WATER SEWERAGE PRODUCTS			
No.	**Products**	**Standard Number**	**Standard Title**
	Chemical for Water Treatment		
1	Imported Chemicals for Water Treatment: Chlorine Dioxide	BS EN 12671-2009	Chemical used for treatment of water intended for human consumption - Chlorine Dioxide generated in situ
	Conveyance of Water		
1	Coupling Ductile Iron (DI)	IACS Requirements concerning Pipes and Pressure Vessels P2 Rules for piping design, construction and testing	
2	Ferrous Saddle Ductile Iron (DI) material	JKR 20200-0184-04	JKR Standard Specification for Ferrous Saddle
3	Mechanical Joint Compression Fittings	SIRIM 11:2017	Specification for Thermoplastic Mechanical Fittings for pressure piping systems
4	Stainless Steel (SS) Press Fittings	SAS 322:2003	Pipe coupling performance standards for Stainless Steel pipes for general piping
5	Strainer Ductile Iron (DI) DN600 & above	Speifikasi JKR 20200-0100-01	JKR Specification for Ductile Iron Y and T Strainers
	Flow Controls		
1	Centrifugal Pump End Suction Multistage Self-Priming Split Casing Submersible	ISO 9906:2012	Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B, 1E, 1U and 2B
		ANSI/HI 14.6:2011	Rotodynamic pumps for hydraulic performance acceptance tests - Grades 1B, 1E, 1U and 2B
2	Constant Flow Controllers	ATS 5200.037.1-2006	Technical specification for plumbing and drainage products flow controllers. - For controlling flows in cold or heated water systems
3	Knife Gate Valve Ductile Iron (DI)	MSS SP-81-2013	Stainless-Steel or Stainless-Steel-Lined, bonnetless, knife gate valve with flanged ends
		MSS SP-81-2000	Stainless-Steel, bonnetless, flanged knife gate valve
4	Pilot Control Valve	AWWA C530-12	Pilot-operated control valves
5	Thermoplastic Stopvalves	BS EN 1213:2000 (Excluding Clause 6.2)	Thermoplastic Stopvalves for Potable Water Supply in Buildings
		SIRIM 9:2017	Thermoplastic Stopvalves for Potable Water Supply in Buildings
6	Water Hammer Arresters	Standard PDI-WH 201 (Revise 2010)	
7	Valves for Waterworks. Beyond the range of diameter specified in the standard Air Valve Butterfly Valve Check Valve Gate Valve	Directive 2014/68/EU	Pressure Equipment Directive
		BS EN 12266-1:2012	Industrial valves Testing of metallic valves. Pressure tests, test procedures and acceptance criteria.
		BS EN 12266-1:2003	Industrial valves Testing of valves Part 1: Pressure tests, test procedures and acceptance criteria
	Instrumentation and Control		
1	Motorised Actuator Electric operated Quarter-turn Multi-turn Battery operated Quarter-turn Multi-turn	BS EN 15714-2:2009	Industrial valves - Actuators Part 2: Electric actuators for industrial valves Basic requirements & IEC 60529 / EN 60529 Degrees of protection provided by enclosures (IP Code)
	Linning/Coating/Sealant/Adhesive/Solvent Cement		
1	Lining Coating Waterproofing Sealant Adhesive Solvent Cement	AS/NZS 4020:2005	Testing of products for use in contact with drinking water.
		BS 6920-1:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Specification
		BS 6920 1:2000	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Specification.
		SS 375-1:2015	Specification for suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification

		SS 375-1:2001	Specification for suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification
		MS 1583: Part 1:2003	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Part 1: Specification
	Measuring Device		
1	Electromagnetic Flowmeter (Custody Transfer Meter)	Directive 2014/32/EU Measurement Instrument (MI-001)	
		Directive 2004/22/EC Measurement Instrument (MI-001)	
		OIML R49-1:2013	
		OIML R49-1:2006	
	New Innovative Product		
1	New Innovative System / Product for Treatment of Water, Storage of Water or Conveyance of Water	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
	Storage of Water		
1	Cylindrical Double Fold System Tank	BS 5950-1:2000	Structural use of steelwork in building Part 1: Code of practice for design Rolled and welded section
2	Corrugated Steel Panel with Polyethylene-Lined Water Storage Tank	BS 1449-1.1:1991	Steel plate, sheet & strip. carbon and carbon- manganese sheet and strip
		SS 245:2014 (Cl. 10.2.1 & Cl. 10.2.2)	Specification for glass reinforced polyester sectional water tanks
		SS 245:1995 (Cl. 10.2.1 & Cl. 10.2.2)	Specification for Glass Reinforced Polyester Sectional Water Tanks
	Water Treatment Equipment		
1	Disinfection System Ozone	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
2	Disinfection System Ultraviolet (UV)	ONORM M5873-1:2001	
		DVGW W294:2006	
		NWRI UV Disinfection Guidelines	
3	Electro Chlorination Brine Solution Sea Water	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
4	Membrane Filtration Ceramic Micro-filtration Nano-filtration Ultra-filtration Reverse Osmosis VPMF	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
5	Metering Pumps Diaphragm pumps Piston pumps Peristaltic pumps	ANSI/ HI 7.6-2012	Controlled Volume Metering Pumps for Test
		GB/T 7782-2008	Metering Pumps
	Water Treatment System		
1	Compact Plant Conventional Dissolved Air Flotation (DAF)	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
2	Package Plant Dissolved Air Flotation (DAF) KS Filter Lamella Settler Revo Filter	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
3	Package Plant with Membrane Filtration System	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
4	Package Plant with Bio-Green Filtration System	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for water supply system)	
	Aeration		
1 a)	Diffused Aerator Aspirating Aerator Ejector Submersible Aerator	BS EN 12255-15	Wastewater treatment plants. Measurement of the oxygen transfer in clean water in aeration tanks of activated sludge plants.
1 b)	Mechanical Aerator Brush Aerator Hydrojet Aerator Surface Aerator Paddle Wheel Aerator	ASCE/EWRI 2-06	Measurement of oxygen transfer in clean water (Note: Standards for material is subject to manufacturer recommendations)
1 c)	Diffuser Disc Tube/Pipe Panel	CJ/T 264-2007	Membrane fine bubble diffuser for water & wastewater treatment
		HJ/T 252-2006	Specification for environmental protection product middle and fine bubble diffuser
		CJ/T 475-2015	Micropore Aerator Clean Water Oxygen Mass Transfer Performance Measurement
	Air Supply		
1	Air Blower & Air Compressor	For blowing application JIS B 8341:2008	Displacement Compressors -Acceptance tests

		BS ISO 1217:2009	Displacement Compressors -Acceptance tests
		KS B 6350:2014	Testing Method for Turbo Compressor.
		JB/T 8941.2-1999	(Roots Type Blowers for General Purpose) Part 2: Performance test methods.
		ASME PTC 10-1997	Performance Test Code on Compressors and Exhausters
	Air Vacuum		
1	Vacuum pump	BS ISO 21360:2007	Vacuum technology. Standard methods for measuring vacuum-pump performance. General description
	Clarifier / Sedimentation		
1	Scum Skimmer Weir Skimmer Trough/Pipe Chain & Flight Multiple travelling collector	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
2	Sludge Scrapper Rectangular - Chain & Flight - Multiple travelling collector	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
3	Sludge Scrapper & Scum Skimmer Circular Rectangular - Chain & Flight - Bridge travelling	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
	Disinfection		
1	Ultraviolet (UV)	ONORM M5873-1:2001	
		DVGW W294:2006	
		NWRI UV Disinfection Guidelines	
	Effluent and Water Removal / Recycle		
1	Effluent Transfer & Dewatering (Centrifugal Pump) End Suction Multistage Self-Priming Submersible	ISO 9906:2012	Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B
		ANSI/HI 14.6:2011	Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B
	Effluent Decanting		
1	Effluent Decanter -Fixed Pipe -Floating -Surface Skimming	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
	Flow Control		
1	Recoil Check Valve	BS EN 12334:2001	Industrial valves. Cast iron check valves
		BS EN 14341:2006	Industrial valves. Steel check valves
	Grit and Grease Removal		
1	Grease Collector -Chain & Flight -Trough-Pipe Skimmer -Weir Skimmer	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
2	Grit & Grease Collector (Horizontal Flow) -Chain & Flight -Detritor -Travelling Bridge	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
3	Grit Collector -Aerated -Horizontal Flow -VorteN/A	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
4 a)	Grit Transfer Pump (Positive Displacement) -Reciprocating -Rotary	BS EN 14343:2005	Rotary positive displacement pumps. Performance tests for acceptance.
4 b)	Grit Transfer Pump (Centrifugal Pump) -End Suction -Self-Priming -Submersible	ISO 9906:2012	Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B
		ANSI/HI 14.6:2011	Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B
5	Grit Transfer -Chain and Bucket --Compactor -Compactor and Conveyor -Conveyor	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
6	Grit Washing & Dewatering -Drum Screen -Rotary Screen -Screw Screen -Static Screen	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	

	Instrumentation and Control		
1	Actuator -Electric	BS EN 15714-2:2009	Industrial valves - Actuators Part 2: Electric actuators for industrial valves Basic requirements and comply with SPAN TS 1701:2015 Technical Specification for Instrumentation and Control Part 1: Actuator
2	Actuator -Pneumatic	BS EN 15714-3:2009	Industrial valves - Actuators Part 3: Pneumatic part-turn actuators for industrial valves
3	System Control -Air Control System -Monitoring System	Manufacturer Standard IEEE C37.1-2007	SCADA and Automation Systems.
	Mixing		
1	Mixer -Submersible Mixer	ISO 21630:2007	Pumps Testing. Submersible miN/Aers for wastewater and similar applications.
	Odour Control and Treatment		
1	Odour Control -Biofiltration -Bioscrubbing -Carbon Adsorption -Deodorizer -Liquid Redox -Photoionization -Solid Scavenger -Wet Air Scrubbing	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
	Pre-Treatment		
1	Grease Trap	BS EN 1825-1:2004	Grease separators. Principles of design, performance and testing, marking and quality control.
2	Communal Grease Trap	Assessment for performance efficiency is made through a pilot project.	
3	Complete Pre- Treatment System	Assessment for performance efficiency is made through a pilot project.	
	Primary and Secondary Screening		
1	Screen	Assessment for performance efficiency is made through a pilot project	
2	Screening Transfer Compactor Conveyor Conveyor & Compactor	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
	Raw Sewage Pumping		
1	Positive Displacement Pump Rotary - Archimedes - Lobes - Screw	BS EN 14343:2005	Rotary positive displacement pumps. Performance tests for acceptance
2	Centrifugal Pump -End Suction -Self-Priming -Submersible	ISO 9906:2012	Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B
		ANSI/HI 14.6:2011	Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B
	Sewage Conveyance		
1	Sewer Liner Cured-in-place pipes (CIPP)	BS EN ISO 11296:2011	Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks Part 1: General Part 2: Lining with continuous pipes Part 3: Lining with close-fit pipes Part 4: Lining with cured-in-place pipes
		ASTM D5813-04 (2012)	Standard specification for cured-in-place thermosetting resin sewer piping systems
		ASTM F2019-11	Standard practice for rehabilitation of existing pipelines and conduits by the pulled in place installation of Glass Reinforced Plastic (GRP) Cured-in-Place Thermosetting Resin Pipe (CIPP)
		ASTM F1216-16	Standard practice for rehabilitation of eN/Aisting pipelines and conduits by the Inversion and Curing of a Resin-Impregnated Tube
2	Sewer Liner -FRP Slip Lining -HDPE Lining	BS EN ISO 178:2010+A1:2013	Plastics - Determination of fleN/Aural properties
		BS EN ISO 11296:2011	Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks Part 1: General Part 2: Lining with continuous pipes Part 3: Lining with close-fit pipes Part 3: Lining with close-fit pipes Part 4: Lining with cured-in-place pipes
	Sludge Treatment		

1	Biogas System -Gas Holder	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
2	Gas Control -Gas Holder	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
3	Gas Holder -Dry Seal	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
4	Polymer Dosing Metering Pump - Positive Displacement	GB/T 7782-2008	Metering Pumps
		ANSI/ HI 7.6-2012	Controlled volume Metering Pumps for test
5	Sludge Dewatering	Assessment for performance efficiency is made through a pilot project	
6	Sludge Digester	Assessment for performance efficiency is made through a pilot project	
7	Sludge Dryer -Screw Press -Gravity Container -Fluidised Bed Sludge -Rotary Klin	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
8	Sludge Reception Facilities	Assessment for performance efficiency is made through a pilot project	
9	Sludge Screen Mechanical - Drum Screen - Micro Screen - Screw Screen	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
10	Sludge Thickener Disc Thickener Gravity Belt Thickener Gravity Thickener - Central Driven - Peripheral Driven Rotary Drum Thickener Screw Thickener Table Thickener	Assessment for performance efficiency is made through a pilot project. (please refer to procedures to carry out a pilot project for sewerage system)	
11	Sludge Transfer (Positive Displacement Pump) -Progressive Cavity -Rotary	BS EN 14343:2005	Rotary positive displacement pumps. Performance tests for acceptance
		VDMA 24284:1973	Testing of Displacement Pumps, General Rules of Testing
	Sludge Transfer (Centrifugal Pump) End Suction Self-Priming Submersible	ISO 9906:2012	Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1B/1E/1U and 2B
		ANSI/HI 14.6:2011	Rotodynamic Pumps for hydraulic performance acceptance tests Grades 1B/1E/1U and 2B
	Treatment System		
1	Package Sewage Treatment System -Glass-fibre Reinforced Plastic (GRP) -High Density Polyethylene (HDPE) -Steel	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
2	Innovative System for Sewage Treatment	Assessment for performance efficiency is made through a pilot project	
3	Integrated FiN/Aed Film Activated Sludge	Assessment for performance efficiency is made through a pilot project	
4	Membrane Bioreactor (MBR)	Assessment for performance efficiency is made through a pilot project	
5	Moving Bed Bioreactor (MBBR)	Assessment for performance efficiency is made through a pilot project	
6	Rotating Biological Contactor (RBC)	Assessment for performance efficiency is made through a pilot project	
7	Super Dissolved ON/Aygen -Bi-Act SDO	Assessment for performance efficiency is made through a pilot project (please refer to procedures to carry out a pilot project for sewerage system)	
8	Trickling Filter	Assessment for performance efficiency is made through a pilot project	
	Post Effluent		
1	Effluent Polishing System	Assessment for performance efficiency is made through a pilot project	