

WHAT IS MECO'S HB SEAL MODEL?

The MECO HB seal model is the best choice in sealing technology for screw conveyors. The HB model is a full-contact, soft-face mechanical shaft seal, using an elastomer drive to rotate bearing-grade, synthetic seal faces against fixed, stainless steel seal faces. The various seal assemblies are sized for equipment following standards of the Conveyor Equipment Manufacturers Association (C.E.M.A.) and their metric equivalents.

The HB Seal model provides the superior performance, durability and quality of workmanship that are hallmarks of MECO's many other highly-regarded custom seals. MECO's first-rate customer service is provided for each HB seal sold.

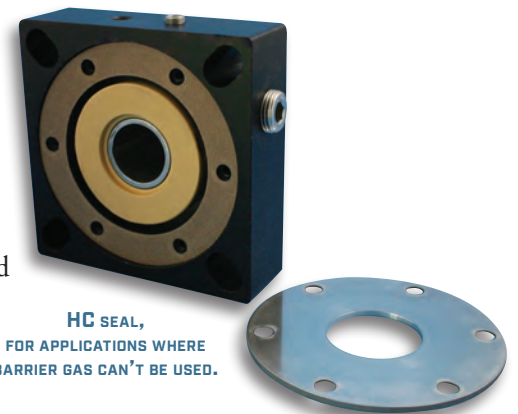


WHEN ARE HB SEALS THE BEST OPTION?

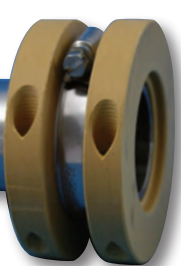
The MECO HB Seal model is ideal for screw conveyors/scrolls, small blenders, bucket elevators, and similar rotating equipment used in bulk process industries. The HB Seal model is used on horizontal, inclined and vertical shafts for unsplit installations.

HOW DOES THE HB SEAL MODEL WORK?

The HB Seal replaces standard waste pack housings. It is made with a heavy, metal or FDA nylon housing that cannot be crushed by an over-tightened flange bearing. Two replaceable stainless steel stationary seal faces attach to the seal housing. Inside is a rotating seal face assembly, consisting of replaceable rotors and drive elastomer. The elastomer and rotors interlock, forming an air and watertight seal. The low-friction rotating seal faces are at right angles to the shaft and in full contact with the stationary seal faces.



HC SEAL,
FOR APPLICATIONS WHERE
BARRIER GAS CAN'T BE USED.



HC ROTORS, ELASTOMER
AND CLAMP.

The HB Seal cavity is charged with low-pressure air or gas, which acts as a barrier fluid to provide pneumatic seal face loading. This is a simple and effective way to check installation integrity and monitor seal performance. HB Seals ensure parallelism and flatness to maximize product containment and minimize barrier gas consumption. Alternatively, the HB seal may be reconfigured to operate air-free, using a hose clamp to energize the seal faces. This model is known as our "HC" variation.

Using the Meco HB seal model offers an air purged answer to the question, "What is a better approach than using a waste pack housing or stuffing box for shaft sealing on screw conveyors?"

WHAT SIZES ARE AVAILABLE?

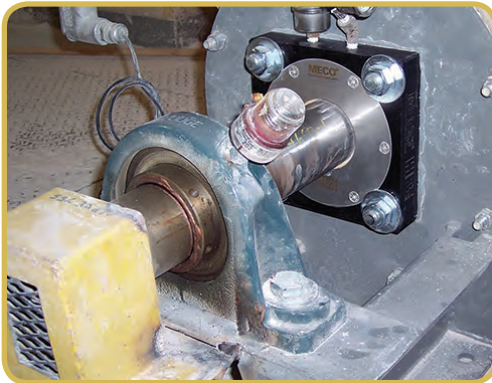


**1" HBZ0W4A100 SEAL,
FOR VERY SMALL SHAFTS.**

The HB model seal is stocked in 7 standard inch and 13 metric sizes. These 20 seals can be easily converted for other shaft sizes and all fit within the 6 stocked housing (HSG) sizes. This allows the HB model seals to be sized for shaft diameters 5.07" (129mm) and smaller. See the Stocked HSG# Chart on Page 3 for maximum shaft size for each of the seven housings. HBZ0 size is not available in the HC format or with the FDA Nylon housing, or with split internal parts.

WHAT CONSTRUCTION IS AVAILABLE?

The HB seal's rugged housing options are designed for long life. You may choose from three stock housing materials: FDA Nylon, Anodized Aluminum or 316L SS. Three elastomer materials, Viton®, FDA white silicone or EPDM, ensure compatibility with nearly all applications. The standard stators are type 304 stainless steel. The standard rotors are



**3" HBZ4W4A300 SEAL, INSTALLED ON A
HORIZONTAL GYPSUM FEEDER.**

MECO3000, a high-performance, bearing grade, polymer-filled PTFE with FDA approval. No abrasive filler material is added to MECO3000.

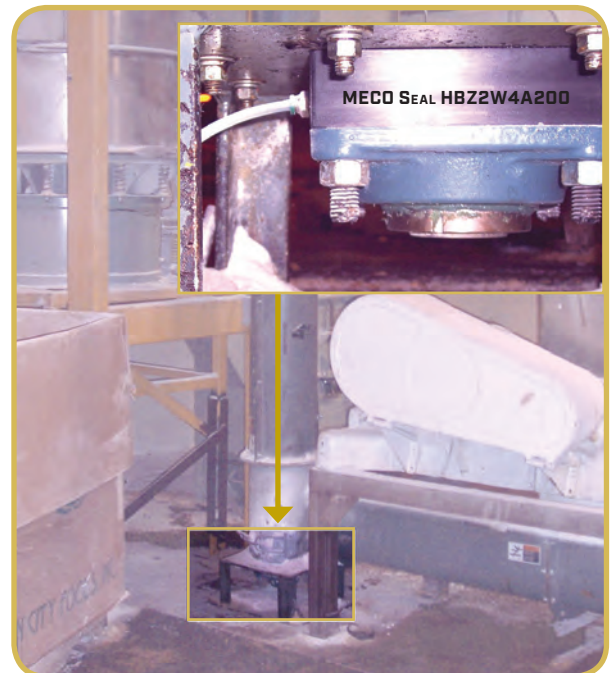
MECO3120, a white, FDA approved, ceramic filled, PTFE is available as an option for processes where maximum wear resistance is needed.

Any of the components may be individually replaced. Unsplit rebuild kits consisting of replacement rotors and

drive elastomer are maintained in-stock for immediate shipment. In cases where it is difficult to remove the bearing or drive, convenient, fully-split rebuild kits are available.

Since Woodex's MECO Seal division manufactures many custom shaft seals, we have the capability to fabricate from any material when required. See Sizing Chart on next page for dimensional information. For information on the fully split version of this seal please check our MECO AH model seal brochure.

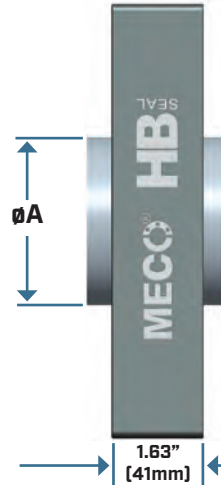
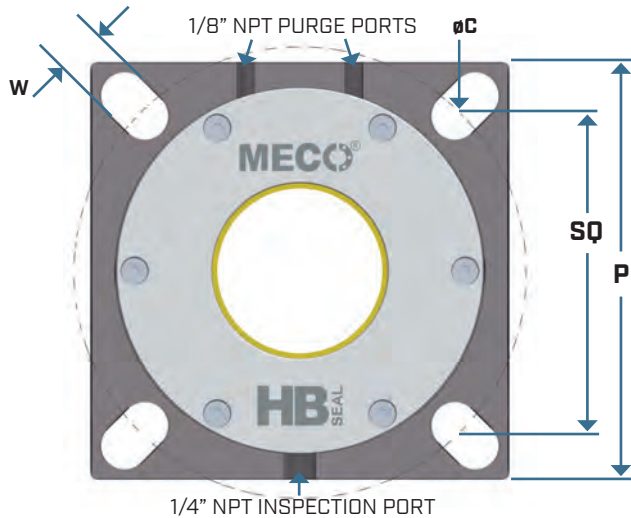
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**INSET: 2" HBZ2W4A200 SEAL
INSTALLED ON VERTICAL SUGAR SCREW.**

MECO HB model is available solid, with split internal rotating parts optional.

HB SEAL SIZING CHART



Stocked HSG#

Each MECO HB Seal housing can accommodate optional shafts up to these limits:

HSG #	Max. Shaft ø
0	1.25"/32mm
1	1.77"/45mm
2	2.24"/57mm
3	2.63"/67mm
4	3.62"/92mm
5	4.07"/103mm
6	5.07"/129mm

C.E.M.A. Standard Sizes [Inches]

CEMA Part #	øA shaft	P	HSG #	SQ MIN	SQ MAX	W	øC MIN	øC MAX
HBZ0W4A100	1.00	4.25	0	2.75	3.50	15/32	3.89	4.95
HBZ1W4A150	1.50	5.38	1	4.00	4.38	5/8	5.65	6.19
HBZ2W4A200	2.00	6.50	2	4.38	5.38	3/4	6.19	7.60
HBZ3W4A244	2.44	7.38	3	5.13	6.25	3/4	7.25	8.84
HBZ4W4A300	3.00	7.75	4	5.75	6.50	7/8	8.12	9.19
HBZ5W4A344	3.44	9.25	5	6.75	8.00	7/8	9.55	11.31
HBZ6W4A444	4.44	10.88	6	7.75	8.75	7/8	10.96	12.38

METRIC Standard Sizes [millimeters]

Metric Part #	øA shaft	P	HSG #	SQ MIN	SQ MAX	W	øC MIN	øC MAX
HBZ1W4A157/177	40/45	137	1	102	111	16	144	157
HBZ2W4A197/217	50/55	165	2	111	137	19	157	193
HBZ3W4A236/256	60/65	187	3	130	159	19	184	225
HBZ4W4A276	70	197	4	146	165	22	206	233
HBZ4W4A295	75	197	4	146	165	22	206	233
HBZ4W4A315	80	197	4	146	165	22	206	233
HBZ5W4A335	85	235	5	171	203	22	243	287
HBZ5W4A354	90	235	5	171	203	22	243	287
HBZ6W4A394	100	276	6	197	222	24	278	314
HBZ6W4A433	110	276	6	197	222	24	278	314

HB Z 5 W 4 A 354

PART NUMBER DECODER

Stock options in Red; Non-stock options in Blue

Shaft Diameter - Integer & 1st 2 decimals, in Inches

Rotor Material - A = MECO3000 FDA PTFE (recommended) F = UHMW B = 3120

Stator Material - 4 = Type 304 Stainless; 6 = Type 316L Stainless

Elastomer - Choose 1: W = FDA White Silicone; V = Viton® E = EPDM

Housing [HSG]#: 0, 1, 2, 3, 4, 5 or 6

Housing Material - Choose 1: Z = Anodized Aluminum; S = 316L Stainless; P = FDA Nylon

Model - HB Standard; HC with Hose Clamp

MECO HB



HBZ - Anodized Aluminum



HBP - FDA Nylon



HBS - 316L Stainless Steel

Rotor Material	Process Conditions	HBZ - Anodized Alum. Housing	HBP - FDA Nylon Housing	HBS - 316L Stainless Housing
MECO3000 (recommended)	TEMPERATURE	-60 to 500°F (-50 to 260°C)	-35 to 200°F (-37 to 94°C)	-60 to 500°F (-50 to 260°C)
	PRESSURE	Vacuum to 30 psig (210 kPa)	Vacuum to 15 psig (105 kPa)	Vacuum to 30 psig (210 kPa)
	SPEED	to 250 RPM	to 150 RPM	to 200 RPM
UHMW	TEMPERATURE	-178 to 135°F (-117 to 57°C)	-35 to 135°F (-37 to 57°C)	-178 to 135°F (-117 to 57°C)
	PRESSURE	Vacuum to 15 psig (105 kPa)	Vacuum to 15 psig (105 kPa)	Vacuum to 15 psig (105 kPa)
	SPEED	to 50 RPM	to 50 RPM	to 50 RPM

Mechanical Capabilities:	Barrier Options below:	
1/64" Axial Motion	Silicone elastomer -178 to 500°F (-117 to 260° C)	
1/4" T.I.R. Runout	HB: Air or N ₂ , Typical 1/4 scfm (7 lpm) @ 15 psig (1 bar)	Viton elastomer -75 to 450°F (-59 to 232° C)
1/2" Thermal Growth	HC: No Barrier Required or Used	EPDM elastomer -70 to 325°F (-56 to 163°C)

Results may vary with operating conditions - please call for discussion.

MECO's design staff or your local distributor can help tailor the HB to your individual needs.
Below are a few examples of other **MECO** seal models.



Split OFS Model

- Top and Side Entry
- Solvents
- Air Free



EA Model

- Abrasive Slurries
- Adjustable on-the-Fly
- Large Diameters



MB Model

- Air locks
- Rotary Feeders



EP Model

- Reactor Vessels
- Dryers
- Extruders



AH Model

- Blenders
- Screw Conveyors
- Tight Spaces

Distributed by:

