

Service	Commodity Abbreviation	Nominal Size(s) (mm)	Exposure ²	Piping Material ²	Specification Section	Test Type and Pressure (kPa) ¹	Remarks
DAF AREA							
Compressed Air	CA	32	EXP	COP	15200-13	P, 1035	
Clarified Raw Water	CRW	150, 250, 400	EXP	SST	15200-09	H, 345	DAF Recycle lines
Clarified Raw Water	CRW	350	Embed	Epoxy coated/lined steel	15200-03	H, 100	DAF laterals
DAF Float	DF	75, 100	EXP	FRP1	15200-12	H, 200	
DAF Float	DF	100, 300	Embed	FRP1	15200-12	H, 100	
DAF Float	DF	300	SUB	FRP1	15200-12	H, 100	
Process Waste Drainage	DRN	100	EXP	PVC	15200-10	H, 100	In DAF Pump Gallery
Process Waste Drainage	DRN	100	ENC	PVC	15200-10	H, 100	From mud valves to DAF Pump Gallery
Process Waste Drainage	DRN	100	Embed	Epoxy coated/lined steel	15200-03	H, 100	Transition through wall from under DAF tanks into DAF Pump Gallery
Ferric Chloride	FC	50	EXP	PVC	15200-10	H, 1050	
Raw Water	RW	300, 450, 600, 1050, 1200, 1350	EXP	Epoxy coated/lined steel	15200-03, 15200-04	H, 345	
Sample	SAM	25	EXP	PVC	15200-10	H, 100	Sample lines to analyzers
Sulfuric Acid	SCA	50	EXP	SST	15200-09	H, 1050	
Saturated Recycle Water	SDR	150, 250, 300, 450	EXP	SST	15200-09	H, 1500	Sections of the 150 and 250 are being supplied by Leopold (316 SS)
Process Sump Pump	DRN	100, 300, 400	EXP, Conc Encased	Epoxy coated/lined steel	15200-03	H, 100	
OZONE AREA							
Process Air - Low Pressure	ALP	6, 12, 25	EXP	SST	15200-09	P, 500	
Circulating Cooling Water	CCW	38, 65, 75	EXP	SST	15200-09	H, 800	
Closed Loop Cooling Water Return	CWR	19, 38, 75, 100	EXP	SST	15200-09	H, 800	
Closed Loop Cooling Water Supply	CWS	38, 75, 100	EXP	SST	15200-09	H, 800	
Ozone Contactor Process Drain	DRN	6, 12, 50, 200	EXP	SST	15200-09	H, 800	
Gaseous Oxygen	GOX	19, 50, 75, 100	EXP	SST	15200-09	P, 800	
Gaseous Oxygen	GOX	19, 50, 75, 100	BUR	SST	15200-09	P, 800	
Hydrogen Peroxide	HP	25	EXP	SST	15200-19	H, 800	
Liquid Oxygen	LOX	6, 12, 25, 50	EXP	COP	15200-13	P, 2500	
Ozone Gas	OZG	6, 50, 64, 75, 100	EXP	SST	15200-09	P, 850	
Ozone Gas	OZG	6, 50, 64, 75, 100	SUB	SST	15200-09	P, 1500	
Ozonated Oxygen	OZO	50, 75	EXP	SST	15200-09	P, 850	
Ozonated Water	OZW	19, 50, 38, 900	EXP	SST	15200-09	H, 800	
Polymer	PLS	25	EXP	PVC	15200-10	H, 800	
Plant Service Water	PSW	12, 50, 75	EXP	COP	15200-13	H, 800	
Sodium Bisulphite	SBS	25	EXP	SST	15200-10	H, 800	
Vent	VTA	19, 50, 100, 150, 200	EXP	SST	15200-09	P, 500	

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FILTRATION AREA							
Ammonia	AA	50	EXP / SUB	SST	15200-09	H, 800	Test with piping / tanks
Air Scour Supply	AS	300	EXP / SUB	SST	15200-09	H, 350	Test with piping / tanks
Air Scour Supply	AS	350, 400	EXP	SST	15200-09	H, 350	Test with piping / tanks
Backwash Supply	BWS	600, 750, 900	EXP/ Concrete ENC / SUB	Epoxy coated/lined steel	15200-04	H, 350	Test prior to concrete encasement with blind flanges. Test connections with piping / tanks
Backwash Waste Water	BWW	900	SUB	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks
Cooling Water Supply	CWS	50, 65, 75, 100, 150	EXP	SST	15200-09	H, 350	Test with piping / tanks
Chilled Water Supply	CHS	50, 65, 75, 100, 150	EXP	SST	15200-09	H, 350	Test with piping / tanks
Sodium Hydroxide	CS	50	EXP / SUB	Epoxy coated steel	15200-03	H, 800	Test with piping / tanks
Drain for Process water	DRN	50, 75, 100, 150, 200	EXP / Concrete ENC	SST	15200-09	H, 170	Test with piping / tanks
Drain	DRN	12, 25	EXP	PE	15200-14	H, 170	Test with piping / tanks
Filter Media Eductor System	FED	100	EXP	SST	15200-09	H, 170	Test with piping / tanks. Provide epoxy coated/lined STEEL BLIND FLANGES (8) with SST bolts/nuts.
Filter Media Eductor System	FED	200	EXP	SST	15200-09	H, 170	Test with piping / tanks. Provide epoxy coated/lined STEEL BLIND FLANGES (12) with SST bolts/nuts.
Filter Influent	FIN	12, 25, 50, 75, 100	EXP	SST	15200-09	H, 170	Test with piping / tanks
Filter Influent	FIN	900	SUB	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks
Filter to Recycle	FTR	600, 750	EXP	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks
Filtered Water	FW	12	EXP	PE	15200-14	H, 170	For sampling lines as noted on Detail 1 and 2 WF-M0452 only.
Filtered Water	FW	12, 25, 50, 75	EXP	SST	15200-09	H, 170	Test with piping / tanks. Provide SST tubing as noted on Detail 1 and 2 WF-M0451.
Filtered Water	FW	100	EXP	SST	15200-09	H, 170	Test with piping / tanks. Provide epoxy coated/lined STEEL BLIND FLANGES (6) with SST bolts/nuts.
Filtered Water	FW	600, 900	EXP	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks
Filtered Water	FW	1350	Concrete ENC / EXP	Epoxy coated/lined steel	15200-04	H, 170	Test prior to concrete encasement with blind flanges. Test connections with piping / tanks
Filtered Water	FW	2100	BURIED / SUB	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks.
Sodium Hypochlorite	HYP	25, 50	EXP	PVC	15200-10	H, 800	Test with piping / tanks
Level Transmitter Sleeve	LT	100	EXP	PVC	15200-10	H, 170	Test with piping / tanks. For wall mounted LT-100 standpipes, use PVC pipe.
Level Transmitter Sleeve	LT	100	Concrete ENC	SST	15200-09	H, 170	Test with piping / tanks. Concrete encased or embeds.

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Manway	MANWAY	900	EXP	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks.
Manway	MANWAY	1200	EXP	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks.
Overflow	OF	150, 200, 400	EXP	Epoxy coated/lined steel	15200-03	H, 170	Test with piping / tanks
Overflow	OF	600	EXP	Epoxy coated/lined steel	15200-04	H, 170	Test with piping / tanks
Overflow	OF	600	SUB	SST	15200-09	H, 170	Test with piping / tanks
Pressure Transmitter Tube/Sleeve	PT	12, 25, 50	EXP	SST	15200-09	H, 170	Test with piping / tanks
Sample	SAM	12	EXP	PE	15200-14	H, 170	Test with piping / tanks
Sample	SAM	25, 50	EXP	SST	15200-09	H, 170	Test with piping / tanks
Vent Air	VTA	12, 25, 50, 75, 100, 150, 200, 300	EXP	SST	15200-09	H, 170	Test with piping / tanks
RESIDUAL AREA							
DAF Float	DF	200	EXP	FRP1	15200-12	H,100	
Ozone Contactor Process Drain	DRN	150	EXP	SST	15200-09	H, 800	
Surge Relief Discharge	DRN	100	EXP	Epoxy coated/lined steel	15200-03	P,800	
Surge Relief Discharge	DRN	300	EXP	Epoxy coated liner	15200-03	H,800	
Pilot Plant Effluent	DRN	250	EXP	Epoxy coated/lined steel	15200-03	H,100	Complete pipe within the weir wall and 239.41 slab
Backwash Supply Tank Overflow	OF	600	SUB	SST	15200-09	H,170	Backwash tank O/F within the WRT area.
TSET Overflow	OF	200	SUB	Epoxy coated/lined steel	15200-03	H,200	
Flocculation Chamber	OF	200	SUB	Epoxy coated/lined steel	15200-03	H,200	Flocculated sludge chamber overflow to gravity thickener.
Polymer Feed Pipe	PLS	25	EXP	PVC	15200-10	H, 800	
Thickener Floc Tank Overflow	SLU	200	SUB/ EXP	Epoxy coated/lined steel	15200-03	H,100	One penetration is immersed other two could be exposed or immersed
Thickener Floc Tank Discharge	SLU	200	EXP	Epoxy coated/lined steel	15200-03	H,100	Flocculated sludge feed to gravity thickeners
Thickener Sludge Extraction	SLU	200	Concrete ENC	Epoxy coated/lined steel	15200-03	H,200	Concrete-encased. Refer to enc.

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Thickened Sludge Individual Discharge	SLU	100	EXP	Epoxy coated/lined steel	15200-03	H,200	
Thickened Sludge Discharge Header	SLU	150	EXP/ Concrete ENC	Epoxy coated/lined steel	15200-03	H,200	Embed under DAF galery to 1m beyond electrical room slab.
TSET Intercell Isolation	SLU	300	SUB	Epoxy coated/lined steel	15200-03	H,200	TSET Tank1 and 2 wall
Washwater Recovery Tank (WRT) Sludge Extraction	SLU	200	EXP	Epoxy coated/lined steel	15200-03	H,100	WRT sludge discharge pipe to flocculation tank
Gravity Thickener Supernatant Discharge	SUP	200	EXP/ Concrete ENC	Epoxy coated/lined steel	15200-03	H,100	
Washwater Tank Supernatant (Decant)	SUP	750	SUB	Epoxy coated/lined steel	15200-04	H,800	Within WRTs' walls and supernatant pump station wall.
Supernatant Discharge Pipe	SUP	750	EXP/ Concrete ENC	Epoxy coated/lined steel	15200-04	H, 800	Embed under DAF galery to 1m beyond electrical room slab.
CHEMICAL AREA							
Hydrogen Peroxide	HP	25, 50, 75, 100	Exposed	SST	15200-19	H, 600	
Hydrogen Peroxide - Vent	VTA	25, 150	Exposed	SST	15200-19	N/A	
Hydrogen Peroxide - Overflow	OF	100	Exposed	SST	15200-19	H, 600	
Sodium Bisulphite	SBS	25, 50, 75	Exposed	SST	15200-09	H, 800	
Sodium Bisulphite - Vent	VTA	25, 150	Exposed	SST	15200-09	N/A	
Sodium Bisulphite - Drain	DRN	75	Exposed	SST	15200-09	N/A	
Sodium Bisulphite - Overflow	OF	50	Exposed	SST	15200-09	N/A	
Dry Polymer	PLD	50	Exposed	SST	15200-20	P, 250	
Polymer	PLS	12, 25, 50, 75	Exposed	PVC	15200-10	H, 800	
Polymer - Vent	VTA	25, 100	Exposed	PVC	15200-10	N/A	
Polymer - Overflow	OF	75	Exposed	PVC	15200-10	N/A	
Polymer - Drain	DRN	75, 150	Exposed	PVC	15200-10	N/A	
Aqua Ammonia	AA	50	Exposed	SST	15200-09	H, 1050	
Sodium Hydroxide	CS	50	Exposed	Epoxy coated/lined steel	15200-03	H, 1050	
Ferric Chloride	FC	25	Exposed	PVC	15200-10	H, 1050	
Sulphuric Acid	SCA	25	Exposed	SST	15200-09	H, 1050	
Sodium Hypochlorite	SHC	25, 50	Exposed	PVC	15200-10	H, 600	
BUILDING SERVICES							
Compressed Air	CA	All	EXP	COP	15200-13	P, 1035	
Condenser Water Return	CDR	100 and larger	EXP	CS	15200-03	H, 620	
Condenser Water Return	CDR	75 and smaller	EXP	COP	15200-13	H, 1000	
Condenser Water Supply	CDS	100 and larger	EXP	CS	15200-03	H, 620	

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Condenser Water Supply	CDS	75 and smaller	EXP	COP	15200-13	H, 1000	
Domestic Cold Water	DCW	75 and smaller	EXP/ BUR	COP	15200-13	H, 1000	
Domestic Cold Water	DCW	100 and larger	ENC, EXP	Epoxy coated/lined	15200-03	H, 100	
Sump Pump Discharge	DRA	All	EXP/ BUR	GSP	15200-07	H, 300	
Sanitary Drain	DRA	All	EXP/ ENC	CI	15100-02	N/A	Test per requirement of Plumbing Code
Sump Pump Discharge	DRN	All	EXP/ BUR	Epoxy coated/lined steel	15200-03	H, 500	Sanitary lift station
Fire Water	FIR	All	EXP	Steel	15200-03	H, 1555	
Fire Water	FIR	All	BUR	Epoxy coated/lined steel	15200-03	H, 1555	
Natural Gas	NG	All	EXP	CS	15200-21	P, 100	All
Natural Gas	NG	All	BUR	CS	15200-21	P, 100	see note 3
Potable Water	PW	100 and larger	ENC, EXP	Epoxy coated/lined	15200-03	H, 1345	
Trap Primer	TP	All	EXP/ BUR	COP	15200-13	H, 1000	Test per requirement of Plumbing Code
Vent (Sanitary)	VTA	75 and smaller	EXP/ BUR	COP	15100-03	N/A	Test per requirement of Plumbing Code
Vent (Sanitary)	VTA	100 and larger	EXP/ BUR	CI	15100-02	N/A	Test per requirement of Plumbing Code
Raw Water Pumping Station							
Raw Water	RW	200, 900, 1350	Exposed	Epoxy Coated / Lined Steel	15200-03, 15200-04	H, 345	Raw water supply to the WTP.
Raw Water	RW	450	Exposed/buried	Epoxy Coated / Lined Steel	15200-03, 15200-04	H, 345	Raw water supply to Fire Pumping room.
Vent	VTA	300	Exposed	Sch.80 PVC	15200-10	N/A	Wetwell Vents
Air Release	VTA	25	Exposed	Epoxy Coated / Lined Steel	15200-03	H, 345	Air release from large diameter piping

Notes

- 1) H-Hydraulic; P-Pneumatic
- 2) For pipe material and service exposure abbreviations, refer to Section 15200-00L.
- 3) Buried natural gas pipes shall be wrapped with corrosion protection material in accordance with Canadian Gas Code.