

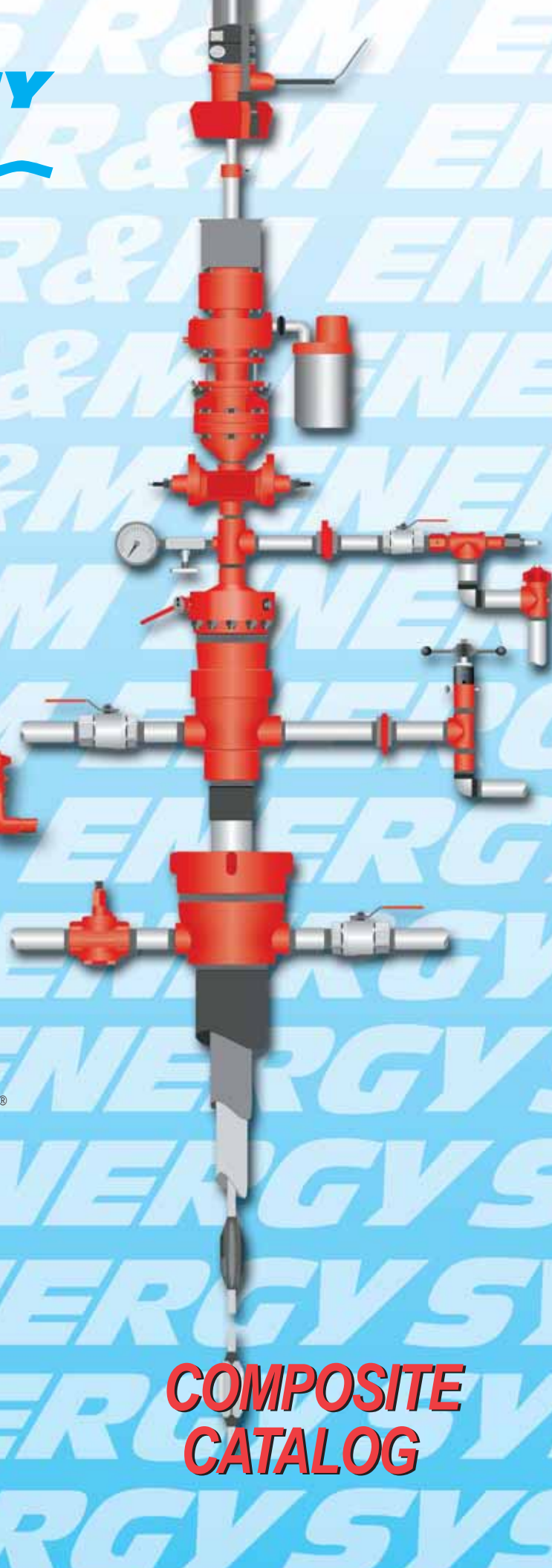


A Unit of Robbins & Myers, Inc.



THE NAMES  
YOU KNOW  
& TRUST

- HAMER®
- HERCULES®
- MAGNUM®
- MOYNO®
- NEW ERA®
- PATCO®
- RESUN®
- RODEC™
- STAYTITE®
- YALE®



**COMPOSITE  
CATALOG**

## Hercules® Wellheads

Dependability and excellence are two words which best describe Hercules® wellheads. Hercules casing and tubing heads are unmatched in the industry. A patented slip design for LM™ wellheads limits slip travel and reduces stress in the wellhead body. LM™ wellheads will support as much weight as the casing and tubing threads will hold. Advanced designs for top metal rings prevent packing extrusion and minimize exterior water and dirt entrapment. Pressure-assisted contoured rubber packing for all production environments assures positive seals.

### Hercules® Casing Heads (LM70, LM85, LM95, LM100 & CJ Models)

- 1500, 2000 & 3000 PSI working pressures.
- 7" through 10-3/4".
- 90,000 Lb., 120,000 Lb. & 180,000 Lb. load capacities.

### Hercules® Tubing Heads (LM45/45S, LM55/55S, HB/HBW, LM70/70S, A7, SlimHole & Flanged Head Models)

- 1500, 2000 & 3000 PSI working pressures.
- 4-1/2" through 7".
- 80,000 Lb. & 120,000 Lb. load capacities.



LM™ wellheads are patented

### Hercules® Heads For Electrical Submersible Pumps (ESPs) (HHS, HSM, & RC Models)

- 1500 PSI working pressure.
- 4-1/2" through 10-3/4".
- 80,000 Lb., 100,000 Lb. & 300,000 Lb. load capacities.
- Adapter for HHS top flange - Allows installation of API workover flange.
- RC model available for deeper wells.
- Mandrels for all popular electrical penetrator systems.
- Simple pack off model for pressures under 1500 PSI.
- Bottom flange connection optional for most models.

HHS-CA with optional bottom flange

HHS with optional bottom flange



### Slip-Joint Belled Nipples & Couplings

- 2000 PSI working pressure.
- High strength seamless K55 steel.
- 4-1/2", 5-1/2", 7", 8-5/8" & 9-5/8".
- API short casing threads.
- Full opening.



### Compatible Drilling & Workover Flanges

- ANSI Class 400, 600, 900 and 1500.
- 6", 10" & 12" ring joint flanges that are compatible with API 7-1/16", 11" & 13-5/8" flanges in either standard or field repairable models.
- Flanges for LM™ wellheads have modified API short casing threads. Flanges for all other Hercules wellheads have API short casing threads.
- Adapter to attach top flange on HHS wellhead to a blowout preventer.

## Hercules® Stuffing Boxes

Hercules® stuffing boxes have always been recognized for quality features unsurpassed in the industry. Today, this tradition continues with new designs that set even higher standards for quality and dependability. Hercules stuffing boxes are available for polished rods and liners 1" through 1-3/4" with LP or tubing threads through 4-1/2" EUE.

Other threads and flanged connections are optional.

### Classic Stuffing Boxes (1500 PSI WP)

- SB™ - original design with lub upper gland.
- SBT™ - combines SB and cross tee.
- DPSB™ - primary packing can be changed under pressure.

### Patented Inverted Cone Stuffing Boxes (1500 PSI WP)

- IVSB™ - lowest profile.
- IVSBT™ - combines IVSB and cross tee.
- IVDPSB™ - primary packing can be changed under pressure.

### Patented High-Performance Stuffing Boxes (1500 & 2500 PSI WP)

- Big Stuff™ - easy to adjust threaded cap, low profile, no gland bolts.
- Big Stuff DPSB™ - lower profile than DPSB™, easy to adjust cap, packing can be changed under pressure.
- NACE Big Stuff™ - all features of the Big Stuff™ plus NACE MR-01-75.
- NACE Big Stuff DPSB™ - all features of the Big Stuff DPSB™ plus NACE MR-01-75.

### Critical Service Stuffing Boxes

- PCSB™ - **1500 PSI WP** pollution control stuffing box, seals if polished rod breaks, primary packing can be changed under pressure.
- HTD™ - 700° F, **3000 PSI WP**, primary packing can be changed under pressure.

### Optional Upper Lubricating

- High Performance Lubricating Upper Gland (HPLUG™) - superior lubrication & seal for stuffing boxes, fits any Hercules Classic stuffing box, standard on PCSB™.
- High Performance Oil Reservoir Gland (ORG™) - patent pending, wicks lubricate packing and reduce lube oil consumption.
- Standard Oil Reservoir Gland (ORG™) - lubricates packing, one quart lube oil capacity.
- Lubricating Upper Gland (LUG™) - standard on Classic stuffing boxes, grease zerk fitting.

### Anti-Pollution Stuffing Box Adapter (APA™)

- Leak detection system for Hercules stuffing boxes.
- Fits all ORG™ and HPLUG™ upper glands.
- Switch options:
  - Standard
  - Explosion Proof (NEMA Class 1, Div. 1)
  - Dual (first turns on warning beacon, second shuts unit down).

### Stuffing Box Packing Material

- Split Cone Packing - rubber packing for any pumping condition.
- Dome® Packing - PTFE seal sandwiched between rubber packing for lower coefficient of friction, less heat generation, longer service life, and fewer stuffing box failures.
- Chevron Packing - pressure assisted seal, used in PCSB & HTD.
- Braided graphite rope packing for 700°F - high temperature option for HTD.



ORG™



APA™



Split Cone Packing



Chevron Packing



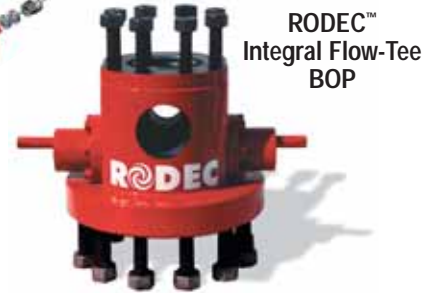
DOME® Packing  
Patented

### Hercules® Blow-Out Preventers

- 150H™ - 1500 PSI WP, quick opening caps, blow-out proof ram bolt, full opening, 2", 2-1/2" & 3" LP.
- 200P™ - 2000 PSI WP, tapered threaded end caps, full opening, 2", 2-1/2", 3" EUE.
- RODEC™ Flow-Tee/Blow-Out Preventor improves well control and reduces environmental clean-up.
- 150H & 200P BOP Rams - internally reinforced engineered rubber compounds polished rod specific. (5/8" - 1", 1-1/8", 1-1/4", 1-1/2" and 1-3/4")



150H™



RODEC™  
Integral Flow-Tee  
BOP

### Well King™ Pressure Control Valves & Back Pressure Regulators

- 1": 2000 PSI, 2": 1500 PSI Max. WP.
- Reduces paraffin by keeping gas in solution.
- Increases pump efficiency.
- 1/4" NPT gauge or valve port.
- Optional Sand Trim Kit for 2" Back Pressure Regulator includes carbide tipped plunger and carbide seat.



2" - 4-Way Cross

2" Back Pressure Regulator

1" Pressure Control Valve

### Hercules® Chokes

- 2000 PSI WP.
- Adjustable Chokes - thumb screw secures stem setting, stem can be lubricated with standard grease gun.



B-29™

### Hercules® Pumping Flow Tees

- 2500, 3000 & 5000 PSI WP.
- Most precise alignment in the industry.
- Ductile iron, cast steel and forged steel.
- Hundreds of thread options.
- Corrosion resistant coating options.
- Flanged top connection options.



### Yale® Hammer Unions

- 8 models.
- 1/4" through 8" sizes.
- Figure 300 flat face design permits valves & other fittings to be replaced easily.
- 500 -12,500 PSI cold working pressure ratings.
- Threaded and butt weld connections.
- Figure 110 and 300I insulating unions.

### RODEC™ Annulus Valve

- Enables singular zone isolation in multi-zone applications.
- Simplifies troubleshooting for steam "huff and puff" wells.
- Rated for 653° F (345° C) steam service.
- Actuated from the surface using a RODEC Tubing Rotator or Surface Actuator.
- Patented concept.



### YALE® Figure 500™, 500R™ & 510™ Quick Opening Closures

- 2"-76" diameters.
- ANSI classes of 150 to 2500 available.
- Figure 500 & 500R have modified Acme threaded cap and sub.
- Figure 510 has swing bolt and camlock operation.
- Flanged models available.
- Safest designs in the industry.



### Sentry™ Quick Opening Closure

- 6" to 70" diameters.
- ANSI Classes of 150 to 2500 available.
- Horizontal and vertical configurations available.
- Superior design with inherent safety features.
- Flanged models available.



### Hercules® & Resun® Plug Valves

- WP up to 1480 PSI.
- Sealant provides bubble-tight seal & lubricates sealing surfaces.
- Seal can be renewed under pressure.
- Cast iron, ductile iron, carbon steel and bronze.
- Stainless and other alloys available.
- Cylindrical plug for a larger flow area.
- Lower torque than tapered designs.
- Pressure assisted seal, PTFE head gasket and sealant control fugitive emissions.
- Compact construction.
- Freeze plug option for low temperature service.
- 1/2" through 30" threaded, flanged & groove end connections.
- Reseal™ sealants for all applications.



### Hercules QT™ & Wildcat'r® Ball Valves

- 400 through 5000 PSI WP.
- Bronze, carbon steel, stainless steel & ductile iron models.
- 1/4" through 3".
- Blow-out proof stems & integral stops.
- Locking handles available.



### Hamer® Line Blind Valves

- Positive shut-off downstream of any process valve.
- Visual indication of open or closed condition.
- Fast, one-person operation.
- Widest range of models.
- Carbon, stainless and other alloy steels.
- 1"-48" sizes.
- ANSI 150 to 1500 ratings.



### Hercules® Flanged Ball Valves

- Carbon steel body, stainless steel trim.
- Blow-out proof stem.
- Double O-ring stem seal.
- Floating ball design.
- Standard locking device.
- Lever operated.
- 2" through 6".
- ANSI 150 to 600 pressure ratings.

### Hercules® 1205 Needle Valve

- Rugged forged steel.
- Self-renewing metal seat.
- 10,000 PSI working pressure.
- Directional flow.
- Blow-out proof stem.
- O-ring stem seal.
- 1/2" female X 1/2" male.



### Magnum® Valves & Instrument Manifolds

- 6000 and 10,000 PSI WP.
- 1/4" through 1".
- Flow and pressure measurement.
- Process piping.
- Carbon and stainless steel.
- Hard and soft seat designs.

### StayTite® Swing Joints For Storage Tanks

- Bottom discharge ports for tanks.
- Leak-tight design prevents contamination from bottom sediments.
- Ductile and cast iron.
- 4"-30" sizes.
- Bronze bearings, Ni-resist bearing option.
- 5-year warranty.



## Hercules® Polished Rod Clamps

### Progressing Cavity (PC) Block Clamps

- Simple & economical design.
- 25,000 and 36,000 Lb. load capacity.
- Friction grip style action.
- Small rotational radius for PC pumps.



PC 4-Bolt™

PC 6-Bolt™



Figure 1™

Figure 2™

Figure 3™

### Figure™ Clamps

- 13,000 to 40,000 Lb. load capacity.
- Indention style action.
- Rugged, yet light weight & easy to handle.
- Generates lower stress concentrations in polished rods than friction style.
- Highest clamping capacity at any given bolt torque.
- Independent segments on a common hinge.
- Bolts have to be tightened only once.
- Ends are precision machined perpendicular to axis of polished rod.
- Streamlined design.
- Small rotating diameter for use with rod rotators.
- Zinc phosphate coating for better corrosion resistance.
- Most economical design in the industry.
- Available for polished rod sizes up to 1-1/2".



### RODEC™ Auto-Lift™ Rod Lifter

- Save service rig costs.
- Raise rod strings on demand.
- Reduce wear concentrations in production tubing.
- Reset improperly positioned down-hole PC pump rotors immediately.



Rod Boss™

Rod Boss Jr.™

### Rod Boss™ & Rod Boss Jr.™ Clamps

- 25,000 and 40,000 Lb. load capacity.
- Friction style action.
- Zinc phosphate coating for better corrosion resistance.

### Hercules® Leveling Plates For Rod Rotators & Polished Rod Clamps

- Two spherical steel halves machined from highly durable steel.
- Compensates for carrier bar misalignment up to 2 degrees.
- Available for all polished rod sizes.



### Hercules® Polished Rod Lubricators

- All polished rod sizes.
- 5-1/2" height.
- Single or dual completion models.

### Hercules® Polished Rod Liners

- Integral head.
- 4' to 20' lengths.
- All polished rod sizes.
- Spray metal surfaces.



## NEW ERA® & PATCO® Rod Guides

Since 1941, nobody has been able to match our rod guides for solutions to down-hole problems. R&M Energy Systems offers the broadest product line in the industry to help operators increase production and decrease workover costs. R&M Energy Systems' Rod Guide Advisory Program (RGAP™) is a systems approach using well conditions, workover histories and well bore deviations to determine optimal rod guide designs and spacing. Rod Guides are manufactured from a complete line of engineered plastics enhanced with performance additives.



### High Performance Rod Guides

- Stealth™ - 2", 2-1/2".
- Stealth XL™ - 2", 2-1/2", 3".
- NETB™ (New Era Turbulence Breaker) - 1-1/2", 2", 2-1/2", 3".
- DoublePlus™ - 2", 2-1/2", 3".
- Condor™ - 2", 2-1/2", 3".
- Condor-S™ - 2", 2-1/2"

### Classic Rod Guides

- Standard Straight & Slant Vane - 1-1/2", 2", 2-1/2", 3".
- Turbulence Breaker™, Mort™ & Smooth Flow™ - 1-1/2", 2", 2-1/2", 3".
- Dual System™ - 1-1/2", 2", 2-1/2", 3", guide & reciprocator nominal tubing sizes.



### Rotating Rod Guides

- Spin-Thru™ - 2", 2-1/2", 3", 4-1/2".
- Spin-Thru II™ - 2-1/2", 3", 4-1/2".
- PC-Plus™ - 2-1/2", 3", 4-1/2".
- Trilobal™ - 2-1/2", 3".

### Field-Installed Rod Guides

- Field-Installed Stealth XL™ - 2-1/2", 3".
- Lotus™ Twist-On - 1-1/2", 2", 2-1/2", 3".
- NEPG™ (New Era Poly Guide) - 1-1/2", 2", 2-1/2", 3", 4".
- Guardian™ - 2-1/2".



## RODEC™ Tubing Rotators

R&M Energy Systems offers a range of RODEC™ tubing rotators and accessory products that provide continuous, slow rotation of the tubing to effectively distribute wear evenly around the entire internal circumference of the production tubing. Ideal for both beam and progressing cavity pumps, these products can dramatically increase tubing life span and reduce operating costs.



### RODEC™ Tubing Rotators

- Auto-Turn™ drive mechanism ideal for PC down-hole pumps.
- Integral tubing hanger compatible between all RODEC™ tubing rotator models.
- Engineered for tubing sizes up to 4 1/2 inches.



### Model "C" Tubing Rotators

- Specialized 3-in-1 model combines flow tee, BOP and tubing rotator.
- Universal tubing hanger eliminates custom fitting.
- Pull-Through™ configuration installs with all servicing accomplished through the rotator.
- Engineered for tubing sizes up to 5 1/2 inches.



### Hercules® Rod Rotators

- Seven models.
- Removes paraffin from inside tubing when used with rod guides.
- Load capacities from 13,000 to 40,000 lbs.
- Range of 24 to 700 pumping strokes per revolution.
- Torque limiting or positive drive options.

### RII™ Tubing Rotators

- Available for threaded cap and flanged wellheads.
- Modular design.
- Tubing may be suspended directly from tubing rotator or from tubing hanger.
- Engineered for tubing sizes up to 4 1/2 inches.



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