Exhaust Gas Purification for Greenhouses
up to 10 MW

COdiNOx™

hugengineering.
A Company of the ElringKlinger Group
**From Exhaust Gases to Pure Air**

**CO2 Fertilizer for Greenhouse Horticulture**

**CODINOX CO2 FERTILIZATION**

Horticulturists worldwide are beginning to discover the benefits of using the CODINOX™ installation. This exhaust gas cleaner ensures that the exhaust gases from a CHP (Combined Heat and Power) gas engine are converted into virtually pure air, which can then be used immediately for CO2 fertilization. A sustainable solution that leads to noticeably higher production levels. The introduction of the CODINOX™ system in 1993 was the first of its kind in the market. Ever since, continuous client-oriented developments have made Hug Engineering AG the world market leader for this application.

**INCREASE YOUR PRODUCTION LEVELS**

Using a CODINOX™ exhaust gas cleaning installation offers you a considerable number of extra benefits compared to conventional CO2 dosing techniques. A CHP using a CODINOX™ installation will result in:
- Approximately 40% increase in production in your greenhouse
- Considerably less heat produced per kg of CO2, resulting in less heat wastage
- Substantial savings on energy costs without any adverse effects on the CO2 dosing
- More flexibility optimizing your own energy needs

**LOWER CO2 COSTS**

CO2 costs take up a large portion of any firm’s annual overall costs. By fitting a CODINOX™ exhaust gas cleaning installation you will pay considerably less per kg of CO2 compared to using a liquid CO2 dosing system. Even when you allow for the extra initial and other associated costs. Would you like to find out what you could save by using a CODINOX™ exhaust gas cleaning installation? We will be happy to do the calculations for you and show you your benefits.

**COMPACT AND COST-SAVING**

The CODINOX™ IMCC all-in-one concept combines compact proportions with «plug and play»-convenience. All exhaust gas components are integrated into a single housing unit. This compact unit reduces engineering and transport costs, saves space and simplifies project planning. The high degree of prefabrication reduces assembly risks on site, making your project more easily to manage.

**THE NOx RAW MEASUREMENT PRINCIPLE: ANTICIPATION IS CONTROL**

The NOx raw measurement principle anticipates fluctuations in the exhaust gas flow from the gas engine within milliseconds. This is a major breakthrough in process control and output stability, without harming the quality or availability of CO2. With its greater bandwidth, the raw NOx measuring principle offers you more flexibility in terms of load profile.

**CODINOX™ WORLDWIDE**

Better techniques and accumulated knowledge mean that our installations meet and exceed the latest and most demanding horticultural requirements. Good to know that wherever you are in the world, our team of specialists has the expertise and experience to ensure that your installation will comply with increasingly stringent, local environmental legislation. It is no coincidence that CODINOX™ installations are found in all leading horticultural regions worldwide.

**Your Benefits with CODINOX™**

- 40% more production
- Better quality
- Cleaner environment
- Lower costs of CO2
- More flexible energy management tools
CODINOX™ ALL-IN-ONE SYNERGY THROUGH CUSTOMER-ORIENTED INNOVATION

Many years of customer-oriented innovation has resulted in the CODiNOx™ all-in-one concept. This advanced system combines experience and feedback from the market with the best available techniques. The CODiNOx™ all-in-one concept is compact in size and uses the ‘plug-and-play principle’. This means savings on space and installation costs, and reduces possible assembly and installation risks on site. Finally making your project much more manageable.

ABOUT HUG ENGINEERING

With over 30 years of experience with stationary, mobile and marine applications, Hug Engineering has achieved a leading position in the field of diesel particulate filters and catalytic exhaust gas aftertreatment.

This success is based on intensive, targeted R&D and a wide and flexible scope of supply in advanced emissions reduction systems – from standardized modules to customized systems, based on the customers’ specifications and applicable legislation, and supplied and installed according to their individual preferences.

CODiNOx™ systems and products of Hug Engineering are exclusively distributed by Hanwel Environment & Energy. Since 2016, the Hanwel Group is part of the Hug Engineering AG and has been renamed into Hug Engineering B.V.