

Product News

Recovery Systems for
Water- and Solvent based flows

COATINGS – PIGMENTS - PAINTS - DYE

Target group

- Pigment production
Paint, Cosmetics,
Automotive,
Powder Coatings,
Industry Coatings,
Packaging and Food Packaging,
Agriculture, Electronics,
Architecture ...
 - Paint / Coatings production
Automotive,
Decorative Paints,
Chemical Industry,
Electronics, Packaging,
Aerospace, Architecture,
Vehicle refinish
- and some more ...

Pigment production

Ethanol Recovery of pigment-containing process flows

Assignment

The contaminated ethanol-water mixture needs to be recovered using a simple and user-friendly method. Maximum plant safety and a cost-effective automated system is required. Since the mixture is previously adjusted to a low pH with phosphoric acid H_3PO_4 , this will be given special consideration in the choice of materials.

Solution

Recovery of solvent by a customised Low Energy Vacuum Distillation Unit

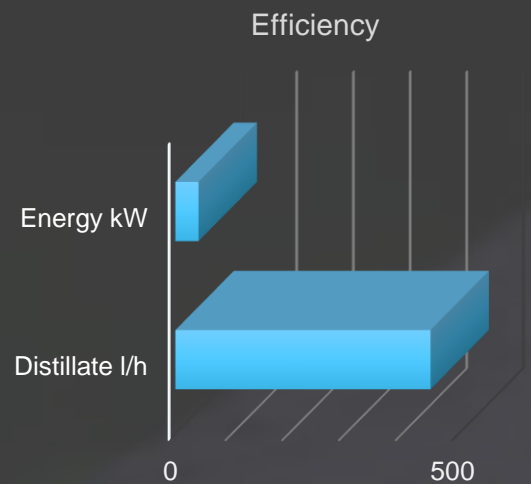
Performance and Execution

- Low energy consumption by using special Technology / Process

Distillate capacity:	450	l/h
Energy consumption kW:	41	kW
Efficiency Solvent Recovery:	0.09	kWh/l
Operation temperature:	< 50	°C

Location: GERMANY

System example



White Spirit Recovery of pigment-containing process flows

Assignment

A White Spirit based process liquid, containing impurities such as pigments, stearin and oleic acid, needs to be recovered as much as possible, impurities must be separated from the solvent.

The recovered pure White Spirit distillate needs to be led back into production.

Solution

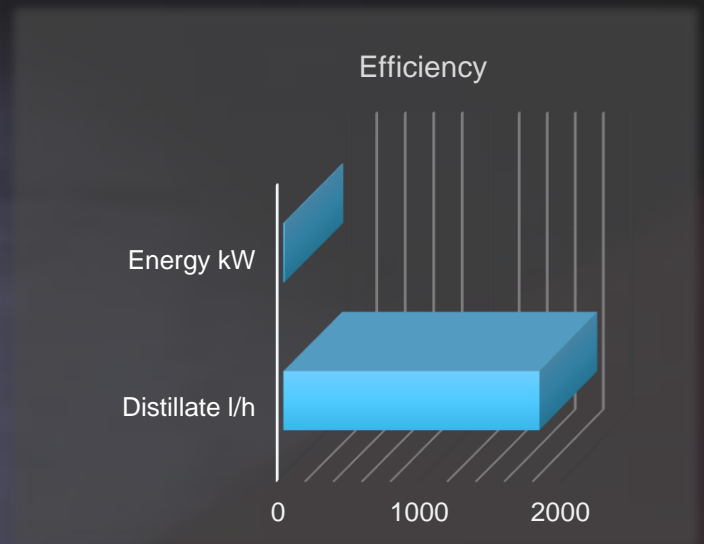
Recovery of White Spirit by a customised Vacuum Distillation Unit

Performance and Execution

- Low energy consumption through special recuperation

Distillate capacity:	2,000	l/h
Energy consumption kW:	150	kW
Efficiency Solvent Recovery:	0.075	kWh/l
Operation temperature:	< 110	°C

Location: GERMANY / CHINA



System example



Isopropanol Recovery by using Rectification Process

Assignment

Isopropanol needs to be recovered from White Spirit and impurities.
Due of lack of space within the production building, the plant needs to be fitted for an outdoor installation.

Solution

Recovery of Isopropanol by a customised Rectification Unit

Performance and Execution

- Low energy consumption through special packing material and design

Distillate capacity:	520	kg/h
Reflux:	< 1 : 2	
Operation temperature:	< 95	°C
minimum outside temperature:	-25	°C

Location: GERMANY

Brief detail



System example



Paint production

Recovery of solution from cleaning process

Assignment

Used Butyl Glycol from a cleaning process of production and bottling machines, needs to be recovered to save transport, storage, handling and costs. The system should operate environmentally friendly. No supply systems resources are available.

Solution

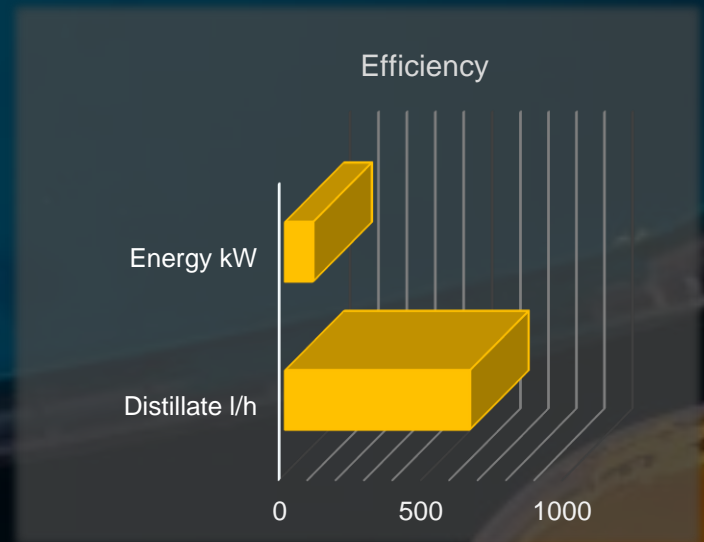
Recovery of water based solvent by customised low energy Vacuum Distillation Unit

Performance and Execution

- Low energy consumption via Special Technology

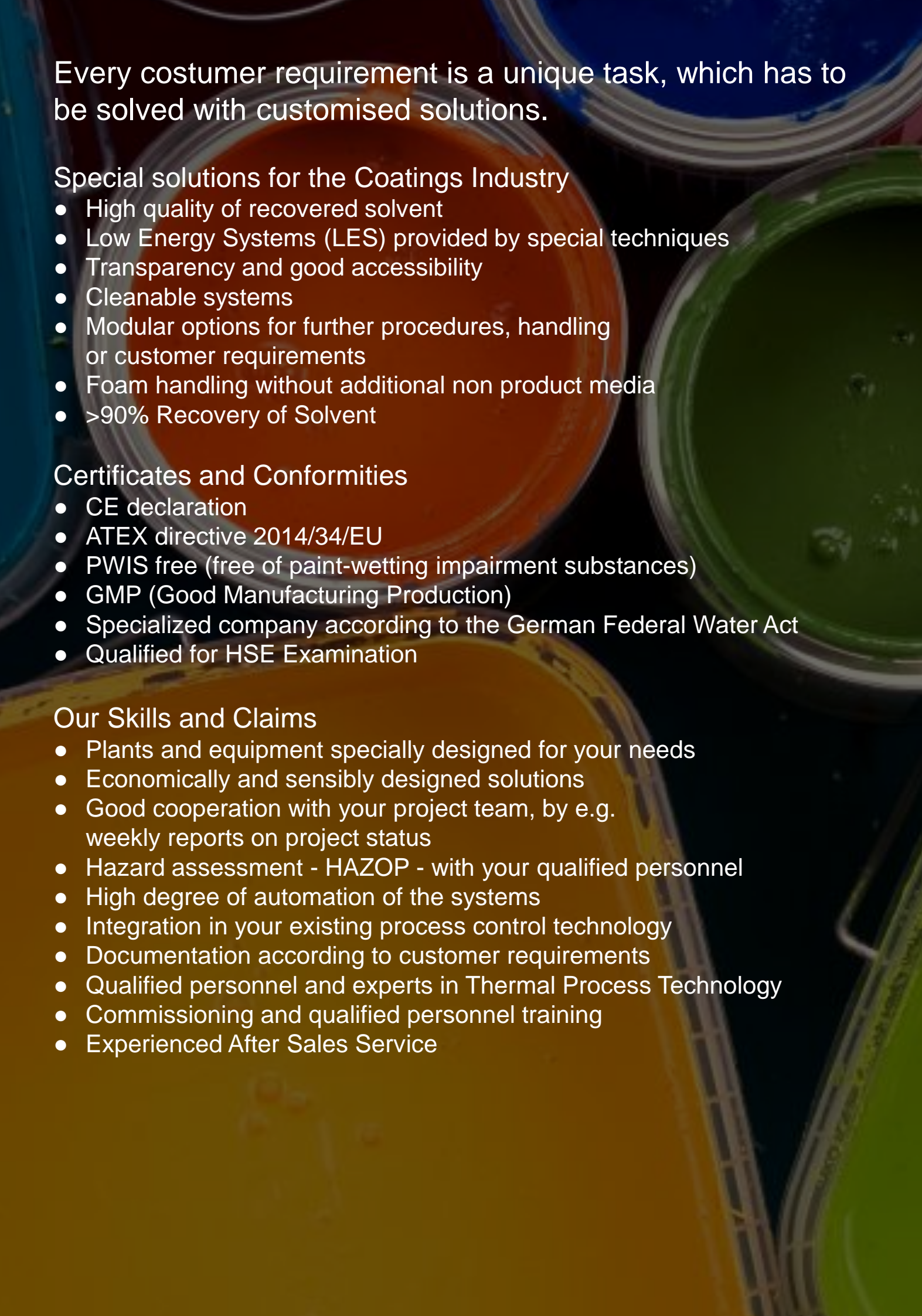
Distillate capacity:	650	l/h
Energy consumption kW:	98	kW
Efficiency Solvent Recovery:	0.15	kWh/l
Operation temperature:	< 45	°C

Location: Europe



System example





Every customer requirement is a unique task, which has to be solved with customised solutions.

Special solutions for the Coatings Industry

- High quality of recovered solvent
- Low Energy Systems (LES) provided by special techniques
- Transparency and good accessibility
- Cleanable systems
- Modular options for further procedures, handling or customer requirements
- Foam handling without additional non product media
- >90% Recovery of Solvent

Certificates and Conformities

- CE declaration
- ATEX directive 2014/34/EU
- PWIS free (free of paint-wetting impairment substances)
- GMP (Good Manufacturing Production)
- Specialized company according to the German Federal Water Act
- Qualified for HSE Examination

Our Skills and Claims

- Plants and equipment specially designed for your needs
- Economically and sensibly designed solutions
- Good cooperation with your project team, by e.g. weekly reports on project status
- Hazard assessment - HAZOP - with your qualified personnel
- High degree of automation of the systems
- Integration in your existing process control technology
- Documentation according to customer requirements
- Qualified personnel and experts in Thermal Process Technology
- Commissioning and qualified personnel training
- Experienced After Sales Service

INDUSTRIES

Pharma, Biopharma,
Food, Cosmetics

Coatings, Pigments,
Paint and Dye

Petrochemical
Oil processing

Polymer

Chemical

Surface treatment

many more....

EVAPORATION

Natural-/ Forced circulation
Falling-film
Multistage
Thin film
Vapour recompression
Heat pump

CRYSTALLISATION / DRYING

Evaporation crystalliser
Thin film dryer

RECTIFICATION / ABSORPTION

Packed column
Scrubber
Absorption column

LIQUID-LIQUID-EXTRACTION

Extraction column, agitated
Mixer-Settler
Multistage reaction column

Customised Solutions for Unique Applications

schulz+partner
verfahrenstechnik GmbH

SCHULZ+PARTNER GMBH
CARL-ZEISS-STR. 11
D-79331 TENINGEN

Phone + 49 (0)7641 95 95 700

Fax + 49 (0)7641 95 95 701

INFO@SCHULZPARTNER.COM

WWW.SCHULZPARTNER.COM