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Accepted Electrical Equipment List



The list is not exhaustive. If a make and model is not specified then check acceptability with Unitywater.
 New products are regularly being released on to the market. Product appraisal requests can be sent to products@unitywater.com.
 This list should be read in conjunction with Unitywater Specifications Pr9835 - Electrical Installations at Sewage Treatment Plants and with Pr9380 - Electrical Installations at Network Sites.

Product Type	MAKE and Model	Manufacturer /Supplier	Trade Name	Specific Requirements	COMMENTS
Cable Installation - Tray, Ladder, Conduit, Pits					
Cable Pits				No preferred supplier	Refer to Specifications Pr9835 and Pr9380
Cable trays and ladders - Metallic				No preferred supplier	Refer to Specifications Pr9835 and Pr9380 for full requirements
Cable trays and ladders - Non-Metallic	Unex U23X range	Unex		Must be UV rated and chemical resistant	Other brands accepted if it meets requirements for load rating, UV resistance and chemical resistance
Conduits - Flexible				No preferred supplier	Refer to specifications Pr9835 and Pr9380.
Conduits - Rigid				No preferred supplier	Refer to specifications Pr9835 and Pr9380.
Sealing compounds	HENLEY 53653-01 - HENLEY PLASTIC COMPOUND	Henley's Plastic Compound		Not grout, not foam-a-fill.	or approved similar product
Sealing compounds	Denso Mastic - DENSOSEAL 16A	Denso Mastic		Not grout, not foam-a-fill.	or approved similar product
Cathodic Protection System					
Cathodic Protection Mitigation Bleed Point				No preferred supplier	Based on system requirements - see Unitywater for guidance
Cathodic Protection Test Point				No preferred supplier	Based on system requirements - see Unitywater for guidance
Cathodic Protection Transformer Rectifier				No preferred supplier	Based on system requirements - see Unitywater for guidance
Chemical Dosing					
Chlorinator - Auto	De Nora - NXT 70CV3	De Nora/Westwater Enterprises Pty Ltd			
Chlorine Auto Shut Off System	Chlorshield	Westwater Enterprises Pty Ltd	Chlorshield		
Dosing Pumps	Grundfos Alldos DDA (Digital Dosing Advanced)	Grundfos Holding AG			Metering Pump
Dosing Pumps	Grundfos Alldos DDI (Digital Dosing)	Grundfos Holding AG			Metering Pump
Dosing Pumps	Prominent Sigma X	Prominent Fluid Control			Metering Pump
Dosing Pumps	Prominent Gama /XL	Prominent Fluid Control			Metering Pump
Inline static mixer	De Nora EJ100 (2kg/hr)	De Nora			
Circuit Breakers					
Circuit Breakers - Air	Schneider Masterpact NW	Schneider Electric			
Circuit Breakers - Air	NHP - Terasaki - TemPower 2	NHP Electrical	Terasaki		
Circuit Breakers - Air	Siemens 3WA	APS - Siemens			
Circuit Breakers - Miniature Circuit Breakers (MCB's) – Motor, General Purpose, RCD - AC and DC rated as appropriate	Schneider	Schneider Electric	Clipsal		
Circuit Breakers - Miniature Circuit Breakers (MCB's) – Motor, General Purpose, RCD - AC and DC rated as appropriate	NHP - Terasaki DINT	NHP Electrical			
Circuit Breakers - Miniature Circuit Breakers (MCB's) – Motor, General Purpose, RCD - AC and DC rated as appropriate	Siemens 5SY/5SU9	APS - Siemens			
Circuit Breakers - Moulded Case Circuit Breakers (MCCB's)	NHP – Terasaki - Tembreak Pro	NHP Electrical			
Circuit Breakers - Moulded Case Circuit Breakers (MCCB's)	Schneider ComPacT NSX	Schneider Electric	Schneider Electric		
Circuit Breakers - Moulded Case Circuit Breakers (MCCB's)	Siemens 3VA1/3VA2	APS - Siemens			
Circuit Breakers - Motor Circuit Breakers	Siemens 3RV	APS - Siemens			As required for Type 2 Coordination
Circuit Breakers - Motor Circuit Breakers	NHP				As required for Type 2 Coordination
Circuit Breakers - Motor Circuit Breakers	Schneider				As required for Type 2 Coordination
RCD Tester - Automatic	NHP Rapid Test	NHP			to be used distribution boards where there are greater than 10 RCD

Coax					
Coax Cables	CNT-400				Accepted for DOL sites.
Coax Cables	LDF4-50				Accepted for VFD.
Coax Cables	RG58 Celfoil Low Loss			For use between radio and surge diverters.	
Coax Surge Diverters	PolyPhaser IS-50NX-C2				
Coax Surge Diverters	Critec CSPNB90				
Coax Surge Diverters	Novaris CN-FF-90-3	IPD Group			
Coax terminations	N type				
Coax terminations	TNC Type - Radio only				
Control Operators - Switches,pushbuttons, indicating lights etc					
Control Switches & Selectors	Kraus & Naimer CA10 Series	Kraus & Naimer			
Control Switches & Selectors	Schneider	Schneider Electric	Schneider Electric		
Control Switches & Selectors	Siemens 3SU1	APS - Siemens	Siemens		
Control Switches & Selectors	Sprecher & Schuh D7 Series	NHP Electrical	Sprecher & Schuh		
Indication Lamps (22.5 mm)	Kraus & Naimer				
Indication Lamps (22.5 mm)	Schneider	Schneider Electric	Schneider Electric		
Indication Lamps (22.5 mm)	Siemens 3SU1	APS - Siemens			
Indication Lamps (22.5 mm)	Sprecher & Schuh D7 Series	NHP Electrical	Sprecher & Schuh		
Isolators & Main Switches	Kraus & Naimer KG Series	Kraus & Naimer			
Isolators & Main Switches	Schneider	Schneider Electric	Schneider Electric		
Isolators & Main Switches	Siemens - 3KD	APS - Siemens			
Isolators & Main Switches	Socomec SLB Series	NHP Electrical			
Isolators & Main Switches	Terasaki - Tembreak Pro	NHP Electrical			
Pushbuttons	Kraus & Naimer	Kraus & Naimer			
Pushbuttons	Schneider	Schneider Electric	Schneider Electric		
Pushbuttons	Siemens 3SU1	APS - Siemens			
Pushbuttons	Sprecher & Schuh D7 Series	NHP Electrical	Sprecher & Schuh		
Pushbuttons - Emergency Stop				Enclosures to be yellow if in a separate enclosure.	
Control System Equipment					
Antenna Mounting Brackets	RFI (wireless) Industries UNV, UNV2, UC1, UCR1, UCR2			Use of hockey stick mounts is not acceptable.	
Antenna Pole	Birch Sheet Metals custom vent pole clamp			Timber or vent pole, alternatively stainless steel pole/aluminium poles accepted to match the structure. Materials throughout shall be matched to prevent galvanic corrosion.	
Antennae	RFI (wireless) Industries YBSS6-61 (6 element Yagi)			Stainless steel, 450-480MHz	
Antennae	RFI (wireless) Industries SMD4-67-P (single folded dipole)			Stainless steel, 450-480MHz	For sites in very close proximity to repeater bases only - Unitywater will advise
Antennae	RFI (wireless) Industries Yagi YBSS9-61			Stainless steel, 450-480MHz	May be used on a case-by-case basis based on radio survey results.
Communication Racks	Dell				
Fobots	AFS DIN Rail Mounted			24 port minimum for sewage treatment plants.	
HMI's					Refer to Unitywater Preferred Control System Equipment List for details of Network HMI.
Modems					Refer to Preferred Control System List.
Networking - Managed Switch					Refer to Preferred Control System List.
Networking - Unmanaged Switch				Unmanaged switches not allowed in sewage treatment plants.	Refer to Preferred Control System List and Control Systems Specification.
Process Control SCADA Systems					Refer to Preferred Control System List.
Programmable Logic Controllers					Refer to Preferred Control System List.
Protocol Convertors					Refer to Preferred Control System List.
Radios					Refer to Preferred Control System List.
Rectifier 24V	Eaton APR24-3G Access	Eaton		Rack mount system model is APS3-333-8309.	Refer to Preferred Control System List.
Remote Telemetry Units (RTUs)					Refer to Preferred Control System List.
RTUs - 3G/4G Small Sites					Refer to Preferred Control System List.
Current Transformers					
Current Transducers/Transmitters/Clip on CTs	Sentry SC 200-1 (up to 50A only)				
Current Transducers/Transmitters/Clip on CTs	Phoenix - PACT RCP-4000A-1A-D95 - 2904921, PACT RCP-4000A-1A-D140 - 2904922, PACT RCP-4000A-1A-D190 - 2904923	Phoenix Contact			
Current Transformers	Crompton 781-943 Series				
Current Transformers	IME TAI BB XX/5A				5A secondary winding
Current Transformers	Phoenix	Phoenix Contact			5A secondary winding

Displays/Meters					
Analogue Digital Displays	Red Lion	IPD Group			
Analogue Digital Displays	Omron				
Analogue Digital Displays	PR Electronics 5700 Series	PR Electronics			
Power Meters	Electrex Zepto PFA8611-18	Akse s.r.l (Electrex Italy)		24V DC Aux	
Power Meters	Schneider Power Logic Meters	Schneider Electric	Schneider Electric		
Power Meters	Siemens Sentron PAC3200	Siemens			
Power Meters	Nemo 96HD	NHP Electrical			
Enclosure Accessories and Building Accessories					
Air Conditioning Unit					Reserved for future use
Cubicle Fans	Cosmotec	NHP Electrical			
Cubicle Fans	Rittal Top Therm	APS - Rittal			
DIN Rails				No preferred supplier, TS35 aluminium or stainless steel only.	Refer to specifications Pr9835 and Pr9380.
Door Switches - buildings					See Facilities team
Door Switches - switchboards	Camsco				
Door Switches - switchboards	Telemechanique XCKP	Schneider Electric	Telemechanique	1 NO/1 NC Contact	
Extraction Fans - Buildings					Reserved for future use
Thermostats	Rittal				
Thermostats	Cosmotec				
Fuses and Accessories					
Fuse Cartridges				HRC Type as per Pr9835 and Pr9380	Nil preference.
Fuse Holders				HRC Type as per Pr9835 and Pr9380	Nil preference.
Fuses					Nil preference.
Fuse Terminals					See "Terminals"
Generators and Accessories					
Generator Controllers and Synchronisation Controllers	Deep Sea			Generally 86xx series	See Pr9913 for full details - others accepted based on site protection requirements
Generator Inlets	Proconnect 63A < 25 kW	NHP Electrical			
Generator Inlets	Proconnect 125A, 25 to 60 kW	NHP Electrical			
Generator Inlets	Powersafe Sequential Mating Box >60 kW	Powersafe			
Generators	FG Wilson				Must comply with Pr9913 Accoustic Enclosed Generators.
Generators	Cummins				Must comply with Pr9913 Accoustic Enclosed Generators.
Hazardous Area Equipment					
Intrinsically Safe Equipment (Hazardous Area Rated Equipment)				Must meet eX rating as per the design.	

Instrumentation					
Analysers					
STP and Sewer applications - may include one or more of the following measuring probes					
Analysers - Chlorine	Chlorine (Free) : Memosens CCS51E Chlorine (Total) : Memosens CC53E	Endress & Hauser (E&H)			Mounting, filtration and flow assemblies application dependent
Analysers - Conductivity	Conductivity : Indumax CLS50D / Memosens CLS21E	Endress & Hauser (E&H)			Mounting, filtration and flow assemblies application dependent
Analysers - Nutrient	Ammonium : Liquiline CA80AM	Endress & Hauser (E&H)			Mounting, filtration and flow assemblies application dependent
Analysers - Nutrient	Orphosphate : Liquiline CA80PH	Endress & Hauser (E&H)			
Analysers - Nutrient	Nitrate : Viomax CAS51D	Endress & Hauser (E&H)			
Analysers - Nutrient	Hachs sensors to suit SC200, SC1000 controller				
Analysers - Nutrient	Siemens	Siemens			
Analysers - pH	pH : Orbisint CPS11E / Memosens CPF81E Turbidity : Turbimax CUS52D	Endress & Hauser (E&H)			Mounting, filtration and flow assemblies application dependent
Analysers - pH, Turbidity, Chlorine, Conductivity, Nutrient	Evoqua Depolox 5	Siemens/APS			
Analysers - pH, Turbidity, Chlorine, Conductivity, Nutrient	Hach Peristaltic Sampler				
Analysers - Turbidity / Suspended Solids	Turbidity : Turbimax CUS52D	Endress & Hauser (E&H)			Mounting, filtration and flow assemblies application dependent
Dissolved Oxygen (DO)	Endress & Hauser (E&H) - Oxymax COS16D Series/CM44x series	Endress & Hauser (E&H)			DO: COS61D-AAA1A4 CYA112-AA21D2BA CYH112-AB20B30D1 CM442-AAM1A2F010A+AAHH Mounting, filtration and flow assemblies application dependent
Dissolved Oxygen (DO)	Hach LD02 SC	Hach			
Drinking Water					
pH, Free Chlorine, Total Chlorine - Control	Evoqua depolox 5	Siemens/APS		pH, Free Chlorine, Total Chlorine	For use in Chlorine for both Pre-dosing control and post dosing control
Drinking Water - Monitoring Only	Clamnet			Used to measure Free Chlorine, Conductivity, pH, ORP, Combined Chlorine, Total Chlorine, Pressure	Project specific requirements will determine which probes to use
Flow Instruments					
Flowmeter - Air	ABB	FMT200, FMT400			Others may be considered based on application
Flowmeter - Gas	ABB	FMT200, FMT400			Others may be considered based on application
Flowmeter - Ultrasonic				Unitywater Infrastructure Standards and Assurance Team approval Required	Not preferred - only to be used as alternative when Mag flow won't fit
Flowmeter - Variable Area - Rotameter					Suitable process connection fittings and read switches required
Flowmeters - Magnetic	ABB Watermaster	ABB Ltd		24V DC Supply Forward and reverse pulses	Water and sewer applications ODN not allowed
Flowmeters - Magnetic	ABB Aquamaster	ABB Ltd		designed for battery operation where mains supply unavailable - Unitywater approval required before use	Water and sewer applications ODN not allowed
Flowmeters - Magnetic	Endress and Hauser (E&H) Promag W400	Endress & Hauser (E&H)		24V DC Supply plus heartbeat	Water and sewer applications ODN not allowed
Mass Flowmeter	Burkert	DFM165-350			Others may be considered based on application
Mass Flowmeter	FCI	ST51A (m/s)			Others may be considered based on application
Mass Flowmeter	ABB	FMT200, FMT400			Others may be considered based on application

Level Instruments					
Level Probes - Capacitive					
Level Probes - Hydrostatic	Vegawell 52 (WL52.XXA4AMD1DD1X)	Grieshaber Gmbh & Co.		Prefer to use non-contact for SPS application	
Level Transmitter - Laser	ABB LLT100 laser level	ABB Ltd		Prefer to use non-contact for SPS application	Others may be accepted. Discuss with Infrastructure Standards and Assurance Team prior to acceptance
Level Transmitters – Ultrasonic	Endress & Hauser (E&H) Prosonic FDU90 with FMU90 Transmitter	Endress & Hauser (E&H)		Prefer to use non-contact for SPS application	
Level Transmitters – Ultrasonic	Endress & Hauser (E&H) Prosonic FDU92 with FMU90 Transmitter	Endress & Hauser (E&H)		Prefer to use non-contact for SPS application	
Level Transmitters – Radar	VegaPuls 61	Grieshaber Gmbh & Co.		Prefer to use non-contact for SPS application	
Level Transmitters – Radar	Endress & Hauser (E&H) Radar Level meter FMR60B	Endress & Hauser (E&H)		Prefer to use non-contact for SPS application	For use with Liquids
Level Transmitters – Radar	Endress & Hauser (E&H) Radar Level meter FMR66B	Endress & Hauser (E&H)			For use with Solids
Pressure Instruments					
Pressure Transmitter	Vega	Grieshaber Gmbh & Co.		May require S/S Block and Bleed isolating valve manifold when used on sewage (to prevent blockages).	
Pressure Transmitter	Rosemount/Emerson			May require S/S Block and Bleed isolating valve manifold when used on sewage (to prevent blockages).	
Pressure Transmitter	ABB	ABB Ltd		May require S/S Block and Bleed isolating valve manifold when used on sewage (to prevent blockages).	
Pressure Transmitter - Hydrostatic	Endress & Hauser (E&H) Cerebar PMP51B	Endress & Hauser (E&H)		May require S/S Block and Bleed isolating valve manifold when used on sewage (to prevent blockages).	
Pressure Transmitter - Hydrostatic	Endress & Hauser (E&H) Cerebar PM71B	Endress & Hauser (E&H)		May require S/S Block and Bleed isolating valve manifold when used on sewage (to prevent blockages).	
Pressure Transmitter - Hydrostatic	Endress & Hauser (E&H) Waterpilot FMX21	Endress & Hauser (E&H)		Must be supplied with S/S Block and Bleed valve manifold when used on sewage (to prevent blockages).	
Pressure Transmitters – Differential Pressure	Vega	Grieshaber Gmbh & Co.		Must be supplied with S/S Block and Bleed valve manifold when used on sewage (to prevent blockages).	May also be used for level
Pressure Transmitters – Differential Pressure	Endress & Hauser (E&H) PMD55B	Endress & Hauser (E&H)		Must be supplied with S/S Block and Bleed valve manifold when used on sewage (to prevent blockages).	May also be used for level
Pressure Transmitters – Differential Pressure	Endress & Hauser (E&H) PMD75B	Endress & Hauser (E&H)		Must be supplied with S/S Block and Bleed valve manifold when used on sewage (to prevent blockages).	May also be used for level
Pressure Transmitters – Differential Pressure	Rosemount/Emerson			Must be supplied with S/S Block and Bleed valve manifold when used on sewage (to prevent blockages).	May also be used for level
Pressure Transmitters – Differential Pressure	ABB	ABB Ltd		Must be supplied with S/S Block and Bleed valve manifold when used on sewage (to prevent blockages).	May also be used for level
Sensor Mounting					
Sensor Mounting	Flowfit Series	Endress & Hauser (E&H)			For E&H Instruments. Mounting, filtration and flow assemblies application dependent
Sensor Mounting	Cleanfit Series	Endress & Hauser (E&H)			For E&H Instruments. Mounting, filtration and flow assemblies application dependent

Switches					
Float Switches (must activate within 50 mm of contact)	Flygt ENM 10 Float with suitable cable length	Xylem			
Float Switches (must activate within 50 mm of contact)	IFM Efector LMC100				
Flow Switches - Diesel Fuel Line	Kelco				
Flow Switches - Process	IFM Efector SI5000			No paddle types	
Flow Switches - Process	Flowphant DTT31	Endress & Hauser (E&H)		No paddle types	
Level Switch	Endress & Hauser (E&H) Liquiphant FTL31	Endress & Hauser (E&H)			
Level Switch	IFM Efector LMC100				
Level Switches - Network sites	Flygt ENM 10 Ball Float	Xylem			
Level Switches - Network sites	Kelco Heavy Duty Float Switch				
Limit Switches	Schneider	Schneider Electric	Schneider Electric		
Limit Switches	Endress & Hauser (E&H) - Liquiphant FTL31	Endress & Hauser (E&H)			For use with Liquids
Limit Switches	Endress & Hauser (E&H) - Soliphant FTM20 (solids)	Endress & Hauser (E&H)			For use with Solids
Limit Switches	Carlo Gavazzi	NHP Electrical			
Pressure Switches	SquareD Industrial Class 9012G				
Pressure Switches	Endress & Hauser (E&H) - Ceraphant PTC31B (Ceramic)	Endress & Hauser (E&H)			
Pressure Switches	IFM Efector PK6524				
Proximity Switches	IFM Efector IGS324				
Proximity Switches	NHP – Sprecher & Schuh D7P Series	NHP Electrical	Sprecher & Schuh		
Proximity Switches	Schneider	Schneider Electric	Schneider Electric		
Proximity Switches	Siemens SIRIUS	Siemens			
Proximity Switches	Turck				
Proximity Switches	Pepperl and Fuchs				
Level Control - Network Sites Only					
Level Control Relays - Emergency Pump Starter	Multitrode Safe-TL	Xylem		For SPS wells - end or life - see UW standards team for replacement	Not allowed in sewage treatment plants.
Level Control Relays - Overflow	Multitrode Safe-FS	Xylem		For SPS wells - end or life - see UW standards team for replacement	Not allowed in sewage treatment plants.
Level Probes - Single Element Overflow	Multitrode 0.2/1-10	Xylem		For SPS wells - end or life - see UW standards team for replacement	Not allowed in sewage treatment plants.
Level Probes - Three Element Emergency Pump Starter	Multitrode 0.5/3-10	Xylem		For SPS wells - end or life - see UW standards team for replacement	Not allowed in sewage treatment plants.
Level Probes	Multitrode 1.5/10-10	Xylem		For SPS wells - end or life - see UW standards team for replacement	Not allowed in sewage treatment plants.
Temperature Instruments					
Temperature Sensors	TT Series	IFM			
Temperature Sensors Evaluating Unit	TP Series	IFM			
Transmitters/Controllers					
Transmitters/Controllers	CM44x Series	Endress & Hauser (E&H)		Preferred for E&H Instruments - however may be dependent upon the actual instrument selected.	For E&H Instruments
Transmitters/Controllers	Hach - SC200, SC1000	Hach		Preferred for Hach Instruments - however may be dependent upon the actual instrument selected.	For Hach Instruments
Weight					
Load Cells	AusWeigh AWSB Shear Beam Load Cell				
Load Cells	Flintec SLB				
Load Cells	Nuweigh JAC Shear Beam	Newcastle Weighing Services Pty Ltd (NWS)			
Vibration Instruments					
Vibration Sensors	VTV Series	IFM			

LCS					
Disconnect Box - Network Site				ISOLATOR (3POLE + 1N/O, 1N/C AUX) ONLY 1P LOCAL-OFF-REMOTE CTRL SW.	
Isolators Local Motors & Drives	Schneider	Schneider Electric	Schneider Electric		
Isolators Local Motors & Drives	Terasaki - Tembreak Pro				
Isolators Local Motors & Drives	Sprecher and Schuh	Rockwell Automation, Inc	Sprecher & Schuh		
LCS - Field Isolator / Stop / Start Stations - Forward	Kraus & Naimer KG#.T223	Kraus & Naimer		Typical Option 1 - Forward Only ISOLATOR (3POLE + 1N/O, 1N/C AUX) PUSH BUTTONS: START, STOP, E-STOP (LATCH STOP) 1P LOCAL-OFF-REMOTE CTRL SW.	
LCS - Field Isolator / Stop / Start Stations - Forward/Reverse	Kraus & Naimer KG#.T223	Kraus & Naimer		Typical Option 2 - Forward/Reverse ISOLATOR (3POLE + 1N/O, 1N/C AUX) PUSH BUTTONS: START, INCH REV, STOP, E- STOP (Latch Stop) 1P LOCAL-OFF-REMOTE CTRL SW.	
LCS					Other brands may be accepted with approval from Unitywater IS Team. The functionality must be as per Pr9835 and Pr9380.
Lighting					
Poles - Lighting					See electrical specs for performance requirements.
Photoelectric Cells	Clipsal 56 SSR – 3 wire only				
Emergency & Exit Lighting	Stanilite SPU's or infinity RF	NHP Electrical		LED only	
Building Lighting				LED only	See electrical specs for performance requirements.
Switchboard lighting				LED only	See electrical specs for performance requirements.
External Floodlights				LED and corrosion resistant	See electrical specs for performance requirements.
External lighting - General				LED and corrosion resistant	See electrical specs for performance requirements.
Locks and handles					
Locks	Unitywater defined locksmith			Refer to Pr9380 for Network requirements or Pr9835 for STP requirements.	See Facilities for final lock allocation
Handles				8mm square lock for escutcheons and doors for internal switchboard	Refer to Pr9380 for Network requirements or Pr9835 for STP requirements.
Handles					Others as defined by Unitywater
Loggers					
Loggers - Data	i2O Water ALGA3250, ALGA1150				
Loggers - Odour	Draeger				
Loggers - Odour	OdaLog	App Tech International Pty Ltd			
Logger - H2S	Acrulog IPX PPM			pumped electrochemical cell type	
Logger - H2S	Acrulog IPX PPB			pumped electrochemical cell type	
Mixers					
Mixers - Water Reservoir	PAX Water PWM400-V2.0	PAX Water Technologies		Submersible mixer	
Mixers - Water Reservoir	WEARS - Resmix Vital	WEARS Australia		Mixer and Motor / Gearbox Set.	The manufacturer's control box shall not be utilised. Instead, an alternative control box shall be manufactured to meet UW requirements.
Motors, Starters and Associated Accessories					
Contactors					
Contactors	Sprecher & Schuh CA7	NHP Electrical	Sprecher & Schuh	24V DC Coil	
Contactors	Schneider TeSys	Schneider Electric	Schneider Electric	24V DC Coil	
Contactors	Siemens 3RT	APS - Siemens		24V DC Coil	
Thermal Overloads	Sprecher & Schuh CEP71EFDB	NHP Electrical	Sprecher & Schuh		
Thermal Overloads	Schneider - Deca	Schneider Electric	Schneider Electric		Formally LRD
Thermal Overloads	Siemens - 3RU	APS - Siemens			
Motors					
Motors	WEG			4 pole preferred	For performance requirement refer to Pr9835 and Pr9380.
Motors	Teco			4 pole preferred	For performance requirement refer to Pr9835 and Pr9380.
Motor Protection Relays					
Motor Protection Relays	Schneider TeSys T LTM R27EBD	Schneider Electric	Schneider Electric	Dual ethernet port TCP/IP model.	
Motor Protection Relays	Siemens Simocode 3UF7100, 3UF7101, 3UF7110, 3UF7110	APS - Siemens		Dual ethernet port TCP/IP model.	
Seal Fail Relays	Emotron M20	Emotron			
Seal Fail Relays	Mini CAS	Xylem			Network

Variable Frequency Drives					
Variable Frequency Drives	Schneider ATV600 series	Schneider Electric	Schneider Electric	Ethernet and MODBUS interface required.	with HMI/remote keypad where required
Variable Frequency Drives	Danfoss VLT Aqua FC202			Ethernet and MODBUS interface required.	with HMI/remote keypad where required
Phase Failure Relays					
Phase Failure Relays	Carlo Gavazzi DPB02-C-M48	NHP Electrical			
Phase Failure Relays	Rhomberg SP430-DP	Rhomberg Electronics			
Phase Failure Relays	Siemens - 3UG5	APS - Siemens			
Power Supplies, Uninterruptible Power Supplies (UPS) and Batteries					
Batteries				Maintenance Free, Lead Acid	Typically for use at Network sites to maintain ELV power during power outages and for control system. Typically 12Ah or 28Ah - Design to confirm size required
Batteries - Generator application				AGM type only Must have CCA as per engine requirements	
Batteries - Telemetry/Repeater site	Fullriver DC-210-12				
Batteries - Telemetry/Repeater site	Sun Xtender PVX-2120				
Batteries - Telemetry/Repeater site	FIAMM FIT range				Slimline Battery
Batteries - Telemetry/Repeater site	Power-Sonic PGFT Series				Slimline Battery
Batteries Charger- Generator application	CTEK M200 12V 15A, M300 12V 25A, XT14000 24V 14A				
Batteries Charger- Generator application	Victron Blue Smart Charger				
Batteries Charger- Generator application	Projecta PC2100 12V 21A, PC1600 12V 16A				
Batteries Chargers - Telemetry/Repeater site					See "Uninterruptible Power Supplies UPS - Rack Mounted"
Battery Plugs & Receptacles	Molex Mini-Fit Series 428180212 Plug	Koch Industries			
Battery Plugs & Receptacles	Molex Mini-Fit Series 428160212 Receptacle	Koch Industries			
DC Converters	Meanwell DDR-120 series	Meanwell		24VDC to 12VDC (10A)	Only to be used when 12V DC is required - Generally not required and should not be used. Unitywater Acceptance required
DC Converters	Snaptech				Only to be used when 12V DC is required - Generally not required and should not be used. Unitywater Acceptance required
Power Supplies - 240V AC / 24V DC	Puls QS10.241-C1, QS5.241, QS20.241	IPD Group		Preferably with Modbus, SNMP or Profinet comms where available.	
Power Supplies - 240V AC / 24V DC	Siemens SITOP PSU8600 and PSU6200 series	Siemens		Preferably with Modbus, SNMP or Profinet comms where available.	
Power Supplies - 240V AC / 24V DC	Weidmuller PROTOP1 series	Weidmüller Interface GmbH & Co.		Preferably with Modbus, SNMP or Profinet comms where available.	
Power Supplies - Uninterruptable - UPS 12/24V DC	Phoenix QUINT-4 series	Phoenix Contact		Preferably with Modbus, SNMP or Profinet comms where available.	
Power Supplies - Uninterruptable - UPS 12/24V DC	Puls UBx.245	IPD Group		For Network sites only.	Only to be used when 12V DC is required - Generally not required and should not be used. Unitywater Acceptance required
Power Supplies - Uninterruptable - UPS 24V DC	Puls UBx.241	IPD Group		For Network sites only.	
Uninterruptible Power Supplies UPS - Rack Mounted	Eaton Powerware			Must have network interface card with SNMP capability for monitoring purposes.	Accepted at both STP and network sites.
Relays					
Emergency Stop Safety Monitoring Relays					
Programmable Logic Controller Output Relays				<ul style="list-style-type: none"> •Finder 34 Series – Slim EM/SSR •SE Harmony RXM – Miniature EM •SE Harmony RSL – Slim EM •SE Harmony SSM – Slim SSR 	Refer to Preferred Control System List.
Relay - Solid State					for Flowmeter pulse into RTU
Relays	Finder 55 Series	NHP Electrical		Must be with DIN rail mounting base and retaining clip – 4 contact minimum	<ul style="list-style-type: none"> •Finder 34 Series – Slim EM/SSR •SE Harmony RXM – Miniature EM •SE Harmony RSL – Slim EM •SE Harmony SSM – Slim SSR
Relays	Telemecanique			4 contact minimum	
Relays - Safety	440R-S13R2				
Relays - Safety		NHP Electrical			
Thermistor Protection Relays	Schneider Electric	Schneider Electric	Schneider Electric	VFD connections preferred.	
Timers	Schneider Zelio	Schneider Electric	Schneider Electric		To be avoided. Unitywater preference is to use PLC/SCADA/RTU for this function.
Timers	Carlo Gavazzi	NHP Electrical			To be avoided. Unitywater preference is to use PLC/SCADA/RTU for this function.

Signal Converters					
Signal Isolators and Converters	APCS SL332				
Signal Isolators and Converters	Weidmuller eLine API (aka Burkert)	Weidmüller Interface GmbH & Co.			
Signal Isolators and Converters	Red Lion IAMA and AIMI series				
Signal Isolators and Converters	4100 Series	PR Electronics			
Transducers	Crompton				
Transducers	NHP	NHP Electrical			
Slip Rings					
Slip Rings	Conductix VLR	Conductix		Enclosed assembly	
Socket Outlet					
Power Outlets - 1 Phase External	Clipsal 56 series				
Power Outlets - 1 Phase External	NHP ISO	NHP Electrical			
Power Outlets - 1 Phase Internal	Clipsal classic or 2000 series or similar			Red for UPS backed GPOs.	
Power Outlets - 3 Phase	Clipsal 56 series			Must be suitable for installation outside.	
Power Outlets - 3 Phase	NHP ISO	NHP Electrical		Must be suitable for installation outside.	
Surge					
Surge Diverters	Erico DSD series	Erico			
Surge Diverters	Transtech TLP Series				
Surge Diverters	Novaris NSP3-50-275	IPD Group			
Surge Diverters	Phoenix PLT-SEC-T3 series, TTC-6P series, VAL-MS series	Phoenix Contact			
Surge Diverters	MTL				
Surge Diverters	Weidmuller VPU or VSS series	Weidmüller Interface GmbH & Co.			
Surge Reduction Filters	Transtech TLP Series				
Surge Reduction Filters	Novaris SFD	IPD Group			
Surge Reduction Filters	Erico TSG Series				
Surge Reduction Filters	Erico N Series				
Surge Reduction Filters	Phoenix PLT-SEC-T3 series, TTC-6P series, VAL-MS series	Phoenix Contact			
Surge Reduction Filters	Weidmuller VPU or VSS series	Weidmüller Interface GmbH & Co.			
Transient Barriers	Erico Critec UTB			For use in disconnection cubicles	
Transient Barriers	Novaris SL36-G	IPD Group			
Transient Barriers	Novaris SL36-EC90	IPD Group		For use in disconnection cubicles	
Terminations					
Cable Lugs				No preferred supplier	Correctly sized hole and lug.
Earth Terminals					See also 'Terminals'.
Fuse Terminals - ELV and/or control	Phoenix PT series	Phoenix Contact		Push in terminal allowed up to 6mm ²	
Fuse Terminals - ELV and/or control	Phoenix UT series	Phoenix Contact			
Fuse Terminals - ELV and/or control	Weidmuller A series	APS - Weidmuller		Push in terminal allowed up to 6mm ²	
Fuse Terminals - ELV and/or control	Weidmuller W series	APS - Weidmuller			
Terminals - ELV and/or control	Phoenix PT series	Phoenix Contact		Push in terminal allowed up to 6mm ²	
Terminals - ELV and/or control	Phoenix UT series	Phoenix Contact			
Terminals - ELV and/or control	Weidmuller A series	APS - Weidmuller		Push in terminal allowed up to 6mm ²	
Terminals - ELV and/or control	Weidmuller W series	APS - Weidmuller			
Terminals - LV power	Phoenix UT series	Phoenix Contact			
Terminals - LV power	Weidmuller W series	APS - Weidmuller		Screwed terminal	
Terminals - LV power <6mm ²	Phoenix PT series	Phoenix Contact		Push in terminal allowed up to 6mm ²	
Terminals - LV power <6mm ²	Weidmuller A series	APS - Weidmuller		Push in terminal allowed up to 6mm ²	
Transfer Switch					
Transfer Switches - Automatic	Schneider	Schneider Electric	Schneider Electric		
Transfer Switches - Automatic	Socomec ATyS	NHP Electrical			
Transfer Switches - Automatic	Siemens - 3KC	Siemens - 3KC			
Transfer Switches - Manual	Socomec SCO Manual Transfer	NHP Socomec			
Transfer Switches - Manual	Siemens - 3KC	APS - Siemens			

Valve Actuators					
Valves - Electrical Actuator	Auma		Auma		Accepted only for storage tank outlets and only if specified by the designer.
Valves - Electrical Actuator	George Fisher			EA15 24VDC, actuator with ball valve	Accepted only if specified by the designer to meet unique requirements.
Valves - Electrical Actuator	Limitorque/Acrodyne		Limitorque MX and QX Series		Accepted only if specified by the designer to meet unique requirements.
Valves - Electrical Actuator	Bettis SCE300	Emerson	Emerson		Accepted only if specified by the designer to meet unique requirements.
Valves - Electrical Actuator	Keystone F777	Keystone Flow Control	Pentair plc		Accepted only if specified by the designer to meet unique requirements.
Valves - Electrical Actuator	AVS	Prominent			Other options will be considered for single phase powered or DC ELV valves. Refer also to "Preferred STP Equipment List"
Valves - Electrical Actuator	Ventim	Prominent			Other options will be considered for single phase powered or DC ELV valves. Refer also to "Preferred STP Equipment List"
Valves - Electrical Actuator	Burkert	Prominent			Other options will be considered for single phase powered or DC ELV valves. Refer also to "Preferred STP Equipment List"
Valves - Electrical Actuator	Spirac		Spirac		Other options will be considered for single phase powered or DC ELV valves. Refer also to "Preferred STP Equipment List"
Valves - Electrical Actuator	Rotork IQ		Rotork		Other options will be considered for single phase powered or DC ELV valves. Refer also to "Preferred STP Equipment List"
Solenoid Valves	Process Systems B25-2-2-8VM 24V DC				
Solenoid Valves	Burkert type 0331				