



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P				
1	UNIT:		1		SITE:					TURBINE:		FRANCIS					Items to be filled in			
2																	Result			
3																	Unit			
4	Mechanical launch time (s) :				Ta =		10.807		MR2 (*)		4825.00		T.m²							
5									Speed		250.00		t/mn		26.180		rad/s			
6	Tw/Ta=				0.198				Power		306.00		MW							
7									Flow		175.70		m³/s							
8	Specific speed				ns =		189.783		Head		195.00		m							
9									Wheel diam. (**)		3.57		m							
10																	(**) Not mandatory			
11																				
12	PENSTOCK:																			
13	Hydraulic launch time (s):				Tw =		2.145		Allievi Paramter =				1.532		Nominal flow rate		175.7 m³/s			
14															Nominal Head		195 m			
15	Equivalent length				Leq =		700.00 m		Equivalent section				Seq=		29.98 m²		Efficiency η		0.910	
16																				
17																				
18	Part N°	Units Nbr.	Length	Diameter	Section	Additional Flow	Total	v	L*v	L/S	v equivalent =	5.860949	m/s							
19			m	m	m²	m³/s	m³/s	m/s	m²/s	m⁻¹.s⁻¹	L*v total =	4102.66	m²/s							
20	1	2	180	9	31.81		175.7	5.52	994.26	5.66										
21	2	1	170	5.6	24.63		175.7	7.13	1212.70	6.90										
22	3	1	40	4	12.57		175.7	13.98	559.27	3.18										
23	4	1	130	7.4	43.01		175.7	4.09	531.08	3.02										
24	5	2	180	10	39.27		175.7	4.47	805.35	4.58										
25	6																			
26	7																			
27	8																			
28	9																			
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44	25																			