

## Inspection and Technical Services

### Installing your Grain Dryer – A Guide for Agricultural Producers

ITS GO Guide - 02

#### **PHASE 1: BEFORE YOU PURCHASE A GRAIN DRYER**

##### **Determine Your Fuel Requirements – Natural Gas vs Propane**

###### **NATURAL GAS:**

Contact Manitoba Hydro early! A Manitoba Hydro Energy Service Advisor (ESA) can work with you to determine your natural gas requirements, whether there is an adequate supply of natural gas in your area, and if upgrades are necessary to your meter. Please call 1-888-624-9376 to speak to an ESA. Some of the issues you may encounter when installing your grain dryer if there is not an adequate natural gas supply in your area could include:

- Limitations on the firing rate of your grain dryer; and
- Delays in installing your grain dryer due to the Manitoba Hydro infrastructure upgrade process (i.e. approval of construction drawings, property easements, permits and clearances, volume of requests for gas services, etc.).

###### **PROPANE:**

Contact your propane supplier to determine your propane fuel needs, including the supply necessary to operate your grain dryer, the size of the storage tank(s) you will need, where tanks can be located on your property, the level of tank protection required, as well as your line size requirements.

###### **Check Your Electrical Supply**

It is equally important to consider your electrical service requirements prior to installation. As an example, electrical service requirements for single phase vs three phase motors are considerably different, and need to be planned carefully. An electrical permit will also need to be taken out by a person licensed under The Electricians' Licence Act. For more information on your electrical supply, please contact Manitoba Hydro at 1-888-624-9376 to speak with an ESA.

**Manitoba Hydro's assessment and analysis of the individual requirements of your grain dryer could take up to several months, so it's a good idea to plan your potential purchase accordingly.**

## PHASE 2: CHOOSING YOUR GRAIN DRYER

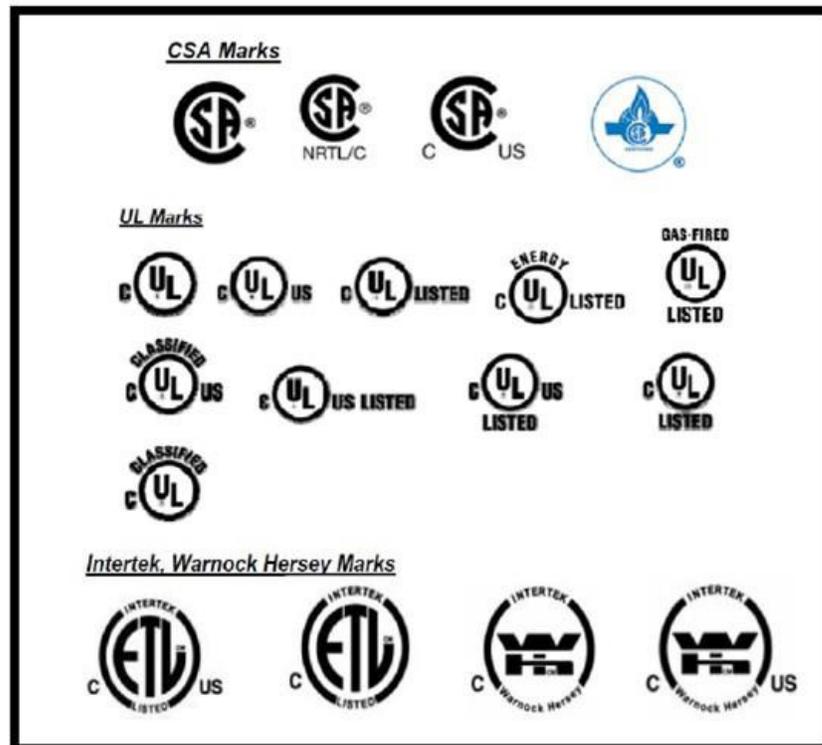
### **Determine if the Grain Dryer is certified**

All grain dryers in Manitoba must bear a CSA 3.8 standard certification marking, or a field approval marking from an approved Inspection Body or Inspection and Technical Services (ITS).

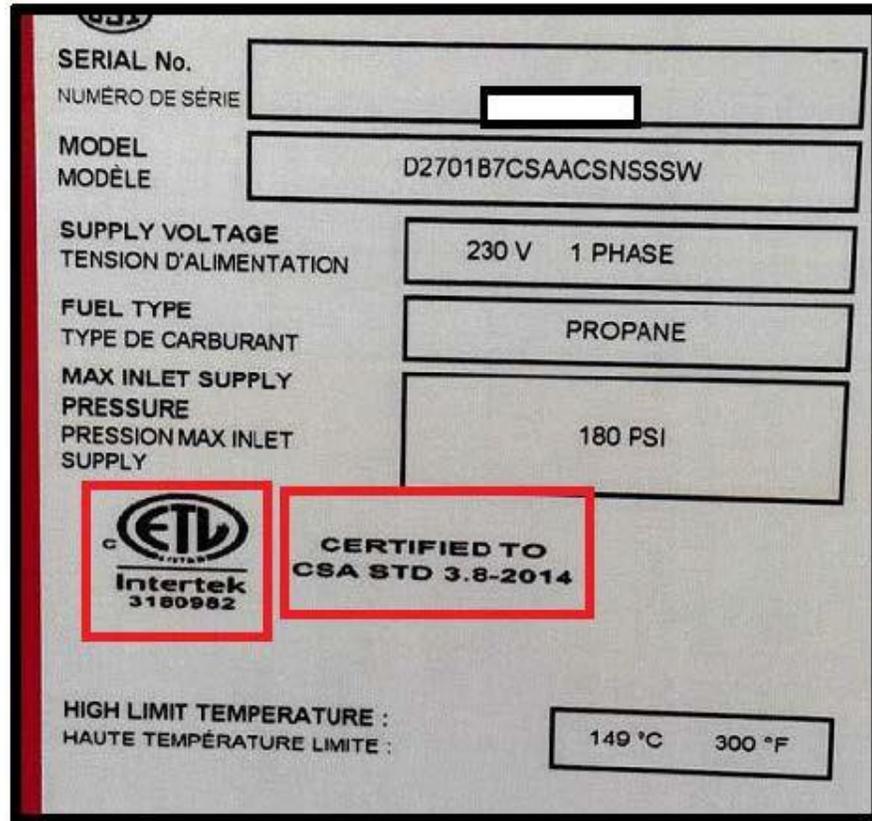
### **CSA 3.8 CERTIFIED GRAIN DRYERS:**

The process for installing a certified grain dryer is much simpler than for installing an un-certified grain dryer. A certified grain dryer will bear the label of a certification body accredited by the Standards Council of Canada (SCC), which confirms that the dryer was manufactured and tested in accordance with the CSA 3.8 standard, including all gas burning and electrical components. Check the nameplate of the grain dryer to see if it bears a certification mark. A valid certification mark will contain the following information:

1. A recognized certification mark or label (see examples below), AND



2. A statement that the equipment is certified to the CSA 3.8 Standard. An example of a label on a certified grain dryer is provided below:



A complete list of all accepted electrical and gas labels is available on ITS website.

### Previously Owned Grain Dryers:

The gas and electrical components of some previously owned grain dryers may not be safe for installation, even though they bear a recognized certification label.

For example, if the grain dryer has undergone a major alteration, or has had its fuel source converted from propane to natural gas with conversion kits not approved by the manufacturer, its certification label may no longer be valid. Also, if there are any obvious electrical or gas safety hazards the dryer will not be approved for start-up. If you are considering installing or purchasing a previously owned grain dryer, and are unsure of its certification or approval status, a representative from ITS will visit your site to conduct an assessment of the grain dryer to determine what your options are to get the grain dryer operational.

Arrangements for an assessment can be made by contacting the Program Manager –Gas and Oil Inspections at 204-945-3373.

If the grain dryer is certified, please go to Phase 3: Installing Your Grain Dryer on page 5.

## Uncertified Grain Dryers:

Installing an uncertified grain dryer will take longer than installing a certified grain dryer, and may include more associated costs. In order to install an uncertified grain dryer, you will need to obtain field approval for the gas and/or electrical components of the equipment. The following agencies are approved to provide field approvals of gas burning and electrical equipment in Manitoba.

<u>GAS BURNING EQUIPMENT</u>	<u>ELECTRICAL EQUIPMENT</u>
<ul style="list-style-type: none"><li>• ULC - Underwriters Laboratories of Canada</li><li>• CSA Group - Canadian Standards Association</li><li>• ENEFEN - Energy Efficiency Engineering Ltd.</li><li>• IRED - Thermal Group Ltd.</li><li>• Intertek Testing Services NA Ltd.</li><li>• Labtest Certification Inc.</li><li>• RAE Engineering and Inspection Services</li></ul>	<ul style="list-style-type: none"><li>• CSA Group – Canadian Standards Association</li><li>• Intertek Testing Services NA Ltd.</li><li>• QPS Evaluation Services</li><li>• Inspection and Technical Services</li></ul>

## Getting a Gas Field Approval

A grain dryer will require a field approval if:

- The unit is over 12.5 million BTU and cannot be certified under the CSA 3.8 - 2014 standard;
- An existing certified or non-certified appliance is being upgraded; (ie: converting the fuel source from propane to natural gas without a conversion kit approved by the manufacturer);
- The previous certification or approval of an existing unit cannot be confirmed;
- You have combined more than one piece of certified equipment into a bin-dryer combination (where the unit as a whole has not been certified to the CSA 3.8 standard).

More information about the field approval process:

- Requests for field approval of uncertified grain drying equipment must be made by completing the following forms:
  - An application for field approval form, and
  - Supporting engineering drawings or documentation.

The application for field approval form is available online.

### **Gas Burning Equipment -**

- ULC - Underwriters Laboratories of Canada
- CSA Group - Canadian Standards Association
- ENEFEN - Energy Efficiency Engineering Ltd.
- IRED - Thermal Group Ltd.
- Intertek Testing Services NA Ltd.
- Labtest Certification Inc.
- RAE Engineering and Inspection Services

### **Electrical Equipment –**

- CSA Group – Canadian Standards Association
- Intertek Testing Services NA Ltd.
- QPS Evaluation Services
- Inspection and Technical Services
  - All requests for inspections are made through ITS central booking by calling 204-945-3373.
  - ITS will make every attempt to attend all inspection requests within 2 weeks. Please note that this process can take significantly longer if the required information is not provided in a timely fashion.
  - The application fee for this service is \$1053.

### **Getting an Electrical Field Approval**

A grain dryer will require an electrical field approval if it is not certified or previously field approved.

If a grain dryer is certified or field approved for electrical, the electrical certification or field approval is valid at any location, unless the electrical system has been modified.

A grain dryer does require an electrical installation permit at every installation. See Phase 3: Installing Your Grain Dryer for more information.

## **PHASE 3: INSTALLING YOUR GRAIN DRYER**

Obtaining the necessary approvals

### **Gas installation permits**

A licenced gas fitter will apply to ITS for the installation permit and will install the grain dryer. You will need to hire a licenced Gas fitter “A” due to the high output rating of this equipment.

The following are required as part of the installation permit application, and are to be submitted by your gas fitter:

- Permit application to install gas burning equipment;
- Piping drawing(s) to support the installation;
- Permit fees as per Part 2 of the schedule in the Gas and Oil Burner Regulation.

## **Electrical installation permits**

Electrical installation permits are required for every installation, and can be applied for through the electrical authority having jurisdiction.

If the grain dryer is being installed within the jurisdiction of the City of Winnipeg, a permit would be applied for with the City of Winnipeg.

If the grain dryer is being installed in any other area of the province, a permit would need to be applied for with Manitoba Hydro. Please visit their website at [https://www.hydro.mb.ca/accounts\\_and\\_services/permits\\_and\\_inspections/index.shtml](https://www.hydro.mb.ca/accounts_and_services/permits_and_inspections/index.shtml) for more information.

## **Manufacturers Installation Instructions**

Every make and model of dryer will come with a set of manufacturers certified installation instructions specific to the unit. If the unit was previously owned, the installation instructions may be available from the seller, the manufacturer, or available online.

As an example, the manufacturer's installation instructions will address issues such as the type of base or supports required to safely support the unit, the mounting of any accessories, and may also specify safe clearances from combustibles or adjacent buildings.

It is required that the unit be installed in accordance with the manufacturers certified instructions. You should consult directly with your equipment supplier prior to the installation to avoid any unnecessary delays.

## **Installation requirements**

Grain dryers must also be installed in accordance with the requirements of the CSA B149.1- 2020 Natural Gas and Propane Installation Code, and the CSA B149.2 – 2020 Propane Storage and Handling Code, depending on the fuel type.

In Manitoba, a licensed "A" gas fitter is required to install this high output equipment. As the permit holder, it is the responsibility of the gas fitter to ensure compliance. These individuals are highly trained, and very familiar with the installation requirements.

## **Manufacturing standards vs Installation codes**

Manufacturing standards such as the CSA 3.8 - 2014, Standard for the manufacturing of crop drying equipment, sets out the manufacturing and testing requirements for certification purposes. Dryers manufactured to this standard are still subject to the requirements of the CSA B149.1 - 2020 Natural Gas and Propane Installation Code. Compliance with the CSA B149.1 - 2020 does not affect the manufacturer's certification of the unit.

## **PHASE 4: Booking your Inspections**

**ITS has established a central booking process jointly with Manitoba Hydro to streamline the scheduling of inspections. To schedule an inspection, you can contact us at 1-204-945-3373. It is the responsibility of the permit holder (licensed gas fitter) to schedule the inspection.**

Recognizing the importance of this valuable equipment to producers, and in particular during the busy harvest season, ITS is committed to ensuring that inspection staff are available at critical times to provide inspections throughout the harvest season. Inspection staff are scheduled to be available both evenings and weekends to address your immediate inspection needs.

**Arrangements can be made by contacting our Program Manager - Gas and Oil Inspections at 204-945-3373. A 24 hour "Inspection Hotline" has been established and will be available from August 15 – December 31. After hour service will be available by contacting our general office numbers listed above and following the prompts. This expanded service will assist producers, equipment suppliers, fuel suppliers and installers with their dryer approval and inspection needs at a critical time.**

Please note that it is important to ensure that the installation is completed in conformance with the manufacturers installation instructions, the CSA code requirements above, and that all checks are completed where possible, prior to the inspection to avoid any unnecessary delays.

### **Harmonization of installation requirements**

**Harmonization of installation requirements for Manitoba and Saskatchewan producers remains a priority. We recognize that equipment suppliers, fuel distributors and licensed installers often serve clients in both provinces. ITS and TSASK Inspection Staff remain committed to working closely towards alignment of approval processes and installation requirements, such as the safe venting of equipment, dryer and fuel tank protection and general installation code requirements.**

For any other general inquiries related to the installation of your grain drying equipment, please contact ITS at 204-945-3373 for further information.