



Mauro Ferri, *Monumenti Vivi* (Italy)
Louis-Philippe Arnhem, *Natuurpunt* (Belgie)
Karin Gielen, *Natuurpunt* (Belgie)



SINT AGNIETENKLOOSTER (founded in 1420)

Agnietenklooster Museum, *Elburg, NL*

- ***Apus apus* colony monitoring**
- **Birdstones measurements**
- **Birdstones catalogue**

June 27-28, 2026.

Apus apus colony monitoring



Sint Agnietenklooster

Jufferenstraat 6, Elburg, NL

June 27-28, 2026. *Apus apus* colony monitoring

Mauro Ferri, Monumenti Vivi (Italy)

Louis-Philippe Arnhem, Natuurpunt (Belgie)

Karin Gielen, Natuurpunt (Belgie)

birdstones n° 72

wall	n°
A:	2
B:	34+23 (Cross)
C:	12
D:	1



adults
In/Out

10



adults In/Out
& bangers.

10



bangers
only

4



without
movement

44



apparently
plugged

3



presumed
to exist

1

eaves



under the eaves
adults & bangers

6

20

one of which
with a swarm
of bees



Sint Agnietenklooster

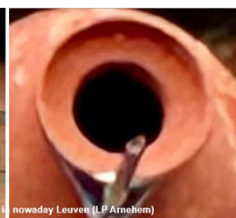
Jufferenstraat 6, Elburg, NL

June 27, 2026. Birdstone details detection

Mauro Ferri, Monumenti Vivi (IT)

Louis-Philippe Arnhem, Natuurpunt (B)

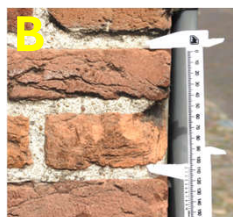
Karin Gielen, Natuurpunt (B)



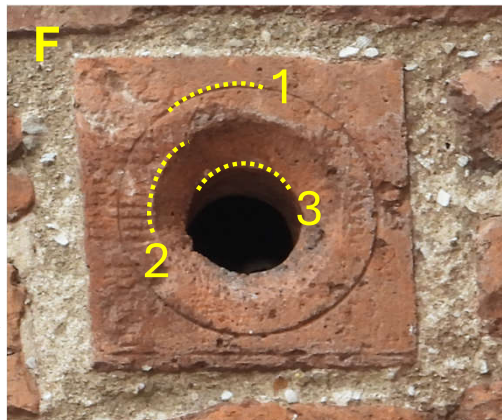
1- On-site measurements and image collection

June 27, 2026: with a caliper measurements (A, B, C) were made at the base of a wall in the complex. Portions of the wall at the base of the building and most of birdstones were photographed (F).

- Height of a brick: 5 cm
- height of two bricks, with layer of mortar: 11,5 cm
- Brick length: 23,5 cm
- The birdstones have been located: **no. 2** on the wall in **Zuiderwalstraat**, **no. 57** on the **main façade** in **Jufferenstraat**, of which **23 are arranged in the shape of the Cross**, **no.12** on the **smaller façade** in Jufferenstraat and finally **no. 1** on the wall in **Jufferenstraat**



BIRDSTONE →
 1- decorative circle (engraved)
 2- Outer diameter of the access hole
 3- Inner diameter of the access hole:
 only this is useful for the target species



2- Limitations and precautions

The measurements on the bricks, on site, were intended to obtain reference measurements and were made on randomly chosen bricks, presuming that they were made by the same furnace, all the same, even those used at the highest levels; but in the highest parts differences in the regularity of shapes are appreciable to the naked eye and in photography;

Birdstones (see image F) appear to be of the same external size (about 11x15 cm) covering a space of two brick and plaster on top of the other but those used for the Cross seem wider. On each **birdstone** the holes seem to have been made **manually** by cutting a section of cone (F,2), wider outside, perhaps of decorative effect enhanced by an engraved circle (F.1; not always present or preserved), which opens on the external surface with a very large and decidedly variable section in diameter that narrows inwards for the inner diameter (F,3; the real access hole) to the cavity, generally more stable in diameter (for about 2 cm deep). See image G for an interesting comparison with a **spreeuwenpot**.

- The **birdstones used for the Cross** seem to have cone sections (F,2) with very variable diameters, also till 9-10 cm, maybe helping to make the birdstones of the Cross more visible;
- **Bricks and birdstones at various heights**, in the Photographs taken from the street seem to show slight differences, also due to the variation of the angle of view from street level;
- **The walls visible from inside the cloister have not been detected.**
- **Most of birdstones show a high discrepancy in the external appearance**, probably due to erosion and corrosion phenomena that seem to have often altered especially the external surface
- **Without direct access**, it is not possible to verify **whether our measurements accurately represent reality or whether the interior of the bird stones** that are no longer occupied by swifts (see survey of 27–28 June 2026) **is free of obstructions or partially filled** with mortar or debris, after the long abandonment and the restoration interventions that have taken place over time.

3- Estimating birdstone measurements

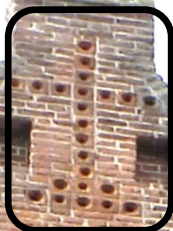
- **On a large PC monitor**, images of each birdstone were brought to the actual size of 5 cm height of the nearby bricks, checking them with an open gauge over 5 cm in height (D);
- **The caliper, fixed on 5 cm**, was moved to the nearby hole of a birdstone (E),
- **The operation was repeated on each of the useful images**, taking into account the above-mentioned warnings
- Measurements of the outermost diameter of the hole were not taken, because it was not decisive.

4- Results

- Generally, the gauge set at 5 cm shows that the height of the brick and the hole is substantially equal, without the need for calculations on a proportional basis, but repeating it for the images of most of the birdstones of the complex, the results seem to be as follows:
- **Of no. 72 birdstones visible from the street** and photographed, **the results concern 61** and for 11 it was not possible to have any. The diameter resulted **5 cm** for no. 42, **6 cm** for no.11, **7 cm** for no. 4 and **4 cm** for no. 4.
 - **the diameter of the holes (F,3)** in the innermost part seems to be stable at around **5 cm** in quite all the façades and **also in most of the Cross**, as documented in the medieval Flemish widespread **spreeuwenpot** (birdpots for starlings); moreover, the shape of the entrances of these birdstones resembles those of a modern replica (see F) in use in Leuven (B);
 - **In the Cross**, however, **10 of the 23 holes** seem larger and more variable, for sizes **around 6-7 cm**.
 - Diameters of **6-7 cm** appear to occur **also in 3 of the 12 holes** on the smaller façade, in the upper part, and **In the lower part of the main façade** at least **4 holes** appear to be **4 cm**: Given the limitations and precautions associated with the measurement method used, **it is not possible to determine whether these diameters are the result of intentional design or construction error.**

B – Main façade

Jufferenstraat



1-23



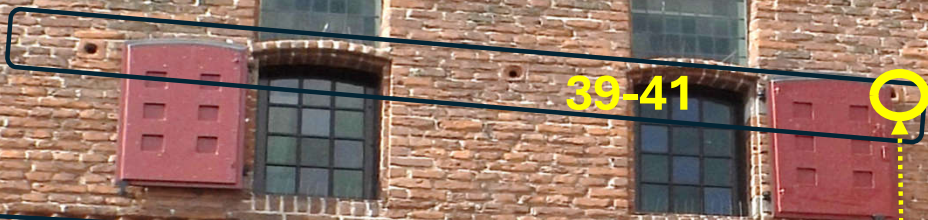
24-26



27-30



31-38



39-41



42-51



52-54



55-57



C – Jufferenstraat



CATALOGUE OF BIRD STONES VISIBLE ON THE STREET

A – Zuiderwalstraat



D – Jufferenstraat



E – Kloostertuin

The walls of the internal part of the cloister were not monitored