CARTER DAY

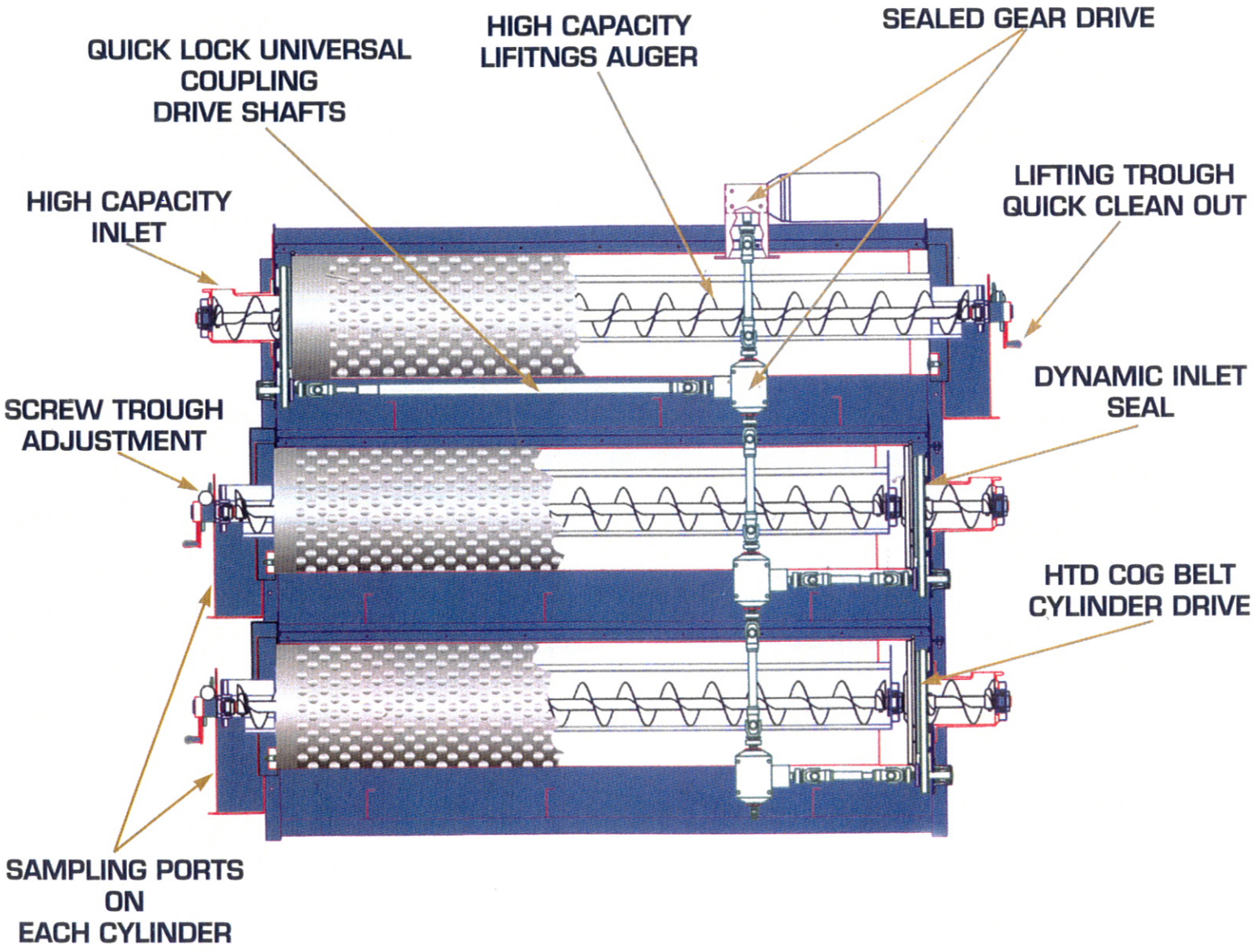
MODULAR UNI-FLOW

MODULAR UNI-FLOW

US PAT. NO. 5,335,792

For more than 100 years Carter Day has been manufacturing quality processing equipment. We continue this tradition with the high capacity Modular Uni-Flow for length separations, such as removing broken from whole kernel grain. Vertical stacks comprised of 2 to 4 cylinder modules provide flexibility to meet a wide range of separation requirements in a single pass. Capacity requirements can be met by combining any number of independent vertical stacks into a single machine configuration.

In the Carter Day Modular Uni-Flow, the shorter material is always lifted by indent pockets that line the inside surface of the cylinder. The operator controls the separation by adjusting the position of the separating edge of the trough, into which the product falls. The trough control makes possible a selection of the exact degree of separation desired.



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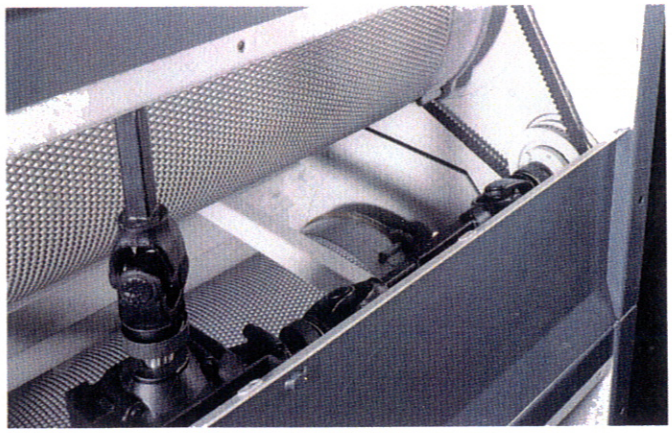
MODULAR UNI-FLOW

ADVANTAGE

Modular Design allows for greater overall flexibility to meet most application demands. Self contained vertical modules can be broken down for shipment and easily re-assembled on job site. Modular design allows reconfiguration in the field if processing needs change.

Revolutionary Drive System:

~Sealed pinion and gear drive.
~Quick lock universal coupling drive shafts provide primary drive distribution to cylinders.
~**HTD** cog belt cylinder drive for quiet operation and long life.



Nominal Spare Parts Requirements:

~Because of the modular design, each vertical stack will have identical components and few of those are subject to replacement at overhaul time.

Minimal Downtime :

~Simple modular design.
~Shell removal from either end of machine.
~Sealed gear drives.
~Heavy 11 gauge spouting requires no liners.

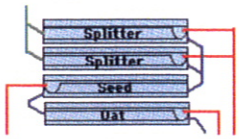
Standard Features:

~Dynamic floating inlet seal eliminates cylinder leakage.
~High capacity inlet & 6" lifting auger insures maximum utilization of the cylinder separation capacity.
~Vibration free trough controls.
~Sampling ports on both the liftings and tailings allow easy monitoring of the separation performance.
~Broad selection of deep case hardened indent cylinder shells.

Optional Features:

~Standardized dust collection manifold
~Top Mounted Scalperator
~Cylinder inlet cleanout

MODULAR UNI-FLOW
PROCESS FLOW ARRANGEMENTS



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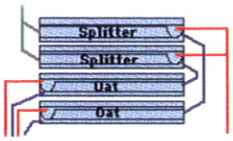

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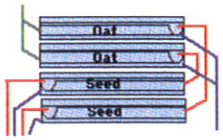

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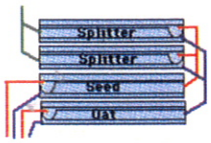

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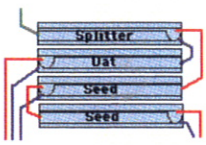

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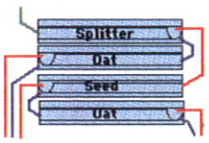

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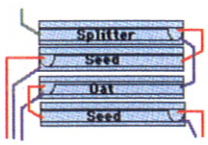

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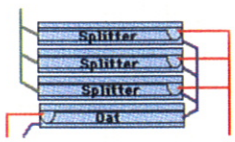

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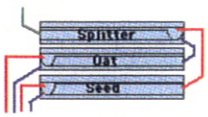

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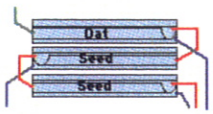

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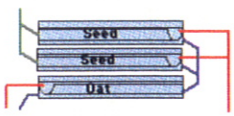

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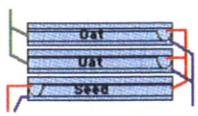

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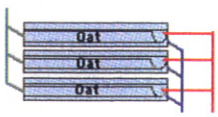

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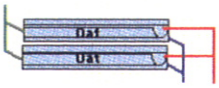

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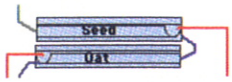

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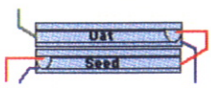

#16

Red-Liftings
Blue-Tailings

Additional flow arrangement are available

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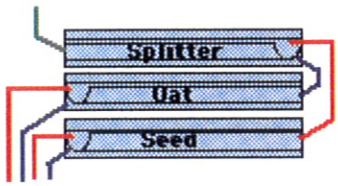
MODULAR UNI-FLOW
CONFIGURING YOUR MACHINE

Length Sizing Task

The Modular Uni-Flow configuration begins with evaluating the separation you wish to achieve. Our staff can test your unique product sample in our laboratory to determine the correct size indent pockets and combination of cylinders required to produce the results you seek.

Maximizing Efficiency

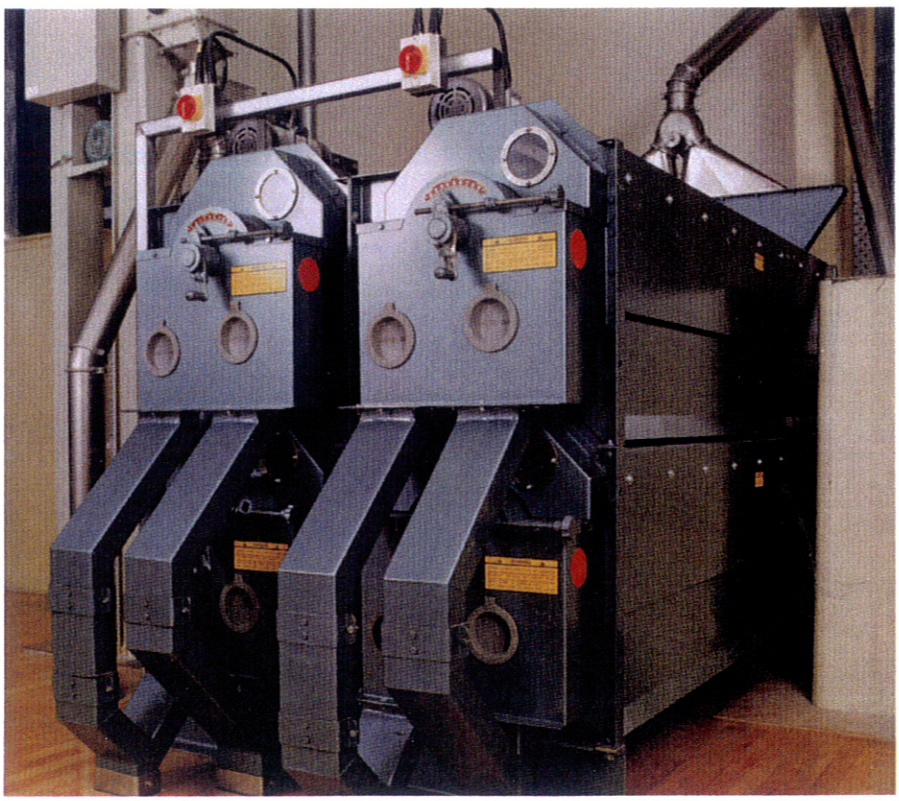
Taking into consideration the given length separation and your facility's height and width constraint, we will determine the optimum flow arrangement of a single Uni-Flow stack, ranging from two to four cylinder modules. This is achieved by selective use of a splitter, oat and seed cylinders. The process flow arrangements on the following page describe configurations in the field today.



#9 FLOW

Achieving Capacity

Provide us with the bushels per hour you intend to process through a selected process flow. From that we will make a determination of the appropriate number of Uni-Flow stacks (from one to infinity). The Modular Uni-Flow machines may be used in parallel, series or combination to achieve your system capacity requirments.



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CYLINDER OPERATION

Theory of Operation

The indented cylinder separator relies upon centrifugal force. The speed of the cylinder holds the particle in the indent, lifting it out of the mass until the indent is inverted to the point where gravity causes the particle to fall out of the indent. The particle dropping from the indent falls into the auger conveyed catch trough. The angle or tilt of the catch trough must be adjusted to obtain the desired "cut point" there by catching the small particles as they drop out of the indents but not permit the longer particles to ride up the rising side of the cylinder and fall into the trough. To make adjustment on the "cut point" of the separation, a trough tilt adjustment is used which enables you to define the degree of separation that is required. A screw conveyor then discharges the short lifted material separate from the tailed long material. The amount of product which can be length separated depends on the number of pockets coming in contact with the product.

Optimum Cylinder Diameter

Our 432 mm (17") diameter cylinder offers more performance from a given length (ours 2286 mm or 90") than a larger diameter cylinder. This is because a cylinder's capacity is related to the number of lifting pockets that pass the edge of the lifting trough in a given period of time. As the cylinder diameter gets larger the speed of the cylinder must be reduced to control the effect of centrifugal acceleration on the product. For example, a 900 mm diameter cylinder 3000 mm long has six times the contained volume of our 432 mm cylinder, yet it will lift only two times more product.

Complete laboratory service is at your disposal. Carter Day's facility enables us to test your unique product sample in our laboratory or on full size equipment to aid in determining the right machine for your application. This test equipment is also for sale. We invite you to participate in tests conducted at our facility in Minneapolis, Minnesota USA.

MODEL SPECIFICATIONS

DIMENSIONS	2 HIGH		3 HIGH		4 HIGH	
	US	METRIC	US	METRIC	US	METRIC
WIDTH	28"	711 mm	28"	711 mm	28"	711 mm
LENGTH	115"	2921 mm	115"	2921 mm	115"	2921 mm
HEIGHT	65"	1651 mm	91"	2311 mm	117	2972 mm
WEIGHT	1250 lbs	567 kgs	1975 lbs	896 kgs	2700lbs	1225kgs

Sold & Serviced by

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