QUALITY - INNOVATION - DESBATEC

DESBATEC® ANLAGENTECHNIK GMBH

VACUUM DISTILLATION UNITS SRU-30 TO SRU-265

FOR RECYCLING OF 30 TO 1400L SOLVENT DAILY

VARIABLE

Customizable

TOP QUALITY

Highest quality

24h ON-SITE SERVICE

Pan-european 24h on-site service

EX II 3 G c IIA T3

Safe through primary EX-protection

INTEGRATABLE

Integratable into existing systems

AUTOMATIC

Fully automatic for monitoring free 24h operation

PROFITABLE

Production-optimization through quality increase

Version 03/2014

VACUUM DISTILLATION UNITS SRU-30 TO SRU-265

THE IDEAL SMALL UNITS FOR MINOR TO MEDIUM SOLVENT QUANTITIES

The compact units SRU-30 to SRU-265 are recommended for daily quantities of 30 - 1400 l. Through the innovative vacuum technology your solvents can be recycled very cost efficiently.

The filling of the units SRU-30 to SRU-265 takes place fully automatic and is controlled by filling level regulation. At the end of the process the distillation residues are treated up to the desired residual solvent rate. Therefore, almost unattended 24-hour operation is possible.

Instruments in the front panel inform about process pressure, solvent gas temperature and heating temperature of the unit. The discharging of the residues is done via the user-friendly cleaning aperture, which ensures safe operation due to a integrated O-ring seal.

The unit is equipped with switching cabinet and PLC control unit. The control unit ensures the desired process flow and monitors the compliance of all safety relevant parameters.

The vacuum unit reduces the boiling point of the solvent, avoiding thermal decomposition of the solvent. At the same time the energy consumption is decreased, solvent yield, performance and distillate quality as well as operation safety are greatly increased. Additionally the process under vacuum (and therefore the absence of oxygen) offers a improved explosion protection and a more favorable ex-zone classification.

DISTILLATION UNIT

Double walled, cylindrical, horizontal container	✓
User-friendly cleaning aperture	✓
Safety closure with O-ring seal	✓
Pneumatic drain ball for automatic discharge of liquid residues	○
Solvent and temperature resistant non-stick coating	○

VACUUM UNIT

Vacuum pump in Ex-design	✓
Liquid ring vacuum pump, up to 35mbar, low maintenance	✓
High-performance chemistry diaphragm pump, up to 10mbar	○
Dry running high performance pump, up to 1mbar, low maintenance	○

HEATING

Heating in Ex-design	✓
1 to 3 stage, PID-controlled heat carrier heating	✓
Redundant temperature and heating monitoring	✓
Heat carrier: thermal oil	✓
4 and multi-stage, PID-controlled heat carrier heating	○
Heat carrier: hot water	○
Heat carrier: steam	○

FRAME VARIANTS

Anodized, conductive aluminium profile frame	✓
including panel sheets	✓
Welded conductive stainless steel frame	○
including panel sheets	○

✓=Standard, ○=Optional

Automatic and continous operation
- No cooling phase of the unit
- No manual filling

Horizontal distillation vessel
- Easy discharging and cleaning
- Neither tilting of the unit, nor residue bags needed

Prepared for water cooling
- Emission minimized condensation of the solvent gases even at high ambient temperatures

Switching cabinet with electrical control system
- Continous process flow
- Monitoring/ compliance of the safety parameters
- Designed for 24h operation (minimized unit supervision)

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SAFETY/ SYSTEM INTEGRATION

Explosion protection class EX II 3 G c IIA T3 (with interting and suction)	✓
Inerting unit	✓
Suction hood at cleaning aperture	✓
Explosion protection class EX II 2 G c IIA T3 (without inerting/ suction)	○
Integratable container for fresh/ contaminated or mixed goods	○
External, single or double-walled container for fresh/ contaminated or mixed goods	○
Feed station for mix-container	○
Safety collecting drip pan according to WHG	○
Integration in existing plants/ systems	○

CONTROL SYSTEM

Fully automatic, PLC operated system	✓
Designed for monitoring free 24h operation	✓
Delay timer for night-/ weekend operation	✓
Including 15m cable loom (from unit to switching cabinet)	✓
At unit	
On-/ off-switch	✓
Ex-operation indicator lamp	✓
Emergency stop palm button	✓
At switching cabinet	
Graphics display and operating terminal at cabinet door, monochromatic, 16 gradations, touchscreen	✓
Operation indicator lamp	✓
Error indicator lamp	✓
Emergency stop palm button	✓
PID-controller & display	✓
50m cable loom	○
At unit	
Ex-error indicator lamp	○
Graphics and operating terminal in Ex-design	○
At switching cabinet	
Graphics and operating terminal with color display, tochscreen	○

✓=Standard, ○=Optional

Safe through primary explosion protection

Primary explosion protection is written in capitals at DesbaTec. All vacuum distillation units come off-the-shelf with inerting unit. This offers besides the self-evident secondary measures the highest possible safety.

SERVICE

24 months warranty	✓
Pan-european 24h on-site service	✓
Express shipment of spare parts	○
Up to 60 months warranty	○
Remote maintenance through automation device or modem	○
Support at the creating of the explosion protection document	○

Systems engineering according to european regulations
- Highest operational safety

Highest economic efficiency
- Amortisation normally < 1 year
- Low operational costs
- High recovery rate (up to 98%)

Process optimization
- Production optimization through constant distillate quality
- Minimization of disposal costs
- Minimization of fresh goods purchase and storage costs
- Minimization of disposition and handling expenditures

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Customizable

There are many use cases for vacuum distillation. For that reason, every unit is individually tailored and designed to the specific requirements in order to producing optimum results for you and your company.

Integratable into existing systems

DesbaTec vacuum distillation units can be directly integrated into existing systems/ plants. This saves handling effort and allows a continous supply of your processes with recovered solvent.

Highest quality

Highest quality of the components is natural for us, as well as efficient production processes and precise, electronic measuring and control technology. All wetted parts are made of stainless steel, including the double-walled jacket and the welded heat-exchanger.

Production optimization through recycling

Continous supply with solvents of constant high quality improves process results (e.g. washing results, degreasing, etc) and thus provides a efficient production. Increase of production is often possible with this optimizations.

TECHNICAL DATA	SRU-30	SRU-60	SRU-95	SRU-165	SRU-265
Overall capacity (l)	30	60	95	165	265
Operating capacity min. - max. (l)	15-20	30-35	45-55	80-90	130-140
Nominal distillation rate (l/h)(1)	3-10	10-25	20-35	25-50	40-70
Process pressure (bar)	-1,0 to +0,5				
Process temperature max (°C)(2)	200°				
Thermal oil heating	integrated				
Protection class					
- With inerting and suction	EX II 3 G c IIA T3				
Power consumption					
- Normal operation (kW) approx.	1,8	2,9	3,5	6,0	7,5
- Heating (kW)	3,0	5,0	5,0	7,5	10
Voltage, frequency(3)	230/ 400V, 3Ph, 50Hz				
Coolant requirements (m^3)(7)	0,6	0,7	0,9	1,0	1,2
Width (mm)	590	590	590	750	850
Height (mm)(4)	800-1620	1620-1650	1620-1650	1620-1800	1620-1800
Depth (mm)	1200	1500	1800	2000	2000
Net weight (kg) approx.	180	280	380	420	540
RELATED VACUUM UNIT	DT-6	DT-10	DT-10	DT-30	DT-30
Vacuum pressure max. (mbar)(5)	35	35	35	35	35
Max. suction capacity (m^3/h)(6)	6	10	10	30	30
Weight (kg) approx.	30	30	30	65	65

(1) depending on solvent, operating conditions, level of contamination and water content, (2) higher temperatures possible, (3) further on request, (4) depending on residue container, (5) vacuum system for up to 1mbar possible, (6) process liquid H_2O at 15°C, at 50Hz, (7) at max. 15°C

The technical data stated above are to be regarded as orientation, as every unit is built and developed according to your wishes and requirements. // Version: 03/2014

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