



Subject to modifications.

# CEBO® line

Technical data | Carbon capture 15 t/d – 300+ tpd



GEA CEBO® line represents a cutting-edge technology for efficient and scalable CO<sub>2</sub> capture. Built on proven amine-based solvent systems and designed to address the specific needs of industries such as cement, iron & steel, glass, biomass, chemicals, and waste-to-energy, it offers a reliable and adaptable solution for industrial decarbonization.

Modular CEBO® plants are available with a capture capacity of up to 300+ tons per day and can be easily integrated with gas pre-treatment units (SETO®) and Waste Heat Recovery systems (XECO®). Flexible design and easy scalability allow for straightforward customization to a wide range of industrial processes.

Corrosion-resistant and durable materials, high capture efficiency (up to more than 90%), and energy-efficient operation ensure optimal performance and adaptability.

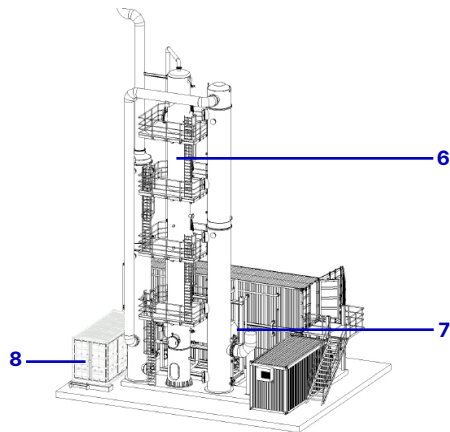
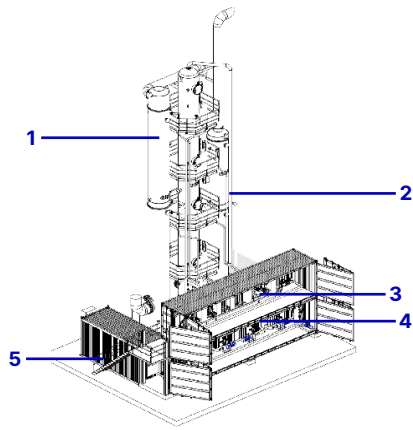
## Resource efficient solution

As one of our most resource-efficient solutions, our GEA CEBO® Carbon Capture incl. Waste Heat Recovery carries the [Add Better label](#).\*

GEA's integrated Waste Heat Recovery and carbon capture solution enables a significant reduction of the overall energy consumption and by that also of CO<sub>2</sub> emissions (e.g. in the cement industry). It reduces the CO<sub>2</sub> emissions by 11 % compared to a stand-alone Carbon Capture solution without Waste Heat Recovery.

\*The Add Better label relates to the combination of GEA carbon capture and Waste Heat Recovery (WHR) technologies, released in September 2023. The comparison refers to a stand-alone carbon capture solution without Waste Heat Recovery.

# Operating principles and constructional features

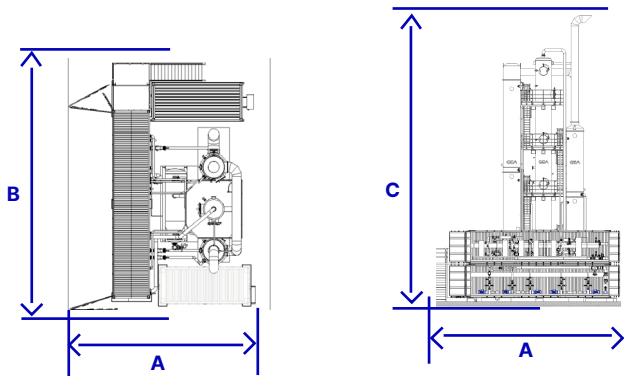


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|------------------------|--|
| 1 Absorber             | 6 Desorber                                     |
| 2 Water wash column    | 7 Reboiler                                     |
| 3 Heat exchanger       | 8 Container for filters & additional equipment |
| 4 Pumps                |  |
| 5 Electrical container |  |

## Design highlights

- **Modularization:** Container-based design with skid-mounted components (e.g. reboiler), ensuring flexibility and scalability.
- **Design & fast delivery:** Compact, space-efficient design minimizing support structures. Containerized equipment ensures quick site integration and fast deployment.
- **Easy serviceability:** Fully side-opening containers for easy access.
- **Dedicated process control system:** GEA control system for remote maintenance and optimization.
- **Alternative material of construction:** Thermoplastic columns and pipes for highest durability.
- **Split columns:** Absorber & water wash columns with static guidance on a central metal column.

## Dimensions (guide values)



	A	B	C
15 tpd	14,00 m	10,00 m	20,70 m
50 tpd	16,50 m	13,50 m	24,50 m
150 tpd	25,00 m	15,00 m	26,00 m
300 tpd	30,00 m	20,00 m	29,00 m

## Process data

CO <sub>2</sub> capture capacities	
Pilot scale	0,5 tpd
Small industrial scale	15 tpd, 50 tpd, 150 tpd
Industrial scale	300 tpd

## Operating conditions (guide values)

Capture efficiency	≥ 90%
Operating temperature*	40–45 °C
Operating pressure	±50 mbar

## Performance data

Availability	> 95%
CO <sub>2</sub> gas purity**	≥ 96%

## Energy/utility optimization

Energy demand	optimized by heat integration, heat pumps, WHR
Water consumption	minimized by multiple stage water-wash
Solvent consumption (amine-based)	minimized by afterwash & active filtering & reclaiming solutions

## Optional additional equipment

Expandability	XECO®, SETO® & NAVO® can be deployed in parallel
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\* Higher inlet temperatures possible with SETO®.

\*\* Food-grade CO<sub>2</sub>, purity 99,998%, complies with EIGA & ISBT standards.

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