



Preferred Equipment Manufacturers list

R10E Technical specification

August 2013

Purpose

The purpose of this design specification is to provide a checklist to allow specific sites and plant areas to nominate the acceptable and preferred makes and models of equipment.

Reference documents

The principal codes and specifications applicable to this work shall include, but not be limited to, the current editions of relevant codes, specifications and publications, and they shall form part of the requirements of this engineering specification.

Statutory requirements

The equipment and installation shall comply in all respects with the requirements of the appropriate Federal, State and Territory Acts, Regulations and Codes.

Specification: selection of equipment

The selection of equipment shall be made with consideration to limiting the number of different makes and types of equipment in each major plant area.

Component parts shall be interchangeable where possible.

Maximum of three makes for common equipment (e.g. pressure, level) and one make for less common equipment (e.g. analytical) is preferred.

Preferred makes and types are listed in the following tables:



Table 1
General area information

Function	Application	Requirements
Services	Instrument Air Pressure	
Services	Filtered Water Pressure	
Services	Raw Water Pressure	
Services	Electrical Supply – High Voltage Supply	22kV (site dependent)
Services	Electrical Supply – Low Voltage Supply	230/400V +10%, -6%, 3 phase, 4 wire
Services	Electrical Supply – Frequency	50Hz ± 2%
Documentation	Typical Loop Drawing	
Documentation	Typical Motor Schematic Diagram	
Documentation	Typical Motor Wiring Diagram	
Installation	Conduit Material	PVC / stainless steel / medium duty galvanised water pipe
	Junction Box Material	Stainless steel
Environmental	Noise Limitations	
	Hazardous Areas	
	Dangerous Materials in Area	

Table 2

Preferred Pipe Material Schedule - Water

Pipe material description	Application	Preferred make	Series / model	Comments
Ductile iron cement lined	Water	Pentair, Saint Gobain PAM (Vinidex), Von Roll (Promain), XinXing (Crevet)		
Mild steel cement lined	Water >300 only	Pentair		
Copper pipe	Water – Service pipes only			
Polyethylene (HDPE)	Water	George Fisher, Iplex, Pentair, Vinidex, PPI Corporation.		
PVC modified (M-PVC)	Water	Iplex, Pentair, Vinidex, Pipemakers, Micron Pipelines.		
Oriented Polyvinyl Chloride (O-PVC)	Water	Iplex, Pentair, Vinidex, Micron Pipelines.		
Reinforced concrete	Water			
Relined with polyethylene	Water	Infratec		

Table 3

Preferred Pipe Material Schedule - Sewer

Pipe material description	Application	Preferred make	Series / model	Comments
Reinforced concrete	Sewer			
Relined with Cured In Place Pipe (CIPP)	Sewer	Interflow, Kembla, Veolia		
Relined With Ribloc Unplasticised Polyvinyl Chloride	Sewer	Expanda		
Relined with Polyethylene		George Fisher, Iplex, Pentair, Vinidex, PPI Corporation		
Ductile Iron Cement Lined	Sewer	Pentair, Saint Gobain PAM (Vinidex), Von Roll (Promain), XinXing (Crevet)		
Glass Reinforced Plastic	Sewer	Boru Sanayi A.S.(Promains), Hobas (Global Pipe)		
Polyethylene (HDPE)	Sewer	George Fisher, Iplex, Pentair, Vinidex, PPI Corporation		
PVC Modified (M-PVC)	Sewer	Iplex, Pentair, Vinidex, Pipemakers, Micron Pipelines		
PVC-Unplasticised (PVC-U)	Sewer Gravity only	Vinidex, Von Roll (Promain), Iplex,		
Oriented Polyvinyl Chloride (O-PVC)	Sewer	Iplex, Pentair, Vinidex, Micron Pipelines, Pentair		
Mild Steel Cement Lined	Sewer	Pentair		

Table 4

Preferred Electrical Equipment

Function	Application	Preferred make	Series / model	Comments
Cabling	Control	Olex		
Cabling	Low Voltage	Olex, Prysmian (Pirelli)	PVC/PVC, XLPE/PVC; Copper	
Cabling	Instrumentation	Olex	Dekoron, Instrolex	
Cabling	Variable Speed Drives	Olex	Varolex	
Cabling	High Voltage	Olex	XLPE, Copper	
Cabling	Submersible Pump Motor Cable	Pump Vender Supply		
Circuit Breakers	Moulded Case Circuit Breakers	Terasaki, Clipsal, Schneider		
Circuit Breakers	Air Circuit Breakers	Nilsen, Terasaki, ABB, Schneider		
Automatic Transfer Switch	Main to generator Changeover	Terasaki	BS Range	Site specific sizing required
Automatic Transfer Switch Control	ATS Controller	Terasaki	TL10I + Interface Panel	
Installation	Cable Ladder	Unistrut		
Installation	Conduit	Unistrut		
Installation	Flexible Conduit	Unistrut		
Lighting	Intrinsically safe			Used in potentially explosive environments
Lighting	High Intensity Discharge	Versalux, Moon Lighting, Thorn, Eye lighting		
Lighting	Fluorescent	Pierlite, Thorn, Eye lighting		
Lighting	Emergency	Pierlite, CleverTronics, Mini Tronics, Famco		
Lighting	Exit	Pierlite, CleverTronics, Mini Tronics, Famco		
Miscellaneous	Operator Push Buttons	Schneider, Sprecher & Schuh, Siemens, Telemecanique, Allen Bradley		
Miscellaneous	Indicator Lamps	Schneider, Specher & Schuh, Siemens		
Miscellaneous	Wire Ferrules	Grafoplast		

Function	Application	Preferred make	Series / model	Comments
Miscellaneous	Cable Ferrules	Critchley,		
Miscellaneous	Terminals	Weidmuller/Klippon		
Miscellaneous	Junction Boxes	Rittal, Clipsal, NHP		
Miscellaneous	Labels			As per technical specifications
Cathodic Protection	Cathodic Protection	Australian Corrosion Consultants, CorrCon Pty Ltd		
Motors	Low Voltage	WEG, Siemens, Teco, ABB		High efficiency
Motors	High Voltage	Siemens, Teco, ABB, WEG		High efficiency
Variable Speed Drives	Motor Speed Control	NHP Santerno, Vacon, Allen Bradley, ABB, MJK Automation MagFlux. Krohne.	Complete with Devicenet interface	Confirm site specific manufacture requirements. For example: Vacon
Power Factor Correction	Capacitors – L.V.	CapTech		
Power Factor Correction	Capacitors – H.V.	CapTech		
Power Factor Correction	Controller	CapTech		
Socket Outlets	Lighting Outlets	Clipsal	IP56 Series	
Socket Outlets	Welding Outlets	Clipsal	IP56 Series	
Socket Outlets	General Purpose Outlets	Clipsal	IP56 Series	
Switch Board Equipment	Fuse/ Switch Units	Schneider, Siemens, Holec, MERLIN GERIN, Terasaki		
Switch Board Equipment	Motor Starter Fuses	CapTech		
Switch Board Equipment	Thermal Motor Protection – L.V.	Schneider, Siemens, Sprecher & Schuh		
Switch Board Equipment	Electronic Motor Protection – L.V.	Multilin		
Switch Board Equipment	Electronic Motor Protection – H.V.	Multilin		
Switch Board Equipment	Motor Starting Contactors	Schneider, Siemens, Sprecher & Schuh		
Switch Board Equipment	Current Transformers	Nilsen		
Switch Board Equipment	Feeder Protection Relay	GEC, Siemens, ABB, Multilin		
Switch Board Equipment	Earth Leakage Protection	Enttec		

Function	Application	Preferred make	Series / model	Comments
Switch Board Equipment	Power Meters	Crompton Allen-Bradley	Integra Powermonitor 3000	
Switch Board Equipment	Relays – 240 V a.c.	Sprecher & Schuh, Izumi, Schneider, Weidmuller		
Switch Board Equipment	Relays – 24 V d.c.	Sprecher & Schuh, Izumi, Schneider, Weidmuller		
Switch Board Equipment	Relays – 24 V a.c.	Sprecher & Schuh, Izumi, Schneider, Weidmuller		
Switchboards - LV	Motor Control Centres – LV	Nilsen,		
Switch Board Equipment	Voltmeters / Ammeter, Cabinet	Crompton, NHP, Watters		
Switchboards	Switchboard - HV	Siemens, Schnieder Electric, ABB		
Switchboards	Lighting and Power Distribution Boards	NHP, Watters (both are manufacturers of switchboards)		These are manufacturers only; a brand of switchboard does not exist.
Switchboards	Process Power Distribution Boards	NHP, Watters(both are manufacturers of switchboards)		These are manufacturers only; a brand of switchboard does not exist.
Switches	Limit	Schneider, Siemens, Kraus & Naimer		
Switches	Photoelectric	Schneider, Siemens, Kraus & Naimer		
Switches	Proximity	Schneider, Siemens, Kraus & Naimer		
Switches	Rotary	Schneider, Kraus & Naimer, Siemens, NHP		
Switches	Float	Matelec, Endress & Huaser		
Switches	Speed			
Transformers	Power	ABB, Wilson, TMC, Schneider		
Transformers	Control	ABB, Wilson, Schneider		
Soft Starters	Sewer Pump Station	Alti Start, Aucom, Danfoss, Din start, Allen Bradly		

Table 5

Preferred Instruments

Function	Application	Preferred make	Series / model	Comments
Analysers	Ammonia	Hach		
Analysers	Chlorine	Wallace & Tiernan, Hach		Depolox 3 Plus
Analysers	Conductivity	Hach, ABB, Gli International		
Analysers	Oxygen - Dissolved	Royce, Hach		
Analysers	pH & ORP	ABB, AIC , Burkert, Hach		
Analysers	Turbidity	ABB, Hach		
Analysers	Fluoride Monitor	Orion		
Automatic samplers		Isco		
Control Valve	Liquids	Tyco, Metso, Metaval, EBRO		
Actuated Valve	Liquids	Rotork & Auma		
Flowmeter	Magnetic	ABB , Endress and Hauser, Krohne, Tecfluid		
Flowmeter	Gas	Ross Brown Elster		
Flowmeter	Orifice Plate	ABB, Endress and Hauser, Wika		
Flowmeter	Turbine	ABB, Endress, Hauser		
Flowmeter	Vortex	ABB, Endress and Hauser		
Flow	Switch	Endress and Hauser, IFM Effector		
Flow	Rotameter	Kytola		
Level	Differential Pressure	Rosemount, ABB, Yokogawa, Vega, Endress and Hauser		
Level	Ultrasonic	Endress and Hauser, Vega, Siemens, Krohne		
Level	Switch	Endress and Hauser		
Level	Hydrostatic	VegaWell, Siemens, Danfoss, Burkert		
Level	Transmitter	Burkert, Miltronices Vega, Rosemount		
Pressure	Differential Transmitter	Rosemount, ABB, Yokogawa, Endress and Hauser		
Pressure	Gauges	Ashcroft, Budenberg, Wika		
Pressure	Repeater			
Pressure	Switch	Square D, United Electric		
Pressure	Transmitter	Rosemount, ABB , Yokogawa, Endress Hauser, Burkert		
Speed	Analogue Tachometer	Autotest Products Pty Ltd		

Function	Application	Preferred make	Series / model	Comments
Speed	Digital Tachometer	Autotest Products Pty Ltd		
Temperature	Indicator	Ashcroft, Wika		
Temperature	RTD Element	Moore Industries, Rosemount		
Temperature	Switch	Ashcroft, Danfoss, Magnetrol		
Temperature	Thermocouple Element	Moore Industries, Rosemount		
Temperature	Thermocouple Extension Cables	Moore Industries, Rosemount		
Temperature	Transmitter (field)	Rosemount, ABB, Moore Industries, Yokogawa, Invensys, Hach		
Temperature	Transmitter (rack)	Rosemount, ABB, Moore Industries, Yokogawa, Invensys, Hach		
Time	Counter / Totaliser	Ultrahawke		
Transducers	Current – Pneumatic	Moore Industries, Invensys, Rosemount		
Control Systems	PLC/PCS	Allen Bradley – Rockwell PLC,	Control Logix range	With HMI(viewing purposes=10 inch, control purposes = 15 inch screen)
Transducers	Pneumatic – Current	Moore Industries, Invensys, Rosemount		

Table 6

Preferred SCADA Equipment

Function	Application	Preferred Make	Series / model	Comments
Control Systems	SCADA HMI Software	CitectSCADA Version 7.2		
Control Systems	SCADA Server (Bendigo)	Virtual Server or Dell PowerEdge Running Windows Server 2008 R2 64 bit		Virtual for CMF, physical for BCC
Control Systems	SCADA Server (Satellite)	Server Grade Desktop Running Windows 7 SOE. RSLinx as required.		Installed Echuca, Epsom WWTP, Kyneton and Castlemaine
Control Systems	SCADA Workstation	Standard PC or Laptop running Windows 7 SOE. Citect Client or Web Client as required		PC for Office applications, laptop for field staff and operators.
Control Systems	Sinewave Inverter	Latronics	IRM	
Control Systems	UPS Module	Delta	MCR600	
Control Systems	SCADAPhone Modem	Maestro	M240 Jetstream	
Control Systems	VRLA, 48VDC 19" Rack Battery Backup	Yuasa		
Control Systems	Ethernet Serial Terminal Server	Moxa	NPort 5610	
Control Systems	Ethernet Switch	Moxa	EDS-408A	
Control Systems	Local HMI Control Screens	Allen Bradley	Panelview plus 1500	Colour touch screen
Telemetry	Outdoor Cabinet	B&R Enclosures, NHP	D808030	
Telemetry	Indoor Cabinet	B&R Enclosures, NHP		
Telemetry	19" Server Rack	Ausrack		Glass door
Telemetry	BA-12 RTU Backplane	Kingfisher	PS-11-0 Power Supply Module CP-21-II Processor Module MC-11-II Multi-Communications Module	

Function	Application	Preferred Make	Series / model	Comments
Telemetry	BA4 RTU Backplane	Kingfisher	PC-1-PS1 Processor Module AI-10-1 I/O Module DI-10-1 I/O Module IO-4-1 I/O Module	
Telemetry	Base Station Radio	Trio Datacom	EB450	
Telemetry	Data Link Radio	Trio Datacom	ER450	
Telemetry	Outstation Radio	Trio Datacom	MR450	
Telemetry	Band Pass Duplexer	Trio Datacom		
Telemetry	Stream Router	Trio Datacom	MSR9	
Telemetry	240VAC-48VDC Rectifier	Delta Electronics		
Telemetry	240VAC-12VDC Rectifier	Powerbox, Amtrax		
Telemetry	DC UPS Power Supply	Eaton	PB256	
Telemetry	240VAC-12VDC Charger	RFI		
Telemetry	VRLA, 12VDC Cabinet Battery Backup	Panasonic or Full River		
Telemetry	23-30Watt Enclosure Heater	Rittal, NHP		
Telemetry	15-50Watt Thermostat	Rittal, NHP		
Telemetry	Lightning Surge Protector	Polyphaser	IS-B50LN	
Telemetry	RF Cable	Andrew	LDF-450	
Telemetry	Directional Antenna	RFI	Yagi	
Telemetry	Omni-Directional Antenna	RFI	Col8	
Telemetry	Solar Panel	BP		
Telemetry	Solar Regulator	Plasmatronics		

Table 7

Preferred Mechanical Equipment

Function	Application	Preferred Make	Series / Model	Comments
Gas detectors	Gas detection	BW, Draeger, Wallace and Tiernan		
Generators	Backup power	Cummins, F.G Wilson		
Filter Shells	Filtration	GEBEL Aquasafe		
Cable Mechanism, Fall Arrest	Safety	Hi-Safe Industries		
Paddles, Impellers	Mixing, aeration	Fabline/Aquatec Max		
Heater, Cooler	Air conditioning	Daikin,		
Blower	Compressed air	PDA Blowers (AUST), Roots Dresser		
Concrete pits	Concrete structures	Rockla, Humes		
Gear Box	Gear drives	Hanson, SEW Eurodrive, Bonfiglioli		
Pontoons	Equipment flotation	Silverlock		
Trolley	Trolley	Roval		
Safety Shower	Safety Shower	Qsafe SPS		
Spill Kit	Water	Seton		
Tube Fittings	Metric nylon tube	Swagelock		
Tube Fittings	Metric stainless steel tube	Swagelock		
Tube Fittings	Metric tube fittings	Swagelock		
Weight	Counters	Ultrahawke, Wedderburn		
Weight	Scales and weighbridge	Ultrahawke, Wedderburn		
Pumps	Chemical dosing	Grundfos, Alldos Prominent Fluid Cont, Pulsafeeder, Wallace & Tiernan		
Pumps	Water and sewerage	ITT Flygt, Forrers, Gorman-Rupp, Mono-pumps, Thompson Kelly & Lewis , KSB AJAX, Orbit		
Pump	Compressor	Comp Air, Ingersoll-Rand, Roots Dresser, Atlas Copco, Champion		

Function	Application	Preferred Make	Series / Model	Comments
Air Receiver	Water	Air Vess, Down Engineering, EURO-TEC, Kaeser Kat Engineering, Martison Engineering Peerless Atco		
Valves	Air	AMIAD, CSA	D-052	
Valve	Butterfly	Challenger		
Valves	Diaphragm, Gate	Tyco Water , Metaval, Shearseal, Tubeline, SMC Pneumatics (AUST), Vinidex, Wallace & Tiernan, Challenger		
Valves	Check	AVK, EBRO Armaturen, Johnvalves, Keystone Tyco Flow Challenger		
Valves	Pressure Relief	Bermad, DOROT, M.E. Mack Valves Pty, Roma Caolrex		
Controller	Injector	AQ2 Limited , Prominent Fluid Cont		
Clarifier	Collection Troughs	Gebel Auquasafe	670 High	
Pump station	Munchers	JWC Environmental, Mono, ITT Flygt		
Aerators	Aeration	Aquatec-Maxcon	7888A-002	
Pipework	Water	Iplex Pipelines, Tyco Water , Vinidex		
Crane	Pump Station safety lifting davit	SALA Safety equipment		
UV Treatment	Disinfection	Trojan		
Gates, Actuators	Water	Fan Tech Pty Ltd, Keystone Tyco Flow, Rotork, Rubicon Systems		
Mixer, Feeder, Loader	Dosing	Bran & Luebbe, Landia, Prominent Fluid Cont, Sulzer, Tomal Feeder		
Rotor	Wastewater	OTV Kruger		
Anchor point	Root Access/Floor Restraint	Sayfa		
Safety Harness	Fall restraint.	Fallright international		
Personnel Davit	Safety equipment	Sala safety equipment		

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