

VALVESTAR® 7

Training lectures – Walk through



Introduction.

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These **Training Lectures for VALVESTAR® 7** must be used by all teachers of VALVESTAR 7 to ensure the most efficient training and the highest quality of training.

VALVESTAR® 7, the sizing tool of LESER, is more than only a calculation tool:

- VALVESTAR® is a calculation tool for Safety Valves according all world wide known and used rules and standards
- VALVESTAR® is a sizing tool for LESER Safety Valves with an option configuration tool
- VALVESTAR® is a product register of LESER Safety Valves with all the product specific data in “VALVE INFO”
- VALVESTAR® is a medium database with several specific liquid- and gaseous medium data

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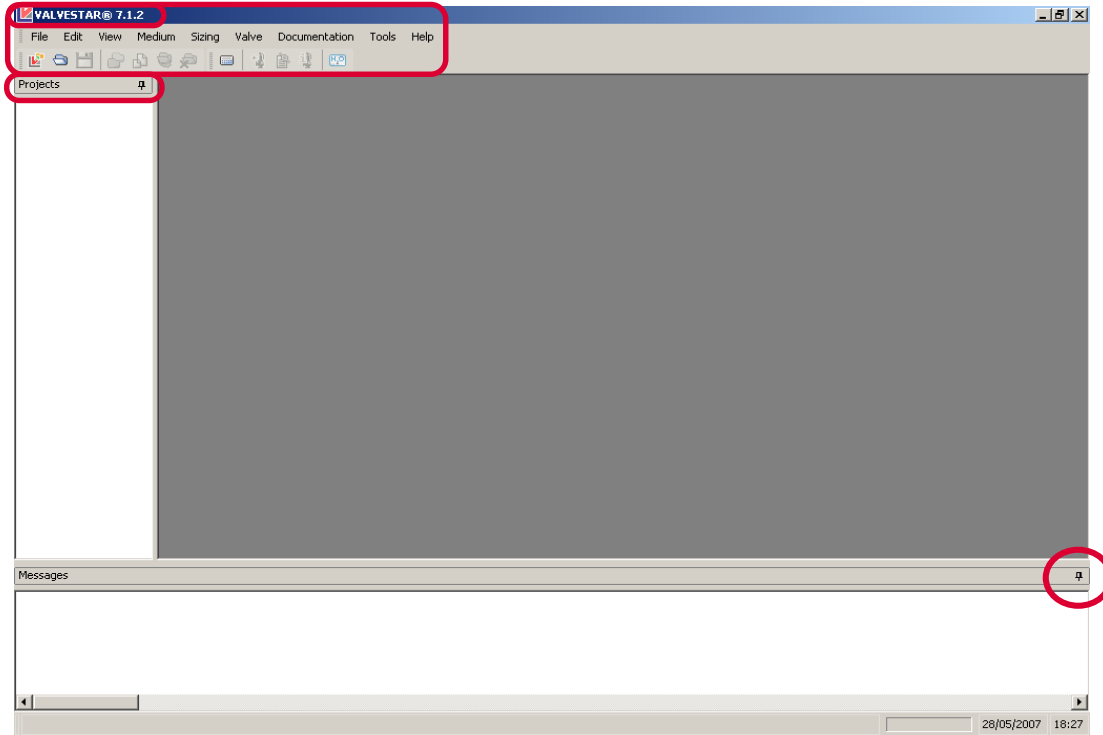
Introduction.

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- VALVESTAR® is a visual database with all drawings of LESER Safety Valves and spotlights of possible options
- VALVESTAR® is a documentation tool with three different types of documents and many different available formats.
- VALVESTAR® is easy to handle with the Wizard which leads you through the sizing

Introduction. Pop-up view of VALVESTAR 7.1.2 and higher.

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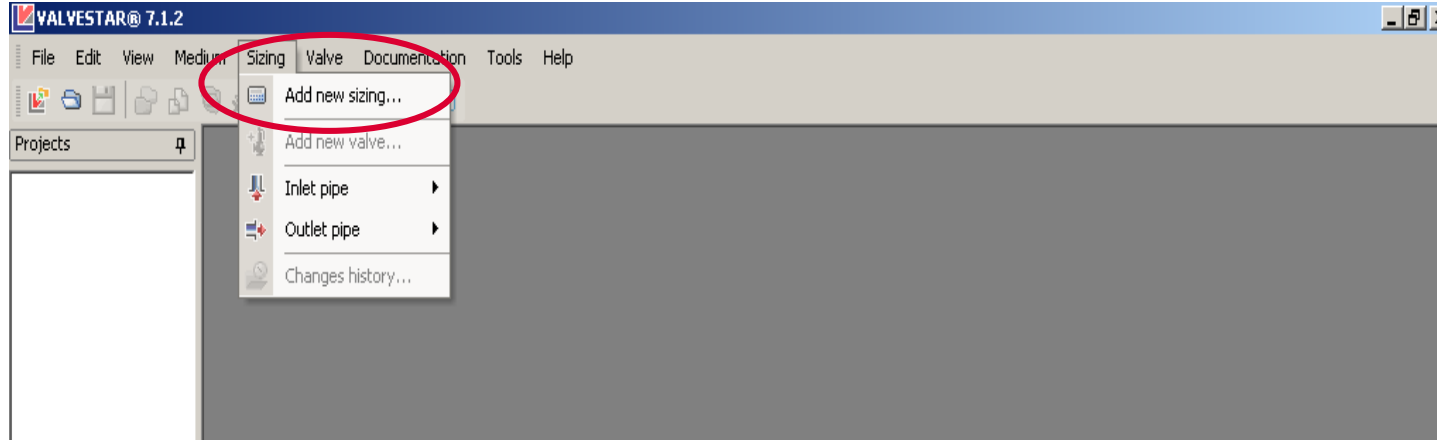
Sizing. Sizing according to ASME, (steam/gases).

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Service condition: Air, Set pressure = 10bar g, required massflow = 11500kg/h

Valve construction: Type 441, semi nozzle, Carbon Steel body (1.0619/WCB), closed bonnet, lifting device cap H4

1. Step: How to start

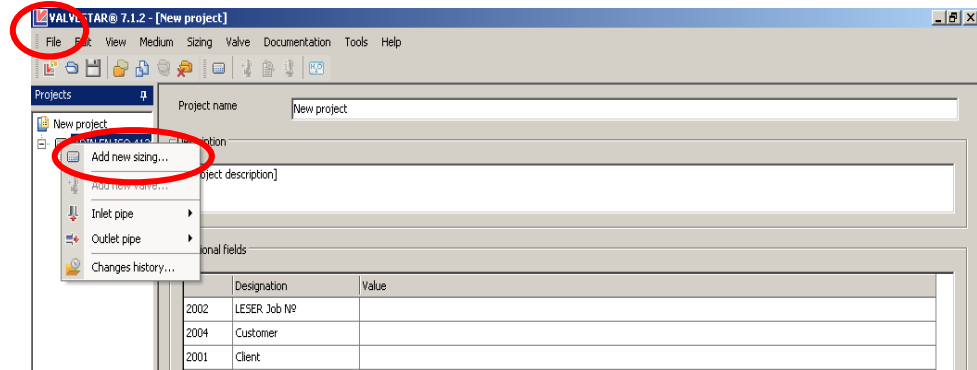
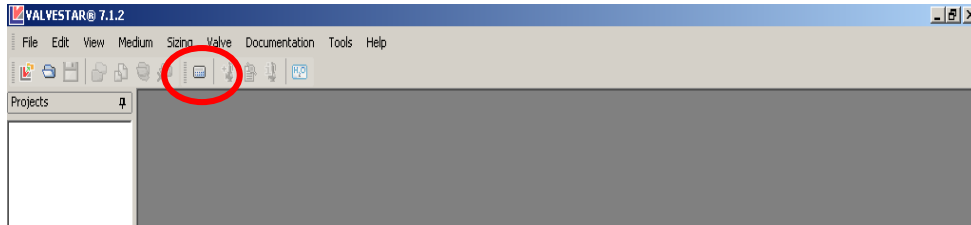


or: see next page

Sizing. Sizing according to ASME, (steam/gases).

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1. Step: How to start



Sizing. Sizing according to ASME, (steam/gases).

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2. Step: Sizing standard and additional calculation

Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Gas
Sizing standard	ASME VIII
Selected units	ASME VIII
CDTP Calculation	<input checked="" type="checkbox"/>

Additional calculations

	AD2000:A2	API 520	ISO / CD 4126-9
Reaction force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Case		<input type="checkbox"/>	
Pressure drop inlet line	<input type="checkbox"/>		<input type="checkbox"/>
Built up back pressure outlet pipe	<input type="checkbox"/>		<input type="checkbox"/>

Sizing. Sizing according to ASME, (steam/gases).

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3. Step: Medium database and medium selection

Medium selection

Use this page to select a medium.

Air (-) 0 % Select New

Name	Formula	Molar mass	k	%
Air		29 kg/kmol	1,4	100,00

Total percentage 100,00%

Remove

Designation	Air	Molar mass	M	29	kg/kmol
Type of mix	Volume	Ratio of specific heats	k	1,400	
		Compressibility Factor	Z	1,000	

Help Back Next Finish Cancel

Sizing. Sizing according to ASME, (steam/gases).

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4. Step: Service condition

Create new sizing wizard - Service condition

Service Condition

At this step you need to set values for Input Pressure, Temperature, Massflow or Volumeflow.

Maximum allowable working pressure (MAWP)	-	psi-g
Set pressure	p	psi-g
Superimposed back pressure	pa _f	0 psi-g
Built up back pressure	pa _e	- psi
Overpressure	dp	10,00 %
Temperature	T	- °R
Required massflow	qm,ab	- lb/h
Volume flow to be discharged (working condition)	qv _{b,ab}	- ft ³ /h
Volume flow to be discharged (std condition) [T=60 °F P=14,7 psi]	qvn,ab	- SCFM

Options

Volume flow standard	ASME
Case for blow off	

Installations

Rupture disc correction factor	<input type="checkbox"/>	1,000
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Help Back Next Finish Cancel

Sizing. Sizing according to ASME, (steam/gases).

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5. Step: Service condition

Create new sizing wizard - Service condition

Service Condition

At this step you need to set values for Input Pressure, Temperature, Massflow or Volumeflow.

Maximum allowable working pressure (MAWP)		-	psi-g
Set pressure	p	10	bar-g
Superimposed back pressure	paf	0	psi-g
Built up back pressure	pae	-	psi
Overpressure	dp	10,00	%
Temperature	T	20	°C
Required massflow	qm,ab	11.500	kg/h
Volume flow to be discharged (working condition)	qv,ab	28.412,535	ft³/h
Volume flow to be discharged (std condition) [T=60 °F P=14,7 psi]	qvn,ab	5.527,018	SCFM

Options

Volume flow standard	ASME
Case for blow off	

Installations

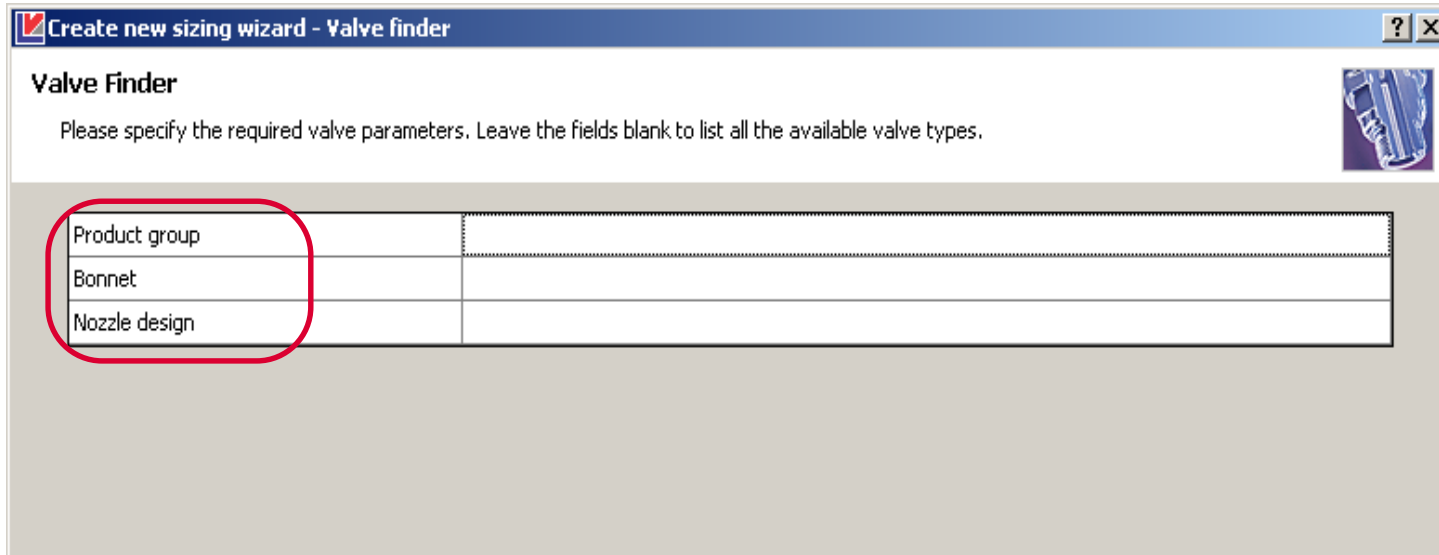
Rupture disc correction factor	<input type="checkbox"/>	1,000
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Help Back Next Finish Cancel

Sizing. Sizing according to ASME, (steam/gases).

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

6. Step: Valve Finder



Valve Finder

Please specify the required valve parameters. Leave the fields blank to list all the available valve types.

Product group	
Bonnet	
Nozzle design	

Sizing. Sizing according to ASME, (steam/gases)

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7. Step: Processing of all possible safety valves

Create new sizing wizard - Valve selection

Valve Selection

First, choose a valve group and then any one valve from that group.

Type: 441, 442 DIN | Diameter range: DN 20 - 200 | Body material: 1.0619 / SA 216 WCB

441, 442 Full... | NPS 1" - 4" | Lifting device: Cap H2

441, 442 Full... | DN 25 - 50

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
-74,18	2.969,642	4412.4512	25x40	23	Type 4412 DN 25
-58,95	4.721,113	4412.4522	32x50	29	Type 4412 DN 32
-33,17	7.685,141	4412.4532	40x65	37	Type 4412 DN 40
3,29	11.878,566	4412.4542	50x80	46	Type 4412 DN 50
75,73	20.209,281	4412.4552	65x100	60	Type 4412 DN 65
167,31	30.740,562	4412.4562	80x125	74	Type 4412 DN 80
313,17	47.514,265	4412.4572	100x150	92	Type 4412 DN 100
368,82	53.913,871	4412.4582	125x200	98	Type 4412 DN 125
662,73	87.713,894	4412.4592	150x250	125	Type 4412 DN 150

Select

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
3,29	11.878,566	4412.4542	50x80	46	Type 4412 DN 50

Total: capacity exceed 3,29 [%], certified massflow 11.878,566 [kg/h]

Remove

Help | Back | Next | Finish | Cancel

Sizing. Sizing according to ASME, (steam/gases)

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8. Step: Connections

Create new sizing wizard - Valve connections

Valve connections

Specify the inlet and outlet parameters.

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
3,29	11.878,566	4412.4542	50x80	46	Type 4412 DN 50

Possible inlet connections			Possible outlet connections		
Type	Flanged connection		Type	Flanged connection	
1303	Connection standard	acc. to DIN EN 1092	1353	Connection standard	acc. to DIN EN 1092
1304	DN / NPS	50	1354	DN / NPS	80
1305	PN / PR	PN 40	1355	PN / PR	PN 16
1306	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526...	1356	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526...

Flange guide... Select Flange guide... Select

Selected inlet connection			Selected outlet connection		
Type	Flanged connection		Type	Flanged connection	
1303	Connection standard	acc. to DIN EN 1092	1353	Connection standard	acc. to DIN EN 1092
1304	DN / NPS	50	1354	DN / NPS	80
1305	PN / PR	PN 40	1355	PN / PR	PN 16
1306	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526 Form C)	1356	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526 Form C)

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Sizing. Sizing according to ASME, (steam/gases)

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Flange Guide

Service condition			Additional service condition	
Set pressure	10	bar-g	Set pressure	- bar-g
Temperature	20	°C	Temperature	- °C

Flanges

Connection standard	acc. to DIN EN 1092
DIN	50

Legend ✓ permissible pressure rating ✗ non permissible pressure rating

Check Close

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Sizing. Sizing according to ASME, (steam/gases)

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9. Step: Options

Create new sizing wizard - Valve accessories

Valve accessories
Select the required extra valve accessories.

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
3,29	11.878,566	4412.4542	50x80	46	Type 4412 DN 50

Available accessories

Add/Edit custom accessories...

<input type="checkbox"/>	H29	Heating jacket: material 1.4541, heating connect. male screwed G 3/8 DIN 2986 - 1.4571
<input type="checkbox"/>	H30	Heating jacket: material 1.4541, heating connect. male screwed G 3/4 DIN 2986 - 1.4571
<input type="checkbox"/>	H31	Heating jacket: material 1.4541, heating connection flange DN 15, PN 25 - 1.4571/1.4404
<input type="checkbox"/>	H32	Heating jacket: material 1.4541, heating connection flange DN 25, PN 25 - 1.4571/1.4404
<input type="checkbox"/>	H33	Bonnet spacer: heated
<input type="checkbox"/>	J18	Drain hole: G 1/4 plugged (plug screw 1.4401)
<input type="checkbox"/>	J19	Drain hole: G 1/2 plugged (plug screw 1.4401)
<input type="checkbox"/>	J20	O-ring disc: FFKM "C", (Kalrez)
<input type="checkbox"/>	J21	O-ring disc: "K", CR (Neoprene, Baypren)
<input type="checkbox"/>	J22	O-ring disc: "D", EPDM (Dutral, Kelkan, Vistalon)

Inspections

Add/Edit custom inspections...

<input type="checkbox"/>	H03	Certificate for testing of body acc. to DIN EN 10204-3.1
<input type="checkbox"/>	M33	Certificate for test pressure acc. to DIN EN 10204-3.2

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10. Step: Materialist

Create new sizing wizard - Valve partlist

Valve partlist

Check out the list of the selected valve parts.

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
3,29	11.878,566	4412.4542	50x80	46	Type 4412 DN 50

Parts

	Pos No	Denomination	Q	Material (EU)	Material (US)	Certificate
12010	1	Body	1	1.0619	SA 216 WCB	<input type="checkbox"/>
12050	5	Seat	1	1.4404	316L	<input type="checkbox"/>
12070	7	Disc	1	1.4122	Hardened Stainless...	<input type="checkbox"/>
12080	8	Guide	1	1.0501/1.0038/1.4104	Steel	<input type="checkbox"/>
12090	9	Bonnet	1	0.7040	Ductile Gr. 60-40-18	<input type="checkbox"/>
12120	12	Spindle	1	1.4021	420	<input type="checkbox"/>
12140	14	Split ring	2	1.4104	SA 479 430	<input type="checkbox"/>
12160	16	Spring plate	1	1.0718/1.0570	Steel	<input type="checkbox"/>
12170	17	Spring plate	1	1.0718/1.0570	Steel	<input type="checkbox"/>
12180	18	Adjusting screw	1	1.4104	SA 479 430	<input type="checkbox"/>
12190	19	Lock nut	1	1.0718	Steel	<input type="checkbox"/>
12400	40	Cap H2	1	1.0718	Steel	<input type="checkbox"/>
12540	54	Spring	1	1.1200	Carbon steel	<input type="checkbox"/>
12550	55	Bolt	4	1.1181	Steel	<input type="checkbox"/>

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Sizing. Sizing according to ASME, (steam/gases)

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11. Step: Valve Dimensions

Create new sizing wizard - Valve dimensions

Valve dimensions
Dimensions for the valve.



Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
3,29	11.878,566	4412.4542	50x80	46	Type 4412 DN 50

1400	Discharge area	Ao	2,576	in ²
1401	Discharge diameter	do	1,811	inch
1402	Centre to Face dimensions	a	5,906	inch
1403	Centre to Face dimensions	b	4,724	inch
1405	Height	H	22,402	inch
1406	Weight	M	48,502	lb

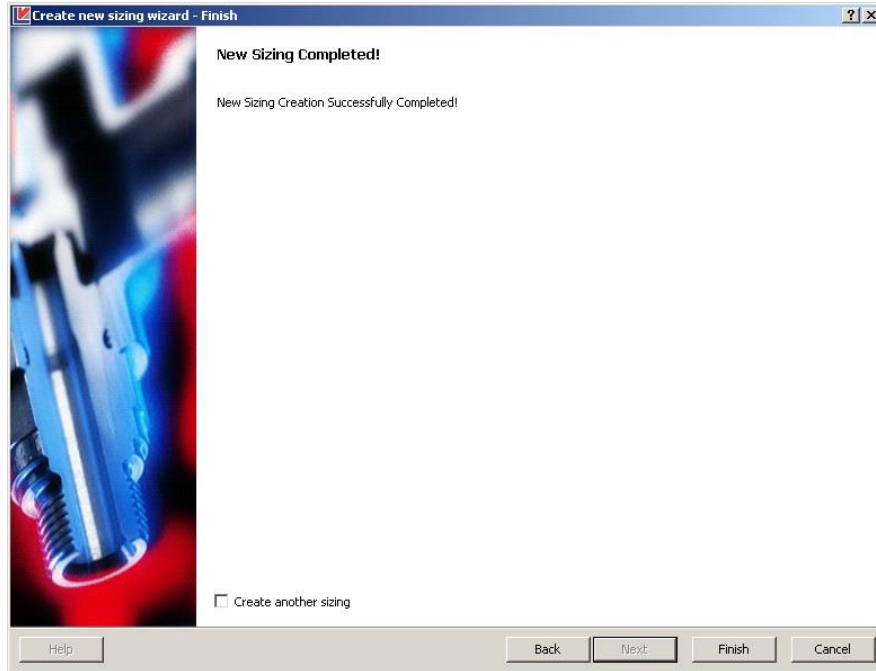
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Sizing. Sizing according to ASME, (steam/gases)

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12. Step: Finish Sizing



Sizing. Sizing according to ASME, (steam/gases)

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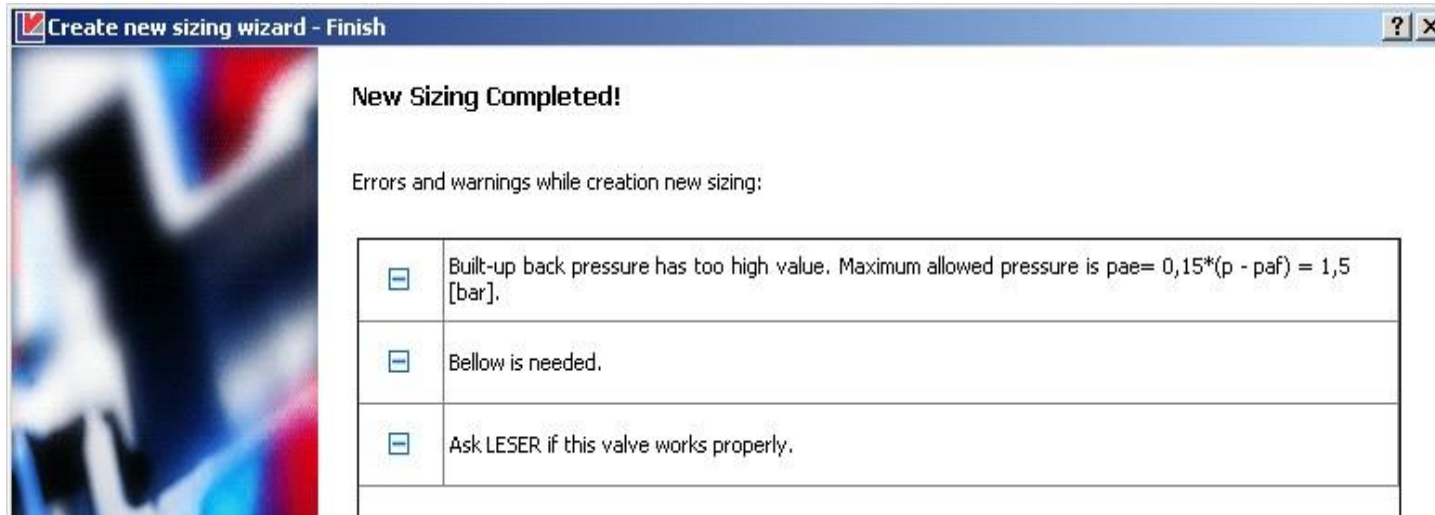
13. Step: Valve Calculation

VALVESTAR@ 7.1.2 - [(ASME VIII Gas)]				
File Edit View Medium Sizing Valve Documentation Tools Help				
General				
1008	Tag No			
1009	Case for blow off			
Medium				
1000	Designation		Air	
1004	Formula			
1001	Molar mass	M	29	kg/mol
1002	Ratio of specific heats	k	1,400	
1003	Compressibility factor	Z	1,000	
Service condition				
1100	Maximum allowable working pressure (MAWP)	MAWP	-	psi-g
1101	Set pressure	p	10	bar-g
1102	Superimposed back pressure	paF	0	psi-g
1103	Built up back pressure	paE	-	psi
1104	Backpressure		0	psi-g
1105	Overpressure	dp	10,00	%
1106	Environmental pressure	pu	14,696	psi
1107	Temperature	T	20	°C
1108	Required massflow	qm,ab	11.500	kg/h
1109	Volume flow to be discharged (working condition)	qv,ab	28.412,535	R ³ /h
1110	Volume flow to be discharged (std condition) [T=60 °F P=14,7 psi]	qvn,ab	5.527,018	SCFM
	Default volume flow standard			ASME
1120	Rupture disc correction factor	Kc	1,000	<input type="checkbox"/>
Sizing				
1200	Certified massflow	qm,zu	26.187,754	lb/h
1201	Certified volumeflow (operating condition)	qv,zu	29.347,841	R ³ /h
1203	Certified volumeflow (standard condition)	qvn,zu	9.700,067	m ³ /h
1204	Maximum mass flow	qm,max	29.097,505	lb/h

Sizing. Sizing according to ASME, (steam/gases)

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14 Step: ERRORS and Warnings



The screenshot shows a software window titled "Create new sizing wizard - Finish". The main content area displays "New Sizing Completed!" followed by "Errors and warnings while creation new sizing:". Below this is a table with three rows, each containing a minus sign icon in a box and a text message.

<input type="checkbox"/>	Built-up back pressure has too high value. Maximum allowed pressure is $p_{ae} = 0,15 \cdot (p - p_{af}) = 1,5$ [bar].
<input type="checkbox"/>	Bellow is needed.
<input type="checkbox"/>	Ask LESER if this valve works properly.

Errors and warnings are shown at the end of a sizing or:

during sizing, indicated by the **flashing yellow label**.

Click on the symbol for a listing of the errors and warnings.



Sizing. Sizing according to ASME, (steam/gases)

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Service condition: Heavy Oil, Set pressure = 500 bar g, Temperature 20°C, required massflow = 100000kg/h, viscosity = 0,038 Pa s.

Valve construction: Type 526, Fullnozzle, Carbon Steel body (1.0619/WCB), closed bonnet, lifting device cap H2, stainless steel bellows design.

1. Step: Sizing Standard and additional calculation

Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Liquid
Sizing standard	ASME VIII
Selected units	ASME VIII
CDTP Calculation	<input type="checkbox"/>

Additional calculations

	AD2000:A2	API 520	ISO / CD 4126-9
Reaction force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure drop inlet line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Built up back pressure outlet pipe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sizing. Sizing according to ASME, (steam/gases)

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2. Step: Medium database and medium selection

Medium selection

Use this page to select a medium.

Heavy fuel oil (-) 0 % Select New

Name	Formula	Density	%
Heavy fuel oil		950 kg/m ³	100,00

Total percentage 100,00%

Remove

Designation	Heavy fuel oil	Density	ρ	59,307	lb/ft ³
Type of mix	Volume	Viscosity	μ	0,038	Pa·s

Help Back Next Finish Cancel

Sizing. Sizing according to ASME, (steam/gases)

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3. Step: Service condition

Create new sizing wizard - Service condition

Service Condition

At this step you need to set values for Input Pressure, Temperature, Massflow or Volumeflow.

Maximum allowable working pressure (MAWP)		-	psi-g
Set pressure	p	50	bar-g
Superimposed back pressure	paf	0	psi-g
Built up back pressure	pae	-	psi
Overpressure	dp	10,00	%
Temperature	T	20	°C
Required massflow	qm,ab	1000000	kg/h
Volume flow to be discharged (working condition)	qv,ab	-	ft ³ /h

Options

Case for blow off

Installations

Rupture disc correction factor 1,000

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Sizing. Sizing according to ASME, (steam/gases)

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4. Step: Valve Finder

Create new sizing wizard - Valve finder

Valve Finder

Please specify the required valve parameters. Leave the fields blank to list all the available valve types.

Product group	API Series
Bonnet	
Nozzle design	

- High Performance
- API Series**
- Compact Performance
- Clean Service
- Critical Service
- Modulate Action
- S&R - Safety Valves for special or regional Application

Sizing. Sizing according to ASME, (steam/gases)

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5. Step: Processing of all possible safety valves

Create new sizing wizard - Valve selection

Valve Selection

First, choose a valve group and then any one valve from that group.

Type	Diameter range	Body material	Lifting device
526	NPS 1" - 8", Orifice D - T	1.0619 / SA 216 WCB	Cap H2

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
-17,16	82.840,645	5262.0482	1 1/2G3	22,5	Type 5262 Orifice G #600
-17,16	82.840,645	5262.0492	1 1/2G3	22,5	Type 5262 Orifice G #900
-17,16	82.840,645	5262.0502	2G3	22,5	Type 5262 Orifice G #1500
-17,16	82.840,645	5262.0512	2G3	22,5	Type 5262 Orifice G #2500
32,52	132.521,913	5262.1422	1 1/2H3	28,3	Type 5262 Orifice H #150
32,52	132.521,913	5262.1432	1 1/2H3	28,3	Type 5262 Orifice H #300 L
32,52	132.521,913	5262.1442	2H3	28,3	Type 5262 Orifice H #300
32,52	132.521,913	5262.1452	2H3	28,3	Type 5262 Orifice H #600
32,52	132.521,913	5262.1462	2H3	28,3	Type 5262 Orifice H #900

Selection chart... Select

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
32,52	132.521,913	5262.1442	2H3	28,3	Type 5262 Orifice H #300

Total: capacity exceed 32,52 [%], certified massflow 132.521,913 [kg/h]

Remove

Help Back Next Finish Cancel

Sizing. Sizing according to ASME, (steam/gases)

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

6. Step: Connection

Create new sizing wizard - Valve connections

Valve connections

Specify the inlet and outlet parameters.

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
32,52	132.521,913	5262.1442	2H3	28,3	Type 5262 Orifice H #300

Possible inlet connections

Type	Flanged connection
1303 Connection standard	acc. to ASME B16.5
1304 DN / NPS	2"
1305 PN / PR	#300
1306 Flange facing	RF

Possible outlet connections

Type	Flanged connection
1353 Connection standard	acc. to ASME B16.5
1354 DN / NPS	3"
1355 PN / PR	#150
1356 Flange facing	RF

Flange guide... Select Flange guide... Select

Selected inlet connection

1303 Connection standard	acc. to ASME B16.5
1304 DN / NPS	2"
1305 PN / PR	#300
1306 Flange facing	RF

Selected outlet connection

1353 Connection standard	acc. to ASME B16.5
1354 DN / NPS	3"
1355 PN / PR	#150
1356 Flange facing	RF

Help Back Next Finish Cancel

Sizing. Sizing according to ASME, (steam/gases)

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

7. Step: Sizing finished

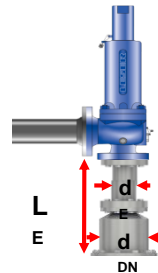


Sizing of the inlet line. Attention: Inlet line with different cross sections

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

- According to AD 2000 A2 and ISO 4126-9 the provided formulas for the inlet pressure drop calculation consider only one cross section within the inlet line
- The inlet pressure drop calculation within VALVESTAR is based on the formulas described in the according standards
- In reality, the isometry of the inlet line shows sometimes different cross section
- VALVESTAR uses the inner diameter d_E which is related to the maximum developed pipe length L_E for the calculation of the inlet pressure drop
- If there are differing diameters (d_{DN}) to d_E within the inlet line the resulting zeta values of those sections and components have to be transferred by the following formula:

- $$\zeta_{d_E} = \left(\frac{d_E}{d_{DN}}\right)^4 * \zeta_{d_{DN}}$$



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Sizing of the inlet line. Attention: Inlet line with different cross sections

1. [Introduction](#) | 2. **Sizing** | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. [Reporting and Settings](#) | 7. [Translation](#) | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)

- The transferred zeta values can be inserted as shown in the next slides
- Without the transformation of zeta values, VALVESTAR can not be used correctly for cases with different cross sections

LESER

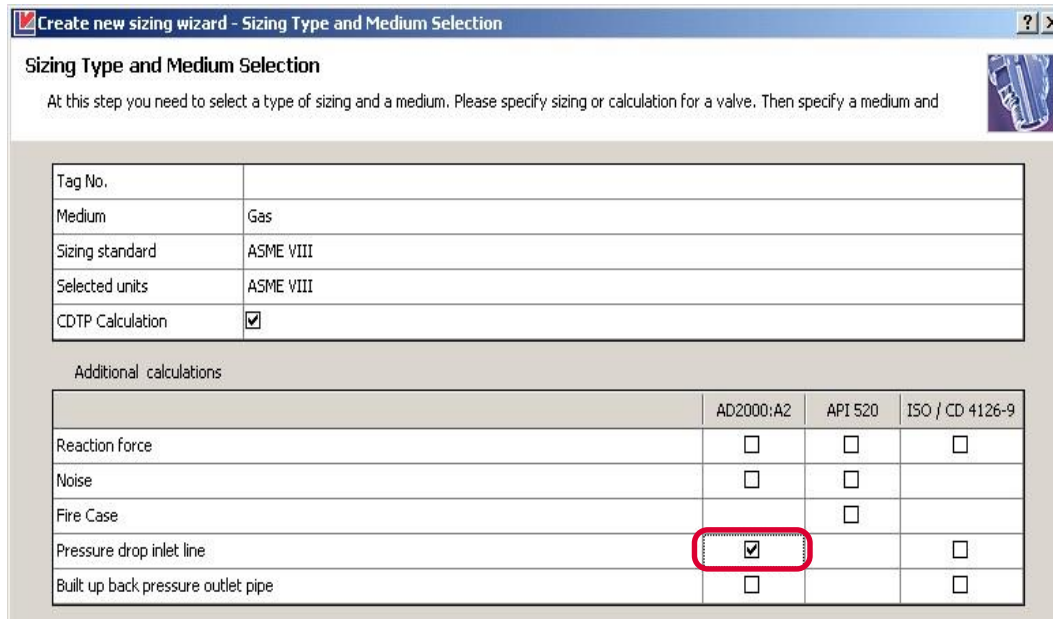
The-Safety-Valve.com

Sizing of inlet pressure drop. (according AD 2000-Markblatt A2).

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Additional calculation

When starting a new sizing:



Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Gas
Sizing standard	ASME VIII
Selected units	ASME VIII
CDTP Calculation	<input checked="" type="checkbox"/>

Additional calculations

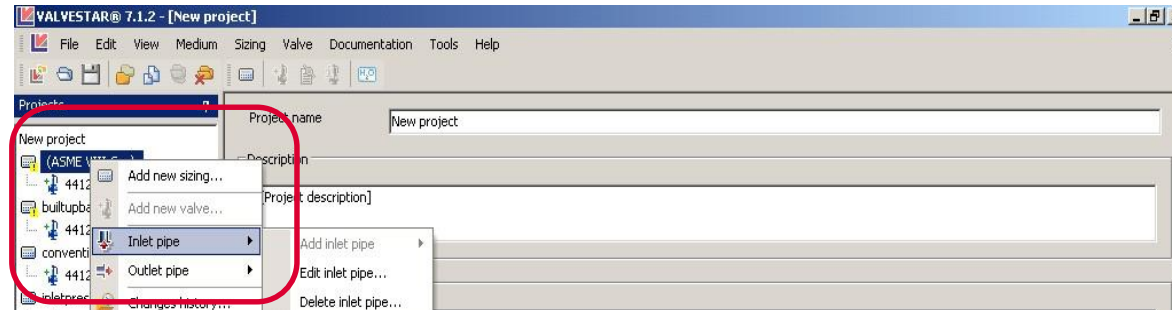
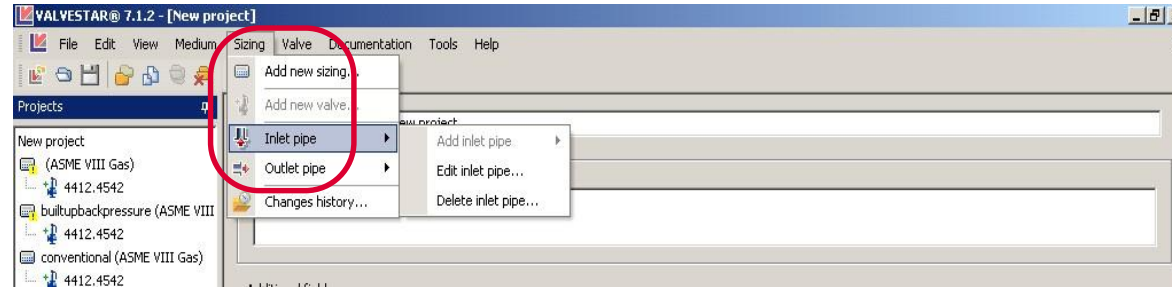
	AD2000:A2	API 520	ISO / CD 4126-9
Reaction force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Case		<input type="checkbox"/>	
Pressure drop inlet line	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Built up back pressure outlet pipe	<input type="checkbox"/>		<input type="checkbox"/>

Sizing of inlet pressure drop. (according AD 2000-Markblatt A2).

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Additional calculation

You can also start inlet pressure drop calculation in menu



Sizing of inlet pressure drop. (according AD 2000-Markblatt A2).

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

2. Step: Dimension of inlet pipe and pipe components

Create new sizing wizard - Inlet pipe components

Inlet Pipe Components
Specify the required inlet pipe components, their amount and technical characteristics.

Available pipe components
Pipe bend DN 50 version 3 acc. to DIN 2605 part 1 - line 3

Radius	R	76 mm	Angle	90 °
Inner diameter	De	54,5 mm	Zeta	0,248

Count: 1

Selected components

	Quantity	Zeta	Total
--	----------	------	-------

Remove

Pipe data

Length	Le	0,5 m	Equivalent pipe roughness	K	0,070
			Allowed pressure loss based on p-paf (%)		3,00 %

Help

Sizing of inlet pressure drop. (according AD 2000-Markblatt A2).

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

3. Step: Dimension of inlet pipe and pipe components

Create new sizing wizard - Inlet pipe

Inlet Pipe
Select inlet pipe

DN / NPS [mm]	Designation	Lmax [m]	Δp [%]
54,5	Straight line DN 50 acc. to DIN 2605 part 1 - line 3	0,62	1,84
70,3	Straight line DN 65 acc. to DIN 2605 part 1 - line 3	3,47	0,45
82,5	Straight line DN 80 acc. to DIN 2605 part 1 - line 3	8,23	0,19
107,1	Straight line DN 100 acc. to DIN 2605 part 1 - line 3	32,88	0,05
134,5	Straight line DN 125 acc. to DIN 2605 part 1 - line 3	108,84	0,01

Select

Length of inlet pipe
Inlet pipe diameter

Le	0,5	m
De	54,5	mm

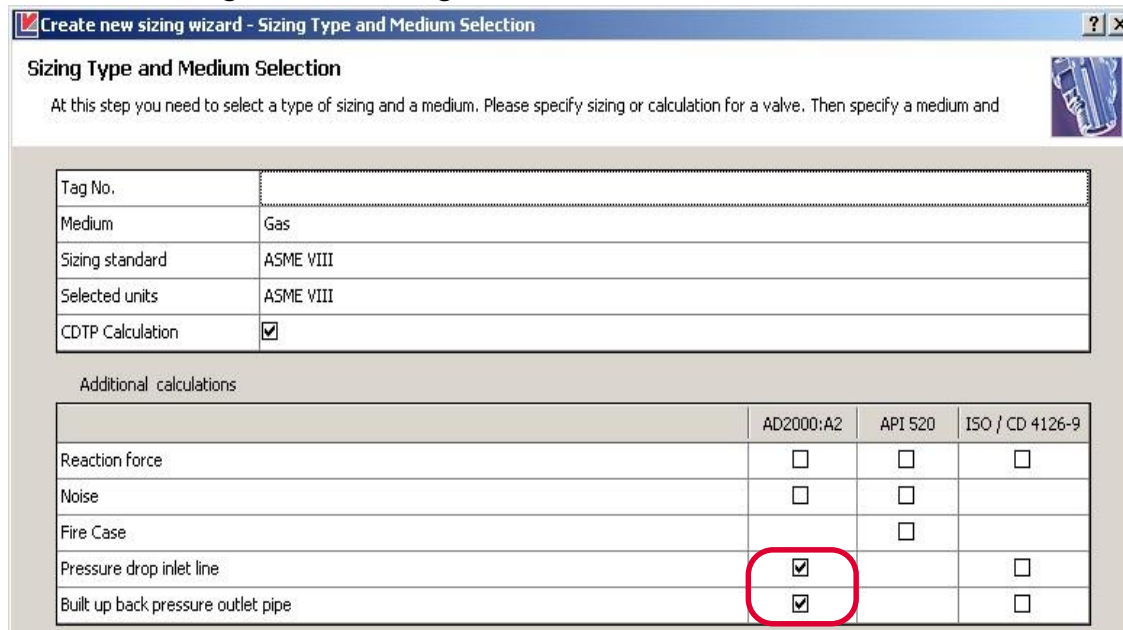
Help Back Next Finish Cancel

Sizing of built-up backpressure.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Dimension of inlet pipe and pipe components

When starting a new sizing:



Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Gas
Sizing standard	ASME VIII
Selected units	ASME VIII
CDTP Calculation	<input checked="" type="checkbox"/>

Additional calculations

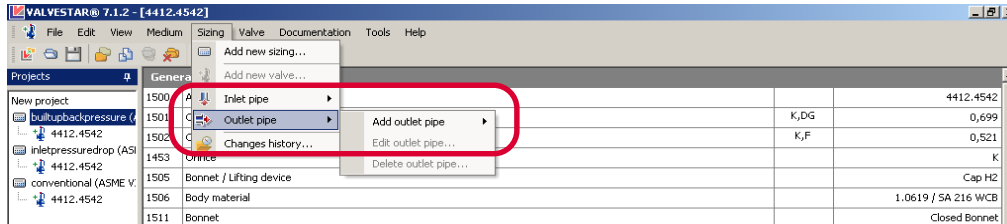
	AD2000:A2	API 520	ISO / CD 4126-9
Reaction force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise	<input type="checkbox"/>	<input type="checkbox"/>	
Fire Case		<input type="checkbox"/>	
Pressure drop inlet line	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Built up back pressure outlet pipe	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sizing of built-up backpressure.

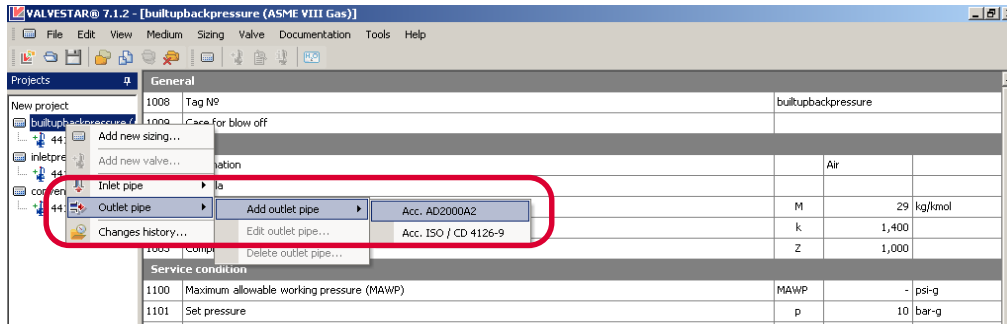
1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Dimension of outlet pipe and pipe components

You can also start built-up backpressure calculation in menu



... or start in project three



Sizing of built-up backpressure.

1. Introduction | 2. **Sizing** | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

2. Step: Dimension of outlet pipe and pipe components

Outlet Pipe designer

	Pipe #1	Pipe #2	Pipe #3	Pipe #4
DN				
Diameter				
Roughness	0,070	0,070	0,070	0,070
Length	-	-	-	-
Max. length				
	Edit...	Edit...	Edit...	Edit...

Eff. resistance ζ

Summary	Warnings	
Pressure drop of silencer Δp	-	psi
Coefficient of resistance permitted ζ_j	-	
Built up back pressure pae	-	psi
Built-up backpressure ratio	-	%

OK Cancel

Sizing of built-up backpressure.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

3. Step: Calculation and warning

The screenshot shows the 'Outlet Pipe designer' window. It features a configuration table for four pipes, a 3D model of the piping assembly, and a summary table with a warnings section. Red boxes highlight the Pipe #1 configuration, the summary table, and the warnings text.

	Pipe #1	Pipe #2	Pipe #3	Pipe #4
DN	DN 80			
Diameter	82,5 mm	- inch	- inch	- inch
Roughness	0,070	0,070	0,070	0,070
Length	0,5 m	- inch	- inch	- inch
Max. length	0,4 m	- inch	- inch	- inch

Eff. resistance ζ	0,114	-	-	-
-------------------------	-------	---	---	---

Summary		Warnings	
Pressure drop of silencer	Δp 0,5 bar	Built-up back pressure has too high value. Maximum allowed pressure is $p_{ae} = 0,15 \cdot (p - p_{af}) = 1,5$ [bar]. Below is needed. Ask LESER if this valve works properly.	
Coefficient of resistance permitted	ζ_j 0,114		
Built up back pressure	p_{ae} 1,557 bar		
Built-up backpressure ratio	15,60 %		

Fire case according to API RP 521.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

3. Step: Calculation and warning

Service condition: water, temperature = 20°C, Set pressure = 10bar g, effect of fire on the wetted surface of vessel, wetted surface = 10m², no drainage, bare vessel, heat of evaporation 1998,5 kJ/kg

Valve construction: Type 526, full nozzle, Carbon Steel body (1.0619/WCB), closed bonnet, lifting device cap H2

API RP 521

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Gas
Sizing standard	API 520
Selected units	AD 2000:A2 / RD 421
CDTF calculation	<input checked="" type="checkbox"/>

Additional calculations

	AD2000:A2	API 520	ISO / CD 4126-9
Reaction force	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire Case	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pressure drop inlet line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Built up back pressure outlet pipe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LESER

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Fire case according to API RP 521.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. [Reporting and Settings](#) | 7. [Translation](#) | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)

API RP 521

Create new sizing wizard - Medium selection

Medium selection

Use this page to select a medium.

water (fire case) (H2O) 0 %

Name	Formula	Molar mass	k	%	
water (fire case)	H2O	18	kg/kmol	1,3	100,00

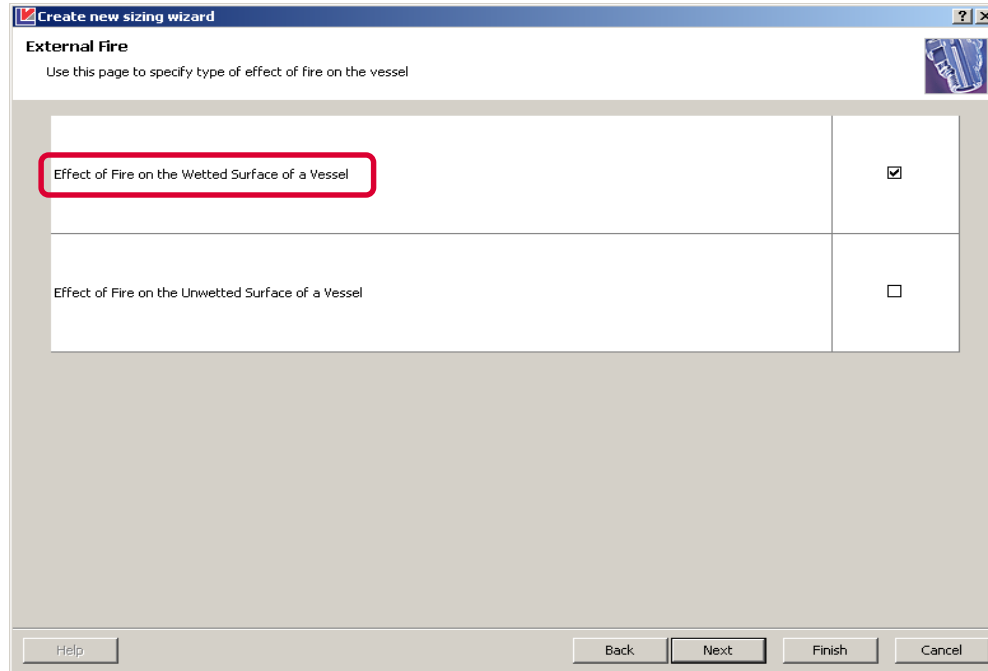
Total percentage 100,00%

Designation	water (fire case)	Molar mass	M	18	kg/kmol
Type of mix	Volume	Ratio of specific heats	k	1,300	
		Compressibility factor	Z	1,000	

Fire case according to API RP 521.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. [Reporting and Settings](#) | 7. [Translation](#) | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)

API RP 521



Create new sizing wizard

External Fire

Use this page to specify type of effect of fire on the vessel

Effect of Fire on the Wetted Surface of a Vessel	<input checked="" type="checkbox"/>
Effect of Fire on the Unwetted Surface of a Vessel	<input type="checkbox"/>

Help Back Next Finish Cancel

Fire case according to API RP 521.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

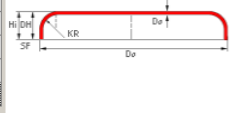
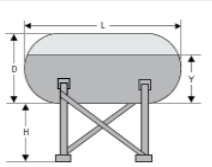
API RP 521

Create new sizing wizard - Fire case

Fire case

Use this page to specify a type and size of a vessel, its head design, the height of a medium in the vessel along with other related

Calculation type		Wetted	
Type of vessel		Horizontal	
Vessel head design		Flat head	
Vessel elevation	H	-	m
Vessel diameter	D	-	m
Vessel length	L	-	m
Liquid depth	Y	-	m
Effective liquid level	Yeff	-	m
Wetted surface, calculated	Awet	-	m ²
Wetted surface, manual	Awet	10	m ²
Drainage presence		No	
Type of isolation		Bare vessel	
Environment factor	F	1,000	
Heat of evaporation	Hvap	1,998,5	kJ/kg
Minimum required mass flow	W	844,512	kg/h



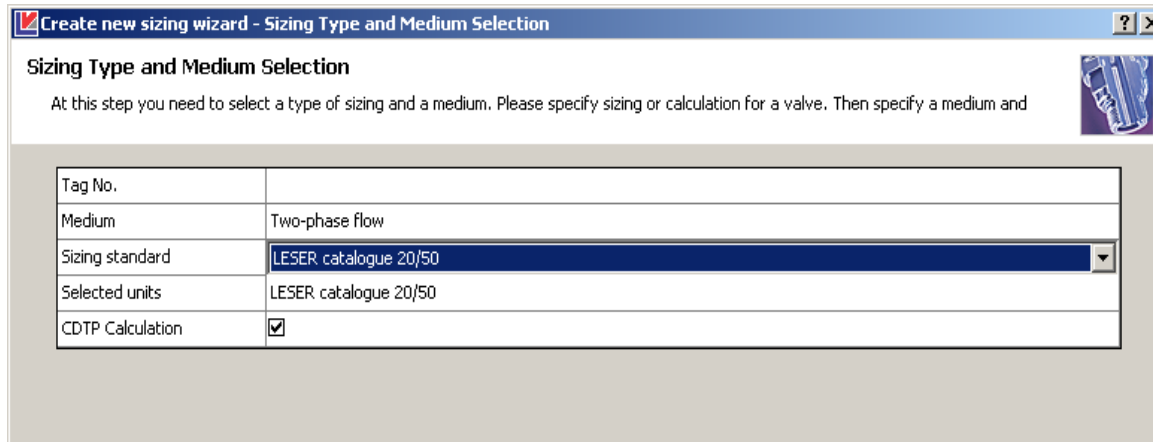
Help Back Next Finish Cancel

Two Phase Flow. LESER mixed formula.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Service condition: hot water, temperature = 150°C, Set pressure = 10bar g, required massflow = 10000kg/h

Valve construction: Type 441, semi nozzle, Carbon Steel body (1.0619/WCB), closed bonnet, lifting device cap H2, evaporation while depressuring from 10bar g to environmental pressure in case of blow off.



Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Two-phase flow
Sizing standard	LESER catalogue 20/50
Selected units	LESER catalogue 20/50
CDTF Calculation	<input checked="" type="checkbox"/>

Two Phase Flow. LESER mixed formula.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Create new sizing wizard - Service condition

Service Condition

At this step you need to set values for Input Pressure, Temperature, Massflow or Volumeflow.

Set pressure	p	10	bar-g
Superimposed back pressure	paf	0	bar-g
Overpressure	dp	10,00	%
Temperature	T	150	°C
Required massflow	qm,ab	10000	kg/h
Saturated state		<input type="checkbox"/>	

Options

Case for blow off

Create new sizing wizard - Valve finder

Valve Finder

Please specify the required valve parameters. Leave the fields blank to list all the available valve types.

Product group	High Performance
Bonnet	
Nozzle design	

Two Phase Flow. LESER mixed formula.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Create new sizing wizard - Valve selection

Valve Selection

First, choose a valve group and then any one valve from that group.

Type	Diameter range	Body material
441, 442 ANSI	NPS 1" - 4"	1.0619 / SA 216 WCB
441, 442 DIN	DN 20 - 200	Lifting device
441, 442 Full...	NPS 1" - 4"	Cap H2

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
-30,01	6.999,137	4412.4502	20x40	18	Type 4412 DN 20
14,28	11.427,603	4412.4512	25x40	23	Type 4412 DN 25
81,68	18.167,513	4412.4522	32x50	29	Type 4412 DN 32
195,74	29.573,514	4412.4532	40x65	37	Type 4412 DN 40
357,10	45.710,414	4412.4542	50x80	46	Type 4412 DN 50
677,68	77.768,19	4412.4552	65x100	60	Type 4412 DN 65
1082,94	118.294,057	4412.4562	80x125	74	Type 4412 DN 80
1728,42	182.841,655	4412.4572	100x150	92	Type 4412 DN 100
1974,68	207.468,248	4412.4582	125x200	98	Type 4412 DN 125

Select

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
14,28	11.427,603	4412.4512	25x40	23	Type 4412 DN 25

Total: capacity exceed 14,28 [%], certified massflow 11.427,603 [kg/h]

Remove

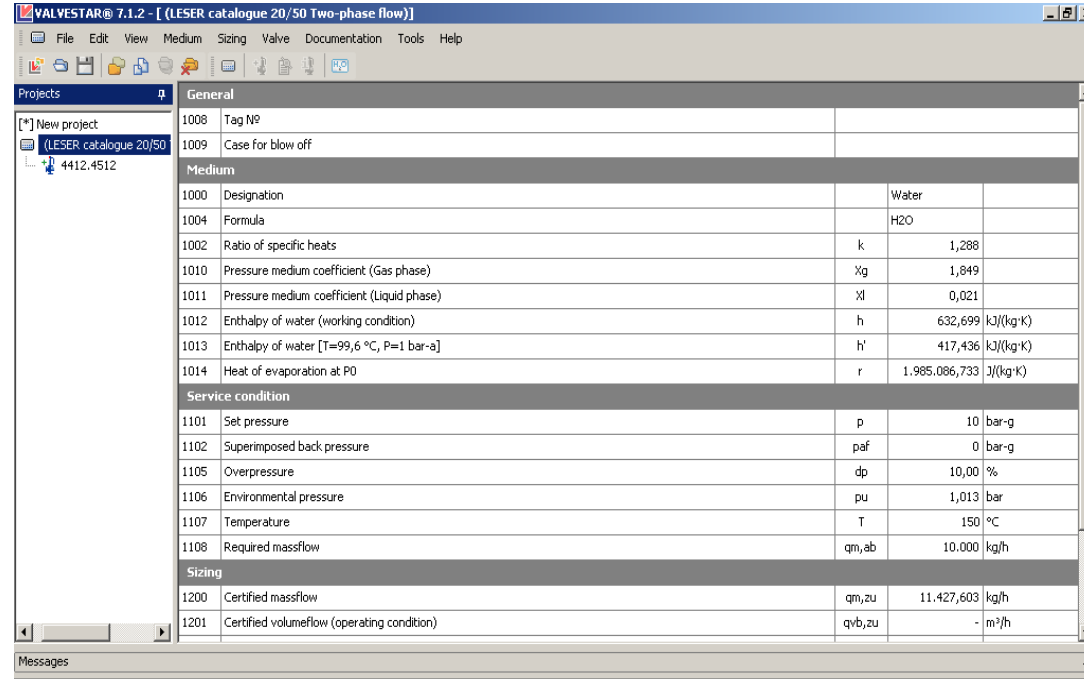
Help Back Next Finish Cancel

All the next steps until finish are not shown.

Two Phase Flow. LESER mixed formula.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Result: Documentation on screen



The screenshot shows the VALVESTAR software interface with a project configuration table. The table is organized into sections: General, Medium, Service condition, and Sizing. The 'Medium' section lists properties for water, and the 'Sizing' section lists certified massflow and volume flow.

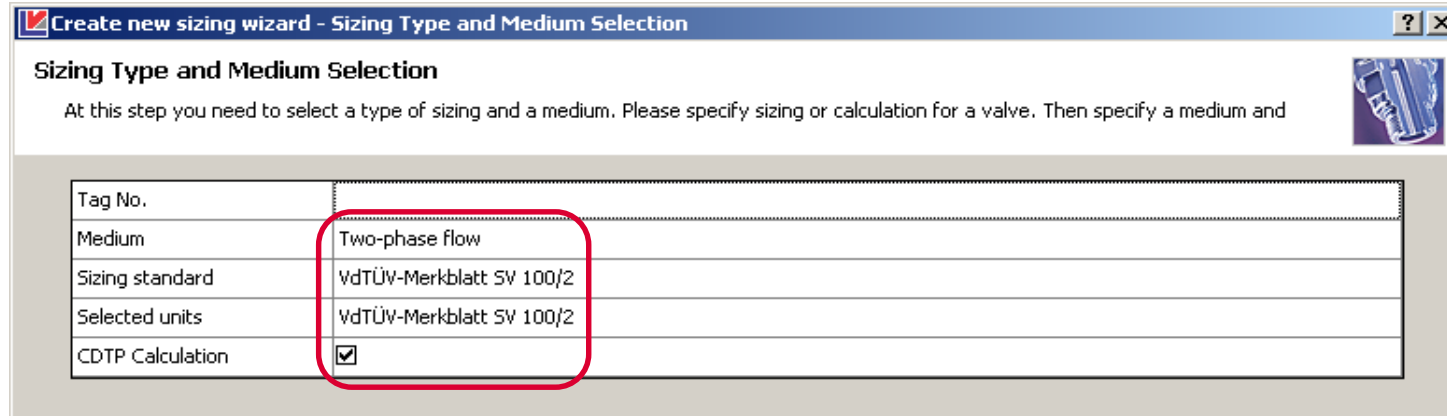
General				
1008	Tag N°			
1009	Case for blow off			
Medium				
1000	Designation		Water	
1004	Formula		H2O	
1002	Ratio of specific heats	k	1,288	
1010	Pressure medium coefficient (Gas phase)	Xg	1,849	
1011	Pressure medium coefficient (Liquid phase)	Xl	0,021	
1012	Enthalpy of water (working condition)	h	632,699	kJ/(kg·K)
1013	Enthalpy of water [T=99,6 °C, P=1 bar-a]	h'	417,436	kJ/(kg·K)
1014	Heat of evaporation at P0	r	1.985.086,733	J/(kg·K)
Service condition				
1101	Set pressure	p	10	bar-g
1102	Superimposed back pressure	paf	0	bar-g
1105	Overpressure	dp	10,00	%
1106	Environmental pressure	pu	1,013	bar
1107	Temperature	T	150	°C
1108	Required massflow	qm,ab	10.000	kg/h
Sizing				
1200	Certified massflow	qm,zu	11.427,603	kg/h
1201	Certified volumeflow (operating condition)	qvb,zu	-	m³/h

Two Phase Flow. VdTÜV Merkblatt 100.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Service condition: Butane, Set pressure = 10bar g, required massflow = 10000kg/h

Valve construction: Type 441, semi nozzle, Carbon Steel body (1.0619/WCB), closed bonnet, lifting device cap H2



Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Two-phase flow
Sizing standard	VdTÜV-Merkblatt SV 100/2
Selected units	VdTÜV-Merkblatt SV 100/2
CDTF Calculation	<input checked="" type="checkbox"/>

Two Phase Flow. VdTÜV Merkblatt 100.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Create new sizing wizard - Medium selection

Medium selection
Use this page to select a medium.

Butane (n) (C4 H10) 0 %

Name	Formula	Molar mass	k	%	
Butane (n)	C4 H10	58,1	kg/kmol	1,09	100,00

Total percentage 100,00%

Designation	Butane (n)	Molar mass	M	58,1	g/kmol
Type of mix	Volume	Ratio of specific heats	k	1,090	
		Compressibility factor	Z	1,000	

Two Phase Flow. VdTÜV Merkblatt 100.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Create new sizing wizard - Service condition

Service Condition

At this step you need to set values for Input Pressure, Temperature, Massflow or Volumeflow.

Set pressure	p	10	bar-g
Overpressure	dp	10,00	%
Required massflow	qm,ab	10000	kg/h

Options

Case for blow off	
-------------------	--

Remark: According to J.C. LEUNG [1] it is proved that the function $Y = \gamma$ for pressures between 4 bar und 150 bar in double logarithmic coordinate system is following nearly a straight line also for chemical different mediums, like propane, propen, n-butane, n-butene and water. Other mediums shall be estimated according to [1], because there might be other courses for Y.

Help Back Next Finish Cancel

Two Phase Flow. VdTÜV Merkblatt 100.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Create new sizing wizard - Valve finder

Valve Finder

Please specify the required valve parameters. Leave the fields blank to list all the available valve types.

Product group	High Performance
Bonnet	
Nozzle design	

- High Performance
- API Series
- Compact Performance
- Clean Service
- Critical Service
- Modulate Action
- S&R - Safety Valves for special or regional Application


Two Phase Flow. VdTÜV Merkblatt 100.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Create new sizing wizard - Valve selection

Valve Selection

First, choose a valve group and then any one valve from that group.



Type	Diameter range	Body material
441, 442 ANSI	NPS 1" - 4"	1.0619 / SA 216 WCB
441, 442 DIN	DN 20 - 200	Lifting device
441, 442 Full...	NPS 1" - 4"	Cap H2

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
-47,97	5.203,188	4412.4502	20x40	18	Type 4412 DN 20
-15,05	8.495,329	4412.4512	25x40	23	Type 4412 DN 25
35,06	13.505,807	4412.4522	32x50	29	Type 4412 DN 32
119,85	21.985,077	4412.4532	40x65	37	Type 4412 DN 40
239,81	33.981,317	4412.4542	50x80	46	Type 4412 DN 50
478,13	57.813,204	4412.4552	65x100	60	Type 4412 DN 65
779,40	87.940,307	4412.4562	80x125	74	Type 4412 DN 80
1259,25	135.925,267	4412.4572	100x150	92	Type 4412 DN 100
1442,33	154.232.782	4412.4582	125x200	98	Type 4412 DN 125

Select

Capacity exceed [%]	Certified massflow [kg/h]	Article No.	DN inlet x DN outlet	d0	Description
35,06	13.505,807	4412.4522	32x50	29	Type 4412 DN 32

Total: capacity exceed 35,06 [%], certified massflow 13.505,807 [kg/h]

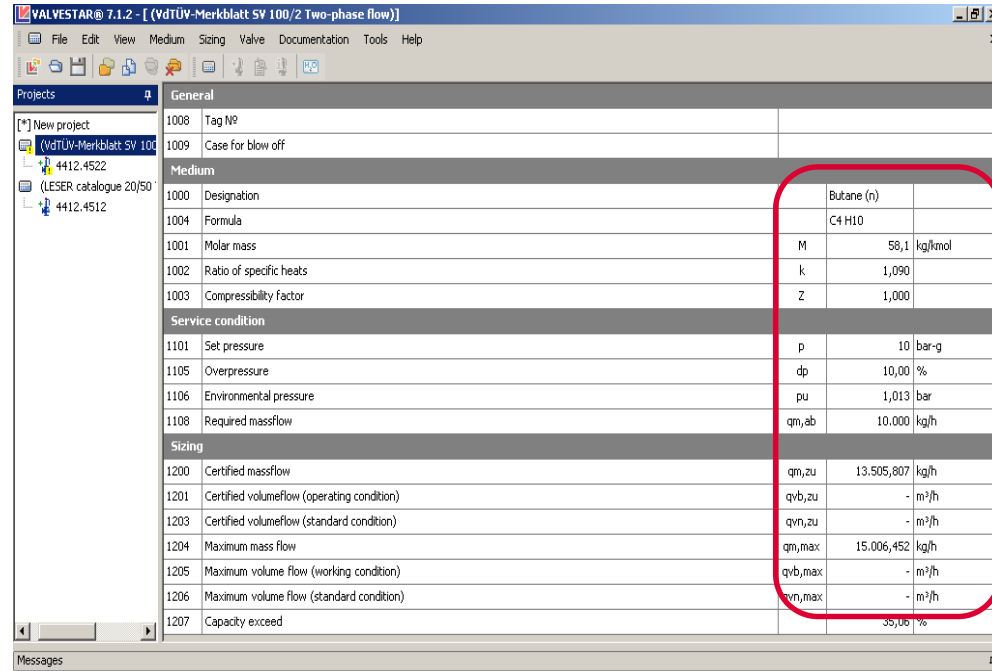
Remove

Help Back Next Finish Cancel

Two Phase Flow. VdTÜV Merkblatt 100.

1. Introduction | 2. Sizing | 3. Fire | 4. **Two Phase** | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Result: Documentation on screen



The screenshot shows the VALVESTAR@ 7.1.2 software interface. The main window displays a table with project configuration data. The 'Medium' section is highlighted with a red rounded rectangle. The table contains the following data:

General			
1008	Tag NP		
1009	Case for blow off		
Medium			
1000	Designation	Butane (n)	
1004	Formula	C4 H10	
1001	Molar mass	M	58,1 kg/kmol
1002	Ratio of specific heats	k	1,090
1003	Compressibility factor	Z	1,000
Service condition			
1101	Set pressure	p	10 bar-g
1105	Overpressure	dp	10,00 %
1106	Environmental pressure	pu	1,013 bar
1108	Required massflow	qm,ab	10.000 kg/h
Sizing			
1200	Certified massflow	qm,zu	13.505,807 kg/h
1201	Certified volumeflow (operating condition)	qv,b,zu	- m³/h
1203	Certified volumeflow (standard condition)	qv,n,zu	- m³/h
1204	Maximum mass flow	qm,max	15.006,452 kg/h
1205	Maximum volume flow (working condition)	qv,b,max	- m³/h
1206	Maximum volume flow (standard condition)	qv,n,max	- m³/h
1207	Capacity exceed		35,06 %

Two Phase Flow. Omega method according API 520 Appendix D.

[1. Introduction](#) | [2. Sizing](#) | [3. Fire](#) | **[4. Two Phase](#)** | [5. Add. Sizing](#) | [6. Reporting and Settings](#) | [7. Translation](#) | [8. Data Change](#) | [9. Copy and Paste](#) | [10. Internet](#) | [11. Spares](#)

Service condition: Propene; Set pressure = 10bar g,
required massflow = 10000kg/h

Valve construction: Type 441, semi nozzle, Carbon Steel
body (1.0619/WCB),
closed bonnet, lifting device cap H2

LESER

The-Safety-Valve.com

Additional Sizings, Noise Level, Reaction Forces.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Reaction force and noise level

Create new sizing wizard - Sizing Type and Medium Selection

Sizing Type and Medium Selection

At this step you need to select a type of sizing and a medium. Please specify sizing or calculation for a valve. Then specify a medium and

Tag No.	
Medium	Gas
Sizing standard	ASME VIII
Selected units	ASME VIII
CDTP Calculation	<input checked="" type="checkbox"/>

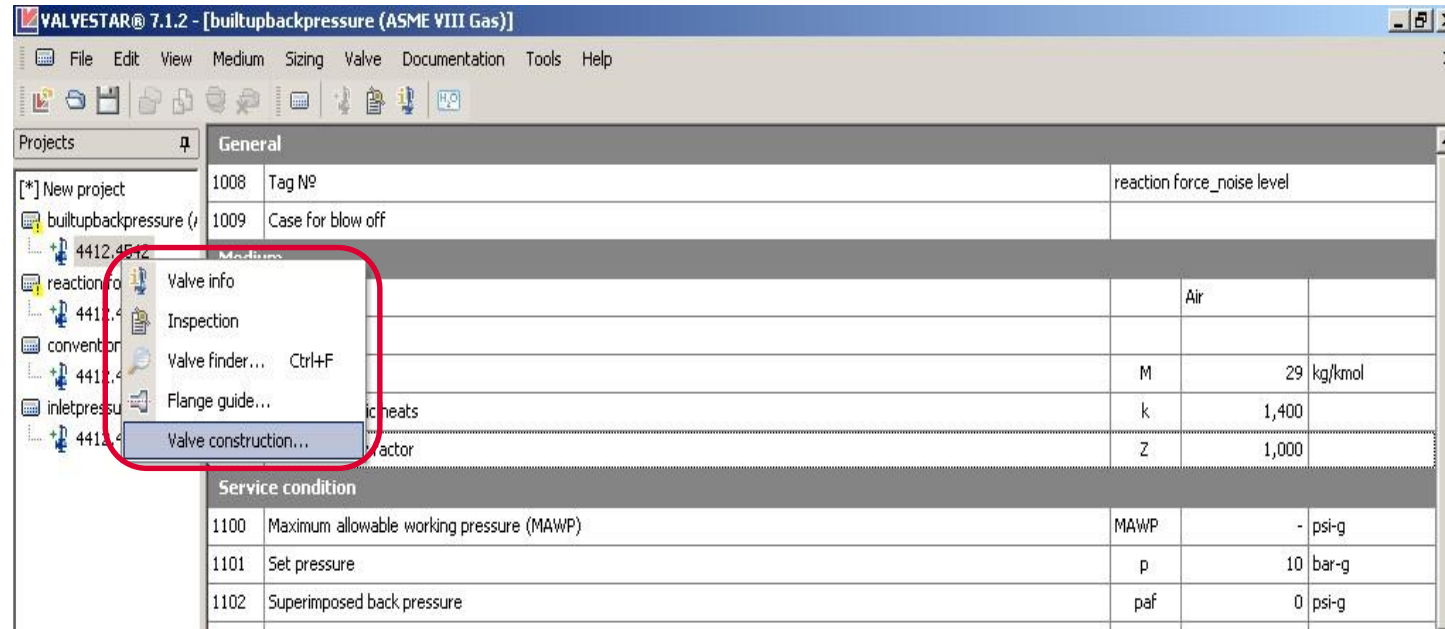
Additional calculations

	AD2000:A2	API 520	ISO / CD 4126-9
Reaction force	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fire Case		<input type="checkbox"/>	
Pressure drop inlet line	<input type="checkbox"/>		<input type="checkbox"/>
Built up back pressure outlet pipe	<input type="checkbox"/>		<input type="checkbox"/>

Additional Sizings, Noise Level, Reaction Forces.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Reaction force and noise level



The screenshot shows the VALVESTAR@ 7.1.2 software interface. The main window displays a table with columns for Tag No, Case, and various parameters. A context menu is open over the table, listing options like Valve info, Inspection, Valve finder..., Flange guide..., and Valve construction... (highlighted with a red circle).

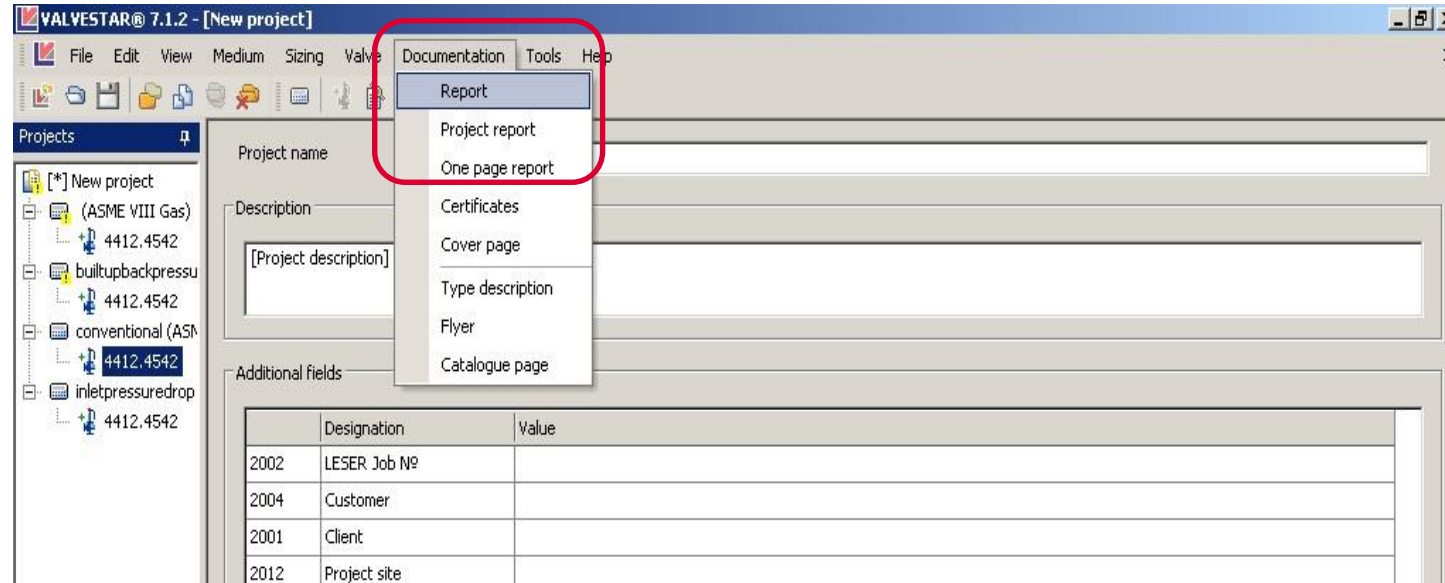
Tag No	Case	reaction force_noise level
1008	Tag No	
1009	Case for blow off	
		Air
		M 29 kg/kmol
		k 1,400
		Z 1,000

Service condition	
1100	Maximum allowable working pressure (MAWP) MAWP - psi-g
1101	Set pressure p 10 bar-g
1102	Superimposed back pressure paf 0 psi-g

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Create a report



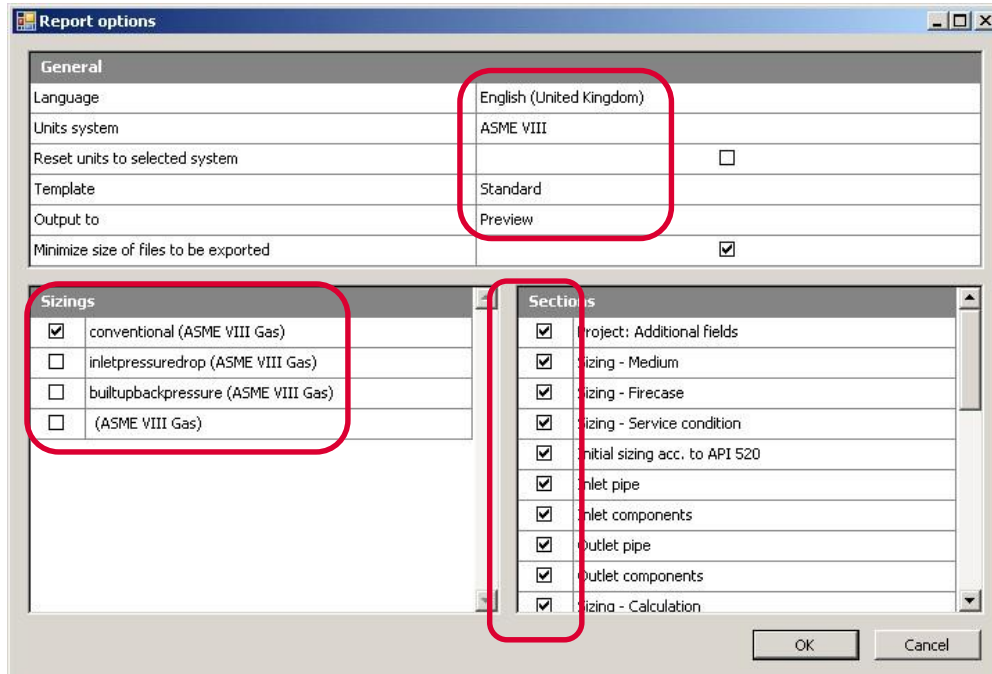
LESER

The-Safety-Valve.com

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Create a report



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Report options

General

Language	English (United Kingdom)
Units system	ASME VIII
Reset units to selected system	<input type="checkbox"/>
Template	Standard
Output to	Preview
Minimize size of files to be exported	<input checked="" type="checkbox"/>

Sizings

<input checked="" type="checkbox"/>	(ASME VIII Gas)
-------------------------------------	-----------------

Main sections

- Sizing - Medium
- Sizing - Service condition
- Sizing - Calculation
- Valves
- Valve - General
- Inlet connection

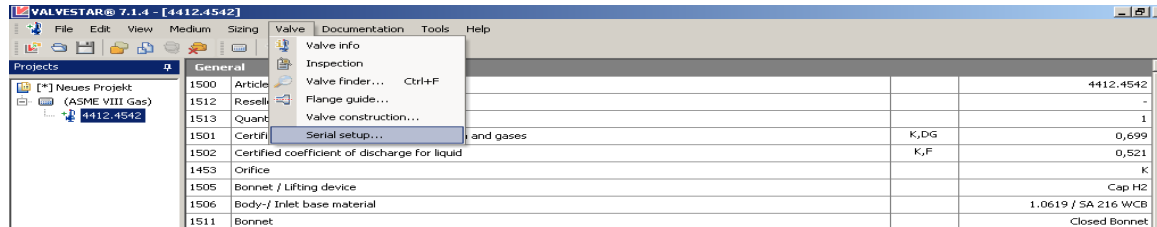
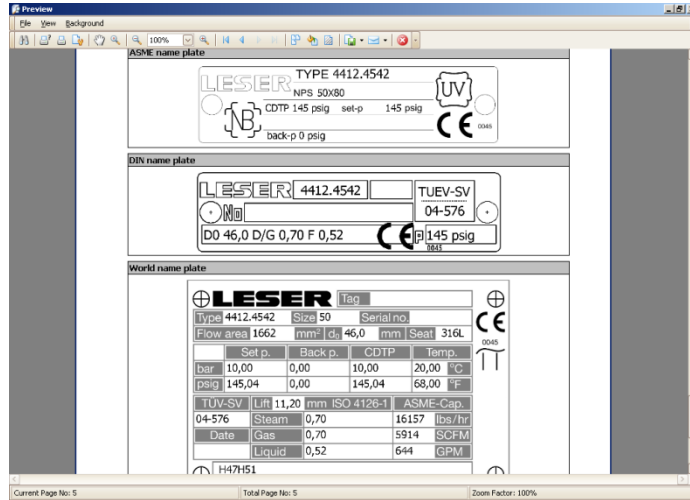
Additional sections

- Comments
- Coloured
- Sectional with item no
- ASME nameplate
- DIN nameplate
- World nameplate

OK Cancel

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

Nº	Tag Nº	Article Nº	Order code	Serial number	Date
1		4412.4542	4412.4542-10 bar-g-H47H51 ...	2000000	Samstag , 23. F

Preview

ASME name plate

DIN name plate

World name plate

Type	Size	Serial no.	CE	
4412.4542	50	2000000	0045	
Flow area	166 mm ²	d ₁ 46,0 mm		Seat 316L
Set p.	Set p.	Set p.	Temp.	
bar	10,00	0,00	10,00	20,00 °C
psig	145,04	0,00	145,04	68,00 °F
TUV-SV	Lift	mm ISO 4126-1	ASME-Cap.	
04-576	Stream	0,70	16157 lbs/hr	
Date	Gas	0,70	5914 SCFM	
23/02/2008	Liqu	0,52	644 GPM	

Current Page No: 5 Total Page No: 5 Zoom Factor: 100%

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

1. Step: Create a report

The screenshot shows a software window titled "Preview" displaying a report. The report header includes the LESER logo and the following information:

LESER The-Safety-Valve.com	Sizing acc. to ASME VIII for Gas VALVESTAR® - v.7.1.522.0	Page: 1 of 5 Date: 05/29/2007 09:39:25 Project: New project Tag No.: conventional LESER Job N°
-------------------------------	---	--

The report is divided into three main sections, each highlighted with a red box:

Sizing - Medium

1000	Designation		Air
1004	Formula		
1001	Molar mass	M	29 kg/kmol
1002	Ratio of specific heats	k	1,400
1003	Compressibility factor	Z	1,000

Sizing - Service condition

1100	Maximum allowable working pressure (MAWP)	MAWP	
1101	Set pressure	p	10 bar-g
1102	Superimposed back pressure	paf	0 psi-g
1103	built up back pressure	pae	
1104	Backpressure		0 psi-g
1105	Overpressure	dp	10,00 %
1106	Environmental pressure	pu	14,696 psi
1107	Temperature	T	20 PC
1108	Required massflow	qm,ab	11,500 kg/h
1109	Volume flow to be discharged (working condition)	qv,ab	28,412,535 R³/h
1110	Volume flow to be discharged (std condition) [T=60 °F P=14,7 psi]	qm,ab	5,527,018 SCFM
1120	Rupture disc correction factor	Kc	1,000

Sizing - Calculation

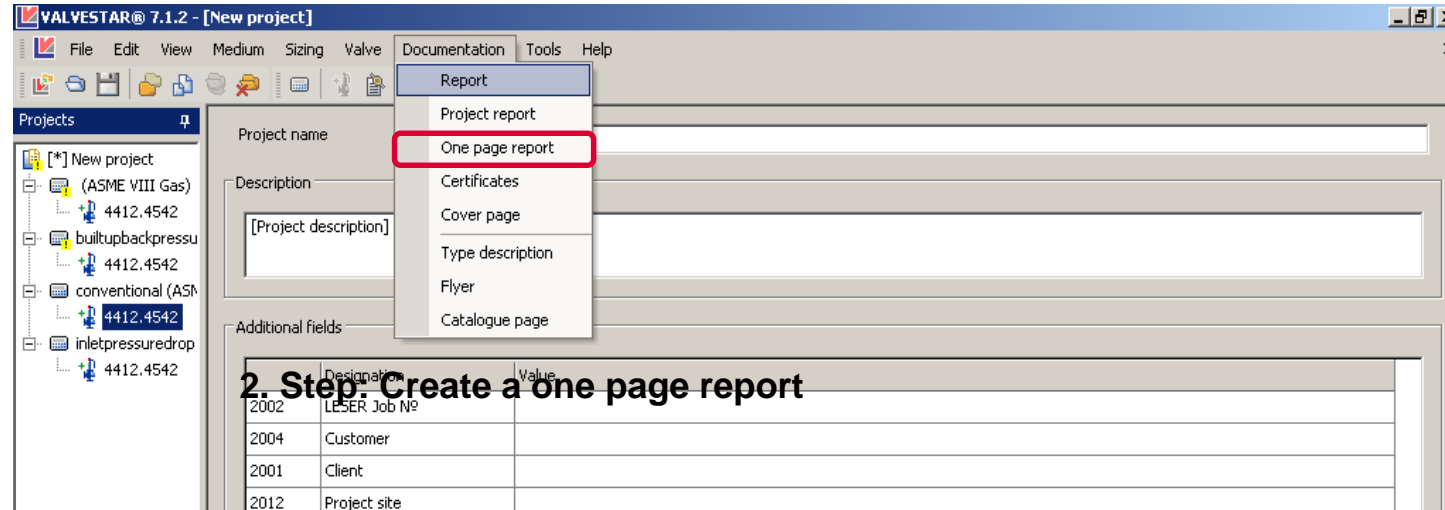
1200	Certified massflow	qm,zu	26,187,754 lb/h
------	--------------------	-------	-----------------

At the bottom of the window, it shows "Current Page No: 1", "Total Page No: 5", and "Zoom Factor: 100%".

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

2. Step: Create a one page report



The screenshot shows the VALVESTAR@ 7.1.2 software interface. The 'Report' menu is open, and 'One page report' is highlighted with a red box. The interface includes a menu bar (File, Edit, View, Medium, Sizing, Valve, Documentation, Tools, Help), a toolbar, and a project tree on the left. The main workspace contains fields for Project name, Description, and Additional fields.

Designation	Value
2002	LESER Job №
2004	Customer
2001	Client
2012	Project site

2. Step: Create a one page report

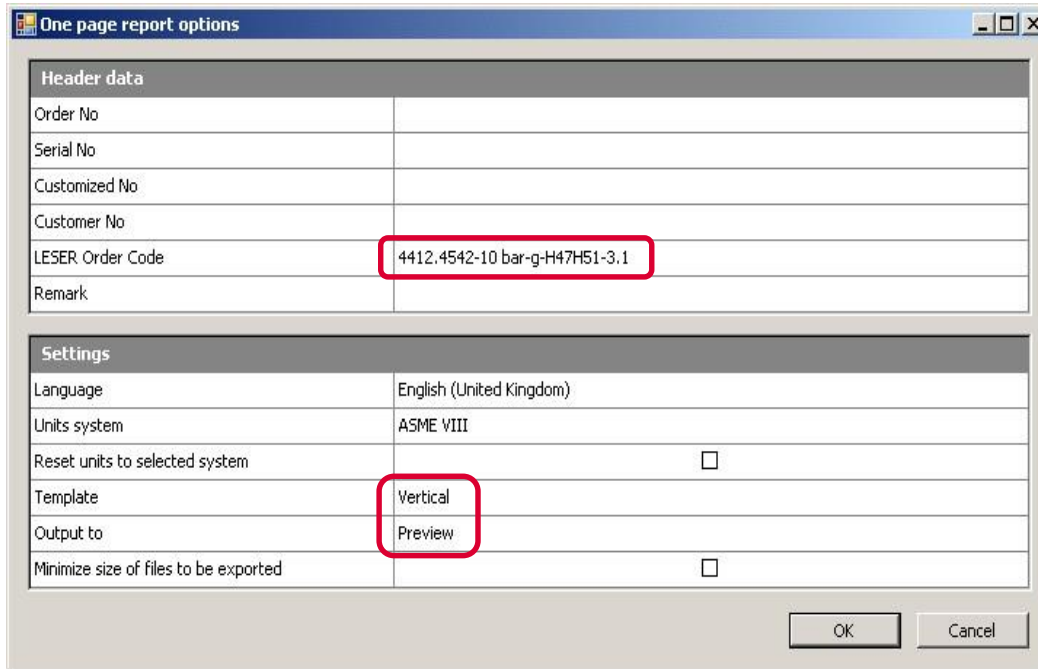
LESER

The-Safety-Valve.com

Reporting.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. **Reporting and Settings** | 7. [Translation](#) | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)

2. Step: Create a one page report



The screenshot shows a dialog box titled "One page report options" with two main sections: "Header data" and "Settings".

Header data:

Order No	
Serial No	
Customized No	
Customer No	
LESER Order Code	4412.4542-10 bar-g-H47H51-3.1
Remark	

Settings:

Language	English (United Kingdom)
Units system	ASME VIII
Reset units to selected system	<input type="checkbox"/>
Template	Vertical
Output to	Preview
Minimize size of files to be exported	<input type="checkbox"/>

Buttons: OK, Cancel

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

2. Step: Create a one page report

Order Data

LESER
The Safety Valve

Order No.: conventional
Tag No.:
Serial No.:
Customized No.:

Customer No.:

LESER
The Safety Valve

Contact:
Phone:
Fax:
E-mail:

LESER Order Specification
Safety relief valve in acc. to
ASME VIII

LESER Order Code 4412.4542-10 bar-g-H47H51-3.1

Part No.

Part No.	Denomination	Q	Material	ASME	Material DN	DN
1	Body	1	SA 216 WC6B	1.0019		
5	Seat	1	316L	1.4944		
7	Disc	1	Hardened Stainless	1.4122		
8	Guide	1	Steel	1.0501/1.0038/1.415		
9	Bonnet	1	Ductile Gr. 60-40	180 2040		
12	Spindle	1	4021	1.4021		
18	Adjusting screw	1	SA 479 430	1.4104		
40	Cap H2	1	Steel	1.0718		
54	Spring	1	Carbon steel	1.1200		
56	Nut	1	42H	1.0501		
60	Gasket	1	Graphite/1.4801	1.4801	1.446	
61	Ball washer	1	Hardened Stainless	1.3541/1.4401		

MTC: Material Test Certificates
LESER CGA (Certificate Global Application)
if required MTC required

VALVE DIMENSION

Type: 4412.4542

Item	Value
Inlet Size	DN 50
Inlet Rating	PN 40
Inlet Facing	DIN EN 1092-1 For
Outlet Size	DN 180
Outlet Rating	PN 16
Outlet Facing	DIN EN 1092-1 For
Flow diameter	1.111 inch
Weight	48.502 lb
a	5.906 inch
b	4.724 inch
H	22.402 inch
Set pressure P	10 bar-g
Set pressure	145.030 psi-g

Rev

Name	Date
Default user	05/29/2007
1	

Approved by LESER/SB/SDARY

Approved by customer

Date: 29/05/2007

Date: / /

Signature: / /

Signature: / /

Current Page No.: 1

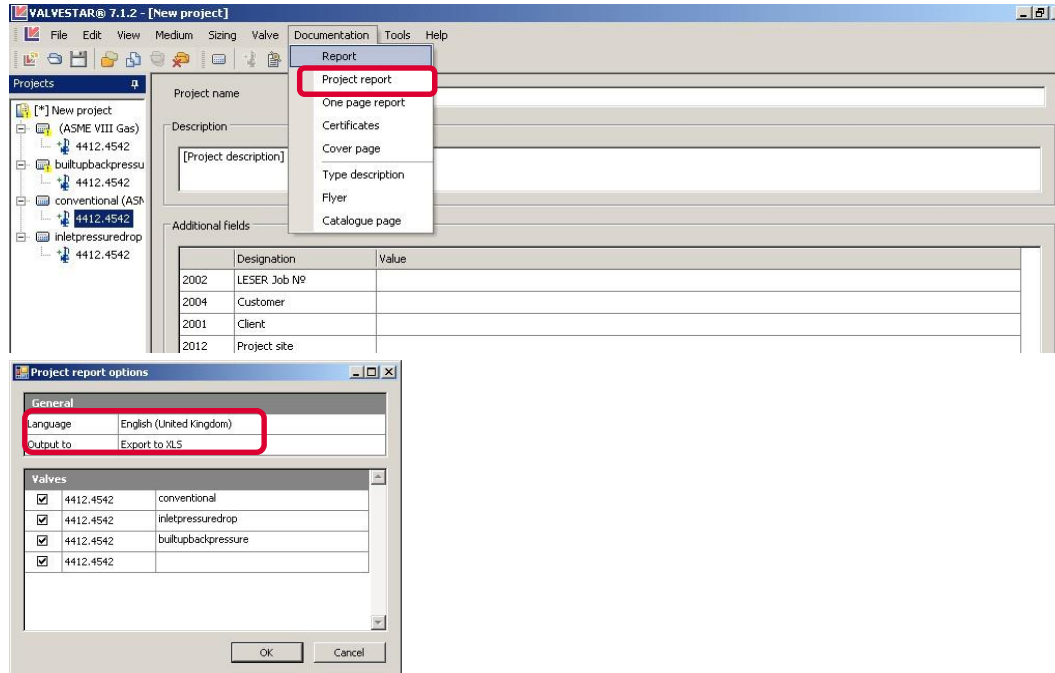
Total Page No.: 1

Zoom Factor: 76%

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

3. Step: Create a project report



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is new for dimensions S1, S2, c?

These data have been added to the database for all slip on flange based safety valve and all full nozzle safety valve to get the correct bolt length or thread length.

The screenshot shows the VALVESTAR 7.1.4 software interface. The main window displays a table of dimensions for a safety valve. The dimensions S1 and S2 are highlighted with a red box. The table is organized into sections: Outlet connection, Dimensions, and Sizing.

Outlet connection			
1303	Connection standard	acc. to DIN EN 1092	
1304	DN / NPS	25	
1305	PN / PR	PN 160	
1306	Flange facing	DIN EN 1092-1 Form B2 (DIN 2526 Form E)	
Dimensions			
1400	Discharge area	Ao	0.373 in ²
1401	Discharge diameter	do	0.689 inch
1402	Centre to Face dimensions	a	4.134 inch
1403	Centre to Face dimensions	b	3.937 inch
1405	Height	H	13.071 inch
1406	Weight	M	6.614 lb
1411	Inlet flange thickness incl. raised face	S1	1.102 inch
1412	Outlet flange thickness incl. raised face	S2	0.906 inch
Sizing			
1200	Certified massflow	qm,zu	744.126 lb/h
1201	Certified volumeflow (operating condition)	qv,b,zu	4,443.978 ft ³ /h
1203	Certified volumeflow (standard condition)	qv,n,zu	275.65 m ³ /h

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

How I find it in the documentation

In the report full-version the additional dimensions are listed if these are available

The screenshot shows a software report window titled "Preview" with a menu bar (File, View, Background) and a toolbar. The report content is organized into several sections:

- Inlet connection:**

1303	Connection standard		acc. to DIN EN 1092
1304	DN / NPS		25
1305	PN / PR		PN 160
1306	Flange facing		DIN EN 1092-1 Form B2 (DIN 2526 Form E)
- Outlet connection:**

1353	Connection standard		acc. to DIN EN 1092
1354	DN / NPS		40
1355	PN / PR		PN 40
1356	Flange facing		DIN EN 1092-1 Form B1 (DIN 2526 Form C)
- Valve - Dimensions:**

1400	Discharge area	A ₀	0.373 in ²
1401	Discharge diameter	d ₀	0.689 inch
1402	Centre to Face dimensions	a	4.134 inch
1403	Centre to Face dimensions	b	3.937 inch
1405	Height	H	13.071 inch
1406	Weight	M	6.614 lb
1411	Inlet flange thickness incl. raised face	S1	1.102 inch
1412	Outlet flange thickness incl. raised face	S2	0.906 inch
- Lift:**

1507	Standard		0.154 inch
------	----------	--	------------
- Valve - Calculation:**

1200	Certified mass flow	qm,zu	744.126 lb/h
1201	Certified volume flow (operating condition)	qv,b,zu	4,443.978 ft ³ /h
1203	Certified volume flow (standard condition)	qm,zu	275.65 m ³ /h
1204	Maximum mass flow	qm,max	826.806 lb/h
1205	Maximum volume flow (working condition)	qv,b,max	4,937.753 ft ³ /h
1206	Maximum volume flow (standard condition)	qv,max	306.278 m ³ /h

At the bottom of the window, it shows "Current Page No: 2", "Total Page No: 6", and "Zoom Factor: 100%".

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

How I find it in the documentation

In the one-page report the additional dimensions are listed if these are available

The screenshot shows a software window titled "Preview" displaying a technical report for a LESER safety relief valve. The report includes the following sections:

- LESER Logo:** The Safety-Valve.com
- Product Name:** Safety relief valve Compact Performance Type 459
- Order Data:** Order No., Tag No., Serial No., LESER Order Code (4632.2492-15 psi-g-132149-3.1)
- Customer Information:** Name (AD 2000 Martine A2), Date (2008-05-04 13:23:50), Phone, Fax, Email, and Customer No.
- Approval:** Approved by LESER (Signature: [redacted], Date: 2008-05-04) and Approved by customer (Signature: [redacted], Date: [redacted]).
- Part List Table:**

Pos	Denomination	QT	Material	ASME	Material	DIN	IPC	Type	4632.2492
1	Inlet body	1	316L		1.4404			Inlet	Size DN 15
2	Outlet body	1	ISA 218 WCB		1.2619			Inlet	Size DN 15
3	Disc	1	Hardened Steel		1.4122			Inlet	F acing DIN EN 1092-1
4	Seals	1	Steel		1.4571 (1.0038)			Outlet	size DN 15
5	Bonnet	1	ISA 218 WCB		1.2619			Outlet	Rating PN 16
6	Spindle	1	450		1.4021			Outlet	Rating PN 16
7	Adjusting screw	1	ISA 479 430		1.4114				
8	Cap HS	1	Steel		1.0718				
9	Spring	1	Carbon steel		1.2000				
10	Ball washer	1	Hardened Steel		1.3543 (1.4401)				

Dimensions:

Dimension	Value
Flow diameter	DN 0.8393 inch
Weight	M 6.614 lb
a	4.134 inch
b	3.937 inch
H	13.071 inch
S1	1.102 inch
S2	0.906 inch

MTS: Material Test Certificates
LESER CGA (Certificate Global Application) required: not required:

Set pressure: P 15 [psi-g] pdcpr 15 [psi-g]

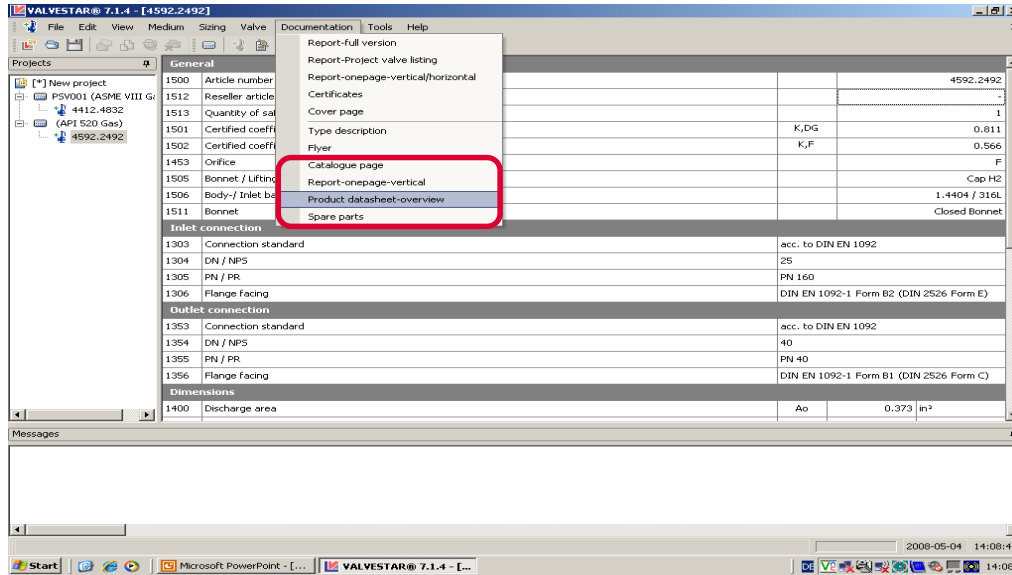
The report also includes a technical drawing of the valve with numbered callouts (1-10) corresponding to the parts list. A red box highlights the dimensions table.

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the Product datasheet ?

The product datasheet is an overview of a single safety valve and its main features like drawing, dimensions and weight, possible options, approval, ...

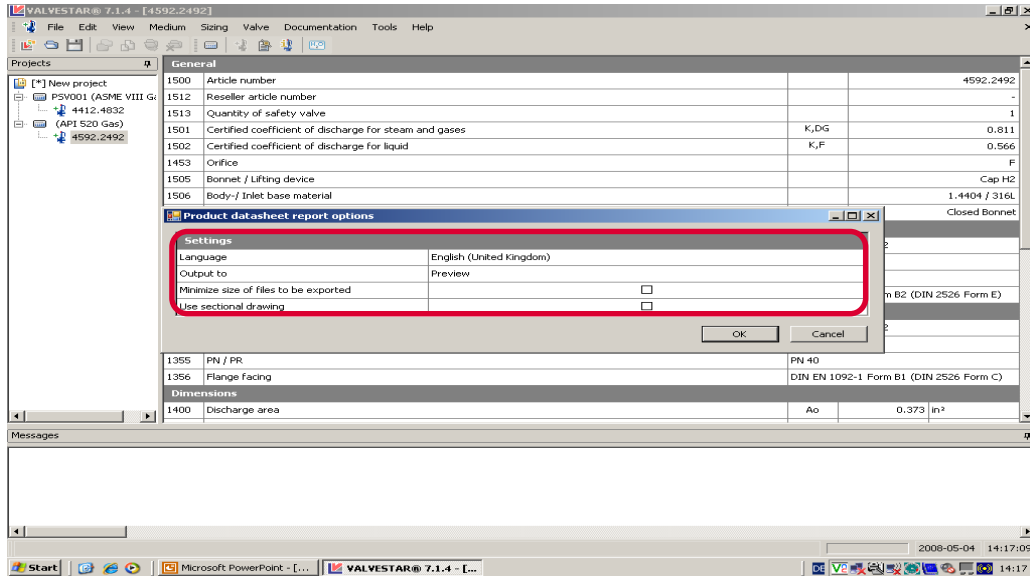


Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the Product datasheet ?

For product datasheet two different drawings as main drawing could be selected: coloured drawing as standard and sectional drawing if needed.



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the Product datasheet ? With sectional drawing

LESER The-Safety-Valve.com
Productdatasheet

Valve Design and Dimensions

LESER-Art.-No. 14926-2492

Productgroup Compact Performance

Design Type

Code base

Flow diameter

d0	17.5	0.689	mm/inch
	0.310		mm/inch

Orifice

a	105	4.134	mm/inch
b	100	3.937	mm/inch

Dimension

c	0	0	mm/inch
S1			mm/inch
S2			mm/inch
H	332	13.071	mm/inch
M	3	0.118	kg/lb

Weight

Standard	DN	PN	Facing	Standard
Inlet	25	PN 16	DIN EN 1092-1 acc. to DIN EN 1092	
Outlet	40	PN 40	DIN EN 1092-1 acc. to DIN EN 1092	

Valve Partlist

Item	Denomination	Q	DIN/ASME
1	Inlet body	1	1.4404 / 316L
2	Outlet body	1	1.0619 / SA 216 WCB
7	Disc	1	1.4122 / Hardened Stainless
8	Guide	1	1.02011 / 00391-4104 / Steel
9	Bonnet	1	1.0619 / SA 216 WCB
12	Spindle	1	1.4021 / 420
18	Adjusting screw	1	1.4104 / SA 479-430
40	Cap Hz	1	1.0718 / Steel
54	Spring	1	1.1200 / Carbon steel
61	Ball washer	1	1.3541/1.4401 / Hardened St

Drawing

Options

Item	Denomination	Q	DIN/ASME

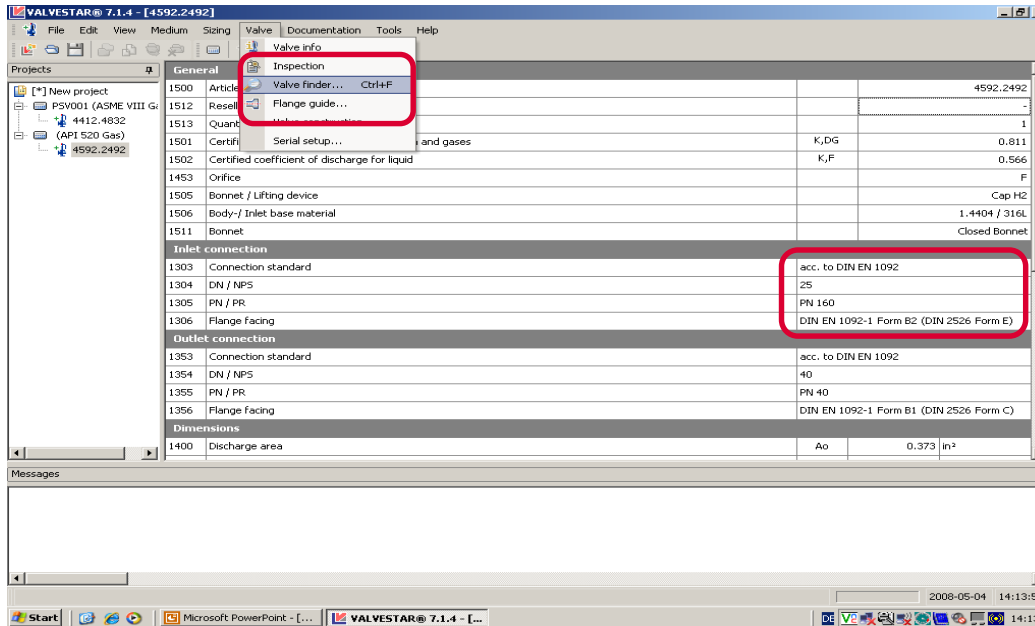
Current Page No: 1 Total Page No: 1 Zoom Factor: 100%

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is different to a report or one-page report?

The product datasheet is also available without sizing, with the feature “Valve finder”



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is different to a report or one-page report?

All possible options are listed and shown

LESER The-Safety-Valve.com

Productdatasheet

Valve Design and Dimensions
LESER-Art.-No. 4592-2492
Productgroup Compact Performance
Design Type
Code base
Flow diameter d0 17.5 0.689 mm/inch
Orifice
a 55.5 2.185 mm/inch
b 75 2.953 mm/inch
c 22 0.866 mm/inch
S1 mm/inch
S2 mm/inch
H 804.5 11.988 mm/inch
M 31 6.614 kg/lb

Valve Partlist

Item	Denomination	Q	DIN/ASME
1	Inlet body	1	1.4404 / 316L
2	Outlet body	1	1.0619 / SA 216 WCB
7	Disc	1	1.4122 / Hardened Stainless
8	Guide	1	1.0601 / 1.0038 / 1.104 / Steel
9	Bonnet	1	1.0619 / SA 216 WCB
12	Spindle	1	1.4021 / 420
18	Adjusting screw	1	1.4104 / SA 479-430
40	Cap H2	1	1.0718 / Steel
54	Spring	1	1.1200 / Carbon steel
61	Ball washer	1	1.3541 / 1.4401 / Hardened St

Drawing

Options

H29	325	344
348	349	L20

Current Page No: 1 Total Page No: 1 Zoom Factor: 100%

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the report one-page-vertical ?

This report is an advanced one-page report with additional data which are necessary for completeness

The screenshot shows the VALVESTAR software interface. A menu is open over the 'General' tab, listing various report options. The 'Product datasheet-overview' option is highlighted. Below the menu, a table displays technical data for a valve assembly.

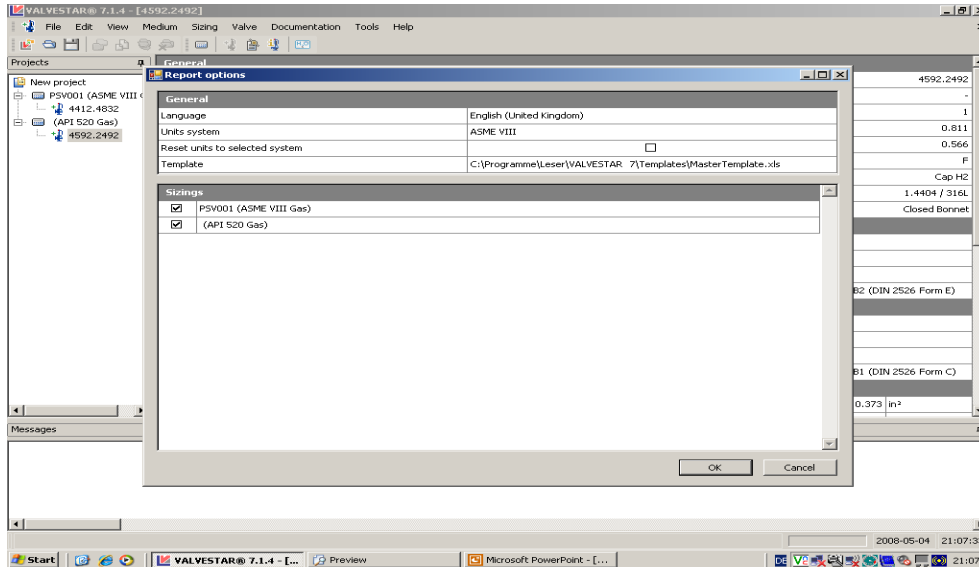
Item	Description	Value
1500	Article number	4592.2492
1512	Reseller article	-
1513	Quantity of sale	1
1501	Certified coeff	K,DG 0.811
1502	Certified coeff	K,F 0.566
1453	Orifice	F
1505	Bonnet / Lifting	Cap H2
1506	Body- / Inlet bo	1.4404 / 316L
1511	Bonnet	Closed Bonnet
Inlet connection		
1303	Connection standard	acc. to DIN EN 1092
1304	DN / NPS	25
1305	PN / PR	PN 160
1306	Flange facing	DIN EN 1092-1 Form B2 (DIN 2526 Form E)
Outlet connection		
1353	Connection standard	acc. to DIN EN 1092
1354	DN / NPS	40
1355	PN / PR	PN 40
1356	Flange facing	DIN EN 1092-1 Form B1 (DIN 2526 Form C)
Dimensions		
1400	Discharge area	Ao 0.373 in²

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the report onepage-vertical ?

This report is available as xls-file to change data for future redesign. The source of template is preset.

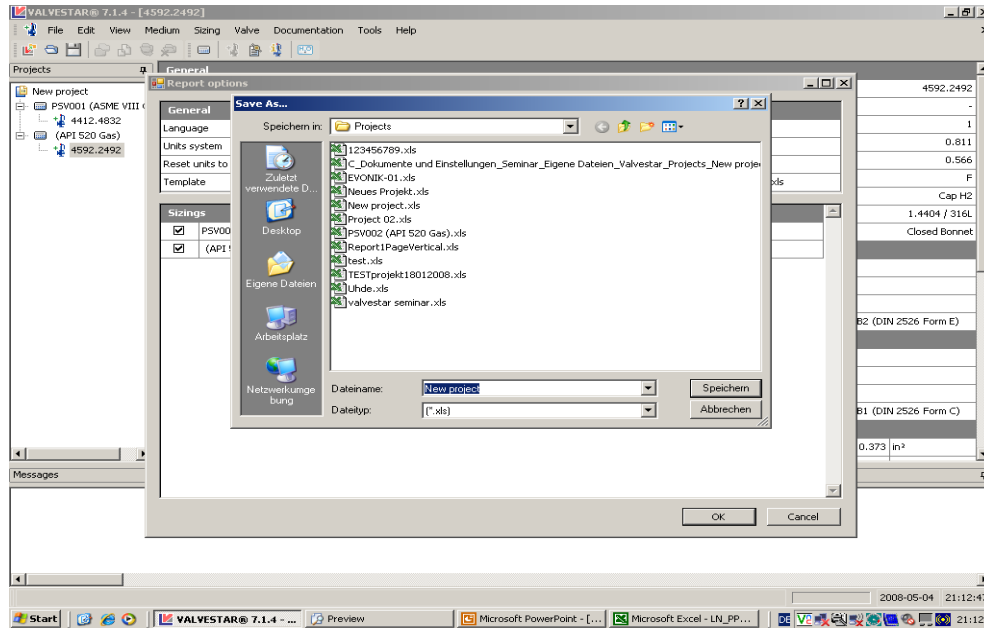


Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the report one-page-vertical ?

Define a file

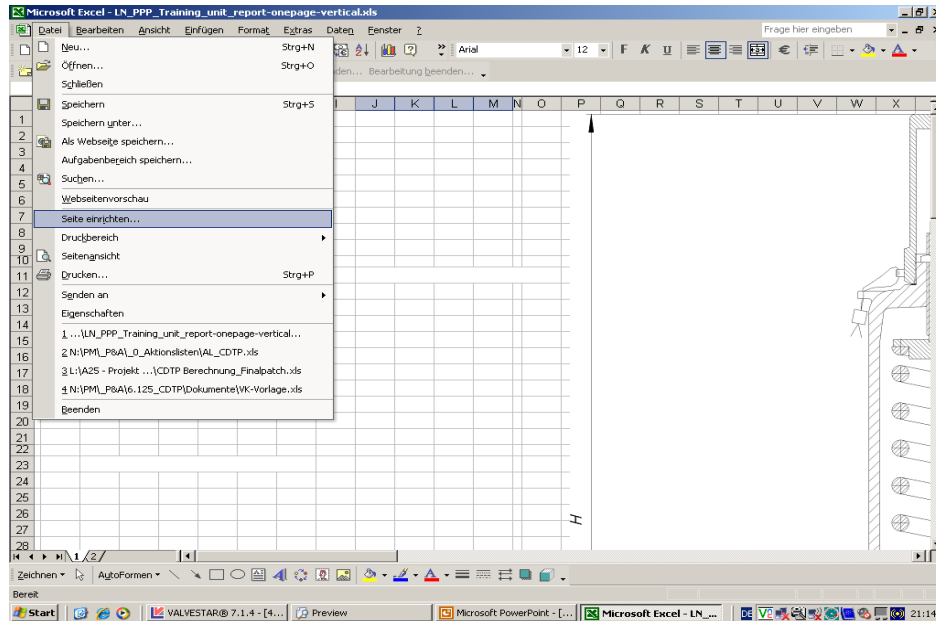


Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the report one-page-vertical ?

The page has to be adjusted to an A4-format

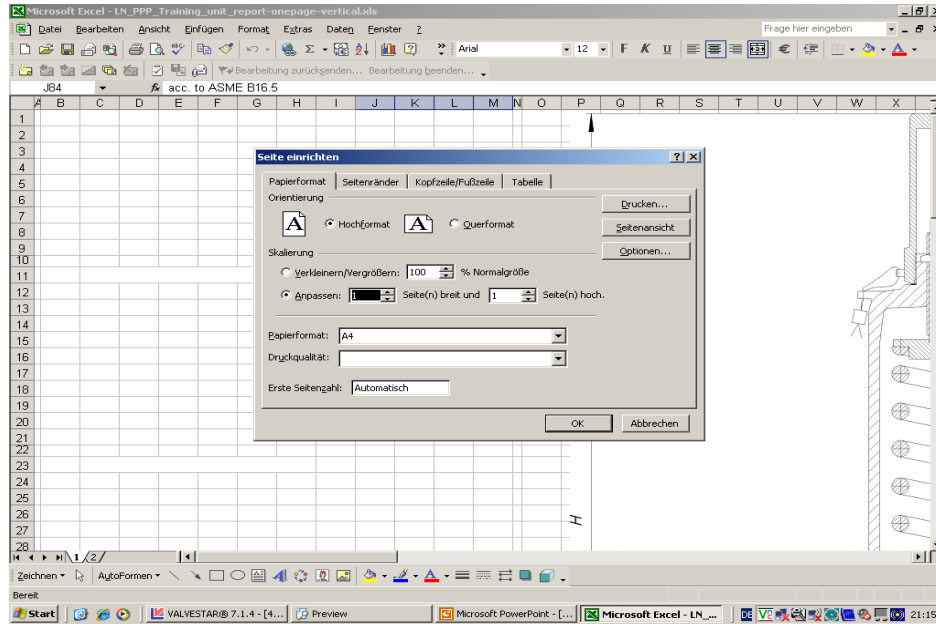


Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the report one-page-vertical ?

The page has to be adjusted to an A4-format



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the report one-page-vertical ?

The EXCEL-file can be added with additional data from user. Main data are picked from sizing data

The screenshot displays a Microsoft Excel spreadsheet titled "Microsoft Excel - LN_PPP_Training_unit_report-onepage-vertical.xls". The spreadsheet is divided into several sections:

- Design and Dimensions:** Includes fields for REF: Art.-No. (4412 4832), Rep. Art.-No. (CUSTOM VALVE 1234), Order Code (4412.4832-15 psi-g H65H179-3.1), Design Type, Code Basis, and Other basis. It also features a table for Set pressure, Cold diff. test pres, Flow diameter, Orifice, Dimension, and Weight.
- Valve Partlist:** A table with columns: Item, Description, qty., Recommended Spare Subject No., DIN / ASME, and MTC. It lists various components like Body, Seat, Disc, Guide, Bonnet, Spindle, Split ring, Spring plate, Adjusting screw, Lock nut, Is ap H2, Spring, Bolt, Nut, Pin, Securing ring, and Gasket.
- Technical Specifications:** Includes a table for DIN, PN, Facing, and Standard, and a section for Revision.
- LESER Logo and Branding:** The LESER logo is prominently displayed, along with the text "The Safety-Valve.com".
- Order and Project Information:** Includes fields for Order No., Job / Item, Serial No., Consignee, P.O. / Item, P.O.n, P.O.n, E-Mail, and Project No. (PSV001).

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is the feature “name plate”?

Three current nameplates

are printed in the

“report full-version”

The screenshot displays a software window with a toolbar at the top and a main content area. The main content area is divided into three sections, each showing a different type of nameplate for a valve. The top section is the ASME nameplate, the middle is the DIN nameplate, and the bottom is the World nameplate. The ASME nameplate includes the LESER logo, type number 4412.4832, size 1 1/2"x2 1/2", and pressure ratings. The DIN nameplate shows the LESER logo, type number 4412.4832, and various technical specifications. The World nameplate is a detailed table of specifications including flow area, set pressure, back pressure, CDTP, temperature, lift, steam flow, gas flow, and liquid flow.

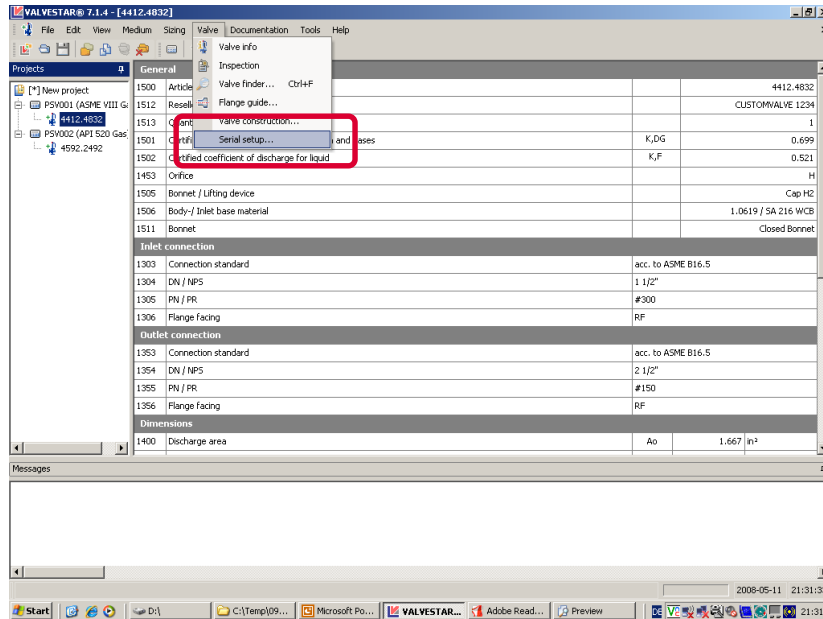
Tag	PSV001
Type	4412.4832
Size	1 1/2"
Serial no.	
Flow area	1075 mm ²
d _s	37.0 mm
Seat	316L
Set p.	1.03 bar
Back p.	0.00 bar
CDTP	1.03 bar
Temp.	20.00 °C
	15.00 psig
	0.00 psig
	15.00 psig
	68.00 °F
TUV-SV	Lift 9.00 mm
ISO 4126-1	ASME-Cap.
04-576	Steam 0.70
	1870 lbs/hr
Date	Gas 0.70
	684 SCFM
	Liquid 0.52
	140 GPM
H65H79	

Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

How can I add data to the initial “name plate”?

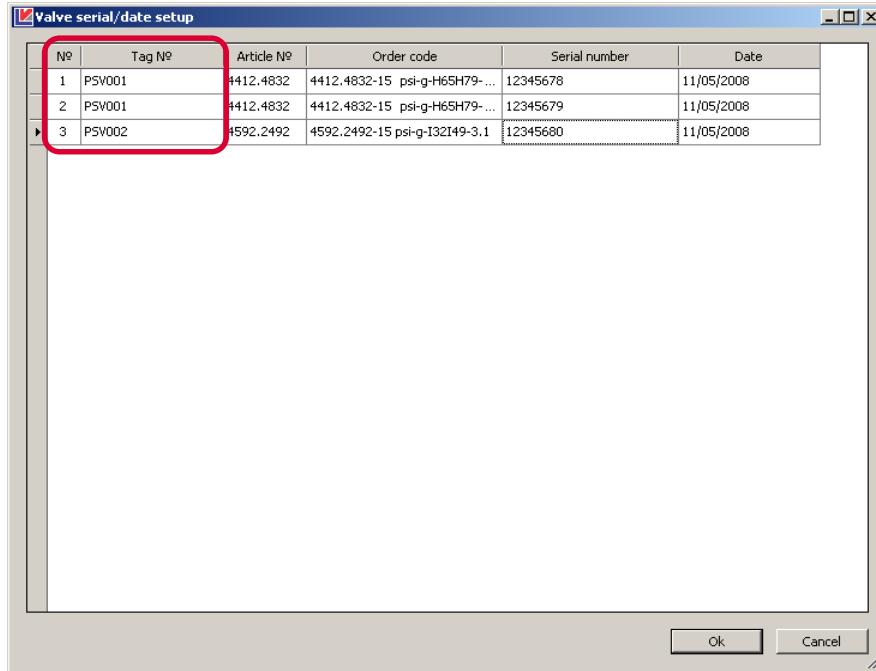
It is possible to add serial numbers and date of delivery later



Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

How can I add data to the initial “name plate”?



The screenshot shows a dialog box titled "Valve serial/date setup" with a table containing the following data:

No	Tag No	Article No	Order code	Serial number	Date
1	PSV001	4412.4832	4412.4832-15 psi-g-H65H79-...	12345678	11/05/2008
2	PSV001	4412.4832	4412.4832-15 psi-g-H65H79-...	12345679	11/05/2008
3	PSV002	4592.2492	4592.2492-15 psi-g-I32I49-3.1	12345680	11/05/2008

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Reporting.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

After adding, what is new on “name plate”?

90%

VALVESTAR® - v.7.1.4_06_07.0 Tag No: PSV001
LESER Job No:

ASME nameplate

TYPE 4412.4832
LESER
CDTP 15 psig set-p 15 psig
12345678 05/08
back-p 0 psig
UV
CE
0045

This nameplate is valid for additional serial numbers, 12345679

DIN nameplate

LESER 4412.483 05/08 TUV-SV
12345678 04-576
D0 37.0 D/G 0.70 F 0.52
CE
0045
15 psig

This nameplate is valid for additional serial numbers, 12345679

World nameplate

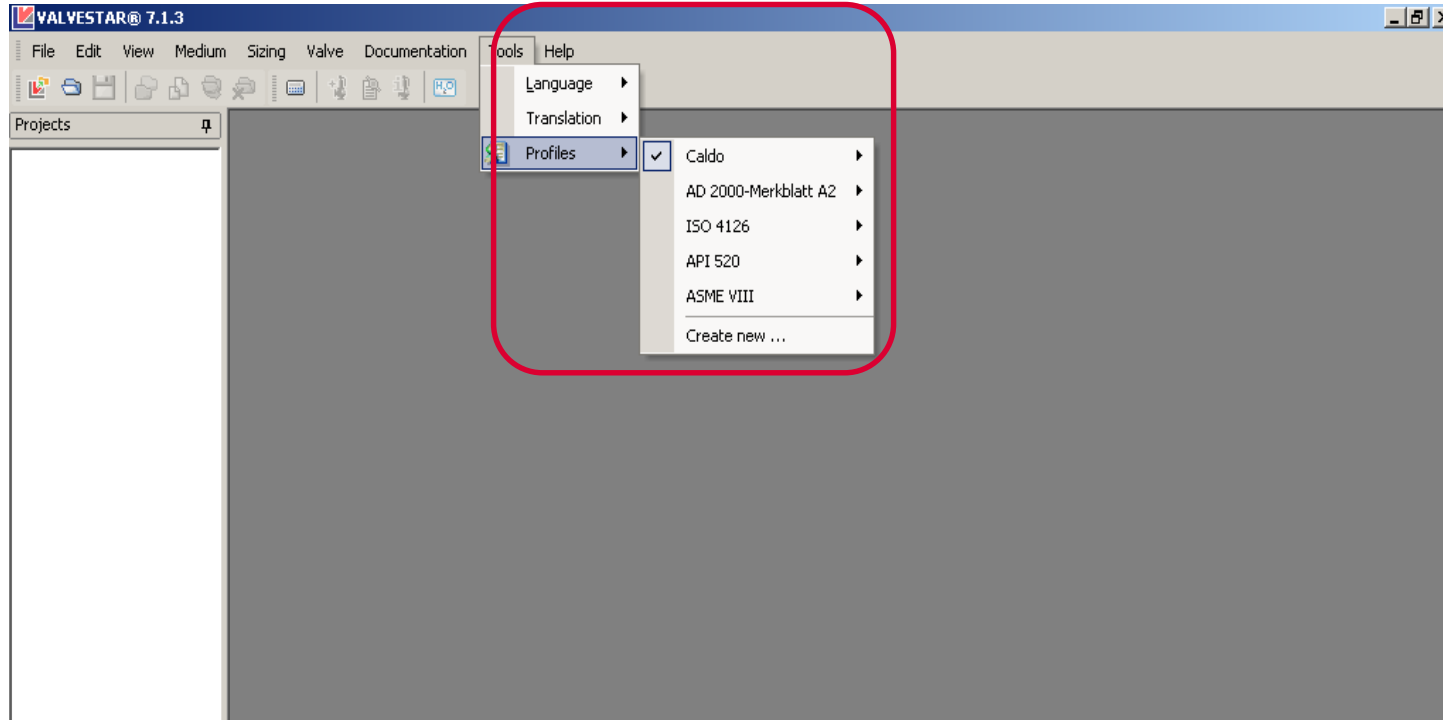
LESER Tag PSV001
Type 4412.4832 Size 1 1/2" Serial n. 12345678
Flow area 1075 mm² d₀ 37.0 mm
Set p. Back p. CDTP Temp.
bar 1.03 0.00 1.03 20.00 °C
psig 15.00 0.00 15.00 68.00 °F
TUV-SV Lift 9.00 mm ISO 4126-1 ASME-Cap.
04-576 Steam 0.70 1870 lbs/hr
Date Gas 0.70 684 SCFM
05/08 Liqui 0.52 140 GPM
H65H79

This nameplate is valid for additional serial numbers, 12345679

Total Page No: 6 Zoom Factor: 80%

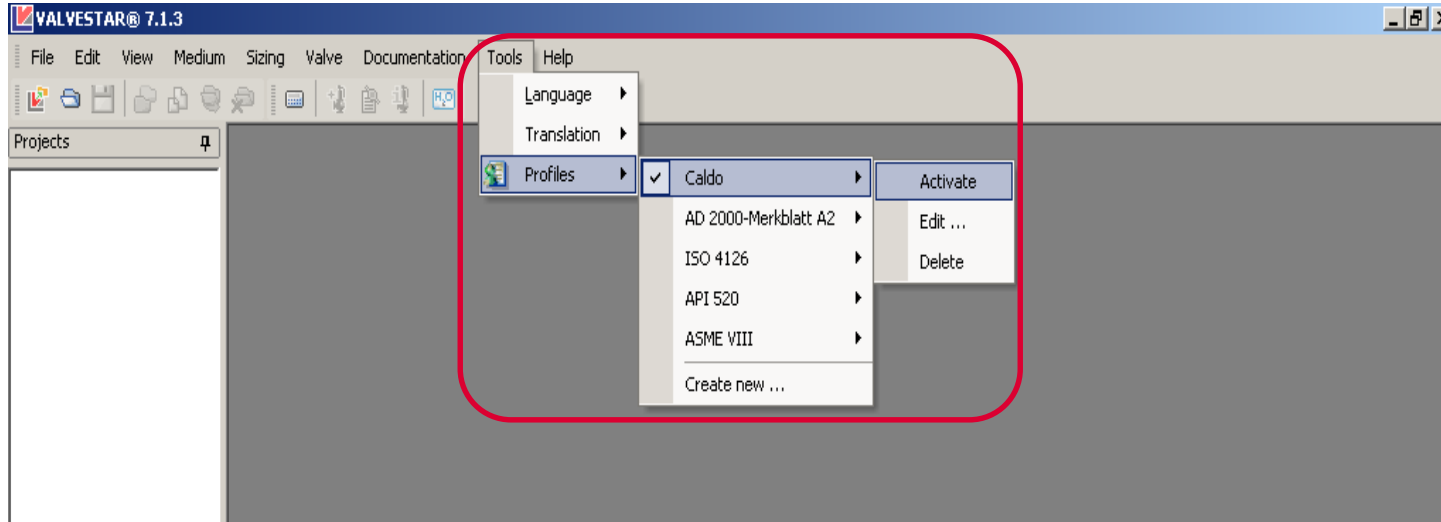
Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

The screenshot shows a 'Profile' dialog box with the following fields and values:

Field	Value
Company	LESER GmbH & Co. KG
Street	
City	
Zip	
State	
Country	
E-mail	
Phone	
Phone mobile	
Fax	
Company logo	LESER The-Safety-Valve.com
Company logo 2	LESER The-Safety-Valve.com

Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

The screenshot shows the 'Profile' dialog box with the 'User information' tab selected. The 'User name' field is highlighted with a red box. The fields are as follows:

User name	Andreas Caldonazzi
Short name for revision	Caldo
E-mail	
Phone	
Phone mobile	
Fax	
Approved by customer	

Name	Default user	Andreas Caldonazzi			
Date	08/15/2007 07:25:16	08/17/2007 11:47:28			
Rev.No	1	2			

The screenshot shows the 'Profile' dialog box with the 'Configuration' tab selected. The 'Application mode' dropdown menu is highlighted with a red box. The fields are as follows:

Environmental pressure		1,013 bar
Decimal separator	,	
Group separator	.	
Application mode	Super user	
Isentropic exponent source	DIN EN ISO 4126-1	
Default sizing standard	DIN EN ISO 4126-1	
Default volume flow standard	DIN ISO 2533	
Projects storage	N:\PMI_MA\Cal	
Default paper size	A4	
Automatic updates	Daily	

Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

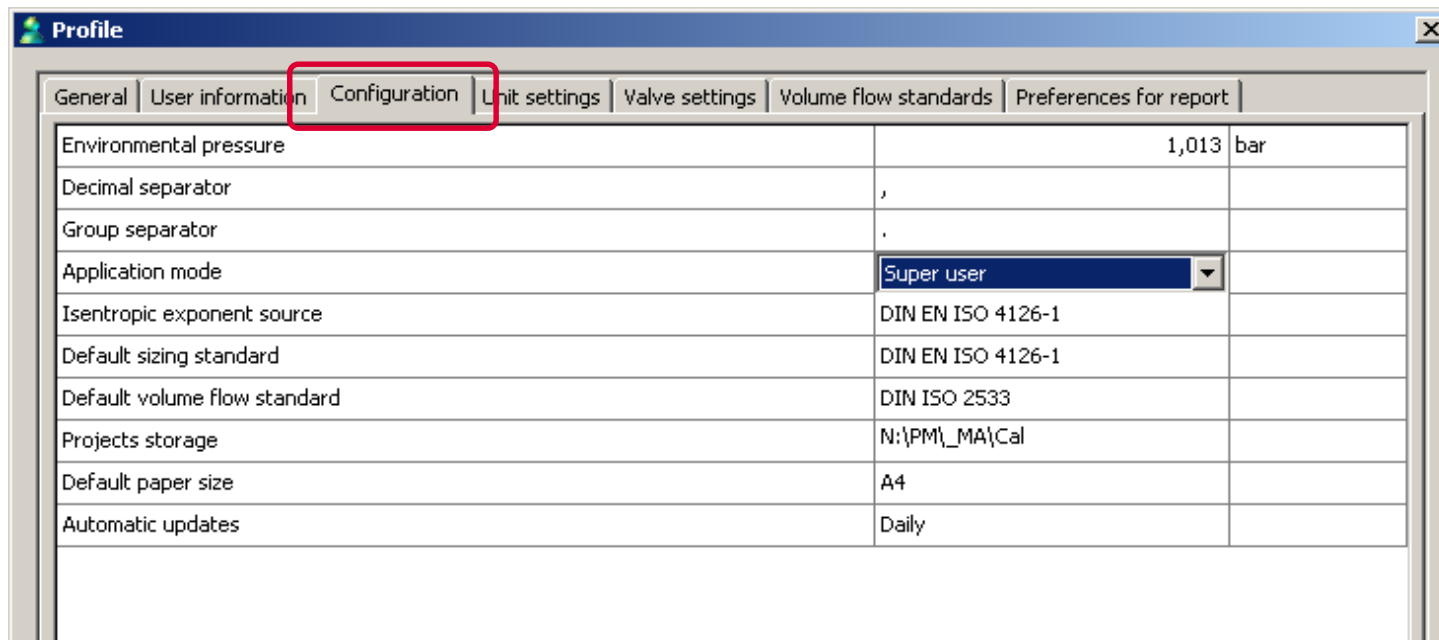
The screenshot shows a software window titled 'Profile' with a tabbed interface. The 'User information' tab is selected and highlighted with a red box. The form contains the following fields:

User name	Andreas Caldonazzi
Short name for revision	Caldo
E-mail	
Phone	
Phone mobile	
Fax	
Approved by customer	

Name	Default user	Andreas Caldonazzi		
Date	08/15/2007 07:25:16	08/17/2007 11:47:28		
Rev.No	1	2		

Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



The screenshot shows a software window titled "Profile" with a close button in the top right corner. Below the title bar is a tabbed interface with the following tabs: "General", "User information", "Configuration" (highlighted with a red box), "Unit settings", "Valve settings", "Volume flow standards", and "Preferences for report". The "Configuration" tab is active and displays a table of settings.

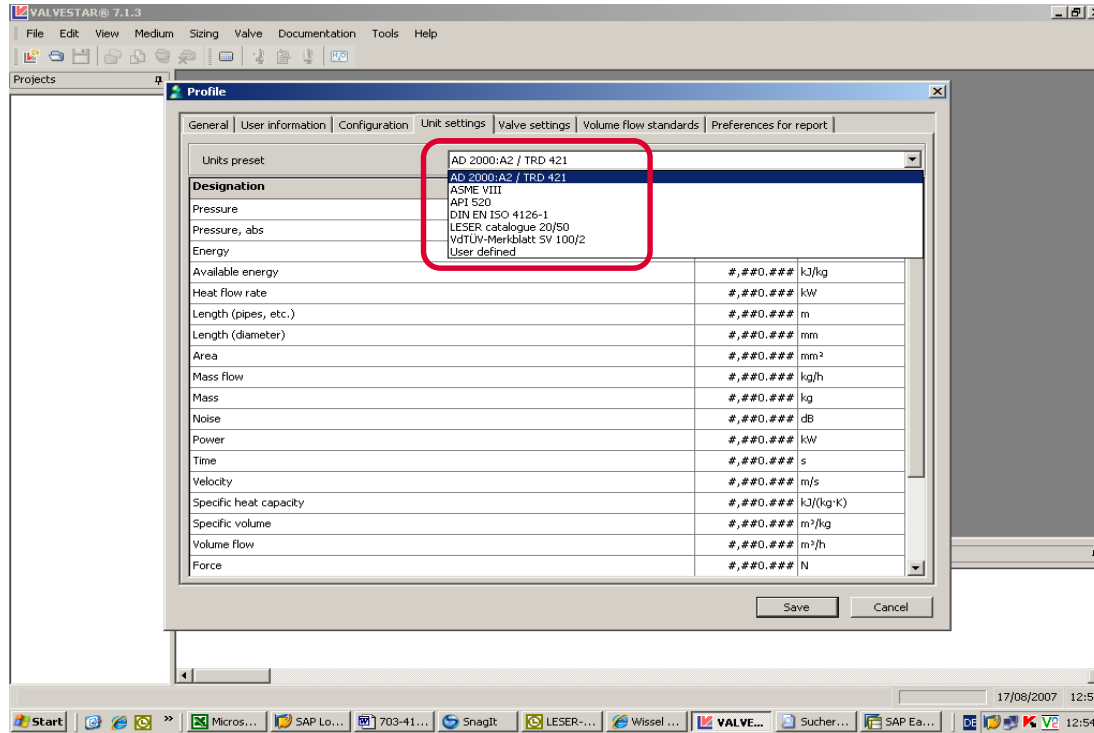
Environmental pressure	1,013 bar
Decimal separator	,
Group separator	.
Application mode	Super user
Isentropic exponent source	DIN EN ISO 4126-1
Default sizing standard	DIN EN ISO 4126-1
Default volume flow standard	DIN ISO 2533
Projects storage	N:\PM_MA\Cal
Default paper size	A4
Automatic updates	Daily

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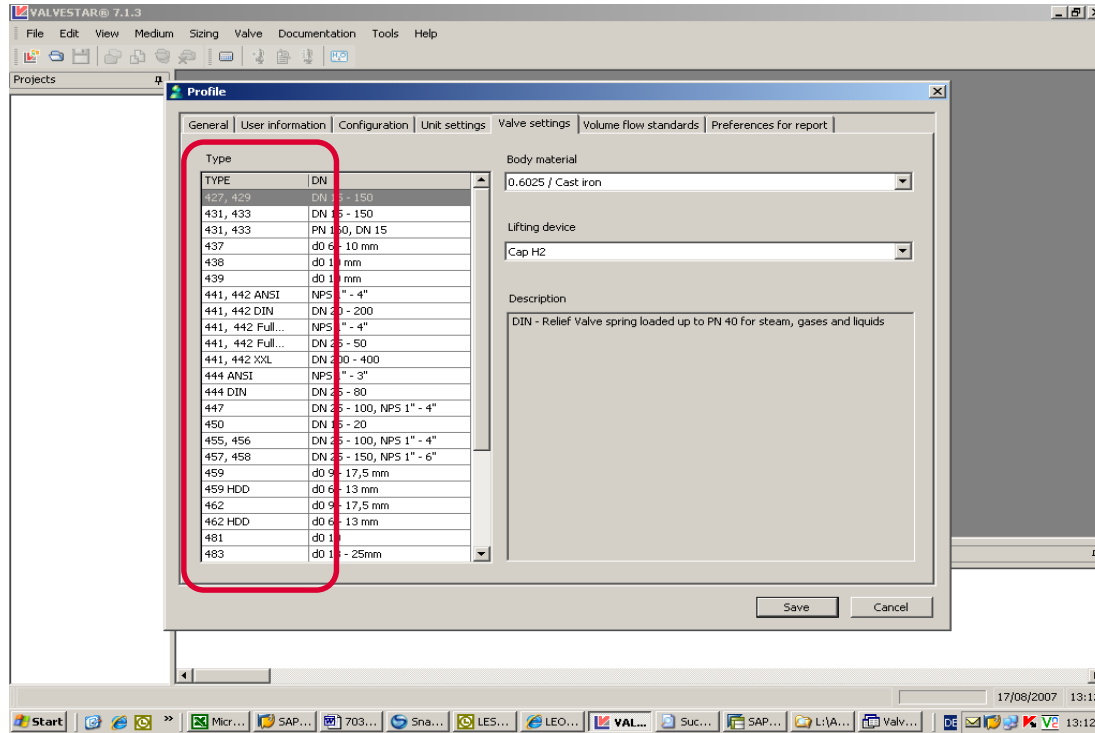
Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



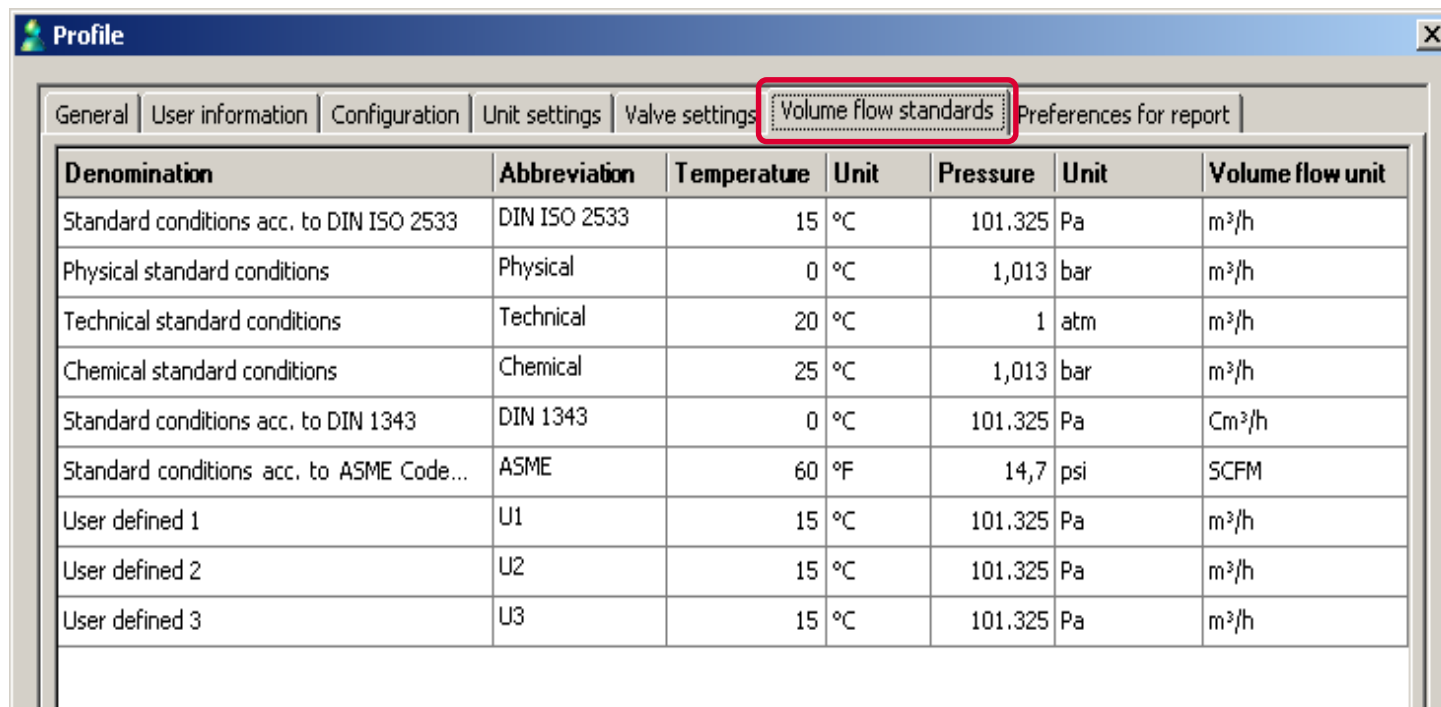
Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



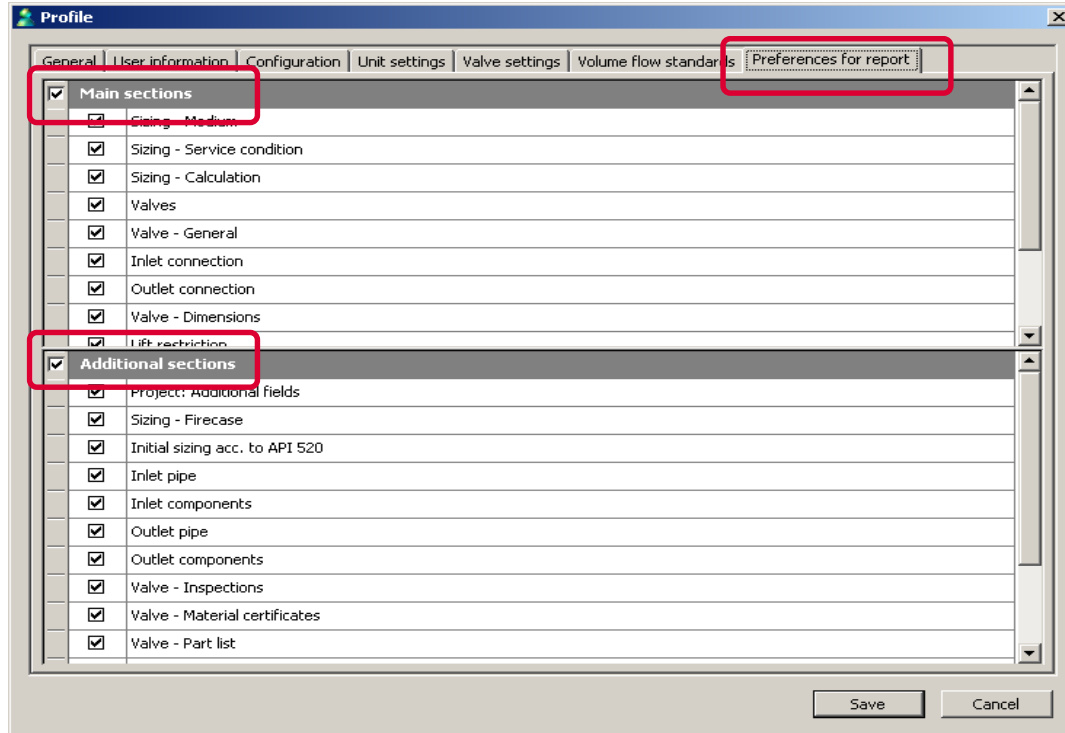
Denomination	Abbreviation	Temperature	Unit	Pressure	Unit	Volume flow unit
Standard conditions acc. to DIN ISO 2533	DIN ISO 2533	15 °C		101.325	Pa	m³/h
Physical standard conditions	Physical	0 °C		1,013	bar	m³/h
Technical standard conditions	Technical	20 °C		1	atm	m³/h
Chemical standard conditions	Chemical	25 °C		1,013	bar	m³/h
Standard conditions acc. to DIN 1343	DIN 1343	0 °C		101.325	Pa	Cm³/h
Standard conditions acc. to ASME Code...	ASME	60 °F		14,7	psi	SCFM
User defined 1	U1	15 °C		101.325	Pa	m³/h
User defined 2	U2	15 °C		101.325	Pa	m³/h
User defined 3	U3	15 °C		101.325	Pa	m³/h

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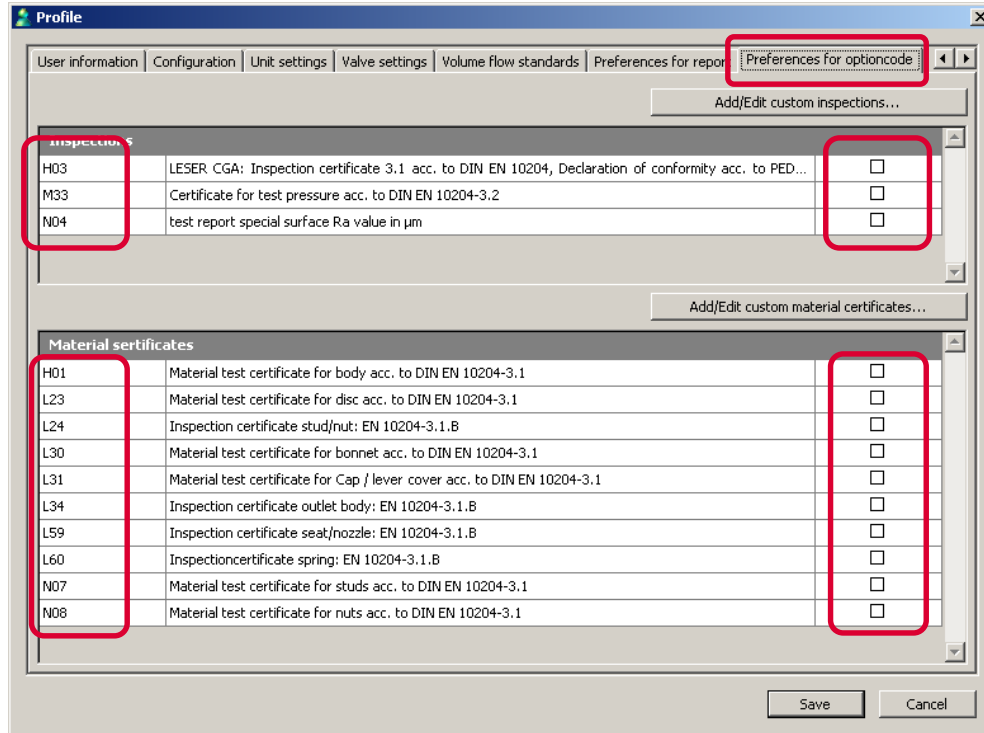
Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



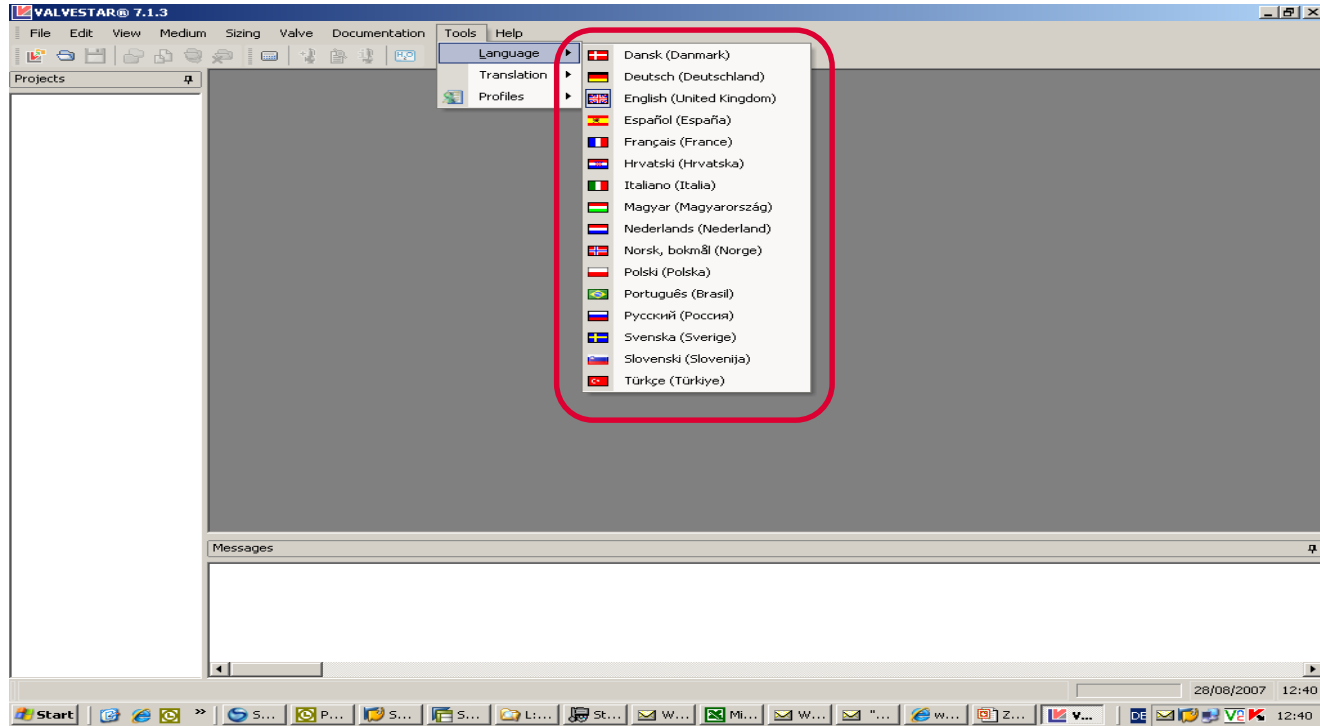
Settings. Profiles.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



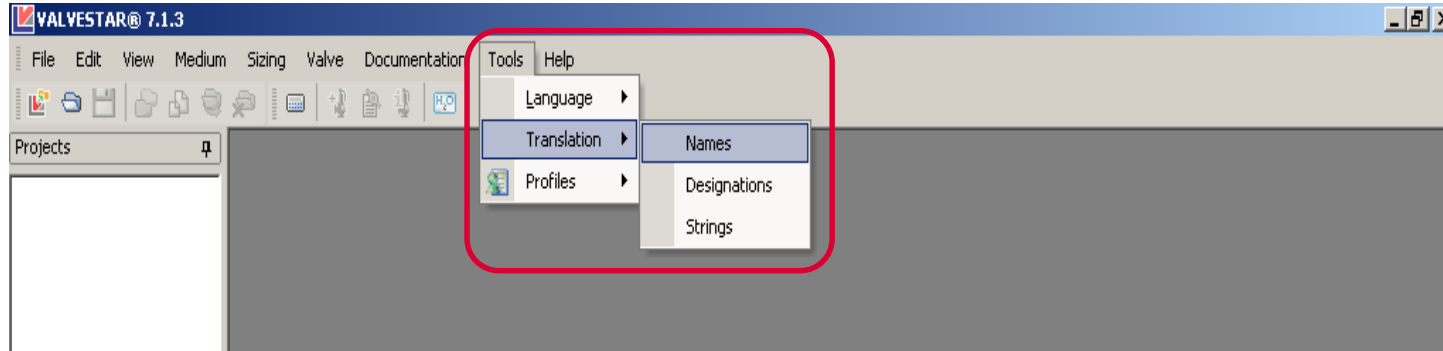
Language.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. **[Reporting and Settings](#)** | 7. [Translation](#) | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)



Translation.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. [Reporting and Settings](#) | 7. **Translation** | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)

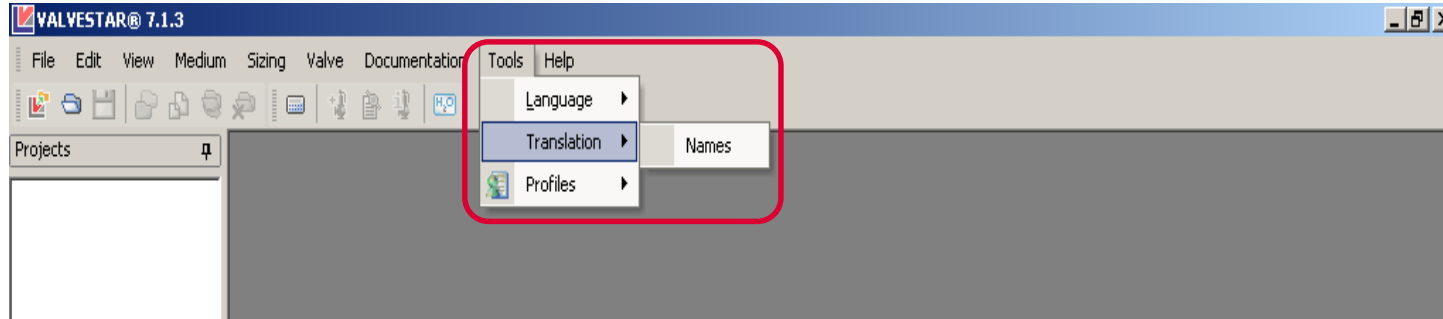


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Translation.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. [Reporting and Settings](#) | 7. **Translation** | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. [Internet](#) | 11. [Spares](#)



How to change data.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

The screenshot displays the VALVESTAR@ 7.1.3 software interface. The main window shows a project tree on the left and a data table for 'PSV 005 (ASME VIII Gas)'. The 'Service condition' section is highlighted with a red box, showing the following data:

Tag No.	Parameter	Value	Unit
1100	Maximum allowable working pressure (MAWP)		psi-g
1101	Set pressure	15	psi-g
1102	Superimposed back pressure	0	psi-g
1103	Built up back pressure		psi

The 'Medium' section shows the following data:

Tag No.	Parameter	Value	Unit
1000	Designation	Butane (n)	
1004	Formula	C4 H10	
1001	Molar mass	M	58,1 kg/kmol
1002	Ratio of specific heats	k	1,090
1003	Compressibility factor	Z	1,000

How to change data.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

VALVESTAR@ 7.1.3 - [5262.5902]

File Edit View Medium Sizing Valve Documentation Tools Help

Projekte

- [*] Project 2007
 - PSV 001 (ASME VIII Gas)
 - 5262.5902
 - PSV 002 (ASME VIII Gas)
 - 5262.5902
 - PSV 003 (ASME VIII Gas)
 - 5262.5902
 - PSV 004 (ASME VIII Gas)
 - 5262.5902
 - PSV 005 (ASME VIII Gas)
 - 5262.5902

General			
1500	Article number		5262.5902
1501	Certified coefficient of discharge for steam and gases	K,DG	0,801
1502	Certified coefficient of discharge for liquid	K,F	0,579
1453	Orifice		N
1505	Bonnet / Lifting device		Cap H2
1506	Body material		1.0619 / SA 216 WCB
1511	Bonnet		Closed Bonnet
Inlet connection			
1303	Connection standard		acc. to ASME B16.5
1304	DN / NPS		4"
1305	PN / PR		#150
1306	Flange facing		RF
Outlet connection			
1353	Connection standard		acc. to ASME B16.5
1354	DN / NPS		6"
1355	PN / PR		#150
1356	Flange facing		RF
Dimensions			
1400	Discharge area	Ao	5,303 in²
1401	Discharge diameter	do	2,598 inch
1402	Centre to Face dimensions	a	7,756 inch

Nachrichten

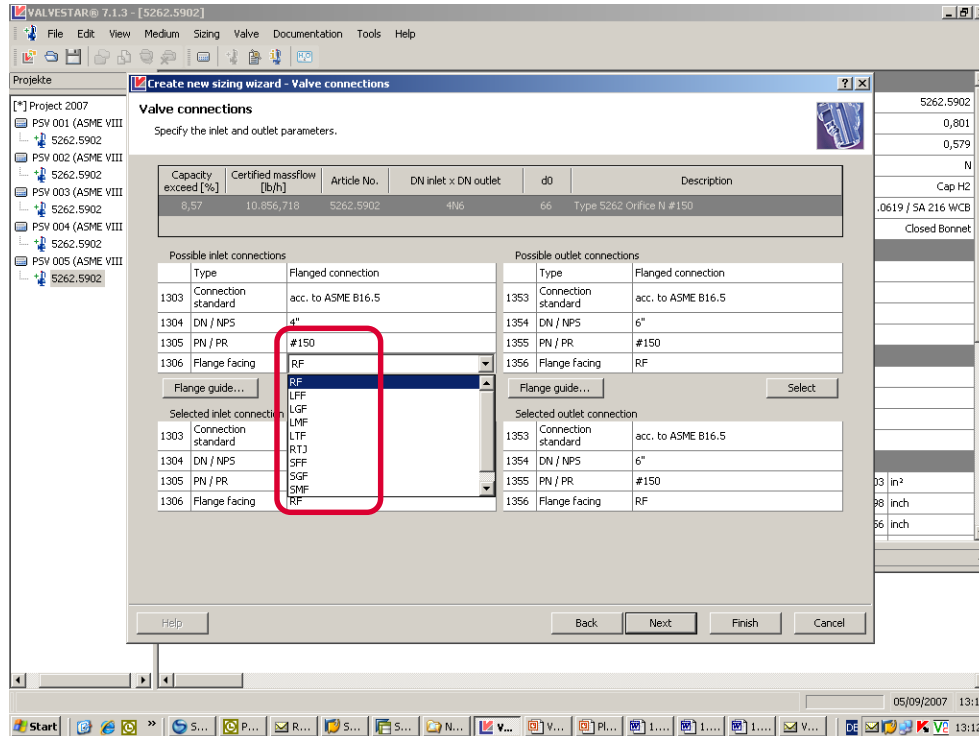
05/09/2007 13:06

Start S... P... R... S... N... V... Pl... 1... 1... 1... V... DE 13:06

Not possible to change

How to change data.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares



How to change data.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. **Data Change** | 9. Copy and Paste | 10. Internet | 11. Spares

How to manually input a reseller article no.

First: Do a standard sizing

The screenshot shows the VALVESTAR 7.1.4 software interface. The main window displays a table of project parameters. The table is organized into sections: General, Inlet connection, Outlet connection, and Dimensions. The 'General' section includes fields for Article number (4412.4832), Reseller article number, Quantity of safety valve (1), Certified coefficient of discharge for steam and gases (Kv,DG 0.699), Certified coefficient of discharge for liquid (Kv,F 0.521), Orifice (H), Bonnet / Lifting device (Cap H2), Body-/ Inlet base material (1.0619 / SA 216 WCB), and Bonnet (Closed Bonnet). The 'Inlet connection' section includes Connection standard (acc. to ASME B16.5), DN / NPS (1 1/2"), PN / PR (#300), and Flange facing (RF). The 'Outlet connection' section includes Connection standard (acc. to ASME B16.5), DN / NPS (2 1/2"), PN / PR (#150), and Flange facing (RF). The 'Dimensions' section includes Discharge area (Ao 1.667 in²). The interface also shows a Messages pane at the bottom and a status bar with the date 2008-05-04 and time 13:03:24.

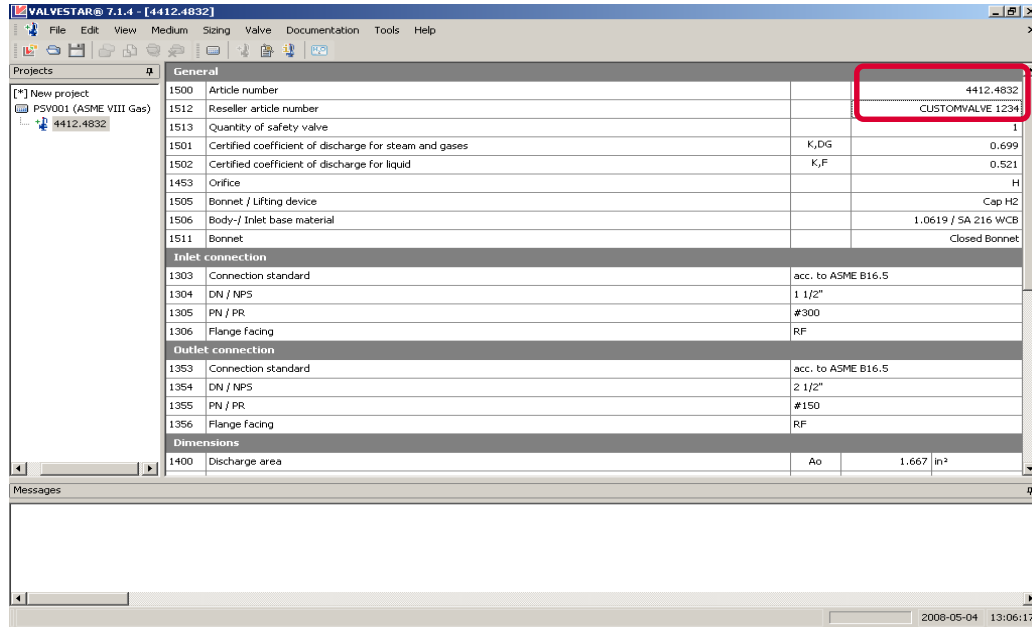
Item	Parameter	Value
1500	Article number	4412.4832
1512	Reseller article number	-
1513	Quantity of safety valve	1
1501	Certified coefficient of discharge for steam and gases	Kv,DG 0.699
1502	Certified coefficient of discharge for liquid	Kv,F 0.521
1453	Orifice	H
1505	Bonnet / Lifting device	Cap H2
1506	Body-/ Inlet base material	1.0619 / SA 216 WCB
1511	Bonnet	Closed Bonnet
Inlet connection		
1303	Connection standard	acc. to ASME B16.5
1304	DN / NPS	1 1/2"
1305	PN / PR	#300
1306	Flange facing	RF
Outlet connection		
1353	Connection standard	acc. to ASME B16.5
1354	DN / NPS	2 1/2"
1355	PN / PR	#150
1356	Flange facing	RF
Dimensions		
1400	Discharge area	Ao 1.667 in²

How to change data.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. **Data Change** | 9. Copy and Paste | 10. Internet | 11. Spares

How to manually input a reseller article no.

Second: Add a reseller article no.



Copy and Paste.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

The screenshot shows the VALVESTAR 7.1.3 software interface. The 'Edit' menu is open, and the 'Copy' option (Ctrl+C) is highlighted with a red rectangular box. The main window displays a table of properties for a medium, with a 'Nachrichten' (Messages) pane at the bottom.

Medium			
1000	Designation		Butane (n)
1004	Formula		C4 H10
1001	Molar mass	M	58,1 kg/kmol
1002	Ratio of specific heats	k	1,090
1003	Compressibility Factor	Z	1,000
Service condition			
1100	Maximum allowable working pressure (MAWP)	MAWP	- psi-g
1101	Set pressure	p	15 psi-g
1102	Superimposed back-pressure	paf	0 psi-g
1103	Built up back pressure	paе	- psi
1104	Backpressure		0 psi-g
1105	Overpressure	dp	3,00 psi
1106	Environmental pressure	pu	14,696 psi
1107	Temperature	T	400 °F
1108	Required massflow	qm,ab	10.000 lb/h
1109	Volume flow to be discharged (working condition)	qv,ab	48.564,256 ft³/h
1110	Volume flow to be discharged (std condition) [T=60 °F P=14,7 psi]	qvn,ab	1.088,13 SCFM
	Default volume flow standard		ASME

Copy and Paste.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

The screenshot shows the VALVESTAR 7.1.3 software interface. The left pane displays a project tree with 'Project 2008' selected. The right pane shows the 'Additional fields' table for 'Project 2008'.

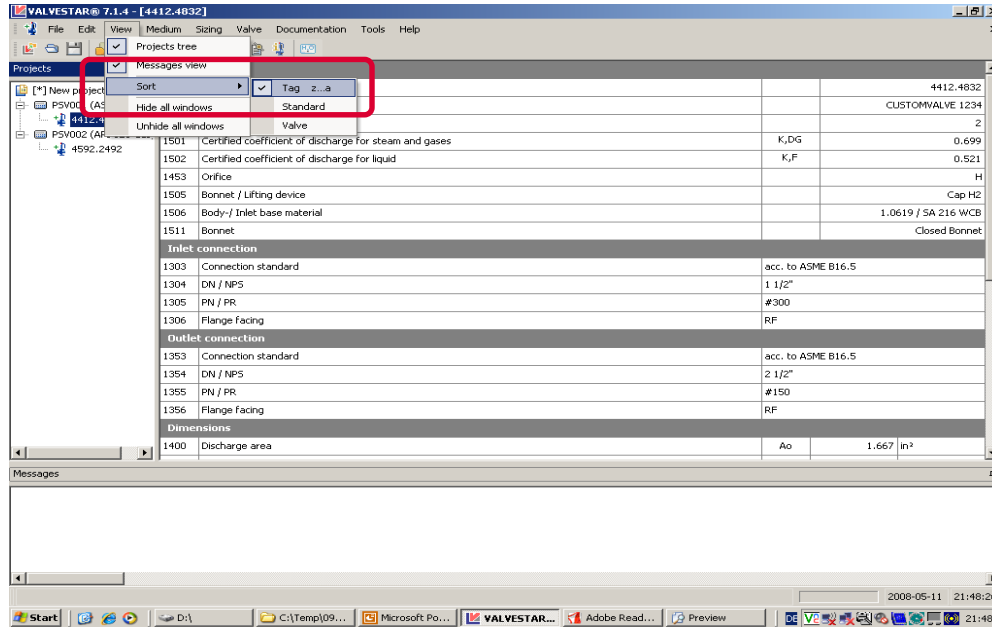
	Designation	Value
2002	LESER Job N°	
2004	Customer	
2001	Client	
2012	Project site	
2010	Plant	
2008	Location	
2003	Contractor	
2011	Project reference	
2005	Doc N°	
2009	Place of installation	
2007	Job N°	
2006	Protected equipment	

How to change data.

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What are the features for better handling?

Sort function in menu "View"

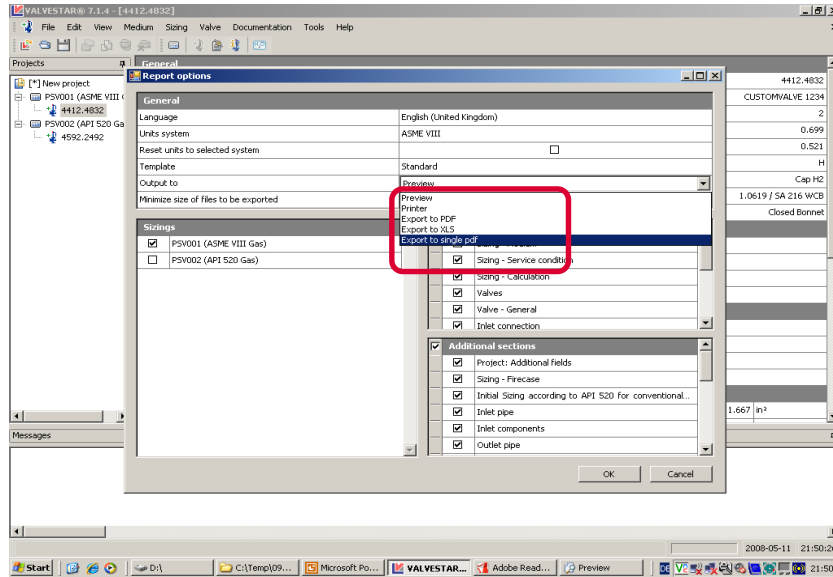


How to change data.

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What are the features for better handling?

Printing in one pdf-file for all sizings of one project can be done with documentation
“report full-version”



How to change data.

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Where is the pdf-filed automatically?

Filed in the project storage”

The screenshot shows the Adobe Reader interface displaying a PDF document titled "New project.pdf". The document contains technical data for a valve sizing calculation, including a header with the LESER logo and project details, and three main data tables: Sizing - Medium, Sizing - Service condition, and Sizing - Calculation.

LESER		Sizing acc. to ASME VIII for Gas VALVESTAR® - v.7.1.4_06_07.0		Page:	1 of 6
The-Safety-Valve.com				Date:	2008-05-04 13:00:55
				Project:	New project
				Tag No.:	PSV001
				LESER Job No.	

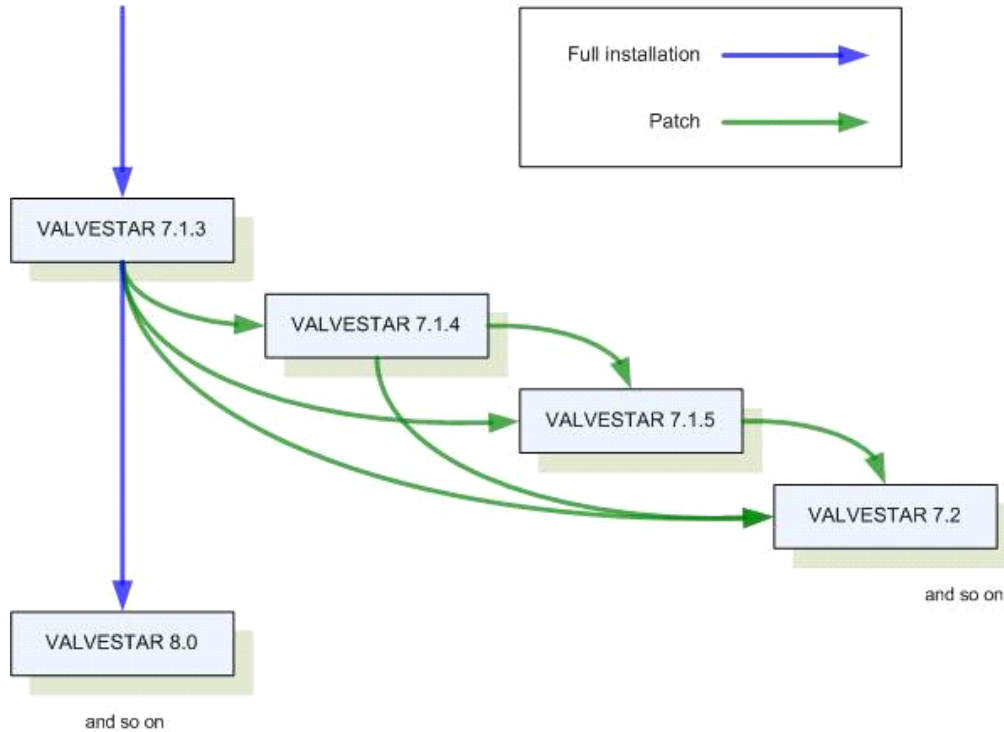
Sizing - Medium				
1000	Designation			Air
1004	Formula			
1001	Molar mass	M		29 kg/kmol
1002	Ratio of specific heats	k		1.400
1003	Compressibility factor	Z		1.000

Sizing - Service condition				
1100	Maximum allowable working pressure			
1101	Set pressure	p		15 psi-g
1102	Superimposed back pressure	paf		0 psi-g
1103	Built up back pressure	pae		
1104	Backpressure			0 psi-g
1105	Overpressure	dp		3.000 psi
1106	Environmental pressure	pu		14.696 psi
1107	Temperature	T		68 °F
1108	Required massflow	qm,ab		2,500 lb/h
1109	Volume flow to be discharged (working condition)	qv,ab		14,930.196 ft³/h
1110	Volume flow to be discharged (std condition) [T=60 °F P=14.7 psi]	qvm,ab		545.003 SCFM
1120	Rupture disc correction factor	Kc		1.000

Sizing - Calculation				
1200	Certified massflow	qm,zu		3,030.786 lb/h
1201	Certified volumeflow (operating condition)	qv,zu		18,100.09 ft³/h

Update via Internet.

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Update via Internet. Homepage – www.leser.com.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

The screenshot shows the LESER website homepage. At the top, there is a navigation bar with the LESER logo and the tagline "The Safety-Valve.com". Below this, there are several menu items: ABOUT LESER, PRODUCTS, SERVICES, TOOLS, NEWS, and CAREER. The main content area features a large image of a valve with a blue handle, and a sidebar with a list of services including Webservices, VALVESTAR®, CERTIFICATES, Acceptance Inspections, Seminars, ONTIME, Catalogue order, Optionfinder, Spare part finder, Order status, and Pressure change. Below the main image, there are sections for "WELCOME TO LESER" and "CONTACTS IN YOUR COUNTRY". The "WELCOME TO LESER" section includes text about safety valves and a link to "LESER PRODUCTS". The "CONTACTS IN YOUR COUNTRY" section lists "LESER GMBH & CO. KG" with a phone number and a link to "All contacts". Below this, there are three more sections: "ENGINEERING" (The technical handbook), "MAINTENANCE" (The maintenance handbook), and "Partner Section" (Here you get to the user login). At the bottom, there is a "NEWS" section.

Update via Internet. www.leser.com/en/services/valvestar.

1. [Introduction](#) | 2. [Sizing](#) | 3. [Fire](#) | 4. [Two Phase](#) | 5. [Add. Sizing](#) | 6. [Reporting and Settings](#) | 7. [Translation](#) | 8. [Data Change](#) | 9. [Copy and Paste](#) | 10. **Internet** | 11. [Spares](#)

The screenshot displays the LESER VALVESTAR website interface. At the top, there is a navigation menu with links for ABOUT LESER, PRODUCTS, SERVICES, TOOLS, NEWS, and CAREER. The main content area is titled 'VALVESTAR®' and includes a description of the software, contact information for Andreas Cabernat, and a list of program highlights. The highlights are categorized into SIZING, DOCUMENTATION, DESIGN TIME USE, PRESETS, and download options. The download options section includes a table with columns for the product name, description, and download link.

VALVESTAR®

VALVESTAR® is the LESER-developed program for sizing of safety valves. It takes into account all leading global standards and codes. In addition to calculation and sizing the program also offers variable, industry-arranged reports for technical documentation and archiving. VALVESTAR® is unique in nature, scope, and quality. More than 1200 users are already using either VALVESTAR® or VALVESTAR® Web.

If you have questions please contact:

Andreas Cabernat
E-Mail: valvestar@leser.com

PROGRAM HIGHLIGHTS

SIZING

- Sizing of safety valves in accordance with the leading global standards and codes (i.e. API 520, ASME Sec. VIII Div. 1, ISO 4120-1/-4, AD 2000-Merkblatt A2).
- Calculation two-phase flow in accordance with API 520 Appendix C and the case according to API 521
- Calculates inlet pressure loss, back pressure, reaction forces, and noise level.

DOCUMENTATION

- Various types of documents are selectable (i.e. Project Reports, single-page reports, and ISA data sheets)
- Customizable report layouts (customer logo, address, etc.)
- Exportable in different data formats (i.e. HLS, HTML, PDF, etc.)
- Integrated parts lists and sectional drawings of all LESER safety valves
- Spare parts lists - spreadsheet

DESIGN TIME USE

- User friendly wizard function leads you step by step through the sizing process
- Microsoft .Net architecture offers the most modern graphical user interface for simple operation and better performance.

PRESETS

Customizable user interface:

- User-specific profile set-up with pre-selectable units of measure, calculation methods, and more...
- More than 15 selectable languages.

THE FOLLOWING OPTIONS ARE AVAILABLE TO YOU:

VALVESTAR®-Web	web-based use of VALVESTAR® without need of administrative rights	to VALVESTAR®-web
Download VALVESTAR®	Download VALVESTAR® 7.3.0 as a program (approx. 200 MB)	Download VALVESTAR® 7.3.0 as a program
Update	Updates your version to VALVESTAR® 7.3.0 (i.e. 10 MB; requires 7.2.3)	Updates your version to VALVESTAR® 7.3.0 (i.e. 10 MB; requires 7.2.3)

CONTACTS IN YOUR COUNTRY

LESER GmbH & Co. KG
Telephone: +49 62 2105 200
[All contacts](#)

ENGINEERING
The technical handbook

MAINTENANCE
The maintenance handbook

VALVESTAR Web - Microsoft Internet Explorer bereitgestellt von LESER GmbH & Co KG

http://www.valvestar.com/UI/MainForm/Workspace/Authentication/Authentication.aspx

LESER The Safety-Valve.com

New user registration Language

About LESER VALVESTAR @

VALVESTAR @, the sizing program for safety valves developed by LESER, supports all leading worldwide codes and standards.

In addition to calculations and sizing the program provides user designed and configurable individual reports for technical documentation and archiving.

VALVESTAR @ is unique in form, functionality and quality.

www.leser.com

Agreement

The VALVESTAR @ software is based on the existing Safety Valve construction standards currently enforced in the Federal Republic of Germany, USA and other countries.

Liability for damages suffered as a result of using VALVESTAR @ is restricted to intention. Any further liability is excluded.

Agree

Authentication (Why Authentication?)

Please provide authentication information

Login:

Password:

Log on **New user registra**

LESER provides authenticated user free disk space at the VALVESTAR server

- to save projects
- to save personally settings

LESER guarantee safe data and do not give data to third party

The Software is for free use, no costs for the user and no user licence is necessary.

javascript:void(0); Internet 100%

Spare Parts.

What is the new feature spare parts?

Two different listings of spare parts are available. Listing while single sizing in the “report full-version” and a spir list of complete project spare parts.

LESER is free to upgrade materials without further notice.

Part number	PosNo	Denomination	Startup	2 year oper.	5 year oper.
210.9939.0000	7	Disc 441 DN 40/ 37	1 per 5 valves	2 per 5 valves	1 per valve
241.1039.0000	12	Spindle 16x 307	0	0	1 per 5 valves
480.0705.0000	57	pin 4x24	15 per 5 valves	30 per 5 valves	15 per valve
500.1007.0000	60	Gasket V40	1 per valve	1 per valve	2 per valve
510.0205.0000	61	Ball D 9	1 per 5 valves	2 per 5 valves	1 per valve

Name AD 2000-Merkblatt A2
Date 2008-05-04 13:00:55
Rev. No. 1

Current Page No: 3 Total Page No: 6 Zoom Factor: 122%

Spare Parts.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is a spir list and how I generate a spir list?

A spir list is a summerize of spare parts which are generated of a complete project. If equal parts are used in different sized valves this will affect the maximum quantity of parts which are shown in the spir list

The screenshot shows the VALVESTAR 7.1.4 software interface. The 'Tools' menu is open, and the 'Spare parts' option is highlighted with a red box. The main window displays a table of service conditions for a valve project.

Service condition			
1100	Maximum allowed		- psi-g
1101	Set pressure	p	15 psi-g
1102	Superimposed back pressure	paf	0 psi-g
1103	Built up back pressure	pae	- psi
1104	Backpressure		0 psi-g
1105	Overpressure	dp	3.00 psi
1106	Environmental pressure	pu	14.696 psi
1107	Temperature	T	60 °F
1108	Required massflow	qm,ab	500 lb/h
1109	Volume flow to be discharged (working condition)	qv,ab	2,986.039 ft ³ /h
1110	Volume flow to be discharged (std condition) [T=60 °F P=14.7 psi]	qv,ab	109.001 SCFM
	Default volume flow standard		ASME

Spare Parts.

1. Introduction | 2. Sizing | 3. Fire | 4. Two Phase | 5. Add. Sizing | 6. Reporting and Settings | 7. Translation | 8. Data Change | 9. Copy and Paste | 10. Internet | 11. Spares

What is a spir list and how I generate a spir list?

The screenshot shows the LESER software interface. A red box highlights the text "Spare parts" and "New project" in the top right corner. Below this, there is a table with columns "Tag No.", "Article No", and "Count".

Tag No.	Article No	Count
PSV001 (ASME VIII Gas) PSV001	4412.4832	1
PSV002 (API 520 Gas) PSV002	4592.2492	1

Below the table is a detailed parts list with columns: "Part number", "Denomination", "Used in types", and "Count" (subdivided into "Startup", "2 year oper.", and "5 year oper.").

Part number	Denomination	Used in types	Count		
			Startup	2 year oper.	5 year oper.
136.3649.9211	Inlet body 459 D017.5 V60	4592.2492	0	0	1
200.2239.9000	Disc 459 D0 17.5	4592.2492	0	0	1
210.9939.9000	Disc 441 DN 40/ 37	4412.4832	0	0	1
241.1039.0000	Spindle 16x 307	4412.4832	0	0	1
242.4539.0000	Spindle 12x 202	4592.2492	0	0	1
480.0505.0000	pin 3x20	4592.2492	3	6	1
480.0705.0000	pin 4x24	4412.4832	3	6	1
500.1007.0000	Gasket V40	4412.4832	1	1	1
500.2407.0000	Gasket T459	4592.2492	1	1	1
510.0105.0000	Ball D 6	4592.2492	0	0	1
510.0205.0000	Ball D 9	4412.4832	0	0	1

The screenshot shows the LESER software interface. A red box highlights the text "Spare parts" and "New project" in the top right corner. Below this, there is a table with columns "Article No", "Part number", "PosNo", "Denomination", and "Count" (subdivided into "Startup", "2 year oper.", and "5 year oper.").

Article No	4412.4832	Count			
Part number	PosNo	Denomination	Startup	2 year oper.	5 year oper.
210.9939.9000	7	Disc 441 DN 40/ 37	0	0	1
241.1039.0000	12	Spindle 16x 307	0	0	1
480.0705.0000	57	pin 4x24	3	6	1
500.1007.0000	60	Gasket V40	1	1	1
510.0205.0000	61	Ball D 9	0	0	1

Below this is another table with columns "Article No", "Part number", "PosNo", "Denomination", and "Count" (subdivided into "Startup", "2 year oper.", and "5 year oper.").

Article No	4592.2492	Count			
Part number	PosNo	Denomination	Startup	2 year oper.	5 year oper.
136.3649.9211	1	Inlet body 459 D017.5 V60	0	0	1
200.2239.9000	7	Disc 459 D0 17.5	0	0	1
242.4539.0000	12	Spindle 12x 202	0	0	1
480.0505.0000	57	pin 3x20	3	6	1
500.2407.0000	60	Gasket T459	1	1	1
510.0105.0000	61	Ball D 6	0	0	1

VALVESTAR[®] 7

Thank you for your attention.

