

DWG. SET REVISION

A

NOT FOR CONSTRUCTION

DRAFT

INSTRUMENT ABBREVIATIONS (INSIDE INSTRUMENT BALLOONS)

AA*	ANALYSIS ALARM	PCV	PRESSURE CONTROL VALVE (SELF-CONTAINED)
AC	ANALYSIS CONTROLLER (SAMPLER)	PDA*	PRESSURE DIFFERENTIAL ALARM
AE	ANALYSIS ELEMENT (SAMPLER)	PDCV	PRESSURE DIFFERENTIAL CONTROL VALVE
	ANALYSIS INDICATOR	PDI	PRESSURE DIFFERENTIAL INDICATOR
AIC	ANALYSIS INDICATING CONTROLLER	PDIC	PRESSURE DIFFERENTIAL INDICATING CONTROLLER
AIS*	ANALYSIS INDICATING SWITCH	PDIS	PRESSURE DIFFERENTIAL INDICATING SWITCH
AIT	ANALYSIS INDICATING TRANSMITTER	PDR	PRESSURE DIFFERENTIAL RECORDER
AP	ANALYSIS POINT (CHROMATOGRAPH)	PDS*	PRESSURE DIFFERENTIAL SWITCH
AR	ANALYSIS RECORDER	PDT	PRESSURE DIFFERENTIAL TRANSMITTER
AS*	ANALYSIS SWITCH	PI	PRESSURE INDICATOR
AT	ANALYSIS TRANSMITTER (CHROMATOGRAPH)	PIC	PRESSURE INDICATING CONTROLLER
AV	ANALYSIS CONTROL VALVE	PIT	PRESSURE INDICATING TRANSMITTER
AY	ANALYSIS RELAY	PR	PRESSURE RECORDER
BA*	BURNER ALARM	PRC	PRESSURE RECORDING CONTROLLER
BE	BURNER ELEMENT	PRV	PRESSURE REGULATING VALVE
BS	BURNER SWITCH	PS*	PRESSURE SWITCH
	VOLTAGE INDICATOR	PSE	PRESSURE SAFETY HEAD
ES*	VOLTAGE SWITCH	PSV	PRESSURE SAFETY/RELIEF VALVE
FA*	FLOW ALARM	PT	PRESSURE TRANSMITTER
FC	FLOW CONTROLLER	PV	PRESSURE CONTROL VALVE
FCV	FLOW CONTROL VALVE	PY	PRESSURE RELAY
FE	FLOW ELEMENT	SA*	SPEED ALARM
FFC	FLOW RATIO CONTROLLER	SDV	SHUTDOWN VALVE
	FLOW INDICATOR	SE	SPEED ELEMENT (TACHOMETER PICK-UP)
FIC	FLOW INDICATING CONTROLLER	SS*	SPEED SWITCH
FO	FLOW ORIFICE (RESTRICTION ORIFICE)	ST	SPEED TRANSMITTER
FQ	FLOW TOTALIZER/FLOW COMPUTER	STR	STRAINER
FQI	FLOW TOTALIZING INDICATOR	TA*	TEMPERATURE ALARM
FQS*	FLOW TOTALIZING SWITCH	TC	TEMPERATURE CONTROLLER
FR	FLOW RECORDER	TCV	TEMPERATURE CONTROL VALVE (SELF-CONTAINED)
FRCV	FLOW RECORDING CONTROL VALVE	TDI	TEMPERATURE DIFFERENTIAL INDICATOR
FS*	FLOW SWITCH	TE	TEMPERATURE ELEMENT (WITH THERMOWELL)
FT	FLOW TRANSMITTER	THCP	THERMOSTATIC HEATER CONTROL PROBE
FV	FLOW VALVE	TI	TEMPERATURE INDICATOR (WITH THERMOWELL)
FX	FLOW STRAIGHTENING VANE	TIC	TEMPERATURE INDICATING CONTROLLER
FY	FLOW RELAY	TICV	TEMPERATURE INDICATING CONTROL VALVE
FYY	FLOW COMPUTING RELAY (MASS)	TR	TEMPERATURE RECORDER
HC	HAND CONTROLLER	TRC	TEMPERATURE RECORDING CONTROLLER
HCV	HAND CONTROL VALVE	TRCV	TEMPERATURE RECORDING CONTROL VALVE
HS	HAND SWITCH	TS*	TEMPERATURE SWITCH
HV	HAND SELECTOR VALVE	TT	TEMPERATURE TRANSMITTER
	LEVEL DEVICE	TIT	TEMPERATURE INDICATING TRANSMITTER
LA*	LEVEL ALARM	TV	TEMPERATURE CONTROL VALVE
LC	LEVEL CONTROLLER	TW	TEMPERATURE TEST CONNECTION (THERMOWELL)
LCV	LEVEL CONTROL VALVE	VA*	VIBRATION ALARM
LG	LEVEL GAUGE GLASS	VE	VIBRATION ELEMENT
	LEVEL INDICATOR (OTHER THAN LG)	VS*	VIBRATION SWITCH
LIC	LEVEL INDICATING CONTROLLER	X	RESERVED FOR SHUTDOWN DEVICE
LR	LEVEL RECORDER	XA*	ANNUNCIATOR POINT
LS*	LEVEL SWITCH	XI	PIG PASSAGE INDICATOR
LT	LEVEL TRANSMITTER	XY	SPECIAL RELAY (USUALLY A SOLENOID)
LV	LEVEL VALVE	Y	DEVICE: 1/P, SDV, RELAY, ETC.
MA*	MOISTURE ALARM	ZA*	POSITION ALARM (MOTION)
MC	MOISTURE CONTROLLER	ZE	POSITION DETECTOR (MOTION)
ME	MOISTURE ELEMENT	ZIC	POSITION INDICATOR LAMP (VALVE CLOSED)
	MOISTURE INDICATOR	ZIO	POSITION INDICATOR LAMP (VALVE OPEN)
MR	MOISTURE RECORDER	ZS*	POSITION SWITCH (MOTION)
MS*	MOISTURE SWITCH	ZSC	POSITION INDICATOR SWITCH (VALVE CLOSED)
MT	MOISTURE ANALYZER/TRANSMITTER	ZSO	POSITION INDICATOR SWITCH (VALVE OPEN)
OSA*	OVER SPEED ALARM	ZT	POSITION TRANSMITTER
OSS*	OVER SPEED SWITCH		
PA*	PRESSURE ALARM		
PC	PRESSURE CONTROLLER		

NOTE: IDENTIFICATION OF INSTRUMENTS NOT COVERED IN THE LISTINGS ABOVE SHALL CONFORM TO ISA S5.1 "INSTRUMENTATION SYMBOLS AND IDENTIFICATION".

MISCELLANEOUS ABBREVIATIONS

AC	AIR TO CLOSE	FA	FLAME ARRESTOR	MAOP	MAXIMUM ALLOWABLE OPERATING PRESSURE	S/S	SEAM TO SEAM
AO	AIR TO OPEN	(FBO)	FURNISHED BY OWNER	MOP	MAXIMUM OPERATING PRESSURE	SS	STAINLESS STEEL
AOV	AIR OPERATED VALVE	FC	FAIL CLOSED			STPL	STOPPLE
AS	AIR SUPPLY	FO	FAIL OPEN	NC	NORMALLY CLOSED	T/T	TANGENT TO TANGENT
ATM	ATMOSPHERE	FL	FAIL LAST POSITION	NO	NORMALLY OPEN	TBG	TUBING
BDV	BLOW DOWN VALVE	FE	FLANGED END	NS	NITROGEN SUPPLY	V	VENT
BS	BASKET STRAINER	GOV	GAS OPERATED VALVE	OP	OPERATING PRESSURE	VF	VENDOR FURNISHED
CC	CORROSION COUPON	GOY	GAS OPERATED SOLENOID	OT	OPERATING TEMPERATURE	W/	WITH
COND.	CONDUCTIVITY	GS	GAS SUPPLY	PH	PH (ACIDITY)	WE	WELD END
CSC	CAR SEAL CLOSED	HC	HOSE CONNECTION	RA	REVERSE ACTING	WXF	WELD BY FLANGE
CSO	CAR SEAL OPEN	HS	HYDRAULIC SUPPLY	RO	RESTRICTION ORIFICE	WXS	WELD BY SCREWED
D	DRAIN	LC	LOCK CLOSED	RTU	REMOTE TELEMETRY UNIT	YS	Y-STRAINER
DM	DEMISTER	LO	LOCK OPEN	SC	SAMPLE CONNECTION		
EL	ELEVATION	MCC	MOTOR CONTROL CENTER	SD	SHUTDOWN		
ES	ELECTRIC SUPPLY	MW	MANWAY	SOL	SOLENOID		
ESD	EMERGENCY SHUTDOWN						

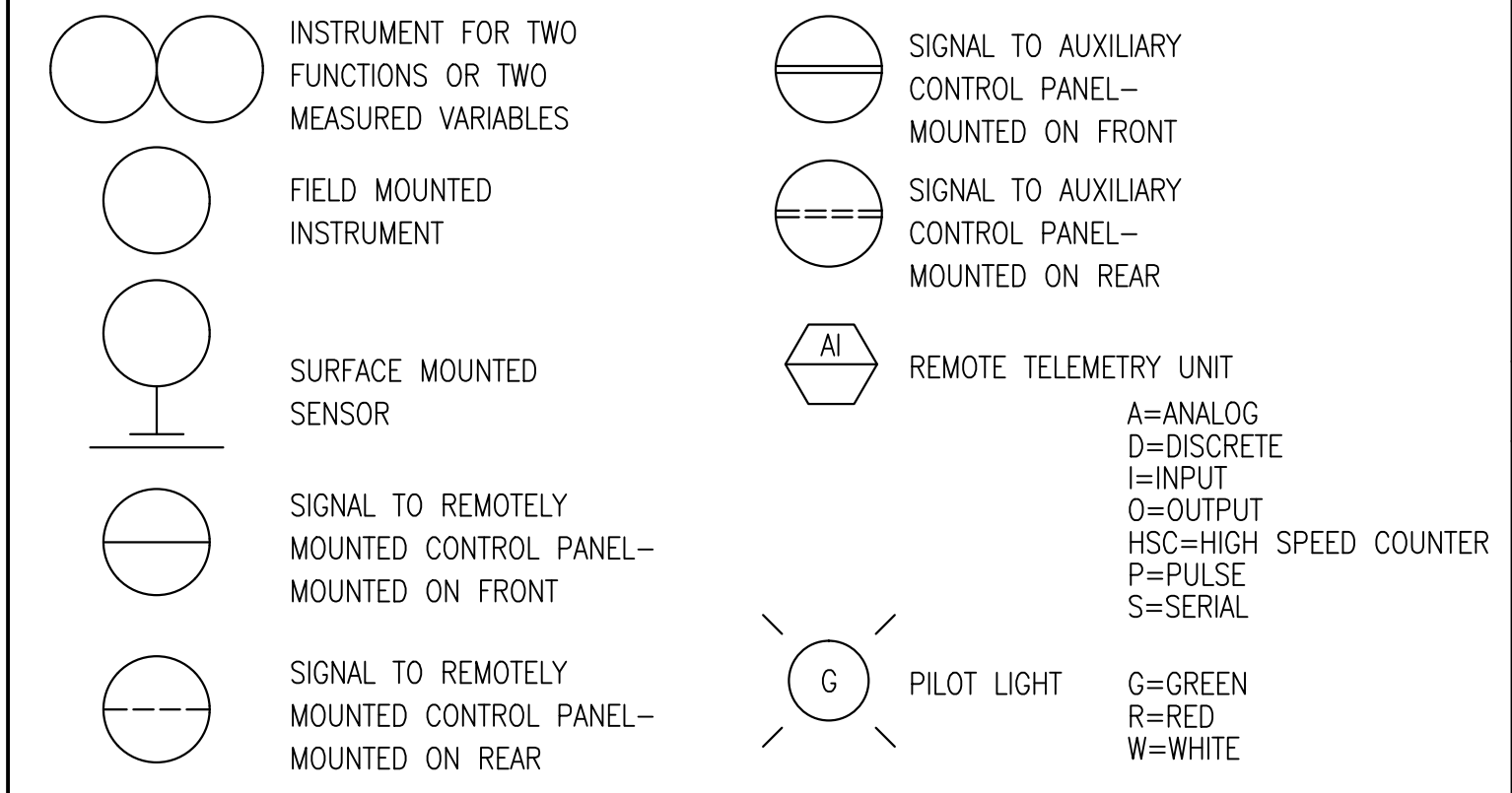
VALVE IDENTIFICATION (NON-INSTRUMENTATION)

EXAMPLE: BDC

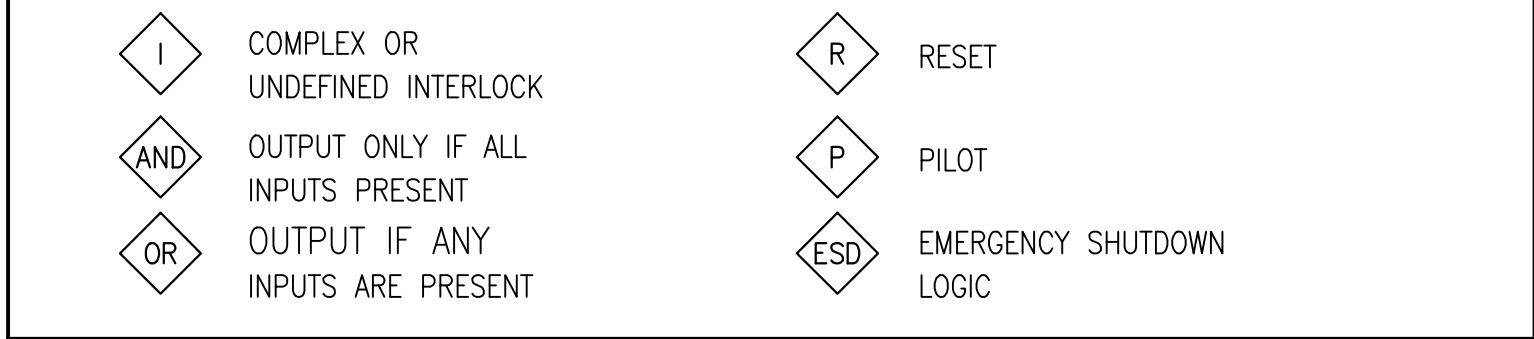
TYPE: _____ PRESSURE CLASS: _____ CONNECTION: _____

TYPE:	PRESSURE CLASS:	CONNECTION:
A GATE	A 150# ANSI	A FLANGED, RAISED FACE
B BALL	B 300# ANSI	B FLANGED, RING JOINT
C PLUG	C 400# ANSI	C WELD X FLANGED, RAISED FACE
D GLOBE	D 600# ANSI	D WELD X FLANGED, RING JOINT
E NEEDLE	E 900# ANSI	E WELD X WELD
F BUTTERFLY	F 1500# ANSI	F SOC. X SOC.
G SWING CHECK	G 2500# ANSI	G SCREWED, FPT
H WAFER CHECK	J 6000# WOG	H SCREWED, MPT
J BALL CHECK	P 150# WOG	I SCREWED, MPT X FPT
P PISTON CHECK	Q 200# WOG	J FLANGED, FLAT FACE
S SOLENOID	R 300# WOG	
X SPECIAL	S 800# WOG	
	T 1000# WOG	
	U 2000# WOG	
	W 3000# WOG	
	X 175# WOG	
	Y 125# WOG	

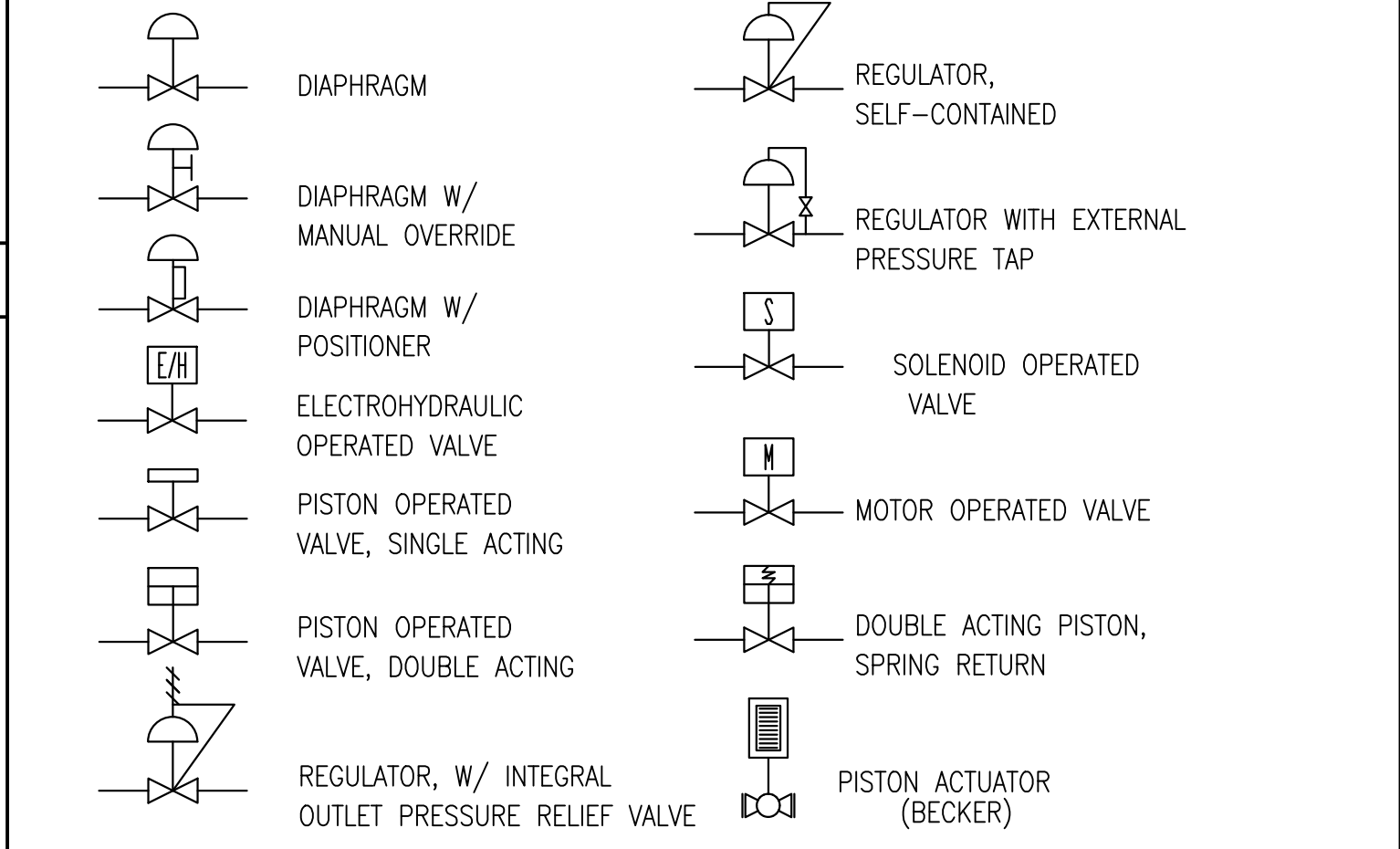
INSTRUMENT BALLOONS



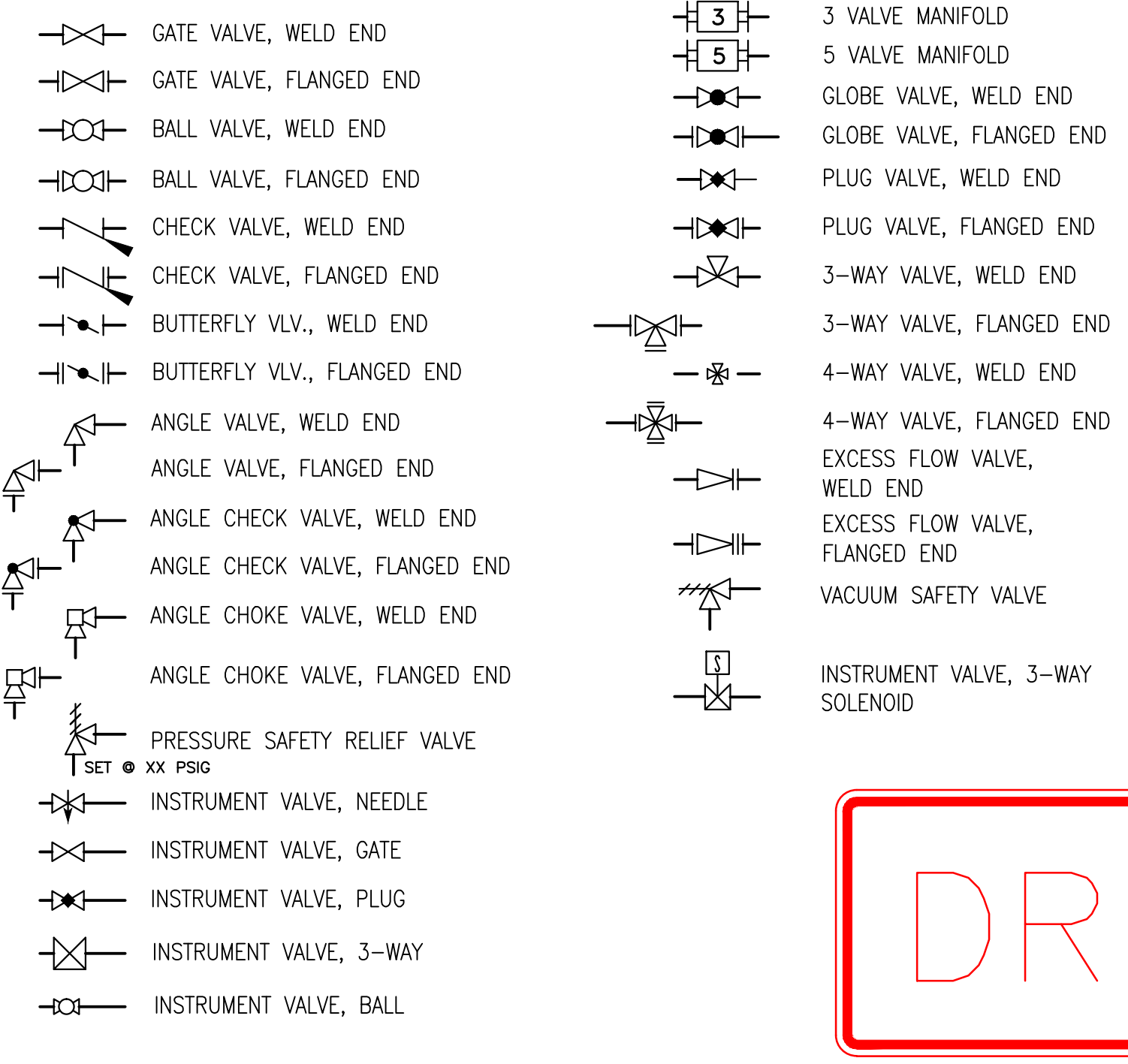
INTERLOCK LOGIC



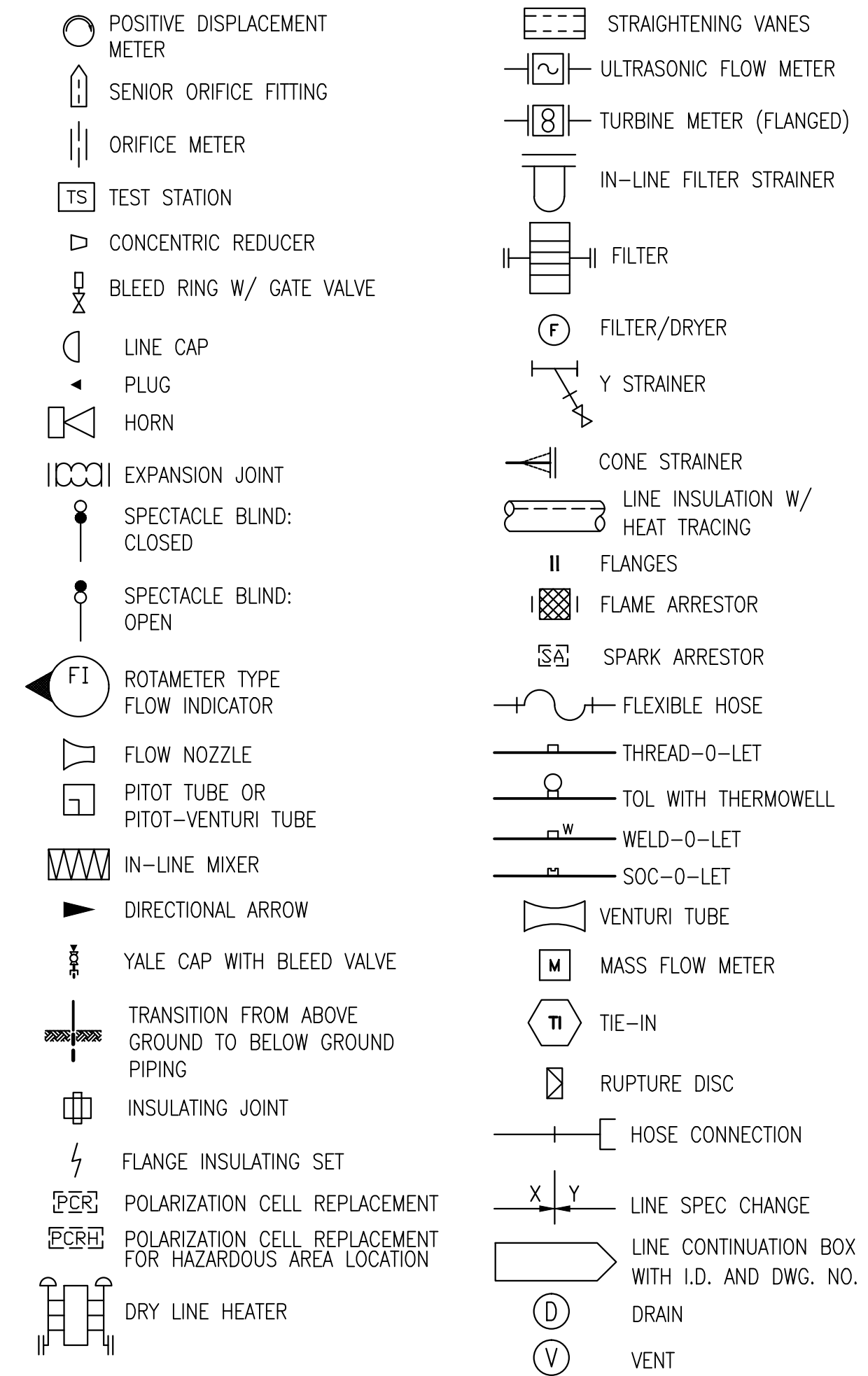
VALVE ACTUATORS



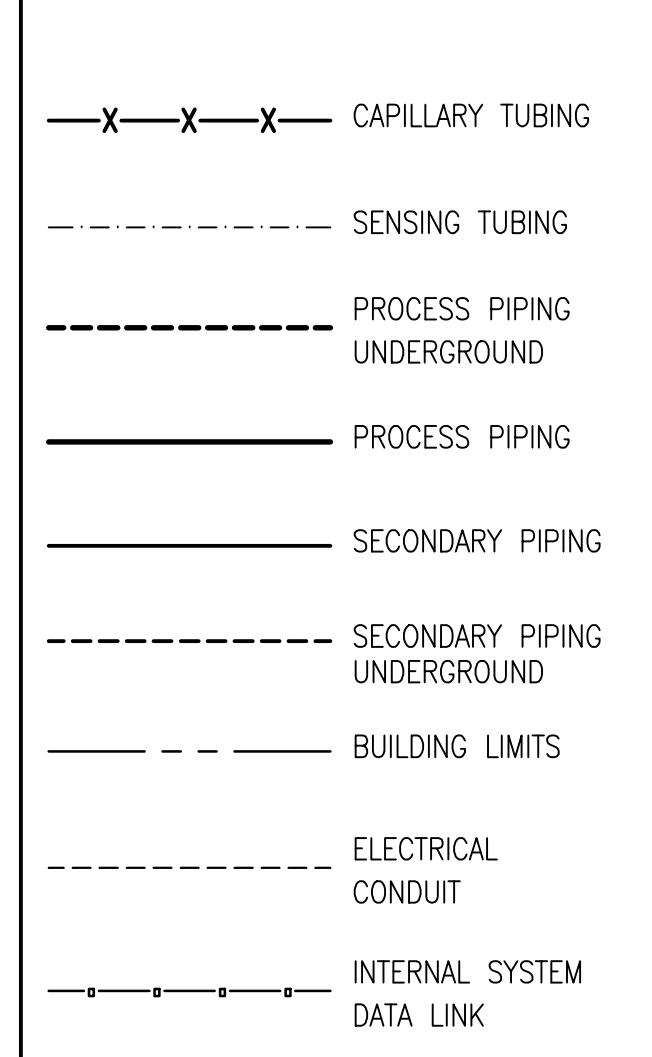
MANUALLY OPERATED VALVES



MISCELLANEOUS SYMBOLS



LINE LEGEND



COMPANY				DRAWING NO.				TITLE				REV.				DATE				REVISIONS				FJC				MDF				CAD				CKD				APP.																															
VERMONT GAS SYSTEMS, INC.				ADDISON NATURAL GAS PROJECT				MAIN LINE VALVE				TYPICAL				PROCESS AND INSTRUMENTATION LEGEND				DRAWING SCALE: NONE				PROOF LINE ONE INCH				TO SCALE ONLY IF PLOTTED AT 22"x34"				DRAWING SCALE CHECK SCALE: ACCURATE WHEN PROOF LINE MEASURES 1 INCH				VERMONT GAS				DRAWING SCALE: NONE				PROOF LINE ONE INCH				TO SCALE ONLY IF PLOTTED AT 22"x34"				DRAWING SCALE CHECK SCALE: ACCURATE WHEN PROOF LINE MEASURES 1 INCH				DRAWING SCALE: NONE				PROOF LINE ONE INCH				TO SCALE ONLY IF PLOTTED AT 22"x34"				DRAWING SCALE CHECK SCALE: ACCURATE WHEN PROOF LINE MEASURES 1 INCH			
COLERAN COLANTONIO				ENGINEERS AND SCIENTISTS				a CHA company				781-962-6400				101 Accord Park Drive				Norwell, MA 02061-1685				15-713-G-502				DWG. REV. A				VGS012027																																							

