

-----	ELECTRICAL
-----	GENERAL SIGNAL
—X—X—X—X—	CAPILLARY
—L—L—L—L—	HYDRAULIC
-----	MECHANICAL LINK/PROCESS CONNECTION
—//—//—//—//—	PNEUMATIC
—○—○—○—○—	SOFTWARE
—~—~—~—~—	SONIC OR ELECTROMAGNETIC
—V—V—V—V—	VESDA
—IR—IR—IR—IR—	INFRARED

DISCRETE	COMPUTER FUNCTION • SOFTWARE DERIVED (PLC, SCADA, HMI)		SHARED DISPLAY/CONTROL • PLC • DCS • INTELLIGENT CONTROLLER		DETAILS
	PROCESS CONTROL	SAFETY FUNCTION (SIS)			
				FIELD MOUNTED	<ul style="list-style-type: none"> Located in Field Not Located in Panel, Cabinet or Console Visible at Field Location Normally Operator Accessible
				PRIMARY ACCESSIBLE	<ul style="list-style-type: none"> Located in or on Front of Central or Main Control Panel or Console Visible on Panel or Computer Screen Normally Operator Accessible
				PRIMARY IN-ACCESSIBLE	<ul style="list-style-type: none"> Located Inside of Central or Main Control Panel or Console Not Visible on Panel or Computer Screen Not Normally Operator Accessible
				AUXILIARY ACCESSIBLE	<ul style="list-style-type: none"> Located In or On Front of Secondary or Local Control Panel or Local Console Visible on Panel or Computer Screen Normally Operator Accessible
				AUXILIARY IN-ACCESSIBLE	<ul style="list-style-type: none"> Located Inside Secondary or Local Control Panel or Local Console or Field Cabinet Not Visible on Panel or Computer Screen Not Normally Operator Accessible

	TYPICAL CONTROL VALVE / DIAPHRAGM		DOUBLE ACTING CYLINDER
	PRESSURE REGULATOR		SPRING OPPOSED
	PRESSURE REGULATOR WITH EXTERNAL TAPPING		SINGLE ACTING SPRING RETURN
	BACK PRESSURE REGULATOR		PNEUMATIC OPERATED VALVE SINGLE ACTING SPRING RETURN
	MODULATING MANUAL OVERRIDE		AUTOMATIC
	UNCLASSIFIED		SOLENOID
	SLAMSHUT WITH BYPASS		PRESSURE RELIEF
	DIESEL MOTOR		VACUUM RELIEF
	GEAR BOX		PILOT PRESSURE SAFETY VALVE
	ELECTRICAL		PRESSURE SAFETY VALVE
	DIAPHRAGM PRESSURE BALANCED		INLINE PRESSURE SAFETY VALVE

UPPER CASE LETTER	MEASURED OR INITIATING VARIABLE		MODIFIER	SUCCEEDING LETTERS		
	FIRST POSITION	SECOND POSITION		READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS			ALARM		
B	BURNER COMBUSTION					
C	CONDUCTIVITY (ELECTRICAL)			USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
D	DENSITY (MASS OR SPECIFIC GRAVITY)	DIFFERENTIAL			CONTROL	CONTROL
E	VOLTAGE			SENSOR OR PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)				
G	GAUGING (DIMENSIONAL)			GLASS (VIEWING)		
H	HAND					HIGH
I	CURRENT (ELECTRICAL)			INDICATOR, INDICATE		
J	POWER	SCAN				
K	TIME OR TIME SCHEDULE	TIME RATE OF CHANGE			CONTROL STATION	
L	LEVEL			LIGHT (PILOT)		LOW
M	MOISTURE	MOMENTARY				MIDDLE OR INTERMEDIATE
N	INTERFACE	INTERFACE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	OSCILLATION (VIBRATION)			ORIFICE (RESTRICTION)		OPEN
P	PRESSURE OR VACUUM			POINT (TEST CONNECTION)		
Q	QUANTITY OR EVEN	INTEGRATE OR TOTALISE				
R	RADIATION			RECORD		
S	SPEED OR FREQUENCY	SAFETY			SWITCH	
T	TEMPERATURE				TRANSMITTER	
U	MULTIVARIABLE			MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VISCOSITY				VALVE DAMPER OR LOUVER	
W	WEIGHT OR FORCE			WELL		
X	UNCLASSIFIED	X AXIS		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS			DELAY, COMPUTE OR CONVERT	
Y	TORQUE	RELAY			DELAY, COMPUTE OR CONVERT	
Z	POSITION OR DIMENSION	Z AXIS			DRIVE ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

	ORIFICE PLATE IN QUICK CHANGE FITTING		ROTAMETER		LOGIC GATES
	POSITIVE FLOW DISPLACEMENT METER		ADJUSTABLE RESTRICTION ORIFICE		LOGIC
	TURBINE FLOWMETER		ADJUSTABLE RESTRICTOR		INSTRUMENT INSULATION JOINT
	CORIOLIS FLOWMETER		DIAPHRAGM SEAL		INTEGRATED UNIT CONTROL SYSTEM
	CORIOLIS FLOWMETER RFRF		PILOT LIGHT CLOSED		SIGNAL TO/FROM SKID
	MAGNETIC FLOWMETER		PILOT LIGHT		SAFETY INTERLOCK
	SINGLE PORT PITOT TUBE		SELECTOR SWITCH		ESD SYSTEM
	ANNUBAR		FLOW INDICATOR - VAM		SIGNAL VIA TELEMETRY
	VENTURI TUBE		TAP CAPPED or TOR		HAND CONTROLLER
	ORIFICE FLOW METER RFRF		TAP SCREWED		HAND PUMP
	ORIFICE FLOW METER		SMOKE DETECTOR		PRESSURE RUPTURE DISC
	ORIFICE VENA CONTRACTA		GAS DETECTOR		VACUUM RUPTURE DISC
	FLOW NOZZLE DOWN		WELKER PROBE		TEMPERATURE ELEMENT WITH FLANGED THERMOWELL
	FLOW NOZZLE UP		CONTROL STATION SINGLE FUNCTION		PIPEWALL TEMPERATURE SENSOR
	FLOW STRAIGHTENING VANE		CONTROL STATION		TEMPERATURE ELEMENT WITH WELL (RTD IF APPLICABLE)
	VORTEX SENSOR		SURGE PROTECTOR		FILLED SYSTEM TYPE TEMPERATURE INDICATOR
	VORTEX SHEDDING FLOWMETER		STATIC EARTH POINT		
	ULTRASONIC SENSOR				
	THERMAL DISPERSION MASS FLOW METER				

	SAFETY INSTRUMENTED SYSTEM		INVERSE DERIVATIVE
	ANALOG/DIGITAL		HIGH-SELECTOR
	DERIVATIVE OR RATE		ADD
<	LOW-SELECTOR		DIVIDE
	BIAS		CHARACTERIZE
	AVERAGE		ON-OFF
	BOOST/GAIN		DIFFERENCE
	SOLENOID		REVERSE
	MULTIPLY		INTEGRATE
	RAISE TO POWER		EXTRACT SQUARE ROOT
	SHUTDOWN FUNCTION		RELAY FUNCTION
	VIBRATION		

<div style="text-align: center;">ISSUED FOR USE</div>				NAME T.NGO		DATE 01/03/22		STANDARD DRAWING LEGEND SHEET INSTRUMENTATION SYMBOLS P&ID					
				DRAWN T.NGO		DATE 01/03/22							
DRAWN DESIGNED				VALIDATED M.FRADI		DATE 01/03/22		PROJECT No _____ DRG No ATP-DWG-Q-0003 REV 2					
				ACCEPTED M.LULYATT		DATE 01/03/22							
SCALE NTS				APAS ID ATP-DWG-Q-0003		THIS DRAWING, AND THE INFORMATION AND DETAILS CONTAINED IN IT ARE CONFIDENTIAL AND ARE THE PROPERTY OF APA GROUP. ANY USE MUST BE AUTHORIZED BY APA GROUP.							
				A1									

REV	PROJ No	REVISION	DATE	DRW	DES	CHK	APP	REFERENCE DRGs	DRG No
2		RE-ISSUED FOR USE	13/07/23	TMN		ES	CWB	IDENTIFICATION OF LINES, VALVES, EQUIPMENT, ELECTRICAL.	530-SP-Q-0003
1		ISSUED FOR USE	12/04/23	TMN		ES	CWB	INSTRUMENTS & CABLES	