PowerFlow
Fluid Systems • Separation Technology

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3M Liqui-Cel® Questionnaire

Customer Information

Company:
Facility:
City and State:

Contact Email:
Contact Name:
Contact Phone:

Question	Answer	Issue / Comment
1. Water source?		1 - Pure [RO Permeate (single/double?) or IX] 2 - Softened 3 - Potable 4 - Well 5 - Other(?)
2. Application?		O2 removal CO2 removal Other (?)
3. Water flow rate? (gpm)		Low/Normal/Maximum - System will be designed to meet target specifications at "max" flow unless otherwise specified
4. Water temperature? (C/F- specify)		Low/Normal/Maximum - System will be designed to meet target specifications at "worst case" temperature conditions unless otherwise specified
5. Inlet gas concentration? (ppm)		For O2 removal use inlet O2 ppm, for CO2 removal use inlet CO2 ppm. If no inlet O2 is specified, maximum O2 concentration at saturation conditions will be used.
6. If you have a forced draft decarbonation unit or vacuum tower degasifier, what are the CO2 inlet and outlet concentrations?		
7. Target outlet gas concentration? (ppm/ppb - specify)		i.e. < 10 ppb O2, < 1 ppm CO2, >80% removal
8. Allowable head-loss?		Available pump capacity must be considered when integrating a degasification system into an existing process . More contactors or pump capacity may be needed.
9. Do you have a current water quality analysis (WQA)?		If yes, please provide. If not, please provide as much detail as possible on the water composition and properties.
10. Current particle size analysis (PSA)?		Particulate is the most common cause of contactor fouling. Feed stream requires 5 µm absolute filtration. This maximizes contactor service life and performance.
11. What chemicals are injected upstream of Liqui-Cel system?		Biocides/biostats, oxidizers, O2/Cl scavengers, Ozone, pH control, etc....
12. Is redundancy required?		N+1 requirements - 50%, 100%?

13. Size restrictions?		Many contactors can be vertically or horizontally oriented based on available space and tie-in points.
14. Any special requirements?		Explosion proof, 575v, ASME rated vessels, Stainless Steel vessels, Sanitary, time, etc...?
15. What is the overall project goal?		Replace deficient/failed equipment (vacuum tower/DA), new construction (capital reduction), emergency situation, savings projects, etc....
16. Where will the new degasification system be located? (inside/outside)		The environment can affect design and performance. Ambient temperature affects self-cooled vacuum pumps. If over 86F, less vacuum is achieved and Liqui-Cel efficiency is reduced. PVC components may not be used if sun exposure is excessive. If filtered air is used for sweep gas, extra consideration is given to air intake filtration in high dust environments...etc.