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Find the *Headway Research PWM32-PS-CB15* at our website: ***Click HERE***



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Model PWM32-PS-CB15 Spinner System

The model PWM32 Spin Controller has been upgraded and new product is now called model PWM50. We buy used equipment and factory re-furbish it at times, so the PWM32 may linger in our terminology and sales material for a considerable time. References to the PWM32 will be updated as soon as practical.

See the special page explaining the main differences in the two models.

PS Motor: Up to 10,000 rpm, for relatively light loads such as silicon wafers, small photomasks, etc.

CB15 Bowl: 15-inch I.D., reduced by a removable splash deflector (12.75-inch opening) to a maximum recommended substrate dimension of 12 inches. For smaller substrates, the standard splash deflector (11.35-inch opening) limits the maximum recommended substrate dimension to about 10.5 inches. For the maximum recommended diameter or diagonal substrates, the accessory substrate lifter/loader is recommended because of the limited clearance between the substrate and splash deflector during loading and unloading. Larger substrates may be handled by removing the splash deflector but undesirable backsplash or splatter from the bowl may be the result. For larger than 12-inch substrates, Headway recommends the next larger bowl (a different family of spinners), the LS22 or IT22 (22-inch I.D.).

Spinning at up to 10,000 rpm with the PS motor in the CB15 bowl requires that the user consider the hazards of centrifugal force to the substrate and operator safety. Large diameter substrates may be stressed to beyond the tensile strength of the material at speeds less than 10,000 rpm. If heavy or large dimension substrates can be processed at speeds less than 2,500 rpm, the heavy duty BD motor in the **CB15** arrangement or the LS22 or IT22 (another spinner family) arrangement is recommended.

The CB15 motor package has two drain lines from a removable polyethylene liner in the stainless steel bowl. The bowl has an air exhaust port for pulling air down through the bowl and out of the lab environment. The air exhaust rate becomes a part of the spin coating process, and in critical coating applications, should be monitored and regulated. A port on the exhaust tube provides for attaching a Magnehelic (or other) sensor for visual or automatic monitoring of the air exhaust status. For closed-chamber inhibited drying spin coating (see HRI Technical Note H-18-93 on **IDS**), an accessory exhaust damper and bowl cover is available. With the bowl covered during coating, the PWM32 controller can be programmed to close the accessory exhaust damper during a process.

An accessory substrate lifter and alignment tool is available for the CB15 package. A lifter rod working through the motor shaft will lift a substrate out of the bowl. When loading, the substrate is placed on an alignment platform, the lifter lifts the substrate out of the alignment platform and the operator rotates the platform away from above the bowl. The lifter lowers the substrate onto the chuck, properly centered. This accessory eliminates the tedious manual process of reaching into the bowl to load and unload substrates and the problem of visual centering and contamination.

The CB15 motor package can be dropped into a cutout in a user's worktable, or Headway can supply a completely packaged stand-alone system. When automated dispensers and other accessories are used, it is highly recommended that a complete turnkey package be purchased from Headway. For basic spinners without accessories, an optional portable stand for the motor package is also available.

CB15 Powered Lid Option

Features

The CB15 Power Lid option utilizes a pneumatic actuator to open and close the lid. User actuated switches on the tabletop and/or a footswitch may be used to operate the lid. The PWM32 controller can automate the closing and opening of the lid, as a part of the programmed cycle.

The design permits the lid to begin closing rapidly to save time, then slow down to complete the closing very gently, to avoid jarring the system and potentially knocking particles loose. As the lid nears the closed position, the closing pressure is kept low to prevent possible injury to the operator, should their hand be in the closing lid's path. After the lid has closed unobstructed, the pressure is raised back to its maximum setting to provide a strong closure of the lid.

A safety feature of the design prevents the lid from operating (opening or closing) while the spinner motor is turning. The "OPEN" and "CLOSE" switches are, in effect, de-activated by a "speed does not equal 0" sensing circuit. The lid will not close if the accessory substrate lifter is in the "up" position. The substrate lifter will not lift a substrate, if the lid is in the closed position. An interlock circuit prevents the initiation of a spin cycle if the lid is not closed.

Manually operated CB15 lids require that the operator's hand pass over the work area when opening and closing the lid. Particles from the operator's hand, clothing, or the lid latch can fall on the work piece, thereby causing it to be a reject. The powered lid prevents this yield in reduction.

The operator may be working with substrates that require both hands for loading and unloading the spinner. The powered operation of the lid greatly facilitates loading and unloading of the system when both hands are full. The opening/closing of the powered lid can be automated (cycle start and end with the lid open) when the PWM32 spinner controller is used. Otherwise, a footswitch can be utilized to free the hands



New requirements keep adding weight to the lids. Moving dispense arms, plastic safety shields, inhibited drying accessories, etc. make the manual lid more burdensome to manipulate, and may cause problems with keeping the manual lid open with the limited spring bias available. Excessive weight on the lid can create a necessity for the powered lid design.

These benefits are not only of importance to a heavily utilized machine (for convenience), but are also of equal importance with an infrequently used machine, if the most excellent end result is important for quality.

The New **PWM32 Spinners** are Available in Four Standard Motor/Bowl Configurations

- **Model PWM32-PS-R790**, up to 10,000 rpm for relatively light loads such as silicon wafers, small photomasks, etc. and substrates up to 5-inch maximum
- **Model PWM32-PS-CB15**, up to 10,000 rpm for relatively light loads such as silicon wafers, small photomasks, etc. and substrates up to a recommended 8-inch maximum
- **Model PWM32-BD-CB15**, up to 2,500 rpm for heavy loads such as compact disk masters, thick E-beam masks, LCD panels, substrates requiring high inertia chucks, etc. and substrates up to a recommended 12-inch maximum
- **Model PWM32-BD-LS22**, the next larger bowl for substrates larger than 12-inches, or for heavy substrates at higher than 2,500 rpm **or** consider the IT22 (a different family of 22-inch I.D. Spinners).

For larger than 12-inch substrates, or for heavy substrates at higher than 2,500 rpm, HRI recommends the next larger bowl, the **LS22** or **IT22** (a different family of 22-inch I.D. Spinners).

Headway Spinner Systems

PWM32 Spinner Family| IT22 Spinner/Developer | LS22 Large Substrate Spinner Family | Refurbished/Demo Units | R & D Spinner for 200 mm & 300 mm Wafers | PS80 Manual Spin Cleaner

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