

★ **UNCOMPROMISING** robotic technology designed around a reliable, dual-action, off-the-shelf industrial robot arm proven to operate continuously in harsh manufacturing environments with a track record for **long-life and low-maintenance** — estimated to outlast competitors' by 2 to 5 times!

★ **SIMPLE, less labor-intensive** milking.

★ **AFFORDABLE**, without the increased overhead, operating and maintenance costs of other systems on the market.

★ **LOWEST MAINTENANCE ROBOT** on the market: Over 100,000 robot arms in commercial 24/7 use, worldwide.

★ **FLEXIBLE** design and throughput: **One robust and reliable robotic arm milks up to 120 cows in 2 boxes.**

★ **COW-FOCUSED** Automatic Milking System works with natural cow physiology for the most efficient performance and production of high quality milk.

★ **QUALITY PREP** and "smart sensing" optimize milk flow and quality, while "super steam" provides superior hygiene. "Smart-Collect" further ensures milk quality.

★ **PROGRESSIVE SUPPORT** to implement your system and give you peace-of-mind.

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Providing progress. Specializing in peace-of-mind.



What people are saying about this innovative TWO-BOX Automatic Milking System

"Efficiency and reliability are critical for successful robotic milking. This 'two-stall' system cuts maintenance in half!"

"I think it's neat that this is the first industrial robot. There are thousands of these robots in operation at commercial manufacturing plants. This is a real plus in terms of durability, track record, service and parts. This unit is very reliable."

"The Galaxy Astrea 20.20 totally changed my opinion of robotic milking—the system follows our philosophy on high quality milk. It preps like a human: washes, air dries, stimulates, and forestrips."

"In evaluating this opportunity, we first focused on the support and technology: Is it user-friendly, cow-focused and how did it perform in producing high-quality milk? It met our criteria in these areas, and best of all, we see a solid track record for the equipment's durability and its lower maintenance requirements."

"We're able to manage the herd through integrated information systems from networked computers in the barn, at home, and on our smart phones."

"Instead of having a facility that is declining, we now have a facility that will continue to grow and be viable for our children. That's an incredible feeling."

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The future is here... and it makes sense.



The DAIRY challenge:
 Efficient cow management
 Production of high quality milk
 Improved cash flow...

The ROBOTIC solution:

THE PREMIER TWO-BOX / ONE-ARM SYSTEM
AMS-Galaxy-USA Astrea 20.20 Automatic Milking System (AMS)
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Galaxy Astrea 20.20 Automatic Milking System (AMS)

- ★ Yaskawa Motoman® Dual-Action Robotic Arm Proven industrial strength arm
- ★ Saturnus® 20.20 Farm management
- ★ TIM® Farm control through integration
- ★ SMART® Collect
- ★ PROclean®
- ★ SENSE® System
- ★ VISION Technology
- ★ and much more



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FREQUENTLY ASKED QUESTIONS

Is the Galaxy FDA approved?

The FDA does not approve Automatic Milking Systems but enforces the PMO (Pasteurized Milk Ordinance).

Can milkers be attached without the arm?

Yes. The robotic arm is parked away from the cow. The farmer can kneel beside the cow and attach milkers manually without the arm. This is especially nice for first calf heifers. The teat cups will automatically detach as milk flow from each individual quarter diminishes. This occurs effortlessly, without the involvement of the robotic arm.

Can Vision 20.20 find rear teats that are higher than front teats?

Yes. Galaxy Astrea 20.20 uses both a laser and a camera to 'see' and attach rear teats that are higher than front teats.



Is robotic arm maintenance expensive?

No. This robotic arm is a robust, off-the-shelf Motoman® that has been proven with over 100,000 in commercial use worldwide under harsh 24/7 manufacturing environments. Galaxy Astrea 20.20 is designed around this industrial arm, which requires grease only twice a year and is **estimated to outlast competitors' by 2-5 times!**

What happens when my PC crashes?

Galaxy Astrea 20.20 continues milking for as long as it takes to restore your PC.

What is the height requirement of the room the robot will be in?

10 feet.

How big do the feed bins need to be?

Coordinate bin size with your nutritionist and feed delivery company for maximum economic advantage.

What type(s) of feed should we feed?

Work with your nutritionist and talk to us about achieving a balance that replaces some of the energy in the TMR that would represent a certain level of milk production, which is then fed in pellet form in the robotic milking box.

Will the robot adjust the amount of feed the cow gets during her lactation or do we adjust it manually?

You make the call. Enter the amount fed to each cow as often as desired; or set up a feeding curve for each cow and the robot will make the changes.

How should we plan to set-up the robot?

The robot should be set so cows enter from the free stall area and exit back to feed and freestalls. An option would be to have the cows sorted straight ahead into a special needs area.

With one arm and two boxes, does Galaxy Astrea 20.20 milk fewer cows? No.

The robotic arm only preps and attaches. It does not stay under the cow during milking. This frees the robot arm to prep a cow in one box while the another cow milks and detaches automatically in the other box.

How many cow milkings per robot per day can an average farm with average management anticipate?

Cow traffic, production, and management affect this for any brand of robot. Galaxy Astrea 20.20 is designed to work naturally *with* the cow to increase milkability. The system reduces the stress and labor of moving and milking cows by fully automating the teat cleaning, milking, grain feeding, screening, and separation of waste milk with one robot serving two boxes.

Efficiencies are gained with this two-box system because the robotic arm is only used to prep the udder and attach the teat cups. It does not stay under the cow during milking and is not needed for detachment. Teat-cups automatically retract to cup-holders, where they are sterilized and stored between cows.



In example average herds with average management (U.S. and Holland), the number of daily cow milkings per robot averaged 300 to 329. This equates to **113 to 120 cows** being milked **2.7 to 3.0 times/cow/day** with **one robotic arm**, thus spreading the **robotic investment cost over more cow milkings**. These are average figures, and they leave 16.6% free time (almost 4 hours) to advance the dairy's management for more cows, higher production, or more milkings.

One year after installation on a U.S. dairy, the producer reports the **AMS-Galaxy-USA Astrea 20.20** is milking **120 cows** an average **2.9 milkings/cow/day**, and the herd has broken the farm's own production records averaging **80 lbs/cow/day**.

SATURNUS® features you won't find elsewhere!

- ★ Feed economic data promote easy tracking of each cow's profit on a daily basis, based on milk production and pellet intake.
- ★ Improved ability to put cows in different groups (up to 9) to track and feed according to their needs to maximize production.
- ★ Ability to track rbST for herds that are using it.
- ★ Extremely detailed cow information allows entry of pedigree, breeding and genetics.
- ★ The ability to forecast. Tailor it for YOUR management preferences!

Extensive survey spreadsheet data show:

★ Attachment time averages about 2 minutes because Galaxy Astrea 20.20 works *with* the cow's natural oxytocin release.

★ Research shows optimum attachment time occurs 120 to 180 seconds after the start of stimulation to reduce the time teats are exposed to low-flow milking.

★ Average unit-on time is about 5 minutes, which is achieved because the Galaxy Astrea 20.20 has worked *with* the cow and has invested the time "upfront" by providing optimal udder preparation and stimulation.