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2009 Pneumatic Automation Products and Actuator

AGI line of pneumatic linear handling modules are designed for high-throughput automation applications for the world market. AGI is introducing several new products that include a smaller thruster, a smaller and a larger feed escapement, single finger feed escapements, four units of a three jaw gripper, one smaller two jaw angular gripper, and over eighty AGM's gripper / rotary combinations. Coming in March of this year, eight units of the two jaw single finger gripper will be added. A big part gripper material handling unit with 3 1/2 inch bore offered in only two strokes 200mm and 350mm will have a box frame design for maximum rigidity.

The AGT-2 will be a smaller version of the AGT-3. This smaller thruster will have a 9/16 bore with a four inch max stroke. This is for applications that require a longer stroke than the AGMS units with a small envelope.

AGE-1 and AGE-3 new feed escapements will have same design as the AGE-2 where the two fingers can be retracted without air on the unit to clear a part jam. The smaller unit has a one inch stroke and the largest one has a one and a half stroke.

The AGA three fingers open a full 90 degrees each. When the jaws are completely opened, the work piece can be placed in a fixture without having to retract the gripper. This saves an extra step as well as the expense of another axis of movement. The toggle mechanism greatly increases in power as the jaws near the fully closed position and become self-locking when past parallel. The internal linkages are guided by two grooves that run the length of the body. This will keeps the tooling jaws from losing the center repeatability. Close attention must be made to the tooling jaws when designing them. Because the jaws swing an arc, the mechanism produces higher velocity at the end of your tooling during the stroke. Therefore, tooling jaws should be short, lightweight as possible, and flow controls are recommended. In cases where longer jaws are needed, bumpers or miniature hydraulic shocks should be used to decelerate the jaw at the end of the stroke. All of these units are double acting, have multiple airports, mounting locations and available with sensor options for easy interfacing to electrical controls.

The AGM gripper modules are made for applications that requiring a versatile automation module for assembly lines and systems for automation, the Multi-Motion Actuators provide linear and rotary motion from one unit. AGM units have over eighty new combinations of gripper and rotaries. The grip-and-turn motions are independent from one another, making it easy to sequence the two motions. The Multi Motion Module yields a versatile automation module for part pick and place applications and orientation operations. Internal porting prevents airlines from twisting, snagging, and breaking outside the unit.

The AGMP single finger parallel gripper units have two bore sizes, $\frac{1}{2}$ inch and $\frac{3}{4}$ inch with four adjustable strokes. The stroke range is from $\frac{1}{2}$ to 2 inch in $\frac{1}{2}$ inch increments. These grippers are based on the miniature slide design and will provide lots of jaw support.

AGI's custom O-Ring grippers, O-Ring assembly machines, pneumatic linear actuators can provide machine and automation builders with a particularly flexible and cost-effective dual-functionality actuator for pick-and-place type applications. All units will be available in imperial and metric versions for flexibility of design for a world market.