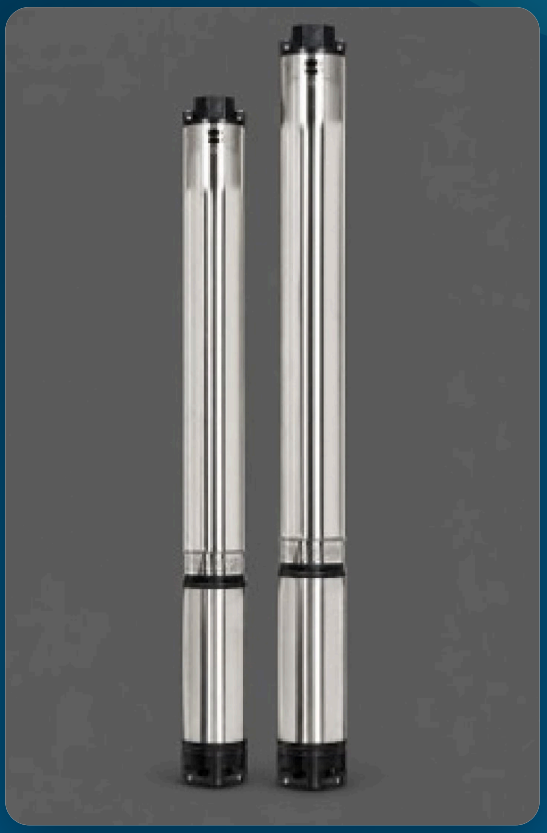
SUBMERSIBLE BOREWELL PUMP SYSTEM

Smaart Borewell Pump Product Catalogue

Complete submersible borewell pumping system — pump, floater-switch level control, NRV & ball valve, HDPE/UPVC pipework, Astral fittings, lifting hardware and the SAS-ready control panel.



IP68
Floater Switch Rating

5 HP
Panel Pump Rating

100,000
Mech. Endurance (ops)

Astral · Cimberio · Weld-On · Polycab

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01 Instrumentation

Monitoring and control devices.

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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.

02 Valves

Flow control and protection valves.

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NRV (Non-Return Valve)



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.

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UPVC Ball Valve



Parameter	Specification
Product Type	UPVC Ball Valve
Type	2-Way, Full Bore
Material	UPVC
Operation	Manual Lever (Quarter Turn)
Connection Type	Socket / Threaded
Application	Isolation at pump suction/delivery & sub-main takeoffs

★ 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.

03 Piping

Mainline and distribution pipework.

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HDPE Pipe



Parameter	Specification
Product Type	HDPE Pipe (High Density Polyethylene)
Material	PE63 / PE80 / PE100
Application	Water Supply / WTP / RO / Industrial / Irrigation
Color	Black with Blue Stripes (water)
Size Range	20 mm to 630 mm
Pressure Rating	PN2.5 to PN16
SDR Rating	SDR 41 to SDR 11
Standard	IS 4984 / ISO 4427
Density	≥ 0.94 g/cm³
Temperature Range	Up to 60°C
Jointing Method	Butt Fusion / Electrofusion / Compression Fittings
Chemical Resistance	Excellent
Corrosion Resistance	100% corrosion-free
Life Span	50+ years

★ 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.

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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
Jointing Method	Solvent Weld / Ring Fit
Chemical Resistance	Excellent (Acids, Alkalis, Salts)
Life Span	50+ years
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.

04 Fittings

Joints and connections for the piping network.

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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
Size Range	15 mm – 100 mm (½″ – 4″)
Connection Type	Socket (Solvent) × Male Thread
Thread Type	BSP / NPT
Pressure Rating	PN 10 / PN 16
Corrosion Resistance	Excellent
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.

BOREWELL

UPVC FTA



Parameter	Specification
Product Type	UPVC Threaded Adapter (Male & Female)
Types	MTA / FTA
Material	Unplasticized Polyvinyl Chloride (uPVC)
Application	WTP / RO / Plumbing / Industrial piping
Size Range	15 mm (½") to 63 mm (2.5")
Pressure Rating	PN10 / PN16 / SCH 40 / SCH 80
Standard	ASTM D2467
Thread Type	BSP / NPT
Corrosion Resistance	100% rust-free
Sealing Method	PTFE tape (thread side)

★ 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.

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UPVC Union



Parameter	Specification
Brand	Astral
Product Type	UPVC Union
Type	Three-piece (Union Nut + Body + Tail Pieces)
Material	UPVC
Standard	ASTM D1785 / SCH 40 / SCH 80
Pressure Rating	PN 10 / PN 16
Size Range	15 mm – 100 mm (½" – 4")
Seal Type	EPDM / NBR O-Ring
Reusability	Yes (multiple times detachable)

★ 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.

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UPVC Elbow



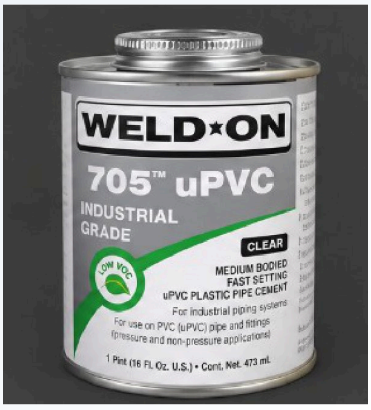
Parameter	Specification
Product Name	UPVC Elbow
Material	UPVC
Standard	ASTM D2466 / ASTM D1785 / IS 7834
Connection Type	Socket (Solvent Cement Joint)
Available Size Range	15 mm – 315 mm (½" – 12")
Angle Types	90° Elbow / 45° Elbow
Typical Applications	Plumbing, WTP, ETP, filtration systems, pump piping, cold-water lines

★ 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.

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UPVC Solvent Cement



Parameter	Specification
Product Type	UPVC Solvent Cement
Brand	Weld-On
Model	705
Grade	Industrial Grade
Packing Size	473 ml (Pint)
Setting Type	Fast Setting
Pipe Size Range	Up to 6" dia (Interference Fit)
Standard	ASTM D2564
Full Cure Time	24 hours
Shelf Life	~3 years (sealed)

★ WHY THIS IS NECESSARY

- Fuses UPVC pipe and fitting into a single homogeneous, pressure-rated joint — the joint fails without a certified cement.
- Fast setting time keeps installation moving without compromising the permanent bond.

05 Electricals

Power, control cabling and enclosures.

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Control Panel



Parameter	Specification
Panel Configuration	NXT 33
Overall Size	235(H) x 260(V) x 130(D) mm
Cutout Size	190(H) x 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 & RWT level, AMPV)
Flow Input	2 Flow Input (with totalizer for channel one)
Sensors	Conductivity/TDS
Outputs	RWP, HPP, Flush solenoid valve, Doser & Alarm

★ KEY FEATURES

- Intuitive & patented user interface
- 13 key makes setting much simpler
- Logical START/STOP with single key
- Bluetooth connectivity & Android pairing
- Automatic Membrane Flushing
- Filter Backwash & Plant Servicing Notifications

BOREWELL

Cables



Parameter	Specification
Make	Polycab
Cable Type	Flat 2.5 Sq.mm × 3 Core
Insulation	Double-insulated PVC protective layer
Application	Submersible pump power connection

★ 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.

Smaart Borewell Pump — End-to-End Engineering, Trusted Global Brands

BRANDS FEATURED

Astral • Cimberio • Weld-On • Polycab

STANDARDS REFERENCED

ASTM D1785 • ASTM D2466/D2467
IS 4985 • IS 4984 / ISO 4427
ASTM D2564 • EN 12266-1 • IP68

SUPPLIED BY

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