

Solutions for the Glass Industry

Rugged design and long life for hot glass bottle transferring applications



***Hot Glass
Transferring***

***Drop-in
Replacements***

***Long Life
Construction***

GLASS02



PHD is a member of the
MAC Distributor Network

phd[®]
SOLUTIONS FOR INDUSTRIAL AUTOMATION

www.phdinc.com

Reduce downtime and increase production throughout the plant.

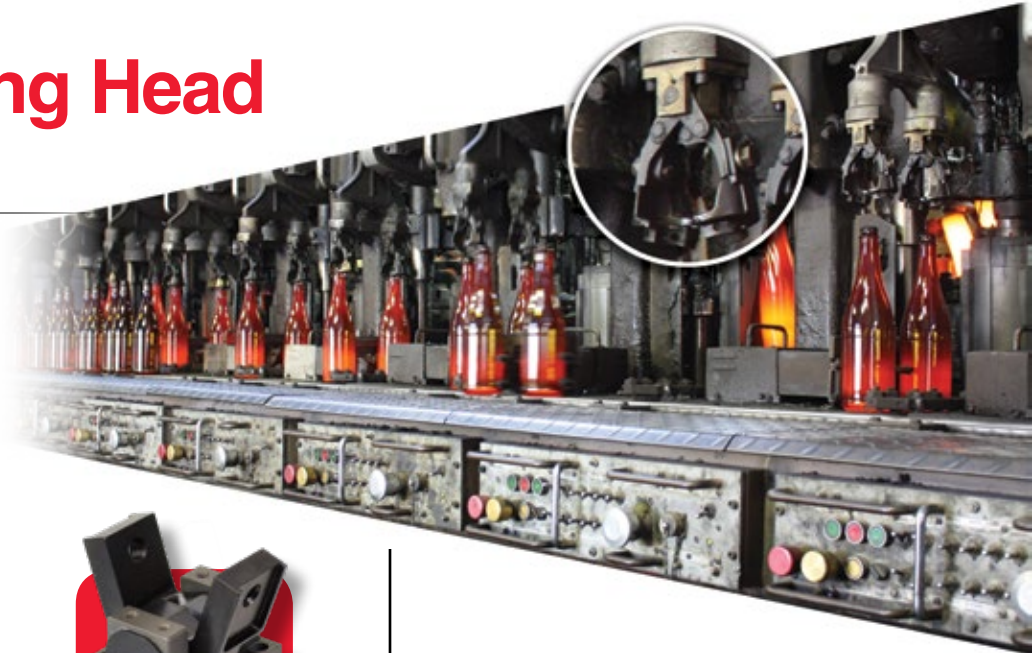


Let us handle your glass

PHD has the long life actuators you need for many solutions throughout your plant. PHD offers an extensive line of pneumatic actuators that are known for long life and high quality. Over our 60 years of innovation, we have extended our product offerings to include built-to-need components, price alternative components, electric actuators, specialty workholding clamps, and motion control robots. From single actuator solutions, to multi-unit systems, PHD and YRG can provide complete solutions for practically any glass handling process.

Glass Tong Head Grippers

In this application, the PHD angular glass tong head gripper is designed to take out and place extremely hot glass containers (bottles, jars, etc.) from a forming machine onto a conveyor.



GGA12-1-40-AE (Adjustable)
Replaces previous ML315208

GGA12-1-40 (Non-adjustable)
Replaces previous ML315988

- **Mechanical Locking:** Gripper jaws are locked on full open, thus eliminating jaws and tooling being exposed to additional moments of inertia during gob/bottle transfer onto the conveyor.
- **Cam Slot Design:** For more grip force, the theoretical grip force with the jaws at parallel is about 347 N at 6 bar [78 lb at 87 psi] and 85 N at 2 bar [19 lb at 29 psi].
- **Integrated Smooth Closing™:** The cushioning is built into the cam slot of the jaws. This is for handling bottles softly to avoid finish cracks.
- **Very Precise Jaw Movement:** For consistent, repeatable pick up. No pin breaks or jaw play!
- **Drop-in Replacement:** Replaces Emhart, BDF, Bottero, GPS, Lattimer, and other glass bottle forming machines
- **Anti-Wink:** Gripper jaws are locked on full open, thus reducing risk of defects in the container mouth rim.
- **Less Downtime:** Designed for more than 10 million cycles
- **Easily field repairable,** spare parts available upon request

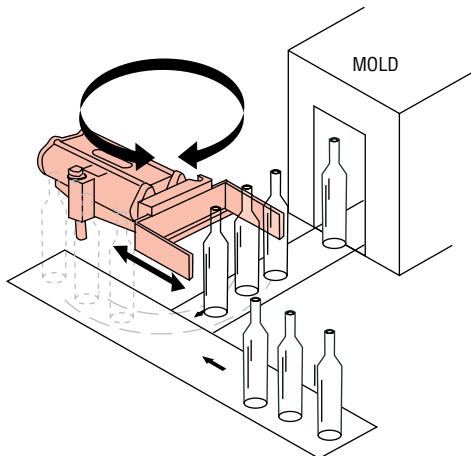
SPECIFICATIONS	SERIES GGA
WEIGHT	30.4 oz [862 g]
BORE	40 mm
JAWS OPEN ANGLE	37.4° (Adjustable on GGA12-1-40-AE)
JAWS FULL CLOSE ANGLE	5°
JAW MATERIAL	Pre-hardened steel
BODY	Coated
SPRING OPEN	Spring installed between body and piston



- **Mechanical Locking:** Gripper jaws are locked on full open, thus eliminating jaws and tooling being exposed to additional moments of inertia during gob/bottle transfer onto the conveyor
- **Very Precise Jaw Movement:** For consistent, repeatable pick up. No pin breaks or jaw play!
- **Drop-in Replacement:** Replaces Vitro and other glass bottle forming machines
- **Anti-Wink:** Gripper jaws are locked on full open, thus preventing jaws from moving while open
- **Less Downtime:** Designed for more than 10 million cycles
- **Easily field repairable,** spare parts available upon request

SPECIFICATIONS	ML315476
WEIGHT	37 oz [1049 g]
BORE	1.250 in [31.75 mm]
JAWS OPEN ANGLE	32.7°
JAWS FULL CLOSE	Jaws are parallel
JAW MATERIAL	Pre-hardened steel
BODY	Coated
SPRING OPEN	Spring installed in customer casting

Glass Pusher Slide



Hot "ware" (bottles) are removed from the mold and released in front of the Pusher Slide which extends and rotates at the same speed as the adjacent conveyor system, delivering the product to the conveyor.

The PHD slide is designed to handle the high temperature of the environment as well as the dirt and molten glass that migrate onto the moving parts of the slide.

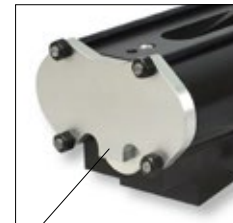
Products:

- ML310814 (Slide and Tool Plate)
- ML310815 (Slide and Tool Plate)
- ML310035 (Slide only)

- **Direct replacement** for existing angle slides on Bottero and Emhart machines.
- **Faster retract speed** due to special quick exhaust valve.
- **Long life** design due to the choice of seals, coatings, close tolerance machining, and assembly withstanding the environment.
- **Rod scrapers prevent contamination** of internal seals and bearings promoting longer life.
- **Lower cost** unit offered without position adjuster.
- **Easily field repairable** with repair and seal kits.
- **Energy savings** due to larger rods and 20% smaller bores.



Tool plate included. Select from the options shown below.



Exhaust Deflector



*ML310274
(OI/Emhart tool plate)
Increased dead plate clearance

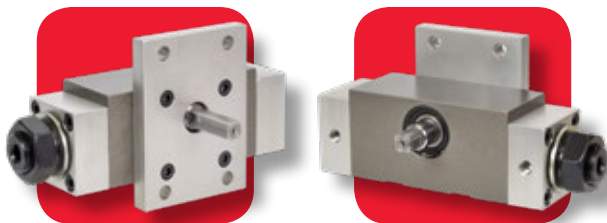


*ML310279
(Bottero tool plate)

*Also, select the tool plate for your deadplate clearance requirement.

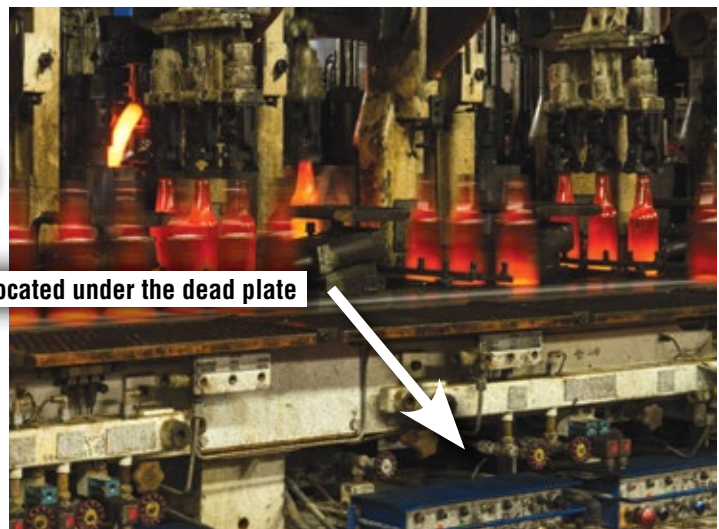
SPECIFICATIONS	
TWIN BORE	Ø 1.575 in [40 mm]
STROKE	4.250 ±0.028 in [108 ±0.7 mm]
GUIDE SHAFTS	Ø 1 in [25.4 mm] Hardened, Ground Steel
BODY	PTFE Hardcoat Aluminum
TOOL PLATE	Steel
SEALS	Fluoroelastomer
BUSHINGS	Polymer
Built-in quick exhaust valve on retract	
Cycle Speeds at 45 psi	
Extend	29.3 in/sec [8.9 m/sec]
Retract	34 in/sec [10.4 m/sec]
Cycle Time (Milliseconds) at 45 psi	
Extend	145 ms
Retract	125 ms

Air Dampener Rotary Actuator



ML316740

- Controls airflow to the dead plate for temperature control
- Used on Vitro style machines
- Mounted below the dead plate on the outlet side
- One rotary and dampener per section
- Mounting plate matches OEM
- Square shaft designed to eliminate key failures
- Replacement for SMC CRA1FWU50-90Z



Located under the dead plate