**Series 2H / 2HD / 2HB, 3H / 3HD / 3HB and 3H Large Bore**

- Heavy duty hydraulic service with industrial tie rod construction
- Nominal pressures up to 3000 psi (207 bar)
- Standard bore sizes 1.50" – 20.00"
- Piston rod diameters 0.625" – 10.000"
- Strokes available in any practical length
- 18 standard mounting styles
- New universal piston with 4 interchangeable seal styles in 1.50" - 8.00" Bore
- Exclusive threaded “Jewel” Rod Gland with TS-2000 Rod Seal or Bolt-on Gland with Tri-Lip Rod Seal
- Parker Stepped Cushion for increased performance and productivity
- Rod ends: four standard choices, specials to order
Series 3L

- Medium duty hydraulic service with industrial tie rod construction
- Nominal pressure up to 1000 psi (70 bar)
- Standard bore sizes 1.00" – 8.00"
- Piston rod diameters 0.500" – 5.500"
- Strokes available in any practical length
- 15 standard mounting styles
- Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
- Parker Stepped Cushion for increased performance and productivity
- Rod ends: four standard choices, specials to order
Series CHE / CHD
- Compact Hydraulic Cylinder
- Repairable construction, aluminum alloy extruded or steel body design
- Bore sizes from 20mm – 100mm
- Strokes in 1mm increments up to 150mm dependent on bore size
- Piston rod diameters 12mm – 56mm
- Single and double rod designs
- Up to 13 standard mounting styles
- Nominal CHD pressures up to 207 bar (3000 psi)
- Nominal CHE pressures to 150 bar (2175 psi) dependent on bore size
- Four standard rod end styles with special ends available
- Available with SAE, NPTF and BSPP ports
- Manifold ports available on foot mounting
- Magnetic piston and position sensing switches available
Series HMI

- Metric hydraulic cylinders with bore sizes 25 mm – 200 mm
- Nominal pressures up to 210 bar (3045 psi)
- ISO 6020/2 mounting interchangeable
- Up to three rod sizes per bore
- Wide range of mounting accessories
- Up to three male and three female rod end threads per bore
- Strokes available in any practical length
- Piston rod diameters 12 mm – 140 mm
- Single and double rod designs
- 12 standard mounting styles
- Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
- Seal types to suit a wide variety of operating environments
- Parker Stepped Cushion for increased performance and productivity
Series RDH

- Heavy Duty Hydraulic Welded Roundline Cylinder
- Standard threaded head and welded cap construction
- Nominal pressures up to 3000 psi (207 Bar)
- Bore sizes from 1.50" – 8.00"
- Piston rod diameters 0.625" – 5.500"
- WearGard™ piston wear rings and rod bearing
- Strokes available in any practical length
- Rod ends: five standard choices, specials to order
- 9 standard mounting styles
- Mates with NFPA mounting accessories
Cylinder Division

Interactive tool for Cylinder configuration, pricing and 2D/3D CAD

WaveScale
- Linear displacement transducer (LDT) feedback
- WaveScale embedded design maintains NFPA dimensions 2.00” – 6.00” bores
- Eliminates need for limit switches, deceleration valves, shock absorbers and mechanical linkages in many applications
- Nominal pressures up to 3000 psi (207 bar)
- Piston rod diameters 1.000” – 6.000”
- Wide variety of stroke lengths available
- Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
- Parker Stepped Cushion for increased performance and productivity
- Low friction seals available
- Seven bolt-on and four integral manifolds available
- Simplifies machine design and reduces number of hydraulic lines
- Integral mounted valve eliminates assembly time and fittings
Series 2A

- Steel pneumatic with industrial tie rod construction
- Nominal Pressure – Up to 250 PSI Air Service
- Standard Fluid – Filtered Air
- Standard Temperature – -10°F to +165°F
- Bore Sizes – 1” through 14” (Larger sizes available)
- Piston Rod Diameter – 1/2” through 5-1/2”
- Mounting Styles – 14 standard styles at various application ratings
- Strokes – Available in any practical stroke length
- Cushions – Optional at either end or both ends of stroke. “Float Check” at cap end
- Rod Ends – Three Standard Choices – Specials to Order
Series VE

- "Jewel" Rod Gland Assembly is externally removable without disassembling the cylinder
- Piston rods are hard chrome plated and polished to a 10 RMS surface finish
- Wear compensating lip seals are used throughout to assure leak free operation and optimal performance over the life of the cylinder
- Cylinder body material options include steel with chrome plated I.D., aluminum and composite
- Tie rods are made from high strength 100,000 psi minimum yield material
- Align-A-Groove design assures tube to head alignment and leak free operation
- NPT ports are standard in all bore sizes
- Magnetic piston sensing option relays piston position in all stroke lengths
- Solid state or reed switches are available with quick disconnect or flying lead terminations
- Heads and caps are made from heavy duty steel and are machined to provide concentricity
Series XFC

- All Steel Construction
- Elastomeric Seals throughout
- Standard Metric Hydraulic Tie Rod Construction
- Opposed Preloaded Angular Contact Bearings
- Roller Screw Drive System
- Inline and Parallel Gear Drive Configurations
- Speeds up to 40 Inches per Second
- 178kN Continuous Thrust (40,000 Pounds)
- Parker Bayside Stealth Gearhead Direct Mount
- Parker MPP Max Plus Motors Standard
- Strokes from 50mm to 2000 mm in 1 mm increment
HAS Hybrid Actuation System

- Simple two wire operation
- AC and DC supply voltages available
- Low amp draw, 50% duty cycle, high efficiency tracking solutions
- No hydraulic hoses, no hydraulic power unit, self contained system
- High locked hold force to withstand wind gusts
- No reduction in life commonly found with screw-type actuators when loaded
- Modular system allows for various traditional cylinder mounting configurations and stroke lengths
- Surface preparation for outdoor installations
- Heavy chrome plated rods are standard, Global Shield™ rod coating and stainless steel rods for extreme corrosion prevention are optional
- Available with Intellinder™ continuous feedback or end of stroke, stroke to go switch options
Interactive tool for Cylinder configuration, pricing and 2D/3D CAD

Mounting Accessories
- Traditional mounting attachments
- Available in inch or metric sizes
  - Rod clevis
  - Eye bracket (cast iron or forged steel)
  - Pivot pin
  - Knuckle
  - Clevis bracket (cast iron or fabricated steel)
- Spherical bearing
- Alignment aids
  - Dual axis knuckle
  - Alignment coupler
  - Split flange coupler
  - Weld plate
- Stainless steel attachments
  - Rod clevis
  - Eye bracket
  - Pivot pin
  - Knuckle
  - Clevis bracket

SERIES 2H / 3H
SERIES 3L
SERIES CHE / CHD
SERIES HMI
SERIES RDH
SERIES 2HX
WAVESCALE
SERIES 2A
SERIES VE
SERIES XFC
HAS HYBRID ACTUATION SYSTEM

MOUNTING ACCESSORIES
POSITION INDICATING SWITCHES
TELESCOPIC
CUSTOM CYLINDER SOLUTIONS
Interactive tool for Cylinder configuration, pricing and 2D/3D CAD

Position Indicating Switches

- Bore diameters – 1.50" to 6.00"
- Strokes – up to 120" (Contact factory for longer strokes)
- Piston rod diameters – 0.625" to 4.000"
- Temperature range – -10°F (-23°C) to +250°F (+121°C) (depending on seal class)
- Switch position may be restricted on mounting style DD
- Working pressure – series and tube material dependent

**Series 2H** – 3000 psi with either carbon steel or stainless steel tube
**Series 3L** – 1000 psi nominal (dependent on bore size) with either carbon steel or stainless steel tube; reduced pressure with aluminum tube
**Series 2A** – 250 psi regardless of tube material
Telescopic Hydraulic Cylinders

- Longer sleeve overlap for improved stability and higher column loading
- Nylon tipped set screws that conform to the shape of the packing nut threads. It is nearly impossible for the packing nut to back off accidentally.
- Snap-on, glass-filled bearings that absorb contaminants without damaging cylinder walls
- Threaded steel stop rings for easier servicing and more reliable stopping action
- External packing nuts give added support to the tube exterior while making service procedures easier
- Wave springs and chevron packing for self-compensating seals
- Polyurethane rod wipers that resist higher temperatures without extrusion
- Positive manual air bleeder prevents cavitation and "mushy" cylinder action
- Cast steel mountings offer dependable strength. Pin-eye and rod-end are welded into a single unit.
Custom Cylinder Solutions

- Custom Cylinders are uniquely designed to the customer’s application and specifications
- Bores to 48" (1219 mm)
- Strokes to 876" (22250 mm)
- Operating pressures to 15,000 psi (1034 bar)
- Intensifier pressures to 60,000 psi (4138 bar)
- Any construction style: tie rod, extruded, bolted, mill-type, welded, telescopic, crimped, intensifier
- Many construction materials: carbon steels, stainless steels, exotic steels, aluminum, composite
- Wide variety of rod coatings: hard chrome, nickel-chrome, Nano Shield Technology, nitrotec/nitriding, ceramic and laser clad
- Common options include submersible service, counter-balance valves, epoxy paint, continuous feedback devices, low friction seals, external supports and many more
- Available third party approvals and certifications include ABS, DNV, BV, USCG, Lloyd’s Register, ASME, Nuclear (NUPIC) and MIL-I-45208