INSTRUMENTATION SYMBOLS	INTERLOCK LOGIC SYMBOLS	INSTRUMENT IDENTIFICATION	REFERENCE DRAWINGS
CONTROL VALVE ACTUATORS	OR OUTPUT EXISTS IF ONE OR MORE INPUT EXIST	IDENTIFICATION LETTERS	NO. DRAWING NUMBER DRAWING TITLE 1 UT-MT-00-PR-PID-0100-01 SYMBOL AND LEGEND
HAND WHEEL DIAPHRAGM WITH HANDWHEEL	OUTPUT EXISTS IF AND ONLY IF ALL THE INPUT EXIST	FIRST-LETTER SUCCEEDING-LETTERS MEASURED OR INITIATING MODIFIER PASSIVE FUNCTION OUTPUT FUNCTION MODIFIER	
M	NO OUTPUT EXISTS IF INPUT EXISTS	A ANALYSIS ALARM B BURNER, COMBUSTION BY PASS	
CYLINDER OR PISTON ROTARY MOTOR (MOTORIZED VALVE) SOLENOID	TD TIME DELAY - OUTPUT EXISTS AFTER PRESET TIME	C COMPUTATION CONTROL D DIFFERENTIAL CONTROL	NOTEC
PROPORTIONAL	XOR OUTPUT EXISTS IF ONE AND ONLY ONE INPUT EXISTS	E VOLTAGE SENSOR (PRIMARY ELEMENT) F FLOW RATE RATIO (FRACTION)	NOTES:
SPRING LOADING M HYDRAULIC CONTROL A ACTUATOR		G EQUIPMENT STATUS INDICATING (GAUGE) H HAND (MANUALLY INITIATED) HIGH/OPEN	
PRESSURE RELIEVING DEVICES	SEQUENTIAL LOGIC CONTROL CONNECTION	I CURRENT (ELECTRICAL) INDICATE (ANALOGUE) J POWER SCAN	
CASE: SIZE: N X N SET@ borq	LOGIC AND SEQUENTIAL CONTROL GENERAL SYMBOL	K TIME SCHEDULE TIME RATE OF MULTIPLEXER OR TREND L LEVEL LIGHT LOGIC (SEQUENCE/SWITCHING) LOW/CLOSED	
PRESSURE AND PRESSURE RELIEF OR SAFETY VALVE PRESSURE AND VACUUM RELIEF VACUUM RELIEF VALVE VALVE		M MOTOR OPERATED (MOV) MOMENTARY MIDDLE. INTERMEDIATE	
OR SAFEII VALVE TO VR SAFEII VALVE TO VALVE	GENERAL INSTRUMENT OR FUNCTION SYMBOLS	N STATUS O ORIFICE, RESTRICTION	
RUPTURE DISC FOR RUPTURE DISC FOR DESCRIPE DELIVED	dividing methodistriction simbols	P PRESSURE, VACUUM POINT (TEST) CONNECTION Q QUANTITY, NUMBER INTEGRATE, TOTALIZE	
VACUUM RELIEF PRESSURE RELIEF OR SAFETY VALVE PILOT ADJUSTABLE	FIELD MOUNTED INSTRUMENT (FOUNDATION FIELBUS DEVICE)	R RADIATION (NUCLEAR) RESTRICTION RECORD OR PRINT S SPEED, FREQUENCY SAFETY SWITCH (ING) (SEQUENCE CONTROL)	
SOLENOID VALVES	MCC MAIN CONTROL CABINET STEAM TRACED INSTRUMENT (ST)	S SPEED, PREQUENCY SAPETY SMITCH (INS) (SEQUENCE CUNINCL) T TEMPERATURE TRANSMITTER U MULTIVARIBLE MULTIFUNCTION MULTIFUNCTION MULTIFUNCTION	DESCRIPTION:
S=SOLENOID VALVE R=MANUAL RESET WHEN INDICATED	MACED INSTRUMENT (SI)	VALVE_DAMPER_LOUVER WELL	DELETED. LOCAL ELECTRONIC TYPE INDICATORS TO BE CONSIDERED
	LOCAL CONTROL PANEL ELECTRICAL TRACED INSTRUMENT (ET)	X UNCLASSIFIED UNCLASSIFIED UNCLASSIFIED UNCLASSIFIED Y EVENT, STATE OR PRESENCE RELAY, COMPUTE, CONVERT	ADJACENT TO CONTROL VALVE BY—PASS LOCATION. 3. CONTROL VALVE FAILURE POSITION WILL BE INDICATED ON P&ID'S.
SELF ACTUATED REGULATOR	BEHIND CONTROL BOARD INSTRUMENT/INDICATION	Z POSITION, DIMENSION ESD DRIVER, ACTUATOR, UNCLASSI- FIED FINAL CONTROL ELEMENT	4. CONTROL VALVES WILL BE SHOWN WITH APPROPRIATE SIZE ON ALL P&ID'S. 5. SAFETY VALVES WILL BE SHOWN WITH SIZE, SET PRESSURE
PRESSURE REDUCING REGULATOR SELF CONTAINED REGULATOR SELF CONTAINED	SHARED INSTRUMENTS NOT	TYPICAL LETTER COMBINATIONS	ALL THERMOCOUPLE, RESISTANCE TEMPERATURE DETECTORS, AND THERMOMETER INSTALLED IN A PIPE HAVE AN ASSOCIATED THERMO—WELL WHICH IS NOT SHOWN'S ON
	NORMALLY ACCESSIBLE TO OPERATOR DCS LOGIC IDENTIFICATION	SWITCH ALARM	P&ID'S EXCEPT SKIN POINT TEMPERATURE. 7. DELETED
PRESSURE REGULATOR WITH EXTERNAL PRESSURE TAPS REGULATOR WITH EXTERNAL PRESSURE TAPS BACK-PRESSURE REGULATOR TAPS	BEHIND THE PANEL DEVICES OR FUNCTIONS NORMALLY INTERLOCK LOGIC CONTROL	INT IMPOLLER INTROLLER INT	
OTHER DEVICES	INACCESSIBLE SHARED INSTRUMENTS NORMALLY ACCESSIBLE TO OPERATOR INTERLOCK LOGIC CONTROL SYMBOL FOR OTHER SYSTEM (MMS; FGS; TGS; PLC;)	MITTER MI	
PILOT LIGHT - RF - ROTAMETER	LOCAL PLC	MARY E WASHITTE WASHITTE	
	SOFTWARE ALARMS WITH SHARED LL DISPLAY DEVICE	HIGH LOW YERY VERY HIGH LOW HI	GENERAL NOTE:
PILOT LIGHT ON AUXILIARY CONSOLE TURBINE FLOW METER	DUAL FUNCTION INSTRUMENT	A ANALYSIS AE AT AJ AJ AR AC AIC ARC ASH ASL ASHH ASLL AAH AAL AAHH AAL C AY AV B BURNER BE BT BJ BI BR BC BIC BRC BRC BSH BSL BSH BSL BAH BAL BAH BAL BG BY BZ	1-LEGEND WILL BE FINALIZED AFTER RECEIVING FINAL OFFER
VENTURI	GOVENIMED NOW NODWALLY		FROM VENDOR.
PILOT LIGHT ON LOCAL PANEL P.D. METER	COMPUTER NOT NORMALLY ACCESSIBLE TO OPERATOR	E VOLTAGE F FLOW FE FT FJ F1 FR FC F1C FRC FSH FSL FSHH FSL FAH FAL FAHH FALL FG - FY FY	
SAMPLE CONNECTION OPIGICE PLATE	AUXILIARY CONSOLE INSTRUMENT	FF FLOW RATIO - - FFI FFR FFC FFSL FFSL FFSL FFAL FFAL F-ALL - - - FFV FQ FLOW QUANTITY FQE FQT FQJ FQC FQC FQC FQSL FQSL FQSL FQAH FQAL FQALL - - - - - FQV FQV	
NOTE: THIS SYMBOL IS USED AS TYPICAL REPRESENTATION	FUNCTION IDENTIFICATION	G	
SPECIAL DEVICE		H HAND	
DIAPHRAGM SEAL		J POWER JE JT JJ JI JR JC JG JRC JSH JSL JSHH JSL JSH JAL JAHH JAL L JAH JAL JY JV K TIME KE KT KJ KJ K KR KC KGC KRC KSH KSL KSH KSL K KH KAL KAH KAL KAH KAL KY KY L LEVEL LE LT LJ LI LR LC UC LRC LSH LSL LSH LSL LAH LAL LAH LAL LG _ LCV LY LV	
THERMAL MASS FLOW METER C CORIOLIS TO FLOW METER		M N STATUS	
ULTRASONIC TYPE	FUNCTION BLOCKS - FUNCTION DESIGNATIONS	O P PRESSURE/VACUUM PE, PT PJ PI PR PC PIC PRC PSH PSL PSH PSL PAH PAL PAH PAL PC PC PC PV PV	
V VORTEX — MAGNETIC FLOW METER	Σ SUMMING	PD PRESSURE PDE PDT PDJ PDI PDR PDC PDR PD	B3 7.Jul14 LQ M.P LQ M.Q IFA
ANNUBAR OR FLOW STRAIGHTENING VANES	AVC AVERAGING F(x) NONLINEAR FUNCTION W ON/OFF	R RADIATION RE RT RJ RJ RR RC SIC SRC RSH RSL RSH RSL RAH RAL RAH RAL RY RZ S SPEED/FREQUENCY SE ST - SI SR SC SIC SRC SSC SSH SSL SSH SSL SAH SAL SAH SALL SY SV	B2 15,Jun.,13 M.A M.P M.A M.Q IFA B1 16,APR,13 M.A M.P M.A M.Q IFA A4 26,JAN.13 M.A M.P M.A M.Q IFA
	CONVERT △ DIFFERENCE > HIGH SELECTING	T TEMPERATURE TE TT TJ TI TR TC TIC TRC TSH TSL TSHH TSLL TAH TAL TAH TALL TG TW TCV TY TV TS TEMPERATURE	A3 29.NOV.,12 M.A M.P S.S M.Q FOR REVIEW A2 21.OCT.,12 M.A M.A S.S M.Q IFA
RESET FOR LATCH-TYPE ACTUATOR	of the following) k proportional < low selecting	U MULTIVARIABLE W UI UR UY UV	A1 10,00°C1,12 M.A M.A S.S M.Q FOR REVIEW
(*) PILOT LIGHT "X" DESIGNATION: R= RED W= WHITE G= GREEN A= AMBER B= BLUE Y= YELLOW	× MULTIPLYING > HIGH LIMITING	V VIBRATION VE VT VJ V1 VR VC VSH VSL VSHH VSLL VAH VAL VAH VAL VY VZ W WEIGHT WE WT - WI WR WC WG WG WRG WSH WSL WSH WSLL WAH WAL WAHH WALL WY WZ X SKIN	ENERGY INVESTMENT COMPANY
INSTRUMENTATION LINES SYMBOLS	÷ DIVIDING ◀ LOW LIMITING	X SKIN Y STATE YE YT YJ Y1 YR YC YC YC YRC YSH YSL YSHH YSL YAH YAL YAHH YALL YY YZ Z POSITION ZE ZT ZJ ZJ ZR ZC ZIC ZRC ZSH ZSL ZSHH ZSL ZSHH ZSL ZH ZAL ZAHH ZALL ZY ZV	PROJECT: METHANOL PLANT (5000 MTPD)
INSTRUMENT PIPING OR INSTRUMENT CONNECTION TO PROCESS		POSITION ZE ZEI ZEI ZEI ZEI ZEI ZEI ZEI ZEI Z	UTILITY AND OFFSITE MC: CONTRACTOR:
——————————————————————————————————————	DESIGNATION SIGNAL DESIGNATION SIGNAL	SPECIAL ABBREVIATIONS	
ELECTRICAL SIGNAL HYDRAULIC SIGNAL	A ANALOG H HYDRAULIC D DIGITAL O ELECTROMAGNETIC OR SONIC	FC FAILURE CLOSED CSO CAR SEALED OPEN (OPERATING WITH PROCEDURE) FO FAILURE OPEN CSC CAR SEALED CLOSED (OPERATING WITH PROCEDURE)	DRAWING TITLE:
HYDRAULIC SIGNAL	E VOLTAGE R RESISTANCE I CURRENT mV MILLIVOLTS	FI FAIL INDETERMINATE SP SET POINT	LEGEND OF P&ID SIZE: REV.
ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)	P PNEUMATIC	FL FAIL LAST POSITION PV PROCESS VARIABLE LO LOCKED OPEN VS VENDOR SUPPLY TO THE WIND SUMPLE OF THE PROCESS VARIABLE	A1 B3 DRAWING NUMBER PAGE: SCALE: CODE No. TYPE SIZE GROUP CODE No.
		LC LOCKED CLOSED TSO TIGHT SHUT-OFF	4 OF 5 N/A 1277 PD 1 EPP 10000