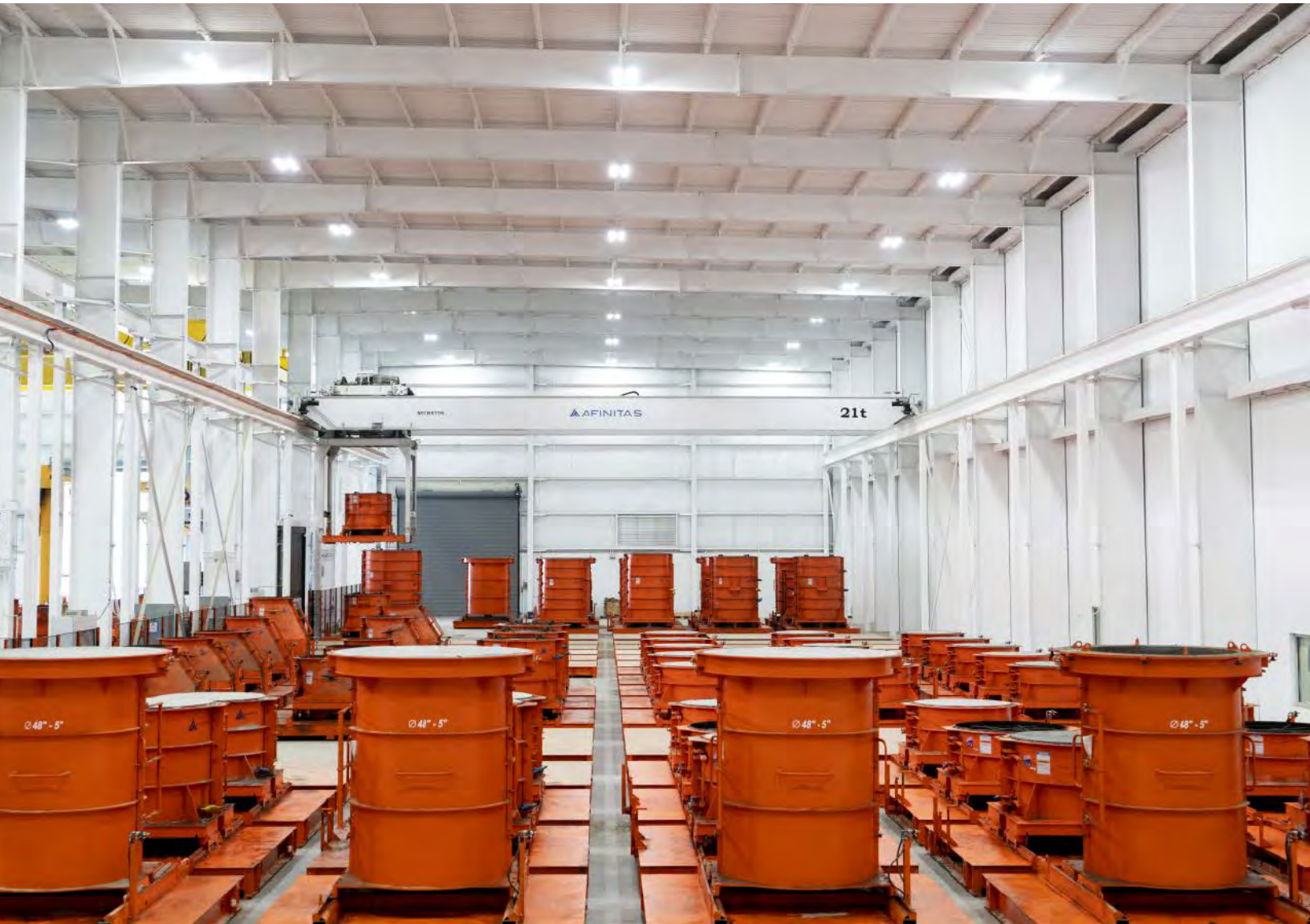




Prima

Automated Wetcast Production Solutions



A Smarter Way to Wetcast

- Cutting-edge production management system
- Monolithic manhole base design and production system

Today's Wetcast Production Challenges

Traditional wetcast production plant setups make it nearly impossible to drive productivity. This is because they often lack a process flow that can be easily tracked, measured, analyzed and optimized.

With Prima, Afinitas removes the guesswork and variability using automated systems that allow producers to take full control, down to the piece, of their production lines.



"The Prima line will give us the advantage to reduce the need for labor in our industry, so it will allow us to produce a product and deliver it into a market better, faster, cheaper."

— Keath Roberts, Operations Manager,
Tindall Utility Division



Prima
Wetcast Automation System

Two Systems — Unmatched Capabilities

Together or Standalone

Our Prima Wetcast Automation System is two-pronged, offering the latest, automated efficiency for wetcast concrete products production as well as the ability to custom-design and mill monolithic manhole bases with unsurpassed speed, accuracy and flexibility.



Prima Base
Monolithic Manhole Base System

Efficient Wetcast Production

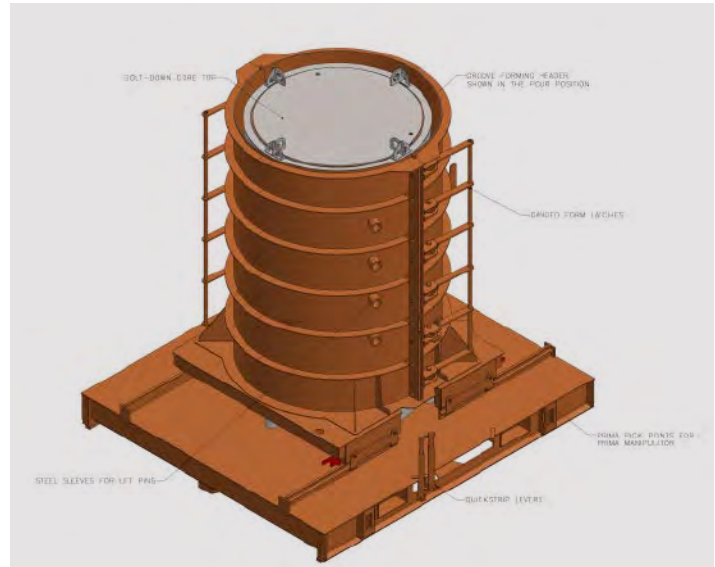
Prima operates like an assembly-line with well-organized workstations powered by automation that brings the work to your team. This eliminates extra steps, missing tools, and other inefficiencies. In addition, the entire system runs on a robust software platform that provides the real-time information needed to drive profitability.

Make Everything. Easy.

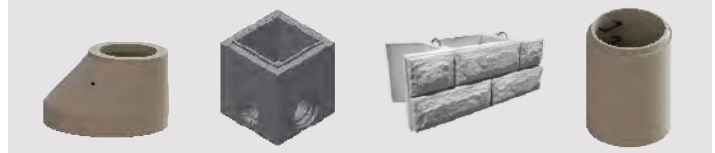
The beauty of Prima is that it is extremely flexible. Every form rides on a common size carrier pallet or "tray," which means any form that can fit on a tray can work within the system.

A real financial benefit is that in many cases Prima works with your existing wetcast forms*. However, even if you purchase new Prima forms, you can still save with features like an integral system-ready sub-base (eliminates the need for a carrier pallet), roll-back jackets, ganged form latches and collapsing cores, among other features that reduce cycle times.

**Note some forms may not be designed to work in an assembly-line process. We can help you determine compatibility.*



Specially-designed Prima forms help reduce cycle times.



System Benefits

Ease Labor Issues

- Assembly line approach eliminates wasted motions
- Specialized workstations allow for faster turnaround
- No aimless walking around searching for tools
- No time moving concrete around to forms and back to mixer
- Up to 50% labor reduction over traditional wet cast plant — Drives a rapid ROI and a decisive advantage over the competition!

Increase Profitability and Throughput

- PRIMA provides the tools to properly optimize and manage the complete process.
- Exposes bottlenecks
- Large, real-time visual 'scoreboard' provides immediate production data to avoid bottlenecks.
- Promotes healthy 'competition' among teams, prevents 'sandbagging'
- Measure productivity — down to the individual product



- Cycle times average 4.5 minutes with approximately 5-7 team members.
- More productivity — less labor.



System Benefits, cont.

Improve Plant Conditions

- System is fully safety compliant and protected
- Elimination of forklift traffic in plant
- No overhead transport of products or concrete
- Ergonomic workstations
- Optimize space utilization
- Attract and retain better employees with a clean and comfortable work environment

Positions Your Company As a Leader

- Win more business with automated processes that increase output and shorten lead times
- Advanced management metrics with Data Logging/Tracking
- Cycle time for every task in the process is logged to a CSV file
- Daily reports/dashboards to measure productivity — day to day, product to product, employee to employee
- Make your plant a showcase for technology, plant tours, marketing opportunities and attracting employees!



"We're putting out more products in fewer hours with less effort."

— Doug Galloway
President (retired), MCon Pipe & Products, Inc.

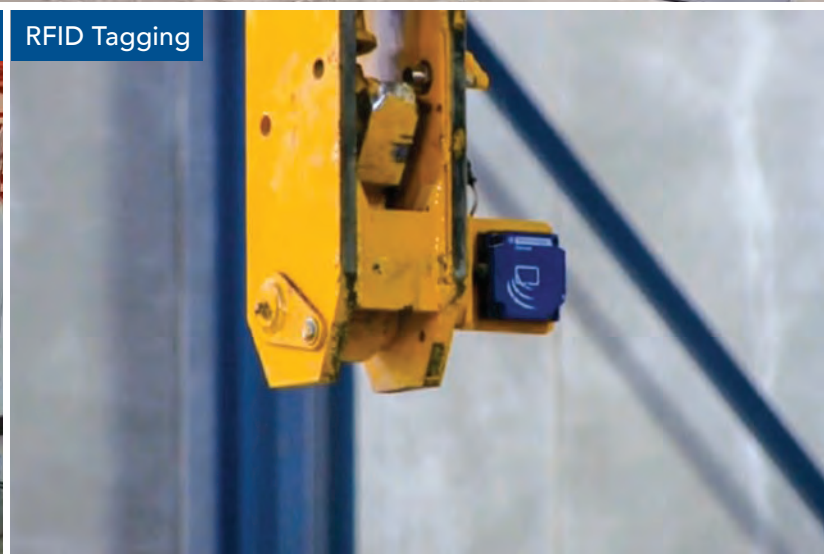


"With our new plant, our major focus is building out capacity and capabilities without increasing labor by the same amount. We decided on Prima because of the relationships we have built with several of the Afinitas companies."

— Joel Sheets, Vice President
and General Manager, Tindall
Corporation, Utilities Division



Demolding



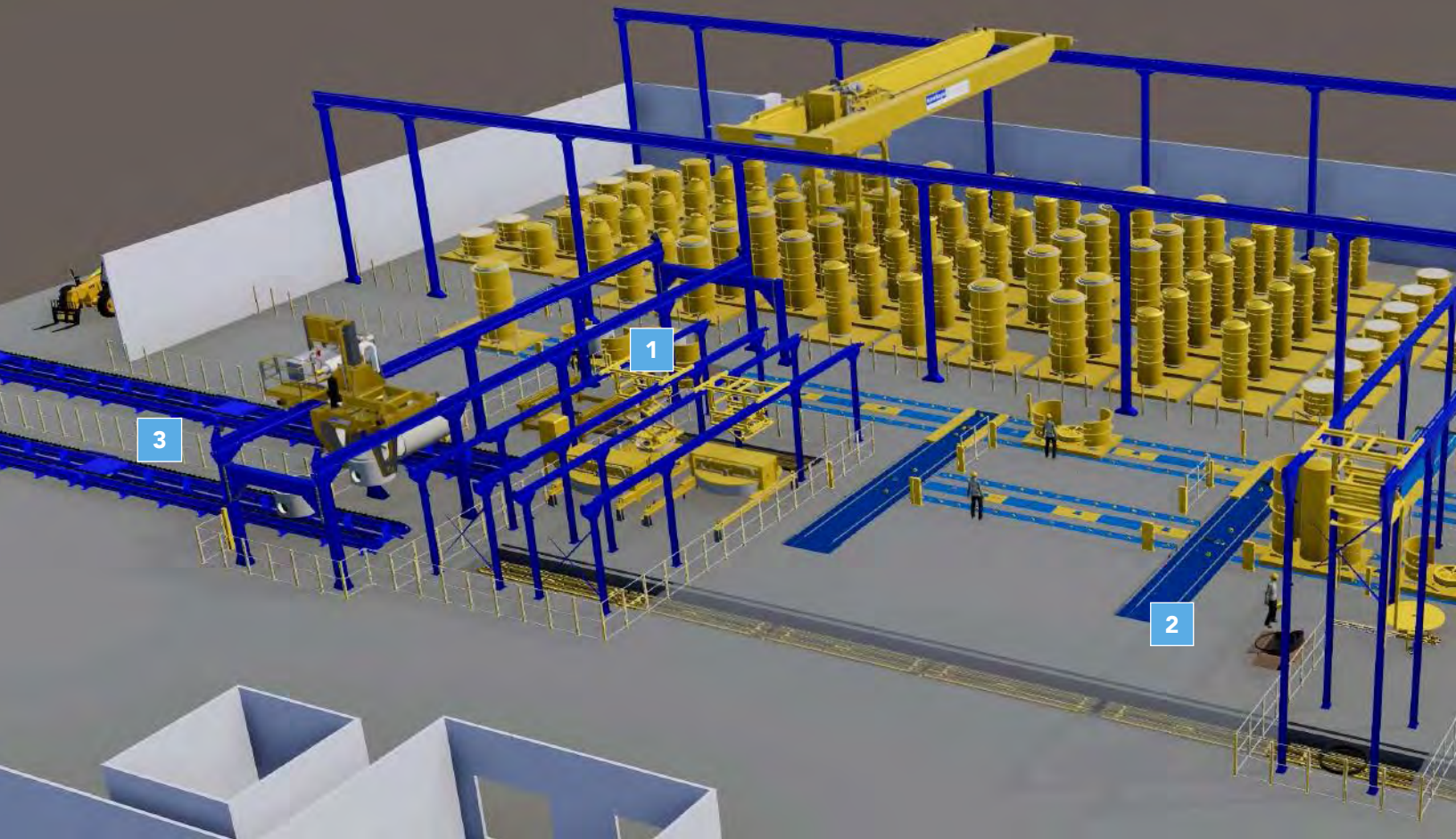
RFID Tagging



Process Line

Prima Plant Layout

Prima is designed like an assembly-line. The work comes to the employee. Eliminates wasted steps, misplaced tools. Increases overall efficiency.



Demolding

- The process line begins here
- Product is removed from the mold and placed on the outfeed line
- Automatic or Manual options available



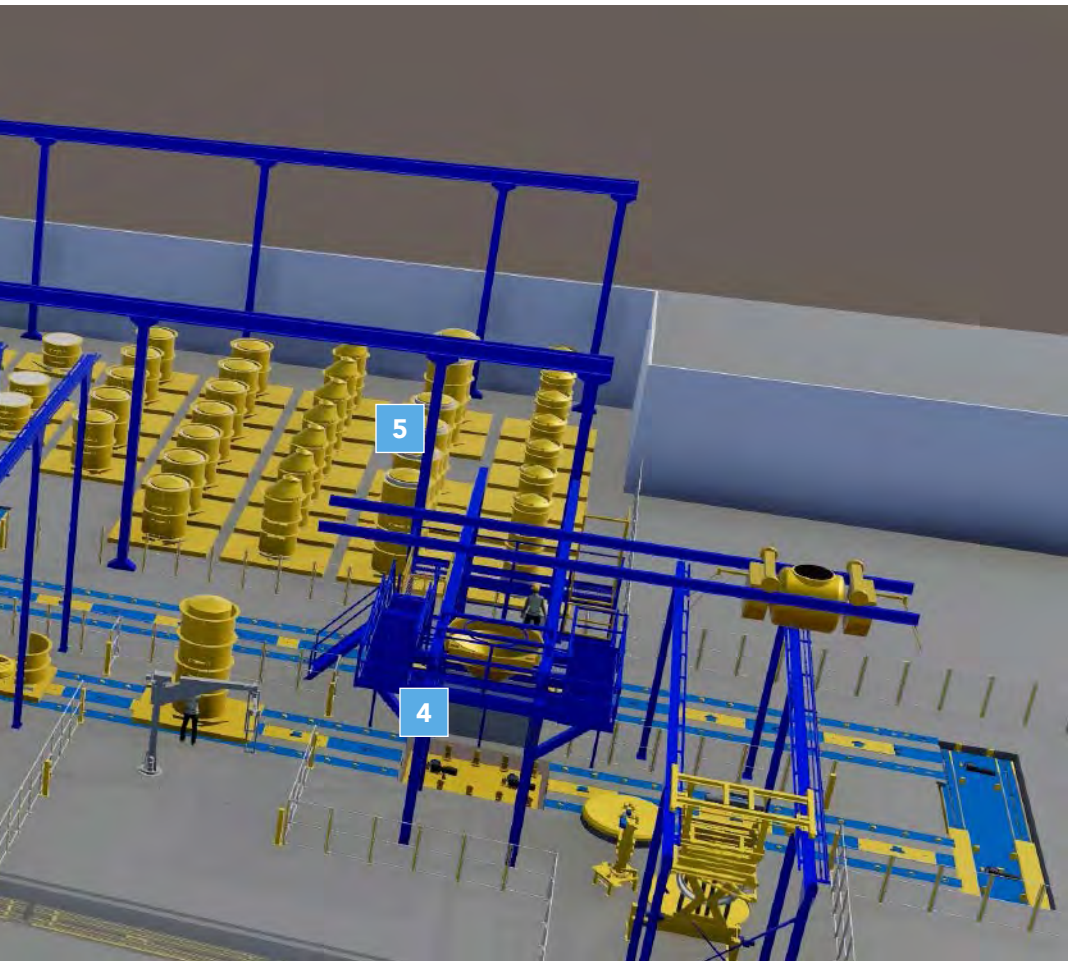
Offline Exchanger

- Optional "Kick-Out" line
- Easily shuttle any form offline
- For product repairs, extra reinforcement needs or special assembly



Outfeed Line

- Elevated, ergonomic platform
- Cured products are delivered to the outfeed line for:
 - Quality control check
 - Product marking
 - Any other post-processing required before exiting to yard



Process Line

- Stations and functions customized to plant needs
- Each is equipped with everything needed for the job, including tools, lift inserts, reinforcement, etc.
- Example:
 - Station #2 Cleaning and Oiling
 - Station #3 Load Reinforcement
 - Station #4 Form Re-assembly

Process Line Features

Customizable, heads-up display provides real-time information

Ergonomic production mat throughout process line increases safety and employee well being.

Operators push button to signal task is completed and cycle time is logged.

Advanced Production Software

- View resource usage in real time.
- “Smart” production queue can be built based on data inherent to each form.
- RFID tagging provides a unique form i.d. and information regarding location, processing times, concrete mix and vibrator settings.



Fill Station

- Main operator platform
 - Master control desk
 - Industrial cameras
- Operator controls feeder
- Several filling methods available
- Station can be equipped with optional vibration or oscillation table



Inventory Area

- Products are cured in a predetermined inventory area
- Cured products move to process line via an automatic overhead manipulator
- Mold is automatically delivered back to inventory area
- Products dropped in space-saving grid





Prima Base Monolithic Manhole Base Solutions

The power of our monolithic manhole base solutions will further strengthen your automated processes. Our innovative design and manufacturing system transforms the labor-intensive, inconsistent methods of producing monolithic manhole bases, and provides unlimited channel options. In addition, with this one system, you can produce a number of other specialty products.

About Prima Base

Prima Base monolithic manhole base solutions integrate technology from the well known HawkeyePedershaab Smartcast and the BFS Capitan manhole base systems to provide one-of-a kind production systems for the creation of wetcast manhole base sections and other specialty concrete products. Unique to Prima is that you choose the milling device that best fits your needs. Whether it is our HawkeyePedershaab Smartcast Kuka robotic milling, or the BFS Capitan CNC multi-axis milling device, or both, combined into one unit, you can produce limitless channel flow designs.

The Channel Challenge

The challenge when you have many inspection chambers is to form all the individual channels in the manhole bases so that each pipe line has an unobstructed flow through the manhole minimizing the risk for build-up of solids. Traditionally, the forming of the manhole flow channels has been done manually by making a concrete benching on site, a very time-consuming, labor intensive and difficult job.



Our Solution

The Prima Base system replaces manual operations with an intelligent, digital configurator that is simple to use and provides unlimited flexibility to meet specific product needs with the highest quality.

Once the key variables are entered into the Prima Base product configurator, the system mills channel-forming molds out of a single piece of industry-standard EPS (Expanded Polystyrene) using either a programmable industrial robot (for highly specialized projects) or a CNC multi-axis milling unit for higher output projects. There is no need to tape, glue and screw or use proprietary-shaped foam sections. The user-friendly computer interface creates the world's easiest system for manufacturing monolithic manhole bases of the highest quality.

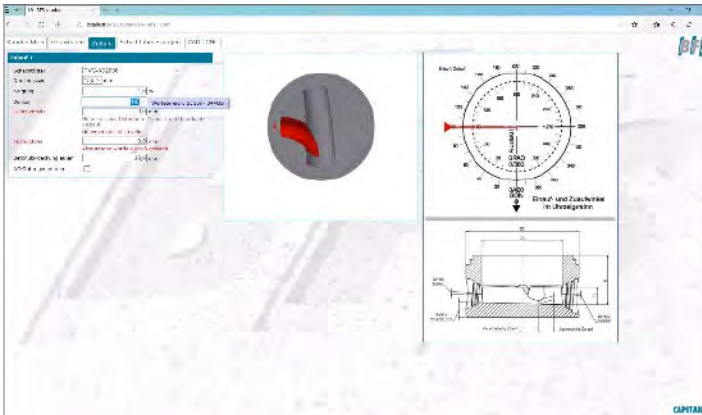
The Prima Base system can be used as a simple, stand-alone EPS milling station or integrated into our Prima automated production system featuring specialized, assembly-line style workstations for filling, demolding and handling.



System Benefits

Intuitive Design Software

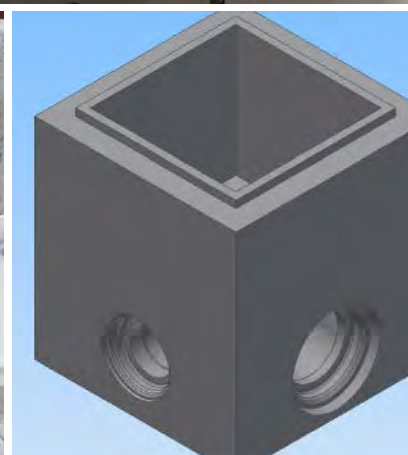
The manhole channel design is automatically created using a user-friendly interface that can be available on your local server or a web server (your choice). Prima Base can run as a stand-alone system or integrated into your company's ERP system. The web-based option allows usage from any computer station (PC, laptop, tablet or Smartphone), at work or remotely. After the manhole base has been designed, a full manufacturing drawing can be downloaded immediately. Once approved the manhole base design is released for production with a single click.



- International language capabilities
- Connects to almost any ERP and can create a project workflow and associated paperwork (purchase orders, change orders, datasheets, etc.) within the system
- Calendar feature for scheduling and/or rescheduling work
- Barcoding can be added to datasheets
- Can also configure square manholes
- All channel settings can be saved as favorites for reuse
- Special configurators can be created to do very complex or unusual pieces
- Stacking software also available

"They offered us the best technical solution for the manufacture of manhole bases."

— Robert Dennewald
Chaux de Contern, Luxembourg





You choose the EPS — you are not locked into our EPS blocks — choose the source that works best for your budget and requirements.



Choice of Milling Techniques

With the Prima Base system you have a choice. If your need is throughput, you may opt for our CNC multi-axis milling center which can produce approximately 30 channels in one shift with one operator. If you prefer a more advanced milling technique that offers the utmost precision at a lower throughput rate, we offer renowned Kuka robotic arm technology. Some producers want both, we can do that too!



Casacap Coating for Quick UV Curing

After milling the manhole base channels, the Casacap coating is applied to the surface of the milled EPS parts. This results in both a very smooth concrete surface on the finished product and the release agent makes it possible to remove the EPS former easily in one single piece when demolding. Our Casacap UV Curing station allows the channels to be processed in less than 5 minutes.

Quick and Easy Mold Set-Up with Prima Base

One of the greatest assets of the Prima Base system is the ease with which the EPS parts are produced, fit together and ultimately fix to the permanent steel mold. Competitive flexible base systems require multiple, complicated production steps in order to produce the EPS core top, and involve numerous hot-wire cutting machines and careful gluing processes. Our system creates the entire flow-channel portion of the EPS core top in one continuous piece and the connection pieces, or side cores, are simply fixed to the main core top using self-locking principles. In essence, the production and assembly of the EPS core top and the process of fixing it to the permanent mold is literally so simple a child could do it.



Additional Prima Base Features to Help You Work Smarter

Global Technical Support

Afinitas brings together the engineering strengths and technical expertise of the trusted HawkeyePedershaab and BFS teams. Our global reach and depth of knowledge assures disruption-free operations and helpful advice on how to achieve optimal, efficient results.

Special Products

Our Prima Base systems work for many different applications, including inspection box culverts.

Wetcast Molds

As part of your system we can provide top quality standard molds available with a collapsible inner core, height adjustable spigot former and integrated sealings. In addition, we offer an extended base mold with hydraulically adjustable inner core.

Turning Device

Introduce more automation and safety into your wetcast production process with our innovative concrete product turning device that handles up to DN 1800mm (72") products.

EPS Compactor

Achieves compaction up to 25:1.





Prima

A Smarter Way to Wetcast

Equipment & Automation
HawkeyePedershaab | BFS



Forming Systems
New Hampton | Spillman

Concrete Accessories
CAM | HawkeyePedershaab | Spillman



Intelligent Infrastructure Solutions
Visit www.afinitas.com to learn more.

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Intelligent
Infrastructure
Solutions

Afinitas is a global, comprehensive and customer-oriented infrastructure equipment and services platform that brings together the expertise of HawkeyePedershaab, BFS, New Hampton Metal Fabrication, Spillman, and CAM Products.

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