

Steam and Process Control Solutions

Textile Industry

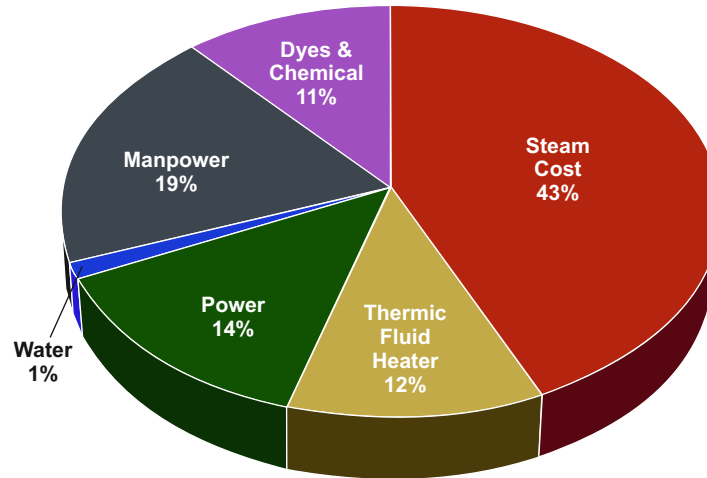


Textile Industry

Textiles (dyeing and printing plants) are energy extensive industries. In the face of rising costs and increased competition, efficient utility management is a major focus area in the textile industry.

For over 70 years, we have partnered the industry in providing solutions in control instrumentation, energy conservation and environmental monitoring. Our teams of the finest engineers are dedicated to serve the process industry across diverse sectors. World class manufacturing facilities and technology enable us deliver quality solutions globally. Our unique complimentary expertise in steam engineering and process control enables us engineer customised systems that improve manufacturing processes, conserve energy and are environmentally sustainable.

Conversion Costs



Energy Savings Potential 26%

Improving Steam:Fuel Ratio

10%

Optimising Boiler Efficiency

6%

Condensate Recovery

4%

Improving Specific Steam Consumption

16%

Steam Leakages

7%

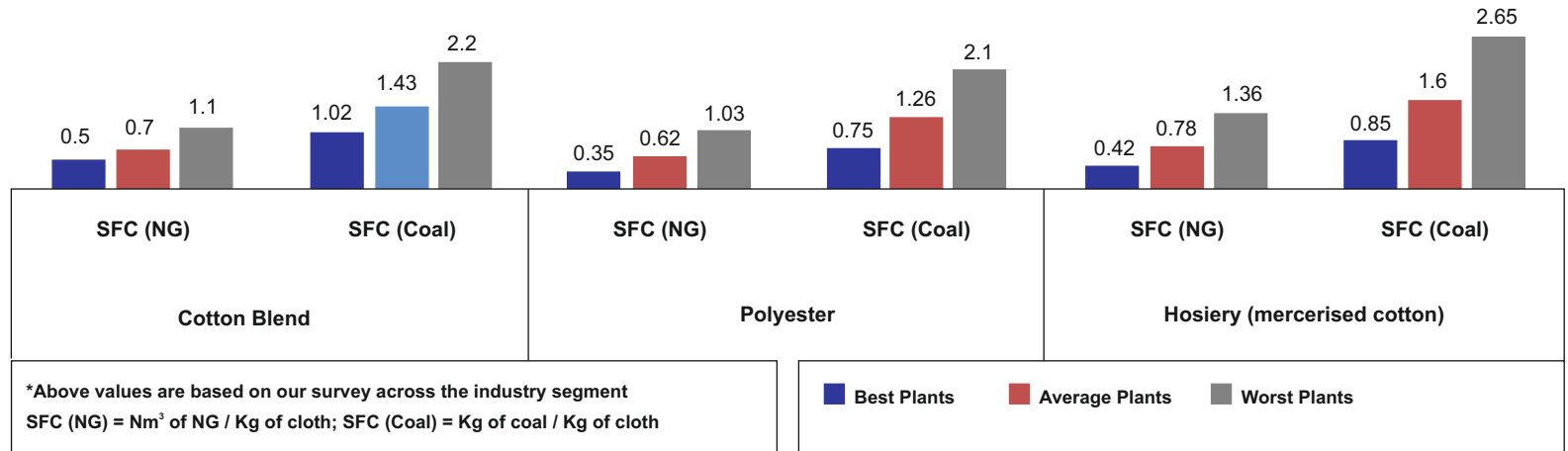
Steam Distribution

3%

Waste Heat Recovery

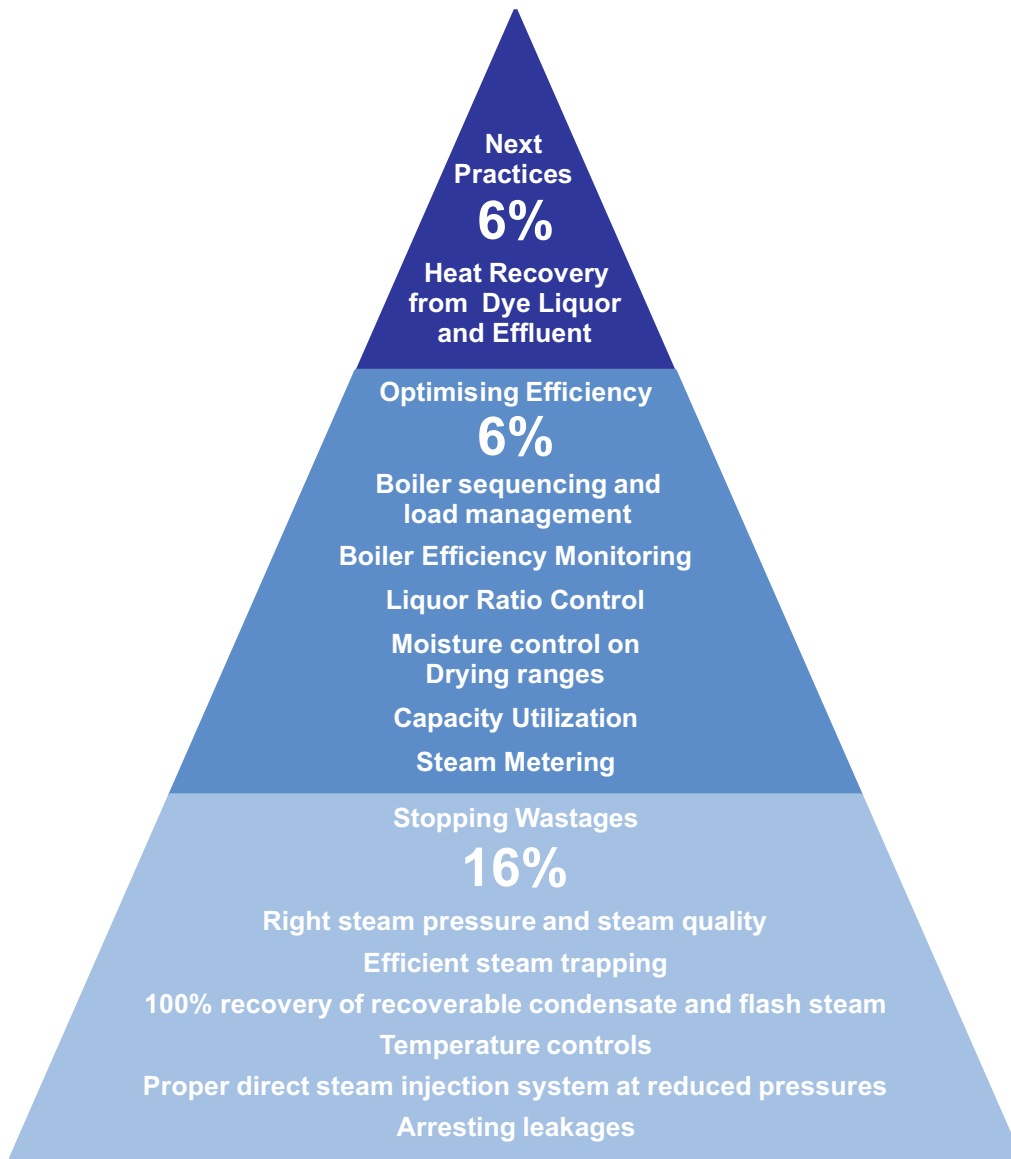
6%

Specific Energy Consumption Norms



Our association with the textile industry over the past seven decades enables us to map specific energy consumption. Our tailored solutions deliver improved plant efficiencies.

Improving Steam Systems in the Textile Industry



Energy Services for the Textile Industry

Forbes Marshall provides services to help build reliable, energy efficient utility systems for the process industry thereby achieving new benchmarks.

1



Basic and Detail Engineering

7



Steam System Training

2



Project Management

8



Energy Audits

3



Steam System Design Hazop

9



Safety Audits

4



Cogen Feasibility and Engineering

10



De-bottleneck Audits

5



Stress Analysis

11



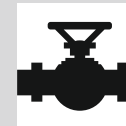
Energy Management System Audits

6



Process Energy Optimisation with Automation

12



Steam System Management

Forbes Marshall Helps Reduce Energy Consumption

“We have a zero downtime steam system for over 5 years of operation with sustained levels of specific steam consumption. Forbes Marshall products for our steam system have enabled the plant to operate at highest levels of productivity and energy efficiencies.”

Leading Textile Plant in West India

“Forbes Marshall condensate recovery solutions have helped us to achieve and sustain a condensate recovery factor of 90% and specific energy consumptions of 1.1 kg of coal/kg of fabric.”

Leading Textile Plant in West India

“Forbes Marshall’s engineering design and products have helped us to benchmark our plant with an SFC of 0.5 kg product/ kg pet coke.”

Leading Yarn Dyeing Plant in North India

“We have increased the productivity level by 30% with reduction in steam utility cost by 40%. With energy audit suggestions from Forbes Marshall, we have switched over from steam purchase model to a new fully automatic biomass boiler. We are currently achieving S:F ratio of 4.5:1 on husk with stable pressure output and zero downtime.”

Leading Textile Plant in Sri Lanka

“We are recovering 100% condensate from our dyeing unit with Forbes Marshall’s condensate recovery system with sustained Condensate Recovery Factor (CRF) of 84%”

Leading Textile Plant in Egypt

“We have revamped our steam system based on recommendations from Forbes Marshall. As a result of arresting leakages in the distribution network by replacing float traps and installing a condensate pump, we have achieved a 17% reduction in the boiler fuel bill. Installation of a Waste Heat Recovery Boiler has further reduced the boiler fuel consumption by 8%”

Leading Textile Plant in Bangladesh



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Forbes Marshall Arca
Codel International
Forbes Vyncke
Forbes Marshall Steam Systems

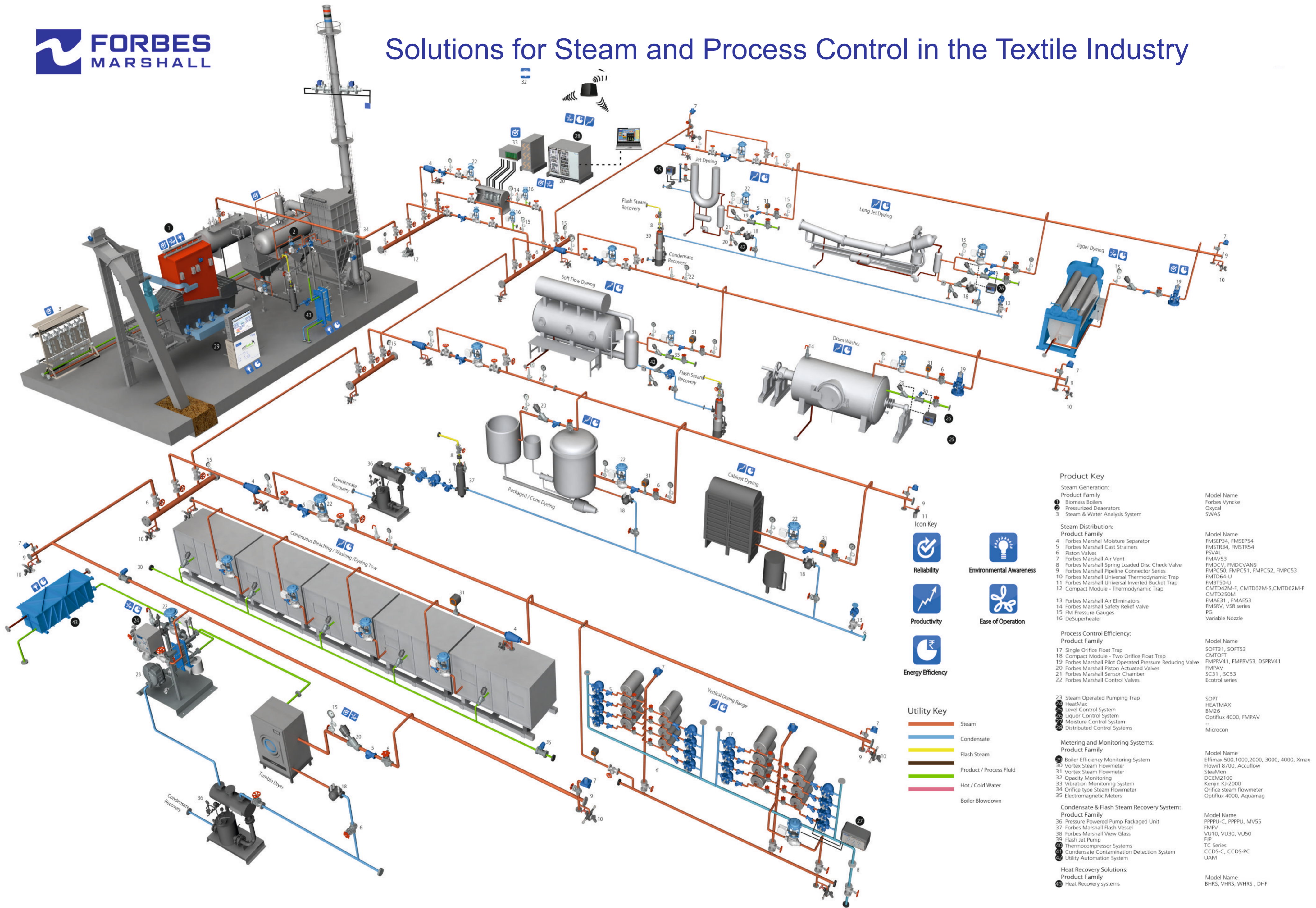
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Solutions for Steam and Process Control in the Textile Industry



- Product Key**
- Steam Generation:**
Product Family
 1 Biomass Boilers
 2 Pressurized Deaerators
 3 Steam & Water Analysis System
- Model Name**
 Forbes Vyncke
 Oxyal
 SWAS
- Steam Distribution:**
Product Family
 4 Forbes Marshall Moisture Separator
 5 Forbes Marshall Cast Strainers
 6 Piston Valves
 7 Forbes Marshall Air Vent
 8 Forbes Marshall Spring Loaded Disc Check Valve
 9 Forbes Marshall Pipeline Connector Series
 10 Forbes Marshall Universal Thermodynamic Trap
 11 Forbes Marshall Universal Inverted Bucket Trap
 12 Compact Module - Thermodynamic Trap
- Model Name**
 FMSEP34, FMSEP54
 FMSTR34, FMSTR54
 PSVAL
 FMAV53
 FMDCV, FMDCVANSI
 FMPC50, FMPC51, FMPC52, FMPC53
 FMFD64-U
 FMBT50-U
 CMTD42M-F, CMTD62M-S, CMTD62M-F
 CMTD250M
 FMAE31, FMAE53
 FMRSV, VSR series
 PG
 Variable Nozzle
- Process Control Efficiency:**
Product Family
 17 Single Orifice Float Trap
 18 Compact Module - Two Orifice Float Trap
 19 Forbes Marshall Pilot Operated Pressure Reducing Valve
 20 Forbes Marshall Piston Actuated Valves
 21 Forbes Marshall Sensor Chamber
 22 Forbes Marshall Control Valves
- Model Name**
 SOFT31, SOFT53
 CMTOFT
 FMPRV41, FMPRV53, DSPRV41
 FMPAV
 SC31, SC53
 Ecotrol series
- Metering and Monitoring Systems:**
Product Family
 23 Boiler Efficiency Monitoring System
 24 Vortex Steam Flowmeter
 31 Vortex Steam Flowmeter
 32 Opacity Monitoring
 33 Vibration Monitoring System
 34 Orifice type Steam Flowmeter
 35 Electromagnetic Meters
- Model Name**
 Effimax 500, 1000, 2000, 3000, 4000, Xmax
 Flowit 8700, Accuflow
 SteaMon
 DCeM2100
 Kenjin KJ-2000
 Orifice steam flowmeter
 Optiflux 4000, Aquamag
- Condensate & Flash Steam Recovery System:**
Product Family
 36 Pressure Powered Pump Packaged Unit
 37 Forbes Marshall Flash Vessel
 38 Forbes Marshall View Glass
 39 Flash Jet Pump
 40 Thermocompressor Systems
 41 Condensate Contamination Detection System
 42 Utility Automation System
- Model Name**
 PPPPU-C, PPPPU, MV55
 FMFV
 VU10, VU30, VU50
 FJP
 TC Series
 CCDS-C, CCDS-PC
 UAM
- Heat Recovery Solutions:**
Product Family
 43 Heat Recovery systems
- Model Name**
 BHRS, VHRs, WHRS, DHF

Icon Key

- Reliability
- Productivity
- Energy Efficiency
- Environmental Awareness
- Ease of Operation

Utility Key

- Steam
- Condensate
- Flash Steam
- Product / Process Fluid
- Hot / Cold Water
- Boiler Blowdown