

STEAM HEAT EXCHANGER



During a well testing operation, a steam heat exchanger is used to heat effluent which is exiting from the wellhead. One of the benefits of the heat exchanger is that it minimizes hydrate formation during significant pressure drops across the choke. Benefits of heating the well effluent are that it reduces oil viscosity, reduces fluid emulsion, and helps to dissolve paraffin and asphaltene.

The steam heat exchanger consists of two components: a pressurized shell and process coils. Steam from the steam generator enters the shell side and well effluent flows into the process coils. Before an adjustable choke drops the process pressure, steam heats the well effluent. The pressure drop cools the well effluent. The function of the downstream coils is to compensate for the cooling effect caused by the choke.

TETRA PRODUCTION TESTING SERVICES

TECHNICAL SPECIFICATION

Heat Capacity:	4-6 MMBtu per hour
Steam Required:	1,814 to 3,130 kilograms per hour (4,000 to 6,900 pounds per hour)
Coils Pressure Rating:	68.95 MPa (10,000 psi)
Downstream Coils Pressure Rating:	34.47 MPa (5,000 psi)
Vessel Pressure:	2.41 Mpa (350 psi)
Service:	H ₂ S, CO ₂
Choke:	41/16 68.95 MPa (10,000 psi) Adjustable Choke
Coils Upstream of Choke (OD):	10 centimeters (4 inches)
Coils Downstream of Choke (OD):	10 centimeters (4 inches)
Vessel Dimensions (ID x S/S):	122 centimeters (48 inches) x 4.3 meters (14 feet) S/S
Skid Dimensions (L x W x H):	6.1 x 2.4 x 2.4 meters (20 x 8 x 8 feet)
Connections:	
Inlet:	8-centimeter (3-inch)—1502
Outlet:	8-centimeter (3-inch)—1502
Drain:	8-centimeters (3-inch)—1502