



COORSTEK
Amazing Solutions.®

PUMP PRODUCTS

P U M P P R O D U C T S

CoorsTek Ceramic Plungers

Ceramic plungers work exceptionally well for most saltwater, chemical, and metering applications. CoorsTek specially-formulated grades of ceramic allow a standard 8 RMS surface finish – dramatically extending packing life.

Made of durable stainless steel, CoorsTek adapters successfully resist corrosion. We use a proprietary process to bond the ceramic body to the stainless steel adapter for extremely reliable performance in the field.

CoorsTek ceramic plungers are available in the hollow ceramic design as well as the solid ceramic design.

When corrosion and abrasion resistance are required and extended packing life is needed, ceramic plungers are unequalled in performance. However, ceramic plungers are not optimal for every application. For example, we do not recommend their use in pumping hazardous materials. Contact one of our specialists for more information.



CoorsTek development engineers offer assistance for your entire product development cycle.



Hardness Comparison

Material	MOH Hardness
Talc	1
Gypsum	2
Copper Metal	3
Limestone	4
Carbon Steel	5.5
Glass	5.5
Silica	6.5
Tool Steel	6.5
Quartz	7
Topaz	8
Alumina Ceramic	9
Sapphire	9
Diamond	10

Coated Plungers & Extension Rods

Hard-Co plungers are general service metal plungers used in the majority of cases where ceramic plungers are not desired. These plungers gives the best overall combination of corrosion and wear resistance of our metal coated plungers.

The Hard-Co coating is a nickel chrome hard-facing alloy that is deposited on a base metal. This produces a non-porous coating which is very dense and corrosion resistant.

STANDARD BASE MATERIAL: CARBON STEEL
OPTIONAL BASE MATERIAL: STAINLESS STEEL

Chrome Oxide Plungers

Recommended for use in the pumping of amine, glycol, or other fluids requiring restricted lubrication, chrome oxide is applied by a special process which melts a solid rod of chrome oxide and deposits it at high speeds onto the base material. This results in a better bond between the coating and base material and greatly reduces the chance of flaking off in service.

STANDARD BASE MATERIAL: STAINLESS STEEL

Tungsten Carbide Plungers

The right choice for most power oil applications and other areas where the main concern is wear and not corrosion, this premium alloy coating gives more wear resistance than our standard Hard-Co plunger, but with slightly less resistance to corrosion.

STANDARD BASE MATERIAL: CARBON STEEL
OPTIONAL BASE MATERIAL: STAINLESS STEEL

Extension rods

Made with the same material and process as our Hard-Co plungers.



Stem-Guided Plate Valves

To match your application needs, CoorsTek Stem-Guided Plate Valves are available in a variety of pressure ratings and material combinations.

Seats – The CoorsTek standard seat is a three-webb, investment-cast, 316 stainless steel unit that is also available in a five-webb, high-pressure design. Both styles are also available in Monel® stainless steel. The three webb style is rated at a maximum of 4200 psi – depending on the type of plates used.

Plates – Our general-service plate, used in most applications, is made with Delrin® plastic. It can be used at up to 1800 psi on our three webb seat and 3500 psi on our five webb seat when used in 70° F fluid. The Delrin material strength will decrease as the temperature increases – retaining 25% of its original rating at 160° F.

Titanium plates are recommended for high temperatures and/or high pressures. Titanium plates can be used at up to 2500 psi on our three webb seat and 4200 psi on our five webb seat.

Springs – CoorsTek springs are made with shot peened Inconel® metal. This provides the dependable service required for virtually all plate-valve applications.

Fasteners – All CoorsTek plate valves use Monel stainless steel fasteners – complete with a nylon thread lock plug which prevents fluid leakage around the threads and keeps the fastener in place.



For expert
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thermal



mechanical



wear



fluid



electronic

Abrasion-Resistant & Specialty Valves

Abrasion-resistant valves are recommended for applications where abrasives are causing premature failure of standard valves and suspended solids dictate the use of an open flow design. Abrasion-resistant valves are especially effective in saltwater disposal service, tank truck, and workover applications.

CoorsTek abrasion-resistant valves utilize a hardened 17-4 stainless steel seat and twin guided plate. The cage is made of 316 stainless steel and the springs are shot peened Inconel® metal. This abrasion resistant valve comes with a lock ring fitted between the cage and seat.

The twin-guided plate comes standard with a polyurethane insert – providing a more cut-resistant seal for the seat. However, the polyurethane insert is not recommended when operating temperatures are over 160° F. Under these conditions, we recommend no insert with a metal seal.

Miscellaneous valves – CoorsTek provides wing-guided valves and cage-type valves for a variety of pumps. We also make custom valves for special applications. Whatever your valve requirements, contact our valve specialists for expert assistance.

Plunger Packing

General service 838 plunger packing which is composed of nitrile rubber and synthetic fabric is recommended for service in fresh water, saltwater, propane, butane, gasoline, light or heavy oils, mild chemicals and acids, and most hydraulic fluids.

Optional packing materials – Additional sizes and materials including style 255 teflon, assorted styles of Kevlar® fibers, spring-load packing and split-ring, die-formed sets are available upon request.



To learn more, please contact us at 800.572.5791 or send an e-mail to oilgas@coorstek.com.

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