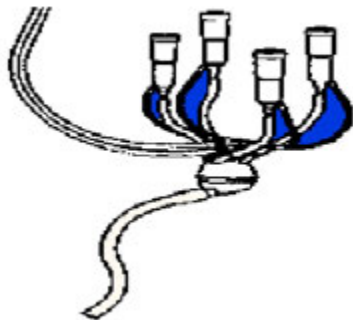


# MILKING EQUIPMENT INSTALLER MANUAL

**2022 REVISION**



**WISCONSIN DEPARTMENT OF AGRICULTURE,  
TRADE AND CONSUMER PROTECTION**

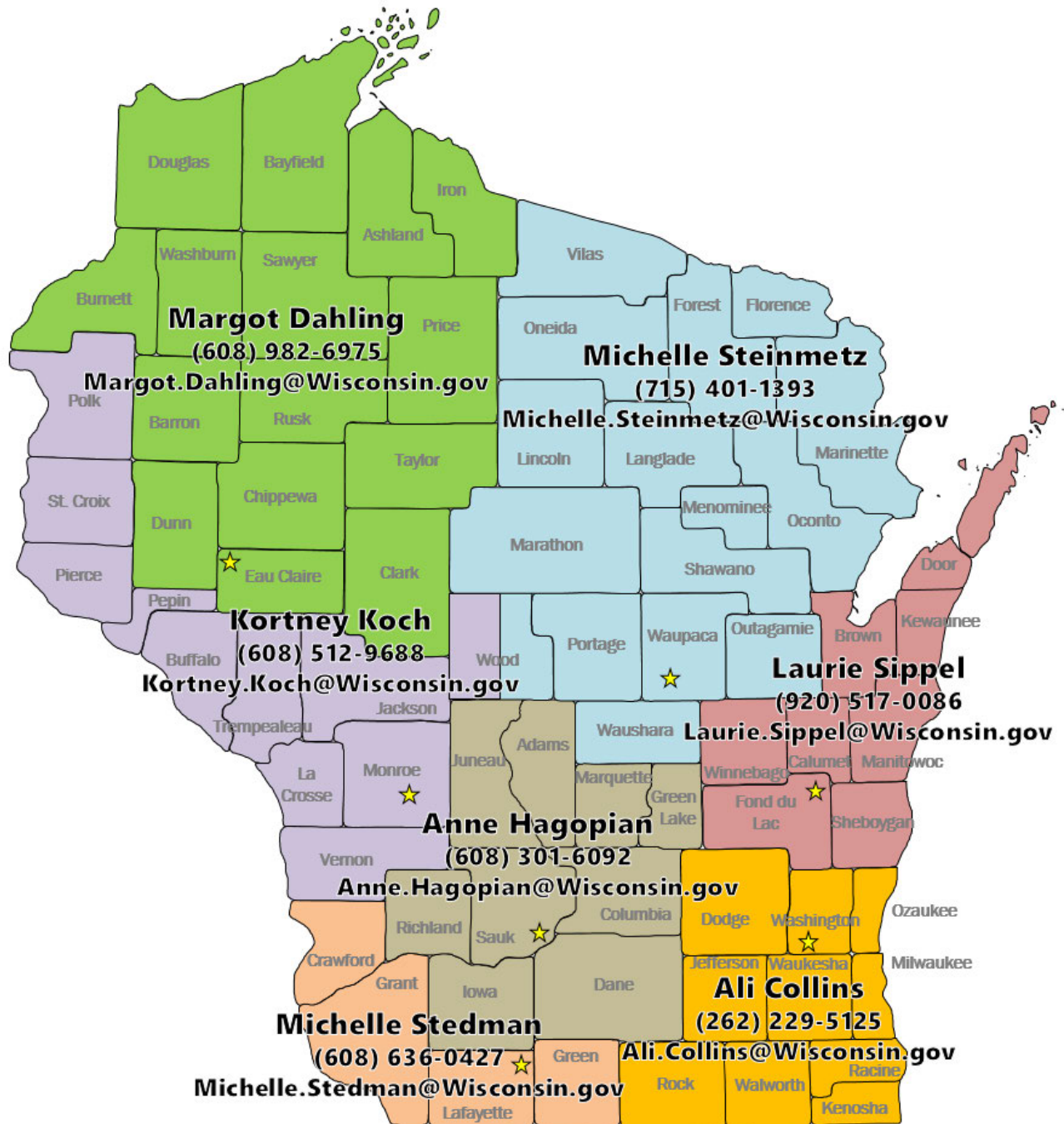


# MILKING EQUIPMENT INSTALLER MANUAL

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# DFS Food & Dairy Specialist Areas



Environmental Health Services Supervisor: Laura Traas, 608-669-7243, [Laura.Traas@wisconsin.gov](mailto:Laura.Traas@wisconsin.gov)  
 General Technical Specialist Email: [DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov)

Wisconsin Department of Agriculture, Trade, and Consumer Protection



DRY-GUD-011	Dairy
Revision: 1.0	Requirements for Milking Equipment Plans
Approved: March 23 2022	Wisc. Stat. 93.06 (1w) and Wis. Admin. Code ATCP 65.14(6)(a)

**SUBJECT:** Requirements for Milking Equipment Plans

### Scope

Before installing, reconstructing, or extensively altering a bulk tank, milking system, milk handling system, milkhous, milking parlor, or dairy farm water supply system, the installer shall, on behalf of the milk producer, submit plans to DATCP. DATCP shall charge a fee to recover costs for providing the review service and shall return the plans, together with any comments or objections, within 14 days after the plans are received.

### Definitions

Automated milking installation or AMI – a robotic milking system that identifies, prepares and milks lactating animals; detects and segregates abnormal milk; and automatically cleans and sanitizes all milk contact surfaces, at least once daily and after the segregation of abnormal milk, such that normal milk is not adulterated.

Bulk tank - a permanent or semi-permanent tank, container, or silo used to receive, cool, or store bulk quantities of milk on a dairy farm. "Bulk tank" does not include milk cans.

C-I-P - clean-in-place, which is the process by which equipment is cleaned and sanitized without being disassembled and by the mechanical circulation of cleaning and sanitizing solutions onto interior milk and dairy product contact surfaces.

DATCP - The Department of Agriculture, Trade and Consumer Protection

Equipment - an implement, vessel, machine, or apparatus, other than a utensil, that has one or more milk contact surfaces that is used to draw milk from milking animals or to transport, hold, handle, cool, or store milk on a dairy farm.

Milking and milk handling system - an automated system and all components of that system used to draw milk from milking animals or to transport milk to a bulk tank or other container on a dairy farm. Milking and milk handling system includes C-I-P milking equipment and C-I-P milk pipelines.

### Guidance

Complete the Application for Milk Handling Equipment and Facility Construction (F-fd-31), any supplemental applications, and follow submission instructions provided on the application. Every application must include a drawing and any required supporting documentation. Plan reviews are based

on Wisconsin regulations and standards in effect at the time of the review. Only plans that are complete and legible will be reviewed.

**Examples of installations/modifications which require a review:**

- Pipeline system installation (new or used systems)
- Pipeline system or component modifications to any of the following:
  - Size of milkline or main vacuum line
  - Length of milkline
  - Size or number of receiver jar inlets
  - Number of pipeline slopes
  - Number of milker units
  - Number of milker units per milkline slope
  - CFM of vacuum needed
  - Size of vacuum pump if CFM is less than previously installed
- Bulk tank installation (new or used tanks)
- Milk pre-cooling equipment installations (new or used)
- Direct tanker milking operations
- In-line sampler
- AMI (automated milking installation)
- Milkhouse, new or modifications
- Milking parlors, new or modifications
- Water systems, new or updated systems for milk house or parlor
- On demand or tankless water heaters

**Contacts**

Dairy Technical Specialists - [DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov)

**References**

F-fd-31 Application for Milk Handling Equipment and Facility Construction

F-fd-258 Supplemental Application for Direct Tanker Milking Operations

F-fd-344 Supplemental Application for Automatic Milking Installation (AMI)

F-fd-59 Application for Approval of the Installation of an Aseptic In-line Milk Sampler

Wisconsin Administrative Code ATCP 65

Wisconsin Statute 93.06 (1w)

**Document History**

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Update D-fd-039 to GUD format. Added “Scope”, “Definitions”, “Contacts”, and “References”. Added/changed language in “Guidance”.	March 23 2022

**Approval**

- 3/23/2022 9:34 AM Task Completed ■ Anderson, Timothy P Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments: Approved by Anderson, Timothy P
- 3/23/2022 9:45 AM Task Completed ■ Stoner, Steve K Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved Approved by Stoner, Steve K



Wisconsin Department of Agriculture, Trade and Consumer Protection  
 Division of Food and Recreational Safety  
**Application for Milk Handling  
 Equipment and Facility Construction**

Wis. Stats. s.97.22, s.ATCP 65.14(6)

**Mail To:** WDATCP 718 W Clairemont Ave Ste 128, Eau Claire WI 54701

**Make Checks Payable To:** WDATCP

- Wisconsin regulations require the installer to submit plans for review before the installation of a bulk tank or milking and milk handling system **OR** construction of, or modification to, a milkhous, milking parlor or dairy farm water system on behalf of the producer.
  - Submit this application along with the \$25 fee to the address above. The review fee must accompany this form or plans will not be reviewed.
  - Drawings, plans or supplemental applications may be sent either to the address above or submitted to [datcpdfsplanreview@wisconsin.gov](mailto:datcpdfsplanreview@wisconsin.gov) with the producers name in the subject line of the email submission.
  - Only plans that are complete and legible will be reviewed.
- The review of the plan and /or application is based on Wisconsin regulations and standards in effect at this time.
- Modification of this installation may be required at some future date as regulations and standards are updated.

<b>MILKING ANIMAL</b>	
<input type="checkbox"/> COW	<input type="checkbox"/> GOAT
<input type="checkbox"/> SHEEP	<input type="checkbox"/> OTHER :
<b>EQUIPMENT INSTALLATION</b>	
<input type="checkbox"/> NEW	<input type="checkbox"/> MODIFICATION
<b>TYPE OF EQUIPMENT</b>	
<input type="checkbox"/> BULK TANK	<input type="checkbox"/> PRECOOLER
<input type="checkbox"/> PIPELINE MILKER	<input type="checkbox"/> SILO
<input type="checkbox"/> DIRECT TANKER (Requires Supplementary Application: F-fd-258)	
<input type="checkbox"/> ROBOTIC MILKING SYSTEM (AMI) (Requires Supplementary Application: F-fd-344) Manufacturer of AMI(s): _____ Number of AMI's installed: _____	
<input type="checkbox"/> DAIRY FARM WATER SYSTEM – Alternative Water Heating System	
<input type="checkbox"/> Other – explain	

**NOTE:** Immediately **after** installing or modifying any system listed above, the installer shall provide to the milk producer and the department a copy of the signed Certification of Installation Completion which certifies compliance with the construction standards of ATCP 65, Wisconsin Administrative Code.

<b>FACILITY CONSTRUCTION</b>		
<input type="checkbox"/> NEW	<input type="checkbox"/> MODIFICATION	
<b>TYPE OF FACILITY</b>		
<input type="checkbox"/> STANCHION BARN	<input type="checkbox"/> MILKHOUSE	<input type="checkbox"/> MILKING PARLOR
<input type="checkbox"/> SWING PARLOR	<input type="checkbox"/> FLAT BARN PARLOR	<input type="checkbox"/> ROTARY PARLOR
<input type="checkbox"/> OPEN AIR PARLOR	<input type="checkbox"/> WATER SUPPLY SYSTEM	<input type="checkbox"/> SUBWAY/TUNNEL

<b>INSTALLER INFORMATION – Please Print Clearly</b>		
LEGAL NAME OF APPLICANT	PHONE ( ) -	
APPLICANT EMAIL ADDRESS		
MAILING ADDRESS STREET		
CITY	STATE	ZIP
INSTALLER'S SIGNATURE		DATE

<b>DAIRY PLANT INFORMATION</b>		
DAIRY PLANT NAME		
PLANT LOCATION	PLANT NO.	PATRON NO.

<b>PRODUCER INFORMATION</b>		
NAME	PHONE ( ) -	
DBA/FARM NAME		
MAILING ADDRESS	PHYSICAL ADDRESS if different than mailing address.	
CITY	STATE	ZIP
COUNTY NAME	TOWN NAME	SECTION #
PRODUCER'S SIGNATURE		DATE

<b>WDATCP USE ONLY</b>	
PAYMENT RECEIVED 7000-G3	
REVIEWER	DATE
REV COMMENTS	DATE STAMP

CONTINUE ON REVERSE SIDE

## INSTRUCTIONS

- Complete all blanks applicable to this installation
- This application must be accompanied by a detailed legible drawing of the milking system and water distribution system showing the following items, when present:

1. Bulk Milk Tank	5. Floor Drain	9. Receiver Group	13. Filter	17. Pressure Tank
2. Double Wash Vats	6. High Point	10. Weigh Jars	14. Vacuum Pump	18. Reclaimed Water Tank
3. CIP Pipeline Vat	7. Vacuum Test Port	11. Pipeline Inspection Port	15. Wash Flow	19. Backflow Prevention Device
4. Hand Wash Sink	8. Air Injector	12. Milk Precooler	16. Wash Manifold	20. Air Gap Connection

## FABRICATION OF MILKING SYSTEM

### A. MILKLINE

1. Material(s)	7. Percent slope	<input type="checkbox"/> .8% (1 inch/10 feet)
2. Diameter	<input type="checkbox"/> 1.0% (1 inch/10 feet)	<input type="checkbox"/> 1.2% (1 inch/10 feet)
3. Length	<input type="checkbox"/> 1.5% (2 inch/10 feet)	<input type="checkbox"/> 2.0% (2½ inch/10 feet)
4. WELDED <input type="checkbox"/> GASKETED <input type="checkbox"/>	8. HIGH LINE <input type="checkbox"/> LOW LINE <input type="checkbox"/>	
5. Number of Units	9. Max. Height from <b>Cow Platform</b>	
6. Max. Units Per Slope	10. Units Washed in PARLOR <input type="checkbox"/> MILKHOUSE <input type="checkbox"/>	

### B. MILK RECEIVER

1. Number of Receiver Inlets	2. Size of Receiver Milk Inlet(s)	3. Size of Receiver Vacuum Inlet
4. Located in a Pit? YES <input type="checkbox"/> NO <input type="checkbox"/>	5. Located in a Mini-Milkhouse? YES <input type="checkbox"/> NO <input type="checkbox"/>	

### C. OTHER SYSTEM COMPONENTS WITH VACUUM REQUIREMENTS (FILL IN THOSE THAT APPLY)

ITEM	QUANTITY	ADDITIONAL VACUUM REQUIREMENTS

### D. VACUUM SYSTEM

1. Main Airline	Material:	Diameter:	Length:
2. Pulsator Line	Material:	Diameter:	Length:
3. Automatic Drains in Pulsator Lines: YES <input type="checkbox"/> NO <input type="checkbox"/>			
4. Vacuum Pump(s):	Brand:	Model(s):	Motor hp:
5. Total Vac Pump Capacity:	CFM/ASME at Normal Operating Level of:		In Hg
6. Other (specify):			

### E. MILK COOLING AND STORAGE SYSTEM

1. Pre-Cooler	Plate <input type="checkbox"/> Tube <input type="checkbox"/>	Other:		
Number of sections in plate cooler:		Does each section freely drain? YES <input type="checkbox"/> NO <input type="checkbox"/>		
Coolant: Well water single use <input type="checkbox"/> Recirculated water <input type="checkbox"/> Recirculated glycol <input type="checkbox"/>				
Type of coolant preservative used:				
2. Bulk Milk Tank or silo	Brand	Model:	Capacity:	Date of Manufacture:
Bulk Milk Tank or silo	Brand	Model:	Capacity:	Date of Manufacture:
Bulk tank temperature recorder provided? (Required on tanks manufactured after 1/1/2000)		Type: Chart:	Computer:	
3. Type of cleaning: MANUALLY CLEANED <input type="checkbox"/> CIP <input type="checkbox"/>				
4. Distances from bulk milk tank to walls, ceiling and equipment provided on plan? YES <input type="checkbox"/> NO <input type="checkbox"/>				

### F. WATER HEATING EQUIPMENT

1. Water heating system <b>adequate</b> for all milking: YES <input type="checkbox"/> NO <input type="checkbox"/>	Capacity:	Gallons
2. On Demand or continuous flow hot water systems. YES <input type="checkbox"/> NO <input type="checkbox"/>		
Total hot water usage requirements and system capacity provided. YES <input type="checkbox"/> NO <input type="checkbox"/>		

### G. PHYSICAL SEPARATION OF WASH SYSTEM LINES FROM:

1. Milking System During Milking: YES <input type="checkbox"/>	2. Milk Tank During Milk Storage: YES <input type="checkbox"/>
--	--

### H. FACILITY CONSTRUCTION FINISH SCHEDULES

1. Complete wall, floor, ceiling and lighting schedule provided for new facility construction or modification?: YES <input type="checkbox"/> NO <input type="checkbox"/>
2. Has a sanitary waste permit been applied for?: YES <input type="checkbox"/> NO <input type="checkbox"/>

This institution is an equal opportunity employer.

Personally identifiable information you provide may be used for purposes other than that for which it was collected. (Wis. Stat. §15.04 (1)(m)).





Wisconsin Department of Agriculture, Trade and Consumer Protection  
Division of Food Safety  
718 Clairemont Ave., Ste. 128, Eau Claire, WI 54701

## CERTIFICATION OF INSTALLATION COMPLETION

PRODUCER: «FIRST\_NAME, MIDDLE\_INITIAL, LAST\_NAME»  
«DBA\_NAME»  
«STREET\_ADDRESS»  
«CITY\_STATE\_ZIP»

Date of application: «DATE\_RECEIVED»

File # «Record»

PRODUCER SHALL POST IN MILK HOUSE FOR 12 MONTHS

I hereby certify that I have installed the equipment as described on this application and in compliance with Chapter ATCP 65, Wisconsin Administrative Code

«INSTALLER»

SIGNATURE OF EQUIPMENT INSTALLER OR REPRESENTATIVE:

DATE OF COMPLETION:

INSTALLER MUST SIGN THIS STATEMENT UPON  
COMPLETING INSTALLATION

PROVIDE A COPY  
FOR THE PRODUCER

PROVIDE A COPY FOR DATCP  
DIVISION OF FOOD SAFETY,  
718 W Clairemont Ave., Ste 128, EAU CLAIRE WI 54701  
Fax: 715-839-3867



Wisconsin Department of Agriculture, Trade and Consumer Protection  
 Division of Food and Recreational Safety

## Supplemental Application for Direct Tanker Milking Operations

Mail To: WDATCP 718 W Clairemont Ave Ste 128, Eau Claire WI 54701

- The Department requires the installer, on behalf of the milk producer, to submit this supplemental application whenever a mobile tanker will be used to store milk on the farm.
- This form must be submitted in conjunction with the "Application for Milk Handling Equipment", (F-d-31).
- Only plans that are complete and legible will be reviewed.
- Coordinate the completion of this form between the installer, producer, milk hauler, and dairy plant to assure accurate information is provided.
- Refer to F-d-71 "Direct Tanker Shipping from the Farm Requirements" document for guidance.
- The review of your plan and /or application is based on Wisconsin regulations and standards in effect at this time.
- Modification of this installation may be required at some future date as regulations and standards are updated.

**Please Print Clearly and Check Spelling**

### INSTRUCTIONS

Complete all blanks applicable to this installation. This application must be accompanied by a detailed legible drawing of all the components pertaining to the Direct Ship. Use the numbers below and the numbers from the "Application for Milk Handling Equipment and Facility Construction" F-d-31 to identify all components.

21. Cooling Media Sample Port	27. Sanitizing Station
22. Tanker Valve Drip Pan	28. Check Valve(s)
23. Indicating Thermometer	29. Milk Transfer Hose(s)
24. Recording Thermometer Probe	30. Drip Sampler
25. Recording Device	31. Milk Line Air Blow Fitting
26. Tanker Dock Seal(s)	32. Hard Surfaced Tanker Pad

### PRODUCER INFORMATION

NAME:	
CITY, STATE:	DATE:

### PART I - EXTERIOR CONDITIONS

**Tanker Parking Surface (check one)**  
 Concrete       Asphalt       Other

**Extends Under Full Length Of Tanker**  
 Yes       No Explain:

**Surface Sloped to Drain**  
 Yes       No Explain:

**Tanker Connection to Milkhouse**  
 Dock Seal       Hose Port       Enclosed Intake  
 Other Explain:

### PART J - TANKERS(s)

**Direct Tanker Equipment Installation (check one)**  
**Type of tanker used**  
 Over the Road       Hose Cabinet

**Who Owns the Milk Tanker(s)**  
 Dairy Plant       Producer       Hauler

Provide Milk Tanker License Numbers(s)

1		2	
3		4	
5		6	

**Tankers(s) Meet 3A Sanitary Construction Standards**  
 Yes       No

**Tanker Modified to Fit Tight To Milkhouse**  
 Yes       No

**Tanker Access Ports Sealable**  
 Yes       No

**Continue on Reverse Side**

### PART K - INTERMEDIATE COOLING

**Milk Cooling Method**

- Heat Exchanger     Bulk Tank

Provide All Pertinent Information in Section E of Application for Milk Handling Equipment and Facility Construction F-d 31

**Temperature Monitoring**

- Chart     Electronic

Enclose copy of the chart or chart specifications.

### PART L - FARM PROCEDURES

\_\_\_\_\_ How Many Milkings to Fill Tanker

\_\_\_\_\_ hrs. How Long Will Tanker Remain On Farm

**Where Is the Point Of Sale for the Milk**

- The Farm     The Dairy Plant

**Is the Milking System Cleaned After Every Use**

- Yes     No

**Transfer Hose, Check Valve, Exposed Interior Portion of Tanker Valve, Washed & Sanitized After Each Milking**

- Yes     No

Hoses and Fittings of Sanitary Design for Clean in Place, No Barbed Fittings with Hose Clamps.

### PART M – WEIGHING & SAMPLING OF THE MILK

**Performed By a Licensed Weigher & Sampler**

- Yes     No

**Department Approved Facility for Receipt of Direct Shipped Tankers**

- Yes     No

**Milk Agitation Location**

- Tanker     Storage/Silo  
(May Not Be Commingled With Other Milk)

**Method of Milk Agitation**

- Mechanical     Air     Other

**Location of Official Sampling**

- Farm     Dairy Plant

**Type of Official Sampling**

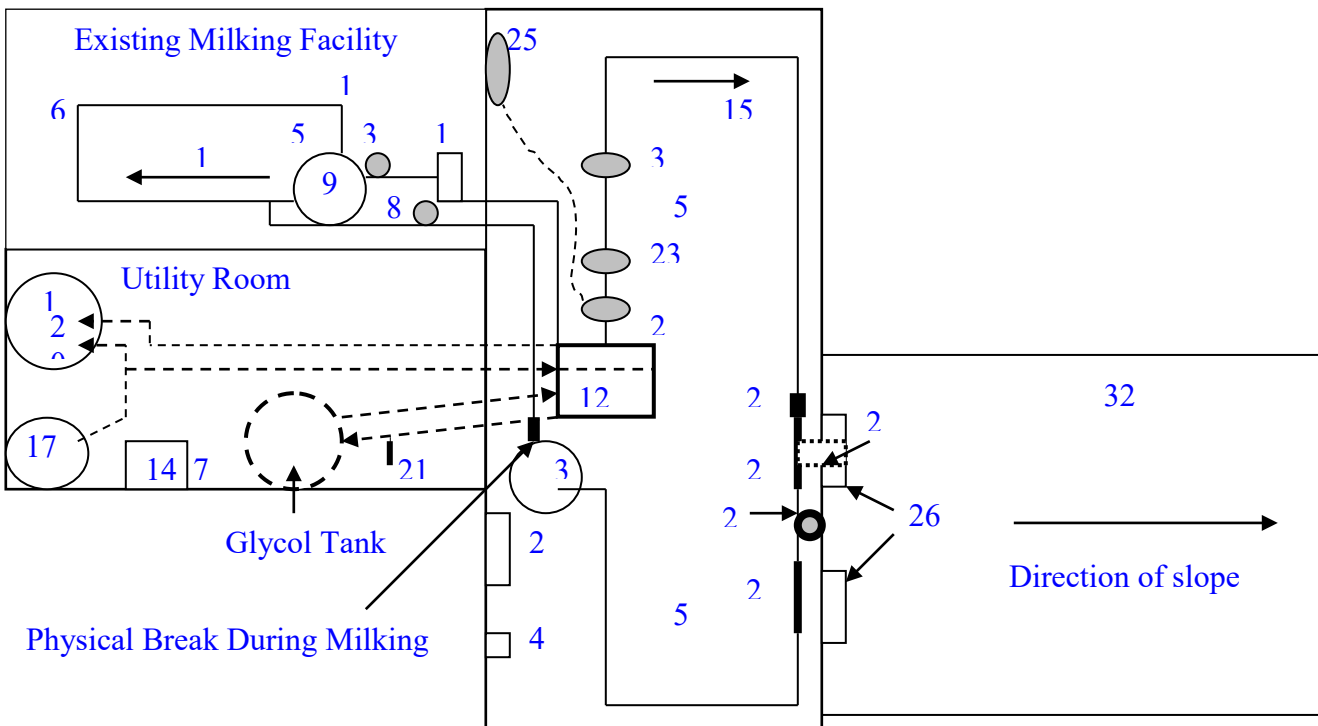
- Tanker     Storage Tank     Drip Sampler

**Length of Agitation Prior To Sampling**

\_\_\_\_\_ MINUTES

Agitation Protocol Established in Compliance with Standard Methods for the Examination of Dairy Products, Section 3.042 B. Test results on file at the receiving Dairy Plant.

Below is an example drawing of a Direct Ship operation added to an existing milking operation.



## Direct Tanker Shipping Requirements

Definition: The only classification for direct shipment of milk is when a tanker is directly attached to the milkhouse. Any time a tanker is located away from the milkhouse it is not a direct ship farm. This includes one-time loading of milk. This type of shipment is a standard farm pick-up with a bulk transport tanker, all sampling is done on the farm from a bulk tank by a licensed BMWS. Refer to ATCP 65.16 for additional bulk tank transport container requirements.

### Plan Review

- 1) Facility and equipment comply with ATCP 65, 3A Standards, and this policy.
- 2) Submit the following forms to the Department **prior** to installation or modification:
  - Application for Milk Handling Equipment and Facility Installation (F-Fd-31)
  - Supplemental Application for Direct Tanker Milking Operations (F-Fd-258)

### Construction

- 1) Tanker shall be parked on a pad of concrete or equally impervious material.
- 2) Parking surface shall extend from the milkhouse and under the front feet of the tanker.
- 3) Parking surface shall be sloped to drain and kept clean.
- 4) All permanent pipelines end in the milkhouse.
- 5) A protected opening (dock seal) into the milkhouse shall be provided or an enclosed intake meeting milkhouse requirements.
  - Provide a tight-fitting dock seal connection to prevent the entrance of insects and other pests. Dock seal shall be constructed of non-absorbent washable material and be properly sized to facilitate access to the tanker outlet valve.

### Tankers

- 1) Shall meet 3A Standards for construction and are permitted (as applicable).
  - Air or mechanical agitation modifications to the tanker must meet sanitary standards.
  - Tanker exterior modifications to fit the dock seal must meet sanitary standards.
- 2) Outlet valve is close coupled and protected with an effective dust cover or be located within a pump/hose cabinet.
- 3) Have an access port that can be sealed. Access ports are sealed by the dairy plant after washing and shall remain sealed until received at the plant for sampling and unloading.

### Cooling

- 1) Meets cooling requirements listed in ATCP 65.18(4) and 3A Standards.
- 2) Cool all milk to 45°F or lower before the milk enters the tanker.
- 3) Install an appropriate recording thermometer.
  - Plate or tube heat exchanger: recording thermometer probe shall be mounted in a well in the milkline downstream of the heat exchanger.
  - Bulk tank: recording thermometer probe may be mounted in the bulk tank.

- 4) Recirculating water system 65.10(6). Originates from a safe source that meets microbiological standards, is protected from contamination, the coolant is non-toxic or pharmaceutical grade propylene glycol meeting 21 CFR 184.1666, and does not contain coliform bacteria.
- 5) Field Rep tests cooling media for coliform bacteria every six months and test results are available for inspection.
- 6) Bulk milk cooling device and transport hose shall be cleaned between milkings or at least once every 24 hours if continuously milking.

#### Indicating Thermometer

- 1) Installed as close as possible to the temperature recording device, to verify recording temperatures.
- 2) Installed in a sanitary manner, no threads in contact with milk.
- 3) A digital display of the chart recorder or other similarly accurate temperature device is acceptable for conducting this accuracy verification.
- 4) Thermometers must be verified for accuracy within  $\pm 2^{\circ}\text{F}$  every six months by the dairy plant field representative and properly documented in a log or on the chart.

#### Temperature Recording Device

- 1) Comply with ATCP 65.16(3), Wis. Adm. Code and 3A Standards.
- 2) Chart span of not less than  $50^{\circ}\text{F}$ , including normal storage temperature  $\pm 5^{\circ}\text{F}$ .
- 3) Chart graduated in not more than  $2^{\circ}\text{F}$  divisions, spaced not less than 1 mm apart at temperatures below  $100^{\circ}\text{F}$ .
- 4) Charts shall be capable of recording temperatures up to  $180^{\circ}\text{F}$ .
- 5) Charts have at least one time span division per hour.
- 6) Chart makes one revolution in not more than 7 days, graduated for a max. record of 7 days.
- 7) Strip charts move not less than 1 inch per hour and may be used continuously for 1 month.

#### Electronic Records

- Shall have easily understood temperature graduations and time span identification, electronic records are maintained for at least 6 months and the temperature recording device must be verified for accuracy within  $\pm 2^{\circ}\text{F}$  every six months by the dairy plant field representative and properly documented. A written procedure shall be available for a Division representative to use to properly review the records. The written procedure shall be acceptable to the division and shall meet the requirements of the PMO Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12 and available to a division representative upon request.

#### Farm Procedures

- 1) Unlimited milking periods to fill the tanker.
  - ATCP 82.10 requires that if milk from a grade A/B dairy farm violates an applicable standard under ATCP 65.70 on any single test, milk from that farm shall be collected at least once every 2 days until a subsequent test shows the milk from that farm no longer

violates the standard. FDA recommends that storage of milk in a transport tank on the farm should not exceed 72 hours.

- 2) Hose attachment
  - Milk transfer hose attached within the milkhouse.
  - Sanitary drip pan shall be under the outlet valve to capture spilled milk and sanitizing solutions and drain them back into the milkhouse.
  - Sanitize the tanker outlet valve and hose connections prior to connecting the milk transfer line.
  - Store all pipeline and hose caps in the milkhouse during milking operations.
  - Provide a sanitary and seamless milk transfer hose intended for CIP cleaning (no hose clamps).
  - Transfer hose stored to drain with open ends protected from contamination.
- 3) Point of Sale Ownership Clarification
  - Point of sale takes place when the tanker arrives at the dairy plant.
  - Regardless of point of sale issues, all milk that has confirmed positive for drug residue shall be removed from the human food chain, disposed of and immediately reported to the department. The plant shall maintain a disposal record for each affected tanker. A positive drug residue investigation shall be conducted on all positive loads.

### Weighing and Sampling

#### **Dairy Plant**

- 1) Sampled by a licensed BMWS from a properly agitated tanker located in a suitable facility.
  - BMWS shall collect the sample using a method approved by the department or a sample dipper that is of sanitary design and construction, is clean, and in good repair.
- 2) Sampled by a licensed BMWS from a properly agitated storage tank or silo prior to commingling.
  - Sample via a properly located and approved sampling valve.
- 3) A division approved in-line milk sampling device.
  - Submit a specific protocol for the sampling device to the division for review and acceptance prior to installation.
- 4) Screen all tanker loads for drug residue before unloading or commingling with other milk.
- 5) Record the temperature of each delivery of milk.
- 6) Annotate the weight collection record with the milk delivery temperature.

#### **On the Farm**

- 1) Sampling of tanker by a licensed BMWS from a properly agitated tanker located in a suitable shelter adjacent to, but not inside the milkhouse.
  - Suitable shelter meets milkhouse construction requirements.
- 2) A division approved in-line milk sampling device installed on the milk pipeline system.
  - Acceptable for both drug residue screening and quality tests.
  - Submit a specific protocol for the sampling device to the division for review and acceptance prior to installation. **Note:** The producer may use a sanitary in-line milk sampling device that does not meet the division's acceptance criteria for milk quality sampling to collect a sample for an unofficial drug residue screening. Any **unapproved**

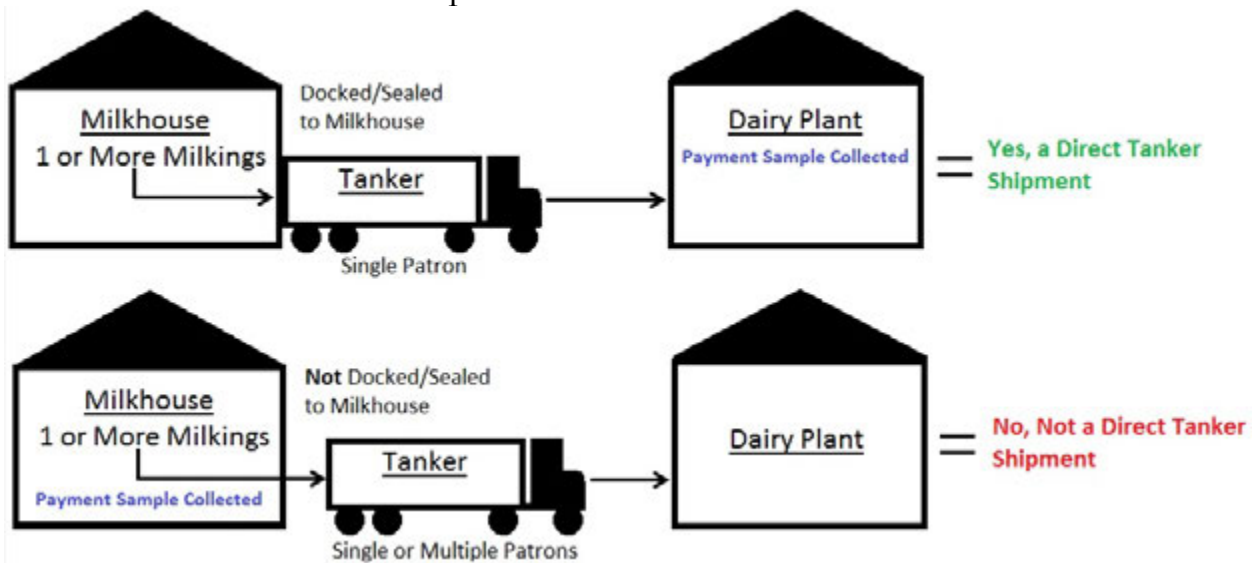
in-line sampling method **is unacceptable** for official drug screening or milk quality testing.

**Agitation Methods**

- 1) Agitation method ensures a homogeneous product.
  - Establish an agitation protocol in compliance with Standard Methods for the Examination of Dairy Products, Section 3.042 B.
  - Receiving facility maintains a copy of agitation protocol and it is available to the department upon request.

**Weighing Methods**

- 1) Establish a weighing method that meets the criteria outlined in ATCP 92, Wis. Adm. Code, (Weights and Measures).
- 2) Return a duplicate copy of the weight collection record to the farm for posting in the milkhouse and available for inspection.





Wisconsin Department of Agriculture,  
 Trade and Consumer Protection  
 Division of Food and Recreational Safety  
 P.O. Box 8911  
 Madison WI 53708-8911

## Supplemental Application for Automatic Milking Installation (AMI)

*Wis. Stats. s.97.22, s. ATCP 65.14(6)*

When submitting the F-fd-31 Milking Equipment Installation Application, please include this form and the four supporting documents listed below:

1. Layout Plan
2. Teat Prep Protocol – FDA Approved
3. Block-Bleed-Block Valve Testing Protocol
4. Abnormal Milk Detection Verification Procedure

PRODUCER NAME:	
CITY, STATE:	DATE:
AMI MANUFACTURER:	NUMBER OF AMIs:

This application allows the filer to explain how the proposed installation complies with Appendix Q of the Grade "A" PMO and current Department rules. Please attach plans showing locations of AMIs, plumbing devices, milk storage, ventilation, lighting and milk handling equipment along with operator and livestock traffic flow. Attach diagrams and testing procedures of all product and CIP isolation valves.

Note: for additional information refer to the Appendix Q of the PMO; the numbering of this application corresponds to Appendix Q. Future modifications to the AMI milking system or the addition of one or more AMIs require resubmission of this application.

Please note any unique items, design functions or procedures used in this installation, such as underground subway, reclaim water system, etc.

<b>ITEM 1. ABNORMAL MILK</b>
Describe the method of separating milk from animals producing milk with abnormalities or animals treated with antibiotics. Refer to Item 14 for proper separation of milking equipment in contact with abnormal or antibiotic treated milk and Items 10 and 11 for cleaning and sanitizing milking equipment following contact with abnormal or antibiotic treated milk. Describe the method(s) of abnormal milk detection and exclusion. Please identify the location of abnormal milk storage, if used.
<b>ITEM 2. MILKING BARN, STABLE OR PARLOR – CLEANLINESS</b>
Provide a wall, floor, ceiling cleaning schedule for the AMI milking room. Describe the method of clean access for inspection and maintenance personnel. If access to the AMI room requires personnel to walk through animal traffic/housing areas, a method to clean footwear shall be provided and described. Explain method(s) provided at the AMI room.



**ITEM 3. MILKING BARN, STABLE OR PARLOR – CLEANLINESS**

Describe the method and frequency for cleaning the AMI milker box and surrounding area.  
Describe the Automatic Cow Platform wash frequency and water source if applicable.

**ITEM 9. UTENSILS AND EQUIPMENT – CONSTRUCTION**

Provide documentation on any prototype equipment used for the AMI. All milking equipment shall meet sanitary construction in respect to fit and finish. Indicate whether any AMI components are manually washed in the AMI milker box.  
Indicate where the in-line milk filter is located.

**ITEMS 10 & 11. UTENSILS AND EQUIPMENT – CLEANING AND SANITIZATION**

Provide the cleaning method for the AMI following abnormal milk detection. Provide the method and cleaning/sanitization frequency of the AMI, main milk lines, supporting equipment (buffer tank, receive-all, etc.) and bulk milk tank.

**ITEM 12. UTENSILS AND EQUIPMENT – STORAGE**

Provide documentation of the AMI positive air ventilation system, to include air source, air filtration (if any) and ventilation system operating criteria. Provide information on the type of flooring used in the cattle staging area, i.e., slotted floor over manure, solid concrete floor. Explain how the milk lines from the AMI to milk storage are supported.

**ITEM 13. MILKING - FLANKS, UDDERS AND TEATS**

Provide documentation of the National Conference on Interstate Milk Shipments (NCIMS) M-I Memorandum of acceptance for the teat prepping system. Describe your after milking Post Dip system if used.  
Describe the AMI flush/rinse cycle of the inflations between the milking of normal cows, if applicable.

**ITEM 14. PROTECTION FROM CONTAMINATION**

Provide information describing the separation between: 1) Cleaning/sanitizing solutions and milk intended for sale, and 2) Milk with abnormalities and milk intended for sale. Provide the valve documentation and testing protocols for all inter-wired block-bleed-block fail-safe valve systems.

**ITEM 18. RAW MILK COOLING**

For AMIs the raw milk must be cooled following current standards. Explain the milk cooling and storage process.

Check applicable equipment used in this system and show location on the plan layout.

- |   |  |   |   |
|---|--|---|---|
| <input type="checkbox"/> Buffer Tank          | <input type="checkbox"/> Single Milk Filter    | <input type="checkbox"/> Bulk Milk Tank(s)            | <input type="checkbox"/> Temperature Recording Device |
| <input type="checkbox"/> Receive-All          | <input type="checkbox"/> Multiple Milk Filters | <input type="checkbox"/> Bulk Milk Tank Load Out Pump |   |
| <input type="checkbox"/> Plate Heat Exchanger | <input type="checkbox"/> CIP Pump              | <input type="checkbox"/> Direct Ship Tanker(s)        |   |



Wisconsin Department of Agriculture, Trade and Consumer Protection  
 Division of Food and Recreational Safety  
 PO Box 8911, Madison, WI 53708-8911  
 Phone: (608) 224-4720 Fax (608) 224-4710

[ATCP 65.14\(5\)\(c\)](#)

## Verification Testing for Automatic Milking Installation Commissioning

**Please type or print.** E-mail completed submission form to:

The assigned **Dairy Technical Specialist** OR E-mail to [DATCPDFSPPlanReview@wisconsin.gov](mailto:DATCPDFSPPlanReview@wisconsin.gov)

PRODUCER NAME:			
DBA/FARM NAME:		<input type="checkbox"/> GRADE A <input type="checkbox"/> GRADE B	
PRODUCER PHYSICAL LOCATION:	CITY:	STATE:	ZIP CODE:
PRODUCER EMAIL:		TELEPHONE: ( ) -	
LEGAL NAME OF INSTALLATION COMPANY:			
INSTALLER MAILING ADDRESS:		CITY:	STATE: ZIP CODE:
LEAD TECHNICIAN NAME and TITLE:	EMAIL:	TELEPHONE: ( ) -	
NAME OF VERIFYING INDIVIDUAL:	DATE OF VERIFICATION TESTING:	<input type="checkbox"/> NEW INSTALLATION <input type="checkbox"/> MODIFICATION	
AMI MANUFACTURER:	NUMBER OF UNITS:		
<b>Submission Requirements:</b> Pursuant to <a href="#">Wis. Admin. Code § ATCP 65.14(5)c</a> , and the 2019 PMO, Appendix H, this form documents verification of the computerized programming controls as performed by the installer or the AMI Manufacturer.			Checklist
The fail-safe valve system(s) provides separation between cleaning/sanitizing solutions and milk intended for sale, and thus functions as specified by the manufacturer's test procedure.			<input type="checkbox"/>
The fail-safe valve system(s) provides separation between milk with abnormalities and milk intended for sale, and milk quality sampling devices are properly separated as specified in the manufacturer's test procedure.			<input type="checkbox"/>
The fail-safe valve system(s) properly detects and diverts abnormal milk and cleans and sanitizes milk contact surfaces as specified in the manufacturer's test procedures.			<input type="checkbox"/>
The teat prep process is applied in accordance with the FDA approved teat prep protocol.			<input type="checkbox"/>
Copies of the following documents are present on the farm for regulatory review:			<input type="checkbox"/>
• Fail-safe valve system valve testing protocol			<input type="checkbox"/>
• Teat Prep Protocol			<input type="checkbox"/>
• Abnormal Milk Detection Verification Procedures			<input type="checkbox"/>
• Copies of the most recent verification testing with installer technician signature (a copy of this signed document).			<input type="checkbox"/>
• Written procedure for verifying the effectiveness of the computer software and hardware.			<input type="checkbox"/>
Disclosure: With this submission, I certify completion of the verification procedures listed above. I certify that the information is accurate and fully represents the verification testing outcome of this AMI installation.			
SIGNATURE:			DATE:
This section is for WDATCP use only.			
INITIALS OF DAIRY TECHNICAL SPECIALIST:	DATE:	TYPE OF REVIEW COMPLETED: <input type="checkbox"/> DESK REVIEW <input type="checkbox"/> ONSITE REVIEW	ACCEPTED RESULTS: <input type="checkbox"/> YES <input type="checkbox"/> NO



DRY-GUD-002	Program: Dairy
Revision: 1.0	Document Name: Industry AMI Verification
Approved: 09Apr2021	Wisc. Stat. and/or Wis. Admin. Code: <a href="#">ATCP 65.14(5)(c)</a>

**SUBJECT:** Guidance for use of *F-fd-45*, [Verification Testing for Automatic Milking Installation Commissioning](#)

### Scope

The purpose of this document is to provide guidance to the dairy industry, specifically Automatic Milking Installation (AMI) installers and/or manufacturers working to complete the DATCP form *F-fd-45*, *Verification Testing for Automatic Milking Installation Commissioning* following the installation and verification testing of an AMI unit(s).

### Definitions

- DATCP – Wisconsin Department of Agriculture, Trade and Consumer Protection
- AMI – Automatic Milking Installation
- DBA – Doing Business As
- DTS – Dairy Technical Specialist
- Lead technician – An employee of the installation company who oversees the equipment design, facility construction/layout and installation of the AMI unit(s).
- Verifying individual – An employee of the installation company who physically conducts the onsite verification testing.

### Guidance

1. Complete the Producer Contact Information portion of the form. This shall include providing all of the following:
  - a. The producer’s first and last name.
  - b. The DBA or Legal name of the producer’s farm/business.
  - c. The physical address of the farm/business location where the AMI unit is installed.
    - This includes the city, state and zip code.
  - d. The current or intended permit or license status of the milk producer – Grade A or Grade B.
  - e. The producer’s email address.
  - f. The producer’s phone number.

2. Complete the Installer’s Contact Information portion of the form. This shall include providing all of the following:
  - a. The legal name of the company installing the AMI unit(s).
  - b. The installer’s mailing address.
    - This includes city, state and zip code.
  - c. The lead technician’s first and last name who is overseeing the AMI installation.
    - Include lead technician’s position title (ex. Lead Supervisor, Foreman, Lead Engineer).
  - d. The lead technician’s email address.
  - e. The lead technician’s phone number.
  
3. Complete the remaining portion of the form which details information specific to the AMI unit(s) and the verification activities. This shall include providing all of the following:
  - a. The first and last name of the individual conducting the verification testing activity.
  - b. The date(s) the verification testing was completed.
  - c. Identifying the type of work completed, new installation or a modification to a unit(s) currently in service. For a retrofit of a used AMI unit(s) please indicate new installation.
  - d. The name of the AMI unit(s) manufacturer.
  - e. The number of AMI unit(s) being installed at this farm.
  - f. Within the remaining checklist (10 items) you will find a statement with a correlating checkbox.
    - If a box is checked, this indicates that the correlating statement is true.  
Example 1 – If the testing of the fail-safe valve system (block-bleed-block valves) provides separation between cleaning/sanitizing solution and milk according to the manufacturer’s procedures, the correlating box shall be checked.
    - Example 2 – If the box is not checked, this indicates the correlating statement is not true or that it was not completed. This results in the assigned DTS marking the “Accepted Results” box as  NO and the producer would not be allowed to begin or continue production.
  
4. Once all of the necessary information has been provided in the sections described above, the form is signed and dated by the individual taking responsibility for the accuracy of the verification testing in conformance with the manufacturer’s testing procedures. An electronic signature is sufficient.
  
5. Email the completed form to [DATCPDFSPanReview@wisconsin.gov](mailto:DATCPDFSPanReview@wisconsin.gov).

## Contacts

- Dairy Technical Specialist Team
  - [DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov)

- DATCP Dairy Services Office – Eau Claire, WI
  - [DATCPdairy@wisconsin.gov](mailto:DATCPdairy@wisconsin.gov)

**References**

- ATCP 65.14(6)a-c– Review of Plans – language specific to the necessity for farm plan reviews and the responsibility of the department to respond.
- ATCP 65.14(5)(c)1-6 – Milking Equipment – language specific to the installation of AMI units.

**Document History**

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Dairy Program Staff	New Document.	09Apr2021

**Approval**

4/8/2021 12:51 PM	Task Completed	<input type="checkbox"/> Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments:	Approved by Stoner, Steve K
4/8/2021 12:51 PM	Task Created	<input type="checkbox"/> Koss, Rebekah R	Task created for Anderson, Timothy P. Due by: 4/9/2021 12:00:00 AM	
4/8/2021 1:23 PM	Task Completed	<input type="checkbox"/> Anderson, Timothy P	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
4/8/2021 1:23 PM	Task Created	<input type="checkbox"/> Koss, Rebekah R	Task created for Sprecker, Troy S. Due by: 4/9/2021 12:00:00 AM	
4/9/2021 10:52 AM	Task Completed	<input type="checkbox"/> Sprecker, Troy S	Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments: please just use DATCP vs. WDATCP.	Approved by Sprecker, Troy S



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# Application for Approval of the Installation of an Aseptic In-line Milk Sampler

(Wis. Admin. Code § ATCP 82.12)

**Mail To:** WDATCP 718 W Clairemont Ave, Ste 128, Eau Claire, WI 54701

**Email To:** [datcpdfsplanreview@wisconsin.gov](mailto:datcpdfsplanreview@wisconsin.gov)

**Wis. Admin. Code § ATCP 82.12** requires department approval for alternative bulk milk sampling procedures.

Submit this application whenever an in-line sampler is used to sample milk for regulatory purposes under [ATCP 65 Subchapter V – Safety and Quality Standards](#).

**Milk producers** shall submit this form in conjunction with the “Application for Milk Handling Equipment and Facility Construction” (F-fd-31) and/or “Supplemental Application for Direct Tanker Milking Operations” (F-fd-258). These applications can be found on the Milk Producer Resources page at [datcp.wi.gov](http://datcp.wi.gov). Coordinate the completion of this form among the sampling equipment manufacturer, installer, milk hauler, and dairy plant to ensure complete and accurate information is provided.

- Refer to [M-I-06-6 “Application and Standard Operating Procedures \(SOPs\) For the Installation and Use of Approved In-Line Samplers \(ISO-LOK, Anderson Instruments and QMI\) for the Collection of Dairy Farm Samples from Direct Load Tankers”](https://gams.fda.gov/active/M-I-06-6_FINAL.pdf) ([https://gams.fda.gov/active/M-I-06-6\\_FINAL.pdf](https://gams.fda.gov/active/M-I-06-6_FINAL.pdf)) for guidance.

**Dairy plant operators** shall submit this form in coordination with the sampling equipment manufacturer to ensure complete and accurate information is provided.

- Only plans that are complete and legible will be reviewed.
- The review of your plan and/or application is based on Wisconsin regulations and standards in effect at this time.
- Modification of this installation may be required at some future date as regulations and standards are updated.
- The equipment construction, maintenance and cleaning of the in-line sampler, and in-line sampler usage must meet the requirements of [ATCP 65.12](#).

PRODUCER INFORMATION (when applicable) – Please Print Clearly			
PRODUCER NAME		PHONE (   )   -	
MAILING ADDRESS STREET	CITY	STATE	ZIP
PRODUCER EMAIL			
PRODUCER SIGNATURE		DATE	
DAIRY PLANT INFORMATION – Please Print Clearly			
DAIRY PLANT		DAIRY PLANT NUMBER -	
MAILING ADDRESS STREET	CITY	STATE	ZIP
DAIRY PLANT (Point of Contact)		EMAIL	
SIGNATURE		DATE	
IN-LINE SAMPLER MANUFACTURER			
<input type="checkbox"/> Iso-Lok	<input type="checkbox"/> QMI (QualiTru)		
<input type="checkbox"/> Anderson	<input type="checkbox"/> Other: ( <b>Note:</b> Requires coordination with FDA)		

CONTINUE ON REVERSE SIDE

GENERAL REQUIREMENTS	
Size of Milk Tanker:	Pounds of Milk/Day Direct Loaded:
Time to Fill Tanker:	Number of Milkings to Fill the Tanker:
Sampling Rate:      mL/100 lbs. <b>or</b> mL/10 gal <b>or</b> oz. /100 lbs. <b>or</b> oz. /10 gal.	
Flow Rate:      lbs./hour <b>or</b> gal/hour	
Sample End Volume Desired: <input type="checkbox"/> mL <b>or</b> <input type="checkbox"/> gal	
Sample Container Manufacturer:	
Sample Container Model number:	
Material Type:	Sample Container Size: <input type="checkbox"/> mL <input type="checkbox"/> oz. <b>or</b> <input type="checkbox"/> gal
<b>QMI Only</b> Needle Size:      Gauge	RPM of Sampling Pump

SAMPLER SYSTEM DESIGN	
Sampler Location:	
Sample Collection Location:	
Refrigerator(s):	
Sample Collection:	Type:      Make      Size (cu. ft.):
Sample Storage:	Type:      Make      Size (cu. ft.):
Refrigerator Adequate Size to Maintain Sample(s) at Correct Temperature: <input type="checkbox"/> YES <input type="checkbox"/> NO	
Thermometers calibrated and tagged <input type="checkbox"/> YES <input type="checkbox"/> NO	
Location of the temperature devices:	
Temperature the refrigerator is maintained at:      —	
Refrigerator only used to store milk, media & reagents: <input type="checkbox"/> YES <input type="checkbox"/> NO	

**NOTE:** Refrigerator, monitoring, upkeep and operation records shall be retained for six (6) months. Refrigerator cannot store food or drink. The temperature of the refrigerator must be recorded daily in the AM and PM from two temperature measuring devices with bulbs or sensor/probe immersed in liquid in sealed containers. Thermometers must be calibrated annually and tagged.

SYSTEM OPERATION	
List the Bulk Milk Weigher and Samplers (BMWS) Trained to Operate the In-line Sampler:	
BMWS Name	BMWS License #
SOP for the In-Line Sampler Being Used on File at the Facility: <input type="checkbox"/> YES <input type="checkbox"/> NO	
SOP for the In-Line Sampler Provided with Application <input type="checkbox"/> YES <i>(Review cannot be completed without the SOP)</i>	





Wisconsin Department of Agriculture,  
Trade and Consumer Protection  
Division of Food and Recreational Safety  
P.O. Box 8911  
Madison WI 53708-8911

## Bulk Tank Installation Requirements

### **ATCP 65.14 Milking and milk handling systems**

- (6) Review of Plans
- (a) Before installing, reconstructing or extensively altering a bulk tank, milking system, milk handling system, milk house, milking parlor, or dairy farm water supply system, the installer shall on behalf of the milk producer submit plans to the department for review. The department may charge a fee under s. 93.06 (1w), Stats., to cover its cost of providing the review service. The department shall return the plans together with any comments or objectives within 14 days after the plans are received by the department. No review is required for a portable transfer receptacle or its appurtenances.
  - (b) No manufacturer or distributor of milking or milk handling systems may sell, or distribute for sale in this state, any portion of a milking or milk handling system unless specifications or prototype equipment are first reviewed by the department. Within 30 days after specifications or prototype equipment are received by the department, the department shall return them with any comments or objections. The department may require field testing of the equipment prior to sale if the department finds that field testing is necessary to determine whether the requirements of this section are met. Field testing shall be conducted under conditions prescribed by the department.
  - (c) Plans and specifications submitted under this subsection shall be sufficiently detailed to permit reasonable review by the department within the time periods specified under this subsection.
- (7) Certification of Compliance by Installer. A person who installs, reconstructs or extensively alters a bulk tank, milking system, milk handling system, milk house, milking parlor, or dairy farm water supply system shall certify to the owner of the system that the system has been installed or modified in compliance with this section, and in compliance with the plans filed with the department under sub. (6)(a). The installer, immediately after installing or modifying the systems, shall provide to the milk producer and the department a signed written statement certifying compliance. The milk producer shall post a copy of the certificate in the milk house for at least 12 months.

### **ATCP 65.16 Bulk tanks and bulk transport containers.**

- (1) Bulk Tank Location. If a bulk tank is used to receive, cool or store milk on a dairy farm, the bulk tank shall be installed in the milkhouse. A bulk tank may be installed so that a portion of the bulk tank protrudes through the wall of a milkhouse, provided that all bulk tank openings are located inside the milkhouse. Agitator seals, other than weatherproof agitator seals approved in writing by the department, shall be located inside the milkhouse. Adequate clearance shall be maintained on the top and all sides of a bulk tank to permit effective cleaning, sanitizing and maintenance of the bulk tank. No bulk tank opening may be located directly under a ventilator. No bulk tank may be located directly over a floor drain.

Note: Clearance of at least 24 inches on the top and the milk outlet side of the bulk tank, and 18 inches on all other sides of the bulk tank, are adequate to comply with this subsection. No clearance is required for that portion of a bulk tank which protrudes through the wall of a milkhouse.

(2) Bulk Tank Construction.

- (a) The lining and milk contact surfaces of a bulk tank shall be constructed of stainless steel or other materials which are equally smooth, nontoxic, stable, non-absorbent, corrosion resistant, and capable of withstanding cleaning and sanitizing treatment. Milk contact surfaces shall be readily accessible for inspection.
- (b) A bulk tank shall be self-draining. Openings shall be equipped with self-draining covers. Opening and covers shall be constructed and installed to prevent drainage into milk, or onto milk contact surfaces.
- (c) A bulk tank shall be equipped with all of the following:
  - 1. An indicating thermometer that has a range of at least 32°F to 80°F.
  - 2. A temperature recording device approved by the division, if the bulk tank is manufactured after January 1, 2000. The temperature recording device shall comply with sub. (2m).
- (d) A bulk tank with a capacity of less than 1,500 gallons shall be equipped with a mechanical agitator which will ensure homogeneity of all milk contained in the bulk tank within 5 minutes after the agitator begins operating. A bulk tank with a capacity of 1,500 gallons or more shall be equipped with an agitator which will ensure homogeneity of all milk contained in the bulk tank within 10 minutes after the agitator begins operating.
- (e) A C-I-P bulk tank shall be designed and constructed so that cleaning, rinsing, and sanitizing solutions cannot enter the bulk tank while it contains milk.

**Note:** Bulk tanks manufactured in compliance with the "3-A Sanitary Standards for Farm Milk Cooling and Holding Tanks" meet the sanitary design and construction requirements of this subsection. The "3-A Standards" are published by 3-A Sanitary Standards, Inc., 6888 Elm Street, Suite 2D, McLean, VA 22101-3850, telephone (703) 790-0295, website [www.3-a.org](http://www.3-a.org). Copies of the "3-A Standards" as amended effective July 23, 2012, are on file with the division and the legislative reference bureau. Copies may be obtained from "3-A Sanitary Standards, Inc., Online Store," at <http://www.techstreet.com>.

(3) Bulk Tank Temperature Recording Device.

All of the following requirements apply to a temperature recording device under sub. (2) (c) 2.:

- (a) The temperature recording device shall be capable of accurately recording temperatures between 40°F (4° C.) and 180°F (82° C.).
- (b) A temperature recording chart on which the temperature recording device records milk temperatures shall have graduations of not more than 2° F. (1° C.) at temperatures below 100° F. (38° C.) and shall have at least one time span division per hour. The circular chart shall make one revolution in not more than 7 days and shall be graduated for a maximum record of 7 days.
- (c) The milk producer shall retain milk temperature records for at least 6 months after the temperature recording device makes those records. Milk temperature records shall identify the milk producer, the date or dates to which the records pertain, the bulk tank to which the

records pertain if there is more than one bulk tank on the dairy farm, the signature of the person who removed the temperature records from the temperature recording device, and any unusual occurrences related to milk temperature.

(e) A milk producer keeping electronic records in conformance with par. (b), (c) and (d) shall develop a written procedure for a division representative to use to review the records. The written procedure shall be acceptable to the division and made available to a division representative upon request.

(4) Bulk Tank Cooling Capacity. A bulk milk tank shall be capable of cooling all milk placed in the tank to 50°F. (10°C.) or less within 4 hours after the start of the first milking, and to 45°F. (7°C) or less within 2 hours after the end of milking. The temperature of the blended milk from the first milking and later milkings shall not exceed 50°F. (10°C.).



DRY-IMO-002	Dairy
Revision: 2.0	Single Farm Pick-Up
Approved: 06Jul2021	Wis. Admin. Code(s) § ATCP 65 and ATCP 82

**TO:** Dairy Services Section Staff

**FROM:** Administrative Manager, Bureau of Food and Recreational Businesses

**SUBJECT:** Single Farm Pick-up

### 1.0 Purpose

This Interpretive Memo addresses a recent industry practice of storing milk in silos, large bulk tanks or multiple bulk tanks and loading the milk onto bulk milk tankers without following existing measurement and sampling procedures, and performing milk measurement and sampling upon receipt at a dairy plant. These practices are not currently permitted in Wisconsin Administrative Code chapters ATCP 65 and ATCP 82, not because they are inaccurate or inappropriate, but because they were not envisioned at the time these rules were written.

### 2.0 Scope

This memo is written in order to ensure that regulatory enforcement does not hinder growth and efficiency gains in Wisconsin's dairy industry, while still ensuring public health and the provision of accurate information for determining milk payments. Current rules were written assuming milk was stored on-farm in refrigerated bulk tanks or directly transferred from the milking system into a bulk milk tanker or other bulk transport container. This memo allows the transfer of milk from an on-farm silo or large bulk tank onto a bulk milk tanker. This memo recognizes that this system does not meet all the design, installation or operation criteria under ATCP 65.16 Wis. Adm. Code for bulk tanks and/or milking directly to a bulk transport container.

### 3.0 Definitions

- 3.1 "Single-farm milk pick-up" is defined as the one-time transfer of properly cooled milk originating from a single licensed milk producer's milking animals and stored in a bulk milk tank or silo, to a bulk milk tanker owned and/or operated by the same licensed milk producer or owned and/or operated by the producer's dairy plant or milk contractor, and the immediately transportation of that milk to the receiving dairy plant.

#### 4.0 Interpretation

- 4.1 To accommodate evolving industry practices the Department proposes guidelines for “single-farm milk pick-up.” These guidelines are based on the intent of the existing rules and will be considered for formal adoption the next time the Department undertakes rule revision. Other methods that comply with current regulatory requirements are not prohibited under this interpretive memo.
- 4.2 The bulk tank (silo) used for single-farm milk pick-up shall meet the following requirements:
- 4.2.1 All bulk tank (silo) openings shall be located within the milkhouse.
  - 4.2.2 The bulk tank (silo) shall be provided with the following:
    - 4.2.2.1 An indicating thermometer with a range of at least 32° F. to 80° F.
    - 4.2.2.2 A temperature recording device meeting the requirements of ATCP 65.16(3), Wis. Adm. Code installed in the bulk tank (silo).
  - 4.2.3 All milk, vacuum and CIP lines associated with the bulk tank (silo) located outside the milkhouse shall be welded (no clamp fittings).
  - 4.2.4 All agitators located outside of the milkhouse shall be approved by the Division under ATCP 65.16(1) Wis. Adm. Code.
  - 4.2.5 Milk shall be cooled to 45°F or less before entering the bulk tank (silo) or the bulk tank (silo) shall be capable of meeting the cooling requirements of ATCP 65.16(4), Wis. Adm. Code.
    - 4.2.5.1 The milk producer may use a plate cooler, tube cooler or bulk tank to cool the milk.
      - 4.2.5.1.1 Coolant used in cooling devices shall comply with the requirements of s. ATCP 65.10 (6), Wis. Adm. Code.
      - 4.2.5.1.2 If a bulk tank is used for cooling, then the bulk tank shall be cleaned every 24 hours.
    - 4.2.5.2 When the silo is used for the final cooling of milk, documentation from the silo manufacturer indicating adequate milk cooling capacity shall be available on the farm to DATCP personnel at the time of inspection.
- 4.3 The bulk milk tanker shall be parked such that the distance between the back of the tanker and the milkhouse is minimized.
- 4.4 A bulk tank hose port and a 4ft. x 4ft. paved surface shall be provided that meet the requirements of ATCP 65.08(3)(i), Wis. Adm. Code.
- 4.5 The bulk milk tanker shall be parked such that the distance between the back of the tanker and the milkhouse is minimized.
- 4.6 The milk hose connection for milk pick-up shall adhere to the requirements of ATCP 82.10(7), Wis. Adm. Code.
- 4.7 Partial removal of milk from the bulk tank (silo) during a single farm pick-up shall meet the requirements of both ATCP 82.10(11)(am), Wis. Adm. Code and the agitation requirements of ATCP 65.16(2)(d), Wis. Adm. Code.
- 4.7.1 Agitation method and duration shall meet the specifications as determined by the tank (silo) manufacturer.

- 4.8 Milk obtained in a single farm pick-up shall not be commingled with any other load prior to delivery to the dairy plant.
- 4.9 The dairy plant operator who receives a single-farm milk pick-up shipment shall do all of the following before unloading any milk from the bulk milk tanker or commingling it with milk from another milk producer:
- 4.9.1 Weigh the bulk milk shipment using a weighing method that meets the criteria outlined in ATCP 92, Wis. Adm. Code, (Weights and Measures).
    - 4.9.1.1 The dairy plant and milk producer shall designate the location of where the milk will be weighed for payment purposes.
  - 4.9.2 Return a duplicate copy of the weight collection record annotated with the weight and the milk delivery temperature to the farm for posting in the milkhouse and available for inspection.
  - 4.9.3 Sample the milk shipment according to ATCP 82.12(2m), Wis. Adm. Code. The sampling may only be done by a person, licensed as a Bulk Milk Weigher and Sampler under s. 97.17 or 98.146, Wisconsin Statutes.
  - 4.9.4 Test the bulk shipment for drug residues according to ATCP 65.72, Wis. Adm. Code.
- 4.10 The bulk milk tanker shall be cleaned and sanitized in accordance with ATCP 82.08 Wis. Adm. Code.

## 5.0 Contacts

DATCP Dairy Technical Specialists: [DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov).

## 6.0 References

- 6.1 Wis. Admin. Code § ATCP 65
- 6.2 Wis. Admin. Code § ATCP 82
- 6.3 Wis. Admin. Code § ATCP 92 (Weights and Measures)

### 7.0 Document History

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
2.0	S. Stoner	Updated to amend cooling and pick-up practices and to correct formatting errors.	06Jul2021
1.1	Dairy Program Staff	Corrected document designation and included reference to related PIN.	31Mar2021
1.0	Dairy Program Staff	New Document.	25Feb2021

### 8.0 Approval

6/29/2021 10:19 AM	Task Completed	<input type="checkbox"/> Anderson, Timothy P	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
6/29/2021 10:22 AM	Task Completed	<input type="checkbox"/> Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved	Approved by Stoner, Steve K
6/29/2021 1:50 PM	Task Completed	<input type="checkbox"/> Sprecker, Troy S	Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments:	Approved by Sprecker, Troy S
7/6/2021 12:35 PM	Task Completed	<input type="checkbox"/> Millard, Amy M	Task assigned to Millard, Amy M was approved by Millard, Amy M. Comments: Reviewed and no edits. Thanks	Approved by Millard, Amy M
7/6/2021 4:18 PM	Task Completed	<input type="checkbox"/> Ingham, Steve C	Task assigned to Ingham, Steve C was approved by Ingham, Steve C. Comments: Made some minor edits and saved file. Approve	Approved by Ingham, Steve C



Wisconsin Department of Agriculture,  
Trade and Consumer Protection  
Division of Food and Recreational Safety  
P.O. Box 8911  
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## **DAIRY FARM PRE-COOLER REQUIREMENTS**

### **ALL PRE-COOLERS-GENERAL REQUIREMENTS**

1. A plan shall be submitted to and reviewed before installing a pre-cooler.
2. The installation shall comply with 3-A 606-05 and Ch. ATCP 65 Wisconsin Administrative Code.
3. Pre-coolers shall drain completely; provide automatic drains where needed. Multiple pass coolers shall be designed to allow drainage of all the passes that can trap water.
4. Make pre-coolers easy to access for inspection and cleaning. Provide any tools needed for disassembly near the cooler.
5. Single use cooling water sources shall comply with ATCP 65.10 Wis. Adm. Code.
6. Recirculated coolant shall be tested and found safe every 6 months.
7. Glycol coolant shall be food or pharmaceutical grade.
8. Recirculated coolant systems shall protect the coolant from contamination.
9. Provide a sampling valve on recirculated cooling systems.
10. Provide a drip deflector on the swing pipe if it fills through the top of the bulk tank.
11. Locate pre-coolers in a proper area, not in milking barns or animal housing areas. Acceptable locations include the milkhouse, milking parlor, or a mini-milkhouse. Installation in a utility room may be accepted if the utility room meets the mini-milkhouse construction requirements (see *Wisconsin Requirements for Mini-Milkhouse/Pumphouse F-fd-35*).
12. For plumbing requirements, see next page.

### **PLATE PRE-COOLERS-ADDITIONAL REQUIREMENTS**

1. Plate pre-coolers shall comply with 3-A Standard 11-09.
2. Plate pre-coolers installed after November 1990 are required to have end plate bolt cutouts.
3. Mount plate pre-coolers a sufficient distance from the wall with unobstructed access to the moveable end plate.
4. Provide easy to disassemble connections on the end plates.
5. Plate pre-coolers shall allow opening to the width of one plate or 15 inches, whichever is less.
6. Ceiling mounted units shall be easy to take down for inspection.
7. Provide a milk filter between the receiver jar and pre-cooler. Change filters prior to milking and prior to CIP.
8. For plumbing requirements, see next page.

### **TUBE IN SHELL COOLERS- ADDITIONAL REQUIREMENTS**

Tube in shell pre-coolers shall comply with 3-A Standard 12-07.  
For plumbing requirements, see next page.

### **CUBE TYPE COOLERS AND RECEIVER JAR COOLERS - ADDITIONAL REQUIREMENTS**

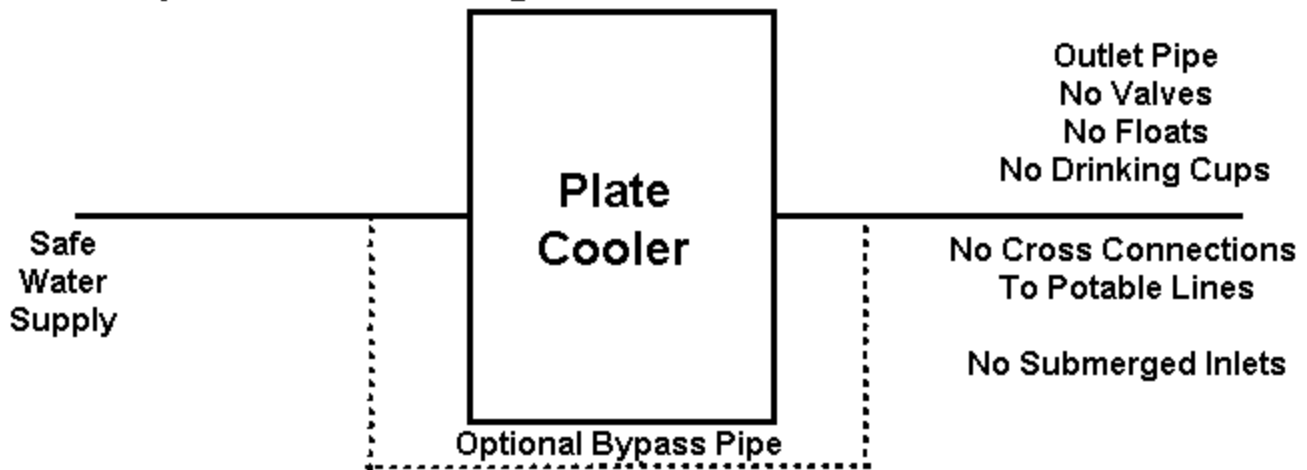
For plumbing requirements, see next page.



### PLUMBING REQUIREMENTS FOR ALL PRE-COOLERS

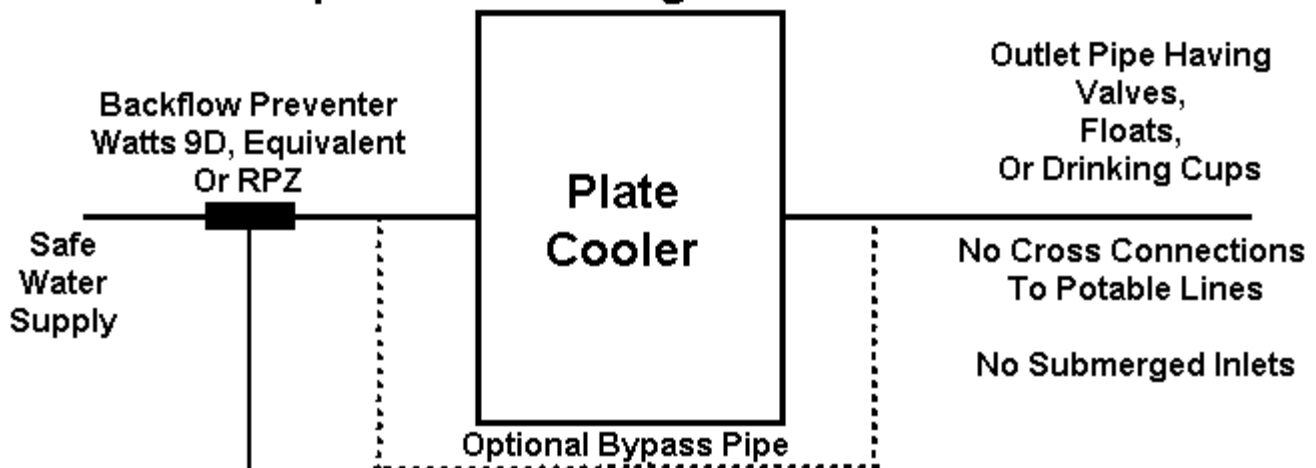
1. If there are no valves in the discharge line from the pre-cooler, back flow prevention is not required.
2. If there is a valve in the line downstream from the pre-cooler, back flow prevention is required on the water supply line.
3. The pre-cooler discharge line shall have no submerged inlets or cross connections to other water lines, regardless of any back flow prevention in the water supply line.
4. If the pre-cooler discharge has submerged inlets, backflow prevention is required on both the water supply line and the discharge line

### Acceptable Plumbing-Outlet Line Not Under Pressure



Note: Valves may be located in the water supply and bypass lines

### Acceptable Plumbing-Outlet Pressurized



Note: Valves may be located in the water supply and bypass lines

## **WATER RECLAIMED FROM HEAT EXCHANGER PROCESSES**

Potable water utilized for heat exchange purposes in plate or other type heat exchangers or compressors on dairy farms may be salvaged for the milking operation if the following criteria are met. **Note:** Reclaimed water for milking operations is defined as any equipment or personnel cleaning operations, hot water production, CIP make-up, or any water use that may contact milking equipment. Submit a plan to Department for review prior installing a reclaimed water system.

- 1) The water shall be stored in a storage vessel properly constructed of such material that it will not contaminate the water supply and be designed to protect the water supply from possible contamination.
  - Acceptable materials include those normally found in water distribution systems that also allow the system to be effectively cleaned if contamination of the system occurs.
  - Protection of the water supply in the tank includes the use of tight fitting or overlapping covers, placement of the tank in an environment that will not affect the integrity of the tank and protects the water supply from any potential source of contamination.
  - The storage vessel shall be equipped with a drain and access point to allow for cleaning.
- 2) The outlet of the plate cooler is properly isolated from the storage tank and must not reconnect with the potable water distribution system.
- 3) No cross-connection shall exist between this supply and any unsafe or questionable water supply or any other source of contamination.
- 4) There are no submerged inlets through which this supply may be contaminated.
- 5) The water shall be of satisfactory organoleptic quality and shall have no off flavors or odors.
- 6) The water shall be bacteriologically safe per NR 809.30. Test results shall be kept at the farm for review.
  - The dairy plant operator shall collect and analyze the reclaimed water system prior to initial approval and semi-annually thereafter. See below for the testing criteria.
- 7) Approved chemicals, such as chlorine, with a suitable retention period, may be used to suppress the development of bacterial growth and prevent the development of tastes and odors.
  - When chemicals are added, a monitoring program for the added chemicals shall be maintained.
  - Additionally, the chemical addition process shall not add substances that will prove deleterious to the use of the water or contribute to product contamination.
- 8) If the water is to be used for the sanitizing of teats, equipment, utensils, or backflush systems, approved sanitizers shall be used. Approved sanitizers may be added by an automatic proportioning device located downstream from the storage vessel but prior to end-use application.
  - Suitable backflow protection is required prior to the addition of chemical.

**OR**

Water obtained directly from the discharge of a raw milk heat exchanger during a milking may be used once to pre-rinse dairy equipment including lines, milking claw assemblies and milk receivers if all the following apply.

- Collect the water directly from the plate heat exchanger into the wash vat or utensil sink.
- There is no submerged inlet between the plate heat exchanger discharge and the wash vat or utensil sink
- Discharge the pre-rinse water to waste immediately following use.

## **WATER RECLAIMED FROM HEAT EXCHANGER PROCESSES** **FOR NON-POTABLE USE**

Water may be reclaimed from plate heat exchangers on dairy farms and used for parlor floor wash down, manure pan flushing, holding area flushing, cattle watering and other non-potable uses without further testing. The outlet of the heat exchanger must be protected from backflow and must not reconnect with the potable water distribution system.

## **Bacteriological Standards for Private Water Supplies, Recirculated Water, and Reclaimed Water**

**Application:** To private water, recirculated cooling water, reclaimed water in dairy farms.

**Frequency:** Initially, after repair, modification or disinfection of a private water supply of dairy farms and every 2 years thereafter; and initially, following repair, modification or disinfection of recirculated cooling water and reclaimed water on dairy farms and semiannually thereafter.

**Criteria:**

- A MPN (Most Probable Number of coliform organisms) of less than 1.1 per 100 ml, when ten replicate tubes containing 10 ml, or when five replicate tubes containing 20 ml, are tested using the multiple tube fermentation technique.

OR

- A MPN (Most Probable Number of coliform organisms) of less than 1 per 100 ml by the membrane filter technique,

OR

- A MPN (Most Probable Number of coliform organisms) of less than 1.1 per 100 ml when using a MMO-MUG technique. Note: The MMO-MUG technique is not acceptable for recirculated cooling water).

**Apparatus, Method, and Procedure:** Tests performed shall conform to the current edition of Standard Methods for the Examination of Water and Wastewater or with FDA approved, EPA promulgated methods for the examination of water and wastewater.



DRY-GUD-013	Dairy
Revision: 1.0	Milkhouse Construction Requirements
Approved: April 8 2022	Wis. Admin. Code ATCP 65

**SUBJECT:** Milkhouse Construction Requirements

### Scope

This guidance document applies to milking equipment installers, dairy producers, and dairy sanitarians tasked with constructing, maintaining, and inspecting milkhouses. This document adds clarity to milkhouse construction regulations included in Wisconsin Administrative Code ATCP 65.

### Definitions

“Milkhouse” means an enclosed facility, separated from the milking barn or parlor by a self-closing door, in which milk is cooled or stored and in which equipment and utensils are cleaned, sanitized, and stored.

### Guidance

1. Floors shall be of concrete or other equally impervious materials and be sloped for proper drainage to a floor drain. ¼ Inch per foot slope is recommended.
2. Floor drains shall not be under the bulk tank and shall be readily accessible. Floor drains shall be trapped if connected to a sanitary sewer system. Trench drains are acceptable under bulk tanks if the actual drain is not directly under the outlet valve and is accessible for maintenance.
3. Milkhouse drain and CIP pre-rinse water must be piped into a waste handling system and may not run through gutters in the barn or parlor areas. Properly treated wash and rinse waters from CIP systems may be used for floor rinsing of parlors. Please contact the DATCP for more information about the use of reclaimed water on farms.
4. Human waste and septage must be disposed of in a sanitary sewer system or by other methods that comply with ATCP 65.22(6), Wis. Adm. Code.
5. Plumbing shall meet state plumbing code requirements. Cleaning solutions should be discharged directly into the waste system and not across concrete floors. There shall be no cross-connections or submerged inlets.
6. All milkhouse doors shall be self-closing and tight fitting. If the milk house opens directly into the barn, the door shall be solid. Screen doors on outside openings shall open outward.

7. Adequate ventilation shall be provided to prevent excessive odors and visible condensation on any milkhouse surfaces. Ventilation shall not be located directly above bulk tank openings. Windows shall be effectively screened.
  - a. Air supplied to the milkhouse must be from outdoors or from other rooms that are clean and free of odors.
  - b. Vents located between the milkhouse and the parlor, barn, or cattle housing areas shall be provided with a fan that exhausts the milkhouse air and vent louvers that close tightly when the fan stops.
  - c. Forced air heating systems shall not blow air from milking or animal housing areas into the milkhouse.
8. There shall be at least 30 foot–candles of illumination in all working areas of the milkhouse. Lights located over a bulk tank shall be shatterproof, or effectively shielded to protect milk from contamination from broken glass.
9. Clearance of at least 24” is required on the top and milk-outlet side of bulk tanks to facilitate weighing/sampling, cleaning, and inspection. Clearance of 18” on the bulk tank sides is recommended to facilitate cleaning and maintenance.
10. When a bulk tank is used, a hose port is required and shall be installed in an outside wall at least six inches above the milkhouse floor. A paved 4’ by 4’ surface of concrete or other cleanable material shall be installed next to the outside wall, under the hose port.
11. Milkhouse walls and ceiling shall be constructed and finished so that they are impervious to water, light colored and easily cleanable.
12. Milkhouse shall be large enough to accommodate all necessary equipment.
13. Milkhouse shall be equipped with a fixed handwashing facility which is separate from the wash and rinse vat. Handwashing facilities shall be served by potable hot and cold running water from a faucet(s) directly over the hand sink. Water shall enter and leave the handwashing facility by means which preclude splash.
  - a. Soap and single service sanitary towels or another approved means of drying hands shall be available at all times.
  - b. A handwashing facility may be located in a room immediately adjacent to the milkhouse, provided it is readily accessible from the milkhouse. This section also applies to an AMI room in which the operator’s hands will contact milk filters or other milk contact surfaces.
14. A two compartment wash vat is required and shall be supplied with potable hot and cold running water from a faucet located directly over the wash vats.

- a. A CIP wash vat may be used to meet the requirement for one of these vats if there are no brackets that would restrict its use. Milking units must be stored properly outside of the wash vat while the CIP vat is being used for the manual cleaning of other equipment.
15. Wells shall comply with applicable DNR administrative codes: NR 810, requirements for the operations and maintenance of public water systems; NR 811, requirements for the operation and design of community water systems; NR 812, well construction and pump installation.
  16. Water heating capacity shall be adequate for all milkhouse operations. The producer or installer shall determine the water heating capacity needed. Guidance for sizing water heating systems can be obtained from The Dairy Practices Council publication number 58; "Guidelines For Sizing Dairy Farm Water Heater Systems" or from a milking equipment installer.
    - a. Alternative hot water heating systems (such as on-demand water heaters) may be authorized by the division. System specifications shall be submitted that documents the proposed system can provide an adequate supply of hot water for all milkhouse operations. DATCP for authorization. Refer to Dairy Practices Council guide line #58 for Sizing Dairy Farm Water Heater Systems via the contact information included below.
  17. Access to the milkhouse by driveway and every exterior access door shall be located in such a way that no vehicle or person traveling to the milkhouse must pass through an animal walk way, holding area, or yard where excessive animal waste may accumulate.

## Contacts

The Dairy Practices Council  
708 Sherman Street,  
Pandora, OH 45877-9423  
United States  
(419) 890-5147  
[www.dairypc.org](http://www.dairypc.org)

[DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov)

## References

Wisconsin Administrative Code Chapter ATCP 65

DNR Administrative Codes NR 810, NR 811, and NR 812

**Document History**

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Updated D-fd-034 to GUD format. Added “Scope”, “Definitions”, “Contacts”, and “References” subsections.	April 8 2022

**Approval**

- 4/8/2022 7:50 AM Task Completed ■ Anderson, Timothy P Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments: Approved by Anderson, Timothy P
- 4/8/2022 8:47 AM Task Completed ■ Sprecker, Troy S Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments: Approved by Sprecker, Troy S
- 4/8/2022 9:08 AM Task Completed ■ Stoner, Steve K Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved Approved by Stoner, Steve K



DRY-GUD-014	Dairy
Revision: 1.0	Mini-Milkhouse Requirements
Approved: 18 Apr 2022	Wisc. Stat. 97, & Wis. Admin. Code ATCP 65

**SUBJECT:** Mini-Milkhouse Requirements

### Scope

This guidance document applies to milking equipment installers, dairy producers, and dairy sanitarians who are tasked with installing, maintaining, and inspecting milking facilities with a mini-milkhouse. This guidance document clarifies the installation requirements for a mini-milkhouse for a pipeline system in milking facilities when, due to the existing construction and facility layout, it is not possible to provide the proper placement of milking equipment in the milkhouse or clean-in-place parlor.

### Definitions

“Mini-milkhouse” refers to an area outside of the milkhouse or clean-in-place parlor used to house acceptable milking equipment as listed below.

### Guidance

1. Acceptable milking equipment that may be located in a mini-milkhouse:
  - a. Receiver jar
  - b. Milk pump
  - c. Milk line drain
  - d. Moisture trap
  - e. Plate-type pre-cooler
2. Construction Requirements
  - a. Floor, walls, and ceiling must comply with milkhouse standards
  - b. A trapped floor drain or a properly installed and maintained sump
  - c. Adequate room to service equipment
  - d. Adequate lighting – 30ft candles of illumination
  - e. Hot and cold running water directly plumbed to the enclosure or accessible to the enclosure via a hose station or bucket and brush.
  - f. Ensure all access points into the mini-milkhouse are dust tight
  - g. Mini-milkhouse and milking equipment must be accessible for inspection, access may be accessible from the milking barn.
  - h. Mini-milkhouse shall be maintained in a clean condition

### Contacts

[Dairy Technical Specialists](#) – email [DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov)



**References**







Wisconsin Administrative Code ATCP 65

**Document History**

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Changed format from D-fd-035 to match GUD template. Removed term “pump house” throughout. Added “Contacts” and “References” subsections.	18 Apr 2022

**Approval**

Assigned To	Title	Due Date	Status	Related Content	Outcome
 Stoner, Steve K	Please approve Mini Milkhouse Requirements 	4/22/2022	Completed	<a href="#">Mini Milkhouse Requirements</a>	Approved
 Anderson, Timothy P	Please approve Mini Milkhouse Requirements 	4/22/2022	Completed	<a href="#">Mini Milkhouse Requirements</a>	Approved
 Sprecker, Troy S	Please approve Mini Milkhouse Requirements 	4/22/2022	Completed	<a href="#">Mini Milkhouse Requirements</a>	Approved



Wisconsin Department of Agriculture,  
Trade and Consumer Protection  
Division of Food and Recreational Safety  
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## Air Injector Requirements

The location of any air injector(s) must be listed on the pipeline plan submitted for review. All air injectors used for milk handling systems shall be in compliance with the following requirements.

- 1) Air injectors shall be installed in the milkhouse, milking parlor or room of equivalent cleanliness.
  - Installation of air injectors in a milking barn is not allowed.
  - Pressurized air used for air injection shall be of sanitary quality.
  - Air injectors installed in a milking parlor shall be equipped with an appropriate filter and properly protected from contamination.
- 2) Air injectors installed on a milkline shall meet sanitary construction standards for product contact surfaces.
  - Air injectors located on a wash manifold or wash line do not need to meet sanitary construction standards.
- 3) Air injectors shall be close-coupled to the milkline.
  - Distance between the air injector valve seat and the side-wall of the milkline shall not exceed two times the diameter of the injector mounting port. No dead end shall exceed 5 inches.
- 4) Air injectors previously installed that do not meet the close-couple requirements may require a separate wash supply line, jumper hose, or manual cleaning to assist in maintaining a clean stand pipe. These may also be modified to meet the close-couple requirements.
  - All supply lines or jumper hoses shall be physically separated from the milkline during milking.
  - Any openings in the milkline shall be properly protected using clean sanitary caps.
  - Jumper hoses or sanitary caps shall be cleaned and stored in the milkhouse when not in use.

If you have any questions please contact your area Dairy Technical Specialist

Wisconsin Department of Agriculture, Trade and Consumer Protection, 2811 Agriculture Drive,  
Madison, WI 53718

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DRY-GUD-012	Dairy
Revision: 1.0	Clean-in-Place Milking Parlor Construction Standards
Approved: March 29 2022	Wis. Admin. Code ATCP 65

**SUBJECT:** Clean-in-Place Milking Parlor Construction Standards

### Scope

This guidance document applies to milking equipment installers, milk producers, and dairy sanitarians involved in constructing, maintaining, and inspecting milking facilities with C-I-P milking parlors.

### Definitions

1. “C–I–P” means clean–in–place, which is the process by which equipment is cleaned and sanitized without being disassembled and by the mechanical circulation of cleaning and sanitizing solutions onto interior milk and dairy product contact surfaces.
2. “Milking parlor” means either of the following:
  - a. A roofed and enclosed facility that is designed and used year–round exclusively for the milking of milking animals, and that is not designed or used to house any animals.
  - b. A seasonal facility constructed without walls that is used exclusively for the milking of milking animals and that is not designed or used to house any animals.

### Guidance

Manual cleaning of milk contact surfaces shall be done in the milkhouse. Milk contact surfaces may not be manually cleaned in a milking parlor.

C-I-P milking equipment may be cleaned, sanitized, and stored in a milking parlor if all of the following conditions are met:

1. Floor and Gutter Construction
  - a. Shall be constructed of concrete or other materials that are equally impervious and easy to clean.
  - b. Parlor mats shall be removable to allow for cleaning.
  - c. Shall be sloped at least 1 inch per 10 feet to a drain. Gutter covers, if installed, shall be made of impervious material and be removable for cleaning.
  - d. A watertight sump with pump may be used to remove liquid waste from the parlor.
2. Wall and Ceiling Construction
  - a. Shall be constructed of smooth impervious materials. Finishes shall be light colored and easy to clean. Raw or treated wood shall be painted or finished as required to meet this criteria.
  - b. Doorways to and from the milking parlor shall be provided with tight–fitting solid doors. These doors shall be closed when equipment is being cleaned or stored. Strip curtains are

- not an acceptable replacement for solid doors. Complying curtains are acceptable if they are sufficiently tight-fitting to protect the opening against entry of insects, rodents and other pests.
- c. Windows shall be installed flush with the inside parlor walls or the sill should be sloped to drain.
  - d. Open-air parlor facilities are designed for non-confined animal housing systems (rotational grazing). These facilities are exempt from CIP parlor wall, door and window standards. All open-air parlors require a formal variance issued by the department. Contact the area Dairy Technical Specialist for additional information – a link to the current technical specialist map and contact information is provided below.
3. Lighting
- a. Natural or artificial lighting shall be provided to ensure adequate illumination for milking operations.
  - b. There shall be at least 10 foot candles of illumination in all working areas and 30 foot candles of illumination in all areas of the parlor where CIP milking equipment is cleaned, sanitized, and stored.
4. Ventilation
- a. Shall be adequate to prevent visible condensation on walls, ceiling, and to prevent excessive odors. Heating, ventilating, and air conditioning systems shall be designed so that air from the parlor, animal housing areas, and toilet room may not enter the milk storage room.
5. Milk Handling Equipment
- a. All equipment shall comply with 3A 606-05 Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment, and ASAE Standard S518.2.
    - i. Recessless or rolled-on ferrules do not meet the sanitary requirements of Accepted Practices 606-05 as referenced above.
  - b. Before installing a milk handling system, the installer shall submit plans to the department for review.
  - c. New milk handling systems or equipment shall not be sold until specifications or prototype equipment are first reviewed by the department.
  - d. Butterfly valves shall be easy to access and disassemble. Butterfly valves shall be disassembled and cleaned after each milking.
  - e. Air under pressure in contact with milk shall comply with 3A 604-05 Accepted Practice; Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces. Areas of primary concern are the use of a disposable media filter and the sanitary check valve located at the point of application.
  - f. Milk handling systems shall be effectively separated from the cleaning make-up vats or the CIP solution lines during milking to avoid possible contamination.
  - g. CIP milking equipment, if cleaned, sanitized or stored in the milking parlor, shall be designed, installed, handled and stored so that milk contact surfaces are protected from contamination at all times.
  - h. A receiver group may only be installed in a pit when the following requirements are met:
    - i. Easily accessible for inspection, cleaning, and maintenance – receiver group shall not be installed under cow decks, steps, or in an area exposed to excessive manure.

- ii. The pit floor shall be sloped to remove liquid wastes, and liquid wastes shall be effectively removed to preclude cross-contamination of the milking system. Removal of wastes via a sump is acceptable.
- iii. Receiver group shall be installed so that the milking system is protected against cross contamination from floor drains; to include pinch valve drains which may not terminate in a floor drain, sump, or anywhere liquid wastes accumulate.
- i. Pipelines mounted inside tunnel structures shall meet the following requirements:
  - i. Tunnel structure must be of watertight and vermin resistant construction.
  - ii. Structure shall be adequately sized for inspection and servicing when needed.
  - iii. There shall be no clamped fittings inside the tunnel.
  - iv. Lines must be properly supported to maintain the required slope.
  - v. The milkhouse end of the tunnel must be tightly closed off to prevent air exchange between the two rooms. The tunnel floor shall slope to drain in the direction of the parlor.

## 6. Water Systems

- a. Wells used to supply water shall comply with chapter NR 812, Wisconsin Administrative Code.
- b. All plumbing shall comply with DSPS plumbing code and Wisconsin Administrative Code.
- c. Water discharged from milk pre-coolers may be re-used for pre-rinsing dairy equipment, watering livestock, and holding area wash down, provided that the system meets the requirements:
  - i. Pre-cooler water system shall meet the requirements listed in ATCP 65.10(7)(b).
  - ii. Reclaimed water storage tanks shall not be cross connected to the potable water system.
  - iii. Outlet lines from the plate cooler shall not be cross connected to the potable water system.
  - iv. Water may also be used for other non-potable purposes in which it does not come into contact with milk, milk contact surfaces, potable water, and potable water contact surfaces.
- d. An air gap shall be maintained between every potable water outlet and the flood rim of the vessel that it supplies, and between the potable water outlet and any source of potential contamination, unless an acceptable method of protection is provided.
- e. If cows are cleaned in a milking parlor prep stall prior to milking, rather than being manually cleaned at the milking stations, hot water under pressure shall be supplied to the prep stall and used for cleaning purposes. There shall be an adequate supply of hot water so that all cows handled through the prep stall may be fully cleaned without impairing the availability of hot water for other parlor or milkhouse operations.

## 7. Wastewater Handling

- a. Wastewater containing milky pre-rinse from pipelines and bulk tanks can be used for animal feed or deposited in the manure handling system.
- b. Detergent wash, acid rinse, and sanitizing solutions (graywater) may be collected and reused for milking parlor floor, wall and holding area wash-down.
- c. Wastewater generated during water softener discharge may be used for milkhouse, milking parlor, and holding area wash-down.

- d. Wastewater collected from floor drains shall not be reused for milking parlor floor, wall, and holding area wash-down.
- e. Manure and liquid wastes from milking parlor operations shall be drained and removed from the parlor in a sanitary manner after each milking, so that there are no solid or liquid waste accumulations in the milking parlor.
- f. Sewage from toilets and showers shall be disposed of in a septic system. Sewage shall not be disposed of in the manure handling system. The use of chemical toilets, pit privies, and incinerator toilets meet the intent of this section.

**Contacts**

Dairy Field Supervisors

[Dairy Technical Specialist - DATCPTechnicalSpecialists@wisconsin.gov](mailto:DATCPTechnicalSpecialists@wisconsin.gov)

**References**

ATCP 65, Wisconsin Administrative Code

<https://www.3-a.org/>

- ❖ 3-A 606-05 Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment
- ❖ 3A 604-05 Accepted Practice; Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces

ASAE Standard S518.2

**Document History**

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Ali Collins	Updated D-fd-114 to GUD format. Added "Scope", "Definitions", "Contacts", and "References" sections.	March 29 2022

**Approval**

3/29/2022 1:25 PM	Task Completed	■ Anderson, Timothy P	Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments:	Approved by Anderson, Timothy P
3/29/2022 3:54 PM	Task Completed	■ Stoner, Steve K	Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved	Approved by Stoner, Steve K



State of Wisconsin  
Governor Tony Evers

**Department of Agriculture, Trade and Consumer Protection**  
Bradley M. Pfaff, Secretary

## **Recessless or Rolled-On Ferrules on Milking Pipelines**

On January 1, 2001, recessless or rolled-on ferrules were no longer accepted for milking pipeline installations. ATCP 65.14(1), Wisconsin Administrative Code requires that milking and milk handling system shall comply with "3-A Accepted Practices for the Design, Fabrication and Installation of Milking and Milk Handling Equipment, 606-05.

3-A Accepted Practice, Number 606-05 states that recessless or rolled-on fittings are acceptable only when temporarily modifying or repairing existing on-site farm milk handling systems with fittings installed with no cracks or crevices

Please use the following criteria for the evaluation of pipelines utilizing recessless or rolled-on ferrules.

For existing farm milking and milking handling systems on currently licensed farms; when rolled on ferrules are in use, make a note that they were observed and that they are permitted when in good repair until the farm is sold or changes licenses.

Licensing a Milk Producer at an existing licensed farm.

When licensing a producer that is taking over an already licensed and operating farm, where the farm has meet all requirements of ATCP 65 other than the rolled on ferrules, a Grade A permit can be issued and an administrative conditional license not to exceed 180 days for repair.

Licensing a Milk Producer at an existing farm that is not in operation.

- When licensing a milking facility with an existing pipeline with rolled on ferrules, the sanitarian is to discuss the issue with the producer and dairy plant field rep and come to an agreement with the producer on timeline to get these rolled on ferrules removed. The sanitarian shall write an administrative conditional license agreement for a Grade B License only with no more than 180 days for repair. Do not issue a Grade A Permit when Rolled on Ferrules are present.

Repairs to systems installed on or after January 1, 2001 utilizing welded ferrules.

- Recessless or rolled on ferrules may be used for emergency repairs where welding equipment is not available. Replace these fittings with a welded fitting as soon as practical. Recessless or rolled-on ferrule is only a temporary repair not to exceed 7 days.

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## Direct Chemical Addition into Water Systems (Peroxide and Other Chemicals)

Wisconsin has two 'Water Authority' agencies. DNR is responsible for enforcement of Regulations covering the water system from the well to the pressure tank. Department of Safety and Professional Services (DSPS) is responsible for enforcement of Regulations covering the drinking water system from the pressure tank to its end use. (If there is suitable backflow protection between the well and the pressure tank, the boundary of DSPS responsibility moves upstream to that point.) Approval documents related to direct chemical injection are required from whichever agency has "jurisdiction" depending on when injection occurs.

### DNR Requirements:

- 1) DNR Approval letter
- 2) Licensed Pump Installer who conduct the installation of the Chemical Injection System.
- 3) DSPS approved metering pump  
<https://verification.dsps.wi.gov/Industry-Service-Searches/ProductResults?DescrID=WTCID>
- 4) NSF 60 approved chemical with certification letter from mfr. or label with required information
- 5) The injected chemical(s) must be Generally Recognized As Safe (GRAS) and be listed in the certification letter or label
- 6) Chemical(s) must be injected at approved concentration

### DSPS Requirements:

- 1) Licensed Plumber who conduct the installation of the Chemical Injection System.
- 2) DSPS approved metering pump  
<https://verification.dsps.wi.gov/Industry-Service-Searches/ProductResults?DescrID=WTCID>
- 3) NSF 60 approved chemical with certification letter from mfr. or label with required information
- 4) The injected chemical(s) must be GRAS and be listed in the certification letter or label
- 5) Chemical(s) must be injected at approved concentration

All required information must be readily available on the farm. Information must also indicate pump setting and concentration (ppm) of chemical actually injected.



## Backflow Prevention Guide For Agricultural Applications

Hazard/Equipment	Approved devices or methods <sup>2</sup>						Comments
	Air gap ANSI std.	ASSE 1013	ASSE 1001 <sup>1</sup>	ASSE 1012	ASSE 1055	ASSE 1011 <sup>1</sup> 1056 1019 1052 <sup>1</sup>	
Pasteurized product lines w/out cleaning solution	X	X		X			
Raw product lines w/cleaning solution	X	X	X				
Animal watering tanks	X	X	X			X	
Cooling water w/out additives	X	X	X	X			
Reclaimed water (low hazard)	X	X	X	X			
Reclaimed water (high hazard)	X	X	X				
Chemical injector or proportioner	X	X			X		Per alternate approval or adopted standard
Boiler w/non-toxic additives	X	X		X			
Boiler w/ toxic additives or pot feeder	X	X					
Separator bowl installed downstream of pasteurization	X	X		X			
Separator bowl installed upstream of pasteurization	X	X					
Homogenizer	X	X					
Pump seals (open)	X	X	X	X			
Portable pressure washer	X	X				X	
Permanent pressure washer	X	X					

<sup>1</sup> No valves downstream of the device.

<sup>2</sup> Also see manufacturers limitations for devices.

**VARIOUS MANUFACTURERS OF BACKFLOW PREVENTERS.**

## ASSE 1001 PIPE APPLIED ATMOSPHERIC VACUUM BREAKER

MANF.	MODEL NO.
<b>WATTS</b>	288A
<b>WILKENS</b>	35
<b>FEBCO</b>	710 & 715
<b>CONBRACO</b>	38-100 & 38-200
<b>CASH-ACME</b>	V-101



## ASSE 1011 HOSE CONNECTION VACUUM BREAKER

MANF.	MODEL NO.
<b>WATTS</b>	8, 8A, 8AC, 8B, 8BC, 8C, NF8, NF8C, 8P, 8FR
<b>WILKENS</b>	BFP-8 & BFP-8F
<b>CONBRACO</b>	38-304, 38P, 38-400, 38-404
<b>CASH-ACME</b>	V-3, V-4, VB-222
<b>FABCO</b>	731 series
<b>DANFOSS</b>	HB8



## ASSE 1012 BACKFLOW PREVENTER WITH INTERMEDIATE VENT

MANF.	MODEL NO.
<b>WATTS</b>	9-D
<b>WILKENS</b>	750
<b>FEBCO</b>	815
<b>CONBRACO</b>	40-400 & 4J-400
<b>CASH-ACME</b>	BFP
<b>DANFOSS</b>	8200



## ASSE 1013 REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

MANF.	MODEL NO.
<b>WATTS</b>	009, 909, 995, N995, Z995
<b>WILKENS</b>	375, 975, 975XL, 975BMS/MS, 975XLBMS/MS
<b>FEBCO</b>	860, 880, 880V, 825, 825YA, 820
<b>CONBRACO</b>	40-200, 40-200U, 40-200Z, 4S RP
<b>FLOMATIC</b>	RPZE, RPZ IIE



## ASSE 1019 VACUUM BREAKER WALL HYDRANTS

MANF	MODEL NO.
<b>WATTS</b>	HY-42, HY-42B, FHB-1 & FHB-2
<b>WILKEN</b>	Z1300 series



### ASSE 1020 PRESSURE VACUUM BREAKER ASSEMBLY

MANF.	MODEL NO.
<b>WATTS</b>	800
<b>WILKENS</b>	420, 720A
<b>FEBCO</b>	765, 765U
<b>CONBRACO</b>	40-500, 4V-500,
<b>FLOMATIC</b>	PVB



### ASSE 1052 HOSE CONNECTION BACKFLOW PREVENTER

MANF.	MODEL NO.
<b>WATTS</b>	N9-CD
<b>CONBRACO</b>	38-304-02
<b>NIDEL</b>	38HD
<b>WILKINS</b>	Z-1399



### ASSE 1056 BACK SIPHONAGE VACUUM BREAKER

MANF.	MODEL NO.
<b>WATTS</b>	008
<b>CONBRACO</b>	4W-500



### ASSE 1055 CHEMICAL DISPENSING SYSTEMS (An Internal Air Gap Device)

- a) Type A: These devices have the chemical(s) pressurized above atmospheric pressure; and  
 (b) Type B: These devices do not pressurize the chemical(s) above atmospheric pressure. The only source of back pressure comes from an elevated hose.

STD.	HAZARD	LIMITATIONS
ASSE 1001	HIGH	NO VALVES AFTER, NO BACK PRESSURE, 12 HR. MAX.
ASSE 1011	HIGH	NO VALVES AFTER, 12 HR. MAX.
ASSE 1012	LOW	
ASSE 1013	HIGH	
ASSE 1020	HIGH	NO BACK PRESSURE
ASSE 1052	HIGH	NO VALVES AFTER, 12 HR. MAX.
ASSE 1056	HIGH	NO BACK PRESSURE
ASSE 1055	HIGH	

**Air Gap Calculation contact your local DSPS Plumbing Consultant at**

<http://dsps.wi.gov/Documents/Industry%20Services/Maps/Plumbing-PoolsMap.pdf>  
 or via email at [DspsSbPlbgTech@wi.gov](mailto:DspsSbPlbgTech@wi.gov)

## **Installer Meetings**

### **March 30 & 31, 2022**

#### **Application Materials**

1. Can application fees be paid electronically?
  - Not yet, but is being looked into for the future.
2. Can the application be filled out electronically?
  - Yes, it can be completed electronically and emailed with the drawings and other supplemental documents, but the check needs to be mailed in separately. Please include the signed application with the check.
3. Why did the department change the minimum required water temperature to “adequate” rather than specific temperatures such as 140°F for handwashing, etc.?
  - Science on handwashing has shown that the temperature of the water isn’t as critical as the friction, soap usage, and flow of the water.
4. Is a slotted floor in close proximity to the milking box permitted – manure storage close to the milking box?
  - Yes. The milking box (where the cow stands to be milked) is permitted to have slotted floors. The AMI room shall have the positive ventilation system in operation all the time when this type of installation and construction is used.

#### **Inline Samplers**

1. How many farms are currently using these?
  - Currently only a few are in place. We anticipate that more will be coming.
2. Even if a farm puts one in, the plant can still refuse to accept that sample.
  - The dairy plant, producer and hauler would need to work together to determine the acceptability of the official sample taken from an in-line sampler.
3. Can an in-line sampler be used at the plant for pulling of official samples?
  - Yes, same application needs to be completed. The plant and manufacturer will need to develop SOPs that are applicable for use in a dairy plant to include how the in-line sampler is cleaned between each load and where milk is stored pending the results of the drug residue screening.

4. How does a person get licensed as a BMWS?

-The Bulk Milk Weighers & Samplers training manual and video are available at the following link [Bulk Milk Weigher and Sampler Resources \(wi.gov\)](#). Review the study materials, apply online at [MyDATCP](#). Once your application is processed a dairy sanitarian will contact you to arrange a time and place to administer the written exam and field examination. Successful completion of both the written and field tests is required for licensure.

5. Does a person getting licensed as a BMWS for inline sampler purposes have to do the full procedure for getting licensed?

-Yes, at this time, there is no differentiation between a full BMWS versus an inline sampler.

**ISOLOK**

1. We have our own electrical controls, can we connect the IsoLok to this controller?

- Yes, you can use your own control method to operate the IsoLok system. Please work with the Isolok representative to properly set up this in-line sampling system.

2. How do we buy it?

- Information on purchase is available on the Sentry website.

3. Sample needs to be refrigerated?

- Yes, it needs to be in the refrigerator.

4. Do you supply the refrigerator or do we supply it?

- They can supply the refrigerator, but typically the refrigerator is supplied by the installer or producer.

5. How would you have to modify the refrigerator?

- The sampler and milk pipeline need to be located within the refrigerator and where the pipe enters/exits the fridge need to be sealed to prevent condensation and maintain refrigerator temperature. Note that if this same refrigerator is used to store the sample the refrigerator must be capable of maintaining a temperature of 40°F or lower at all times including during CIP of the milk pipeline.

6. What is the set up cost? What about consumable parts?

- Contact the company directly

## **Quali-Tru**

1. What is the set up cost? What about consumable parts?
  - Contact the company directly
2. Where are the systems being used?
  - East Coast, Michigan, starting in California, Idaho
3. How much does the peristaltic pump weigh?
  - Not much – approximately 4 lbs. The stainless steel “mailbox” that the pump is placed in weighs more.
4. The needles cannot be inserted in the septum when the system is washing. So these could not be installed on robotic systems?
  - Do not have official samplers in on any currently, but do have ports installed to use for troubleshooting issues.
5. Could feasibly have a port on both sides of the plate cooler to troubleshoot plate cooler issues – can you use the same pump?
  - Up to a point – depends on the length of the tubing. Mobile pump could be used for these purposes and be moved around as needed.
6. The tubing from the milk line to the sampler has to be close coupled.
  - The polytube should be as short as possible to accommodate the distance between the sample port and the sample bag in the refrigerator.

## **Electronic Recording Systems**

1. What are the two devices currently approved?
  - Mueller Hi Perform Plus and Dairy Cheq Q3
2. If you have a digital recorder which does not have 6 months of storage, can you save the printed reports?
  - As long as the paper records meet the requirements as detailed in the PMO you can maintain them that way
3. Is the dairy plant field staff the only ones that can calibrate an electronic recorder?
  - ATCP 65 states that the Dairy Plant Operator must do the thermometer check; anyone that has been delegated by the dairy plant operator can do the thermometer check. The installers would then do any calibration necessary if the thermometer is not accurate.

## Single Farm Pick-ups – Interpretative memo: Single farm pick-up

1. The requirements seem to be the same as a traditional farm, what is the difference?
  - This allows the milk to be weighed and sampled off the farm.
2. Can you no longer sample and weigh single farm pick up's on the farm?
  - You still can sample and weigh milk on the farm for tanks equipped to do so. The single farm pick-up interpretive memo provides an alternative option for farms with silos and large tanks which cannot be easily measured and sampled.
3. Does Direct Ship sampling and weighing fall under this interpretive memo?
  - Direct ship sampling and weighing requirements have been a part of [ATCP 65.16\(5\), Wisconsin Administrative Code](#) for some time. The interpretive memo is for milk that is being placed in silos or large tanks which cannot be easily measured and sampled per the requirements of ATCP 82, Wisconsin Administrative Code.
4. If there is no cooling on a vessel and the milk is required to be pumped into the vessel at 45°F or less, it will only stay that cool. Many plants require milk to be colder than that upon receipt.
  - The regulations only state the legal maximum temperatures. When the dairy plant requires milk to be cooled below the legal maximum temperature they would need to work with the producer to ensure that the milk received is at the temperature that temperature.
5. If the milk in the vessel is >45°F is the BMWS able to pick up that milk? Some of the milk may have just entered the vessel. How is the BMWS supposed to know when the milking was finished?
  - The milk collection procedure for single farm pick-up is no different than those used on current bulk tanks. The requirements of [ATCP 82.10\(6\)\(a\)](#), Wis. Adm. Code apply.

*[ATCP 82.10\(6\)\(a\)](#), Wis. Adm. Code states “ If the milk is collected more than 2 hours after the last milking, the bulk milk weigher and sampler shall reject the milk if the milk temperature exceeds 45° F. (7° C.). If milk from 2 or more milkings is collected within 2 hours of the last milking, the bulk milk weigher and sampler shall reject the milk if the milk temperature exceeds 50° F. (10° C.). Milk which does not meet these temperature requirements may be collected if, within 4 hours after collection, the milk has begun to be processed exclusively into milk or dairy products not designated as a grade A dairy product under s. [ATCP 65.01 \(26\)](#) and [\(27\)](#).”*
  - The BMWS may use the information on the temperature recording device or communicate with the producer to determine when milking time ended in order

to proceed with the pickup procedures. If the collection temperature exceeds 45F at time of pickup, it is recommended that BMWS communicates the product temperature and end of milking time to the receiving plant prior to collection to ensure the milk will be accepted.

### **Unrefrigerated Bulk Tanks**

1. If a producer has a 2000 gallon tank and is on every other day pick up and installs a 1000 gallon tank without refrigeration next to it. Can he cool milk in the 2000 gallon tank and then siphon it over to the 1000 gallon tank once it is fully cool? What requirements are there for that process?

-Yes. Needs to be done in a sanitary manner with a sanitary hose.

2. In the above scenario, does the unrefrigerated 1000 gallon tank need to have a recording chart?

- Yes. All unrefrigerated bulk tanks must have a temperature recorder installed regardless of manufacture date.

3. In the above scenario, is the transfer of milk from the 2000 gallon to the 1000 gallon considered to be a partial pick-up?

-No.

4. In the above scenario, how would the hose used to transfer the milk between tanks be cleaned?

- There are a variety of methods that could be used to clean the hose depending on the length of the hose, the equipment available in the milkhouse, etc. If the hose is cleaned and sanitized effectively in a sanitary manner and is stored properly, it is meeting the expectation of ATCP 65, Wisconsin Administrative Code

### **Water Systems**

1. Can Chlorine Dioxide be classified and treated the same as a peroxide additive?

-Not as a peroxide additive, but it could be classified as a water treatment additive as long as it meets the requirements

2. What do you mean by near walls?

Any tank wall which is less than 3x or 4x the inlet pipe diameter away from the closest side of the inlet pipe as detailed below. If the inlet is near a tank wall the water level in the tank reacts differently than when the inlet is centrally located in the tank.

[SPS 382 Appendix, Wisconsin Administrative Code - Air Gaps](#)



The distance of a near wall is a relationship to the diameter of the pipe/spout and the measurement from the wall to the closest side of the pipe/spout:

- If there is one near wall, and the distance between that near wall and the closest edge of the supply pipe/spout is greater than 3 times the diameter of the supply pipe/spout, then the minimum air-gap is 2 times the diameter of the supply pipe/spout.
- If there is one near wall, and the distance to the closest edge of the supply pipe/spout is less than 3 times the diameter of the pipe/spout, then the minimum air-gap is 3 times the diameter of the supply pipe/spout.
- If there are 2 near walls, and the distance between the near wall(s) and closest edge of the supply pipe/spout is greater than 4 times the diameter of the supply pipe/spout, then the minimum air-gap is 2 times the diameter of the supply pipe/spout.
- If there are 2 near walls, and the distance to the closest edge of the supply pipe/spout is less than 4 times the diameter of the supply pipe/spout, then the minimum air-gap is 3 times the diameter of the supply pipe/spout.

It has been determined that 2 or more near walls generally have little effect on the need to increase the air-gap to more than 3 times the diameter of the supply pipe/spout.

4. Can you still be an unlicensed plumber and install plumbing on dairy farms?

-DSPS requires licensed plumbers for all plumbing work completed with the exception of farm owners or homeowners doing the work on their own property. Issues with unlicensed plumbers would need to be directed to DSPS.

5. Is the Air Gap Calculator for tank overflows available for printing?

-The Water Calc Crew file is an Excel program on CD that is available through State Document Sales (see page six of the catalogue, call 800-362-7253). The disc has two Excel files: 1) Water Calc Crew File and 2) Fire/Water Calc Crew File.

6. Do Teat Scrubbers require backflow preventers ahead of them?

-Unless the device is listed as an ASSE 1055 device for cross connection control, it must have at minimum a low hazard cross connection control device installed upstream.

### **Facilities**

1. Is a barrel over an exterior agitator motor on a bulk tank acceptable for protection?

- No it is not if it is the sole means of protection.

2. What is the Department looking for on pipelines with rolled on ferrules?
  - A butt welded ferrule is the only acceptable sanitary ferrule. If a farm is being licensed, any rolled on ferrule must be replaced with butt welded fittings.
  
3. Does a currently licensed farm with rolled on ferrules that wants to install a plate cooler have to update all of the rolled on ferrules?
  - No. Any new fittings installed would have to be butt welded, but as long as the original rolled on ferrules are still in good condition they do not have to be replaced unless there is an ownership change.



DRY-GUD-008	Dairy
Revision: 1.0	Contact List for Dairy Farm Equipment Installers
Approved: 27Nov2021	Wisc. Stat. and/or Wis. Admin. Code: <a href="#">ATCP 65.14</a>

**SUBJECT:** Guidance for Industry – Contact List for Dairy Equipment Installers

### Scope

The purpose of this document is to provide industry, specifically Dairy Equipment Installers a list of Department contacts and other Regulatory and Association contacts who can assist with proper design and installation of dairy farm milking facilities and equipment.

### Definitions

- DATCP – Wisconsin Department of Agriculture, Trade and Consumer Protection
- DPC – Dairy Practices Council
- DTS – Dairy Technical Specialist
- DSPS – Wisconsin Department of Safety and Professional Services
- ASABE – American Society of Agricultural Biological Engineers
- UW-CALS – University of Wisconsin Madison, College of Agriculture and Life Sciences

### Guidance

1. DATCP Division of Food and Recreational Safety  
Central Office  
PO Box 8911  
Madison WI 53708-8911  
608-224-4700  
[datcptechnicalspecialists@wisconsin.gov](mailto:datcptechnicalspecialists@wisconsin.gov)  
[Dairy Farm Resource Documents](#)
  - a. Equipment Approvals
  - b. Policy Questions
  - c. Copy of current Milking Equipment Installers Manual and other farm resource documents
2. DATCP Division of Food and Recreational Safety  
718 W Clairemont Ave Suite 128,  
Eau Claire WI 54701  
715-839-3844  
[datcpdfsplanreview@wisconsin.gov](mailto:datcpdfsplanreview@wisconsin.gov)
  - a. Submittal of [Application for Milk Handling Equipment and Facility Construction](#) and associated plans.

3. DATCP Division of Food and Recreational Safety – Dairy Technical Specialists  
[datcptechnicalspecialists@wisconsin.gov](mailto:datcptechnicalspecialists@wisconsin.gov)  
[Dairy Technical Specialist Map](#)
  - a. Plan Review
  - b. Equipment Review
  - c. Farm Specific Questions
  
4. Wisconsin Department of Safety and Professional Services  
Division of Safety and Buildings  
608-266-3151  
[DspsSbPlbgTech@wi.gov](mailto:DspsSbPlbgTech@wi.gov)
  - a. Plumbing and Cross Connection Control  
[Plumbing Program](#)  
[Private Onsite Wastewater Treatment Systems Program](#)
    - a. Septic Systems
  
5. American Society of Agricultural Biological Engineers  
2950 Niles Rd  
St Joseph MI 49805  
269-429-0300 or 800-606-2304  
Email: [hq@asabe.org](mailto:hq@asabe.org)  
Web site: [www.asabe.org](http://www.asabe.org)
  - a. ASABE Standards
  - b. ANSI/ASABE AD5707:2007
  - c. ANSI/ASABE AD6690:2007
  - d. ANSI/ASABE AD20966:2007
  
6. 3-A Sanitary Standards, Inc.  
6888 Elm Street, Suite 2D  
McLean VA 22101  
703-790-0295  
Email: [3-AINFO@3-A.org](mailto:3-AINFO@3-A.org)  
Website: [www.3-a.org](http://www.3-a.org)
  - a. 3-A Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment No. 606-05
  
7. The Dairy Practices Council  
708 Sherman Street  
Pandora, OH 45877  
(419)890-5147  
[www.dairypractices.org](http://www.dairypractices.org)
  - a. Helpful guidelines on milking parlors, milk pre-coolers, water heater sizing, etc.

- 8. University of Wisconsin CALS Outreach Office  
 1450 Linden Drive  
 Madison, WI 53706  
 608-262-1251  
 Email: [info@cals.wisc.edu](mailto:info@cals.wisc.edu)  
 Web site: [www.cals.wisc.edu](http://www.cals.wisc.edu)
  - a. Training in milking system design, sizing and testing
- 9. Local County UW-Extension Agricultural Agent  
[UW-Extension County List](#)

**Contacts**

Dairy Technical Specialist workgroup - [datcpttechnicalspecialists@wisconsin.gov](mailto:datcpttechnicalspecialists@wisconsin.gov)

**References**

ATCP 65.14 and ATCP 65.16, Wisconsin Administrative Code.

**Document History**

The most recent changes to this controlled document are listed at the top of the table:

Revision	Author	Change Description	Approval Date
1.0	Steve Stoner	New Document	27Nov2021

**Approval**

- 11/4/2021 3:55 PM Task Completed  Stoner, Steve K Task assigned to Stoner, Steve K was approved by Stoner, Steve K. Comments: Approved Approved by Stoner, Steve K
- 11/5/2021 1:24 PM Task Completed  Sprecker, Troy S Task assigned to Sprecker, Troy S was approved by Sprecker, Troy S. Comments: Approved by Sprecker, Troy S
- 11/27/2021 6:27 PM Task Completed  Anderson, Task assigned to Anderson, Timothy P was approved by Anderson, Timothy P. Comments: Steve, nicely put Approved by Anderson, Timothy P