

# Bypass- Ventilators

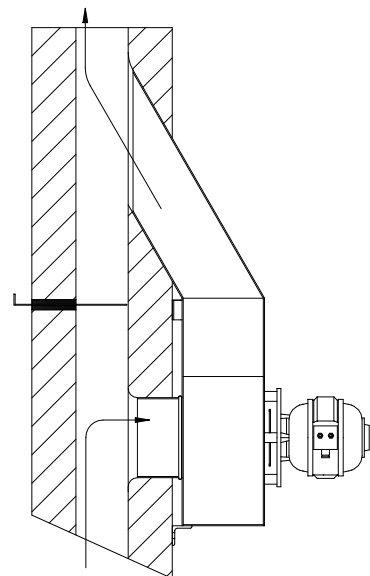
## draft amplifier types SN and SNHL

### draw off flue gas safely

- Safety
  - Cleanliness
  - Comfort



flue gas ventilator type SN



### flue gas ventilators

- type SN
  - for all oil and gas heating **without** solids content
- type SNHL
  - for all heating **with** solids content in flue gas

# TECHNICAL DESCRIPTION AND DESIGN

## Description

NOLTE flue gas fans with function as draft amplifier are fitted in the chimney (bypass). They boost smoke and hot air and are suitable for boilers, dryers, chimneys and other fire places up to a temperature of 250 ° C / 480 ° F.

By means of these bypass ventilators a fraction of the exhaust gas is sucked by a fan, accelerated and blown out again towards the mouth of the chimney. If the fireplace, for example an oven, is not in use, the rooms can even be ventilated with this bypass fan.

Our bypass fans are driven by a special motor with heat transfer insulation, high temperature bearings and extended shaft. The protection class is IP 21S (drip-proof). The Cabinet is made of stainless steel or steel plate with heat-resistant paint.

## Types

- **Type SN**  
The flue gas ventilators (draft amplifier) type SN are suitable for all oil and gas heatings **without** solids content
- **Type SNHL**  
The flue gas ventilators (draft amplifier) type SNHL are suitable for all heatings **with** solids content in flue gas

## Mounting notes for Nolte-Bypass-Ventilators

The operator is responsible for the approval, professional installation and safe operation of a flue gas system. The interaction of professionals in manufacturing, installation and commissioning, and correct operation are responsible for the safe, long-lasting and successful operation of mechanical flue gas handling equipment.

Changes to existing systems or starting up new plants are subject to approval and must be approved and accepted by the local heating engineer.

Chimney fans are mounted on the chimney cap with a minimum external dimension of 40 x 40 cm. Surpluses from neighboring chimneys must be avoided.

The chimney cap is flat and the brickwork must be stable. Smaller bumps can be covered by an insulating jacket. The base plate cannot be moved after mounting.

Installation on a round chimney pipe is possible by means of a carrier plate (accessory).

Wiring and setup must be carried out by a licensed electrical installation company.

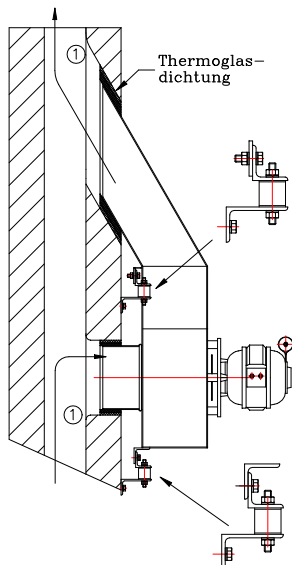
### **Note Motor data!**

### **Do not forget motor protection!**

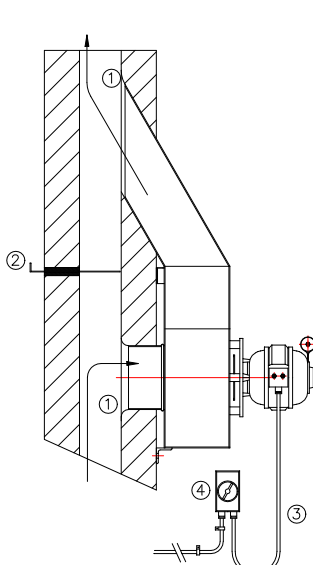
A review of the fan for wear and durability of the attachment must be made at intervals of not more than 6 months.

## Models (more models e.g. suitable for built in tube upon request)

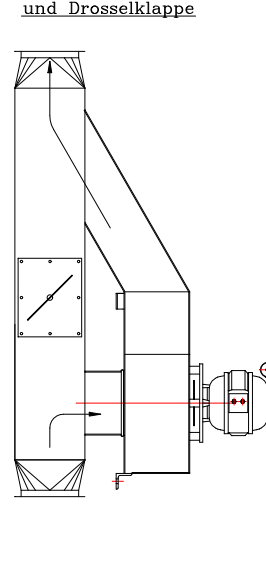
Montage mit Einbausatz



Montage ohne Einbausatz



Montage mit Rauchrohr und Drosselklappe



- ① Strömungsgünstig und glatt verstreichen  
② Schieber, falls erforderlich

- ③ Elektrokabel mit Steckerverbindung oder mit langem Kabel (für einfachere Demontage bei der Wartung)

- ④ Reparaturschalter

### Control

The fan motors can be controlled in speed. By stepwise or stepless speed control optimum adaptation of the flow and the suction force to existing operating conditions is possible. For the speed control only transformers (stepwise or continuously) to be used.

If induction motors are used, frequency converter can be used for speed control

### Accessories

- Infinitely variable speed control
- Gradual speed controller
- SWA I: Safety-related switching combination in the control cabinet for exhaust gas flow monitoring incl differential pressure switch and an integrated step transformer to reduce the fan performance.

### Functions SWA:

- controls the ventilator
- controls the flow
- releases the switch for the heating
- triggers Alarm in case of failure
- SWA II: Safety control combination as SWA I, however, for two-stage burner or double units
- Motor circuit breakers (required when no speed controller is used)
- Motor protection unit (required when using a speed controller)  
„a 5-pole connecting cable is needed“
- flue gas thermostat
- Installation kit for vibration damping and prevention of noise transmission to the masonry.

### On request, we offer:

- higher performance
- models for higher temperatures (up to 600°C)
- stainless steel make
- different housings

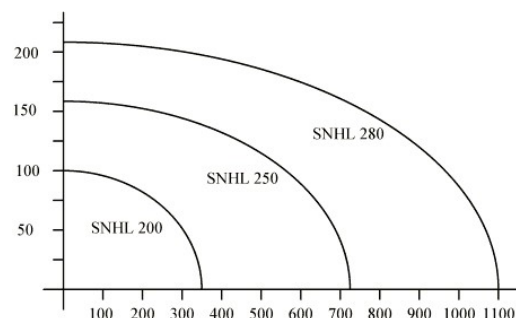
### Sizing for type SN according to fuel consumption

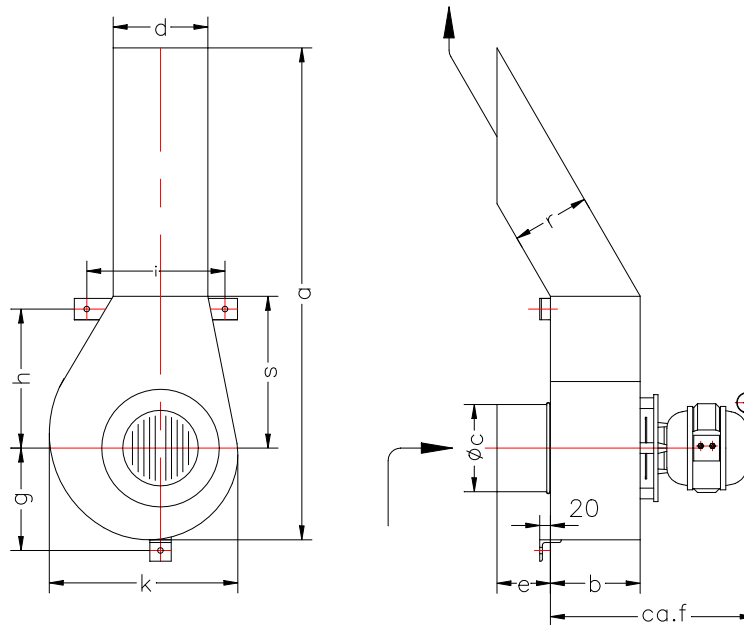
During delivery in bypass the amount of flue gas corresponds to the fuel consumption, wherein the fan provides a larger power effective because of the losses associated with this type of installation.

Ventilator type		SN-3	SN-5	SN-7	SN-10	SN-12
oil consumption	ca. kg/h	13	20	40	65	100
coke consumption	ca. kg/h	18	28	55	90	140
carbon consumption	ca. kg/h	15	23	45	75	115
gas consumption	ca. m <sup>3</sup> /h	36	56	110	180	280
flue gas amount at 180 - 200°C (Bypass)	m <sup>3</sup> /h	370	560	1100	1800	2800
stat. pressure at 180 – 200°C	Pa	90	100	120	130	170
	(mmWS)	(9)	(10)	(12)	(13)	(17)
stat. pressure bei 20°C	Pa	140	160	180	200	260
	(mmWS)	(14)	(16)	(18)	(20)	(26)
number of revolutions	1/min	0-1390 controled	1410 optional controled			1410 not controled
Motor power	W	80	250	370	750	1.100
voltage		1~230V/50Hz		3~230V / 400V / 50Hz		
noise	ca. dB (A)	53	54	58	62	70
net weight	ca. kg	16	18	20	32	40

### performance data for type SNHL/4

Ventilator type	draft	nominal performance
	Pa	m <sup>3</sup> /h
SNHL-200/4	70	250
SNHL-250/4	120	500
SNHL-280/4	150	800





Ventilator type	SN-3			SN-5			SN-7			SN-10			SN 12		
	$\dot{V}$		p stat.	$\dot{V}$		p stat.	$\dot{V}$		p stat.	$\dot{V}$		p stat.	$\dot{V}$		p stat.
	m³/h		Pa	m³/h		Pa	m³/h		Pa	m³/h		Pa	m³/h		Pa
		20°C	200°C		20°C	200°C		20°C	200°C		20°C	200°C		20°C	200°C
	700	140	90	1000	180	110	1400	220	140	2000	320	200	3000	380	230
	600	150	90	900	200	120	1200	250	150	1750	370	230	2500	450	280
	500	160	100	800	210	130	1000	280	170	1500	400	240	2000	480	300
	400	170	110	700	220	140	800	300	180	1250	410	250	---	---	---
	300	170	110	600	220	140	---	---	---	---	---	---	---	---	---

The specified pressure and flow rates are measured at delivery of the total volume by the fan, so as with slider between intake and exhaust vent, or direct channel connection to suction and discharge side.

	dimensions [mm]							
	SN-3	SN-5	SN-7	SN-10	SN-12	SNHL-200	SNHL-250	SNHL-280
<b>a</b>	790	890	925	1201	1320	890	1201	1320
<b>b</b>	138	148	168	218	249	148	218	249
<b>c</b>	129	147	162	182	202	127	160	180
<b>d</b>	133	183	183	213	254	183	213	254
<b>e</b>	100	100	100	150	150	100	150	150
<b>f</b>	392	365	396	473	512	402	470	498
<b>g</b>	161	200	200	240	276	200	240	276
<b>h</b>	185	250	250	290	345	250	290	345
<b>i</b>	270	340	340	400	420	340	400	420
<b>k</b>	285	359	369	435	496	369	435	496
<b>r</b>	120	128	145	189	216	128	189	216
<b>s</b>	237	284	284	348	383	284	348	383

**Alfred Nolte GmbH • Dieselstraße 2 • 21465 Reinbek**  
**Tel. +49 (0)40 / 727 789-0 • Fax / 727 789-26 • E-Mail: [info@alfred-nolte.de](mailto:info@alfred-nolte.de)**  
[Please visit our webside www.alfred-nolte.de](http://www.alfred-nolte.de)

**Rechtsform**  
GmbH  
**Sitz der Gesellschaft**  
Reinbek

**Handelsregister**  
Lübeck HRB 15687 HL  
**USt-ID-Nr.**  
DE 305 473 435

**Geschäftsführer**  
Nils Albers  
**Postanschrift**  
Dieselstraße 2, 21465 Reinbek

**E-Mail**  
[info@alfred-nolte.de](mailto:info@alfred-nolte.de)  
**Homepage**  
[www.alfred-nolte.de](http://www.alfred-nolte.de)

**Telefon**  
040/727 789 - 0  
**Telefax**  
040/727 789 - 26

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