Hoja de Datos
Bombas de Recirculación

Nº units required:	*2*
Ítem Nº:	*EJ-P02-A & EJ-P02-B*
Service:	*Chemical treatment for EJ System. Engineered Safeguards Service Water Recirculation Pumps*

ENVIRONMENTAL & SECURITY DATA	**Location:**	*Submerged into Water Basin (see "sizing diagram")*	**Active / Passive Security:**	*N/A*
	Temperature:	*N/A*	**Quality Group (RG 1.26):**	*Non Safety Related*
	Relative Humidity:	*N/A*	**Security Class:**	*D (Non Security Class)*
	Special conditions:	*Underwater Pump*	**Seismic Category (RG 1.29):**	*2 (Non Seismic Category)*
	Accumulated Radiation:	*N/A*	**Required Input Motion (RIM):**	*N/A*
	Accidental 40 years dose	*N/A*	**Electric Qualification:**	*N/A*

DESIGN DATA (per unit)	**Fluid:**	**--**	*Fresh Water (Ebro River Water)*		
	Basic Chemistry:		***Lowest***	***Highest***	***Extreme (**)***
	pH:	**--**	*7.5 - 8.5*	*7.5 - 8.5*	*--*
	Alkalinity:	**ppm $CaCO_3$**	*150 - 200*	*x3 Minimum*	*--*
	Conductivity:	**µS/cm**	*1000 – 1500*		
	Chloride Content:	**ppm**	*150 - 200*		
	Calcium Content:	**ppm**	*100 - 130*		
	Fluid design temperature (Nominal / Min. / Max.):	**ºC**	*+27,8*	*+0.6*	*+40.0*
	Viscosity (Nominal):	**centipoise**	*0.842*		
	Vapor pressure (Nominal):	**kg/cm²**	*0.038*		
	Density at nominal working temperature:	**kg/m³**	*996.3*		
			Min. Duty (*)	***Design Duty***	***Max. Duty (*)***
	Volumetric Flow rate:	**m³/h**	*0*	*860*	*1569*
	Total Dynamic Head (TDH):	**kg/cm² (g)**	*2,99*	*2.03 (***)*	*0,94*
	Shut off head:	**kg/cm² (g)**	*Shut off Head must be ≥ 120% than nominal TDH*		
	Water level:	**m**	*--*	*See Sizing Diagram (for quotation purpose)*	*--*
	Pump efficiency:	**%**	*0*	*80*	*64,90*
	Power Consumption (Mechanical):	**kW**	*42,04*	*58,4*	*62,60*
	Electric motor efficiency:	**%**	*0*	*73,5*	*63,8*
	Power Consumption (Electrical):	**kW**	*44,2*	*63,5*	*65,4*
	Design Pressure / Testing Pressure:	**Kg/cm² (g)**	*6 (0,6 MPa)*	*Design pressure x 1.25*	
	Corrosion allowance:	**mm**	*≥ 3*		
	Design live:	**years**	*40*		
	Operational duty:	**--**	*Continuous performance*		

(*) *Pump must be able to normally operate between minimum & maximum flow limit values. Real flow values are estimated to fall within these values. Values will be revised with Bidder's pump performance curve to ensure that limit values fall within recommended pump operation values.*

(**) *Worst case scenario, corresponding to 30 days after LOCA. Water basin starts at "Highest" (day 1) and gradually concentrates until "Extreme" is reached (day 30).* ***Pump need not work in the "Extreme" event****.*

(***) *Requested TDH includes head required to compensate differential height between higher and lower points in circuit.*

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CONSTRUCTION DATA (per unit)	**Type:**	*Submersible Pump*	
	Drive:	- *Direct coupling* - *380 V AC Electric Motor* - *Electric Motor must be oversized to allow a TDH increase of 10%* - *For complete datasheet of pump electric motor, see IHD112. Motor datasheet must be completed by Supplier.*	
	Direction of rotation:	*Left*	
	RPM:	*985*	
	Connections:		
	Nozzle loads:	*See attached paper: IHD111 – Nozzle Loads Guide (v080125)*	
	Suction (Type / Code):	*N/A*	*N/A*
	Discharge (Type / Code):	*Flanged*	*DN300 PN10, DIN 2532*
	Min. submergence:	*820 mm*	
	Weight:		
	Empty (kg):	*1410*	
	Duty (kg):	*1650*	
	Number of stages:	*1*	
	Impeller:		
	Type:	*Semi-open impeller (3 channels)*	
	Nominal diameter (mm):	*435*	
	Max. diameter (mm):	*480* *Must allow a minimum **10%** increase in pump TDH with the proposed electric motor.*	
	Peripheral speed (m/s):	*Nominal: N/A* *Maximum: N/A*	
	Solid Passing Capacity (Ø of particle):	*104 mm*	
	Wear rings:	*Yes*	
	Shaft:	*Solid shaft*	
	Lineshaft:	*N/A*	
	Shaft Bearing Lubrication:		
	Type:	*N/A*	
	Flow:	*N/A*	
	Head loss:	*N/A*	
	$Ø_{max}$ particles:	*N/A*	
	Shaft Sealing:		
	Type:	*WCCR / WCCR*	
	Manufacturer:	*ITT Flygt*	
	Refrigeration:	*Oil housing*	
	Coupling:		
	Type:	*N/A*	
	Manufacturer:	*N/A*	
	Accessories:	***a)** Submersible baseplate, including guide rail assemblies.* ***b)** RTD's i in main and support motor bearings.* ***c)** Thermal switch in motor phases.* ***d)** Water-in-oil sensor in oil housing.* ***e)** Detector for water in stator housing / junction box.* ***f)** Flygt MAS 711 Unit. Monitoring System.*	