Product Overview

The optimum components for every application

Engineering steam performance
Steam Traps

BK Range
Steam traps with bimetallic regulator up to PN 630/Class 2500. BK steam traps are suited to the toughest operating conditions. The bimetallic regulator makes this steam trap particularly resistant to waterhammer and frost.

MK Range
Steam traps with membrane regulator up to PN 40/Class 300. The GESTRA thermostatic capsule exhibits very high control precision in discharging the condensate. This range is suitable for both small and large condensate flowrates.

UNA Range
Steam traps with ball float up to PN 160/Class 900. Especially suitable for condensate discharge without banking-up, for extreme and sudden fluctuations of pressure and condensate flowrate.

UNA 25 PK/PS Range
Pump steam trap / condensate lifter PN 40. Pumping effected by means of motive steam of up to 6 or 13 bar for condensate discharge without banking-up, suitable for all operating conditions, low pressure and vacuum applications.

Trap Monitoring
The Vaposcope VK is a sight glass that provides a visual indication of flow in pipelines and monitors the discharge downstream of steam traps. The Vaposcope can be used in horizontal or vertical pipework without any modification.

Non-Return-Valves

Type SBO
Gravity circulation checks are used to prevent gravity circulation in heating and hot-water installations. Depending on the type, they are fitted by union nut to the circulation pump or with a threaded connection at the pump outlet. The SBO types are available from DN 3/4 to DN 1 1/4.

Type RK 41
Made of special brass (DN 15–100) or grey cast iron (DN 125–200) and with metal-to-metal seating, the non-return valve RK 41 is suitable for liquids, gases and vapours, and for use in heating installations. Soft seats available, PN 6–16, DN 15–200, short overall length to DIN EN 558-1, series 49.

Type RK 86
This non-return valve distinguishes itself for standard applications in piping systems as well as for use with corrosive media and low temperatures. Soft seats available, PN 40/Class 300, DN 15–200, short overall length to DIN EN 558-1, series 49.

Type CB
The swing check valve CB 26 is a cost-efficient unit for applications involving liquids, gases and vapours. This range can be supplied in extremely short overall lengths for DN 50–300 and PN 40.

Type BB
The dual-plate check valves BB, DN 50–1000, short overall length to DIN EN 558-1, series 16, are characterized by low pressure losses and high reliability. Also suitable for gaseous media. Special versions are available with plate dampers and various linings.
Continuous and Intermittent Blowdown Valves

Type MPA
For automatic, program-controlled intermittent blowdown of steam boilers and waste-heat boilers. Especially suited for boilers operating without constant supervision (TRD 604). DN 20–50, PN 40–250.

Type BAE
Continuous blowdown valves with adjustable stage nozzle, sampling valve and electric actuator for automatically controlled continuous blowdown. Especially suited for boilers operating without continuous supervision (TRD 604). DN 15–40, PN 40–320.

Cooling Water Control Valves

Type CW
Operating without auxiliary energy, the cooling water control valves type CW, PN 16, DN 25–100, are proportional controllers which regulate the cooling water flowrate of the users or plant components individually as a function of the cooling-water return temperature.

Type BW
Return-temperature control valves are proportional controllers operating without auxiliary energy. PN 40/25, DN 15/20/25/40, with external setting device as optional extra.
BW 31 for hot water
BW 31A for hot oil
Product Overview

Temperature/Pressure Control Valves

**Type 5801**
Directly controlled pressure-reducing valve with large set-point ranges for steam, gases and liquids.

**Type Clorius**
Self-acting temperature control valves of the type Clorius operate as normal- and reverse-acting valves with external feeler. Suitable for applications with steam, gas and liquids.

Control Valves

**Type 701**
For the automatic control of the level, temperature, pressure and flow of liquids in heat engineering and process-control technology. DN 15–100, PN 16/40. With pneumatic or electric actuators.

**Type ZK**
Control valve with multi-stage pressure reduction for high differential pressures up to 560 barg. Suitable for water, condensate and steam. High wear resistance, low noise and highest leakproofness (leakage rate A / Class VI). DN 25-300, up to PN 630/CL 2500. With pneumatic, electric or hydraulic actuator or handwheel.

Background:

Energy Recovery

**Energy Recovery after Continuous Blowdown**

After continuous blowdown, irrespective of whether automatically controlled or manually set, it is easily possible to utilize the dissipated heat. For example, in a GESTRA blowdown flash vessel, the energy generated by the continuous blowdown in the boiler blowdown is recuperated to a large degree by flashing. In a residual blowdown cooler located downstream, the heat remaining in the flash vessel can also be used to preheat the feedwater. Our experienced specialists in industrial systems engineering are available to you for individual advice. In Germany, the heat recovery plants made by GESTRA are eligible for an investment subsidy; according to the Income Tax Law and the Investment Subsidy Law, the grant amounts to 7.5 %.

Steam Trap Testing

**Diagnostic tool for testing, analysing and evaluating steam trap operation**

VKP 41plus (Ex) can detect leaks in steam systems and calculate steam loss and CO₂ emissions.

Spare Part Kits

By using genuine GESTRA spare parts, you can be sure that your equipment will continue to function perfectly, that no problems will occur during installation and that the right materials have been selected with regard to the required pressure and temperature stability. Naturally, the GESTRA warranty also applies to the spare parts to the full extent and all statutory provisions are met.
Feedwater tank with deaerator
Live steam
Blowdown flash vessel
Blowdown receiver
Cooling water
Pulse from intermittent blowdown valve
Steam boiler
Continuous blowdown valve
Intermittent blowdown valve
From the feedwater tank
Residual blowdown cooler
Make-Up Water

Schematic diagram of a blowdown flash installation with blowdown receiver

*) Calorific value of fuel 37,700 KJ/kg; efficiency 85%; feedwater temperature 10 °C
GESTRA Steam Boiler Equipment – SPECTOR module –
For operation without constant supervision according to EN 12953
### Key Function

<table>
<thead>
<tr>
<th></th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low-level limiter of “high-integrity design”: level electrode NRG 16-50, level switch NRS 1-50, SIL 3</td>
</tr>
<tr>
<td>2</td>
<td>Separate high-level alarm of “high-integrity design”: level electrode NRG 16-51, level switch NRS 1-51, SIL 3</td>
</tr>
<tr>
<td>3</td>
<td>Level control with high-level alarm and remote water level indicator: level probe NRG 26-21, level controller NRR 2-52, control terminal and display unit URB 50 und control valve V 725</td>
</tr>
<tr>
<td>4</td>
<td>Water level gauge</td>
</tr>
<tr>
<td>5</td>
<td>Conductivity measurement with indication, limit switch and continuous blowdown control: conductivity electrode LRGT 16-2, continuous blowdown controller LRR 1-53, continuous blowdown valve BAE, control terminal and display unit URB 50</td>
</tr>
<tr>
<td>6</td>
<td>Sample cooler</td>
</tr>
<tr>
<td>7</td>
<td>Blowdown flash vessel</td>
</tr>
<tr>
<td>8</td>
<td>Residual blowdown cooler</td>
</tr>
<tr>
<td>9</td>
<td>Automatic intermittent blowdown: intermittent blowdown valve MPA, pilot valve</td>
</tr>
<tr>
<td>10</td>
<td>Blowdown receiver</td>
</tr>
<tr>
<td>11</td>
<td>Pressure limiter DSF</td>
</tr>
<tr>
<td>12</td>
<td>Pressure transmitter DRT</td>
</tr>
<tr>
<td>13</td>
<td>Pressure gauge</td>
</tr>
<tr>
<td>14</td>
<td>Safety valve GSV</td>
</tr>
<tr>
<td>15</td>
<td>Safety temperature monitor/limiter: resistance thermometer TRG, temperature switch TRS 5-50, SIL 3</td>
</tr>
<tr>
<td>16</td>
<td>Thermometer</td>
</tr>
<tr>
<td>17</td>
<td>Strainer</td>
</tr>
<tr>
<td>18</td>
<td>Vent valve</td>
</tr>
<tr>
<td>19</td>
<td>Stop valve (also in bypass)</td>
</tr>
<tr>
<td>20</td>
<td>Non-return valve</td>
</tr>
<tr>
<td>21</td>
<td>Electrical or pneumatic control valve V 725</td>
</tr>
<tr>
<td>22</td>
<td>Feedwater pump</td>
</tr>
<tr>
<td>23</td>
<td>Monitoring of the feedwater/condensate</td>
</tr>
<tr>
<td>24</td>
<td>Burner control unit</td>
</tr>
<tr>
<td>25</td>
<td>Burner</td>
</tr>
<tr>
<td>26</td>
<td>Superheater</td>
</tr>
<tr>
<td>27</td>
<td>Economizer</td>
</tr>
</tbody>
</table>

### The benefits in detail

1. **No risk of overheating:**
   - Patented thermal barrier in cylindrical body above electrode flange
   - Electronic temperature protection in the terminal box
   - Minimization of thermal effects

2. **Easy installation and maintenance:**
   - Freely accessible connecting terminals in the control units
   - Large terminal box for easy installation

3. **Reduced cost:**
   - Minimized inventory and reduced spare parts
   - Supply voltage 24 VDC, i. e. independent of national supply voltages
   - Supply via reliable networks possible without additional components (inverters)
   - Intuitive operating using rotary push-button
   - Indication by 7-segment digital display

4. **Increased safety:**
   - SIL 3 certification

5. **SPECTORmodule Touch**
   - Separation of power components and operating level, i. e. no elaborate wiring needed in the control cabinet.
   - Use of a colour touch display for intuitive, clear operating that is language-neutral