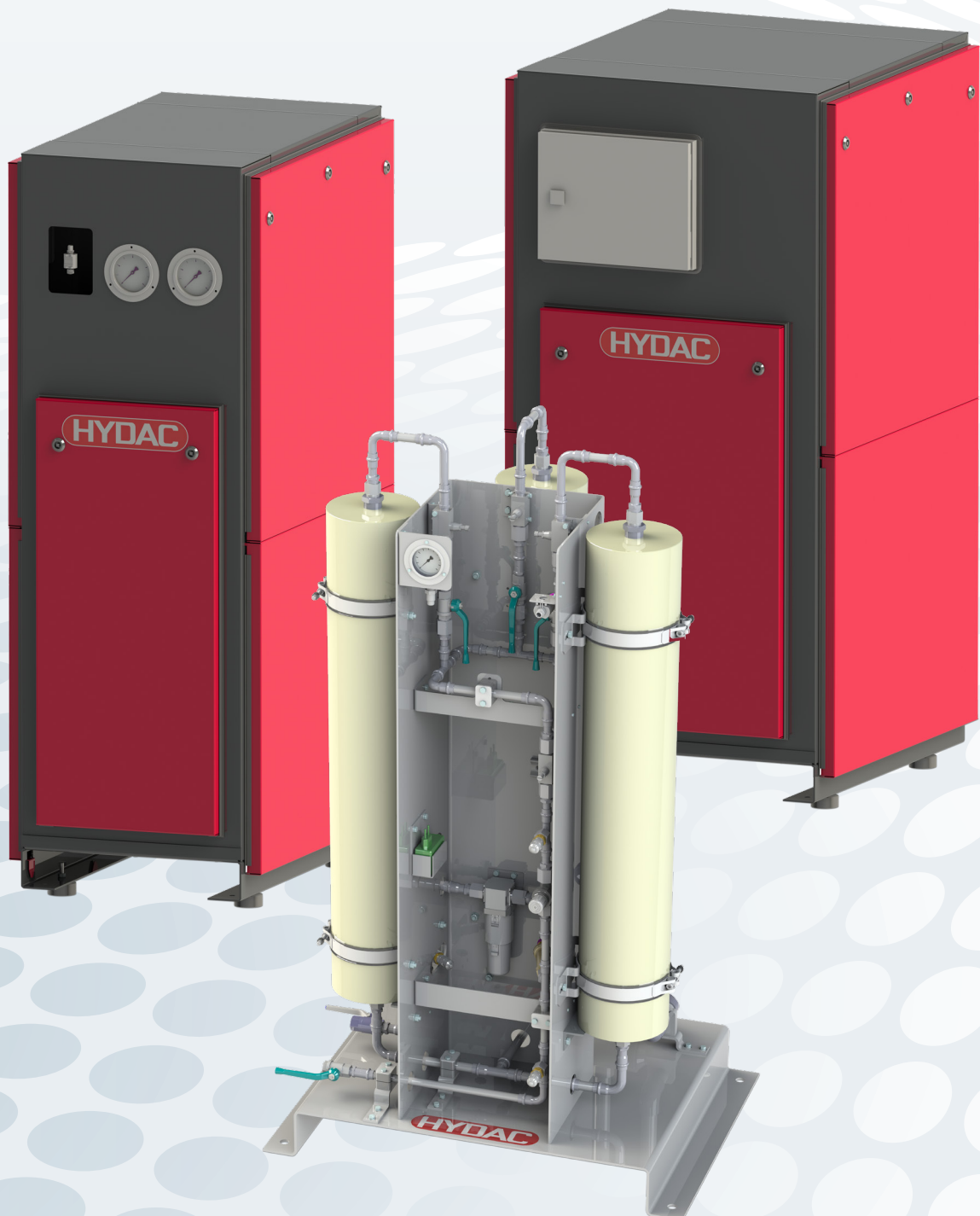


**HYDAC** INTERNATIONAL

**Systems & Services**  
**Gas Separation Unit**  
**Nitrogen Generator**  
GSU



# Gas Separation Unit GSU

Nitrogen is the most commonly used gas in industry. It is used as a protective gas for inerting, filling and driving devices and installations in potentially flammable and explosive atmospheres and for a number of technical and chemical processes.

Nitrogen is usually supplied filled in gas cylinders or in liquid form by tankers. The Gas Separation Unit GSU from HYDAC extracts the nitrogen directly from the compressed air at the user's location.

## General information

Our ambient air consists of 78% nitrogen (N<sub>2</sub>). The HYDAC nitrogen separator is able to extract the required nitrogen from the ambient air. This eliminates the usual supply with cylinder bundles or by tankers, which, for most applications, is in a high purity that is not required or at excessive pressure for the application.

## Product advantages

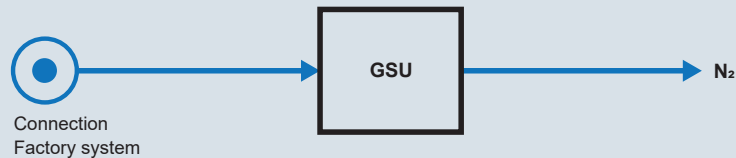
- Compression of the N<sub>2</sub> gas only to the required pressure
- No dependence on limited storage volume in cylinder bundles or liquid gas storage tanks
- No additional logistics required (purchase, transport, handling)
- Increased safety (no risk of accident during transport and handling)
- No transport or rental costs
- Low operating costs

## Applications

- Inerting processes, pipe systems, containers, etc.
- Generating a protective gas atmosphere, e.g. during welding, soldering, etc.
- Storing and preserving foodstuffs and other perishable products
- Cleaning and rinsing oxygen-sensitive materials
- Filling tyres, escape chutes, gas pressure shock absorbers

## How it works

Connection to the factory compressed air system



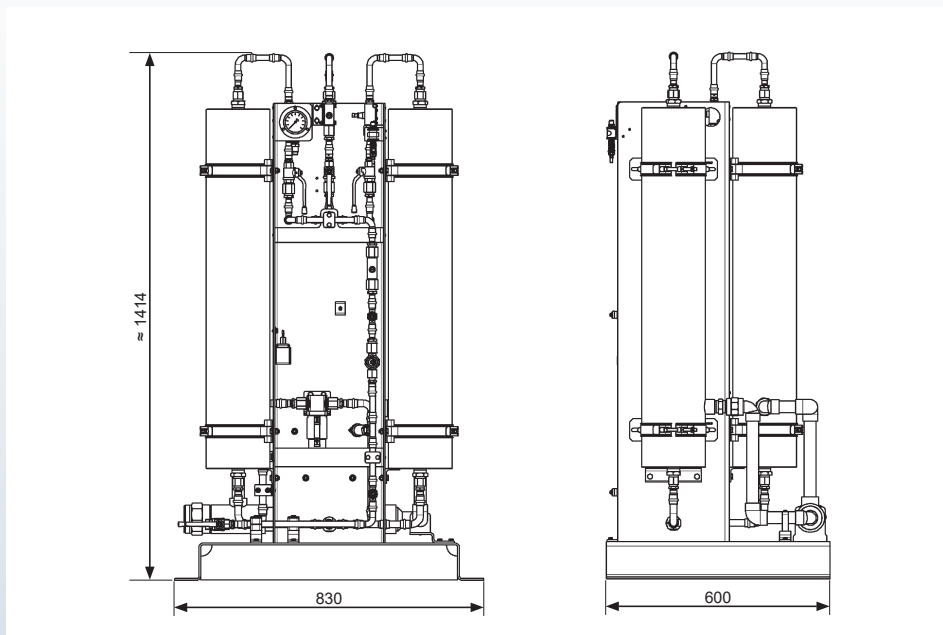
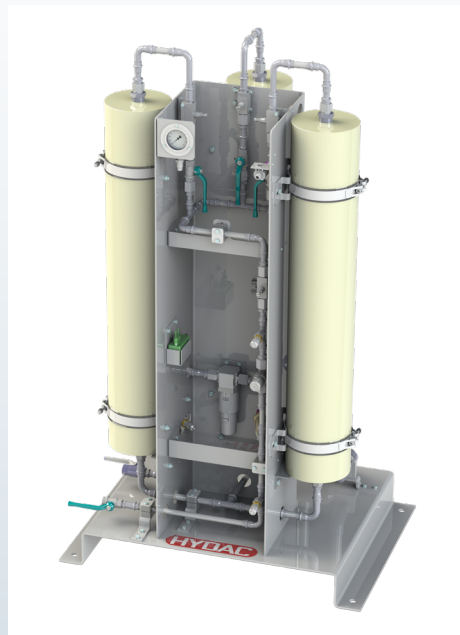
## Features

Nitrogen purity 95 - 99.5 %

## Variants

3 model versions with different grades of equipment:

### GSU Eco



### Equipment

Open design
Shut-off valve: <ul style="list-style-type: none"> <li>■ Inlet compressed air</li> <li>■ Outlet nitrogen</li> </ul>
1 membrane module
Measuring point at the inlet
Measuring point at the outlet

### Options

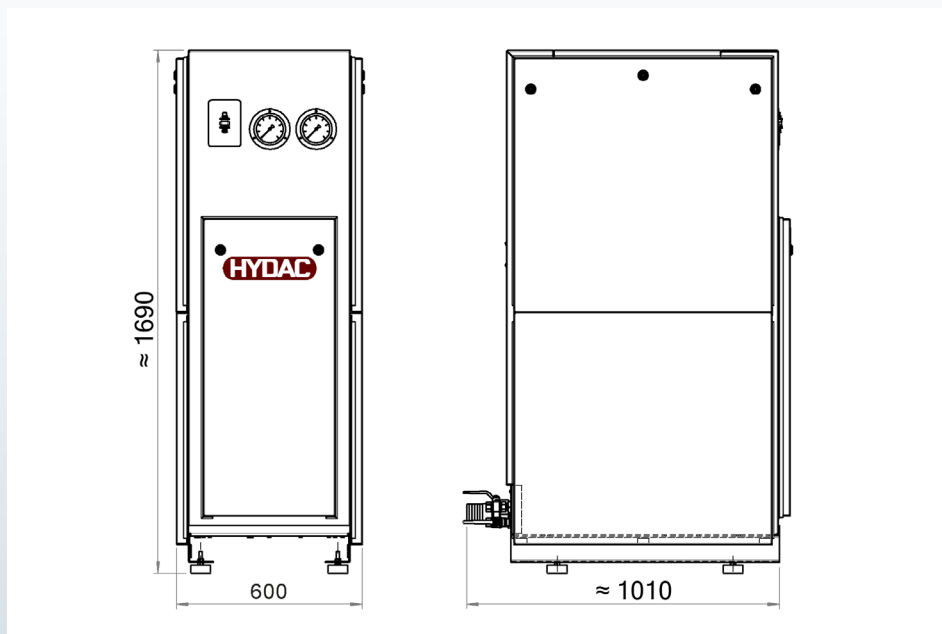
up to 3 membrane modules
Activated carbon filter
Display: <ul style="list-style-type: none"> <li>■ Inlet pressure</li> <li>■ O<sub>2</sub> concentration</li> </ul>

### Technical data

<b>General information</b>	
Weight*	≈ 105 to 140 kg
Dimensions	~ 830 x 600 x 1,414 mm
Ambient temperature	+5 °C to +40 °C
<b>Pneumatic</b>	
Permitted pressure	10 bar
Required quality of compressed air	1 : 4 : 1
<b>Electrical</b>	
Supply voltage*	- / 100 to 240 V AC
Protection class	IP 40
Electrical connection*	Flat device plug type C
Signal connection*	

\*dependent on equipment selected

## GSU Basic



### Equipment

Closed frame with adjustable base
Shut-off valve: <ul style="list-style-type: none"> <li>■ Inlet compressed air</li> <li>■ Outlet nitrogen</li> </ul>
Activated carbon filter
1 membrane module
Manometer at the inlet
Measuring point at the outlet
Continuous O <sub>2</sub> measurement (Output signal 4-20 mA)

### Options

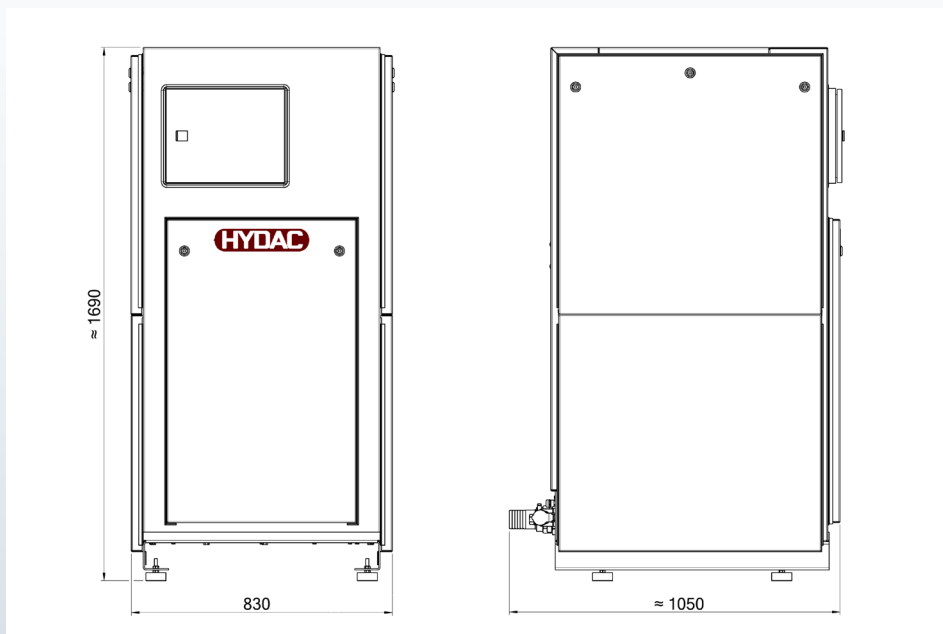
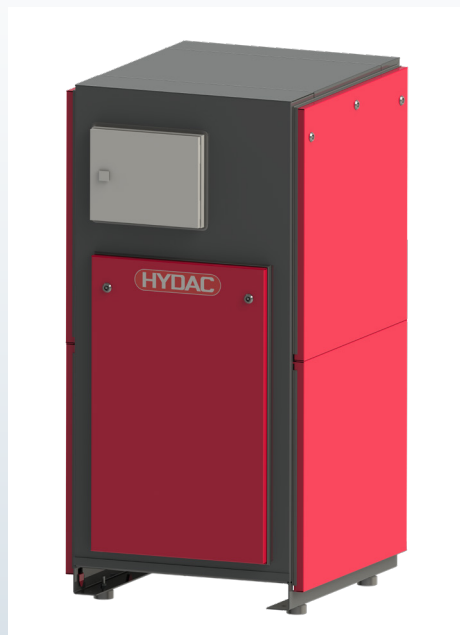
up to 3 membrane modules
Filter set with: <ul style="list-style-type: none"> <li>■ Ultra-fine filter</li> <li>■ Coalescer</li> </ul>
Display: <ul style="list-style-type: none"> <li>■ Inlet pressure</li> <li>■ O<sub>2</sub> concentration</li> </ul>

### Technical data

General information	
Weight*	≈ 165 to 210 kg
Dimensions	~ 600 x 1,010 x 1,690 mm
Ambient temperature	+5 °C to +40 °C
Pneumatic	
Permitted pressure	10 bar
Required quality of compressed air	1 : 4 : 1
Electrical	
Supply voltage*	24 V DC / 100 to 240 V DC
Protection class	IP 40
Electrical connection*	Euro device plug type C
Signal connection*	M12x1, 4 pole

\*dependent on equipment selected

## GSU Premium



### Equipment

Closed frame with adjustable base
Shut-off valve: <ul style="list-style-type: none"> <li>■ Inlet compressed air</li> <li>■ Outlet nitrogen</li> </ul>
Activated carbon filter
1 membrane module
Controller with display: <ul style="list-style-type: none"> <li>■ Status display</li> <li>■ Inlet pressure</li> <li>■ Outlet pressure</li> <li>■ O<sub>2</sub> concentration</li> </ul>
Electric shut-off valve at inlet
Bypass valve at product outlet for rinsing

### Options

up to 3 membrane modules
Filter set with: <ul style="list-style-type: none"> <li>■ Ultra-fine filter</li> <li>■ Coalescer</li> </ul>
N <sub>2</sub> buffer container 90 l

### Technical data

General information	
Weight*	≈ 230 to 310 kg
Dimensions	~ 830 x 1,050 x 1,690 mm
Ambient temperature	+5 °C to +40 °C
Pneumatic	
Permitted pressure	10 bar
Required quality of compressed air	1 : 4 : 1
Electrical	
Supply voltage	230 V AC
Protection class	IP 40
Electrical connection	CEE plug connector, 3-pin, 15 amp for 230 V
Signal connection	RJ 45

\*dependent on equipment selected

## Model code for GSU

GSU - B - 14 - 1X / -FS -AN

### Gas Separation Unit

GSU

### Model version

E = Eco  
 B = Basic  
 P = Premium

### Rated performance

14 = 14 m<sup>3</sup>/h (1 module)  
 29 = 29 m<sup>3</sup>/h (2 modules)  
 44 = 44 m<sup>3</sup>/h (3 modules)

### Series

1X

### Options

-AF = Activated carbon filter (only with ECO version)  
 -FS = Filter set (not with ECO version)  
 -AN = Displays (standard with Premium version)  
 -SP = Buffer container (only with Premium version)

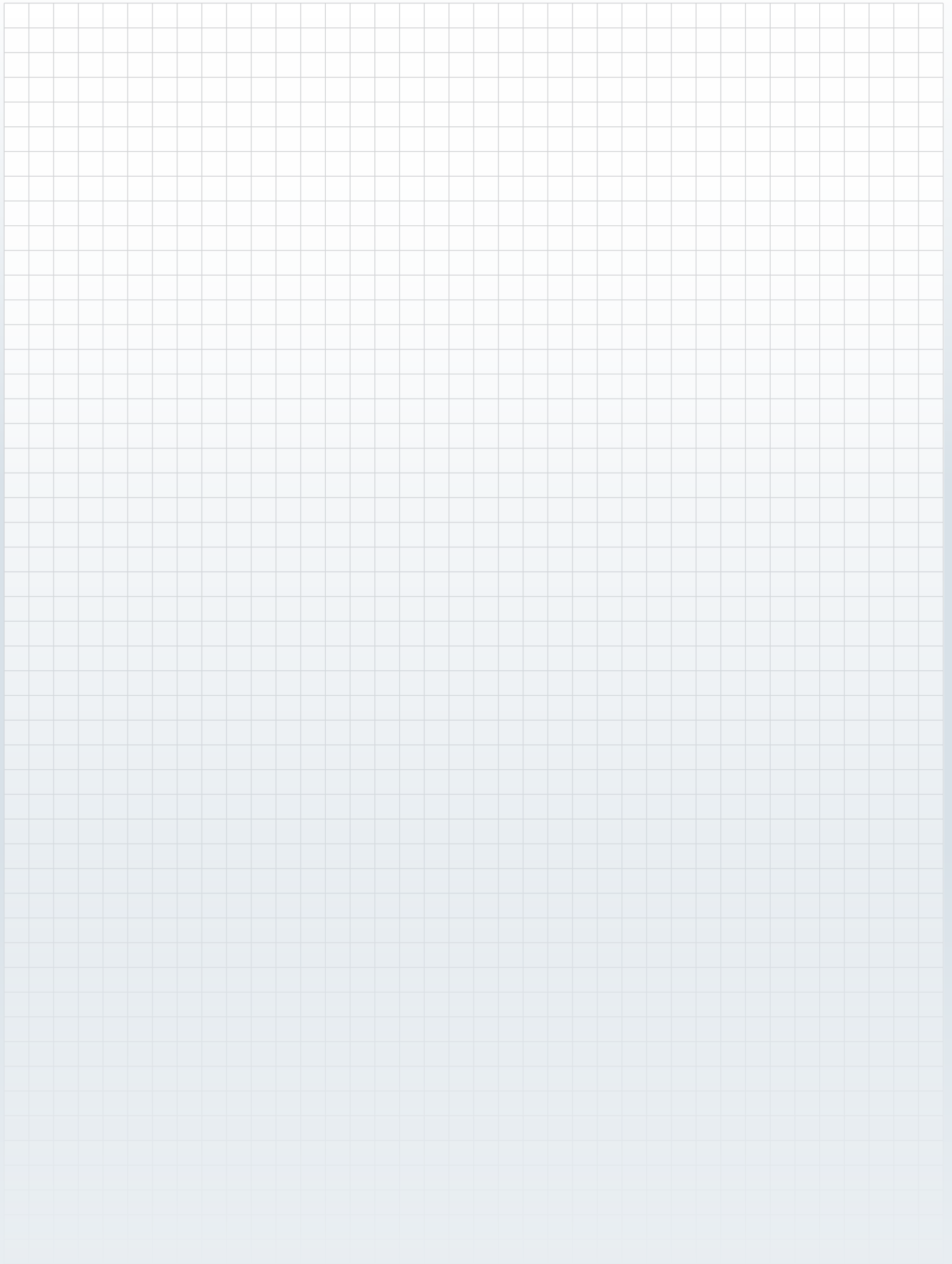
## Performance

### Performance – [m<sup>3</sup>/h] at 7 bar inlet pressure and 20 °C

Model \ Purity	95%		96 %		97 %		98 %		99 %		99.5 %	
	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out
GSU-x-14	28.5	14.5	25.5	12.3	23.1	10.2	20.7	8.1	18.1	5.8	16.9	4.5
GSU-x-29	56.5	29.2	51	24.6	46.3	20.5	41.5	16.3	36.3	11.7	34	9.1
GSU-x-44	85	44	76.5	37	69.5	30.8	62.3	24.5	54.5	17.5	51	13.6

### Performance – [m<sup>3</sup>/h] at 10 bar inlet pressure and 20 °C

Model \ Purity	95%		96 %		97 %		98 %		99 %		99.5 %	
	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out	Air In	N <sub>2</sub> Out
GSU-x-14	47	25.5	42.6	21.5	38.2	18	34.2	14.4	29.9	10.5	27.6	8.2
GSU-x-29	94	50.8	85.1	42.8	76.4	35.9	68.3	28.6	58.8	20.9	55.1	16.3
GSU-x-44	141	76.1	127.6	64.1	114.5	53.5	102.5	42.8	88.7	31.2	82.7	24.4

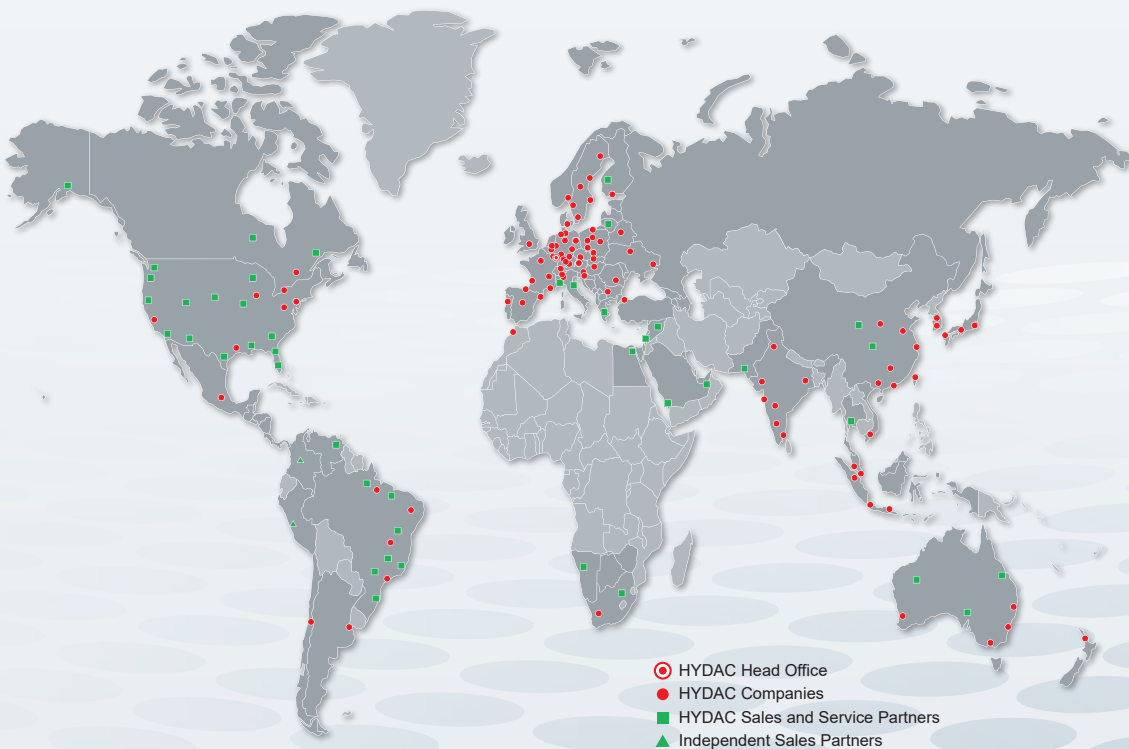


# Goals achieved safely with HYDAC

HYDAC offers the best of both worlds: with over 60 years of expertise as a fluid technology, hydraulics and electronics company and the dynamism of a start-up, we devote our energy to the technologies of the future.

10,000 employees, 50 HYDAC subsidiaries and more than 500 sales and service partners ensure that HYDAC is on hand to help you as a reliable partner worldwide. Our product range extends from components and subsystems right up to complex drive units with closed-loop-control for mobile and industrial systems. We also offer our customers a large range of technical services relating to HYDAC fluid engineering for hydraulic oil, lubricants, coolants and water.

Trust in our global network of experts and our top quality standards.



## HYDAC INTERNATIONAL

HYDAC SYSTEMS & SERVICES  
GMBH

Industriegebiet  
66280 Sulzbach/Saar  
Germany

Tel.: +49 6897 509-01  
E-mail: [info@hydac.com](mailto:info@hydac.com)

[www.hydac.com](http://www.hydac.com)

### Note

The information in this brochure relates to the operating conditions and applications described.  
For applications and operating conditions not described, please contact the relevant technical department.  
Subject to technical modifications.