


		SAMSON CALCULATION SHEET					
1	Customer					Tag No.	
2	Project No.						
3	Unit					Item	1 Qty. 1 Status
4	PID					Quot. No.	Revision 0
5	Line No.					Order No.	Date 29.01.2023
PROCESS DATA							
7	Service					Medium	Water
8	Phase	liquid					Medium Cust.
9			Unit	Case 1	Case 2	Case 3	
10	Flow Rate	Q	m³/h	100			
11	Inlet Pressure	p1	bar(a)	10			
12	Outlet Pressure	p2	bar(a)	9			
13	Inlet Temperature	T1	°C	8			
14	Inlet Density	rho1	kg/m³	1000			
15	Vapor Pressure	pv	bar(a)	0.0107			
16	Critical Pressure	pc	bar(a)	221			
17	Ratio of Specific Heats	γ	-				
18	Compressibility	Z	-				
19	Inlet Viscosity	η	mPas	1.38			
20	Outlet Vapor Content	xd2	%				
21	Outlet Vapor Density	pv2	m³/kg				
22	Flow Conditions	-	-				
RESULTS AND FACTORS							
24	Min Required Size	d	mm	84.1			
25	Outlet Velocity	w	m/s	3.54			
26	Valve Coeff. Calculated	Kv	-	100			
27	Relative Travel	T	%	80			
28	SPL(SAMSON Standard values)	LA	dB (A)	55			
29	Differential Pressure Ratio	xF x	-	0.1			
30	FL Value	FL	-	0.91			
31	xFmr/xT Value	xFmr xT	-	0.7			
32	Valve Style Factor	Fd	-	0.43			
33	xFz Value at Load	xFz	-	0.21			
34	Level Exponent	F1 G1	-	-6.91			
35	Slope Exponent	F2 G2	-	0.3			
36	Correction Term	DLf	dB				
DESIGN				LINE			
38	Shut-Off Pressure Min	1,01 bar(a)	Max 10 bar(a)	78	Size / Rating / Pipe Class		
39	t1max		Max 8 °C	79	In DN 100 / /		
40	Supply Pressure Min	bar(g)	Max bar(g)	80	Out DN 100 / /		
41	Pressure Min	bar(a)	Max bar(a)	81	Pipe Inner Dia. / Wallthickness 107,1 mm / 3,6 mm		
42	Temperature Min	°C	Max °C	82	Insu. none		
43	Ambient Temp. Min	°C	Max °C	83	ACTUATOR		
44	VALVE BODY / BONNET			84	Manufacturer / Type /		
45	Manufacturer / Type	SAMSON / 3241		85	Size cm²		
46	Style	Globe		86	Fail Action		
47	Nominal Size	DN 100		87	Bench/Oper. Range / bar		
48	Rating	PN 16		88	Actuator Body Mat.		
49	Body Material	EN-GJL-250		89	Actuator Style		
50	Connection In/Out	flanges		90	Stroke Limit.		
51	Connection In/Out	B, DIN EN 1092		91	Membrane Material		
52	Bonnet Type	Standard		92	Handwheel		
53	Bellow Material	-		93	Set Point / -Range /		
54	Packing Material	PTFE		94	ACTUATOR RESULTS		
55	Packing Type	Standard		95	Safety Factor	Open	Close
56	Body Gasket	GRPH gasket MESU 1.4401/1.4404		96	Req. Act. Force	7.79 kN	
57	Flow Direction	FTO		97	Max. Act. Force	Fmax	27.78 kN
58	NACE	-		98	Max. dp	Dpmax	bar
59	TRIM			99	Min. Press. Act.	ps0req	bar
60	Valve Coefficient	Kvs 160		100	Req. Dp	Dps	bar
61	Rated Travel	30 mm		101	Req. Dp	Dpst100-0	bar
62	Seat Bore	100 mm		102	Actuator Force	Fa	kN
63	Stem Ø	16 mm		103	Min. required Supply	bar(g)	
64	Characteristic	Equal perc.		104	Max. allowable Supply	bar(g)	
65	Noise Reduction	-		105	ATTENUATION PLATES		
66	Balanced	-		106	Type		
67	Plug Facing	Metal		107	Size In / Out		
68	Plug Material	1.4006+QT / 1.4008		108	Rating		
69	Stem Material	1.4401/1.4404		109	Plates Material	Qty.	
70	Seat Facing	Metallic		110	REMARKS		
71	Seat Material	1.4006+QT		111			
72	Cage Material			112			
73	Flow Divider Mat.	-		113			
74	Leakage Class	IV		114			
75	Rev.	Date	Description	Prpd.	Chd.	App.	115
76	0	29.01.2023		pv@san			116