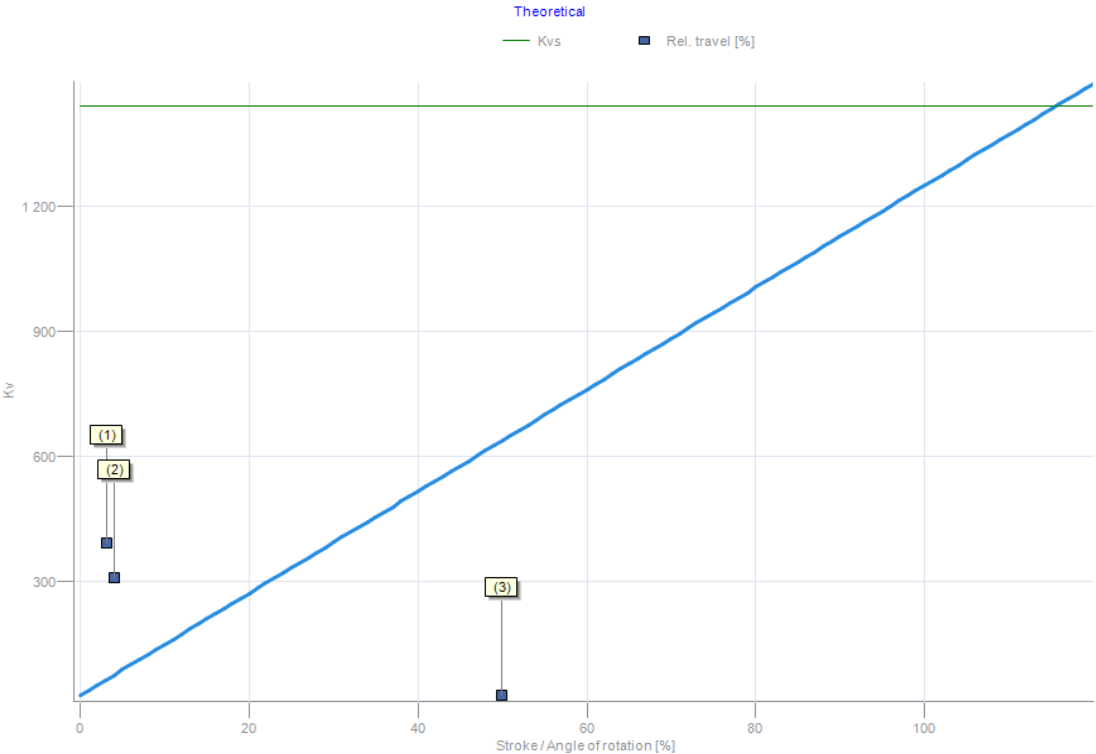


		SAMSON CALCULATION SHEET						
1	Customer					Tag No.	45 - 700 m3/h;	
2	Project No.					Item	1	Qty. 1
3	Unit					Quot. No.		Revision 0
4	PID					Order No.		Date 10.02.2025
5	Line No.							
6	PROCESS DATA							
7	Service					Medium	Water	
8	Phase	liquid				Medium Cust.		
9			Unit	Case 1	Case 2	Case 3		
10	Flow Rate	Q	m³/h	700	550	45		
11	Inlet Pressure	p1	bar(g)	4,3	4,3	4,3		
12	Outlet Pressure	p2	bar(g)	1,2	1,2	1,2		
13	Inlet Temperature	T1	°C	120	120	120		
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	287	255	72,8		
25	Outlet Velocity	w	m/s	2,75	2,16	0,177		
26	Valve Coeff. Calculated	Kv	-	390	306	25,1		
27	Safety Factor	SF	1	3,21	4,08	49,9		
28	SPL(SAMSON Standard values)	LA	dB (A)	86	83	57		
29	Differential Pressure Ratio	xF x	-	0,69	0,69	0,69		
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	-	0,41	0,40	0,10		
33	xFz Value at Load	xFz	-	0,48	0,53	0,68		
34	Level Exponent	F1 G1	-	-8,53	-8,58	-8,51		
35	Slope Exponent	F2 G2	-	0,30	0,30	0,30		
36	Correction Term	DLf	dB	4,44	5,17	1,74		
37	DESIGN				77	LINE		
38	Shut-Off Pressure Min	1,01 bar(a)	Max	7 bar(a)	78	Size / Rating / Pipe Class		
39	t1max		Max	120 °C	79	In DN 300 / /		
40	Supply Pressure Min	bar(g)	Max	bar(g)	80	Out DN 300 / /		
41	Pressure Min	bar(a)	Max	16 bar(g)	81	Pipe Inner Dia. / Wallthickness 307,9 mm / 8 mm		
42	Temperature Min	°C	Max	°C	82	Insu. none		
43	Ambient Temp. Min	°C	Max	120 °C	83	ACTUATOR		
44	VALVE BODY / BONNET				84	Manufacturer / Type SAMSON / 2422		
45	Manufacturer / Type	SAMSON / 2422			85	Size cm²		
46	Style	Self-operated regulator flange Globe va			86	Fail Action		
47	Nominal Size	DN 300			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				92	Handwheel		
53	Bellow Material				93	Set Point / -Range /		
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	bar
60	Valve Coefficient	Kvs 1250			100	Req. Dp	Dps	bar
61	Rated Travel	50 mm			101	Req. Dp	Dpst100-0	bar
62	Seat Bore	276 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.	45 - 700 m3/h;
2	Project No.					Item	1 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	700	550	45	
11	Inlet Pressure	p1	bar(g)	4,3	4,3	4,3	
12	Outlet Pressure	p2	bar(g)	1,2	1,2	1,2	
13	Inlet Temperature	T1	°C	120	120	120	
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	2,75	2,16	0,177	
21	Valve Coeff. Calculated	Kv	-	390	306	25,1	
22	Safety Factor	SF	1	3,21	4,08	49,9	
23	SPL(SAMSON Standard values)	LA	dB (A)	86	83	57	
24	DESIGN			77	LINE		
25	Shut-Off Pressure Min	1,01 bar(a)	Max 7 bar(a)	78	Size / Rating / Pipe Class		
26	t1max		Max 120 °C	79	In DN 300 / /		
27	Supply Pressure Min	bar(g)	Max bar(g)	80	Out DN 300 / /		
28	Pressure Min	bar(a)	Max 16 bar(g)	81	Pipe Inner Dia. / Wallthickness 307,9 mm / 8 mm		
29	Temperature Min	°C	Max °C	82	Insu. none		
30	Ambient Temp. Min	°C	Max 120 °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 300		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 1250		100	Qty. / Switch. Func. /		
48	Rated Travel	50 mm		101	Material		
49	Seat Bore	276 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 / 2422		116	Device Type		
64	Size	cm²		117	Quantity		
65	Fail Action			118	Mat. / Pneu. Conn. /		
66	Bench/Oper. Range	/ bar		119	ATTENUATION PLATES		
67	Actuator Body Mat.			120	Type		
68	Actuator Style			121	Size In / Out		
69	Stroke Limit.			122	Rating		
70	Membrane Material			123	Plates Material Qty.		
71	Handwheel			124	REMARKS		
72	Set Point / -Range	/		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. 45 - 700 m3/h;			
2	Project No.								
3	Unit					Item 1	Qty. 1		
4	PID					Quot. No.	Status Revision 0		
5	Line No.					Order No.	Date 10.02.2025		
CHARACTERISTIC									
									
PROCESS DATA									
Service				Medium Water					
Phase liquid				Medium Cust.					
		Unit	Case 1	Case 2	Case 3				
45	Flow Rate	Q	m³/h	700	550	45			
46	Inlet Pressure	p1	bar(g)	4,3	4,3	4,3			
47	Outlet Pressure	p2	bar(g)	1,2	1,2	1,2			
48	Inlet Temperature	T1	°C	120	120	120			
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	-	-						
RESULTS AND FACTORS									
59	Min Required Size	d	mm	287	255	72,8			
60	Outlet Velocity	w	m/s	2,75	2,16	0,177			
61	Valve Coeff. Calculated	Kv	-	390	306	25,1			
62	Safety Factor	SF	1	3,21	4,08	49,9			
VALVE BODY / BONNET									
Manufacturer / Type		SAMSON / 2422							
Style		Self-operated regulator flange Globe valve							
Nominal Size		DN 300							
Rating		PN 16							
Bonnet Type									
TRIM									
Valve Coefficient		Kvs 1250							
Rated Travel		50 mm							
Characteristic		Modified linear							
Noise Reduction		-							
75	Rev.	Date	Description				Prpd.	Chd.	App.
76	0	10.02.2025					nurzh		
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