
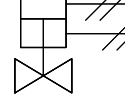




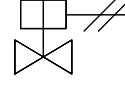
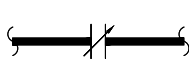

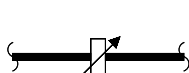

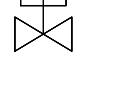
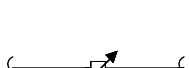

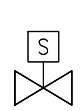
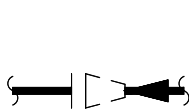

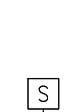
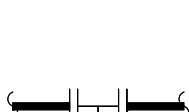


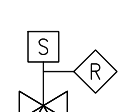
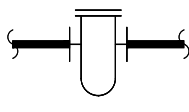

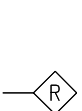
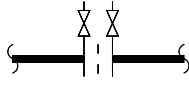


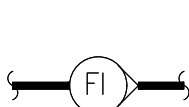

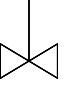
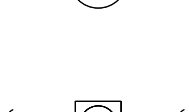


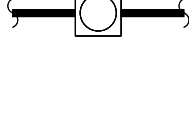


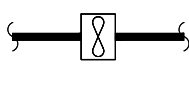

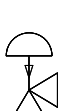
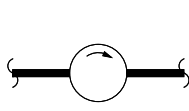


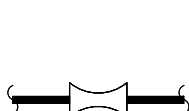



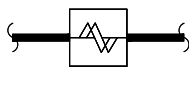


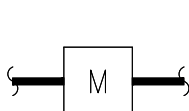

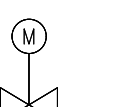
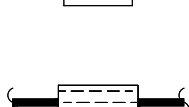

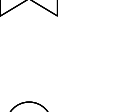
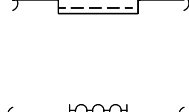

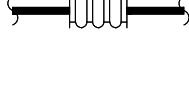

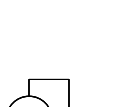
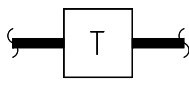

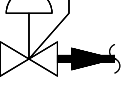
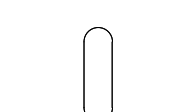

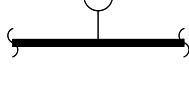

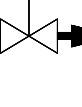
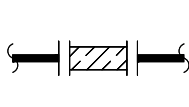


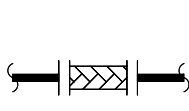



## VALVE & FLOW SYMBOLS

	GATE VALVE		VALVE ACTUATOR DOUBLE ACTING		FLANGES
	PLUG VALVE				UNION
	BALL VALVE		VALVE ACTUATOR SINGLE ACTING (SPRING CLOSE)		INSULATING FLANGE
	NEEDLE VALVE				INSULATING JOINT (MONOLITHIC)
	GAUGE VALVE		VALVE ACTUATOR SINGLE ACTING (SPRING OPEN)		INSULATED COUPLING OR UNION (CONDUIT, PIPE OR TUBING)
	GLOBE VALVE		SOLENOID VALVE		CONE STRAINER W/ APEX UPSTREAM
	CHECK VALVE		SOLENOID VALVE THREE-WAY		TEE STRAINER or CLEANOUT
	SWING CHECK VALVE				
	BUTTERFLY VALVE		SOLENOID VALVE WITH MANUAL RESET		BASKET STRAINER or FILTER
	3-WAY VALVE W/ HANDLE		MANUAL ACTUATOR or RESET		FLOW ELEMENT FLANGED W/ VALVES (ORIFICE)
	3-WAY VALVE W/ MANUAL RESET		CONTROL VALVE		INLINE FLOW INDICATOR
	PRESSURE & VACUUM RELIEF VALVE		ANGLE CONTROL VALVE (AIR TO CLOSE)		FLOW SIGHT GLASS
	PRESSURE RELIEF STRAIGHT THROUGH PATTERN		ANGLE CONTROL VALVE (AIR TO OPEN)		TURBINE METER
	RELIEF VALVE - SPRING or INTEGRAL PILOT		ACTUATED 3-WAY CONTROL VALVE (AIR TO CLOSE)		VENTURI
	RELIEF VALVE - INTEGRAL PILOT (REMOTE SENSING)		ACTUATED 3-WAY CONTROL VALVE (AIR TO OPEN)		CORIOLIS FLOWMETER
	PILOT OPERATED RELIEF VALVE		MOTOR OPERATED VALVE		MAGNETIC FLOWMETER
	CRANKCASE EXPLOSION or BACKFIRE PRESSURE RELIEF VALVE				STRAIGHTENING VANES
	4-WAY VALVE				EXPANSION JOINT
	ANGLE VALVE		CONTROL VALVE w/ POSITIONER		STEAM/CONDENSATE TR
	CHOKE VALVE ADJUSTABLE		PRESSURE-REDUCING REGULATOR SELF-CONTAINED		INSTRUMENT PULSATION DAMPENER
	CHOKE VALVE FIXED		PRESSURE-REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP		FLEXIBLE HOSE RUBBER, FLANGED
	CHOKE NIPPLE				FLEXIBLE HOSE BRAIDED STEEL, FLANGED
	THREE WAY BALL VALVE		BACKPRESSURE REGULATOR SELF-CONTAINED		FLEXIBLE HOSE RUBBER, w/ CONNECTOR
	BLOCK & BLEED VALVE (INSTRUMENT)		BACKPRESSURE REGULATOR WITH EXTERNAL PRESSURE TAP		FLEXIBLE HOSE RUBBER, w/ FLANGED
	QUICK EXHAUST VALVE				CONCENTRIC REDUCER
	PETCOCK		CONTROL VALVE (AIR TO CLOSE)		ECCENTRIC REDUCER (FSD)
	CONTINUOUS BLOWDOWN VALVE		CONTROL VALVE (AIR TO OPEN)		ECCENTRIC REDUCER (ESL)
	THERMAL VALVE (VF) (THERMOSTATIC)				

	FLANGES		INSULATION
	UNION		INSULATION W/ HEAT TRACE
	INSULATING FLANGE		WELD CAP or PIPE CAP or LINE CAP or TERMINATION
	INSULATING JOINT (MONOLITHIC)		HOSE CONNECTOR (CROWS FOOT)
	INSULATED COUPLING or UNION (CONDUIT, PIPE OR TUBING)		EDGE OF SKID CONNECTION
	CONE STRAINER W/ APEX UPSTREAM		FLAME ARRESTOR
	TEE STRAINER or CLEANOUT		Y STRAINER
	BASKET STRAINER or FILTER		Y STRAINER W/ VALVE
	FLOW ELEMENT FLANGED W/ VALVES (ORIFICE)		RUPTURE DISC PRESSURE SAFETY ELEMENT
	INLINE FLOW INDICATOR		RUPTURE DISC VACUUM
	FLOW SIGHT GLASS		ORIFICE PLATE IN QUICK CHANGE FITTING
	TURBINE METER		BLEED RING W/ PLUG
	POSITIVE DISPLACEMENT METER		BLEED RING W/ VENT VALVE
	VENTURI		SPEC BLIND (OPEN)
	CORIOLIS FLOWMETER		SPEC BLIND (CLOSED)
	MAGNETIC FLOWMETER		PADDLE BLIND (OPEN)
	STRAIGHTENING VANES		PADDLE BLIND (CLOSED)
	EXPANSION JOINT		FLEX COUPLING AEROQUIP or DRESSER TYPE
	STEAM/CONDENSATE TRAP		VENT CAP
	INSTRUMENT PULSATION DAMPENER		OPEN DRAIN
	FLEXIBLE HOSE RUBBER, FLANGED		CLOSED DRAIN
	FLEXIBLE HOSE BRAIDED STEEL, FLANGED		P TRAP
	FLEXIBLE HOSE RUBBER, w/ CONNECTOR		SPEC BREAK
	FLEXIBLE HOSE RUBBER, w/ FLANGED		SPOOL PIECE
	CONCENTRIC REDUCER		INTERMITTENT BLOWDOWN VALVE
	ECCENTRIC REDUCER (FSD)		RESTRICTION ORIFICE
	ECCENTRIC REDUCER (FSI)		

INSTRUMENTATION IDENTIFICATION LETTERS (ISA)  
(USED INSIDE INSTRUMENT BALLOONS)

AI	- ANALYSIS ELEMENT	PC	- PRESSURE CONTROLLER
AI*	- ANALYSIS INDICATOR	PCV	- PRESSURE CONTROL VALVE
AIC	- ANALYSIS INDICATING CONTROLLER	PDC	- PRESSURE DIFFERENTIAL CONTROLLER
AID	- ANALYSIS INDICATING DIFFERENTIAL SWITCH	PDI	- PRESSURE DIFFERENTIAL INDICATOR
AI*	- ANALYSIS INDICATOR AND TRANSMITTER	PDIC	- PRESSURE DIFFERENTIAL INDICATING CONTROLLER
AR	- ANALYSIS RECORDER	PDIS*	- PRESSURE DIFFERENTIAL INDICATING SWITCH
ARC	- ANALYSIS RECORDING CONTROLLER	POIT	- PRESSURE DIFFERENTIAL INDICATING TRANSMITTER
AS*	- ANALYSIS SWITCH	POR	- PRESSURE DIFFERENTIAL RECORDER
AT	- ANALYSIS TRANSMITTER	POS*	- PRESSURE DIFFERENTIAL SWITCH
AV	- ANALYSIS (LOOP) CONTROL VALVE	POT	- PRESSURE DIFFERENTIAL TRANSMITTER
AY	- ANALYSIS RELAY	POY	- PRESSURE DIFFERENTIAL SIGNAL TRANSDUCER, SOLENOID, RELAY, OR COMPUTING DEVICE
BE	- BURNER FLAME DETECTOR	PP	- PRESSURE PRIMARY ELEMENT
BI	- BURNER FLAME INDICATOR	PC	- PRESSURE CLASS (OBSERVATION ONLY)
BS	- BURNER FLAME SWITCH	PI	- PRESSURE INDICATOR
BT	- BURNER TRANSMITTER	PIC	- PRESSURE INDICATING CONTROLLER
BX	- BURNER FLAME TV RECEIVER	PI*	- PRESSURE INDICATING TRANSMITTER
CC	- CONDUCTIVITY PRIMARY ELEMENT	PI*	- PRESSURE SCANNING RELAY
CRE	- CORROSION PRIMARY ELEMENT	PR	- PRESSURE RECORDER
CJ	- CONDUCTIVITY INDICATOR	PRC	- PRESSURE RECORDING CONTROLLER
CR	- CORROSION INDICATOR	PS	- PRESSURE SWITCH
CD	- CONDUCTIVITY INDICATING CONTROLLER	PSE	- PRESSURE SAFETY ELEMENT (RUPTURE DISK)
CP	- CORROSION TEST CONNECTION	PSV	- PRESSURE SAFETY VALVE
CR	- CORROSION TRANSMITTER	PT	- PRESSURE TRANSMITTER
CRC	- CONDUCTIVITY RECORDING CONTROLLER	PT	- PRESSURE SIGNAL TRANSDUCER, SOLENOID, RELAY, OR COMPUTING DEVICE
CT	- CONDUCTIVITY TRANSMITTER	PZ	- PRESSURE ACTUATOR
CR*	- CORROSION TRANSMITTER	PZV	- PRESSURE ACTUAL VALVE
DC	- DENSITY INDICATOR	SC	- SPEED CONTROLLER
DI	- DENSITY INDICATING CONTROLLER	SDV	- SPEED TUNING VALVE
DQ	- DENSITY TOTALIZER	SE	- SENSING ELEMENT (SPEED PICKUP)
DR	- DENSITY RECORDER	SI	- SPEED INDICATOR
DRC	- DENSITY RECORDING CONTROLLER	SI*	- SPEED INDICATING CONTROLLER
DT	- DENSITY TRANSMITTER	SIT	- SPEED INDICATING TRANSMITTER
ET	- VOLTAGE TRANSMITTER	SR	- SPEED RECORDER
ESD	- EMERGENCY SHUTDOWN	SRC	- SPEED RECORDING CONTROLLER
FC	- FLOW CONTROLLER	SS*	- SPEED SWITCH
FCV	- FLOW CONTROL VALVE (SELF ACTUATED)	SS*	- SPEED TRANSMITTER
FE	- FLOW ELEMENT	SV	- SPEED (LOOP) CONTROL VALVE
FG	- FLOW SIGHT GAUGE OR GLASS	SY	- SPEED SIGNAL TRANSDUCER, SOLENOID, RELAY, OR COMPUTING DEVICE
FI	- FLOW INDICATOR	SZ	- SPEED ACTUATOR
FIC	- FLOW INDICATING CONTROLLER	TC	- TEMPERATURE CONTROLLER
FID	- FLOW INDICATOR RECORDER	TCS*	- TEMPERATURE CONTROL SWITCH
FIT	- FLOW INDICATING TRANSMITTER	TCV	- TEMPERATURE CONTROL VALVE (SELF ACTUATED)
FR	- FLOW RESTRICTION ORIFICE	TDI	- TEMPERATURE DIFFERENTIAL TRANSMITTER
FQ	- FLOW TOTALIZER	TE	- TEMPERATURE ELEMENT
FQI	- FLOW TOTALIZING INDICATOR	TI	- TEMPERATURE INDICATOR
FR	- FLOW RECORDER	TIC	- TEMPERATURE INDICATING CONTROLLER
FRC	- FLOW RECORDING CONTROLLER	TIT	- TEMPERATURE INDICATING TRANSMITTER
FS*	- FLOW SWITCH	TJ	- TEMPERATURE MULTIPONT SCANNING INDICATOR
FT	- FLOW TRANSMITTER	TR	- TEMPERATURE MULTIPONT SCANNING RECORDER
FU	- FLOW COMPUTER (FISCAL METERING)	TR	- TEMPERATURE RECORDER
FV	- FLOW (LOOP) CONTROL VALVE	TRC	- TEMPERATURE RECORDING CONTROLLER
FY	- FLOW RELAY, SOLENOID, COMPUTING DEVICE (1/P FOR FLOW)	TS*	- TEMPERATURE SWITCH
GC	- GRAVITY CONTROLLER	TS*	- TEMPERATURE TRANSMITTER
GE	- GRAVITY PRIMARY ELEMENT	TV	- TEMPERATURE CONTROL VALVE (NOT SELF ACTUATED)
GI	- GRAVITY INDICATOR	TW	- TEMPERATURE WELL (THERMOWELL)
GR	- GRAVITY INDICATING CONTROLLER	TY	- TEMPERATURE SIGNAL TRANSDUCER, SOLENOID, RELAY, OR COMPUTING DEVICE
GR*	- GRAVITY RECORDING CONTROLLER	UC	- TEMPERATURE ACTUAL VALVE
GT	- GRAVITY TRANSMITTER	UCV	- MULTIVARIABLE CONTROL VALVE (SELF CONTAINED)
H	- HAND CONTROLLER	UI	- MULTIVARIABLE CALCULATION INDICATOR
HIC	- HAND INDICATOR CONTROLLER (MANUAL)	UC*	- MULTIVARIABLE INDICATING CONTROLLER
HS	- HAND SWITCH (ON-OFF)	US*	- MULTIVARIABLE SWITCH
HV	- HAND CONTROL VALVE	UV	- MULTIVARIABLE TRANSMITTER
I	- INSTRUMENT AIR	UV	- MULTIVARIABLE CONTROL VALVE (NOT SELF CONTAINED)
IS*	- CURRENT SWITCH	UY	- MULTIVARIABLE SIGNAL CONVERSION ELEMENT
IT	- CURRENT TRANSMITTER	VA*	- VIBRATION ALARM
JT	- POWER TRANSMITTER	VE	- VIBRATION ELEMENT
KC	- TIME CONTROL	VI	- VIBRATION INDICATOR
KCV	- TIME CONTROL VALVE	VIT	- VIBRATION INDICATING TRANSMITTER
KI	- TIME INDICATOR	VS*	- VIBRATION SWITCH
KS	- SEQUENCE RELATED SWITCH FUNCTION	VT	- VIBRATION TRANSMITTER
KV	- TIME (LOOP) CONTROL VALVE	WE	- WEIGHT PRIMARY ELEMENT
LC	- LEVEL CONTROLLER	WI	- WEIGHT INDICATOR
LC*	- LEVEL CONTROLLER SWITCH	WZ	- WEIGHT TO ZERO
LCV	- LEVEL CONTROL VALVE (SELF ACTUATED)	WR	- WEIGHT RECORDER
LG	- LEVEL GAUGE	WT	- WEIGHT TRANSMITTER
LI	- LEVEL INDICATOR	XA	- ANNUNCIATOR POINT OR UNSPECIFIED ALARM OR REMOTE SHUTDOWN
LC	- LEVEL INDICATING CONTROLLER	XI	- USER DEFINED INDICATOR
LT	- LEVEL INDICATING TRANSMITTER	XS	- REMOTE STATUS
LR	- LEVEL RECORDER	XV	- USER DEFINED VALVE
LRC	- LEVEL RECORDING CONTROLLER	*XY	- SOLENOID VALVE
LS	- LEVEL SWITCH	ZE	- POSITION ELEMENT
LT	- LEVEL TRANSMITTER	ZI	- POSITION INDICATOR (ZIO, ZIC)
LV	- LEVEL CONTROL VALVE (NOT SELF ACTUATED)	ZIH	- POSITION INDICATOR (OPEN)
MC	- MOTOR CONTROL VALVE (SELF ACTUATED)	ZIL	- POSITION INDICATOR (CLOSED)
ME	- MOISTURE PRIMARY ELEMENT	ZL	- POSITION LIGHT (INDICATOR)
MI	- MOISTURE INDICATOR	ZS*	- POSITION SWITCH OR LIMIT SWITCH
MIC	- MOISTURE INDICATING CONTROLLER	ZT	- POSITION TRANSMITTER
MR	- MOISTURE RECORDER	ZY	- POSITION SIGNAL VALVE (LIMIT VALVE), PROXIMITY SWITCH
MRC	- MOISTURE RECORDING CONTROLLER	ZY	- POSITION SIGNAL TRANSDUCER, SOLENOID, RELAY, OR COMPUTING DEVICE
MS	- MANUAL SHUTDOWN SWITCH		
MT	- MOISTURE TRANSMITTER		
MCV	- MOTOR CONTROL VALVE (NOT SELF ACTUATED)		
NI	- VISCOSITY INDICATOR		
NT	- VISCOSITY TRANSMITTER		

## MECHANICAL EQUIPMENT ABBREVIATIONS

AD	- ADAPTER	HTR	- HEATER
AF	- AIR FILTER	ICP	- INSTRUMENT CONTROL PANEL
AN	- ANALYZER	LD	- LOCKING DEVICE
B	- BELT	LU	- LUBRICATOR
BD	- BETA DRIVE	LV	- LOUVERS
BF	- BLIND FLANGE	M	- MOTOR
BG	- BELT GUARD	MB	- MANIFOLD BAR (LUBRICATOR)
BKT	- BRACKET	MCC	- MOTOR CONTROL CENTER
BL	- BOLT LOCK (LUBRICATOR)	MOV	- MOTOR OPERATED VALVE
BJ	- BARRING JACK	MS	- MOTOR STARTER
BR	- BLEED RING	P	- PUMP
BU	- BUSHING	PA	- PNEUMATIC ACTUATOR
C	- COMPRESSOR	PB	- PILLBOX BLANK
CAP	- CAP (PRESSURE)	PD	- PULSATION DAMPENER
CB	- CLEARANCE BOTTLE	PLS	- PRELUBE SYSTEM
CC	- CATALYTIC CONVERTER	PM	- PNEUMATIC (AIR/CAS) MOTOR
CG	- COUPLING GARD	PMS	- PNEUMATIC STARTER
CHOP	- CHAIN OPERATED	PTO	- POWER TAKE OFF
CO	- COUPLING	PW	- PISTON NUT WRENCH
CPI	- CYCLE PIN INDICATOR (LUBRICATOR)	SA	- STACK ARRESTOR
CS	- CYLINDER SUPPORT	SB	- SPECTACLE BLIND
CT	- CYLINDER VALVE	SH	- SHAFT
CW	- CROSSHEAD NUT WRENCH	SLB	- SLIDE BASE (MOTOR)
CWC	- COUNTERWEIGHT	SN	- SNUBBER
CYL	- CYLINDER	ST	- TANK (STORAGE)
DV	- DELUGE VALVE	STR	- STRAINER
E	- ENGINE	SV	- SHEAVE
E/H	- ELECTRO-HYDRAULIC ACTUATOR	T	- TURBINE
EJ	- EXPANSION JOINT	TR	- PISTON TRAM
ERO	- EXHAUST RELIEF DEVICE	TS	- TEMPORARY STRAINER
ES	- EXHAUST SILENCER	UL	- UNLOADER
F	- FILTER	V	- VESSEL (CODED AND NON-CODED)
FA	- FLAME ARRESTER	V3W	- 3-WAY VALVE
FIL	- FILTER ELEMENT	V4W	- 4-WAY VALVE
FJ	- FLEXIBLE JOINT	VBB	- BLOCK AND BLEED VALVE
FLC	- FLOAT CHAMBER	VF	- FIRE SAFE VALVE
FNCP	- FIXED VOLUME CLEARANCE POCKET	VI	- GAUGE VALVE
G	- GEAR	VNP	- VANE PACK
GEN	- GENERATOR	VPD	- PULSATION DAMPENER, VALVE
HCA	- HEAT EXCHANGER AIR COOLER	TV	- VALVE TEST INSERT
HCP	- HOSE CLAMP	VVCP	- VARIABLE VOLUME CLEARANCE POCKET
HCN	- HOSE CONNECTION	VW	- VALVE WRENCH
HH	- HAND HOLE	XC	- CHOKE VALVE
HM	- HYDRAULIC MOTOR	XCN	- CHOKE NIPPLE
HR	- HOSE REEL	XW	- CROSSHEAD WEIGHT
HT	- HEAT EXCHANGER (COOLER)		

## MISC. RELATED ABBREVIATIONS

A/G	— ABOVE GROUND	MLW	— MEAN LOW WATER
AC	— AIR TO CLOSE	MSCFD	— MILLION STANDARD CUBIC FEET PER DAY
AO	— AIR TO OPEN	MSCFD	— THOUSAND STANDARD CUBIC FEET PER DAY
AS	— AIR SUPPLY	DAY	
EOP	— END OF PIPE	MSL	— MEAN SEA LEVEL
BOS	— BOTTOM OF STEEL	MW	— MANWAY
BSW	— BOTTOM SEDIMENT AND WATER	NB	— IMPORTANT NOTE (NOTA BIEN)
BW	— BUTT WELD	NC	— NORMALLY CLOSED
CA	— CORROSION ALLOWANCE	NNF	— NORMALLY NO FLOW
CO	— CLEAN OUT	NO	— NORMALLY OPEN
CPP	— PRESSURE CONNECTION — PLUGGED	NS	— NITROGEN SUPPLY
CS	— CARBON STEEL	NTS	— NOT TO SCALE
CSC	— CAR SEAL CLOSED	OD	— OUTSIDE DIAMETER
CSO	— CAR SEAL OPEN	OF	— OWNER FURNISHED
CTP	— CONNECTION CONNECTION — PLUGGED	OP	— OPERATING PRESSURE
D	— DRAIN	OT	— OPERATING TEMPERATURE
dp	— DIFFERENTIAL PRESSURE	PD	— POSITIVE DISPLACEMENT
DP	— DESIGN PRESSURE	POS	— POWER GAS SUPPLY
DPG	— DRAIN PLUG	PID	— PROPORTIONAL, INTEGRAL, DIFFERENTIAL
EL	— ELEVATION	PO	— PUMP OUT
EOP	— END OF PIPE	PP	— PERSONNEL PROTECTION
ES	— ELECTRIC SUPPLY	PS	— PIPE SUPPORT
ESD	— EMERGENCY SHUTDOWN	PSD	— PROCESS SHUTDOWN
ETR	— ELECTRICAL TRACE	PSIG	— POUNDS PER SQUARE INCH
EX	— EXHAUST	RA	— REVERSE ACTING
F	— FLARE	REF	— REFERENCE
F/F	— FACE OF FLANGE	REV	— REVISION
FB	— FULL BORE	RF	— RAISED FACE
FF	— FLAT FACE	RP	— REDUCED PORT
FLC	— FAIL LOCKED (LAST POSITION)	RSP	— REMOTE SETPOINT
FMU	— FITTING MAKE-UP	RTJ	— RING TYPE JOINT
FSD	— FLAT SIDE DOWN	S	— SAMPLER
FSU	— FLAT SIDE UP	S/S	— SEAM TO SEAM
FW	— FIELD WELD	SD	— SHUTDOWN
GJ	— GLYCOL JACKET	SP	— SETPOINT
GO	— GEAR OPERATED	SS	— STAINLESS STEEL
GS	— GAS SUPPLY	T/T	— TANGENT TO TANGENT
H2S	— HYDROGEN SULFIDE (SOUR GAS)	TOG	— TOP OF GRATING
HP	— HORSEPOWER	TOP	— TOP OF STEEL
HPS	— HIGH PRESSURE	TP	— TIE-IN POINT
ID	— INSIDE DIAMETER	TTP	— TEMPERATURE POINT PLUGGED
IG	— INSTRUMENT GAS SUPPLY	U/G	— UNDER GROUND
IS	— INSTRUMENT GAS VENT	V	— VENT
KPaG	— KILOPASCAL GAGE	VF	— VENDOR FURNISHED
LCD	— LOCKED CLOSED	VFD	— VARIABLE FREQUENCY DRIVE
LO	— LOCKED OPEN	VP	— VENT CONNECTION — PLUGGED
LP	— LOW PRESSURE	VSA	— VENT TO SAFE ATMOSPHERE
MAOP	— MAXIMUM ALLOWABLE OPERATING PRESSURE	WN	— WELD NECK
MAWP	— MAXIMUM ALLOWABLE WORKING PRESSURE	WS	— WATER SUPPLY
		Y	— RELAY

## TYPICAL EQUIPMENT IDENTIFICATION

TAG No:	DESCRIPTION:	<u>V-22XX</u> <u>SEPARATOR</u>
MAKE AND MODEL:	...	
DIMENSIONS:	...inches O.D. x ...inches S/S	
DESIGN PRESSURE @ DESIGN TEMP., CORROS. ALLOWANCE:	... psig @ ... °F, ...inches C.A.	
GAS FLOW RATES:	... MMscfd	
LIQUID FLOW RATES:	... USgpm ... bbl/h	
DUTIES: MOTOR POWER:	... hp @ V/φ/Hz S.R.:	
STRESS RELIEVING AND X-RAY:	YES/NO, X-RAY: FULL/100%/SPOT	

## LINE TYPES

Figure 1 illustrates various line types used in piping and tubing systems, categorized into two columns. The left column shows standard line types, while the right column shows specialized line types for specific applications.

**Left Column Line Types:**

- MAJOR LINE TYPE: Solid line.
- MAJOR SECONDARY LINE TYPE: Solid line with short dashes.
- UTILITY LINE TYPE: Solid line with long dashes.
- INSTRUMENT LINE TYPE: Solid line with dots.
- PNEUMATIC LINE TYPE: Solid line with circles.
- ELECTRIC LINE TYPE: Dashed line.
- HYDRAULIC LINE TYPE: Solid line with triangles.
- LIMIT LINE TYPE: Solid line with a T-bar.

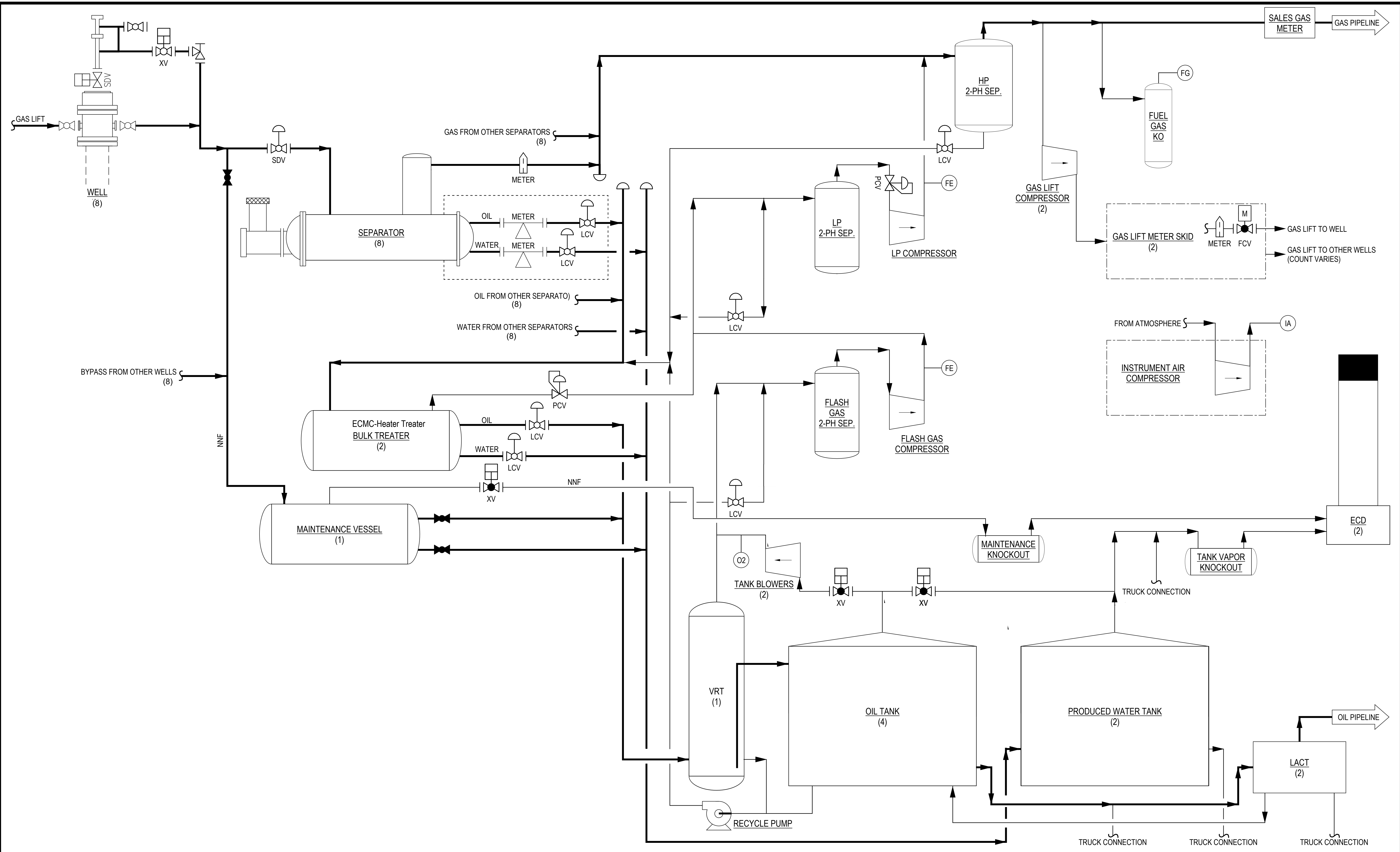
**Right Column Line Types:**

- CAPILLARY TUBING LINE TYPE: Solid line with X's.
- HEAT TRACING LINE TYPE: Dashed line with dots.
- SONIC SIGNAL LINE TYPE: Solid line with wavy lines.
- UNGUIDED SONIC SIGNAL LINE TYPE: Solid line with wavy lines and dots.
- LOGIC LINE TYPE: Solid line with circles.
- MECHANICAL LINK LINE TYPE: Solid line with circles and dots.
- BINARY LINE TYPE: Solid line with X's.

[illegible]







NOTES:



REFERENCE DRAWINGS				No	PROJ. NUMBER	REVISIONS				BY	CHKD	APVD	DATE	DRAWN	BY	DATE

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