



PIGGY-BACK CYLINDERS



OEM HYDRAULIC CYLINDER SPECIALISTS



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RAM Piggy-back cylinders are two cylinders that are welded or yoked together in opposite directions. This cylinder design is very effective to provide maximum stroke in areas where space is constrained. For applications that require a shorter retraction length, these cylinders can double the stroke available while maintaining consistent force for the full extension and retraction.

There are many advantages of building your equipment with Piggy-back style cylinders:

- Useful in light to heavy duty applications
- Better retraction forces
- Simplified seal kits with consistent barrel diameter
- Pressure ratings up to 5000 PSI
- Barrel fed cylinders can incorporate smart sensors

There are many applications where this type of cylinder is well suited. Examples include - outrigger and stabilizer deployment, crane boom extensions, tow trucks underlift extension, wreckers, chutes and dump applications. Some unique applications also include manure spreaders, rock pickers, oil patch platforms and oil tubing injectors. A wide range of sizes (bore & stroke) are available for RAM Piggy-back cylinders. We are well-versed in the latest technologies in materials, cylinder componentry, cylinder design and manufacturing methods to ensure your cylinder functions exactly as required. The assessment of your equipment's operating environment is important, as RAM's expertise is in supplying cylinders that are specifically engineered for your application.

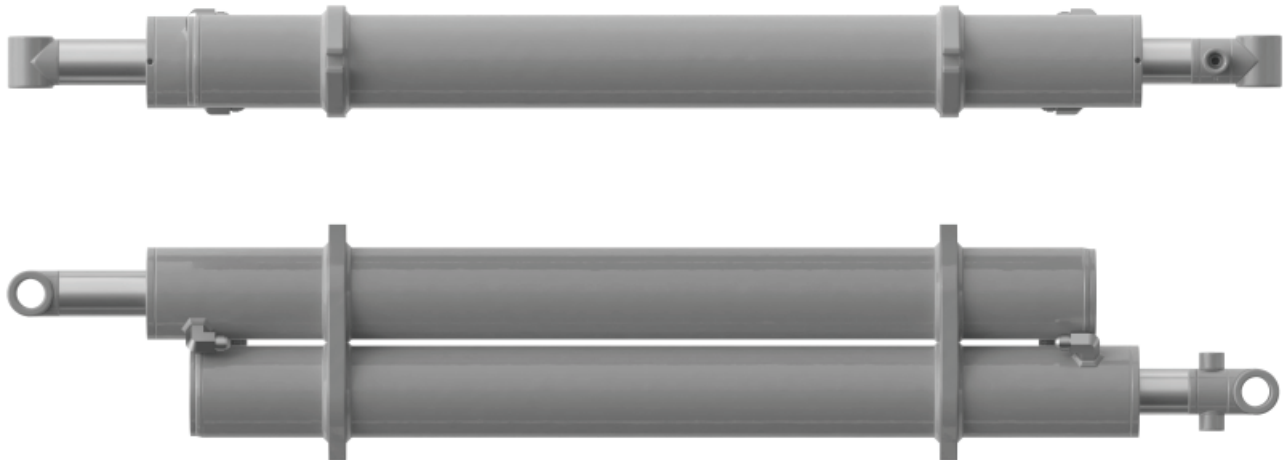
Standard options include:

- High strength materials such as 4140, QT100, AR (Abrasion Resistant) and other high yield strength carbon and alloy steels
- Increased shaft protection through induction hardened rods, thicker chrome, chrome over nickel, and other material alternatives
- Leading edge seal technologies for heavy duty use, high wear environments, and abrasion resistance
- Expanded seal sets to resist shock pressures
- Bellows for external shaft protection
- External guards for ports, hoses and oil lines
- Bolt in glands for added strength
- High pressure ports (SAE Code 61/62 4 bolt flange designs)
- Integrated valve options (relief, counterbalance or PO check) to protect the cylinder, maintain position, and control the rate of extension and retraction to counteract external forces
- Safety lockout
- Position sensor technology for increased cylinder precision and control
- Replaceable bushings and bearings for easier serviceability
- Hardened pins for added durability
- Custom designed mounting configurations to accommodate specific requirements



BUILT TO YOUR SPECIFICATIONS

Rated Pressure:	Up to 5000 PSI	End Mounts:	Trunnion, cross tube
Rod Size:	Starting at 1 1/2"	Head Style:	Bolt in flange type manufactured from ductile or steel
Rod Material:	High tensile SAE C1045, ground and polished hard chrome plated	Ports:	ORB, NPT, or Code 61 or 62 4-bolt flange
Barrel Size:	Up to 14"	Port Plugs:	High quality steel
Barrel Material:	High tensile SAE C1026/St52.3 cold drawn tube precision honed for extended seal life	Internal Seals:	North American
Gland Material:	Ductile iron 65-45-12 (ASTM A536) or steel (AISI 1026)	Paint Finish:	2 part urethane black
Piston Material:	Ductile iron 65-45-12 (ASTM A536) or steel (AISI 1026)	Testing:	100% full cycle tested





RAM INDUSTRIES INC.

PO Box 5007 33 York Rd E Yorkton, SK S3N 3Z4 Canada

T: 1-877-799-1005

www.ramindustries.com • sales@ramindustries.com

www.linkedin.com/company/ram-industries-inc



www.ramindustries.com

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