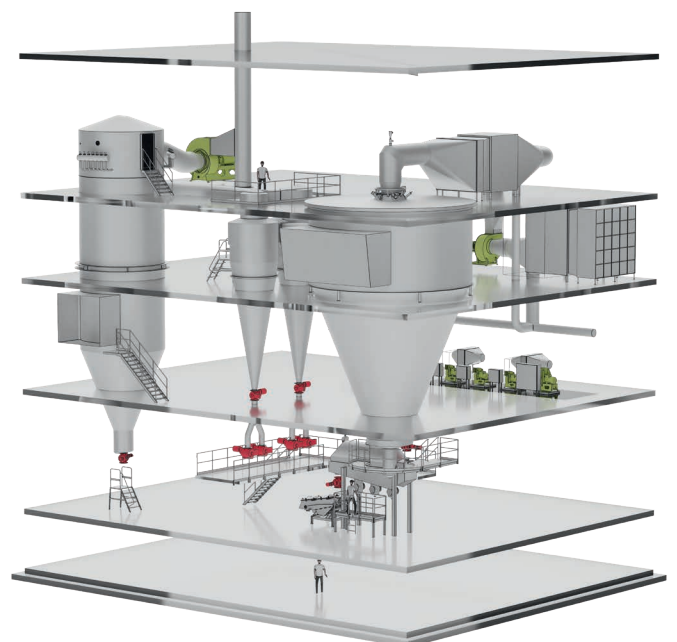




IMPROVING CIP EFFICIENCY

**Separate CIP Zones for Faster and More
Efficient Cleaning and Drying**



CIP OPTIMISATION TARGETS

On average, food producers spend 20% of their production time cleaning plants. As such, innovation that improves this percentage can have a significant impact on bottom-line profitability. That is why most of our customers look to implement one or more of the following capabilities:

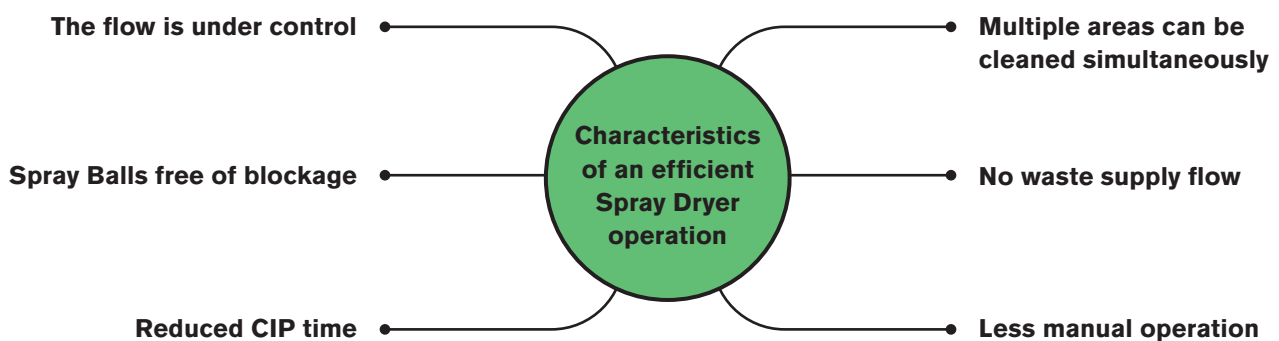
- More efficient cleaning
- Ability to clean the plant in separate zones
- Shorter cleaning and drying times

Assessment Prior to the Start of any Optimisation Project

The design and performance of existing installations must be properly evaluated prior to start any optimisation project. This includes critical data collection needed to focus on the most effective upgrade/modification recommendations.

We will visit your site, collect data, and evaluate your operations based on our proven methodologies. We will then help you determine which improvements could have the greatest impact. Our thorough assessment involves a detailed review of your CIP concept, cleaning operations, process design, device performance, kitchen, distribution and automation.

Characteristics of an Efficient CIP



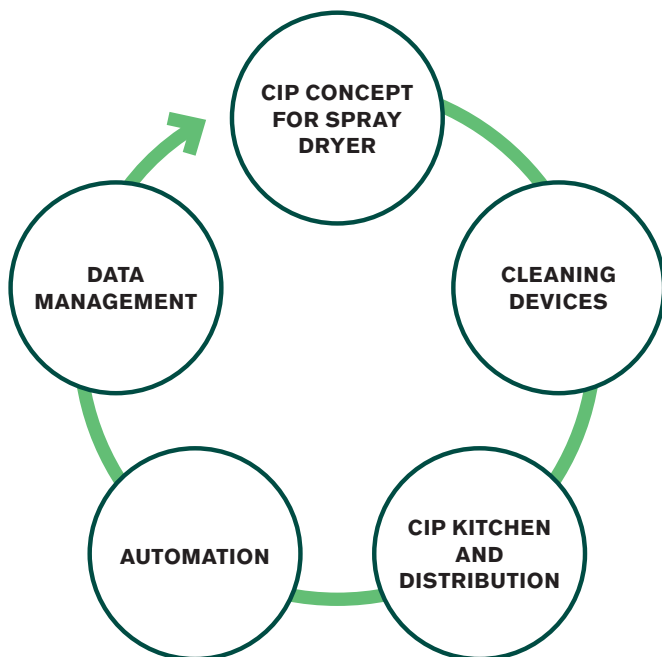
ELEMENTS OF CIP EFFICIENCY

CIP Concept for Spray Dryer

Plant size, component design and CIP concept all determine the room available for optimisation.

Cleaning Devices

Understanding the design of your cleaning devices is key to ensure maximum CIP efficiency and shorter duration.



CIP Kitchen and Distribution

The CIP kitchen must be designed and sized properly to avoid bottlenecks. The duration of the cleaning sequences is contingent on the number and distribution of cleaning lines.

Automation

Automating processes that were once performed manually is one of the best ways to save time and money. This is especially true of repeatable processes that affect cleaning sequences. This is why we assess your control and instrumentation strategy to ensure that you have adequate instrumentation for fine tuning.

Our CIP efficiency experts evaluate your system designs and consider everything from your existing CIP concept design to how you manage production information.

Data Management

Collecting the proper data and integrating it effectively with MES and the system) enhances the overall optimization as well as personal safety management.

RESOLVING COMMON CIP ISSUES

Water retention is the worst enemy of the dry out process.

Inability to Clean Some Parts of the Plant

We will redesign your CIP process and locate cleaning devices to ensure proper cleaning of all parts of your plant. The flexibility to clean multiple areas concurrently reduces total clean time.

Long Cleaning and Drying Out Times

We will help you choose cleaning devices, sequences and schedules that improve draining and dry out.

Inefficient Cleaning and Blocked Spray Balls

Water retention is the enemy of the dry out process. That is why we work to determine whether retractable or removable spray devices are best for your operation.



SPX FLOW CUSTOMISATION OPTIONS

CIP turbine

Removable turbines improve cleaning efficiency by enabling more complete coverage of the chamber product contact surfaces.

CIP nozzles

Varying flow and pressure characteristics make certain nozzles more suitable for certain cleaning paths. We can create the custom combination that optimizes your cleaning operation. Depending on the application, we offer different CIP nozzles solutions; Sanitary CIP nozzle, Retractable CIP nozzle and Spinny nozzle and CIP supply pumps equipped with frequency converter to give optimal pressure at each distribution line for CIP.

ADDED BENEFITS

CIP Zone Isolation

Dividing the plant into CIP zones is a great way to reduce cleaning time. Automation is critical to this process for efficiency and accuracy while also contributing to faster and safer execution.

Semi-automatic CIP Winch

The CIP winch helps position hose in the chamber. This is largely a manual operation, but we can help integrate it into the automation.

Commissioning Support

Even expertly designed CIP systems will require some final adjustment during commissioning. The SPX FLOW team stays with you through the process until you are up and running as efficiently as intended.



CASE STUDY – REDUCED CIP TIME BY 30%

How One Manufacturer Reduced CIP Time by 30%

SPX FLOW combines a wealth of technical expertise with a proven methodology to assess and recommend ways to best optimise systems. Here is how we helped one large food company reduce CIP time by 30 percent.

Situation

A large global food processor's CIP process was taking too long and involving too many people. They tasked us with the following objectives:

- Reduce CIP time by 30%
- Reduce operator activities.

Solution

After intensive assessment of their facility, and observing and collecting operational data, our analysis confirmed the customer's concern that there were inefficient operator activities and unnecessarily long wash steps and rinse times. Our recommended solutions included the following:

- Upgrade instrumentation, including control valves, a pressure transmitter and flow controllers
- Revise cleaning sequence
- Add a third CIP supply, to enable longer cleaning steps for difficult-to-clean items

Results

Our solutions are now in full operation and yielding great results:

- Ability for fine-pressure adjustments on each device
- Greater control over the flow rate
- Ability to clean multiple areas concurrently
- Overall increase in efficiency

The project reduced their CIP process by 30%, shortening the cycle time by 12 hours.

WHY PARTNER WITH SPX FLOW?



Years of Experience

- We have been in the spray dryer business since 1948
- Implemented 6,000 different types of spray dryer plants around the world
- Extensive experience rejuvenating spray dryers for safety, efficiency, optimisation, and sustainability
- Developed a proven process for matching strengths to market opportunities
- Long and successful track record in project development and execution



Our Mission

SPX FLOW combines extensive experience and proven technologies to help you capitalise on market trends with:

- Maximum utilisation of your existing assets
- Maximum return on new investments
- Maximum environmental protection

We help you find the best solution for your long-term needs. We work with you to evaluate market opportunities and provide the modernisation, upgrade, or repairs necessary to capitalise on them.



Your Account Team

Your SPX FLOW project manager selects the ideal team for your specific project based on the following criteria:

- Customer support
- Process and design
- Mechanical engineering
- Supply chain optimisation
- Installation and commissioning



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