WATER TREATMENT PLANT — SKID AUTOMATION SYSTEM

Smaart WTP (SAS) Product Catalogue

Complete automated water treatment plant — FRP filter & softener vessels, auto MPV control, dosing system, instrumentation, valves, UPVC pipework, filter media and the SAS control panel.



20 m³
System Volume

2–4 bar
Filter Operating Pressure

5 HP
Pump Rating

Filtra · Sintex · Astral · Polycab

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01 Equipment

Core system equipment.

WTP

FRP Vessel



Parameter	Specification
Make	Filtra
Model	TM-760–30
Type	FRP Pressure Sand Filter
Application	Jacuzzi / Pool Filtration
Construction	FRP Wound with HDPE Inner Liner
Diameter	760 mm
Temperature (max)	Up to 50 °C
Operating pressure	2.5 – 4.0 kg/cm²
Test pressure	Up to 6.0 kg/cm²
Filtration rate	10 – 15 m³/hr/m²
Backwash rate	40 – 50 m³/hr/m²

★ WHY THIS IS NECESSARY

- Houses the filter media bed under pressure — the core of the treatment step that removes suspended solids or hardness from the water.
- FRP construction is fully corrosion-free for a permanently wet, chemically active service life.

WTP

Distribution System



Parameter	Specification
System volume	20 m^3
Compatible tank diameters	14″ to 36″
Maximum temperature	50°C
Thread standard	4–8 UN (Unified National Thread)
Lateral arms	6-way hub (supports up to 36 laterals)
Unit quantity indicator	2 (elbow variants: 1A and 1B)
Filter use note	Baskets removed for filter use

★ WHY THIS IS NECESSARY

- Selected for reliable, corrosion-free performance across the working pressure and temperature range of the system.
- A genuine, standards-compliant part here is what keeps the whole system leak-free and low-maintenance over its service life.

WTP

Submersible Pump



Parameter	Specification
Impeller	Noryl & Cast Iron (CED)
Shaft	Stainless Steel
Pump Body	Stainless Steel
Radial Bearing	Carbon
Mech. Seal	Ceramic / Graphite
Thrust Bearing	SS / Carbon
Inlet & Outlet	Cast Iron

★ WHY THIS IS NECESSARY

- Selected for reliable, corrosion-free performance across the working pressure and temperature range of the system.
- A genuine, standards-compliant part here is what keeps the whole system leak-free and low-maintenance over its service life.

WTP

Dosing Tank



Parameter	Specification
Brand	Sintex
Capacity	30 Litres
Shape	Cylindrical (Vertical)
Application	Water storage / Chemical dosing / Utility tank
Material	HDPE (Food Grade / Chemical Resistant)
Layer type	Single Layer / Double Layer
Color options	White / Black / Blue
Diameter	~300 – 350 mm
Height	~380 – 430 mm
Lid type	Screw / Hinged Lid
Outlet provision	½″ – 1″
Temperature resistance	Up to ~60 °C

WTP

Dosing Pump



Parameter	Specification
Brand	E-Dose / Filtra
Type	Electromagnetic Diaphragm Dosing Pump
Flow Rate	1.5 – 10 LPH (standard models)
Max Flow Range	Up to 50 LPH (larger models)
Pressure	Up to 4–6 kg/cm²
Power Supply	230V AC, 50 Hz
Power Consumption	~30 Watts
Stroke Frequency	Up to 400 SPM
Control	Manual stroke / frequency control
Pump Head Material	PVC / PVDF / PTFE
Tubing Size	4/6 mm
Accessories	Foot valve, injection valve, tubing
Mounting	Wall / Tank mounted

★ WHY THIS IS NECESSARY

- Meters a precise, adjustable chemical dose in proportion to flow or time — consistent dosing is what keeps water chemistry in range.
- Diaphragm design gives reliable, maintainable metering at low power draw.

WTP

Floater Switch



Parameter	Specification
Rated Voltage	250 V
Rated Current	9A
Working Temperature	0°C to 80°C
Mechanical Endurance	100,000 operations
Electrical Endurance	50,000 operations
Protection Grade	IP68

★ WHY THIS IS NECESSARY

- Automatically starts/stops the pump on tank level — protects against dry-running and overflow without manual attention.
- IP68 sealed switch is safe for continuous submerged duty inside the sump, tank or well.

WTP

Pressure Gauge



Parameter	Specification
Brand	WIKA
Type	Mechanical Pressure Gauge (Bourdon Tube / Diaphragm)
Model (Typical)	111.10 / 213.53 / 232.50
Measuring Principle	Bourdon Tube
Pressure Type	Gauge / Absolute / Differential
Measuring Range	0–1 bar to 0–1000 bar (or more)
Accuracy Class	±0.1% to ±2.5% FS
Dial Size (NS)	40 / 50 / 63 / 100 / 160 mm
Case Material	SS / Mild Steel
Wetted Parts	Brass / SS
Lens Material	Acrylic / Safety Glass
Connection Type	Bottom / Back Entry
Connection Size	¼" / ½" BSP / NPT
Mounting	Panel / Surface / Direct
Filling Type	Dry / Glycerin Filled
Overpressure Limit	1.3 × FS (typical)
Protection	IP54 / IP65
Scale Unit	Bar / PSI / kg/cm²
Standard	EN 837

★ WHY THIS IS NECESSARY

- Gives a direct pressure reading at the pump or filter — the field indicator for pump health and filter fouling.
- Bourdon-tube reliability with an accuracy class suited to routine system monitoring.

WTP

Rotameter



Parameter	Specification
Brand	Aster
Product Type	Rotameter / Flow Meter
Principle	Variable Area (Float type)
Flow Range	10 LPH – 60,000 LPH (depending on model)
Accuracy	±2% to ±5% FS
Tube Material	Acrylic / Polycarbonate
Float Material	SS 304
Body Material	Polycarbonate / PP
Connection Type	Threaded / Flanged
Mounting Type	Inline / Panel Mount
Scale Type	Direct reading (LPH)
Process Fluid	Water / non-corrosive liquids
Temperature	Up to ~60°C
Pressure Rating	Up to 6–10 kg/cm²
Rangeability	10:1 typical

★ WHY THIS IS NECESSARY

- Confirms actual flow against design — a reading that's off signals a blocked filter, a leak, or a valve left shut.
- Inline, direct-reading scale needs no power and gives an instant check during commissioning or troubleshooting.

WTP

Digital Flowmeter



Parameter	Specification
Physical dimensions	105 × 105 × 120 mm
Cut-out size	92 × 92 mm
Enclosure	ABS weatherproof IP-65
Mounting	Field / Panel
Supply power	230 V AC/ 110 V AC / 24 V DC (200 mA)
Max total count	0–999999.9 m^3 / 0–9999999 liters
Accuracy	± 2% FSD
Alarms / control relay	One, 5 A @ 230 V AC
Calibration / set point	Using front panel keypad
Input	From sensor
Output	Relay output for batch quantity / 4-20 mA (optional) / RS 485 (optional)
Flow range	0.05 m^3/hr to 500 m^3/hr
Communication interface	RS 485 / 4-20 mA output (optional)
Dual sensor	Dual line, single meter
Batcher & totalizer	Auto reset, manual reset, dual relay; batch counts down to zero
Flow comparator	Two sensors for RO permeate & inlet/reject; display both flow rates & % recovery
Pulser	Configurable for metering/dosing pump; chemical dosing proportional to flow
Sensor body	Noryl
Impeller	PP (Polypropylene)
Shaft	Carbide
Bearing	Ceramic
Sensing element	Hall effect IC
Maximum pressure	5 kg/cm^2
Maximum temperature	60 °C

★ WHY THIS IS NECESSARY

- Confirms actual flow against design — a reading that's off signals a blocked filter, a leak, or a valve left shut.
- Digital readout with totalising lets flow be logged and verified over time, not just spot-checked.

02 Valves

Flow control and protection valves.

WTP

Auto MPV — Filter



Parameter	Specification
Make	Solo
Valve Type	Automatic Multiport Valve (Filter)
Size	40 NB (1.5″)
Mounting	Side Mount (Front Facing)
Operation	Fully Automatic (Microprocessor Controlled)
Application	Sand Filter / Carbon Filter / Softener
Inlet / Outlet / Drain Connection	1.5″ BSP
Maximum Flow Rate	12 m^3/hr
Operating Pressure	2–5 kg/cm^2
Maximum Operating Pressure	5 kg/cm^2
Minimum Pressure (for suction)	2–3 kg/cm^2
Material of Construction	Engineering Plastic / ABS / Thermoplastic
Riser Pipe Size	32 mm OD PVC
Ejector / Brine Connection	½″ BSP
Control System	Microprocessor based automatic control
Display	LCD Display (status + fault indication)
IP Rating	IP65 (Dust & Water Resistant)
Communication	RS-485 (optional)
Automation Features	Timer / Volume based operation
Operating Temperature	5°C to 50°C
Mounting Vessel Neck	2.5″ (Typical)
Media Compatibility	Sand, Carbon, Resin
Accessories	Multiport Valve, O&M Manual

★ WHY THIS IS NECESSARY

- Single multi-port valve switches the vessel between filter, backwash, rinse and waste — the control point for the entire media bed.
- Automatic operation removes manual valve sequencing and the risk of an incorrectly set port.

WTP

Auto MPV — Softener



Parameter	Specification
Valve Type	Automatic Multiport Valve (Softener)
Size	40 NB (1.5″)
Mounting	Side Mount (Front Facing)
Operation	Fully Automatic (Microprocessor Controlled)
Application	Water Softener (Ion Exchange Resin)
Inlet / Outlet / Drain Connection	1.5″ BSP
Maximum Flow Rate	10–12 m^3/hr
Operating Pressure	2–5 kg/cm^2
Maximum Operating Pressure	5 kg/cm^2
Minimum Pressure	2 kg/cm^2
Material of Construction	Engineering Plastic / ABS / Thermoplastic
Riser Pipe Size	32 mm OD PVC
Brine Line Connection	½″ BSP
Injector System	Built-in Venturi for Brine Suction
Control System	Microprocessor based automatic control
Display	LCD Display (Cycle & Status Indication)
IP Rating	IP65
Communication	RS-485 (Optional)
Functions	Service, Backwash, Brine Draw, Slow Rinse, Fast Rinse, Brine Refill
Regeneration Type	Time-based / Volume-based
Operating Temperature	5°C to 50°C
Mounting Vessel Neck	2.5″ (Typical)
Media Compatibility	Cation Exchange Resin
Accessories	MPV Valve, Brine Pipe, Float Assembly (optional), O&M Manual.

★ WHY THIS IS NECESSARY

- Single multi-port valve switches the vessel between filter, backwash, rinse and waste — the control point for the entire media bed.
- Automatic operation removes manual valve sequencing and the risk of an incorrectly set port.

WTP

NRV



Parameter	Specification
Make	Cimberio
Product Type	NRV
Model	CIM 30 / CIM 32
Material Composition	Forged Brass (EN 12165 – CW617N)
Type	Spring Loaded / Lift Check
Operation	Automatic (non-return)
Nominal Pressure	PN 16 / PN 20
Size Range	½″ – 4″ (15 NB – 100 NB)
Connection Type	BSP Threaded (Female)
Spring Material	Stainless Steel (SS 316)
Seat Material	PTFE / Metal Seat
Temperature Range	-10°C to +95°C
Test Pressure	Up to 25–30 bar
Opening Pressure	Low cracking pressure (~10–25 mbar)
Standard	EN 12266-1 (Testing)
Application	Water, HVAC, air, oil, non-corrosive fluids
Warranty	Up to 5 years (typical)

★ WHY THIS IS NECESSARY

- Prevents reverse flow back into the pump or supply line — protects the pump from backspin damage and stops the system draining down when it stops.
- Spring-loaded lift-check design gives fast, reliable closing with a low cracking pressure, so it doesn't add unnecessary head loss.

WTP

Safety Relief Valve (SRV)



Parameter	Specification
Product Type	Safety Relief Valve (SRV)
Make	Officine Rigamonti (Italy)
Series	LIGHT
Application	Pressure protection in water systems, boilers, pipelines
Valve Type	Spring Loaded Safety Valve
Body Material	Brass
Internal Parts	Brass / Stainless Steel
Seal Material	EPDM / NBR
Connection Type	BSP Threaded (Male/Female)
Available Sizes	15 mm, 20 mm, 25 mm (½", ¾", 1")
Set Pressure Range	1 bar to 10 bar (factory set / adjustable)
Maximum Working Pressure	10 bars
Operating Temperature	-10°C to 120°C
Discharge Type	Direct discharge (atmospheric)
Spring Type	Stainless Steel calibrated spring
Standard Compliance	EN / PED compliant (Europe)
Installation Position	Vertical only

★ WHY THIS IS NECESSARY

- Selected for reliable, corrosion-free performance across the working pressure and temperature range of the system.
- A genuine, standards-compliant part here is what keeps the whole system leak-free and low-maintenance over its service life.

WTP

Air Release Valve (ARV) / Vacuum Breaker



Parameter	Specification
Product Type	Air Release Valve (ARV) / Vacuum Breaker
Make	Filtra (or equivalent)
Application	Sand Filter / Carbon Filter / Pressure Vessel
Function	Releases trapped air & prevents vacuum formation
Working Principle	Float type automatic air release
Material of Construction	Reinforced Plastic / Polypropylene
Float Material	PP / HDPE
Seal Material	EPDM / NBR
Connection Type	Threaded (Male)
Standard Size	15 mm / 20 mm / 25 mm (½", ¾", 1")
Operating Pressure	0.2 – 6 kg/cm²
Maximum Pressure	Up to 8–10 bar
Operating Temperature	Up to 50°C
Air Release Capacity	Small continuous air discharge
Vacuum Breaking	Opens under negative pressure to admit air
Installation Position	Vertical (Top of filter vessel)
Media	Water / non-corrosive fluids

★ WHY THIS IS NECESSARY

- Selected for reliable, corrosion-free performance across the working pressure and temperature range of the system.
- A genuine, standards-compliant part here is what keeps the whole system leak-free and low-maintenance over its service life.

WTP

UPVC Ball Valve



Parameter	Specification
Brand	Astral
Product Type	UPVC Ball Valve
Type	2-Way Ball Valve
Material	UPVC (Unplasticized Polyvinyl Chloride)
Standard	SCH 40 / SCH 80
Nominal Pressure	PN 10 / PN 16
Size Range	15 mm – 50 mm (½″ – 2″)
Connection Type	Socket / Threaded / Flanged
Operation	Manual Lever (Quarter Turn)
Ball Material	UPVC / PTFE Coated
Seat Material	PTFE
Seal Material	EPDM / FKM
Temperature Range	0 to 60°C
Flow Type	Full Bore
Colour	White / Off-white
Application	Water, Pool, Jacuzzi, WTP, ETP
Quality Standard	ISO 9001:2015

★ WHY THIS IS NECESSARY

- Quarter-turn full-bore shutoff for local isolation during maintenance without draining the whole line.
- Corrosion-free UPVC/PTFE construction holds a drip-tight seal across the working pressure range for years.

WTP

Brass Ball Valve



Parameter	Specification
Make	Cimberio
Product Type	Brass Ball Valve
Material Composition	Forged Brass Body & Ball
Ball Finish	Hard Chrome Plated (Mirror Finish)
Seat Material	PTFE (Teflon)
Seal Material	NBR / EPDM O-Rings
Type	Full Bore / Reduced Bore
Operation	Manual Lever / Butterfly Handle
Connection Type	Threaded (BSP / NPT)
Size Range	½″ – 4″
Nominal Pressure	PN 16 / PN 25
WOG Rating	150 / 300 / 600 WOG
Temperature Range	-20°C to 120°C
Media	Water, Oil, Gas, Air
Surface Finish	Nickel / Chrome Plated
Standard	EN / ISO 9000 Series
Application	Plumbing, HVAC, Industrial, Water Systems

★ WHY THIS IS NECESSARY

- Quarter-turn full-bore shutoff for local isolation during maintenance without draining the whole line.

03 Piping

Mainline and distribution pipework.

WTP

UPVC Pipe



Parameter	Specification
Product Type	UPVC Pipe
Make	Astral
Material	Unplasticized Polyvinyl Chloride (uPVC)
Application	Cold Water Supply / WTP / Industrial Piping
Color	White / Grey
Size Range	15 mm (½") to 300 mm (12")
Pressure Rating	2.5 to 16 kg/cm²
Standard	ASTM D1785 / IS 4985
Pipe Schedule	SCH 40 / SCH 80
Temperature Range	Up to 60°C
Density	~1.4 g/cm³
Jointing Method	Solvent Weld / Ring Fit
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Surface Finish	Smooth inner bore (low friction)
Life Span	50+ years
UV Stability	UV Stabilized
Electrical Conductivity	Non-conductive
Corrosion Resistance	100% corrosion-free

★ WHY THIS IS NECESSARY

- Corrosion-free rigid pipework rated to the system's full working pressure — carries the mainline run from source to point of use.
- Smooth bore and UV-stabilised construction keep flow losses low and the pipe stable across decades of outdoor and buried service.

WTP

Flexible Pipe



Parameter	Specification
Material	Flexible PVC with Double High Tenacity Synthetic Fibre reinforcement
Size Range	6 mm to 50 mm ID (¼″ to 2″)
Working Pressure	8 to 20 kg/cm²
Standard Lengths	30 m / 50 m / 100 m
Temperature Range	-5°C to +65°C
Kink & Crush Resistant	Yes
Weather Resistant	Yes
Oil & Chemical Resistant	Yes (light chemicals)
Rodent Proof	Yes
Lightweight	Yes
High Pressure Rated	Yes
Surface Finish	Bright, smooth finish
Tropical Climate Ready	Specially designed for tropical climates
vs Rubber Hoses	Superior braid-to-cover adhesion & consolidation
Anti-corrosion	Yes
Anti-abrasion	Yes
Flexibility	High – anti-bending design
Acid & Alkali Resistant	Yes

04 Fittings

Joints and connections for the piping network.

WTP

UPVC Tee



Parameter	Specification
Product Type	UPVC Tee (Equal / Reducing)
Material	Unplasticized Polyvinyl Chloride (uPVC)
Color	White
Shape	T-Type (3-way, 90° branch)
Application	Plumbing / WTP / Industrial piping
Size Range	15 mm (12″) to 110 mm (4″)
Pressure Rating	SCH 40 / SCH 80 / PN10 / PN16
Standard	ASTM D2466 / ASTM D1785
Connection Type	Solvent Weld (Socket) / Threaded
Angle	90 Degree
Temperature Range	Up to 60°C
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Surface Finish	Smooth internal bore
Leakage	Leak-proof (with solvent cement)
Weight	Lightweight (~50–200 g small sizes)
Installation	Easy, quick jointing

★ WHY THIS IS NECESSARY

- Splits or joins flow at a branch point in the pipeline without needing a separate manifold fabrication.
- Solvent-weld joints on all three ports hold the branch pressure-tight.

WTP

UPVC FTA



Parameter	Specification
Product Type	UPVC FTA (Female Threaded Adapter)
Material	Unplasticized Polyvinyl Chloride (uPVC)
Insert (Optional)	Brass Insert (for threaded strength)
Colour	White
Application	Plumbing / WTP / RO / Industrial piping
Function	Connects UPVC pipe to male threaded fitting
Size Range	15 mm (12″) to 50 mm (2″)
Standard	ASTM D2467
Connection Type	Socket (Solvent Weld) × Female Thread
Thread Type	BSP (Parallel / Taper)
Temperature Range	Up to 60°C
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Surface Finish	Smooth internal bore
Leakage	Leak-proof (with PTFE tape + solvent cement)
Installation	Easy, quick fitting

★ WHY THIS IS NECESSARY

- Provides a threaded female connection point onto UPVC pipework for pumps, valves and tank fittings.
- Solvent-weld socket on one side and sealing thread on the other gives a leak-proof transition in one fitting.

WTP

UPVC MTA



Parameter	Specification
Brand	Astral
Product Type	UPVC Male Threaded Adapter (MTA)
Material	UPVC with Brass Thread Insert
Standard	ASTM D1785 / SCH 40 / SCH 80
Connection Type	Socket (Solvent) × Male Thread
Thread Type	BSP / NPT
Pressure Rating	PN 10 / PN 16
Temperature Range	0 to 60°C
Thread Material	Brass (for strength & durability)
Jointing	Solvent Cement + Threaded Connection
Color	White / Grey
Corrosion Resistance	Excellent
Application	Pipe to valve / pump / metal fitting connection
Service Life	25–50 years

★ WHY THIS IS NECESSARY

- Converts the solvent-weld pipe end to a threaded connection for valves, pumps and metal fittings — the transition point between plastic and metal parts of the system.
- Brass thread insert gives the durability of metal threads with the corrosion resistance of UPVC.

WTP

UPVC Bush



Parameter	Specification
Product Type	UPVC Bush (Reducing Bush)
Material	Unplasticized Polyvinyl Chloride (uPVC)
Colour	White / Grey
Application	Plumbing / WTP / RO / Industrial piping
Function	Reduces pipe size (large to small connection)
Size Range	20×15 mm to 110×90 mm (¾″×½″ to 4″×3″)
Pressure Rating	SCH 40 / SCH 80 / PN10 / PN16
Standard	ASTM D2466 / ASTM D1785
Connection Type	Socket × Spigot / Threaded
Temperature Range	Up to 60°C
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Corrosion Resistance	100% rust-free
Surface Finish	Smooth internal bore
Jointing Method	Solvent Weld / Threaded
Leakage	Leak-proof (with solvent cement)

★ WHY THIS IS NECESSARY

- Steps pipework down from a larger to a smaller bore at pump, valve or tank connections without an extra length of reducer pipe.
- Single-piece moulded construction keeps the reduction leak-free and compact.

WTP

UPVC Union



Parameter	Specification
Product Type	UPVC Union (3-Piece Detachable Fitting)
Material	Unplasticized Polyvinyl Chloride (uPVC)
Colour	White / Grey
Application	Plumbing / WTP / RO / Industrial piping
Function	Joins two pipes with easy dismantling
Design	3-piece (Socket + Thread + Union Nut)
Size Range	15 mm (½") to 63 mm (2.5")
Pressure Rating	SCH 40 / SCH 80 / PN10 / PN16
Standard	ASTM D2467 / ASTM D1785
Connection Type	Socket × Socket / Threaded
Sealing	EPDM / Rubber O-ring
Temperature Range	Up to 60°C
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Corrosion Resistance	100% rust-free
Surface Finish	Smooth internal bore
Leakage	Leak-proof (O-ring compression seal)
Installation	Easy removal without cutting pipe

★ WHY THIS IS NECESSARY

- Three-piece design lets a section of pipework be disconnected and reconnected for maintenance without cutting the pipe.
- Reusable, corrosion-free joint that holds a leak-tight seal through repeated open/close cycles.

WTP

UPVC Coupling



Parameter	Specification
Product Type	UPVC Coupling (Socket Coupler)
Material	Unplasticized Polyvinyl Chloride (uPVC)
Colour	White / Grey
Application	Plumbing / WTP / RO / Industrial piping
Function	Joins two pipes of same diameter in straight line
Design	Socket × Socket (Slip type)
Size Range	15 mm (½") to 110 mm (4")
Pressure Rating	SCH 40 / SCH 80 / PN10 / PN16
Standard	ASTM D2466 / ASTM D1785
Connection Type	Solvent Weld (Socket)
Temperature Range	Up to 60°C
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Corrosion Resistance	100% rust-free
Surface Finish	Smooth inner bore
Leakage	Leak-proof (with solvent cement)

★ WHY THIS IS NECESSARY

- Joins two lengths of pipe of the same diameter in a straight, permanent, leak-free run.
- Corrosion-free UPVC construction outlasts metal couplers in wet, chemically active environments.

WTP

UPVC Elbow



Parameter	Specification
Product Type	UPVC Elbow (90° / 45°)
Material	Unplasticized Polyvinyl Chloride (uPVC)
Colour	White / Grey
Application	Plumbing / WTP / RO / Industrial piping
Function	Changes direction of pipeline
Angle	90° / 45°
Size Range	15 mm (½") to 110 mm (4")
Pressure Rating	SCH 40 / SCH 80 / PN10 / PN16
Standard	ASTM D2466 / ASTM D1785
Connection Type	Socket (Solvent Weld) / Threaded
Temperature Range	Up to 60°C
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Corrosion Resistance	100% rust-free
Surface Finish	Smooth internal bore
Leakage	Leak-proof (with solvent cement)

★ WHY THIS IS NECESSARY

- Changes flow direction with a fully rated, leak-free solvent-weld joint — matched to the same pressure class as the pipe it joins.
- Smooth internal bore keeps friction loss low at every direction change in the run.

05

Filter & Treatment Media

Active media beds for filtration and treatment.

WTP

AFM (Activated Filter Media)



Parameter	Specification
Product name	AFM ® (Activated Filter Media)
Brand	Dryden Aqua
Product variant	AFM® ng (next generation)
Base material	Pure selected glass
R&D experience	35 years
Grade 1 – particle size	0.4 – 0.8 mm
Grade 2 – particle size	0.7 – 2.0 mm
Grade 3 – particle size	2.0 – 4.0 mm
Sand equivalent ratio	25 kg of sand = 21 kg of AFM®
Filtration rate	1 micron (certified)
Surface area	Increased vs. standard sand for superior filtration
Surface charge	Activated electrostatic charge for adsorption of fine particles and organic matter
Biofouling resistance	100% bio-resistant; fully prevents biofouling and channeling inside filter
Pathogen prevention	Prevents transmission of pathogens (e.g. Cryptosporidium)
THM / chloramine prevention	Prevents formation of harmful THMs and chlorine smells (NCl_3)
Process type	Patented 3-step activation process
Result	Self-sterilizing surface + superior mechanical & electrostatic filtration performance
Backwash rate	> 40 m/h (efficient and slower backwash)
Chlorine reduction	Reduces chlorine consumption due to superior filtration
Filter compatibility	Compatible with all types of sand filters; no additional infrastructure required
Small filter recommendation	Filters < 800 mm diameter: 50% Grade 1 + 50% Grade 2
Standard filter distribution	50% Grade 1 / 25% Grade 2 / 25% Grade 3
NSF/ANSI 50	Certified for pool water (WQA)

Parameter	Specification
NSF/ANSI/CAN 61	Certified for drinking water (WQA)
IFTS certification	Tested and certified as best filtration media by IFTS
Water safety	Safest water – prevents pathogen transmission
Water clarity	Clearest water – stable 1 micron filtration
Air quality	Healthiest air – no THMs or chlorine smells
Operating cost	Lowest cost – saves backwash water and chemicals
Sustainability	Most sustainable – outlasts all other filter media

★ WHY THIS IS NECESSARY

- The active filter or exchange media bed is what actually removes the target contaminant from the water — everything else in the vessel exists to keep this bed working.
- Correct grading and bed depth is what determines filtration quality and service run length.

WTP

Ion Exchange Resin



Parameter	Specification
Product name	INDION 225 Na
Manufacturer	Ion Exchange (India) Ltd.
Type	High capacity strongly acidic cation exchange resin (bead form)
Description	Cross-linked polystyrene with gel structure; supplied moist in sodium form
Primary application	Water softening (sodium form)
Secondary application	Two-stage de-ionising as cation exchanger in hydrogen cycle
Appearance	Golden yellow beads
Matrix	Styrene divinylbenzene copolymer
Functional group	Sulphonic acid
Ionic form as supplied	Sodium (Na^+)
Particle size range	0.3 – 1.2 mm
Particle size > 1.2 mm	5.0% maximum
Particle size < 0.3 mm	1.0% maximum
Effective size	0.45 – 0.55 mm
Uniformity coefficient	1.7, maximum

Parameter	Specification
Total exchange capacity	2.0 meq/ml, minimum
Moisture holding capacity	43 – 50%
Shipping weight	830 kg/m³, approximately
Maximum operating temperature	140 °C
Operating pH range	0–14
Resistance to reducing agents	Good
HDPE lined bags	25 / 50 litres
LDPE bags	1cft / 25 litres
MS drums with liner bags	180 litres
Fiber drums with liner bags	7 cft
Recommended storage temperature	20 °C – 40 °C
Moisture requirement	Resin must never be allowed to dry; add demineralised water if not moist
Storage condition	Keep in shade; regularly inspect bags for moisture content
Regenerant handling	Acid and alkali solutions are corrosive; prevent eye and skin contact
Oxidising agents	Observe necessary safety precautions to avoid accidents and resin damage
Manufacturing standard	ISO 9001 & ISO 14001 certified facility (Ankleshwar, Gujarat, India)
Trademark	INDION ® – registered trademark of Ion Exchange (India) Ltd.

★ WHY THIS IS NECESSARY

- Ion-exchange resin is what actually removes hardness from the water — everything else in the softener exists to keep this bed working and regenerated.
- Correctly graded resin gives predictable capacity between regeneration cycles.

WTP

Pressure Sand Filter



Parameter	Specification
Product Type	Pressure Sand Filter (PSF)
Make	Babji Filtrations Pvt. Ltd. / Equivalent
Vessel Size	8″ × 16″ (Diameter × Height)
Vessel Material	FRP (Fiber Reinforced Plastic)
Operating Pressure	2–5 kg/cm²
Operating Temperature	Up to 50°C
Flow Rate	~0.5 – 1.0 m³/hr
Filtration Velocity	10–15 m/hr
Media Type	Silica Sand / Quartz Sand
Media Size	0.5 – 1.2 mm (typical)
Underbed	Pebbles / Gravel Support
Inlet/Outlet Size	20 mm / 25 mm (¾″ / 1″)
Valve Type	Manual / Multiport Valve (Top Mount)
Internal System	Top Distributor + Bottom Strainer
Backwash Requirement	1.5 – 2 times service flow
Mounting	Vertical
Application	Pre-treatment / Turbidity removal
Finish	Smooth FRP finish (Corrosion resistant)

★ WHY THIS IS NECESSARY

- Graded filter sand is the depth-filtration media that physically traps suspended solids as water passes through the bed.
- Correct grain size keeps filtration efficient without excessive head loss.

06 Electricals

Power, control cabling and enclosures.

WTP

Control Panel



Parameter	Specification
Panel Configuration	NXT 33
Overall Size	235(H) × 260(V) × 130(D) mm
Cutout Size	190(H) × 222(V) mm
Mounting	Wall / Panel Mount
Raw Water Pump	5 hp 3Ø
High Pressure Pump	5 hp 3Ø
Switch Inputs	7 Switch Inputs (LPS, HPS, TWT, FLT, Dosing Tank level & RWT level, AMPV Inputs)
Flow Input	2 Flow Input (with totalizer for channel one)
Sensors	Conductivity/TDS
Outputs	RWP, HPP, Flush solenoid valve, Doser & Alarm

★ WHY THIS IS NECESSARY

- Automates pump start/stop, protection and alarms from level, pressure and flow inputs — removes the need for manual operation.
- Multiple switch and sensor inputs let one panel run and protect the whole pumping system.

WTP

Cables



Parameter	Specification
Cable	1 Sq.mm × 6 Core & 2.5 Sq.mm × 3 Core
Brand	Polycab
Conductor	Annealed Copper
Insulation	PVC / FR / FRLS
Voltage Grade	1100 V
Standard	IS 694 / IS 1554
Temperature Rating	Up to 70–90°C
Application	Power supply, motor connection, panel wiring

★ WHY THIS IS NECESSARY

- Correctly sized copper conductor for motor starting current — prevents voltage drop, overheating and nuisance trips.
- FR/FRLS insulation is the safety standard for enclosed plant rooms and panel wiring.

WTP

Conduit Pipe, Flexible Conduit & Conduit Bend



Parameter	Specification
Conduit Pipe	25 mm, PVC (Heavy Duty), ISI Marked

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BRANDS FEATURED

Filtra • Sintex • E-Dose • WIKA • Aster
Cimberio • Officine Rigamonti • Astral
Dryden Aqua • INDION • Polycab

STANDARDS REFERENCED

EN 837 • EN 12266-1 • EN/PED
ASTM D1785 • ASTM D2466/D2467 • IS 4985
NSF/ANSI 50 • NSF/ANSI/CAN 61 • IS 694

SUPPLIED BY

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