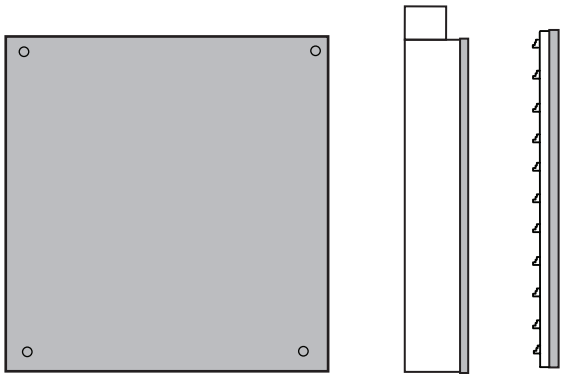
Displacement unit to be recessed in a wall



- **Low cost**
- **Tailor made dimensions**
- **Several versions**

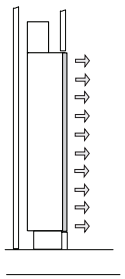
EI series units can be used in all types of installations to provide displacement ventilation. In comfort applications EI units are suitable to be installed recessed in a wall behind a special front panel. The special front panel can be perforated sheet steel , stainless steel, brass etc.; or a bar grille made of wood, stainless steel or brass.

Design
The unit is available as an air distribution plate with nozzles alone: or a fully perforated, front panel can be fitted to the plate or plenum/ air distribution assembly. The front is screwed on allowing it to be removed; installation permitting. The nozzle plate is fixed.

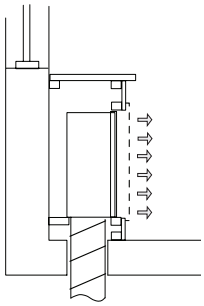
Versions
EIO/O Air distribution plate with nozzles
EIO Air distribution plate with nozzles, including fully perforated front panel.
EIC With plenum and circular connection.
EIR With plenum and rectangular connection.

Material
Front is made in 1.25mm hot dipped galvanized sheet steel, powder painted as standard in RAL 9011 or RAL9010.
Plenum boxes and distribution plate in 0.7-1mm (depending on size) not painted electro galvanized sheet steel.
Other colours according to RAL or NCS are available on request

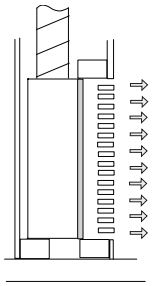
Applications



EIR recessed in wall with standard front



EIC built-in below a window with special perforated front



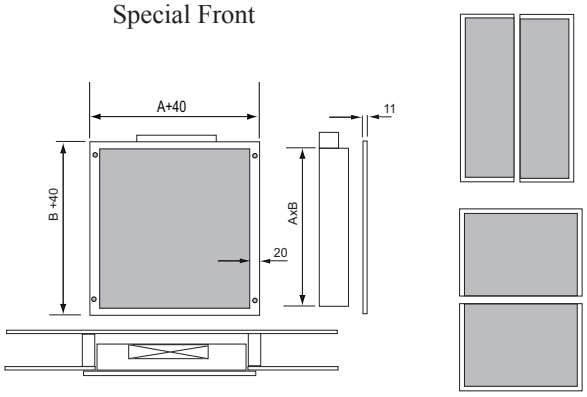
EIC recessed in a wall with a special wooden bar grille

Specials
Special front
A specially perforated , flanged, front panel can be supplied on request (See drawing). The nozzle plate or the plenum box is assembled recessed in a wall. For larger sizes the front is made in two sections.
As an example a front 2040x1240 is made 2 no. 2040x620 or 2no. 1020x1240. Contact your nearest sales representative for advice

Stainless steel

Reinforced front

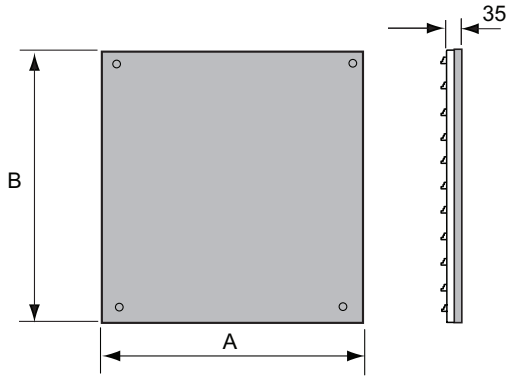
Special Front



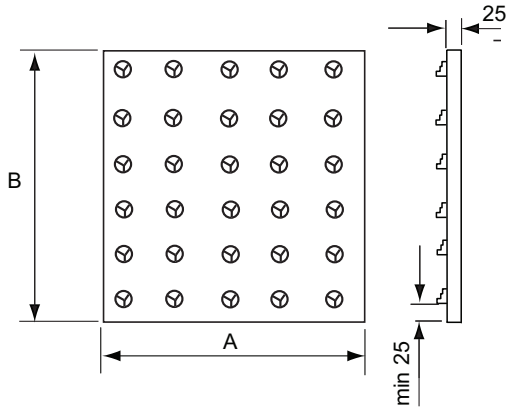
Dimensions
EIO/O terminals are manufactured with height and width to suit the costumers requirements. The limitations are shown in table .

EIO/O	Max	Min
A	1200	100
B	2000	100

EIO

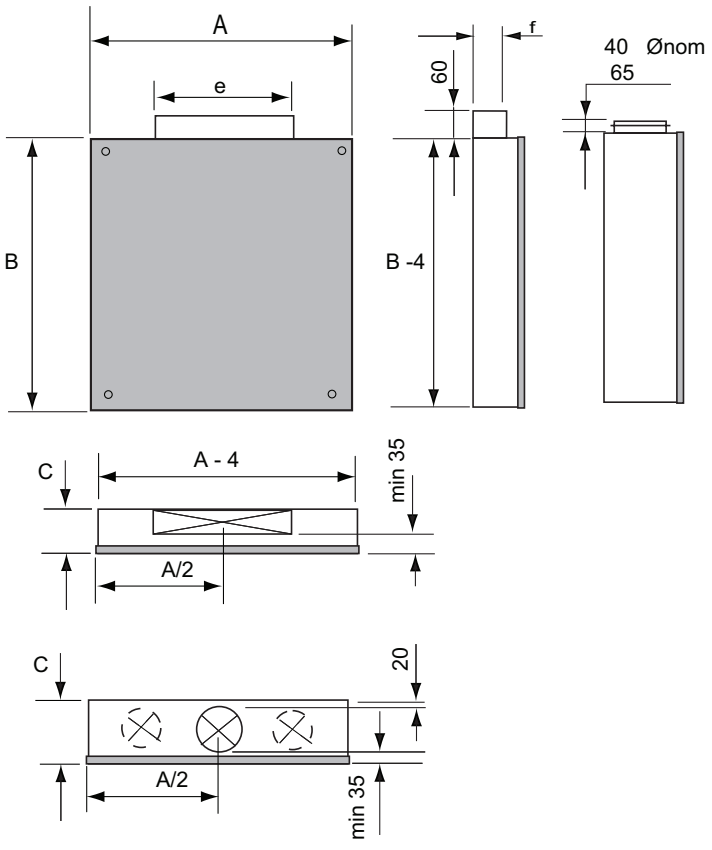


EIO/O



EIC/EIR is above unit supplied with an assembled plenum box. The terminals are manufactured are manufactured in dimensions to suit the costumer's requirements. The limitations are shown in the table below. If several connections are required, they will be evenly distributed. The minimum depth of the unit will depend on size (See drawing).

EIC/EIR	Max	Min
A	1200	100
B	2000	100
C	500	-



Technical Data

EIO (without plenum)

Table 1 is only a guide line of suitable air flows for comfort applications. The air velocity over the front face is 0.25 m/s. For industrial applications the air flow can be increased up to twice the listed air flow. The given sound power levels would increase by up to 5 dB(A) and pressure drop would be up to four times higher. The adjacent zone L 0.2 would vary depending on air flow and terminal height. Given values are shown for terminal sizes 12-03,20-05 and 20-12. For more accurate data, please contact your nearest BEMAIR representative.

Table 1
Air flow l/s
Size x100 provide height/width in mm

Height Size	Width 03	04	05	06	07	08	09	10	11	12
01	8	10	13	15	18	20	23	25	28	30
02	15	20	25	30	35	40	45	50	55	60
03	23	30	38	45	53	60	68	75	83	90
04	30	40	50	60	70	80	90	100	110	120
05	38	50	63	75	89	100	113	125	138	150
06	45	60	75	90	105	120	135	150	165	180
07	53	70	89	105	123	140	158	175	193	210
08	60	80	100	120	140	160	180	200	220	240
09	68	90	113	135	158	180	203	225	248	270
10	75	100	125	150	175	200	225	250	275	300
11	83	110	138	165	193	220	248	275	303	330
12	90	120	150	180	210	240	270	300	330	360
13	98	130	163	195	228	260	293	325	358	390
14	105	140	175	210	245	280	315	350	385	420
15	113	150	188	225	263	300	338	375	413	450
16	120	160	200	240	280	320	360	400	440	480
17	128	170	213	255	298	340	383	425	468	510
18	135	180	225	270	315	360	405	450	495	540
19	143	190	238	285	333	380	428	475	523	570
20	150	200	250	300	350	400	450	500	550	600

$L_{WA} \leq 30$ dB(A)
$\Delta p \leq 8$ Pa
$L_{0.2}$ Δtu 3k $\leq$ 1.3m
$L_{0.2}$ Δ tu 6k $\leq$ 2m

$L_{WA} \leq 35$ dB(A)
$\Delta p \leq 8$ Pa
L 0.2 Δtu 3k $\leq$ 2m
L 0.2 Δtu 6k $\leq$ 3. 2m

$L_{WA} \leq 38$ dB(A)
$\Delta p \leq 8$ Pa
L 0.2 Δtu 3k $\leq$ 2.5m
L 0.2 Δtu 6k $\leq$ 4m

EIC/EIR

Sound level and pressure drop can be higher dependant on actual plenum size and connection used. For more accurate data contact your nearest BEMAIR representative.

Assembly
EIC/EIR units are mostly recessed in a wall where they are fitted to the wall with brackets or to wooden battens fig 1-2.

EIO is assembled in a plenum built on site by means of L-profiles or wooden battens fig.3.

Behind special front
Distance between front of EI unit and special front at site min 50mm. If the unit is supplied without front the distance can be 35mm. The nozzle plate should be painted black if the free area of the special front is >20%. Recommended free areas of the special front as fig 2-4.

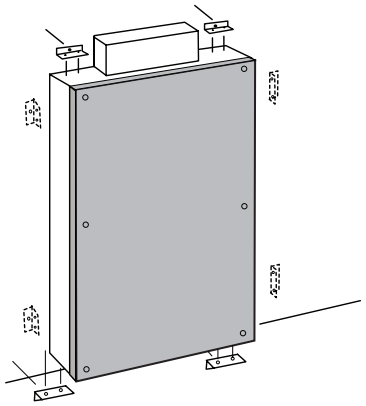


Fig. 1

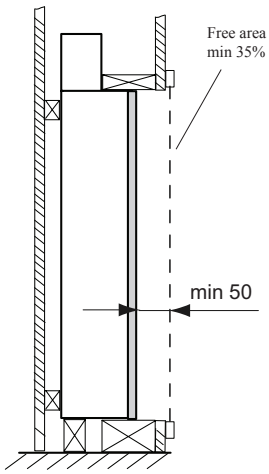


Fig. 2

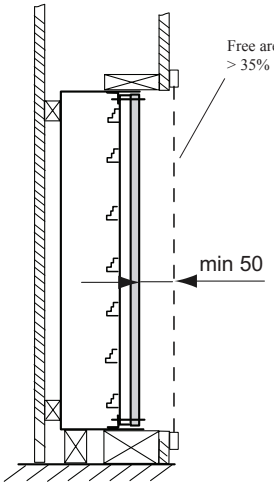


Fig. 3

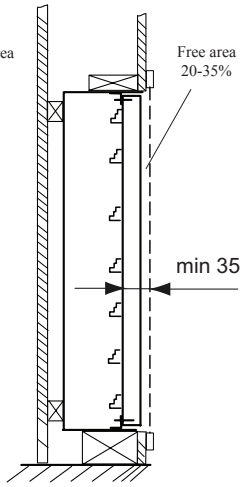


Fig. 4

Maintenance
There are no parts in the units that have to be replaced. If necessary clean front with water and mild detergent.

Specification
BEMAIR EIO low velocity unit for flush mounted in walls, alt. ceilings . Width ..... mm Height ..... mm depth 35mm
BEMAIR EIO/O (no front) Air distribution plate with nozzles to be mounted in plenum box. Width ..... mm Height ..... mm Depth 25 mm .
BEMAIR EIC/EIR low velocity unit for flush mounted in walls, alt. ceilings. Width ..... mm Height ..... mm Depth .....mm . EIC with connection diameter Ø.....mm. EIR with rectangular connection ..... mm.
Internal air distribution plate with nozzles made in electro galvanized sheet steel
Perforated front side powder coated galvanized sheet steel in RAL9010 or special colour according to RAL or NCS. Plenum boxes made from electro galvanized sheet steel.

Drawings
Drawings of units with example of installations page 6-10 can be used for inquires and orders.

2008.08
Eng1.2

Product code

EIO-aaaa-bbbb RAL 9010 (alt. Other RAL or NCS)

- bbbb: Height in mm
- aaaa: Width in mm

EIO/O-aaaa-bbbb-c

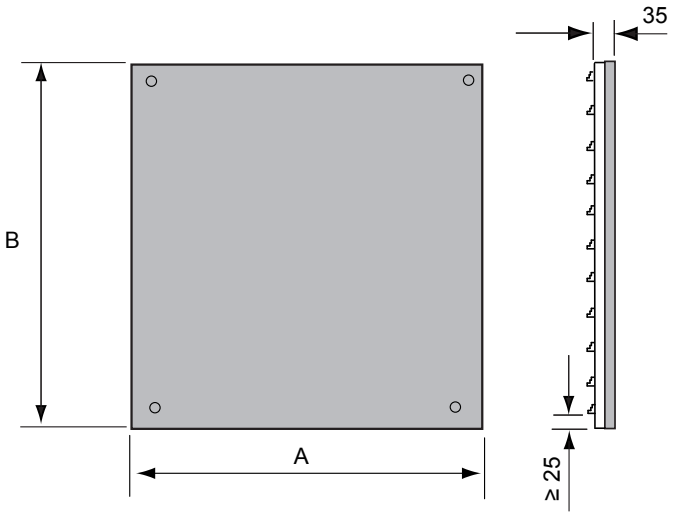
- c: 1= RAL 9011 mat; 0= not painted
- bbbb: Height in mm
- aaaa: Width in mm

EIC-aaaaa-bbbb-ccc-Ø RAL 9010 (alt. Other RAL or NCS)

- aaaaa: as EIO
- Ø: Size of round connection according to EUROVENT
- ccc: Depth in mm

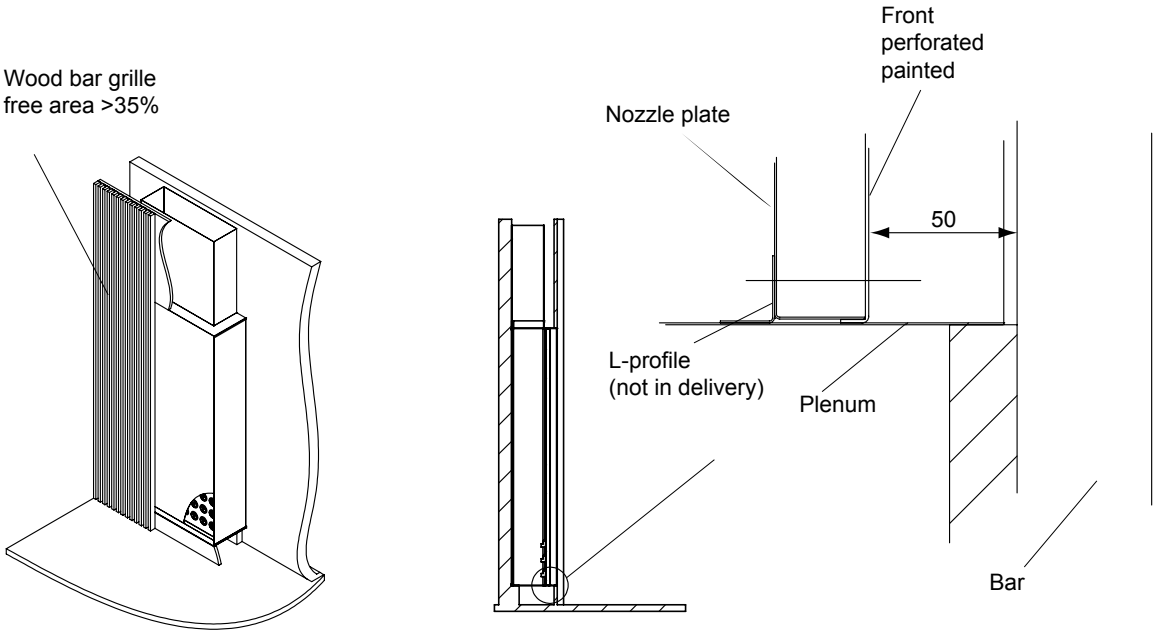
EIR-aaaa-bbbb-ccc-exf RAL 9010 (alt Other RAL or NCS)

- aaaa-bbbb: as EIO
- exf: Rectangular connection width x depth in mm
- ccc: Depth in mm



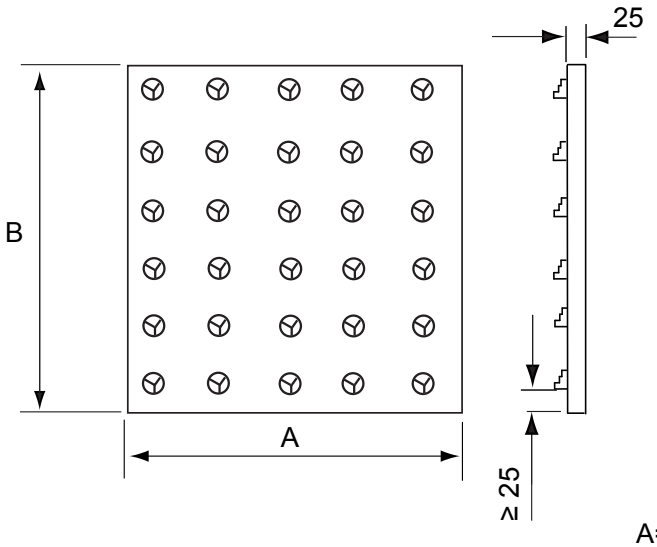
A=.....
B=.....
RAL=.....
pcs = ...

Example of installation



BEMAIR AB	Item EIO	Date DWG NO.

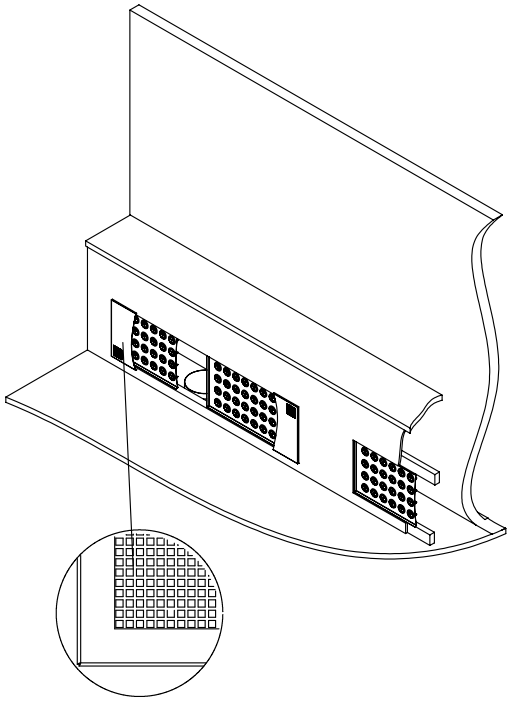
13.10
Eng 1.0



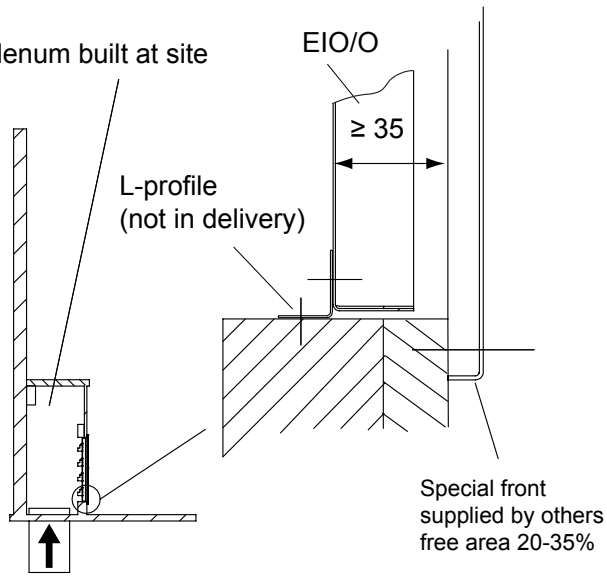
A=.....
B=.....
RAL=.....
pcs = ...
Nozzle plate: not painted ☐
painted matt black ☐

Air direction = → ☐
↓ ☐

Example of installation

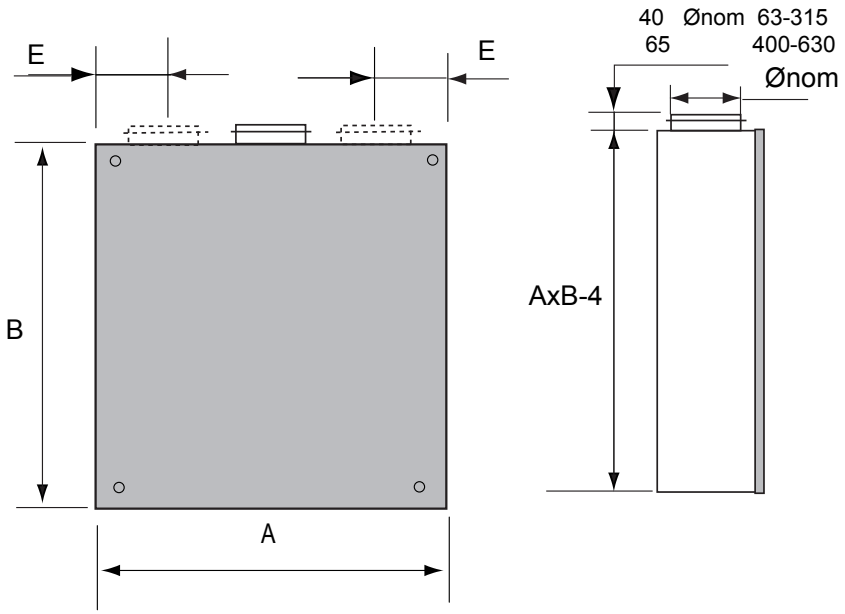


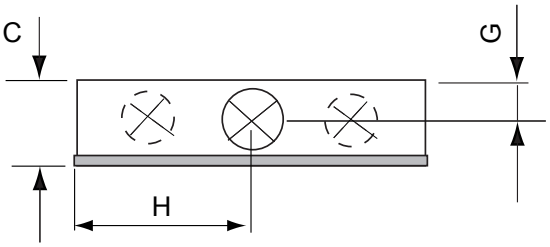
If free area >20% choose nozzle plate in matt black



		Item	Date
BEMAIR AB		EIO/O	NO.

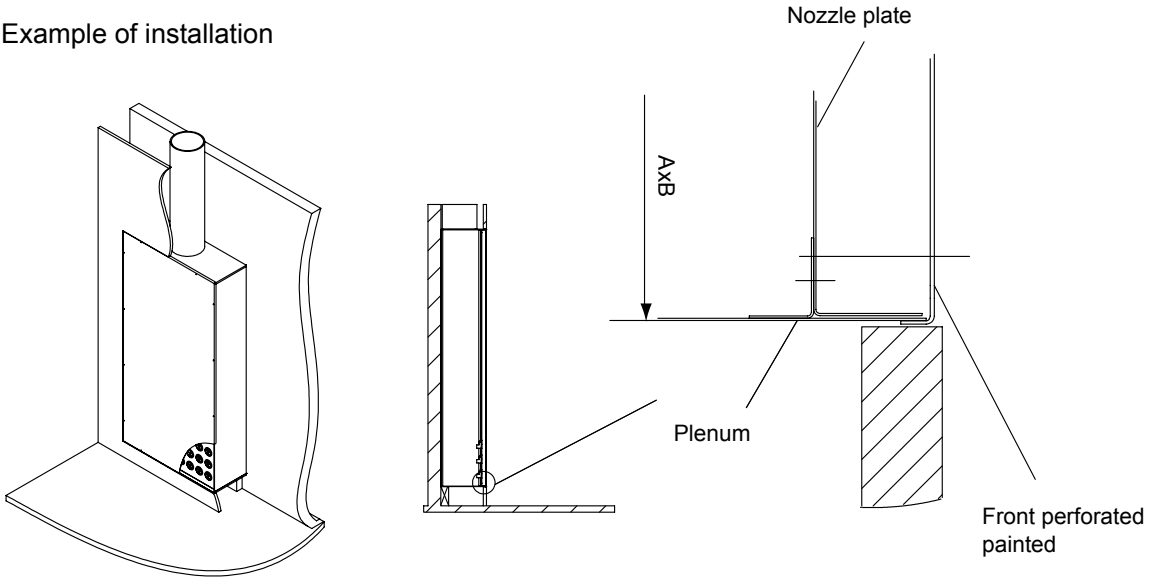
13.10
Eng 1.0



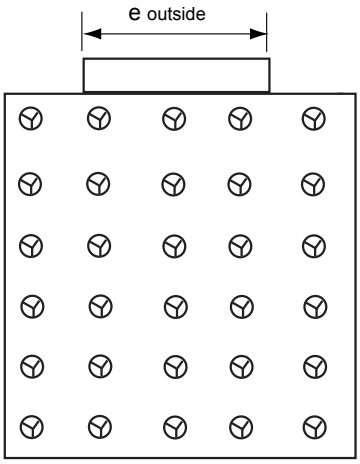


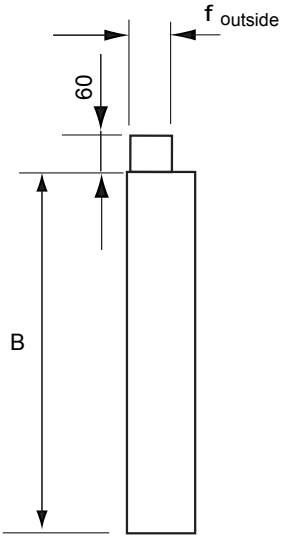
A=.....
B=.....
C=.....
E=.....
G=.....
H=.....
Ønom=.....
RAL=.....
pcs=.....

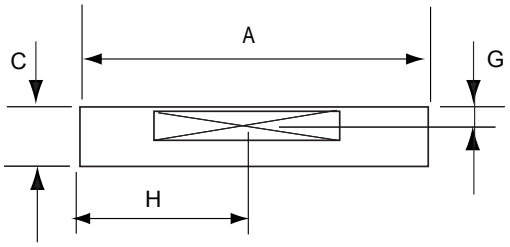
Example of installation



BEMAIR AB	Item EIC	Date DWG NO.



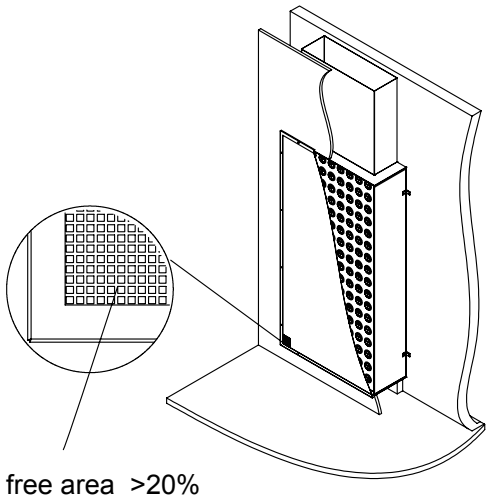




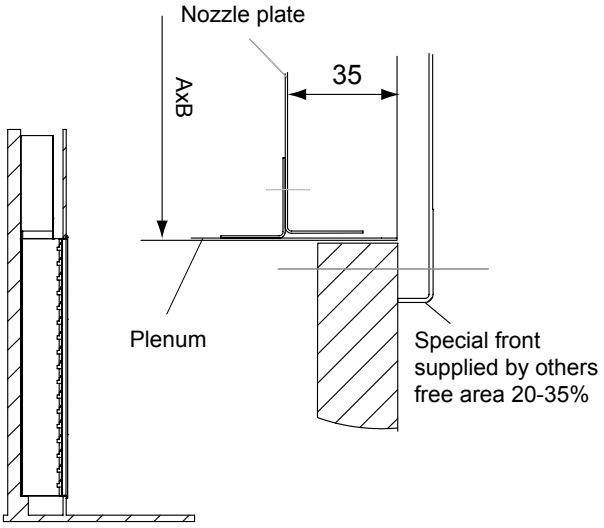
A=.....
B=.....
C=.....
e=.....
f=.....
G=.....
H=.....
Nozzle plate: not painted ☐
painted matt black ☐

pcs = ...

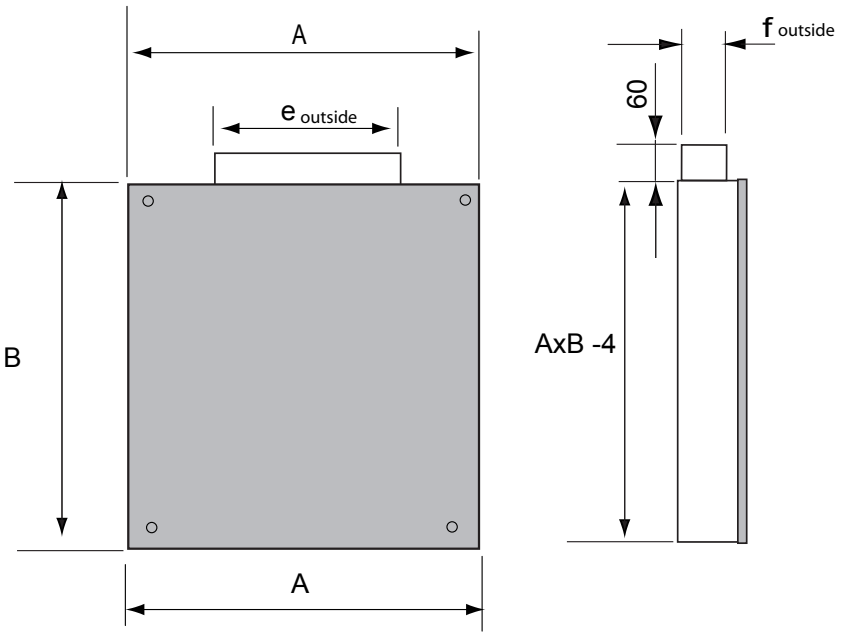
Example of installation

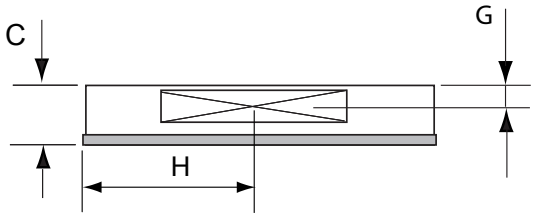


If free area >20%
choose



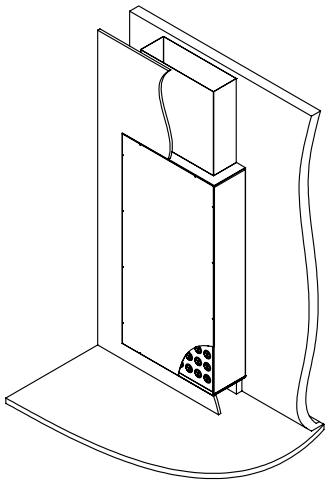
BEMAIR AB	Item EIR wihout front plate	Date DWG NO.

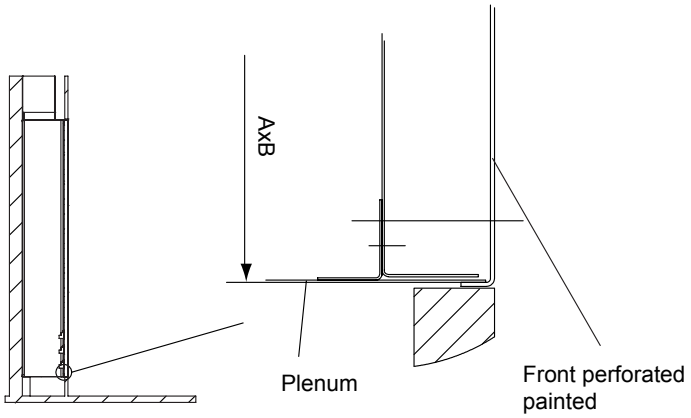




A=.....
B=.....
C=.....
e=.....
f=.....
G=.....
H=.....
RAL=.....
pcs = ...

Example of installation





BEMAIR AB	Item EIC	Date NO.