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# GENOM'X

The only 0% semen absorption system

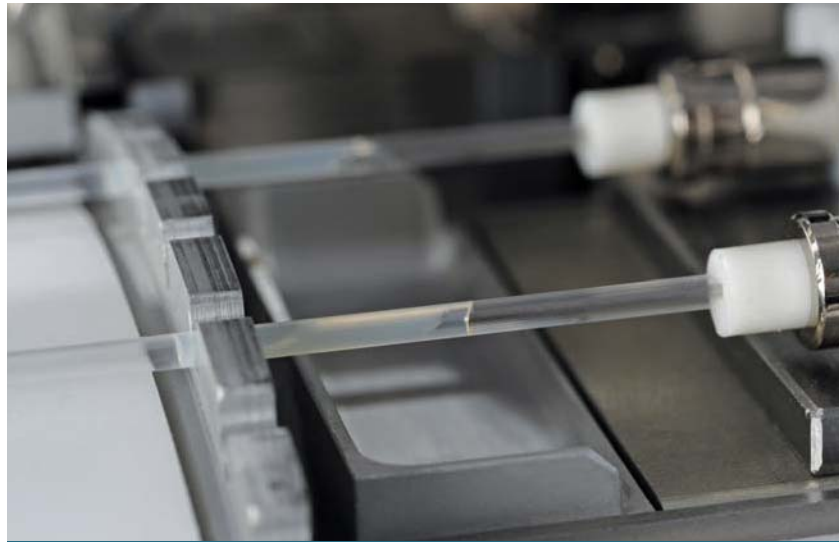


The bubble concept



Flexible technology





Pre-fill station

## More straws

The increased use of the genomic selection of young bulls as well as sexed-sorted semen are profoundly changing the straw processing business. With more collections going through the laboratory combined with lower harvested sperm numbers and predicted shorter careers, semen shortage from elite or high-demand bulls may happen.

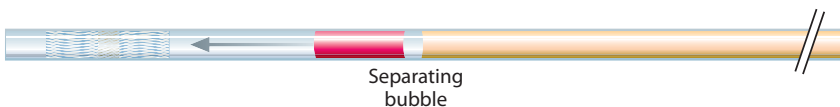
To answer some of these challenges, IMV Technologies has engineered and designed GENOM'X™: features-packed, the most striking advantage of this machine is its ability to produce up to 10% more straws than conventional filling equipment. Using a revolutionary patented system, GENOM'X™ pre-fills the factory plug with sperm-free media thus leaving the rest of the volume of the straw completely for the extended semen. This precise filling, results in preventing valuable cells from being lost, virtually making the entire filled volume inseminated.

### BUBBLE CONCEPT

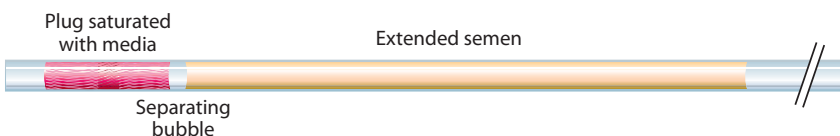
1. Injection of media (extender without spermatozoa / user definable volume):



2. Aspiration of media and semen



3. Semen and buffer in the straw

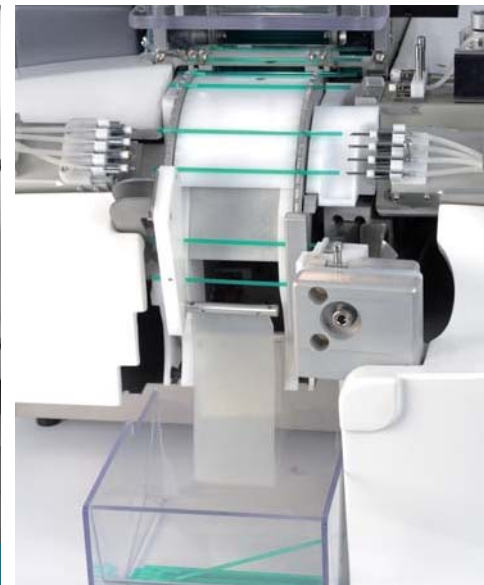


### GENOM'X™ features include:

- 0% semen plug loss in mini or medium straw
- Split volume capability
- Separation bubble of virtually any size and position
- Low semen detection with automatic switch from 4 to 1 straw
- User-definable 1x1, 2x2 or 4x4 cycle
- Fast conventional filling
- Universal mini / medium straws
- Tool-free change between straw formats
- Enhanced straw fill view
- Minimum cleaning needed
- User friendly touch screen display with integrated PLC
- Quiet air system operation
- Ergonomic
- Adjustable speed



Filling station

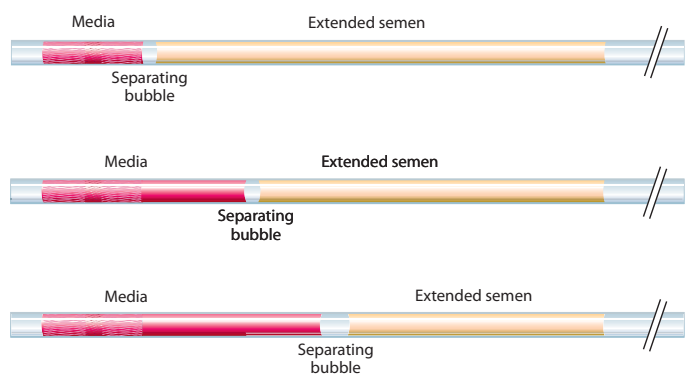


## 0% semen absorption system filling method

The instrument is fitted with two sets of filling stations. When the 0% mode is selected, the first station injects a predetermined volume of media into the end of the straw using a fine capillary needle. Once pre-filled, the straw moves to the next station which creates a separating bubble and fills the rest of the straw with extended semen. Vacuum is carried out by the Venturi effect. Having no pump -thus no moving parts or oil- the air circulating through the straw is cleaner than with conventional pumps.

### ■ Optimize concentration: Bubble concept

GENOM'X™ is not only a production equipment but also a powerful instrument to contribute to **improving post-thaw motility**, especially for low concentration bulls. Using keys onto the convivial touch-screen display the operator sets the volume of the pre-fill media required. Using pre-fill needles available in different lengths, the machine then separates the two liquids with a bubble length set by the needle chosen. This unique feature allows the user to research the **optimum concentration** in the inseminated part of the straw. This is particularly important when using medium straws (0.5 ml) where the volume/surface ratio is far smaller than in mini straws.



## ■ Fast return on investment

Conventional equipment allows you to efficiently produce semen: GENOM'X™ makes you money with a fast return on investment. Used for short supply, high demand dairy bulls, sexed-sorted semen, small volume young genomic bulls, pure-bred sires, equine, swine, ovine, caprine, canine, exotic or endangered species, the ability to produce more straws may result in a return on investment of only a few weeks. After a small change in dilution ratio to compensate for the plug non-entering semen, your extra income comes from more straws produced while giving your customer exactly the same number of sperm cells as before!

While the utmost repeatability in 0% is achieved in 1x1 straw, the GENOM'X™ produces up to 3 500 mini straws per hour 2x2.

Return on investment example: Let's take a very conservative example of a high demand bull producing only 750 straws twice a week, each straw being 20 euros / \$ 25 a dose. If only 7% more straws are produced, this is over 100 straws more every week. Now, multiply this by the number of short supply bulls you own and then multiply by the average selling price. This is your weekly gain.

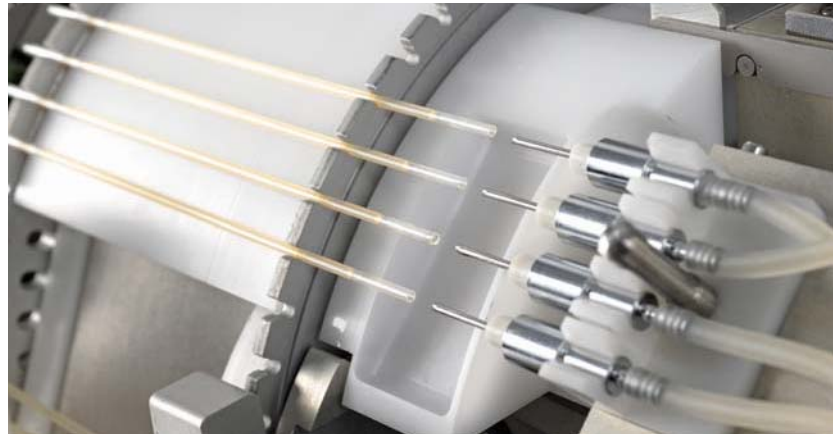
### Calculate your own weekly gain:

$$\begin{aligned}
 &\text{Nbr of short supply bulls} \\
 &\quad \times \\
 &\text{Nbr of straws sold per week} \\
 &\quad \times \\
 &\text{Average selling price / straw} \\
 &\quad \times \\
 &\quad 7\% \\
 &= \text{Approximate weekly gain}
 \end{aligned}$$

## ■ Conventional semen filling method

Versatile, GENOM'X™ can also be used for conventional semen filling, without the 0% absorption, at a much higher throughput. In less than two seconds, the system is ready.

GENOM'X™ produces over 13 000 mini straws and 12 000 medium per hour in conventional filling. While speed is of importance, the GENOM'X™ can actually be slowed down for ultra-precise or high viscosity fluid filling. This is another unique feature to this equipment.



## ■ More semen saving features

**GENOM'X™ comes with two additional outstanding semen saving features**



4 to 1 straw and end of semen detection

50 ml Falcon tubes

100 ml disposable cone

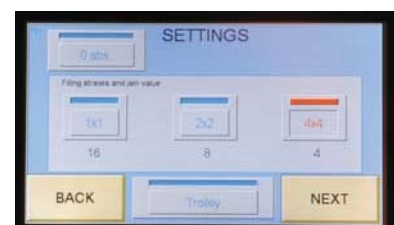
400 ml disposable container

### End of liquid detection

A photo cell detects the near end of the semen container (50 ml Falcon tube, 100 ml and 400 ml disposable containers). At a user pre-determined time, three of the four solenoid pinching valves release the semen from the three tubes back in the ejaculate container. This feature minimizes semen waste. The instrument then switches to single straw filling.

### 4 to 1, 2x2 or 1x1 feature

The switch from 4 to 1 is user definable. However for small runs or high-value genetic bulls, the machine can be set to run on 1x1 or 2x2 for the entirety of the ejaculate to process. This is a major savings on semen, tubing and consumables.



## ■ Universal switch, effortlessly

Being able to supply semen in one of the two straw formats used may be a requirement for the semen processing center. Beside the physical quick change of the anvil hopper and needles, the changeover from mini straws to medium and back is done without any tools whatsoever thanks to an intelligent hopper detection.



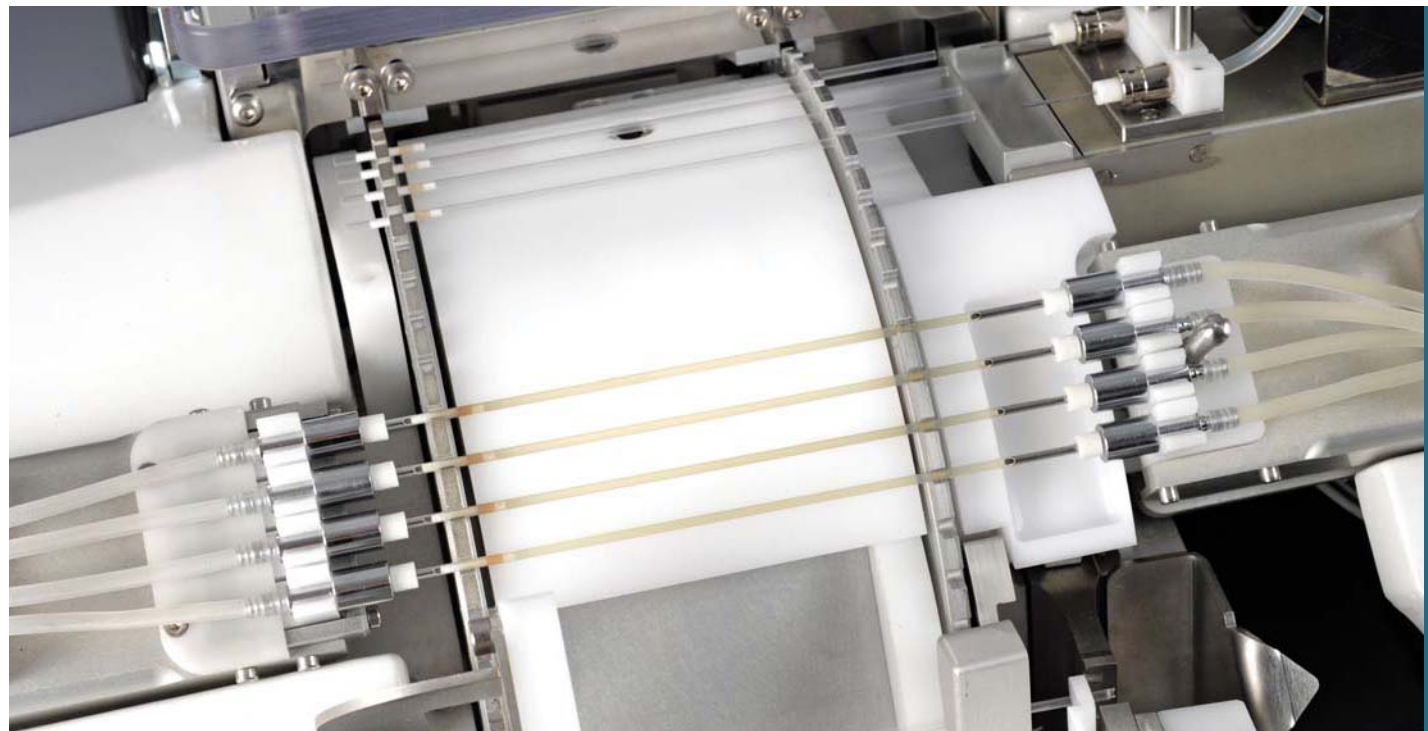
Automatic hopper recognition



Tool less anvil change

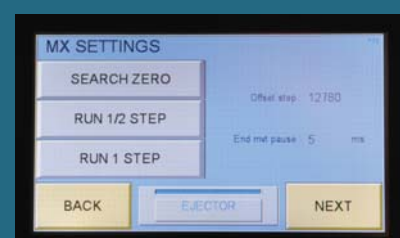
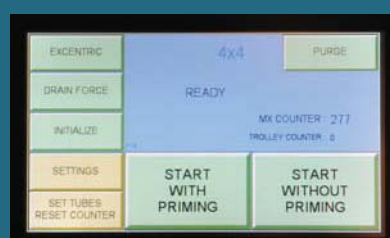
## Enhance viewing

Thanks to a white background on the main straw holding drum, it is easier to see the filling of the straw as it is positioned right above the user's view



## User-friendly touch screen driven system

The GENOM'X™ is equipped with an integrated PLC touch screen display. In the background this is the surveillance module that enables the system to logically proceed when milestones are attained (semen level sensing, required straw format change, requested pauses), or suspend the cycle should a malfunction occur. It is also through this intelligent controller that vacuum changes are set.



## Fast ejaculates change

The four reusable needles are held in place with magnets and can be changed quickly.



## Easy to clean

Built to last, with minimum maintenance required, lubrication-free parts, to give you many years of service, GENOM'X™ was clearly designed with the user in mind. In order to prevent lost time in cleaning, the parts likely to get soiled are easily removable without tools, most of them being held by magnets.



Semen spray collectors

## Technical Support

Available 24h: our extended network of subsidiaries and distributors provides round the clock service.

The GENOM'X™ is fitted with a Branson® ultrasonic system which parts and service are available worldwide.

### Technical characteristics

Reference	023845
Width	635 mm / 25.7" (885 mm / 35" with removable generator support)
Depth	685 mm / 27"
Height	510 mm / 20"
Power	100-240 V – 50/60 Hz – 300 VA
Net weight	60 kg

Straw output / hr (factory)	Conventional	1x1	0%	2x2	0%
Medium	10000 to 12000*	≥ 1 400		2 700	
Mini	10000 to 13000*	≥ 1 800		3 400	

\*Depending on specific customer settings

note: highest repeatability in 1x1





- ISO 9001:2008 and medical reference ISO 13485:2003 certified
- Production site complies with the strictest standards of quality and safety
- Continuous improvement of product, production and quality control processes
- All materials and finished products potentially in contact with living cells tested for bio compatibility



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