

PROJECT LOCATION

6701 EVANSTAD DR N
MAPLE GROVE, MN 55369

LEGEND

SYMBOL TYPE IDENTIFICATION		TAGS					IDENTIFICATION LETTERS				
HARDWIRED		DEVICE LOCATION DEVICE FUNCTION	FIELD MOUNTED	PRIMARY LOCATION (FIELD OPERATOR PANEL)	SECONDARY LOCATION (FIELD OPERATOR PANEL)	TERTIARY LOCATION (FIELD OPERATOR PANEL)	ALARM LOCATION (FIELD OPERATOR PANEL)	FIRST-LETTER		SUCCEEDING-LETTERS	
XXXXX	DI DIGITAL INPUT		XXXX	XXXX	XXXX	XXXX	XXXX	A ANALYSIS		ALARM	
XXXXX	DO DIGITAL OUTPUT		XXXX	XXXX	XXXX	XXXX	XXXX	B BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE
XXXXX	AI ANALOG INPUT		XXXX	XXXX	XXXX	XXXX	XXXX	C USER'S CHOICE			CONTROL, CLOSED, CLOSE
XXXXX	AO ANALOG OUTPUT		XXXX	XXXX	XXXX	XXXX	XXXX	D USER'S CHOICE	DIFFERENTIAL		
		DISCRETE INSTRUMENTS	XXXX	XXXX	XXXX	XXXX	XXXX	E VOLTAGE		SENSOR (PRIMARY ELEMENT)	
			XXXX	XXXX	XXXX	XXXX	XXXX	F FLOW RATE	RATIO (FRACTION)		
			XXXX	XXXX	XXXX	XXXX	XXXX	G HUMIDITY (USER'S CHOICE)		GLASS, VIEWING DEVICE	
			XXXX	XXXX	XXXX	XXXX	XXXX	H HAND			HIGH
			XXXX	XXXX	XXXX	XXXX	XXXX	I CURRENT (ELECTRICAL)		INDICATE	
VIA COMMUNICATION BUS		SHARED DISPLAY/CONTROL	XXXX	XXXX	XXXX	XXXX	XXXX	J POWER	SCAN		
XXXXX	SI SOFTWARE INPUT		XXXX	XXXX	XXXX	XXXX	XXXX	K TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION
XXXXX	SO SOFTWARE OUTPUT		XXXX	XXXX	XXXX	XXXX	XXXX	L LEVEL		LIGHT	LOW
XXXXX	SAI SOFTWARE ANALOG INPUT		XXXX	XXXX	XXXX	XXXX	XXXX	M USER'S CHOICE	MOMENTARY		MIDDLE, INTERMEDIATE
XXXXX	SAO SOFTWARE ANALOG OUTPUT		XXXX	XXXX	XXXX	XXXX	XXXX	N USER'S CHOICE		USER'S CHOICE	USER'S CHOICE
		PROGRAMMABLE LOGIC CONTROL	XXXX	XXXX	XXXX	XXXX	XXXX	O USER'S CHOICE		ORIFICE, RESTRICTION	OPENED, OPEN
			XXXX	XXXX	XXXX	XXXX	XXXX	P PRESSURE, VACUUM		POINT (TEST) CONNECTION	
			XXXX	XXXX	XXXX	XXXX	XXXX	Q QUANTITY	INTEGRATE, TOTALIZE		
			XXXX	XXXX	XXXX	XXXX	XXXX	R RADIATION		RECORD	
			XXXX	XXXX	XXXX	XXXX	XXXX	S SPEED, FREQUENCY	SAFETY		SWITCH
			XXXX	XXXX	XXXX	XXXX	XXXX	T TEMPERATURE		TRANSMIT	
			XXXX	XXXX	XXXX	XXXX	XXXX	U MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
			XXXX	XXXX	XXXX	XXXX	XXXX	V VIBRATION, MECHANICAL ANALYSIS		VALVE, DAMPER, LOUVER	
			XXXX	XXXX	XXXX	XXXX	XXXX	W WEIGHT, FORCE		WELL	
			XXXX	XXXX	XXXX	XXXX	XXXX	X UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED
			XXXX	XXXX	XXXX	XXXX	XXXX	Y EVENT, STATUS OR PRESENCE	Y AXIS	RELAY, COMPUTE, CONVERT	CALCULATED VALUE
			XXXX	XXXX	XXXX	XXXX	XXXX	Z POSITION, DIMENSION	Z AXIS	DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

EQUIPMENT TYPE

XXXXX

ISA PREFIX

DEVICE

8888

COMPONENT OR FUNCTION NUMBER

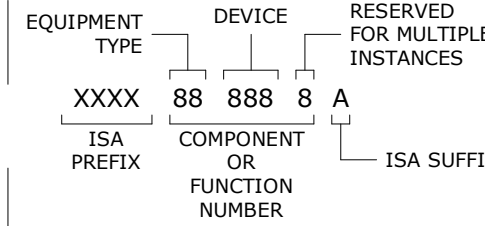
RESERVED FOR MULTIPLE INSTANCES

8A

ISA SUFFIX

TAG NUMBER FORMAT

TAG NUMBER FORMAT



CUSTOMER NOTES

INSTRUMENT AIR SPECIFICATIONS:

1. CUSTOMER SUPPLIED INSTRUMENT AIR SHALL CONFORM TO THE FOLLOWING FOUR STANDARDS AS DEFINED IN THE INSTRUMENT SOCIETY OF AMERICA'S STANDARD HANDBOOK, PARAGRAPH 57.3, SECTION 4:
- A. **DEW POINT AT LINE PRESSURE** - SHALL BE AT LEAST 18°F BELOW MINIMUM AIR TEMPERATURE AT THE PLANT SITE AT THE SPECIFIC AREAS IN WHICH THE INSTRUMENT IS BEING USED.
 - B. **PARTICLE SIZE** - PARTICLES THAT MAY BE CONTAINED IN THE INSTRUMENT AIR SHALL BE 3 MICRONS OR LESS IN SIZE.
 - C. **OIL CONTENT** - MAXIMUM SHALL BE AS CLOSE TO 0 PPM AS POSSIBLE AND SHOULD NOT EXCEED 1 PPM.
 - D. **CONTAMINANTS** - INSTRUMENT AIR SHALL BE FREE OF CONTAMINANTS, CORROSIVES, ETC.

NOTE: THIS DRAWING IS A DIAGRAMMATICAL REPRESENTATION OF THE SYSTEM.
FOR EXACT LOCATIONS OF COMPONENTS REFER TO THE RESPECTIVE EQUIPMENT LAYOUT DRAWINGS.

SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GENERAL VALVE (UNDEFINED)		SOLENOID ACTUATED 2-WAY VALVE		PISTON OR CYLINDER (POSITIONER)		CURRENT TO PRESSURE I/P TRANSDUCER		AVERAGING PITOT TUBE WITH INTEGRAL FLOW STRAIGHTENER		SOLUTION TANK
	GLOBE VALVE		SOLENOID ACTUATED 3-WAY VALVE		DIAPHRAGM, SPRING OPPOSED UNSPECIFIED ACTUATOR DAMPER OR FLAP		SQUARE ROOT FUNCTION		VORTEX SENSOR		HYDRAULIC FLUID RESERVOIR
	BUTTERFLY VALVE		SOLENOID ACTUATED 4-WAY VALVE		PISTON ACTUATED DAMPER OR FLAP		LIGHT		VENTURI FLOW SENSOR		AGITATOR
	CHECK VALVE		DUAL SOLENOID ACTUATED 4-WAY VALVE		SPRING RETURN DAMPER OR FLAP		PNEUMATIC PUSHBUTTON		SAMPLE JAR		DUST COLLECTOR
	DRAIN VALVE		SELF CONTAINED REGULATOR		SPRING RETURN LOUVER		UNDEFINED INTERLOCK		LUBRICATOR		GAS CARTRIDGE ACTUATOR (GCA)
	OPEN OR FLOOR DRAIN		EXTERNAL TAP PRESSURE REGULATOR		MODULATING DIAPHRAGM 2-WAY VALVE (FAIL CLOSED)		CONDENSATE TRAP		IN-LINE FILTER		COMPRESSOR
	MANUAL VALVE 2-WAY		PRESSURE REGULATOR WITH PRESSURE GAUGE		MODULATING DIAPHRAGM 3-WAY VALVE (FAIL CLOSED)		STRAINER		IN-LINE HEPA FILTER		FAN
	MANUAL VALVE 3-WAY		AIR VOLUME BOOSTER		MODULATING DIAPHRAGM 4-WAY VALVE (FAIL CLOSED)		AIR VENT		HEPA FILTER		ATTENUATOR
	BALL VALVE		AIR VOLUME BOOSTER WITH PRESSURE GAUGE		MODULATING DIAPHRAGM 5-WAY VALVE (FAIL CLOSED)		VACUUM BRAKE		POCKET OR PRE-FILTER		FAN (TURBINE)
	DIAPHRAGM SPRING OPPOSED, UNSPECIFIED ACTUATOR 2-WAY VALVE		PRESSURE GAUGE / INDICATOR		MODULATING DIAPHRAGM 6-WAY VALVE (FAIL CLOSED)		CIRCUIT BALANCING VALVE		PLATE PRE-FILTER		PUMP
	DIAPHRAGM SPRING OPPOSED, UNSPECIFIED ACTUATOR 3-WAY VALVE		SILENCER		MODULATING DIAPHRAGM 7-WAY VALVE (FAIL CLOSED)		FLEXIBLE CONNECTION		AIR BLENDER		PUMP WITH MULTIPLE HEADS
	PISTON ACTUATED 2-WAY VALVE		MUFFLER		MODULATING DIAPHRAGM 8-WAY VALVE (FAIL CLOSED)		WIP NOZZLE		ELECTRIC HEATER		MOTOR
	PISTON ACTUATED VALVE (FAIL CLOSED)		CHECK VALVE (SPRING LOADED)		MODULATING DIAPHRAGM 9-WAY VALVE (FAIL CLOSED)		WIP SPRAY JET ASSEMBLY		GENERAL COIL SYMBOL		GEAR REDUCER
	SPRING RETURN 2-WAY VALVE (FAIL CLOSED)		CHECK VALVE (PILOT OPERATED)		MODULATING DIAPHRAGM 10-WAY VALVE (FAIL CLOSED)		TRI-CLOVER SEAL		ELECTRIC COIL		HYDRAULIC CYLINDER
	SPRING RETURN 3-WAY VALVE (FAIL CLOSED)		SHUTTLE VALVE		MODULATING DIAPHRAGM 11-WAY VALVE (FAIL CLOSED)		ASEPTIC TRI-CLOVER SEAL		HUMIDIFIER/STEAM INJECTION		HYDRAULIC SWIVEL MOTOR
	MODULATING DIAPHRAGM 2-WAY VALVE (FAIL CLOSED)		FLOW CONTROL VALVE		MODULATING DIAPHRAGM 12-WAY VALVE (FAIL CLOSED)		DOP TEST PORT		MOISTURE SEPARATOR		POSITION LATCH (POST HOIST)
	MODULATING DIAPHRAGM 3-WAY VALVE		EXHAUST VALVE		MODULATING DIAPHRAGM 13-WAY VALVE (FAIL CLOSED)		LONG STROKE CYLINDER ASSEMBLY		PNEUMATIC MOTOR		SLOPE LINE
	PISTON ACTUATED 4-WAY VALVE		VARIABLE RESTRICTION THROTTLE VALVE		MODULATING DIAPHRAGM 14-WAY VALVE (FAIL CLOSED)		SPRAY NOZZLE		PNEUMATIC BRAKE		REVISION SYMBOL
	PISTON ACTUATED 5-WAY VALVE		FIXED RESTRICTION		MODULATING DIAPHRAGM 15-WAY VALVE (FAIL CLOSED)		INFLATABLE BLADDER DAMPER		PISTON ACTIVATED SIDE DISCHARGE VALVE		
	PISTON ACTUATED 6-WAY VALVE		PRESSURE RELIEF OR SAFETY VALVE		MODULATING DIAPHRAGM 16-WAY VALVE (FAIL CLOSED)		BIRDSCREEN		MANUAL SLIDE GATE		
	PISTON ACTUATED 7-WAY VALVE		VACUUM RELIEF VALVE		MODULATING DIAPHRAGM 17-WAY VALVE (FAIL CLOSED)		PNEUMATIC CHECK VALVE		PNEUMATIC MOTOR		
	PISTON ACTUATED 8-WAY VALVE		PNEUMATIC SEAL		MODULATING DIAPHRAGM 18-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 9-WAY VALVE		PINCH VALVE		MODULATING DIAPHRAGM 19-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 10-WAY VALVE		HAND WINCH		MODULATING DIAPHRAGM 20-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 11-WAY VALVE		FLOAT ACTUATED 2-WAY VALVE		MODULATING DIAPHRAGM 21-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 12-WAY VALVE		PISTON ACTUATED 3-WAY VALVE		MODULATING DIAPHRAGM 22-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 13-WAY VALVE		ROTARY VALVE		MODULATING DIAPHRAGM 23-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 14-WAY VALVE				MODULATING DIAPHRAGM 24-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 15-WAY VALVE				MODULATING DIAPHRAGM 25-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 16-WAY VALVE				MODULATING DIAPHRAGM 26-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 17-WAY VALVE				MODULATING DIAPHRAGM 27-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 18-WAY VALVE				MODULATING DIAPHRAGM 28-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 19-WAY VALVE				MODULATING DIAPHRAGM 29-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 20-WAY VALVE				MODULATING DIAPHRAGM 30-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 21-WAY VALVE				MODULATING DIAPHRAGM 31-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 22-WAY VALVE				MODULATING DIAPHRAGM 32-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 23-WAY VALVE				MODULATING DIAPHRAGM 33-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 24-WAY VALVE				MODULATING DIAPHRAGM 34-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 25-WAY VALVE				MODULATING DIAPHRAGM 35-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 26-WAY VALVE				MODULATING DIAPHRAGM 36-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 27-WAY VALVE				MODULATING DIAPHRAGM 37-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 28-WAY VALVE				MODULATING DIAPHRAGM 38-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 29-WAY VALVE				MODULATING DIAPHRAGM 39-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 30-WAY VALVE				MODULATING DIAPHRAGM 40-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 31-WAY VALVE				MODULATING DIAPHRAGM 41-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 32-WAY VALVE				MODULATING DIAPHRAGM 42-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 33-WAY VALVE				MODULATING DIAPHRAGM 43-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 34-WAY VALVE				MODULATING DIAPHRAGM 44-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 35-WAY VALVE				MODULATING DIAPHRAGM 45-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 36-WAY VALVE				MODULATING DIAPHRAGM 46-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 37-WAY VALVE				MODULATING DIAPHRAGM 47-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 38-WAY VALVE				MODULATING DIAPHRAGM 48-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 39-WAY VALVE				MODULATING DIAPHRAGM 49-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 40-WAY VALVE				MODULATING DIAPHRAGM 50-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		
	PISTON ACTUATED 41-WAY VALVE				MODULATING DIAPHRAGM 51-WAY VALVE (FAIL CLOSED)		PNEUMATIC SEAL		PNEUMATIC MOTOR		