



EQUIPMENT SCHEDULE		REV	STATUS	DATE	APPROVER	ORIGINATOR	
Tristar Doc No.	P1236-Equipment Schedule-SCH 101	0	IFC	19.09.2018	DD	DD	
		1	AS BUILT	14.11.2018	DD	DD	
Tag No	Service	Description	Specification	Manufacturer	Model	P&ID/Dwg No.	Comments
EUCLA TOWN RO WTP							
PU-101A	Feed Bore Water	Low Pressure Pump 1	4.4m3/h @ 300kPa; Horizontal Multistage Centrifugal Pump; SS316; 1.2kW, 3phase, 415 V, 50Hz, VSD	Grundfos	CM 10-2	P1236-P-101	
PU-101B	Feed Bore Water	Low Pressure Pump 2	4.4m3/h @ 300kPa; Horizontal Multistage Centrifugal Pump; SS316; 1.2kW, 3phase, 415 V, 50Hz, VSD	Grundfos	CM 10-2	P1236-P-101	
PU-102A	Anti Scalant	Anti Scalant Dosing Pump 1	240mL/h @ 550kPa; Compact Variable Speed Peristaltic Pump; 18W, 1phase, 220V, 50Hz	Stenner	STEN E10LHFK5SK	P1236-P-101	
PU-102B	Anti Scalant	Anti Scalant Dosing Pump 2	240mL/h @ 550kPa; Compact Variable Speed Peristaltic Pump; 18W, 1phase, 220V, 50Hz	Stenner	STEN E10LHFK5SK	P1236-P-101	
PU-103A	Feed Bore Water	High Pressure Pump 1	6.9m3/h @ 1650kPa; Vertical Multistage Centrifugal Pump; SS316; 5.5kW, 3phase, 415 V, 50Hz, VSD	Grundfos	CRN 5-36	P1236-P-101	
PU-103B	Feed Bore Water	High Pressure Pump 2	6.9m3/h @ 1650kPa; Vertical Multistage Centrifugal Pump; SS316; 5.5kW, 3phase, 415 V, 50Hz, VSD	Grundfos	CRN 5-36	P1236-P-101	
PU-104A	Sulphuric Acid	Sulphuric Acid Dosing Pump 1	6LPH @ 1000kPa; Solenoid Diaphragm Pump; 18W, 1phase, 220V, 50Hz	Grundfos	DDE6-10P	P1236-P-101	
PU-104B	Sulphuric Acid	Sulphuric Acid Dosing Pump 2	6LPH @ 1000kPa; Solenoid Diaphragm Pump; 18W, 1phase, 220V, 50Hz	Grundfos	DDE6-10P	P1236-P-101	
MF-101	Feed Bore Water	Media Filter	Glass Media; 21" x 62"; FRP Vessel, 1000kPa Max. Operating Pressure	Aquacorp; Wave Cyber	N/A	P1236-P-101	
CF-101	Feed Bore Water	1 Micron Cartridge Filter	PVC Housing; 30" Length	Aquacorp	WHPVCCFB30-5 (Housing); WCMBL30S01 (Element)	P1236-P-101	



	Feed Bore Water	RO Vessel	FRP Housing; 8" x 80" (2 element), 600psi, 4 x 1.5" Side Port (1D3D5D7D), 1" F-NPT Permeate Ports	Aquacorp	80S60-2	P1236-P-101	
	Feed Bore Water	RO Membrane	2 units of ESPA2 Max	Aquacorp; Hydranautics	ESPA2 Max	P1236-P-101	
CAL-101	RO Permeate	Calcite Filter	UP Flow Filter; 21" x 62"; FRP Vessel; 1000kPa Max. Operating Pressure	Aquacorp; Wave Cyber	N/A	P1236-P-101	
TK-101	RO Permeate & CIP Chemical Solution (Acid & Alkanline Cleaner)	CIP Tank	550L; LDPE Tank	Graf	N/A	P1236-P-101	
PU-201A	Potable Water	Recirculation Pump 1	2m3/h @ 250kPa; Horizontal Multistage Centrifugal Pump; SS316; 0.5kW, 3phase, 415 V, 50Hz, DOL	Grundfos	CM 3-3	P1236-P-101	
PU-201B	Potable Water	Recirculation Pump 2	2m3/h @ 250kPa; Horizontal Multistage Centrifugal Pump; SS316; 0.5kW, 3phase, 415 V, 50Hz, DOL	Grundfos	CM 3-3	P1236-P-101	
PU-202A	Sodium Hypochlorite	Sodium Hypochlorite Dosing Pump 1	7.5LPH @ 1600kPa; Solenoid Diaphragm Pump; 18W, 1phase, 220V, 50Hz	Grundfos	DDA7.5-16	P1236-P-101	
PU-202B	Sodium Hypochlorite	Sodium Hypochlorite Dosing Pump 2	7.5LPH @ 1600kPa; Solenoid Diaphragm Pump; 18W, 1phase, 220V, 50Hz	Grundfos	DDA7.5-16	P1236-P-101	

REV	DESCRIPTION	DATE	DRN	CHK	APP	THE DESIGNS SUPPLIED BY TRISTAR WATER SOLUTIONS PTY LTD ARE COVERED BY COPYRIGHT AND ARE NOT TO BE COPIED OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF TRISTAR WATER SOLUTIONSPTY LTD			<div></div> <div>Tristar Water Solutions Pty Ltd 56 Peel Road O'Connor WA 6163 AUSTRALIA P +61 8 9331 6133 F +61 8 9331 6233</div>	
0	IFC	20.08.2018	DD	AW	DD					
1	AS BUILT	14.11.2018	DD	AW	DD					
NOTES						DESIGNED				
						DRAWN			INSTRUMENT SCHEDULE	
						CHECKED			Tristar Doc No.	P1236-SCH-104
						APPROVED			Project	Eucla Town RO WTP
						DATE				
TAG No.	DESCRIPTION	TYPE	MANUFACTURER MODEL SUPPLIER	RANGE SCALE	POWER SUPPLY SIGNAL TYPE	PROCESS FLUID	FLOW	PROCESS CONNECTION SIZE	COMMENTS	
Eucla Town RO WTP										
LIT-101	Feed Water Storage Tank Level Indicator Transmitter	Submersible Pressure Transducer	IFM Effector; Part No. PS3427	0 - 6 m	10 - 30 VDC; 4-20mA	Bore Water	N/A	N/A		
TG-101	Feed Water Temperature Gauge	Thermometer	GTS; TM207C206006	0 - 60 deg C	N/A	Bore Water	4.4 - 7.6m³/h	1/2" NPT		
pH-101	Feed Water pH Analyzer	Inline pH Analyzer	Georg Fischer; 159001545; 3-2724-00 pH Sens Fit 1K Dryloc NPT'; 15900180; 3-2751-2 pH ORP Sensor Electr Inline EZ Cal	0 - 14	10 - 30 VDC; 4-20mA	Bore Water	4.4 - 7.6m³/h	N/A		
KI-101	Feed Water Conductivity Analyzer	Inline Conductivity Analyzer	Georg Fischer; 3-2850-52-42V; 159001 829, integral 2850 System, 4 to 20mA Output, 10.0, PVDF NPT Threads	0 - 50,000	10 - 30 VDC; 4-20mA	Bore Water	4.4 - 7.6m³/h	N/A		
KI-102	RO Permeate Conductivity Analyzer	Inline Conductivity Analyzer	Georg Fischer; 3-2850-52-41V; 159001 828 integral 2850 System, 4 to 20mA Output, 1.0, PVDF NPT Threads	0 - 2000	10 - 30 VDC; 4-20mA	Permeate Water	2.2m³/h	N/A		
FIT-101	RO Permeate Flow Indicator Transmitter	Vortex	IFM Effector; Part No. SV7204; Part No. EVS005 Cable	0.3 - 6 m³/h	10 - 30 VDC; 4-20mA	RO Permeate Water	2.2m³/h	G 3/4		
FIT-102	RO Reject Flow Indicator Transmitter	Paddle Wheel	Georg Fischer; Reject Flow meter, 3-2537-6C-P0; 159001296; 4-20mA Output, P0, Integral Mount, PP, Titan, 0.5- 4.0 inch pipe connection; Fittings for Reject Flow meter; 1.5 inch, DN40, PN15, Type: PVAT015, Code: 721310310; PVC-U/EPDM	0 - 10,000 L/h	10 - 30 VDC; 4-20mA	RO Reject Water	0 - 10m³/h	DN40, BSP		
FIT-103	RO Concentrate Recirculation Flow Indicator Transmitter	Vortex	IFM Effector; Part No. SV7204; Part No. EVS005 Cable	0.3 - 6 m³/h	10 - 30 VDC; 4-20mA	RO Concentrate Water	2.2m³/h	G 3/4		
PIT-101	Inlet Media Filter Pressure Indicator Transmitter	Pressure Indicator Transmitter	IFM Effector; Part No. PT504; Part No. DP2200 Display; Part No. EVS005 cable	0 - 1000kPa	10 - 30 VDC; 4-20mA	Bore Water	4.4 - 7.6m³/h	G1/4		
PIT-102	Outlet Media fltler Pressure Indicator Transmitter	Pressure Indicator Transmitter	IFM Effector; Part No. PT504; Part No. DP2200 Display; Part No. EVS005 cable	0 - 1000kPa	10 - 30 VDC; 4-20mA	Bore Water	4.4 - 7.6m³/h	G1/4		
PIT-103	Outlet Cartridge Filter Pressure Indicator Transmitter	Pressure Indicator Transmitter	IFM Effector; Part No. PT504; Part No. DP2200 Display; Part No. EVS005 cable	0 - 1000kPa	10 - 30 VDC; 4-20mA	Bore Water	4.4 - 7.6m³/h	G1/4		
PIT-104	RO Inlet Pressure Indicator Transmitter	Pressure Indicator Transmitter	IFM Effector; Part No. PT503; Part No. DP2200 Display; Part No. EVS005 cable	0 - 2500kPa	10 - 30 VDC; 4-20mA	Bore Water	4.4 - 7.6m³/h	G1/4		

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PIT-105	RO Concentrate Pressure Indicator Transmitter	Pressure Indicator Transmitter	IFM Effector; Part No. PT503; Part No. DP2200 Display; Part No. EVS005 cable	0 - 2500kPa	10 - 30 VDC; 4-20mA	Bore Water	0 - 10m³/h	G1/4	
LS-101	Anti Scalant Level Switch (Low)	Level Float	Burkert; MAC 3	N/A	24 VDC	Anti Scalant	N/A	N/A	10 m Cable Length
LS-102	Sulphuric Acid Level Switch (Low)	Level Float	Burkert; MAC 3	N/A	24 VDC	Sulphuric Acid	N/A	N/A	10 m Cable Length
LS-103	CIP/Flush Tank Level Swicth (Low)	Level Float	Burkert; MAC 3	N/A	24 VDC	Permeater Water or CIP	N/A	N/A	10 m Cable Length
PIT-201	Recirculation Pumps Discharge Pressure Indicator Transmitter	Pressure Indicator Transmitter	IFM Effector; Part No. PT504; Part No. DP2200 Display; Part No. EVS005 cable	0 - 1000kPa	10 - 30 VDC; 4-20mA	Potable Water	2m³/h	G1/4	
Tur-201	Potable Water Turbidity Analyzer	Compact White Light	E&H; CUE22-A1A	0 - 100 NTU	100 - 240 VAC; 4-20mA	Potable Water	2m³/h	1/4"	
KI-201	Potable Water Conductivity Analyzer	Inline Conductivity Analyzer	Georg Fischer; 3-2850-52-41V; 159 001 828 integral 2850 System, 4 to 20mA Output, 1.0, PVDF NPT Threads	0 - 2000	10 - 30 VDC; 4-20mA	Potable Water	2m³/h	N/A	
TG-201	Potable Water Temperature Gauge	Thermometer	GTS; TM207C206006	0 - 60 deg C	N/A	Potable Water	2m³/h	1/2" NPT	
FI-201	Ejector Potable Water Flow Indicator	Rotameter	Stubbe DFM 350, uPVC/PVDF/EPM	150 - 1500 LPH	N/A	Potable Water	1000L/h	DN32 Socket Weld	
pH/CL-201	Potable Water pH/Chlorine Analyzer	pH/Chlorine Analyzer	E&H; CCS142D-AAS80 (Chloromax CCS 142D); CPS31D-1040/0 CPS31D-7AC21+Z1 (pH electrode); CM442-4KJ6/0 (Analyzer); CCA250-A0 FlowFit; CYK10-A101 Cable	1 - 12 (pH); 0.0 - 5.00 (Chlorine)	100 - 240 VAC; 4-20mA	Potable Water	2m³/h	N/A	
FC-101	Backwash Media Filter Flow Control	Flow Control	Maric; 1040752	N/A	N/A	Backwash Reject Media Filter	140 lpm	DN40, BSP	
LS-201	Sodium Hypochlorite Level Swicth	Level Float	Grundfos; FV-2L-G5/8 PE/T/C U2	N/A	N/A	Sodium Hypochlorite	N/A	N/A	Part of Grundfos Dosing Kit
LS-202	Sodium Hypochlorite Level Swicth	Level Float	Grundfos; FV-2L-G5/8 PE/T/C U2	N/A	N/A	Sodium Hypochlorite	N/A	N/A	Part of Grundfos Dosing Kit
Eucla Bore Water Pipelines									
PI-301	Bore Pump Discharge Pressure Gauge	Bourdon Tube Presure Gauge	GTS; Model: P2032L574008; ALL SS HEAVY DUTY; GLYCERINE FILLED	0 - 600kPa	N/A	Bore Water	N/A	1/4" BSPT Bottom Connection	63MM FACE WITH MOUNTING C NNECTION FOR BOTTOM ENTRY, kPa scale
FI-301	Bore Pump Flow Totaliser	Water Meter	HR Products; LXLG-50	450 - 30000 LPH	N/A	Bore Water	4 - 8m³/h	DN50 Flange Table D	

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A	INITIAL ISSUE	DD	AW	DD	20.08.2018						
0	IFC	DD	AW	DD	17.09.2018						
1	AS BUILT	DD	AW	DD	14.11.2018						
NOTES						DESIGNED	DD			P1236-SCH-101 EUCLA TOWN RO WTP VALVE SCHEDULE	
						DRAWN					
						CHECKED	AW				
						APPROVED	DD				
						DATE	17.09.2018				
TAG No.	DESCRIPTION	PRESS. RANGE (kPag)	TEMP RANGE (oC)	PROCESS CONN. SIZE	PROCESS FLUID	CONNECTION TYPE	VALVE TYPE	MANUFACTURER MODEL SUPPLIER	FLOW RATE (m3/h)	WETTED MATERIALS	COMMENTS
EUCLA TOWN RO WTP											
AUTOMATIC VALVES											
AV-101	FEED INLET AUTOMATIC VALVE	10 - 30	15 - 35	DN50	BORE FEED WATER	SOLVENT WELD UNION END	ELECTRICALLY OPERATED BALL VALVE	BRAECO; FIP	4.4 - 7.6	UPVC	PTFE SEATS, EPDM SEALS; VALPES ERPLUS MODEL ER20.X0B.G00 ELECTRIC ACTUATOR, ON/OFF, 15V -30V AC, 12V-48VDC, 14 STAR/F03-04-05, 12 SECS
AV-102	CIP/FLUSH AUTOMATIC VALVE	10 - 30	15 - 35	DN50	PERMEATE WATER/CIP WATER	SOLVENT WELD UNION END	ELECTRICALLY OPERATED BALL VALVE	BRAECO; FIP	9	UPVC	PTFE SEATS, EPDM SEALS; VALPES ERPLUS MODEL ER20.X0B.G00 ELECTRIC ACTUATOR, ON/OFF, 15V -30V AC, 12V-48VDC, 14 STAR/F03-04-05, 12 SECS
AV-103	LET DOWN BYPASS AUTOMATIC VALVE	250 - 350	15 - 35	DN50	REJECT WATER/CIP WATER	SOLVENT WELD UNION END	ELECTRICALLY OPERATED BALL VALVE	BRAECO; FIP	9	UPVC	PTFE SEATS, EPDM SEALS; VALPES ERPLUS MODEL ER20.X0B.G00 ELECTRIC ACTUATOR, ON/OFF, 15V -30V AC, 12V-48VDC, 14 STAR/F03-04-05, 12 SECS
MANUAL VALVES											
V-101	FEED INLET ISOLATION MANUAL VALVE	10 - 30	15 - 35	DN50	BORE FEED WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 7.6	UPVC	
ST-101	FEED INLET STRAINER	10 - 30	15 - 35	DN50	BORE FEED WATER	SOLVENT WELD UNION END	N/A	BRAECO; FIP	4.4 - 7.6	UPVC	MODEL: RVULT (TRANSPARENT PVC)
V-102	SUCTION LP PUMP 1 ISOLATION MANUAL VALVE	10 - 30	15 - 35	DN50	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-103	SUCTION LP PUMP 2 ISOLATION MANUAL VALVE	10 - 30	15 - 35	DN50	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-104	DISCHARGE LP PUMP 1 NON RETURN VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	4.4 - 9.0	UPVC	
V-105	DISCHARGE LP PUMP 1 ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-106	DISCHARGE LP PUMP 2 NON RETURN VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	4.4 - 9.0	UPVC	
V-107	DISCHARGE LP PUMP 2 ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-108	PIT-101 ISOLATION MANUAL VALVE	250 - 350	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-109	INLET MEDIA FILTER ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 7.6	UPVC	
V-110	MEDIA FILTER BYPASS ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-111	INLET AIR VENT MEDIA FILTER ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN25	AIR	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	N/A	UPVC	
	AIR VENT MEDIA FILTER VALVE	250 - 350	15 - 35	DN25	AIR	BSP MALE	AIR RELEASE VALVE	BRAECO	N/A	POLYAMIDE/FR	
V-112	OUTLET MEDIA FILTER ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 7.6	UPVC	
V-113	PIT-102 ISOLATION MANUAL VALVE	250 - 350	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-114	INLET CARTRIDGE FILTER ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-115	AIR VENT CARTRIDGE FILTER ISOLATION MANUAL VALVE	250 - 350	15 - 35	1/4"	AIR	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-116	DRAIN CARTRIDGE FILTER ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN25	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	N/A	UPVC	
V-117	PIT-103 ISOLATION MANUAL VALVE	250 - 350	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-118	CONCENTRATE RECIRCULATION THROTTLING MANUAL VALVE	1300 - 1600	15 - 35	DN25	RO CONCENTRATE	BSP MALE / NPT	NEEDLE	BRAECO; VMC	2.5	SS	

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V-119	CONCENTRATE RECIRCULATION NON RETURN VALVE	250 - 350	15 - 35	DN20	RO CONCENTRATE	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	2.5	UPVC	
V-120	ANTI SCALANT DOSING NON RETURN VALVE/INJECTION FITTING	250 - 350	15 - 35	DN9	ANTI SCALANT		BALL CHECK	CWC;STENNER	0.0000019	UPVC	STENNER DOSING PUMP PACKAGE
V-121	ANTI SCALANT DOSING NON RETURN VALVE/INJECTION FITTING	250 - 350	15 - 35	DN9	ANTI SCALANT		BALL CHECK	CWC;STENNER	0.0000019	UPVC	STENNER DOSING PUMP PACKAGE
V-122	SUCTION HP PUMP 1 ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-123	SUCTION HP PUMP 2 ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-124	DISCHARGE HP PUMP 1 NON RETURN VALVE	1300 - 1600	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	4.4 - 9.0	UPVC	
V-125	DISCHARGE HP PUMP 1 ISOLATION MANUAL VALVE	1300 - 1600	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-126	DISCHARGE HP PUMP 2 NON RETURN VALVE	1300 - 1600	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	4.4 - 9.0	UPVC	
V-127	DISCHARGE HP PUMP 2 ISOLATION MANUAL VALVE	1300 - 1600	15 - 35	DN40	BORE FEED WATER/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	4.4 - 9.0	UPVC	
V-128	PIT-104 ISOLATION MANUAL VALVE	1300 - 1600	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-129	PIT-105 ISOLATION MANUAL VALVE	1300 - 1600	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-130	REJECT THROTTLING MANUAL VALVE	1300 - 1600	15 - 35	DN25	RO REJECT	BSP MALE / NPT	NEEDLE	BRAECO; VMC	2.2	SS	
V-131	CIP RETURN ISOLATION MANUAL VALVE	250 - 350	15 - 35	DN40	CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	9	UPVC	
V-132	REJECT ISOLATION MANUAL VALVE	30 - 100	15 - 35	DN40	RO REJECT	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2.2	UPVC	
V-133	RO PERMEATE NON RETURN VALVE	40 - 70	15 - 35	DN25	RO PERMEATE	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	2.2	UPVC	
V-134	RO PERMEATE TO CIP/FLUSH TANK ISOLATION MANUAL VALVE	10 - 15	15 - 35	DN25	RO PERMEATE	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2.2	UPVC	
V-135	INLET CALCITE FILTER ISOLATION MANUAL VALVE	40 - 70	15 - 35	DN25	RO PERMEATE	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2.2	UPVC	
V-136	BYPASS CALCITE FILTER ISOLATION MANUAL VALVE	40 - 70	15 - 35	DN25	RO PERMEATE	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2.2	UPVC	
V-137	OUTLET CALCITE FILTER ISOLATION MANUAL VALVE	40 - 70	15 - 35	DN25	RO PERMEATE	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2.2	UPVC	
V-138	RO PERMEATE OUTLET TO POTABLE WATER TANK ISOLATION MANUAL VALVE	40 - 70	15 - 35	DN25	RO PERMEATE	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2.2	UPVC	
V-139	SULPHURIC ACID DOSING NON RETURN VALVE/INJECTION FITTING	40 - 70	15 - 35	DN9	SULPHURIC ACID		BALL CHECK	GRUNDFOS	0.00006	UPVC	GRUNDFOS DOSING PUMP INSTALLATION KIT PACKAGE
V-140	SULPHURIC ACID DOSING NON RETURN VALVE/INJECTION FITTING	40 - 70	15 - 35	DN9	SULPHURIC ACID		BALL CHECK	GRUNDFOS	0.00006	UPVC	GRUNDFOS DOSING PUMP INSTALLATION KIT PACKAGE
V-141	CIP/FLUSH TANK OUTLET ISOLATION MANUAL VALVE	10 - 15	15 - 35	DN50	RO PERMEATE/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	9	UPVC	
V-142	CIP/FLUSH TANK DRAIN ISOLATION VALVE	10 - 15	15 - 35	DN40	RO PERMEATE/CIP WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	9	UPVC	
S-101	SAMPLE POINT 101 ISOLATION MANUAL VALVE	10 - 30	15 - 35	1/4"	BORE FEED WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
S-102	SAMPLE POINT 102 ISOLATION MANUAL VALVE	250 - 350	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
S-103	SAMPLE POINT 103 ISOLATION MANUAL VALVE	250 - 350	15 - 35	1/4"	BORE FEED WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
S-104	SAMPLE POINT 104 ISOLATION MANUAL VALVE	40 - 70	15 - 35	1/4"	RO PERMEATE	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
S-105	SAMPLE POINT 105 ISOLATION MANUAL VALVE	1300 - 1600	15 - 35	1/4"	REJECT WATER/CIP WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
S-106	SAMPLE POINT 106 ISOLATION MANUAL VALVE	40 - 70	15 - 35	1/4"	RO PERMEATE	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-201	SUCTION RECIRCULATION PUMP 1 ISOLATION MANUAL VALVE	10 - 30	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
V-202	SUCTION RECIRCULATION PUMP 2 ISOLATION MANUAL VALVE	10 - 30	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
V-203	DISCHARGE RECIRCULATION PUMP 1 NON RETURN VALVE	200 - 250	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	2	UPVC	
V-204	DISCHARGE RECIRCULATION PUMP 1 ISOLATION MANUAL VALVE	200 - 250	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
V-205	DISCHARGE RECIRCULATION PUMP 2 NON RETURN VALVE	200 - 250	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL CHECK	BRAECO; FIP	2	UPVC	
V-206	DISCHARGE RECIRCULATION PUMP 2 ISOLATION MANUAL VALVE	200 - 250	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
V-207	PIT-201 ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	POTABLE WATER	NPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE

TAG No.	DESCRIPTION	PRESS. RANGE (kPag)	TEMP RANGE (oC)	PROCESS CONN. SIZE	PROCESS FLUID	CONNECTION TYPE	VALVE TYPE	MANUFACTURER MODEL SUPPLIER	FLOW RATE (m3/h)	WETTED MATERIALS	COMMENTS
V-208	TURBIDITY INLET ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	POTABLE WATER	NPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-209	INLET pH/CHLORINE ANALYSER ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	POTABLE WATER	NPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-210	INLET EJECTOR ISOLATION MANUAL VALVE	200 - 250	15 - 35	DN32	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
V-211	POTABLE WATER THROTTLING VALVE	200 - 250	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	DIAPHRAGM MANUAL VALVE	BRAECO;STUBBE	2	UPVC	
V-212	OUTLET EJECTOR ISOLATION MANUAL VALVE	200 - 250	15 - 35	DN32	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
V-213	OUTLET pH/CHLORINE ANALYSER ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	POTABLE WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-214	SODIUM HYPOCHLORITE DOSING NON RETURN VALVE/INJECTION FITTING	40 - 70	15 - 35	DN9	SODIUM HYPOCHLORITE		BALL CHECK	GRUNDFOS	0.00006	UPVC	GRUNDFOS DOSING PUMP INSTALLATION KIT PACKAGE
V-215	SODIUM HYPOCHLORITE DOSING NON RETURN VALVE/INJECTION FITTING	40 - 70	15 - 35	DN9	SODIUM HYPOCHLORITE		BALL CHECK	GRUNDFOS	0.00006	UPVC	GRUNDFOS DOSING PUMP INSTALLATION KIT PACKAGE
V-216	POTABLE WATER RECIRCULATION INTO POTABLE WATER TANK ISOLATION MANUAL VALVE	200 - 250	15 - 35	DN25	POTABLE WATER	SOLVENT WELD UNION END	BALL MANUAL VALVE	BRAECO; FIP	2	UPVC	
S-101	SAMPLE POINT 201 ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	POTABLE WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
S-102	SAMPLE POINT 202 ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	POTABLE WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
BORE WATER PIPELINE REPLACEMENT											
MANUAL VALVES											
V-301	PI-301 ISOLATION MANUAL VALVE	50 - 100	15 - 35	1/4"	BORE WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS316	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE
V-302	INLET AIR VENT BORE WATER PIPELINE ISOLATION MANUAL VALVE	50 - 100	15 - 35	DN25	BORE WATER	ANSI#150 Flange	BALL MANUAL VALVE	BRAECO;	N/A	SS316	
V-303	BORE WATER PIPELINE NON RETURN VALVE	50 - 100	15 - 35	DN50	BORE WATER	WAFER (ANSI#150)	BALL MANUAL VALVE	BRAECO;	4.4 - 9.0	SS316	
V-304	BORE WATER PIPELINE ISOLATION MANUAL VALVE	50 - 100	15 - 35	DN50	BORE WATER	ANSI#150 Flange	BALL MANUAL VALVE	BRAECO;	4.4 - 9.0	SS316	
V-305	BORE WATER PIPELINE ISOLATION MANUAL VALVE	50 - 100	15 - 35	DN50	BORE WATER	ANSI#150 Flange	BALL MANUAL VALVE	BRAECO;	4.4 - 9.0	SS316	
	AIR VENT BORE WATER PIPELINE	50 - 100	15 - 35	DN25	AIR	BSP MALE	AIR RELEASE VALVE	BRAECO	N/A	SS316	
SP-301	SAMPLE POINT 301 ISOLATION MANUAL VALVE	200 - 250	15 - 35	1/4"	BORE WATER	BSPT	BALL MANUAL	BRAECO	N/A	SS316	MODEL: 1-10E 006; 1000PSI; LOCKING LEVEL; 1-PIECE REDUCED PORT; E-SERIES BALL VALVE