 The-Safety-Valve.com	Sizing acc. to DIN EN ISO 4126 for Liquid VALVESTAR® - v.7.2.3.1205	Page:	1 of 6
		Date:	2014-05-19 13:41:02
		Project:	New project
		Tag No:	
		LESER Job No	


Sizing - Medium			
1000	Designation	Water	
1004	Formula	H2O	
1005	Density	ρ	998 kg/m ³
1006	Viscosity	μ or η	

Sizing - Service condition			
1100	Maximum allowable working pressure		
1101	Set pressure	p	3 bar-g
1102	Superimposed back pressure	p_{af}	
1103	Built up back pressure	p_{ae}	
1104	Backpressure		
1105	Overpressure	dp	10,00 %
1106	Environmental pressure	p_u	1,013 bar
1107	Temperature	T	80 °C
1108	Required massflow	$q_{m,ab}$	20.000 kg/h
1109	Volume flow to be discharged (working condition)	$q_{vb,ab}$	20,04 m ³ /h

Sizing - Calculation			
1200	Certified massflow	$q_{m,zu}$	27.462,907 kg/h
1201	Certified volumeflow (operating condition)	$q_{vb,zu}$	27,518 m ³ /h
1203	Certified volumeflow (standard condition)	$q_{vn,zu}$	
1204	Maximum mass flow	$q_{m,max}$	30.514,341 kg/h
1205	Maximum volume flow (working condition)	$q_{vb,max}$	30,575 m ³ /h
1206	Maximum volume flow (standard condition)	$q_{vn,max}$	
1207	Capacity exceed		37,31 %

Valve - General			
1500	Article number		4412.4524
1512	Reseller article number		
1513	Quantity of safety valve		1
1501	Certified coefficient of discharge for steam and gases	K,DG	0,7
1502	Certified coefficient of discharge for liquid	K,F	0,45
1505	Bonnet / Lifting device		Lifting device H4 (gastight)
1506	Body-/ Inlet base material		1.0619 / SA 216 WCB
1511	Bonnet		Closed Bonnet
1514	Order code	4412.4524-3 bar_g-H47H51-3.2	

Name	EUREA			
Date	2014-05-19 13:41:03			
Rev.No	1			

 The-Safety-Valve.com	Sizing acc. to DIN EN ISO 4126 for Liquid VALVESTAR® - v.7.2.3.1205	Page:	2 of 6
		Date:	2014-05-19 13:41:02
		Project:	New project
		Tag No:	
		LESER Job No	

Inlet connection		
1303	Connection standard	acc. to DIN EN 1092
1304	DN / NPS	32
1305	PN / PR	PN 40
1306	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526 Form C)


Outlet connection		
1353	Connection standard	acc. to DIN EN 1092
1354	DN / NPS	50
1355	PN / PR	PN 16
1356	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526 Form C)

Valve - Dimensions				
1400	Discharge area	Ao	660,52	mm ²
1401	Discharge diameter	do	29	mm
1402	Centre to Face dimensions	a	115	mm
1403	Centre to Face dimensions	b	110	mm
1405	Height	H	446	mm
1406	Weight	M	12	kg

Lift				
1507	Standard		7	mm

Valve - Calculation				
1200	Certified massflow	qm,zu	27.462,907	kg/h
1201	Certified volume flow (operating condition)	qvb,zu	27,518	m ³ /h
1203	Certified volume flow (standard condition)	qvn,zu		
1204	Maximum mass flow	qm,max	30.514,341	kg/h
1205	Maximum volume flow (working condition)	qvb,max	30,575	m ³ /h
1206	Maximum volume flow (standard condition)	qvn,max		
1207	Capacity exceed		37,31	%
1600	Required actual discharge area	Ao, req	481,027	mm ²
1601	Required discharge diameter	do,req	24,748	mm
1612	Reaction force (acc. to ISO / CD 4126-9)	Fr	36,664	N
1618	Cold differential test pressure	CDTP	3	bar-g
1620	Cold differential test pressure, manually	CDTP		

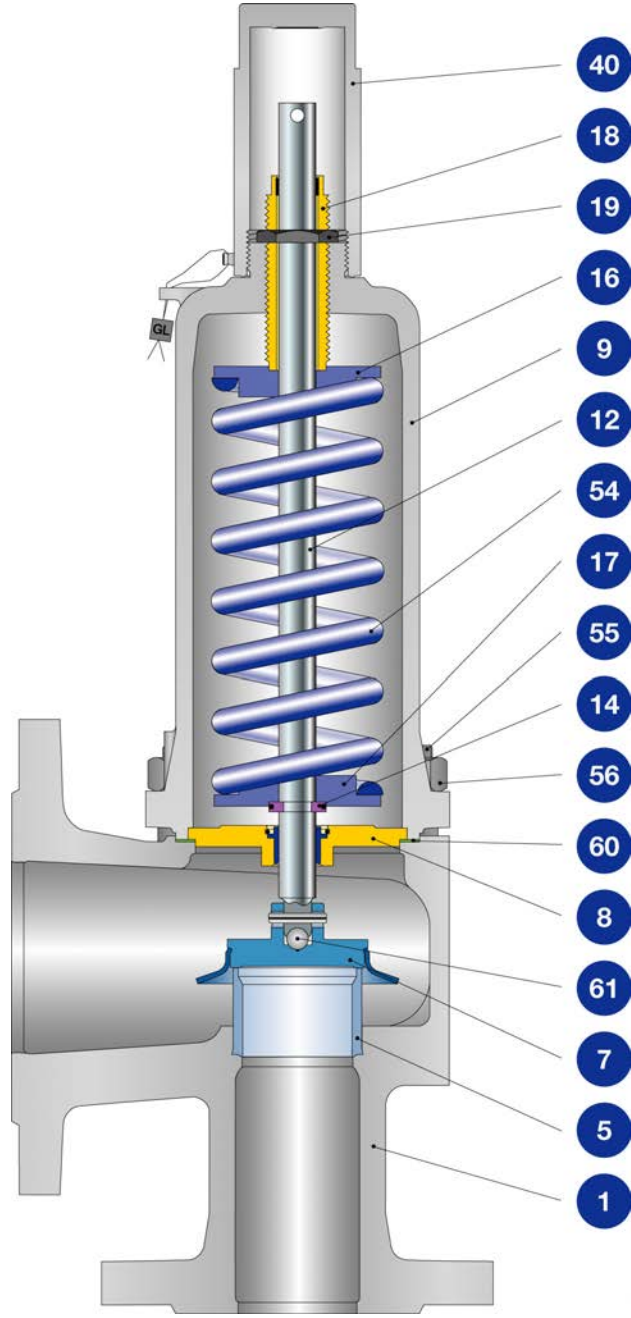
Name	EUREA				
Date	2014-05-19 13:41:03				
Rev.No	1				

 The-Safety-Valve.com	Sizing acc. to DIN EN ISO 4126 for Liquid VALVESTAR® - v.7.2.3.1205	Page:	3 of 6
		Date:	2014-05-19 13:41:02
		Project:	New project
		Tag No:	
		LESER Job N°	

Valve - Part list					
	PosNo	Denomination	Q	Material ASME	Material DIN
12010	1	Body	1	SA 216 WCB	1.0619
12050	5	Seat	1	316L	1.4404
12070	7	Disc	1	Hardened Stainless steel	1.4122
12080	8	Guide	1	Steel	1.0501/1.0038/1.4104
12090	9	Bonnet	1	Ductile Gr. 60-40-18	0.7040
12120	12	Spindle	1	420	1.4021
12140	14	Split ring	2	SA 479 430	1.4104
12160	16	Spring plate	1	Steel	1.0718/1.0570
12170	17	Spring plate	1	Steel	1.0718/1.0570
12180	18	Adjusting screw	1	SA 479 430	1.4104
12190	19	Lock nut	1	Steel	1.0718
12400	40	Lever cover H4	1	CF8M	1.4408
12540	54	Spring	1	Carbon steel	1.1200
12550	55	Bolt	4	Steel	1.1181
12560	56	Nut	4	2H	1.0501
12570	57	Pin	1	Stainless steel	1.4310
12590	59	Securing ring	1	316Ti	1.4571
12600	60	Gasket	1	Graphite/1.4401	Reingraphit + 1.4401
12610	61	Ball washer	1	Hardened Stainless steel/316	1.3541/1.4401


Name	EUREA				
Date	2014-05-19 13:41:03				
Rev.No	1				

Drawing

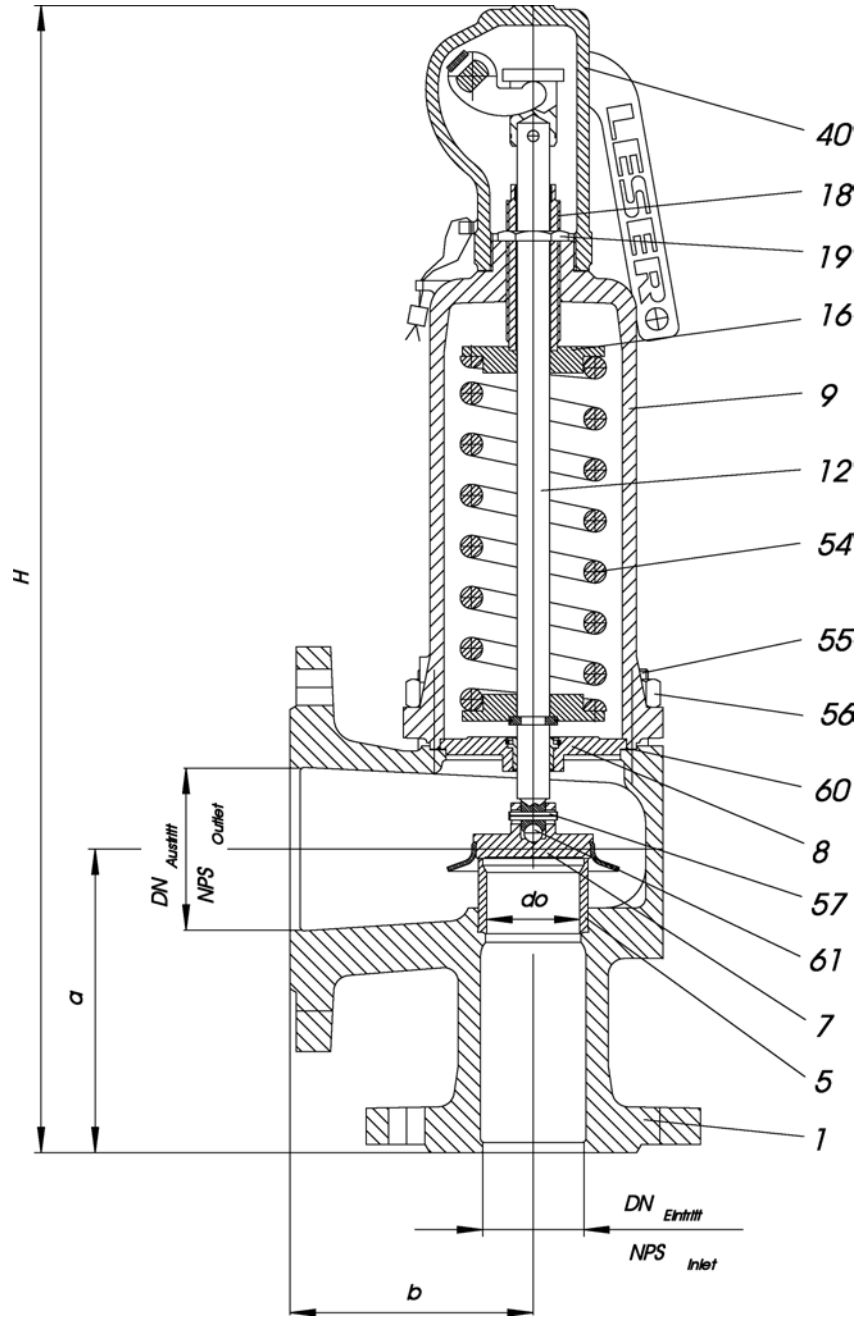


Drawing is a view; the effective geometry could deviate from this view.

Name	EUREA			
Date	2014-05-19 13:41:03			
Rev.No	1			


 The-Safety-Valve.com	Sizing acc. to DIN EN ISO 4126 for Liquid VALVESTAR® - v.7.2.3.1205	Page:	5 of 6
		Date:	2014-05-19 13:41:02
		Project:	New project
		Tag No:	
		LESER Job N°	

Drawing






Drawing is a view; the effective geometry could deviate from this view.



Name	EUREA				
Date	2014-05-19 13:41:03				
Rev.No	1				

 The-Safety-Valve.com	Sizing acc. to DIN EN ISO 4126 for Liquid VALVESTAR® - v.7.2.3.1205	Page:	6 of 6
		Date:	2014-05-19 13:41:02
		Project:	New project
		Tag No:	
		LESER Job No	


ASME nameplate


TYPE 4412.4524
 NPS 32X50 140 GPM
 CDTP 43,511 ps set-p 43,511 psig
 back-p 0 psig

 0045

DIN nameplate




 4412.4524
 TÜEV-SV
 04-576
 DO 29,0 D/G 0,70 F 0,45  3 BAR
 0045

World nameplate

 Tag

Type	4412.4524	Size	32	Serial no.	
Flow area	661	mm ²	d ₀ 29,0	mm	Seat 316L
	Set p.	Back p.	CDTP	Temp.	
bar	3	0	3	80,00 °C	
psig	43,511	0	43,511	176,0 °F	
TÜV-SV	Lift 7,00	mm ISO 4126-1	ASME-Cap.		
04-576	Steam	0,70	2306	lbs/hr	
Date	Gas	0,70	844	SCFM	
	Liquid	0,45	140	GPM	

4412.4524-3 bar_g-H47H51-3.2

 0045
 cc2408


Name	EUREA			
Date	2014-05-19 13:41:03			
Rev.No	1			