



David  
Manufacturing Co.

*Stir-Ators*

MAKING PRODUCTS AS RELIABLE AS THE PEOPLE WHO USE THEM.

**Efficient**

**Reliable**

**Accurate**



**Design III**

# Stir-Ators

# Design III

## Why Choose a DMC Stir-Ator?

DMC's Stir-Ator machines provide the most thorough, systematic, and time-tested stirring pattern on the market.

Whether purchasing a new bin or updating present storage for drying, a Stir-Ator can cut drying time by 50% in a low temperature bin. A Stir-Ator can also help store grain by serving as a management tool for grain conditioning.

The DMC Design III uses a spiral stirring pattern that stirs the entire grain mass every stirring cycle. This is important because 50% of the grain in a bin is in the outside 1/3 of the bin, making it more efficient than other stirring devices.

The Design III is the ONLY stirring pattern that allows the augers to spend more time stirring the outside of the bin, where most of the grain is, rather than the center of the bin.

Choose a DMC Stir-Ator with two or three augers for 18 to 48 foot bins.



## Batch System

A Design III Stir-Ator turns any drying bin into a self-contained drying and storage system. With a Stir-Ator in your bin, you have wet holding, drying, and storage all in the same unit.

The bin can be filled with the Stir-Ator running to stir the grain and insure that the maximum amount of drying air can be pushed through the grain to increase

drying capacity. A complete bin full of grain can be dried in one filling with this method. While this method is not the quickest, it is efficient and maintains some of the highest grain quality of all drying systems.

A Stir-Ator decreases static pressure by "fluffing" or loosening grain to allow maximum airflow. Grain is mixed so it dries faster, thus avoiding the problem of over-drying the bottom layers of grain while the top layers are still wet.

When all the grain is dry, a Design III Stir-Ator equipped bin can be used for storage. Periodically running the Stir-Ator (with or without aeration) helps prevent grain spoilage and damage when storing grain over a long period of time.

## Continuous-Flow System

Stir-Ators work well with an in-bin continuous-flow system, such as a DMC Grain Flow, to increase drying capacity. The dry grain is continuously removed from the bottom of the bin as it dries.

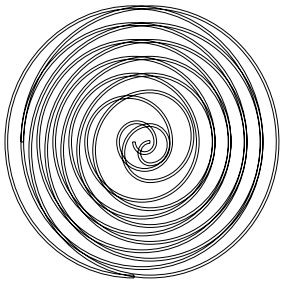
Stirring augers should be cut off 30 inches above the floor to avoid disturbing the drying front. The grain above this zone (grain depths of up to 16 feet) is constantly stirred, thereby allowing greater airflow and heat to move up through the wet grain for greater drying capacity and maximum efficiency.



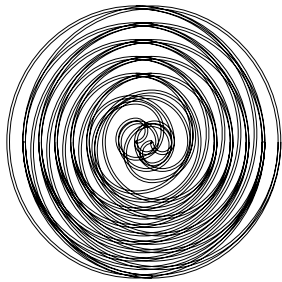


# Stirring All Grain Equally is Important

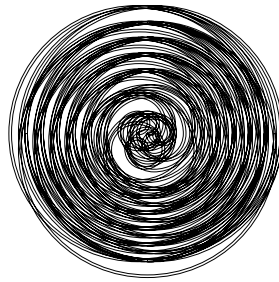
Typical stirring pattern after 3 cycles.



1 Cycle



2 Cycles



3 Cycles

## Standard Features

The Design III Stir-Ator was engineered for minimal maintenance and remains one of the most popular selling stirring machines ever built.

The following features are STANDARD with DMC's Stir-Ators.

- 1. Graduated Pitch Augers**  
Easier start ups. More flighting at the bottom of the auger where the most grain is stirred. More flighting to move more grain.
- 2. Rugged Drive**  
A 3/16" aircraft cable drives the machine. No reversing switches.
- 3. Disconnect Box**  
Fused disconnect box protects motors.
- 4. Automatic Shut-Off**  
Shuts down if trolley binds.
- 5. Fused Gear Motor**  
Protects against electrical problems.
- 6. Sealed Bearings**  
Low maintenance.
- 7. Solid State Electronic Tilt Switch**  
replaces the mercury switch. No moving parts and controls forward motion of machine.
- 8. Gear Motor Ratio**  
DMC's Stir-Ators use a 9 RPM gear motor, compared to the 1 RPM gear motors used by most manufacturers, making it the most aggressive machine on the market.



## Available Options

- 1. Stir-Guard**  
The Stir-Guard option protects grain from over-stirring. If the Stir-Ator does not move forward within 45 minutes, Stir-Guard shuts the Stir-Ator down.
- 2. Hard Surfaced Down Augers**  
Unlike the thin, strip-welded hard surface offered by other manufacturers, DMC down augers feature a smooth, powder surfacing compound covering the entire lifting surface.
- 3. DMC AirTubes**  
Help prevent bin wall grain spoilage
- 4. In-Out Ladder**  
Since DMC Stir-Ators stir all the way to the bin wall, removal of the inside attached ladders is recommended. DMC's In-Out Ladder allows for easy entry into the bin. Strong, lightweight, alloy steel tubing makes this ladder easy to use.



## How do you tell if an auger is good?

DMC builds all these performance features into their hard surfaced augers.

- 1. Square edges** on auger flighting provides the most efficient stirring as compared to any other shape. Square edges move more grain to the top, thereby blending grain with all levels of moisture and temperatures. Square edges on augers also helps the augers travel through the grain faster than rounded edges, which gives you more complete stirring in a shorter period of time.
- 2. Auger flighting with smooth surfaces.** Rough, uneven welds damage grain, creating fines that can complicate drying and cause storage problems. Rough surfaces also move less grain upward.
- 3. Hardest flighting possible and consistent wear area.** Hardness is directly related to wearability. The harder the auger, the longer it will last.

You will find DMC is the only company with all these features together on one auger.

# DMC

# Ideal for Use in **Drying and Managing** the Quality of Stored Grain

## CORN CHART

Bin Size & Air Flow					Corn Drying Capacity (BU/ 24 Hrs) & Recommended Number of Augers										
Bin Size	Fan H.P.	Drying Rate Multiplier* For More Fans		CFM for 1 Fan	Static Pressure for 1 Fan	Drying Capacity (BU/ 24 Hrs) Recommended Number of Stirring Augers Heat Rise Above Ambient Temperature									
		2	3			25°	Augers	50°	Augers	75°	Augers	100°	Augers	125°	Augers
18	5.0	1.2	na	5,400	3.0	264	2	600	2	960	2	1344	2	1752	3
	10.0	1.2	na	6,200	3.7	288	2	696	2	1128	2	1536	2	2016	3
	15.28	1.2	na	6,500	2.5	312	2	720	2	1176	2	1632	3	2112	3
21	7.0	1.2	na	7,300	3.0	360	2	816	2	1320	2	1824	3	2376	3
	10.0	1.2	na	8,000	3.4	384	2	888	2	1440	2	1992	3	2568	3
	15.28	1.2	na	10,500	5.2	480	2	1152	2	1896	3	2616	3	3384	3
24	7.0	1.2	na	8,500	2.5	408	2	936	2	1536	3	2112	3	2736	4
	10.0	1.2	na	9,300	2.9	432	2	1032	2	1680	3	2304	3	2976	4
	10C	1.5	na	11,000	3.7	504	2	1224	2	1992	3	2736	3	3552	4
	15.28	1.2	na	12,500	4.5	576	2	1368	2	2256	3	3096	3	4032	4
	15C	1.4	na	12,700	4.6	600	2	1416	2	2304	3	3198	4	4128	4
	20C	1.3	na	15,400	6.2	720	2	1704	3	2784	3	3840	4	4992	4
27	7.0	1.4	na	9,400	2.1	432	2	1032	2	1704	3	2328	3	3024	4
	10.0	1.3	na	10,300	2.4	480	2	1128	2	1872	3	2568	3	3336	4
	10C	1.6	na	11,500	2.8	528	2	1272	2	2064	3	2880	3	3720	4
	15.28	1.3	na	14,000	3.7	648	2	1536	2	2544	3	3480	4	4512	4
	15C	1.5	na	13,800	3.7	648	2	1512	2	2496	3	3432	4	4464	4
	20C	1.5	na	16,500	4.8	744	2	1800	3	2976	3	4080	4	5304	4
30	30C	1.3	na	20,600	6.7	936	2	2256	3	3720	4	5112	4	6648	4
	10.0	1.5	na	11,000	2.0	504	2	1224	2	1992	3	2760	4	3576	4
	10C	1.7	na	11,900	2.2	552	2	1320	2	2160	3	2976	4	3840	4
	15.28	1.4	na	15,200	3.0	696	2	1680	2	2736	3	3792	4	4896	4
	15C	1.6	na	14,600	2.9	672	2	1608	3	2640	3	3624	4	4704	4
	20C	1.6	na	17,200	3.7	762	2	1896	3	3096	4	4272	4	5544	4
33	30C	1.5	na	21,800	5.3	984	2	2400	3	3936	4	5424	4	7056	4
	10.0	1.5	na	11,600	1.6	504	2	1272	2	2088	3	2880	4	3744	4
	10C	1.8	na	12,180	1.7	576	2	1344	2	2208	3	3048	4	3936	4
	15.28	1.5	na	16,200	2.6	744	2	1776	2	2928	3	4032	4	5232	4
	15C	1.6	na	15,100	2.3	696	2	1656	3	2712	3	3744	4	4872	4
	20C	1.7	na	17,800	3.0	816	2	1944	3	3216	4	4416	4	5736	4
36	30C	1.6	na	22,600	4.2	1032	2	2472	3	4056	4	5592	4	7272	4
	10C	1.8	na	12,400	1.4	576	2	1368	2	2232	3	3096	4	4008	6
	15.28	1.6	na	17,000	2.2	768	2	1872	3	3072	3	4224	6	5472	6
	15C	1.7	na	15,400	1.9	696	2	1680	3	2784	4	3816	6	4968	6
	20C	1.8	na	18,300	2.4	840	2	1992	3	3388	6	4536	6	5904	6
	30C	1.7	na	23,200	3.4	1056	2	2544	3	4176	6	5784	6	7488	6
42	15.28	1.7	2.1	18,100	1.5	816	2	1992	3	3264	3	4488	6	5832	6
	15C	1.8	2.4	15,800	1.3	720	2	1752	3	2856	4	3936	6	5112	6
	20C	1.8	2.5	18,900	1.6	864	2	2064	3	3408	6	4680	6	6096	6
	30C	1.8	2.4	24,200	2.3	1104	2	2640	3	4368	6	6024	6	7800	6
	40C	1.7	2.1	29,700	3.1	1344	3	3240	4	5352	6	7392	6	9576	6
48	15.28	1.7	2.3	18,800	1.3	864	2	2064	3	3384	6	4680	6	6072	6
	15C	1.9	2.6	16,100	1.0	744	2	1776	3	2904	6	4008	6	5208	6
	20C	1.9	2.6	19,200	1.3	888	2	2112	3	3480	6	4776	6	6216	6
	30C	1.8	2.5	24,800	1.7	1128	3	2712	6	4464	6	6144	6	7992	6
40C	1.8	2.4	30,600	2.2	1392	3	3360	6	5520	6	7608	6	9888	6	

The CORN charts are based on ambient air temperature of 50°F, 60% relative humidity, 16' (4.9 m) of corn, 10% moisture removal (2 points removed in cooling) (25%-17%).

These charts are designed as a guide only. Fan performance will vary considerably from one manufacturer to another and other factors can change the approximate bushels per day. Choose from Stir-Ator models with two, or three augers to fit bins from 18' (5.5 m) to 48' (14.6 m). Each model gives you all the exclusive Stir-Ator features that can turn a simple bin into a wet-holding tank, dryer, and storage bin—all in one unit.

\*All multiple fans are in parallel. Multiply drying rates x 1.6 for 5 point removal (for corn). All multiple fan static pressures (where multipliers are shown) fall within acceptable performance guidelines.

## RICE CHART

Bin Size & Air Flow					Rice Drying Capacity (BU/ 24 Hrs) & Recommended Number of Augers										
Bin Size	Fan H.P.	Drying Rate Multiplier* For More Fans		CFM for 1 Fan	Static Pressure for 1 Fan	Drying Capacity (BU/ 24 Hrs) Recommended Number of Stirring Augers Heat Rise Above Ambient Temperature									
		2	3			10°	Augers	20°	Augers	30°	Augers				
18	5.0	1.2	na	3,900	3.7	96	2	312	2	504	2				
	7.0	1.1	na	4,000	3.9	96	2	312	2	528	2				
	10.0	1.2	na	4,800	3.3	120	2	360	2	624	2				
21	7.0	1.1	na	5,200	3.6	120	2	384	2	672	2				
	10.0	1.2	na	5,500	3.9	144	2	408	2	720	2				
	15.28	1.2	na	7,700	6.1	168	2	576	2	984	2				
24	7.0	1.2	na	6,300	3.3	144	2	480	2	792	2				
	10.0	1.2	na	6,800	3.6	168	2	504	2	864	2				
	15.28	1.2	na	9,400	5.6	216	2	696	2	1200	3				
	10C	na	na	9,500	5.6	216	2	696	2	1200	3				
	15C	na	na	10,400	6.4	240	2	744	2	1320	3				
	20C	na	na	12,600	8.3	288	2	936	3	1584	3				
27	7.0	1.2	na	7,400	3.0	144	2	552	2	936	2				
	10.0	1.2	na	8,100	3.4	168	2	576	2	1032	3				
	15.28	1.2	na	11,000	5.0	240	2	816	2	1368	3				
	10C	1.4	na	10,300	4.6	216	2	768	2	1320	3				
	15C	na	na	11,700	5.5	264	2	864	2	1488	3				
	20C	na	na	14,400	7.2	288	2	1056	3	1824	3				
30	10.0	1.2	na	9,100	3.0	216	2	672	2	1152	3				
	15.28	1.3	na	12,400	4.5	264	2	912	3	1584	3				
	10C	1.5	na	10,900	3.8	240	2	816	2	1392	3				
	15C	1.4	na	12,700	4.6	288	2	936	3	1632	3				
	20C	1.3	na	15,500	6.0	336	2	1152	3	1968	3				
	30C	1.2	na	19,200	8.1	408	3	1416	3	2448	4				
33	10.0	1.3	na	9,900	2.6	216	3	744	3	1248	3				
	15.28	1.3	na	13,600	3.9	288	3	1008	3	1728	3				
	10C	1.6	na	11,400	3.1	240	3	840	3	1440	3				
	15C	1.5	na	13,600	3.9	288	3	1008	3	1728	3				
	20C	1.5	na	16,400	5.0	336	3	1176	3	2088	3				
	30C	1.4	na	20,500	6.8	432	3	1512	3	2592	4				
36	15.28	1.4	1.5	14,600	3.4	312	3	1080	3	1848	3				
	10C	1.7	2.0	11,700	2.6	264	3	864	3	1464	3				
	15C	1.5	1.8	14,200	3.3	312	3	1056	3	1800	3				
	20C	1.6	1.8	16,900	4.2	360	3	1248	3	2136	4				
	30C	1.5	na	21,500	5.7	456	3	1584	3	2736	4				
	42	15.28	1.5	1.8	16,100	2.7	336	3	1176	3	2040	3			
15C		1.7	2.1	15,000	2.4	336	3	1104	3	1920	3				
20C		1.7	2.1	17,800	3.0	384	3	1296	3	2256	3				
30C		1.7	2.0	22,600	4.1	480	3	1656	3	2856	4				
40C		1.5	1.7	27,600	5.3	576	3	2016	4	3480	6				
48	15.28	1.6	2.0	17,100	2.1	360	3	1248	3	2184	3				
	15C	1.8	2.3	15,400	1.8	336	3	1128	3	1968	3				
	20C	1.8	2.4	18,400	2.3	384	3	1344	3	2304	6				
	30C	1.8	2.3	23,500	3.1	504	3	1728	6	2976	6				
40C	1.7	2.0	28,900	4.0	600	3	2112	6	3648	6					

The RICE charts are based on ambient air temperature of 80°F, 85% relative humidity, 16' (4.9 m) of rice, 7% moisture removal (19%-13%).

For more information on DMC's complete line of equipment visit us online at:  
www.dmc-davidmanufacturing.com



1004 E. Illinois St. • Assumption, IL 62510  
Ph: 217-226-5100 • Fax: 217-226-5070



DMC-022 JAN/09  
Copyright ©2009 by The GSI Group, LLC. Printed in the USA • Due to continual improvements, The GSI Group, LLC. reserves the right to change designs and specifications without notice.