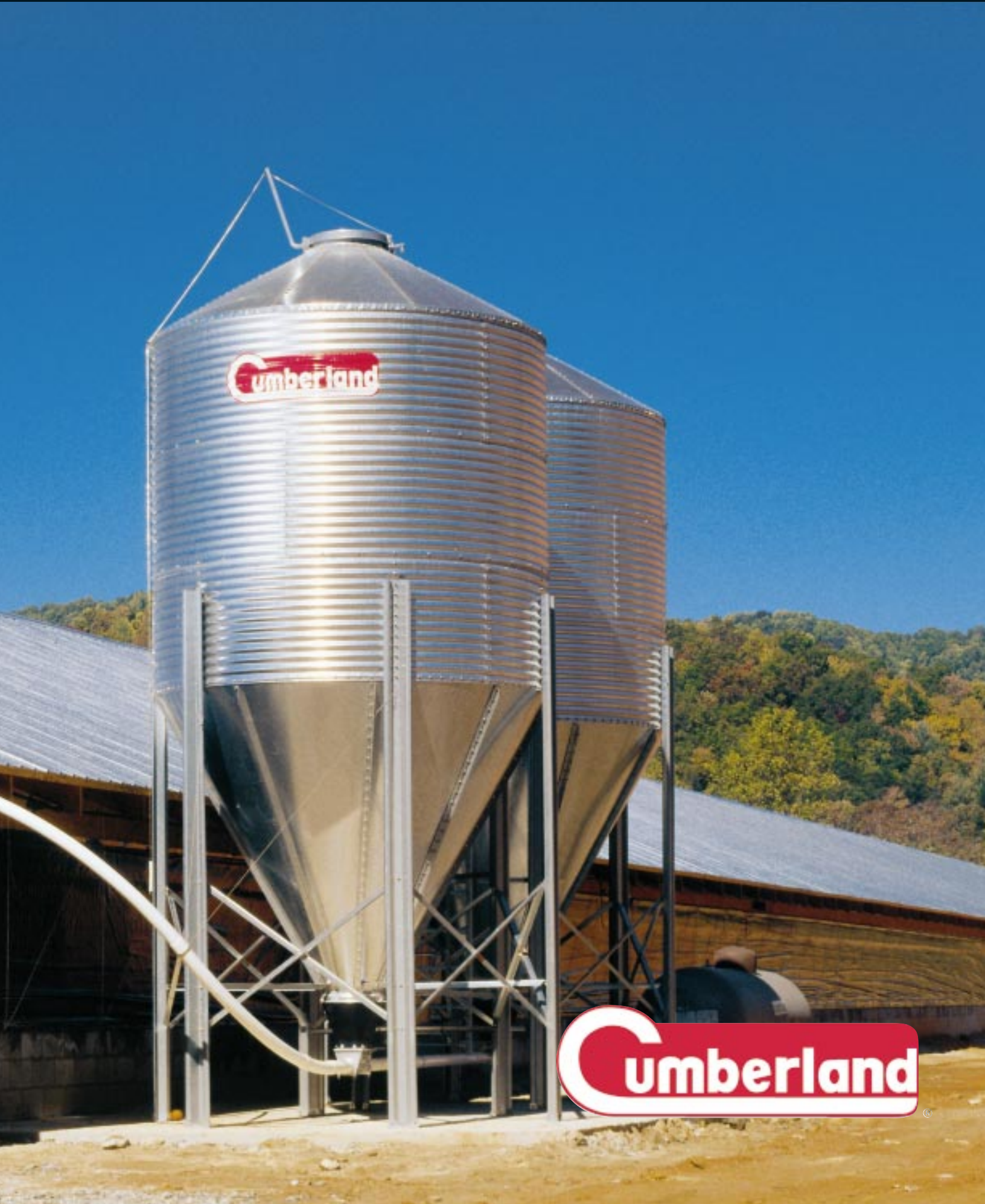


Bulk Feed Tanks & Delivery Systems

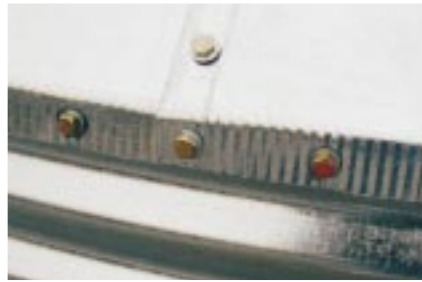


Bulk Feed Tanks

Cumberland's Bulk Feed Tanks and Flex-Flo™ perfectly illustrate the attention to detail that quality demands. Cumberland is a division of The GSI Group, Inc., the world's largest manufacturer of corrugated, galvanized steel storage tanks (from the smallest feed tanks to massive 100 feet/31 meters tall, 15,000+ ton capacity commercial giants).

Every component is made from the finest raw materials available. Every stage of the forming process, from corrugation to die-cut shaping to precision finishing, is done under one roof and under our direct control and supervision.

40° roofs provide additional strength and capacity. (Shown with optional pneumatic fill kit.)



Reinforcing Rib

Bin Roof

Cumberland offers your choice of a 30° or 40° bin roof to adapt to any application. Roof panels are precision manufactured using die-form tooling to provide consistent quality. Both 30° and 40° roofs feature reinforcing ribs at each roof seam for added strength and rigidity.

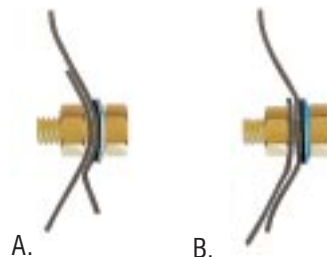
Hopper Bottoms with Drip Lip



Cumberland's new drip lip water deflection system is a one-of-a-kind, roll-formed bottom sheet edge, which forces water away from the hopper and lower boot area. Complete weather protection without a loss in capacity.

Tank hoppers are available in three slopes: 45° for dry, free flowing grains and 60° or 67° for harder flowing materials. Like the roof panels, hopper panels are die-formed with rounded corners and sealed edges down-turned for a weather-tight fit. The assembly has rounded, truss-head bolts, which reduces "bridging" of contents on inner surfaces. The "eave", the upper edge where the hopper is joined to the sidewall, is specially die-formed to conform to the shape of the sidewall corrugation (See A.). Most other manufacturers depend on crimping and bolt pressure to force the connection (See B.)...which produces corrosion-prone distortion and "dimpling" of the sidewall.

Cumberland's die-formed eave provides a much tighter seal and smoother flow of material.



Strength & Durability



High tensile steel sidewall sheets, with a galvanized coating, provide outstanding strength and durability along with the 2-2/3" (68mm) wide by 1/2" (13mm) deep corrugation and precision formed panel. Cumberland also provides solid, convenient access via a fully die-formed side ladder with dimpled non-skid rungs.



Cumberland's patented "Auto-Lok" lid system allows the bin to be opened, closed and locked from the ground. The lid swings open a full 180° eliminating interference with fill augers.

Legs & Anchors



Cumberland tanks are supported by our own unique, roll-formed, fully galvanized 6-bend legs (manufactured with Cumberland's exclusive computer controlled machinery), providing significantly greater strength than simple angle iron legs and greater corrosion resistance than painted legs. Galvanized roll-formed cross ties and two-piece leg anchor sections provide strength, stability, support, and load transfer.

Secure Access

Cumberland feed tanks feature the exclusive, patented "Auto-Lok" ground control access system for opening, closing, and latching the fill cap safely and easily from the ground.

Our cap system comes completely factory assembled, saving significant time and trouble in installation. The cap itself swings open a full 180°. The cap lies flat, parallel to the ground, completely eliminating the annoying and all-too-frequent interference with, or damage to, the cap from the fill auger. In fact, to meet consumer demand, the Cumberland Fill Cap is available as a replacement for destroyed or damaged caps on most competitor's tanks.



Factory Formed Fill Kits



Another Cumberland exclusive is the pre-punched, extruded lip roof panel provided for the optional pneumatic fill-kit.

Pre-punching eliminates the inconvenience and difficulty of field-cutting the openings for the fill and exhaust tubes, and insures secure, moisture-proof seals.



Bulk Feed Tanks



Cumberland offers you a variety of bin sizes to fit your specific application needs.



Our metal boot will allow installation of up to four feed lines in several directions.

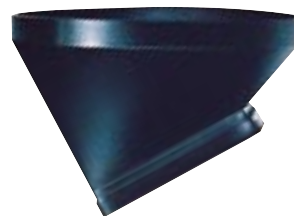


Heavy Duty Boots

Multiple outlet requirements can be easily handled by our 22" (55.9cm) all metal boot. This boot, which can be fitted to any Cumberland feed bin, will allow installation of up to four feed lines in several directions at once. Cumberland's 16" (40.6cm) parabolic boot (available in straight drop or 30° models) is made from the very latest in ultra high impact polypropylene for greater flexibility, dependability and durability.

E-Z Kleenout Panel

Cumberland's optional E-Z Kleenout hopper panel allows for convenient and thorough ground level inspection and cleaning. The panel can be easily unbolted and removed from the exterior of the bin in a matter of minutes. A weather seal gasket protects the bin contents from the elements. The E-Z Kleenout panel can be easily adapted to existing feed bins and can be used on tanks with up to a 15 ton maximum capacity.



30° Drop Boot



Straight Drop Boot



Clear Boot

Cumberland's clear boot allows producers to verify at a glance while driving by that feed is present in the bin. This heavy walled boot is injected molded from a specially formulated ultraviolet stabilized clear polycarbonate blend to provide years of trouble free service.

Flex-Flo™ Feed Delivery Systems

Distributing feed to the feeders controllably, cleanly, and efficiently is the specific function of Cumberland's Flex-Flo™ Auger System. The entire system is flexible and adaptable to your specific needs — in feeds, in house layout, and in installation and maintenance.

Using PVC tubing as the carrier of feed not only provides flexibility in facility design, but reduces dust, provides protection against insect and rodent contamination, reduces noise, therefore reducing stress and offering longer life.



System Efficiency

Cumberland offers several unloader systems including single, twin, tandem and twin tandem models. The Flex-Flo™ auger can be direct or belt driven by a 1/3 to 1-1/2 horsepower, totally enclosed fan cooled motor at a standard 358 RPM (other speeds are available for special applications). A wide selection of accessory equipment is also available including extension hoppers to adjust auger lengths, time clocks, automatic shut-off switches, intermediate drop kits, and y-drops.

Flex-Flo™ Models

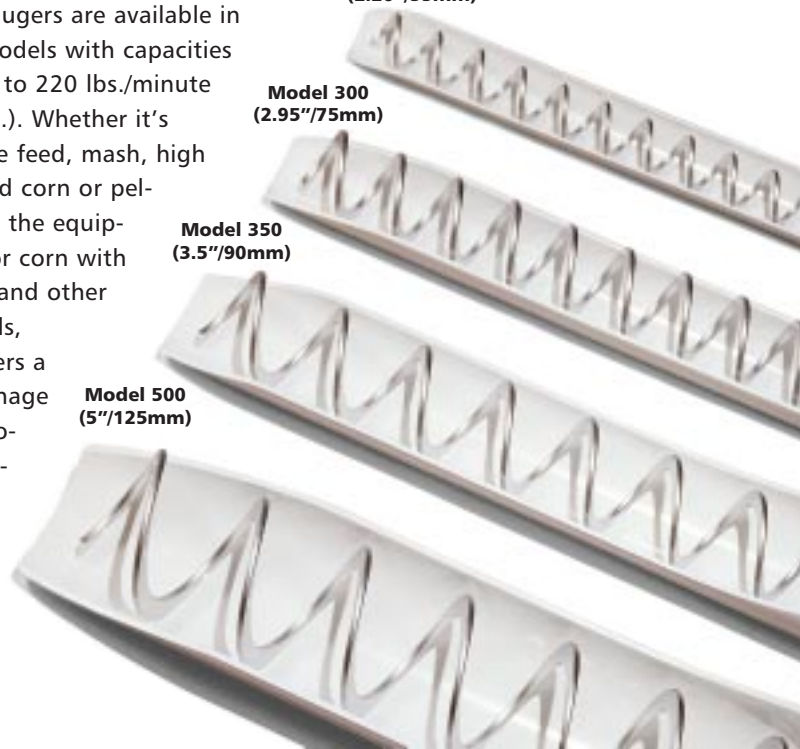
Both tubing and augers are available in four sizes and five models with capacities ranging from 15 lbs. to 220 lbs./minute (6.8kg to 99.8kg/min.). Whether it's ground feed, crumble feed, mash, high moisture corn, shelled corn or pellets, Cumberland has the equipment to handle it. For corn with up to 27% moisture and other hard to flow materials, Cumberland also offers a Flex-Flo™ High Roughage system which incorporates a special combination of a 3" (75mm) auger in a 3-1/2" (90mm) tube to reduce plugging.

**Model 220
(2.20"/55mm)**

**Model 300
(2.95"/75mm)**

**Model 350
(3.5"/90mm)**

**Model 500
(5"/125mm)**





Tubing Blend

Cumberland's polyvinyl chloride (PVC) tubing is mixed and formed in our own facility to exacting standards under strict quality control. Blending our own PVC allows us to formulate the optimum compound for UV stabilization, strength, and wear resistance. Using PVC tubing as the carrier of feed provides maximum flexibility in facility design, reduces noise (making a less stressful environment for poultry), reduces dust, and provides protection against insect and rodent contamination.



Quality Auger

Cumberland augers are coiled in-house from high tensile steel. The steel wire Cumberland uses is flattened prior to hardening, providing for a more consistent, higher quality product.

Cumberland Unloaders

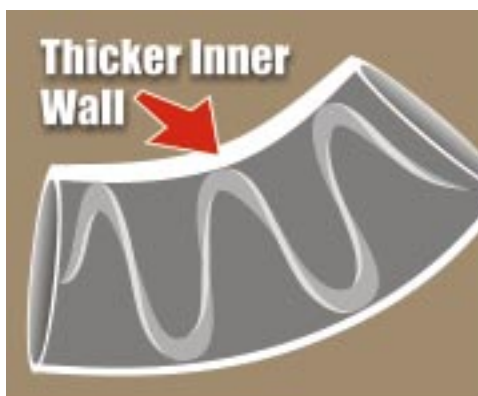
Designed to fit below the 16" (406mm) plastic and 22" (559 mm) metal boots, Cumberland's standard unloaders are available for 2.2" (55mm), 3" (75mm), 3.5" (90mm), and 5" (125mm) Flex-Flo™ or 4" and 6" rigid auger systems.

All Cumberland unloaders have a ultra high impact, polypropylene slide-gate above the auger to meter feed or serve as a complete shut off. Also, a convenient inspection/clean out plate, located on the side, is easily removed with two wing nuts. They also feature a heavy duty ball bearing for increased service life and reduced maintenance.



Single Unloader shown with optional swing away bottom for 100% cleanout.

Most unloaders are available in single or double outlet models, as well as "through" & "twin through" models which can be used in tandem where two tanks are used in line.



Around the Bend

For moving feed up in the air and around corners, Flex-Flo™ tubing is available in specially formed elbows with increased wall thickness on the inside of the elbow for strength and wear resistance.



Direct-Drive Unit & Straight Transition Boot.

Extension Hopper

For applications requiring distances greater than the standard length of any given system, extension hoppers are available that can expand the delivery range to practically any distance and can provide access at 90° from the main line.



Belt-Drive Unit



90° Angle Capability, Transfer



The Universal Sensor is not sensitive to changes in temperature or humidity eliminating the need for sensitivity adjustment.

Universal Sensor

Cumberland's Universal Sensor is truly universal, it adapts to control voltages from 24 to 240 volts and can operate either normally open or normally closed. This switch utilizes technology that is not sensitive to changes in temperature or humidity eliminating the need for a sensitivity adjustment. The convenient push button interface allows you to quickly and precisely program an on delay from one second to three hours to prevent short cycling of the feed system. LEDs indicate the status of the switch at all times.

The Universal Sensor is available pre-mounted and pre-wired in the Flex-Flo control unit. This control unit features an oversized outlet to prevent feed bridging.

Maximum Run Timer

Cumberland's Maximum Run Timer prevents costly feed spills and auger wear by shutting down the feed line if the system operates longer than the programmed run time.



An indicator light alerts you to why the system was shut down. The reset button allows the auger to be restarted after the problem has been corrected. This run timer can be easily adapted to any flexible auger system.

Bulk Feed Tanks & Delivery Systems

Specifications

Part Number						Maximum Capacity				Overall Height	
	Model	Diameter Feet	Diameter Meters	Rings	Angle of Hopper	Bushels	Cubic Feet	Cubic Meters	U.S. Tons	Metric Tons	Feet
BFT	6	1.83	1	60°	111	137.99	3.9	2.76	2.50	10'7"	3.25
BFT	6	1.83	2	60°	171	212.60	6.0	4.25	3.86	13'3"	4.06
BFT	6	1.83	3	60°	231	287.20	8.1	5.74	5.21	15'10"	4.85
BFT	6	1.83	4	60°	291	361.80	10.2	7.24	6.56	18'7"	5.69
BFT	7	2.13	1	67°	185	230.09	6.5	4.60	4.17	13'6"	4.12
BFT	7	2.13	2	67°	266	331.63	9.4	6.63	6.02	16'2"	4.93
BFT	7	2.13	3	67°	348	433.17	12.3	8.66	7.86	18'9"	5.75
BFT	7	2.13	4	67°	430	534.72	15.1	10.69	9.70	21'6"	6.56
BFT	7	2.13	5	67°	511	636.26	18	12.73	11.54	24'2"	7.37
BFT	7	2.13	6	67°	593	737.81	20.9	14.76	13.39	26'10"	8.18
BFT	9	2.75	1	60°	308	383.02	10.8	7.69	6.96	14'0"	4.30
BFT	9	2.75	2	60°	443	551.75	15.6	11.04	10.01	16'9"	5.11
BFT	9	2.75	3	60°	578	719.62	20.4	14.39	13.06	19'5"	5.92
BFT	9	2.75	4	60°	713	887.48	25.1	17.75	16.10	22'1"	6.74
BFT	9	2.75	5	60°	848	1055.34	29.9	21.11	19.15	24'8"	7.55
BFT	9	2.75	6	60°	983	1223.21	34.6	24.46	22.19	27'5"	8.36
BFT	12	3.65	2	60°	923	1109.27	31.4	24.96	22.64	20'6"	6.25
BFT	12	3.65	3	60°	1175	1407.69	39.9	31.67	28.73	23'2"	7.06
BFT	12	3.65	4	60°	1427	1706.12	48.3	38.39	34.82	25'10"	7.87
BFT	12	3.65	5	60°	1679	2004.54	56.8	45.10	40.91	28'6"	8.69
BFT	12	3.65	6	60°	1931	2302.96	65.2	51.82	47.00	31'2"	9.50
BFT	12	3.65	7	60°	2184	2602.24	73.7	58.56	53.12	33'10"	10.31

Capacities for 6'-9' (1.83m-2.75m) diameter tanks are calculated at 40 lbs. per cubic foot (640kg/cubic meter). Capacities for 12' (3.65m) diameter tanks are calculated at 45 lbs. per cubic foot (720kg/cubic meter). Bushel capacities for 6'-9' (1.83m-2.75m) diameter tanks are calculated with no compaction and to full cubic foot (meter) capacities. 6' (1.83m), 7' (2.13m) & 9' (2.75m). Hopper Feed Tanks are designed for the storage of material having a density of no more than 40 lbs. per cubic foot (640kg/cubic meter). 12' (3.65m) Hopper Feed Tanks are designed for the storage of material having a density of no more than 45 lbs. per cubic foot (720kg/cubic meter).

Warning: Cumberland hopper tanks are designed for free-flowing material only. Soybean meal, meat scraps and many other materials are not free-flowing and should not be stored in these tanks. Check with your material manufacturer or dealer to ascertain the flowability of any material you intend to use. When in doubt about a specific material, please consult Cumberland's engineering department for additional information. Some features shown are optional or are available only on certain models. Ask your Cumberland dealer for details.

Flex-Flo™ Systems

	Model 220	Model 300	Model 350	Model 500	Model HR
Tube Outside Diameter	2.25"	3"	3.5"	5"	3.5"
Tube Outside Diameter (mm)	55	75	90	125	90
Tube Corner Radius	5/10'	5'	5'	6'	5'
Tube Corner Radius (m)	3.05	1.83	1.83	1.83	1.83
Max. Single System Length with Three Elbows	250'	200'	150'	*150'	150'
Max. Single System Length (m) with Three Elbows	76.2	60.96	45.72	*45.72	45.72
Recommended Motor Sizes at Max. Length (Horsepower)	.5	1	1	1.5	1
Capacity (Lbs./Minute at 40 Lbs. per Cu. Ft.)	15	50	100	220	50
Capacity (kg./Minute at 640 kg. per Cu. m)	408	1360	2722	5988	1360
Extension Length (Motor End of First System) w/o Elbows	300'	235'	185'	*185'	185'
Extension Length (Motor End of First System) (m) w/o Elbows	92	72	56	*56	56

*For High Moisture Corn Reduce System Length by 50%



a division of
THE GSI GROUP



Cumberland; P.O. Box 20; 1004 E. Illinois Street; Assumption, IL. 62510 USA; Ph: 217/226-4401; USA Fax: 800/353-8491; International Fax: 217/226-4420; E-Mail: cumberland@grainsystems.com; Website: www.grainsystems.com