Input Data Design Form

Rotoliptic Technologies Inc. offers the ability to analyze and recommend the most efficient and effective pumping system for each application. Please ensure that all production and well data information is completed as accurately as possible.

Instructions: Use the ""Tab"" key to navigate through the fields. Additional information for the highlighted boxes can be found on pages 2-3 of this document.

Company Name:		Contact:	
Unique Well Identifer:		Phone:	
Location:		e-mail:	
State:		Date:	

WELL DATA

Vertical:		Horizontal:		Slant:			
Total Depth:			Feet				
Perforations:							
Top:			Feet				
Bottom:			Feet				
Pump Landing Depth:			Feet				
Producing Fluid Level from Surface:							
Current:			Feet				
Projected:			Feet				
Flowline Pressure:			PSI				
Casing Pressure:			PSI				
Tubing Size:			Inches				
Casing Size:			Inches				
Rod Size:			Inches				
Rod Grade:							
Rod Type:	Sucker Rod:			Coiled Rod:			
Rod Couplings:	Full Size:			Slimhole:			

IPR DATA

Static Reservoir Pressure:			
Bubble Point Pressure:			
		Test Point #1	Test Point #2
Producing Pressure(s)	PSI		
Fluid Rate(s)	BFPD		
Productivity Index:			

Please attach the following if available:

Directional Survey: Fluid Analysis:

PRODUCTION & FLUID DATA

Current Production:						BFPD
Projected Production:						BFPD
Water Cut:						%
Abrasive Cut:						%
Gas Oil Ratio (G.O.R.):						
Total Fluid Viscosity:		cp	@			° F
Viscosity Correlation:		cp	@			° F
		cp	@			° F
		cp	@			° F
API Oil Gravity:		Degrees				
H_2S:		ppm	Water S.G.:			
CO_2:		ppm	Water Salinity:			ppm
Aromatics (Benzene, Toluene, Xylene):						mole %
Bottomhole Temperature:						° F
Temperature Gradient:		° F / 100 feet				

Treating Chemicals:

SURFACE EQUIPMENT

Electric Prime Mover:		rpm		HP	
Gas Prime Mover:		Brand		Size	
Surface Drive Type:	Direct:		Hydraulic:		
Belt & Sheave Ratio:		Gear Box Ratio:			
Operating Frequency:		Line Voltage:			
Hydraulic Pump & Motor:					
Flow Tee to Drivehead Connection:					
Flow Tee Style & Size:					

Pertinent Information:

Please Return to:

Email: expert@rotoliptic.com

Phone: (604) 390-4122

Rotoliptic TECHNOLOGIES INCORPORATED

Input Data Design Form – Additional Information Definitions

Rotoliptic Technologies Inc. offers the ability to analyze and recommend the most efficient and effective pumping system for each application. Please ensure that all production and well data information is completed as accurately as possible in the fillable section of the PDF.

Find below additional information about required data in the Input Data Design Form.

WELL DATA

Slant: For horizontal or slant well applications the directional survey data must accompany the data design sheet. This information is critical in determining surface and downhole equipment performance as well as rod/tubing contact loads.

Total Depth: The Total Depth represents the length of the wellbore and is usually reported as a True Measured Depth (TMD).

(Perforations) Top: The Perforations Top represents the highest set of perforations in the wellbore and can be reported as a True Measured Depth (TMD) or True Vertical Depth (TVD). True Vertical Depth is the direct change in elevation measured from surface to the point of reference. True Measured Depth is the depth from surface measured along the wellbore to the point of reference.

(Perforations) Bottom: The Perforations Bottom represents the deepest set of perforations and is usually reported as a True Measured Depth (TMD) or True Vertical Depth (TVD). True Vertical Depth is the direct change in elevation measured from surface to the point of reference. True Measured Depth is the depth from surface measured along the wellbore to the point of reference.

Pump Landing Depth: The Pump Landing Depth represents the location of the pump intake in the wellbore. It is usually reported as a True Measured Depth (TMD) or True Vertical Depth (TVD). True Vertical Depth is the direct change in elevation measured from surface to the point of reference. True Measured Depth is the depth from surface measured along the wellbore to the point of reference.

(Producing Fluid Level from Surface) Current: The Current Producing Fluid Level is the dynamic level of fluid in the annulus measured from surface with correlates to the current production rate and is assumed to be a dead column unless otherwise reported. It is usually reported as a True Vertical Depth (TVD) but can be reported as a True Measured Depth (TMD) or joints of tubing from surface
(Jnts).

PRODUCTION & FLUID DATA

Current Production: The Current Production represents the present well rate and correlates to the current producing fluid level.

Projected Production: The Projected Production Rate is usually derived from an IPR curve and correlates to the projected fluid level.

Water Cut: The Water Cut represents the percentage of free water in the produced fluid. In applications where the fluid has a high viscosity (>500cp) the water cut can have a significant effect on overall fluid viscosity and density and therefore must be taken into careful consideration when designing such systems.

Abrasive Cut: The Abrasive Cut represents the total percentage of solids produced from the well. Production of abrasives can cause premature wear of the stator and rotor. Please specify abrasive size and type i.e. frac sand @ 20 micron.

Gas Oil Ratio: Gas Oil Ratio (G.O.R) represents the volume of gas produced per volume of oil. In wells where the bubble point of the reservoir is above the pressure at the perforations, the G.O.R represents the volume of free gas present. Free gas at the pump intake affects the volumetric efficiency of the pump.

Total Fluid Viscosity: Fluid Viscosity is represented by a number that shows the fluids ability to resist flow. Higher numbers are shown for fluids that will not easily flow. High fluid viscosity will affect flow losses in the production tubing and add to the rod string torque, horsepower and pump lifting requirements of a Rotoliptic pumping system and therefore must be carefully considered in any design.

H_2S: H_2S content of the fluid is used as a guideline to determine pump selection. H2S will deteriorate the mechanical properties causing hardening of the pump raw material.

(Producing Fluid Level from Surface) Projected: The Projected Producing Fluid Level is usually derived from an IPR curve and represents the dynamic level from which the projected production rate is derived.

Tubing Size: Tubing size has significant impact on flow losses within a Rotoliptic Pumping System. Use of 2 3/8" or smaller diameter tubing will restrict the use of larger displacement pumps as the rotor will not be able to drift through the tubing.

Casing Size (ID): Check pump o.d. to ensure adequate annular clearance.

Rod Size: Rod size and grade can affect the maximum volume and lift capability of a Rotoliptic pump. Each rod size and grade have a maximum torque limit which should not be exceeded. The combined effect of volume and lift will determine the axial and torsional loads placed on the rod string.

IPR DATA

Static Reservoir Pressure: Static Reservoir Pressure is used for the development of deliverability or IPR curves. IPR curves are used to simulate well deliverability as the flowing bottom hole pressure is reduced. The difference between the two pressures is called drawdown and will determine the flow rate.

Static pressure also represents the amount of theoretical reserves within a producing reservoir.

Bubble Point Pressure: Bubble Point Pressure determines if free gas can be liberated within the pressure system of the well.

If the bubble point is equal to or below the pressure at the perforations there will be no free gas present.

If the bubble point is above the pressure at the perforations free gas will be present.

Producing Pressure(s): The Producing Pressure is a required point for the development of an IPR Curve.

Fluid Rate(s): The Fluid Rate is a required point for the development of an IPR Curve.

Productivity Index: The Productivity Index represents the potential increase in production per reduction in flowing bottom hole pressure.

SURFACE EQUIPMENT

Belt & Sheave Ratio: Belt & Sheave Ratio (shown as Driven:Driver) is used to determine the maximum polished rod speed and torque.

Operating Frequency: Operating Frequency is used to determine the motor speed which directly affects the required sheave ratio. The sheave ratio constraints of the surface drive equipment have a significant impact of surface equipment selection and therefore the operating frequency must be considered in any design. Motor speed is a key component in the design of the hydraulically driven system.

Gear Box Ratio: Gear Box Ratio (shown as Driven:Driver) is used to determine the maximum polished rod speed and torque.

Flow Tee to Drivehead Connection: Standard connections are:

2 7/8" EUE Pin or 3 1/2" NPT Pin or 3 1/8" 3000# Flanged.