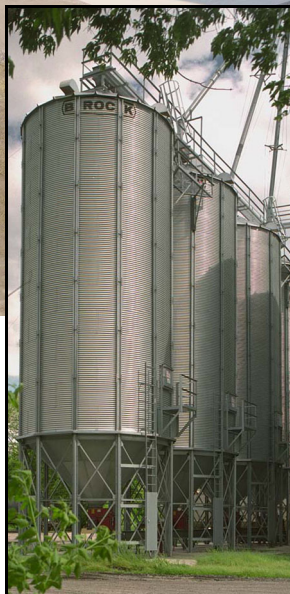


OWNER/OPERATOR and MAINTENANCE



Grain System Management



Side Discharge Rules of Operation

The BROCK® Side Discharge System, when installed properly, allows side unloading of free-flowing grain from corrugated, **stiffened** Grain Bins by gravity alone. Do not add a Sidedraw to a Bin that is not designed for side unloading.

The Spout can be installed as low as the second ring/tier, but **not below** the second ring/tier. The Spout cannot be installed on a vertical or horizontal seam. Some bins may require additional Wind Rings. You must follow all charts in the Side Discharge installation manual(s) for the correct number of interior Baffles and additional Wind Rings. For larger bins, you must contact your authorized Brock Dealer for assistance in proper placement.

IMPORTANT!



Do NOT install a Sidedraw in a non-stiffened Bin, unless Stiffeners are installed below the Spout on both sides of the Sidedraw system.

Sidedraws which are improperly installed, or made by other manufacturers, could result in sidewall damage and could void the BROCK® Bin Warranty. To protect your Bin and Warranty, use only BROCK® Side Discharge systems.

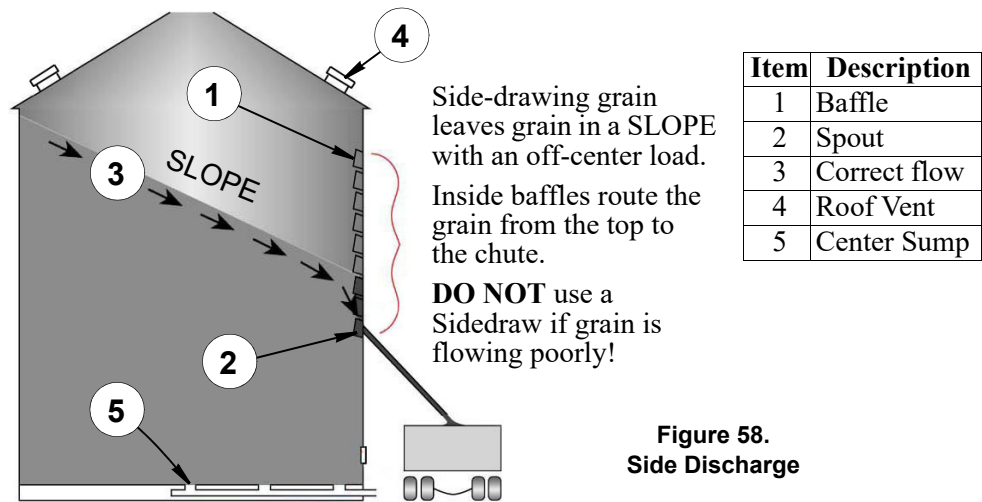


Figure 58. Side Discharge

CAUTION



Sidedraws are NOT made for, nor meant to be used as, the primary outlet. Even with a proper Side Discharge system, YOU MUST STILL UNLOAD THROUGH THE CENTER BOTTOM SUMP, so grain reaches equal wall heights around the entire Bin before you re-fill. Failure to do so before re-filling will create unequal wall stresses, cause the Bin to go out-of-round, and will flatten the side where grain depth is lowest. Bin damage can eventually occur.

CAUTION



Do NOT install or use a Side Discharge if AIR gates have been installed in the Grain Bin. Failure to follow this instruction could cause damage to the Grain Bin. Electric gates may be used if they close at a SLOW, controlled speed equivalent to a hand-operated gate.

Side unloading faster than 5,000 bushels per hour can create a vacuum inside the Bin that can collapse the sidewall. An adequate quantity of clean roof vents is recommended to handle the air-flow where Side Discharge systems are used. Contact Brock Grain Systems for the number of roof vents needed to safely manage higher unload rates. Side Discharge systems are **not** recommended for oats and barley due to the flow characteristics of these grains.

WARNING



Doing any of the following could damage the Bin:

- **DO NOT UNLOAD** from the Side Discharge system and the center bottom discharge at the same time.
- **DO NOT USE** two Side Discharge systems to unload at the same time. A second Side Discharge may be installed in some diameters. See the installation Manual for details.
- **DO NOT USE** a Side Discharge and fill the Bin at the same time.
- **DO NOT alternate** if multiple Side Discharge systems are installed in the same Bin.

Proper Side Discharge systems allow an even unload of top layers and layers underneath, through the baffles. **Baffles must be installed!**

Improper Side Discharge systems (*i.e.*, no baffles installed) create dangerous suction pressures that can cause roof damage or sidewall flattening or buckling.

Item	Description
1	Baffle
2	Spout
3	Correct flow

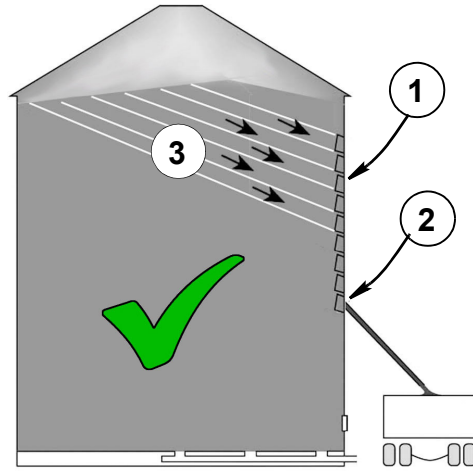


Figure 59.
Correct Flow Through Baffles

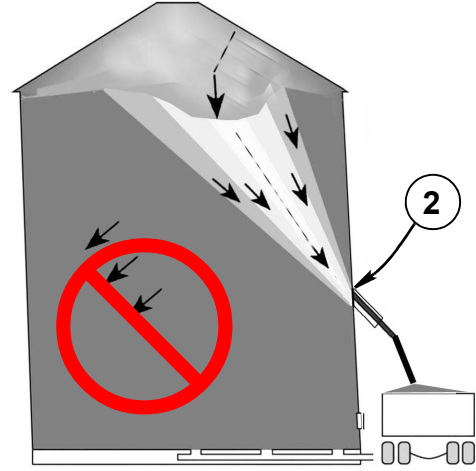
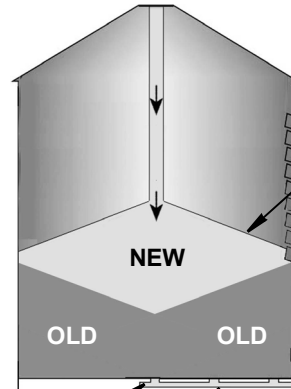
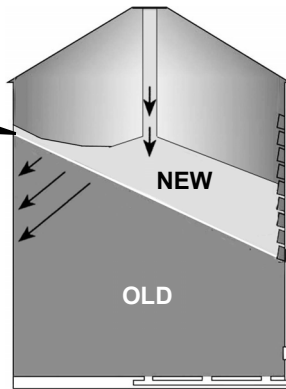


Figure 60.
Incorrect Flow Directly to Spout (Baffles Absent)

Do not use intermediate sumps close to Sidedraw baffles as a primary outlet **before** using the center sump. This can cause uneven pressures and Bin failure. **Do not use** intermediate sumps until all grain has gravity-drained through the center sump. Completely emptying the Bin reduces the risk of leftover grain matting to the sidewalls.

Refilling without first leveling the existing old grain can create uneven sidewall pressures and possible Bin failure.



Unload through the center sump to achieve a level CONE before refilling.



Item	Description
1	Center Sump
2	Intermediate Sump

Figure 61.
Level Before Refilling

Multiple Side Discharge Systems

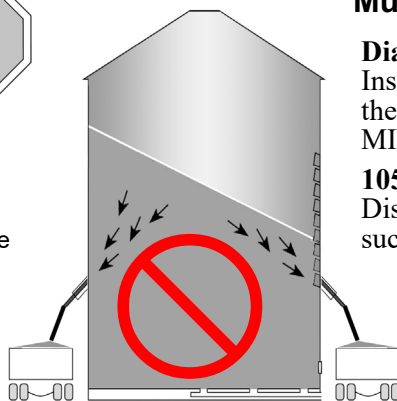
Diameters up to and including 90' [27 432]: Installation of multiple Side Discharge systems on the same Bin requires that such systems be located a MINIMUM of 90° apart (non-adjacent).

105' [32 004] Diameters: Installation of dual Side Discharge systems on the same Bin requires that such systems be located a MINIMUM of 150° apart.

Additional rules apply to 105' Bins. See instruction MCB1398 (Narrow Corr.) or MCB1628 (Wide Corr.).



Figure 62.
One Discharge at a Time!
DO NOT unload from two Side Discharge Spouts at the same time!



Sump and Grate Recommendations

Sumps should be adequately **sized** to allow for grain flow equal to unloading equipment rate. Sumps should be **guarded** with a grate that is in place when personnel are in the Bin, but does not impede flow into the sump. If grates are removable, they **MUST** be placed over the sumps when anyone is inside the Bin.

If condensation drips from a roof vent and collects in the grain, the grain may crust together and change color in that spot. Small clumps will be broken up in the auger, but large clumps may not, especially if they are encrusted by ice. Use a WELL-GARD® to prevent blockage of the center sump.

IMPORTANT!



If a center sump plugs and there is no emergency sump, contact your authorized Brock dealer BEFORE trying to unload the Bin. See “Alternate/Emergency Sumps” below.

Sump Dimensions and Distances

Sumps should be located from the center of the Bin to the outside wall in small enough intervals so that manual removal of grain between sumps will be unnecessary for startup of the sweep auger.

Grate openings should not exceed 2.5" [64] or applicable OSHA size requirement.

Open grates and solid covers must have a minimum weight-bearing capacity of at least 250 pounds [113.4 kg] or applicable OSHA weight requirement. They must have a latch or lock mechanism to prevent them being accidentally kicked or moved out of place.

Bin Center Sumps: Some unloading equipment (examples such as: Drags, Sweeps, Augers, etc.) have integrated center and intermediate sumps. These sump locations and sizes are determined by the equipment manufacturer.

For larger bins that require unloading through either a concrete or other type of supporting floor, the center sumps are typically 24" - 48" [610 - 1219] square based on the bin unloading design capacity and rate of discharge required.

Intermediate Sumps: 12" [305] square or larger every 8' - 10' [2 438 - 3 048].

Alternate/Emergency Sumps: If the Center Sump Becomes Plugged

IMPORTANT!



Unload from an emergency sump ONLY if a center sump plugs!

Equip your Bin with an **alternate** or **emergency sump** that may be safely activated should the center sump become plugged or ineffective during an unload. The emergency sump must be located within the **center quarter** of the Bin, with its own independent open/close mechanism to control its gate. Unload from the emergency sump until the grain cone is empty to the floor.

Planning an emergency/alternate sump installation: Measure the distance between the center sump and closest adjacent intermediate sump. If this dimension is within one-quarter of the Bin radius, it can be used as an alternate for unloading the Bin if the center sump has become plugged. Example: The radius of a 48' [14 630] diameter Bin is 24' [7 315]; one-quarter of that is 6' [1 829], so the emergency sump must be within 6' [1 829] from the center sump.



— BROCK SOLID® —

Safeguarding Your Grain® Since 1957

BROCK GRAIN SYSTEMS

A Division of CTB Inc.

P.O. Box 2000 • Milford, Indiana 46542-2000 • U.S.A.

Phone (866) 658-4191

e-mail: brock@brockgrain.com • Internet: <http://www.brockgrain.com>

and

1750 W. State Road 28 • Frankfort IN 46041

Phone (765) 654-8517 • Fax (765) 654-8510

Toll Free (800) 541-7900

e-mail: dryers@graindryers.com • Internet: www.ctbworld.com or www.graindryers.com

Printed in the U.S.A.

BROCK Grain Systems reserves the right to continual product improvement and to change specifications without prior notice, without the obligation to modify previously sold equipment.

Changes this issue:

The Warranty was updated.

Page 8: Hardware Torques were added.

Page 11: Added reference to the Collar Safety Tie-Off accessory for Farm Non-Stiffened Grain Bins, instruction MGB2082.

Page 11: Added reference to Ladder Locking Door and Cage Door.

Reference to the EVERLOC® Support Ring and Tower was added.

The EVEREST® E- and E4-Series Commercial Stiffened Grain Bin was added.

Brock now offers smaller structural Roofs 24' - 42'.

Longer Extended Ladder Bracket options allow for Ladders to be placed over Stiffeners.

Miscellaneous corrections were made and some graphics were updated.

There were trademark updates.

The corporate phone number changed.

NOTE: The original, authoritative version of this Manual is the [English] version produced by CTB, Inc. or any of its subsidiaries or divisions, (hereafter collectively referred to as "CTB"). Subsequent changes to any Manual made by any third party have not been reviewed nor authenticated by CTB. Such changes may include, but are not limited to, translation into languages other than [English], and additions to or deletions from the original content. CTB disclaims responsibility for any and all damages, injuries, Warranty claims and/or any other claims associated with such changes, inasmuch as such changes result in content that is different from the authoritative CTB-published [English] version of the Manual. For current product installation and operation information, please contact the Customer Service and/or Technical Service Departments of the appropriate CTB subsidiary or division. Should you observe any questionable content in any Manual, please notify CTB immediately in writing to: CTB Legal Department, P.O. Box 2000, Milford, IN 46542-2000 USA.

© 2022 Brock Grain Systems. This Manual is intended for use by the Owner/Operator, and/or personnel employed by the Owner/Operator. The right to copy this manual is limited by copyright law. Making copies, adaptations, or compilation works, without prior written authorization of Brock Grain Systems is prohibited by law and constitutes a punishable violation of the law. No part of this manual may be reproduced in whole or in part without the express written consent of Brock Grain Systems.