The primary purpose of this pump G1-740/1 is to transfer aqueous solution of HBR from tanker to F1-737 and it is also used to transfer the material towards F1-715 for tuning.

		CASE NUMBER		
		1 NORMAL FLOW	2	3
DESCRIPTION		HBr unloading pump and transfer pump		
FLUID NAME		Aqueous HBr	_	_
TYPICAL FLUID COMPOSITION		48 % HBr	_	_
TEMPERATURE	oC	35	_	_
MIN / MAX TEMPERATURE	oC	AMBIENT	_	_
SOLID CONTENT	%	-	_	_
SUSPENDED PARTICLE SIZE RANGE	micron		_	_
SUSPENDED PARTICLE DENSITY	Kg/m3		_	_
GAS CONTENT	ml/m3	_	_	_
FLUID CHRACTERISTICS	48 % HBr (TOXIC / CORROSIVE / ODOROUS)			
ZONE CLASSIFICATION	ZONE 2 GROUP IIA, T2			
		FLUID FLOWS AND PHYSICAL PROPERTIES		
PROCESS DESIGN FLOWS ARE % OF FLOWSHEET		100	_	_
FLOWRATE	m3/hr	10 NOTE 1	_	_
SPECIFIC HEAT	J/kg.c	-	_	_
POUR /MELT POINT	C	-	_	_
FLASH POINT	C	-	_	_
ATMOSPHERIC BOILING POINT	C	100	_	_
TLV	ppm	-	_	_
VAPOR PRESSURE AT OP TEMP	bara	0.06	_	_
VISCOSITY AT OPERATING TEMP	cp	1.2	_	_
SPECIFIC GRAVITY AT OPERATING TEMP		1.3	_	_
		SUCTION SYSTEM CHARACTERISTICS		
MIN / MAX PRESSURE IN VESSEL	bara	1.01 /	_	_
STATIC HEAD ABOVE PUMP	m	-	_	_
PRESSURE DROP EQUIPMENT	bara	-	_	_
PRESSURE DROP CONTROL VALVES	bara	-	_	_
PRESSURE DROP ORIFICE PLATE	bara	-	_	_
PRESSURE DROP PIPE WORK ETC	bara	-	_	_
PRESSURE AT PUMP FLANGE	bara	1.01	_	_
PRESSURE AT PUMP FLANGE	m		_	_
N.P.S.H (AVAILABLE)	m	8.4	_	_
		DELIVERY SYSTEM CHARACTERISTICS		
MAX PRESSURE IN VESSEL	bara	1.01	_	_
STATIC HEAD ABOVE PUMP	bara	-	_	_
PRESSURE DROP EQUIPMENT	bara	-	_	_
PRESSURE DROP CONTROL VALVES	bara	-	_	_
PRESSURE DROP ORIFICE PLATE	bara	-	_	_
PRESSURE DROP PIPE WORK ETC	bara	-	_	_
PRESSURE AT PUMP FLANGE	bara	2.1	_	_
PRESSURE AT PUMP FLANGE	m		_	_
DIFFERNTIAL HEAD ACROSS PUMP	m	9	_	_
IS THIS THE MAX PUMP HEAD REQUIRED			_	_
PIPE WORK ELEVATION SKETCH (DIMENSIONED) ATTACHED				
PUMP CURVE REQUIRED	Yes			
SUGGESTED RELIEF VALVE SETTING ,INLET DISCHARGE		_ \ _		
INSULATION NO		TRACING NO		JACKATING NO
ADDITIONAL COMMENTS				

NOTE 1. **Vendor to Confirm that this pump is able to perform 120% of flowsheet condition**

MECHANICAL DATA

SUGGESTED DESIGN PRESSURE	VTA	bar g		SUGGESTED DESIGN TEMPERATURE		VTA	oC
SUGGESTED CONSTRUCTION MATERIAL	HDPE RCH1000	CASING	PFA	SHAFT	PVDF	IMPELLER	
RUNNING TIME	CONTINUOUS 8000	h/yr	STARTS/YEAR	2000	PARALLEL PUMP ASSUMED	NO	
CONTROL BY	-						
SIGNIFICANT RNNING AT NO FLOW	YES						
DRIVE	ELECTRIC MOTOR			Insulation			
C/V STROKE TIME <D/24				NARROW BAND OR FAST INTEGRAL CONTROL			

MACHINES DATA CONFIRMED

MANUFACTURER	TYPE	CENTRIFUGAL	MODEL NO			
TYPE OF SEAL	Double Mechanical Seal					
DESIGN PRESSURE	VTA	barg				
MATERIAL OF CONST.		CASING	VTA	SHAFT	IMPELLER	
PUMPS IN PARALLEL	VTA		NUMBER IN PARALLEL	VTA		
C/V LOSS CASE	VTA	m	BYPASS FLOW	VTA		m3/hr
SHUT OFF HEAD	VTA	m				
N.P.S.H REQUIRED	VTA	m				
IMPELLER DIA FITTED	VTA	mm	SPEED	VTA		rpm
IMPELLER DIA MAX	VTA	mm	IMPELLER DIA MIN	VTA		mm
NOISE RATING	VTA	NR/db(A)				

SERVICE REQUIRED

ELECTRICITY	VOLTS	PHASE	50 ± 2 HZ	kw
WATER	barg			m3/hr
STEAM	barg			kg/hr

PUMP CURVE SUPPLIED

ADDITIONAL COMMENTS:

NOTES:

1.PLANT WILL BE OPERATIONAL 365 DAYS/YEAR.

2. VTA stands for vendor to access

3. For establishing the casing design pressure, supplier shall use the max achieveable pump discharge pressure. (Shut-off head condition, with max impeller size, max. SG and max. suction pressure)

4. Guards shall be designed to be easily removable and not to come in contact with moving parts and cause sparking. Access to lubrication points shall be possible without removal of guards.

5. Arrows indicating the direction of rotation shall be permanently and distinctly marked on the equipment.

6. Fasteners for indication plates nameplates etc. shall not penetrate the machine casing.

7. vendor to specify protection against minimum or no flow if required.

8. Vendor to specify the Min process flow requirement through kickback.

8. Supplier shall confirm that the equipment service life is in excess of 20,000 hours.

10. Vendor to specify the seal flush API plan.

11. Vendor to provide seal leakage protection as fluid is corrosive.