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.

BK 45
In applications up to Class 300. For air-venting.

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.

MK 45–2
For large condensate flowrates, up to 465 psig. For air-venting.

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 1 *(left) and* ***UNA 4***
Adaptable for horizontal or vertical installation.

UNA 25 PK/PS Range
Pump steam trap / condensate lifter. Pumping effected by means of motive steam of up to 87 or 188 psig for condensate discharge without banking-up, suitable for all operating conditions, low pressure and vacuum applications.

UNA 25 PK
Automatic activation of motive steam.

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.

Type VK

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 3/4" to 1 1/4".

Type RK 41
Made of special brass (1/2"-4") or grey cast iron (5"-8") 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, 1/2"-8", 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, 1/2"-8", 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 2"-12" and PN 40.

Type BB
The dual-plate check valves BB, 2"-40", 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

SBO 21

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). 3/4"-2", rated to ANSI1500.

MPA 46

RK 41

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). 1/2"-2", rated to ANSI1500.

BAE 46

RK 86

Cooling Water Control Valves

Type CW
Operating without auxiliary energy, the cooling water control valves type CW, PN 16, 1"-4", 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.

CW 44

CW 41

CB 26

BB

Type BW
Return-temperature control valves are proportional controllers operating without auxiliary energy. ANSI250, 1/2", 3/4", 1", with external setting device as optional extra.
BW 31 for hot water
BW 31A for hot oil

BW 31

Temperature/Pressure Control Valves

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

Self acting temperature control valves for heating and cooling
Self-acting temperature control valves operate as normal- and reverse-acting valves with external sensor. Suitable for applications with steam, gas and liquids.

Control Valves

Type ZK
Control valve with multi-stage pressure reduction for high differential pressures. Suitable for water, condensate and steam. High wear resistance, low noise and low leakage (leakage rate A / Class VI). 3/4"-6", 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 consultation.

Steam Trap Testing

Diagnostic tool for testing, analysing and evaluating steam trap operation
VKP 41*plus* (Ex) can detect leaks in steam systems and calculate steam loss and CO_2 emissions.

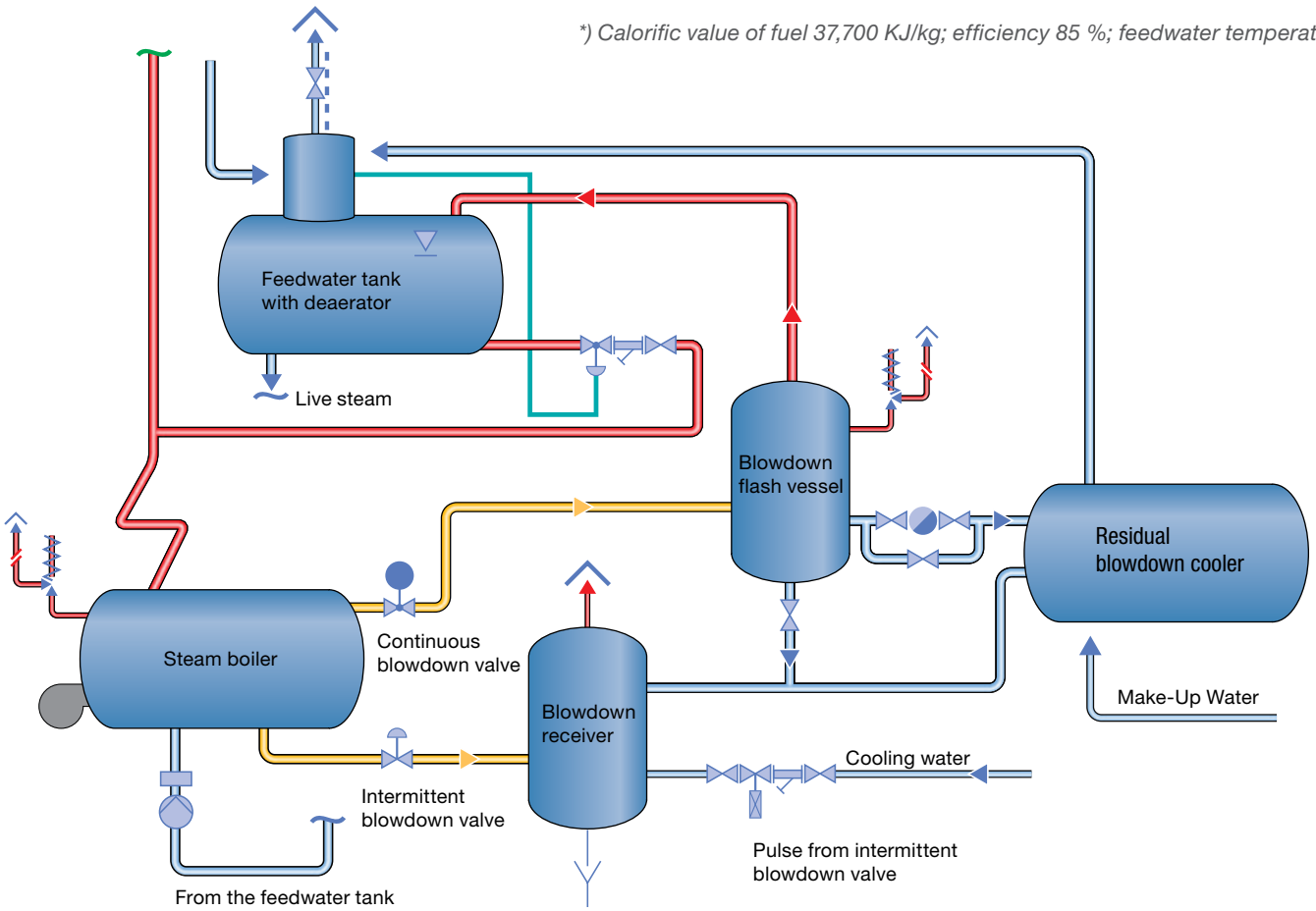
Spare Part Kits

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.

Boiler pressure		psig	116	232	464
Hourly heat savings when the continuous blowdown flowrate is reduced by 44, 110 and 220 lb/h	44 lb/h	W	4,126	4,844	5,231
		kJ/h	14,852.8	17,436.8	18,832
	110 lb/h	W	10,314	12,109	13,078
		kJ/h	37,132	43,592	47,080
	220 lb/h	W	20,629	24,218	26,156
		kJ/h	74,264	87,184	94,160
Annual savings of heating oil or energy costs when the continuous blowdown flowrate is reduced by 44, 110 and 220 lb/h (taking 250 days with 24 hours = 6,000 hours) *)	44 lb/h	lb	5,786	6,852	7,427
		$	937	1,109	1,201
	110 lb/h	lb	14,982	17,648	19,087
		$	2,425	2,857	3,090
	220 lb/h	lb	30,309	35,643	38,521
		$	4,907	5,839	6,237
Equipment investment on basis of WÜ100; units with TUV and EU type approval (with Reactomat) not incl. installation		approx. $	4,324	4,324	4,324
Equipment amortization when the top blowdown quantity is reduced by 44, 110 and 220 lb/h	44 lb/h	Months	55	47	43
	110 lb/h	Months	21	18	17
	220 lb/h	Months	10.6	9	8.3

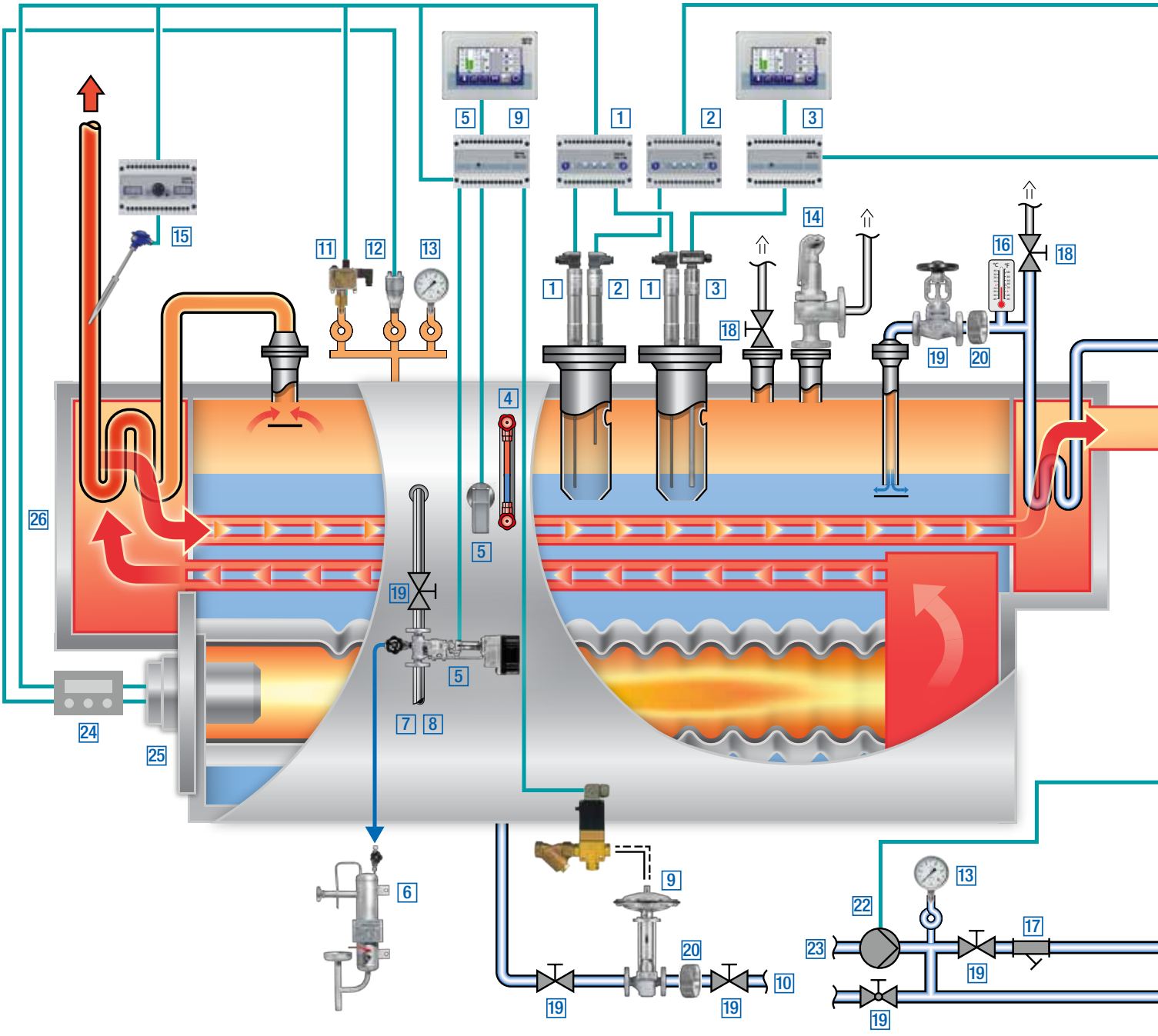
*) Calorific value of fuel 37,700 KJ/kg; efficiency 85 %; feedwater temperature 50 °F

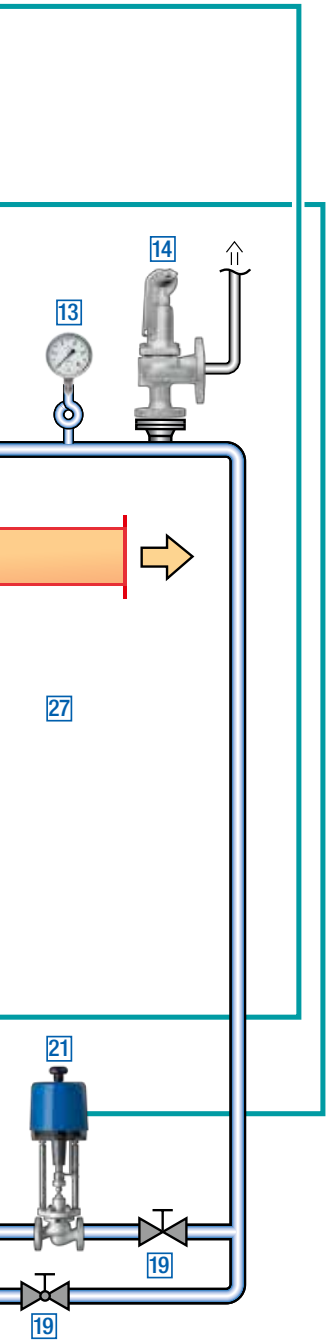
Schematic diagram of a blowdown flash installation with blowdown receiver



GESTRA Steam Boiler Equipment – SPECTORmodule –

For operation without constant supervision according to EN 12953





Key	Function
1	Low-level limiter of “high-integrity design”: level electrode NRG 16-50, level switch NRS 1-50, UL PER ASME CSD-1
2	Separate high-level alarm of “high-integrity design”: level electrode NRG 16-51, level switch NRS 1-51
3	Level control with high-level alarm and remote water level indicator: level probe NRGT 26-2, level controller NRR 2-52/53, control terminal and display unit URB 55 und control valve V 725
4	Water level gauge
5	Conductivity measurement with indication, limit switch and continuous blowdown control: conductivity electrode LRGT 16-2, continuous blowdown controller LRR 1-53, continuous blow down valve BAE, control terminal and display unit URB 55
6	Sample cooler
7	Blowdown flash vessel
8	Residual blowdown cooler
9	Automatic or manual intermittent blowdown: intermittent blowdown valve MPA, pilot valve
10	Blowdown receiver
11	Pressure limiter DSF
12	Pressure transmitter DRT
13	Pressure gauge
14	Safety valve GSV
15	Safety temperature monitor/limiter: resistance thermometer TRG, temperature switch TRS 5-50, SIL 3
16	Thermometer
17	Strainer
18	Vent valve
19	Stop valve (also in bypass)
20	Non-return valve
21	Electrical or pneumatic control valve
22	Feedwater pump
23	Monitoring of the feedwater/condensate
24	Burner control unit
25	Burner
26	Superheater
27	Economizer

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

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