

# Distillation Systems

for Solvent Recycling 



Help to protect our Environment



**OFRU**  
RECYCLING®

## Your Expert in Solvent Recycling



### Plant Concept Solvent Recovery Plant ASC-1500 2C (two distillation columns)

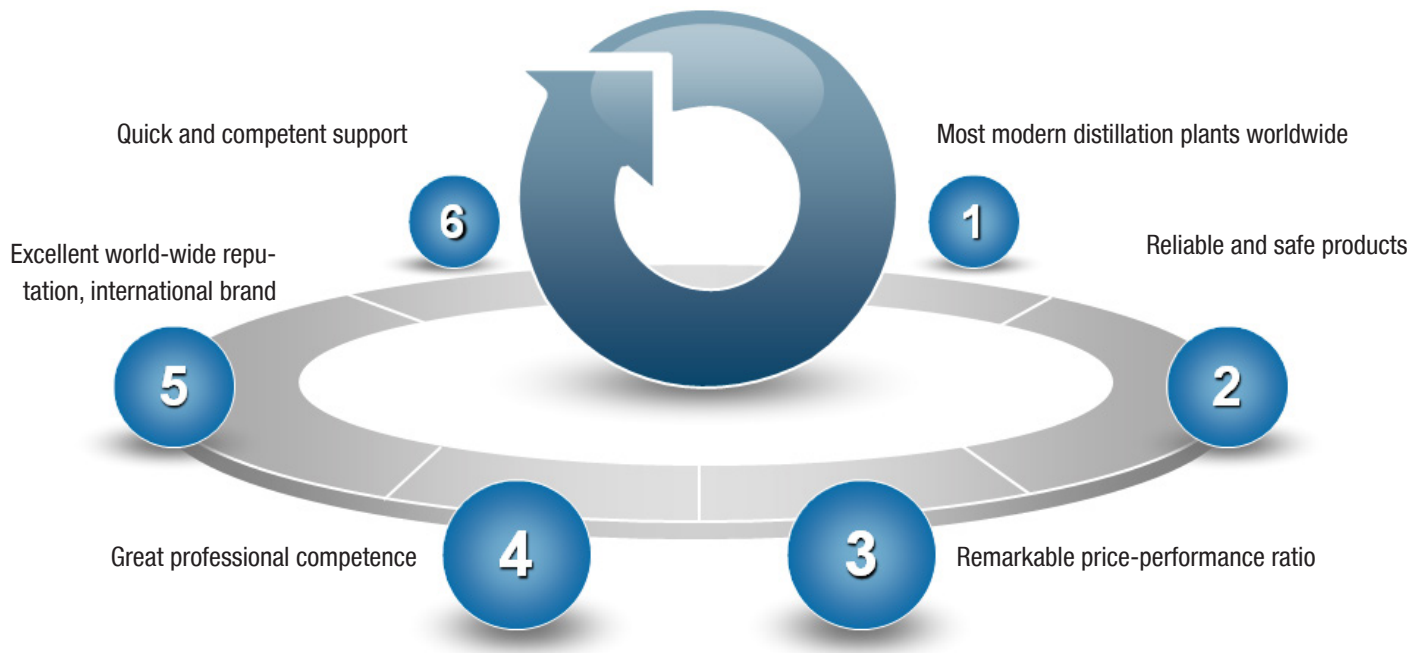
- Vessel volume 1500 l, distillation rate approx. 200-550 l/hr\*
- Combined distillation and purification of low-boiling and / or high-boiling solvents

## Your benefits with own solvent recycling

- Up to 90% cost saving
- Up to 90% less hazardous waste
- Up to 95% recovery
- Constant solvent quality
- Go Green

Professional, up-to-date technology, high quality, innovation, performance, economic, safety, reliability, fast return of investment

## Core competence



## Most modern distillation systems worldwide

 <p>Conformity</p>	 <p>ATEX - registered</p>	 <p>Depositary, notified body acc. RL 2014/34/EU</p>
 <p>Certified specialised company accord. code of law § 19 I WHG / VAUwS (Water Management Act)</p>	 <p>Over 40 years of experience</p>	 <p>We stand to our quality</p>



# OFRU Recycling Your Expert in Solvent Recycling



## Broad-based Level of Experience

OFRU Recycling manufactures a large selection of plants for recovery of organic/flammable solvents. We have become famous worldwide through creative solutions in environmental technology – as a specialist for the treatment of soiled solvents. In partnership-based cooperation with our customers, we today develop treatment solutions for various industrial sectors. With over 35 years of experience in different markets, and with different applications and different solvent mixtures, we can competently fulfil specific demands.

For large recycling projects you can count on OFRU Recycling as a competent and strong partner. We work locally with competent distribution partners and have employees who daily speak English, Spanish, Russian and French. Our export share is about 70%.

The recovery plants manufactured by OFRU Recycling are based on the principle of vacuum distillation. Soiled solvents are evaporated, finally condensed, and thus separated from impurities. In comparison to other separation processes, distillation is considered to be the process with the best product result and highest recovery rate.

## Individual Client Solutions

OFRU Recycling offers treatment systems for all capacity classes. They are designed according to individual specifications, to obtain the optimum customer solution. Our sales engineers not only coordinate, but also work responsibly on the customer's solution.

## New Company Headquarter 2015

OFRU has invested in a new location in the northern industrial area of Alzenau, thus strengthening its position as a technology leader in the field of solvent recycling. Construction of these new premises was completed in the middle of 2015, and the company now presides over the capacity to employ some 45 people in high-quality jobs, at this one place.



**Our focus is on the development of professional machines for professional companies.**

OFRU's manufacturing goal is to produce superior, high-performance distillation plants in excellent quality, using up-to-date technical processes as standard. We preside over own process engineering and design department, and continuously improve our products-

**Safety comes first.**

Safety and security are of vital importance with the choice of a suitable distilling plant. OFRU Recycling has a long history regarding the treatment of flammable solvents. With us, traditional "Made in Germany" products are combined with the implementation of up-to-date techniques compatible with the legal requirements of the European Union.

**The development of reliable high-quality products is always our prime concern.**

OFRU customers profit from it: The products provide for safe and reliable production in your factory.



## Installation & Service

### Unlimited customer service

OFRU Recycling provides service and maintenance of plants in many countries. Upon request, we undertake installation and commissioning of your treatment systems on site. We give quick support in case of emergency. Our own service team or trained sales partners are available for this. We are always happy to help. With OFRU Recycling you get the optimum solution.

### Professional machine documentation

An extensive operating manual is provided with each machine delivery. For orders from any European Union country, we will provide a translated manual in the required European language. The documents contain all the necessary information for installing, start-up, operating and maintenance of the machine. For further enquiries, our technical service hotline is always available, in German or in English.



# OFRU Recycling References Worldwide



# Delivery program for distillation system for solvent recycling

Technical Data	COMPACT 6 kW without vacuum	COMPACT 6 kW with vacuum	ASC-100 12 kW
Vessel volume	70 l	70 l	140 l
Filling volume constantly, level controlled	35 l	35 l	80 l
Distillation rate approx.	7-20 l/hr*	7-20 l/hr*	20-60 l/hr*
Heating-up time approx.	0,5 hr*	0,5 hr*	1 hr*
Heating temperature	Max. 200 °C	Max. 200 °C	Max. 200 °C
Vacuum abs.	Max. 50 mbar	Max. 50 mbar	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3 Ph + N	380-410 V / 50 Hz / 3 Ph + N	380-410 V / 50 Hz / 3 Ph + N
Power consumption heating	6 kW	6 kW	12 kW
Power consumption vacuum unit	-	1,1 kW	1,1 kW
Consumption air pressure approx.	6 bar, Max. 50 l/min.	6 bar, Max. 50 l/min.	6 bar, Max. 50 l/min.
Eff. cooling capacity necc. approx.	4 kW	4 kW	10 kW
Consumption cooling water (8-12° C) approx.	0,5 m³/hr	0,5 m³/hr	1 m³/hr
Width x Depth x Height approx. [m]	0,80 x 1,30 x 1,60	1,30 x 1,30 x 1,60	1,65 x 0,93 x 2,65
Weight approx.	140 kg	200 kg	760 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics. \*\*Depositary, notified body acc. RL 2014/34/EU

## Typical solvents for the recycling process

Our recycling plants can recycle a great variety of solvents.

Virtually all flammable solvents; Examples of alcohols are ethanol, isopropyl alcohol, n-butanol. Ketones: acetone, methyl ethyl ketone, methyl isobutyl ketone. Esters like ethyl acetate or aromatics like toluene, xylene, just to name the most important.

Typical solvents in **packaging printing and flexographic printing** are ethyl acetate and ethanol, in different mixed ratios. In gravure printing, a typical solvent used is toluene, and for analog prepress applications many different organic solvents are used for washing the flexographic plates / sleeves.

Typical solvents in the **paint industry** include white spirit, MIBK, MEK, xylene, and thinners for the coatings industry.

OFRU delivers world-wide to coloured inks and coatings manufacturers, and to manufacturers of seals and adhesives. We also deliver our equipment to many leading international paint manufacturers.

Technical Data	ASC-150 24 kW	ASC-500 37 kW	ASC-500 50 kW	ASC-1500 48 kW	ASC-1500 100 kW	ASC-3000	ASC-6000
Vessel volume	160 l	500 l	500 l	1500 l	1500 l	3000 l	6000 l
Filling volume constantly, level controlled	100 l	250 l	250 l	800 l	800 l	~1550 l	~3.000 l
Distillation rate approx.	40-90 l/hr*	80-160 l/hr*	100-220 l/hr*	120-300 l/hr*	200-550 l/hr*	> 800 l/hr*	> 1.000 l/hr*
Heating-up time approx.	0,5 hr*	0,5 hr*	0,5 hr*	0,5 hr*	0,5 hr*	1 hr*	1 hr*
Heating temperature	Max. 180 °C			Max. 200 °C			Max. 200 °C
Vacuum abs.	Max. 50 mbar						
Electrical connection	380-410 V / 50 Hz / 3 Ph + N						
Power consumption heating	24 kW	37 kW	50 kW	48 kW	100 kW	200 kW	200 kW
Power consumption vacuum unit	1,1 kW	1,1 kW	1,1 kW	1,1 kW	3,6 kW	3,6 kW	3,6 kW
Consumption air pressure approx.	6 bar, Max. 50 l/min.						
Eff. cooling capacity necc. approx.	20 kW	30 kW	40 kW	40 kW	80 kW		
Consumption cooling water (8-12° C) approx.	1,5 m³/hr	2 m³/hr	4 m³/hr	6 m³/hr	8 m³/hr	16 m³/hr	>20 m³/h
Width x Depth x Height approx. [m]	1,50 x 1,05 x 2,65	2,20 x 1,10 x 3,20	2,20 x 1,10 x 3,20	3,10 x 1,90 x 4,50	3,10 x 1,90 x 4,50	3,50 x 2,40 x 5,50	4,20 x 3,10 x 6,00
Weight approx.	950 kg	1.400 kg	1.500 kg	4.800 kg	5.000 kg	6.000 kg	8.000 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics. \*\*Depositary, notified body acc. RL 2014/34/EU

# COMPACT Solvent Recovery Plant

Easy and safe distillation



The Ex-proof OFRU distillation unit „COMPACT“ has been developed for daily volumes from 60-400 litres and consists of a thermal oil heated horizontal distillation vessel made of stainless steel, in which the soiled solvent is regenerated.

The COMPACT unit operates fully automatically and fills itself continuously with an integrated membrane pump or with the optional vacuum unit. Every few minutes the machine refills itself and can be used for 24hr operation. During the automatic distillation process the level in the distillation vessel remains constant, whereas the evaporated quantity of solvent will be replaced by new soiled solvent all the time. That means that a manual filling by hand is not

necessary.

Indicating instruments inside the front plate give information about boiling/vapour temperature of the solvent, the process pressure inside the distillation boiler and the nominal/actual values of the heating temperature. The electrical control system monitors all safety-relevant parameters and switches the plant off automatically, in case of fault. The automatic filling mode realizes when the dirty solvent storage tank is empty. Then the SIEMENS micro-processor stops filling and switches to the final „sump distillation mode“. During the sump distillation mode, solvent will be evaporated and the remaining residue will be concentrated into an adjustable viscosity. The viscosity depends on the timer setting. Afterwards the machine stops for drainage of the residue, which is easily done through the large front door.

The COMPACT is equipped with an internally certificated explosion-proof control board. For solvents with a high boiling point of  $>150^{\circ}\text{C}$  an optional vacuum unit is available. This option consists of an electrical high performance vacuum pump and generates a vacuum down to  $-0,95$  bar. The boiling points of the solvents are thereby greatly reduced. The heating temperature can be reduced, which saves energy.

The installation and start-up can be carried out easily and quickly by the customer. All connections are placed on one side of the machine.

COMPACT – the dangerous and unhealthy pouring of solvents by hand belongs to the past!

**Typical area of application:** 60-160 l / shift

**EX Class:** EX II 2G c T3

CE  ATEX 





## Technical data

Technical data	COMPACT without vacuum	COMPACT with vacuum
Total vessel volume	70 l	70 l
Filling volume constantly, level controlled	35 l	35 l
Distillation rate approx.	7-20 l/hr *	7-20 l/hr *
Heating-up time approx.	0,50 hr *	0,50 hr *
Heating temperature	Max. 200 °C	Max. 200 °C
Vacuum abs. (optional)	Max. 50 mbar	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N	380-410 V / 50 Hz / 3Ph + N
Power consumption thermal oil heater	6 kW	6 kW
Power consumption vacuum unit	-	1,1 kW
Consumption air pressure approx.	6 bar max., 50 l/min	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	4 kW	4 kW
Consumption cooling water (8-12° C) approx.	0,5 m³/hr	0,5 m³/hr
Width x Depth x Height approx.	0,80 x 1,30 x 1,6 [m]	1,30 x 1,30 x 1,6 [m]
Weight approx.	~140 kg	~200 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.

\*\*Depositary, notified body acc. RL 2014/34/EU

### Product benefits

- Automatic operation: Automatic and continuous solvent filling: No pouring of solvents by hand any more
- Filling level is controlled and always constant = Mostly constant output
- Horizontal distillation vessel: Easy cleaning of vessel, no expensive plastic bags any more, no tilting of whole machine necessary
- Small distillation vessel of 70l: Fast heating up of solvents, high distillation rate with small machine size
- Water cooling: Optimum condensation of solvent vapours even at high ambient temperature
- Explosion-proof electric panel with SIEMENS digital control inside
- Auto-stop: When dirty solvent drum is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Built according to latest European regulations: A high level of operational safety is standard.



### Special application:

Acetone/water separation with particular purity

# ASC-Series Professional Solvent Recycling

ASC-type units, comprising some of the most modern distillation plants worldwide, are compact in design, powerful, and very easy to operate.

The OFRU distillation plant ASC was specially developed for customers with large quantities of soiled solvents, e.g. 300-30.000 l/day. The plant is equipped with a conical distillation vessel in stainless steel and an integrated high capacity steam generator for powerful distillation (beginning with ASC-150). The heat is produced with electrical energy 380-410 Volts. Alternatively, other heat carrying media (e.g. oil/hot water) can be attached. The plant is normally connected to tanks for soiled and purified solvents.

An Ex-proof level control system retains a constant solvent quantity inside the evaporator system and guarantees continuous 24hr-operation. A vacuum pump conveys the soiled solvent into the evaporator. A vacuum unit reduces the boiling temperature and thus prevents undesired decomposition of the solvent and pollution. Solvent vapours are condensed inside the water-cooled condenser and are collected in a tank, for reuse.

A slow-moving scraper device, with self-adjusting scraper blades, maintains the vessel walls free of crust formation during distillation. The combination of a uniform stirring and perfect scraper blades on the side wall of the vessel ensure for optimum heat transfer into the solvent. The result of such construction details is a fast heating-up of the solvent and a high solvent output, even with a compact machine size and vessel/filling volume.

The whole distillation process is controlled and monitored by a SIEMENS microprocessor. At the end of the continuous operation the automatic sump distillation process is started. The residue is thickened to a predetermined viscosity, controlled by a timer. Afterwards, the plant is automatically switched off and ready for drainage. The drainage of the viscous residues occurs via a sliding valve at the bottom end of the conical vessel. The rotating scraper and the conical vessel design provide for easy drainage of the sludge through the centered outlet of the vessel. Manual cleaning duties are no longer necessary.

The plant is then ready for the next continuous operation.

ASC- type units comprise professional and easy-to-operate solvent recovery plants for high volumes, 300-30.000 l/day.

## Obtain the best performance

- Fast and powerful heating-up of the machine. This saves time and money.
- High outputs possible (litres per hour)
- Constructed acc. to latest EU directives: High levels of operational safety
- Low space requirement

CE Ex ATEX TÜV



ASC-100  
12 kW

ASC-150  
24 kW

ASC-500  
37 / 50 kW

ASC-1500  
48 / 100 kW

# ASC-Series Professional Solvent Recycling

## Product benefits

- Parts contacting the solvent are made of stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is kept constant. Plant always distills continuously, no batch operation
- Conical distillation vessel in stainless steel AISI 304 with a smooth and plane inner surface: Easy and complete drainage of vessel content by means of natural gravity and scraper operation
- **Perfect scraper system:** Blades keep the evaporator walls free from residues, no re-adjustment necessary, guaranteeing an optimum and very effective cleaning
- Water cooling: Optimum condensation of solvent vapours, even at high ambient temperatures
- Electrical panel with SIEMENS digital control inside
- Automatic operation
- Auto-stop: When dirty solvent drum is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard.

## Integrated modern steam heating (ASC-150 to ASC-1500)

- Solvent is heated up faster than with conventional thermal oil heating systems
- No oil change necessary = saves money and maintenance
- No encrustation of heating elements any more, heating power is constant

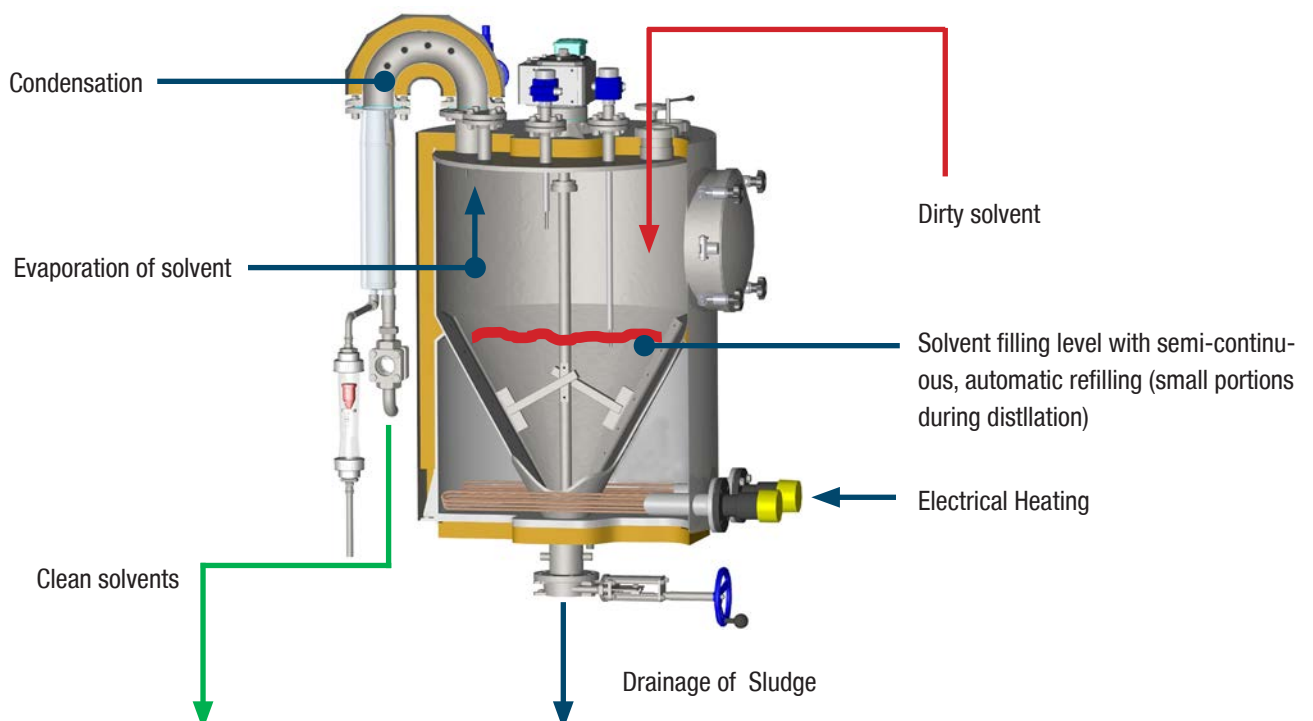
- No oil sludge in the machine
- Closed system: No corrosion of vessel due to humidity or salty air going daily into a thermal oil heating jacket



Robust scraper system with uniform contact pressure

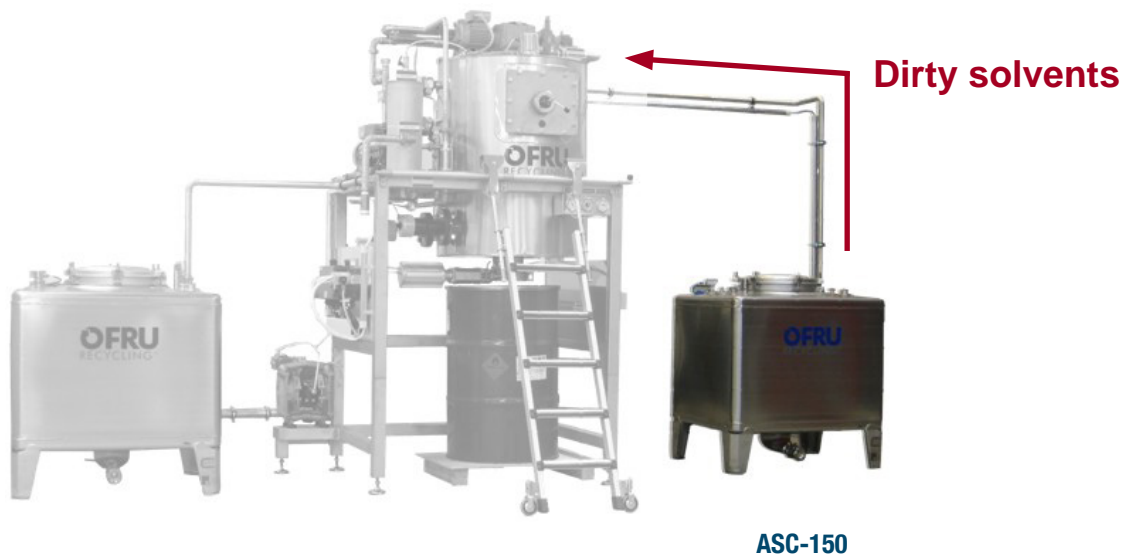


Encrusted heating elements are things of the past !



## Process explained

Automatic solvent filling from tank or drum



Continuous recycling process of solvents

Solvent recycling with high distillation performance, approx. output	<p>ASC-150</p>
ASC-100 12 kW: 20-60 l/hr	
<b>ASC-150 24 kW: 40-90 l/hr</b>	
ASC-500 37 kW: 80-160 l/hr	
ASC-500 50 kW: 100-220 l/hr	
ASC-1500 48 kW: 120-300 l/hr	
ASC-1500 100 kW: 200-550 l/hr	
ASC-3000: >800 l/hr	
ASC-6000: >1000 l/hr	



## Process explained

Clean recycled solvent

Clean recycled  
solvent, up to 95%  
recovery



ASC-150

Residue after recycling process



Residue / Sludge



ASC-150

# ASC-100 12 kW Solvent Recovery Plant

The ASC-Series, one of the most modern distillation plants worldwide, is constructed with a compact design, is powerful and very easy to use.



An economic alternative to a steam heated distillation plant is the ASC-100. The ASC-100 is the smallest vacuum distillation unit of the professional ASC-Series. It includes an integrated thermal oil heating system.

A particular characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with thermal oil. The hot oil in the double jacket indirectly heats the solvent and evaporates it afterwards. At the same time a very good distillation rate is achieved, with a low vessel filling volume. Only an electri-

cal connection is necessary for the integrated thermal oil heating system.

A high performance liquid ring vacuum pump in two-stage design transfers the dirty solvent to the evaporator and guarantees a continuous 24-hour operation. During automatic distillation the quantity of solvent evaporated is gradually and automatically replaced. This automatic process can be adjusted with the timer.

**Timer 1 "Continuous Distillation":** If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer 2. **Timer 2: Final distillation mode "Sump Distillation":** The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After a set time has passed the plant switches off and is ready for manual or fully automatic emptying. The distilled and cleaned solvent flows continuously from the distilling plant into a nearby tank. A further characteristic of the ASC- Series evaporators is a slow-running agitator with automatic self-adjusting scraper blades made of PTFE.

These blades optimally clean the conical evaporator vessel and need no re-adjustment, which is of great benefit during daily operation. The total distillation process is controlled by a SIEMENS microprocessor. The emptying of the high-viscosity residue is done via natural gravity over a drainage valve at the bottom of the round conical vessel. The plant can be refilled again automatically with dirty solvent after e.g. a one, two or three-shift operation. A new continuous recycling process then begins.

**Typical area of application:** 160-500 l / shift

**EX Class:** EX II 2G c T3

CE  ATEX 



# Technical data

Technical data	ASC-100 12 kW
Total vessel volume	140 l
Filling volume constantly, level controlled	~80 l
Distillation rate approx.	20-60 l/hr *
Heating-up time approx.	1 hr *
Heating temperature	Max. 200 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption thermal oil heater	12 kW
Power consumption vacuum unit	1,1 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	10 kW
Consumption cooling water (8-12° C) approx.	1 m³/hr
Width x Depth x Height approx.	1,65 x 0,93 x 2,65 [m]
Weight approx.	~760 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.

\*\*Depositary, notified body acc. RL 2014/34/EU

## Product benefits

- Parts contacting the solvent are made of stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Conical distillation vessel in stainless steel AISI 304 with a smooth and plane inner surface: Easy and complete drainage of vessel content by means of natural gravity and scraper operation
- Perfect scraper system: Blades keep the evaporator walls free from residues, no re-adjustment necessary, guaranteeing an optimum and very effective cleaning
- In-built electrical thermal oil heater
- Water cooling: Optimum condensation of solvent vapours even at high ambient temperatures
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and process monitoring
- Automatic operation
- Auto-stop: When dirty solvent drum or external dirty solvent tank is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard



# ASC-150 24 kW Solvent Recovery Plant

The ASC-Series, one of the most modern distillation plants worldwide, is constructed with a compact design, is powerful and very easy to use.



The ASC-150 is OFRU's most popular vacuum distillation unit out of the professional ASC-Series. It includes a modern integrated steam heating system.

A particular characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with steam. The steam in the double jacket transfers the energy extremely fast into the solvent. At the same time a high distillation rate is attained with a small vessel volume. Only an electrical connection is necessary for the integrated steam heating system.

A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24-hour operation. During automatic distillation the quantity of solvent evaporated is gradually and automatically replaced. This automatic process can be adjusted with the timer. **Timer 1 "Continuous Distillation"**: If

the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to **Timer 2: Final distillation mode "Sump Distillation"**: The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After a set time has passed the plant switches off and is ready for manual or fully automatic emptying.

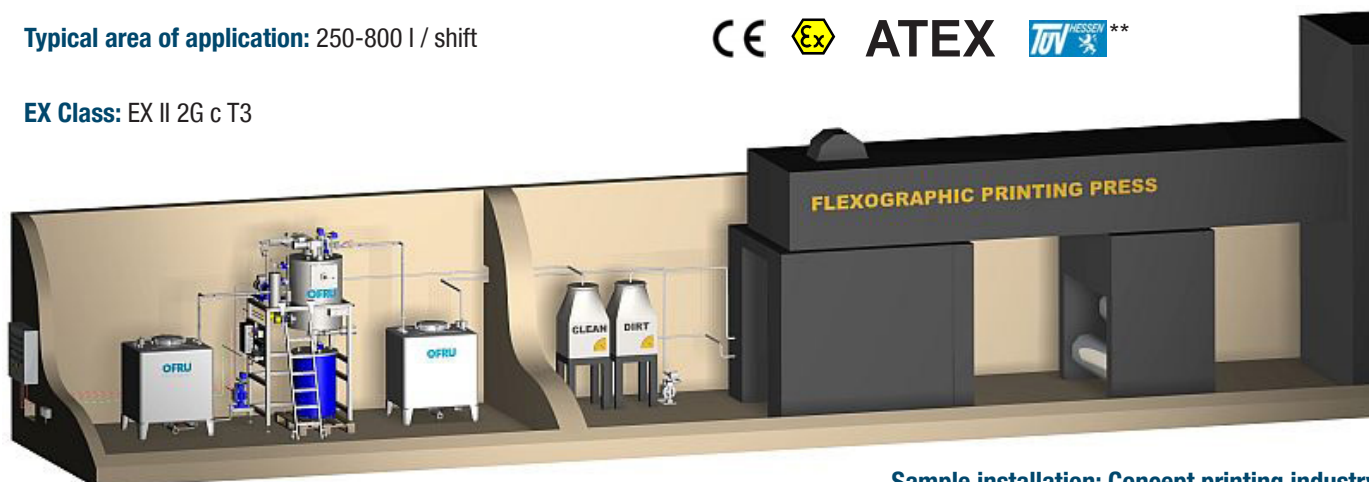
The distilled and cleaned solvent flows continuously from the distilling plant into a nearby tank. A further characteristic of the ASC-Series evaporators is a slow-running agitator with automatic self-adjusting scraper blades made of PTFE. These blades optimally clean the conical evaporator vessel and need no re-adjustment, which is of great benefit during daily operation. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done via natural gravity over a drainage valve at the bottom of the round conical vessel.

The plant can be refilled again automatically with dirty solvent after e.g. a one, two or three-shift operation. A new continuous recycling process then begins.

**Typical area of application:** 250-800 l / shift

**EX Class:** EX II 2G c T3



Sample installation: Concept printing industry



# Technical data

Technical data	ASC-150 24 kW
Total vessel volume	160 l
Filling volume constantly, level controlled	~100 l
Distillation rate approx.	40-90 l/hr *
Heating-up time approx.	0,5 hr *
Heating temperature	Max. 180 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption steam heating generator	24 kW
Power consumption vacuum unit	1,1 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	20 kW
Consumption cooling water (8-12° C) approx.	1,5 m³/hr
Width x Depth x Height approx.	1,50 x 1,05 x 2,65 [m]
Weight approx.	~950 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.  
 \*\*Depositary, notified body acc. RL 2014/34/EU

## Product benefits

- Parts contacting the solvent are made of stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Excellent conical distillation vessel in stainless steel AISI 304 with a smooth and plane inner surface: Easy and complete drainage of vessel content by means of natural gravity and scraper operation
- Perfect scraper system: Blades keep the evaporator walls free from residues, no re-adjustment necessary, guaranteeing an optimum and very effective cleaning
- Water cooling: Optimum condensation of solvent vapours even at high ambient temperature
- Integrated modern steam heating system: Solvent is heated up faster than with conventional thermal oil heating systems, no oil change necessary = saves money and maintenance, no incrustation of heating elements any more, always constant heating power, no oil sludge in the machine
- Closed system: No corrosion of vessel due to humidity or salty air entering daily into a thermal oil heating jacket
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and process monitoring
- Automatic operation
- Auto-stop: When dirty solvent drum or external dirty solvent tank is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard

# ASC-500 37 kW Solvent Recovery Plant

The ASC-Series, one of the most modern distillation plants worldwide, is constructed with a compact design, is powerful and very easy to use.



The ASC-500 is a most comfortable vacuum distillation unit out of the professional series ASC. It includes a modern integrated steam heating system.

A characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with steam. The steam in the double jacket transfers the energy extremely fast into the

solvent. At the same time a high distillation rate is reached with a small vessel volume. Only an electrical connection is necessary for the integrated steam heating system.

A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24 hour operation. During automatic distillation the quantity of solvents which is evaporated is automatically refilled by small portions again. This automatic process is adjusted by the timer. **Timer 1 "Continuous Distillation"**: If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer 2. **Timer 2: Final distillation mode "Sump Distillation"**. The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After the time has passed the plant switches off and is ready for the manual or fully automatic emptying.

The distilled and cleaned solvent flows continuously from the distilling plant into a build-lateral tank. A further characteristic of the ASC evaporators is a slow-running agitator with automatic self adjusting scraper blades made out of PTFE. These blades optimally clean the conical evaporator vessel and need no re-adjustment. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done by natural gravity over a drainage valve at the bottom of the conical round vessel. The plant can be re-filled again automatically with dirty solvent. A new continuous recycling process begins.

**Typical area of application:** 600-1.200 l / shift

**EX Class:** EX II 2G c T3

CE  **ATEX** 



# Technical data

Technical data	ASC-500 37 kW
Total vessel volume	500 l
Filling volume constantly, level controlled	~250 l
Distillation rate approx.	80-160 l/hr *
Heating-up time approx.	0,5 hr *
Heating temperature	Max. 180 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption steam heating generator	37 kW
Power consumption vacuum unit	1,1 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	30 kW
Consumption cooling water (8-12° C) approx.	2 m³/hr
Width x Depth x Height approx.	2,20 x 1,10 x 3,20 [m]
Weight approx.	~1.400 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.

\*\*Depositary, notified body acc. RL 2014/34/EU

## Product benefits

- Almost all product-contacting parts in stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Excellent conical distillation vessel in stainless steel AISI 304 with lathed and plain surface: Easy and complete drainage of vessel content by natural gravity and scraper support
- Perfect scraper system: Blades keep the evaporator walls free from depositions, no re-adjustment necessary, guaranteeing an optimal and real cleaning effect.
- Water cooling: Optimal condensation of solvent vapours even at high ambient temperature
- Integrated modern steam heating system: Solvent is heated up faster than with conventional thermal oil heating systems, no oil change necessary = saves money and maintenance, no incrustation of heating elements any more, always constant heating power, no oil sludge in the machine, closed system: No corrosion of vessel due to humidity or salty air going daily into a thermal oil heating jacket
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and process monitoring
- Automatic operation
- Auto-stop: When dirty solvent drum or external dirty solvent tank is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard

# ASC-500 50 kW Solvent Recovery Plant

The ASC-Series, one of the most modern distillation plants worldwide, is constructed with a compact design, is powerful and very easy to use.



The ASC-500 is a most comfortable vacuum distillation unit out of the professional series ASC. It includes a modern integrated steam heating system.

A characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with steam. The steam in the double jacket transfers the energy extremely fast into the

solvent. At the same time a high distillation rate is reached with a small vessel volume. Only an electrical connection is necessary for the integrated steam heating system.

A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24 hour operation. During automatic distillation the quantity of solvents which is evaporated is automatically refilled by small portions again. This automatic process is adjusted by the timer. **Timer 1 "Continuous Distillation"**: If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer 2. **Timer 2: Final distillation mode "Sump Distillation"**. The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After the time has passed the plant switches off and is ready for the manual or fully automatic emptying.

The distilled and cleaned solvent flows continuously from the distilling plant into a build-lateral tank. A further characteristic of the ASC evaporators is a slow-running agitator with automatic self adjusting scraper blades made out of PTFE. These blades optimally clean the conical evaporator vessel and need no re-adjustment. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done by natural gravity over a drainage valve at the bottom of the conical round vessel. The plant can be re-filled again automatically with dirty solvent. A new continuous recycling process begins.

**Typical area of application:** 800-1.800 l / shift

**EX Class:** EX II 2G c T3

**CE** **Ex** **ATEX** **TUV** **WESSEN** **\*\***

**Sample Installation:**

- ASC-500 50 kW with professional OFRU 2000 l stainless steel tank system





# Technical data

Technical data	ASC-500 50 kW
Total vessel volume	500 l
Filling volume constantly, level controlled	~250 l
Distillation rate approx.	100-220 l/hr *
Heating-up time approx.	0,5 hr *
Heating temperature	Max. 180 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption steam heating generator	50 kW
Power consumption vacuum unit	1,1 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	40 kW
Consumption cooling water (8-12° C) approx.	4 m³/hr
Width x Depth x Height approx.	2,20 x 1,10 x 3,20 [m]
Weight approx.	~1.500 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.  
 \*\*Depositary, notified body acc. RL 2014/34/EU

## Product benefits

- Almost all product-contacting parts in stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Excellent conical distillation vessel in stainless steel AISI 304 with lathed and plain surface: Easy and complete drainage of vessel content by natural gravity and scraper support
- Perfect scraper system: Blades keep the evaporator walls free from depositions, no re-adjustment necessary, guaranteeing an optimal and real cleaning effect.
- Water cooling: Optimal condensation of solvent vapours even at high ambient temperature
- Integrated modern steam heating system: Solvent is heated up faster than with conventional thermal oil heating systems, no oil change necessary = saves money and maintenance, no incrustation of heating elements any more, always constant heating power, no oil sludge in the machine, closed system: No corrosion of vessel due to humidity or salty air going daily into a thermal oil heating jacket
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and process monitoring
- Automatic operation
- Auto-stop: When dirty solvent drum or external dirty solvent tank is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard

# ASC-1500 48 kW Solvent Recovery Plant

The ASC-Series, one of the most modern distillation plants worldwide, is constructed with a compact design, is powerful and very easy to use



ASC-1500 is an easy-to-use vacuum distillation unit out of the professional ASC-Series. It includes a modern integrated steam heating system.

A particular characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with steam. The steam in the double jacket transfers the energy extremely fast into

the solvent. At the same time a high distillation rate is attained. Only an electrical connection is necessary for the integrated steam heating system.

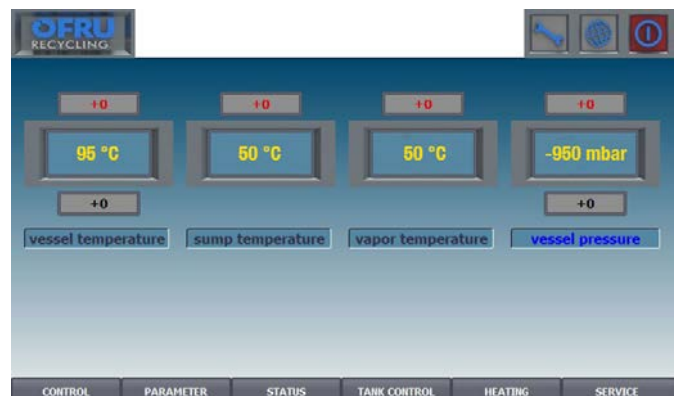
A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24-hour operation. During automatic distillation the quantity of solvent evaporated is gradually and automatically replaced. This automatic process can be adjusted with the timer. **Timer Setting 1 "Continuous Distillation"**: If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer Setting 2. **Timer Setting 2: Final distillation mode, viz. "Sump Distillation"**: The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After a set time has passed the plant switches off and is ready for manual or fully automatic emptying.

The distilled and cleaned solvent flows continuously from the distilling plant into a nearby tank. A further characteristic of the ASC-Series evaporators is a slow-running agitator with automatic self-adjusting scraper blades made of PTFE. These blades optimally clean the conical evaporator vessel and need no re-adjustment, which is of great benefit during daily operation. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done via natural gravity over a drainage valve at the bottom of the round conical vessel. The plant can be refilled again automatically with dirty solvent after e.g. a one, two or three-shift operation. A new continuous recycling process then begins again.

**Typical area of application:** 960-2.400 l / shift

**EX Class:** EX II 2G c T3



# Technical data

Technical data	ASC-1500 48 kW
Total vessel volume	1500 l
Filling volume constantly, level controlled	~800 l
Distillation rate approx.	150-300 l/hr *
Heating-up time approx.	0,5 hr *
Heating temperature	Max. 180 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption steam heating generator	48 kW
Power consumption vacuum unit	1,1 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	40 kW
Consumption cooling water (8-12° C) approx.	6 m³/hr
Width x Depth x Height approx.	3,10 x 1,90 x 4,50 [m]
Weight approx.	~4.800 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.  
 \*\*Depositary, notified body acc. RL 2014/34/EU

## Product benefits

- Parts contacting the solvent are made of stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Excellent conical distillation vessel in stainless steel AISI 304 with a smooth and plane inner surface: Easy and complete drainage of vessel content by means of natural gravity and scraper operation
- Perfect scraper system: Blades keep the evaporator walls free from residues, no re-adjustment necessary, guaranteeing an optimum and very effective cleaning
- Water cooling: Optimum condensation of solvent vapours even at high ambient temperature
- Integrated modern steam heating system: Solvent is heated up faster than with conventional thermal oil heating systems, no oil change necessary = saves money and maintenance, no incrustation of heating elements any more, always constant heating
- power, no oil sludge in the machine
- Closed system: No corrosion of vessel due to humidity or salty air entering daily into a thermal oil heating jacket
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and Process Monitoring
- Automatic operation
- Auto-stop: When dirty solvent drum or external dirty solvent tank is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard.

# ASC-1500 100 kW Solvent Recovery Plant

The ASC-Series, one of the most modern distillation plants worldwide, is constructed with a compact design, is powerful and very easy to use



ASC-1500 is an easy-to-use vacuum distillation unit out of the professional ASC-Series. It includes a modern integrated steam heating system.

A particular characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with steam. The steam in the double jacket transfers the energy extremely fast into

the solvent. At the same time a high distillation rate is attained. Only an electrical connection is necessary for the integrated steam heating system.

A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24-hour operation. During automatic distillation the quantity of solvent evaporated is gradually and automatically replaced. This automatic process can be adjusted with the timer. **Timer 1 "Continuous Distillation"**: If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer 2. **Timer 2: Final distillation mode "Sump Distillation"**: The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After a set time has passed the plant switches off and is ready for manual or fully automatic emptying.

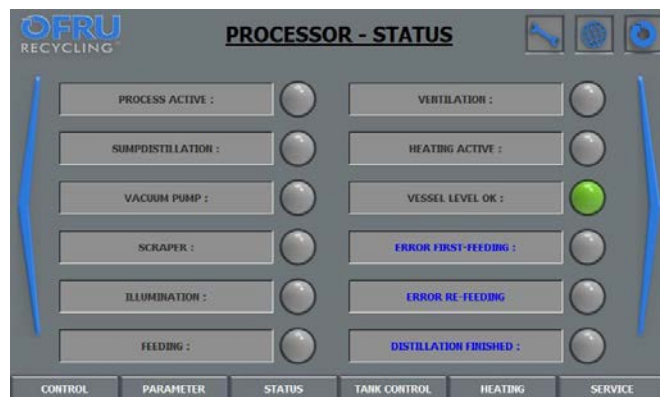
The distilled and cleaned solvent flows continuously from the distilling plant into a nearby tank. A further characteristic of the ASC-Series evaporators is a slow-running agitator with automatic self-adjusting scraper blades made of PTFE. These blades optimally clean the conical evaporator vessel and need no re-adjustment, which is of great benefit during daily operation. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done via natural gravity over a drainage valve at the bottom of the round conical vessel. The plant can be refilled again automatically with dirty solvent after e.g. a one, two or three-shift operation. A new continuous recycling process then begins.

**Typical area of application:** 1.600-4.500 l / shift

**EX Class:** EX II 2G c T3

CE Ex ATEX TÜV





# Technical data

Technical data	ASC-1500 100 kW
Total vessel volume	1500 l
Filling volume constantly, level controlled	~800 l
Distillation rate approx.	200-550 l/hr *
Heating-up time approx.	0,5 hr *
Heating temperature	Max. 180 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption steam heating generator	100 kW
Power consumption vacuum unit	3,6 kW in stainless steel
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	80 kW
Consumption cooling water (8-12° C) approx.	8 m³/hr
Width x Depth x Height approx.	3,10 x 1,90 x 4,50 [m]
Weight approx.	~5.000 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.  
 \*\*Depositary, notified body acc. RL 2014/34/EU

## Product benefits

- **All** Parts contacting the solvent are made of stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Excellent conical distillation vessel in stainless steel AISI 304 with a smooth and plane inner surface: Easy and complete drainage of vessel content by means of natural gravity and scraper operation
- Perfect scraper system: Blades keep the evaporator walls free from residues, no re-adjustment necessary, guaranteeing an optimum and very effective cleaning
- Water cooling: Optimum condensation of solvent vapours even at high ambient temperature
- Integrated modern steam heating system: Solvent is heated up faster than with conventional thermal oil heating systems, no oil change necessary = saves money and maintenance, no incrustation of heating elements any more, always constant heating
- power , no oil sludge in the machine
- Closed system: No corrosion of vessel due to humidity or salty air entering daily into a thermal oil heating jacket
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and process monitoring
- Automatic operation
- Auto-stop: When dirty solvent drum or external dirty solvent tank is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard

# ASC-1500 2C Solvent Recovery Plant for Special Applications

Separation of two different solvents



The ASC-1500 2C is a vacuum distillation plant based on the ASC-1500. It includes a modern integrated steam heating system, but can also be designed for the use of customer in-house steam or a thermal oil heating circuit.

The plant has two distillation columns (2C). The distillation process can be run, either in atmospheric or vacuum distillation mode, for the treatment of light solvent products or high boiling solvents. Column 1 (the long one) is for atmospheric distillation; column 2

(the short one) is for vacuum distillation.

A particular characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is heated with steam. The steam in the double jacket transfers the energy extremely fast into the solvent. At the same time a high distillation rate is attained. Only an electrical connection is necessary for the integrated steam heating system.

A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24-hour operation. During automatic distillation the quantity of solvent evaporated is gradually and automatically replaced. This automatic process can be adjusted with the timer. **Timer 1 "Continuous Distillation"**: If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer Setting 2. **Timer 2: Final distillation mode, viz. "Sump Distillation"**: The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After a set time has passed the plant switches off and is ready for manual or fully automatic emptying.

The distilled and cleaned solvent flows continuously from the distilling plant into a nearby tank. A further characteristic of the ASC-Series evaporators is a slow-running agitator with automatic self-adjusting scraper blades made of PTFE. These blades optimally clean the conical evaporator vessel and need no re-adjustment, which is of great benefit during daily operation. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done via natural gravity over a drainage valve at the bottom of the round conical vessel. The plant can be refilled again automatically with dirty solvent after e.g. a one, two or three-shift operation. A new continuous recycling process then begins.

**Typical area of application:** 1.600-4.500 l / shift

**EX Class:** EX II 2G c T3

## Technical data

Technical data	ASC-1500 2C
Total vessel volume	1500 l
Filling volume constantly, level controlled	~800 l
Distillation rate approx.	200-550 l/hr *
Heating-up time approx.	0,5 hr *
Heating temperature	Max. 180 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph
Power consumption steam heating generator	100 kW
Power consumption vacuum unit	3,6 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	80 kW
Consumption cooling water (8-12° C) approx.	8 m³/hr
Width x Depth x Height approx.	4,00 x 2,50 x 8,70 [m]
Weight approx.	~6.000 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.

\*\*Depositary, notified body acc. RL 2014/34/EU

### Product features

- Combined vacuum and atmospheric distillation
- Two distillation columns (2C) for different separating options
- Ex-proof
- Distillation rate, depending on the physical and chemical properties and parameters up to approx. 550 l/hr. \*
- 100 kW heating power
- Fully automatic operation
- Electric control board with SIEMENS S7 1200 digital control inside
- Control cabinet (Non-Ex) with SIEMENS HMI Color TFT-Comfort Panel with touch operation and process monitoring
- Integrated remote maintenance, and remote diagnostics if needed
- Transmission of error messages via SMS to mobile phone optional
- Constructed according to latest EU directives: A high level of operational safety is standard

# ASC-3000 Solvent Recovery Plant

Modern distillation plant for connection to external steam generator or thermal oil heating supply.



The ASC-3000 is a large-scale plant from the professional ASC-Series.

A particular characteristic is the conical distillation vessel made of stainless steel, where the lateral surface is either steam-heated or heated with thermal oil. At the same time a high distillation rate is attained. Only an electrical connection is necessary for the integrated steam heating system.

A particular characteristic is the conical distillation vessel made of stainless steel. The lateral surface is either heated with steam or

thermal oil. The heating media on the lateral surface transfers the energy effectively into the solvent. At the same time a high distillation rate is attained. Only an electrical connection is necessary for the integrated steam heating system.

A high-speed vacuum pump transfers the dirty solvent to the evaporator and guarantees a continuous 24-hour operation. During automatic distillation the quantity of solvent evaporated is gradually and automatically replaced. This automatic process can be adjusted with the timer. **Timer Setting 1 "Continuous Distillation"**: If the set time has passed or the tank of dirty solvent is empty, the plant switches automatically to Timer Setting 2. **Timer Setting 2: Final distillation mode, viz. "Sump Distillation"**: The continuous filling is stopped and the remaining solvent mixture in the vessel is evaporated to a thick concentrate. After a set time has passed the plant switches off and is ready for manual or fully automatic emptying.

The distilled and cleaned solvent flows continuously from the distilling plant into a nearby tank. A further characteristic of the ASC-Series evaporators is a slow-running agitator with automatic self-adjusting scraper blades made of PTFE.

These blades optimally clean the conical evaporator vessel and need no re-adjustment, which is of great benefit during daily operation. The total distillation process is controlled by a SIEMENS microprocessor.

The emptying of the high-viscosity residue is done via natural gravity over a drainage valve at the bottom of the round conical vessel. The plant can be refilled again automatically with dirty solvent after e.g. a one, two or three-shift operation. A new continuous recycling process then begins.

**Typical area of application:** 3.000-7.000 l / shift

**EX Class:** EX II 2G c T3

CE Ex ATEX TÜV

■ ASC-3000  
Distillation plant for  
high-purity separation





## Technical data

Technical data	ASC-3000
Total vessel volume	3000 l
Filling volume constantly, level controlled	~ 1.550 l , batch filling on request
Distillation rate approx.	> 800 l/hr *
Heating-up time approx.	1 hr *
Heating temperature	Max. 200 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption heating generator	200 kW
Power consumption vacuum unit	3,6 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Eff. cooling capacity necc. approx.	on request
Consumption cooling water (8-12° C) approx.	16 m³/hr
Width x Depth x Height approx.	3,50 x 2,40 x 5,50 [m]
Weight approx.	~6.000 kg

\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.

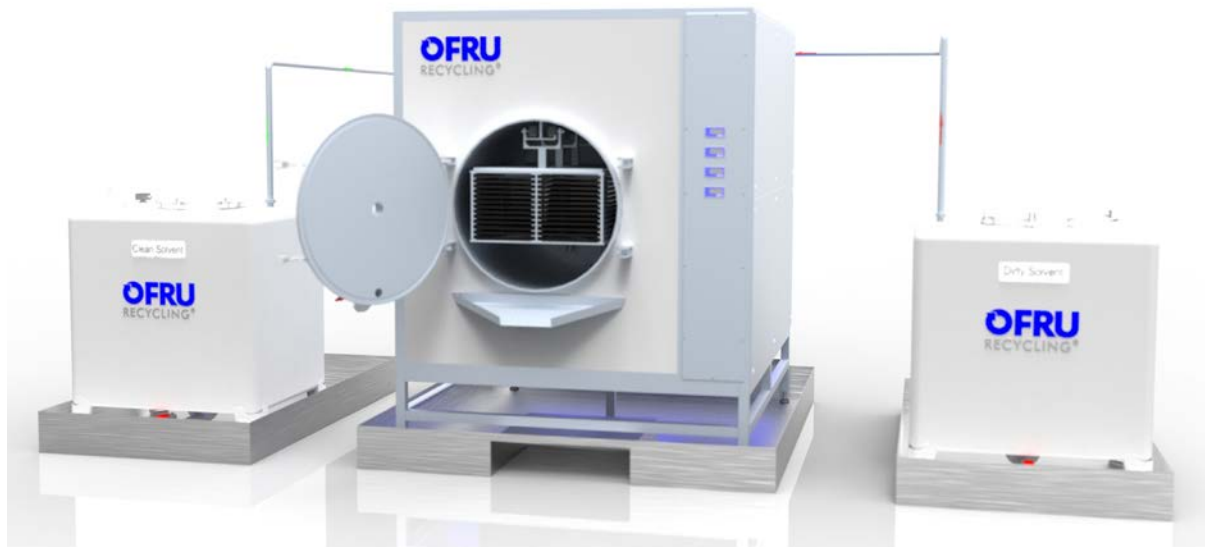
\*\*Depositary, notified body acc. RL 2014/34/EU

### Product benefits

- Parts contacting the solvent are made of stainless steel
- Automatic and continuous filling with dirty solvents
- Filling level is constantly controlled = Mostly constant output
- Excellent conical distillation vessel in stainless steel AISI 304 with a smooth and plane inner surface: Easy and complete drainage of vessel content by means of natural gravity and scraper operation
- Perfect scraper system: Blades keep the evaporator walls free from residues, no re-adjustment necessary, guaranteeing an optimum and very effective cleaning
- Water cooling: Optimum condensation of solvent vapours even at high ambient temperature
- Connection of steam or oil heating system possible
- Electric control board with SIEMENS digital control inside
- Automatic operation
- Auto-stop: When dirty solvent drum is empty, when the temperature is too high, when too little thermal oil remains, or when there is too little cooling water flow
- Constructed according to latest EU directives: A high level of operational safety is standard

# DSC-500 E Solvent Debinding Equipment

Combined degreasing and solvent distillation system, ex-proof



## Typical Application:

Degreasing and deoiling of small parts and the removal of grinding and polishing impurities. Subsequent to the solvent-based degreasing process, the contaminated solvent will be distilled in the same unit. The clean solvent is then available for a new degreasing / deoiling process.

## Product features:

- Horizontal debinding and distillation vessel made of stainless steel
- Ball valve for draining the distillation residue
- Machine rack and casing with stainless steel outer casing
- 500 L stainless steel tank (right tank) for contaminated solvents (optional sample configuration)
- 500 L stainless steel tank (left tank) for clean solvent (optional sample configuration)
- Stainless steel collecting vat mfg. as per German Water Management Act WHG §19 (optional sample configuration)



**EX Class:** EX II 2G c T3

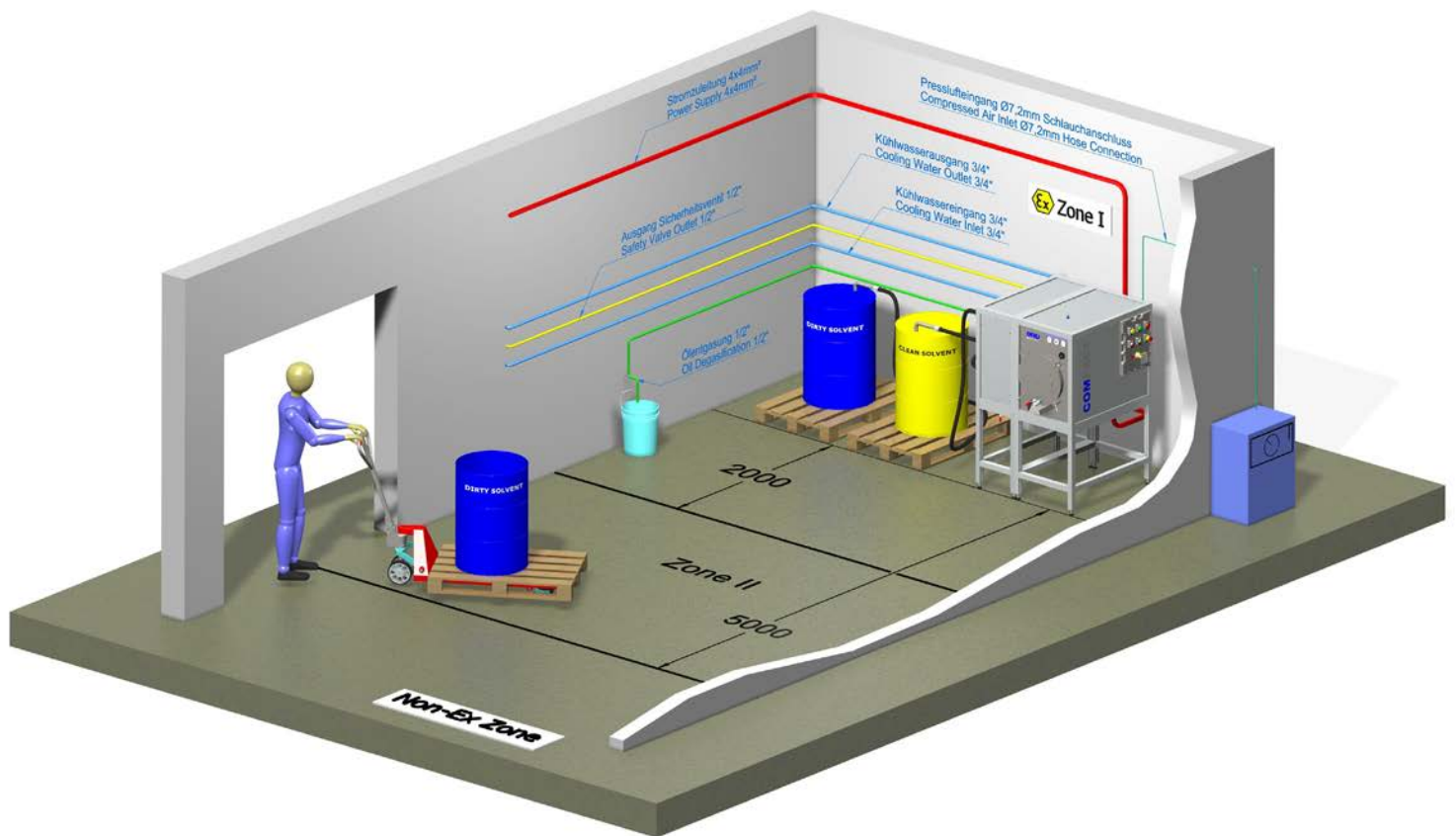
## Technical data

Technical data	DSC-500 E
Total vessel volume	635 l
Filling volume approx.	~510 l
Distillation rate approx.	* Depending on the solvent, type of concentration of pollution/waste
Heating-up time approx.	1 hr *
Heating temperature	Max. 175 °C
Vacuum abs.	Max. 50 mbar
Electrical connection	380-410 V / 50 Hz / 3Ph + N
Power consumption thermal oil heating	24 kW
Consumption air pressure approx.	6 bar max., 50 l/min
Width x Depth x Height approx.	1,80 x 2,20 x 2,30 [m]
Weight approx.	~2.400 kg

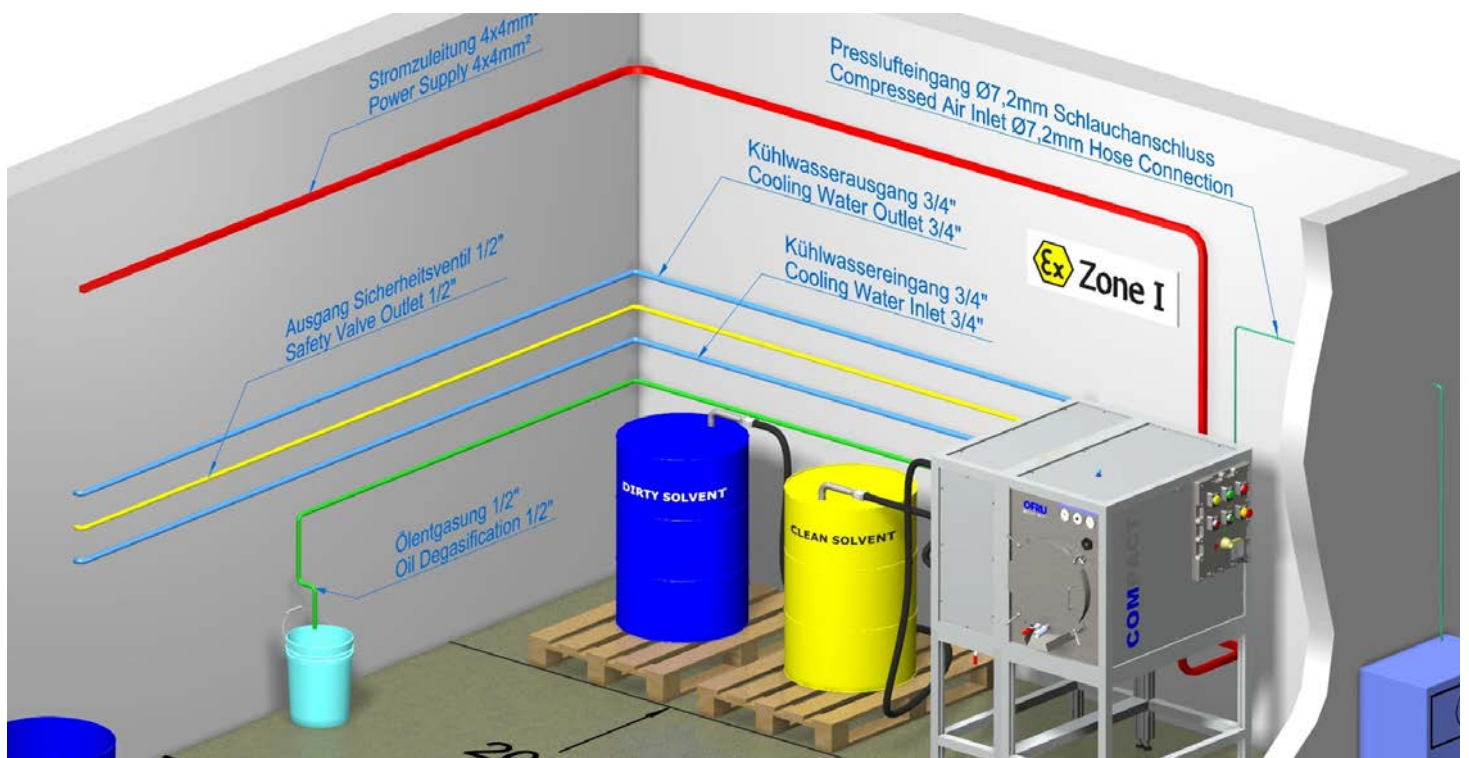
\* Dependent on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics.

\*\*Depositary, notified body acc. RL 2014/34/EU

## Sample Installation COMPACT

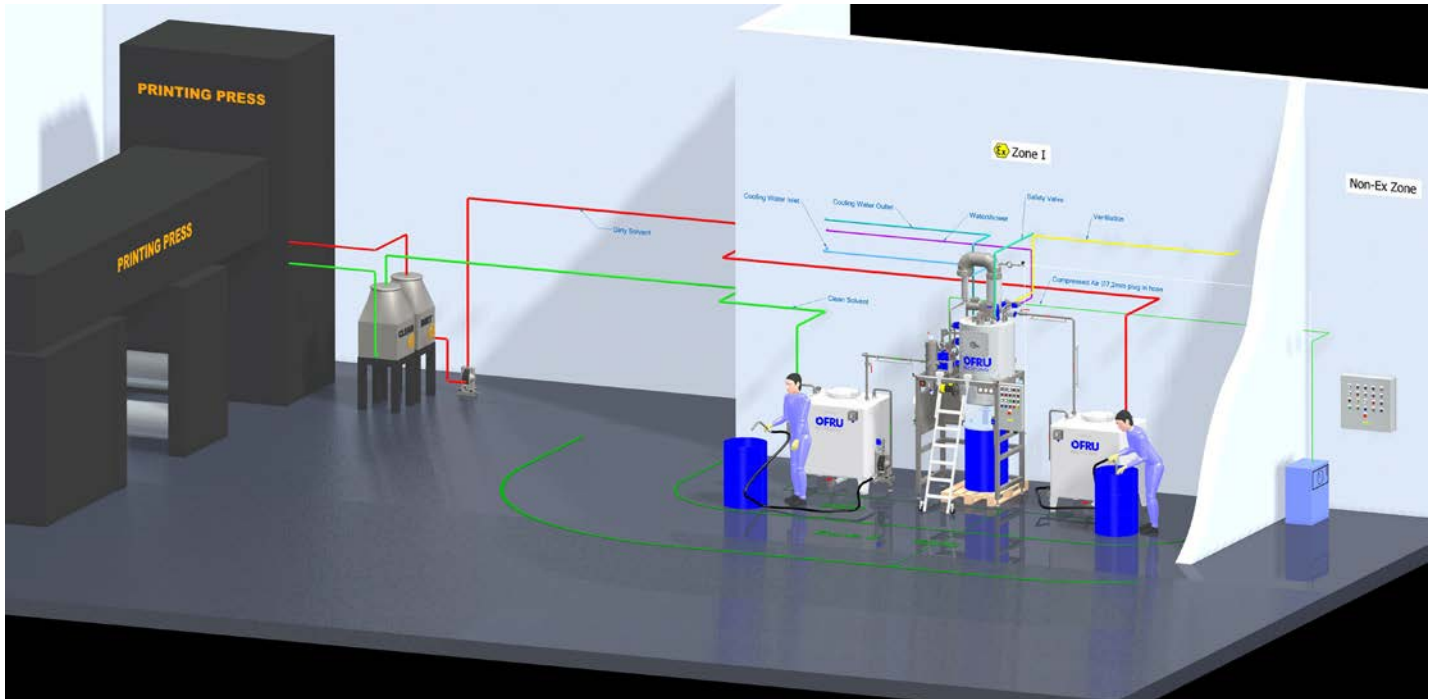


**COMPACT incl. integrated high-performance vacuum unit working with a two-step liquid ring pump**

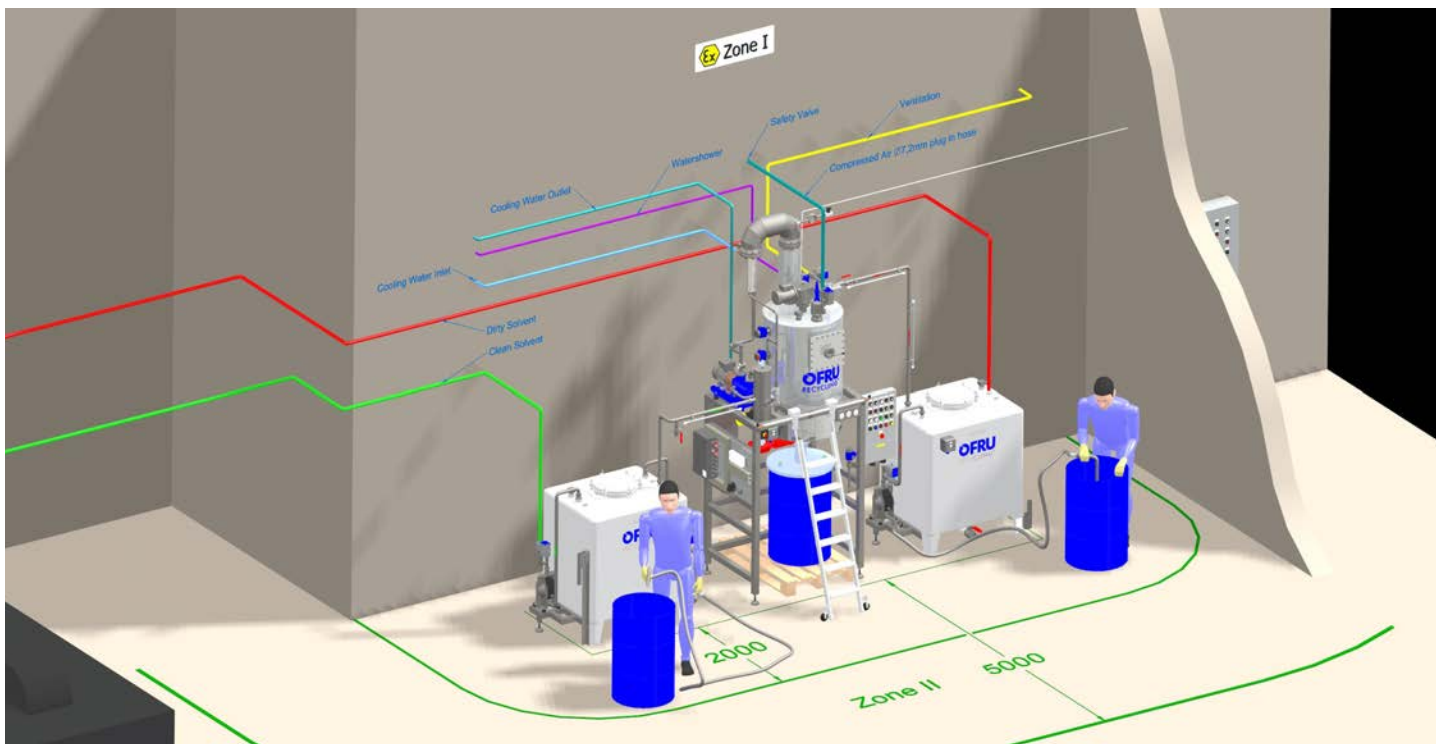




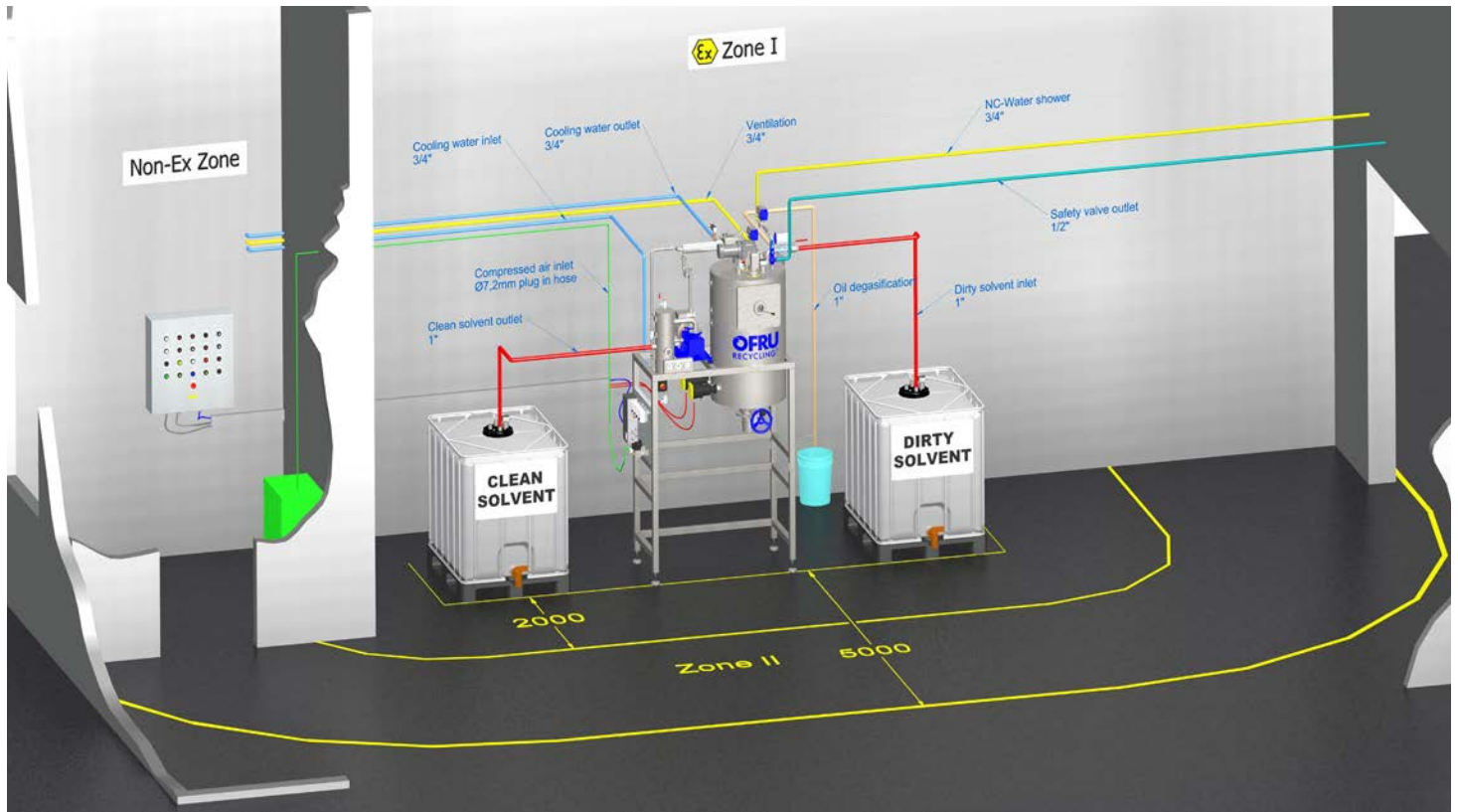
## Sample Installation ASC-100 Packaging Industry



ASC-100 with stainless steel tank system and transfer pumps, manual solvent filling and taking station, connection to flexographic printing press (small solvent wash tanks)

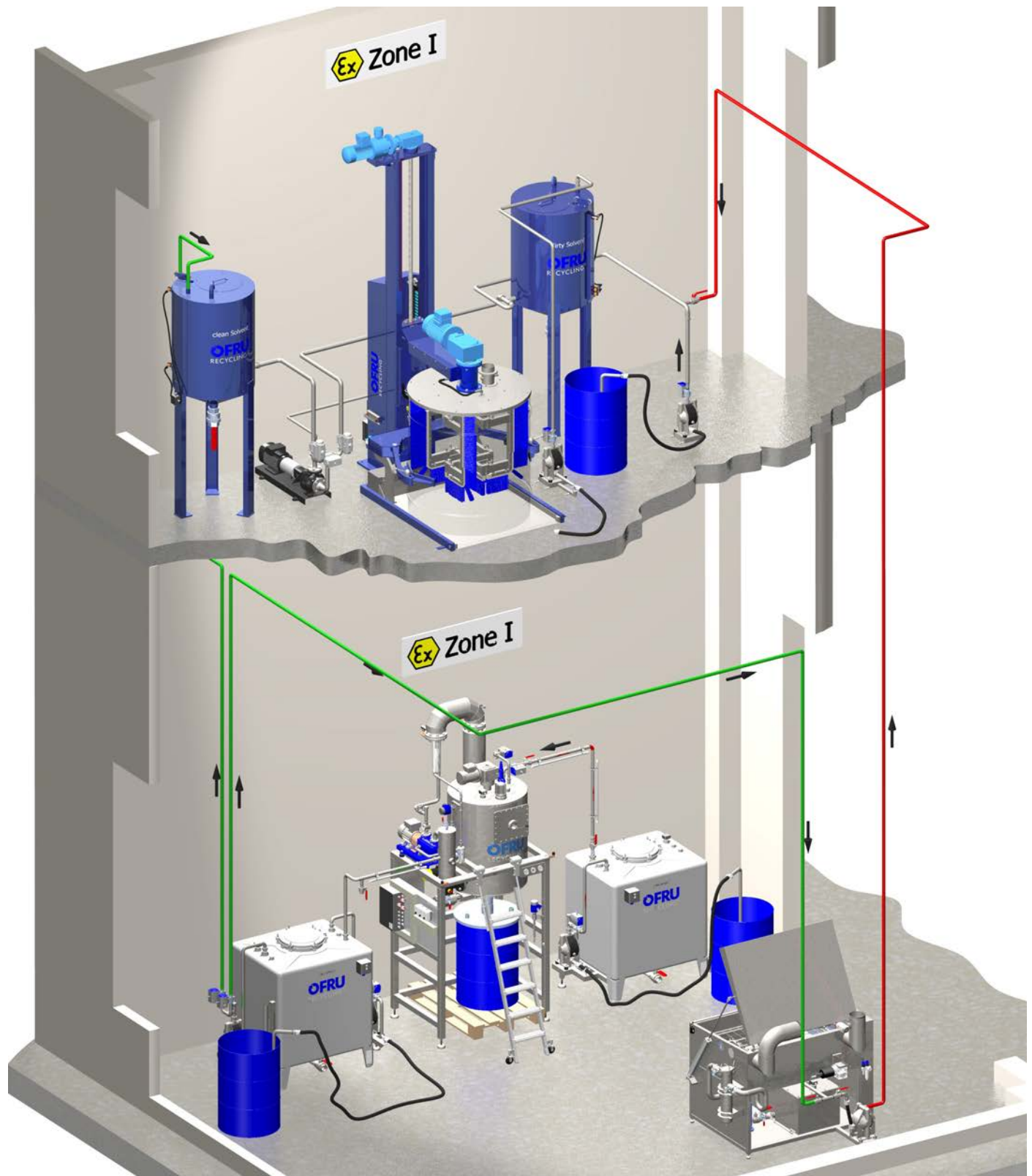


## Sample Installation ASC-100



ASC-100 12kW in standard configuration with two optional 1000 l plastic tanks (incl. stainless steel tubing and level sensor)

## Sample Installation ASC-150 Paint and Color Industry



### Product concept cleaning, parts washing and solvent recycling

- ASC-150 with high quality stainless steel tank system 1000 l, transfer pumps, manual solvent filling and taking station
- Parts cleaning machine, pneumatically operated, access to distillation unit ASC-150
- VCM-1 container cleaning system with tank system for dirty and clean solvent. Connection to distillation unit ASC-150



## Sample Installation ASC-150



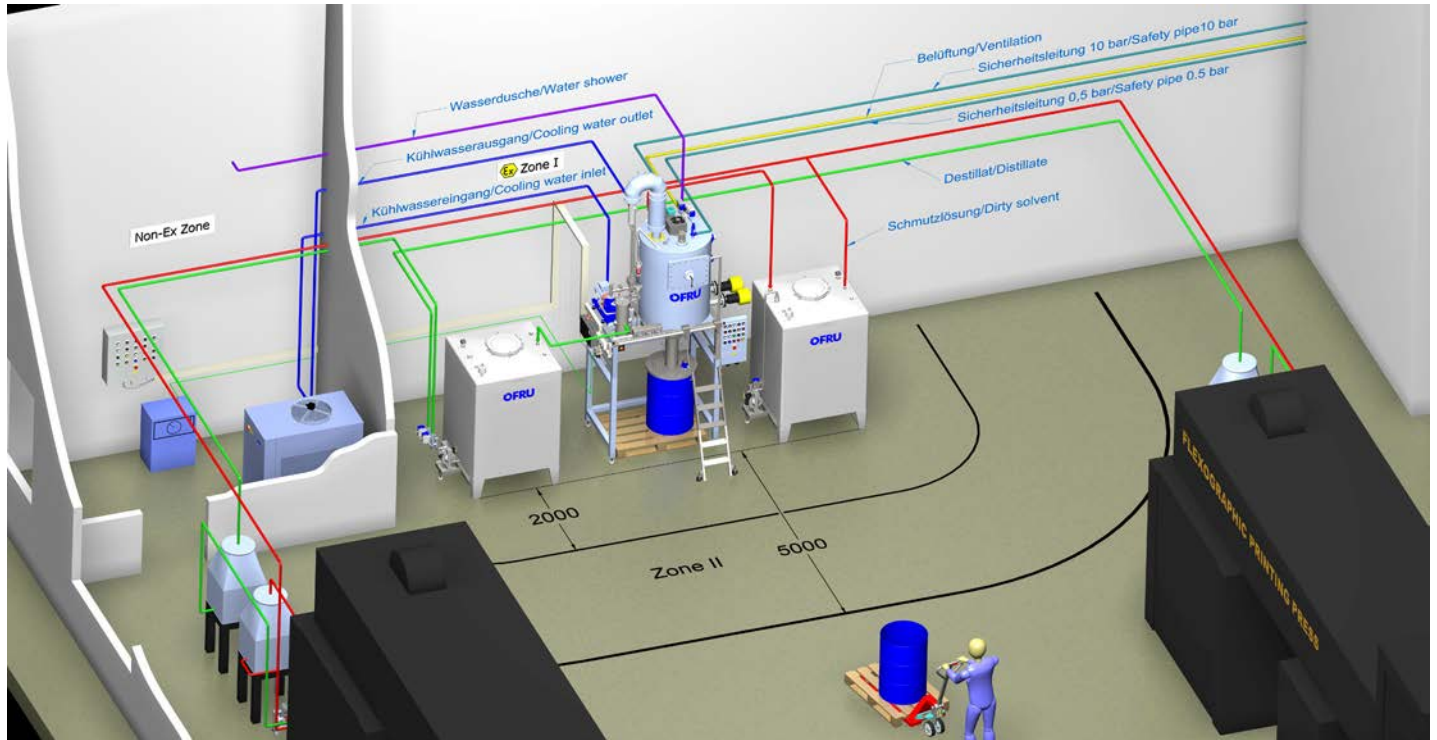
ASC-150 with stainless steel tank system (1000 l) and transfer pumps, additional manual solvent filling and taking station



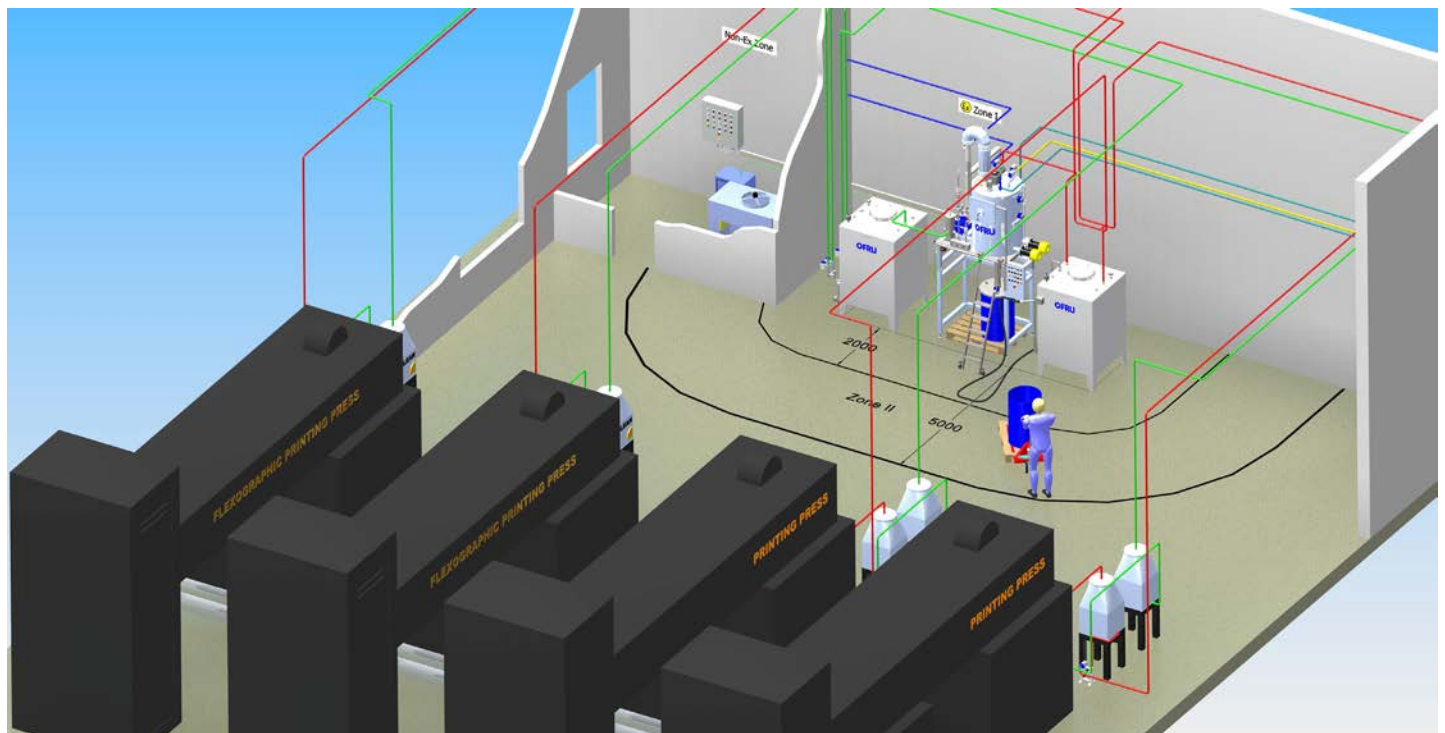
ASC-150 with 1,000-liter stainless steel tank system, transfer pumps, additional manual solvent filling and taking station, collecting vat



## Sample Installation Printing Industry



ASC with stainless steel tank system and transfer pumps, integration with two flexo presses

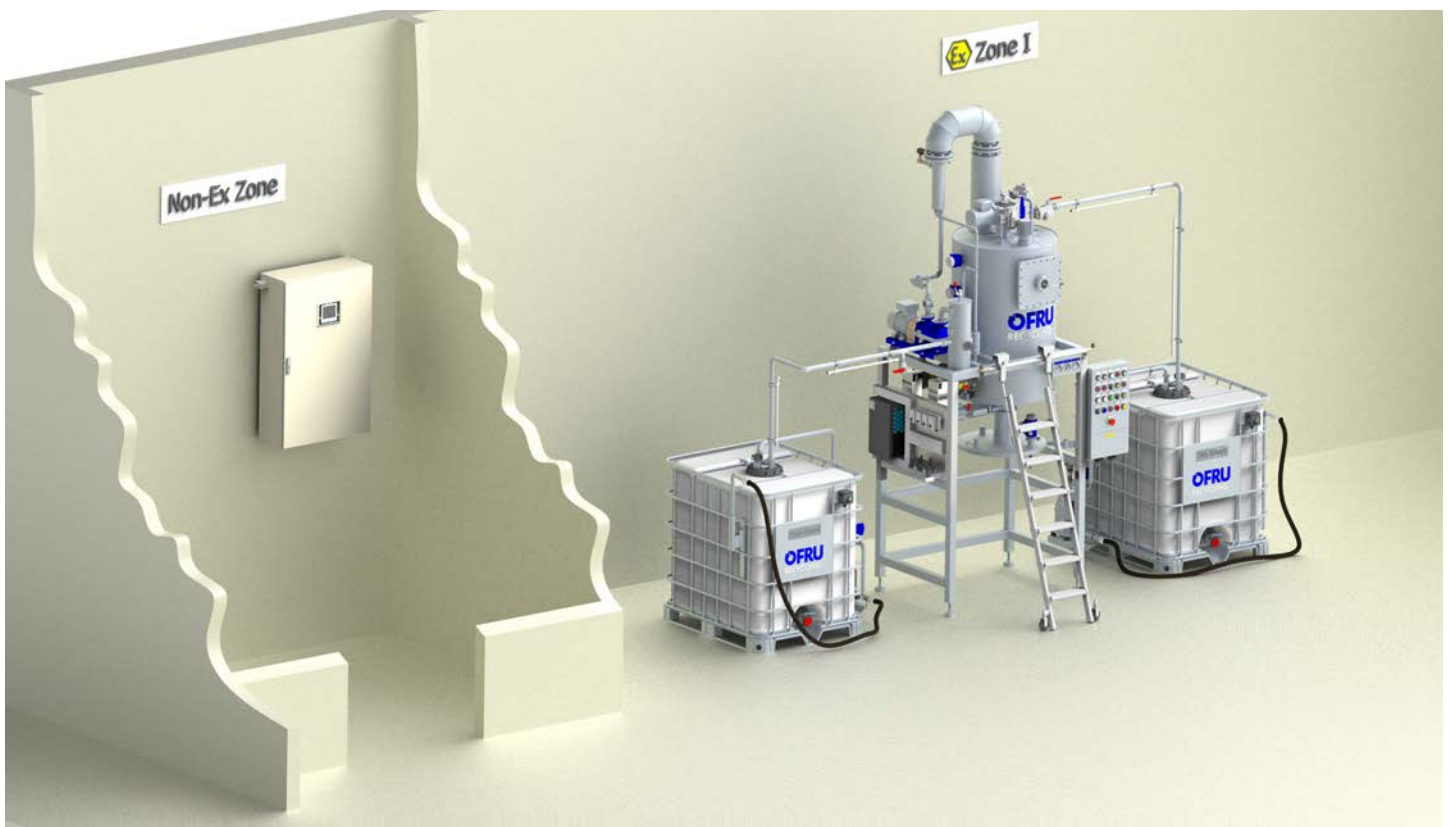


ASC with stainless steel tank system and transfer pumps, integration with four flexographic presses

## Sample Installation

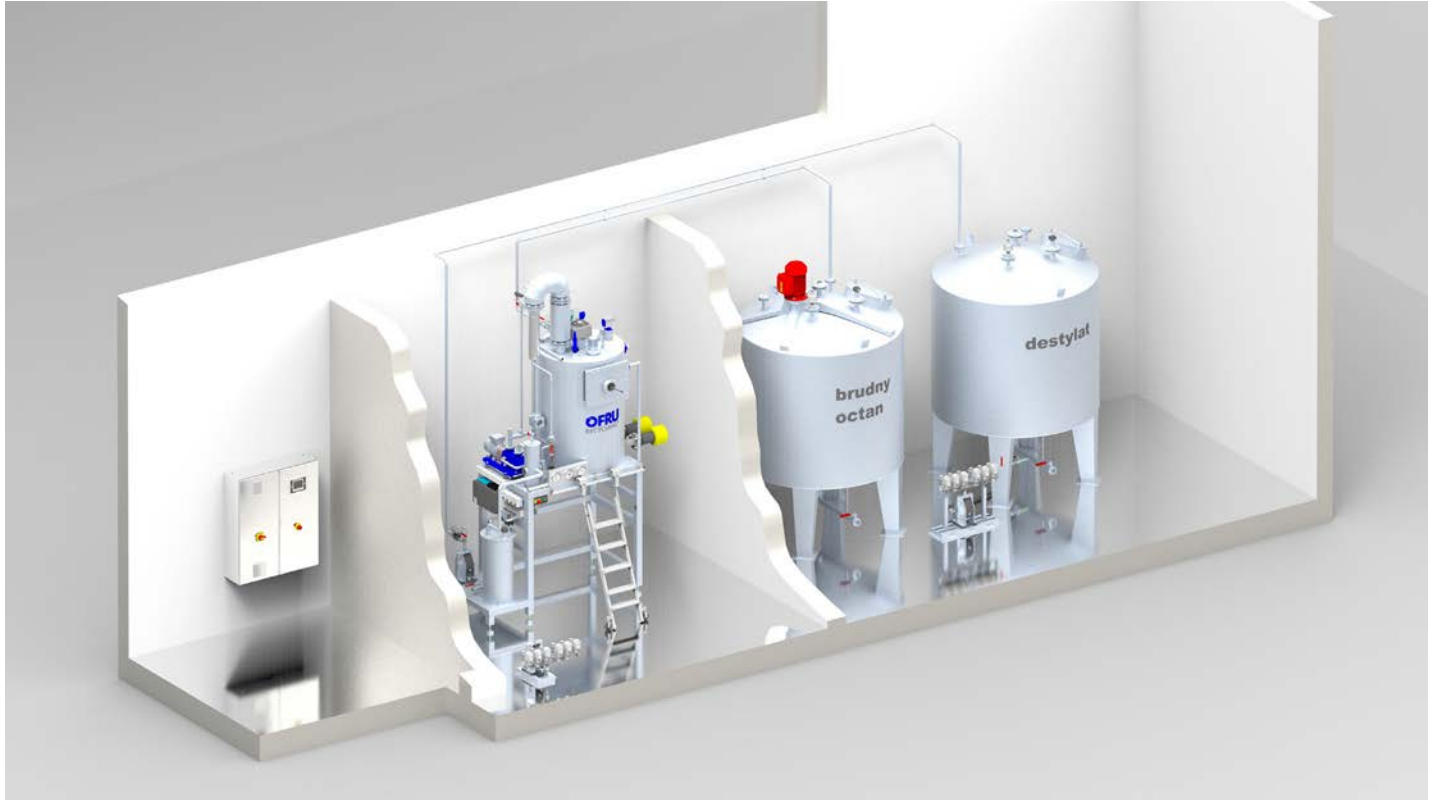


ASC-150 with stainless steel tank system (2000 l) and solvent transfer pumps



ASC-150 with 1,000-liter plastic tank system, additional manual solvent filling and taking station

## Sample Installation Printing Industry



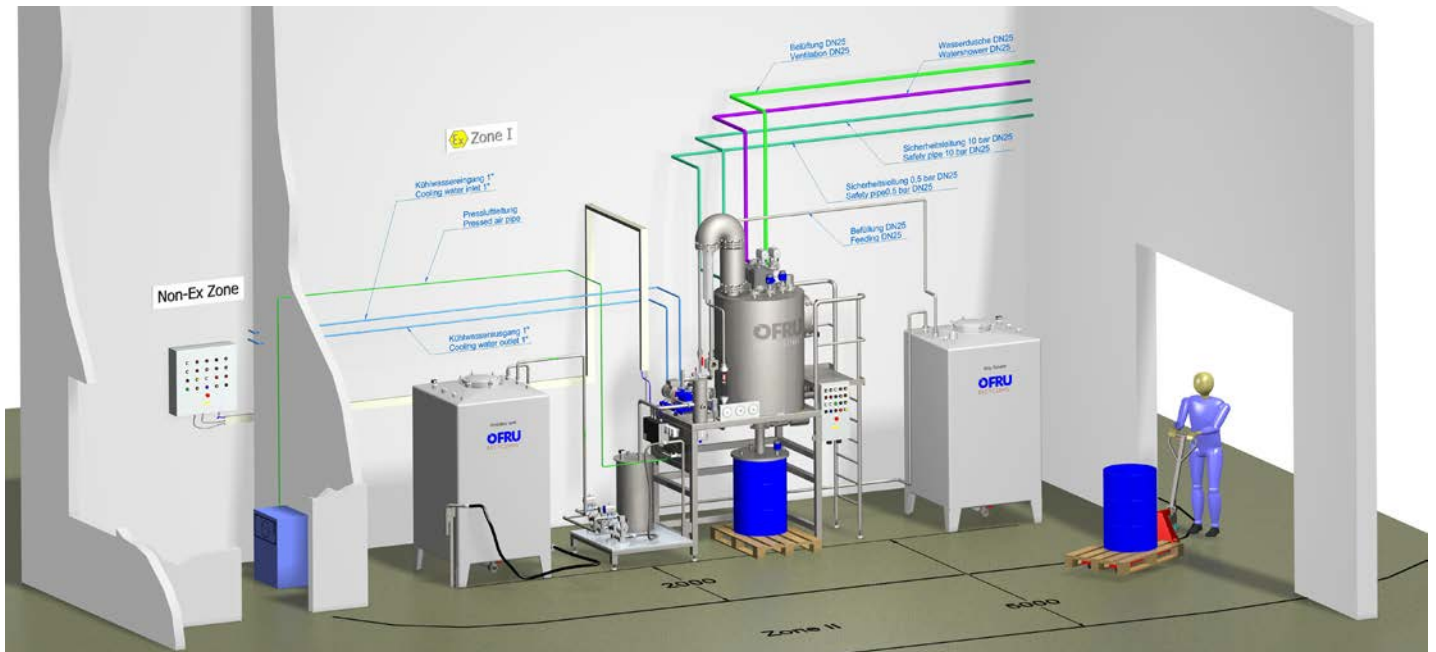
ASC with 4000 l stainless steel tank system and transfer pumps, integration with flexo presses



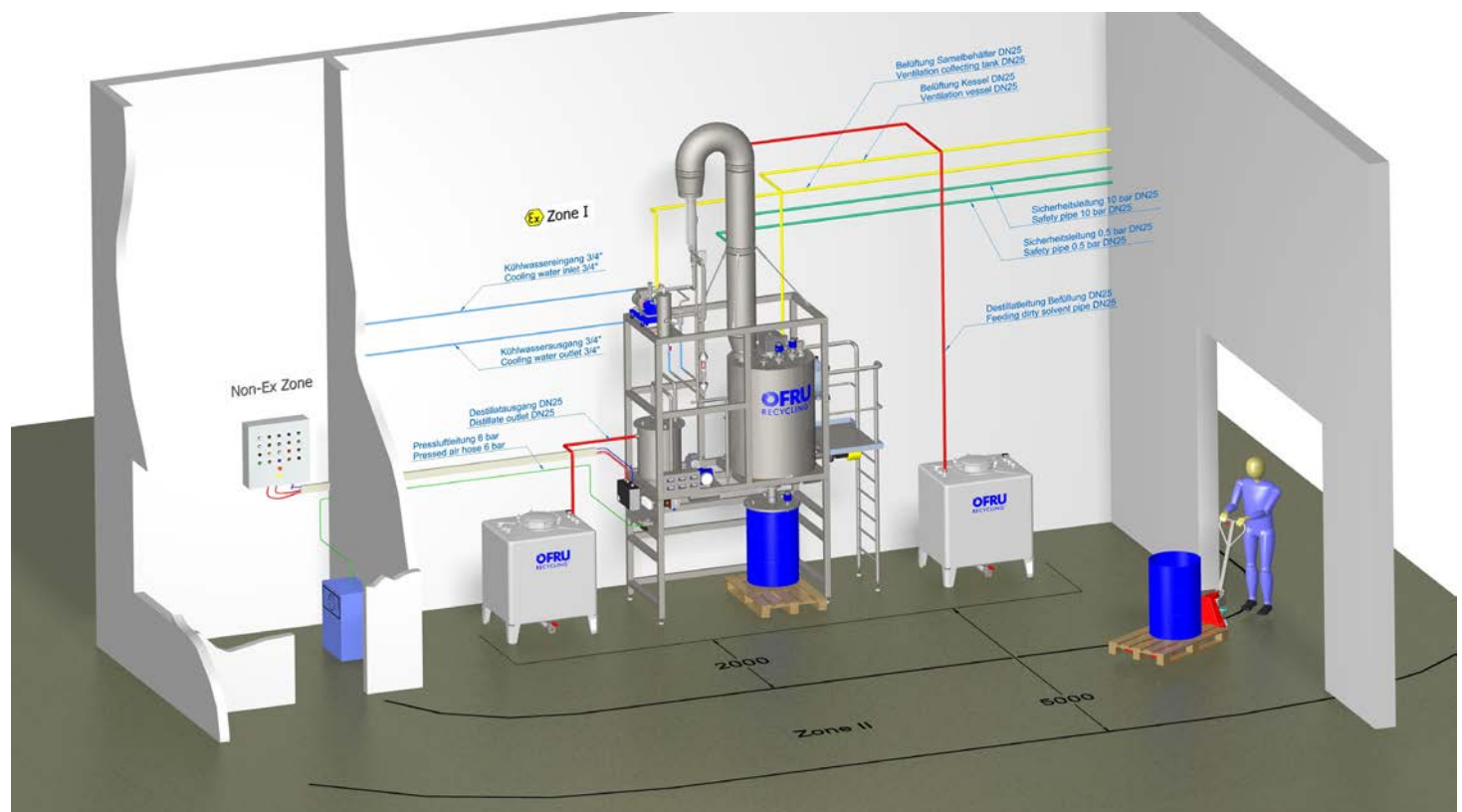
ASC-500 Z2, with stainless steel housing, ventilation system and 200 l drum cover with electronic overfill protection (Endress & Hauser)



## Sample Installation ASC-500



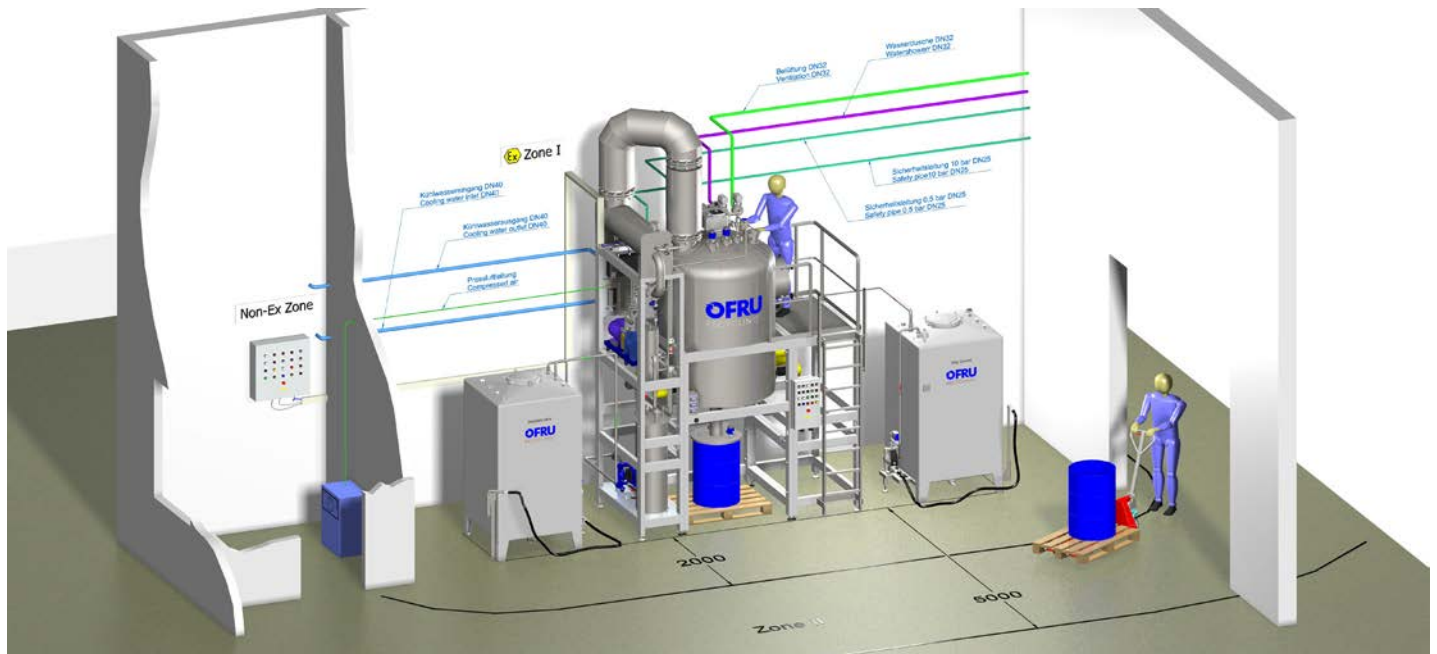
ASC-500 with demister, stainless steel tank system 2000 l



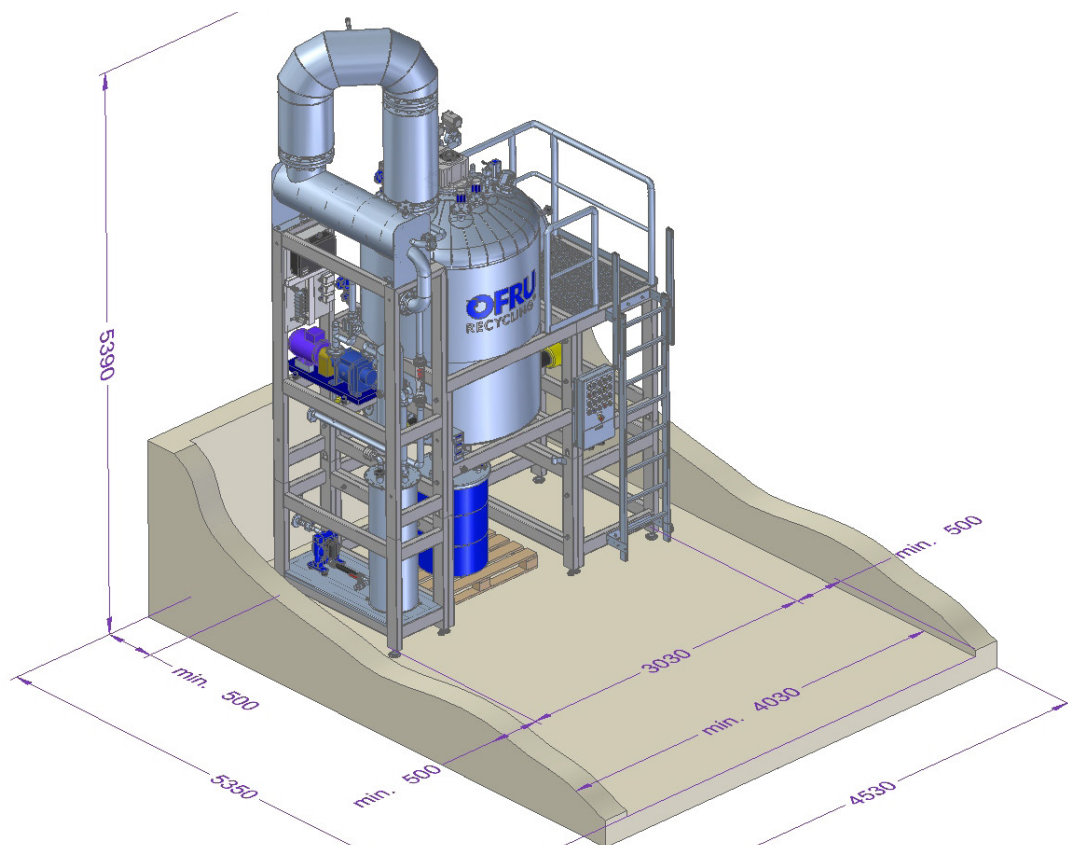
ASC-500 with distillation column, stainless steel tank system 1000 l



## Sample Installation ASC-1500

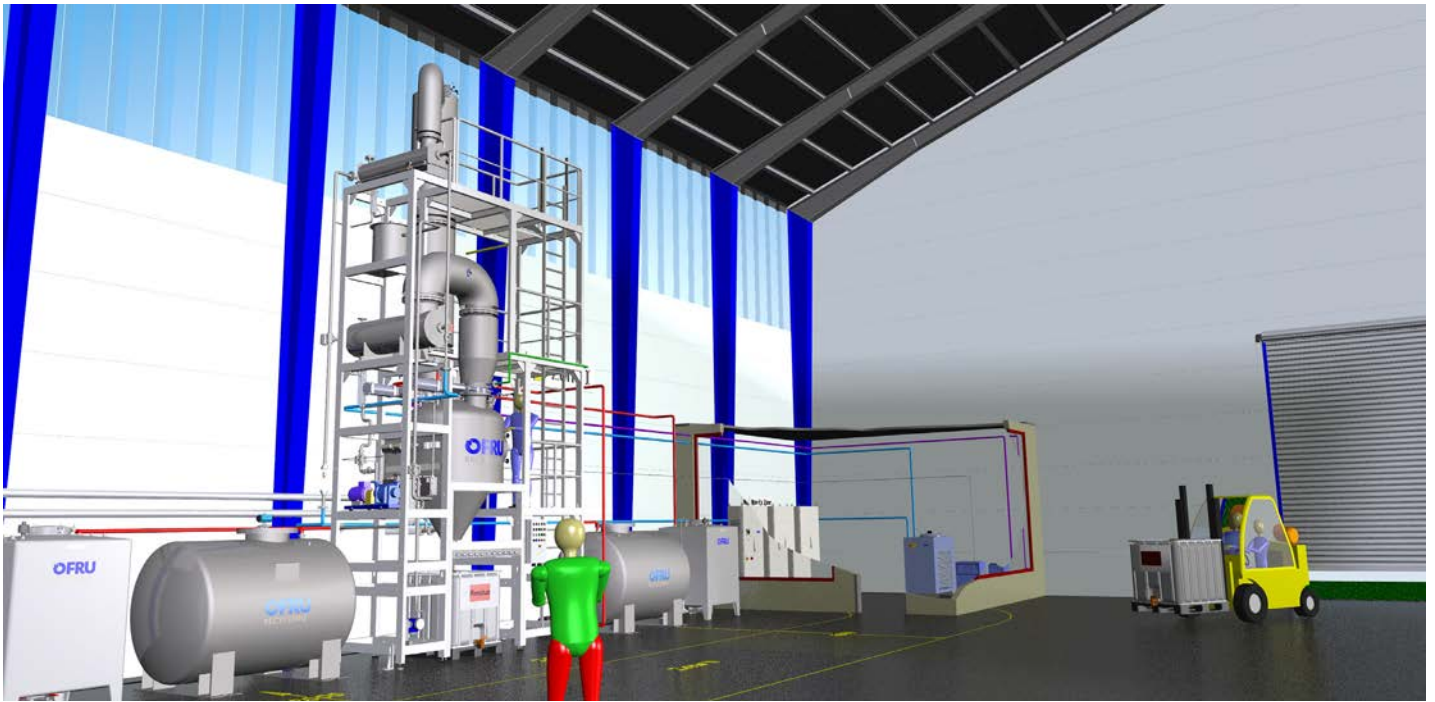


ASC-1500 with stainless steel tank system (2000 liters each) and transfer pumps, additional manual solvent filling and taking station

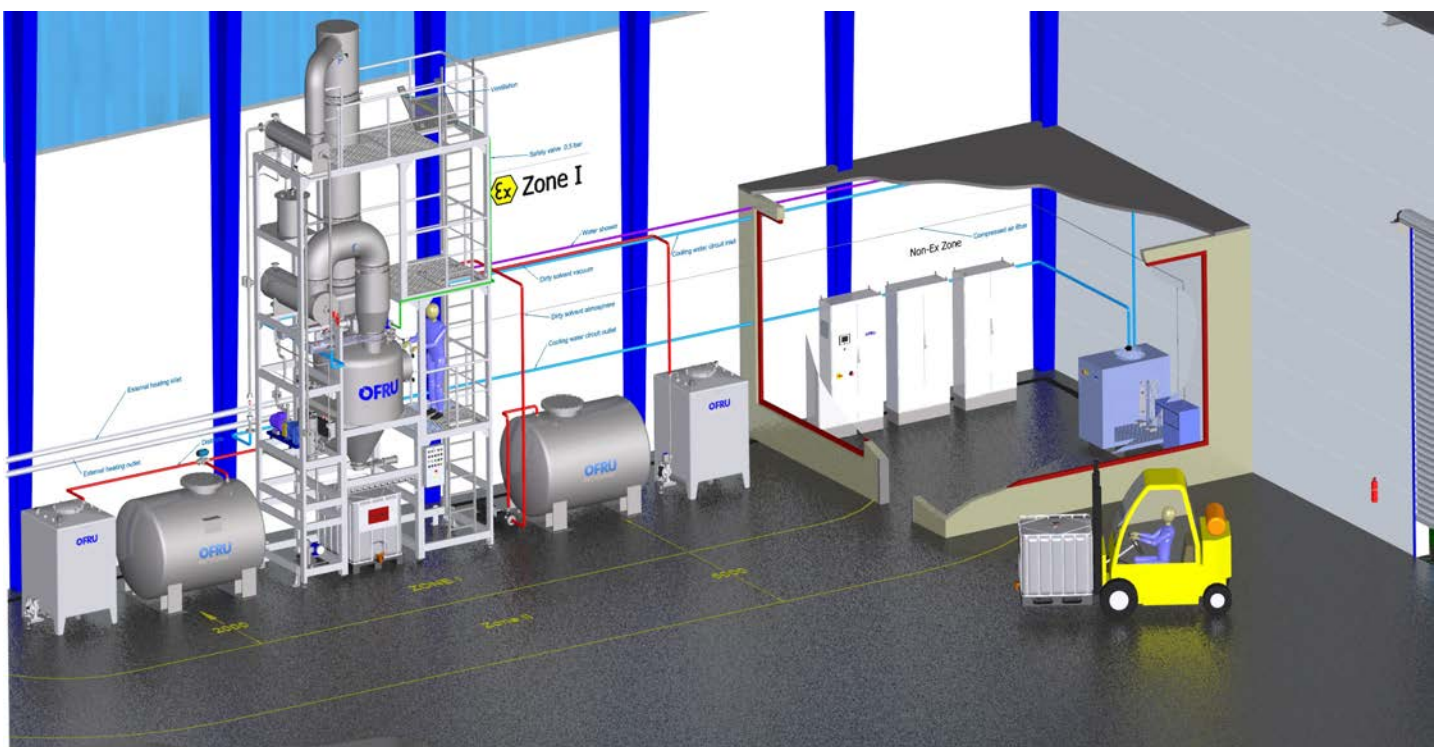


ASC-1500 100 kW with demister, ex-proof operating panel at the machine, distillate transfer station and Siemens S7-1200 controller

## Sample Installation ASC-1500 2C



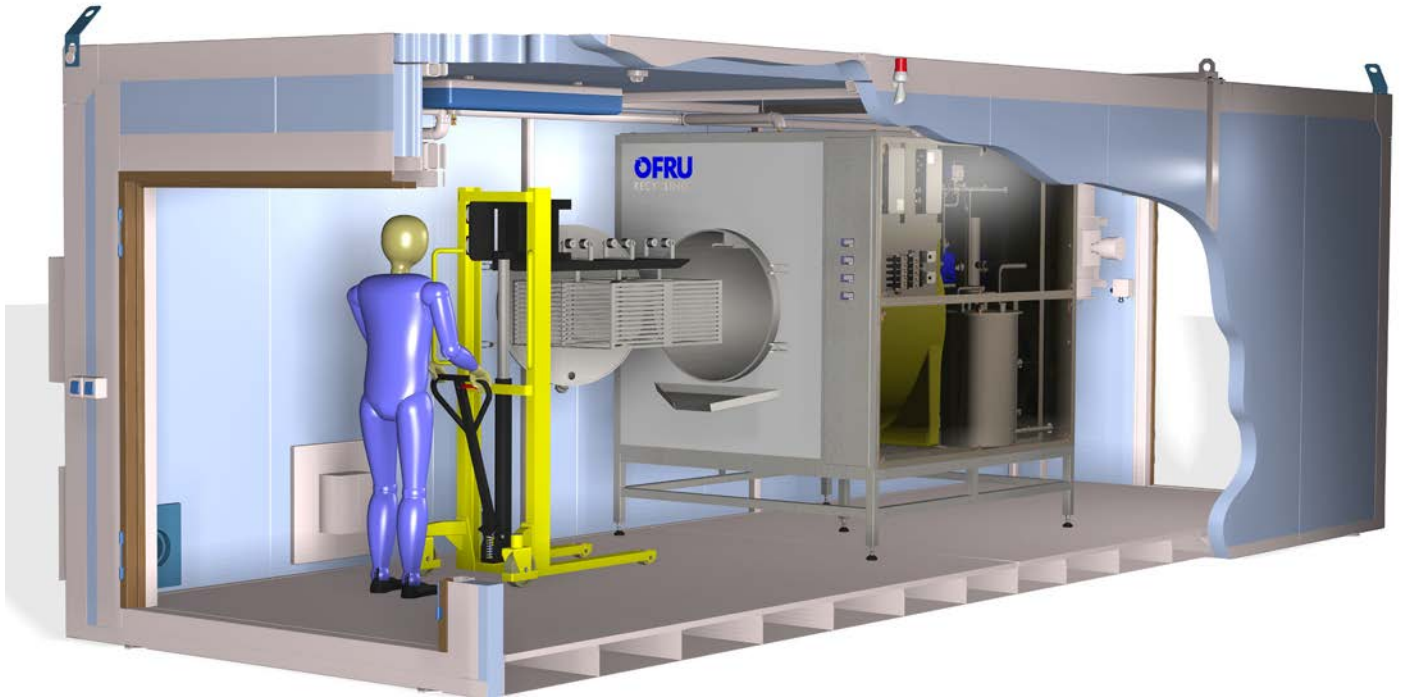
Concept Example ASC-1500 2C with stainless steel tank system and transfer pumps



Concept Example ASC-1500 2C



## Sample Installation DSC-500 E



**DSC-500 E with stainless steel tank system, transfer pumps, manual solvent filling and taking station  
Installation in hazardous goods container with fire protection design**



**DSC-500 E Installation in hazardous goods container**

Distributor

OFRU Recycling GmbH & Co. KG  
Marie-Curie-Str. 1  
63755 Alzenau / Germany

Telefon +49 6023 50422-0  
Telefax +49 6023 50422-60

info@ofru.com  
www.ofru.com

(New address since May 2015)



Catalog No. 27 800 024

OFRU reserves the right to alter specifications and other product information without notice. It is your responsibility to obtain the latest information. This publication is for general guidance only. Photographs, illustrations and technical data may show design models and can differ from offer. Technical data, in particular the distillation rate is for general guidance. The distillation rate depends always on kind and composition of the solvent, kind of contamination and its share, heating temperature, vacuum pressure, coolant temperature and pressure, boiling characteristics. Special safety consideration requires the distillation of nitrocellulose containing printing inks/solvents. In practical situation technical data regarding distillation rate can deviate upward or down. Copyright OFRU Recycling GmbH & Co. KG. All rights reserved. This information is supplied without liability.