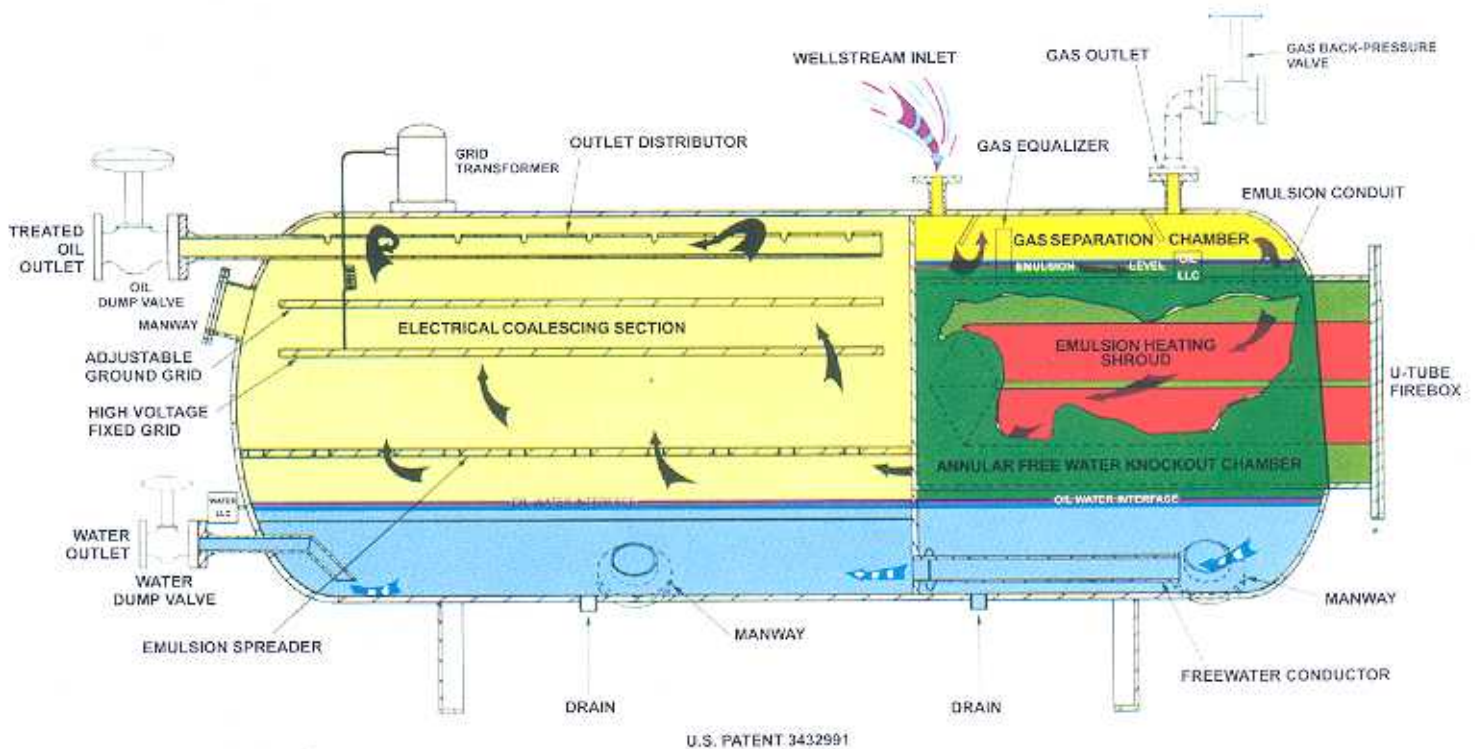


BS&B HET Horizontal Electrochemical Treater



BS&B HET Breaks Emulsion

Gas is drier, more condensate is retained



BS&B HET Horizontal ELECTROCHEMICAL TREATER

The BS&B HET Electrochemical Treater utilizes patented design features in heat transfer, flow distribution and emulsion spreading to effect maximum gas separation and water knockout before the wet crude reaches the heating zone and the subsequent electrostatic field. The remaining water coalesced from the crude in the electrostatic field falls naturally to the free water at the bottom of the vessel and flows horizontally to the water outlet.

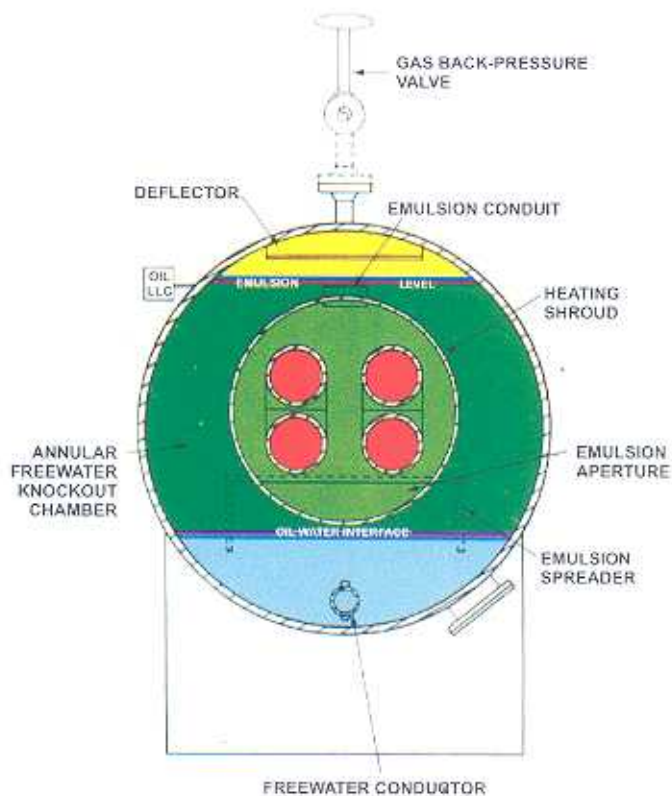
Flow Pattern

The wellstream enters at one end of the gas separation chamber through the inlet at the top of the vessel. Gas freed at the relatively cool emulsion surface gives up condensate as it impinges on deflectors and exits through the gas outlet at the other end of the gas separation chamber. The emulsion, flowing in the annular area between the heating shroud and the vessel wall, is subjected to effective free water removal through long residence in the annular volume and continuous contact with the large surface of the heating shroud. The free water descends to the bottom of the separator heater section and flows horizontally through the free water conductor into the water chamber at the bottom of the electrical coalescing section. The

remaining emulsion in the separator-heater section enters the top of the heating shroud and flows downward and along the U-tube firebox in forced convection circulation, then exits in horizontal flow through the emulsion aperture at the bottom of the heat shroud and enters the electrical coalescing section above the oil water interface but below the emulsion spreader plate. The emulsion in the electrical coalescing section rises by convection through the emulsion spreader and across the high voltage/low current electrostatic grids. Water particles remaining in the emulsion are polarized in the alternating electrostatic field and coalesce through agitation and collision. The coalesced water falls to the bottom of the vessel and joins the free water flowing to the water outlet. The treated oil at the top of the electrical coalescing section enters the outlet distributor and exits through the oil dump valve. The elaborate spreader and outlet distributor system assures uniform liquid flow across the entire electrostatic grid area, eliminating channeling. Installation of the oil level controller in the gas separation chamber in conjunction with the oil dump valve in the treated oil outlet distributor assures a fluid packed electrical coalescing section. An interface controller controls the water dump valve.

...s at Lower Temperatures

...oil gravity is maintained



These are the BS&B HET advantages:

- Gas in large horizontal integral gas separator is cooler because no heated oil surface contacts gas section. Cooler gas is drier and cleaner. Fewer light ends are lost.
- Gas separated from the crude in the emulsion heating section rises to mix with the cool inlet gas, giving maximum condensation and recovery of lighter ends.
- Emulsion heating section features shroud for uniform heat transfer and diagonal downflow for high efficiency forced convection heating.
- Freewater knockout section provides even horizontal flow at bottom of treater vessel and is designed to prevent uncontrolled heat loss to water.
- Emulsion distributor-spreader uniformly distributes emulsion over entire electrostatic grid face.
- High voltage, low current electrostatic field is created by rugged, heavy duty, externally adjustable grids.
- Minimum number of control valves, minimum baffling and ample manways simplify accessibility, cleaning and coating.

Select your BS&B HET Electrochemical Treater from this table of specifications

MODEL	SIZE SHELL DIA. AND LENGTH	DESIGN PRESSURE PSI	FIREBOX RATING BTU/HR	TRANSFORMER KVA*	NOMINAL CAPACITIES		
					OIL B/D	WATER B/D	GAS MMSCFD
HET 610	6' x 10'	50	400,000	5	400 - 1,500	600 - 1,500	1-2
HET 615	6' x 15'	50	550,000	5	550 - 2,100	700 - 2,000	2-3
HET 815	8' x 15'	40	750,000	5	1,300 - 3,600	1,400 - 4,000	3-4
HET 820	8' x 20'	40	1,500,000	7½	2,500 - 4,500	1,800 - 5,000	4-5
HET 825	8' x 25'	40	2,000,000	10	3,000 - 5,000	2,000 - 5,700	4-5
HET 1020	10' x 20'	40	2,000,000	15	3,600 - 5,800	2,300 - 6,500	5-6
HET 1025	10' x 25'	40	2,500,000	20	4,300 - 8,500	2,800 - 7,200	5-6
HET 1030	10' x 30'	40	3,000,000	25	4,900 - 12,000	3,100 - 8,200	6-7
HET 1250	12' x 50'	25	6,000,000	25	9,000 - 20,000	4,500 - 12,000	7-9

*Actual power consumption will be much below transformer ratings.

IMPORTANT: Capacities shown are suggestive only. Actual conditions of gravity, water rate, specific gravity, degree of emulsification, temperatures, emulsifier agents, etc., will determine actual capacities. Special sizes, design pressures and firebox ratings are available. Your BS&B sales engineer will assist in recommending equipment for individual needs and will furnish a price quotation covering all requirements.



Temperature Controller



High Voltage Transformer



Electric Control Panel

