



THE FRED D. PFENING COMPANY
DEDICATED TO THE BAKING
INDUSTRY SINCE 1919

BATCH CONTROL SYSTEMS

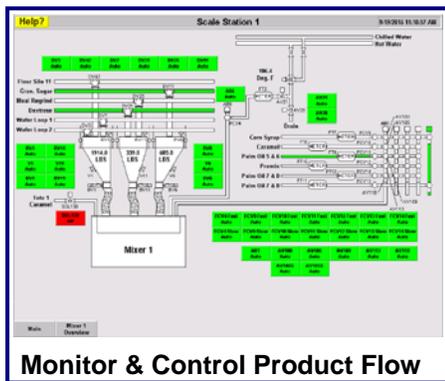
A Pfening Batching Control System integrates the delivery of multiple ingredients, flour, sugar, water, oil, bulk bag, hand adds, etc.

Receiving, storing, conveying, and weighing of ingredients is put under control of a single system.

Recipe Development
Production Scheduling
Inventory Tracking
Operator Interface
PLC Hardware Control
Customized to Your Requirements

A batching control system offers many advantages:

- ◆ Centralizes control of recipes and production scheduling.
- ◆ Improves productivity by automating routine tasks and clearly defining areas requiring operator actions.
- ◆ Reduces human error and subsequent costs.
- ◆ Reduces downtime by identifying problems early.
- ◆ Improves recordkeeping and inventory management.
- ◆ Ability to recover from a power outage.



Recipe Development

Material (LBS)	Setpoint	Tolerance	Actual Weight	Status
Blend Flour	100.0	1.5	96.8	Discharge Complete
Wheat Flour	50.0	1.0	50.1	Discharge Complete
Roman Meal Flour	25.0	1.5	25.0	Discharge Complete
Soy Oil	8.0	0.5	7.9	Weighing Complete
Syrup	10.0	0.8	10.0	Weighing Complete
Honey	5.0	0.4	5.0	Weighing Complete
Sugar	14.0	1.2	14.0	Weighing Complete
Cream Yeast	6.0	0.2	6.0	Weighing Complete
Sponge	50.0	2.0	41.4	Delivery Alarm
Water	75.0	1.4	74.7	Weighing Complete

Excel Reports

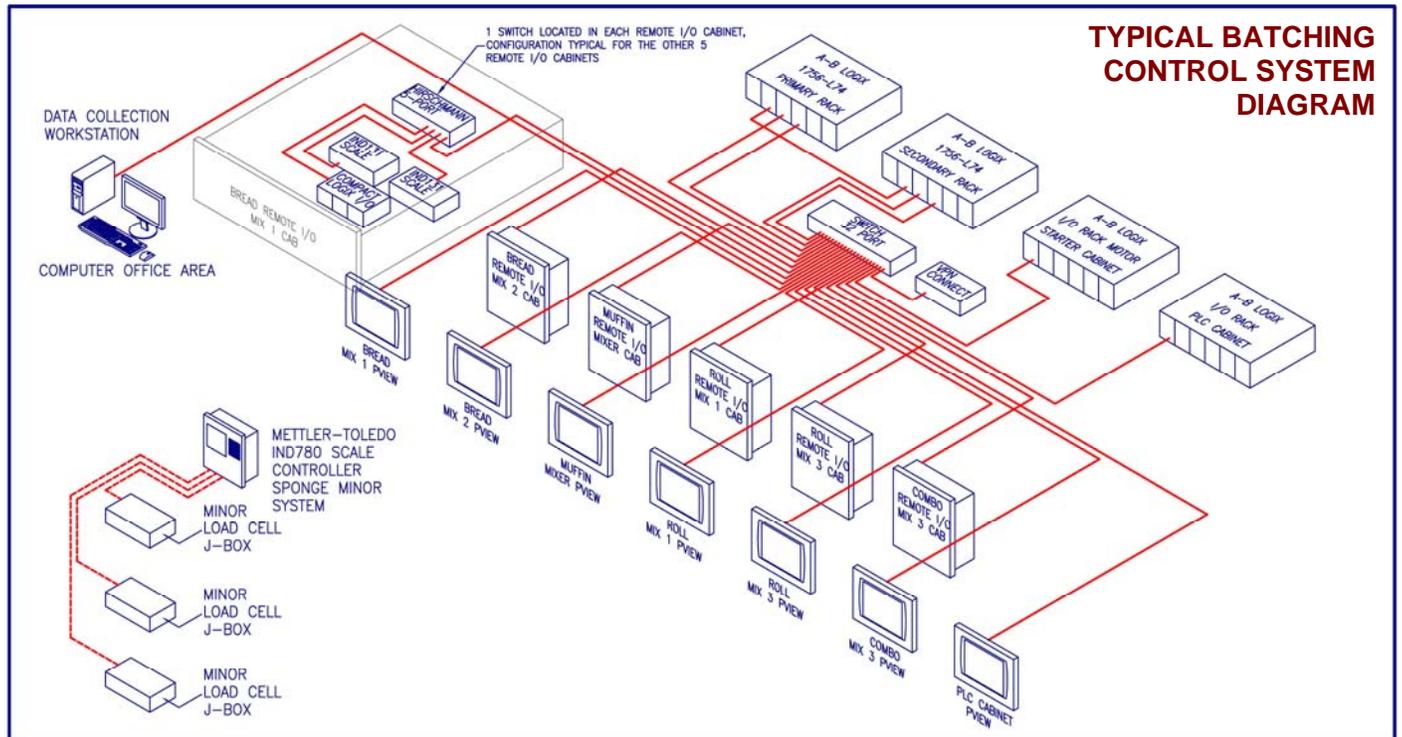
Recipe ID	Batch Description	Run Date	Batch Number	Run Date	Run Time
001	001	2007-07-27 16:14:00	001	2007-07-27 16:14:00	00:00
002	002	2007-07-27 16:14:00	002	2007-07-27 16:14:00	00:00
003	003	2007-07-27 16:14:00	003	2007-07-27 16:14:00	00:00
004	004	2007-07-27 16:14:00	004	2007-07-27 16:14:00	00:00
005	005	2007-07-27 16:14:00	005	2007-07-27 16:14:00	00:00
006	006	2007-07-27 16:14:00	006	2007-07-27 16:14:00	00:00
007	007	2007-07-27 16:14:00	007	2007-07-27 16:14:00	00:00
008	008	2007-07-27 16:14:00	008	2007-07-27 16:14:00	00:00
009	009	2007-07-27 16:14:00	009	2007-07-27 16:14:00	00:00
010	010	2007-07-27 16:14:00	010	2007-07-27 16:14:00	00:00

More sophisticated systems may include:

- ◆ HP, noax, Dell or other major brand computer workstations for recipe development and production scheduling.
- ◆ Sophisticated batch & inventory recording and direct reporting to corporate information systems.
- ◆ Control of related systems, such as mixers, kettles, etc.

THE FRED D. PFENING COMPANY
MANUFACTURERS OF
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TYPICAL BATCHING CONTROL SYSTEM FEATURES:

1. **PLC (Programmable Logic Controller)** – Usually an Allen-Bradley ControlLogix series, these are reliable, industrial-grade programmable controllers that actually operate the motors, valves, and other electrical devices and receive signals from switches, sensors, and other items in the plant as well as controlling the batching operation. The PLC is complete with a fully documented custom program in standard Rockwell Software.
2. **Touchscreens** – Typically Allen-Bradley PanelView Plus, these provide operator and supervisory control of the system. Each touchscreen has several screens that provide detailed control of each process. The primary screens will provide for operator control, including clearly showing operator actions required, feedback on the progress of each step, and diagnostics and alarming for any problems or out-of-tolerance conditions. Additional screens may provide for supervisory control, data collections, and other functions. Access to various functions may be password controlled.
3. **Scale instruments** – Typically Mettler-Toledo IND131 or ACT350 units, these are connected to load cells on the weighing vessels and provide real-time weight information to the PLC during system operation. They are also used to calibrate the scales.
4. **Control cabinet** – Typically a stainless steel, NEMA 4X cabinet, it houses the PLC, disconnect switches, motor controls, and other necessary electrical devices. Optional UL listing is available.
5. **Communication system** – Ethernet IP with other protocols as appropriate for the system. Includes cable, switches, and connections as needed.
6. **VPN Connection** – Remote communication option, for monitoring or control from outside the plant.
7. **Supervisory and data collection computers** – For sophisticated recipe development, production scheduling, and data collection, these are normally standard PCs provided with standard Rockwell, Intellution, Wonderware, or EZSoft software configured as needed. Communication with corporate information systems may be provided.

INSTALLATION, START-UP AND TRAINING SERVICES

Pfening provides complete installation, including startup and training. Experienced field supervisors, mechanical installers and electricians are always available. Expert Pfening engineers will commission the system or equipment and train the operators.

Pfening is ready to supply parts, service, and technical assistance today, next year, or in ten years. Pfening customers never have to fend for themselves. **For over 95 years** we have guaranteed everything we sell with expert service and technical support. Our customers rule and we prove it every day.