydraicPAHPressure Control lawSSHSpace/ Space/ MarcaBAHBurner Alarm High/LowiHHydraicPAHPressure Control lawSHLSpace/ Space/ Space/ MarcaBAHBurner Alarm High/LowiHHydraic MarcaPAHPressure Differential AlarmHAHEmperature Alarm High/LowiBAHBurner Switch HighHHHydraic MarcaPAHPressure Differential AlarmHAHEmperature Alarm High/LowiBAHBurner Switch HighHHHydraic MarcaPAHPressure Differential AlarmHAEmperature Alarm High/LowiBAHBurner Switch HighHHHHydraic MarcaPAHPressure Differential AlarmHAEmperatu		,		Flow Switch			SAL	
Astle Analysis Switch [High] FSD Flow Switch (Early) PL Persuare Atom [High] SD Shutdown Panel Astle Analysis Switch [High] FSL Hox Switch [High] RL Persuare Atom [High] SL Speed Moncator Analysis Switch [High] FSL Hox Switch [High] RL Persuare Atom [High] SL Speed Moncator HC Burner Controllor FY Computer, Relay, Amolfser or IP PB Pathburner SSH Speed Switch [High] BAH Burner Atom [High] Consertion flow) forop PC Pressare Controllor SSH Speed Switch [High] BAH Burner Atom [High] H Hydrauic PD Pathatron SH Speed Switch [High] BAH Burner Atom [Linv] H Hydrauic PD Pathatron Emprese Atom Interpreter SH Speed Switch [High] BAH Borner Atom [Linv] H Hydrauic More Pathatron PAH Pressare Differential Atom TAH Impressare Differential Atom <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
Askly Asklyss Switch High/Low) FEH Hew Switch High/ PAH Pressure Atam (High/Low) SI Speed Industry AI Asklyss Iransmitter FI Hew Switch How) PAL Pressure Atam (High/Low) SI Sixe States Supply BI Burner Controller FY Computer, Relay, Amplifier or I/P PB Pathatron SIXE Speed Switch High/Low) BAH Burner Atam High Converter In How Loop PC Pressure Controller SIXE Speed Switch High/Low) BAH Burner Atam High/Low) BS Instrument Cas Supply PCV Pressure Direction Valve SIXE Speed Switch High/Low) BAH Burner/Atam High/Low) BS Instrument Cas Supply PCV Pressure Direction Valve SIXE Speed Switch High/Low) BVM Biower/Switch Migh/Low) HM Hydrauic Motor Operated Valve PA Pressure Direction Valve SIXE Speed Switch High/Low) BS Burner/Switch High/Low) I/F Interface PA Pressure Direction Valve IXE Turner Valve SiXE Speed Switch High/Low) IXE Interface PA Pressure Dind		-		-	Р			
Asilysis Switch Llow) FSL Flow Switch Llow) PAHL Pressure Atam High/Low) SR Speed Recorder MC Analysis Transmitter FN Event monitor PAL Pressure Atam High/Low) SS Steam Suphy BC Burner Atam High/Low) GS Computer, Relay, Amplifier or I/P PB Pustbutton SSH Speed Switch High) BAL Burner Atam High/Low) GS Instrument GS Suphy PUC Pressure Control Valve SSL Speed Switch Llow) BAL Burner Atam High/Low) H Hydraulic PU Pustation Damperer TAH Temperature Atam High/Low) BR Back Pressure Differential Atam Migh/Low HAA Hand/OtAuto Switch PDA Pustation Damperer TAH Temperature Atam High/Low) BSB Burner Switch HAA Hand/OtAuto Switch PDA Pustation Differential Atam High/Low) TAL Temperature Atam High/Low) BSH Burner Switch High/Low I/A Hand/OtAuto Switch PDA Pressure Differential Atam High/Low TC Temperature Atam High/Low) BSH Burner Switch High/Low I/A Corrent Signal PdA Pressure Differential Atam High/Low) TC Temperature Atam High/Low) BSH Burner Switch High						0		Speed Indicator
AI Analysis Transmittar FI Now Transmittar PAL Pressure Aram (Low) SS Strans Supply BAH Burner Atom (High) Concenter in Free Loap PC Pressure Control Value SSH Speed Switch (High)(Low) BAH Burner Atom (Log) Low H Hydrauic PC Pressure Control Value SSH Speed Switch (High) BAH Burner Atom (Low) H Hydrauic PC Pressure Control Value SSH Speed Switch (High) BAH Bowdrown Value HM Hydrauic Monor Operated Value PCA Pressure Differential Atom (Low) TAI Temperature Atom (Low) BS Burner Switch (High/Low) HS Hand Switch POAL Pressure Differential Atom (High) TAI Temperature Controller BSH Burner Switch (High/Low) IF Interface POIL Pressure Differential Atom (High) TI<				•				•
BC Burner Cantroller FY Computer, Relay, Amplifier or I/P PB Puschum SSH Speed Switch [High] BAH Burner Alarm [High/Low] GS Instrument Gas Supply PCV Pressure Control/vive SSH Speed Switch [Low] BAL Burner Alarm [High/Low] H Hydraulic PO Puscaure Control/vive SSL Speed Switch [Low] BAB Burner Alarm [High/Low] H Hydraulic PO Puscaure Control/vive SSL Speed Switch [High/Low] BBB Burner Switch [High/Low] H Hand/DiffAuto Switch PAIA Pressure Differential Alarm TAH Temperature Control Valve BSH Burner Switch [High/Low] I Current Signal PAI Pressure Differential Alarm [Low] TC Temperature Control Valve BSH Burner Switch [High/Low] I/I Current Infector PAI Pressure Differential Switch TD Time Delay BSH Burner Switch [High/Low] I/I Current Infector PAI Pressure Differential Switch [High/Low] CCP C						ů.		
BAHH Burner Alarm (High) Converter in Flow Loop PC Pressue Controller SSH Speed Switch (High/Low) BAH Burner Alarm (Low) H Hydrauic PD Persure Control Vaive SSH Speed Switch (High/Low) BDV Blowdown Valve HMV Hydrauic Motor Oparated Valve PA Pressure Differential Alarm (High) TAL Temperature Alarm (High/Low) BDV Bowdown Valve HMV Hydrauic Motor Oparated Valve PA Pressure Differential Alarm (High) TAL Temperature Alarm (High/Low) BSH Burner Switch HS Hand Switch PA Pressure Differential Alarm (Low) TC Temperature Control Iard BSH Burner Switch (High/Low) I/F Current To Indicator PAS Pressure Differential Alarm (Low) TC Temperature Gove TD Time Dalay BSW Basic Sediment and Water I/F Current To Presure Differential Switch (Low) TH Thermostat CDB Comportation Find Alarm I/A Current To Presure Indicator TF Temperature Baccaar CC			FY	Computer, Relay, Amplifier or I/P	PB			
IBAHL Burner Alam [high/Low] GS Instrument Gas Supply PCV Persusu Control Valve SSL Speed Switch [Low] BAL Burner Alam [Low] H Hydraulic Motor Operated Valve PD Persusu Differential Alam TAH Temperature Alam [High] BBH Bard Pressure Biguator HOA Hond Virf/Auto Switch PAI Pressure Differential Alam TAH Temperature Alam [High] BSH Barner Switch HS Hand Switch PAI Pressure Differential Alam TC Temperature Control Valve BSH Burner Switch [High] I Current Signal Pol Pressure Differential Indicator TCV Temperature Control Valve BSH Burner Switch [Low] I/I Current Indicator PolS Pressure Differential Switch [High] TE Temperature Massuring Element/Thermocouple BSU Burner Switch [Low] I/I Current Indicator PolS Pressure Differential Switch [Low] TH Temperature Indicator CPC Certric Tornel I/A Current Indicator PolS Pressure Differential Switch [Low] TH Temperature Edge CDS Compressor Shutdown KI Clock/Timer POI Pressure Differential Switch [Low] TH Temperature Alam								
BAL Burner Alarm (Low) H Hydraulic PD PU station Dampener TAH Temperature Alarm [High] BV Bixed Krassure Regulator HAV Hydraulic Motor Operated Valve PAA Pressure Differential Alarm [High] TAL Temperature Alarm [High] BS Burner Switch [High] HS Hand/Off/Auto Switch PAAL Pressure Differential Alarm [Low] TC Temperature Controller BSH Burner Switch [High] L Creme Signal PAIL Pressure Differential Indicator Controller TO Time Delay BSH Burner Switch [Low] I/F Interface PAIL Pressure Differential Switch [Low] TE Temperature Control Valve BSH Basic Sediment and Water I/P Current to Remanic PAIL Pressure Differential Switch [Low] TH Thermostat CCP Control Control Panel I/PA Current to Remanic Alarm PAIL Pressure Differential Switch [Low] TH Thermostat CSC Compressor Shutdown K Clock Timer PA Pressure Differential Switch [Low] TH Thermostat CGP Constraiter LAH Lowal Alarm PA Pressure Differential Switch [Low] TH Thermostat CGP Constraiter		e e e e e e e e e e e e e e e e e e e	GS	-		Pressure Control Valve		
BDVBlowdroom ValveHMVHydraulic Motro Operated ValvePAAPressure Differential AlarmTAHLTemperature Alarm [High/Low]BPRBack Pressure BegulatorHOAHand SwitchPAAPressure Differential Alarm [Low]TALTemperature Alarm [Low]BSHBurner Switch [High/Low]ICurrent SignalPalPressure Differential Alarm [Low]TCTemperature ControlorBSHLBurner Switch [High/Low]I/FInterfacePalPressure Differential Alarm [Low]TDTime DelayBSKBurner Switch [High/Low]I/FCurrent to PneumaticPalPressure Differential SwitchTETemperature ControlorBSKBasic Sediment and WaterI/PCurrent to Pneumatic AlarmPAIPressure Differential SwitchTETemperature IndicatorCD2Central Control PanelI/PACurrent to Pneumatic AlarmPAIPressure Differential SwitchTHTemperature IndicatorCD3CorrosimaterLALevel AlarmPAIPressure IndicatorTTTETemperature Indicator TransmitterCC4CorrosimaterLALevel Alarm High/Low]PIPressure Indicator ControllerTHTemperature RecorderCV4CorrosimaterLAHLevel Alarm High/Low]PIPressure Indicator TransmitterTRTemperature Indicator TransmitterCS0Car Seal CoseLAHLevel Alarm High/Low]PIPressure Indicator TransmitterTRTemperature Recorder ControllerCVCorro								
BPR Back Pressure RegulatorHDA Hand/Off.And SwitchPAIA Pressure Differential Alarm [High]TAL Temperature Alarm [Low]BS Burner SwitchHSHand SwitchPdAI Pressure Differential Alarm [Low]TCTemperature ControllerBSH Burner Switch [High]ICurrent SignalPdI Pressure Differential Alarm [Low]TCTemperature ControllerBSH Burner Switch [Low]I/FInterfacePdIC Pressure Differential SwitchTDTemperature Reasuring Ilement/ThermocoupleBSK Burner Switch [Low]I/FInterfacePdIC Pressure Differential SwitchTFTemperature Reasuring Ilement/ThermocoupleBSW Basic Sediment and WaterI/PCurrent to PneumaticPdSPressure Differential Switch [Low]THThermostatCCCControsons fault AlarmI/ACurrent to Pneumatic AlarmPdSPressure Inferential Switch [Low]THThermostatCCSCar Seal CloseLAHLevel Alarm [High]PIPressure Inficator TransmitterTITTemperature Indicator ControllerCSCCar Seal CloseLAHLevel Alarm [High]PIPressure Indicator TransmitterTHTemperature Reacrder ControllerCVControl ValveLALLevel Alarm [Low]PIIMultipoint Pressure Indicator TransmitterTHTemperature Reacrder TransmitterCSCCar Seal CloseLAHLevel Alarm [Low]PIIMultipoint Pressure IndicatorTHCTemperature Reacrder TransmitterCVControl ValveLALL							TAHL	
BB Burner Switch HS Hand Switch PdAL Pressure Differential Alarm (Low) TC Temperature Controller BSH Burner Switch (High/Low) I/F Interface PdL Pressure Differential Indicator TCV Temperature Control Valve BSL Burner Switch (High/Low) I/F Interface PdL Pressure Differential Switch TE Temperature (Measuring) Element/Thermocouple BSK Bisine Switch (High/Low) I/F Current to Pneumatic PdSL Pressure Differential Switch (How) TE Temperature (Measuring) Element/Thermocouple BSK Basine Switch (High/Low) I/F Current to Pneumatic Alarm PdSL Pressure Differential Switch (How) TH Temperature Indicator CDP Contraineter LA Lovel Alarm PdL Pressure Indicator TIT Temperature Indicator Controller CSC Car Seal Cose LAH Lovel Alarm (High/Low) PI Pressure Indicator TR Temperature Recorder TIT Temperature Recorder TIC Temperature Recorder TIC Temperature Recorder								
BSH BSHL BURNET Switch [High]ICurrent SignalPellPressure Differential IndicatorTCVTemperature Control ValveBSHL BURNET Switch [Ligh]/Low]I/FInterfacePellPressure Differential Switch [Ligh]TDTime DelayBSW Basic Sadiment and WaterI/PCurrent to PneumaticPdSPressure Differential Switch [Ligh]TFTemperature [Measuring] Element/ThermocoupleBSW Basic Sadiment and WaterI/PCurrent to Pneumatic CarroPdSPressure Differential Switch [Ligh]TFTemperature [Measuring] Element/ThermocoupleCCPCentral Control PanelI/PCurrent to Pneumatic AlarmPdSPressure Differential Switch [Ligh]THThermostatCDSCompressor ShurdownKIClock/TimerPdSPressure Indicator ControllerTITTemperature Indicator ControllerCCPCentral Control FandLALLevel AlarmPfPressure Indicator ControllerTITTemperature Indicator ControllerCCSCar Seal OpenLAHLevel Alarm High for Level Alore LAHPICPressure Indicator TransmitterTRTemperature RecorderCVControl ValveLALLevel Alarm Low for Level AlorePRPressure BecorderTRTemperature RecorderCVControl ValveLALLevel Alarm LowPRPressure RecorderTSHTemperature RecorderCVControl ValveLALLevel Alarm LowPRPressure RecorderTSHTemperature RecorderESIElectrica		3						
BSHLBurner Switch (High/Low)I/FInterfacePdICPressure Differential Indicator ControllerTDTime DelayBSLBurner Switch (Low)I/ICurrent to PneumaticPdSHPressure Differential Switch (High)TFTemperature (Beauring) Element/ThermocoupleBSWBiscis Sediment and WaterI/PCurrent to Pneumatic AlarmPdSHPressure Differential Switch (Low)THTemperature (Beauring) Element/ThermocoupleCCPCentral Control PanelI/PCurrent to Pneumatic AlarmPdSHPressure Differential Switch (Low)THTemperature IndicatorCDSCorporisones TabutAdvmLALevel AlarmPd1Pneumatic To Current ConverterTICTemperature Indicator ControllerCORCorrasimeterLAHLevel Alarm (High)PIPressure Indicator ControllerTIITemperature Indicator/ThermocoupleCSCCar Seal OpenLAHLevel Alarm (High/Low)PIPressure Indicator ControllerTIITemperature RecorderCVControl ValveLALLevel Alarm (Low)PIPressure Indicator CransmitterTRTemperature Recorder ControllerESElectrical SwitchLCLevel Alarm Low for Level Alare New LAUPIMultipoint Pressure IndicatorTSITemperature Switch (High)FALEdLevel Control ValvePRPRPressure Biorder ControllerTRITemperature Recorder ControllerFF.EdLevel Alarm Low for Level Alare Low Level Alare Low Level Alare New Level Alare New Level Alare Low Lev			I					
BSL BSWBurner Switch [Low]I/ICurrent IndicatorPdSPressure Differential Switch [High]TETemperature [Measuring] Element/ThermocoupleBSSWBasic Sediment and WaterI/PCurrent to PneumaticPdSPressure Differential Switch [High]TFTemperature GageCCPCentral Control PanelI/PACurrent to Pneumatic AlarmPdSPressure Differential Switch [Low]TITemperature IndicatorCDSCompressor ShutdownKIClock/TimerPGPressure Indicator CourrentsTITemperature Indicator ControllerCFACornon Fault AlarmLALevel Alarm High]PIPressure Indicator CourrentsTITemperature Indicator TransmitterCSCCar Seal CloseLAHLevel Alarm High/Low]PICPressure Indicator TransmitterTIITemperature Recorder ControllerCSCCar Seal OpenLAHLevel Alarm [Mpf/Low]PICPressure Indicator TransmitterTIRTemperature Recorder ControllerCVControl ValveLAHLevel Alarm [Low]PIIPIMultipoint Pressure IndicatorTRCTemperature Recorder ControllerCVControl ValveLAHLevel Alarm [Low]PIIMultipoint Pressure RecorderTRITemperature Boxica ControllerCVControl ValveLAHLevel Alarm [Low]PRIPressure RecorderTRITemperature Recorder ControllerCVControl ValveLAHLevel Alarm [Low]PRIPressure RecorderTRITemperature Switch [High]<		-	I/F	_		Pressure Differential Indicator Controller		
BS&W Basic Sediment and Water I/P Current to Pneumatic PdSL Pressure Differential Switch [High] TF Temperature Gage CCP Central Control Panel I/PA Current to Pneumatic Alarm PdSL Pressure Differential Switch [Low] TH Thermostat CDS Compressor Shutdown KI Clock/Timer PdSL Pressure Gage TI Temperature Indicator CFA Common Fault Alarm LA Level Alarm [High for Level Above LAH Pl Pressure Indicator Controller TIJ Multipoint Temperature Indicator Thermocouple CSC Car Seal Open LAH Level Alarm [High/Low] PIT Pressure Indicator Tansmitter TR Temperature Recorder Controller CV Control Valve LAL Level Alarm [Low] PIT Pressure Indicator TRC Temperature Recorder Controller F/L EMF to Current Converter LAL Level Alarm [Low] PII Multipoint Tressure Indicator TRC Temperature Shutdown [High] ESD Energency Shutdown Station LCV Level Controller POV Pneumatically Operated Valve TSD Temperature Shutdown [High] FAL Flow Alarm High Level Indicator Controller PRV Pressure Recorder TSD Temperature Shutdown [-						
CCPCentral Control PanelI/PACurrent to Pneumatic AlarmPdSLPressure Differential Switch [Low]THThermostatCDSCompressor ShutdownKIClock/TimerPGPressure GageTITemperature IndicatorCRAComon Fault AlarmLALevel AlarmPIPneumatic To Current ConverterTIITemperature Indicator ControllerCRRCorrosimeterLAHLevel Alarm (High)PIPressure Indicator ControllerTIITemperature Indicator TransmitterCSOCar Seal CloseLAHLevel Alarm (High/Low)PIPressure Indicator ControllerTIITemperature Indicator/ThermocoupleCVControl ValveLALLevel Alarm [Low]PJIMultipoint Pressure IndicatorTRCTemperature Recorder ControllerE/IEM to Current ConverterLALLLevel Alarm [Low]PJIMultipoint Pressure RecorderTRITemperature Recorder TransmitterESDEmergency Shutdown StationLCLevel Control ValvePRPressure RecorderTSDLTemperature Shutdown [High]ESDEmergency Shutdown ValveLGLevel Indicator ControllerPRCPressure RecorderTSLTemperature Switch [High]/Low]FAHFlow Alarm HighLCLevel Indicator ControllerPRCPressure RecorderTSLTemperature Switch [High]/Low]FAHFlow Alarm HighLCLevel Indicator ControllerPRCPressure RecorderTSLTemperature Switch [High]/Low]FAHFlow Alarm High </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
CDSCompressor ShutdownKIClock/TimerPGPressure GageTITemperature IndicatorCFACommon Fault AlarmLALevel AlarmP/IPneumatic To Current ConverterTICTemperature Indicator ControllerCORCorrosineterLAHLevel Alarm (High)PIPressure IndicatorTITTemperature Indicator CransmitterCSCCar Seal CloseLAHLevel Alarm (High/Low)PIPressure Indicator ControllerTJIMultipoint Temperature Indicator/ThermocoupleCSCCar Seal OpenLAHLevel Alarm (High/Low)PITPressure Indicator TransmitterTRTemperature Recorder ControllerCVControl ValveLALLevel Alarm LowPIMultipoint Pressure IndicatorTRTemperature Recorder ControllerE/IEMF to Current ConverterLALLevel Alarm Low for Level Above LALPJRMultipoint Pressure IndicatorTRTemperature Recorder ControllerESDEnergency, Shutdown StationLCLevel ControllerPOVPneumatically Operated ValveTSDHTemperature Shutdown [Low]ESDVEnergency, Shutdown StationLCLevel GaugePRCPressure Recorder ControllerTSHTemperature Switch [High/Low]FAHFlow Alarm HighLICLevel Indicator ControllerPRVPressure Regulating ValveTSLTemperature Switch [High/Low]FAHHFlow Alarm LinghLICLevel Indicator CransmitterPSDLPressure Regulating ValveTSLTemperature Switch [High/Low]<								
CFACommon Fault AlarmLALevel AlarmP/IPneumatic To Current ConverterTICTemperature Indicator ControllerCORCorrosimeterLAHLevel Alarm [High]PIPressure IndicatorTITTemperature Indicator TransmitterCSCCar Seal CloseLAHHLevel Alarm [High/Low]PIPressure Indicator ControllerTJIMultipoint Temperature Indicator/ThermocoupleCSOCar Seal OpenLAHLLevel Alarm [High/Low]PIPressure Indicator TransmitterTRTemperature RecorderCVControl ValveLALLevel Alarm [Low]PJIMultipoint Pressure IndicatorTRCTemperature RecorderE/IEMF to Current ConverterLALLevel Alarm [Low]PJIMultipoint Pressure IndicatorTRCTemperature Recorder TransmitterESElectrical SwitchLCLevel ControllerPDVPneumatically Operated ValveTSDLTemperature Switch(High)ESDEmergency Shutdown StationLCVLevel ControllerPRCPressure RecorderTSHTemperature Switch(High)FALHow Alarm HighLICLevel Indicator ControllerPRVPressure Regulating ValveTSHTemperature Switch(Low)FAHHow Alarm High for Level Alowe FAHLICLevel Indicator ControllerPRVPressure Shutdown [High]TTTemperature Switch [Low]FAHHow Alarm High for Level Alowe FAHLICLevel Indicator ControllerPSHPressure Switch [High]TTTemperature Switch [Low]								
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FG Flow Gage/Flow Sight Glass LSH Level Switch [High] PT Pressure Transmitter ZC Position Switch [Closed]		Flame Failure Shutdown						
ri i riuw indicatori 20 i Position Switch IUneni	FI	Flow Indicator	LSHL	Level Switch [High/Low]	POS	Positioner	ZO	Position Switch [Open]
FIC Flow Indicator Controller LSL Level Switch [Low] PY Relay, Computer, Amplifier, Converter or								
FIT Flow Indicator Transmitter LSHH Level Switch High for Level Above LSH I/P Converter etc/ in Pressure Loop						, , , ,		

TAG NUMBERS – LOOP NUMBER

The number below these letters is the numerator to help identify a specific component on a project within the control loop. When there are multiples of the same device used in a diagram, this number helps viewers to reference that specific instrument.

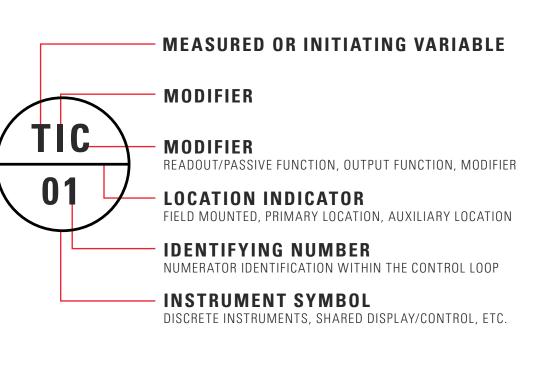
If you were looking at a list of the controls, you could look at the control loop number to find that specific device on the P&ID. Companies have different protocols for where these numbers originate.



TAG NUMBERS – INSTRUMENT LOCATION

- Located in field
- Not panel, cabinet, or console mounted
- Visible at field location
- Normally operator accessible
- Located in or on front of central or main panel or console
- Visible on front of panel or on video display
- Normally operator accessible at panel front or console
- Located in rear of central or main panel
- Located in cabinet behind panel
- Not visible on front of panel or on video display
- Not normally operator accessible at panel or console
- Located in or on front of secondary or local panel or console
- Visible on front of panel or on video display
- Normally operator accessible at panel front or console
- Located in rear of secondary or local panel
- Located in field cabinet
- Not visible on front of panel or on video display
- Not normally operator accessible at panel or console

These symbols may be supplemented with information on the name of the local control room or the local control panel, just outside the symbols, for example, COMPRESSOR, i.e., the local control room or local control panel for a compressor.



SYMBOLS – LINE TYPES

Piping (Major Projcess)		
Connection to Process (Minor Process)		 Functional diagram continuously variable signal. Electrical schematic ladder diagram signal and power rails.
Undefined Signal	_/_/	• Use for Process Flow Diagrams and diagrams where type of signal is not of concern
Pneumatic Signal		 Filled thermal element capillary tube. Filled sensing line between pressure seal and instrument.
Electric Signal		 Electronic or electrical continuously variable or binary signal. Functional diagram binary signal.
Hydraulic Signal		• Hydraulic Signal
Capillary Tube	$- \times - \times -$	 Filled thermal element capillary tube. Filled sensing line between pressure seal and instrument.
Electromagnetic or Sonic Signal (Guided)	\rightarrow	 Guided electromagnetic signal / sonic signal. Fiber optic cable.
Electromagnetic or Sonic Signal (Not Guided)	$\sim \sim$	 Unguided electromagnetic signals, light, radiation, radio, sound, wireless, etc. Wireless instrumentation signal / communication link.
Internal System Link (Software or Data Link)	oo	 Communication link and system bus, between devices and functions of a shared display, shared control system. (DCS, PLC, or PC communication link and system bus.)
Internal System Link (Software or Data Link)	• _•	 Communication link or bus connecting two or more independent microprocessor or computer-based systems. (DCS-to-DCS, DCS-to-PLC, PLC-to-PC, DCS-to-Fieldbus, etc.)
Mechanical Link	@	Mechanical Link

SYMBOLS – CONTROL VALVES

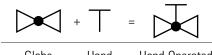
1	a	Generic two-way valve Straight globe valve Gate valve	12	2 — — — —	Generic damper Generic louver	Symbols 1-14 , when combined with actuator symbols 1-16,
2		Generic two-way angle valve Angle globe valve Safety angle valve	13	· — <u>*</u> —	Parallel blade damper Parallel blade louver	represent process control valves. Symbol 2 , when
3		Generic three-way valve Three-way globe valve Arrow indicates failure or unactuated flow path	14	₄ — <u>₹</u> —	Opposed blade damper Opposed blade louver	combined with actuator symbols 20 and 21, represent pressure
4		Generic four-way valve Four-way four-ported plug or ball valve Arrows indicates failure or unactuated flow paths	15		Two-way on-off solenoid valve	safety valves. Symbols 1 and 9, users design
5		Butterfly valve	16		Angle on-off solenoid valve	standards will document which symbols have been selected.
6	-101-	Ball valve	17		Three-way on-off solenoid valve Arrow indicates de-energized flow path	Symbols 15-19, when combined with actuator symbols 13-15,
7		Plug valve	18		Four-way plug or ball on-off solenoid valve Arrows indicates de-energized flow paths	represent on-off solenoid valves.
8		Eccentric rotary disc valve	19		Four-way five-ported on-off solenoid valve Arrows indicates de-energized flow paths	Symbol 21 , when combined with actuator symbols 1-16, represents a variable speed
9	a	Diaphragm valve	20	D I	Permanent magnet variable speed coupling	control unit.
10		Pinch valve	21		Electric motor Represents a motor that manipulates or controls a process variable.	
11		Bellows sealed valve				

SYMBOLS – ACTUATORS

1	Ť	Generic actuator Spring-diaphragm actuator	12	Ť	Actuator with top-mounted handwheel	Symbols 1-16, when combined with element symbols 1-14,
2	Ĩ	Spring-diaphragm actuator with positioner	13	Т	Manual actuator Hand actuator	represent process control valves and with element symbol 21
3	Image: Constraint of the second se	Pressure-balanced diaphragm actuator	14	(E/H)	Electrohydraulic linear or rotary actuator	represents a variable speed control unit.
4	Ŧ	Linear piston actuator Single acting spring opposed Double acting.	15		Actuator with manual actuated partial stroke test device	Symbols 17-19 , when combined with element symbols 15-19,
5		Linear piston actuator with positioner	16		Actuator with remote actuated partial stroke test device	represent on-off solenoid valves. Symbols 20-21,
6		Rotary piston actuator May be single acting spring opposed or double acting	17	S	Automatic reset on-off solenoid actuator Non-latching on-off solenoid actuator	when combined with element symbol 2, represent pressure safety
7		Rotary piston actuator with positioner	18	S R	Manual or remote reset on-off solenoid actuator Latching on-off solenoid actuator	valves.
8		Bellows spring opposed actuator	19	® ^S ®	Manual and remote reset on-off solenoid actuator Latching on-off solenoid actuator	
9	M	Rotary motor operated actuator Electric, pneumatic, or hydraulic Linear or rotary action	20	*	Spring or weight actuated relief or safety valve actuator	
10	S	Modulating solenoid actuator Solenoid actuator for process on-off valve	21		Pilot actuated relief or safety valve actuator Pilot pressure sensing line deleted if sensing is internal	
11	Image: Provide state s	Actuator with side-mounted handwheel				

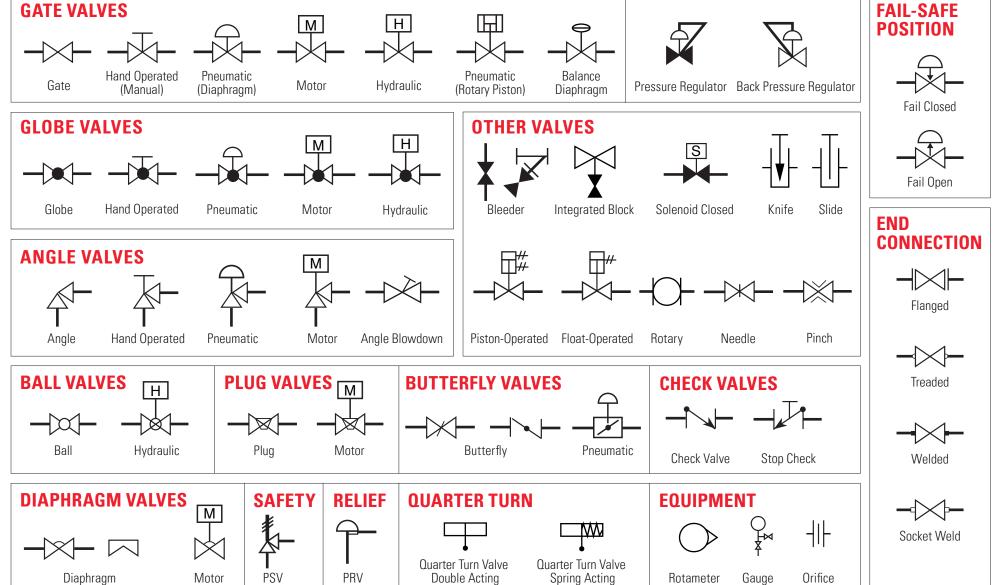
SYMBOLS – COMMON VALVE SYMBOLS AND COMBINATIONS

Combining control valve symbols with actuators symbols can yield a variety of results. Below are some final control elements with actuators and a variety of other common instrument symbols.

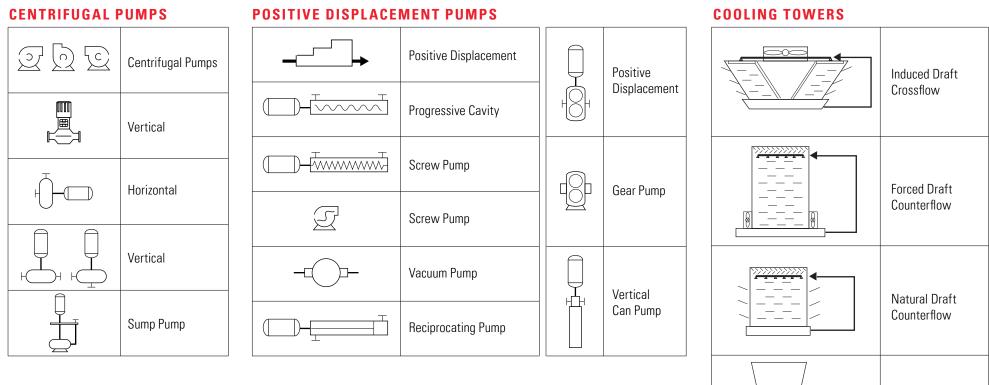


Globe Hand-Operated Hand Valve **Globe Valve** Actuator

FAIL-SAFE



SYMBOLS – EQUIPMENT



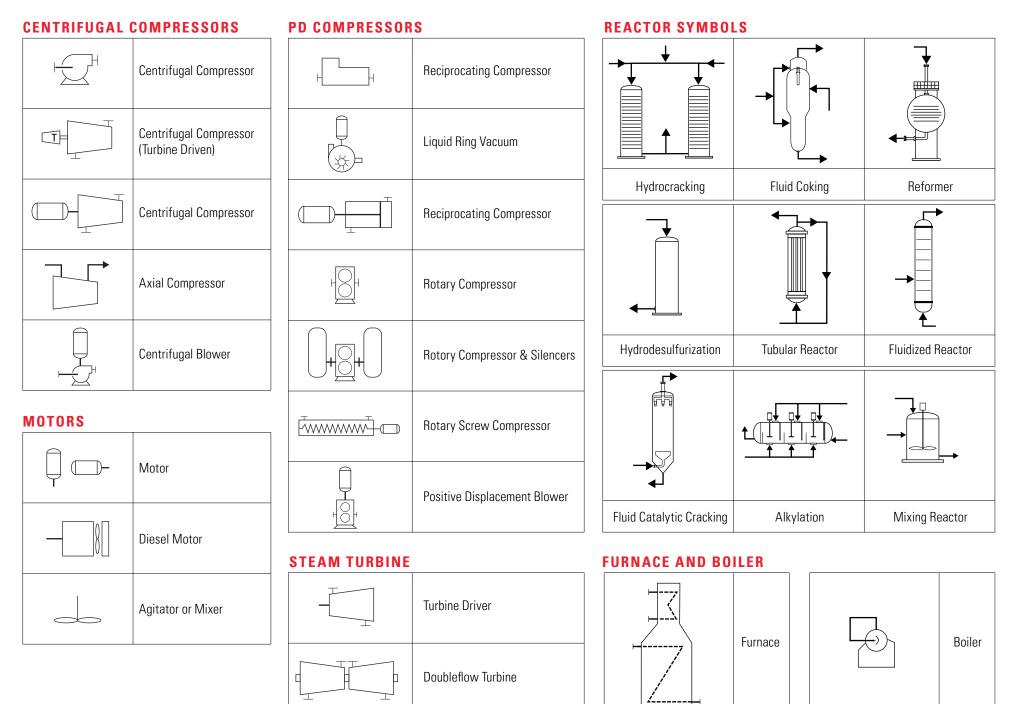
Hyperbolic Chimney Tower

STORAGE

10

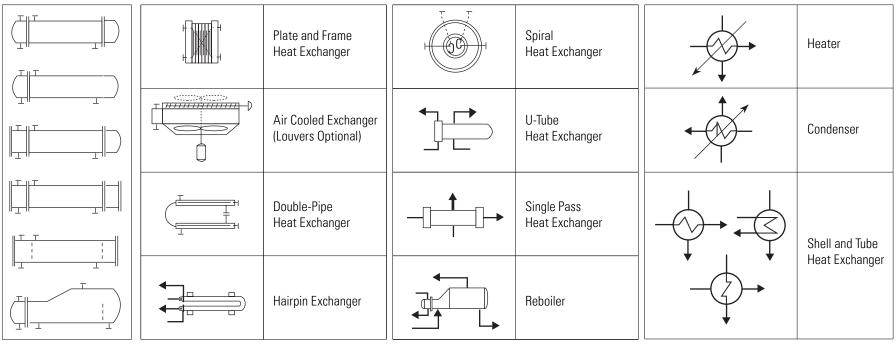
STURAGE							
	Bin		Drum		External Floating Roof		
	Tank		Internal Floating Roof Tank		Sphere		
	Dome Roof Tank		Double Wall Tank		Onion Tank		
	Open Top Tank		Cone Roof Tank				

SYMBOLS – EQUIPMENT



SYMBOLS – EQUIPMENT

HEAT EXCHANGERS



DISTILLATION SYMBOLS

