

		DES		Date:	16-Sep-11
		Equipment data sheet		Doc.:	00009-01742244790252-MEDES-3002
				Rev.:	B
Number of pumps	2				
Item	00HTK81AP001, 00HTK82AP001				
Service	Reagent preparation area sump pumps				
GENERAL DATA					
Pump type		ROWA-UV 80.32	submersible		
Number of stages		1			
Installation		Outdoor			
Operation		one in operation ; one in stand-by as a spare			
Continuous/Discontinuous operation time	min/hour	Discontinuous (based on LSH/LSL activation)			
PROCESS DATA		DESIGN		Notes:	
Flow rate	m³/h	110			
Total head pump:	m	31			
Temperature	°C	40		65°C for mechanical design / 60°C for motor operation	
NPSH available / required	m	5 / (**)			
Density of slurry	Kg/m³	1,310		1800 for motor sizing	
Suction pressure	m	0.4 / 1.5			
Efficiency (incl. speed reducer)	%	72.7			
Shaft power including reducer efficiency	kW	17			
Impeller Speed	RPM	1460			
Impeller tip speed	m/s	24.4			
Critical speed	RPM	2000			
Sound pressure level (at 1 m from equipment)	dB(A)	65			
OPERATION					
Max Liquid Level	m	-1 (\$)			
Min Liquid Level	m	-3.1 (\$)			
Suction Level	m	-3 (\$)			
Bottom of the Pit	m	-3.5			
Pit Dimension (W)	m	3.5			
Pit Dimension (L)	m	3.5			
Pit Dimension (H)	m	3.5			
Minimum capacity	m³/h	70			
Minimum head at minimum capacity	m	44			
FLUID CHARACTERISTICS		Norm	Range	Notes:	
Temperature	°C	40	5-65		
Density of slurry	Kg/m³	1,310	1000-1800	Use max for motor sizing	
Water content	% by wt.	70	29-74		
Total suspended solids	% by wt.	30	26-71		
Solids Composition					
CaSO₄ · 2H₂O	%	2.4	0-4		
CaSO₃ · 1/2H₂O	%	0.1	0-1		
CaCO₃	%	86	80-96		
Ca(OH)₂	%				
CaF₂	%				
Mg CO₃	%	0.00	0-5		
Inerts	%	11	1-13		
Fly ash	%	0.050	0-0.1		
Total Dissolved Solids (aqueous)	ppm wt	104000	500-195000		
Viscosity	cp	1.97	1-7		
Particle Size Distribution:	µm	70% < 120 ; 90% < 250			
Chemical Data:					
pH range		7	8 ÷ 10		
Chloride (as Cl)	ppm	30000	15000-50000		
MATERIALS					
Casing		1.4529		Pren >42	
Casing wear rings		-			
Casing lining		-			
Impeller		1.4529		Pren >42	
Impeller liner		-			
Shaft		1.4529			
Shaft seal		SIC/SIC			
Shaft sleeves		-			
Wear plate		1.4529			
Gearbox		-			

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ELECTRIC MOTOR DRIVE (ONLY MAIN DATA - REFER TO RELEVANT MOTOR DATA SHEET FOR ALL DETAILS)					
Speed	RPM	1460			
Installed power	kW	37			
Voltage, Frequency	V, Hz	400V AC/3-ph			
Cooling	Type	liquid			
CONSTRUCTION CHARACTERISTICS					
Casing					
Thickness	mm	(*)			
Min. corrosion allowance	mm	(*)			
Vents	yes/no	(*)			
Drain with valve	yes/no	(*)			
Impeller					
Diameter: min / des. / max	mm	270/~319/328			
Type		non-clogging			
Coupling Characteristic					
Type		-			
Manufacturer		-			
Size	mm	-			
Coupling guard type		-			
Speed Reducer Data					
Type		-			
Manufacturer		-			
Size	mm	-			
Cooling type / flow rate / delta T		-			
Shaft-Seal Characteristic					
Type		single acting			
Manufacturer		DP-Standard			
Model		Gr.55 G4			
Sealing fluid: required / not required	yes/no	no			
Bearing Characteristic					
Type		roller bearing			
Life	hrs	40000			
Others					
Vibration Std.		ISO 10816			
AUXILIARY EQUIPMENT			Required	Option	
Shaft Mechanical Seal	yes/no	yes			
Shaft Soft Packed Gland Seal	yes/no	no			
Motor-Pump Elastic Coupling Spacer Type	yes/no	no			
Permanent Strainers at Suction	N°	one for each pump			
Discharge pressure transmitter	N°	no			
Suction Pressure Gauge	N°	no			
Drive protection	yes/no	yes			
Local control panel	yes/no	no			
Manometer, valves	yes/no	no			
Trace-heating	yes/no	no			
INCLUSIONS			Required	Option	
Insulation	yes/no	no			
Suspension device	yes/no	yes			
Foundation bolts, nuts, sleeves	yes/no	yes			
Discharge elbows with nuts, bolts, etc.	yes/no	yes			
Drain and vent connection with valve	yes/no	no			
Lifting Lugs	yes/no	yes			
Grounding Clips	yes/no	no			
GENERAL NOTES:					
(*) Data to be filled in by sub-supplier					
(**) Data to be guaranteed by sub-supplier					
(\$) Data to be confirmed					