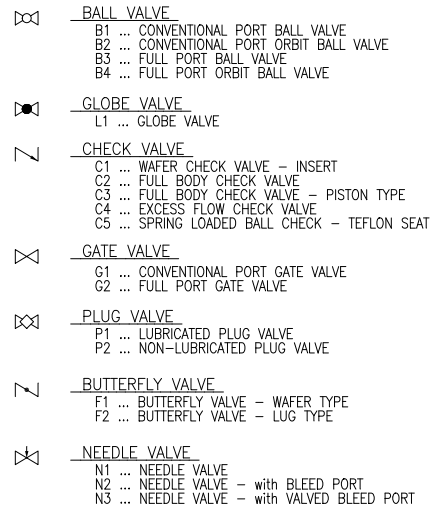
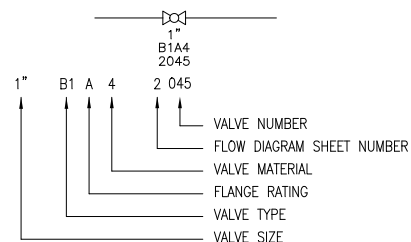


INSULATION		
SYMBOL	SERVICE	MATERIAL
C	COLD	SEALED URETHANE, BELOW 35°F
FC	COLD	SEALED FOAM GLASS, BELOW 35°F
U	HOT	UNSEALED URETHANE, 144°F to 35°F
H	HOT	CALCIUM SILICATE, ABOVE 145°F
B	HOT	CALCIUM SILICATE, PERSONNEL PROTECTION
FB	HOT	FOAM GLASS, PERSONNEL PROTECTION
FH	HOT	UNSEALED FOAM GLASS, ABOVE 145°F

## VALVE TYPES



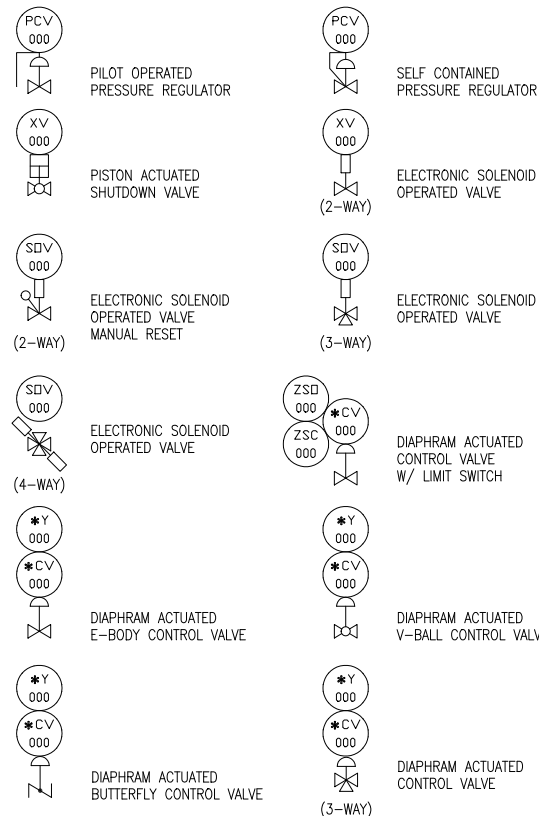
### VALVE DESCRIPTION



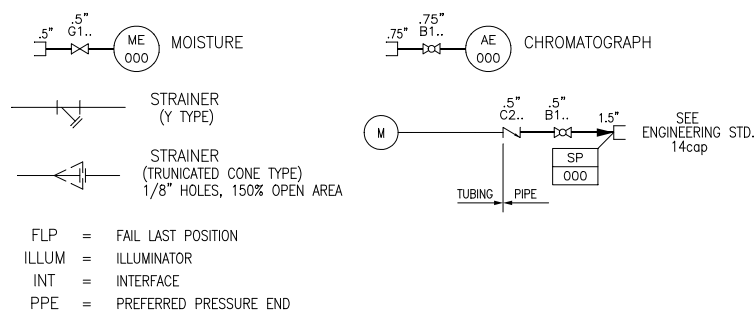
## CONTROL VALVES

EXAMPLES: FCV, LCV, PCV, TCV, etc.

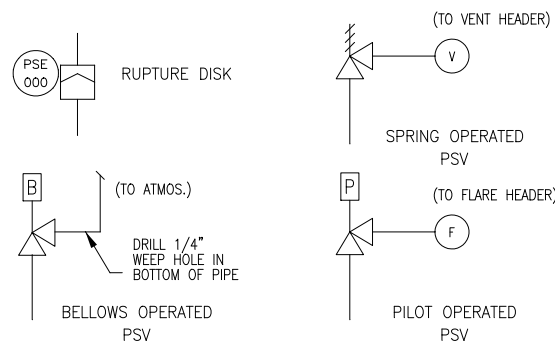
( \* DENOTES: F - FLOW, L - LEVEL, P - PRESSURE, T - TEMPERATURE )



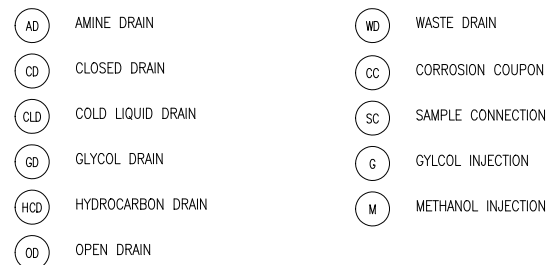
## SPECIALTY ITEMS



## SAFETY ITEMS

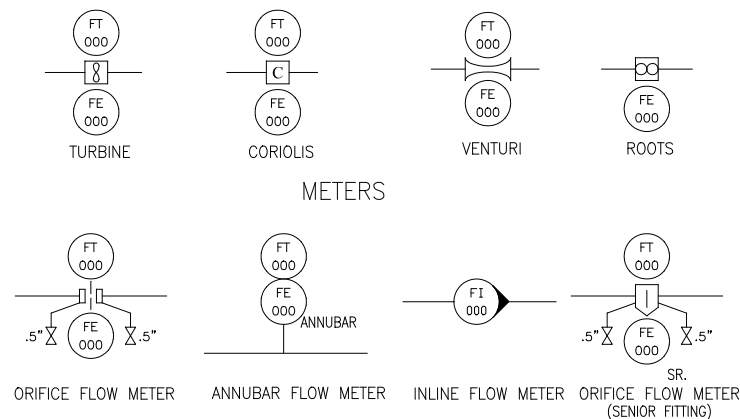


## DRAINS & VENT DESCRIPTIONS



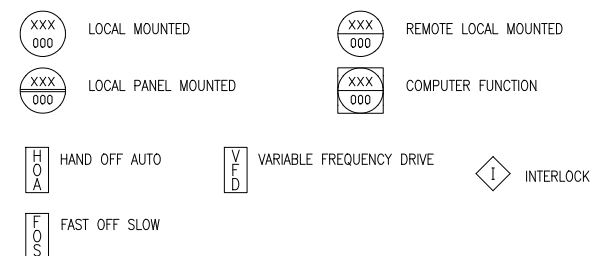
## FLOW INSTRUMENTS

EXAMPLES: FE, FI, FIC, FR, FS, FT etc.



## METERS

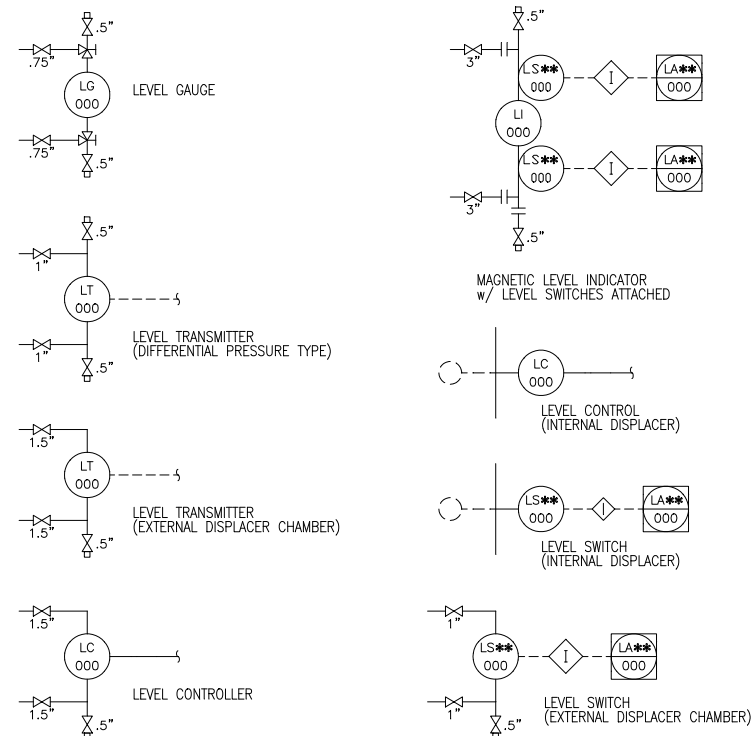
## INSTRUMENT FUNCTION SYMBOLS



## LEVEL INSTRUMENTS

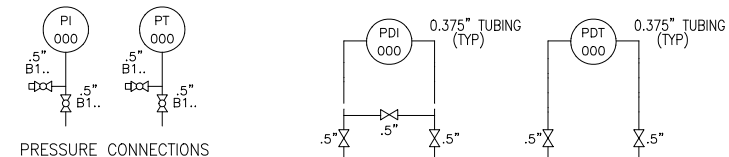
EXAMPLES: LG, LI, LC, LT, LSH, LSHH, LSL, LSLI etc.

\* DENOTES: H - HIGH or HH - HIGH/HIGH  
L - LOW or LL - LOW/LOW

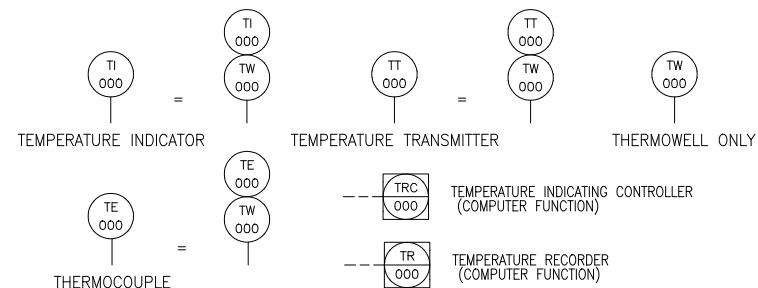


## PRESSURE INSTRUMENTS

EXAMPLES: PC, PI, PT, PDI, PDT, PSH, PSL, etc.



## TEMPERATURE INSTRUMENTS



**NOTE:**

1. INSTRUMENT LETTER DESIGNATIONS PER ANSI/ISA-S5.1 (LATEST EDITION)
2. FOR BLOCK VALVES – USE BALL OR GATE VALVES UP TO 275°F DESIGN TEMPERATURES AND GATE VALVES FOR HIGHER DESIGN TEMPERATURES.
3. ALL DRAIN PIPING TO BE FREE DRAINING.
4. ALL PIPING TO AND FROM PSV's TO BE FREE DRAINING.
5. HIGH POINT VENTS ARE 0.5" COUPLINGS w/PLUGS, AND LOW POINT DRAINS ARE 0.75" GATE VALVES w/PLUGS.

REFERENCE DRAWINGS		REVISIONS							ENGINEERING RECORD		CLIENT LOGO	
NO.	TITLE	NO.	FIRM	DATE	DESCRIPTION	BY	CHK.	APP.	BY	DATE		
-	-	A	MSC	04/15/21	ISSUED FOR REVIEW	GJR	-	-	DRN: GJR	04/15/21	MARS BASE PROCESS SERVICES UTILITY SERVICES  P&ID LEGEND MONTGOMERY COUNTY, TEXAS	
		B							DES: -	-		
		C							CHK: -	-		
		D							APP: -	-		
MSc	MARS SPACE CONSTRUCTION,LLC ENGINEERING, DESIGN & CONSTRUCTION TEXAS REGISTERED ENGINEERING FIRM F-XXXX	E							AFE No. -	-		
		F							SE&C JOB NO. -	-		
									PROJ. ENGR: -	-		
									SCALE: NONE	-		
							XXXX		CAD NO. PID-102	DWG. NO. D-XXXX-P05-102	REV A	