

SUMMARY OF ESSENTIAL DATA REQUIRED

A	NATURE OF THE LIQUID TO BE PUMPED	COMMENTS
A1	IS THE LIQUID FRESH OF SALT WATER, ACID OR ALKALI, OIL, GASOLINE, SLURRY, OR PAPER STOCK?	
A2	IS IT COLD OR HOT, WHAT IS THE NORMAL/MIN/MAX TEMPERATURES? WHAT IS THE VAPOR PRESSURE AT THE PUMPING TEMPERATURE?	
A3	WHAT IS ITS SPECIFIC GRAVITY?	
A4	IS IT VISCOUS OR NONVISCOUS? NEWTONIAN OR NON-NEWTONIAN? WHAT IS THE VISCOISTY VALUE?	
A5	IS IT CLEAR AND FREE FROM SUSPENDED FOREIGN MATTER OR DIRTY AND GRITTY? IF THE LATTER, WHAT ARE THE SIZE AND NATURE OF THE SOLIDS, AND ARE THEY ABRASIVE? IF THE LIQUID IS OF A PULPY NATURE, WHAT IS THE CONSISTENCY? WHAT IS THE SUSPENDED MATERIAL?	
A6	WHAT ARE THE CHEMICAL ANALYSIS OF THE LIQUID? PH VALUE? OTHERS? WHAT ARE THE EXPECTED VARIATIONS OF THE ANALYSIS? IF CORROSIVE, WHAT HAS BEEN THE PAST EXPERIENCE, BOTH WITH SUCCESSFUL MATERIALS AND WITH UNSATISFACTORY MATERIALS?	
B	CAPACITY	
B1	WHAT IS THE REQUIRED CAPACITY AS WELL AS THE MINIMUM AND MAXIMUM AMOUNT OF LIQUID THE PUMP WILL EVER BE CALLED UPON TO DELIVER?	
B2	IS THERE A DISCHARGE BYPASS LINE?	
B3	WILL THIS PUMP RUN IN PARALLEL OR SERIES WITH ANOTHER PUMP? WHAT ARE THE CHARACTERISTICS OF THESE PUMPS?	
C	SUCTION CONDITIONS	
C1	IS THERE A SUCTION LIFT? NUMBER OF FEET?	
C2	OR IS THERE SUCTION HEAD? FLOODED MIN/MAX RANGE IN FEET?	
C3	WHAT ARE THE LENGTH AND DIAMETER OF THE SUCTION PIPE?	
C4	WHAT IS THE SLOPE OF THE SUCTION PIPE?	
C5	WHAT VALVES, REDUCERS, INCREASERS, CHECK VALVES, ETC ARE IN THE SUCTION LINE?	
C6	WHAT IS THE NET POSITIVE SUCTION HEAD AVAILABLE? EXPRESSED IN FEET ABSOLUTE.	

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C7	IS THERE A STRAINER ON THE SUCTION LINE?	
C8	IS THERE AN AGITATOR IN THE SUPPLY TANK?	
D	DISCHARGE CONDITIONS	
D1	WHAT IS THE STATIC HEAD? IS IT CONSTANT OR VARIABLE?	
D2	WHAT IS THE FRICTION HEAD?	
D3	WHAT IS THE MAXIMUM DISCHARGE PRESSURE AGAINST WHICH THE PUMP MUST DELIVER THE LIQUID?	
D4	DO YOU HAVE A SYSTEM HEAD CURVE? IS IT CORRECTED FOR VISCOSITY, %SOLIDS AND CONDITION OF PIPE?	
D5	WHAT IS THE MINIMUM DISCHARGE HEAD?	
E	TOTAL HEAD	
E1	VARIATIONS IN THE SUCTION AND DISCHARGE CONDITIONS WILL CAUSE VARIATIONS IN THE TOTAL HEAD.	
E2	THE PUMP HEAD IS THE TOTAL DYNAMIC HEAD.	
E3	WHAT HAPPENS WHEN THE TOTAL HEAD INCREASES 5%,10% DUE TO WEAR, COATING ETC.?	
F	SERVICE CONDITIONS	
F1	IS IT CONTINUOUS OR INTERMITTENT? PLEASE EXPLAIN.	
F2	WILL THE PUMP EVER BE OPERATED AGAINST A CLOSED DISCHARGE? PLEASE EXPLAIN.	
F3	WILL THE PUMP BE FLUSHED AND DRAINED WHEN NOT IN SERVICE?	
F4	WILL THE PUMP BE USED FOR CIRCULATION IN A CLOSED SYSTEM OR FOR TRANSFER?	
F5	IS THERE A CHANCE THAT THE PUMP MAY RUN DRY?	
F6	WHAT WILL CONTROL THE OPERATION OF THE PUMP?	
F7	HOW MANY TIMES WILL THE PUMP BE REQUIRED TO TURN ON AND OFF?	
F8	IS THERE ENTRAINED AIR PRESENT? TURBULENCE IN THE SUCTION FEED TANK?	
G	INSTALLATION	
G1	IS THE PUMP TO BE INSTALLED IN A HORIZONTAL OR VERTICAL POSITION? IN A WET PIT? IN DRY PIT?	

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G2	IF A VERTICAL OR SUBMERSIBLE, WHAT IS THE MINIMUM LIQUID LEVEL, SUBMERGENCE?	
G3	WHAT IS THE TYPE OF POWER IS AVAILABLE TO DRIVE THE PUMP AND WHAT ARE THE CHARACTERISTICS OF THIS POWER?	
G4	WHAT IS THE VOLTS,PHASE,CYCLE?	
G5	WHAT TYPE OF MOTOR ENCLOSURE? TEFC, ODP, TEFC CHEM DUTY, EXPLOSION PROOF (CLASS AND DIVISION), WPI, WP11, OTHER?	
G6	DESCRIBE THE GEOGRAPHICAL LOCATION?	
G7	INDOOR OR OUTDOOR INSTALLATION?	
G8	RANGE OF AMBIENT TEMPERATURES?	
G9	ELEVATION ABOVE SEAL LEVEL?	
G10	WHAT ARE THE TANK OR SUMP MEASUREMENTS? MATERIALS?	
G11	WHAT IS THE TYPE OF MATERIAL IN PIPE LINES TO BE CONNECTED TO PUMP?	
G12	WHAT IS THE PUMP CYCLE TIME?(WANT MINIMUM OF FOUR MINUTES.) STARTS PER HOUR?	
G13	IS METAL CONTAMINATION UNDESIRABLE?	
G14	WHAT IS THE PUMP FOUNDATION DIMENSIONS, WEIGHT?(GENERALLY WANT FOUNDATION MASS TO BE FOUR TIMES THAT OF THE PUMP,MOTOR,BEDPLATE ASSEMBLY WEIGHT.)	
G15	IS PLANT SPACE AT PUMP LOCATION A CRITICAL FACTOR?	
H	APPLICATION	
H1	DESCRIBE THE APPLICATION.	
H2	ARE THERE ANY SPECIAL REQUIREMENTS OR MARKED PREFERENCES WITH RESPECT TO THE DESIGN, CONSTRUCTION, OR PERFORMANCE OF THE PUMP?	
H3	PLEASE PROVIDE A SKETCH OF THE INSTALLATION.	
H4	IS THIS A NEW OR REPLACEMENT PUMP?	
H5	ARE YOU TOTALLY SATISFIED WITH YOUR CURRENT PUMP? YES, NO ? EXPLAIN	
H6	IF PUMP IS NEW, DESCRIBE HOW JOB IS DONE CURRENTLY.	
H7	HOW IMPORTANT IS THIS PUMP TO THE OPERATION OF YOUR PLANT?	
I	MATERIALS	

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I 1	PREVIOUS EXPERIENCE. HAVE YOU PUMPED THIS LIQUID PREVIOUSLY? IF SO, OF WHAT MATERIAL OR MATERIALS WAS THE PUMP MADE OF?	
I 2	WHAT WAS THE SERVICE LIFE IN MONTHS?	
I 3	WHAT PARTS WERE AFFECTED?	
I 4	WAS THE TROUBLE PRIMARILY DUE TO CORROSION, EROSION, GALVANIC ACTION, STRAY CURRENT?	
I 5	WAS THE ATTACK UNIFORM? IF LOCALIZED, WHAT PARTS WERE INVOLVED?	
I 6	IF PITTED, DESCRIBE SIZE, SHAPE AND LOCATION. A SKETCH OR PICTURE WILL BE HELPFUL IN AN ANALYSIS OF THE PROBLEM.	
I 7	WHAT IS CONSIDERED THE INTENDED ECONOMIC LIFE?(NOTE: THAT THE USE OF INEXPENSIVE PUMP MATERIALS MAY BE THE MOST ECONOMICAL, WHEN THE LIFE AND INITIAL COST IS EVALUATED.)	
J	SEALLING	
J1	DO YOU WANT PACKING, MECHANICAL SEAL, DYNAMIC SEAL, MAGNETIC DRIVE?	
J2	IS FLUSH WATER AVAILABLE? WHAT PRESSURE?	
K	BEDPLATE	
K1	DO YOU PREFER CAST IRON, FAB STEEL, NON-METALLIC, FOOT MOUNTED, OR FEATURE BEDPLATE?	
K2	WILL NON-SHRINK GROUT OR EPOXY GROUT BE USED?	

FILE:PUMPAPPL

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