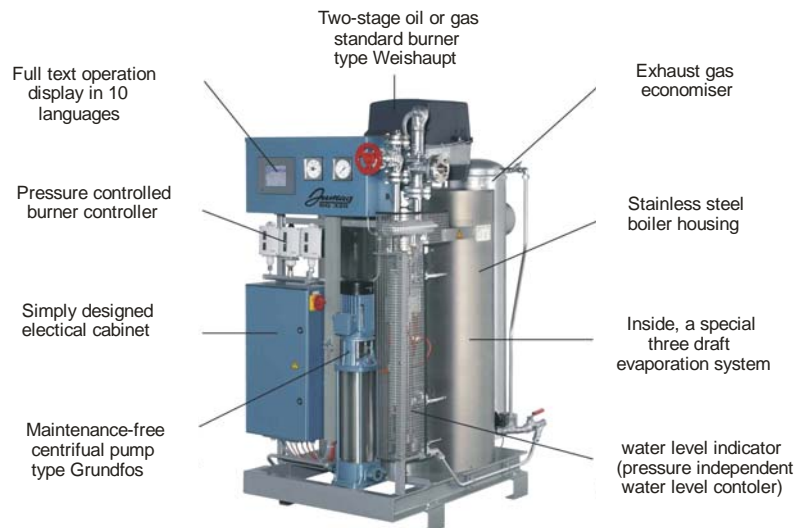


Benefits of JUMAG steam generators

We would once again like to present the benefits of our JUMAG steam generators in detail:

- **Robustness** (our evaporation system has a 6 - 8 mm boiler wall material thickness)
- **Simple operation** - just switch on, clarify in the evening and switch off. (No start-up procedure)
- **Top steam quality** due to the constructional design (water space and steam space)
- **High quality standards** due to the use of commercial quality parts, e.g. of Grundfos - Weishaupt - Danfoss - Siemens - Klöckner Moeller – ARI.
- **Extreme operational reliability** due to the simple and compact total construction (very few wear parts and electronic components)
- **High economic efficiency** due to the use of the exhaust gas heat and deactivation of the burner fan when not heating
- **Self-monitoring** by means of SPS (programmable logic controller) and sensor technology
- **Touch screen panel** for simple, menu-guided control; language selectable
- **20 years spare part guarantee**; you can still get spare parts for Jumag steam generators manufactured in 1980
- **Approval and TÜV** monitor-free within Germany and many neighbouring countries
- Simple installation as a **multiple steam generator unit** with steam generating capacities up to 1,440 kg/h
- **Certificates** for EEC type examination, certificate of conformity and CE mark



In detail:

1. Jumag steam generators are subject to less wear than pipe coil boilers due to the lower water-steam speeds.
2. The steam quality of Jumag steam generators is substantially better than that of pipe coil boilers due to the given water/steam space; the lower water content in the steam additionally results in less wear of fittings and pipelines.
3. Jumag steam generators are operated with maintenance-free Grundfos centrifugal pumps, while pipe coil boilers are operated with piston pumps or expensive special pumps. These pumps have sleeves and valves, which are likewise subject to higher wear, contrary to a maintenance-free centrifugal pump.
4. Piston pumps may generally not be operated with feed water hotter than 80° C, special pumps not under 90°C. The centrifugal pumps installed in the Jumag steam generators can be used in a temperature range of 10°C to 120°C.
5. Jumag steam generators are started up during manual operation by pressing the starter button, pipe coil boilers must however be started up in circular flow operation and the steam valves are only opened after a certain temperature has been achieved. Hot steam then flows into the cold pipes and fittings.
6. Many manufacturers let the burner fan continue to run after shutting down the energy input to prevent the boiler temperature from rising; this results however in substantial energy losses. JUMAG steam generators store this energy.
7. The JUMAG exhaust economiser recovers thermal energy from the exhaust gas and the feed water is preheated from the outset. Some energy is still even absorbed by 90°C condensate from the approx. 190°C hot exhaust gas.
8. JUMAG steam generators are, contrary to many other manufacturers, all equipped with standard Weishaupt burners and the Weishaupt customer service is available worldwide. Nearly all local heating engineers can service the burner, thereby saving service costs.
9. A possible later switchover to a different source of energy, e.g. from oil to gas operation or vice versa, can be easily accomplished on Jumag steam generators by simply exchanging the burner.
10. A lot of useful information can be recalled on the touch panel by means of the new, self-explanatory, full text PLC controller. Helpful information is also displayed, if malfunctions should occur (Cause/ fault clearance/ help), which can be stored with specification of the precise day and time and be recalled later.
11. The full text of our new controller can currently be displayed in 7 languages (German-English-Spanish-French-Turkish-Danish-Flemish-Slovenian) and is updated as necessary. The languages can be selected easily.

12. The control cabinet of a JUMAG steam generator is simply designed and equipped with very few electrical components. These are exclusively Siemens, Klöckner-Moeller, Fanal, and Weidmüller quality parts.
13. Jumag steam generators fulfil the new European Pressure Device Guideline 97/23/EC and the operator does not require TÜV-monitoring, approval or registration (FRG).
14. Item 13 also applies to multiple steam generator units (two, three or four parallel steam generators with a steam generating capacity of up to 1,440 kg/h).
15. Principal reason for planning and operating a multiple unit (e.g. 1-ton steam with 3 Jumag DG360 units) opposite a single boiler (e.g. 1-ton boiler) is the availability. The operator of a single boiler has no steam at all in the case e.g. of a clogged burner nozzle, a leaking ball valve or an electrical malfunction; however still 66% of the total steam generating capacity with a three-fold unit.
16. A multiple steam generator unit can also meet the demand better and is therefore more economical. A boiler attendant is not necessary.
17. The partially less stringent installation regulations also speak in favour of a multiple unit. Ask your locally responsible chimney-sweeper in this respect.



We would be pleased to receive your order, if we have managed to convince you of the **benefits of our Jumag steam generators**. You will enjoy a **long-term reliable, durable, and extremely cost-effective steam supply**.

We will be pleased to answer further questions and remain

Yours sincerely,
Jumag Dampferzeuger

Dipl.-Ing. (FH) *Karl Preis*

- Managing director