

EQUIPMENT LIST

Table 1: Equipment list for P1 (raw water)

Description	Design Specification	Material	Qty	Brand & Model	Remarks
Pumps & Tanks					
Raw Water Tank	Capacity: 1.8m ³ Dia xH= 1.38 x 1.36	PE	1	Rotamas CPE 1800	T101
Raw Water Transfer Pump	Duty: 2.5 m ³ /h @ 20m	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	2	CALPEDA MXH 203	P101/102
Instrumentation					
Raw Water Tank LIT	Ultrasonic, Range 0.2 to 6m	Non Contact	1	iSOLV LevelWizard II	LIT101
Raw Water FIT	Electromagnetic DN25	PTFE	1	iSOLV EFS803/CFT183	FIT101
Piping & Accessories					
Piping	SCH80	PVC	Lot	Glywed	
Raw Water Inlet On/Off Valve	DN 25, Electric Actuated	PVC	1	Burkert EV2650	MV101
PRV	DN 25	PVC	1	Prominent DHV-DM PVC	

Table 2: Equipment list for P2 (chemical dosing)

Description	Design Specification	Material	Qty	Brand & Model	Remarks
Pumps & Tanks					
NaCl Tank	Capacity: 250l	PE	1	Rotamas CGD 250	
NaCl/Dosing Pump	Capacity : 50 l/h @ 10 bar	Liquid end : PVDF Diaphragm : PTFE faced	2	Prominent Sigma S18a	P201/202
HCl Tank	Capacity: 250l Capacity: 25l (9% HCl)	PE	1	Rotamas CGD 250 25L Carboy	Double Containment
HCl/Dosing Pump	Capacity : 0.78 l/h @ 08 bar	Liquid end : Plexiglas Diaphragm : PTFE faced	2	Prominent GALa1601	P203/204
NaOCl Tank	Capacity: 250l	PE	1	CGD 250	
NaOCl/Dosing Pump (FAC)	Capacity : 0.78 l/h @ 8 bar	Liquid end : Plexiglas Diaphragm : PTFE faced	2	Prominent GALa1601	P205/206
NaOCl/Dosing Pump (UF Cleaning)	Capacity : 65l/h @ 7 bar	Liquid end : PVDF Diaphragm : PTFE faced	2	Prominent Sigma S18a	P207/208
Instrumentation					
Static Mixer	2" NPT M/ 12 elements	PVC	1	Omega	
Raw Water to UF Feed Tank FIT	Electromagnetic DN25	PTFE	1	iSOLV EFS803/CFT183	FIT201
AIT - Conductivity	Up to 1000µS/cm	-	1	Mettler Toledo M200 Single/ easySense Cond 71	AIT201
AIT - pH & ORP	pH: 0-14 ORP: -800mV to 800mV	-	1	Mettler Toledo M200 Dual/ easySense pH 32 & ORP 41	AIT202/203
NaCl Level Switch	Low Alarm	PVC	1	iSOLV LS880	LS201
HCl Level Switch	Low Alarm	PVC	1	iSOLV LS880	LS202
NaOCl Level Switch	Low Alarm	PVC	1	iSOLV LS880	LS203
Piping & Accessories					
Piping	SCH80	PVC	Lot	Glywed	
Raw Water Tank Outlet On/Off Valve	DN 25, Electric Actuated	PVC	1	Burkert EV2650	MV201

Table 3: Equipment list for P3 (ultrafiltration)

Description	Design Specification	Material	Qty	Brand & Model	Remarks
UF Membranes					
UF Membranes	2.5 m³/h	PVDF	1	TORAY HFU-2020	
Pumps & Tanks					
UF Feedwater Tank	Capacity: 1.8m³ Dia xH= 1.38 x 1.36	PE	1	Rotamas CPE 1800	T301
UF Feedwater Pump	Duty: 2.5 m³/h @ 20m	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	2	CALPEDA MXH 203	P301/302
Instrumentation					
UF Feed Water Tank LIT	Ultrasonic, Range 0.2 to 6m	Non Contact	1	iSOLV LevelWizard II	LIT301
UF Feed Water FIT	Electromagnetic DN25	PTFE	1	iSOLV EFS803/CFT183	FIT301
UF Feed Water FI	Rotameter, 1"	PVC	1	FSIV Flowmeter	FI301
Pressure Switch	Switch High/ 0-7 Bar Adjustable	SS316 Port	1	CCS 604GZ	PSH301
Differential Pressure Switch	Switch High/ 0-1 Bar	SS316 Port	1	CCS 604DZ	DPSH301
Differential Pressure Indicating Transmitter	Range: 0-2 Bar	SS316 Port	1	SPT 100 DP	DPIT301
Piping & Accessories					
Piping & Manual Valves	SCH80	PVC	Lot	Glywed	
PRV	DN 25	PVC	1	Prominent DHV-DM PVC	
Backwash On/Off Valve	DN 25, Electric Actuated	PVC	4	Burkert EV2650	MV301/2/3/4

Table 4: Equipment list for P4 (dechlorination)

Description	Design Specification	Material	Qty	Brand & Model	Remarks
Pumps & Tanks					
RO Feedwater Tank	Capacity: 1.8m³ Dia xH= 1.38 x 1.36	PE	1	Rotamas CPE 1800	T401
RO Feedwater Pump	Duty: 2.5 m³/h @ 20m	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	2	CALPEDA MXH 203	P401/402
NaHSO ₃ Tank	Capacity: 250l Capacity: 25l (10% NaHSO ₃)	PE	1	Rotamas CGD 250 25L Carboy	Double Containment
NaHSO ₃ Dosing Pump	Capacity : 0.78 l/h @ 8 bar	Liquid end : Plexiglas Diaphragm : PTFE faced	2	Prominent GALa1 601	P403/404
UV Chlorine Destruction Unit					
UV Unit	Removal up to 0.5ppm 2.3m³/h	SS316	1	Aquafine Optima 200	UV401
Instrumentation					
RO Feed Water Tank LIT	Ultrasonic, Range 0.2 to 6m	Non Contact	1	iSOLV LevelWizard II	LIT401
Hardness Monitor	Range: 0-10ppm	-	1	HACH APA 6000	AIT401
AIT –ORP	ORP: -800mV to 800mV	-	1	Mettler Toledo M200 Single/ easySense ORP 41	AIT402
RO Feed FIT	Electromagnetic DN25	PTFE	1	iSOLV EFS803/CFT183	FIT401

Table 5: Equipment list for P5 (RO)

Description	Design Specification	Material	Qty	Brand & Model	Remarks	Description	Design Specification	Material	Qty	Brand & Model	Remarks
RO Membranes						AIT – pH & ORP (RO Feed)	pH: 0-14 ORP: -800mV to 800mV	-	1	Mettler Toledo M200 Dual/ easySense pH 32 & ORP 41	AIT501 / 502
Pre RO Cartridge Filter	Heavy Duty Multi-Cartridge Housing Max Pressure: 125PSI Number of Cartridges & Size: (4) 10" Flowrate: 28 GPM Element: 1 Micron	SS304 Housing	1	Graver 4MC1-VB-316L-1.5N-8		Pressure Switch (Before High Pressure RO Pump)	Low Alarm, 0-10 Bar (Adjustable)	SS316 Port	1	CCS 604GZ	PSL501
RO Membrane	As Per Design Considerations	-	3+3 4	Toray TMH10A		Pressure Switch (After High Pressure RO Pump)	High Alarm, 0-10 Bar (Adjustable)	SS316 Port	1	CCS 604GZ	PSH501
RO Vessel	-	Shell: Epoxy/Glass Composites	3	Pentair Codeline40S30		PIT (After High Pressure RO Pump)	0-10 Bar	SS316 Port	1	iSOLV SPT 100	PIT501
Pumps						PIT (RO Concentrate)	0-10 Bar	SS316 Port	1	iSOLV SPT 100	PIT503
High Pressure RO Pump With VSD	Duty: 2m³/h @ 5bar	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	2	CALPEDA MXH206	P501/5	PIT (RO Permeate)	0-10 Bar	SS316 Port	1	iSOLV SPT 100	PIT502
Instrumentation						FIT (RO Concentrate)	Electromagnetic DN25	PTFE	1	iSOLV EFS803/CFI183	FIT503
AIT – Conductivity (RO Feed)	Up to 1000µS/cm	-	1	Mettler Toledo M200 Dual/ easySense Cond 71	AIT503	FIT (RO Recirculation)	Electromagnetic DN25	PTFE	1	iSOLV EFS803/CFI183	FIT504
AIT – Conductivity (RO Permeate)	Range: 0.02 to 20 µS/cm	-	1	easySense Cond 71	AIT504						

Table 6: Equipment list for P6 (RO permeate transfer, UF backwash)

Description	Design Specification	Material	Qty	Brand & Model	Remarks	Description	Design Specification	Material	Qty	Brand & Model	Remarks
Pumps & Tanks						Cartridge Filter					
RO Permeate Tank	Capacity: 1.2m³ DiaxH = 1.16 x 1.24	PE	1	Rotamas CPE 1200	T601	Pre RO Cartridge Filter	Heavy Duty Multi-Cartridge Housing Max Pressure: 125PSI Number of Cartridges & Size: (4) 10" Flowrate: 28 GPM Element: 1 Micron	SS304 Housing	1	Graver 4MC1-VB-316L-1.5N-8	
RO Permeate Transfer Pump	Duty: 2.5 m³/h @ 20m	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	1	CALPEDA MXP 203	P601	Instrumentation					
UF Backwash Tank	Capacity: 1.2m³ DiaxH = 1.16 x 1.24	PE	1	Rotamas CPE 1200	T602	RO Permeate Tank Level Switch	Low & High Alarm	PVC	1	iSOLV LS880	LS601
UF Backwash Tank Pump	Duty: 2.5 m³/h @ 20m	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	1	CALPEDA MXP 203	P602	UF Backwash Tank Level Switch	Low & High Alarm	PVC	1	iSOLV LS880	LS602
CIP Tank (UF/RO)	Capacity: 550l	PE	1	CGD 550		CIP Tank Level Switch	Low & High Alarm	PVC	1	iSOLV LS880	LS603
CIP Pump	Duty: 2.5 m³/h @ 20m	Casing: Chrome Nickel SS Impeller: Noryl Shaft: SS	1	CALPEDA MXP 203	P603	FIT (UF Backwash)	Electromagnetic DN25	PTFE	1	iSOLV EFS800/CFI180	FIT601
						FI (RO/UF Cleaning)	Rotameter, 1"	PVC	1	FSIV Flowmeter	FI601/2