

Customer:	
Date:	
Person contacted:	
Position:	
Customer Type:	Contractor / OEM / Distributor

We are a UK manufacturer of pumps with a range of API610 products. The API designations of the pumps we make are as follows; OH1 - Foot mounted, single stage Overhung pump, OH 2 - Centre-line mounted, single stage overhung pump and VS4 –Vertically suspended, Single Stage line-shaft sump pump. We manufacture the pumps in API610 table HI material combinations with mechanical seals complying with API682.

We are continually updating and developing our products and we are interested in receiving the views of the pump users regarding their selection and construction to make sure they are taken into consideration. I have a few questions that will take 10 minutes to complete which will help us to help you in the future.

GENERAL INFO

1.	<p>Witin the last 3 years have your purchased equipment to any of the following international standards?</p> <p>A. API 610 10th (ISO 13709:2005) B. Shell-DEP, Exxon-BP, BP-DS. C. Norsok D. Other - please state E. None</p> <p>Remarks:</p>																														
2.	<p>Do you rigidly apply the afore mentioned standards, or will you accept products that deviate? If yes, please sight tyical examples of deviations that you accept.</p> <p>Remarks:</p>																														
3.	<p>Looking at your Centrifugal pump requirements, what type and percentage have you purchased in the last 3 years? Please tick.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>0-25%</th> <th>25-50%</th> <th>50-75%</th> <th>75-100%</th> </tr> </thead> <tbody> <tr> <td>OH1</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>OH2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>OH4</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>BB2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VS4</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>OH1 - Foot mounted, single stage Overhung OH2 - Centre-line mounted, single stage overhung OH4 – Vertial in-line, single stage overhung BB2 – Radially split, between bearings, 1 & 2 stage. VS4 - Vertically suspended, single Stage line-shaft sump</p>		0-25%	25-50%	50-75%	75-100%	OH1					OH2					OH4					BB2					VS4				
	0-25%	25-50%	50-75%	75-100%																											
OH1																															
OH2																															
OH4																															
BB2																															
VS4																															

The following questions apply to single stage, radially split Centrifugal type OH2 pumps.

PUMP SELECTION

4.	<p>When selecting API 610 OH2 pumps, how important is a 10% head rise from closed valve to duty point? If not mandatory, what percentage would you typically accept?</p> <p style="margin-left: 20px;">A. Mandatory B. Preferable C. Not required</p> <p>Minimum Acceptable Head Rise.....%</p>																														
5.	<p>Do you have a maximum head rise, if so what is this value?</p> <p>Maximum Head Rise.....%</p>																														
6.	<p>Would you accept a pump fitted with an orifice plate to achieve the required head rise, if yes under what circumstances?</p> <p>Remarks:</p>																														
7.	<p>When operating API pumps, between what ranges would you expect the duty point? Please tick.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">Preferable</th> <th style="width: 10%;">Always Acceptable</th> <th style="width: 10%;">Acceptable if no alternative</th> <th style="width: 10%;">Would not consider</th> </tr> </thead> <tbody> <tr> <td>80% to 110 % of BEP</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>70% to 120% of BEP</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Closed valve to 120% of BEP</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>No restrictions - accept manufacturers recommendation.</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Other – please specify</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <p>Remarks:</p>		Preferable	Always Acceptable	Acceptable if no alternative	Would not consider	80% to 110 % of BEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	70% to 120% of BEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Closed valve to 120% of BEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No restrictions - accept manufacturers recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other – please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Preferable	Always Acceptable	Acceptable if no alternative	Would not consider																											
80% to 110 % of BEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
70% to 120% of BEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
Closed valve to 120% of BEP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
No restrictions - accept manufacturers recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
Other – please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
8.	<p>Do you specify a maximum suction specific speed (n_s), if so what is the maximum permissible limit and units of measure.</p> <p>Speed.....Units.....</p>																														
9.	<p>When NPSH is low, would you accept a pump operating outside the parameters stated in question 8 and if yes under what circumstances?</p> <p>Remarks:</p>																														
10.	<p>If NPSH is low, would you consider fitting an inducer to an API 610 OH2 pump, if yes under what circumstances?</p> <p>Remarks:</p>																														

PROCESS CONDITIONS

11.	When looking at your API610 requirements, what percentage of liquids pump would fall in to the following specific gravity (SG) categories? Please tick.																																			
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 15%;">0-25%</th> <th style="width: 15%;">25-50%</th> <th style="width: 15%;">50-75%</th> <th style="width: 15%;">75-100%</th> </tr> </thead> <tbody> <tr> <td>Less than 0.5</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.5 to 0.7</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.7 to 1.2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Above 1.2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			0-25%	25-50%	50-75%	75-100%	Less than 0.5					0.5 to 0.7					0.7 to 1.2					Above 1.2														
	0-25%	25-50%	50-75%	75-100%																																
Less than 0.5																																				
0.5 to 0.7																																				
0.7 to 1.2																																				
Above 1.2																																				
12.	For API 610 OH2 pumps do you have a requirement to move solids, if so please indicate particle size and concentration? Size mm / Concentration.....ppm																																			
13.	For the following suctions size, what is the maximum fluid viscosity you would expect to pump? A. Less than DN80 (3") suction..... Cst B. DN80 to DN150 (3"-6") suction.....Cst C. DN150 to DN300 (6"-12") suction.....Cst																																			
14.	Thinking about the fluid, what percentage of pump purchased in the last 3 years would are in the following temperature categories? Please tick.																																			
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 15%;">0-25%</th> <th style="width: 15%;">25-50%</th> <th style="width: 15%;">50-75%</th> <th style="width: 15%;">75-100%</th> </tr> </thead> <tbody> <tr> <td>< -40° C</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-40 to 40° C</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40 to 100° C</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>100 to 200° C</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>200 to 370° C</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>> 370° C</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			0-25%	25-50%	50-75%	75-100%	< -40° C					-40 to 40° C					40 to 100° C					100 to 200° C					200 to 370° C					> 370° C				
	0-25%	25-50%	50-75%	75-100%																																
< -40° C																																				
-40 to 40° C																																				
40 to 100° C																																				
100 to 200° C																																				
200 to 370° C																																				
> 370° C																																				
15.	What proportion of API OH2 pumps purchased fall into the following design pressure rating categories? Please tick.																																			
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 15%;">0-25%</th> <th style="width: 15%;">25-50%</th> <th style="width: 15%;">50-75%</th> <th style="width: 15%;">75-100%</th> </tr> </thead> <tbody> <tr> <td>< 20 bar</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>20 to 40 bar</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40 to 50 bar</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>>50 bar</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			0-25%	25-50%	50-75%	75-100%	< 20 bar					20 to 40 bar					40 to 50 bar					>50 bar														
	0-25%	25-50%	50-75%	75-100%																																
< 20 bar																																				
20 to 40 bar																																				
40 to 50 bar																																				
>50 bar																																				
16.	For the following suction flange sizes, what would be the maximum suction pressure for an API OH2 pump purchased in the last 3 years? Please tick.																																			
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 15%;"><DN50</th> <th style="width: 15%;"><DN100</th> <th style="width: 15%;"><DN150</th> <th style="width: 15%;">DN300</th> </tr> </thead> <tbody> <tr> <td>< 10 bar.g</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10 to 20 bar.g</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>20 to 30 bar.g</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>> 30 bar.g</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			<DN50	<DN100	<DN150	DN300	< 10 bar.g					10 to 20 bar.g					20 to 30 bar.g					> 30 bar.g														
	<DN50	<DN100	<DN150	DN300																																
< 10 bar.g																																				
10 to 20 bar.g																																				
20 to 30 bar.g																																				
> 30 bar.g																																				

PUMP CONSTRUCTION

17.	<p>For API OH2 pumps do you stipulate maximum nozzle loads, if so what are the loads?</p> <ul style="list-style-type: none"> A. None B. 2 x API 610 C. 4 x API 610 D. Other – please specify <p>Remarks:</p>																												
18.	<p>Do you accept open impellers on Petrochemical & Gas applications?</p> <ul style="list-style-type: none"> A. Never B. Always C. Conditional - please specify <p>Remarks:</p>																												
19.	<p>Do you purchase Cast Iron pumps, if so which type and why would you select this material over a more exotic?</p> <ul style="list-style-type: none"> A. None B. Flake cast C. Ductile <p>Remarks:</p>																												
20.	<p>Which of the following bearing monitoring types are typically required on each pump? Please tick.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 70%;"></th> <th style="width: 15%;">Site Standard</th> <th style="width: 15%;">Application Dependent</th> <th style="width: 10%;">Never</th> </tr> </thead> <tbody> <tr> <td>D.E Vib Axial/Vertical</td> <td></td> <td></td> <td></td> </tr> <tr> <td>N.DE. Vib Axial/Vertical</td> <td></td> <td></td> <td></td> </tr> <tr> <td>D.E Brg Temp</td> <td></td> <td></td> <td></td> </tr> <tr> <td>D.E Bearing Temp</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sump Oil/vapour Temp</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other – please specify</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Remarks:</p>		Site Standard	Application Dependent	Never	D.E Vib Axial/Vertical				N.DE. Vib Axial/Vertical				D.E Brg Temp				D.E Bearing Temp				Sump Oil/vapour Temp				Other – please specify			
	Site Standard	Application Dependent	Never																										
D.E Vib Axial/Vertical																													
N.DE. Vib Axial/Vertical																													
D.E Brg Temp																													
D.E Bearing Temp																													
Sump Oil/vapour Temp																													
Other – please specify																													
21.	<p>When bearing monitoring is required, how would you like the pump to be supplied? Complete with:-</p> <ul style="list-style-type: none"> A. Dimple B. Spot Faced Tapped Hole C. Entire Sensor package D. Other – please specify <p>Remarks:</p>																												

22.	What percentage of pumps purchased in the last 3 years are fitted with bearing sensors? Sensors required.....%
23.	What percentage of pumps purchased in the last 3 years are lubricated by an oil mist system and do you foresee this changing within the next 5 years? A. Current.....% B. Future..... %

ENVIROMENT CONDITIONS

24.	What is the typical site ambient temperature? A. Less than -10° C B. -10 to 40°C C. Above 40° C
25.	Do you specify a maximum sound pressure level, if yes what value currently and do you foresee this changing within the next 5 years? Current LeveldBA Future Level.....dBA
26.	Are there any other environmental conditions that you feel we should take into account with regards to the design of our products, e.g. wave motion loading and seismic constraints? Remarks:

ADDITIONAL COMMENTS

27.	Are there any additional comments that you believe will be of help to us in the future development of our products? Remarks:
-----	-------------------------------------------------------------------------------------------------------------------------------------

