

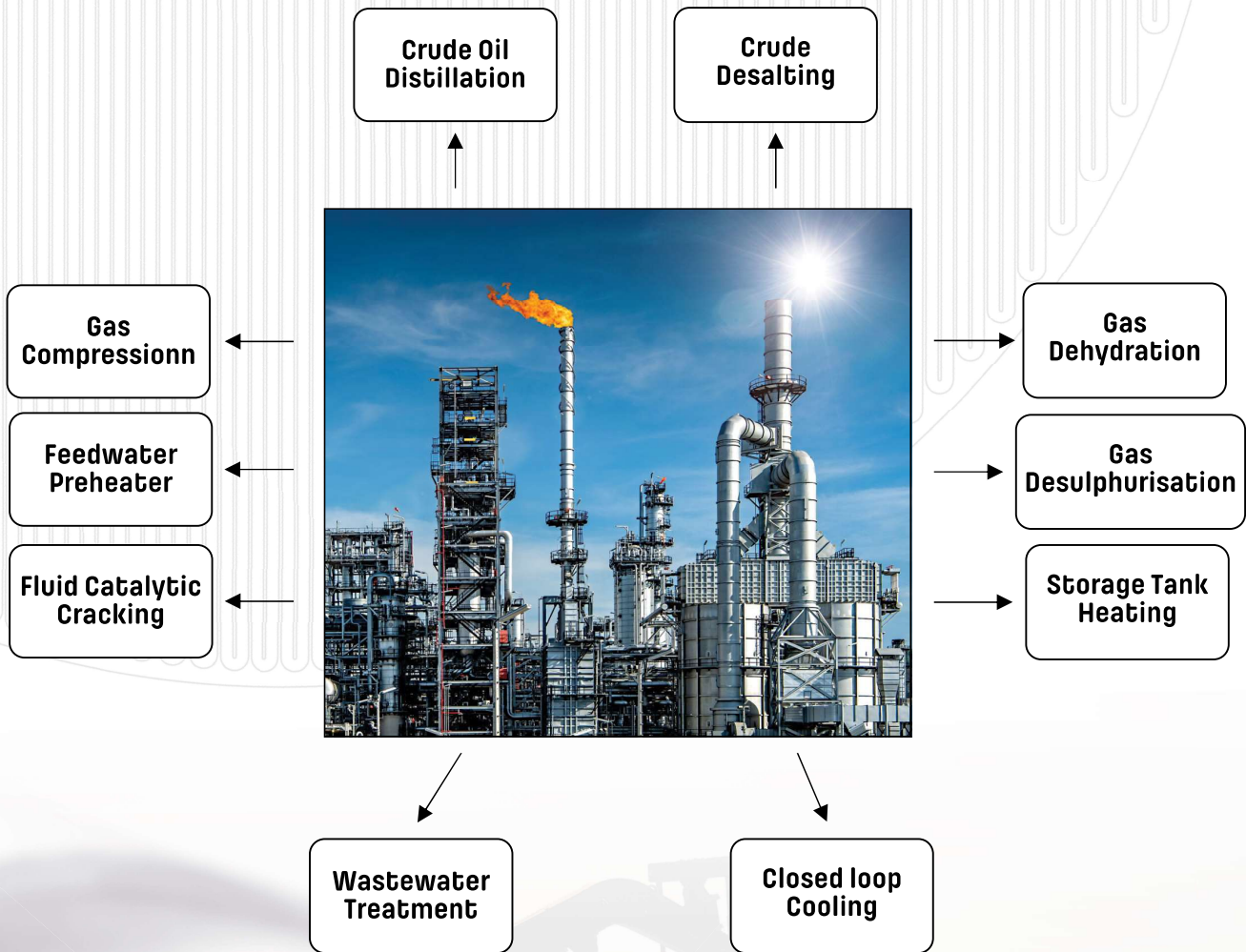
***euro heat***

**Oil and Gas**

**PLATE AND SHELL HEAT EXCHANGERS**

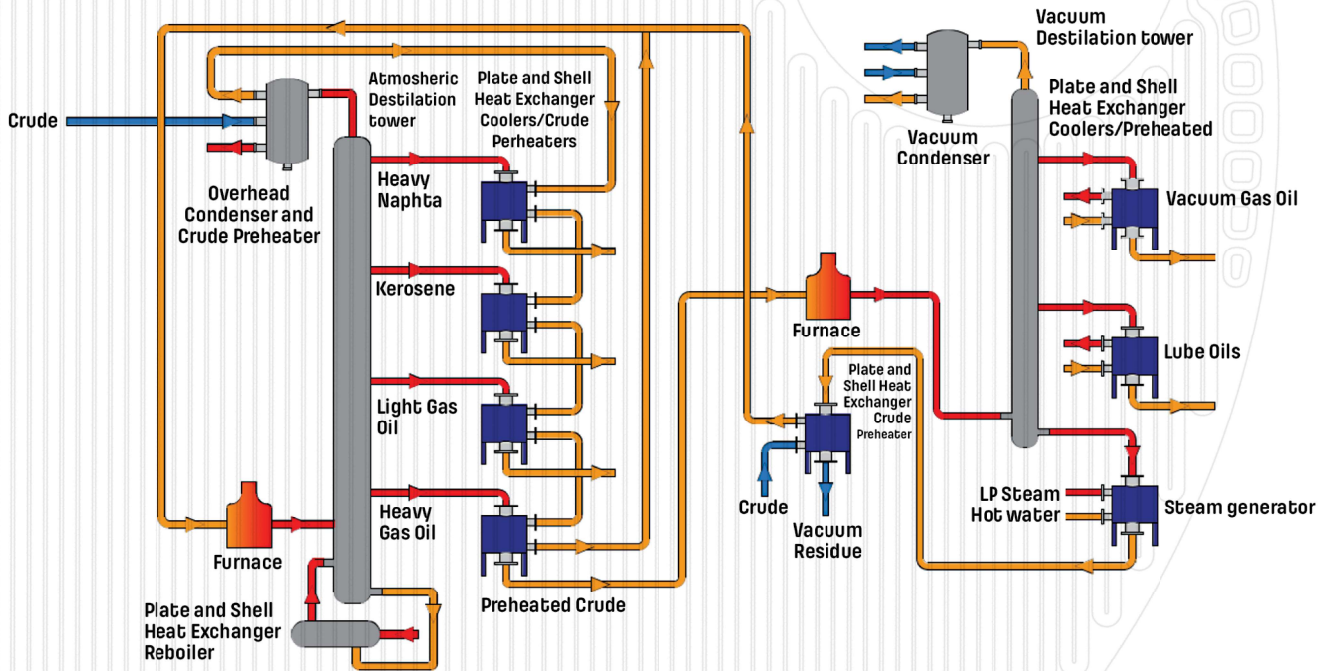
EURO HEAT Plate and Shell heat exchangers are an innovative and compact solution on the Oil and Gas field, which brings many advantages over existing types of heat exchangers. The plates are fully welded, which ensures that the stable work is safe and secure, eliminates the possibility of leakage and extends the service life.

- Fully welded plates, without gaskets
- Suitable for Oil&gas applications
- Turbulent flow, smaller pressure drop
- Custom made units
- Close temperature approach
- Compact size with small footprint
- Circular plates for high pressure
- High heat transfer coefficient
- Robust and safe construction
- Easy maintenance



**ADU/VDU Distillation**

The heat generated from cooling and condensation in the production distillation process can be recovered through the EURO HEAT Plate and Shell. EURO HEAT Plate and Shell can function as an efficient partial reboiler. The excellent size-to-weight ratio offered by Plate and Shell units saves on support structures and maintenance.



**Preheater :**

- Heat load: 230,6 kW
- Shell side: 163/167 Crude oil
- Plate side: 221/217,9°C Diesel
- Design conditions: 30 bar / 350°C
- Material plate / shell: AISI316/ CS

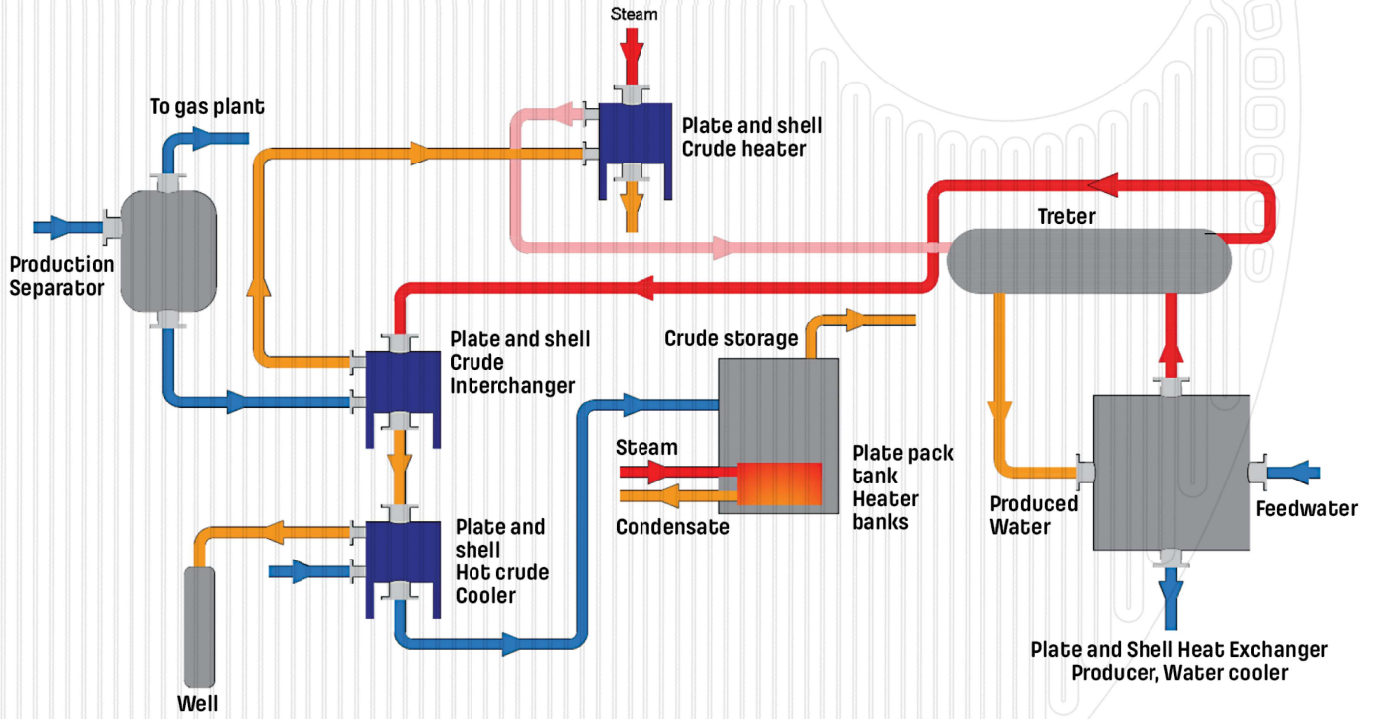
**Preheater :**

- Heat load: 794,5 kW
- Shell side: 153/163 Crude oil
- Plate side: 227/166°C Diesel
- Design conditions: 30 bar / 350°C
- Material plate / shell: AISI316/ CS



**Crude Oil Desalting**

Crude oil contains many impurities that must be removed before it can be further processed especially water and salts. Depending on the process that is used for dehydration/desalination sealed, openable or fully welded Plate and Shell heat exchangers can be used for many different services.



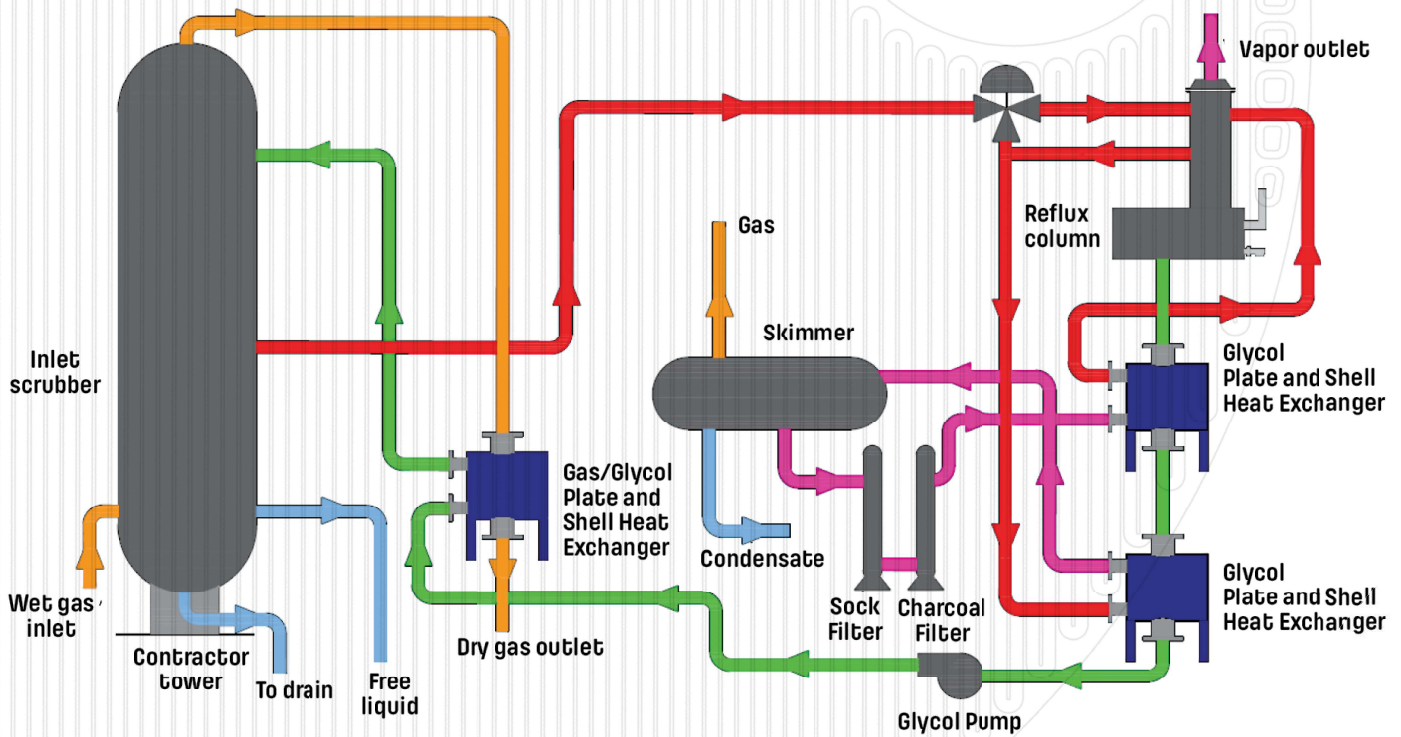
**Crude oil desalter:**

- Heat load: 320,4kW
- Shell side: 15/40 Crude oil
- Plate side: 90/70°C Water
- Design conditions: 80 bar / 200°C
- Material plate / shell: AISI316/ CS



**GAS Dehydration**

EURO HEAT Plate and Shell unit with a three-pass/two-pass, countercurrent arrangement heats two cold-side, rich TEG streams in one unit. EURO HEAT Plate and Shell heat exchanger provides better energy recovery and reduces the size of the reboilers used in the skids. The welded unit has also resulted in a more compact skid structure and no tube bundle pulling deadspace.



**Recuperator TEG:**

Heat load: 94,38kW

Plate side: 202-82,17°C Dry TEG

Shell side: 53/168,9°C Wet TEG

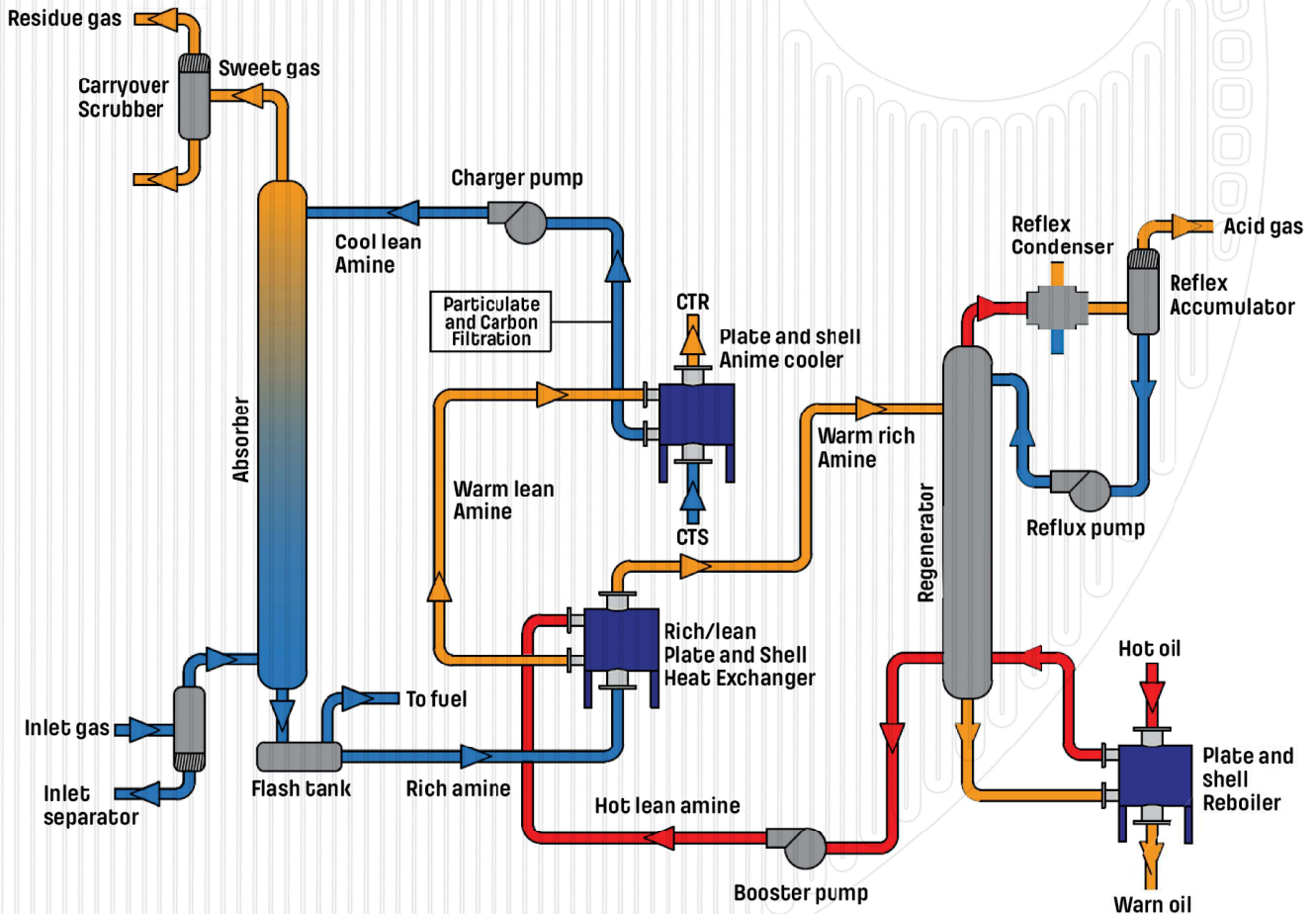
Design conditions: 16 bar / 250°C

Material plate / shell: AISI316 / SS



**Gas Sweetening**

Single-pass EURO HEAT Plate and Shell welded units are used as a lean amine cooler and as a lean/rich amine exchanger. Shallow draw depth facilitates access to close temperature reducing external energy requirements. The unit can achieve up to 90%-plus heat recovery from lean to rich amine, or with sulfinol.



**Lean/Rich Amine:**

Heat load: 496kW

Shell side: 75,07/160°C Rich amine

Plate side: 196,4/108,6°C Lean amine

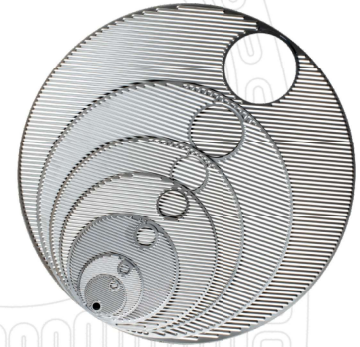
Design conditions: 16 bar / 250°C

Material plate / shell: AISI316/ SS



**Main data of plates, materials and certification**

| Model  | Area per plate, m <sup>2</sup> | Connection on plate side, DN | Connection on shell side, max DN | Thickness of plate, mm |
|--------|--------------------------------|------------------------------|----------------------------------|------------------------|
| P 100  | 0,011                          | 25                           | 65                               | 0,5-1,5                |
| P 200  | 0,028                          | 25                           | 125                              | 0,6-1,5                |
| P 350  | 0,079                          | 50                           | 250                              | 0,7-1,5                |
| P 500  | 0,166                          | 80                           | 300                              | 0,7-1,5                |
| P 600  | 0,258                          | 100                          | 350                              | 0,7-1,5                |
| P 750  | 0,43                           | 150                          | 500                              | 0,8-1,5                |
| P 1000 | 0,73                           | 200                          | 700                              | 0,8-1,5                |



**Materials**

| Plate  | Shell  |
|--|--|
| <ul style="list-style-type: none"> <li>▪ AISI 316L</li> <li>▪ AISI 321</li> <li>▪ AISI 904L</li> <li>▪ SMO 254</li> <li>▪ Duplex</li> <li>▪ Nickel 201</li> <li>▪ Hastelloy C 276</li> <li>▪ Hastelloy C 2000</li> <li>▪ Titanium</li> <li>▪ etc.</li> </ul> | <ul style="list-style-type: none"> <li>▪ P 265GH</li> <li>▪ P 355GH</li> <li>▪ P 355 NL2</li> <li>▪ AISI 304L</li> <li>▪ AISI 316L</li> <li>▪ SMO 254</li> <li>▪ Duplex</li> <li>▪ etc.</li> </ul> |

**Certification**

|               |
|---------------|
| ISO 9001:2000 |
| ISO 14001     |
| ISO 45001     |
| EAC           |
| PED           |
| ASME          |

**Approvals**

|              |
|--------------|
| PED          |
| ASME U stamp |
| AAA          |

**Design condition**

Temperature -200°C to 900°C  
 Pressure full vacuum to 200 bar  
 Deep of plate from 2-4,4mm  
 Angle of corrugation from 15° to 45°

**Comparasion installing space for STHE and PSHE**



PSHE



STHE

**EURO HEAT DOO**

Serbia, 34000 Kragujevac, Industrijska bb  
 Tel. +381 34 345 055  
 office@euroheat.co.rs, www.euroheat.co.rs



**Serbia, Europe**  
**34000 Kragujevac**  
**Industrijska bb**

**Tel. +381 34 345 055**  
**office@euroheat.co.rs**  
**www.euroheat.co.rs**