



# eneva

Energy Engineering

# INDIRECT STEAM GENERATORS



ENEVA Enerji Sistemleri Muhendislik Sanayi ve Ticaret Ltd. Sti.

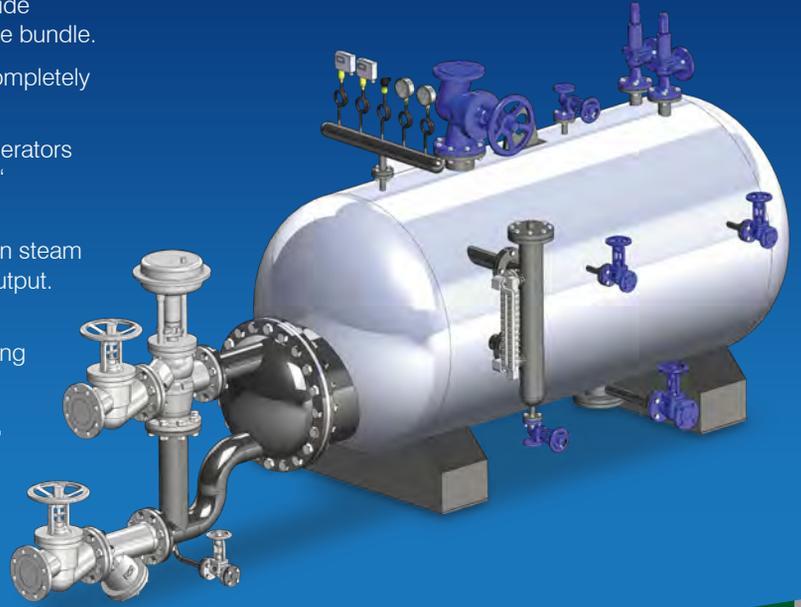
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- Indirect steam generators are used to produce saturated or superheated steam indirectly, using higher pressure steam, thermal oil or another heat carrier which already exist in the plant. By doing this way there will be no need for additional boiler room investment. (Fuel piping, chimney etc.)
- ISG type steam generators operates with primer fluid flowing inside tube bundles and seconder fluid (steam) produced outside of the bundle.
- Thanks to flanged design, tube bundle could be disassembled completely and easily for renewing or maintenance purposes.
- ENEVA can supply completely stainless steel indirect steam generators named "Clean Steam Generator" or "Hygienic Steam Generator" for medical sector or food processing plants.
- Our design makes sure enough water storage volume for sudden steam load variations and enough evaporating surface for dry steam output.
- In special cases, feed water preheaters are used to heat up the feed water for decreasing heating fluid flow rate and increasing system thermal efficiency.
- Steam generators are controlled with a primer fluid control valve, e.g. three way valve for thermal oil-steam or two way valve for steam-steam applications.
- Steam generators are designed and equipped with all auxiliaries in accordance with the norm of EN 12953.
- For steam production from higher pressure steam, 2 bar difference is enough between primer and produced steam.
- For steam production from thermal oil, 10 °C temperature difference is enough between oil outlet and prduced steam temperatures.



## PRODUCT SPECIFICATION

- Horizontal or vertical type with removable heating bundle
- Carbon steel or completely stainless steel manufacturing
- Custom designed vertical or horizontal types up to space requirements
- Design and manufacturing up to 5 MW thermal capacity and 30 barg pressure
- Optimized steam/water volume and steaming surface
- EN 12953 - 2014/68 EU PED CE certification (up to request)
- User friendly design with easy maintenance, cleaning and bundle renewing

## DELIVERY OPTIONS

- Armature and instruments according to EN 12953 norm
- Capacity automatic control valve (pneumatic or electrical driven)
- PLC control panel and cabling
- Automatic surface and bottom blowdown systems
- Feed water preheaters
- Super heater unit for superheated steam needs
- Feed water tank and pump unit
- Spare heating bundle for emergency needs

## COMMON APPLICATION AREAS

- Hospitals for hygienic steam needs
- Food factories
- Drink factories
- Perto chemical plants
- Textile insdusry
- Packaging industry
- Power plants