

# How Checkball Pumps Solve Your Toughest Application Problems

Customers throughout the world rely on Dynex checkball pumps for their most demanding and critical applications. For 75 years, checkball pumps have solved the toughest problems, providing long life and exceptional performance.

These pumps operate with a wide range of fluids at high pressures and extreme temperatures. They provide reliable performance, even in dirty environments under harsh conditions, with long, difficult duty cycles.



**OIL & GAS INDUSTRY** – Water-glycol pumps operate reliably with low maintenance on deepwater wellhead control systems. Mineral-oil pumps operate with low-horsepower motors powered by solar panel systems for critical control of land-based oil wells.

**STEEL MILLS** – Pumps operate in hot, dirty conditions supplying high-pressure lubrication to roll bearings for non-stop steel production.

**LIFTING AND SKIDDING** – Split-Flow<sup>®</sup> pumps supply multiple-flow circuits for synchronized movement with greater accuracy than flow dividers, to keep projects on budget and on schedule.

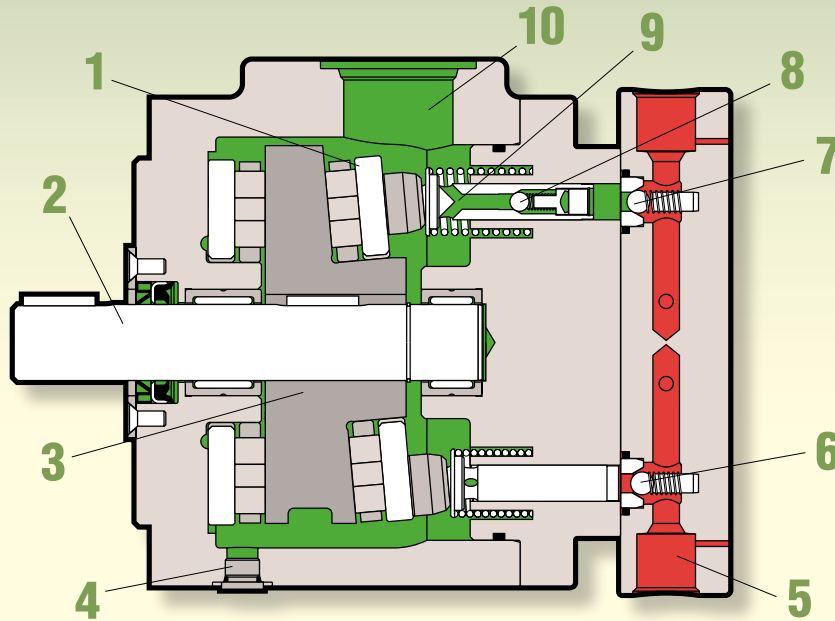
**TUNNELING MACHINES** – High-pressure and Split-Flow<sup>®</sup> pumps keep tunnel boring and pipe jacking machines moving reliably and on-schedule, despite harsh, dirty conditions.

**NON-MINERAL OIL APPLICATIONS** – Pumps operate with exceptional performance in harsh industrial and test stand applications, with consistently longer service life than other pump designs.



**DYNEX**  
High Pressure Hydraulics

# Ten Advantages of Using Checkball Pumps



## 1 WIDE RANGE OF FLUID COMPATIBILITY

Pumps operate reliably with low-lubricity, low-viscosity fluids. The checkball piston design, with rotating bearing plate, reduces internal loading for lower starting torque and long life operation.

## 2 BI-DIRECTIONAL ROTATION

Only one model is required on both ends of double-ended motors or when coupled to reversible engines. Fixed displacement pumps provide constant flow direction regardless of drive shaft rotation.

## 3 HIGH HORSEPOWER OUTPUT

Compact pump design provides a high horsepower to weight ratio. Rugged wobble plate keyed to drive shaft and stationary piston barrel handle higher loads than other pump designs.

## 4 VERTICAL MOUNTING FLEXIBILITY

Unlimited pump orientation provides circuit flexibility. Use of housing bleed port allows vertical mounting and ensures proper internal lubrication for long life operation.

## 5 MULTIPLE FUNCTION CIRCUITS SIMPLIFIED

Multiple-pump circuits can be simplified using only one Split-Flow® pump with multiple outlets. These pumps provide greater output flow accuracy than flow dividers for synchronized movement.

## 6 RESISTANT TO CAVITATION DAMAGE

Air inadvertently entering the system or starving the inlet flow can cause other pump designs to quickly fail. Decompression shock in checkball pumps is reduced, because outlet checks do not unseat until pumped fluid reaches load pressure.

## 7 ENERGY SAVING PERFORMANCE

Positive-seating check valves provide higher volumetric efficiency than other pump designs, which require internal leakage. Unlike valve plate design pumps, a drain line is not required.

## 8 PRESSURES TO 20 000 PSI

Pumps operate at high pressure and extreme temperatures. Positive-seating check valves also provide better wear and higher volumetric efficiency, especially with low-lubricity fluids.

## 9 CONTAMINATION TOLERANT

Checkball pumps operating in dirty environments are more resistant to contamination failure than other pump designs. A large path into pistons and output through durable outlet check valves allows contaminants to be flushed through the pump.

## 10 NO LUBRICATING OIL REQUIRED

With a single-fluid design, only the pumped fluid is required for internal lubrication, eliminating the cost of a secondary lubrication circuit and regular maintenance. Cross-fluid system contamination is also avoided.

### DYNEX IS READY TO SOLVE YOUR PROBLEMS

When pump failures are not an option,  
contact Dynex to solve your toughest problems.

Call **262-691-2222** or go to: **[www.dynexhydraulics.com](http://www.dynexhydraulics.com)**

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