Antony Gormley drops 60-tonne load for monumental sculpture

Exposure, built in the Netherlands, took Scottish pylon-makers and Dutch engineers six years to complete

At 26 metres (85ft) tall, it has a good distance on the Angel of the North. And just as its English cousin has been dubbed the Gateshead Flasher by irreverent locals, so has this vast sculpture, poised on a spit of reclaimed land in the central Netherlands, already been christened de poepende man – "the shitting man".

On politer days the Dutch call it de hurkende man (crouching man). Officially, however, Antony Gormley's latest monumental sculpture is known as Exposure, and will be formally unveiled in the Netherlands on 17 September.

The sculpture – whose components were fabricated by a pylon manufacturer in East Lothian and then shipped to the Netherlands for assembly – is the fruit of nearly six years' labour and a catalogue of setbacks, last-minute losses of funding and enormous technical and practical difficulties.

"This sculpture has many heroes; and I am not one of them," says Gormley in his London studio, where he is hobbling around on crutches, his left foot in plaster.

It is an object of mind-bending scale and complexity. It weighs 60 tonnes, contains 5,400 bolts and consists of 2,000 components. If this crouching man stood up, he would be over 100 metres tall; if an adult stands next to it, he or she may just be
able to peek over its feet.

Each metal element is of a different length and was hand-cut; the non-orthogonal angles at which they meet are a mathematician's dream – or nightmare.

The site dictated the form of the sculpture. The spit of land (or rather polder, an area of land enclosed by dykes) looks out over an endless landscape of brackish inland sea and the big, lowland sky. Seeing the site from a distance – from the outskirts of the town of Lelystad nearby – it is hard to read the scale and depth of the view. "It is a sublime situation," says Gormley.

"I wanted an object that couldn't be read immediately," he says of Exposure. "The opposite, if you like, of the Angel of the North, which immediately confronts you. Exposure invites you to investigate, to walk to it."

As one approaches it, he explains: "The nature of the object changes. You can see it as a human form in the distance. It becomes more abstract the closer you get to it. And finally it becomes a chaotic frame through which you can look at the sky."

And the pylon association? "I like pylons. They are brilliant structures. They have an economy of means that is absolutely beautiful," says the sculptor. "They are about connectivity; they are the energy lines of the territory."

The first step in the making of the sculpture was for Gormley to cast himself in plaster – an "extremely uncomfortable" hour and a half locked in a crouching position.

The next was to translate the solid form into a geometrical system. Using software developed by Professor Roberto Cipolla of Cambridge University, the form was digitised.

Sean Hanna, of University College London, devised algorithms to help place the elements such that they both described the form of the body and had structural integrity. The idea is that each piece of metal is necessary – take one away, and it would no longer be structurally sound.

The elements meet at particular nodal points – starbursts of metal – the most congested of which are at the head, throat, heart, stomach and genitals of the form. These roughly correspond to the "chakras", or energy points, of ancient Hindu thought. "It is a re-examination of the body as an energy system, rather than as a system of bone, muscle and skin," says Gormley.
The sculptor also worked with the Dutch engineering company Royal Haskoning to develop a form that could be built by the Scottish pylon manufacturer Had-Fab, which was asked to undertake the mammoth task after a search for suitable fabricators extending "from Canada to Turkey and Ukraine to Finland".

Because of funding problems, Had-Fab ended up subsidising the piece to the tune of £120,000. The team of makers hand-cut each piece of metal using paper templates. Over the summer, a trial building of this giant Meccano-like piece (or at least of its vast feet) was undertaken in East Lothian, before it was shipped to the Netherlands to be built.

Had-Fab's managing director, Simon Harrison, "got his teeth into it and would not let it go," says Gormley. "It has been a nitty-gritty piece of British pragmatism, and I am so chuffed with it I can't tell you. This is what people have managed to achieve through sheer bloodymindedness. The Scots sweated blood over it and now they've had to give it up to the flatlanders."

He adds: "If the Angel of the North is an angel that's like a ship, this is a man that's like a pylon. For me it is the transparency of the form that is the breakthrough. Rather than a massive, solid object like the Angel of the North, it is much more tentative. It is less about confrontation, and more about reverie."

And the fact that this giant pylon man looks as if he may, not to put too fine a point on it, be taking a crap? "I don't mind that at all," says Gormley. "Having a crap is one of the most relaxing and intimate moments one has in the world."