GOULDS WATER TECHNOLOGY
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TECHNICAL BROCHURE
BSILICON

Silicon-Carbide Mechanical Seals

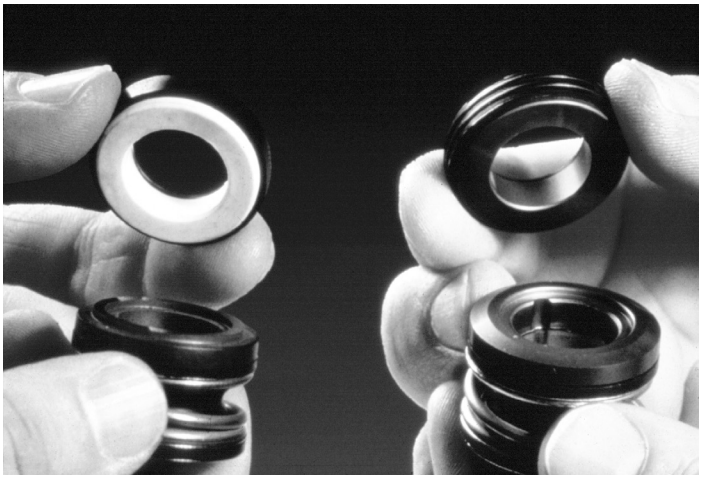
FEATURES

The Goulds Water Technology line of Wastewater Pumps includes pumps from ¼ HP to 30 HP and covers a range of applications from simple water transfer to multi-pump engineered lift station arrangements. These pumps handle solids up to 3" in diameter, by passing these solids through the pump impeller and casing or by grinding the solids into finer pieces to enable the use of small diameter pipes.

The chart above makes a comparison between seal face materials – Carbon and Ceramic typically used in clear water pumps and the Goulds Water Technology premium material – Silicon Carbide and Silicon Carbide, specifically selected for use in Wastewater. Remember – the mechanical seal is one of the most important components in the entire pumping system.

Your Goulds Water Technology distributor has access to Goulds Water Technology full selection of pumps and accessories for simplex, duplex and multi-pump applications.

Carbon-to-Ceramic Silicon Carbide-to-Silicon Carbide



SILICON-CARBIDE MECHANICAL SEAL FACES vs. CARBON-CERAMIC MECHANICAL SEAL FACES

	Carbon-Ceramic	Silicon-Carbide	Performance Ratio
Hardness	600	2,700	4.5
Strength, PSI (tensile)	6,000	45,000	7.5
Strength, PSI (compressive)	22,000	360,000	16.4
Maximum Temperature	525°F	3,000°F	5.7

Pump Models	Size P/N	Seal Type	Stationary Face Material	Rotary Face Material	Metal Components
WE, WS_B, WS_BF, WS_BHF ⅓ to 1 HP 2ED, 2WD, 3WD (outer)	⅝" 10K120	6 or 16	Silicon Carbide (Sintered Chemical Grade)		300 Series S.S.
WE, WS_BF, WS_BHF 2HP 3887 1½, 2HP RGS	¾" 10K119	6 or 16			
WS_D3, WS_D4, 3SD, 4SD, 1GD (outer)	1⅛" 10K28	21			
4NS, 4XD (*optional) (outer)	1⅜" 10K83	21	Tungsten Carbide	Tungsten Carbide	

OPTIONAL SEAL TUNGSTEN CARBIDE/SILICON CARBIDE/SS/BUNA

	Shaft Diameter	
10K122	⅝"	WE, WS_B, WS_BF, WS_BHF
10K123	¾"	RGS, 1½HP - WS_BF, WS_BHF, 2HP - 3885, 3887
10K22	1⅛"	WS_D3, WS_D4, 3SD, 4SD

INNER SEAL (DUAL SEAL MODELS) CARBON/CERAMIC/SS/BUNA

	Shaft Diameter	
10K121	⅝"	2ED, 2WD, 3WD
10K21	1⅛"	WS_D3, WS_D4, 3SD, 4SD

GOULDS WATER TECHNOLOGY HARD FACED SEALS

The most vulnerable part in the pump is the mechanical seal. This type of application exposes the pump to many fine suspended solids in the liquid as it passes through the pump. In order to insure the longest life possible in this environment Goulds Water Technology has chosen to provide mechanical seals with hard sealing faces in all it's premium products. The best material for this job in today's world is Silicon Carbide. Both the Stationary and Rotating faces are constructed of sintered chemical grade Silicon Carbide. This results in a face combination that has proven to be the toughest, most reliable mechanical seal face combination in this very demanding environment. Every seal manufacturer agrees that this is the best seal face selection that can be made for pumping wastewater. Goulds Water Technology provides this premium seal face material as the standard seal face material in our premium Wastewater pumps. **Consult factory for other Seal Options to fit your specific application.**

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