

Flue gas and process heat

# Safe Plate (SP)

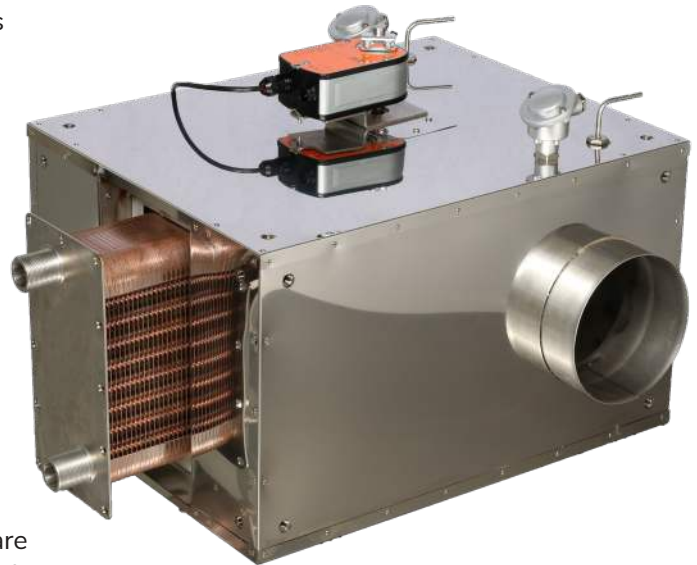
The high-temperature heat recovery units in the Safe Series from Exodraft recover unused energy from flue gases and process air. The units are designed to operate in flue gas temperatures up to 400°C on air side.

The housing of the Safe Series units consists of stainless steel 1.4404 (internal) and 1.4301 (external) and is protected against radiation losses with a highly effective insulation while a built-in drain ensures disposal of condensation.

The highly efficient plate heat exchangers, which consists of stainless steel (copper brazed joints) is distinguished by its robustness and its efficient heat transmission, courtesy of its unique design.

When no heat is required the hot flue gases or process air are passed through an integrated bypass. This bypass protects the system from overheating and is also activated if heat consumption no longer occurs. Additionally, the bypass prevents critical pressure loss. The Exodraft heat exchangers have a minimal space requirement due to their compact design.

*\*Not suitable for solid fuel units (wood, coal, biomass, etc.).*



## General specifications

- Handles flue gas temperatures up to 400°C
- Integrated bypass damper protects the system from overheating
- All parts in connection with flue gas made in stainless steel 316 (EN 1.4404)
- All external parts made in stainless steel 304 (EN 1.4301)
- 40 mm insulation
- Maximum pressure water side of heat exchangers 12 bar (190 °C plate temperature)
- Designed for indoor use. Can be used outside if the product is covered / encapsulated
- Possibility for nickel brazed heat exchangers in harsh environments
- 4 drainage tubes to remove condensation
- In conformance with 2006/42/EC
- In conformance with 2014/35/EU

## Models

| Model | Item no. | Description  | Approx. burner output [KW] | Natural gas Nominal flow 250°C [m <sup>3</sup> ] λ 1.2 | Max. temp [°C] | Inlet (nipple) ø outside [mm] | Outlet (sleeve) ø inside [mm] | Drainage connections size internal tread [“] | Weight incl. heat exchanger [kg] | Weight excl. heat exchanger [kg] |
|-------|----------|--|----------------------------|--|----------------|-------------------------------|-------------------------------|--|----------------------------------|----------------------------------|
| SP80  | 8001100  | Integrated bypass 1x AIREC heat exchanger: Cross30-C-80 Copper brazed Standard connecting pipe dimensions  | 80                         | 200  | 400            | 180.5                         | 181.2                         | 1  | 58                               | 48                               |
| SP120 | 8001200  | Integrated bypass 1x AIREC heat exchanger: Cross30-C-100 Copper brazed Standard connecting pipe dimensions | 120                        | 300  | 400            | 200.5                         | 201.2                         | 1  | 90                               | 76                               |
| SP250 | 8001300  | Integrated bypass 1x AIREC heat exchanger: Cross30-C-140 Copper brazed Standard connecting pipe dimensions | 250                        | 600  | 400            | 250.5                         | 251.2                         | 1  | 92                               | 74                               |
| SP375 | 8001400  | Integrated bypass 2x AIREC heat exchanger: Cross30-C-100 Copper brazed Standard connecting pipe dimensions | 375                        | 900  | 400            | 300.5                         | 301.2                         | 1  | 144                              | 118                              |
| SP500 | 8001500  | Integrated bypass 2x AIREC heat exchanger: Cross30-C-140 Copper brazed Standard connecting pipe dimensions | 500                        | 1200   | 400            | 350.5                         | 351.2                         | 1  | 150                              | 116                              |

## Heat exchangers

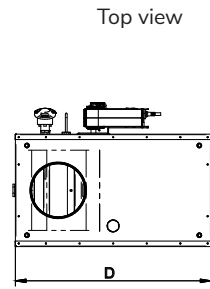
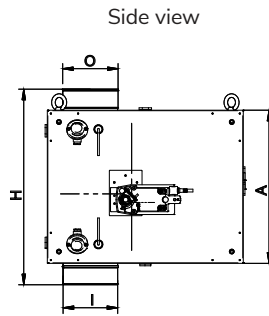
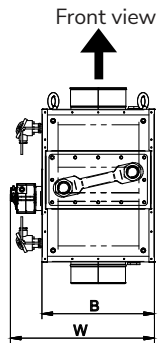
| Compatibility | Model         | Item no. | Number of heat exchangers | Joint material | Plates | Water connection [“] | Max pressure [bar] 190°C plate temp. | Weight [kg] |
|---------------|---------------|----------|---------------------------|----------------|--------|----------------------|--------------------------------------|-------------|
| For SP80      | Cross30-C-80  | 3200986  | 1                         | Copper brazed  | 79     | G 1 1/4              | 12                                   | 11          |
| For SP120     | Cross30-C-100 | 3200987  | 1                         | Copper brazed  | 99     | G 1 1/4              | 12                                   | 13          |
| For SP250     | Cross30-C-140 | 3200989  | 1                         | Copper brazed  | 139    | G 1 1/4              | 12                                   | 17.5        |
| For SP375     | Cross30-C-100 | 3200987  | 2                         | Copper brazed  | 99     | G 1 1/4              | 12                                   | 13          |
| For SP500     | Cross30-C-140 | 3200989  | 2                         | Copper brazed  | 139    | G 1 1/4              | 12                                   | 17.5        |

## Accessories

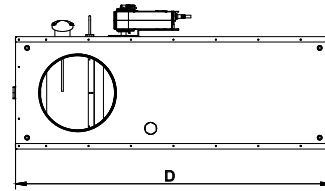
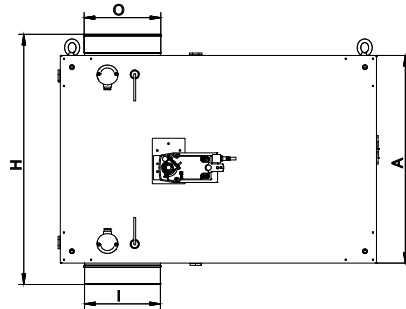
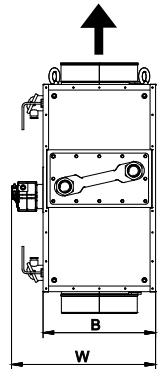
- PT 1000 temperature transmitter
- Silicon hose ø 8/4 mm **(2000335)**
- Pressure connector ø 8/4 mm for hose **(2400266)**
- Cover plate for single **(2400068)**
- Cover plate for double **(2400067)**
- Auxiliary switch unit for damper motors **(3200984)**

| Compatibility | Item no. | Length |
|---------------|----------|--------|
| SP80          | 2400279  | 150 mm |
| SP120         | 2400279  | 150 mm |
| SP250         | 2400279  | 150 mm |
| SP375         | 2400278  | 300 mm |
| SP500         | 2400278  | 300 mm |

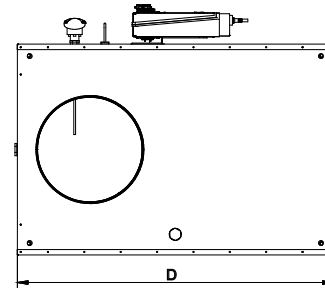
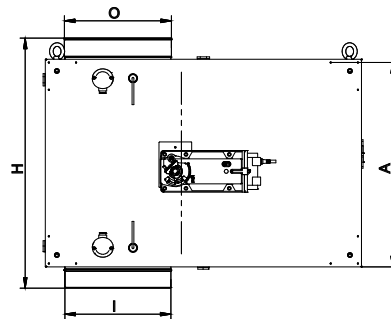
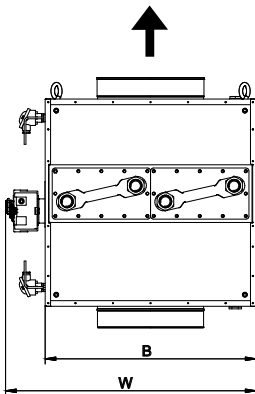
## Models



SP80



SP120-250



SP375-500

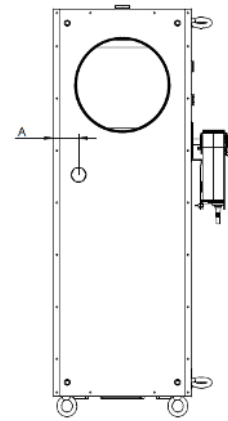
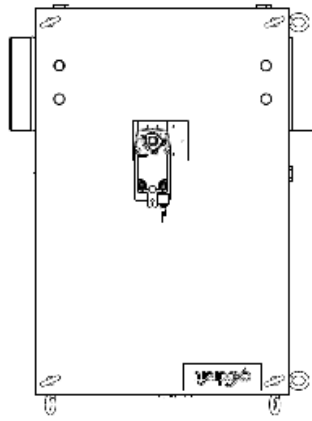
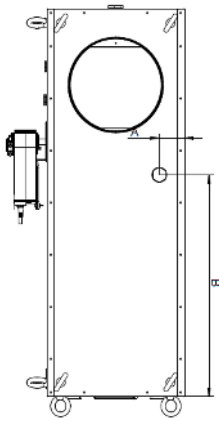
| Model/Dimension | W        | H        | D         | A        | B        | I*       | O*       |
|-----------------|----------|----------|-----------|----------|----------|----------|----------|
| SP80            | 480.6 mm | 646.1 mm | 647.2 mm  | 505.8 mm | 371.4 mm | 180.5 mm | 181.2 mm |
| SP120           | 480.6 mm | 826.1 mm | 1044.2 mm | 685.8 mm | 371.4 mm | 200.5 mm | 201.2 mm |
| SP250           | 480.6 mm | 826.1 mm | 1044.2 mm | 685.8 mm | 371.4 mm | 250.5 mm | 251.2 mm |
| SP375           | 832.1 mm | 826.1 mm | 1044.2 mm | 685.8 mm | 696.4 mm | 300.5 mm | 301.2 mm |
| SP500           | 832.1 mm | 826.1 mm | 1044.2 mm | 685.8 mm | 696.4 mm | 350.5 mm | 351.2 mm |

\* I = Inlet with nipple coupling (outer measure)  
 O = Outlet with sleeve coupling (inner measure)

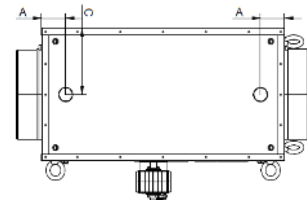
## Damper motors

| Compatibility | Model             | Item no. | Nomial voltage                                 | Max power consumption [W] | Standby power consumption [W] | Cable size           |
|---------------|-------------------|----------|--|---------------------------|-------------------------------|----------------------|
| For SP80      | NFA 10 Nm         | 3201081  | AC 24 ... 240 V, 50/60 Hz<br>/ DC 24 ... 125 V | 6                         | 2.5                           | 3 x 0.75<br>(9.5 VA) |
| For SP120     | SFA 20 Nm         | 3201080  | AC 24 ... 240 V, 50/60 Hz<br>/ DC 24 ... 125 V | 7                         | 3.5                           | 3 x 0.75<br>(18 VA)  |
| For SP250     | SFA 20 Nm         | 3201080  | AC 24 ... 240 V, 50/60 Hz<br>/ DC 24 ... 125 V | 7                         | 3.5                           | 3 x 0.75<br>(18 VA)  |
| For SP375     | EF230A -<br>30 Nm | 3201064  | AC 230 V, 50/60 Hz                             | 9                         | 4.5                           | 3 x 0.75<br>(21 VA)  |
| For SP500     | EF230A -<br>30 Nm | 3201064  | AC 230 V, 50/60 Hz                             | 9                         | 4.5                           | 3 x 0.75<br>(21 VA)  |

## Drain positions



| Model | A     | B      | C      |
|-------|-------|--------|--------|
| SP80  | 68 mm | 324 mm | 186 mm |
| SP120 | 68 mm | 597 mm | 186 mm |
| SP250 | 68 mm | 597 mm | 186 mm |
| SP375 | 68 mm | 522 mm | 348 mm |
| SP500 | 68 mm | 522 mm | 348 mm |



## Spare parts

- Heat exchanger gasket (2400282)

### Heat exchangers (copper brazed)

- Cross30-C-80 (3200986)
- Cross30-C-100 (3200987)
- Cross30-C-140 (3200989)

### Heat exchangers (nickel brazed)

- Cross30-N-80 (3200991)

- Cross30-N-100 (3201052)

- Cross30-N-140 (3200880)

### Damper motors

- Damper motor NFA 10 Nm (3201081)
- Damper motor SFA 20 Nm (3201080)
- Damper motor EF230A 30 Nm (3201064)