	INSTRUMENT IDE	ENTIFICATION TABL	.E
	FIRST-LETTER	SUCCEEDIN	G-LETTERS
	MEASURED OR INITIATING VARIABLE	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION
А	ANALYSIS (1)	ALARM	
В	BURNER, COMBUSTION	CLOSED	CLOSE
С	CONDUCTIVITY		CONTROL
D	DENSITY	OPEN	OPEN
Е	VOLTAGE	SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	FAILURE	
G	GAS	GLASS, VIEWING DEVICE	
Н	HAND	HIGH	
1	CURRENT (ELECTRICAL)	INDICATE	
J	POWER		
К	TIME, TIME SCHEDULE		CONTROL STATION
L	LEVEL	LOW, LIGHT	
М	MOTOR	OPERATING OR ON/OFF	
N	MOISTURE		START
0		OVERLOAD	STOP
Р	PRESSURE, VACUUM	POINT (TEST) CONNECTION	
Q	COMMON	QUANTITY	
R	RADIATION	RECORD	
S	SPEED, FREQUENCY		SWITCH
Т	TEMPERATURE		TRANSMIT
U	MULTIVARIABLE	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS (1)		VALVE DAMPER, LOUVER
W	WEIGHT, FORCE	WELL	
X	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Υ	EVENT, STATE OR PRESENCE (2)		RELAY, COMPUTE, CONVERT (3
Z	POSITION, DIMENSION		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT

INSTRUMENT IDENTIFICATION

NOTES:

- 1. IT IS EXPECTED THAT THE TYPE OF ANALYSIS BE DEFINED OUTSIDE THE TAGGING BUBBLE.

 2. FIRST LETTER Y IS INTENDED FOR USE WHEN CONTROL OR MONITORING RESPONCES ARE EVENT DRIVEN AS OPPOSED TO TIME OR TIME—SCHEDULE DRIVEN. THE LETTER Y, IN THIS POSITION, CAN ALSO SIGNIFY PRESENCE OR STATE.
- 3. IT IS EXPECTED THAT THE FUNCTIONS ASSOCIATED WITH THE USE OF SUCCEEDING LETTER Y WILL BE DEFINED OUTSIDE THE TAGGING BUBBLE. THIS DEFINITION NEED NOT BE MADE WHEN THE FUNCTION IS SELF—EVIDENT, AS FOR A SOLINOID VALVE IN A FLUID SIGNAL LINE.

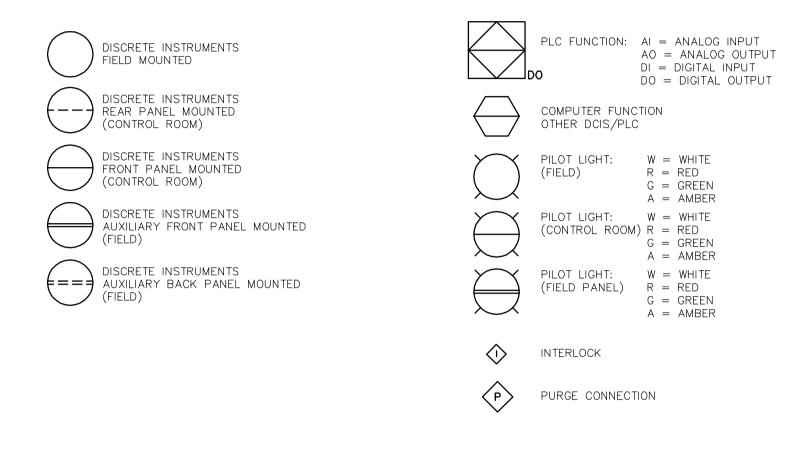
	COMMON INSTRUMENT	/ DEVICE	IDENTIFIERS
ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTION	ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTIO
AS	ANALYSIS SWITCH	LY	LEVEL RELAY
AE	ANALYSIS ELEMENT	PC	PRESSURE CONTROLLER
АТ	ANALYSIS TRANSMITTER	PI	PRESSURE INDICATOR
CS	CONDUCTIVITY SWITCH	PT	PRESSURE TRANSMITTER
СТ	CONDUCTIVITY TRANSMITTER	PS	PRESSURE SWITCH
DS	DENSITY SWITCH	SC	SPEED CONTROLLER
ET	VOLTAGE TRANSMITTER	SI	SPEED INDICATOR
FC	FLOW CONTROLLER	ST	SPEED TRANSMITTER
FE	FLOW ELEMENT	TC	TEMPERATURE CONTROLLER
FI	FLOW INDICATOR	TE	TEMPERATURE ELEMENT
FS	FLOW SWITCH	TI	TEMPERATURE INDICATOR
FT	FLOW TRANSMITTER	TS	TEMPERATURE SWITCH
FY	FLOW RELAY	TT	TEMPERATURE TRANSMITTER
FZ	FLOW DRIVE	TY	TEMPERATURE RELAY
HS	HAND SWITCH	UR	MULTIVARIABLE RECORDER
ΙΤ	CURRENT TRANSMITTER	VT	VIBRATION TRANSMITTER
JT	POWER TRANSMITTER	WE	WEIGHT ELEMENT
KC	TIME CONTROLLER	WT	WEIGHT TRANSMITTER
KI	ELAPSED TIME INDICATOR	XX	UNCLASSIFIED
LE	LEVEL ELEMENT	YC	STATE CONTROL
LI	LEVEL INDICATOR	YN	STATE ON
LT	LEVEL TRANSMITTER	YY	EVENT RELAY
LS	LEVEL SWITCH	YS	EVENT SWITCH
LT	LEVEL TRANSMITTER	ZS	POSITION SWITCH
		ZT	POSITION TRANSMITTER
		ZZ	POSITION DRIVE

EQUIPMENT IDENTIFICATION AND TAGGING

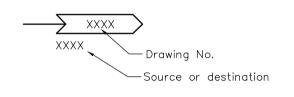
IDENTIFICATION



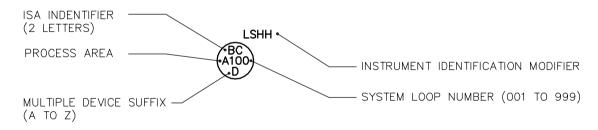
INSTRUMENT SYMBOLS



LINE CONTINUATION



INSTRUMENT DESIGNATION NUMBER



POSITION FORMATS

PROCESS AREA IDENTIFIER		PROCESS STREAM IDENTIFIER (LOOP NUMBER)
CHEMICAL FEED DEACON BOOSTER PUMP STATION FILTRATION	C D F	001 — 999 001 — 999 001 — 999
PLANT UTILITIES: AIR PRESSURE BUILDING SAFETY & SECURITY ELECTRICAL DISTRIBUTION EMERGENCY GENERATOR ELECTRICAL SUBSTATION HVAC SITE COMMUNICATION FLOOD CONTROL FLUSH WATER NATURAL GAS	Н	901 — 950 951 — 999
INLET WORKS & RAW WATER FREEZE THAW POND GENERAL SITE SERVICES/ MISCELLANEOUS: YARD PIPING YARD LIGHTING	l L M	001 — 999 001 — 999 001 — 999
OZONE FLOCULATION AND DAF RESIDUALS HANDLING BULK CHEMICAL STORAGE TREATED WATER STORAGE & HANDLING (CLEARWELL) ULTRAVIOLET LIGHT DISINFECTION ON—SITE HYPOCHLORITE GENERATION	O P R S T U X	001 - 999 001 - 999 001 - 999 001 - 999 001 - 999 001 - 999 001 - 999

INSTRUMENT IDENTIFICATION MODIFIER

ABBREVIATIONS

CAH	CONDUCTIVITY ALARM HIGH	LSH	LEVEL SWITCH HIGH
COH	COMPUTER/OFF/HAND	LSL	LEVEL SWITCH LOW
DO	DISSOLVED OXYGEN	MCC	MOTOR CONTROL CENTRE
D/P	DIFFERENTIAL PRESSURE	0/L	OVERLOAD
FAH	FLOW ALARM HIGH	PAH	PRESSURE ALARM HIGH
FAL	FLOW ALARM LOW	PAL	PRESSURE ALARM LOW
FSH	FLOW SWITCH HIGH	рН	рН
FSL	FLOW SWITCH LOW	PSH	PRESSURE SWITCH HIGH
H/A	HAND / AUTO	PSL	PRESSURE SWITCH LOW
HOA	HAND / OFF / AUTO	RTD	RESISTIVE TEMPERATURE DEVICE
1/1	CURRENT / CURRENT ISOLATOR	s/s	START / STOP
I/P	CURRENT / PRESSURE CONVERTER	SEL	SELECTOR
IAH	CURRENT ALARM HIGH	SOL	SOLENOID
LAH	LEVEL ALARM HIGH	T/C	THERMOCOUPLE
LAL	LEVEL ALARM LOW	TAH	TEMPERATURE ALARM HIGH
LCP	LOCAL CONTROL PANEL	TAL	TEMPERATURE ALARM LOW
LJB	LOCAL JUNCTION BOX	TSH	TEMPERATURE SWITCH HIGH
L/L	LEAD / LAG	TSL	TEMPERATURE SWITCH LOW
LOS	LOCK-OFF-STOP	WDG	WINDING
L/R	LOCAL / REMOTE		

PROCESS LINE CODES

COMMODITY

СОММС	DDITY		
АА	AQUA AMMONIA		
AGA	ATOMIZING AIR	HST	12% HYPOCHLORITE SOLUTION
AS	AIR SCOUR	HWS	HOT WATER SUPPLY
AHP	AIR HIGH PRESSURE	HYP	0.8% HYPOCHLORITE SOLUTION
ALP	AIR LOW PRESSURE	ITA	INSTRUMENT AIR
вст	BOILER CHEMICAL TREATMENT	LDC	LIQUID CAUSTIC
BOL	BOILER BLOWDOWN	LDS	LAND DRAINAGE SEWER
BFL	BOILER FEED WATER	LEF	LIME FEED
BLN	BLOWDOWN	LGO	LUBRICATING OIL
BS	BRINE SOLUTION	LOX	LIQUID OXYGEN
BWS	BACKWASH SUPPLY WATER	NLG	NATURAL GAS
BWW	BACKWASH WASTE WATER	OF	OVERFLOW
CA	COMPRESSED AIR	OZG	OZONE OFF GAS
CCW	CIRCULATING COOLING WATER	OZO	OZONATED OXYGEN
CL2	CHLORINE	OZW	OZONATED WATER
CLG	CHLORINE GAS	PEA	POLYELECTROLYTE ANIONIC
CLS	CHLORINE SOLUTION	PEC	POLYELECTROLYTE CATIONIC
CO2	CARBON DIOXIDE	PEF	PHOSPHATE FEED
CRW	CLARIFIER DISCHARGE WATER	PEN	POLYELECTROLYTE NONIONIC
CS	CAUSTIC SODA	PLD	POLYMER DRY
CHR	CHILLED WATER RETURN	PLS	POLYMER SOLUTION
CHS	CHILLED WATER SUPPLY	PLF	POLYMER FEED
CWR	COOLING WATER RETURN	PTW	PRE-TREATED WATER
CWS	COOLING WATER SUPPLY	PSW	PLANT SERVICE WATER
DDW	DEMINERALIZED WATER	PW	POTABLE WATER
DEA	DILUTE ACID	PWD	PROCESS WASTE DRAIN
DEC	DILUTE CAUSTIC	RDR	RECIRCULATED WATER
DHF	DOMESTIC HOT WATER SUPPLY	RFH	REFRIGERANT HOT GAS BYPASS
DHR	DOMESTIC HOT WATER RECIRC	RFL	REFRIGERANT LIQUID
DF	DAF FLOAT	RFS	REFRIGERANT SUCTION
DFR	DIESEL FUEL RETURN	RW	RAW WATER
DFS	DIESEL FUEL SUPPLY	SAM	SAMPLE
DO	DISOLVED OXYGEN	SAN	SANITARY
DRA	DRAINAGE (FLOORS)	SBS	SODIUM BISULPHITE
DRN	DRAINS, CLEAN DRAINS	SCA	SULPHURIC ACID
DSW	DISTILLED WATER	SD	DRY SALT
EE	ENGINE EXHAUST	SDR	DAF RECYCLE
FC	FERRIC CHLORIDE	SEA	SERVICE AIR
FIN	FILTER INFLUENT	SLO	SEAL OIL
FPW	FIRE PROTECTION WATER	SLG	SLUDGE
FTR	FILTER-TO-RECYCLE	SST	SUPERNATANT
FW	FILTERED WATER	SWD	STORMWATER DRAINAGE
NG	GAS	STM	STEAM
GLR	GLYCOL RETURN	SW	SEAL WATER
GLS	GLYCOL SUPPLY	TW	TREATED WATER
GOX	GASEOUS OXYGEN	VA	VACUUM LABORATORY
HCO	HYDRAULIC OIL	VTA	VENT AIR
HFS	HYDROFLUOSILICIC ACID	WS	SOFTENED WATER
HP	HYDROGEN PEROXIDE	WW	WASTEWATER

ABBREVIATIONS

MISCELLANEOUS

CK	ACKNOWLEDGE	NO	NORMALLY OPEN
LM	ALARM	O/A	OUTSIDE AIR
/M	AUTO/MANUAL	0/C	OPEN/CLOSED
/S	AIR SUPPLY	ODE	OPPOSITE DRIVE END
₹Ğ	BEARING	PF	POWER FACTOR
JRR	CURRENT	PO	PUMP OUT
EC	DECREASE	PSD	PLANT SHUTDOWN
Ξ	DRIVE END	PV	PROCESS VARIABLE
/A	EXHAUST AIR	PWR	POWER
/s	ELECTRICAL SUPPLY	RSP	REMOTE SET POINT
SD	EMERGENCY SHUTDOWN	RST	RESET
CL	FAIL CLOSE	SP	SAMPLE POINT or SET POINT
OP O	FAIL OPEN		(Depending on Application)
/R	FORWARD or REVERSE	STN	STATION
	HIGH	SPD	SPEED
P	HORSE POWER (kW)	STDBY	STANDBY
N	KILOWATT	STP	STOP
VAC	HEATING/VENTILATION/AIR CONDITIONING	STR	START
C	INCREASE	STS	STATUS
IJ	INJECTOR	TST	TEST
O	LOW	TYP	TYPICAL
DS	LOCAL/OFF/STOP	UV	ULTRA-VIOLET LIGHT
/R	LOCAL/REMOTE	VAC	VACUUM
LD	MEGALITERS PER DAY	VIB	VIBRATION
С	NORMALLY CLOSED	W/S	WATER SUPPLY
LL	NORMALLY LIQUID LEVEL	WDG	WINDING
NF	NORMALLY NO FLOW		

EQUIPMENT DESIGNATIONS							
ARV	AIR RELEASE VALVE	М	MOTOR				
ACU	AIR CONDITIONING UNIT	MAU	MAKE-UP AIR UNIT				
ACR	ACCESS CARD READER	мсс	MOTOR CONTROL CENTRE				
AD	AIR DRYER	MD	MOTION DETECTOR				
AHU	AIR HANDLING UNIT	MDV	MUD VALVE				
ATS	AUTOMATIC TRANSFER SWITCH	MP	METERING PUMP				
BAT	BATTERY	MXR	MIXER				
BB	BASEBOARD HEATER	Р	PUMP				
BFP	BACK FLOW PREVENTER	PCT	PARTICLE COUNTER				
BKR	BREAKER	PCU	POLYMER BULK BAG UNLOADER				
BLR	BOILER	PCV	PRESSURE CONTROL VALVE				
BLW	BLOWER	PFC	POWER FACTOR CORRECTION				
CC	COOLING COIL	PFLT	POWER FILTER (LINE REACTOR, ETC)				
CCTV	CLOSED CIRCUIT TELEVISION	PNL	PANEL BOARD				
CDR	CONDENSER	PLC	PROGRAMMABLE LOGIC CONTROLLER				
CDU	CATALYTIC DESTRUCT UNIT	PPU	POLYMER PREPARATION UNIT				
CE	CENTRIFUGE	PRV	PRESSURE REGULATING / REDUCING VALVE				
CFR	CHEMICAL FEEDER (POLYMER, CHLORINATOR, ETC.)	PSU	POWER SUPPLY UNIT				
CHLR	CHILLER	PSV	PRESSURE / VACUUM RELIEF VALVE				
CHR	BATTERY CHARGER	PV	PRESSURE VESSEL				
CMP	COMPRESSOR	RV	RELIEF VALVE / RUPTURE DISC				
CON	CONVEYOR	SOL	SOLENOID ACTUATOR				
CP	CONTROL PANEL	SCRB	SCRUBBER				
CPU	COMPUTER	SE SF	SAMPLER ELEMENT SUPPLY FAN				
CRN	CRANE OR HOIST	SP	SAMPLE PUMP				
CTS	CATHODIC TEST STATION	SLG	SLUICE GATE				
CV	CHECK VALVE	SLR	SILENCER				
DC	DOOR CONTACT	SMP					
DEM	DEMISTER	STA	STATIC MIXER				
DES	DESICCANT DRYER	STR	STRAINER				
DIF	DIFFUSER	SUB	SUBSTATION				
E	ENGINE	SWGR	SWITCHGEAR				
EF	EXHAUST FAN	SWP	SWASH PLATE				
EL	ELECTROLYTIC CELL	T	TRAP				
EPR	EVAPORATOR ELAPSED TIME METER	TCV	TEMPERATURE CONTROL VALVE				
ETM ETNK	EXPANSION TANK	TV	TEMPERATURE / VIBRATION MONITOR				
F	FAN	TK	TANK (NON-PRESSURIZED)				
FAP	FIRE ALARM ANNUNICATOR PANEL	TOTE	TOTE TANK				
FCV	FLOW CONTROL VALVE	UH	UNIT HEATER ELECTRIC AND NON-ELECTRIC				
FF	FORCE FLOW HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY				
FLC	FLOCCULATOR	UVR	ULTRA-VIOLET LIGHT REACTOR				
FV	FLOW CONTROL VALVE (OPEN/CLOSE)	VFD	VARIABLE FREQUENCY DRIVE				
GF	GAS FILTER	VSD	VARIABLE SPEED DRIVE				
GEN	GENERATOR	V	VALVE				
GV	GATE VALVE	VP	VAPOURIZER				
GP	GLYCOL PUMP	WP	WELL PUMP				
HC	HEAT COIL	WSF	WATER SOFTENER				
HEX	HEAT EXCHANGER	XFMR	TRANSFORMER				
HWH	HOT WATER HEATER	86	EQUIPMENT LOCKOUT RELAY				
HRC	HEAT RECOVERY COIL						
HTR	ELECTRIC HEATER						
HV	HAND VALVE						
HWP	HOT WATER PUMP						
KP	KEY PAD						
LCV	LEVEL CONTROL VALVE						
LOP	LUBE OIL PUMP						
LV	LEVEL CONTROL VALVE (OPEN/CLOSE)						

B.M. ELEV.			CH2MHILL SEarth Tech			ENGINEER'S SEAL				
				Frederickson Cooper		A Tyco international Ltd. Company		PRELIMINARY		-
				DESIGNED BY	SWT	CHECKED BY	SWT		NOT FOR ONSTRUCTION	
				DRAWN BY	CPG	APPROVED BY				ı
-					NONE	RELEASED FOR CONSTRUCTION BY:				
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١٥.	REVISIONS	DATE	BY	DATE	2005/06/30			WM-P0001		ı

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION

IDENTIFICATION

WATER TREATMENT PLANT

SHEET OF

CONSTRUCTION STANDARDS
INSTRUMENTATION AND PROCESS

CITY FILE NUMBER

CITY FILE NUMBER

CITY DRAWING NUMBER