

Well Flow Management

Well Testing | Separation

Steam Heat Exchanger

The Expro steam heat exchanger provides maximum versatility in well flow temperature control prior to the separation process.

Heat exchangers are used to raise the temperature of well effluents for hydrate prevention, viscosity reduction and breakdown of emulsions to improve the separation of gas, oil and water.

Shell and Tube steam heat exchangers consist of a pressure vessel that contains a set of high process coils. The vessel receives the steam medium from an external steam generator to heat the well effluent that passes through the process coil.

A Multi-tube steam heat exchanger consists of a series of tubes contained within a steam pressure shell. Steam is delivered to the shell and is passed around the tube bundles. Heat is conducted through the tube bundles into the flowing well effluent.

Applications

- Offshore / onshore well testing
- Heavy oil wells
- High rate gas testing

Features and benefits

- Integral automatic temperature control
- Combines the latest adjustable choke technology
- Electronic monitoring of process parameters available
- Complies with applicable industry standards
- Prevents hydrate formation
- Reduces oil viscosity for improved burner efficiency
- Improves separation of oil/water emulsions





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Technical specifications				
	Shell and tube		Multitube	
Working pressure (process) psi (bar)	10,000 (690)	15,000 (1,035)	5,000 (345)	10,000 (690)
Working pressure (steam) psi (bar)	350 (24)			
Coil size inches	3 and 4	4	55 tubes 1.625 OD x 0.165 Wall	95 tubes 1.0 OD x 0.203 Wall
Working temperature°F (°C)	-20 to 350 (-29 to 177)		-40 to 350 (-40 to 177)	
Heating capacity MMBtu/hr	4.33	6.00	4.33	8.00
Choke type	One adjustable	One adjustable	N/A	One adjustable
Dimensions (L x W x H) ft. (m)	10 x 3.5 x 5.7 (3.1 x 1.0 x 1.7)	7 x 4.6 x 6.6 (2.1 x 1.4 x 2.0)	20 x 4.0 x 4.0 x 20 (6.1 x 1.2 x 1.2)	20 x 6.0 x 6.0 (6.1 x 1.8 x 1.8)
Weight (dry) lbs (kgs)	26,880 (12,193)	36,376 (16,500)	13,000 (5,897)	50,706 (23,000)
Connections				
Effluent inlet	3" 1502	H4" 27	H4" 31	H6" 46
Effluent outlet	3" 1502	H4" 27	H4" 31	H6" 46
Steam inlet	2" 206	2" 206	2" 206	2" 206
Steam outlet	2" 206	2" 206	2" 206	2" 206
Design codes	ASME VIII Div.1 ANSI B31.3, API 6A, DNV 2.7-1(skid and frame), NACE MR-10-75		ASME VIII Div.1 ANSI B31.3, API 6A, API 660, DNV 2.7-1(skid and frame), NACE MR-10-75	

Note: Other sizes, configurations and pressure ratings are available to meet most applications, for more information contact your local Expro representative or email welltesting@expro.com