

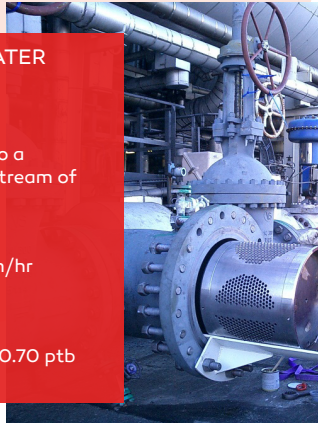
# CRUDE OIL REFERENCES

## PROSALT™ MIXER

### MIXING OF CRUDE & WASH WATER

LOCATION: NORWEGIAN SEA  
EQUIPMENT: 14" ProSalt mixer  
APPLICATION: Installed in parallel to a conventional globe mixing valve upstream of the 1st-stage desalter  
PROCESS CONDITIONS:  
CRUDE API: 37  
CRUDE OIL FLOW RATE: 2.20 m lbm/hr

PERFORMANCE:  
PRESSURE DROP: 3-12 psi  
SALT SPEC: Typically below 2 mg/l; 0.70 ptb  
BS&W SPEC: (0.10 – 0.15 vol %)



## PROSALT™ MIXER

### OPTIMIZATION OF CRUDE DESALTING

LOCATION: MIDDLE EAST  
EQUIPMENT: 2 X 12" ProSalt Mixers  
APPLICATION: Optimization of crude desalting  
FACILITY: 120 MBOPD early production facility  
FLOW RATE: 21,000 - 70,000 BWPD



## FWKO & THERMAL TREATER

### OIL SANDS

LOCATION: CANADA  
EQUIPMENT: 3 x 15 ft S/S FWKO and 6 x 14 ft S/S mechanical treaters  
APPLICATION: Bulk water oil removal and dehydration

FWKO/TREATER PER UNIT:  
FEED OIL FLOW RATE: 72,557/36,440 BOPD  
FEED WATER FLOW RATE: 99,326/3796 BOPD  
API: 17

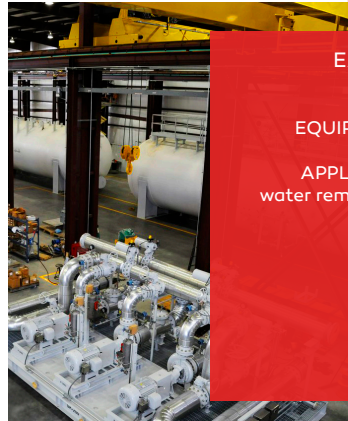


## DEHYDRATOR & DESALTER

### EARLY PRODUCTION FACILITY

LOCATION: MIDDLE EAST  
EQUIPMENT: LP separator, electrostatic dehydrator and desalter  
APPLICATION: Liquid stabilization, bulk water removal, oil dehydration and desalting  
API: 28 - 32

PERFORMANCE:  
BS&W %: 0.1  
OIW OUTLET: < 100 PPM



## THERMAL TREATER

### FPSO

LOCATION: OFFSHORE BRAZIL  
EQUIPMENT: Two phase double ended mechanical electrostatic treater & sand removal system  
APPLICATION: Gas stabilization, bulk water removal and oil dehydration

15.2 API, 61,741 BOPD, 13,737 BWPD  
19.1 API, 108,386 BOPD, 24,159 BWPD



## DESALTER

### REFINERY PROJECT

LOCATION: ALABAMA, USA  
EQUIPMENT: Two phase mechanical electrostatic desalter skid mounted unit.  
APPLICATION: Oil dehydration and desalting

PERFORMANCE:  
BS&W %: 0.2  
OIW OUTLET: < 200 PPM

