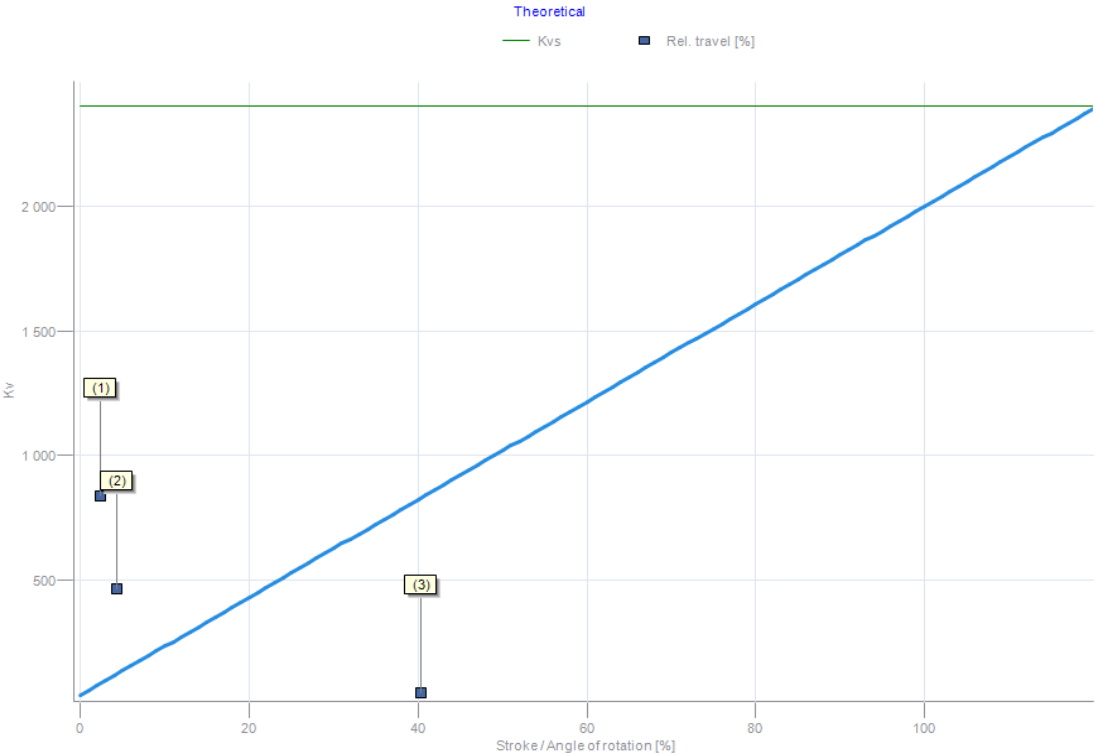


		SAMSON CALCULATION SHEET						
1	Customer					Tag No.	80 - 1350 m3/h;	
2	Project No.					Item	2	Qty. 1
3	Unit					Quot. No.		Revision 0
4	PID					Order No.		Date 10.02.2025
5	Line No.							
6	PROCESS DATA							
7	Service					Medium	Water	
8	Phase	liquid				Medium Cust.		
9			Unit	Case 1	Case 2	Case 3		
10	Flow Rate	Q	m³/h	1350	750	80		
11	Inlet Pressure	p1	bar(g)	10,5	10,5	10,5		
12	Outlet Pressure	p2	bar(g)	8	8	8		
13	Inlet Temperature	T1	°C	80	80	80		
14	Inlet Density	rho1	kg/m³	962	962	962		
15	Vapor Pressure	pv	bar(a)	0,846	0,846	0,846		
16	Critical Pressure	pc	bar(a)	221	221	221		
17	Ratio of Specific Heats	γ	-					
18	Compressibility	Z	-					
19	Inlet Viscosity	η	mPas	0,297	0,297	0,297		
20	Outlet Vapor Content	xd2	%					
21	Outlet Vapor Density	pv2	m³/kg					
22	Flow Conditions	-	-					
23	RESULTS AND FACTORS							
24	Min Required Size	d	mm	399	297	97,1		
25	Outlet Velocity	w	m/s	2,98	1,66	0,177		
26	Valve Coeff. Calculated	Kv	-	837	465	49,6		
27	Safety Factor	SF	1	2,39	4,3	40,3		
28	SPL(SAMSON Standard values)	LA	dB (A)	69	64	50		
29	Differential Pressure Ratio	xF x	-	0,23	0,23	0,23		
30	FL Value	FL	-	0,94	0,95	0,98		
31	xFmr/xT Value	xFmr xT	-	0,70	0,70	0,70		
32	Valve Style Factor	Fd	-	0,42	0,40	0,11		
33	xFz Value at Load	xFz	-	0,42	0,53	0,68		
34	Level Exponent	F1 G1	-	-8,51	-8,66	-8,78		
35	Slope Exponent	F2 G2	-	0,30	0,30	0,30		
36	Correction Term	DLf	dB	0,00	0,00	0,00		
37	DESIGN				77	LINE		
38	Shut-Off Pressure Min	1,01 bar(a)	Max 14 bar(a)	78	Size / Rating / Pipe Class			
39	t1max		Max 80 °C	79	In DN 400 / /			
40	Supply Pressure Min	bar(g)	Max bar(g)	80	Out DN 400 / /			
41	Pressure Min	bar(a)	Max 16 bar(g)	81	Pipe Inner Dia. / Wallthickness 307,9 mm / 8 mm			
42	Temperature Min	°C	Max 80 °C	82	Insu. none			
43	Ambient Temp. Min	°C	Max °C	83	ACTUATOR			
44	VALVE BODY / BONNET				84	Manufacturer / Type SAMSON / 2413		
45	Manufacturer / Type	SAMSON / 2422		85	Size 40 cm²			
46	Style	Self-operated regulator flange Globe va		86	Fail Action			
47	Nominal Size	DN 400		87	Bench/Oper. Range / bar			
48	Rating	PN 16		88	Actuator Body Mat. 1.0332			
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 EPDM			
52	Bonnet Type			92	Handwheel			
53	Bellow Material			93	Set Point / -Range / 4.5 to 10 bar			
54	Packing Material			94	ACTUATOR RESULTS			
55	Packing Type			95	Safety Factor	Open	Close	
56	Body Gasket	-		96	Req. Act. Force	kN		
57	Flow Direction	FTO		97	Max. Act. Force	Fmax	kN	
58	NACE	-		98	Max. dp	Dpmax	bar	
59	TRIM				99	Min. Press. Act.	ps0req	
60	Valve Coefficient	Kvs 2000		100	Req. Dp	Dps	bar	
61	Rated Travel	60 mm		101	Req. Dp	Dpst100-0	bar	
62	Seat Bore	424 mm		102	Actuator Force	Fa	kN	
63	Stem Ø	mm		103	Min. required Supply	bar(g)		
64	Characteristic	Modified linear		104	Max. allowable Supply	bar(g)		
65	Noise Reduction	-		105	ATTENUATION PLATES			
66	Balanced	Diaphragm		106	Type			
67	Plug Facing	EPDM soft seal		107	Size In / Out			
68	Plug Material	1.4301		108	Rating			
69	Stem Material			109	Plates Material		Qty.	
70	Seat Facing	Metallic		110	REMARKS			
71	Seat Material	1.4301		111				
72	Cage Material			112				
73	Flow Divider Mat.			113				
74	Leakage Class	IV		114				
75	Rev.	Date	Description	Prpd.				Chd.
76	0	10.02.2025		nurzh			116	

		SAMSON VALVE SPECIFICATION					
1	Customer					Tag No.	80 - 1350 m3/h;
2	Project No.					Item	2 Qty. 1 Status
3	Unit					Quot. No.	Revision 0
4	PID					Order No.	Date 10.02.2025
5	Line No.						
6	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	1350	750	80	
11	Inlet Pressure	p1	bar(g)	10,5	10,5	10,5	
12	Outlet Pressure	p2	bar(g)	8	8	8	
13	Inlet Temperature	T1	°C	80	80	80	
14	Inlet Density	rho1	kg/m³	962	962	962	
15	Vapor Pressure	pv	bar(a)	0,846	0,846	0,846	
16	Critical Pressure	pc	bar(a)	221	221	221	
17	Ratio of Specific Heats	γ	-				
18	Compressibility	Z	-				
19	Inlet Viscosity	η	mPas	0,297	0,297	0,297	
20	Outlet Velocity	w	m/s	2,98	1,66	0,177	
21	Valve Coeff. Calculated	Kv	-	837	465	49,6	
22	Safety Factor	SF	1	2,39	4,3	40,3	
23	SPL(SAMSON Standard values)	LA	dB (A)	69	64	50	
24	DESIGN			77	LINE		
25	Shut-Off Pressure Min	1,01 bar(a)	Max 14 bar(a)	78	Size / Rating / Pipe Class		
26	t1max		Max 80 °C	79	In DN 400 / /		
27	Supply Pressure Min	bar(g)	Max bar(g)	80	Out DN 400 / /		
28	Pressure Min	bar(a)	Max 16 bar(g)	81	Pipe Inner Dia. / Wallthickness 307,9 mm / 8 mm		
29	Temperature Min	°C	Max 80 °C	82	Insu. none		
30	Ambient Temp. Min	°C	Max °C	83	POSITIONER		
31	VALVE BODY / BONNET			84	Manufacturer / Type /		
32	Manufacturer / Type	SAMSON / 2422		85	Device Type		
33	Style	Self-operated regulator flange		86	Quantity		
34	Nominal Size	DN 400		87	Material		
35	Rating	PN 16		88	Elec. / Pneu. Conn. /		
36	Body Material	EN-GJL-250		89	Input Sig. / Commu. /		
37	Connection In/Out	flanges		90	Ex Approval / Cert. /		
38	Connection In/Out	B, DIN EN 1092		91	AIR SET		
39	Bonnet Type			92	Manufacturer / Type /		
40	Bellow Material			93	Device Type		
41	Packing Material			94	Quantity		
42	Packing Type			95	Mat. / Pneu. Conn. /		
43	Body Gasket	-		96	Gauges / Filter /		
44	Flow Direction	FTO		97	SOLENOID VALVE		
45	NACE	-		98	Manufacturer / Type /		
46	TRIM			99	Device Type		
47	Valve Coefficient	Kvs 2000		100	Qty. / Switch. Func. /		
48	Rated Travel	60 mm		101	Material		
49	Seat Bore	424 mm		102	Elec. / Pneu. Conn. /		
50	Stem Ø	mm		103	Power Supply		
51	Characteristic	Modified linear		104	Ex Approval / Cert. /		
52	Noise Reduction	-		105	LIMIT SWITCH		
53	Balanced	Diaphragm		106	Manufacturer / Type /		
54	Plug Facing	EPDM soft seal		107	Device Type		
55	Plug Material	1.4301		108	Quantity		
56	Stem Material			109	Material		
57	Seat Facing	Metallic		110	Elec. Conn.		
58	Seat Material	1.4301		111	Ex Approval / Cert. /		
59	Cage Material			112	Contacts		
60	Flow Divider Mat.			113	Function		
61	Leakage Class	IV		114	BOOSTER		
62	ACTUATOR			115	Manufacturer / Type /		
63	Manufacturer / Type	SAMSON / 2413		116	Device Type		
64	Size	40 cm²		117	Quantity		
65	Fail Action			118	Mat. / Pneu. Conn. /		
66	Bench/Oper. Range	/ bar		119	ATTENUATION PLATES		
67	Actuator Body Mat.	1.0332		120	Type		
68	Actuator Style			121	Size In / Out		
69	Stroke Limit.			122	Rating		
70	Membrane Material	EPDM		123	Plates Material Qty.		
71	Handwheel			124	REMARKS		
72	Set Point / -Range	/ 4.5 to 10 bar		125			
73				126			
74				127			
75	Rev.	Date	Description	Prpd.	Chd.	App.	128
76	0	10.02.2025		nurzh			129

		SAMSON CHARACTERISTIC SHEET							
1	Customer				Tag No.	80 - 1350 m3/h;			
2	Project No.				Item	2	Qty. 1		
3	Unit				Quot. No.	Status			
4	PID				Order No.	Revision 0			
5	Line No.					Date 10.02.2025			
6	CHARACTERISTIC								
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41								PROCESS DATA	
42	Service				Medium	Water			
43	Phase	liquid			Medium Cust.				
44			Unit	Case 1	Case 2	Case 3			
45	Flow Rate	Q	m³/h	1350	750	80			
46	Inlet Pressure	p1	bar(g)	10,5	10,5	10,5			
47	Outlet Pressure	p2	bar(g)	8	8	8			
48	Inlet Temperature	T1	°C	80	80	80			
49	Inlet Density	rho1	kg/m³	962	962	962			
50	Vapor Pressure	pv	bar(a)	0,846	0,846	0,846			
51	Critical Pressure	pc	bar(a)	221	221	221			
52	Ratio of Specific Heats	γ	-						
53	Compressibility	Z	-						
54	Inlet Viscosity	η	mPas	0,297	0,297	0,297			
55	Outlet Vapor Content	xd2	%						
56	Outlet Vapor Density	pv2	m³/kg						
57	Flow Conditions	-	-						
58	RESULTS AND FACTORS								
59	Min Required Size	d	mm	399	297	97,1			
60	Outlet Velocity	w	m/s	2,98	1,66	0,177			
61	Valve Coeff. Calculated	Kv	-	837	465	49,6			
62	Safety Factor	SF	1	2,39	4,3	40,3			
63	VALVE BODY / BONNET								
64	Manufacturer / Type	SAMSON / 2422							
65	Style	Self-operated regulator flange Globe valve							
66	Nominal Size	DN 400							
67	Rating	PN 16							
68	Bonnet Type								
69	TRIM								
70	Valve Coefficient	Kvs 2000							
71	Rated Travel	60 mm							
72	Characteristic	Modified linear							
73	Noise Reduction	-							
74									
75	Rev.	Date	Description				Prpd.	Chd.	App.
76	0	10.02.2025					nurzh		
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