# USING WASTE HEAT

with gas-fired steam humidifiers
Condair **GS**

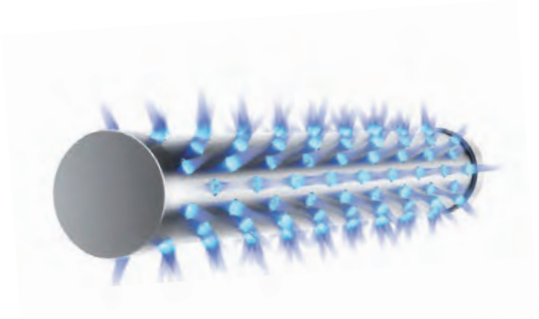
Humidification and evaporative cooling

condair

# Economical and ecological steam production with gas as primary energy.

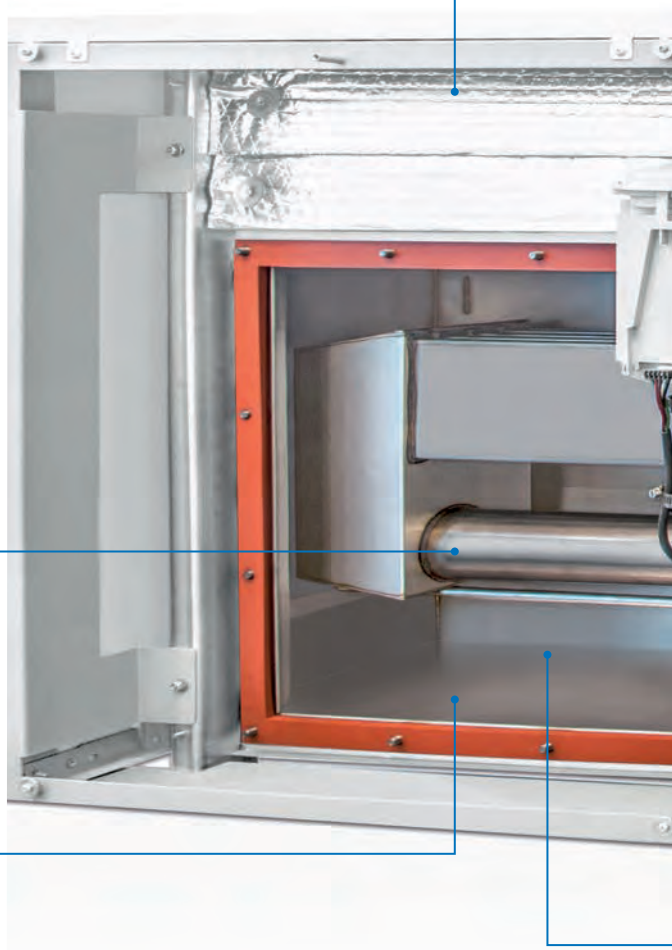
### Gas-operated steam humidification

For efficient operation, the primary energy source gas can be used as a cost-efficient alternative to conventional steam humidification with electricity.



### 360° Full-Circle technology

The combustion system's newly developed 360° Full-Circle technology guarantees optimum surface use, low emissions, and enables continuously adjustable output regulation.



### Heat exchange chamber

The innovative heat exchange chamber is protected from heat loss with a patented insulation system and achieves a thermal efficiency level of over 90%.

Condair **GS**

## DVGW-certified heat recovery via the air conditioning system

Condair GS enables the exhaust gas to be used for heat recovery. This unique and DVGW-certified technology removes the need for a chimney and enables the system's heating/operating costs to be significantly reduced.

## Precise control

The Condair GS is available in six different output variants allowing continuous adjustment from 10 kg/h to a maximum of 240 kg/h. The microprocessor-controlled device interface can be regulated with all currently used control signals.

## Robust construction in rust-free stainless steel

Condair GS units are the standard in high-efficiency air humidification with gas. The exhaust gas can be discharged directly through HVAC exhaust air. Exhaust gas heat is recovered to a great extent through heat recovery in the HVAC unit.

Condair GS is the first choice when it comes to top efficiency and easy installation. Not only that — these units can easily be added to existing systems.

# Exhaust gas heat recovery via the HVAC unit

Using HVAC exhaust air to discharge exhaust gas provides some significant advantages. Firstly, installation is significantly easier, as a chimney is no longer required. Exhaust gas heat is used and regenerated through heat recovery in the HVAC unit, and the quality of exhaust air does not decrease in the process.

The energy in the exhaust gas is made available for free, and the savings achieved can be accounted for in ventilation heat consumption.

A range of power levels let you select the right unit for your needs, for use in a wide area of applications. In addition, the heat output achieved in the HVAC unit increases along with the volume of steam.

No chimney required

Recovery of exhaust gas heat

DVGW-certified

Gas-fired steam humidifier with conventional
exhaust routing


Gas-fired steam humidifier with DVGW-certified
exhaust gas heat recovery via your HVAC unit

# Efficient technology pays off!

| Steam output | Exhaust gas heat | HR 65% | | HR 70% | | HR 75% | |
|---|---|---|---|---|---|---|---|
| 40 kg/h | 4.5 kW | 2.9 kW | (1.5) | 3.2 kW | (1.6) | 3.4 kW | (1.7) |
| 80 kg/h | 9.0 kW | 5.8 kW | (3.1) | 6.4 kW | (3.3) | 6.8 kW | (3.5) |
| 120 kg/h | 13.5 kW | 8.7 kW | (4.6) | 9.6 kW | (4.9) | 10.2 kW | (5.2) |
| 160 kg/h | 18.0 kW | 11.6 kW | (6.1) | 12.8 kW | (6.6) | 13.6 kW | (7.0) |
| 200 kg/h | 22.5 kW | 14.5 kW | (7.6) | 16.0 kW | (8.2) | 17.0 kW | (8.7) |
| 240 kg/h | 27.0 kW | 17.4 kW | (9.2) | 19.2 kW | (9.9) | 20.4 kW | (10.5) |

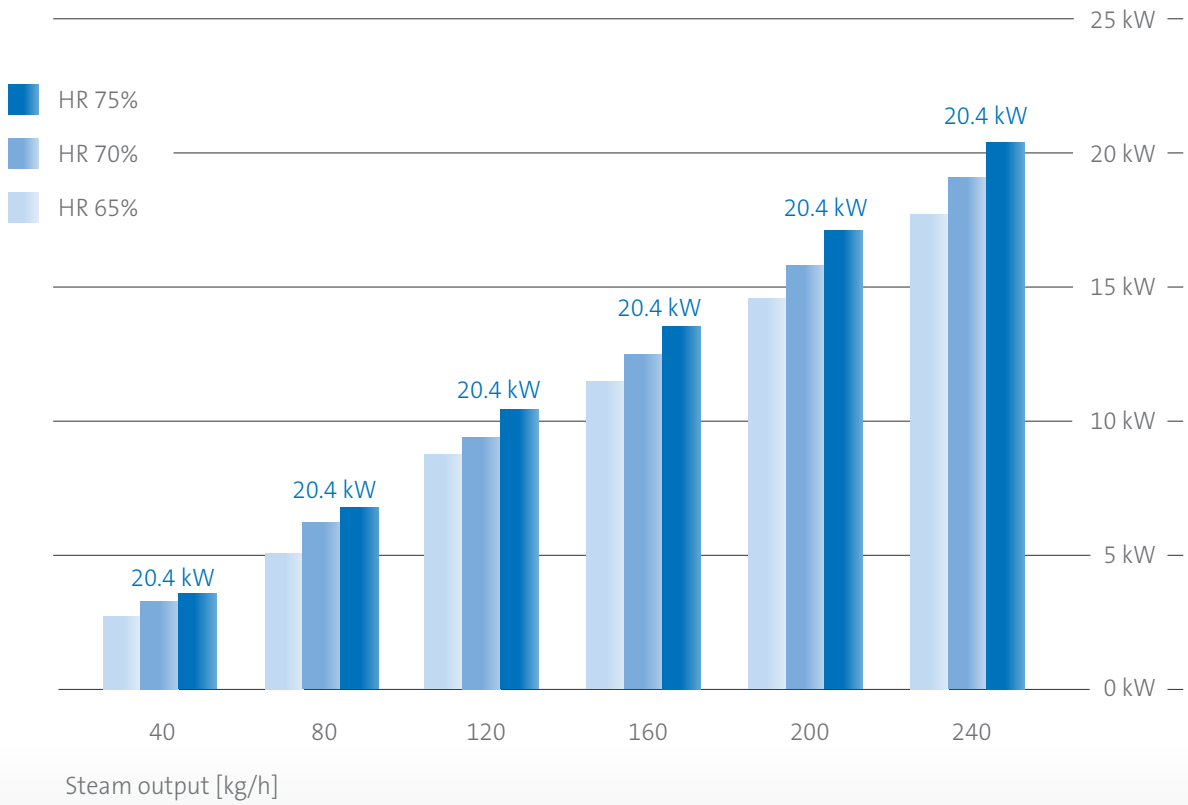
Total usable exhaust gas heat output is the result of sensible heat, achieved through the high exhaust gas temperature, and latent heat, in the form of steam. The values in parentheses represent sensible heat gain without condensation heat.

# The perfect match!

Variable plant situations require custom solutions. The range of Condair GS variants makes it possible for you to select a unit that precisely matches your planning requirements and the design of your HVAC system.

Existing limitations are overcome through the exhaust gas discharge system and the highly efficient steam humidification process provided for a wide range of applications.

Existing savings potential through ventilation heat consumption,
including condensation heat recovery [kW]




**Condair GS**
Indoor installation
(room air-dependent)
Combustion air is sucked away
from the installation room

**Condair GS RS**
Indoor installation
(room air-independent)
Combustion air is fed in
separately

**Condair GS OC**
External installation
with robust all-weather
protection cover

**Standard model**

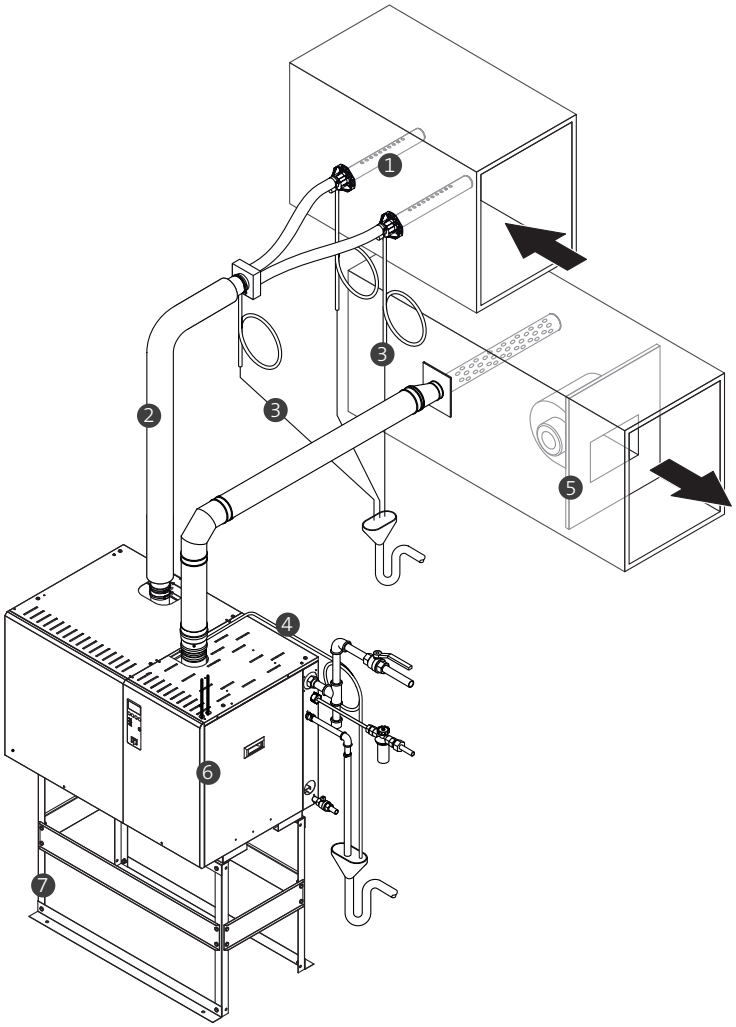
- Stainless steel steam cylinder
- 360° full-circle burner technology
- Internal PI humidity controller
- Remote signaling of operational readiness / operating mode / maintenance / faults
- Analog signal for current steam production
- Control panel with LCD display
- Self-diagnostic system

**Accessories**

- Steam distributor for duct [1]
- Steam distribution hose [2]
- Condensate hose [3]
- DVGW-certified exhaust installation [4]
- Exhaust gas distributor [5]
- Condensate trap [6]
- Base frame [7]

**Options**

- OptiSorp multiple steam distribution system
- Humidity sensor for duct/room installation
- Duct/room hygrostat
- Pressure relief valve set (up to 10,000 Pa pressure relief)
- connection to BMS systems (Modbus, BACnet and LonWorks)




# Technical Data

| Max. steam output | kg/h | 40 | 80 | 120 | 160 | 200 | 240 |
|---|---|---|---|---|---|---|---|
| Thermal output | kW | 36.5 | 73.0 | 109.5 | 146.0 | 182.5 | 219.0 |
| Exhaust gas heat output* (HR 75%) | kW | 3.4 | 6.8 | 10.2 | 13.6 | 17.0 | 20.4 |
| Minimum escaping air flow | $m^3/h$ | 1,825 | 3,650 | 5,475 | 7,300 | 9,125 | 10,950 |
| Escaping air negative pressure | Pa | -300 – -1,200 and -400 – -1,500 (other ranges available by request) | | | | | |
| Control voltage | 230 V / 1 PH / 50–60 Hz | | | | | | |
| Condair GS (room air-dependent), Condair GS-RS (room air-independent) | | | | | | | |
| Width/height | mm | 1140/810 | | | | | |
| Depth | mm | 530 | 690 | 1,090 | 1,090 | 1,490 | 1,490 |
| Condair GS-OC (outdoor installation) | | | | | | | |
| Width/height | mm | 1,262/1,380 | | | | | |
| Depth | mm | 545 | 708 | 1,104 | 1,104 | 1,500 | 1,500 |
| Compliance | DVGW, CE, VDE | | | | | | |
| Patents | PATENT PENDING | | | | | | |

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