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LINE IDENTIFICATION

A-B-CD-E-FGH-I,J,I

A : NOMINAL LINE SIZE IN INCHES

B : FLUID

CW	COOLING WATER	IA	INSTR. AIR SUPPLY
F	FUEL GAS	IG	INSTR. GAS SUPPLY
G	GLYCOL	L	LUBE OIL (COMPRESSOR)
HG	HYDROCARBON GAS	V	PRODUCED/PROCESS WATER
HL	HYDROCARBON LIQUID		

C : EQUIPMENT TYPE

B	BLOWER/FAN	H	HEATER
C	COMPRESSOR	P	PUMP
E	EXCHANGER	T	TANK
F	FILTER	V	PRESSURE VESSEL

MODIFIER
E ENGINE
M MOTOR

D : EQUIPMENT NUMBER: 1 TO 999 SEQUENTIAL NUMBERS

E : LINE NUMBER: 1 TO 9 SEQUENTIAL NUMBERS FROM EQUIPMENT

FGH : PIPING SPECIFICATION

F : MATERIAL GROUP

C CARBON STEEL
L LOW TEMP. CARBON STEEL
S STAINLESS STEEL

G : ANSI 16.5 FLANGE CLASS

1	150#	9	900#
3	300#	15	1500#
6	600#	25	2500#

H : LINE MATERIAL SPECIFICATION REFERENCE:
1 TO 9 SEQUENTIAL NUMBERS

III : MODIFIER / GENERAL

H PLUS THICKNESS IN INCHES (HOT INSULATION)
C PLUS THICKNESS IN INCHES (COLD INSULATION)
PP PLUS THICKNESS IN INCHES (PERSONAL PROTECTION)
HT PLUS THICKNESS IN INCHES (HEAT TRACING)
ST STEAM TRACING
GT GLYCOL TRACING
ET ELECTRICAL TRACING

EXAMPLE: 3"-HG-V1-2-C11-HT1", ET
3" - LINE SIZE
HG - HYDROCARBON GAS
V1 - VESSEL
2 - SECOND LINE FROM VESSEL
C11 - CARBON STEEL LINE
1 150# ANSI FLANGE RATING
1 LINE MATERIAL SPECIFICATION REFERENCE
HT1" - HEAT TRACING INSULATION 1" THICK
ET - ELECTRIC TRACING

VALVE IDENTIFICATION

A"BCDE,F

A : NOMINAL VALVE SIZE IN INCHES

B : TYPE

A	ANGLE GLOBE	N	NEEDLE
B	BALL	P	PLUG
C	CHECK	S	START-UP STRAINER
G	GATE	T	TEE STRAINER
L	GLOBE	Y	Y-STRAINER
M	MANIFOLD	U	BUTTERFLY

C : BODY MATERIAL

B	BRONZE	L	LOW TEMP. CARBON STEEL
C	CARBON STEEL	S	STAINLESS STEEL
I	CAST IRON		

D : END CONNECTIONS

1	FLANGED 150#	B	BUTT WELD
3	FLANGED 300#	C	SW BY NPT
6	FLANGED 600#	F	NPT BY FLANGE (MANIFOLD)
9	FLANGED 900#	N	NPT (THREADED)
15	FLANGED 1500#	M	NPT MALE BY NPT FEMALE
25	FLANGED 2500#	S	SW (SOCKETWELD)
		T	TUBE (SWAGELOCK)

E : IDENTIFIER - NUMBER USED TO SPECIFY VALVE
REFER TO VALVE DATA SHEETS

F : MODIFIER

C	CHAIN OPERATOR	O	OXYGEN SERVICE/CLEANING
E	EXTENDED BONNET	P	FULL PORT DESIGN
G	GEAR OPERATOR	R	RTJ FLANGED
L	LOCKING DEVICE	S	SPRING HANDLE (CLOSE)
N	NACE TRIM	X	SPECIAL SPECIFICATIONS

EXAMPLE: 6"GC11,C
6" VALVE SIZE
G GATE
C CARBON STEEL
C CHAIN OPERATOR

VALVES

ANGLE GLOBE VALVE

BALL VALVE

BUTTERFLY VALVE

CHECK VALVE

GATE VALVE

GLOBE VALVE

NEEDLE VALVE

PLUG VALVE

3-WAY VALVE

4-WAY VALVE

START-UP STRAINER

TEE STRAINER

Y-STRAINER

VALVE CONNECTIONS

THREADED

WELDED (BUTT OR SOCKET)

THREADED BY WELDED

FLANGED

CONTROL VALVES

POSITIONER
DIAPHRAGM CONTROL VALVE

OUTLET PRESSURE REGULATOR
(SELF-CONTAINED)

INLET PRESSURE REGULATOR
(SELF-CONTAINED)

PRESSURE DIFFERENTIAL CONTROL
VALVE (SELF-CONTAINED)

TWO-WAY SOLENOID VALVE

THREE-WAY SOLENOID VALVE

MOTOR ACTUATOR

HYDRAULIC / PNEUMATIC PISTON
OPERATED

VALVE W/ BLEED

VALVE W/ PLUG

PRESSURE SAFETY/
RELIEF VALVE

DESIGNATES ORIFICE
LETTER (SIZE)

MISCELLANEOUS

FLEXIBLE CONNECTION

SPECTACLE BLIND
(LINE OPEN)

SPECTACLE BLIND
(LINE CLOSED)

FLOW GLASS

RUPTURE DISC
FOR PRESSURE RELIEF

RUPTURE DISC
FOR VACUUM RELIEF

VORTEX BREAKER

DIAPHRAM SEAL

CONTINUOUS LIQUID DRAINER
OR STEAM TRAP

SKID TIE-POINTS

OPEN DRAIN

THICKNESS IN INSULATION - (C) COLD
(H) HOT
(HT) HEAT TRACING
(PP) PERSONAL PROTECTION

ELECTRIC HEAT TRACE

STEAM OR GLYCOL
HEAT TRACE

INSTRUMENTS

THERMOWELL (THREADED)

THERMOWELL (WELDED)

LOCAL MOUNTED

LOCAL PANEL MOUNTED

MOUNTED BEHIND OR
IN LOCAL PANEL

MAIN PANEL MOUNTED

MOUNTED BEHIND OR
IN MAIN PANEL

MAN / MACHINE INTERFACE
IN MAIN PANEL

PILOT LIGHT
* COLOUR- (A) AMBER
(G) GREEN
(R) RED
(B) BLUE
(O) ORANGE
(W) WHITE

RELAY OR CONVERTER
* FOR INPUT/OUTPUT SEQUENCES

DESIGNATION: SIGNAL:

E VOLTAGE
H HYDRAULIC
I CURRENT (ELECTRICAL)
O ELECTROMAGNETIC OR SONIC
P PNEUMATIC
R RESISTANCE (ELECTRICAL)

PROGRAMMABLE LOGIC CONTROLLER (PLC)
XC REPRESENTS GENERAL LOGIC

X = PLC NUMBER
Y = PLC RACK NUMBER

THE ABOVE IDENTIFICATION NUMBER WILL BE
USED TO REFERENCE THE CONTROL PANELS.

INTERLOCK

ELECTRICAL (HARD WIRE) INTERLOCK

INSTRUMENT IDENTIFICATION GENERAL REFERENCE (ISA - S5.1)

	(MODIFIER)	FIRST LETTER	SUCCEEDING LETTERS	PRIMARY ELEMENT	INDICATOR	RECORDER	CONTROLLER			TRANS-MITTER	CONTROL		CONTROL VALVE OR REGULATOR	SELF-ACTIVATED VALVE	RELAY OR CONVERTER
							BLIND	INDICATING	RECORDING		SWITCH	ALARM			
A	ANALYSIS		ALARM	AE	AI	AR	AC	AIC	ARC	AT	AS()	AA()	AV		AY
B	BURNER FLAME		USER'S CHOICE	BE	BI	BR	BC			BT	BS()	BA()	BV		BY
C	CONDUCTIVITY		CONTROL (CLOSE)	CE	CI	CR	CC	CIC	CRC	CT	CS()	CA()	CV		CY
D	DENSITY OR MASS (DIFFERENTIAL)			DE	DI	DR	DC	DIC	DRC	DT	DS()	DA()	DV		DY
E	VOLTAGE		PRIMARY ELEMENT	EE	EI	ER	EC	EIC	ERC	ET	ES()	EA()	EV		EY
F	FLOW (RATIO OR FRACTION)		SHUTDOWN FIRST OUT	FE	FI	FR	FC	FIC	FRC	FT	FS()	FA()	FV	FCV	FY
G	GAUGING		GLASS	GE	GI	GR	GC	GIC	GRC	GT	GS()	GA()	GV		
H	HAND		(HIGH)				HC	HIC	HRC	HT	HS()		HV	HCV	HY
I	CURRENT		INDICATE	IE	II	IR	IC	IIC	IRC	IT	IS()	IA()			IY
J	POWER (SCAN)			JE	JI	JR	JC	JIC	JRC	JT	JS()	JA()			JY
K	TIME		CONTROL STATION		KI	KR	KC	KIC	KRC	KT	KS()	KA()			KY
L	LEVEL		LIGHT (LOW)	LE	LI	LR	LC	LIC	LRC	LT	LS()	LA()	LV	LCV	LY
M	MOISTURE, HUMIDITY		(MIDDLE OR INTERMEDIATE)	ME	MI	MR	MC	MIC	MRC	MT	MS()	MA()	MV		MY
N	USER'S CHOICE														
O	POINT		ORIFICE (OPEN)												
P	PRESSURE OR VACUUM		POINT	PE	PI	PR	PC	PIC	PRC	PT	PS()	PA()	PV	PCV	PY
Q	QUANTITY OR EVENT (INTEGRATE/TOTALIZE)				QI	QR	QC	QIC	QRC	QT	QS()	QA()	QV		QY
R	RADIOACTIVITY		RECORD OR PRINT	RE	RI	RR	RC	RIC	RRC	RT	RS()	RA()			RY
S	SPEED OR FREQUENCY		SWITCH		SI	SR	SC	SIC	SRC	ST	SS()	SA()			SY
T	TEMPERATURE		TRANSMIT	TE	TI	TR	TC	TIC	TRC	TT	TS()	TA()	TV	TCV	TY
U	MULTI-VARIABLE		MULTIFUNCTION		UI	UR	UC	UIC	URC				UV		UY
V	VIBRATION		VALVE OR DAMPER	VE	VI	VR	VC	VIC	VRC	VT	VS()	VA()	VV		VY
W	WEIGHT OR FORCE		WELL	WE	WI	WR	WC	WIC	WRC	WT	WS()	WA()	WV		WY
X	UNCLASSIFIED		UNCLASSIFIED (DIAGNOSTIC)	XE	XI	XR	XC	XIC	XRC	XT	XS()	XA()	XV		XY
Y	USER'S CHOICE		RELAY OR COMPUTE												YY
Z	POSITION		DRIVE OR ACTUATE	ZE	ZI	ZR	ZC	ZIC	ZRC	ZT	ZS()	ZA()			ZY

(C) -CLOSE
(H) -HIGH ALARM
(HH)-HIGH SHUTDOWN
(O) -OPEN
(L) -LOW ALARM
(LL)-LOW SHUTDOWN

(XX)-DIAGNOSTIC SHUTDOWN
(USED TO INDICATE THE
DIAGNOSTIC CHECK REQ'D
ON THE ANALOG INPUT)

ABBREVIATIONS

AOUT	AUTOMATIC OUTPUT	MAWP	MAXIMUM ALLOWABLE WORKING PRESSURE
CA	CORROSION ALLOWANCE	MDMT	MINIMUM DESIGN METAL TEMPERATURE
CHO	CHAIN OPERATED	MIN	MINIMUM
CUST	CUSTOMER	MCC	MOTOR CONTROL CENTER
DIR	DIRECT ACTING	MOUT	MANUAL OUTPUT
DB	DEADBAND	MS	MOTOR STARTER
Δ	DELTA (DIFFERENTIAL)	NC	NORMALLY CLOSED
ESD	EMERGENCY SHUTDOWN	NLL	NORMAL LIQUID LEVEL
FC	FAIL CLOSED	NO	NORMALLY OPEN
FO	FAIL OPEN	MMI	MAN / MACHINE INTERFACE
FLP	FAIL LAST POSITION	PB	PUSH BUTTON
GAIN	GAIN	PL	PILOT LIGHT
HI	HIGH	PLC	PROGRAMMABLE LOGIC CONTROLLER
HS	HAND SWITCH	REV	REVERSE ACTING
HTR	HEATER	RST	RESET (INTEGRAL)
I/A	INSTRUMENT AIR SUPPLY	SCR	SILICON CONTROLLED RECTIFIER
I/G	INSTRUMENT GAS SUPPLY	S/F	SEAM TO FACE OF FLANGE
I/O	INPUT / OUPUT	SP	SETPOINT
LB/HR	POUNDS PER HOUR	SPC	CALCULATED SETPOINT
FT3/DAY	CUBIC FEET PER DAY	SS	SELECTOR SWITCH
FT3/HR	CUBIC FEET PER HOUR	S/S	SEAM TO SEAM
FT3/MIN	CUBIC FEET PER MINUTE	T/T	TANGENT TO TANGENT
LC	LOCKED CLOSED	TS/TS	TUBESHEET TO TUBESHEET
LO	LOCKED OPEN	T/L	TUBE LENGTH
MAX	MAXIMUM	V/H	VENT HEADER

GENERAL NOTES

- TUBING TO BE 304SS, SEAMLESS. 0.035" WALL THICKNESS, CADMIUM PLATED CARBON STEEL FITTINGS WITH STAINLESS STEEL FERRULES.
- ALL TEMPERATURE INSTRUMENTS TO BE PROVIDED WITH A THERMOWELL.

					PERMIT TO PRACTICE STAMP		ENGINEER STAMP		TOROMONT PROCESS SYSTEMS		FOR: STYLUS EXPLORATION INC. 200 HP BOOSTER COMPRESSOR FRICK 233S			
									DRAWN BY: S. SWAILE		DATE: JAN 8/03			
									CHKD. BY: R. CALBUREAN		SCALE: N/A			
									APPR. BY: R. CALBUREAN		W.O. No: 11005101RS			
									CUST. PO No:					