

PRODUCT OVERVIEW

Pneumatic • Hydraulic • Electric • Robotic Solutions



PHDPOV24A



Member of the MAC
Distributor Network

phdinc.com

phd Empowering
Automation

OUR STORY

Creating the Solutions That Make It All Possible

Behind nearly every product is a carefully engineered manufacturing operation where elements are produced, pieces come together, and products keep rolling off the line. For over 65 years, PHD has made the parts that make it all possible.



Empowering Automation

Through imagination, creativity, decades of experience, and skill, we provide innovative automation solutions to companies looking to enhance their productivity. We rely on customer intimacy to deliver what our customers need when they need it: products that fuel breakthroughs, innovation, and success – that simplify, improve, and advance people's everyday lives.

Expansive Product Line

PHD offers a full line of standard built to order pneumatic and electric automation components providing flexibility, durability, and repeatability: cylinders, escapements, grippers, linear slides, rotary actuators, clamps, multi-motion actuators, switches, sensors, and more.

136 PRODUCT SERIES

100 INDUSTRIES SERVED

98 WORLDWIDE DISTRIBUTION PARTNERS

3 INTERNATIONAL OFFICES

Customized Solutions

We have the engineering expertise and factory capability to design and build custom solutions for almost any industry and application. Currently, our database includes over 35,000 unique designs born out of a commitment to provide our customers exactly what they need. If an application requires a modified component, our experienced design team is ready to help. We welcome special requests for fully custom products, regardless of quantity or frequency of order.



FAST & EASY PRODUCT CUSTOMIZATION

35,000+ DESIGNS IN OUR DATABASE

150,000+ AVAILABLE QUOTES

NO MINIMUM ORDER QUANTITIES

Focused Industries

- Aluminum
- Automotive & Workholding
- Food & Beverage
- Glass
- Machine Building
- Material Handling
- Medical
- Packaging
- Robotics
- Semiconductor
- Stretch Blow Molding
- Tire
- Thermoforming



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Digital Design Tools



CAD APP

- Select from popular CAD formats (AutoCAD®, Inventor®, Unigraphics®, Solidworks®, and more)

- Graphical configurator supports real-time compatibility
- Download CAD models directly from your browser or have them emailed



Sizing APP

Answer questions about your application to find a product that meets your exact requirements.

- Save a project to revisit and revise later
- Automatic calculations and unit conversion: imperial or metric
- Available for web and mobile use



Our powerful online engineering tools simplify the design process to save you time.

Partnering to Serve the Customer



We're a proud member of the MAC Distributor Network (MDN): a global network of manufacturers and distributors partnering to provide superior product, service, and support to customers.

Our distribution partners within this global network are factory-trained, application-oriented, and carry a wide range of supporting products. MDN offers the opportunity to blend their unique expertise with that of the PHD team to provide exceptional automation solutions and ongoing support to our customers around the world.

Global Reach

A globally linked network of partners in over 45 countries facilitates fast and seamless support to multinational customers.

Expert Support

Factory-trained application and industry specialists ensure cost-effective and field-proven automation solutions.

Customer Commitment

MDN members are committed to providing customers what they need when they need it.

CYLINDERS



PNEUMATIC



CV ISO/VDMA

- 8 bore sizes, 20 to 100 mm
- PTFE wear ring and built-in shock pads for long life
- Rodlok option
- Hushcontrol option for superior control and low noise levels
- Electric version available - see Series ECV
- Price alternative version available - see Series OCV
- 3 Position, Double rod, and Rodlok models also available



CRS Compact

- 8 bore sizes, 12 to 63 mm
- Ideal compact size for applications where length is critical
- Optional shock pads extend cylinder life and minimize piston noise



CTS Guided Compact

- 8 bore sizes, 12 to 63 mm
- For limited space applications
- Hard chrome-plated guide rods prevent rotation of tooling connected to cylinder
- Standard tool plate allows easy mounting of Series 190 & 191 Grippers



Since 1957, PHD has manufactured this small bore cylinder. These cylinders can be specified with built-in flow controls, adjustable cushions, shock pads, proximity switches, and many other options. To this day, the Tom Thumb® Cylinder provides our customers with durability, reliability, strength, versatility, and rebuildability.

TIE ROD NFPA - PNEUMATIC OR HYDRAULIC



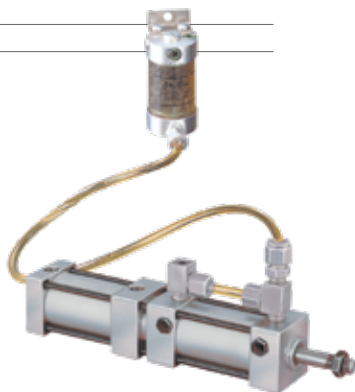
A, AV, HV

- 3 bore sizes: 3/4", 1", 1-1/8", 1-3/8"
- Repairable for long term savings
- Cleanroom available
- 3 Position, Back-to-Back, and Rodlok



EA, EL, EH, ES Heavy Duty

- 3 bore sizes: 3/4", 1-1/8", and 1-3/8"
- Cartridge-type bushings
- Hard chrome-plated alloy steel piston rods
- Long life and high performance



TD Air/Oil Tandem

- Medium duty cylinders available as Air/Oil Tandems
- Control of hydraulic with simplicity of air

CYLINDERS

OEM - PNEUMATIC

Extremely versatile and economical drop-in replacement cylinders for use in any industry



OCG Round Body

- 6 sizes, 10 stroke lengths
- Drop-in imperial mounting to match global standard
- Metric or Imperial designs
- Repairable
- High speed/double acting
- Standard cushions to reduce travel impact



OCQ Compact

- 10 bore sizes, incremental stroke lengths
- Drop-in metric mounting matching global standard
- Standard shock pads reduce end of travel impact
- Standard magnets for switch sensing capability

ELECTRIC



ECV Rod-Style Ball Screw/Lead Screw

- 5 sizes, travels up to 1,000 mm
- Electrically-driven units based on proven Series CV designs
- High thrust and speed capabilities
- Choice of lower cost lead screw or precision ball screw models
- Inline or foldback motor mounting



**Your Motor
Your Way**

ECP IP69K

- 3 models, 3 sizes each, travel lengths up to 750 mm
- IP69K for high pressure and high temperature washdown and clean in place (CIP) environments
- 300 grade stainless steel versions (-Y8 and -Y91) for caustic washdown environments with USDA certifications for splash zone and product contact zones
- High thrust or speed capability
- Precision screw assemblies with long service life

Your Motor, Your Way is a simple 3-step process allowing users to employ PHD's proven actuator technology operated by the motor and controls of their choice. This saves time and money by eliminating the need to learn or place into service a new motor and controls platform. With **Your Motor, Your Way**, integration is quick and easy, but if you prefer a complete package, your local PHD distributor can provide motors and controls to fit your application needs. This provides the best offering of electrically driven products with the flexibility to configure **Your Motor, Your Way!**

ESCAPEMENTS

DOUBLE OR SINGLE ROD - PNEUMATIC



160 (double rod)

- 4 bore sizes, standard or heavy duty
- Imperial and Metric
- Two fixtured, squared shafts with internally sequenced strokes work with your tooling to isolate a single part for continuation
- Models are available with switches for easy interface with various electronic controls

LC (single rod)

- 4 bore sizes
- Imperial and Metric
- Ideal for separating and releasing parts being presented from various systems, as well as conveyor stops
- Large rod bearing area ensures high side load capacity and long life
- Optional shock pads provide additional flexibility for your application needs

LINEAR SLIDES



PNEUMATIC



STP Compact Rail

Compact design utilizes rail bearing technology for smooth precision movement

Mounts directly to Series SFP to create rugged, compact, precise pick-and-place devices

Twin bore provides two times the power
Multiple mounting surfaces



SHP Miniature Rail

Compact design utilizes rail bearing technology for smooth precision movement

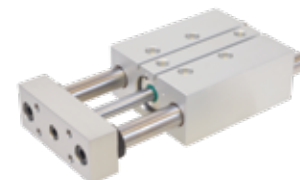
Multiple mounting surfaces



SIP Low Profile Miniature Rail

Low profile design utilizes rail bearing technology for smooth precision movement

Multiple mounting surfaces

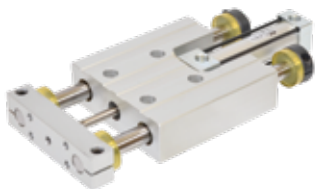


SxL, SxH Compact

9 sizes, 2 bearing types

Series SxL for moderate load capacity, low friction, and low price

Series SxH for superior slide performance at a moderate price and longer travels



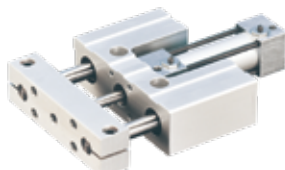
SD, SE Versatile (Imperial Design)

Streamlined, thruster style slides

Exceptional performance and low price

Many options available to increase capabilities

Available with Rodlok



SK, SL Robust Versatile (Metric Design)

Powered by Series CV Cylinders

SK ideal for short travel in horizontal or vertical application, where slide length and weight are critical

Available with Rodlok

Electric version available - see Series ESK/ESL



SCV Vertical

Powered by Series CV Cylinders

Ideal for vertical or non-rotating applications

Low cost cantilever slides

Available with Rodlok

Electric version available - see Series ESCV

Price alternative version available - see Series OSCV



SFP Rodless Precision Rail

Space saving rodless slide design

Lowest deflection and highest moment capacity combination in the industry

Precision rail bearing



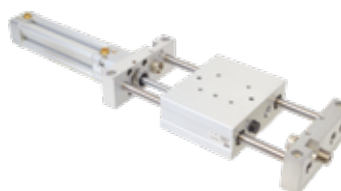
SFM Multi-Position Rodless Precision Rail

Multiple adjustable midstops

Space saving rodless slide design

Lowest deflection and highest moment capacity combination in the industry

Precision rail bearing



SG High Load

Long travel

Highest load capacity saddle type slide

Lowest cost per travel length and load

Available with Rodlok

LINEAR SLIDES

OEM - PNEUMATIC



OSH Compact Table

- 4 bore sizes, incremental travel lengths
- Drop-in metric mounting matching global standard
- Multiple port locations for application flexibility
- Standard shock pads reduce end of travel impact
- Standard magnets for switch sensing capability



OSP Compact Thruster

- 8 bore sizes, incremental travel lengths
- Drop-in metric mounting matches global standard
- Port locations on top and side
- Standard shock pads reduce end of travel impact
- Magnets standard for switch sensing capability



OSW Dual Bore Table

- 6 bore sizes, incremental travel lengths
- Drop-in metric mounting matching global standard
- High power dual piston bores and compact design
- Standard shock pads reduce end of travel impact
- Magnets standard for switch sensing capability
- Stroke adjustments and shock absorbers available as kits



OSX Light Duty Thruster

- 5 sizes, 7 travel lengths
- Dual bore
- Standard shock pads reduce end of travel impact
- Travel adjustment on retract

ELECTRIC

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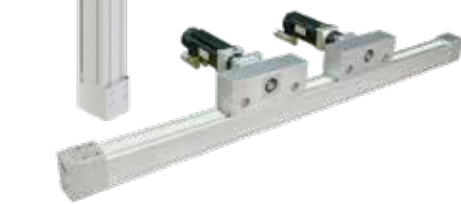
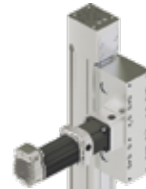
ESU -RT Belt-Driven Linear

- 3 sizes
- Single saddle or dual in-line saddle
- Superior HTD8 steel reinforced polyurethane belt for improved performance
- Speeds up to 5,000 mm/s, travels up to 5,500 mm
- Exceptional moment and load capability



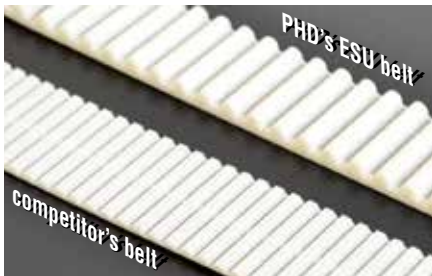
ESU -RB Ball Screw Linear

- 3 sizes
- Single saddle or dual in-line saddle
- Precision ball screw assemblies with long service life
- Speeds up to 3,200 mm/s, travels up to 1,000 mm
- Exceptional moment and load capability



ESZ Electric Linear Cantilever

- 2 sizes
- Integrated shaft coupling allows for a rigid connection and zero backlash
- Maximum speed 5000 mm/s, acceleration 50 m/s²
- Rigid construction for long life
- High degree of repeatability
- Dual saddle option for higher load/moment loading capabilities
- ESZG model with two independently driven saddles is available for gripping/pick and place applications



ESK/ESL Thruster

- Powered by Series ECV Cylinders
- Lower cost lead screw or precision ball screw models
- Offered in long or short bodies for application flexibility
- Standard dowel pin holes with optional transitional and precision diameters
- High thrust and speed capability with low backlash
- Travel lengths up to 700 mm

CLAMPS



WORKHOLDING - PNEUMATIC



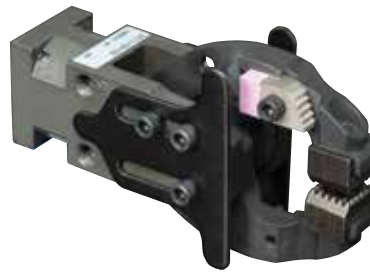
GRM0 Workholding

- 2 jaw styles
- Standard and flange
- Sheet metal handling requiring compact design
- Modular designed tips for various thicknesses
- Simple design, long life
- Fully field repairable



GRM1 Workholding

- 2 jaw styles
- Standard and flange
- Sheet metal handling requiring compact design
- Modular designed tips for various thicknesses
- Simple design, long life
- Fully field repairable



GRM2 / GRM4 Workholding

- 13 jaw styles
- Grips and locks on panels with varying thicknesses without adjustment
- Sheet metal handling applications
- Modular designed tips
- Simple design, long life
- Fully field repairable



PLK Pin Locating

- Ideal for part holding and positioning in weld areas
- Enclosed finger design keeps out weld slag



PLC Pin Locating

- Used to locate and clamp a part through a hole or slot
- Ideal for part clamping in weld areas
- Enclosed finger design keeps out weld slag
- Full compliment of standard and special pin sizes available



PA & PB Swing Arm

- Rotates clamp arm into position before clamping with linear motion
- Ideal for wide variety of automated part holding and transfer applications



PEC Power

- Superior part holding for assembly and welding applications
- Clamps and locks over last six degrees of rotation



PSP Shot Pin

- Compact design
- Internal porting and shock absorption
- Self-locking internal threads throughout

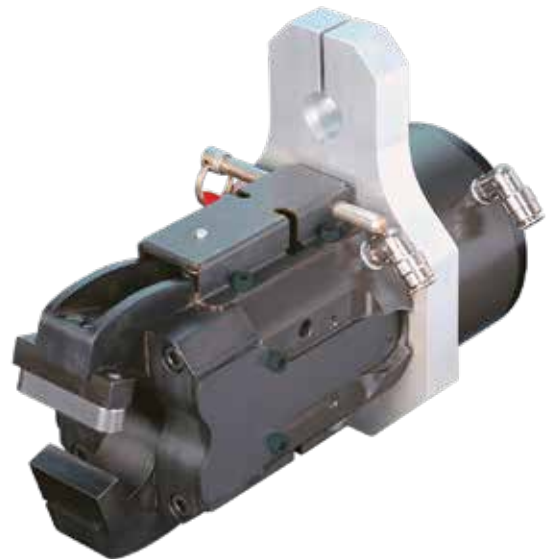
CLAMPS

HEAVY DUTY - PNEUMATIC



PNC66 Number Cruncher®

Utilizes industry-proven PNC cam mechanism on a larger scale
Provides cost effective solution for identification stamping, staking,
and crimping



PNC44 / PNC55 Number Cruncher®

Provides cost effective solution for stamping identification characters
into various materials
High capacity force produces characters in draw quality steel at
70 psi [4.8 bar]



PFC Frame

Securely holds heavy parts in place
Power window of 0.150" [3.8 mm]
Wide jaw space allows to clamp part closer
to tooling surface

TRI-AXIS PRESS TOOLING



Features & Benefits

Simpler, stronger, and more economical solution compared to others in the market

All our components are one-piece construction.

Maximized for weight and rigidity

Precision fit, resulting in little to no movement when torquing

All our components are completely interchangeable.

We utilize multiple bolt patterns where possible to keep the interchangeability and ordering process as simple as possible.

Anodized to provide a better visual to the operators as well as wear resistance.

Customer satisfaction is at the top of our priority list. We want to make every customer feel like our only customer.

Designed based on customer feedback providing the best solution for your project.



TRI-AXIS PRESS TOOLING

1-4" COMPONENT SERIES



TRA Transfer Receiver Adapters

Integral attachment component of transfer finger assembly to press feedbar
Plugs into rail receiver (docking device) to create automatic air and electrical connection
Allows for an overall positive anti-rotation mount
Utilizes 1.75" Collar Clamp (TCCx-175)
Available with or without air block and electric options



TCC Collar Clamps

1-3/4" Bore, 8 mm S.H.C.S.
Used for securing receiver adapters to tooling
Flat top for finger identification
Holes for airline routing



TAC Arm Clamps

Solid one piece construction
Precision bore fit so finger assembly doesn't move when tightening bolts
2 - 8 mm S.H.C.S. for ultimate grip force



TDC Inline, 90 degree, and Rotational Double Hole Clamps

Highest strength for parallel, perpendicular or rotational automation
Holes for airline routing
2 - 8 mm S.H.C.S. per end for ultimate clamp force



TGM Gripper Mounts

5 mm, 6 mm and 8 mm bolt patterns
Covers common gripper or shovel bolt patterns
Under cut to accommodate S.H.C.S.
Dome feature for swivel ball mounting



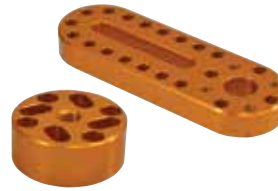
TAT 1-1/4" Aluminum Tubing

1/4" wall for durability
Available in 6" - 24" in 6" increments
Custom lengths also available



TSB Ball Swivel Assembly

Allows gripper to rotate up to 80° and free spinning
Rest of assembly can stay square to grid while accomplishing any compound angle
Bolts directly between gripper and gripper mount



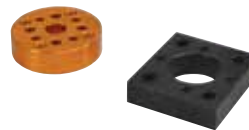
TSP Swing Plate Assembly

Solves the problem of close to center adjustment
Bolts directly to our gripper mount
Multiple bolt patterns for many different styles of grippers or shovel assemblies



TFxM Flange Tube/Finger Mounts

Replaces a receiver adapter when mounting finger directly to transfer bar, extruded beam, or removable plates



Gripper Adaptability

Our standard bolt patterns fit most common grippers.
Any gripper or shovel can take advantage of our product range with the use of our adapter plates and mounts.



Modular Shovel Kits

Various sizes or configurations available to encapsulate panel in all directions
Components are replaceable in minutes thus reducing press downtime
Optional sensors allow for part present sensing if required
Shovel assembly units mount to PHD's standard Gripper Mounts

Standard Metric and Imperial sizes are also available. Components are either made from 6061 T-6 Aluminum anodized for wear and visibility, or steel and black oxide for corrosion resistance.



GRIPPERS



PARALLEL - PNEUMATIC



GRA Narrow Compact

Compact precision
Consistent jaw movement over life of unit
Flexible mounting capability
10 million cycle life in a robust, compact design



Jaw Style 1 Jaw Style 2

190/191 Compact

Compact size is ideal for handling small parts in confined areas
Units provide true parallel jaw travel for easy tooling design



GRD Compact

Very high grip force to weight ratio for efficient use of space and power
Compact size
Short and long jaw travels



OGZ Compact

4 sizes
Drop-in replacement for other manufacturers
Integral linear guide for high rigidity and precision
Base dowel mounting for accurate locating
Standard magnets on pistons for externally mounted switches



GRS Low Profile

3 jaw styles, 8 sizes
Low profile, high force
Rugged jaw support, hardened jaws and hardcoated bearing surfaces
IP54 Ingress protection
6 million cycles minimum rated life



GRH Low Profile/Long Travel

Low profile, long jaw travels
Corrosion-resistant and robust construction for long operating life
Dual bore provides higher grip force
Extended support guide system with wide slot jaws minimizes tooling deflection when gripping and provides side load stability



GRC Rack and Pinion

High grip force to weight ratio
Available with locking capability for retaining part upon loss or removal of air pressure



5300 Oval Piston

Double acting for either internal or external gripper applications
Oval piston construction provides high grip force to weight ratio

GRF Low Profile

3 jaw styles, 4 sizes
Low profile MRO direct replacement
Jaw covers help prevent contamination
IP54 Ingress protection



GR3 3-Jaw

3 jaw design provides self-centering and maximum contact between part and jaw tooling
Ideal for high moment applications



GRK Precision High Grip Force

Ideal for assembly and robotics
Highest average grip force to weight ratio
Precision jaw movement wear compensating over life of unit
High moment capacity allows for long tooling and high part weights



GRW Parallel

Jaws have large tooling surfaces and precision dowel holes for accurate tooling attachment
Large diameter jaw guides allow long tooling lengths and high moment capabilities and reduce deflection
Dependable design

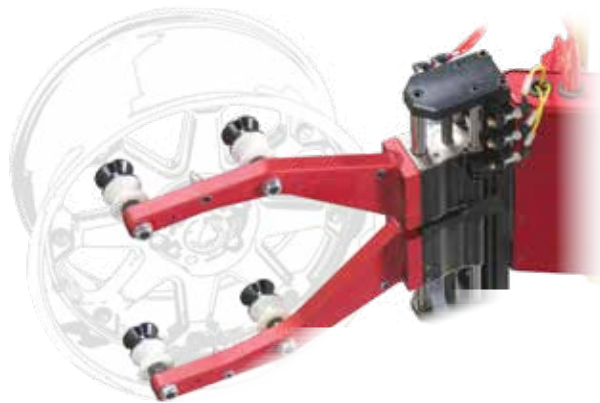


GRL Parallel

Parallel jaw motion simplifies jaw tooling design and is ideal for gripping parts of varying sizes
Narrow width, low profile, and long jaw travel

GRIPPERS

HEAVY DUTY PARALLEL - PNEUMATIC



GRR Heavy Duty

Ideal for high force and high jaw loads, moving heavy objects such as wheel rims can be done quickly
 Rugged build withstands high impact and shock loads
 Double acting for both internal and external gripping
 Narrow width and long jaw travel
 Three large diameter jaw guides spanning the length of the gripper provide stable jaw travel, long allowable tooling length, and high moment capacities

ELECTRIC

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EGRR Heavy Duty

Built on the field proven Series GRR chassis, the electric version offers many of the same benefits as the pneumatic
Your Motor, Your Way motor and control flexibility
 High grip force and large moment capacity
 Rugged construction for demanding industrial environments
 Robust rack and pinion jaw drive
 Motor speed reducer and motor can be easily repositioned in the field

ANGULAR - PNEUMATIC



GRV Compact

Compact precision
 For large moment capacities and long tooling lengths
 Manifold porting capability allows for nested gripper installation
 10 million cycle life in a robust, compact design



8400 Compact

Imperial
 Compact size
 Double acting for either internal or external applications



GRB Angular

6 sizes, 2 mounting surfaces
 3 standard jaw rotations: 60°, 90°, and 180°
 5 million cycles minimum rated life



5300 Oval

4 sizes, metric and imperial versions
 Optional internal springs allow unit to be used as single acting gripper, for additional grip force, or for holding object without air pressure
 5 million cycles minimum rated life with standard seals

GRIPPERS



Radial Hub Models
Utilizes 3 finger arrays, ideal for handling circular objects



Parallel Hub Models
Utilizes 2 finger arrays, with up to 5 fingers per array

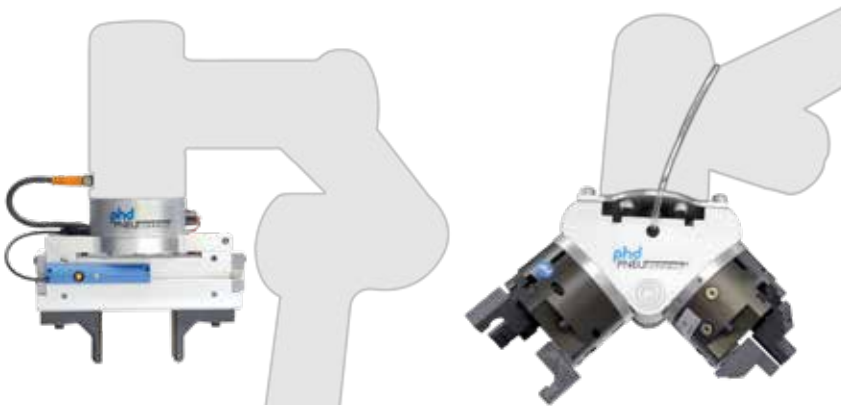


FG FLEXION

- Segmented fingers flex to close on parts like a hand
- Configurable design provides for a wide range of gripping solutions
- Can be reconfigured and repurposed

Inspired by the ultimate gripper:
the human hand

ROBOTIC SOLUTIONS



Pneu-Connect® End Effector System

Easily attaches to robot arm and features embedded directional control valves for control of an end-effector through robot's tool port.

Five popular PHD pneumatic gripper models for a wide variety of applications

Pneu-Connect X2 kits provide for two grippers for maximum automation efficiency providing for a wide variety of applications.

The power density of pneumatics allows for a superior performance to weight ratio when compared to some electric alternatives. This inherent property allows for lighter, non-payload robbing end-effectors, ideal for robotic applications. Additionally, when properly controlled, the compressibility of air provides intrinsically safe, back-drivable actuation capability.

Seamless Integration of PHD Grippers to Collaborative Robots



Series GRT Parallel 3-Jaw Gripper



Series GRH Parallel Long Travel Gripper



Series GRL Parallel Narrow Body Gripper



Series GRA Parallel Micro Gripper



Series FG Flexion Gripper



Series GRV Angular Micro Gripper



ROBOTIC SOLUTIONS

ADJUSTABLE GRIPPER TOOLING



Segments adjust in 15° increments and lock

Fast, Flexible, Functionality

Click & Grip

- Fast configuration and reconfiguration
- Flexibility with interchangeable components. Segments can be added and removed allowing for endless combinations
- Lightweight polyamide plastic, ideal for cobot applications and proof of concept
- Design provides limited compliance – helpful during setups and around workers

INSTALL



CLICK TO ADJUST



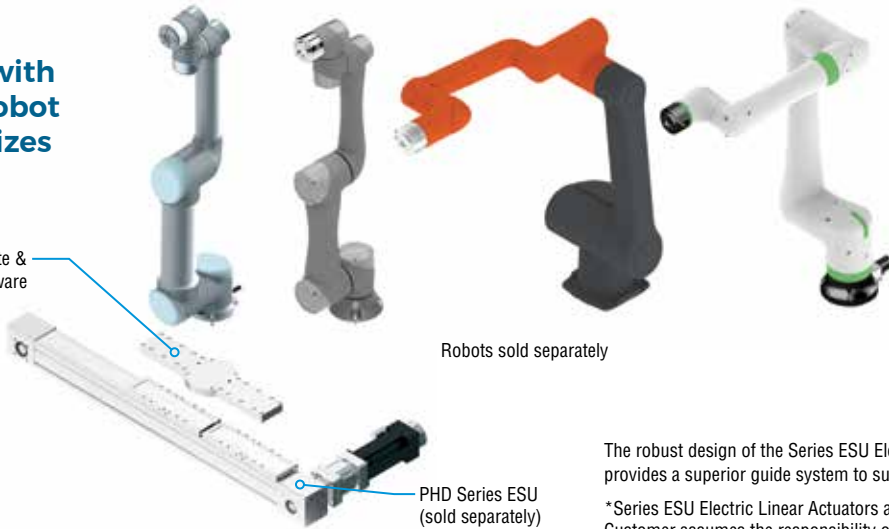
TIGHTEN & GRIP



MODULAR 7TH AXIS LINEAR ACTUATOR

Compatible with a variety of cobot brands and sizes

Transition plate & mounting hardware



Robots sold separately

PHD Series ESU (sold separately)

The robust design of the Series ESU Electric Belt-Driven Linear Actuator provides a superior guide system to support the robot in various orientations.
*Series ESU Electric Linear Actuators are not collaborative rated from PHD. Customer assumes the responsibility of risk assessment.

7th Axis Linear Actuator

- Transition plates and hardware available for direct mounting between electric linear actuator and robot.
- Torque limiting features on servo-driven linear actuator can provide faults in case of collisions.*
- With a maximum stroke of 5,500 mm, the 7th axis linear actuator can multiply working area of the robot tenfold.

ROTARY ACTUATORS



HIGH TORQUE - PNEUMATIC



RA High Torque

5 sizes, 6 standard rotations

Retains zero backlash

Oversize sealed ball bearings, large pinion shafts for heavy load stability and high load stopping ability



RL High Torque

8 sizes, 6 standard rotations

Very high torque to envelope ratio



RI High Torque

3 sizes, single and dual bore

Eliminates external air lines

Hollow pinion manifold

Lower cost and lower profile

High torque performance

High axial load capacity

Additional switching options

COMPACT - PNEUMATIC



ORQ Compact Rotary Table

6 sizes

Standard adjustment screws with integral shock pads

Standard thru mounting holes in body are threaded to provide versatility and ease of mounting

Double rack and pinion drive system increases output torque and eliminates backlash at end of rotation

Hollow pinion allows pass thru from back of unit to output hub

HEAVY DUTY - PNEUMATIC OR HYDRAULIC



1000-8000

Option of single or double rack

Rugged design and construction make these actuators ideal for heavy duty service

Standard rotations range from 45° to 450°

Both hydraulic and pneumatic operation



2000-8000 Multi-Position

3, 4, or 5 position models

Provides significant flexibility with up to five different rotational positions in a single unit

Both hydraulic and pneumatic operation



2000-8000 Air/Oil Tandem

Options including built-in speed controls, adjustable cushions, and angle adjustments are available

MULTI-MOTION ACTUATORS - PNEUMATIC OR HYDRAULIC



1000-8000

4 bore sizes: single or double rack rotary section, standard rotations from 45° to 450°

Independent rotary and linear motion from one output shaft ideal for part transfer, positioning, and orientation



2000-8000 Multi-Position

4 bore sizes: 3, 4, or 5 position models ideal for feeding and positioning applications

Multiple positioning design eliminates expensive and cumbersome fixturing and pinning



2000-8000 Air/Oil Tandem

Provides smooth consistent rotary motion even at low speeds for applications requiring positive control of hydraulics

Offered in 2 or 3 rotary positions ideal for feeding and positioning applications



Available hub adaptors for all Series 1000-8000 Rotary Actuators provide easy attachment of grippers and tooling.



BLOW MOLDING

DIRECT COMPONENTS

'S' STYLE COMPONENTS



BCS Stretching Cylinders

'S' Style Series1 and Series2 components
X27 PHD check valve option



BCSU Universal Stretching Cylinders

'S' Style components
X27 PHD check valve option



BCZ Nozzle Cylinders

'S' Style Series2 CSD and HR components
Valve manifold assembled to cylinder available as standard



BCZUS Universal Nozzle Cylinders

'S' Style Universal components
FDA approved seals



BCZUD Universal Nozzle Cylinders

'S' Style Universal components
FDA materials used on all internal components
Designed to operate for 20 million cycles



CSD - ML305665,
ML307217,
ML308564

HR - ML305877
ML306930



BST2 Transfer Arms

'S' Style Series2 components
Vertical height adjustment eliminates need for shims
Designed to operate over 20 million cycles



Preform/Bottle Eject Slides

'S' Style Series2 components
Consistent preform/bottle ejection
Minimizes stress on transfer arm jaws
ML308951



Bottle Eject Slides

Universal/Matrix components
Direct valve manifold provides quicker response with higher kinetic energy capacity

Series1 Pneumatic Nozzle Cylinders (SB02-SB06)

Simplified design and maintenance
Provides energy savings with enhanced sealing technology

'K' STYLE COMPONENTS



Transfer Arm Heads

'K' Style components
ML311628



2 Position Filler Cylinders

'K' Style components
55 & 60 mm bolt spacing
Replaces failure-prone diaphragm with simple piston design
ML313378, ML312828



BCK Stretching Cylinders

'K' Style components
Simplified pneumatic system



BCT Needle Cylinders

Needle Cylinders for Continuous Extrusion Bottle Blow Molding

OTHER

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CUSTOM SOLUTIONS



Nearly every standard unit PHD makes is manufactured to order. That's because PHD has such a wide variety of actuators, options and accessories available. We have the capabilities built into our factory systems to modify products within our everyday processes. Because of our flexibility, creating custom products is simple for us.

We have dedicated assembly cells, machining centers, and many engineers to design and build unique solutions for our customers. We carry over 35,000 custom designs and over 150,000 quotes already in our database, we can provide most quotes within eight working hours. We have the systems in place to provide the best delivery in the industry.



150,000+
AVAILABLE QUOTES



FAST & EASY
PRODUCT
CUSTOMIZATION



NO MINIMUM
ORDER QUANTITIES

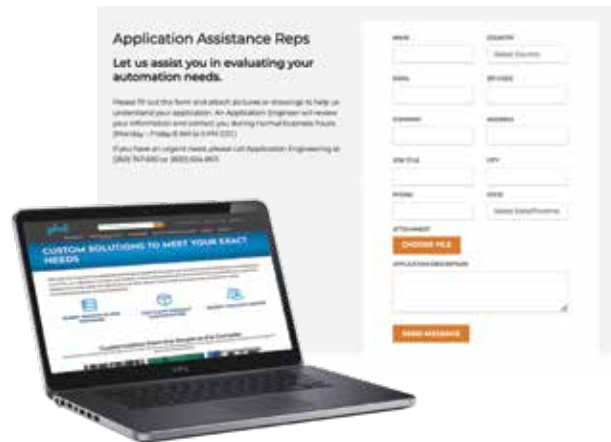


35,000+ DESIGNS IN
OUR DATABASE

Capabilities

- Most quotes delivered within eight working hours
- Dedicated application assistance
- 24 hours a day, 7 days a week service
- Fast delivery and competitive pricing
- Separate custom solutions engineering and manufacturing areas dedicated to our customers, ensuring prompt quotes and dependable delivery

Do you have an application for a specific need? Browse our always-growing industry segments to discover your specific industrial automation solution at www.phdinc.com/industries. There you will find industry-specific solutions displayed according to application use. View our many field-tested components by process or product type. If your industry is listed, we may already have a solution designed specifically to your needs!



DROP-IN REPLACEMENT COMPONENTS

We design custom drop-in replacement components that often provide longer life and repeatability than the original unit.



CUSTOM SOLUTIONS

CUSTOM EOAT

Custom end of arm tooling for unique products such as metal, round, irregular shapes or varying products.



UNIQUE APPLICATIONS

Unique applications require custom solutions. Here are a few very unique actuators PHD has developed for specific customer requirements.



SPECIAL MATERIAL REQUIREMENTS

A variety of component materials can be specified, such as corrosion-resistant plastic or stainless steel.



REBUILD PROGRAM

A green solution that helps your bottom line.

- Refurbishes your existing PHD products with all new wear items.
- Rebuilt units offer the same PHD quality that you're used to, but for a fraction of the cost of a new unit, reducing your total cost of ownership.
- Rebuilt units are placed back into service, thus reducing your total cost and saving valuable components from scrap.
- All PHD factory rebuilt units receive a 12 month "like new" warranty.



Before



After

Virtually all PHD products are field repairable, so your maintenance personnel can rebuild these products at your facility to save costs.

12 Month
"Like New"
Warranty



Rebuild. Repair. Recycle.

Rebuild or repair your PHD Actuators for significantly less cost than the original price. Ask your distributor about PHD's Rebuild Program.



Distributor Support

We are a proud member of the MAC Distributor Network (MDN). MDN is a customer-focused network of global manufacturers and distributors providing worldwide sales and exceptional service. With partners located worldwide, we are equipped to provide you a wide variety of value-added support and ongoing assistance.