Separator Design Data Form

1.2 Quote Information

Customer Information			
Name		Company	
Business Title			
Email		Phone Number:	
Equipment Information			
Quantity:		Ship to Location (City, State, Zip)	
Proposal Due Date		Freight Terms	☐ EXW ☐ FCA ☐ FOB ☐ CIF ☐ Other _____
Potential Order Date:		Preferred Ship Date:	

Rank (1-4) Importance of the Following:							
Price:		Spec Compliance:		Delivery:		Quality/Reliability:	

Additional Comments

1.3 Process Conditions

Process Data	Parameter	3 PH Separator	2 PH Separator
Inlet Pressure (PSIG)		0 - 1200	0 - 1200
Inlet Temp (°F)		70 - 120	70 - 120
Design Pressure (PSIG)		250 / 1440	250 / 1440
Gas Inlet Flowrate (MMSCFD)		0 - 50	0 -75
Gas Inlet SG		0.57-0.8	0.57-0.8
Water Inlet Flowrate (BBL/Day)		0 - 10,000	
Water Inlet SG		1.1	
Oil Inlet Flowrate (BBL/Day)		0 - 10,000	
Oil Inlet SG / API		0.8	
Liquid Inlet Flowrate (BBL/Day)			0-2000
Liquid Inlet SG			.6-1.0
Retention Time (min)		3 - 5	1

Inlet Fluid Composition			
Shop Capable Size	**LP:** <96"OD, <30'S/S, <250# **HP:** <60"OD, <20'S/S, <1440#		**Required** **Requested**

1.4 Design Scope

Separator Design Data Sheet

Orientation	☐ Horizontal ☐ Vertical
Style	☐ Bare Vessel ☐ Vessel with Accessories ☐ Vessel with Skid ☐ Packaged
Type	☐ 2 Phase ☐ 3 Phase ☐ Metering/Test ☐ Fuel Gas Scrubber (2PH) ☐ Free Water Knockout ☐ Bulk/Production Separator (3PH) ☐ Slug Catcher (2PH) ☐ Glycol Scrubber (3PH) ☐ Knockout Pot ☐ Surge Vessel
Internals	Level Control: ☐ Bucket & Weir ☐ Spillover Weir ☐ Split Head w/ Weir Nipple Inlet Deflector: ☐ Impingement ☐ V-Style ☐ Cyclonic ☐ Schoepentoeter ☐ Inlet Shroud Other ☐ Wave Breaker Mist Extractors ☐ Mesh Pad ☐ Vane ☐ Mesh/Vane
Externals	☐ Ladder ☐ Cold Weather: Enclosure on Control End Horizontal ☐ Cold Weather: Enclosed Outlet Piping Vertical
Paint	☐ Cimarron Standard SP-3/DTM 1 Coat, Color: Desert Tan ☐ Cimarron Standard SP-6/2 Coat, Color: Desert Tan ☐ Custom

Vessel Adders	Accessories (Ship Loose of Bare Vessel option)	
☐ Internal Coating Corrosion Allowance: ☐ 1/32" ☐ 1/16" ☐ 1/8" ☐ 1/4" NACE Adders: ☐ Hardness Testing ☐ Materials ☐ Manway ☐ All Flanged Connections ☐ Pressure/Temperature Re-ratings	**Item:**	**OEM/Type Preference:**
	Meters: Water ☐ Coriolis ☐ Turbine Oil ☐ Coriolis ☐ Turbine	
	☐ Concrete Blocks	
	☐ PSV	
	☐ Dump Valves	
	☐ Level Controller	
	☐ Level Switch	
	☐ DP Gauge Gauges (Level, PI, TI) ☐ Sight ☐ Transmitters	

Skid (if Skidded or Packaged Option accepted)
☐ On-skid deck grating Containment: ☐ Containment Pan (Cookie Sheet) with Drain ☐ In-skid containment (sloped drip pans)

Additional Requests

1.5 Application Guidance

Vertical Separator Uses

- When sand, paraffin, or wax are produced.
- Plot space is limited.
- Ease of level control is desired.
- Small flowrates.
- Very low or very high (i.e., scrubber) GOR streams.

Vertical Separators Advantages (Manning Thompson):

- More versatile than horizontal
- Liquid-level control is not so critical
- Have good bottom drain and cleanout facilities
- Can handle more sand, mud, paraffin, wax without plugging.
- Less tendency for re-entrainment.
- Has full diameter for gas flow at top and oil flow at bottom
- Occupies smaller plot area

Vertical Separator Disadvantages:

- More expensive than horizontal
- Liquid-level control is not so critical.
- Have good bottom-drain and cleanout facilities.
- More difficult to skid mount and ship.
- More difficult to reach and service top-mounted instruments and safety devices.

Horizontal Separator Uses

- Large volumes of gas and/or liquids.
- High-to-medium GOR streams.
- Foaming crudes.
- Three-phase separations.

Horizontal Separator Advantages

- Cheaper than vertical
- Requires smaller diameter for a same gas capacity.
- Lend themselves to skid mounting and shipping.
- No counter flow (gas flow does not oppose drainage of mist extractor)
- Large liquid surface area for foam dispersion generally reduces turbulence.
- Large surface volume capacity.

Horizontal Separator Disadvantages

- Only part of shell available for passage of gas
- Occupy more space unless “stack” mounted.
- Liquid-level control is more critical
- More difficult to clean produced sand, mud, wax, paraffin, etc.

(per Smith Industries Handbook)