

FFI TOWER DRYERS

MODULAR & F-SERIES DRYERS



PROVEN & DEPENDABLE™

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PROVEN & DEPENDABLE

The demands of farming are never-ending. The risks are high. And, at harvest, every second counts. The window of opportunity to harvest at optimal moisture levels for long-term storage and profitability is narrow. At GSI, we help farmers like you take advantage of early harvest to maximize your profitability with efficient, high-capacity GSI and FFI grain dryers.

Harvesting early maximizes your grain quality and income potential by reducing the chance that harsh weather conditions will damage stalks or cause eardrop. In comparison to having your crop dry in the field, drying your grain early ensures yield is at its best, with up to 20 percent reductions in dry matter and head shatter loss. Better harvest conditions also mean your equipment spends less time in the field, minimizing your cost per acre. Our ultimate goal is to help you improve your bottom line.

Never satisfied with the status quo, we have been driven to provide top-of-the-line products that will protect, condition and move the grain you work so hard to produce. We've continued to lead the industry with grain-drying solutions, such as the launch of the first computerized control systems for dryers in 1993, to meet the changing needs of farms and commercial operations across the globe. We offer the widest selection of dependable grain dryers in the industry with technology that makes drying grain as easy and efficient as possible.

As the pioneers in grain conditioning, we've set the industry standard with forward-thinking solutions designed to make you more productive.

GSI and FFI dryers feature a proven, durable design with easy-to-use controls, heavy-duty galvanized construction, powder-coat finish and commercial grade components. Stainless steel is standard on the critical outer screens and discharge floor of GSI and FFI tower dryers.

The quality of our products, supported by independent university and industry testing, is matched only by our commitment to stand behind them. We are committed each and every day to provide the best products and service possible. Our industry experts and worldwide network of dealers have provided farming operations with unparalleled expertise and support for over 40 years.

While our commitment to remain at the top runs deep, our commitment to you runs even deeper.

THAT'S WHY GSI.



FFI TOWER DRYERS

CHOOSING THE RIGHT TOWER DRYER

FFI's Modular and F-Series Tower Dryers are the largest holding capacity dryers with the longest retention times on the market today. Ideally suited for medium to large farm operations, FFI Tower Dryers are built using the same design principles as the Zimmerman Tower Dryers, which elevators depend on to efficiently work with incoming grain.

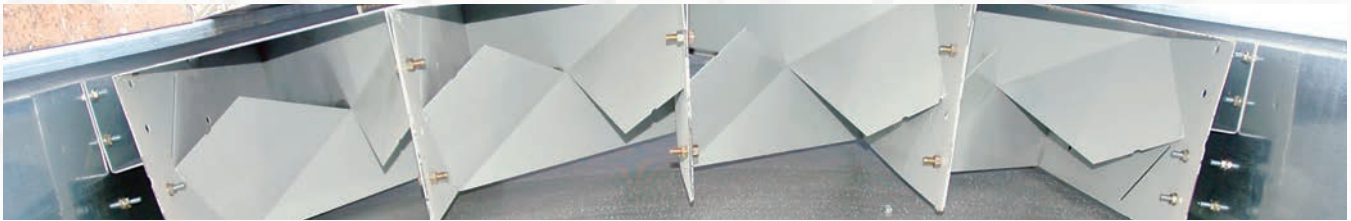
FFI Tower Dryers offer farm operations the flexibility to not only dry, but also cool from 800 to 7,000 BPH of any cereal or feed grain so they can be safely stored in long-term storage bins. With the vacuum cooling system, heat from the hot, dry grain is used for drying wet grain, increasing efficiency and resulting in significant fuel savings for your bottom line.

Even with their large capacities, FFI Tower Dryers have a relatively small footprint. The Modular Tower Dryer uses modular construction to improve speed of installation, while the F-Series Tower Dryer provides larger capacity options and is built on site. With 16 models available, the FFI Modular and F-Series Tower Dryers are designed to meet your operation's specific drying needs.

	MODULAR	F-SERIES		
MODEL FOOTPRINT	10'7"	12'	18'	24'
RANGE OF HEIGHTS	42'1" - 62'7"	59' - 85'8"	66'0" - 109'4"	97'10" - 117'10"
NUMBER OF FANS	1	1	3	3
MAXIMUM HOLDING CAPACITY (BU.)	1,049 - 1,571	1,602 - 2,401	2,915 - 4,877	6,171 - 7,399
INVERTERS	Standard			
VACUUM COOLING	Standard			

THE INVERTER ADVANTAGE

TOWER DRYERS



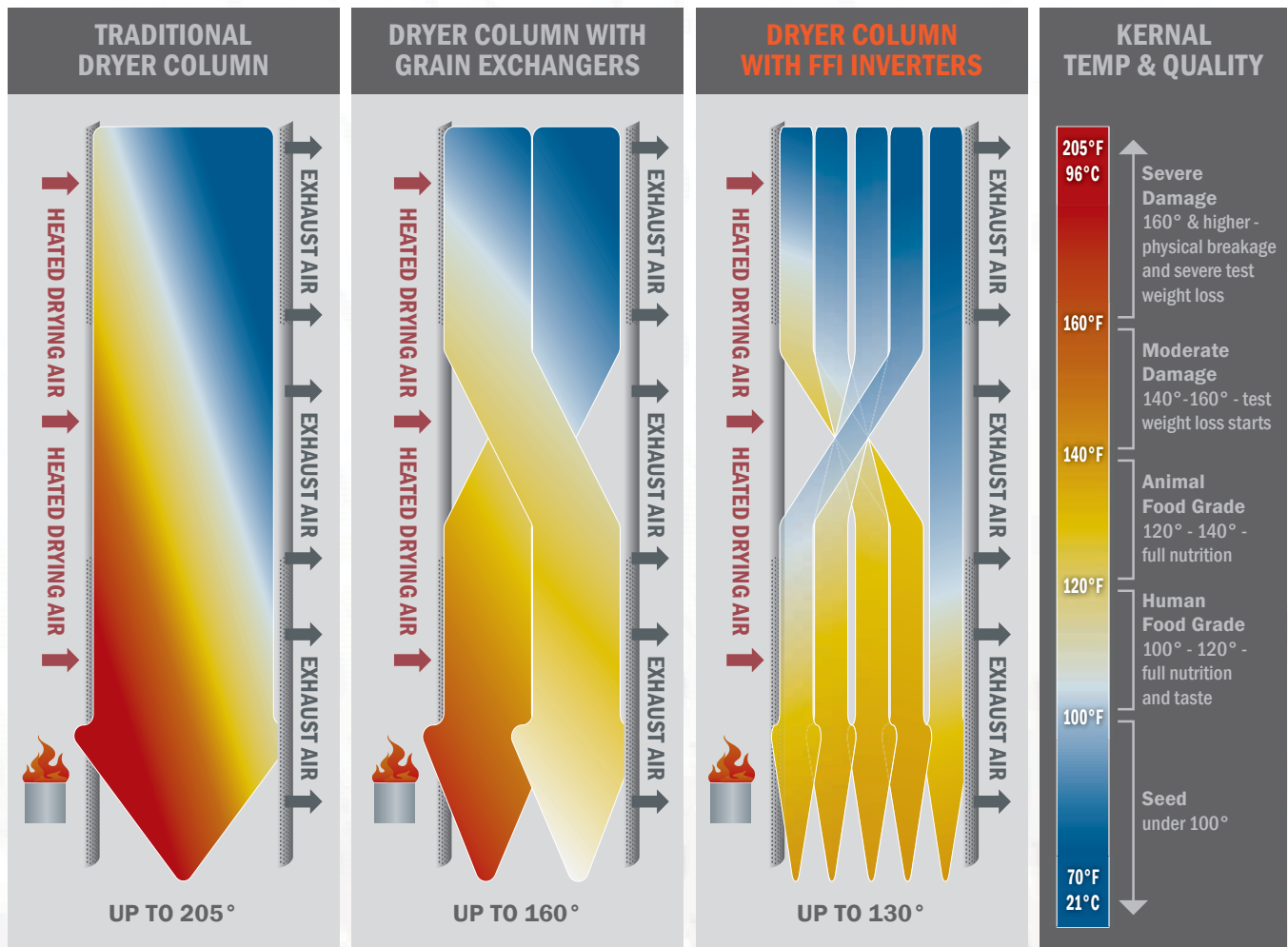
MOVING GRAIN FOR CONSISTENT, EVEN DRYING

FFI's patented Grain Inverters promote even drying, higher test weights and reduced operating costs.

While older grain exchangers moved grain from the inside of the grain column to the outer six inches, FFI's Grain Inverters invert all the grain except the outer two inches. This eliminates over-dried grain and maximizes drying efficiency and grain quality.

The warmest grain is redirected from the inside of the column to be next to the wettest grain left at the outside where it is dried by the captured heat which would have otherwise escaped.

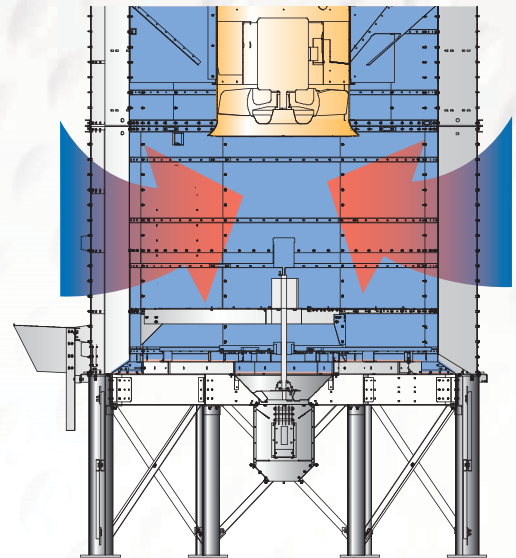
This process maintains optimal grain temperature which maximizes grain quality while using less fuel and significantly reducing operating costs. A convenient clean-out door also provides easy access for quick maintenance.



MODULAR VACUUM COOLING

Vacuum cooling is one of the most effective ways to reclaim reusable heat from hot, dry grain and reduce the amount of BTUs required by the dryer.

With the fan mounted between the cooling and heating sections, cooling air is pulled through the hot grain, mixed with ambient air and then pushed through the high efficiency burner into the drying air plenum. Because the fan is mounted internally, noise is significantly reduced.

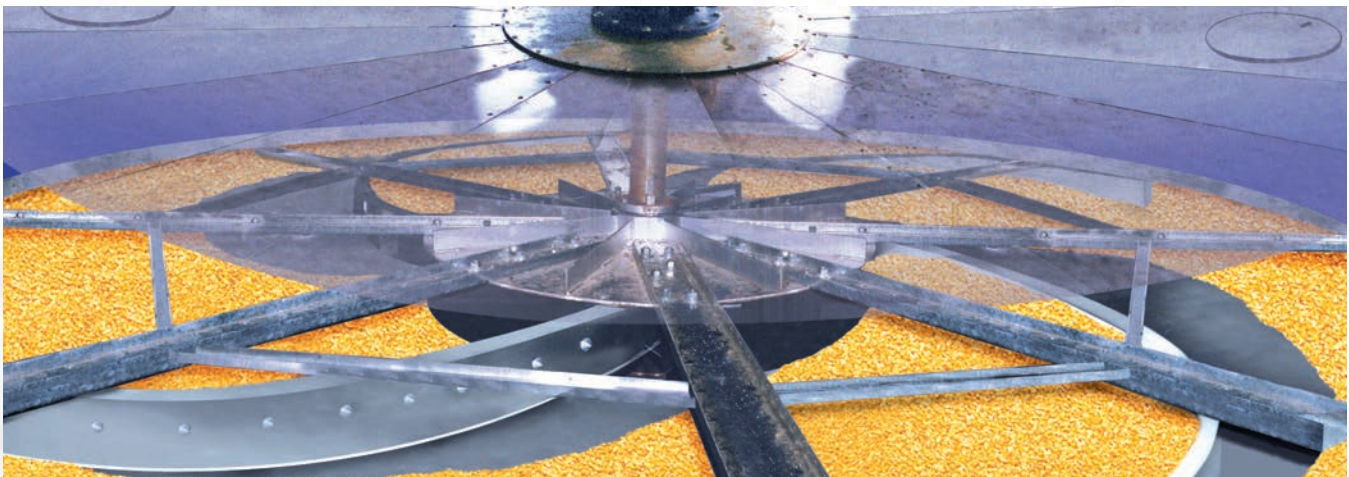


STATIC MOISTURE SAMPLER

Take moisture sample accuracy to a new level with the Static Moisture Sampler. Featuring debris guards to ensure a trash-free, accurate sample, our sampler takes readings only when the grain is static and not flowing. Using a specially designed sampling chamber, a representative grain sample is taken. The sampling chamber is blown clean with pressurized air at each cycle. Based on more accurate moisture readings, your dryer adjusts to provide optimal results.

ACCU-TROL METERING SYSTEM

FPI's patented, field-proven and self-cleaning Accu-Trol Metering System transfers grain from the dryer uniformly. A single VFD-driven AC motor and gearbox drives the system, minimizing service. The stainless steel floor and UHMW-lined sweeps are built to last and proven to significantly reduce friction.



VISION NETWORK DRYER CONTROLS

THE INDUSTRY'S MOST ADVANCED DRYER CONTROL SYSTEM

The unique FFI Vision Network Dryer Control system is designed to take the guesswork out of operating your FFI Tower Dryer.

Vision provides more control and dryer performance information than any other control system in the industry. With a quick glance you can see the operating status of the augers, fans and heaters on the large, easy-to-read color touchscreen. On-screen temperature and moisture-based controls let you modify and manage plenum and grain temperatures quickly and easily.

Making changes through Vision's straightforward interface is easy. And Vision can be easily remote-mounted up to 1,000 feet away from the dryer by using a simple seven-wire harness.



Moisture Control

Every FFI Vision Dryer is equipped with all the familiar legacy modes of moisture control. Easily select one of the five different modes that best fits your operation's needs, including two of our most common modes:

- Temperature Based 5-Speed - Uses grain temperature to determine the final moisture content. Best for all conditions when grain widely varies, the 5-Speed Mode includes automatic speed averaging so when moisture changes significantly, all five speeds will change accordingly to bring the operation back into sync with the output moisture.
- Moisture Based Infinite Speed - This system extracts data from three different points in the dryer: moisture of the incoming grain, temperature of the grain in the middle of the dryer and grain moisture exiting the dryer. All three measurements are factored to determine final moisture. Simply enter the desired moisture set point for finished grain and Vision's infinite based moisture control will speed up or slow down the metering system to maintain moisture at the desired setting. This setting makes slow and calculated adjustments to the grain and is most effective in the Tower Dryer design because of its tall drying columns.

Electrical Control Features

Each Vision system uses exclusive controls approved by Intertek ETL, a nationally recognized testing laboratory.

- Built to UL 508a and CSA C22.2 No. 14 standards - Certified to U.S. and Canadian electrical requirements.
- IEC Branch Breakers - IEC controls are higher quality, rated for more cycles, and meet domestic and international electric codes. All dryers have branch breakers for each motor.
- IEC Motor Overloads - IEC overloads allow a wide range of adjustments to accommodate variances in incoming voltage.
- Auxiliary Auger IEC Contactors/Overloads - Load and unload auxiliary motor branch circuits are standard. If load and unload horsepower are specified at time of order, GSI will install the properly sized breaker, contactor, and overload for your specific application.
- Safety Disconnect - Safely disconnects power from main panel for servicing dryer controls and also provides an easy connection point for incoming electric supply.

SYSTEM FEATURES

- 10.4" TFT diagonal color screen with touch screen control
- 32-Bit microprocessor control
- Plenum temperature manager
- Individual safety monitoring with status displayed on-screen
- Shut-downs logged with time and date
- Safety disconnect on every dryer
- Low voltage safety circuit



REMOTE DRYER CONTROL & MONITORING



DRYER CONTROL – SAFELY ACCESSED FROM ANYWHERE

The optional WatchDog™ System gives you the ability to effectively manage the complexities and logistics of drying thousands of bushels of grain on a daily basis from the comfort and convenience of your truck, combine or office.

Exclusively available from GSI, the smartphone-compatible WatchDog provides you with all the information you need at any time, all from the same Vision interface you use on your dryer display.

With the exception of starting the dryer, WatchDog gives you the ability to remotely monitor and safely control dryer functions such as moisture, temperature and dryer status from any web-accessible device with no requirements to download or update an app.



FEATURES

TOWER DRYERS

MODULAR AIR TOWER DRYER



MODULAR TOWER DRYER

GRAVITY INLET

Does not require leveling auger, reducing cost and maintenance.

ROTARY SWITCH

Designed for trouble-free positive level control.

SELF-CLEANING CUSHION BOX

Cushion box on plenum roof reduces grain damage.

GRAIN COLUMNS

The 12-3/4" grain columns surrounding the plenum are designed to receive all the BTUs from the burner, improving efficiency. The sealed discharge section prevents dirt from the plenum section of the dryer.

OPTIMUM AIR VELOCITY

For maximum efficiency and grain quality.

PATENTED GRAIN INVERTERS

Grain inverters equalize column moisture and improve column, greatly improving quality and efficiency.

OUTSIDE STAINLESS STEEL SHEETS

Extend the life and appearance of the dryer. Perforations, depending on location, to reduce wind noise.

VACUUM COOL DRYING

Vacuum cool drying reclaims reusable heat, reducing the amount of BTUs required by the dryer. SEE PAGE 10.

DIVIDER HOPPER

The divider hopper prevents particulate buildup.

SEALED METERING SYSTEMS

Keeps interior of the dryer clean.

ACCU-TROL METERING SYSTEM

Patented, self-cleaning Accu-Trol Metering System transfers grain from the dryer uniformly. SEE PAGE 10.

STATIC MOISTURE SAMPLER

Takes reading only when grain sample is static.



FEATURES

ND F-SERIES ER FEATURES

the number of parts for ease of setup

ontrol.

n damage and plenum roof wear.

he heat plenum chamber allow the grain
mproving efficiency and reducing noise.
t from being recycled back into the

while reducing particulate emissions.

content and temperature of the grain
iciency. **SEE PAGE 4 FOR MORE INFO.**

er. All screens utilize .078" or .0625"
duce emissions.

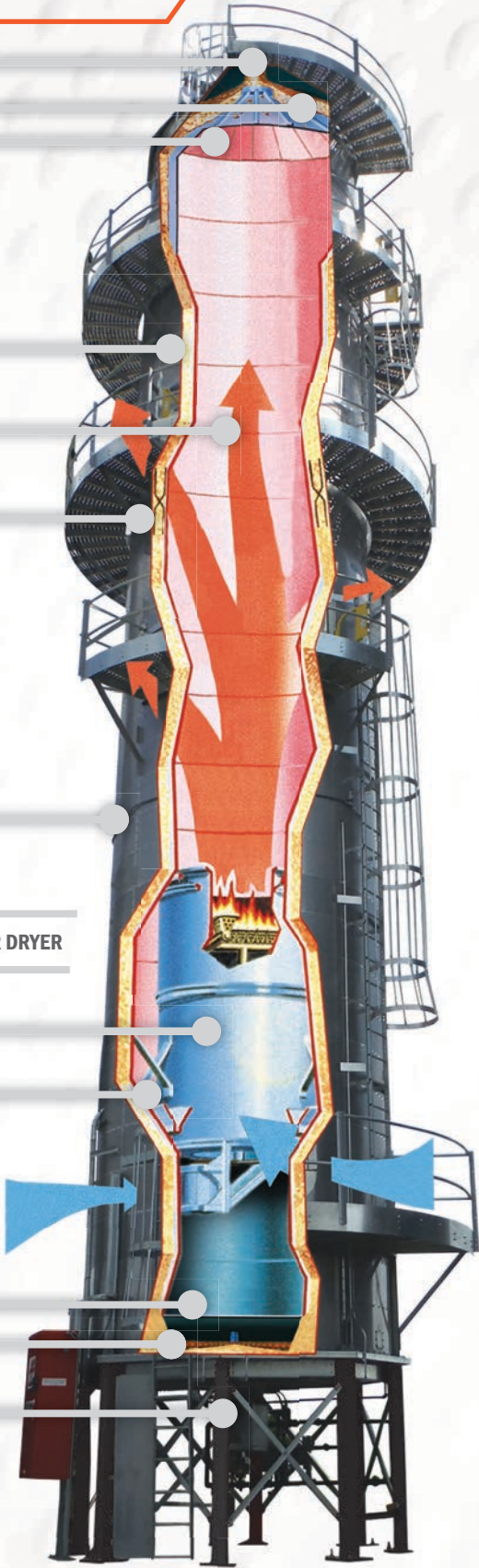
at from hot, dry grain, reducing the
PAGE 5 FOR MORE INFO.

uildup in the heat plenum chamber.

System with stainless steel floor
SEE PAGE 5 FOR MORE INFO.





static and not flowing. **SEE PAGE 5 FOR MORE INFO.**



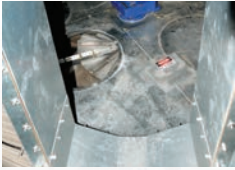

F-SERIES TOWER DRYER



FEATURES

TOWER DRYERS

BURNER AND BLOWER OPTIONS			MODULAR	F-SERIES
VANE AXIAL FAN		Efficient 1750 RPM fan delivers high volumes of air at low horsepower.	Standard	N/A
MIXED-FLOW CENTRIFUGAL BLOWER		Highly efficient, quiet and durable mixed-flow centrifugal blower provides years of trouble-free operation.	N/A	Standard
OCTAGON BURNER		1200 BPH and smaller capacities use a fuel-efficient, in-line octagon burner to provide even, continuous heat.	Standard	N/A
MAXON BURNER		Maxon fuel efficient, low nox in-line burner with engineered profiling provides even, continuous heat on 1500 BPH and larger dryers. Aluminum body reduces burner maintenance.	FM-1015 only	Standard

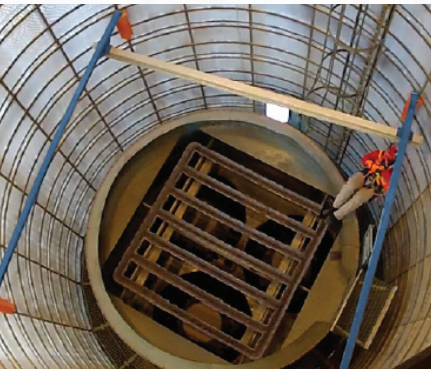
EXTERIOR HIGHLIGHTS			MODULAR	F-SERIES
INNER ROOF		Heavy galvanized inner roof and support provides a large amount of wet holding in the garner, which is completely sealed to retain particulate matter.	Standard	Standard
PLATFORMS		Inside/outside platforms, ladders and cages provide access to the dryer.	Standard	Standard
ACCESS DOORS & HATCHES		All areas of the dryer are accessible through doors and floor hatches for easy cleaning and maintenance.	Standard	Standard
METERING DRIVE		The Variable Frequency Drive (VFD) AC motor and single maintenance-free Cyclo gearbox located in the cooling chamber provide simple, trouble-free operation of the dryer's metering system.	Standard	Standard



FFI F-SERIES TOWER DRYERS

EXCLUSIVE FEATURES

F-Series Dryers are designed using the same high standards and industry expertise that go into building commercial Zimmerman Tower Dryers. F-Series Dryers are built for farms where capacities of 1500 to 7000 BPH are necessary. All 12' dia. LP gas models come standard with internal vaporizers while larger diameter models require external vaporizers. The 18' and 24' dia. models use three blowers with one large burner to provide the large volumes of air for effective and efficient drying.



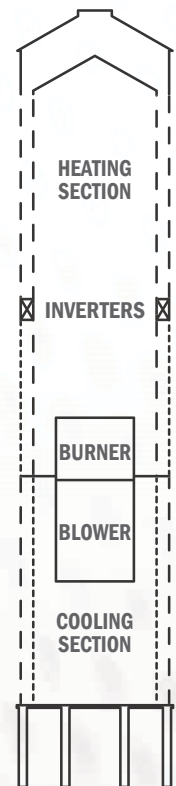
NEW! BURNER ENTRY RAIL SYSTEM

This fall-prevention burner entry system allows technicians to be safe and efficient while performing service and maintenance to a tower dryer burner. This system can be retrofitted to tower dryers from 12' to 30' diameter. The rail system components remain inside the dryer during use, and are rated up to 600° F. The weight rating for this system is 310 lbs., and a two-rail system is available that increases total capacity to 620 lbs. To use, simply put on the harness, latch the unique 4-in-1 rope system onto your person and hook the remaining carabiner to the rail system. The user can safely enter the burner and move around freely while attached to the no-fall system.

CONTROLLING PARTICULATE MATTER

A combination of perforations is used on the inside of the tower on both Modular and F-Series Tower Dryers. The heating section has .078" perforation sidewalls and the cooling section has .0625" perforations to minimize particulate matter from entering the cooling section.

Unique to the F-Series Tower Dryer is a combination of perforations. The heating section to the grain inverter and the cooling section both have .078" perforations, and from the grain inverter to the top of the cooling section .0625" perforations are used to further contain the particulate matter.



MIXED-FLOW BLOWERS

FFI F-Series Tower Dryers feature mixed-flow centrifugal blowers, which are specially designed for the static pressure requirements of an F-Series Tower Dryer. The centrifugal blower is paired with a long-lasting, durable, aluminum body Maxon burner, the most efficient burner available today.



FFI MODULAR TOWER DRYERS

TOWER DRYER SPECS

	FM-1008	FM-1010	FM-1012	FM-1015
TOWER DIAMETER ¹	10'7"	10'7"	10'7"	10'7"
BLOWER SIZE	43" Axial	43" Axial	43" Axial	48" Axial
BLOWER RPM	1775	1775	1775	1775
BLOWER HP	40	50	60	75
METERING HP / UNLOAD HP	1 / 3	1 / 3	1 / 3	1 / 3
DRYING CFM	38,000	45,000	52,000	66,000
COOLING CFM	19,500	22,500	26,000	33,000
BURNER CAPACITY (MBTU)	8,200,000	9,700,000	11,200,000	14,300,000
AVERAGE HEAT USE (MBTU) ²	5,100,000	6,100,000	7,000,000	8,900,000
GRAIN COLUMN	12-3/4"	12-3/4"	12-3/4"	12-3/4"
OVERALL HEIGHT ³	42'1"	48'11"	55'9"	62'7"
WET HOLDING (BU)	260	260	260	260
HEAT HOLDING (BU) - MIN. COOL	552	726	900	1,074
COOL HOLDING (BU) - MIN. COOL	144	144	187	187
HEAT HOLDING (BU) - MAX. COOL	450	624	798	972
COOL HOLDING (BU) - MAX. COOL	246	246	289	289
UNLOAD AREA HOLDING	93	93	50	50
DRYER HOLDING (BU)	1,049	1,223	1,397	1,571
DRYER WT (LBS)	17,900	19,200	21,700	23,000
OUTSIDE CATWALKS	1	3	3	3
BPH (SET IN MIN. COOL) ^{4,5} (20% - 15%)	900	1,125	1,350	1,690
BPH (SET IN MIN. COOL) ^{4,5} (25% - 15%)	542	670	810	1,010
BPH (SET IN MAX. COOL) ⁴ (20% - 15%)	800	1,000	1,200	1,500
BPH (SET IN MAX. COOL) ⁴ (25% - 15%)	480	600	720	900

¹ Dimensions exclude outside catwalks. Diameter is 15'7" with catwalks.

² At 50 degrees ambient temperature.

³ Optional vertical fill pipe height not included.

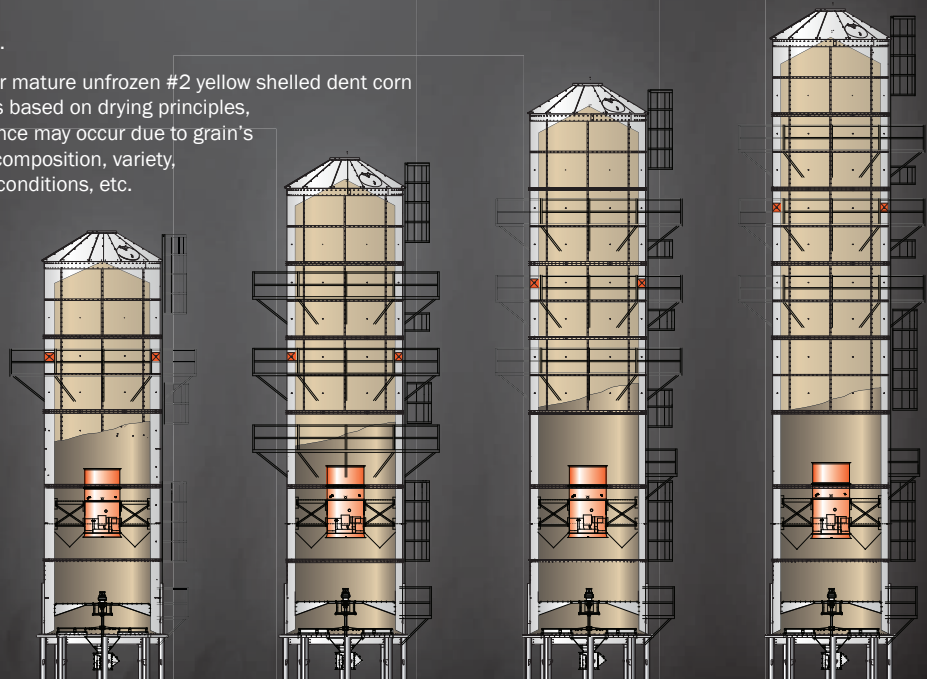
⁴ Capacities listed are wet bushels/tonnes, for mature unfrozen #2 yellow shelled dent corn at listed moisture content and are estimates based on drying principles, field results and computer simulation. Variance may occur due to grain's physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, adverse weather conditions, etc.

⁵ Capacities with cooling floor set in the lower minimum cool position and assumes utilization of cooling in bin (dryeration)

Discharge Height - Adjustable up to 42" with standard unload auger and 24" at center discharge with standard legs. 2' leg extensions are optional.

All models available in natural gas or liquid propane. Liquid propane pricing includes an internal vaporizer and high pressure regulator.

All models available in 3 phase 230 or 460 volts.



FM-1008

10'7" dia. x 42'1" height
15'7" dia. w/ Catwalks

FM-1010

10'7" dia. x 48'11" height
15'7" dia. w/ Catwalks

FM-1012

10'7" dia. x 55'9" height
15'7" dia. w/ Catwalks

FM-1015

10'7" dia. x 62'7" height
15'7" dia. w/ Catwalks

All dryers are shown at relative size.

FFI F-SERIES TOWER DRYERS

TOWER DRYER SPECS

	F-1575	F-1875	F-20100	F-24100	F-2500	F-3000	F-3500	F-4000	F-4700	F-5000	F-6000	F-7000
TOWER DIAMETER¹	12'				18'					24'		
BLOWER SIZE	490	542	542	600	3-402	3-402	3-445	3-445	3-490	3-542	3-600	3-600
BLOWER RPM	1,035	856	981	818	1,106	1,240	1,111	1,185	1,000	966	793	817
BLOWER HP	75	75	100	100	3-40	3-50	3-60	3-75	3-75	3-100	3-100	3-125
METERING HP	1	1	1	1	1.5	1.5	1.5	1.5	1.5	2	2	2
FULL AMP LOAD 460V/230V²	128.5 / 244.5	128.5 / 244.5	157.5 / 302.5	157.5 / 302.5	183.5 / 354.5	219.5 / 426.5	252.5 / 492.5	300.5 / 588.5	300.5 / 588.5	387.5 / 762.5	387.5 / 762.5	474.5 / 936.5
DRYING CFM	77,100	81,800	98,600	108,300	121,950	145,200	175,800	192,750	213,600	282,000	304,800	337,500
COOLING CFM	38,550	40,900	49,300	54,150	60,975	72,600	87,900	96,375	106,800	141,000	152,400	168,750
BURNER CAP. (BTUx1000)	16,654	17,669	21,298	23,393	26,341	31,363	37,973	41,634	46,138	60,192	65,837	72,900
AVE. HEAT (BTUx1000)³	9,576	10,159	12,246	13,451	15,146	18,034	21,834	23,940	26,529	35,024	37,856	41,918
GRAIN COLUMN	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"
OVERALL HEIGHT⁴	59'0"	69'0"	75'8"	85'8"	66'0"	76'0"	86'0"	96'0"	109'4"	97'10"	107'10"	117'10"
WET HOLDING (BU)	335	335	335	335	731	731	731	731	731	1,279	1,279	1,279
HEAT HOLDING (BU)	914	1,158	1,256	1,499	1,511	1,813	2,210	2,512	2,964	3,479	4,042	4,452
COOL HOLDING (BU)	305	354	451	500	529	680	737	888	1,038	1,126	1,177	1,381
DISCHARGE HOLDING (BU)	48	48	48	48	144	144	144	144	144	287	287	287
DRYER HOLDING (BU)	1,602	1,895	2,090	2,401	2,915	3,368	3,822	4,275	4,877	6,171	6,785	7,399
OUTSIDE CATWALKS	1	2	2	3	2	2	2	3	3	2	3	3
BPH (20% -> 15%)⁵	1,500	1,800	2,000	2,400	2,500	3,000	3,500	4,000	4,700	5,000	6,000	7,000
BPH (25% -> 15%)⁵	900	1,080	1,200	1,440	1,500	1,800	2,100	2,400	2,820	3,000	3,600	4,200

¹ Dimensions exclude outside catwalks.

² Includes amperage for two 10 HP auxiliary motors.

³ At 50 degrees ambient temperature.

⁴ Optional vertical fill pipe height not included.

⁵ Capacities listed are wet bushels/tonnes, for mature unfrozen #2 yellow shelled dent corn at listed moisture content and are estimates based on drying principles, field results and computer simulation. Variance may occur due to grain's physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, adverse weather conditions, etc.

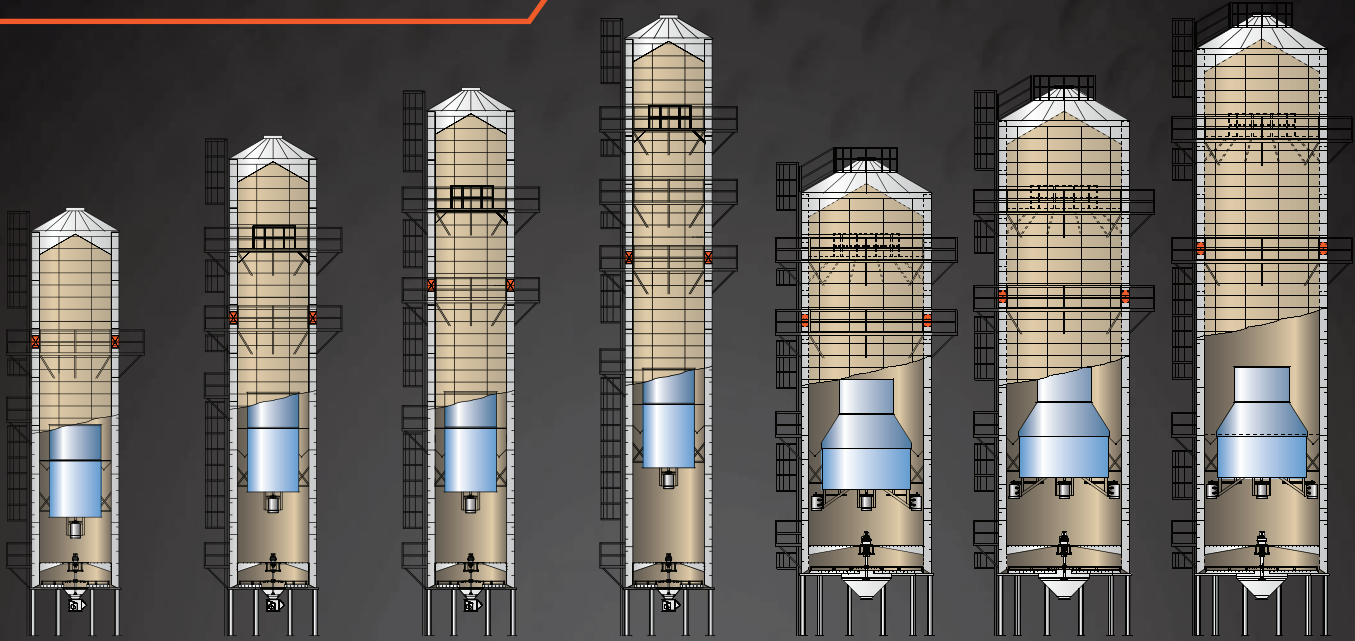
Discharge Height - 40"

All models available in natural gas or liquid propane. Liquid propane pricing includes an internal vaporizer and high pressure regulator on 12' models.

All models available in 3 phase 230 or 460 volts.



FFI F-SERIES TOWER DRYERS



F-1575
12' dia. x 59'0" tall
19' dia. w/ Catwalk

F-1875
12' dia. x 69'0" tall
19' dia. w/ Catwalk

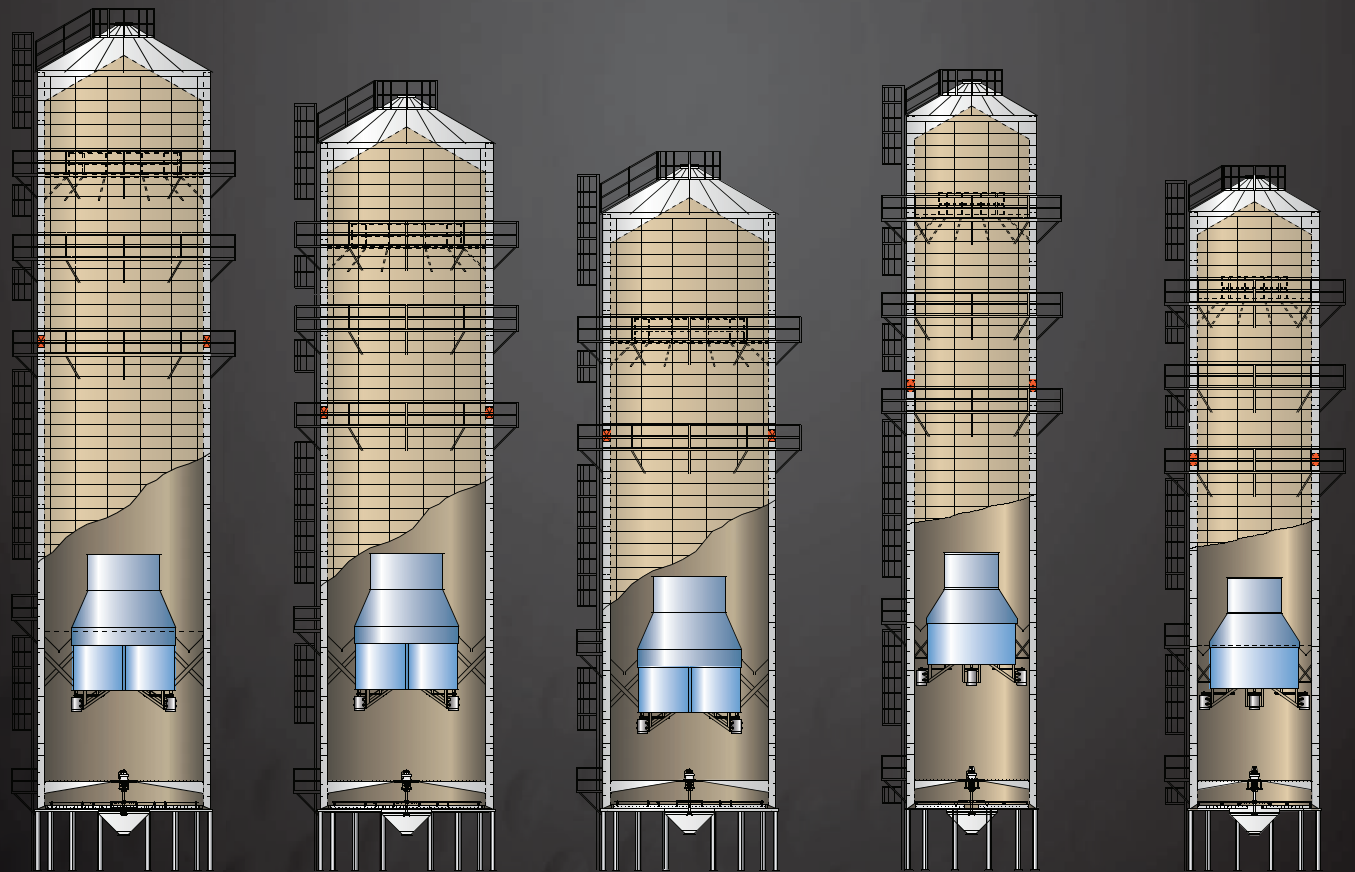
F-20100
12' dia. x 75'8" tall
19' dia. w/ Catwalks

F-24100
12' dia. x 85'8" tall
19' dia. w/ Catwalks

F-2500
18' dia. x 66'0" tall
25' dia. w/ Catwalks

F-3000
18' dia. x 76'0" tall
25' dia. w/ Catwalks

F-3500
18' dia. x 86'0" tall
25' dia. w/ Catwalks



F-7000
24' dia. x 117'10" tall
32' dia. w/ Catwalks

F-6000
24' dia. x 107'10" tall
32' dia. w/ Catwalks

F-5000
24' dia. x 97'10" tall
32' dia. w/ Catwalks

F-4700
18' dia. x 109'4" tall
25' dia. w/ Catwalks

F-4000
18' dia. x 96'0" tall
25' dia. w/ Catwalks

COMPLETE YOUR GSI SYSTEM

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40-SERIES™ GRAIN BINS

When determining the best system for your operation, we know that what is protected inside the bin is what counts the most. Every product we design, engineer and build is based on this foundation.



TOPDRY

Grain in the overhead chamber is dried by a large fan and heater then dumped to a holding area below. An aeration fan below captures heat from this previously dried grain, and pushes it upward to help dry the next load. This recycling of heat increases efficiency, which greatly reduces drying costs.



MATERIAL HANDLING

GSI's material handling line includes bucket elevators, chain conveyors, belt conveyors, bin unloads, and chain loops. Also available are towers, catwalks, and support structures.



GLOBAL SOLUTIONS. LOCAL SUPPORT.

GSI and GSI Dealers alike share the same passion and commitment to our customers. GSI Dealers understand down time is not an option, construction schedules must be met. From site planning to installation and service, GSI Dealers are the proven partners for your operation. When you buy GSI, you get the quality product of a worldwide leader and the dependable service of your local Dealership.

**TO FIND YOUR LOCAL GSI DEALER,
VISIT THE DEALER LOCATOR
AT WWW.GRAINSYSTEMS.COM**



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