

Making advanced PVT simple

Our product VLXE|BLEND allows you to solve any PVT problem with a few clicks in Excel, no matter if you are dealing with a polymer, copolymer, water, oil or fine chemicals. Now leading the market for 10+ years.

VLXE offers unique and market leading calculation and monitoring software for advanced PVT

VLXE was founded in Copenhagen, Denmark, with an initial focus on polymer/copolymer systems. Today our solutions cover all commonly used kinds of complex fluids, offering state-of-the-art thermodynamic models with a short time-span between model development and implementation.

VLXE has been market leading for over 10 years and is known for producing a robust product allowing users to perform advanced PVT calculations especially for the polymer, heavy oils industry and fine chemicals, within Excel and by using just a few clicks. To meet the increasing requirements for customization, VLXE also undertakes development of custom software within the boundaires of thermodynamics and Excel programming.





Introducing our product

VLXE is a PVT package aimed at systems with very heavy components. The software, now branded as VLXE|BLEND, is unique as it handles systems that no other PVT package can.

Heavy is a relative term: In the polymer industry 50,000 g/mole is considered to be a light polymer, while it is a very heavy one in the oil and gas industry.

VLXE|BLEND sets no limit for the molar mass of your components and offers a complete range of PVT simulations that includes full VLE, LLE and VLLE support for those systems.

The software has mostly been used on systems with polymers or copolymers, but has also been found useful in the oil and gas and fine chemicals industry. VLXE|BLEND is 100% integrated into Excel, offering a short and easy learning curve.

Our goal is to remain in our position as market leader, so we continually develop and improve the software. The latest development is the support for blends and early in 2013 we introduced VLXE|BLEND. We encourage you to read on and learn why it is so unique...

The VLXE timeline				()
\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
2003:	2004	2006	2008	2013
VLXE is founded by Dr. Torben Laursen. It has always been	Support for copolymer PC-SAFT added.	Support for SLE for polymer systems added.	Oil and gas module released.	Release of VLXE BLEND.
100% owned by him.			2012	A completely rewritten version of
	2005	2007	Support for blends added.	VLXE that ensures it will remain
First version of VLXE released.	Support for association and polar term in PC-SAFT added.	Support for surface tension calculations for polymer systems added.		state-of-the-art for years to come.

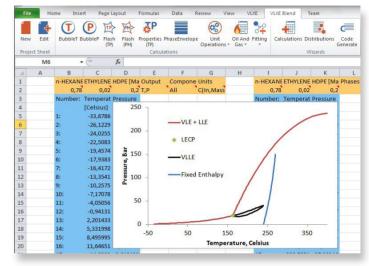
VLXE **BLEND**[®] VLXE|BLEND is an add-on that integrates our powerful PVT & phase equilibrium package into Excel

VLXE|BLEND integrates **DIPPR 801** (a quality source of thermodynamic properties) into Excel and provides a link to the DDB polymer database.

The software comes in one robust package but with many modules, using it is for a very flexible and versatile. You can see the full list of modules on our website.

The best about **VLXE**|**BLEND**:

- 🗹 Robust VLE, LLE and VLLE calculations
- Parameters stored inside the workbook
- 🗸 All functions come with a wizard
- 🗸 Access the databases from within Excel
- Easy to use Excel interface
- V No limit on molar mass
- **V** Designed to handle complex fluids
- ✓ Handles a full range of fluids



Phase diagram for a polymer system is shown.



The software can be seen in action on the following videos (click on the title below):

VLXE Blend | Oil & gas module

VLXE|BLEND is accessible on our website and may be downloaded.



INSERT

(P BubbleT BubbleP

173

0,78

0.02

Cp [kJ/(Kelvir 2,949838 2,942352 2,924853 3,218918 2,52003

Cv [k//(Kelvir 2,372766 2,373039 2,375245 2,349057 2,172803

0,002087 -0.00037 0.04

0.02

0.2

192,881 190,454

ntropy [kJ/(0,066577 0,065418 0,074019

npressibil 0,109192 0,107815

lensity [g/cn 0,529887 0,53663

enthalpy [kJ/ -2060,72 -2061,2

roperty

Pressure [Bar

emperature

HEXANE [N

ETHYLENE [M

hase Fractio hase Fractic

locity of s

PAGE LAYOUT,

Example of VLXE use

Preparing process simulations

Application:

- Fitting of solvent and polymer parameters.
- Compare results between several models.
- Determine process temperature and pressure range in order to avoid the 3-phase area.

Robust LLE and VLLE calculations

Application:

PAGE LAYOUT

INSERT

n-HEXANE [Massfracti ETHYLENE HDPE [Ma Pressure [Output

0,78

0,02

0,251188 0,251188 0,229997 0,531596 0,531596 0,531596 0,475525

192,2609 176,041

BubbleT BubbleP

0,79

0,02

02

0,251188

Entropy (k///Kg Kelvir 0.145354 0.145354 0.145354 0.064471

2,975895 2,975895 2,975895 3,198847

2,423868 2,423868 2,401146

0,001848 0,001848 0,036855

542,6841 542,6841 448,1698 n 102,2051 102,2051 102,2051 83,7121/

perature [Celsius 187,1342

HEXANE [Massfracti ETHYLENE [Massfractic

IDPE [Massfraction

ase Fraction [Mole!

se Fraction [Weig]

Volume [cm^3/ 192,2609

pressibility [-]

sity [g/cm^3]

nthalpy [kJ/Kg]

Cp [kJ/(Kelvin kg)]

JTCoeffient [Kelvin/B

Velocity of Sound [m/

Cv [kJ/(Kelvin kg)]

• Replace simulator flash in 3-phase area.

Compone Units

0.000

0.000

0.000

0.000 E

0.000

0.000

0.000

1

10 100

PointTypeTe

1000

Distribution

HDPE: Feed

- HDPE: Phase 1

• Replace simulator flash in LLE area.

FORMULAS

(=BubbleT(A2:C2; D2; E2; F2; G2; H2; I2; J2))

ixed 2D

Phase 1

Time: 382

0,78 0,950935

0,02373

0,02 0,025331

Effect of polydispersity on PVT

Application:

- How does polydispersity affect my phase boundaries?
- How much polymer in the form of light components is in my gas stream out of the separator?
- How does the polymer distribution change during my separator units?

Solving thermodynamic problems

Application:

stribution

- What does my phase envelope look like and where is the 3 phase area or the SLE line.
- Do these parameters work over my process range?
- I have associating data, do they match the model?

5 | 5

Solutions worldwide...

...for Chevron, ConocoPhillips, Dow Chemicals, Exxon-Mobil, Merck, Nova Chemicals, Sasol, Statoil and others.



"With references like Chevron, ConocoPhillips, Dow Chemicals, ExxonMobil, Merck, Nova Chemicals, Sasol, Statoil and world leading universities VLXE has become a preferred supplier for the industry."

Dr. Torben Laursen, CEO & Founder





VLXE ApS Nordre Frihavnsgade 13A, 2, tv 2100 Copenhagen Ø Denmark

If you are interested and would like more information, please contact us:

Cell phone: E-mail: Homepage: Skype: +45 31 41 01 19 tl@vlxe.com www.vlxe.com vlxe.lnc

