



BOILER BLOWDOWN SYSTEM (BBS)

American Ingenuity Meets German Excellence in Blowdown Control
Near Zero Blowdown Costs



BENEFITS OF BBS WITH HEAT RECOVERY



ENHANCED ENERGY EFFICIENCY:

Boiler Efficiency Increases by 1 - 3%. Reduces Fuel Consumption for heating cold Makeup Water. Nearly eliminates blowdown costs with Flash & Heat Recovery.



WATER CONSERVATION:

Lowers Makeup Water & Chemical Dosing by reducing excess blowdown.



EXTENDED BOILER LIFE:

Avoiding Scaling and Corrosion by keeping Water TDS within Guidelines
Decreases repair needs, prolongs boiler life, and enhances operational safety.



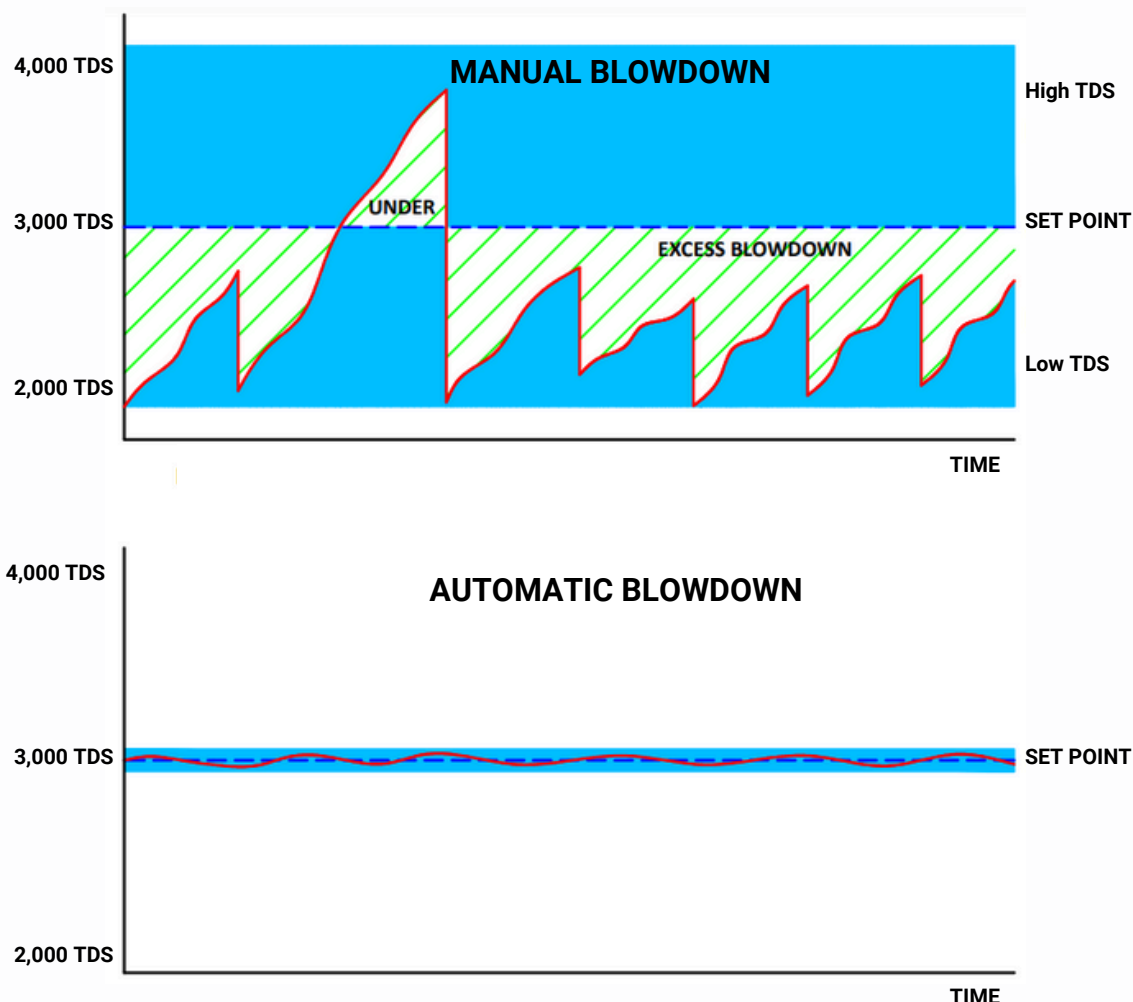
AUTOMATION AND PRECISION:

Continuously Monitors TDS and other parameters in real-time.
Reducing Operator Workload & Errors, Enables Precise Blowdown.

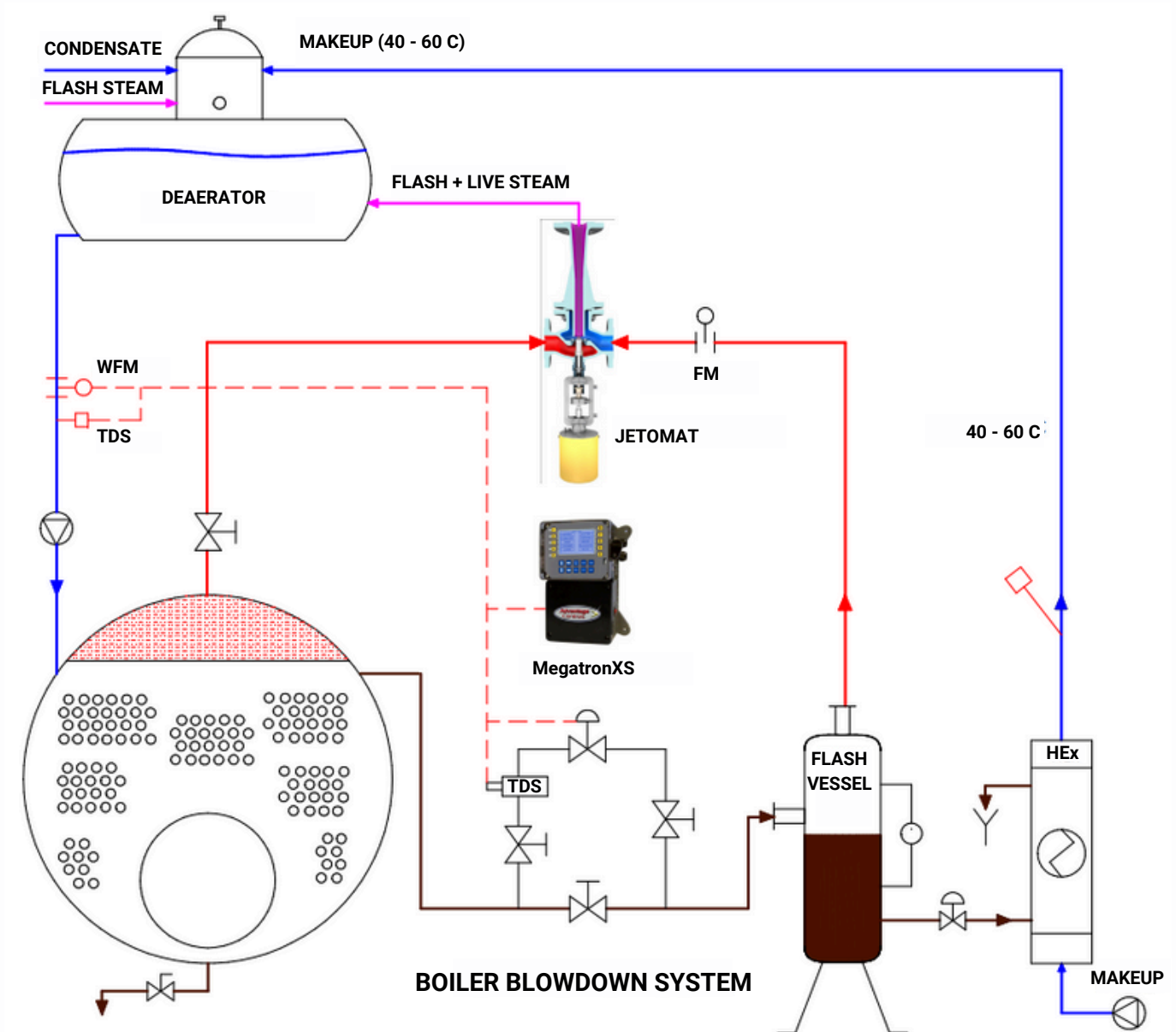


IMPROVED STEAM QUALITY:

Prevents Foaming & Water Carryover with Steam by Optimal TDS in Boiler
Minimizes Scaling in Process Equipment & Steam Pipes, Valves etc



WHY USE BBS WITH HEAT RECOVERY?



Blowdown Losses are near Zero with Integrated Flash and Heat Recovery

Boilers require regular blowdown to remove impurities such as dissolved solids that accumulate during operation. Without effective blowdown management, these impurities lead to scaling, corrosion, and reduced efficiency.

Manual Blowdown Processes can lead to Avg TDS much lower than set limit as Quantity of Blowdown it is not linked with Steam Load or Feed Water Quality, Often causing Excessive Water and Energy Loss.

Boiler Blowdown System ensures that blowdown occurs only based on TDS Measurements & Maintains TDS Level Close to Allowed Limits.

WORKING OF BBS

CONTINUOUS TDS MONITORING

Equipped with highly sensitive TDS sensors with Temperature Compensation that monitors the conductivity in the boiler water blowdown Sample.

SIGNAL PROCESSING AND ANALYSIS

Conductivity data is continuously analysed against preset TDS value. Excess levels trigger corrective action.

BLOWDOWN ACTIVATION

When TDS levels exceed the setpoint, the system automatically activates the blowdown valve to discharge high-TDS water from Boiler.

TDS STABILIZATION

As high-TDS water is discharged, fresh feedwater enters, diluting and stabilizing the remaining dissolved solids.

TDS LEVEL RECHECK AND VALVE CLOSURE

Continuous TDS monitoring during blowdown adjusts the valve Operation as needed allowing Only Needed quantity Discharge of Hot Water from Boiler.

This cycle of Monitoring, Blowdown, and Stabilization repeats Automatically



KEY FEATURES

Versatile Sampling Methods: Continuous, Sample & Hold, or Timed—to adapt to different operational requirements.

Automatic Blowdown Control: Automatically Opens and Closes the Blowdown valve based on TDS readings, Maintaining Water Quality within preset limits.

1 Year Replacement Warranty: We Offer a full year of replacement coverage for the controller and sensor, ensuring reliability and user confidence.

User Friendly & Flexible: ATM Style Menu, Customisable LCD Display, USB Port for Data & Setup. Ability to Control upto 4 Boilers from Single Controller MegatronMT with Makeup Water TDS Monitoring.

Error Correction: Implements error correction strategies to account for flash steam, improving measurement accuracy and system response.

20 Assignable Relays: Provides extensive customization options with up to 20 assignable relays for flexible system configurations.

Multilevel Security

Chemical Dosing Control

Water Flow Meter Input Capability

MODbus , Wifi & Internet Cards



TECHNICAL & SPECIFICATION DETAILS

PERFORMANCE METRICS

	Range	Resolution	Accuracy
TDS	0 – 10,000 $\mu\text{S}/\text{cm}$	1 μS	10 – 10,000 $\mu\text{S} \pm 1\%$
Temperature	0 – 200 $^{\circ}\text{C}$	0.1 $^{\circ}\text{C}$	$\pm 1\%$

Electrode Rating

15 Bar at 200 $^{\circ}\text{C}$

24 Bar at 121 $^{\circ}\text{C}$

Electrical

Input: 100-240 VAC, 50/60 Hz

Control: Input VAC, 3 Amp/Relay

Dimensions

Display 240 x 128 Graphic LCD

W 28.4 x 30.5 x 18.4 cm

Weight 3.62 Kg

Operational

Cond Electrode : 1.0 Cell Factor

: 10K Thermister

Temp Electrode : pt-100 RTD

Enclosure

Heavy duty NEMA 4X (IP65)

style high impact ABS

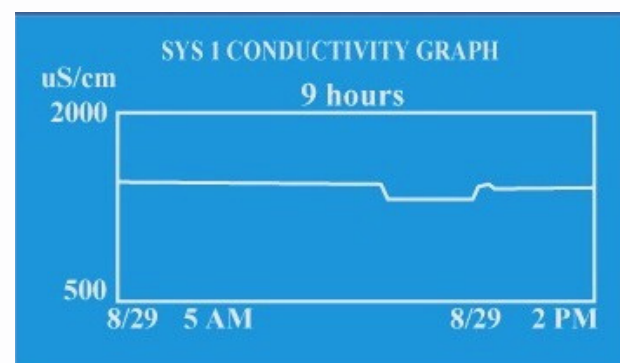
Lexan Viewing door

Environment

Amb Temp: -17 $^{\circ}\text{C}$ to 52 $^{\circ}\text{C}$

Relative humidity: 0 to 100%

CUSTOMIZE SYS 1 NOTEPAD	
NO1: Conductivity	NO6: Make-up Cond
NO2: pH Test	NO7: Chlorides
NO3: ORP Test	NO8: Make-up
NO4: Alkalinity	NO9: Total Hardness
NO5: Calcium Hardness	NO10: Molybdenum



Nanotron



MegatronXS



MegatronMS



Flow Regulator



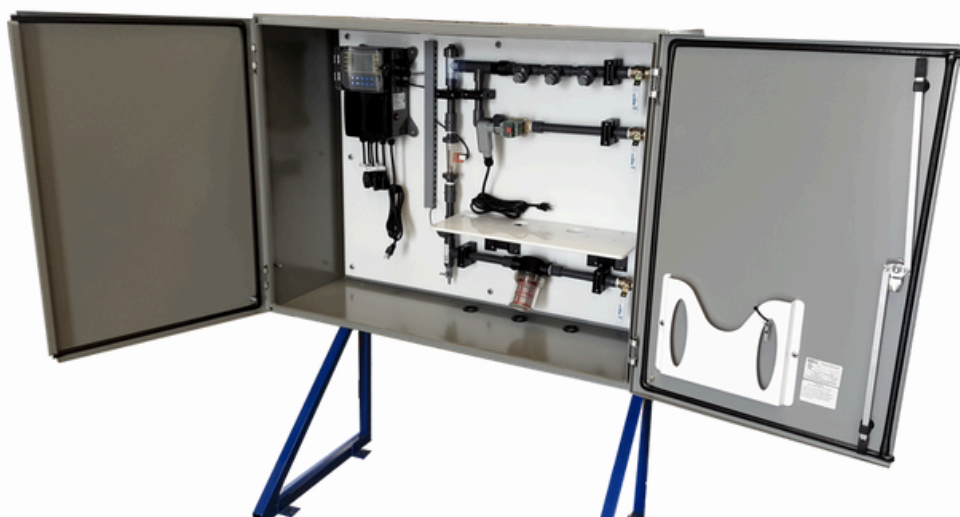
ABV



TDS Sensor



BBS Cabinet



INDUSTRIES WE SERVE



BREWERY



CHEMICAL



CORRUGATOR



DAIRY



F & B



OIL & GAS



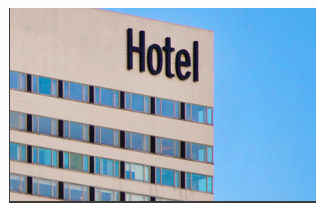
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PHARMA



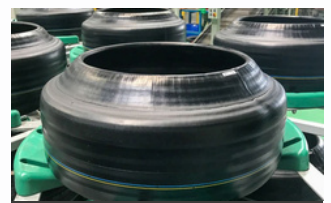
PLYWOOD



HOTEL



TEXTILE



TYRE





Advantage Controls was founded in 1994 with the basic belief in providing exceptional value to our customers and to treat them and our team members like family.

Our product line has grown from the initial offering of simple analog controllers, to the most complete line of equipment available for the industrial water treatment. We can provide the most basic of accessory items or a complete, ready to install prefabricated package, and everything in between.

At Advantage, we believe in the “golden rule” of treating others as we would like to be treated.



MORE RESOURCES



CONTACT US

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