

# PRODUCT SHEET

## PHASE SEPARATOR - VERTICAL

Transfer Lines

Conditioning Equipment

Automatic Gas Vent

Degasser

Phase Separator

Subcooler

Components

Filling Stations

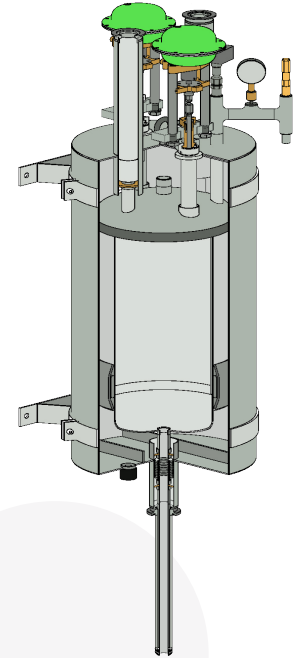
Controlling

Our vertical vacuum insulated phase separator is used to condition 2-phase boiling cryogenic liquefied gasses by separating gas from liquid while regulating the outlet pressure. A complete integrated modular design basis with all standardized components, provides the possibility to cover wide ranges of use against short delivery times. Depending on the inlet and outlet conditions, this phase separator can be assembled for a wide capacity variety with working pressures ranging from ambient up to 12 barg.

To allow easy standalone operation, each vertical phase separator is standardly delivered with a Demaco DC-LC-100 level controller programmed for its specific use which controls the functionality of the phase separator.

The liquid nitrogen level is clearly indicated between 0-100% of the internal volume and provides free programmable alarms, at low and high level.

Optionally the vacuum insulated pipe outlet for boil-off gas can be supplied with a PT100 overflow protection.



### BENEFITS

An adjustable and controlled working pressure

Modular set-up

Automatic level controlling with DC-LC-100

### APPLICATION

Vertical phase separators are used when:

- Height is not of importance
- High quality liquid on application is required
- Fast reaction times for liquid consumption
- Short interval periods of large consumption
- Large amounts of boil-off are created in adherent piping
- Controlled pressure required for operation

### FEATURES

Stainless steel inner and outer vessel

Vertical orientation

Universal in- and outlets with Demaco DN10-25 Johnston coupling

Up to 16 bar design pressure

Up to 12 barg working pressure

Self-mechanical pressure control

Integrated DC-LS-050 capacitive level sensor

Open/Close or Regulating valve for filling

Standard cleanliness: Process clean

PED approved design with CE certificate

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## PHASE SEPARATOR - VERTICAL

TECHNICAL DATA		PHASE SEPARATOR
Positioning	Indoor/Outdoor	
Ingress protection	IP65	
Orientation	Vertical	
Design pressure	PN16	
Inlet pressure	Max. 16 barg	
Working pressure	Atmospheric till 12 barg	
Volumetric capacity	41 litre	
Effective buffer volume	15-30 litre	
Output volume O/C	Up to 1600 litre	
Output volume Regulated	Up to 2200 litre	
Level indication	DC-LS-050	
Pressure indication	Pressure gauge	
Safety precautions	Pressure relief valve	
Dimension vessel	850x406 (LxD)	
Minimum build-in dimensions	1875 mm	
Power supply	24/110/240VAC or 24VDC	
Pneumatic supply	Minimum 6 barg	

### OPTIONS

Custom made mounting facilities

Overflow protection by PT100 in gas vent blow-off line

Integration in Building Management System (BMS)

Integration with Oxygen (O<sub>2</sub>) detection system

### MATERIALS

Process part

1.4301/1.4306/1.4307 ~304/304L

Vacuum Jacket

1.4301/1.4306/1.4307 ~304/304L

Spacers

Epoxy reinforced glass fiber

Multi-Layer Insulation

Glass paper and Aluminum foil

Supporting bracket

Stainless steel

### DESIGN SPECIFICATIONS

Standard according Pressure Equipment Directive (PED)

Design according AD2000

Cleanliness level:

- Cleaned oil and grease-free
- Oxygen clean on request

Static vacuum with Multi-Layer Insulation

Standard testing for each Phase Separator:

- Dimensional check
- Pressure test
- NDE by X-ray or PT
- Helium leak test (<math>1 \times 10^{-9}</math> mbarL/sec)
- Vacuum retention test after 24h at ambient temp (acceptance level <math>2 \times 10^{-4}</math> mbar)
- Functional test at -196°C

### DOCUMENTATION

Standard manufacturer data book record is part of each project and contains:

- As built isometrics (if applicable)
- Safety guidelines
- User manuals
- Declaration of conformity