

Six things to determine or obtain when purchasing & installing a gas-fired Grain Dryer

1) Determine Your Fuel Requirements – Natural Gas vs Propane

NATURAL GAS:

If you are considering a Natural Gas Grain Dryer contact SaskEnergy regarding the natural gas requirements of your new grain dryer (BTU/HR). SaskEnergy will determine whether there is an adequate supply of natural gas to meet your needs, or if upgrades to their gas distribution system and metering are necessary.

Call 1-800-567-8899 to speak to a SaskEnergy representative.

SaskEnergy gas distribution system and metering upgrades could take several months to be completed, so please call early!

PROPANE:

If you are considering a propane Grain Dryer, contact your Propane Supplier regarding the propane fuel requirements of your new grain dryer (BTU/HR), including whether the dryer is designed for a liquid propane supply connection, or a vapour propane supply connection. Your Propane Supplier will determine the size of storage tank(s) required, and where tank(s) can be located. Grain Dryers with large vapour propane supply requirements may require a vaporizer to generate the required vapour fuel flow.

2) Determine Your Electrical Supply requirements

It is equally important to consider the electrical requirements of your new grain dryer. Contact your local Saskatchewan Licensed Electrical Contractor to determine if your electrical service is adequate or will need upgrading. A SaskPower Electrical Permit will also need to be taken out for the installation of the grain dryer (see step 5, Installing your Grain Dryer, below).

SaskPower electrical system upgrades could take several months to be completed, so please call early!

3) Determine if the Grain Dryer is Certified or in need of Field Approval

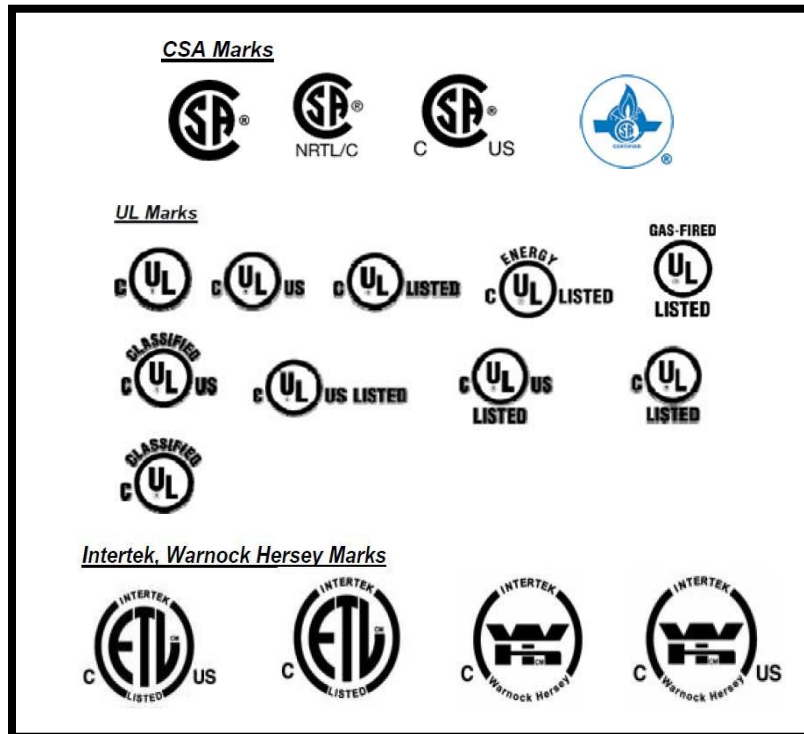
To be installed in Saskatchewan, all grain dryers must be either certified, or otherwise field approved.

New Grain Dryers:


CSA 3.8 is the Standard in Canada for the construction of grain dryers with inputs of 12.5 million BTU/HR or less. Grain Dryers with an input greater than 12.5 million BTU/HR will require a SaskPower Field Approval, in accordance with the national code CSA B149.3.

Check the name plate of the grain dryer to see if it bears a certification mark. A valid certification mark will contain the following information:

- a) A recognized certification mark or label (see examples below), AND



- b) 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:

SERIAL No. NUMÉRO DE SÉRIE	[REDACTED]
MODEL MODÈLE	D2701B7CSAACSNSSSW
SUPPLY VOLTAGE TENSION D'ALIMENTATION	230 V 1 PHASE
FUEL TYPE TYPE DE CARBURANT	PROPANE
MAX INLET SUPPLY PRESSION MAX INLET SUPPLY	180 PSI
	CERTIFIED TO CSA STD 3.8-2014
HIGH LIMIT TEMPERATURE : HAUTE TEMPÉRATURE LIMITE :	149 °C 300 °F

Used Grain Dryers:

Used Grain Dryers are accepted as certified or otherwise approved when bearing:

- CSA 3.8 certification
- Special Inspection or Field Approval label from a Standards Council of Canada accredited Certification Body (eg. CSA, Intertek) as meeting either CSA 3.8, or CSA B149.3.
- SaskPower Gas Inspections Field Approval tag

Certification or Approval of a grain dryer is invalidated if the gas valve train has been modified or has been converted from one fuel to another using a non-certified conversion kit. Grain Dryers that have been modified, or converted from one fuel to another, will require a SaskPower Field Approval unless a certified conversion kit for that grain dryer was utilized.

Notes:

- Replacement of components on a gas valve train, like-for-like, is considered maintenance and does not constitute a modification.
- A Special Inspection or Field Approval label marked as meeting SPE-1000 is an electrical approval label. This label does not indicate a certification or approval to operate on natural gas or propane.

Uncertified Grain Dryers (New or Used):

An uncertified grain dryer will require a Field Approval by SaskPower Gas Inspections. Example situations which will result in a grain dryer being uncertified include:

- The input is greater than the scope of CSA 3.8 (greater than 12.5 million BTU/HR),
- It has been converted from one fuel type to another (unless a certified conversion kit for that grain dryer was utilized), since its last inspection or certification.
- The gas valve train has been upgraded or modified from the original design.

4) Obtaining a Field Approval of a Grain Dryer (where necessary)

SaskPower Field Approval Program:

The SaskPower Field Approval program is for the approval of uncertified gas-fired equipment meeting the requirements prescribed by the latest edition of CSA B149.3 Code for the field approval of fuel-burning appliances and equipment.

Unless approved otherwise by the Chief Gas Inspector, only SaskPower Gas Inspections can field approve gas-fired equipment in Saskatchewan.

Applications for a SaskPower Field Approval are not complete unless the required documentation has been provided. Allow at least 2 weeks for the documentation of a completed Field Approval application to be reviewed. An acceptable Field Approval application will then receive permission to proceed with installation (see below).

Field Approval application forms, or more information on the Field Approval program, can be obtained from:

- <https://www.saskpower.com/Accounts-and-Services/Permits-and-Inspections/Gas-Permits/Field-Approval-Program>
- emailing a request to: GEIS@saskpower.com or dhird@saskpower.com

Please also note that Field Approval fees are in addition to the regular gas permit fees that are required for the gas installation permit. Field Approval fees for grain dryers are currently as follows:

- up to and including 5 million btu/hr \$1,250.00 plus GST
- over 5 million btu/hr and less than 12.5 million btu/hr \$2,500.00 plus GST
- 12.5 million btu/hr and larger, up to 50 million btu/hr \$3,000.00 plus GST

Field Approval fees are listed in the complete Gas Fee Schedule, which is available from:

- <https://www.saskpower.com/Accounts-and-Services/Permits-and-Inspections/Gas-Permits/Gas-Permits-and-Applications>

A Field Approval of gas-fired equipment is not complete until the Gas Inspector has witnessed the testing and activation of the gas-fired equipment and informs you that the equipment may be placed into operation as installed.

This Field Approval is provided by SaskPower Gas Inspections in compliance to CSA B149.3 and does not certify the gas-fired equipment as meeting the Canadian Electrical Code or any installation requirements of SaskPower Electrical Inspections.

SaskPower Gas Inspections review of a completed field approval application could take two weeks to be completed, so please apply early!

5) Obtaining an Installation of your Grain Dryer

Gas connection to your Propane or Natural Gas grain dryer must be completed by a Saskatchewan Licensed General Gas Contractor under the authority of a permit issued by SaskPower Gas Inspections.

Electrical connection to your grain dryer must be completed by a Saskatchewan Licensed Electrical Contractor under authority of a permit issued by SaskPower Electrical Inspections

The installation shall meet the requirements of the current:

- CSA B149.1 standard for the installation of natural gas and propane systems
- CSA B149.2 standard for the storage and handling of propane (if applicable)
- CSA C22 Canadian Electrical Code

The installation shall also meet the requirements of the Manufacturer's Instructions supplied with the grain dryer.

6) Obtaining an Inspection and Approval of your Grain Dryer

Due to their high input, the activation of your grain dryer must be completed in the presence of a SaskPower Gas Inspector. The Licensed Gas Contractor who holds the installation permit and a Manufacturer's Representative are also required to be present during activation. During the activation it will need to be demonstrated to the SaskPower Gas Inspector that Grain Dryer is working safely and properly. Some of the items that will need to be confirmed during the inspection include:

- Gas supply pressure to the appliance is correct
- Gas pressure at the burner is correct
- High and low gas pressure switches are functioning
- Air supply switch is functioning
- Purge times and cycles are correct
- Flame safety system is functioning

The SaskPower Gas Inspector requires a minimum of 48 hours of notice when booking your activation.

Other items the SaskPower Gas Inspector will look at during the inspection

- Grain Dryer must be installed on a concrete base
- Propane tank(s) must be adequately supported according to code
- Gas piping, tubing and hoses must be of correct material and size
- Excess flow valve must be installed on Propane tank
- Above ground gas piping must be protected from damage
- Propane tanks must be protected from vehicular damage and clear of combustible materials
- Grain dryer and propane tanks must have required minimum clearances according to code

The inspection of the electrical permit will be conducted by a SaskPower Electrical Inspector in coordination with your Saskatchewan Licensed Electrical Contractor.

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.

Staff at The Office of the Fire Commissioner and SaskPower Gas Inspections 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 SaskPower Gas and Electrical Inspections at 1-888-757-6937, option 5 or email at GEIS@saskpower.com for further information.



Gas & Electrical Inspections

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