



Philips AVENT Natural range: more comfort, more milk naturally

Taking its cues from nature itself, the Philips AVENT Natural range is designed to help women breastfeed for longer. The comfort and simplicity of the multi-award winning pumps and bottles make it easier to combine breast and bottle feeding. The range is the result of in-depth work by an innovative team of people researchers, scientists, designers and engineers who were inspired by insights from childcare specialists and new moms across three continents.

PHILIPS

Philips AVENT Comfort breast pump

Essential insights

Perhaps the most important insight from mothers was the one that kicked off the project to develop the Natural breast pump in the first place. People researchers at Philips had pinpointed a problem with breast pumps. They discovered that many moms who used the devices disliked the way they made them feel “like a milking machine.” When possible, breastfeeding is always best for babies. But it’s not always easy for moms. Almost a quarter of women stop within the first three months because it becomes too painful¹. A further 40% stop because of a decreased milk supply. Using a breast pump to express milk can help with both these issues and make it easier for mothers to continue breastfeeding when they return to work.

But Philips found that the moms they talked to saw pumps as mechanical and unnatural. So it put together a team that included scientists, designers and mother and child care specialists to find a solution. Focus groups of moms across the world were asked to define what ‘natural’ felt like. “Adjectives like ‘relaxed’ and ‘happy’ came up regularly, while ‘comfort’ topped the list by some way,” explains AVENT Marketing Director Axelle Ducos.

Comfort is key

Around the same time, a clinical study by Philips confirmed what mothers have long understood: that comfort is physiologically essential to helping them produce lots of milk². Pain, stress or discomfort hamper the release of oxytocin, the hormone responsible for triggering milk production.

“That was the eureka moment that defined our work on the range from then on,” explains Elodie Thomas, Creative Lead for Mother and Child Care at Philips Design, who took a key role in shaping the pump.

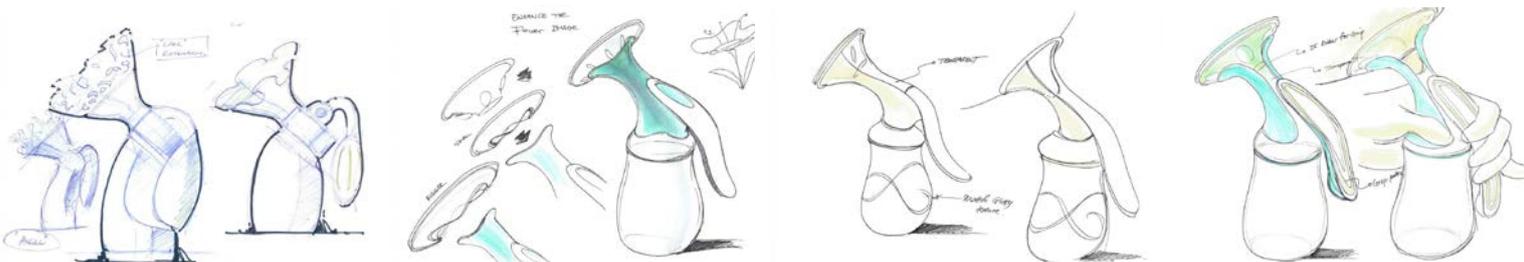
Together with the focus groups, Elodie and the team started pinpointing exactly what made the pumps uncomfortable. “We came up with three key insights,” recounts Thomas. “According to the women, they felt cold on the breast, too mechanical, and forced them to lean forward to make sure the milk flows down into the bottle.”

Finding empathy

In addition to all the background research, the team found a slightly more unusual way to immerse themselves in the innovative process. Since a lot of the developers were men, they hadn’t experienced breastfeeding first hand. So they invited a midwife to join them for the day, who persuaded them to wear lifelike costumes of a mother’s pregnant stomach and heavy breasts.

The process helped them envisage the practical difference they could make to the existing pump designs. Armed with all of the insights, the team set about solving each issue. To tackle the cold feeling, they changed the texture of the cushioned silicone funnel that cups the breast, giving it a silky feel that is warm and gentle against the skin.

The next two problems were somewhat more tricky. “Ideally, we wanted a pump that would feel easier to work, and allow mothers to sit more comfortably,” explains Dirk Brokken, Integral Project Leader at Philips Mother and Child Care. The team’s studies showed that badly placed handles on the manual pump could cause cramp and RSI (Repetitive Strain Injury). And it was known that existing pumps required women to lean forward to ensure that milk flowed downwards into the bottle. With an average expressing session lasting 20 minutes, complaints of back pain are common.





A new position

So the designers and engineers worked closely together to devise a new handle for the manual pump and angled it more ergonomically to keep the working hand straighter. Meanwhile, an improved grip provided clear positions for the fingers, making it more intuitive to hold.

Perhaps the team's biggest breakthrough came with the shape of the pump itself. Using rapid prototyping to refine their ideas, the designers and engineers created a much more compact version.

The air tube that connects to the pump is designed to easily wrap around the base and clip neatly into place using the connector cap. The intuitive user interface is positioned on top of the base unit covered by a rubber membrane, so is soft to touch and easy to clean.



“By allowing the nipple to get directly above the bottle we managed to ensure that all the milk flowed into it, regardless of the angle the mom chose to use the pump,” says Thomas. Suddenly, it was possible for moms to sit back in a more relaxing position to express milk.

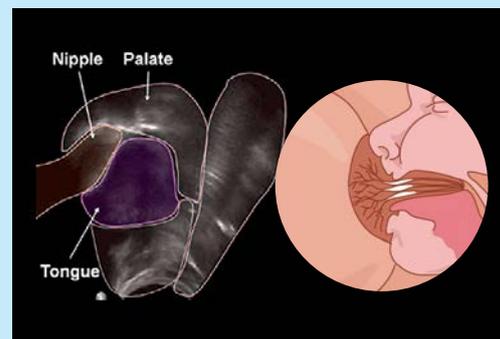
More comfort, more milk

The resulting Comfort manual breast pump, and its electric versions, were a huge hit with moms in testing. Home placement studies showed almost two thirds of mothers preferred it to its closest competitor the Medela Swing.³

Electric pumps

The same principles of the manual pump have been applied to the Comfort single and double electric pumps. While they are easier and less tiring to use, they can feel even more mechanical to moms than manual pumps. So the aim of the design was to be soft, friendly and reliable, as well as easy to store and transport.

Designers and technicians worked closely to create a base that was as compact as possible, so easily portable.



Designing the massaging petals

The soft silicone cushions of Philips AVENT breast pumps feature five oval petals that gently massage the areas around the nipple to stimulate more milk.

The unique design is the result of clinical research at Philips to study suckling babies using ultrasound and MRI scanners. Scientists discovered that while traditional pumps pull the nipple in and out to stimulate milk, babies use their tongue to squeeze the nipple in what's known as a 'peristaltic suckling'.

Inspired by nature itself, the development team devised inflatable petals to mimic that movement. The petals use the pump's vacuum to fill with air and gently massage the nipple. In home placement tests, moms found the petals helped them express more milk in less time than their usual pump.



Philips AVENT Natural bottle

To complement the Comfort breast pumps, Philips AVENT wanted to create a best-in-class bottle. Already one of the world's leading bottle brands, the team knew they could improve on the design even further. Focus groups of moms suggested they needed to tackle two things: teat acceptance (also known as 'latch on') and colic.

Latch on

As a lot of moms will know, getting a baby to latch on to a nipple is an art form. To find out why, and ensure the best teat acceptance for their new design even further, the research team went back to the study of suckling carried out to inform the development of the new breast pump (see box 'Designing the Massaging Petals' page 3).

Knowing that when babies suckle at the breast, they cause the nipple to elongate in a rhythmic way ('peristaltic suckling'), they created a teat to stretch in the same way. To create a more natural breast-like shape, the designers made the teat much wider at the base.

The distinctive petals around the teat play an important role in preventing teat collapse when babies drink by increasing the softness and flexibility. They also provide an aesthetic signature to the whole AVENT Natural range. Meanwhile, the reworked silhouette of the bottle itself – with a cinched waist – makes it more ergonomic and lends it a more contemporary feel.

"Our aim was to create a 'new classic' that felt good to both mother and baby, and looked good too," says Bart Masee, Design Manager in Health & Wellness at the time.

Anti-colic

Philips AVENT invented the first anti-colic teat in 1984. The new teat builds on that heritage by incorporating a twin-valve system. It helps to prevent babies swallowing too much air when they are feeding by allowing the air to vent into the bottle rather than the baby's stomach.



Twin anti-colic air valves and the petals that prevent teat collapse. (left)
Interchangeable bottles – swap easily from pump to feeding (below)



Multi-award winning

Since launch, the Philips AVENT Natural bottle has picked up two prestigious design awards. And the Comfort breast pump has won four prizes for outstanding design. Neither would have been possible without an enthusiastic and skilled team of innovators, says Brokken. "Making breastfeeding more natural and effective for moms was part know-how, part magic. We're all immensely proud to have been involved."

Awards won

red dot design award 2013
iF product design award 2013
Good Industrial Design 2012
Spark Product Awards 2012



Visit the Philips AVENT website at www.philips.com/avent to learn more about its product portfolio and for valuable information and tips on feeding, or go to the Philips AVENT Facebook page at www.facebook.com/philipsavent

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- ³ Independent home placement test among 85 mothers in the UK, August 2012