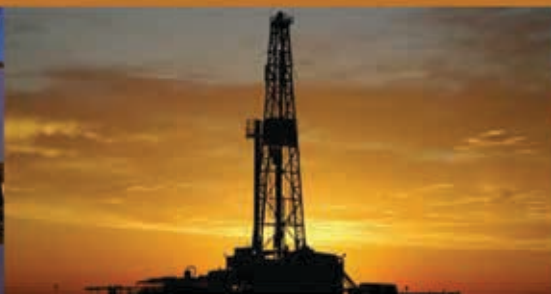




CUSTOM TELESCOPIC CYLINDERS



EXPERIENCE • EXPERTISE • QUALITY • SERVICE



CUSTOM TELESCOPIC

SINGLE ACTING

Single Acting Telescopic cylinders are the simplest telescopic design. A Single Acting cylinder is extended using hydraulic pressure but is retracted using external forces (usually gravity), once the hydraulic pressure is removed.

SINGLE/DOUBLE COMBINATION

Single/Double Combination Telescopic cylinders are a Single Acting Telescopic cylinder where one or more of the smaller stages are Double Acting. A typical application is a mast raising design on a drilling rig where the load must be pulled over center until gravity can take over to retract the cylinder.

DOUBLE ACTING

Double Acting Telescopic cylinder designs are extended and retracted using hydraulic pressure. A Double Acting Telescopic cylinder is a more complex design and involves additional sealing within the internal body of the cylinder to seal off the different stages. Passageways are machined into the internal components of the cylinder to allow for proper staging. This type of design is usually utilized when gravity is not available to retract the cylinder.

Telescopic cylinders provide a long stroke from a very compact retracted length. RAM has experience designing telescopic cylinders for a number of industries and applications and can work with you to design a single acting, a single acting/double acting combination, or a double acting design.



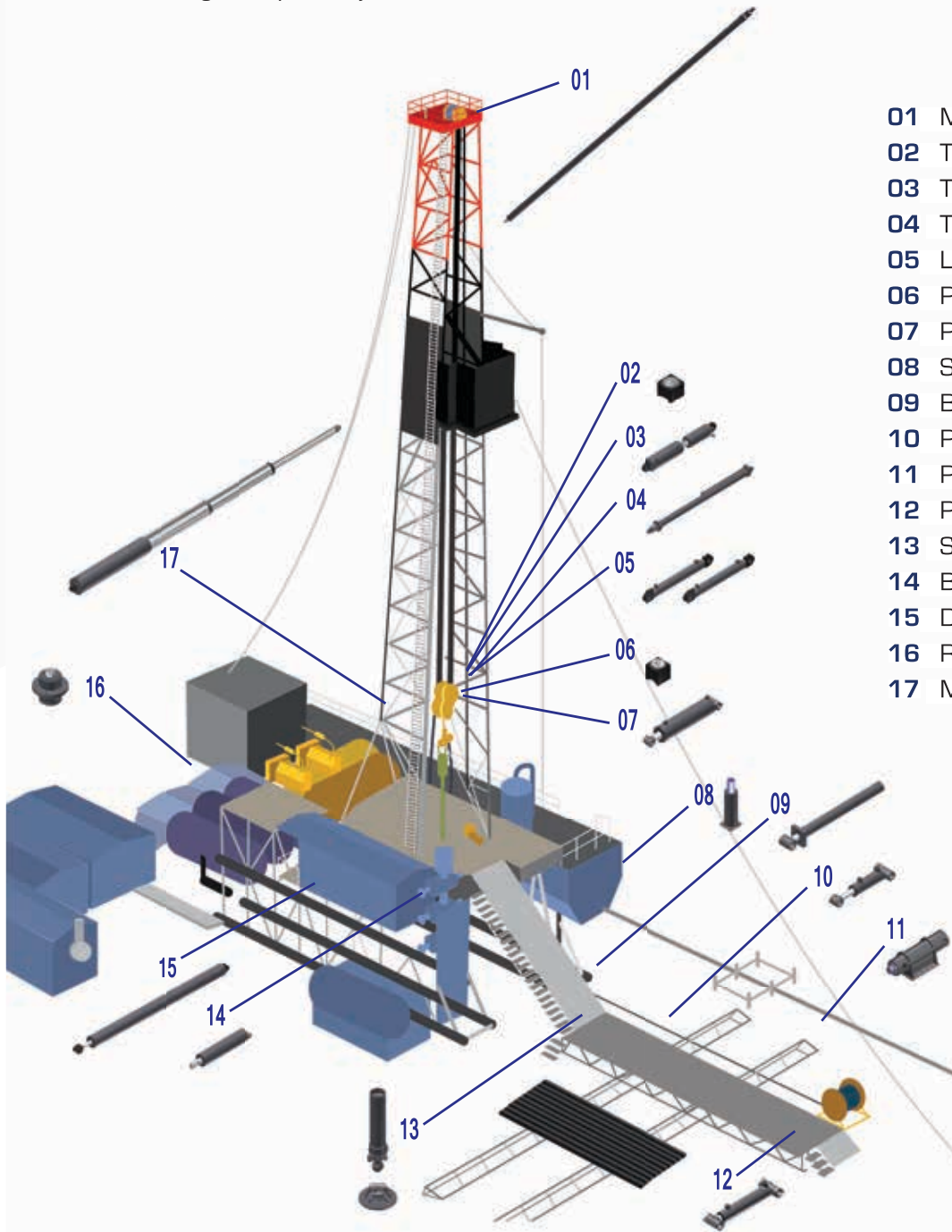
BUILT TO YOUR SPECIFICATIONS

| | | | |
|-------------------------|---|----------------------|---|
| Rated Pressure: | Up to 5000 PSI | Valves: | Optional integrated valves |
| Stages: | 2 to 5 working sections | Ports: | Custom arrangements for size, type and location options |
| Rod Material: | High tensile SAE C1045, ground and polished hard chrome plated | Seal Options: | Urethane wiper seals, modern urethane lipped shaft seal, modern urethane one piece static seals, glass filled nylon gland bearing rings, glass filled nylon piston bearing rings, cast iron piston rings, interlocking step-cut reinforced heat stabilized thermoplastic zero leak piston rings, and custom sealing arrangements for high or low temperature, high cycle or continuous duty |
| Barrel Size: | Up to 20" diameter | | |
| Barrel Material: | High tensile SAE C1026/St52.3 cold drawn tube precision honed for extended seal life | | |
| Gland Material: | Ductile iron 65-45-12 (ASTM A536) or Steel (AISI 1026) internally threaded | | |
| Piston Material: | Integrated machined piston design option | | |
| End Mounts: | Trunnion, clevis, tang, cross tube, spherical bearing, custom bushing, cross drilled hole | | |



**CUSTOM TELESCOPIC
CYLINDERS**

RAM hydraulic cylinders are used extensively on oil rigs applications as well as other oil and gas related equipment. A wide range of cylinder designs and sizes are incorporated into rig works to provide the various functions needed to operate the unit. These cylinders operate under very demanding conditions with extremes in temperature and environments and must be designed to ensure 24/7 reliability. RAM has over 40 years of expertise in designing and supplying of hydraulic cylinders for the oil and gas sector. RAM custom designs consistently meet the quality, dependability and quick reaction expected by this fast paced industry. RAM has the experience to provide the innovative designs required by this innovative sector.



- 01** Mast Scoping Cylinder
- 02** Top Drive Grabber Cylinder
- 03** Top Drive Counterbalance Cylinder
- 04** Top Drive Backup Wrench Cylinder
- 05** Link Tilt/Grabber Leg Cylinder
- 06** Power Wrench Grabber Cylinder
- 07** Power Wrench Arm Cylinder
- 08** SubFrame Leveling Cylinder
- 09** BOP Trolley Cylinder
- 10** Power Catwalk Indexer Cylinder
- 11** Power Catwalk Outrigger Cylinder
- 12** Power Catwalk Kicker Cylinder
- 13** Stabilizer Pad Cylinder
- 14** BOP Handler Lift Cylinder
- 15** Doghouse Cylinder
- 16** Rig Mover Jack Cylinder
- 17** Mast Raise Cylinder



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