



## Screw Type Bottle Capper

### CAS Series

Our CAS Series Automatic Screw Type Capper runs all varieties of screw caps for a variety of industries at speeds up to 1200 bottles per minute. Magnetic clutch (frictionless) high speed capping heads provide for repeatable and reliable cap application torque and our rugged construction ensures long lasting performance applying both plastic and metal screw caps. We can accommodate a variety of packages, including glass, PET, polypropylene and HDPE bottles.

#### Features & Specs:

- Speeds range from 10 to 1200 bottles per minute
- Frictionless, magnetic clutch capping heads available in a wide range of torque capabilities
- Positive gripping, articulating cap chucks
- Settable top load
- Cap pick up by "Pick n' Place" cap transfer assembly
- No bottle / no cap. Cap release gate assures that caps are held in queue when bottles are not present.
- Quick Release Components: Whenever practical, all cap (and bottle) tooling utilizes quick release fittings.
- High speed change-over design to facilitate short runs and multiple cap/bottle combinations
- Available in either left to right or right to left bottle flow configuration
- Rugged construction for many years of three shift operational capability



#### Options

In addition to the standard machine components that many of our competitors list as optional, Fowler offers a wide selection of unique Options or Upgrades. Every Option and Upgrade listed has proven to provide value well beyond its initial cost and was developed to meet a very specific customer or market need. If you require a feature that is not listed below, we are interested in learning what we can do to help satisfy your need.

- Allen Bradley 5/05 (5/04 is standard): Available to allow Ethernet communications with capper. Option includes Ethernet capable interface screen and hub
- Allen Bradley PLC-5: Available as required to conform to plant standard. Not recommended as current technology is superior and less costly
- Allen Bradley Control Logix: Current state-of-the-art Programmable Logic Controller. Provides for expanded control functions. Recommended for complex machines equipped with multiple options and electronic cappers
- Allen Bradley Flex I/O : I/O Module to provide for simplified wiring of I/O from capper to the main control panel. Also available for use on filler where synchronization is provided
- Allen Bradley PanelView 1000 (standard on some models): PanelView 700 Operator Interface touch screen is the standard on machines where machine functions require limited HMI. For machines which require greater detail and depth, the AB PanelView 1000 is supplied as the standard. All Fowler supplied touch screens are housed in a NEMA 4X stainless steel box with hard wired switches for Power On/Off, Start, Cycle Stop, Jog and E-Stop functions
- Allen Bradley VersaView CE 1250H with "On Board" machine manual: VersaView CE1250 Operator Interface touch screen is available to provide expanded man/machine interface capability. Windows CE based platform allows for "On Board" machine manual as well as true graphic representation of fault condition, such as identifying which guard door is creating an "open guard door" fault. All operator

interfaces include hard wired switches for the most common controls to reduce wear on the touch screen

- Anti-Rotation Belt Restraint: Used to hold round glass or plastic bottles as the closures is being applied and where the anti-rotation neck support feature is not practical. Belt acts as a moving back guide and is kept tight against the back of the container by the use of a pneumatic tensioner. The belt also acts to hold the container in the pocket of the turret star. Belt can be of various material depending on the container. Generally not suitable for hot fill applications or extremely pliable container side walls
- Anti-Rotation Cup Carrier: Cappers which are designed to apply high cap application torque on round containers with no neck support and/or very soft side walls, are equipped with anti-rotation cup carrier chains. The cup provides a 360 degree wrap around the containers while the cap is applied, allowing for even pressure on the container side walls, eliminating sidewall dents and package distortion while providing anti-rotation at very high cap application torques. Cups are quick release and interchangeable to provide for multiple package sizes
- Anti-Rotation Neck Support Star and Guide: Used to provide anti-rotation and bottle support during cap application, the anti-rotation neck support and guide is installed on virtually every Fowler/Zalkin capper where hot filled PET containers are being run. Sharp "points," milled into the top surface of the stainless steel pocket or "chimnee," are pushed into the underside of the rigid PET neck ring during top loading as the cap is screwed on, keeping the bottle from spinning when torque is applied. Additionally the pocket acts to keep the soft bottle from compressing when top load is applied. Bottles are placed into the infeed guide as they exit the infeed screw and enter the infeed star of the capper. Once in the guide, the neck support ring is in the proper position for transfer onto the star pocket "points." The neck support star and guide assembly is interchangeable to accommodate various bottle finish sizes and can be used as a support device only (pocket less "points") for bottles such as hot filled polypropylene, where the "points" could damage the containers. Finally, use of the Neck Support Star and Guide provides a very positive finish locating and bottle leveling device, resulting in superior cap application consistency. Quoted as a standard component on hot fill and food grade cappers where round containers are being run
- Bottle Conveyor Infeed and Discharge Cross-Overs: Fowler/Zalkin cappers are equipped with a fixed length of continuous bottle conveyor channel through the capping machine which is suitable for use with existing or proposed up/down stream conveyor chain type. This conveyor channel is supplied to functionally and "aesthetically" face mount to the existing up/down stream channel and as part of the standard capper, no chain or drive/gear-motor is provided. Should the line layout dictate, the capper can be optionally supplied with the conveyor assembly to move containers from an upstream conveyor, onto the through conveyor of the capper and then onto the downstream conveyor. The conveyor is designed to side transfer without dead plates and is supplied as turn-key, with chain, drive and gear-motor, side transfer rails and integration with capper for run condition control. Total overall length is quoted per foot as required
- Bottle Rejection and Sampling: Fowler has equipped cappers with our bottle rejection and sampling option for line speeds up to 550 per minute. Higher speeds are subject to container testing. The option consists of sensors to detect missing, high or cocked caps where the traditional mechanical capper is provided or the added feature of "out of torque" available with the electronic capper. Vision can add additional detection features. The unique Fowler Bottle Rejection and Sampling option consists of the necessary sensors, a modular rejection assembly consisting of three or four linear motors which form a secondary back guide to the capper discharge star when actuated in series, a secondary rejection conveyor and all related control software. The option includes verification sensors to assure that a bottle sending a reject signal is placed onto the reject conveyor. Incorporated into the option is the Sampling feature which allows for one bottle from each head, one bottle from one unique head, or multiple bottles from one unique head, to be diverted to the reject conveyor for sampling
- Cap Heating (Convection): Cap heating with convection heat is used where the possibility of product contamination by introducing water, condensed from steam heating caps, is not acceptable. A commercial grade hot air blower is mounted onto a stainless steel insulated enclosure which surrounds the cap chute immediately prior to the cap transfer assembly. A special cap gate is supplied to keep caps from entering the enclosure when the capper is idle. Control software assures that caps are cleared from the enclosure before the capper cycle stops. Overall length of enclosure and number of blowers required are determined based on temperature required, cap size and line speed

- **Cap Heating (steam):** Closures with vacuum sealing liners and/or tamper evident bands may require heating prior to application. For this need, Fowler has available the cap chute steam cloud box system. Constructed of stainless steel around the cap chute, steam cloud boxes are fully plumbed to provide steam to the interior of the caps as well as the side walls. Overall length of the steam cloud box is dependent on the line speed, cap size and necessary dwell to reach optimum temperature. Integral to the steam cloud box is the cap transfer assembly steam manifold, which keeps the caps heated until they are picked up by the heads for application. The steam cloud box typically includes the steam make ready panel to condition the steam prior to use. System requires the availability of plant steam at sufficient quantity and pressure. The Corrosion Resistant Construction option is recommended with the use of steam
- **Cap Inspection (vision):** Although detecting missing, high or cocked caps can routinely be accomplished using sensors, occasionally a more sophisticated evaluation of the cap application is required. Fowler has integrated vision systems and the related control software on machines running at speeds up to 550 per minute to check various criteria for proper cap application. Coupled with the Fowler Rejection option, the Vision System provides a powerful tool for assuring quality packaging
- **Cap Rejection:** Cap inspection for conditions such as upside down cap, color, etc. can be accomplished while the cap is captured in the cap transfer assembly. Before being picked up by the capping head, a blast of air blows the cap up, out of the transfer starwheel pocket and into the vacuum assembly which deposits the cap in a reject bin
- **Cap Sanitation:** In order to obtain the 6-log kill of bacterial, mold and spore growth for aseptic packing, all components of the package must be considered, including the cap. Fowler has installed cap sanitizing systems which bathe the caps in heated hydrogen peroxide/acetic acid solution for one minute and rinse with hot sterile water for 15 seconds as the caps are moved from the unprotected bulk feeder to the capper housed in the clean room. Infeed and discharge gates monitor caps in the system to assure that proper dwell is maintained to affect the cap sanitization
- **Corrosion Resistant Construction:** Cappers installed in harsh environments, such as hot fill, acidic products, with caustic wash downs are typically constructed with the maximum use of stainless steel, either 304L or as required, 316L. Further, to keep high pressure, hot caustic wash down from causing lubrication break-down, additional attention to the upper turret shielding construction is provided, including venturi steam extractors to pull steam away from the upper turret chamber. Finally, the base is constructed such that all table top pass through holes are "O" ring sealed as are the base access doors, to provide a six sided, sealed base in which the main drive components are housed. Optional on some models, corrosion resistant construction (using 304L) is standard on "food grade" and hot fill juice/isotonic packaging lines where cap steaming is typically used
- **Corrosion Resistant Construction (Vinyl cladding for bleach applications):** Cappers used on corrosive product lines, such as bleach bottling, can be equipped with full vinyl cladding. The machine is initially constructed with 316L stainless steel and then clad in PVC, top to bottom, to provide the maximum protection and life of the machine. Interchangeable stainless steel jaw segments for cap holding, are not suitable for cladding and should be considered a wear parts requiring routine, periodic replacement
- **Dual Purpose Head Slides:** Often required in the Distilled Spirits industry is the ability to apply plastic screw caps as well as roll-on, pilfer proof (ROPP) style closures. Typically this has meant the use of two dedicated machine for each task. By offering the Dual Purpose Head Side option, one machine, equipped with interchangeable heads for the two unique capping styles, is made possible. Machines can be further customized to allow for screw capping or ROPP sealing on half the heads, for instance heads 1, 3 and 5, while heads 2, 4 and 6 are fitted with plugging heads to install bar or "T" corks. This same machine can be further customized, using the Multiple Spindle Speed option, to allow for using all 6 stations to apply one style cap, thus doubling the line speed
- **Explosion Proof Electricals (Class 1, Div 1, Group D):** As Fowler designs and builds the main control panels and electrical systems installed on the capping machines and capping system support equipment, explosion proofing is a routine option. These machines are most often supplied for the distilled spirits and chemical products industries. Buyers should be aware that the supply of explosion proof electrical components adds substantially to the overall cost of the machine
- **Head Space Steam Injection:** To create a vacuum in the head space of hot filled products, Fowler provides steam injection of the head space immediately preceding cap application. The Head Space Steam Injection option includes cap steaming via a steam cloud chamber which encloses the cap chute prior to discharge, a cap transfer steam manifold to keep steam applied while being moved from the

cap chute to the capping heads, a head space steam manifold which jets the steam into the head space as the bottles move into the capping turret and immediately prior to cap application, and a full steam make ready panel which filters dries, and super heats the steam prior to injection. This option requires the supply, by the end user, of culinary quality steam at suitable pressure and quantity

- Intrinsic Safe Electricals (Class 1, Div 2, Group D): For applications that require electrical components and design which complies with the NEC code for Intrinsic safe design, Fowler equipment is available to meet this need. Barrier technology is most often used to satisfy code, allowing the use of the most common electrical features, such as the touch screen HMI
- Ionized Air Cap De-Duster with Vacuum: Static can cause dust particles to adhere to the caps and be displaced into the product during capping. This is a potential problem, especially in the bottled water industry, where a minute particle of dust floating in the water is quite noticeable when magnified by the clear round PET bottle. Fowler has available a cap de-dusting option to provide for the removal of dust on the caps while they are in the cap chute, immediately prior to application. The option consists of a HEPA filtered, ionized air blower, de-dusting module and an industrial quality vacuum to remove the ionized air from the de-dusting module. Filtered air is supplied to an ionizing head, mounted on the de-dusting module. The module mounts such that it encloses a vertical section of the cap chute. Filtered, ionized air is blown into the module, onto the caps, causing any dust particles, statically clinging to the caps, to become neutrally charged. Removing the static charge on the dust particle allows them to be easily vacuumed out of the de-dusting module. The option comes with a stainless steel frame to house the HEPA filter, air regulator, and vacuum
- Light tower: with or without audible
- Menu Selectable Automatic Height
- Missing Foil Detection:
- Multiple Spindle Speed (Gear Stack): The Multiple Spindle Speed option allows for the application of multiple thread start closures on one machine by a simple change to the spindle speed effected by a gear ratio change. The ratio is pre-determined at the factory for single thread start caps, double and multi-thread (3, 4, 7 or no rotation for push down closures) and is changed by moving a timing belt from one gear set to another. The gear stack is located conveniently on the turret top plate for easy access. Changeover is accomplished in a matter of seconds and, unlike the VFD version, is properly fixed for the appropriate speed needed to apply the cap
- Multiple Spindle Speed (VFD): The Multiple Spindle Speed option allows for the application of multiple thread start closures on one machine by the use of a Variable Frequency Drive controlling a gear-motor installed on the upper turret top plate. Spindle speed control is infinite, providing the ability to optimize the head rotation to match the thread profile. This option is available per customer's preference, however, due to the possibility of an improperly set speed, mis-applied caps can occur more readily than when using the gear stack multiple spindle speed option
- Main Control Panel Air Conditioning: An optional air conditioner, supplied by Hoffman is available to provide climate control for the main electrical panel
- NEMA 12X Stainless Steel Double Door Control Panel: Standard on some models
- NEMA 4X Control Panel
- Nitrogen Gas: To help assure product freshness, Fowler has provided integration of third party nitrogen gas systems to reduce the level of residual oxygen in the head space. A manifold is installed over the infeed screw of the capper to flood the head space with nitrogen gas. Additional gas manifolds are installed at the cap transfer and in the turret area to assure a nitrogen rich environment immediately prior to cap placement
- Nitrogen Liquid Dosing: Third party liquid dosing equipment has been installed by Fowler to provide for the evacuation of oxygen from containers of dry products, such as peanuts, or to provide pressure to soft wall containers like those used in bottled water. A droplet of liquid nitrogen is placed in each container as it enters the filler or passes from the filler to the capper. Dosing systems with speeds typically exceeding the speed of the capping equipment are readily available. Two of the better known systems are Vacuum Barrier Corporation and VBS Industries, Inc.
- Preparation For Future Doubling Of Head
- Quick Release Cap Handling Components
- Self-lubricating Head Slides: Nitrate treated or stainless steel
- Six Sided, Sealed Base
- Stainless Steel Wireway Connection: Capper to main panel

- Strongarm XYZ Swing Arm: The Strongarm brand operator interface mounting system is well known in the industry as a durable HMI mounting system which provides the maximum range, in three dimensions, of interface placement for operator convenience. The unit can be mounted on any of the four machine frame posts or turret support cross members
- Synchronization: Electrical or mechanical
- Telescoping Cap Chutes
- UL Approved Control Panel