



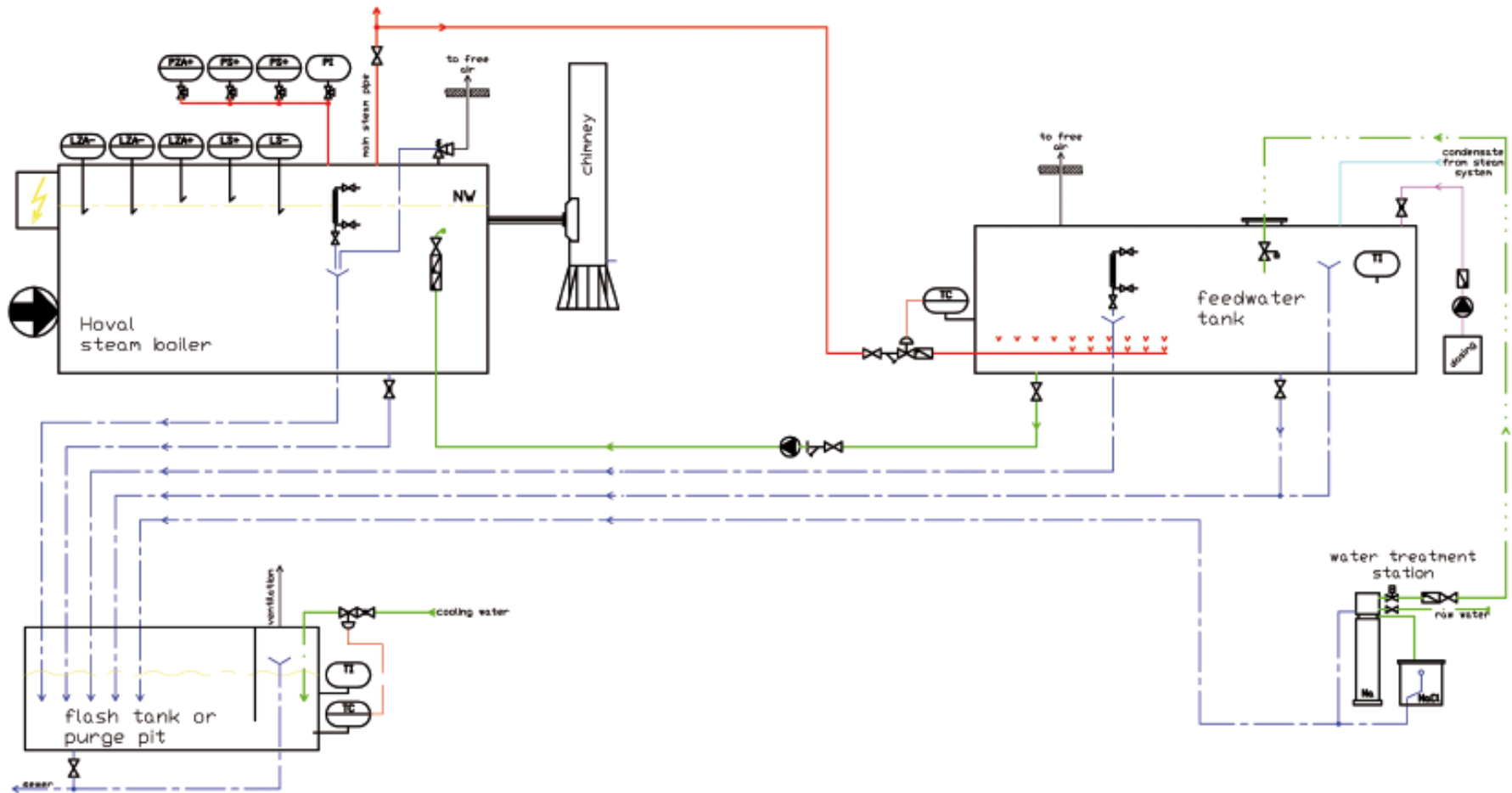
Industrial boilers

Hoval

Vaduz, March 2013

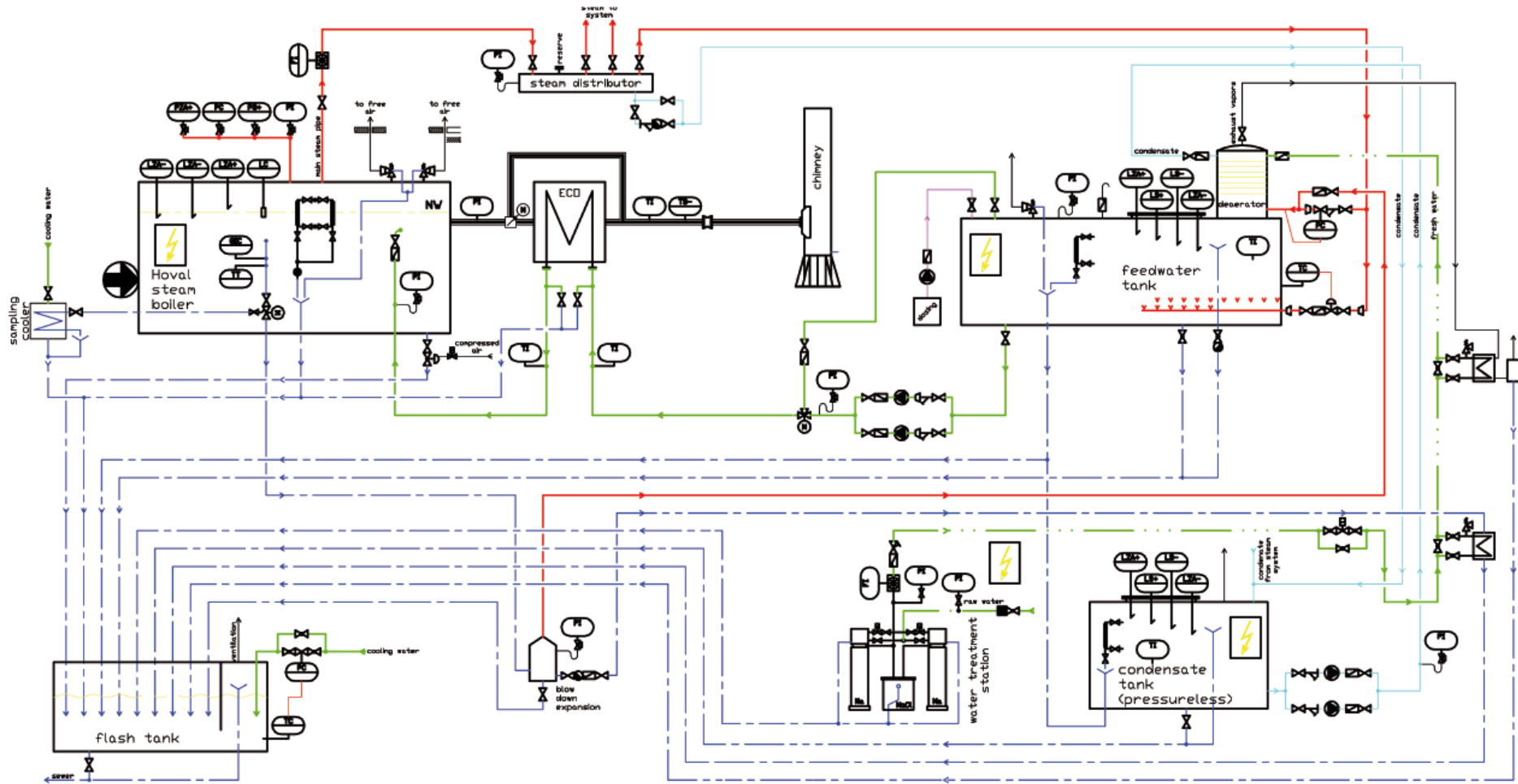
Hoval System Solution (P&ID) steam boiler plant

Hoval



Hoval System Solution (P&ID) steam boiler plant

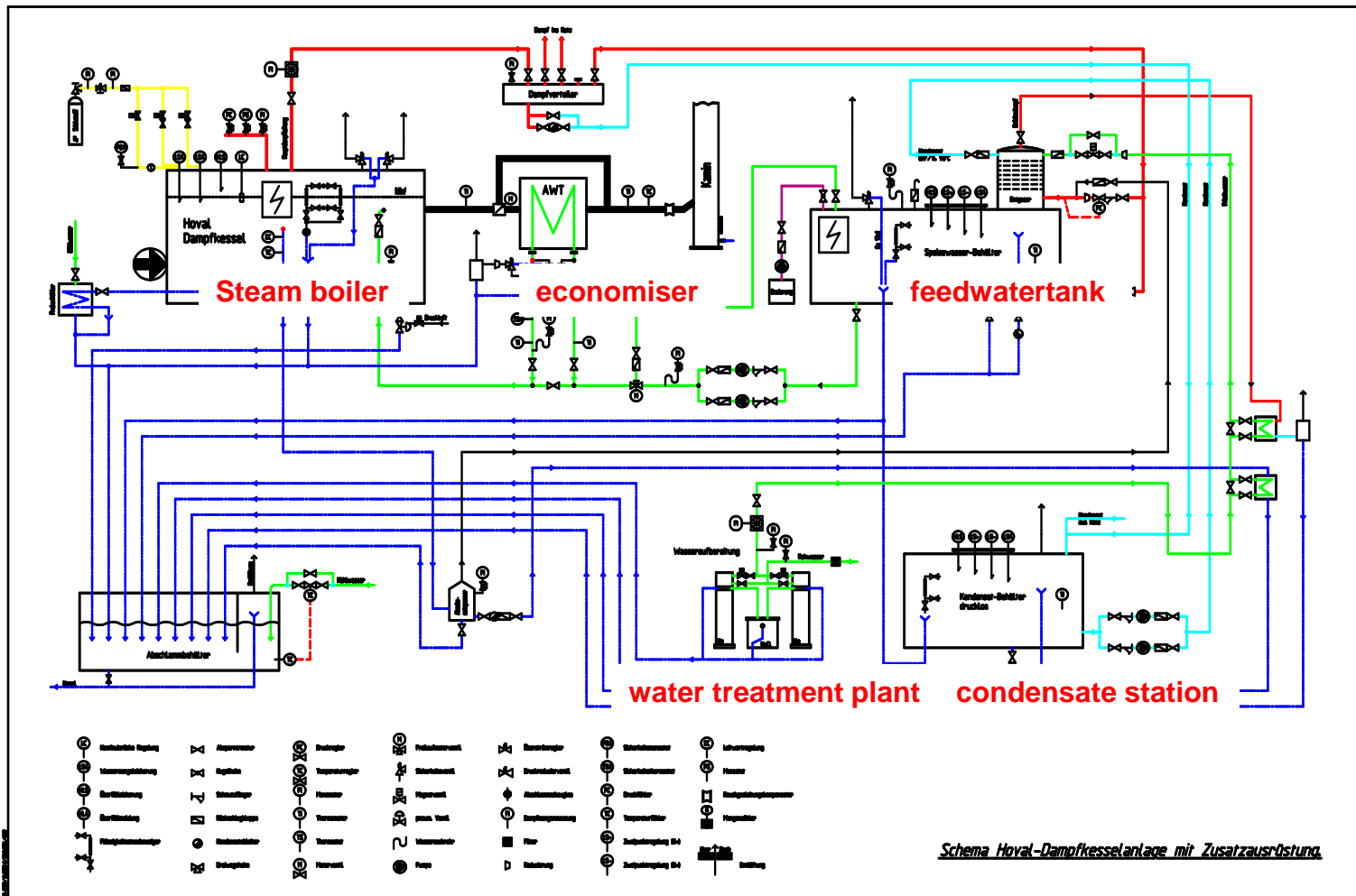
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Equipment of steam boiler plants

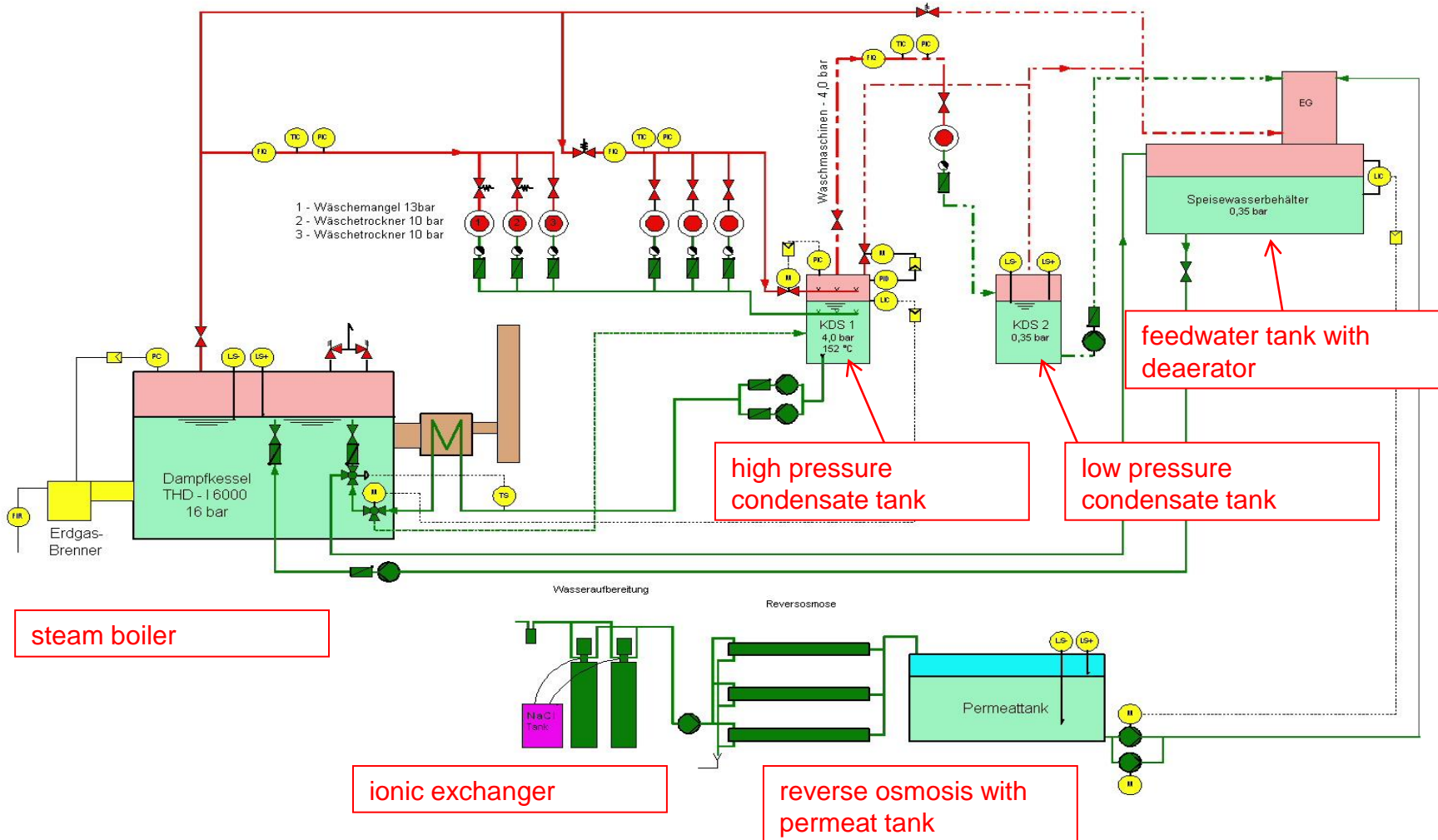
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Main equipment for steam boiler plant



Equipment of steam boiler plants for high plant efficiency

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Water treatment station (softener)

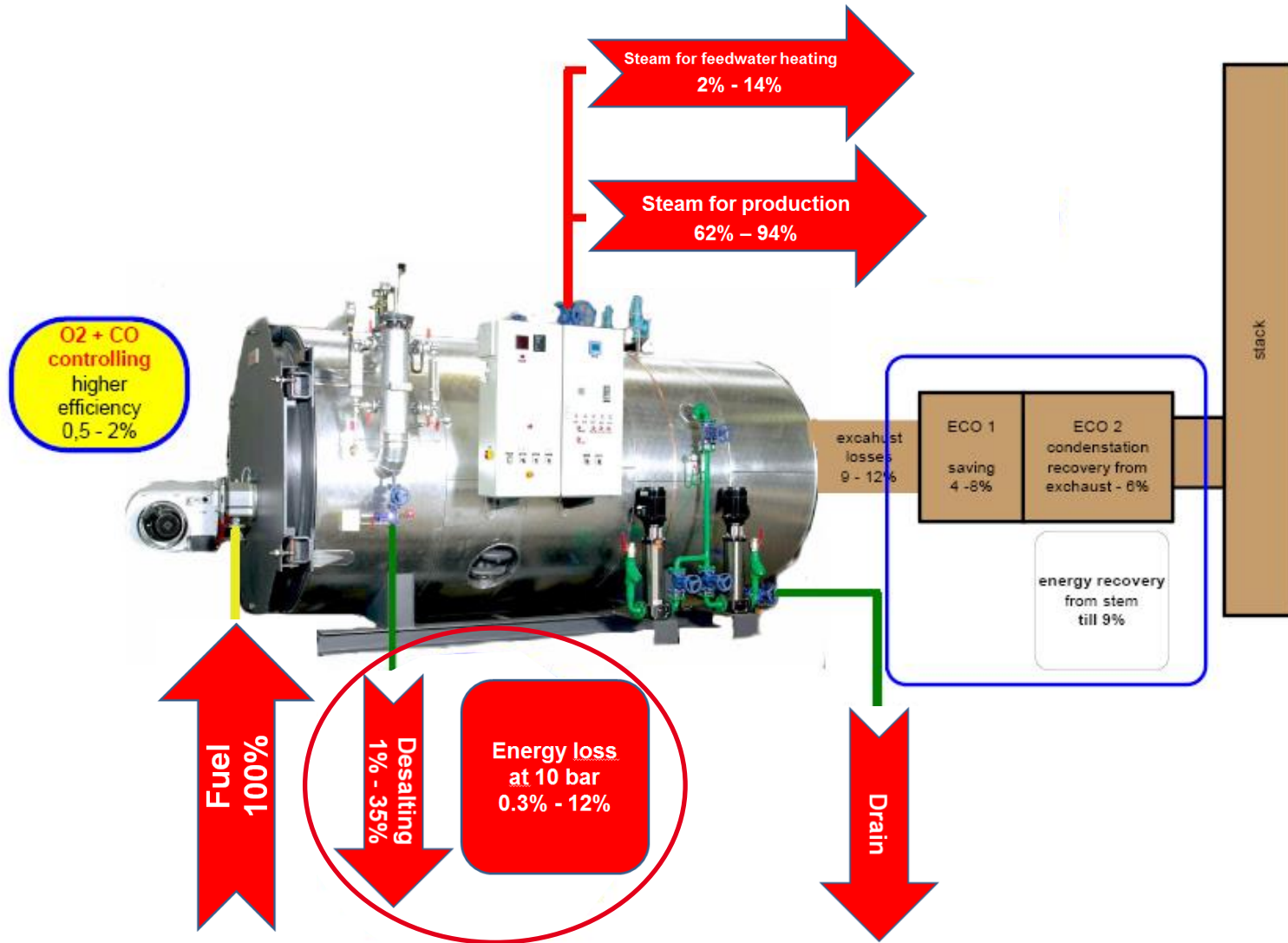
B) Desalination rate referring to water treatment plant

	<i>Ionic exchanger</i>	<i>Partial / Complete demineralisation</i>	<i>Reverse osmosis</i>
Investment	low	medium	high
Required space	low	high	medium
Operating facilities	low	high	low
Boiler desalination	high	medium/low	low
Treatment plant drain	medium	low	low

Parameter: raw-water hardness, condensate quantity, quality of steam

Energy circle of boilers

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Hoval equipment installed:

Picture above:

- Boiler type: 1 x Hoval THSD-I 170/160 E (17 to/h steam)
- Burner: Saacke
- Fuel: natural gas (H)

Picture below:

- Boiler type: Hoval 6 x THW-I 210/200 HTE (20 MW)
- Burner: Dreizler
- Fuel: natural gas (H) and light fuel oil (diesel)

Hoval Steam boilers advantages at a glance:

- High efficiency rate – up to 90% even without economizer.
- Complete systems including boilers, feedwater tanks, deaerator, condensate tanks, blow down tanks, etc. from one hand.
- Easy to install, easy to operate, easy to maintain.



Paper production, Petula, DE

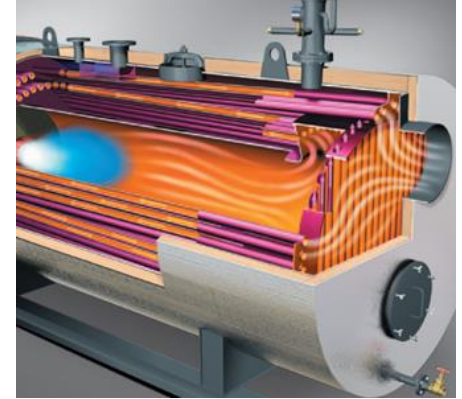


Severnoye Domodedovo, Moscow, RU

Economical Cost effectiveness



Hoval



- Cost-efficient solution due to low investment costs
- Best effectiveness due to built in
 - water cooled fin tube wall at flame tube rear wall
 - dimpled tubes at THD-U boiler series
- Power saving and high efficiency
 - due to smooth heating surfaces
 - boiler design calculated according to actual rules

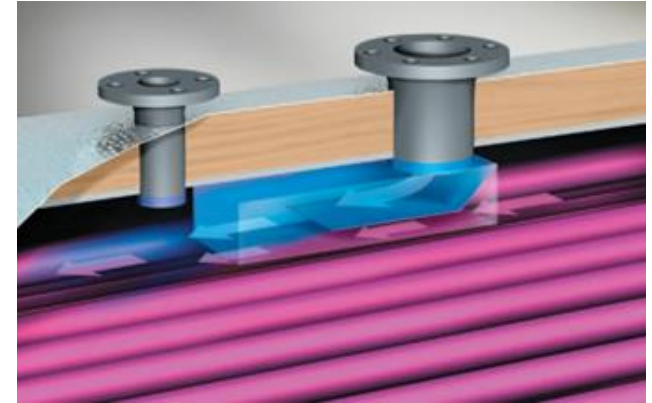
Conservation of energy – protection of the environment



- Environment friendly due to lowest noxious emission
- Low CO₂ emissions due to minimal consumption
- Outstanding low emissions values due to power adjustment (modulation) of LowNO_x burners
- Low fuel consumption due to special calculated heat transfer areas resulting in high boiler efficiency

**Clever
Perfect solution**

Hoval



- Large range of applications due to flexible combination options
- Space-saving due to compact design
- Simple installation due to high flexibility in positioning

Easy to use
Simple handling

Hoval



- Easy to use due to intelligent design details
- Convenient and accessible remote maintenance by using TopTronic® online (THW-I...NTE)
- Large boiler front door which guarantees easy access for cleaning of boiler and burner service
- Boiler door hinged – no special lifting or support tools necessary
- No fire proof concrete at back wall of boiler

All hot water and Steam boilers are also available with Economizer !

Hot water boilers:

Hot water boiler :

THW-I NT E

High temperature hot water boiler:

THW-I HT E

Steam boilers:

3-pass reversed flow principle

THD-U

3-pass

THSD-I E

Accessories:

- SPW-D (Feedwater tank pressure less)
- SPW-E (Feedwater tank with deaerator)
- KDS (Condensate tank)
- ABS (blow down tank)

Hot water boiler

■ THW-I NT E

Hot water boiler max. 10 bar(g), 120°

■ THW-I HT E

High temperature hot water boiler max. 16 bar(g), 204,3°

Steam boiler, for saturated steam

■ THD-U, THSD-I E

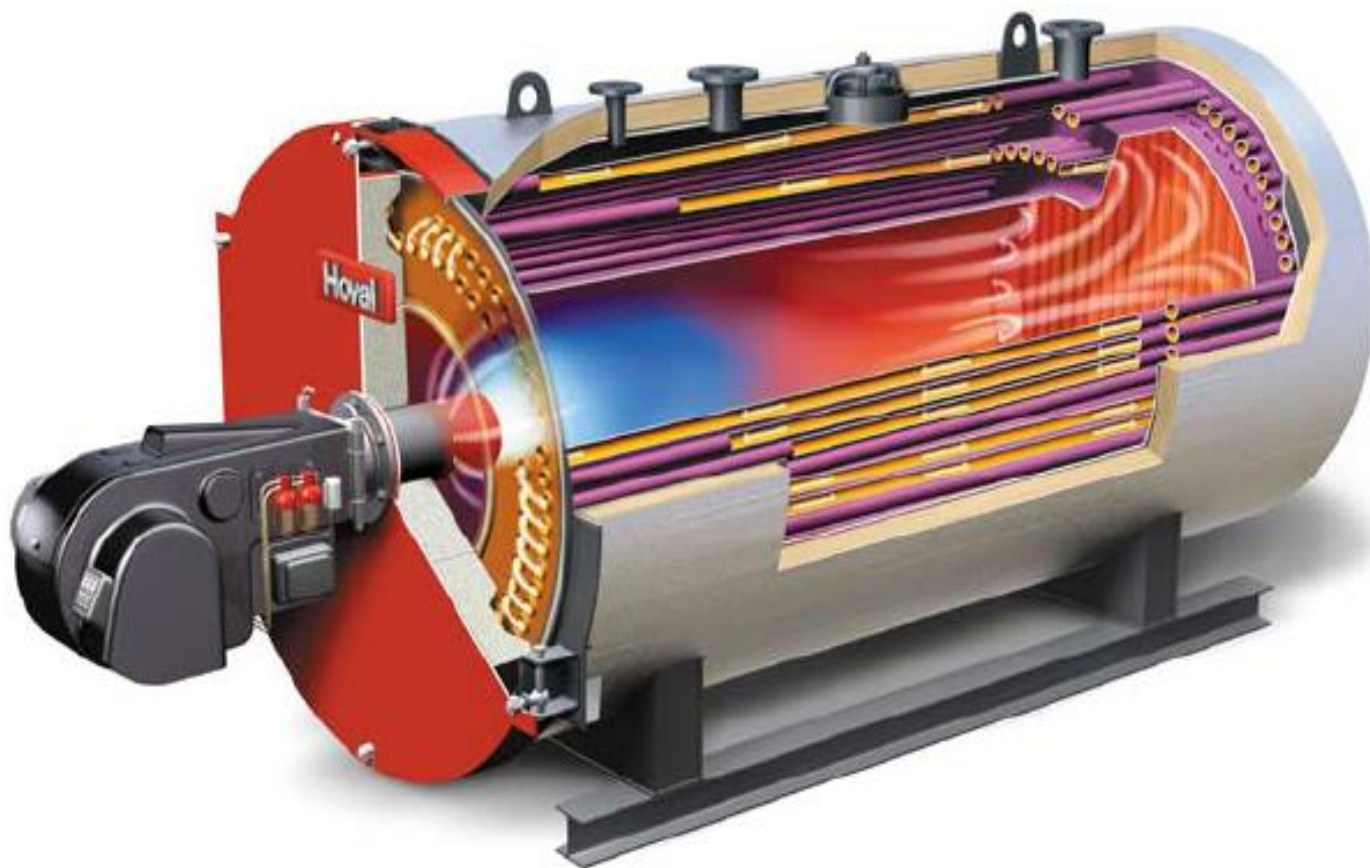
Design press. max. 16 bar(g) and 204,3°C



THW-I NTE
1500-20000 kW
6 and 10 bar
STB 120°C
(Safety temperature limiter)

Hot water boiler THW-I NTE

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High temperature - hot water boiler THW-I HTE

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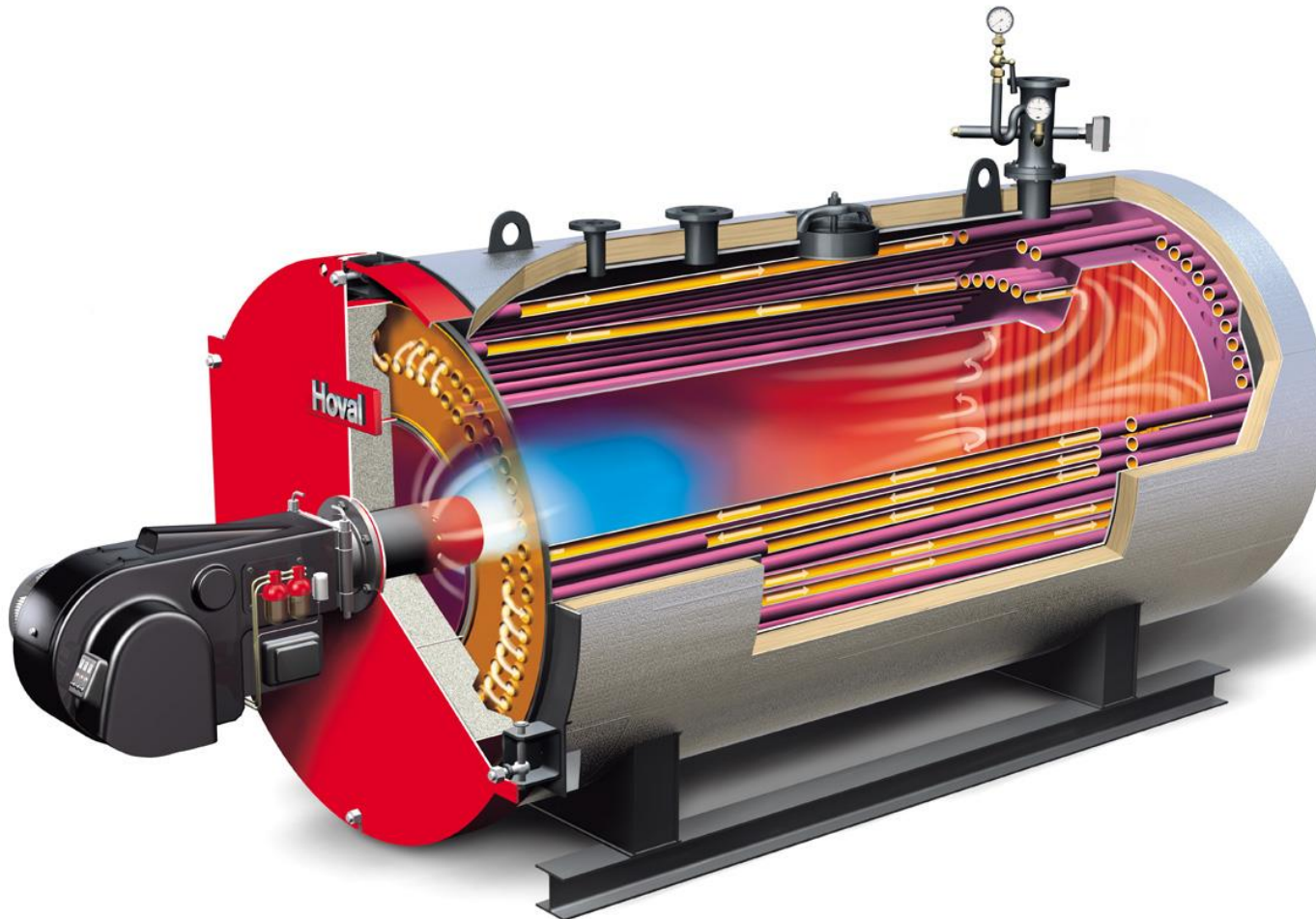


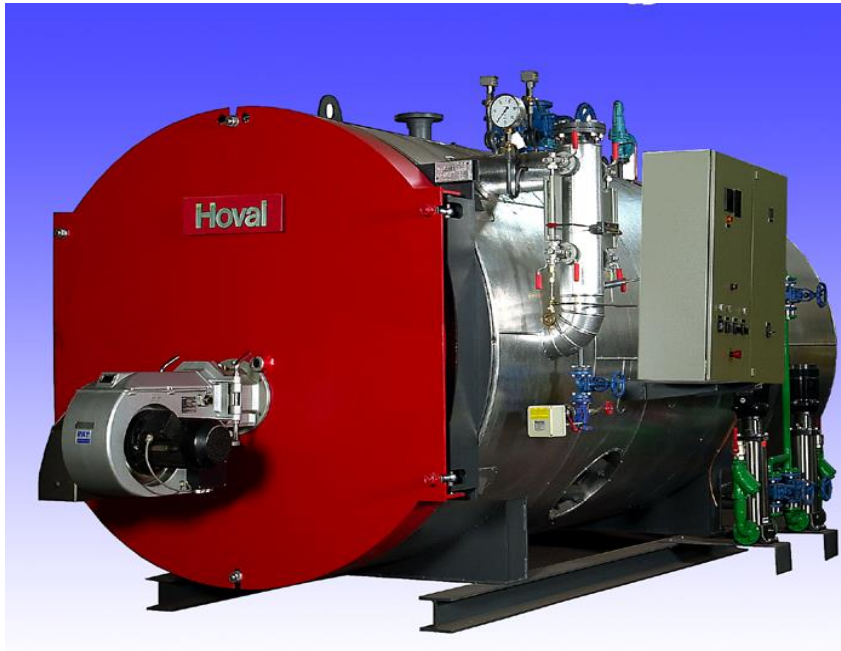
THW-I HTE
1000-21000 kW
10, 13 and 16 bar
STB 204,3°C
(Safety temperature limiter)

High temperature - hot water boiler THW-I HTE

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Flame tube – flue gas tube - hotwater boiler





THD-U

500 - 5000 kg/h

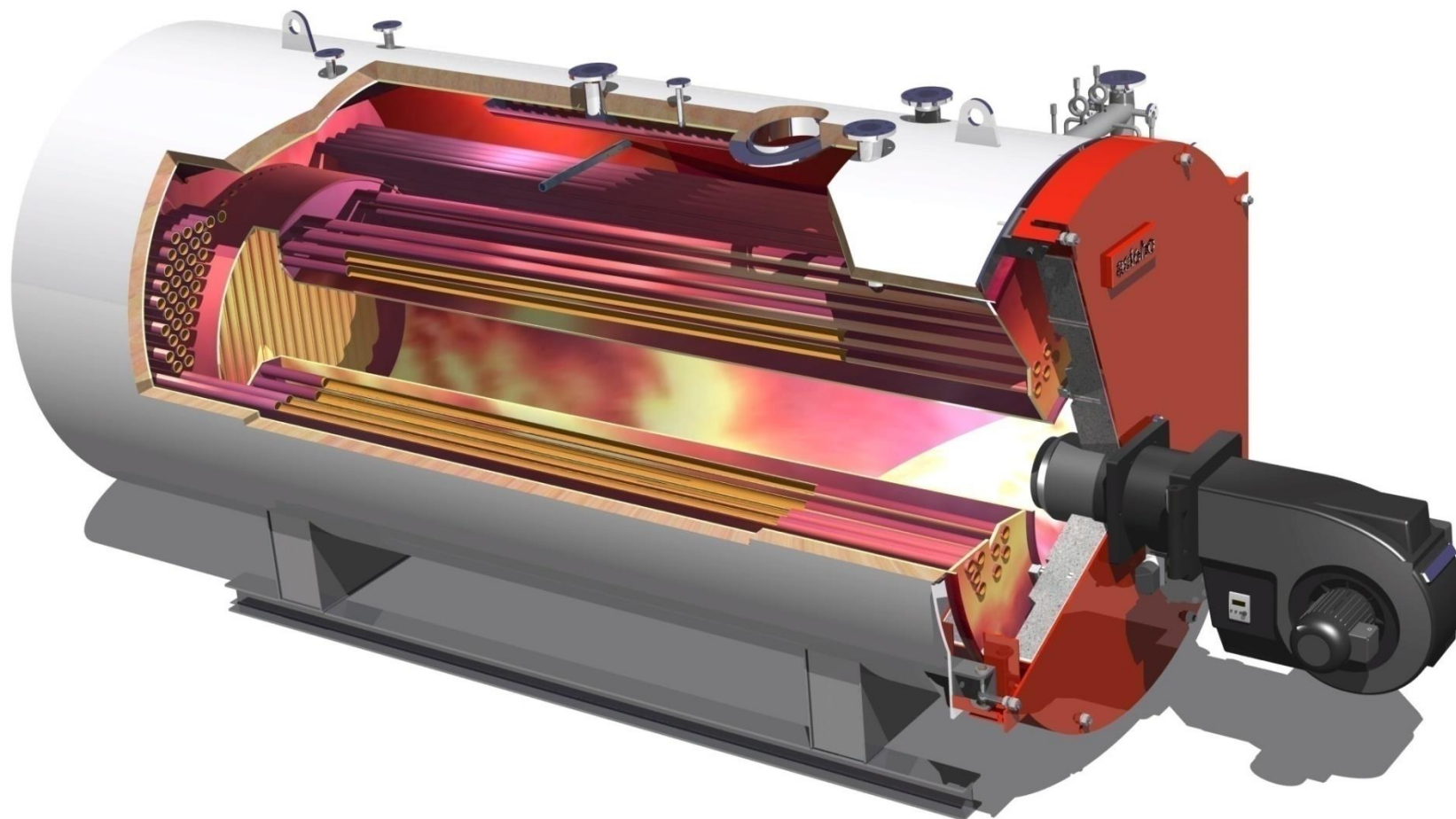
10, 13 and 16 bar (MAWP)

THSD-I...E

2000 - 22000 kg/h

10, 13 and 16 bar (MAWP)

Flame tube – flue gas tube - steam boiler



Examples:

- 1.) THD - U with SPW - D
(Luxor Jolie-Ville - Egypt)

- 2.) THSD-I ... E with SPW-E
(Contitech Changshu – China)

- Jolie Ville Hotel / Luxor Egypt
(former Mövenpick Jolie Ville)

- Founded 1991 in Egypt

- Owner buys the brand Jolie Ville from Mövenpick and starts expansion

- Today cooperation with the German Hotel chain Maritim





Technical area (steam and heating boilers – split system)

- Efficient steam system for expansion of Jolie Ville Hotel in Luxor – Kings Island by replacement and extension of existing old boiler plant
- Very tight time schedule: Finishing of the complete project in short time (Guests have already booked!)
- Proofed system
- Quality - Safety

- Steam system for most modern laundry
 - 3000 kg/h steam with operating pressure 8,5 bar
 - 100% stand-by steam boiler
 - Feed water tank for boiler water supply and pre-heating
 - Water softener and chemical dosing station for boiler feed water preparation
 - Several steam pressure reducing stations for supply of different pressure needs of laundry area

Solution - Jolie Ville: Steam boiler

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2 x THD-U 3000 11bar



Solution - Jolie Ville: Steam boiler

Hoval

Steam header and steam reducing stations





- Contitech Changshu / China
- Company founded 1871 in Germany – in year 2010 the plant in Changshu was built.
- Actually Contitech has more the 27000 employes worldwide



***Technical area
(steam boilers)***

- High efficient steam system for new production facility in Changshu / China
- 2 boilers with possibility for extension with 3´rd boiler
- Proofed and “China” certified boilers
- Local support by supplier technicians
- Quality - Safety

■ Steam system description

- 2 x 8000 kg/h steam with operating pressure 20,5 bar
- 2nd boiler operated by “cascade control” due to steam system needs
- Feed water tank with deaerator for boiler water supply and pre-heating
- Steam accumulator for covering extremely high steam demand during short time
- Water softener (osmosis) and chemical dosing station for boiler feed water preparation
- Several steam pressure reducing stations for supply of different pressure needs of production area
- PLC- system for operation and remote maintenance

Solution – Continental: Steam boiler

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2 x THSD-I 90/80 E - C (8000 kg/h) – 24,5 bar



Solution – Continental: Economiser unit

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Solution – Continental: Switchboard

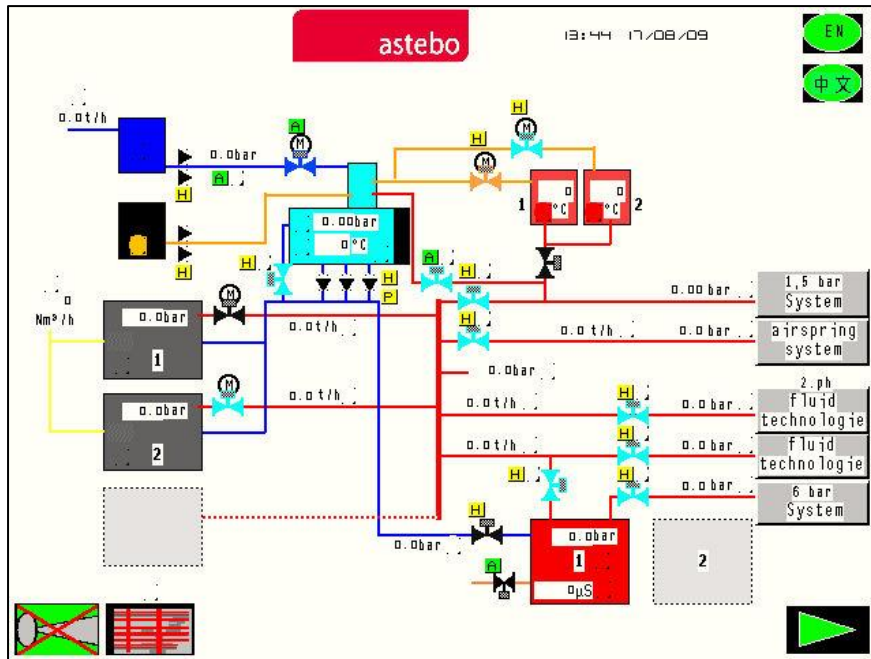
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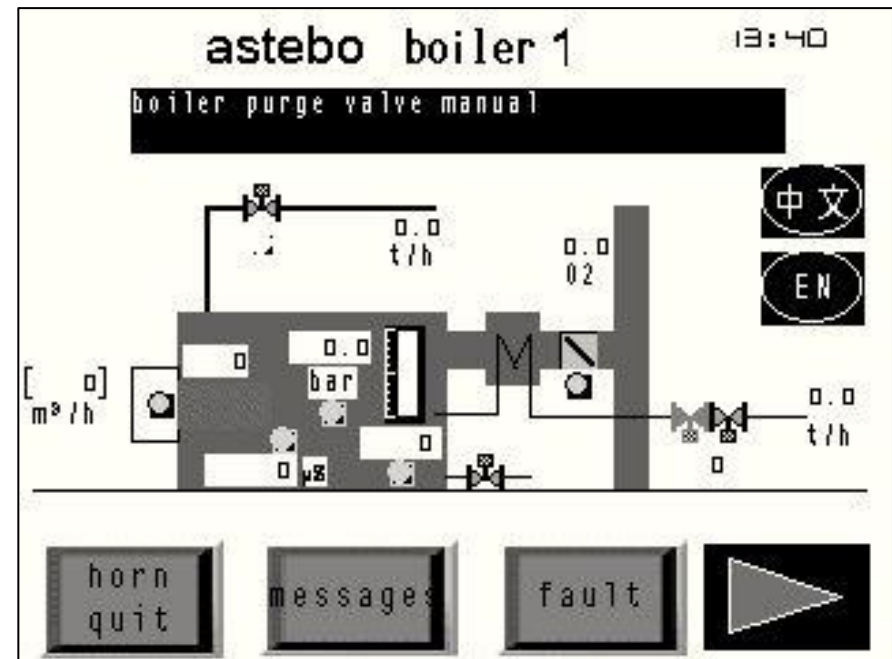
Solution – Continental: Switch board - touch panels

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Electrical control panel mit Siemens PLC Simatic S7



Touch panel („HMI“) for general plant indication and operation



Touch panel („HMI“) for simple boiler indication and operation



Feedwater tank + Purge tank

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Feedwater tank with deaerator

Hoval



Steam distributors

Hoval



Observe good condensate collection and drain!

Plant pictures

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Plant pictures

Hoval



Plant pictures

Hoval



Plant pictures

Hoval



Plant pictures

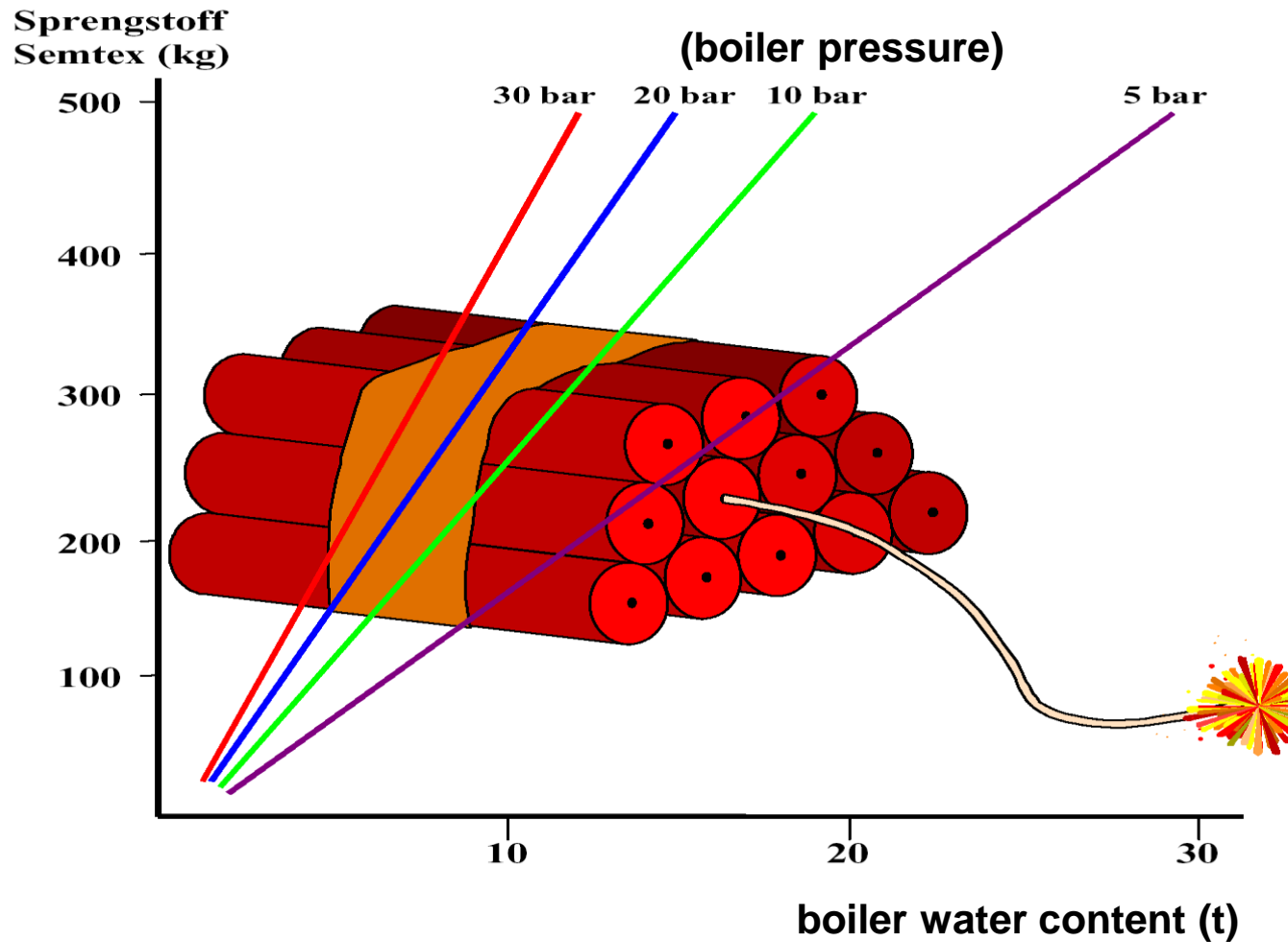
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Steam boiler explosion force

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(blasting agent)





Technically advanced heating and indoor climate solutions

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Thank you for your attention.