LV Software Overview Catalogue

LV Software and Service since 1978

LV calculation software is technical-scientific software for pressure vessel design, plant design and piping. LV programs are used all over the world **since 1978**. In this field we have changed the legal form of the company to Lauterbach Verfahrenstechnik GmbH. Mr. Dietmar Fischer who is head of the software development department since 1986 is now managing director and partner.

Basic and Detailed Engineering is still performed by Lauterbach VT. Both companies are located on the same premises.

The LV team has been growing within the last years. The team consists of chemical and mechanical engineers as well as computer scientists and is supported by other specialists when required. This enables us to meet our customers' requirements in a quick and competent way.

Competent consulting
from a single source

This catalogue can only give a brief overview on our products. More than 400 programs are available. Please don't hesitate to contact us if you have got any question or concerns.
Our hotline is essential in our customer service – especially after you have purchased a product.
Our engineers who have developed the LV programs and who work with this software every day are your contact persons. Training courses concerning program usage or specialist advice are held in our office or at your company as "company-specific training course

Dipl.Ing. Dietmar Fischer	Managing director and partner Head of Software Development Pressure Vessel Design and Piping, FE Calculations
Dipl.Ing. Dietrich Lauterbach	Partner / Plant Design and Process Engineering
Heide Lauterbach	Partner / Marketing and after sales service
Dr. Rolf Braun	Process Engineering / Heat Exchangers / Thermodynamics
Dipl.Ing Hassan Gharib	Pressure Vessel Design / CAD and FE calculations
Dipl.Inform. Ziad Gharib	Computer science / IT
Dipl.Ing. Elmar Münchinger	Mechanical Engineering / International Welding Engineer SFI
Andreas Nonnenmacher	Internet / Downloads / World Wide Sales / QMB / CRM
Dipl.Ing. Rainer Riemann	System Administrator / Process Engineering,
Dipl.Ing. Fabian Schansker	Process Engineering / CFD calculations
B.Sc. Perry Tauer	Pressure Vessel Design / CAD and FE Calculations
Prof. Dr. Peter von Boeckh	Thermal Energy Systems / Power Plant Technologies

LV ATLAS Program System

Engineering software for design and calculation of process engineering equipment

The software from Lauterbach Verfahrenstechnik serves for design and calculation of process engineering. **Complex programs** can be combined with the multi-purpose basic modules in the LV-ATLAS program system. Prefabricated modules are combined with new applications instead of creating a new program for every new task, which enables us to realize our customers' requirements very quickly. The single module is a specialist, standardized in construction and tested thoroughly.

Essential features

- Modular system
- Standardized modules with uniform user interface
- Versatile input with equation solver
- Excel Interface
  extended bi-directional data transfer
- Conversion of units made easy
- Documentation in English and German
- Traceability of calculations as demanded by the EN. Equations and graphics on input mask

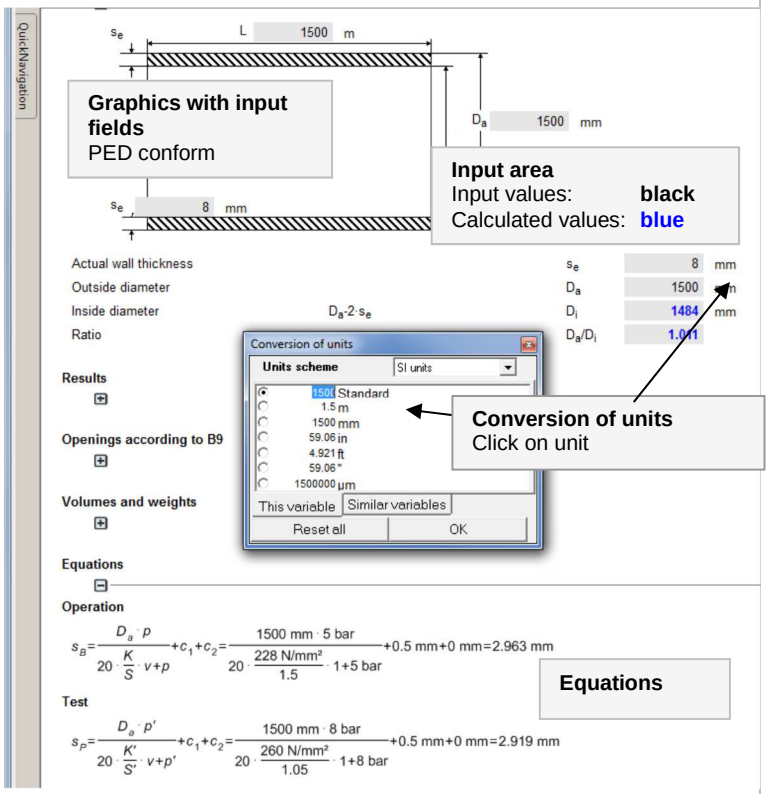
- Network version at the same price as single-user licence
- Everything from a single source
- Runs under Windows 7 / Windows 8 (8.1) 32 /64 bit

All aspects of apparatus engineering can be calculated:

> **Strength** of pressure vessels and piping

> **Process engineering** apparatuses like heat exchangers, condensers and separators

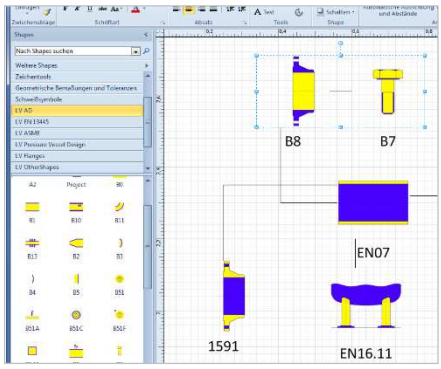
> physical properties of pure substances and mixtures and their phase equilibria



Interfaces

Based on this technique LV offers completely configured interfaces for ***MS Excel***, **MS VISIO** and for the **CAD program Soliodworks** . A universal CAD interface is included using the EXCEL interface.

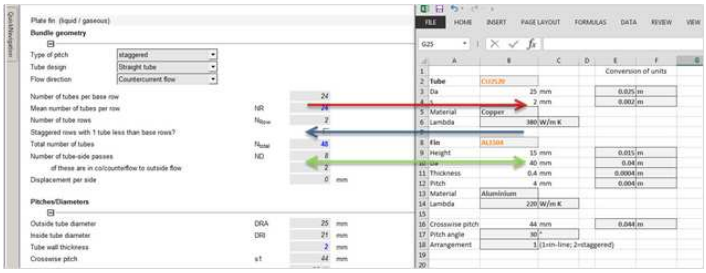
LV-VISIO Interface



Requirements: MS Office and Visio of the same version from MS Office 2016 on

Price on request

EXCEL Interface



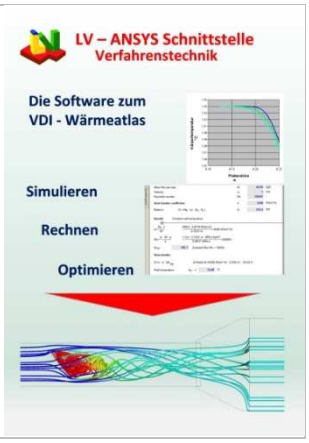
Requirements: MS Office from version 2010 on

Licensing on request

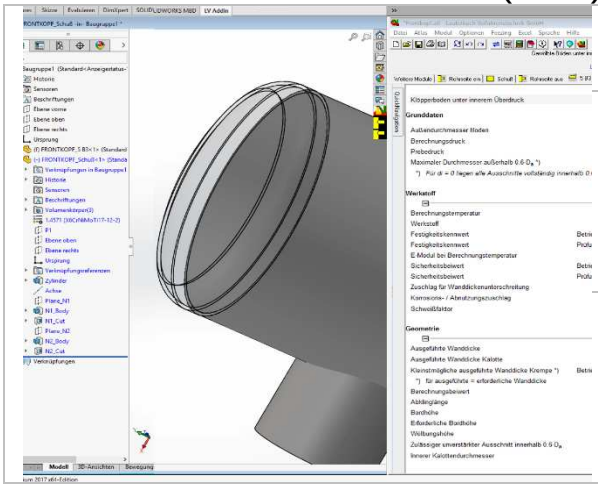
VDI-Heat Atlas inside ANSYS

Integrate calculations based on the VDI Heat Atlas 11th edition into an ANSYS Simulation

LV software is modularly structured. The user interface serves for input, output and docuemntation at the same time.
By using the interface parameter of the ANSYS simulation can be connected to values of the LV programme bi-directionally.
Transfer from LV to Ansys and vice versa.
Connecting is simply done by drag and drop.



Bi- directional LV-Solidworks (CAD) – Interface

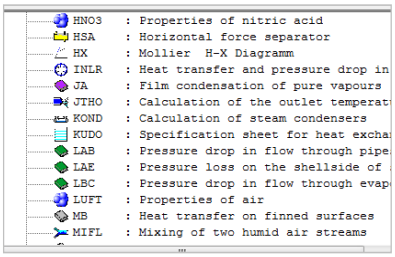
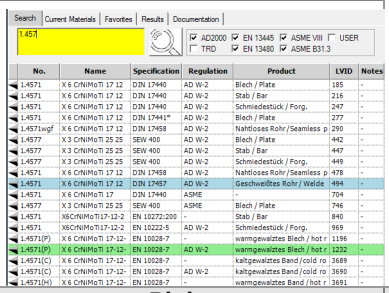


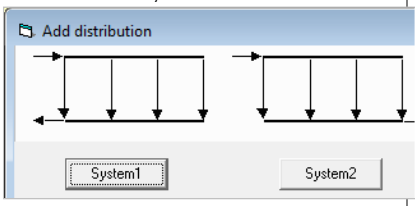
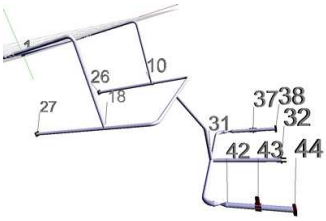
Cones	Cylinders / Nozzles	Heads
		

Standard:
AD 2000 / European Standard EN / ASME

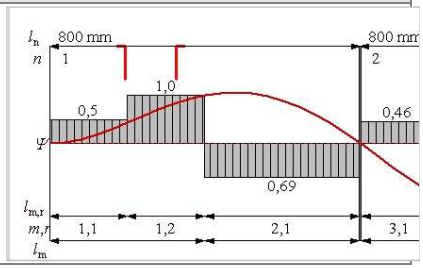
> The LV program performs the calculation while you are constructing por you calculate wit the LV program and Solidworks does the visualisation..

Software and Engineering in Pressure Vessel Design and Heat Exchanger Design

Process engineering	Stress calculation	Interfaces
VDI Heat Atlas / Air Coolers Shell-and-tube Heat Exchangers Evaporators, Condensers, Separators, Demisters, Cyclones Physical Properties, Phase equilibria	AD2000 sections B / S EURONORM / DIN standard ASME VIII Div. 1 Material Data Base Piping stress / FE-solutions CFD calculations	LV offers interfaces to **MS Excel** **MS Visio** Vessel configurator **CAD software** Solidworks **FEM Program** ANSYS
		

Hydrodynamics	Piping	FEEZING
Piping networks (gases / liquids) Pressure drop Control valves, orifices	Pipe Stress **LV-Pipe II in Excel** EN 13480	Pay-per-use … Simply start the software and calculate at a very competitive price without a time limitation. The software is installed on your computer. **FEEZING FLAT:** Software leasing for a certain period of time
		

Individual software	Proprietary Software
Development of tailor-made software based on LV modules. Transfer of customers' specific know-how, measurements and standards to software.	Let your customer design and select your product from a special **customer CD** Time-saving for quotations.

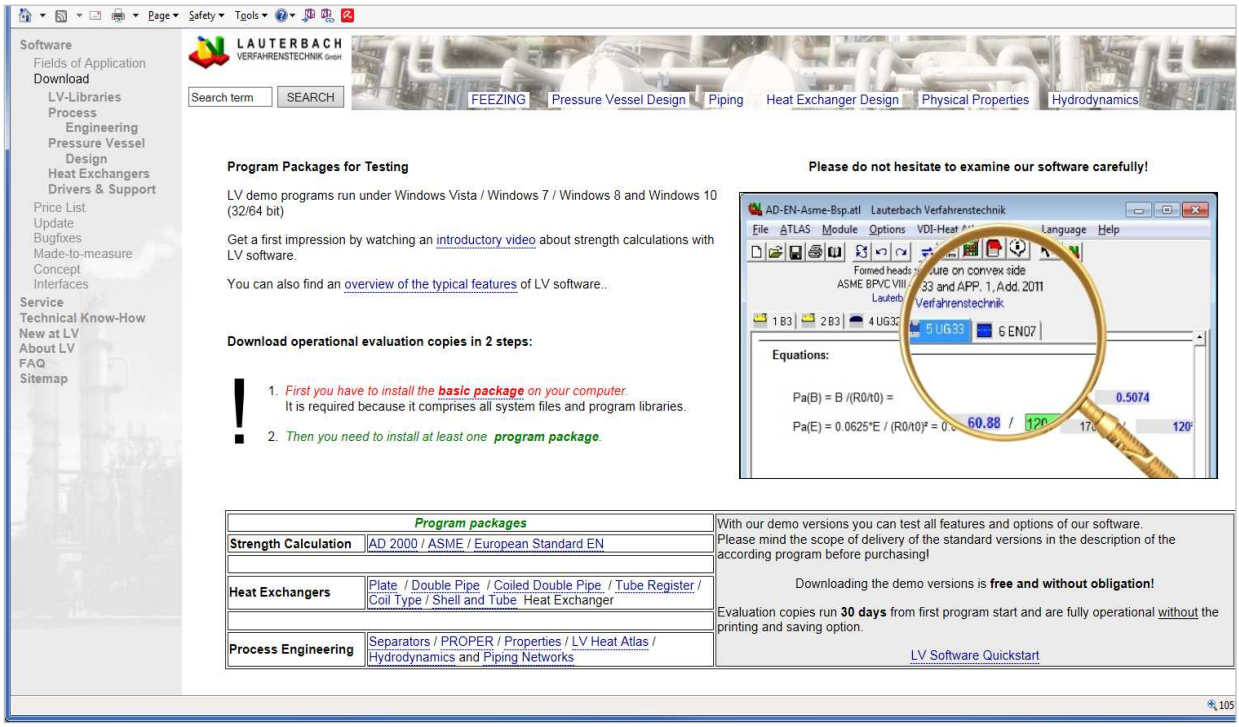
Add-Ons		
EXCEL Templates Standalone program extension by MS Excel for recurring tasks. Licensing on request	**GV Program** Tube bundle vibration analysis acc. Prof. Gelbe Implementation of simplified vibration analysis in WTS program	

Evaluation copies

LV programs are copy-protected and are delivered as single-user licence (with unlock code) or as network licence (floating licence) at the same price!

As an alternative we can provide a hardlock (dongle) for a versatile installation at a price of 80,- EUR.

Detailed product descriptions and free evaluation copies you can find on the Internet at
www.LV-Soft.com



Enter your search term as a whole word or as partial term with an asterisk (*)
e.g. pip*
Search result: pipe, piping, etc.

Use our hotline: Tel. +49-721- 978220

LV software is state of the art software and quite complex.
Some features may not be visible at the first glance. Our engineers are at your disposal to answer all of your questions concerning program usage.

Software for Pressure Vessel Design

AD 2000 / section B and S

* Support comprises help for operating the program to a certain extent (ca. 1h)

Module	Program description		Net price EUR
Project	Basic module / data sheet		410,-
B0	Calculation pressure acc. to B0 / test pressure acc. to HP 30		150,-
B1	Cylindrical and spherical shells under internal pressure		410,-
B2	Conical shells under internal and external pressure		620,-
B3	Dished heads under internal and external pressure		620,-
B4	Spherical dished covers		620,-
B5	Flat heads and plates with anchors incl. B51A and B51C and module B51 heat exchanger tube sheets and plate deflection		770,-
B6	Cylindrical shells under external pressure		620,-
B7	Bolts		620,-
B8	Flanges (incl 25V module)		770,-
B9	Openings in cylindrical, conical and spherical shells under internal pressure		620,-
B10	Thick-walled cylindrical shells under internal pressure		620,-
B13	Single-wall expansion joints (see EJMA / EJMR)		1.200,-
PMAX	Maximum allowable test pressure for pressure vessel parts (incl. NZUL module)		600,-
IGEL	Strength proof of nozzles, determination of local loads by NozzleSpecApp and their superposition for horizontal and vertical vessels. Requires B1 + B3 + B9 s. also ESMC 912		620,-
WERK	Material data base comprising more than 4700 entries		900,-
	Module package AD 2000 section B		**5.200,-**
S1	Simplified proof against oscillating stress incl. NZUL module for calculation of number of allowed load cycles		620,-
S2	Proof against oscillating stress For complex geometries we recommend determining the principal stresses by FEM		620,-
	Module package AD 2000 S1 / S2		**975,-**
S3.0	Proof of strength according to AD-S3/0 incl. load table		500,-
S3.1	Vessels on skirts	(see module EN 16.12)	410,-
S3.2	Horizontal vessels on saddles	(see module EN 16.08)	410,-
S3.3	Vessels with dished heads on support legs	(see module EN 16.11)	410,-
S3.4	Vessels on lugs	(see module EN 16.10)	410,-
S3.5	Calculation of support rings and ring girders for vessels	(see module EN 16.13)	620,-
S3.6	Calculation of vessels with nozzles under external loading		150,-
	Module package AD 2000 / S3.0 – 4 incl. ZIEH module		**1.790,-**
	Module package AD 2000 / S3.0 – 6 incl. ZIEH module		**2.150,-**
	All AD 2000 module packages including Pmax and Nzul		
⇒	**Maintenance** 12 months (Updates and support*)		On request
⇒	**European with the European Standard**		
	After having purchased the AD 2000 program package you can obtain the European Standard modules additionally as at a very competitive price.		
	Please have a look at our special offers and the **combination package 'EUROPE'**.		

European Standards EN / 1

Maintenance for European Standard modules / 12 months (on request)
*Included support (means support in program operation to a normal extent, ca. 1h)

DIN EN 13445-3 packages

Module	Program description	Net price EUR
PROJECT	Basic module / data sheet	410,-
EN 07/ EN08	Cylindrical, conical and spherical shells, domed / elliptical heads under internal and external pressure	2.200,-
EN 09	Single nozzles in cylindrical, conical and spherical shells	620,-
EN 10	Flat ends (no tubesheets)	320,-
EN 13.04-13.06	U-tube tubesheet, fixed tubesheet and floating tubesheet heat exchangers according chapter 13 of DIN EN 13445-3	1.600,-
1591	Design rules for round flange connections, bolts and gaskets according DIN EN 1591 or DIN EN 13445 Annex G. Module package 1591 incl. flange modules ASME/ANSI flanges (AFLT), DIN EN 1092 (1092),DIN 28034 (VFLN), DIN 28033 (SFLA) and 2 gasket modules according DIN EN 1514 (1514N incl. manufacturer data) + DIN EN 1591-2 (159N gasket parameters)	2.200,-
PDEN	Test pressure and material characteristics according to DIN EN 13445-5 / chapt. 10.2.3.3.1	150,-
UNRD	Calculating the departure from the true circle of cylinders and cones according DIN EN 13445-3, Annex E. see ENAF module	150,-
WERK	Material data base with about 4700 records	900,-
	Basic package EN 13445	**5.600,-**
EN 16.08	Horizontal vessels on saddle supports	770,-
EN 16.09	Horizontal vessels on ring supports	410,-
EN 16.10	Vessels on bracket supports	410,-
EN 16.11	Vertical vessels with supporting legs	410,-
EN 16.12	Vertical vessels with skirts, Proof of skirt, anchor and skirt openings	600,-
EN 16.13	Vertical vessels on ring supports	620,-
EN 16.14	Cylindrical shells under global loads	255,-
EN 22	Wind loads acc. to DIN EN 13445-3 chapter 22.4, incl. characteristic values acc. DIN EN 1991-1-1-4 (replaces ANBA), Eurocode 1 (actions on structures) replaces WIND module	1.400,-
	Vessel support stability package incl. EN 22	**2.770,-**
EN 17	Simplified assessment of fatigue life / conservative	500,-
EN 18	Detailed assessment of fatigue life	690,-
	Fatigue life package	**1.080,-**

Combinations

Basic Package ***EUROPE*** DIN EN 13445-3 + AD 2000	**Module package AD 2000 / Section B + Basic package EN 13445**	
	Package price:	**8.100,- EUR**
	Maintenance / 12 months (Update and support)*	1.030,- EUR
Special Package ***EURONORM*** DIN EN 13445-3	**Basic package EN 13445 + EN11 (EFL) + Vessel support stability**	
	Package price:	**7.300,- EUR**
	Maintenance / 12 months (Update and support)*	890,- EUR

European Standards EN / 2

*Included support (means support in program operation to a normal extent, ca. 1h)

DIN EN 13445-3 Additional modules

Module	Program description	Net price EUR
ENAF	Allowable external pressure for vessels outside circularity tolerance according to DIN EN 13445-3 Annex F, incl. UNRD module	600,-
ENAJ	Alternative method for the design of heat exchanger tubesheets acc. DIN EN 13445-3 Annex J	1.200,-
ENAO	Physical properties of steels according DIN EN 13445-3 Annex O	250,-
EN 11 (EFL)	Flange connections according DIN EN 13445-3 chapt.11 for 13 types of flanges incl. flange modules for ASME / ANSI flanges (AFLT), DIN EN 1092, DIN 28034 (VFLN), DIN 28036 (SFLA) and 2 gasket modules according DIN 269X + DIN EN 1514 (1514N incl. manufacturer data) + DIN EN 1591-2 (159N gasket parameters)	1.890,-
EN 12	Bolted domed ends, with the dome either convex or concave to pressure, according to DIN EN 13445-3 / Chapt. 12, see also B4 module	410,-
EN 15	Pressure vessels of rectangular section according DIN EN 13445-3 chapter 15 (see B5A1)	620,-
EN 16.04 / EN 16.05	Local loads on nozzles in cylindrical and spherical shells	1.125,-
EN 16.06	Line loads acc. DIN EN 13445-3 chapter 16.6	410,-
EN 16.07	Lifting lugs > Single loads at cylindrical shells and domed heads acc. DIN EN 13445-3, chapter 16.7	410,-
EN 20	Reinforcement of flat walls and round ends, DIN EN 13445-3 / Chap.20 and 21	410,-

DIN EN 12516-2 Fittings

Module	Program description	Net price EUR
12516	Calculation of steel valve shells per **DIN EN 12516-2**, structured in 4 modules 12516 A -D including gasket module 1514N (manufacturers data) and 159N (gasket parameters)	1.800,-
⇒	Maintenance / 12 months (Updates and support*)	350,-

DIN EN 13480-3 Piping		
ER06	Piping and pipe fittings under internal pressure acc.DIN EN 13480-3 chapter 6	720,-
ER07	Heads under internal pressure acc. DIN EN 13480-3 chapter 7	720,-
ER08	Openings and branches acc. DIN EN 13480-3 chapter 8	720,-
ER09	Pipes and piping components under external pressure acc.DIN EN 13480-3 chapter 9	720,-
ER11	Integral attachments to metallic industrial piping Calculation of **trunnions** acc. DIN EN 13480-3 chapter 11	900,-
	Additionally the **1591 module package** for flanges is included in the package	
	Module Package EN 13480 incl. WERK	**4.400,-**
⇒	Maintenance / 12 months (Updates and support*)	570,-

DIN EN 14025 Tanks for the transport of dangerous goods		
ADR	Minimum thickness and test pressure according to DIN EN 14025 / ADR / RID	255,-
DECK	Covers for manholes acc. DIN EN 14025(6.3.6)	1.200,-
	Additionally the modules EN07 / EN 08 / EN 09 and EN1591 are included	
	Module Package EN 14025 incl. WERK	**5.500,-**
⇒	Maintenance / 12 months (Updates and support*)	630,-

Eurocode 1

Actions on structures (see also EN22)

Module	Program description	Net price EUR
EC1 (EN 1991)	Wind loads according DIN EN 1991-1-4, Edition 1 NA Germany Eurocode 1	1.200,-

Eurocode 3

Design of steel structures acc. DIN EN 1993 / replaces DIN 18800 part 4
Literature: ECCS = European Design Recommendations 5th Edition by J.M. Rotter and H.Schmidt

Module	Program description	Net price EUR
EC3 Cyl	Verification of stability / buckling for cylindrical shells acc. DIN EN 1993-1-6 and DIN EN 1993 -4-1 (Eurocode 3)	1.100,-
EC3 Stiff	Ring-stiffened cylndrical shells / stiffening rings under external pressure acc. DIN EN 1993-1-6 (Eurocode 3)	360,-
BULK	Calculation of bulk loads in silos acc. to EN 1991-4 Section 3.5	600,-
	Package price	**1.800,-**
	In planning stage	
EC3 T	Design of conical shells acc. DIN EN 1993-4-1 (Eurocode 3) under external loads	

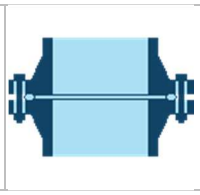
US American Standards / ASME

*Included support (means support in program operation to a normal extent, ca. 1h)

ASME Boiler & Pressure Vessel Code VIII / Div. 1

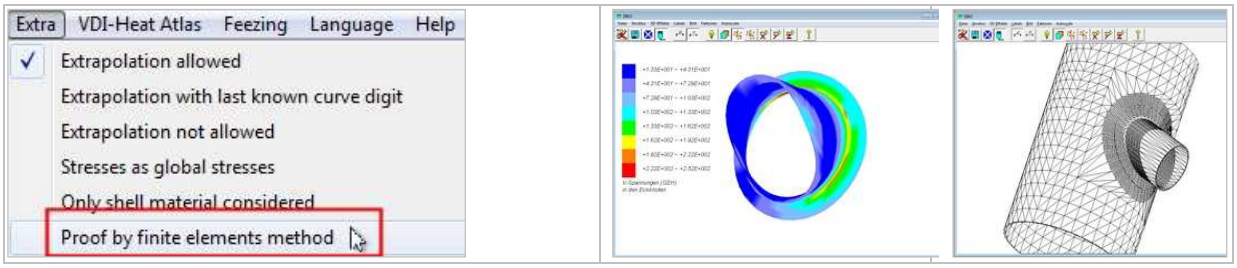
Module	Program description	Net price EUR
PROJECT	Basic module / data sheet	410,-
UG27	Cylindrical and spherical shells under internal pressure	620,-
UG28	Cylindrical and spherical shells under external pressure	620,-
UG29	Ring stiffeners at cylindrical shells under external pressure	410,-
UG32	Dished heads under internal pressure	620,-
UG33	Dished heads under external pressure	620,-
UG34	Flat heads and plates incl. module AP14	770,-
UG37	Openings in shells (covers UG39 and spherical shells acc. UG45)	620,-
UG99	Maximum allowable test pressure acc. ASME VIII-1 UG-99	620,-
AFL / AFLT	ASME flanges incl. flange tables per ASME ANSI B16.3 (AFLT)	620,-
ANSI	Pipe runs, pipe bends, branches according to ASME/ANSI B31.3 codes used are ASME/ANSI B36.10 and B36.19	255,-
APY	Flat face flanges with metal-to-metal contact outside the bolt circle according ASME BPVC Appendix Y	800,-
ATB	Spherical dished covers according to appendix 1 – 6	410,-
TEB 2	Bends and T-pieces according to ANSI / ASME B31.3 with external loads	410,-
UHX a-c	Design of U-tube sheets, fixed tube sheets and floating tube sheets according ASME BPVC UHX part VIII-1	1.200,-
WERK	Material data base with more than 4700 records	900,-
	ASME VIII / Div.1 module package incl. material database	**5.300,-**
⇒	Maintenance ASME / 12 months (Updates and support*)	660,-
US American Standards		
ABDR	Stresses in tees with external loads ANSI / ASME B31.3	410,-
ANSI	Pipe runs, pipe bends, branches according to ASME/ANSI B31.3 codes used are ASME/ANSI B36.10 and B36.19	255,-
P26	Bellows expansion joints acc. ASME VIII /1 App. 26 (U-shape bellows only)	360,-
APA	Basis for Establishing Allowable Loads for Tube-to-Tubesheet Joints acc. ASME VIII/1 App.A	320,-
FANY	Fatigue analysis for vessel design according to ASME VIII / 2 (Edition 2013)	410,-

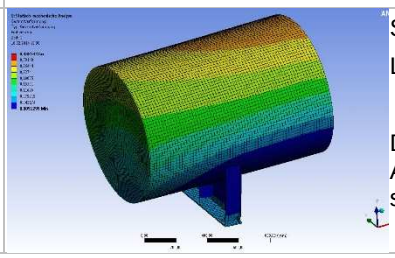
Flange Calculation Combination Package

Flange calculations according DIN EN 1591 or DIN EN 13445-3 Annex G / AD 2000 / ASME VIII Comprises modules EN 1591, AD 2000 / B7 + B8 + DIN V2505, ASME/ANSI flanges (AFL + AFLT), EN 1092 (1092), DIN 28034 (VFLN), DIN 28033 (SFLA) and 2 gasket modules according DIN EN 1514 (1514N incl. manufacturer data) and 159N gasket parameter.		2.550,-

Nozzle proofs
per WRC 107 or DIN EN13445-3 or by FE method (LV-FEM)

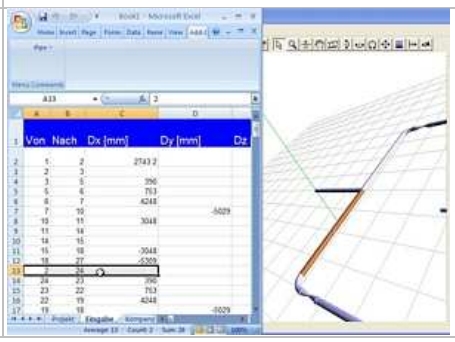
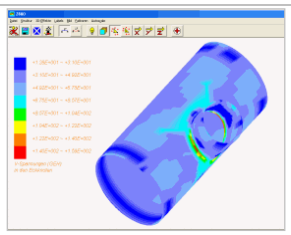
We offer an integrated FE calculation for several problems like nozzles with external loads on cylindrical shells or domed heads. This FE calculation has improved net and graphics options and comprises the possibility to calculate reinforcing pads, oblique nozzles and oblique and tangential nozzles with reinforcing pads



Program	Program description	Net price EUR
WRC / WRCK	Local stresses in cylindrical and spherical shells due to WRC 107 see also EN 16.4 / EN 16.5	1.075,-
EN 16.04 / EN 16.05	Local loads on nozzles in cylindrical and spherical shells	1.125,-
LV FEM	Calculation of stresses in spherical and cylindrical shells with nozzle loads. The nozzles may be with or without reinforcing pad, vertical, oblique or tangential.	
	Module package FEM	**2.100,-**
	Maintenance / 12 months (Updates and support*)	350,-
	Module package FEM incl. WRC / WRCK and EN 16.04, 16.05 (13445-3)	**2.500**,-
LV ANSYS	 Solving complex problems in apparatus engineering LV provides parametric models Documentation of the results per AD 2000 S4 or ASME VIII-2 plus detailed results report of the FEM simulation.	on request

**Included support (means support in program operation to a normal extent, ca. 1h)*

Piping

Program	Program description		Net price EUR
LV PIPE II		Finite Elements program for calculation of pipe stress in 3D pipe systems. Enhanced graphics. (Requires at least EXCEL 2010) ***- only available in German -*** Service and Support / 12 months	3.990,- 490,-
Combination possibilities at extra charge			
FE proof of connected nozzles Piping forces and moments are directly transferred to the FE program developed by LV			s. FEM
Calculation of flanges with superposition of pipe forces, proof of leakage per DIN EN1591			s. EN 1591
Metallic industrial piping according DIN EN 13480			s. EN 13480
Proof of stability of single pipe runs per DIN 18800			

Combi Package EUROPIPE

	Program LV-Pipe II + Base Package EN13480: 7.000,- EUR Maintenance/ 12 months: 790,- EUR	

Special modules / 1

Module	Description AD / ANSI / ASME / DIN / EN STANDARD / TEMA / TRD	Net price EUR
1092	Welding-neck flanges according DIN EN 1092-1; including strength proof *(replaces VFLA)*	410,-
1514N / 159N	Flat gaskets. Geometrical data acc. EN 1514-1. Gasket data acc. EN 13555. Manufacturers data base.	410,-
1591	Design rules for flange connections, bolts and gaskets. Module package 1591 incl. flange modules and gasket modules (s. European Standard))	2.200,-
10220	Seamless steel pipes, dimension and length scaled mass according to DIN EN 10220 *(replaces 2448 / 2458)*	310,-
A2	Calculation of safety valves for pressure vessels	410,-
ABDR	Connection ends of tubes, bends and T-pieces acc. to ASME ANSI B31.3	410,-
ADR	Minimum thickness and test pressure according to EN 14025 / ADR / RID	255,-
AFL / AFLT	Flanges according ASME incl. Flanges catalogue according to ASME/ANSI B16.5	620,-
AKR	Proof of stress for pressure vessels with knuckles in the external shell	255,-
B1 1	Pipe bends under internal pressure acc. AD 2000 B1 Appendix 1 (see BOG module)	255,-
B51A	Proof of the axial forces acc. to AD Merkblatt B5 sec. 6.7.1.7 (required in B5)	255,-
B51C	Circular flat tube sheets with protruding flange edges according AD 2000 B5	255,-
B51F	Fatigue strength of fixed heat exchanger tubesheets acc. to RKF part 5 and 6	255,-
B5A1	Pressure vessels with rectangular section according AD 2000 B5/1 (see EN 15)	410,-
BEBEN	Calculation of Earthquake Loading per EuroCode 8 DIN EN 1998-1 or DIN 4149-1	620,-
BEIN	Strength proof for vessels on supports	600,-
BIEG	Moment of inertia of structural steels	190,-
BOG	Bends under internal pressure according to TRD 301 / appendix 2	255,-
BV29	Calculation of chambers of divided and undivided design	620,-
DICH	Calculation of characteristic gasket values; (see also 1514N module)	190,-
ECKA	Sizing of diagonal stays on fire tube heads	410,-
EJMA 10th edition	Calculation of expansion joints (round, single or multiple ply) according EJMA 10th edition. Package price	1.200,-
ELKR	Elasticity criterion of pipes according HP100R simplified	190,-
FANY	Fatigue analysis for vessel design according to ASME VIII / 2 Appendix 5 (Edition 2013)	410,-
FGB	Flat domed heads according to Harvey J./ Schwaigerer	620,-
HLB	Proof of stress for pressure vessels with welded half tubes	255,-
HOSE	Y-branches under internal pressure according to TRD 301	310,-
HPR	Flexibility and span check and design standards for pipeworks made of metallic materials according to AD 2000 Merkblatt HP100R	620,-
IGEL	Strength proof of nozzles; determination of local loads by NozzleSpecApp and their superposition for vertical and horizontal vessels (requires AD/B1 + B3 + B9) Extra charge:	620,-
	Package Price IGEL + AD/B1 + B3 + B9	**1.800,-**
ESMC 912	BASF company standard: Load transformation of nozzle loads for horizontal vessels on two saddles acc. BASF E-S-MC 912 (April 2016). NozzleSpecApp considered.	620,-
	Special Price IGEL + ESMC 912	**990,-**
KRVE	Forces and deformation conditions of prestressed bolted connections. Metal-to-metal gaskets	255,-
KSTA	Calculation of stresses, displacements, shear forces and moments of columns with additional supports	1.500,-

Special modules / 2

Module	Description	Net price EUR
LOBO	Freely resting perforated heads and p. h. with stays and supports acc. to AD/B5	255,-
PDEN	Test pressure and material characteristics acc.DIN EN 13445-5 / chapt. 10.2.3.3.1	150,-
PMAX	Determination of the maximum allowable test pressure for pressure vessel components (incl. Nzul module)	600,-
PODEST	Proof of vessels on a central, singular and cylindrical supporting element according to WRC 537 and AD 2000 Merkblatt S3.3	
PRAT	Geometrical data of supporting lugs used in AD 2000 Merkblatt S3.4	150,-
RING	Stress analysis of jacket connections at vessels	620,-
RUER	Strength proof of nozzles and reinforcement pads with/without mutual influence in agitator heads.	255,-
SEGB	Segmental bend with one or more segments according to ASME ANSI B31.3	410,-
SFLA	Flanges according DIN 28036 (included in EFL or 1591 module package)	190,-
SG	Gauge glass flange according DIN 28120	520,-
SPAR	Design of clamping rings	500,-
SPIE	Strength calculation interface Graphical system for design of tube sheets for shell-and-tube heat exchangers Determination of relevant values (number of boundary tubes and perimeter length)	950,-
STUT	Nozzles on pressure vessels – additional stresses due to pipe forces on nozzles	255,-
TEB / TEB 1	Heat exchanger heads according to TEMA	770,-
TEM	Longitudinal stresses in the shell and tubes for heat exchangers with stationary tubesheet **Strength calculation according TEMA Package Price TEB / TEB1 / TEM**	410,- **850,-**
TEB 2	Bends and T-pieces according to ASME/ANSI B31.3 incl. external loads	410,-
TR28	Support rings with or without additional ring supports acc. to DIN 28084-1	255,-
TST	Cylindrical shells with vertical branch under internal pressure	410,-
UBC	Seismic loading according Uniform Building Code 1997	410,-
UHX a-c	Design of U-tube sheets, fixed tube sheets and floating tube sheets according ASME BPVC UHX part VIII-1	1.200,-
UNRD	Calculating the departure from the true circle of cylinders and cones according DIN EN13445-3, Annex E, (see ENAF module)	150,-
VFLN	Welding-neck flanges according to DIN 28034	190,-
WARZ	Calculation of knuckles of jacketed vessels	410,-
WTOR	Torsional moments of shafts	310,-
ZAPF	Calculation of trunnions according DIN 28085	410,-
ZIEH	Calculation of bolting torques. ISO (metric) threads and UNC threads	310,-
Withdrawn standards		
2413	Bends: Calculation of the wall thickness for internal pressure acc. DIN 2413	130,-
2448	Seamless steel tubes according to DIN 2448 *(replaced by DIN EN 10220)*	150,-
2458	Welded steel tubes according to DIN 2458 *(replaced by DIN EN 10220)*	150,-
2505	Flange joints according to DIN 2505	620,-
250S	Bolts according to DIN 2505	310,-
25V	Flange joints according to draft standard DIN 2505	255,-
	Package price 2505 + 250S + 25V	980,-
2605	Bends according to DIN 2605	130,-
18T4	Load-bearing capacity analysis of unstiffened cylindrical, conical or spherical shells (DIN 18 800 Part 4) > **replaced by Eurocode**	620,-
VERK	Stress in a cylindrical apparatus w/o attachments caused by wind loads acc. DIN 4133	190,-
WND/WIND	Wind loads of buildings not susceptible to vibrations acc. to DIN 1055 part 4 **> replaced by Eurocode 1 and EN 22**	1200,-

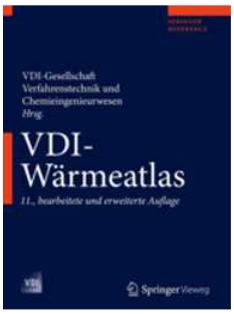
Technical rules for steam boilers

The code has been withdrawn on Jan.1st 2013. Has been replaced by DIN EN 12952-3.

Module	Program description	Net price EUR
301	Cylindrical shells under internal pressure according to TRD 301	620,-
303	Spherical shells according to TRD 303	620,-
305	Flat walls, anchorages and stiffening girders according to TRD 305	620,-
306	Cylindrical shells under external over pressure according to TRD 306	620,-
309	Bolts according to TRD 309	410,-
WERK	Maintenance and upkeep of the material data base, output / calculation of the necessary material data	900,-
	Package price TRD	**3.425,-**
301 / appendix 1	Calculation for cyclic stressing by fluctuating internal pressure or by combination of changes in internal pressure and temperature	310,-
AUZY	Openings and nozzles in cylindrical shells of drums, headers, as well as pipes according to DIN EN 12952-3	920,-
BOG	Bends under internal pressure according to TRD 301 / appendix 2	255,-
HOSE	Calculation of Y-shaped branches under internal pressure by TRD 301	310,-
303 / appendix 1	Calculation of spherical shells with openings against cyclic strain stressing of the internal bearings	310,-
304	Calculation of dished fire tube heads according to TRD 304	410,-
508 a	Calculation of the fatigue of components for creep and cyclic stressing according to TRD 506 / appendix 1	620,-

Software for Process Engineering

Calculation Software for VDI Heat ATLAS based on 11th German edition



The VD Heat Atlas in German has been transcribed into a calculation software since the 5th edition (former published by VDI now by Springer) and has been updated to all published editions.
Now a German version (11. edition) and an English version (2. Edition) of the book is available as text part.

Please note:
The LV calculation software is based on the chapters of the German text part and all relevant chapters are converted to single calculation modules. Find a detailed listing on the Internet.

Chapter	Program description	Price EUR
C.	Fundamentals of Heat Exchanger Design	
D.	Thermophysical Properties	
E.	Heat Conduction	
F.	Free Convection	
G.	Forced Convection	
H.	Boiling	
J.	Condensation	
K.	Radiation	
L.	Fluid Dynamics and Pressure Drop	
M.	Specific Heat Transfer Problems	
N.	Specific Heat Transfer Devices	
O	Construction of Heat Exchangers	
	Module package 1 VDI-Wärmeatlas 11. edition	3.100,-
	Module package 2 VDI-Wärmeatlas incl. Cyclone calculation (CYCL)	3.800,-
>>	Maintenance / 12 months (Updates and support)	350,-

*Included support (means support in program operation to a normal extent, ca. 1h)

Text part of VDI Heat ATLAS German 11. Edition / English 2nd edition

*Prices subject to changes of Springer publishing house

Description	Price EUR*
Text part German 11. Edition (hard cover book)	799,-
Text part English 2. Edition (hard cover book)	650,-
eReference German (per company site)	710,-
eReference English (per company site)	723,-
Print + eReference	1.011,-

Physical properties

Physical properties can be determined by FEEZING at a very competitive price.
For example refrigerants FRIG module for 2.55 EUR

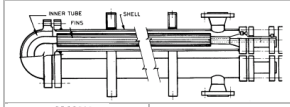
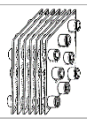
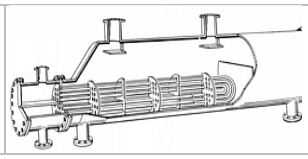
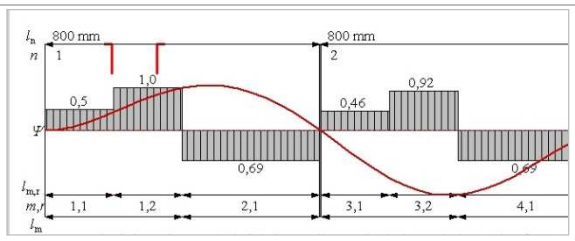
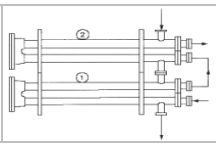
Module	Program description	Net price EUR
BIER	Properties of wort and beer	190,-
CO_2	Properties of carbon dioxide	190,-
EGAS	Properties of natural gas type L and natural gas type H and natural gases of any composition	410,-
FRIG	Properties of refrigerants, extended	255,-
GLYC	Properties of ethylene glycol + 1,2-propylene glycol (Antifrogen N + L) + organic salts KF + SOL	255,-
H_2O	Properties of water (steam tables)	190,-
H_2SO_4	Properties and phase equilibrium of sulphuric acid	255,-
HABA	Calculation of the reference value α_0 for nucleate boiling of pure substances (vessel boiling, flow boiling of saturated liquids)	190,-
HCL	Properties of hydrochloric acid	255,-
HE	Properties of helium	255,-
HFO	Properties of 8 heavy fuel oils and diesel	410,-
HNO_3	Properties and phase equilibrium of nitric acid	255,-
HX	Mollier-H-X-diagram	410,-
JTHO	Final temperature of adiabatic throttle proceedings of natural gases	410,-
LUFT	Properties of air	190,-
N_2	Properties of nitrogen	190,-
NA	Properties of sodium-liquid and -vapour	410,-
NAOH	Properties of Sodium Hydroxide	255,-
NH_3	Properties of ammonia	190,-
GasMix N_2H_2CO	Nitrogen- / oxygen- / hydrogen- / carbon monoxide- /carbon dioxide- / steam- / sulphur dioxide- /sulphur trioxide -gas mixtures of any composition	500,-
O2	Properties of oxygen	190,-
OEL	Properties of 13 typical kinds of machine oils	255,-
PROPER 1	Thermodynamic calculation of properties (max. 15 components)	2.100,-
PROPER 2	PROPER 1 including hydrocarbon cuts according to API-Data-Book	2.700,-
PROPER 3	PROPER 1 with phase equilibrium calc. (DDB-Flash) acc. to Prof. Gmehling (max. 10 components)	2.600,-
	Proper 1 + 2 + 3 Package price	**3.200,-**
PSYC	Calculation of the state of wet air from a psychrometric humidity measurement	190,-
RGAS	Properties and combination of flue gas	255,-
SAC	Properties of sucrose-water-solutions	255,-
SAWA	Properties of seawater	255,-
S-TAB	Definition of property tables for use in the programs	190,-
T-OIL	Properties and application range of thermal oils (enhanced)	500,-
TSO_3	Dew point temperature of waste gases containing SO_3 and H_2O	190,-

Combustion

Module	Program description	Net price
RG	Flue gas properties for solid fuels, heating oils and natural gas	190,-
VGAS	Combustion of gases	255,-

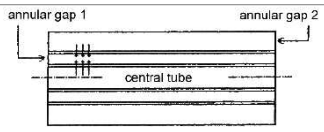
Heat exchangers / heat transfer - standard packages

Please find a detailed listing of the modules included in the standard version on the Internet

Exchanger design	Program description	Package	Net price EUR
Shell-and-tube heat exchangers 	Basic version of design system for shell-and-tube heat exchangers for single-phase media (liquid / gaseous) with CAD interface, graphical layout of tubesheet, true-to-scale heat exchanger sketch and interface to LV strength calculation programs.	**WTS**	4.800,-
	Refined tube vibration analysis (GVLV module) >> Extra Charge		+ 700,-
	Only as WTS extension		
	1. Pure component condensers with desuperheating, condensing and subcooling option, multi-tube, shell without baffles	**KOND**	+ 600,-
	2. Double-pipe heat exchanger (concentric annulus) shell without internals	**DPW**	+ 770,-
	 Thermal and hydraulic design of hairpin heat exchangers incl. modules G2 + GGO + GGLR		
	 3. Design of plate fin-and-tube heat exchangers	**LAM**	+ 770,-
Electrical heaters 	Basic version for thermal and hydraulic design of electrically heated forced-flow shell-and-tube heat excahngers	**EWTS**	4.500,-
	EWTS as WTS extension (requires latest WTS version)		+1.800.-
Vaporization	Vaporization of pure substances at smooth tubes, including tubesheet library, TEMA, Incl. essential properties 	**VERD**	3.600,-
Tube Bundle Vibration analysis ***only available in German***	 The calculation may be performed for the complete tube bundle or only for especially endangered zones like tube rows beneath the inlet nozzle or in the window zone.	**GV**	3.800,-
Double Pipe heat exchangers	Heat transfer and pressure loss in double pipe heat exchangers (concentric annulus, tube in tube) see hairpin 	**DP**	1.800,-
Multi-component-condensers	Cross flow condensers with bare or finned tubes incl. DDB-Flash (multi-component condensation **in the tubes**)	**MUKO**	3.900,-

Heat exchangers / heat transfer - standard packages

Please find a detailed listing of the modules included in the standard version on the Internet

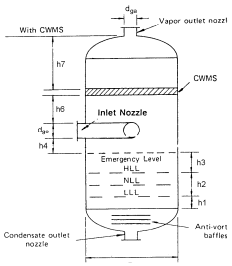
Exchanger design	Program description	Package	Net price EUR
Crossflow heat exchangers / air coolers	Cross flow heat exchangers with bare or finned tubes, includes crimped-finned tubes (spiral wound), partial condensation and additional properties (see listing)	**AC**	3.100,-
	Calculation of the intermediate temperatures and quantities of vapour / condensate in vapour / post-vapour condensation in heat exchanger groups (12 types of arrangements)	**DNK**	1.400,-
Coil type heat exchangers  	Coil type heat exchangers for gases and liquids. Max. 5 parallel flown-through tubes	**COIL**	2.300,-
	Coiled double-pipe. Heat transfer and pressure loss in coaxial heat exchangers.	**KOAX**	1.800,-
	KOAX as COIL Extension		+ 770,-
Thermal oil heaters  Courtesy: ZAFA GmbH	Calculation and simulation of hot oil heaters, includes extensive thermal oil database TOIL	**BREN**	3.200,-
Coil type economizers for flue gas  Courtesy: ZAFA GmbH	Coil type heat exchangers with up to 14 concentric tube baskets, heating of thermal oil Properties H2O / HFO / Air / OEL / RGAS / TOIL	**WAK**	2.400,-
Multi-component condensers **in German only**	Calculation of pure substance / multi-component condensers with / without inert gases (incl. PROPER 3) MS-Access required	**MESK**	6.400,-
Plate heat exchangers	Pressure drop and heat transfer of chevron-type plates, for single-phase media only, no condensation. Incl. essential properties	**MMP**	1.400,-
Triple tube	Heat exchanger in concentric triple tube  	**RS3**	510,-
Hot storage tanks  	Heat losses / heating of storage tanks TANK calculates the heat losses of insulated and heated storage tanks. The floor plan of the tank might be **round or rectangular**. > Heat loss by radiation over the roof is considered. Heat loss calculation over the bottom with new mathematical approach. Design of flat heating coil for compensating the heat loss. >Calculation of heating and cooling time TIME module required **Extra Charge 600 EUR**	**TANK**	1.400,-

Heat exchangers / heat transfer - special modules

Module	Program description	Net price EUR
2049	Inspection documents for air coolers according to VDI 2049	620,-
ACK	Natural convection in air coolers **AC Extension**	+ 255,-
CIRC	Shell-side pressure loss and heat transfer in shell-and-tube heat exchangers with donut / disc as baffle	190,-
DRLL	Heat transfer and pressure drop in flow through corrugated and cross-corrugated tubes	310,-
DRRB	Pressure drop over cross flowed finned tube bundles	190,-
FN	Correction factor for mean logarithmic temperature difference in heat exchangers	255,-
GGLR	Shell-side heat transfer of shell-and-tube heat exchangers with longitudinally finned tubes (single-phase media only, no condensation)	310,-
GGO	Shell-side heat transfer of heat exchangers without baffles	310,-
GGRI	Heat transfer for flow over cross finned tube bundle heat exchangers with segmental baffles	310,-
HYBA	Hydraulic balance calculation for vertical vaporizers	410,-
INLR	Heat transfer and pressure loss for flow in tubes with internal fins (single-phase media only, no condensation)	310,-
KUDO	Results of calculations in an abridged version for customers available as supplement to AC, KOND, VERD, WTS	255,-
NETZ	Heat exchanger networks **WTS / AC Extension**	+ 2600,-
OPTD	Cost optimization of pressure losses in heat exchangers	190,-
PLRE	Recirculation of hot air in flowed tube register heat exchangers	190,-
RBSA	Tube vibration analysis of shell and tube heat exchangeres	950,-
RDV	Tube-side pressure loss of shell-and-tube heat exchangers	190,-
RIES	Heat transfer in falling films at horizontal tubes	255,-
SPIE	Strength calculation interface Graphical system for design of tube sheets for shell-and-tube heat exchangers Determination of relevant values (number of boundary tubes and characteristic length)	950,-
TSIP	Hydraulic balance calculation for vertical vessel vaporizers	410,-
TWIS	Heat transfer and pressure loss flow in tubes with and without screw inserts	255,-
VENT	Power consumption of fans	125,-
WAKO	Wall condensation and thermal bridging factor at insulated walls	190,-
WROK	Heat transfer in tube bundles with small longitudinal pitch	190,-
WTSC	True-to-scale DXF sketch of heat exchangers including essential dimensioning **as supplement to the programs WTS, VERD, KOND** Interface to strength calculation	+ 410,-
ZELL	Steady-state temperature distribution in heat exchangers	310,-
	Unsteady calculation (transient) **ZELL Extension**	+ 510,-

WTS and VERD	**module package**	List price	8.400,- EUR	**Package price**	**6.700,- EUR**
WTS and AC	**module package**	List price	7.900,- EUR	**Package price**	**6.400,- EUR**
WTS and GV	**module package**	List price	8.600,- EUR	**Package price**	**7.500,- EUR**

Separators / Demisters / Cyclones



Module	Program description		Net price EUR
Separators			
HSA	Design of horizontal gravity separators		510,-
LOMA	Determination of flow type in the Lockhart Martinelli diagram		360,-
VSA	Design of vertical gravity separators		510,-
Demisters			
FLD	Design of mesh demisters (fibre filters) for droplet and solid particle separation from gases.		620,-
		Package 1 HSA and VSA	**900,-**
		Package 2 Package 1 + LOMA	**999,-**
		Package 3 Package 2 + FLD	**1.500,-**
Cyclones			
CYCL	Design of cyclones with axial, spiral or slit inlet. Separation of particles or droplets from gases The mathematical approaches of the VDI Heat Atlas (chapter L3.4 / L4.3 Muschelknautz) and the approaches of Löffler and Bürkholz have been revised completely. Design of dust cyclones with small dust fraction according a new approach. **Package price** **As extension of ATLAS / VDI Heat Atlas 11th edition**		**1.600,-** **+700,-**

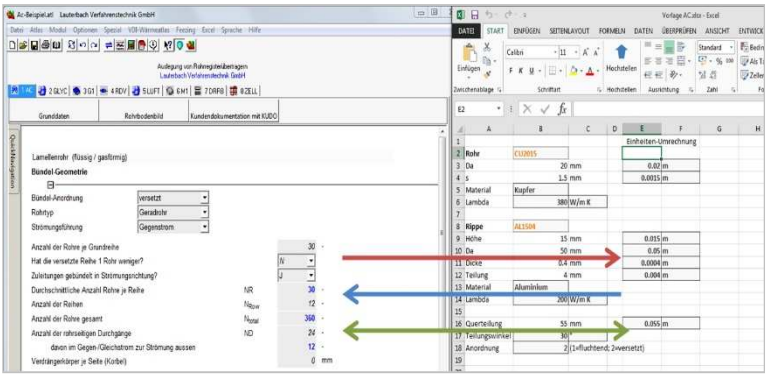
Hydrodynamics / Fluid dynamics

Module	Program description	Net price EUR
RNET	Calculation and simulation of meshed pipe networks for gases, vapours and liquids including sprinkler system. Data base of friction factors. Interface to several extension modules on request. **Module package RNET** incl. FDP and L1.3	1.595,-
	Module package RNET incl. FDP, L1.3 and **KV module**	1.895,-
BEHE	Design of heat traced systems	255,-
CAV	Control valves for liquids and gases	190,-
DROS	Flow measurement with pressure difference devices according to EN-ISO 5167-1/A.	190,-
FDP	Pressure loss in non-meshed pipe systems, incl. L1.3 module	410,-
KV	Design of fittings acc. to DIN IEC 534, noise emission and unsteady position response	620,-
LOGI	Pressure drop for grates	190,-
LOMA	Determination of flow type in the Lockhart Martinelli diagram	360,-
NPSH	Net positive suction head for suction lines (including module L1.2)	410,-
STOS	Water hammer in straight pipes	190,-
TKL	Volume / level relationship for storage tanks (horizontal and vertical) incl. volume / level data table	800,-
VSP	Leaking loss and flow in annuli	190,-
ZDP	Friction pressure loss in two-phase pipe flow	190,-

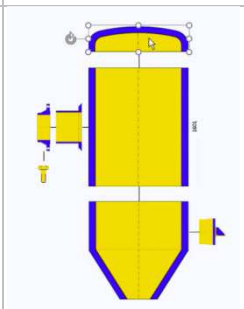
Other programs

Program	Program description	Net price EUR
BIL	Material and heat balance	190,-
EQU 	Calculation of user defined equations	255,-
TABI	Module for interpretation of user-supplied data tables	190,-
TIME	Calculation of unsteady processing during cooling or heating	600,-

Included in the latest version for free:

Scenario Manager	Perform any calculation with the ATLAS program system and define several variants in MS Excel. The program calculates the variants automatically and transfers the results to EXCEL in tabular form. The big advantage of the Scenario Managers is, that you can pre-define all input data for the different scenarios in one ECEL sheet and the program calculates the results automatically. This is really time-saving. You can perform almost any number of calculations simultaneously. **>> Optimisation** and goal seeking with freely definable boundary conditions	
Excel Interface		

At extra charge:

LV-Visio Interface		A license of **Microsoft VISIO 2016** (Standard Edition) is required to be able to make use of the LV Visio interface. You may purchase VISIO as well with us, as we are Independent Software Vendor of Microsoft Products	
		LV-Visio Interface	500,-
LV Excel Templates	Based on the free Excel interface. With the free interface you can only save connections for one specific file pairing (LV file – Excel file) With the **additional module LV Excel Templates** you can save theses connections in a separate template file and use it on the according module when required.		
		Addition to LV software, licensing on request	

Fixed-price calculations

Lauterbach Verfahrenstechnik GmbH performs calculations with **LV-Software** as a service.
External software is used for special projects as well. E.g. COSMOS FEM and COSMOS CFD, ANSYS, FLUENT

Example: Calculation with LV-Software

Lauterbach Verfahrenstechnik performs calculations for process engineering and pressure vessel design.

We work out solutions for complex problems.

Procedure

- Calculation with detailed documentation based on your data in German or English
- Revisions and Optimisations of the results

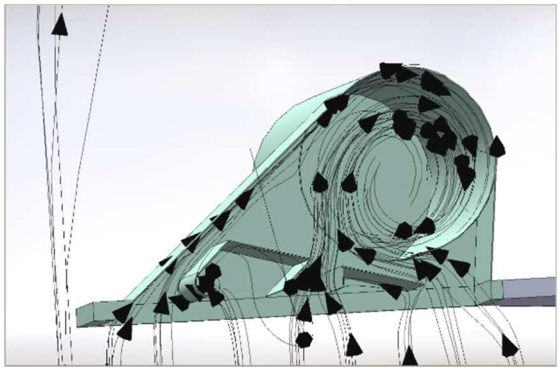
Geometrical data

Plot Parallel N

		Inner coil	
Tube outside diameter	d_a	60.3	mm
Wall thickness	s	3	mm
Tube inside diameter	d_i	54.3	mm
Number of tubes per coil	n	1	-
Coil diameter	D_{wi}	800	mm
Furnace diameter	D	739.7	mm
Coil pitch	h_i	60.3	mm
Coil length	l_{wi}	1266	mm

Example: External software for CFD simulations

- Calculation of flow velocities, pressure drops and changes in humidity.
- Multiphysics calculations e.g. with coupled thermal calculations and strength proofs.
- Part optimizations

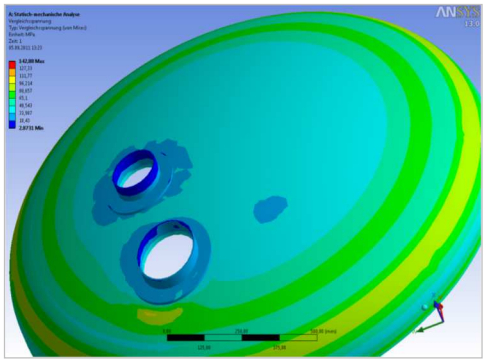


Example: ANSYS and LV module FEM

LV uses ANSYS to calculate complex projects, based on your input in the LV FEM module.

E.g. solution of complex problems like adjacent nozzles in heads and shells.

Advantage
Calculation performed by LV based on your input , documented by ANSYS.



Procedure

- Calculation with detailed documentation in German or English based on your data.
- Revision and optimisation of the results.

System requirements

To be able to work with LV programs optimally we recommend:

- Windows 7, Window 8 or Windows 10 32 / 64 bit
- Executable office-system e.g. MS Office or Open Office
  Office 2013 recommended

Licensing models

Our programs are copy-protected and are available as single-user version or a network version **at the same price**. Further deliveries will be done conforming to the initial installation.
Alternative: Single user version with USB hardlock for versatile use at a price of 80,- EUR

Network version (Local area)

A frequently used licensing model is the runtime license in a company network (network license). This license permits you to install LV software on as many computers of one LAN as you like. The program is only available for a limited number of computers (depending on the number of purchased network licenses).

1. First license: list price of the programs according to our current catalogue
2. Further licenses:
   - 15% of the current list price of the programs if installed on the same server including manual and hotline with one contact person. **Minimum amount**: **155,- EUR plus VAT**
   - 35% of current list price for an additional licence for a notebook (with hardlock or unlock code)
   - During special offer campaigns please ask for prices for further licences.

A single-user licence is bound to a specific computer. After the installation an unlock code is required.

With a dongle license you will obtain an additional hardlock or dongle. The hardlock is a device for the USB port of your computer. You can install the program on as many computers as you like. To start the program you will need the included hardlock.
Advantage: You can purchase one license and use the program either on your laptop or on the office PC, depending on where you have placed the hardlock.

Feezing, a very competitive licensing model

The 'Feezing' technology is a method developed by Lauterbach Verfahrenstechnik: You can use software when needed by paying a small 'fee'.
The software package is installed on your computer. Only when you start a program, a short-time internet connection is established to cash up the starting fee. Except of information according to cashing up the fees, no critical data like credit card number or calculation data are transferred via internet.

>> For requests for your FEEZING account less than 100,- EUR we charge 9,- EUR fee.
>> For requests for your FEEZING account from 300,- EUR you receive additional 10% for your account.

A Discount of 20% is granted for universities and research institutes. Further licenses for educational purposes on request.

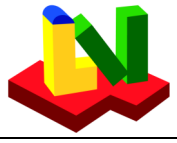
Updates and Hotline

- Maintenance contract (updates and support) for LV software (ca.10-15% of the current list price / year). There is a reinstatement fee of 45,- EUR if you decide to renew the contract manually. Contract can be cancelled within 3 months notice before contract ends. **Minimum amount: 110,- EUR.**
- Updates based on a special offer.
- Supplements and extensions of programs by separate offer.

Our hotline is essential in our customer service. Our engineers who have developed the LV programs and who work with this software every day are your contact persons.
For our customers a free of charge hotline for questions concerning operation of the program is provided for 30 days from date of purchase. After that time we offer support at a competitive price.
Within a service contract for questions in operating the program (ca. 1h / year)
Within a consultative contract for technical questions and knowledge transfer

Advantage: Reasonably priced, no administrative effort, quick solutions, fast and answers

For our FEEZING customers there are special agreements.



Terms of delivery

Ordering

Orders are legally binding only if placed in writing. Verbal orders require written confirmation. The prices are net prices plus VAT (except export). Freight costs are charged separately.

Delivery

The supplier delivers the programs in an adequately performing condition on a data storage medium as specified in the written purchase order. Costs for later modifications of the order have to be paid by the customer. The price for adapting the software to the customer's requirements such as alterations or extensions depends on the expenditure.

Obligation of acceptance

The customer is obliged to accept the product ordered from Lauterbach Verfahrenstechnik (LV).
If the buyer doesn't accept, LV is entitled to compensation for costs already incurred.

Disposal

It is not allowed to put the software purchased from LV at anybody's disposal on the internet or on the intranet without our permission.

Credit period

Software Delivery: 14 days net or 7 days with 2 % cash discount
Calculation service: Special agreement

Warranty and General Terms and Conditions

1. By placing an order the customer accepts our general terms and conditions of business. The latest version is available at www.lv-soft.com.

2. The customer is obliged to examine the product delivered by Lauterbach Verfahrenstechnik GmbH (LV) immediately on receipt and to inform LV in writing about any damages, defects and claims within 14 days from receipt of delivery. The customers' warranty claims expire after this period of time unless such fault could not be discovered upon examination and within the 14-day claim period.

3. LV does not accept any liability for damages and asset losses caused by use of the program, unless the damage resulted from a grossly negligent breach of contract. The recipient is solely responsible for the correct use of the product and for data backup.

4. The warranty of Lauterbach Verfahrenstechnik GmbH is restricted to replacement delivery or repair

   According to the usual commercial conditions LV is also entitled to restrict the warranty to the transfer of own warranty claims against manufacturers, suppliers or authors, unless LV is responsible for the defect. If the repair or replacement failed or if the customer could not be satisfied he can either demand on reduction of the purchase price or cancel the sales contract. Any further buyer's claim for restitution for inconsequential or consequential damage is excluded unless the damage resulted from a grossly negligent breach of contract on the part of LV.

Privacy policy

We are very delighted that you have shown interest in our enterprise. Data protection is of a particularly high priority for the management of the Lauterbach Verfahrenstechnik GmbH. The use of the Internet pages of the Lauterbach Verfahrenstechnik GmbH is possible without any indication of personal data; however, if a data subject wants to use special enterprise services via our website, processing of personal data could become necessary. If the processing of personal data is necessary and there is no statutory basis for such processing, we generally obtain consent from the data subject.

As a responsible company, we do not use automatic decision-making or profiling.
This Privacy Policy has been generated by the Privacy Policy Generator of the German Association for Data Protection that was developed in cooperation with Privacy Lawyers from WILDE BEUGER SOLMECKE, Cologne.

Please find the complete privacy policy under http://www.lv-soft.com/firma/impressum

Lauterbach Verfahrenstechnik GmbH 76227 Karlsruhe

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