



GEA WESTFALIA

MECHANICAL SEPARATION SOLUTIONS FOR CRUDE OIL O&G AND ENERGY

Centrifugal Separators & Decanters

CB
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SEPARATORS - OIL & GAS AND ENERGY

Centrifuges for the Oil & Gas Industry



Upstream applications:

On- and offshore installations
Oil & gas production

Downstream applications:

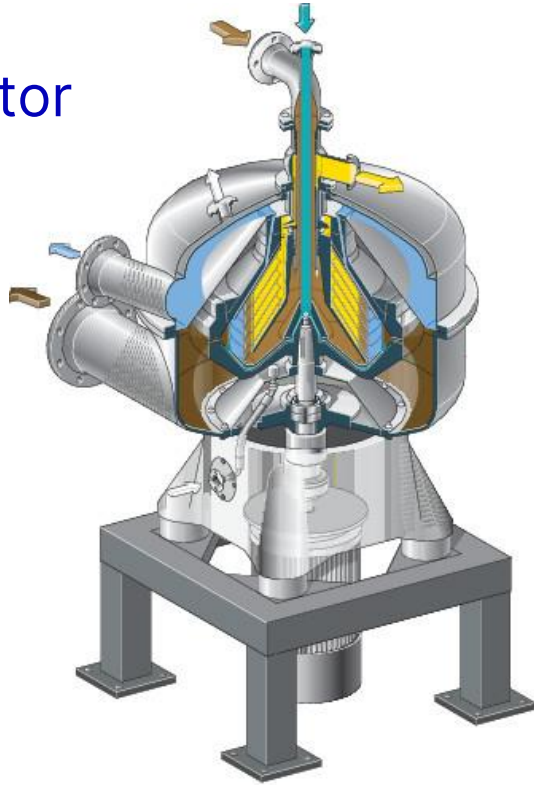
Oil refineries
Gas treatment plants
Tank terminals

Drilling	Production	Utilities	Oil Management
<ul style="list-style-type: none">• Brine• Drain water• Drilling mud• Slop water• Solids control• Tank cleaning	<ul style="list-style-type: none">• Crude oil• Drain water• Produced water	<ul style="list-style-type: none">• Bilgewater• Fuel oil• Hydraulic oil• Lube oil	<ul style="list-style-type: none">• Crude Oil• Cat fines• MEG (Mono Ethylene Glycol)• Slop Oil / Oily Sludge• Slop Water• Tank Bottoms• Marpol

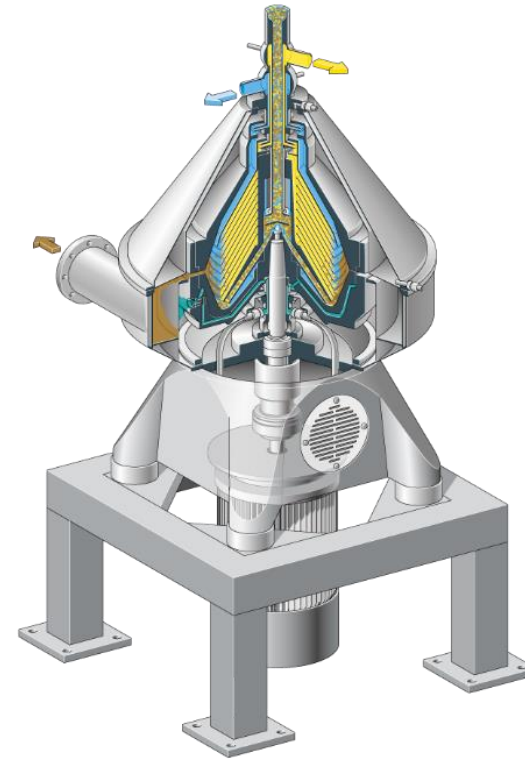
GEA - Crude Oil Treatment Centrifuges

Modular centrifugal process lines for the efficient **dehydration** and **desalting** of crude oil

Dehydrator



Desalter

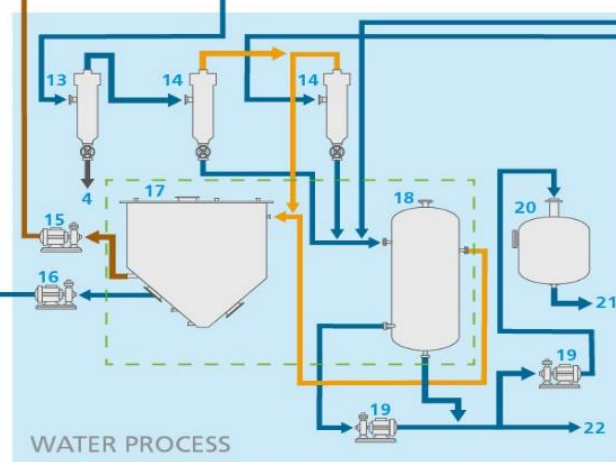
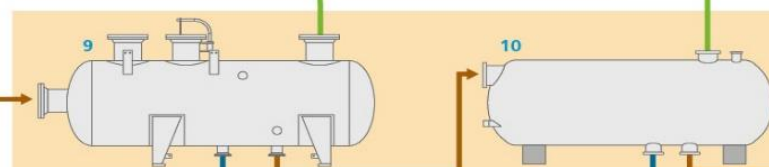
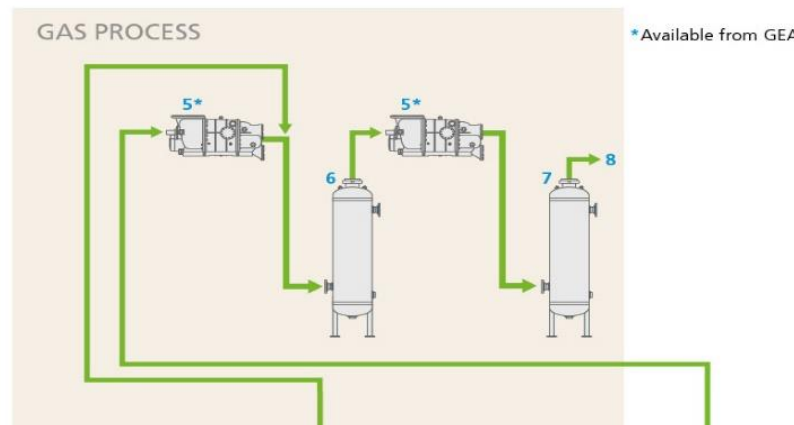


	130	260
Max. capacity	150 m ³ /h 22500 BPD	250 m ³ /h 37300 BPD
Motor Rating	130/200 kW	250 kW

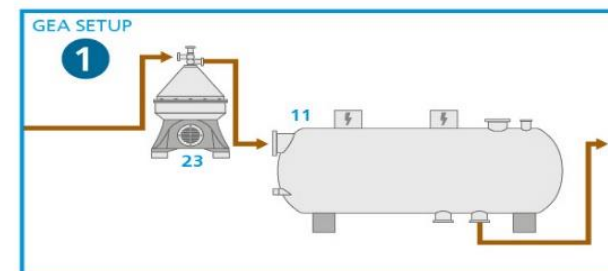
	200	120	80
Max. capacity	100 m ³ /h 15100 BPD	70 m ³ /h 10570 BPD	45 m ³ /h 6800 BPD
Motor Rating	90 kW	75 kW	55 kW

Typical Crude Oil treatment process

- 1 Crude oil
- 2 Wellhead choke
- 3 Wellhead desander
- 4 Sand
- 5 Compressor*
- 6 Knockout drum
- 7 Gas treatment / dehydration
- 8 Gas export
- 9 High pressure separator (FWKO)
- 10 Low pressure separator
- 11 Electrostatic dehydrator
- 12 Crude oil export
- 13 Desander cyclone
- 14 Deoiler cyclone
- 15 Oil recycler
- 16 Water recycler
- 17 Corrugated plate interceptor
- 18 Induced gas flotation
- 19 Produced water pump
- 20 Filtration
- 21 Produced water for re-injection
- 22 Produced water for disposal
- 23 Centrifugal separator
- 24 "In-spec" tank
- 25 "Off-spec" tank

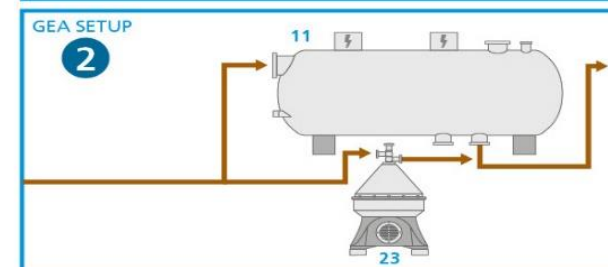


Optional GEA disk-stack centrifuges



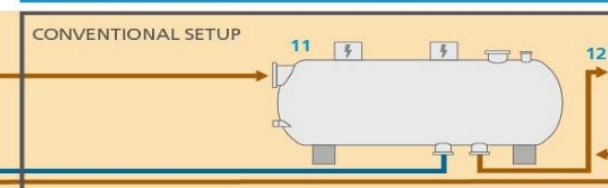
CHALLENGE:
INCREASE OF THE WATER CUT

GEA SOLUTION:
UPSTREAM INSTALLATION



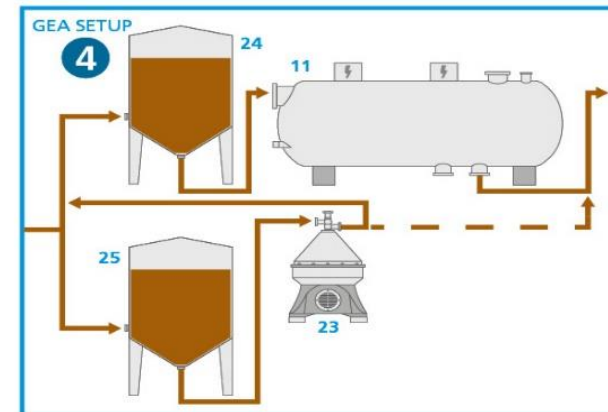
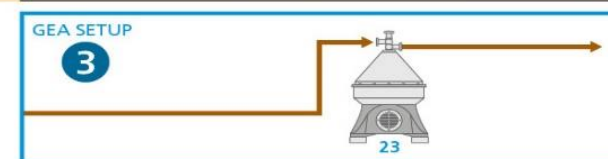
CHALLENGE:
DECREASING API

GEA SOLUTION:
PARALLEL INSTALLATION



CHALLENGE:
(EXTRA) HEAVY / SALT-CHARGED OIL

GEA SOLUTION:
STAND-ALONE INSTALLATION
(SUBSTITUTION)














CHALLENGE:
OFF-SPEC (OPPORTUNITY)
CRUDE OIL IN REFINERIES

GEA SOLUTION:
TANK-TO-TANK TREATMENT

GEA - Crude Oil Treatment Solutions

Here, our ready-to-use yet flexible treatment systems provide an effective and reliable option to tackle the following challenges:

 <p>1 Increasing water cuts have a negative impact on overall performance and can affect the operation of the electrostatic system.</p>	 <p>Installation of the GEA Crude Oil Treatment System as a pre-dehydration stage upstream of the electrostatic gravity settler.</p>	 <p>Reduction of the amount of water to < 5% to increase overall performance and ensure stable operation of the electrostatic system.</p>
 <p>2 The treatment capacity of the existing system must be increased or the crude oil quality degrades, resulting in decreasing production rates.</p>	 <p>Installation of the GEA Crude Oil Treatment System as a parallel side stream to the existing setup.</p>	 <p>Increased or recovered performance.</p>
 <p>3 With oil qualities lower than API 16, conventional equipment can reach its economical limit.</p>	 <p>Full stream installation of the GEA Crude Oil Treatment System</p>	 <p>Treatment of extra heavy and/or salt-charged oils is thus possible.</p>
 <p>4 Treatment of opportunity crude oil in refineries, which requires more rigorous desalting.</p>	 <p>Full stream tank-to-tank desalting with the GEA Crude Oil Treatment System.</p>	 <p>Converting opportunity crude oil into a full-value product.</p>

Crude Oil Challenge & Solution - Low API Grade

Process Solution: Centrifuge

